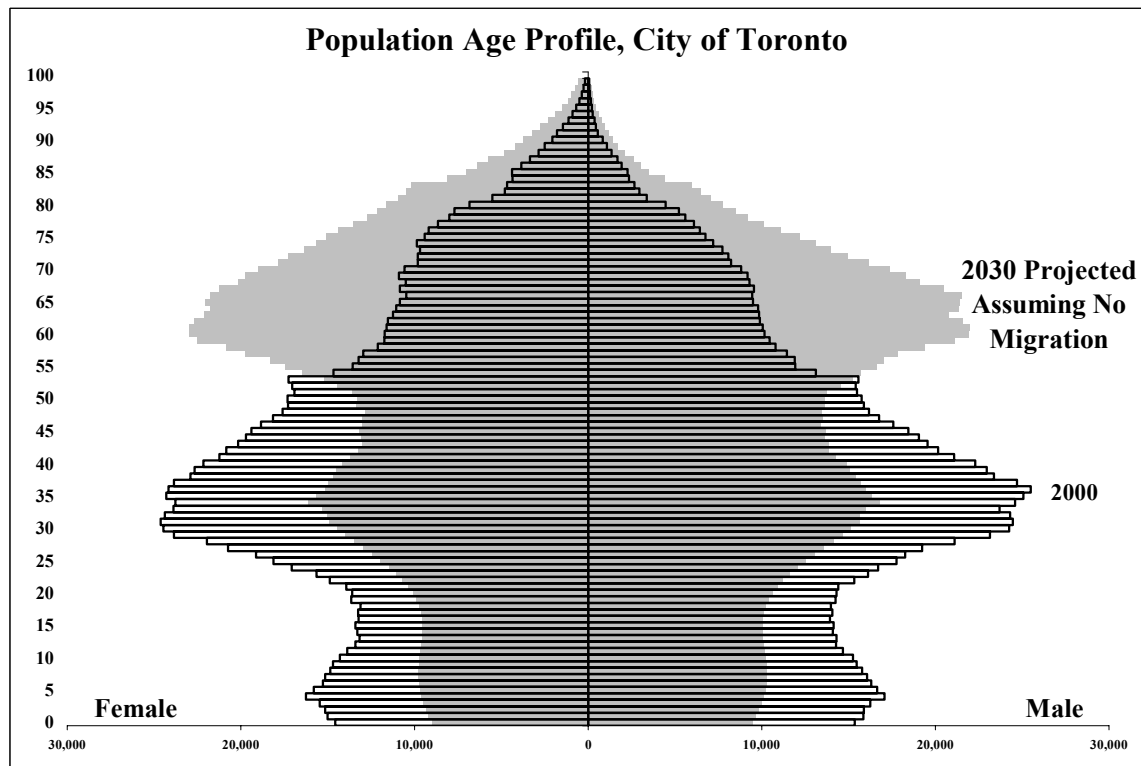


# The Urban Futures Institute

Research on Population, Community Change and Land Use

## **Adding a Million: A Context for Change Management in The City of Toronto**

**by David Baxter**



### **The Urban Futures Institute Report 50**

# **The Urban Futures Institute**

**Research on Population, Community Change and Land Use**

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# **Adding a Million:**

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# **Adding a Million:**

## **A Context for Change Management in the City of Toronto**

by David Baxter

### **Summary**

The single most common response to the question of “How Can The City of Toronto Add a Million People?” will likely be “Why Should It?” Growth is rarely accepted for its own sake: without a reason for growth, it will be difficult to find support for accommodating it, particularly in established neighbourhoods. The reason for this response is that growth is generally seen as the cause of change, which it inevitably is, and change, particularly at the neighbourhood level, is rarely welcomed. It will be essential that the community of the City of Toronto understand that change will occur regardless of whether or not growth does: the implications of not growing, as well as of growing, must be considered in deciding how to manage and accommodate change.

Net in-migration, both domestic and from immigration, is the source of growth for the City of Toronto. While population growth would cease without migration, population aging will not. The change that no growth will bring is a much older population: the demographic wedge – the 39% of the city’s population born during the baby boom from 1936 to 1965 – that is currently between the ages of 35 and 64 will continue to move up the age structure, reaching the 65 to 94 age groups by 2030, bringing unprecedented growth to older age groups. The below the replacement level birth rate that prevails in the City, the province, and the country, will lead to a shrinking of the number of people in the younger age groups. Without migration, aging and low birth rates will mean a dramatic increase in the size of the 65 plus population relative to the size of the working aged population.

Assuming that there is no inflation and that age specific health care spending remains at its 1998 level, without migration the aging of the province’s current population will cause real per capita provincial health care spending to increase by 60% over the next five decades. Over the same period, the number of people in the labour force will decline as a result of the steady aging that would occur without migration. The combination of these two factors will place an unsustainable burden on the working aged contributory population that supports inter-generational transfers, such as health care, in our pay-as-you-go social services system.

The per capita burden on the contributory population could be lessened substantially by increasing its relative size. Given the province’s and country’s very low (and declining) fertility rates, it is not realistic to rely on births to significantly augment the population, particularly when the accelerated growth in the dependency ratio will start within a decade. This means that net in-migration will be the major source of the additional contributors and of population growth. If the province is able to attract its average long-term net in-migration, the increase in the per capita burden on the contributory population will be half of what it would be without migration.

If pay-as-you-go social services such as health care, that rely on inter-generational transfer of resources are to be sustained, the contributory population must increase at least as fast as the beneficiary population: net in migration, from other provinces and other countries, is a fundamental source of additions to the contributory population.

The population of the City of Toronto, of Ontario, and of Canada should, must and will grow. The choice of how much, and more significantly how, the City of Toronto grows and changes is a community responsibility. Population growth and change will bring both challenges and opportunities to the City: both the costs and the benefits of alternative strategies to achieve its goals with respect to growth and change must be evaluated on the basis of the reality of contemporary urban life, not from wish lists or simplistic urban planning platitudes.



# Adding a Million:

## A Context for Change Management in The City of Toronto

by David Baxter

### I. Introduction.

The question posed by the First Annual Urban Summit to the City of Toronto was “How Can You Add a Million People?” It is not only appropriate, but essential, that this question be answered by the community of the City of Toronto, as urban management strategies are, fundamentally, community strategies.

The purpose of this report, which is based on the author’s presentation to the Urban Summit, is not to tell the City of Toronto “how to”, but rather to consider two topics that will arise during the community discussion of “how to”. The first, and most important, topic considered is the need for – not the inevitability of – population growth, specifically growth in the younger, working age population. The second topic is what may be referred to as platitudinous planning, the use of concepts that, while sounding both useful and logical, are not rooted in the reality of the lives of the people of the City of Toronto.

The presentation to the Urban Summit was a brief one, and hence so is this essay: it is intended to stimulate discussion of the fundamentals of urban change as part of the process of formulating strategies to manage change in this community, rather than to present detailed analysis.

