

# HEMSON

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October 17, 2007

Mr. Ian Cross  
Program Manager, Research & Forecasting  
Planning Transit and the Environment  
110 Laurier Avenue West  
Ottawa, Ontario  
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Dear Mr. Cross:

Re: Review of City-Wide Population, Employment and Housing Forecasts

The City of Ottawa, as part of its official plan review process, is preparing long-term growth forecasts to serve as a basis for infrastructure and land use planning. These forecasts have been prepared internally by City staff and are based on standard forecast methods. The forecast results provide City-wide totals for population, housing and employment and include demographic descriptors such as age structure. The City retained Hemson Consulting Ltd. to review the forecast work to ensure that it provides a sound basis for long-term growth planning in Ottawa. This letter report summarizes the results of our review.

In June 2007, the City prepared the *Background Report on New Growth Projections for 2006–2031* to serve as a basis for preparing the forecasts. The forecasts themselves are presented in full in the report *Draft Growth Projections for Ottawa, Prospects for Population, Housing and Jobs, 2006–2031*, September 2007, which also embodies most of the information presented in the June 2007 report. The September 2007 draft is the primary document under review in this letter (thus any page numbers or section references are to this report, unless otherwise noted).

This letter is organised into two sections plus an attachment. The first section discusses the purpose and scope of the review. The second section provides the key conclusions. A more extensive attachment to the letter provides more specific comments and

observations presented as an ordered commentary with specific page references to September 2007 report.

## 1. Review of Forecast Includes Method, Assumptions and Results

As a basis for the review, it is important to understand the purpose of the forecasts themselves and the purpose of this review. The forecasts are being prepared by the City to assist the corporation with long-term infrastructure and land-use planning for the period to 2031. The City's forecasts are to provide a reasonable basis for sound long-term planning.

There are many details about the assumptions and results that could be discussed and debated at some length. However, it important that this review remain focussed on the question of whether the assumptions and results are reasonable for the City's long-term planning purposes. The purpose of the City's report or this review is not to provide an in-depth study of every demographic or economic factor incorporated into a forecast.

The review of the City's forecasts has been undertaken from four perspectives:

- Method — is the method appropriate and consistent with standard practice?
- Basis of assumptions — is the basis for the assumptions in each element of the forecast complete, reasonable and supportable?
- Assumptions — are the assumptions themselves reasonable and, where assumptions are questioned, are they significant enough to affect the overall results?
- Results — are the results reasonable for long-term planning?

The next section of the letter provides the key conclusions arising from the forecast review.

## 2. Key Conclusion: Forecasts Are a Sound Basis for Planning, But Caution Suggested on a Few Elements

The following are the key conclusions of the review of *Draft Growth Projections for Ottawa, Prospects for Population, Housing and Jobs, 2006–2031*:

- The overall forecast methods for population, housing and employment are sound approaches based on established techniques and standard methods in the industry. Where methods and approaches have been developed to address specific

characteristics of Ottawa (such as addressing migration within a metropolitan area straddling a provincial boundary), the methods are reasonable and supportable.

- The total population, household and employment forecasts for the City to 2031 are a reasonable outlook for growth in the City and represent a sound basis for long-term infrastructure and land-use planning in the City.
- Within the assumptions and results, however, there are three matters on which we would recommend that caution be used:
  - For the 2006 base population in the forecast, the City has not relied entirely on the 2006 Census population. The City has used a population estimate for 2006 that assumes that the rate of Census net undercoverage has increased significantly between the 2001 and 2006 Censuses (from a 2001 rate of 4% to about 7% in 2006). Based on the partial release of Census results to date, most observers are of the view that Census net undercoverage has increased in Ottawa and elsewhere (such as in the Greater Golden Horseshoe). The amount of such an increase in undercoverage is unknown at this time.

The undercoverage assumption used by the City, however, does not have any significant effect on the increment of population growth between 2006 and 2031 and the only a small effect on the total 2031 results. As a result, the City can proceed with the forecasts based on this assumption, but should monitor the coming Census results over the next year to determine if some future revision may be warranted. Of particular importance to this decision will be the undercoverage studies likely to be completed by Statistics Canada in the fall of 2008.

