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A Look at Reasons Why the Growth Plan Population Forecasts May Be Off-Target

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A Look at Reasons Why the Growth Plan Population Forecasts May Be Off-Target

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EXECUTIVE SUMMARY

The purpose of this paper is to explore the possible reasons that differences exist between the estimates of actual average annual population growth prepared by Statistics Canada for 2011-2014 and the forecasts of the future which the Ontario Ministry of Municipal Affairs and Housing published as part of the Growth Plan for the Greater Golden Horseshoe in 2013 (the “Growth Plan”) for the 2011-2016 period. The CUR background report “Are the Growth Plan Population Forecasts on Target?” found significant shortfalls between estimated actual and forecasted future population for the following areas:

- All Outer Ring (outside the Greenbelt) Sub-forecast areas (see map in Appendix D); and
- Within the GTA (Greater Toronto Area and Hamilton), the 905 region and Hamilton as a whole.

The report also observed that growth in the city of Toronto exceeded the forecast, while York and Durham regions fell short.

The analysis is based on a review of various data sets including housing completions, value of non-residential building surveys, municipal employment surveys and office and industrial market surveys.

Overall Conclusions

The divergence in population growth during 2011-2014 from the forecast for 2011-2016 can be explained primarily by the robust growth in new apartment construction and employment growth in central Toronto combined with shortages of serviced lots for ground-related housing in key 905 region municipalities both within and outside of the GTA. Employment weakness in Kitchener-Waterloo was a contributing factor in the western sub-forecast area. Unless there is a significant increase in the supply of serviced sites in the areas outside the city of Toronto it is likely that the population, and ultimately employment, forecasts for these areas in the Growth Plan will not be met.

Conclusions with respect to each of the major demographic differences are presented below.

Conclusion: Outer Ring versus GTA

Municipalities in the Outer Ring experienced significantly less growth (by an average of 17,000 persons per year) than a forecast which was nearly twice as high (at 31,000). This contrasts with the GTA area as a whole where the estimated actual and forecast growth matched (at about 103,000 persons per year).

The lack of ground-related housing being completed is the key contributor to the population shortfall in the Outer Ring which, in turn, is attributable to a shortage of serviced sites for new

ground-related housing. A shortfall in employment growth does not appear to have been a major influence on population growth.

Conclusion: Outer Ring West

Within the Outer Ring sub-forecast areas, the largest absolute shortfall in population growth occurred in the west (Waterloo region, Wellington County including Guelph, and Brant County).

In the Outer Ring West sub-forecast area, the lack of ground-related housing completions in Waterloo region played a major role in the population shortfall for the sub-forecast area. The latest Housing Market Outlook released for the region by CMHC found that the lack of permit-ready lots for single detached homes was the main obstacle to higher housing completions. Although investment in non-residential buildings was not a major factor behind the population gap, the rising office vacancy rate in Waterloo region was found to be a contributor.

Conclusion: Toronto versus Rest of GTA

Within the GTA, the city of Toronto exceeded its average annual population growth forecasts (by 7,000 persons) while the rest of the GTA (905 region and Hamilton) fell short (by 6,000 persons).

Within the GTA, strong growth in condo apartment and office building construction propelled the larger than forecasted population growth in the city of Toronto. A desire by workers to locate closer to jobs being created in central Toronto, combined with a shortage of serviced land in the 905 portions of the GTA, contributed to higher than forecasted population growth in the city of Toronto and lower than forecasted population growth in the 905 regions.

1. BACKGROUND¹

The CUR background report, “Are the Growth Plan Population Forecasts on Target?”, compared estimates of average annual population growth, which Statistics Canada prepared for the 2011-2014 period, with the forecasts which were prepared for the Growth Plan for the Greater Golden Horseshoe (the “Growth Plan”) for the 2011-2021 decade. The report concluded that there have been significant differences between estimated actual and forecasted future population growth by subarea during the early years of the current decade:

- Municipalities in the Outer Ring have been experiencing significantly less growth (by an average of 17,000 persons per year) against a forecast which was nearly twice as high (31,000); this is in contrast to the GTA as a whole where estimated actual and forecasted future growth have matched (at about 103,000 persons per year);

This report probes reasons for these differences between estimated actual and forecasted future population growth. The analytical framework implicitly assumed that the Statistics Canada estimates of population growth by census division (single-tier municipalities, regional municipalities and counties) for the GGH reliably portrayed actual growth.²

Three possible reasons for the differences are considered:

- Fewer households with household members working within the GTA than had been forecast are moving outside GTA to the Outer Ring of the GGH to find more affordable ground-related housing;
- The economic bases of municipalities outside the GTA are weaker than forecast, so causing more households to move to or remain in the GTA to be closer to jobs; and
- Serviced land supply constraints are distorting regional housing production patterns.

Data from four sources have been compiled and analyzed:

- CMHC new housing completions by type of unit;
- Employment surveys conducted by the City of Toronto, City of Mississauga, City of Brampton, and York, Durham and Halton regions – there are no regular employment surveys for City of Hamilton or for Outer Ring municipalities;

¹ This report was authored by Dr. Frank A. Clayton, Senior Research Fellow, and Justin Shin, a graduate from the Urban and Regional Planning program at Ryerson University who is working as an Economic Development Specialist at Reurbanist, an urban planning and retail development consultancy.

² Actual population growth during 2011-2016 cannot be ascertained until the results of the 2016 Census of Canada become available.

- Statistics Canada data on the value of non-residential building permits issued by type, which are treated as a crude approximation for additional employment floor space created and, therefore, employment growth; and
- CMHC Housing Outlook reports that analyze residential housing trends and prospects in larger urban areas within the GGH.

These data sets are compared to the forecasts of household growth by type of housing occupied and of employment growth which Hemson Consulting prepared for the Growth Plan planning exercise.³

³ *Greater Golden Horseshoe Growth Forecasts to 2014*, Technical Report (Toronto: Hemson Consulting Ltd., November 2012) and *Greater Golden Horseshoe Growth Forecasts to 2014*, Technical Report Addendum (Toronto: Hemson Consulting Ltd., June 2013).

2. DO THE POPULATION DISCREPANCIES REFLECT DIFFERENCES IN LOCATION OF NEW HOUSING CONSTRUCTION?

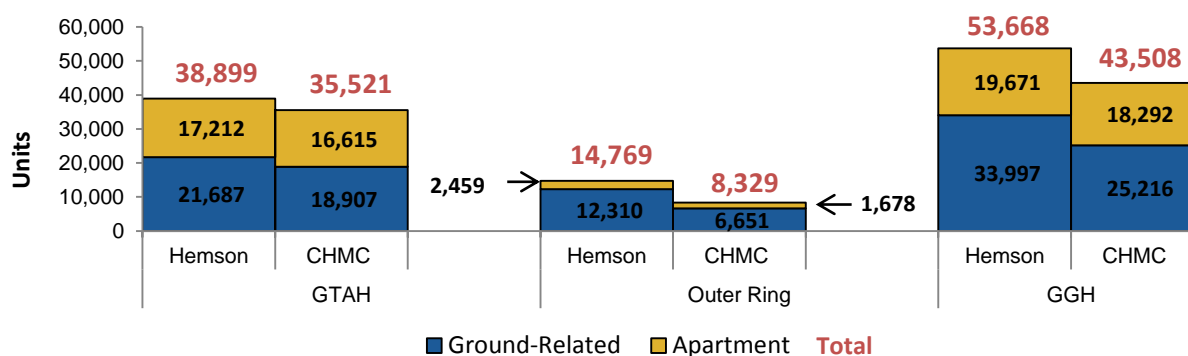
The answer to this question is affirmative for the city of Toronto, most of the rest of the GTA and the Outer Ring sub-forecast areas. The only exceptions were the regions of York and Peel. The analysis looks at the relationship between the forecast of average annual household growth (occupied dwelling units) in 2011-2021 and the average numbers of housing units completed per calendar year in 2011-2014. It is posited that for actual population growth to exceed the forecast, actual new housing unit growth also needs to exceed the household growth forecast.

2.1 Outer Ring versus GTA

Municipalities in the Outer Ring experienced significantly less growth (by an average of 17,000 persons per year) than a forecast which was nearly twice as high (31,000). This contrasts with the GTA area as a whole where estimated actual and forecasted future growth have been matched (at about 103,000 persons per year).