### II. Growth

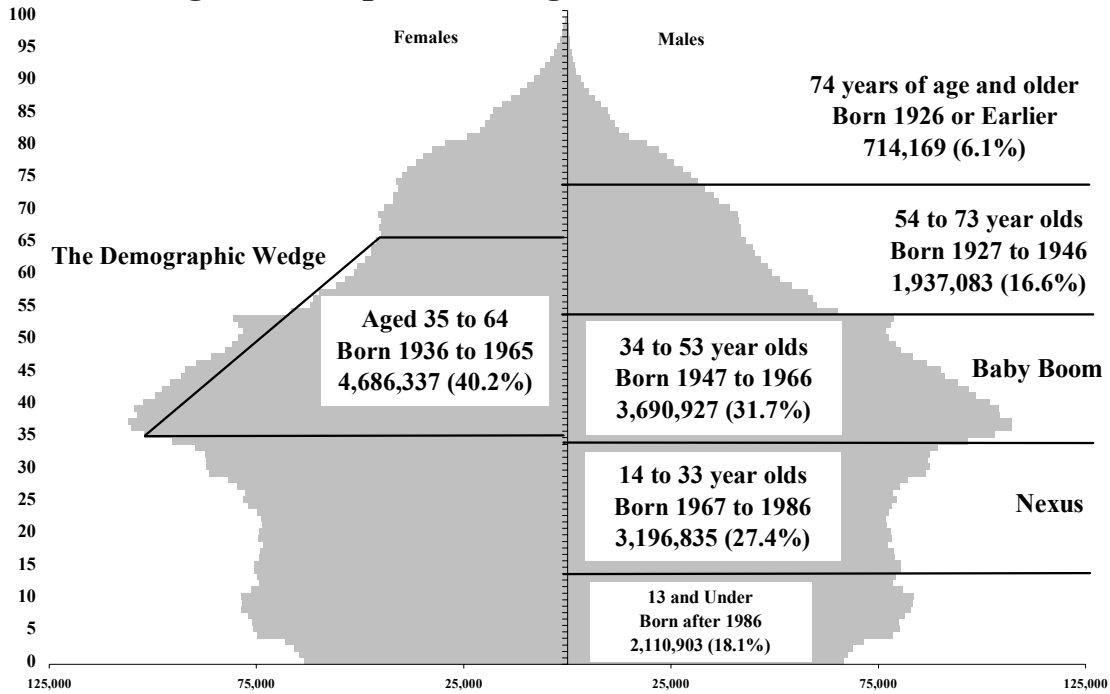
The single most common response to the question of “How Can The City of Toronto Add a Million People?” will likely be “Why Should It?” Growth is rarely accepted for its own sake: without a reason for growth, it will be difficult to find support for accommodating it, particularly in established neighbourhoods. The reason for this response is that growth is generally seen as the cause of change, which it inevitably is, and change, particularly at the neighbourhood level, is rarely welcomed.

To forestall concerns about the change that accompanies growth, the urban planning profession has developed a language, centered on the concepts of “growth management” and “smart growth”, which is meant to convey that, if growth is managed and smart, change will be for the better. As it may well be: however, a focus on *growth* management, by default, supports the impression that, without growth *change* would not occur. This logic, while flawed, is simple – growth brings change, therefore if growth does not occur, change will not. It will be essential that the community of the City of Toronto understand that change will occur regardless of whether or not growth does: the implications of not growing, as well as of growing, must be considered in deciding how to manage and accommodate change.

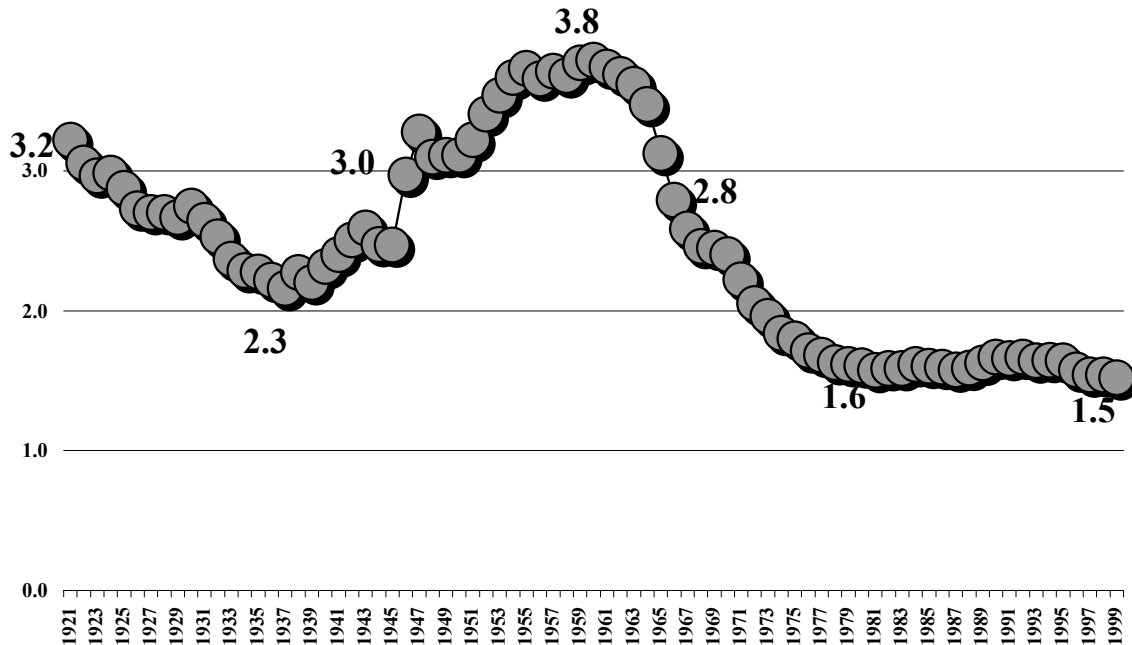
#### a) The Natural Decrease of Ontario’s Population

The currency of the debate about health care provides an excellent illustration to demonstrate the changes that will occur without growth. As health care delivery decisions are made at the provincial level, what will happen to health care in Ontario without population growth illustrates the changes that would occur in the City of Toronto if its population did not grow. This illustration also provides a vehicle for presenting the demographic facts about the province’s and city’s populations.

**Figure 1: Population Age Profile, Ontario, 2000**



**Figure 2: Total Fertility Rate, Ontario, 1921 to 1999**  
Average Number of Children Born Per Woman During Her Lifetime