- The housing type propensities in the forecast suggest a significant shift in the market in favour of apartment dwellings resulting in a reduced future demand in the single and semi-detached markets. Some shift is expected in this direction as a result of Ottawa becoming a larger more urban place as the central city of an expanding metropolitan area and as the population ages. While the shift will likely occur to some degree, in our view, the shift to apartments in the new housing market is likely somewhat overstated and is likely to occur somewhat slower than is shown within the City forecasts. The primary reason we would argue that the apartment propensities may be overstated is that, while there will be many more older people to occupy apartments, a countering force that has been occurring for some time is that the elderly live longer, remain healthy longer and are likely to remain in the “family home” longer before moving on to an apartment.

The effect of these concerns on the overall housing forecast for the period to 2031 is not large enough that we would recommend immediate revision to the forecasts. We do, however, agree with the report which suggests the dwelling propensities and densities should be reviewed at a later stage of the official plan review process. This is appropriate timing as it will allow the City to consider the detailed cross-tabulations of the 2006 Census data on housing propensities which will be available in late 2007.

- The forecast of labour force and employment, appropriately, relies on a forecast based on age-specific labour force participation rates. The participation rate forecasts are all reasonable, with exception of a caution related to the rising participation among older workers. Mandatory retirement is rapidly disappearing. A common view, as expressed in these forecasts, is that this change will result in a substantial increase in labour force participation among those in their 60s and even 70s. In our view (which we recognise may be a minority opinion among demographers and economists), relatively few workers will make the choice to work longer in the absence of mandatory retirement — already a very large number of people choose to retire before their 65<sup>th</sup> birthday, suggesting that mandatory retirement is not the primary determinant of behaviour for many workers.

While possibly overstated for the elderly age groups, the effect of this assumption on the total labour force forecast and, therefore, the total employment forecast for the City is very small. No forecast revision is recommended on this point, but the caution should be noted and the assumption reviewed in any future update.

More detailed discussion of these conclusions and commentary on other elements of the forecast are provided in the attachment.

In closing, we would like to reiterate our overall conclusion that the forecasts prepared by the City do represent a reasonable basis for long-term planning in the City of Ottawa.

Yours truly,  
**HEMSON Consulting Ltd.**



Russell B. Mathew, MCIP, RPP, PLE  
Partner

**HEMSON**

## Review of City of Ottawa Population, Employment and Housing Forecasts

### Attachment to October 17, 2007 Letter

The key conclusions of the review of the City of Ottawa's proposed forecasts is provided in the main letter to which this document is attachment. This attachment provides Hemson's commentary on various matters addressed in the City's September 2007 Draft of *Growth Projections for Ottawa, Prospects for Population, Housing and Jobs, 2006–2031*. These comments are provided as support for the conclusions in the letter. We have also provided comments on the assumptions described in the report where we believe it is warranted by our expertise in growth forecasting and urban development.

The comments are organised so as to follow the order of the City's September 2007 report, the section and page numbers referencing those in the report.

#### 1.0 Population Projections

##### 1.1 Extent of Greater Metropolitan Area

The metropolitan area used by the City of Ottawa for forecast purposes is slightly larger than the Ottawa–Gatineau Census Metropolitan Area defined by Statistics Canada. As described in the report, the 2006 CMA is defined as the current metropolitan area, and the City's approach of using the larger area is intended to represent a future larger metropolitan area. For the purposes of this forecast this approach is, in our view, appropriate.

##### 1.2 Method and Model

###### Fertility

The City's approach to fertility is to maintain current fertility rates through the forecast period. This is an appropriate assumption and one that we employ in virtually all of our forecasting work.

###### Mortality

In considering the mortality rates used in the forecast, the City considers the possibility of a departure from the long-term historic pattern of declining mortality rates (longer life expectancy) in Canada. Some observers do speculate that phenomena such as obesity and environmental change may slow or reverse the established mortality trend. We are of the view that the possibility of a reversal of

mortality trends is highly speculative and therefore concur with the City that the use of Ontario-wide mortality rates with continued longer life expectancies are appropriate for this forecast. It should also be noted that rates do not vary significantly between major urban centres within Ontario, so the province-wide rates would be little different from Ottawa–Gatineau metropolitan mortality rates.

#### Natural Increase

The overall conclusion, resulting from the fertility and mortality assumptions, is that the rate of natural increase will remain positive throughout the forecast but will decline significantly. The decline will result from baby boomers beginning to enter the age groups with higher mortality and the relatively low fertility rates of the last 30 years continuing to work through the population age structure. The result in Ottawa is generally expected and is comparable to other metropolitan areas in Canada.