It is clear from Figure 1 that there was a sizeable gap between average annual housing completions in the years 2011-2014, and the forecast of household growth in 2011-2021 in the Outer Ring. Actual housing completions numbered 8,329 rather than the 14,769 which had been forecast, for a percentage shortfall of 46%. In contrast, in the GTA average annual completions were much closer to the forecast of household growth.

Figure 1:
Comparison of Average Annual Household Growth and Housing Completions in the GGH by Type of Unit



Source: Tables A-3, A-6 and A-9

The lack of ground-related housing (single-detached, semi-detached and townhouse dwellings) being completed as forecast played a major role in the population shortfall in the Outer Ring. Within the Outer Ring, only 6,651 ground-related housing units were completed on an annual average

compared to the forecast of 12,310 households. The smaller shortfall in the GTAH was also largely the result of fewer ground-related units being completed than had been forecast, with a shortage of 3,123 units. In contrast, apartment completions were very close to the number which had been forecast.

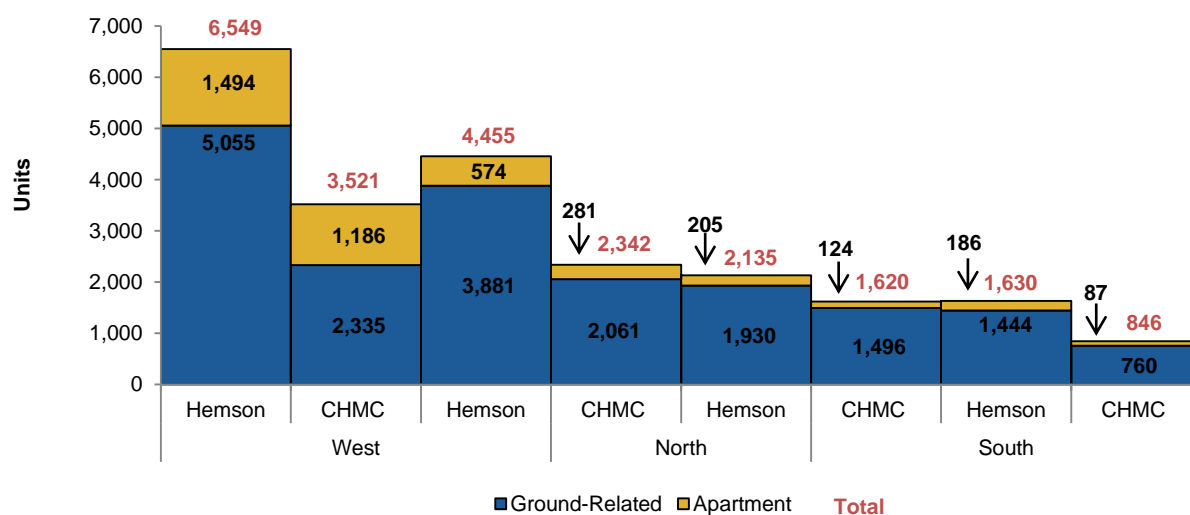
2.2 Outer Ring Sub-Forecast Areas

Within the Outer Ring sub-forecast areas, the largest absolute shortfall in population growth has occurred in the west.

Figure 2 shows that the shortfall in ground-related housing completions in the Outer Ring was most pronounced in the west and north sub-forecast areas. These were the two areas with the largest gap between actual and projected population growth. The east sub-forecast area also had a large relative gap, but the numbers involved were much lower.

In the west sub-forecast area, which includes the Kitchener-Waterloo, Guelph and Brantford urban areas, ground-related completions fell short of the household growth forecast by 2,720 units per year. In the north sub-forecast area, which includes the Barrie urban area as well as Bradford-West Gwillimbury and New Tecumseth, the gap was focused in the ground-related housing sector with a shortage of around 1,821 units per year.

Figure 2:
Comparison of Average Annual Household Growth and Housing Completions for Outer Ring Sub-Forecast Area by Type of Unit



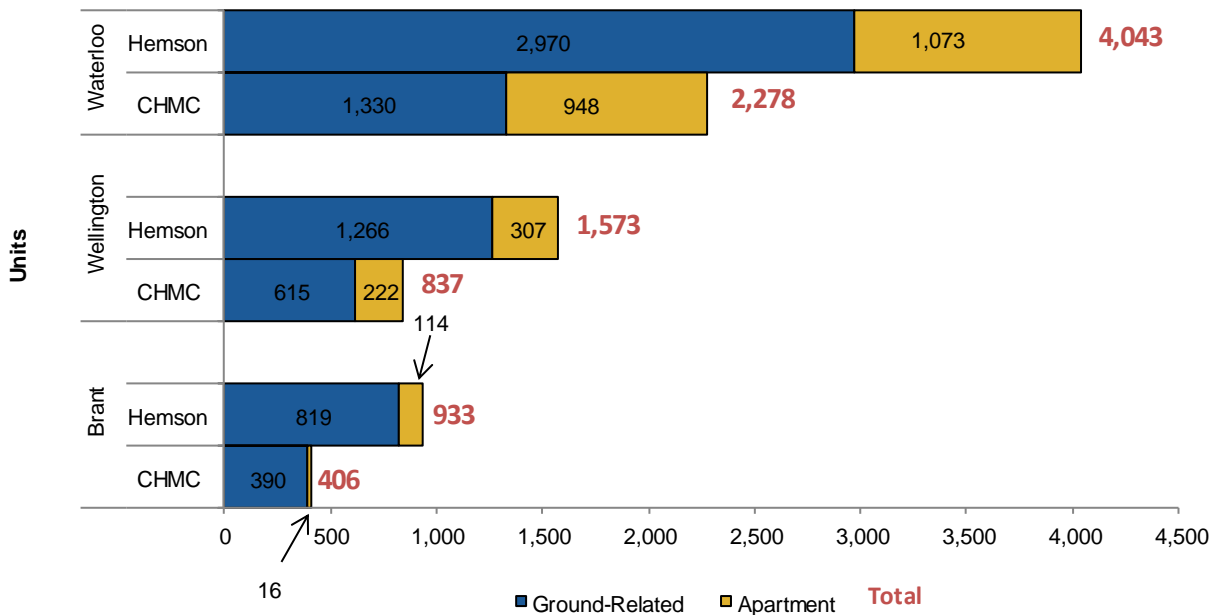
Source: Tables A-3, A-6 and A-9.

2.3 Outer Ring West Sub-Forecast Area

Figure 3 shows that the lack of ground-related housing completions in Waterloo region played a major role in the population shortfall for the west sub-forecast area. Although total housing

completions in Wellington and Brant Counties fell short of the household growth which had been forecast, Waterloo region had the largest shortfall in absolute terms. The gap between total average annual housing completions and household growth forecasts for the Waterloo region was 1,765 units with ground-related housing being responsible for the majority of the 1,640 unit shortfall.

Figure 3:
Comparison of Average Annual Household Growth and Housing Completions for Outer Ring West by Sub-Forecast Area by Type of Unit

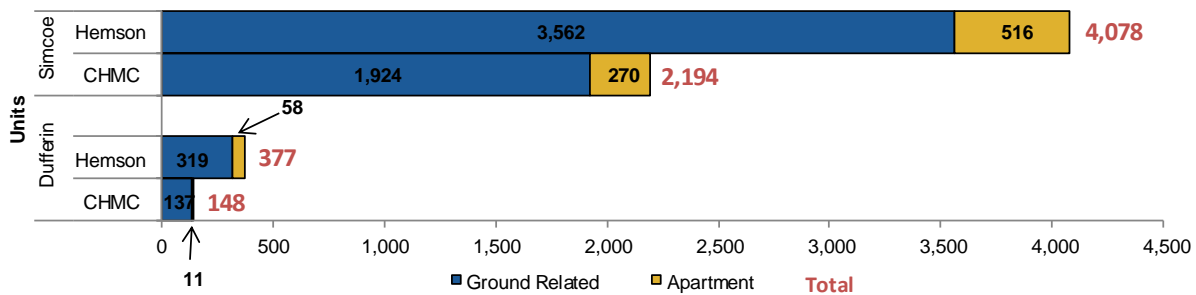


Source: Tables A-3, A-6 and A-9.