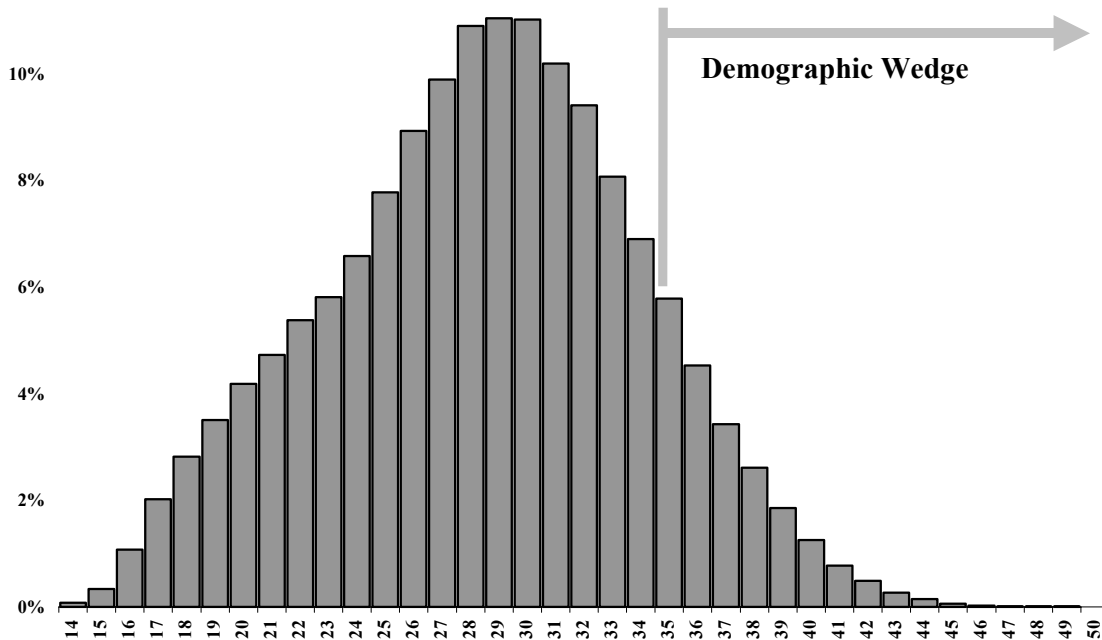


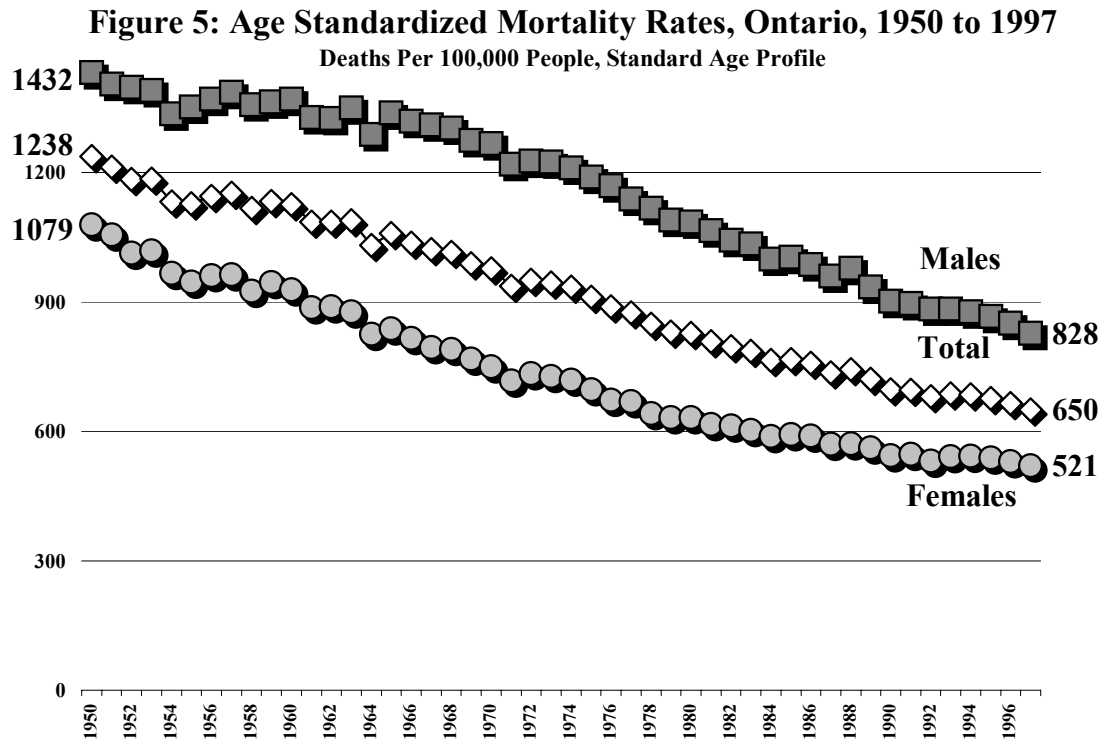
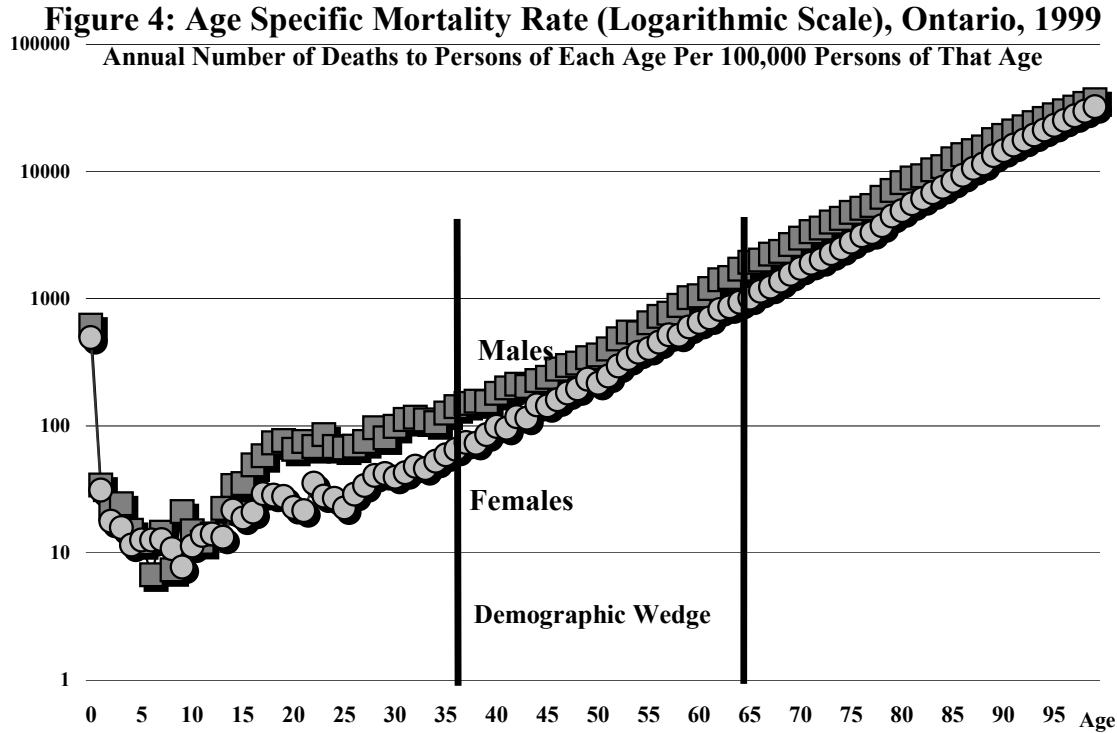
The first demographic fact about the population of Ontario that is relevant to the future is its current age composition (Figure 1<sup>1</sup>). While much is made in populist demography about the baby boom generation (those born between 1947 and 1966, who account for 31.7% of its current 11.5 million population), it is not the most significant aspect of Ontario's demography. This honour is reserved for the demographic wedge, the 40% of Ontario's population that is currently aged 35 to 64, which mirrors the upturn in births in Canada that began in 1935 and continued to 1965. The age profile of Ontario's current population begins to widen noticeably at age 64, and continues to do so to age 35: the front edge of this wedge is entering the retirement and the high average annual health care cost stages of the life cycle this year, and will make the 65 plus age group the province's most rapidly growing one over the next 30 years, with or without population growth.