#### Migration

##### Canadian In-Migration

The discussion of the Canadian migration patterns with respect to Ottawa is largely focussed on the changes that occurred in the patterns as result of the boom and bust in the high-tech sector in the 1990s and 2000s. While we don't disagree that this was an important factor, we would add that migration patterns are not just tied to absolute job opportunities in the Ottawa area but also to the relative economic opportunity between Ottawa and elsewhere.

The cycle in the high-tech industries also coincide with a different set of economic circumstances elsewhere in Canada. During the late 1990s when the high tech sector was expanding rapidly in Ottawa, the Greater Toronto Area and Montreal were just recovering from the prolonged 1990s recession, much of Quebec and Atlantic Canada remained areas of slow growth, and the oil and resource boom in Western Canada was just beginning.

Most of the current decade, including the period when the high-tech industries contracted in the Ottawa area, was a nationwide period of robust economic growth: oil and resources boomed in the west, southern Ontario manufacturing boomed (though is has slowed in the past couple of years) and both Quebec and all of Atlantic Canada have had their best sustained period of growth in decades.

The result of this growth is that migratory patterns that coincided with the tech boom were likely exaggerated by the relative economic attractiveness of the rest of Canada. Consideration of these national relationships suggests more stability in the migration levels to Ottawa in the future, rather than a repeat of the exaggerated cycle of the past 10 years.

## International Immigration

International immigration has accelerated slightly in the past few years, though it has been reasonably stable in the 200,000 to 250,000 per annum range for the nearly 20 years since the government chose to significantly raise immigration targets in the late 1980s. Ottawa's share has shifted during this time period, in part because of the economic opportunities described above. The stable to slightly increasing immigration outlooks described in the report are appropriate.

### 1.3 Migration Scenarios

As already discussed in the above comments about mortality, long-term growth outlooks should generally avoid speculation on dramatic changes in demographic patterns. It is appropriate to rely on the Statistics Canada immigration levels which represent a moderate increase from today.

We agree with the report that it would not be appropriate to set migration patterns for long-term land use planning in Ottawa based on speculation about one possible migratory response to one possible scenario of the effects of climate change. Similarly, comparisons to other countries such as Germany, Italy and Japan, while interesting, provide little guidance for Canada. Even the U.S.A. is quite different from Canada in terms of age structure and, especially, fertility characteristics.

The report also wisely notes that the patterns will be cyclical through the forecast period, but that effects need to be averaged through the peaks and troughs. Similarly, it is important to avoid the common temptation to revise forecasts based on one or two very high or very low years of migration.

The migration scenarios themselves represent what we would consider to be a very reasonable upper and lower range for planning purposes and a reasonable mid-range scenario between them.

## Projection Base Year

Noting the caution in the letter about the 2006 undercoverage rate, the approach taken to estimating the total population including undercoverage is an appropriate alternative to the Census figures. We would note in particular the City's recognition of a reasonable decline in household size in the existing base in undertaken these calculations, a factor often under-estimated in similar work elsewhere.

### 1.4 Projection Results

While having agreed with the method and assumptions, it is still important to consider the reasonableness of the results. In our view, the results do appear reasonable and in line with expectations for a metropolitan area of Ottawa-Gatineau's scale and type. It is also appropriate to compare results to other available forecasts (as has been undertaken on page 20 of the report). These comparisons also suggest the City's results are reasonable.

Scenario 2 is appropriate as a reference projection, showing small increases in migration over current levels, which would be expected as the metropolitan area grows. As noted above, this is a reasonable "mid-range" scenario. Given its purpose for long-range planning this mid-range scenario is appropriately placed in the continuum of forecast ranges (one might choose a more conservative forecast for doing, say, short term financial planning or a more aggressive forecast to test some "what if" scenarios on certain infrastructure).

### 1.5 Projections for Greater Ottawa-Gatineau

Undertaking the forecast distribution of population within the greater metropolitan area has special challenges in Ottawa-Gatineau compared to most other communities. This is largely because of the inter-provincial urban structure, two large languages groups concentrated in different parts of the metropolitan area, and the regional dominance of the City of Ottawa in terms of both population size and employment opportunities.

Given these challenges, the use of shares of population growth, as employed by the City for each of the market areas, is an appropriate approach. The assumptions are also reasonable, in that they show a gradual decrease in the shares to the central cities of Ottawa and Gatineau and a gradual increase to the more distant areas. These forecast share trends reflect both the historic pattern in the Ottawa area as well as the normally expected pattern of growth within a metropolitan area of this kind.