2.4 Outer Ring North Sub-Forecast Area

Figure 4 shows that the lack of ground-related housing completions in Simcoe County (defined to include incorporated cities like Barrie) was the primary reason for the population shortfall for the north sub-forecast area. In Simcoe County the gap between total average annual housing completions and household growth forecasts was 1,884 units with the majority of the shortfall coming from ground-related housing at 1,638 units.

Figure 4:
Comparison of Average Annual Household Growth and Housing Completions for Outer Ring North by Sub-Forecast Area by Type of Unit



Source: Tables A-3, A-6 and A-9.

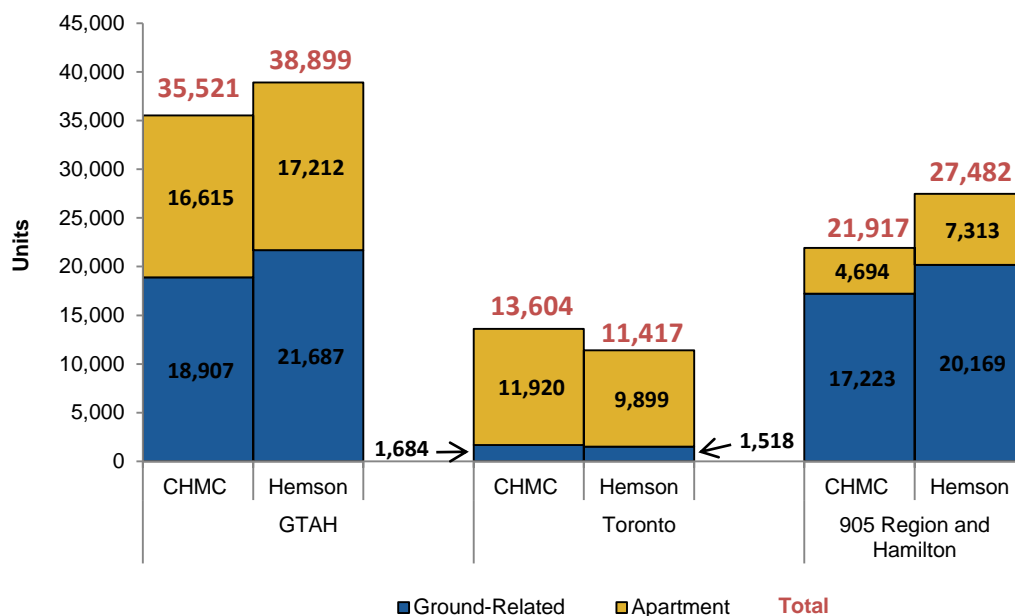
2.5 Toronto versus the Rest of the GTA

Within the GTA, the city of Toronto and Peel region exceeded their average annual growth forecasts (by 7,000 and 4,000 persons, respectively) while York and Durham regions fell short by 7,000 and 3,000 persons, respectively.

The gap between the total housing units completed and the household growth which had been forecast in the 905 region and Hamilton was the key contributor for the GTA's population shortfall. Figure 5 shows that, in the 905 region and Hamilton, the gap between total housing units and the forecast household growth was 5,565 units. Ground-related and apartment housing made up equal portions of the shortage. The housing shortfall in the GTA excluding Toronto is not surprising given that there was a population shortfall of 6,000 persons.

However, in the city of Toronto, total housing completions surpassed household growth forecasts by 2,187 units. This was mainly due to the strong growth in apartment housing. The growth in total housing units in Toronto remains consistent with the population growth of 7,000 persons experienced by the city.

Figure 5:
Comparison of Average Annual Household Growth and Housing Completions for GTAH by Type of Unit



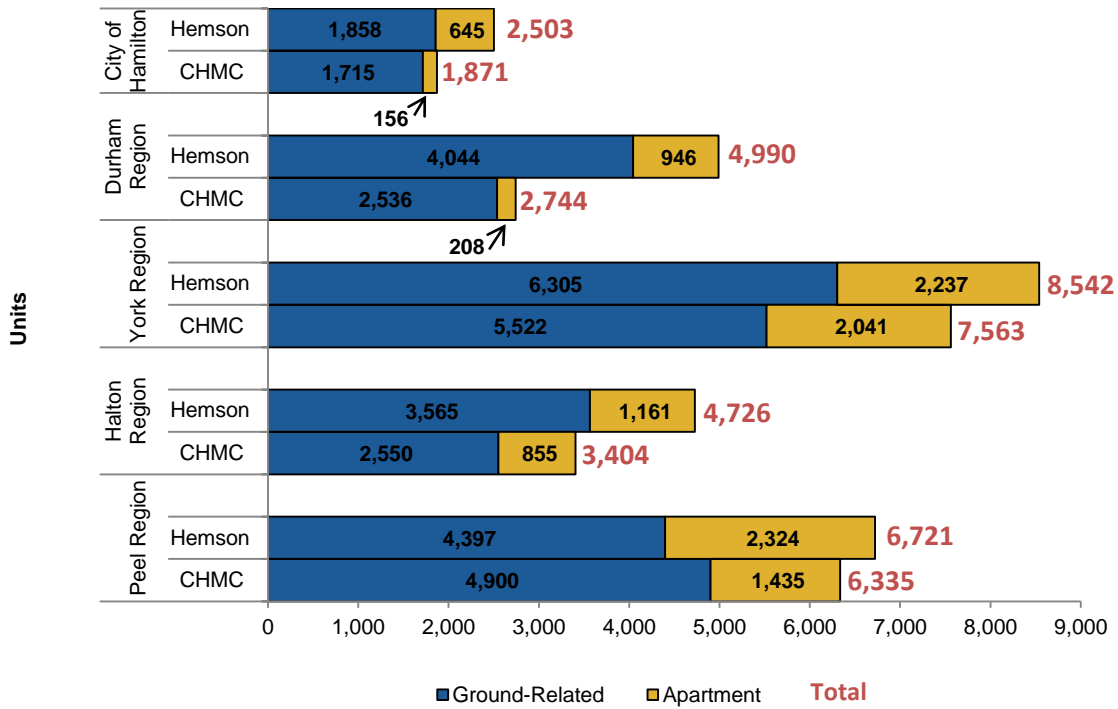
Source: Tables A-3, A-6 and A-9

The relationship between household growth and new housing completions for Durham region was consistent with the population growth patterns, but this was not the case for the Peel and York regions.

Figure 6 shows that in the Durham region, the number of new housing completions fell short of the household growth forecast. There was an average of 2,744 completions per year rather than the forecasted growth of 4,990 households, while actual population growth fell short of the forecast by 4,000 persons.

Household completions in Peel region matched the forecasts. However, population growth in the region surpassed the forecasts by 3,000 persons, so we would have expected that household completions would have been higher than the forecasts. For York region, completions were stronger than expected since actual population growth fell short of the forecast by 7,000 persons.

Figure 6:
Comparison of Average Annual Household Growth and Housing Completions for
Regions and Single-Tier Cities in the GTAH by Type of Unit



Source: Tables A-3, A-6 and A-9.