The second relevant demographic fact is that Ontario has a birth rate below the replacement level (Figure 2<sup>2</sup>). During their lifetimes, women in Ontario have an average 1.5 children: this is below the replacement level of an average of slightly more than 2 children per woman required to replace the population. Over the long run, without migration a below replacement level birth rate inevitably leads to a declining population (1.5 do not replace 2). In the short run, however, even without migration, a population with a below replacement level birth rate may grow slightly if life expectancies are as long as they are in Ontario. Without migration, a below the replacement level birth rate always ensures that the population will age rapidly, as 2 older people contribute more to the average and median age than 1.5 younger people.

The third relevant demographic fact is that most of the demographic wedge in Ontario's population has already aged through the child bearing stage of the life cycle (Figure 3<sup>3</sup>). This means that, in the absence of migration, births will have a diminishing role in population change, as the population of childbearing age will account for a smaller relative share of the total population.

**Figure 3: Age Specific Fertility Rate, Ontario, 1999  
Percentage of Women In Age Group Giving Birth During Year**

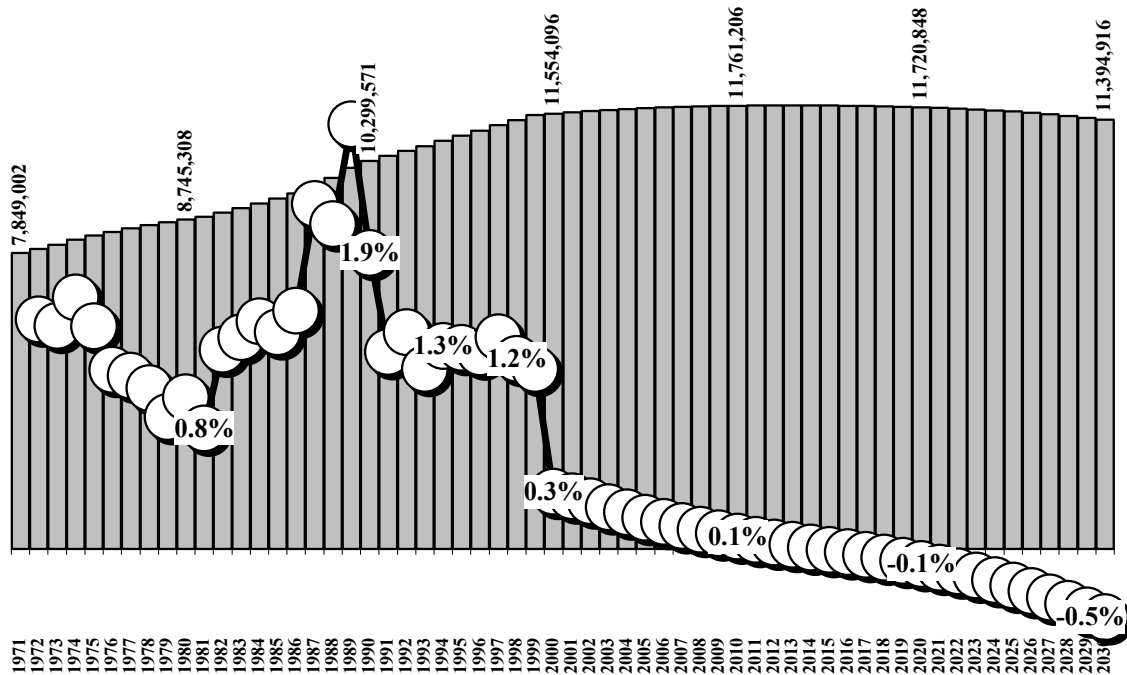




The fourth relevant demographic fact is that while the population wedge is aging into ever higher mortality rate age groups, it has a long way to go before it is in the highest mortality rate ages (Figure 4<sup>4</sup>). This means that deaths will become a more important aspect in demographic change in the longer run, but that, without migration, the older population will increase both relatively and absolutely in both the short and long run. The aging of the population due to long life expectancies will be compounded by the continuation of the historical decline in mortality rates (Figure 5<sup>5</sup>), which will mean that in the future folks will hang around even longer than they do now.

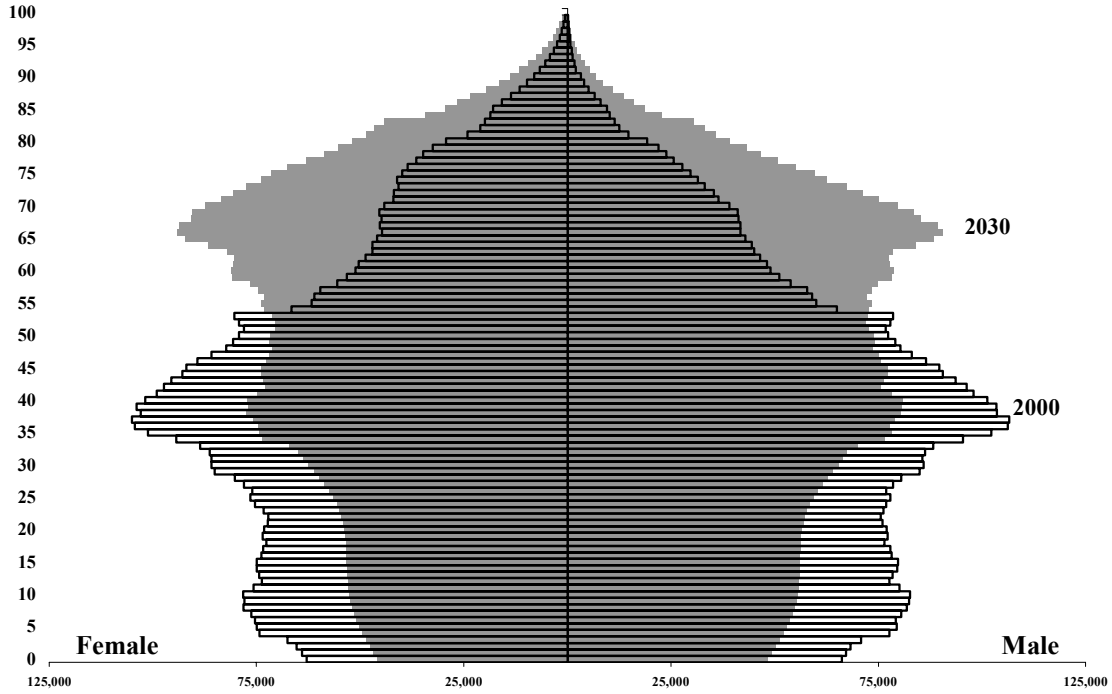
The four demographic factors just considered (the current population profile plus the trends and patterns of natality and mortality), will, in the absence of migration, determine the characteristics of Ontario's future population. The pattern of population change that occurs in the absence of migration has traditionally been referred to as natural increase: the long run demographic reality for Ontario (and all of the other provinces) will be, in the absence of migration, a natural decrease in population (Figure 6<sup>6</sup>).