## 2.0 to 2.3 Household and Housing Projections

The projection of total households and the resulting forecast of average household size is undertaken in accordance with standard methods and both the assumptions and the results conform to our recent work for the Greater Toronto Area. The decline in average household size over the period to 2031 in both the City of Ottawa's work and our GTA forecasts is about 9%, indicating a reasonable and comparable result.

Moving from households to housing type, the basic method for the propensities is appropriate and similar to Hemson's standard method for this type of forecasts.

The discussion of current trends recognizes the observed housing market patterns in the Ottawa area, patterns which are similar to other Ontario markets, that is:

- A significant rise increase in the rowhouse market over the past 15 years;
- Increased propensity to occupy single detached dwellings; and
- A cyclical apartment market which hit very low levels in the 1990s but has had a sizeable rebound in the current decade.

## 2.4–2.6 Propensity Projections for the City of Ottawa

As noted in the letter, one key concern with the forecasts is that the housing type propensities used by the City provide too aggressive a projection for apartment demand in the City. The shift in propensities is based on a number of factors described on pages 35 and 36. All the factors cited in the report are contributing factors to housing choices but, in our view, are somewhat overstated in their influence and some compensating factors are not identified:

- The aging of the population will result in some increase in apartment demand, but the rate at which older age groups occupy apartments will not change in response to aging. In fact, statistical trends over the past 20 years indicate a declining apartment propensity amongst seniors. Seniors are living longer, remaining healthier longer and are wealthier than in previous generations. These factors are all leading seniors many to remain in the "family home" for longer than in previous generations.
- The cost of land affects the market in a variety of ways and is no doubt closely tied to the declining lot size and the rise of the rowhouse market. The link between rising land costs and increased apartment occupancy is more tenuous as the construction costs for apartments are much higher than ground-related units and the overall cost of units with similar market attributes is not necessarily less among apartments versus ground-related housing. The discussion in the report also ties

land cost to infrastructure provision. We would note that issues around infrastructure provision and financing are largely challenges faced by municipal corporations and do not significantly affect the relative cost of housing, and not to the point where it might influence housing choices.

- We would caution that though a renewed interest in urban lifestyles is indeed a change from the 1990s within the current apartment market (it also was also a factor during the condo boom of the 1980s and the rental apartment boom of the 1960s) it is easy to overstate its influence as downtown redevelopment is still only a small part of the overall housing market.
- Finally, while an expectation of changing housing patterns is often hoped for by planners for reasons that are linked to rising fuel prices, there is little indication that this is the market response to fuel costs. Experience in North America in the 1970s and Europe over the period since the 1970s is that the primary market response is the purchase of a vehicle with increased fuel efficiency. In short, people are far more likely to react to fuel prices by replacing their SUV with a compact car than to sell their house and move to an apartment.

Overall then, we would agree with a rising propensity for rowhouses as they continue to be an increasingly important part of the market. However, we are of the view that the rising propensity for rows is primarily a “replacement” in a market sense for apartments rather than for singles. As a result, it is too aggressive to suggest significant increases in rates of apartment occupancy.

That being said, we expect that the actual number and share of apartments in the housing market will see a modest rise in response to the aging population.

#### 2.7–2.10 Allocations of Housing Within the Metropolitan Area

The housing allocation amongst the market areas within the greater metropolitan area recognizes the nature of the different parts of the urban area and is consistent with the principles used in the allocation of population among these areas. It is in our view reasonable.

### 3.0 Employment

The employment projection method is sound and reasonable.

#### 3.1 Participation Rates

In the letter we noted some concern with the participation rate assumptions concerning rising rates among seniors. We have taken a more cautious approach to this change than most observers. The City's view is consistent with many other forecasts concerning the labour force participation amongst the elderly. This factor is not significant in the overall result and we would recommend monitoring shifts in participation at future updates and reviews are undertaken.

#### 3.2–3.3 Employment Forecast and Distribution

The remaining approaches and the assumptions applied in the employment forecasts for the metropolitan area and the City are appropriate and supportable and provide reasonable results for long-term planning.

For those who may be reviewing this report from outside the Ottawa area, it should be noted that the economic base of Ottawa (particularly the Federal government) results in a highly concentrated employment base in the central cities of Ottawa and Gatineau. This pattern is quite distinct from Montreal or Toronto, where there is a much larger suburban industrial base and a more dispersed pattern than is seen in the Ottawa area.