3. DO THE POPULATION DISCREPANCIES REFLECT DIFFERENCES IN LOCATION OF EMPLOYMENT GROWTH?

The Growth Plan contains forecasts from Hemson for employment and population for single-tier and upper-tier municipalities in the GGH. Employment distribution within the GGH which differs significantly from the Hemson forecast would be expected to have repercussions on the distribution of population. This is because people tend to locate their residence within a reasonable band of commuting time from their place of work. Statistics Canada tells us that the average commute for GTA residents was about 33 minutes one way in 2011.⁴

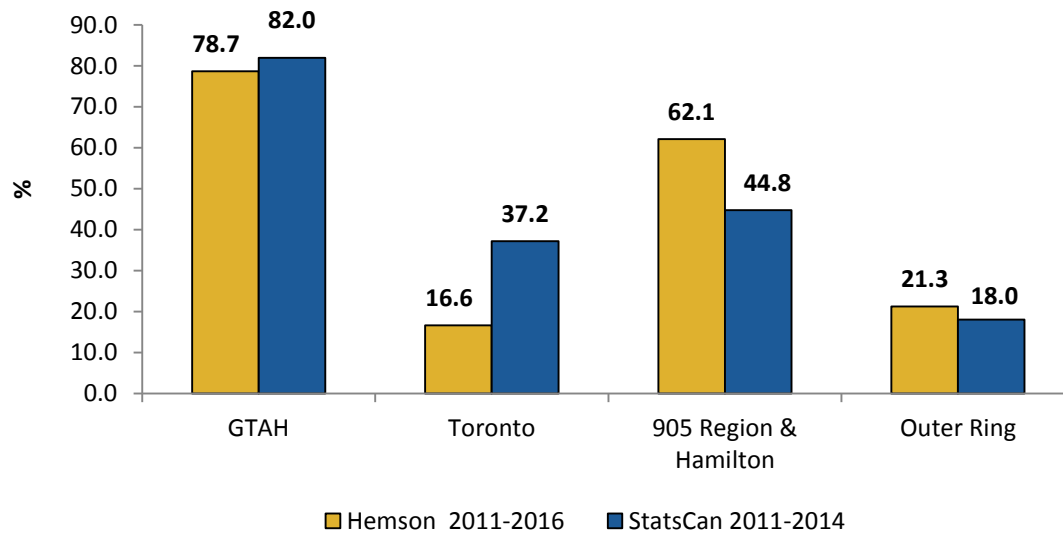
3.1 Value of Non-Residential Building Permits

The value of non-residential building permits which were issued is treated as a rough proxy for employment growth within the GGH during 2011-2014. This is based on the assumption that non-residential building activity provides employment floor space.

Figure 7 compares the distribution of all types of annual employment growth which were forecast by Hemson for the 2011-2016 period among single-tier and upper-tier municipalities within the GGH with the distribution of the value of non-residential building permits issued by municipalities for new and renovated commercial, industrial and institutional buildings.

⁴ Statistics Canada. "Table 2: Usual Commuting Time to Work, Census Metropolitan Areas, 2011," <http://www12.statcan.gc.ca/nhs-enm/2011/as-sa/99-012-x/2011003/tbl/tbl02-eng.cfm>, accessed October 1, 2015.

**Figure 7:
Distribution of Employment Growth and Value of Total Non-Residential Building Permits Issued in the GGH**



Source: Table B-1.

This comparison indicates that the city of Toronto captured a much larger share of GGH building permit activity than had been forecast for employment, while the 905 region and Hamilton had a much lower share:

- The city of Toronto captured a much larger share of the GGH’s non-residential building permit activity (37.2%) than the Hemson forecast for employment (which was 16.6%).
- The 905 region and Hamilton’s share of non-residential building activity as a whole has been much smaller (at 48.8%) than its forecast employment share which had been 62.1%.

The data supports the idea that investment in new non-residential buildings in Toronto has played a strong role in population and employment growth which is discussed in further detail in the next section.

Each of the municipalities in the 905 region captured a lower share of building activity than had been forecast for employment (see Table B-1).

- With the actual population growth in the Peel region exceeding forecasts, we would expect that the region’s share of non-residential building activity would have been comparable to the employment forecasts. However, Peel’s share was lower at 12.7% rather than the forecast of 17.2%.
- It is uncertain how great a factor that investment in non-residential building and by-proxy employment growth had in the region’s population growth.

The distribution of annual employment growth and the average annual value of non-residential building permits do not appear to be major factors in the population shortfall in the Outer Ring (see Figure 7):

- The Outer Ring captured a share of the Golden Greater Horseshoe's (GGH) non-residential building permit activity in line with the Hemson forecast for employment.

In the Outer Ring West, the distribution in annual employment growth (12.0%) and the growth in average annual value of non-residential building permits (10.2%) have not been major contributors in the population shortfall for the sub-forecast area (for details refer to Appendix Figure B-1).

3.2 Municipal Employment Surveys

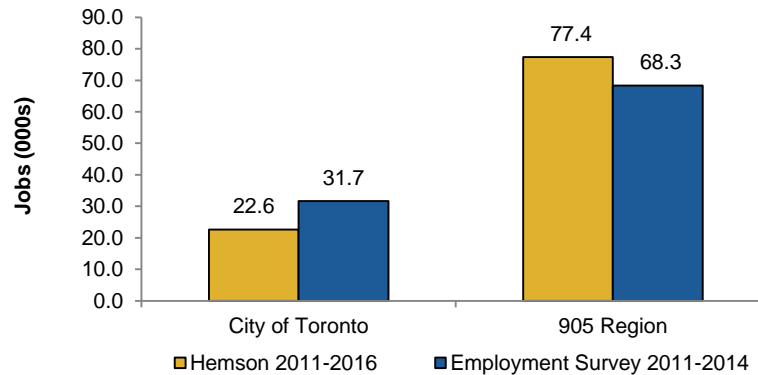
While several municipalities within the GTA conduct regular surveys of employment, they are of questionable value in providing a consistent road map of employment growth in the broader area.⁵ An exception to this is the city of Toronto, where the acceleration in employment growth in recent years is consistent with the upsurge in the value of non-residential building permits issued and a robust office space market. Table C-2 indicates that employment grew by 45,000 jobs in Durham region and 49,000 jobs in York region from 2011 to 2014. This is not consistent with the values of the municipalities' non-residential building permit data in which both municipalities fell short of the forecasts.

Figure 8 compares Hemson's distribution of average annual employment growth forecast for the 2011-2016 period with the actual employment growth from 2011 to 2014 for Toronto and the 905 region as calculated by the authors from available municipal surveys.

The employment survey data show that Toronto had a higher share of actual employment growth than forecasted (22.6% forecast versus 31.7% actual) while the 905 region captured less than had been forecast. The strong employment growth in Toronto is consistent with the building permit data and has led to a tightening of the office market (which will be discussed in further detail in the following section). With the inconsistency of the employment survey data, it is likely that there was an overstatement of employment growth in Durham region's employment survey which caused the 905 region to perform even more weakly than shown in Figure 8.

⁵ Municipalities in Hamilton and the Outer Ring sub-forecast area were excluded from this analysis as they did not conduct regular employment surveys.

**Figure 8:
Distribution of Average Annual Employment
Growth, Actual and Forecast**



Source: Table C-3.

3.3 Office Market Conditions⁶

Changes to office vacancy rates were analyzed to determine if they had an impact on employment growth. Figure 9 shows the change in office vacancy rates from 2011-2014 for the fourth quarter for GTA municipalities.

Toronto had the lowest vacancy rate in both 2011 and 2014. The continued low vacancy rate and high level of new commercial building activity in Toronto are consistent with the strong employment growth which the city’s annual employment surveys show.

The strong employment growth in the city of Toronto has resulted in the vacancy rate increasing in the 905 region from 6.5% in 2011 to 9.6% in 2014. This rising vacancy rate in the 905 region is an indicator that companies are moving to Toronto from the outlying suburbs or are choosing to open their offices in Toronto as rather than in the 905 region.

⁶ Industrial vacancy rates were examined for the two time periods and were found to have no noticeable differences for all municipalities.

**Figure 9:
Office Vacancy Rates in the GTA, 2011-2014**

	Dec. 2011 Vacancy Rate	Dec. 2014 Vacancy Rate	Percentage Point Change
Toronto	4.82%	5.05%	0.23%
Peel	6.43%	9.30%	2.87%
Halton	8.16%	12.63%	4.47%
York	5.95%	8.66%	2.72%
Durham	6.06%	11.45%	5.39%
GTA	5.10%	5.78%	0.68%
905 Region	6.52%	9.60%	3.08%

Source: Colliers, GTA Office Statistics, 2011-2014.

In the Outer Ring West, statistics on conditions in the office market for both 2011 and 2014 are available only for the Waterloo region, which is by far the largest Outer Ring office market.

It appears that Waterloo's reliance on the high tech sector has contributed to a slower than forecast population growth for the region. Office vacancies there climbed from 12.8% in 2011 to 16.4% in 2014 due in large part to BlackBerry's recent contraction. Assuming a ratio of 150-200 square feet of office space per employee, the additional 614,770 square feet of vacant space equates to a loss of around 3,000-4,000 office jobs. The sluggish job growth supports a smaller population base than otherwise would be the case.