**Figure 6: Population Growth, Ontario, 1971-1999 Actual, 2000-2030 No Migration**

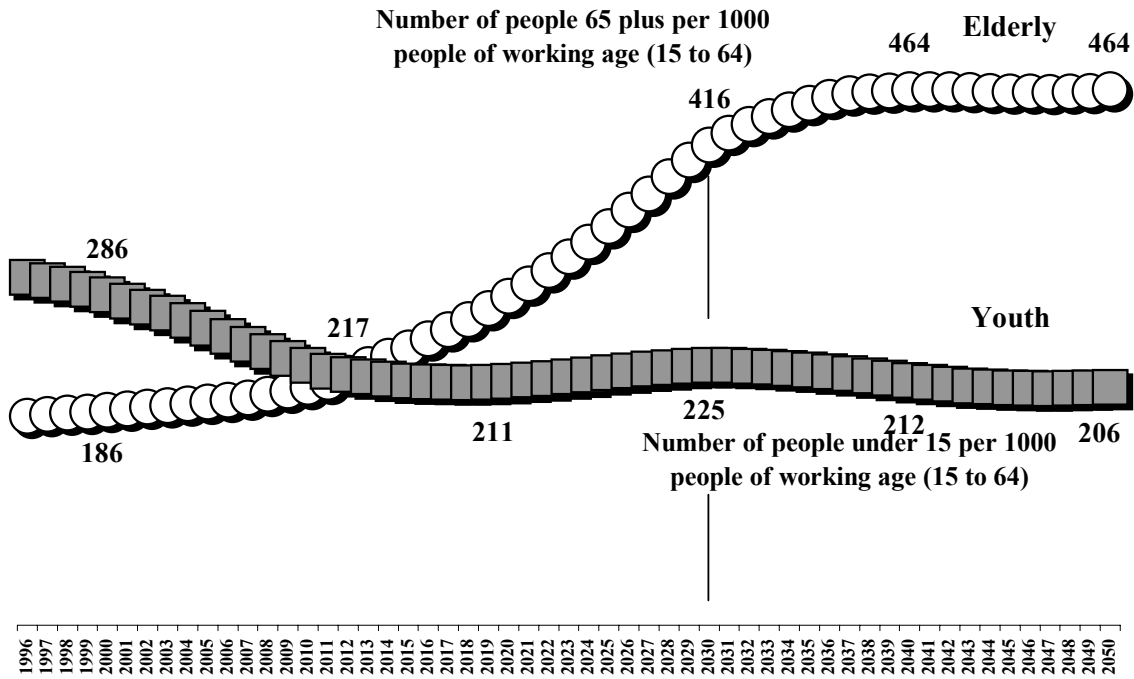


A below the replacement level birth rate will guarantee that in the long run the province's population will decline, although the long life expectancies (1 in 4 people alive in Ontario today will have a 90<sup>th</sup> birthday) that Ontario enjoys will mean that there will be slight growth in the near term, for while the number of deaths each year will be increasing and the number of births decreasing, the annual number of births will still exceed the number of deaths. Thus, without migration and with current trends in natality and mortality, Ontario's population would grow from its current 11,554,096 to a peak of 11,769,741 in 2013, an increase of 1.9% over a 13 year period. With the front of the wedge reaching their late 70s by 2013, the annual number of deaths will then come to exceed the annual number of births, and the absolute size of the province's population will begin to decline, to reach 11,394,916 by 2030.

**Figure 7: Population Age Profile, Ontario 2030, No Migration**



**Figure 8: Dependency Ratios, Ontario, 1996 to 2030 No-migration Projection**

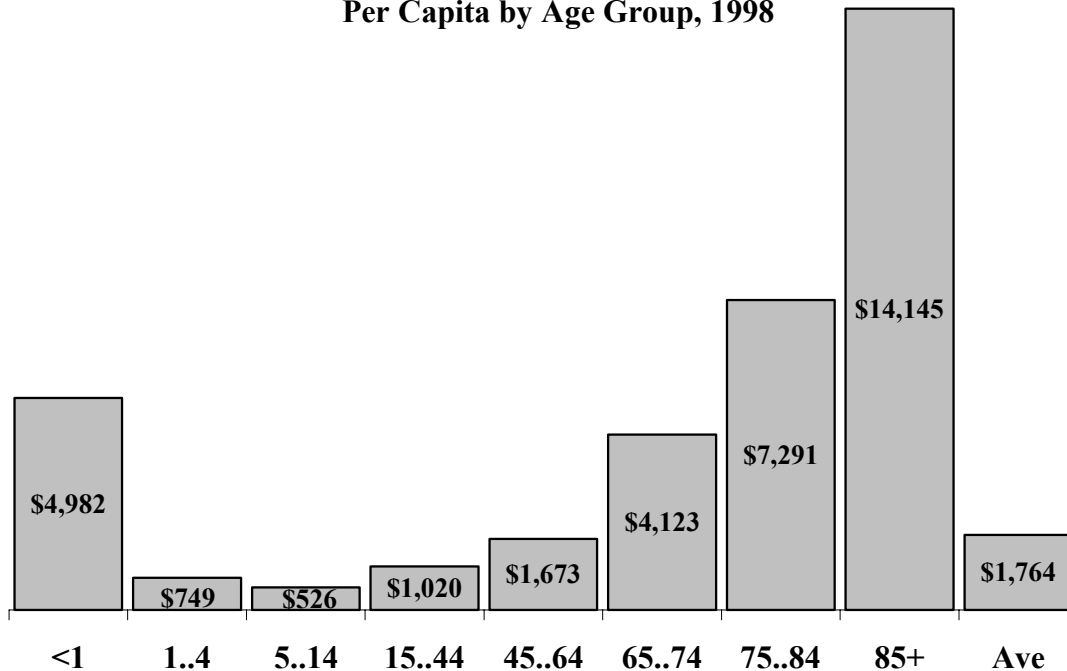


While population growth would cease without migration, population aging will not. The change that no growth will bring to Ontario is a much older population: the demographic wedge that is currently between the ages of 35 and 64 will continue to move up the age structure, reaching the 65 to 94 age groups by 2030 (Figure 7<sup>7</sup>). This aging would bring unprecedented growth to older age groups, as shown by the expansion of the age profile above age 53 between 2000 and 2030. Combined with aging's acceleration of the growth of the older age groups will be the below the replacement level birth rate's shrinking of the number of people in the younger age groups.

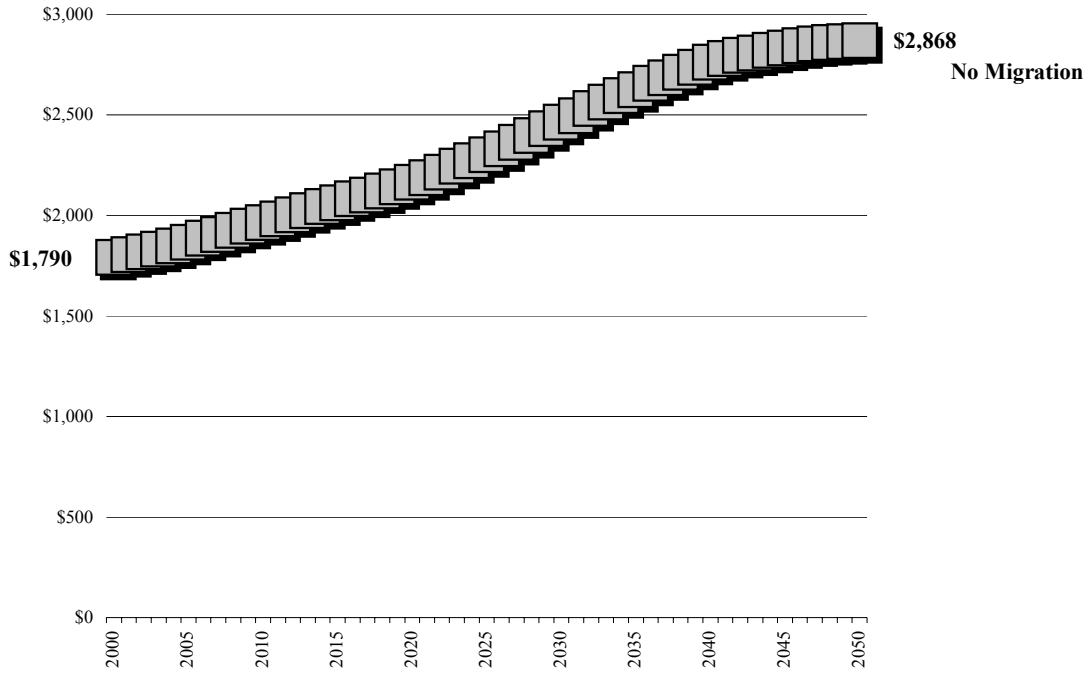
The impact of the double whammy of rapid growth of older age groups and decline of younger ones is indicated by what are referred to in the literature of demographics as dependency ratios (Figure 8<sup>8</sup>): the elderly dependency ratio is the number of people 65 years of age and older per 1000 people aged 15 to 64 and the youth dependency ratio is the number of people under the age of 15 per 1000 aged 15 to 64. Without migration, the elderly dependency ratio in Ontario will increase dramatically, increasing by 125% from the current 185 people 65 and older per 1000 people aged 15 to 64 to 416 people 65 plus per 1000 aged 15 to 64 by 2030 (and will continue to increase until 2040 when it will stabilize in the 464 per 1000 range). The youth dependency ratio will decline from its current 286 persons under the age of 15 per 1000 between 15 and 64 to 217 per 1000 by 2012, and remain in this general range thereafter.

Objections have been raised to the use of the term "dependency" in these ratios. Putting aside this term, these ratios are intended, acknowledging that they do so imperfectly, to indicate the magnitude of the relationship between the population (the 15 to 64 age group) that generally contributes financially to pay-as-you-go social programs such as education and health care (either directly through contributions or indirectly through taxation) and the population that are the direct recipients of the benefits of these programs (generally the under 15 and 65 plus age groups). For example, the 65 plus population is clearly a net beneficiary of provincial government health care expenditures in a pay-as-you-go health care system (Figure 9<sup>9</sup>): in every age group 65 and older there is above average per capita spending on health care.

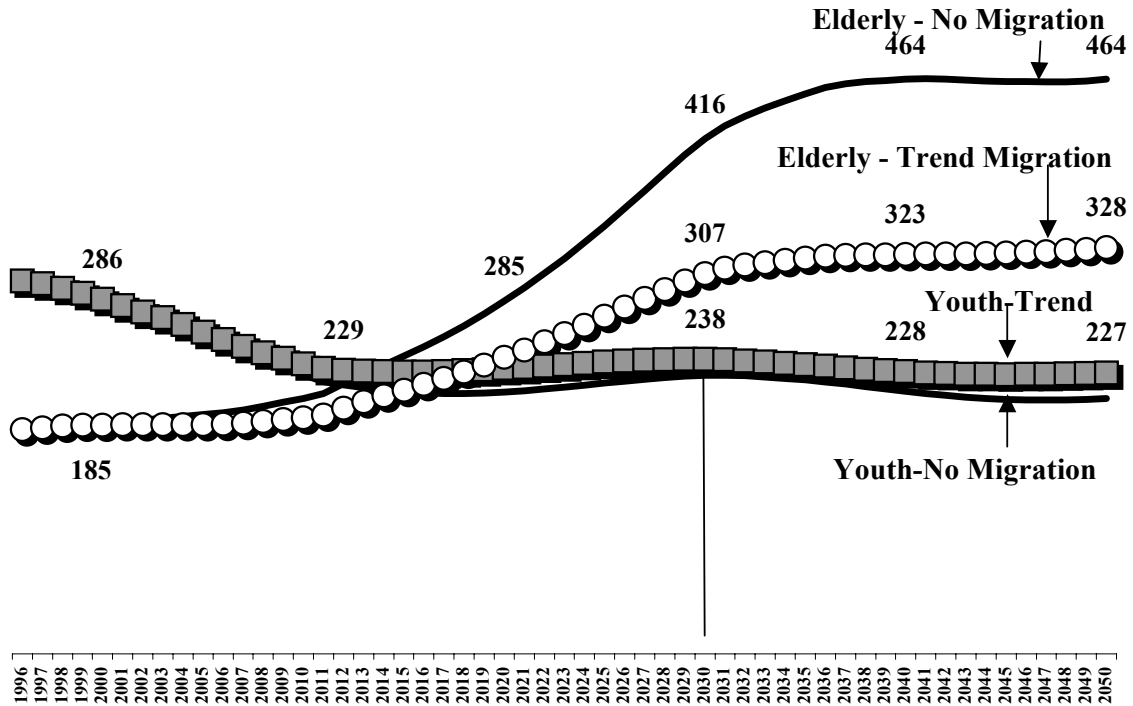
**Figure 9: Ontario Provincial Government Spending on Health Care, Per Capita by Age Group, 1998**



**Figure 10: Per Capita Provincial Government Health Expenditure, Ontario, 2000 to 2050**  
Assuming Constant 1998 Age Specific Expenditure Pattern, No Inflation, No Increase in Service



**Figure 11: Dependency Ratios, Ontario, 1996 to 2030, Trend Migration**



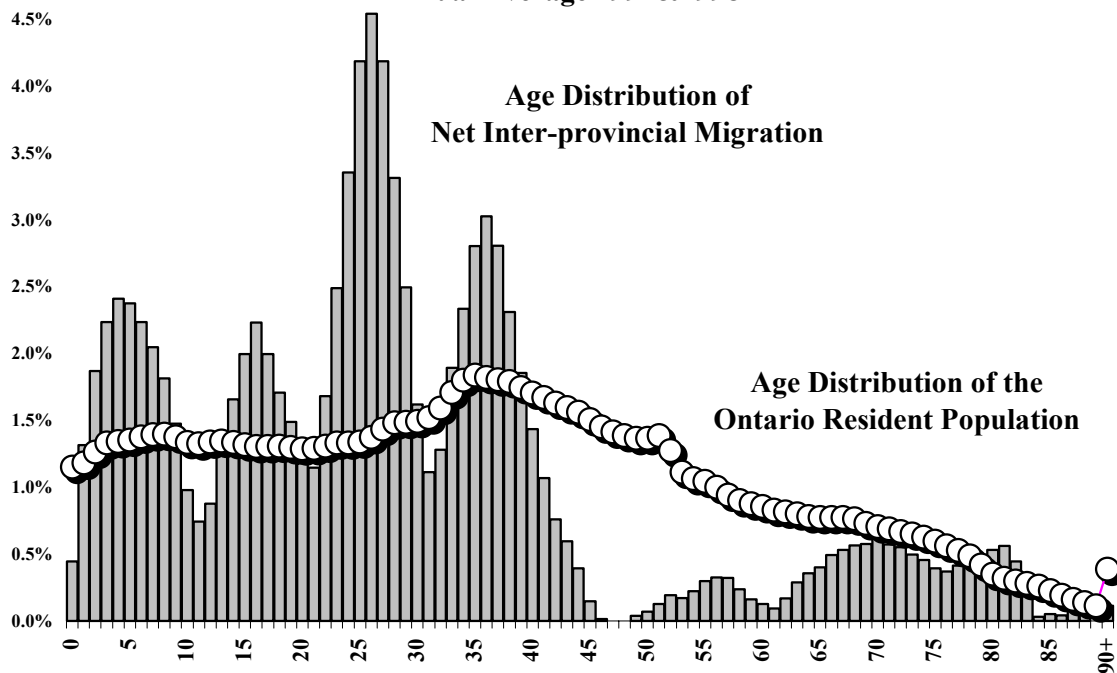
A more than doubling in the size of the population in the above average health care spending age groups relative to the size of the below average spending age groups will mean that a pay-as-you-go universal access health care system cannot be sustained. Assuming that there is no inflation and that age specific health care spending remains at its 1998 level (thereby ignoring the real increases in spending that have occurred in the past), without migration per capita provincial health care spending in Ontario would increase from its current \$1,790 per person to \$2,868 per person by 2050 (Figure 10<sup>10</sup>). This 60% increase in real per capita spending per capita will occur at the same time as the province's labour force was shrinking as a result of the steady aging of the province's population that would occur without migration.