**Figure 10:
Office Market Statistics in Waterloo Region, 2011-2014**

Waterloo CMA	Dec. 2011	Dec. 2014
Office Inventory	10,021,455 sq.ft	11,542,070
Vacancy Rate	12.80%	16.44%
Vacant Space	1,282,746 sq.ft	1,897,516

*Percentage point change

Source: Colliers, Waterloo Region Office Statistics, 2011-2014.

4. IMPACT OF SERVICED RESIDENTIAL LAND CONSTRAINTS FOR GROUND-RELATED HOUSING

In the GTA, the smaller number of ground-related units than forecast being completed is attributed to the shortage of serviced sites available for single-detached, semi-detached and townhouse types of development. According to the CMHC Housing Market Outlook for the GTA issued in May 2015, “Despite strong demand for ground-oriented homes, land constraints have meant fewer low rise sales centre openings over the past five years.”⁷

While CMHC’s conclusion about land constraints on ground-related new housing are couched in terms of the GTA as a whole, they effectively apply to the 905 areas only. The city of Toronto, at best, only has small pockets of land for potential low-grounded developments.

The CUR paper titled “Why There is a Shortage of New Ground-Related Housing in the GTA” found that the lack of serviced land availability was the primary factor in the supply of new ground-related housing falling short of meeting demand.⁸ The report showed that the supply of new ground-related housing in the GTA had fallen by half since the early 2000s, from around 30,000 units in 2001-2003 to around 15,000 units in 2013-2014.⁹

The report also noted that information for the upper tier municipalities in the 905 region was incomplete since most municipalities were not keeping track of their supply of ground-related serviced lands. No information was located on the supply of serviced lots for ground-related housing in the Peel and Halton regions. The report found that, where information was available, there were shortages of serviced lands in the York and western Durham regions which led to a shortfall in the supply of new ground-related housing:

- In York region a staff report from 2012 noted that “Region’s supply of vacant registered and draft approved units of all types, including apartments, represented about a 3.7 years’ supply and “. . . is the lowest level of supply over the last fifteen years in the Region.”¹¹
- “Growing Durham,” a consultant report which was prepared for Durham region, stated that “Over the short-term, housing demand in Durham is anticipated to become increasingly constrained due to a lack of developable land supply within the City of Pickering, combined with the gradual build out of designated residential lands within the Town of Ajax and Whitby.”¹²

⁷ CMHC, Housing Market Outlook – Greater Toronto Area, Spring 2015, p.2.

⁸ Frank Clayton, “Why There is a Shortage of New Ground-Related Housing in the GTA,” Policy Commentary No. 4, Centre for Urban Research and Land Development, Ryerson University, June 2015.

⁹ Ibid, p. 2

¹¹ Ibid, p.5

¹² Ibid, p.6

- The town of Whitby was one of the few municipalities in the GTA to monitor the supply of land for residential units. According to the latest Annual Housing Monitoring Report for the year 2013, Whitby had a 3.7 years' supply of land in the pipeline which is below the four year minimum.¹³

Outside the GTA, the CMHC Housing Market Outlooks which were released in early 2015 for the Outer Ring sub-forecast areas also found shortages in service lands in several municipalities:

- Barrie - "Land availability will continue to be an obstacle for the development of single-detached homes in the City of Barrie."¹⁴
- Kitchener/Waterloo - "The supply of permit ready lots for building single-detached homes is a stumbling block to higher starts. Builders have difficulty getting the lots they need to build homes. In most cases the challenge is not the amount of available land, but completing the servicing required before permits can be issued."¹⁵
- Guelph - "With a shortage of serviced lots, starts of ground-related dwellings have been constrained."¹⁶
- St. Catharines-Niagara - "Greenfield land for residential development is decreasing in some sub-markets and almost depleted in others. Given the land constraint, builders will break ground for more apartments in both 2015 and 2016."¹⁷

¹³ Ibid, p. 7

¹⁴ CMHC, Housing Market Outlook – Barrie CMA, Spring 2015, p. 2.

¹⁵ CMHC, Housing Market Outlook – Kitchener-Cambridge-Waterloo and Guelph CMAs, Spring 2015, p. 2.

¹⁶ Ibid, p. 6

¹⁷ CMHC, Housing Market Outlook – St. Catharines-Niagara CMA, Spring 2015, p. 2

5. CONCLUSIONS

5.1 Overall Conclusions

The divergence in population growth during 2011-2014 from the forecast for 2011-2016 can be explained primarily by the robust growth in new apartment construction and employment growth in central Toronto combined with shortages of serviced lots for ground-related housing in key 905 region municipalities both within and outside of the GTA. Employment weakness in Kitchener-Waterloo was a contributing factor in the western sub-forecast area. Unless there is a significant increase in the supply of serviced sites in the areas outside the city of Toronto, it is likely that the population, and ultimately employment, forecasts for these areas in the Growth Plan will not be met. Conclusions with respect to each of the major demographic differences are presented below.

5.2 Conclusion: Outer Ring versus GTAH

Municipalities in the Outer Ring experienced significantly less growth (by an average of 17,000 persons per year) than a forecast which was nearly twice as high (at 31,000). This contrasts with the GTAH area as a whole where the estimated actual and forecasted future growth matched (at about 103,000 persons per year).

The lack of ground-related housing being completed is the key contributor to the population shortfall in the Outer Ring. This, in turn, is attributable to a shortage of serviced sites for new ground-related housing. A shortfall in employment growth does not appear to have been a major influence on population growth.

5.3 Conclusion: Outer Ring West

Within the Outer Ring sub-forecast areas, the largest absolute shortfall in population growth occurred in the west (Waterloo region, Wellington County including Guelph, and Brant County).

In the Outer Ring West sub-forecast area, the lack of ground-related housing completions in the Waterloo region played a major role in the population shortfall for the sub-forecast area. The latest Housing Market Outlook released for the region by CMHC found that the lack of permit-ready lots for single detached homes was the main obstacle to higher housing completions. Although investment in non-residential buildings was not a major factor behind the population gap, the rising office vacancy rate in the Waterloo region was found to be a contributor.

5.4 Conclusion: Toronto versus Rest of GTA

Within the GTA, the city of Toronto exceeded its average annual population growth forecasts (by 7,000 persons) while the rest of the GTA (905 region and Hamilton) fell short (by 6,000 persons).

Within the GTA, strong growth in condo, apartment and office building construction propelled the larger than forecasted population growth in the city of Toronto. A desire by workers to locate closer to jobs being created in central Toronto, combined with a shortage of serviced land in the 905 portions of the GTA, contributed to higher than forecasted population growth in the city of Toronto and lower than forecasted population growth in the 905 regions.

**APPENDIX A: AVERAGE ANNUAL HOUSING COMPLETIONS AND
HOUSEHOLD GROWTH IN THE GGH BY
MUNICIPALITY: ACTUAL 2011-2014 AND FORECAST
2011-2021**

**Table A-1:
Total Housing Completions in the GGH, 2011-2014**

	<i>Housing Completions</i>				<i>Average Annual Completions</i>	
	2011	2012	2013	2014	2011-2014	
	Units				Average	Percent Distribution
GTA						
Toronto	16,850	13,474	14,542	9,551	13,604	31.0
Peel	5,990	5,753	7,303	6,293	6,335	14.4
Halton	2,898	3,888	3,212	3,619	3,404	7.8
York	7,450	6,957	7,350	8,495	7,563	17.2
Durham	2,575	3,281	2,692	2,428	2,744	6.3
Subtotal	35,763	33,353	35,099	30,386	33,650	76.7
GTA and Hamilton						
GTA	35,763	33,353	35,099	30,386	33,650	76.7
Hamilton	1,715	2,313	1,718	1,737	1,871	4.3
Subtotal	37,478	35,666	36,817	32,123	35,521	81.0
Outer Ring - West						
Waterloo	2,535	2,315	2,054	2,208	2,278	5.2
Wellington	914	798	837	797	837	1.9
Brant	350	437	427	411	406	0.9
Subtotal	3,799	3,550	3,318	3,416	3,521	8.0
Outer Ring - North						
Dufferin	104	175	153	159	148	0.3
Simcoe	2,276	1,989	2,363	2,148	2,194	5.0
Subtotal	2,380	2,164	2,516	2,307	2,342	5.3
Outer Ring - South						
Haldimand-Norfolk	274	351	307	402	334	0.8
Niagara	1,066	1,353	1,160	1,567	1,287	2.9
Subtotal	1,340	1,704	1,467	1,969	1,620	3.7
Outer Ring - East						
City of Kawartha Lakes	254	197	240	168	215	0.5
Peterborough	342	236	320	430	332	0.8
Northumberland	239	280	311	368	300	0.7
Subtotal	835	713	871	966	846	1.9
Subtotal - Total Outer Ring	8,354	8,131	8,172	8,658	8,329	19.0
Grand Total GGH	45,832	43,797	44,989	40,781	43,850	100