Something will change, either within the system or within its environment, to offset the burden that this, and other inter-generational transfers, would otherwise place on the contributory population. Recent elections, both federal and provincial, have opened the debate on changing the system to reduce the load: the extent of change that would be necessary to sustain the system with a more than doubling of the elderly dependency ratio would be dramatic.

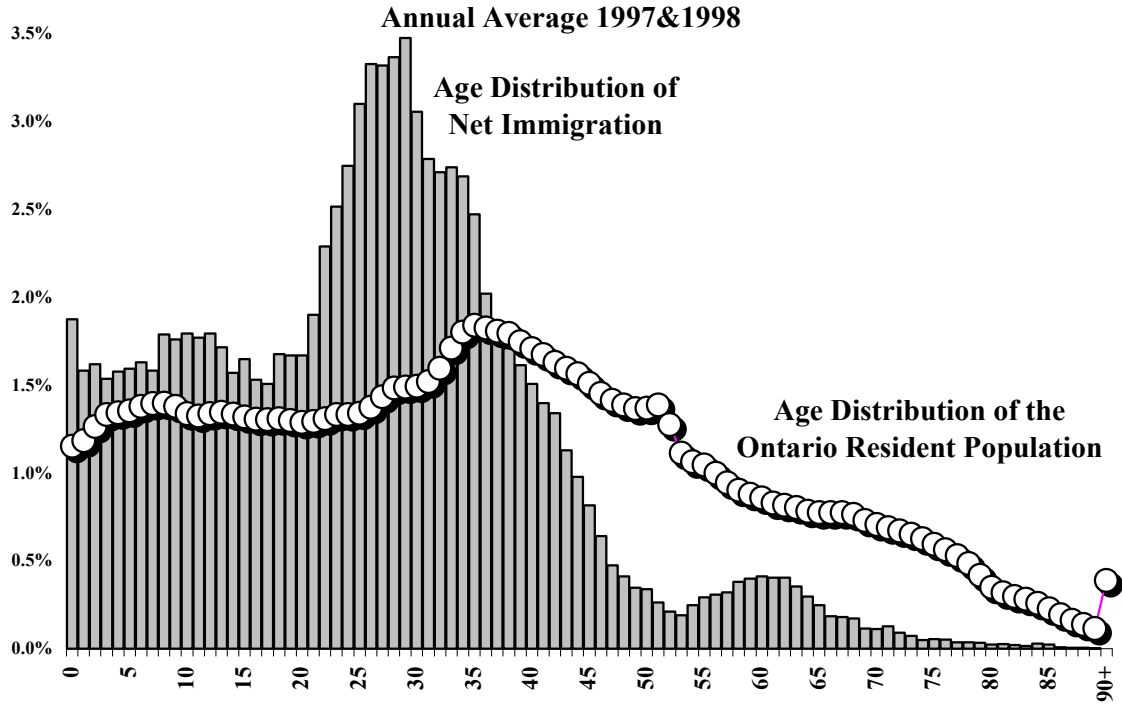
A change outside of the health care system that would reduce the per capita burden on the contributory population would be to reduce the dependency ratio by increasing the relative size of the contributory population. Given the province's and country's very low (and declining) fertility rates, it is not realistic to rely on births to significantly augment the population, particularly when the accelerated growth in the dependency ratio will start within a decade. This means that net in-migration will be the major source of the additional contributors and of population growth.

If the province is able to attract its historical average of long-term net in-migration, the elderly dependency ratio in the future will be well below that which it would experience without migration (Figure 11<sup>11</sup>). With trend migration, the 2030 dependency ratio in Ontario would be 307 people 65 plus per 1000 people of working age, a 66% increase from today's 185 per 1000, but almost half of the 125% increase to 416 per 1000 that would occur without migration.

**Figure 12: Age Profile, Net Inter-provincial Migration, Ontario  
 Annual Average 1997&1998**

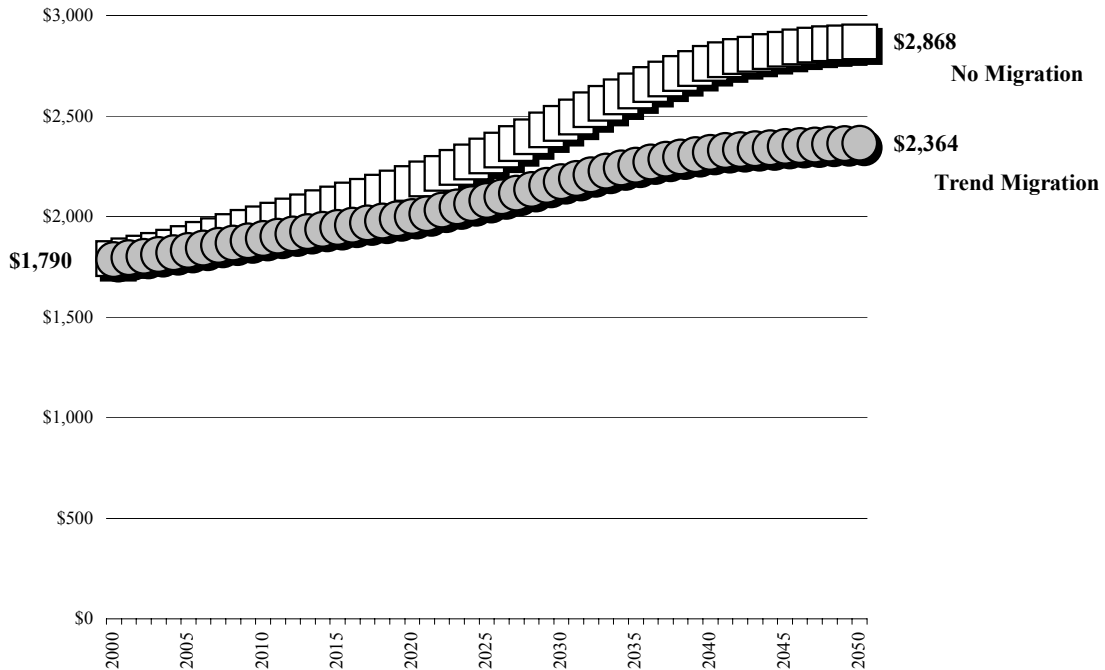


**Figure 13: Age Profile, Net International Migration, Ontario**



**Figure 14: Per Capita Provincial Government Health Expenditure, Ontario, 2000 to 2050**

Assuming Constant 1998 Age Specific Expenditure Pattern, No Inflation, No Increase in Service