Source: CMHC, Starts and Completions Survey

Table A-2:
Changes to Total Households in the GGH, Hemson Consulting, 2011-2021

	<i>Total Occupied Households</i>		<i>Household Growth</i>	<i>Average Household Growth</i>	
	<i>2011</i>	<i>2021</i>	<i>2011-2021</i>	<i>2011-2021</i>	
	<i>Households</i>			<i>Average</i>	<i>Percent Distribution</i>
GTA					
Toronto	1,047,890	1,162,060	114,170	11,417	21.3
Peel	402,940	470,150	67,210	6,721	12.5
Halton	179,020	226,280	47,260	4,726	8.8
York	323,450	408,870	85,420	8,542	15.9
Durham	213,710	263,610	49,900	4,990	9.3
Subtotal	2,167,010	2,530,970	363,960	36,396	67.8
GTA and Hamilton					
GTA	2,167,010	2,530,970	363,960	36,396	67.8
Hamilton	203,810	228,840	25,030	2,503	4.7
Subtotal	2,370,820	2,759,810	388,990	38,899	72.5
Outer Ring - West					
Waterloo	191,630	232,060	40,430	4,043	7.5
Wellington	79,090	94,820	15,730	1,573	2.9
Brant	50,450	59,780	9,330	933	1.7
Subtotal	321,170	386,660	65,490	6,549	12.2
Outer Ring - North					
Dufferin	20,070	23,840	3,770	377	0.7
Simcoe	168,700	209,480	40,780	4,078	7.6
Subtotal	188,770	233,320	44,550	4,455	8.3
Outer Ring - South					
Haldimand-Norfolk	16,840	18,720	1,880	188	0.4
Niagara	174,700	194,170	19,470	1,947	3.6
Subtotal	191,540	212,890	21,350	2,135	4.0
Outer Ring - East					
City of Kawartha Lakes	29,690	34,090	4,400	440	0.8
Peterborough	54,660	62,510	7,850	785	1.5
Northumberland	33,100	37,150	4,050	405	0.8
Subtotal	117,450	133,750	16,300	1,630	3.0
Subtotal - Total Outer Ring	818,930	966,620	147,690	14,769	27.5
Grand Total GGH	3,189,750	3,726,430	536,680	53,668	100

Source: Hemson Consulting, Greater Golden Horseshoe Forecasts to 2041.

Table A-3:
Comparison: Average Annual Total Household Growth and Housing Completions in the GGH, 2011-2014/21

	<i>Hemson</i> 2011-2021	<i>CMHC</i> 2011-2014	Difference (CMHC - Hemson) 2011-2014	<i>Hemson</i> 2011-2021	<i>CMHC</i> 2011-2014
	Housing Completions			Percent Distribution	
GTA					
Toronto	11,417	13,604	2,187	21.3	31.0
Peel	6,721	6,335	-386	12.5	14.4
Halton	4,726	3,404	-1,322	8.8	7.8
York	8,542	7,563	-979	15.9	17.2
Durham	4,990	2,744	-2,246	9.3	6.3
Subtotal	36,396	33,650	-2,746	67.8	76.7
GTA and Hamilton					
GTA	36,396	33,650	-2,746	67.8	76.7
Hamilton	2,503	1,871	-632	4.7	4.3
Subtotal	38,899	35,521	-3,378	72.5	81.0
Outer Ring - West					
Waterloo	4,043	2,278	-1,765	7.5	5.2
Wellington	1,573	837	-737	2.9	1.9
Brant	933	406	-527	1.7	0.9
Subtotal	6,549	3,521	-3,028	12.2	8.0
Outer Ring - North					
Dufferin	377	148	-229	0.7	0.3
Simcoe	4,078	2,194	-1,884	7.6	5.0
Subtotal	4,455	2,342	-2,113	8.3	5.3
Outer Ring - South					
Haldimand-Norfolk	188	334	146	0.4	0.8
Niagara	1,947	1,287	-661	3.6	2.9
Subtotal	2,135	1,620	-515	4.0	3.7
Outer Ring - East					
City of Kawartha Lakes	440	215	-225	0.8	0.5
Peterborough	785	332	-453	1.5	0.8
Northumberland	405	300	-106	0.8	0.7
Subtotal	1,630	846	-784	3.0	1.9
Subtotal - Total Outer Ring	14,769	8,329	-6,440	27.5	19.0
Grand Total GGH	53,668	43,850	-9,818	100	100

Source: Hemson Consulting, Greater Golden Horseshoe Forecasts to 2041 and CMHC, Starts and Completions Survey.

Table A-4:
Apartment Housing Completions in the GGH, 2011-2014

	<i>Housing Completions</i>				<i>Average Annual Completions</i>	
	2011	2012	2013	2014	2011-2014	Percent Distribution
	Units				Average	
GTA						
Toronto	15,345	11,910	12,672	7,754	11,920	65.2
Peel	1,971	1,163	1,705	900	1,435	7.8
Halton	491	1,021	599	1,307	855	4.7
York	1,417	607	2,068	4,072	2,041	11.2
Durham	60	281	277	214	208	1.1
Subtotal	19,284	14,982	17,321	14,247	16,459	90.0
GTA and Hamilton						
GTA	19,284	14,982	17,321	14,247	16,459	90.0
Hamilton	67	387	33	137	156	0.9
Subtotal	19,351	15,369	17,354	14,384	16,615	90.8
Outer Ring - West						
Waterloo	904	900	996	991	948	5.2
Wellington	195	219	218	256	222	1.2
Brant	0	61	3	0	16	0.1
Subtotal	1,099	1,180	1,217	1,247	1,186	6.5
Outer Ring - North						
Dufferin	44	0	0	0	11	0.1
Simcoe	383	244	160	294	270	1.5
Subtotal	427	244	160	294	281	1.5
Outer Ring - South						
Haldimand-Norfolk	0	0	3	20	6	0.0
Niagara	2	212	138	120	118	0.6
Subtotal	2	212	141	140	124	0.7
Outer Ring - East						
City of Kawartha Lakes	70	0	0	0	18	0.1
Peterborough	0	18	44	141	51	0.3
Northumberland	0	62	0	12	19	0.1
Subtotal	70	80	44	153	87	0.5
Subtotal - Total Outer Ring	1,598	1,716	1,562	1,834	1,678	9.2
Grand Total GGH	20,949	17,085	18,916	16,218	18,292	100

Source: CMHC, Starts and Completions Survey.

Table A-5:
Changes to Apartment Households in the GGH, Hemson Consulting, 2011-2021

	<i>Apartment Occupied Households</i>		<i>Household Growth</i>	<i>Average Household Growth</i>	
	2011	2021	2011-2021	2011-2021	
	Households			Average	Percent Distribution
GTA					
Toronto	640,060	739,050	98,990	9,899	50.3
Peel	116,750	139,990	23,240	2,324	11.8
Halton	31,970	43,580	11,610	1,161	5.9
York	50,780	73,150	22,370	2,237	11.4
Durham	35,490	44,950	9,460	946	4.8
Subtotal	875,050	1,040,720	165,670	16,567	84.2
GTA and Hamilton					
GTA	875,050	1,040,720	165,670	16,567	84.2
Hamilton	57,560	64,010	6,450	645	3.3
Subtotal	932,610	1,104,730	172,120	17,212	87.5
Outer Ring - West					
Waterloo	48,700	59,430	10,730	1,073	5.5
Wellington	16,600	19,670	3,070	307	1.6
Brant	9,730	10,870	1,140	114	0.6
Subtotal	75,030	89,970	14,940	1,494	7.6
Outer Ring - North					
Dufferin	2,280	2,860	580	58	0.3
Simcoe	25,700	30,860	5,160	516	2.6
Subtotal	27,980	33,720	5,740	574	2.9
Outer Ring - South					
Haldimand-Norfolk	1,490	1,720	230	23	0.1
Niagara	34,820	36,640	1,820	182	0.9
Subtotal	36,310	38,360	2,050	205	1.0
Outer Ring - East					
City of Kawartha Lakes	3,590	3,910	320	32	0.2
Peterborough	11,160	12,090	930	93	0.5
Northumberland	4,200	4,810	610	61	0.3
Subtotal	18,950	20,810	1,860	186	0.9
Subtotal - Total Outer Ring	158,270	182,860	24,590	2,459	12.5
Grand Total GGH	1,090,880	1,287,590	196,710	19,671	100.0

Source: Hemson Consulting, Greater Golden Horseshoe Forecasts to 2041.

Table A-6:
Comparison: Average Annual Apartment Household Growth and Housing Completions in the GGH, 2011-2014/21

	<i>Hemson</i> 2011-2021	<i>CMHC</i> 2011-2014	Difference (<i>CMHC</i> - <i>Hemson</i>) 2011-2014	<i>Hemson</i> 2011-2021	<i>CMHC</i> 2011-2014
	Housing Completions			Percent Distribution	
GTA					
Toronto	9,899	11,920	2,021	50.3	65.2
Peel	2,324	1,435	-889	11.8	7.8
Halton	1,161	855	-307	5.9	4.7
York	2,237	2,041	-196	11.4	11.2
Durham	946	208	-738	4.8	1.1
Subtotal	16,567	16,459	-109	84.2	90.0
GTA and Hamilton					
GTA	16,567	16,459	-109	84.2	90.0
Hamilton	645	156	-489	3.3	0.9
Subtotal	17,212	16,615	-598	87.5	90.8
Outer Ring - West					
Waterloo	1,073	948	-125	5.5	5.2
Wellington	307	222	-85	1.6	1.2
Brant	114	16	-98	0.6	0.1
Subtotal	1,494	1,186	-308	7.6	6.5
Outer Ring - North					
Dufferin	58	11	-47	0.3	0.1
Simcoe	516	270	-246	2.6	1.5
Subtotal	574	281	-293	2.9	1.5
Outer Ring - South					
Haldimand-Norfolk	23	6	-17	0.1	0.0
Niagara	182	118	-64	0.9	0.6
Subtotal	205	124	-81	1.0	0.7
Outer Ring - East					
City of Kawartha Lakes	32	18	-15	0.2	0.1
Peterborough	93	51	-42	0.5	0.3
Northumberland	61	19	-43	0.3	0.1
Subtotal	186	87	-99	0.9	0.5
Subtotal - Total Outer Ring	2,459	1,678	-782	12.5	9.2
Grand Total GGH	19,671	18,292	-1,379	100	100

Source: Hemson Consulting, Greater Golden Horseshoe Forecasts to 2041 and CMHC, Starts and Completions Survey.

**Table A-7:
Ground Related Housing Completions in Greater Golden Horseshoe (by CMA),
2011-2014**

	<i>Housing Completions</i>				<i>Average Annual Completions</i>	
	2011	2012	2013	2014	2011-2014	
	Units				Average	Percent Distribution
GTA						
Toronto	1,505	1,564	1,870	1,797	1,684	6.6
Peel	4,019	4,590	5,598	5,393	4,900	19.2
Halton	2,407	2,867	2,613	2,312	2,550	10.0
York	6,033	6,350	5,282	4,423	5,522	21.6
Durham	2,515	3,000	2,415	2,214	2,536	9.9
Subtotal	16,479	18,371	17,778	16,139	17,192	67.3
GTA and Hamilton						
GTA	16,479	18,371	17,778	16,139	17,192	67.3
Hamilton	1,648	1,926	1,685	1,600	1,715	6.7
Subtotal	18,127	20,297	19,463	17,739	18,907	74.0
Outer Ring - West						
Waterloo	1,631	1,415	1,058	1,217	1,330	5.2
Wellington	719	579	619	541	615	2.4
Brant	350	376	424	411	390	1.5
Subtotal	2,700	2,370	2,101	2,169	2,335	9.1
Outer Ring - North						
Dufferin	60	175	153	159	137	0.5
Simcoe	1,893	1,745	2,203	1,854	1,924	7.5
Subtotal	1,953	1,920	2,356	2,013	2,061	8.1
Outer Ring - South						
Haldimand-Norfolk	274	351	304	382	328	1.3
Niagara	1,064	1,141	1,022	1,447	1,169	4.6
Subtotal	1,338	1,492	1,326	1,829	1,496	5.9
Outer Ring - East						
City of Kawartha Lakes	184	197	240	168	197	0.8
Peterborough	342	218	276	289	281	1.1
Norththumberland	239	218	311	356	281	1.1
Subtotal	765	633	827	813	760	3.0
Subtotal - Total Outer Ring	6,756	6,415	6,610	6,824	6,651	26.0
Grand Total GGH	24,883	26,712	26,073	24,563	25,558	100

Source: CMHC, Starts and Completions Survey.

Table A-8:
Changes to Ground Related Households in the GGH, Hemson Consulting, 2011-2021

	<i>Single & Semi Occupied Households</i>		<i>Household Growth</i>	<i>Average Household Growth</i>	
	2011	2021	2011-2021	2011-2021	
	Households			Average	Percent Distribution
GTA					
Toronto	407,830	423,010	15,180	1,518	4.5
Peel	286,190	330,160	43,970	4,397	12.9
Halton	147,050	182,700	35,650	3,565	10.5
York	272,670	335,720	63,050	6,305	18.5
Durham	178,220	218,660	40,440	4,044	11.9
Subtotal	1,291,960	1,490,250	198,290	19,829	58.3
GTA and Hamilton					
GTA	1,291,960	1,490,250	198,290	19,829	58.3
Hamilton	146,250	164,830	18,580	1,858	5.5
Subtotal	1,438,210	1,655,080	216,870	21,687	63.8
Outer Ring - West					
Waterloo	142,930	172,630	29,700	2,970	8.7
Wellington	62,490	75,150	12,660	1,266	3.7
Brant	40,720	48,910	8,190	819	2.4
Subtotal	246,140	296,690	50,550	5,055	14.9
Outer Ring - North					
Dufferin	17,790	20,980	3,190	319	0.9
Simcoe	143,000	178,620	35,620	3,562	10.5
Subtotal	160,790	199,600	38,810	3,881	11.4
Outer Ring - South					
Haldimand-Norfolk	15,350	17,000	1,650	165	0.5
Niagara	139,880	157,530	17,650	1,765	5.2
Subtotal	155,230	174,530	19,300	1,930	5.7
Outer Ring - East					
City of Kawartha Lakes	26,100	30,180	4,080	408	1.2
Peterborough	43,500	50,420	6,920	692	2.0
Norththumberland	28,900	32,340	3,440	344	1.0
Subtotal	98,500	112,940	14,440	1,444	4.2
Subtotal - Total Outer Ri	660,660	783,760	123,100	12,310	36.2
Grand Total GGH	2,098,870	2,438,840	339,970	33,997	100.0

Source: Hemson Consulting, Greater Golden Horseshoe Forecasts to 2041.

Table A-9:
Comparison: Average Annual Ground Related Household Growth and Housing Completions, 2011-2014/21

	<i>Hemson</i>	<i>CMHC</i>	Difference (CMHC - Hemson)	<i>Hemson</i>	<i>CMHC</i>
	2011-2021	2011-2014	2011-2014	2011-2021	2011-2014
	Housing Completions			Percent Distribution	
GTA					
Toronto	1,518	1,684	166	4.5	6.6
Peel	4,397	4,900	503	12.9	19.2
Halton	3,565	2,550	-1,015	10.5	10.0
York	6,305	5,522	-783	18.5	21.6
Durham	4,044	2,536	-1,508	11.9	9.9
Subtotal	19,829	17,192	-2,637	58.3	67.3
GTA and Hamilton					
GTA	19,829	17,192	-2,637	58.3	67.3
Hamilton	1,858	1,715	-143	5.5	6.7
Subtotal	21,687	18,907	-2,781	63.8	74.0
Outer Ring - West					
Waterloo	2,970	1,330	-1,640	8.7	5.2
Wellington	1,266	615	-652	3.7	2.4
Brant	819	390	-429	2.4	1.5
Subtotal	5,055	2,335	-2,720	14.9	9.1
Outer Ring - North					
Dufferin	319	137	-182	0.9	0.5
Simcoe	3,562	1,924	-1,638	10.5	7.5
Subtotal	3,881	2,061	-1,821	11.4	8.1
Outer Ring - South					
Haldimand-Norfolk	165	328	163	0.5	1.3
Niagara	1,765	1,169	-597	5.2	4.6
Subtotal	1,930	1,496	-434	5.7	5.9
Outer Ring - East					
City of Kawartha Lakes	408	197	-211	1.2	0.8
Peterborough	692	281	-411	2.0	1.1
Northumberland	344	281	-63	1.0	1.1
Subtotal	1,444	760	-685	4.2	3.0
Subtotal - Total Outer Ring	12,310	6,651	-5,659	36.2	26.0
Grand Total GGH	33,997	25,558	-8,439	100	100

Source: Hemson Consulting, Greater Golden Horseshoe Forecasts to 2041 and CMHC, Starts and Completions Survey.

**Appendix B: Average Annual Building Permit Values and
Employment Growth in the GGH by Municipality:
Actual 2011-2014 and Forecast 2011-2016**

**Table B-1:
Distribution of Employment Growth by Type and Value of Non-Residential Building Permits Issued in the GGH, 2011-2014/21**

	Employment Growth	Value of Building Permits			Total Non-Residential
		Commercial	Industrial	Institutional	
		Hemson 2011-2016	Statistics Canada 2011-2014		
%Distribution					
GTA					
Toronto	16.6	41.7	20.3	36.7	37.2
Peel	17.2	12.4	17.1	9.6	12.7
Halton	10.5	7.1	7.3	10.2	8.2
York	21.0	11.2	10.4	6.8	10.0
Durham	8.2	5.0	7.8	4.8	5.5
Subtotal	73.5	77.5	62.9	68.1	73.6
GTA and Hamilton					
GTA	73.5	77.5	62.9	68.1	73.6
Hamilton	5.2	6.8	8.0	10.9	8.3
Subtotal	78.7	84.3	70.9	78.9	82.0
Outer Ring - West	12.0	7.0	16.0	12.1	10.2
Outer Ring - North	5.5	4.2	5.5	4.4	2.6
Outer Ring - South	2.3	3.3	5.1	3.2	3.7
Outer Ring - East	1.5	1.2	2.4	1.4	1.5
Subtotal - Total Outer Ring	21.3	15.7	29.1	21.1	18.0
Grand Total GGH	100	100	100	100	100

Source: Hemson Consulting, Greater Golden Horseshoe Forecasts to 2041 and Statistics Canada, CANSIM Table 026-0003, Building permits, values by activity sector, monthly (dollars).

**Appendix C: Average Annual Employment Growth in the GTA by
Municipality: Actual 2011-2014 and Forecast 2011-2016**

Total employment estimates were gathered from various municipal employment surveys that were completed during the 2011-2014 period. Comparing these employment estimates with the value of non-residential building permit data revealed inconsistencies in the employment survey data. The regions of Durham, York and Halton captured between 20-32% of the employment growth in the GTA while only receiving between 6 and 10% of investment in new non-residential buildings. Due to these inconsistencies, the accuracy of the employment estimates from the municipal employment surveys is questionable.

The main source for the inconsistency in the employment figures is the different methodologies used by each municipality in gathering the data. The most common technique for gathering the information was having a surveyor visiting the places of business and conducting face-to-face interviews to determine the number of employees at the establishment. Halton, York and Brampton supplemented these interviews by conducting telephone interviews or online surveys for businesses that surveyors were unable to contact in person.

Due to the nature of the data collection, people who work from home or who have “no usual place of work” were not captured. However, in York region home-based businesses were encouraged to provide their information through the Region’s online survey.

While most of the surveys were conducted annually, Brampton conducted surveys bi-annually and the data used in the calculations in the tables below are for 2011 and 2013, while Durham region recently began collecting their data starting from 2012.

The irregularities in the employment survey data speak to the need for a common methodology to be used by all municipalities in the GTA to allow for accurate analysis.

**Table C-1:
Employment Growth in GTA - Municipal Employment Surveys, 2011-2014**

	<i>Employment</i>				Total Employment Growth	Average Annual Employment Growth	
	2011	2012	2013	2014	2011-2014	2011-2014	
	<i>Jobs (000s)</i>					<i>Average</i>	<i>Percent Distribution</i>
GTA							
Toronto	1,317	1,332	1,364	1,384	67	22.4	31.7
Peel	539	536	541	547	8	3.1	4.4
Mississauga	386	384	387	393	7	2.3	3.3
Brampton*	153	N/A	154	N/A	2	0.8	1.1
Halton	176	189	210	218	42	14.1	19.9
York	516	528	547	565	49	16.3	23.1
Durham**	125	125	156	170	45	22.6	32.0
Subtotal	2,673	2,710	2,818	2,885	212	70.6	100.0
905 Region	1,356	1,378	1,455	1,500	145	48.2	68.3

*Peel only contains employment survey data for Mississauga and Brampton. For Brampton surveys were only conducted in 2011 and 2013.

**Durham growth is from 2012 to 2014.

Source: Municipal Employment Surveys from 2011-2014.

**Table C-2:
Employment Growth Forecasts in GTA - Hemson Consulting, 2011-2016**

	<i>Employment</i>		Total Employment Growth	Average Annual Employment Growth	
	2011	2016	2011-2016	2011-2016	
	<i>Jobs (000s)</i>			<i>Jobs (000s)</i>	<i>%Distribution</i>
GTA					
Toronto	1,516	1,573	57	11.4	22.6
Peel	682	741	59*	11.8	23.4
Halton	254	290	36	7.2	14.3
York	539	611	72**	14.4	28.6
Durham	240	268	28	5.6	11.1
Subtotal	3,231	3,483	252	50.4	100.0
905 Region	1,715	1,910	195	39.0	77.4

*Peel only contains employment survey data for Mississauga and Brampton. For Brampton surveys were only conducted in 2011 and 2013.

**Durham growth is from 2012-2014.

Source: Hemson Consulting, Greater Golden Horseshoe Forecasts to 2041.

**Table C-3:
Comparison Average Annual Employment Growth in GTA by Municipality, 2011-2014/16**

	<i>Hemson 2011-2016</i>	<i>Municipal Employment Surveys 2011-2014</i>	<i>Difference (Employer Survey- Hemson) 2011-2014</i>	<i>Hemson 2011-2016</i>	<i>Municipal Employment Surveys 2011-2014</i>
	<i>Jobs (000s)</i>		<i>Jobs (000s)</i>	<i>%Distribution</i>	
GTA					
Toronto	11.4	22.4	11.0	22.6	31.7
Peel	11.8	3.1	- 8.7	23.4	4.4
Halton	7.2	14.1	6.9	14.3	19.9
York	14.4	16.3	1.9	28.6	23.1
Durham	5.6	22.6	17.0	11.1	32.0
Subtotal	50.4	70.6	20.2	100.0	100.0
905 Region	39.0	48.2	9.2	77.4	68.3

Source: Municipal Employment Surveys from 2011-2014 and Hemson Consulting, Greater Golden Horseshoe Forecasts to 2041.

Listing of Employment Surveys:

Source: City of Toronto. Toronto Employment Survey, 2011, 2012, 2013, 2014.

Source: Halton Region. Employment Survey Results, 2011, 2012, 2013, 2014.

Source: York Region. Employment and Industry Report, 2011, 2012, 2013, 2014.

Source: Region of Durham. Business Count, 2012, 2013, 2014.

Source: City of Brampton. Employer Survey, 2012, 2014.

Source: City of Mississauga. Employment Profile Statistics, 2012, 2013, 2014, 2015.

Note: City of Mississauga and City of Brampton reports contains employment figures for the previous year.

**APPENDIX D: MAP OF GREATER GOLDEN HORSESHOE AND OUTER
RING SUB-FORECAST AREAS**

Map D-1
Map of Greater Golden Horseshoe Including Outer Ring
Sub-Forecast Areas



Source: Hemson Consulting Ltd., "Greater Golden Horseshoe Growth Forecasts to 2041," November 2012, pp. 12.