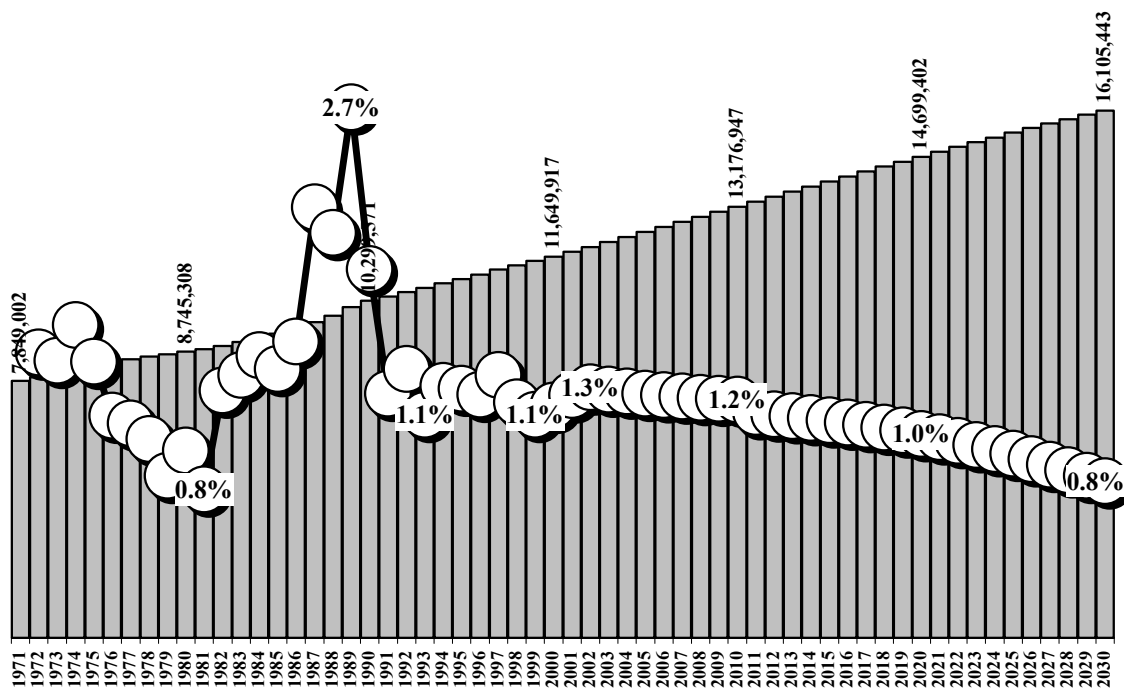
The reason that net migration brings about such significant reductions in the elderly dependency ratio is that net migration to Ontario, both inter-provincial (Figure 12<sup>12</sup>) and international (Figure 13<sup>13</sup>), is overwhelmingly comprised of people who are younger than the 40% of the province's residents who are in the 35 to 64 years of age demographic wedge. Only 48% of the province's population is under the age of 35, while 75% of the net immigration population and 70% of the net inter-provincial migration population are under the age of 35.

Net in-migration would reduce the rate of aging of Ontario's population, and hence the load on the contributory population, by increasing the size of the contributory population. With trend rates of net migration, Ontario's elderly dependency ratio would be three quarters of what it would be without migration (the youth dependency ratio would be essentially the same, as the size of under 15 population is a function of the size of the 15 to 64 population).

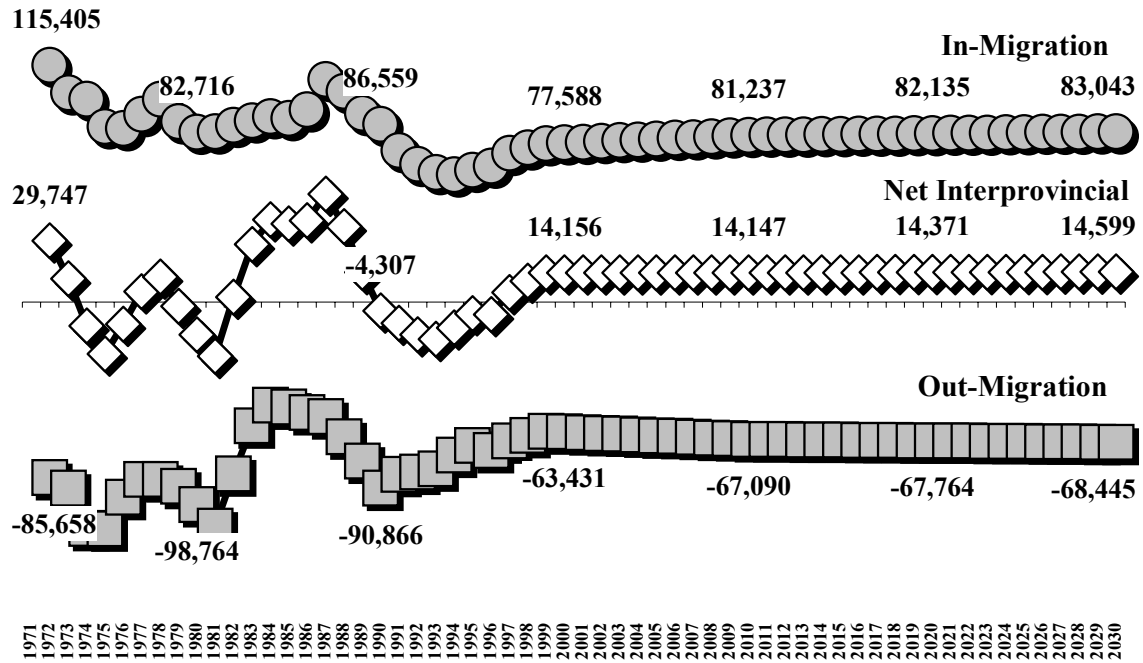
The smaller relative number of people in the above average provincial health care spending stage of the life cycle compared to the number in the below average stage would be reflected in lower average per capita real health care costs (Figure 14<sup>14</sup>). Assuming constant 1998 age specific spending and constant per capita rates, with trend migration real per capita spending will increase from the current \$1,790 per person to \$2,364 by 2050. This 32% increase is half the increase to \$2,868 per capita that would occur without migration.

Achieving this reduction in the dependency ratio would involve Ontario's population growing, from its current 11,649,917 people to 16,105,443 by 2030 (Figure 15<sup>15</sup>). This 38% increase over 30 years would mean annual growth in the range of 1.2% to 1.3% per year for the next decade, half of the rate experienced in the late 1980s, but above the 1.1% lows of the 1990s.

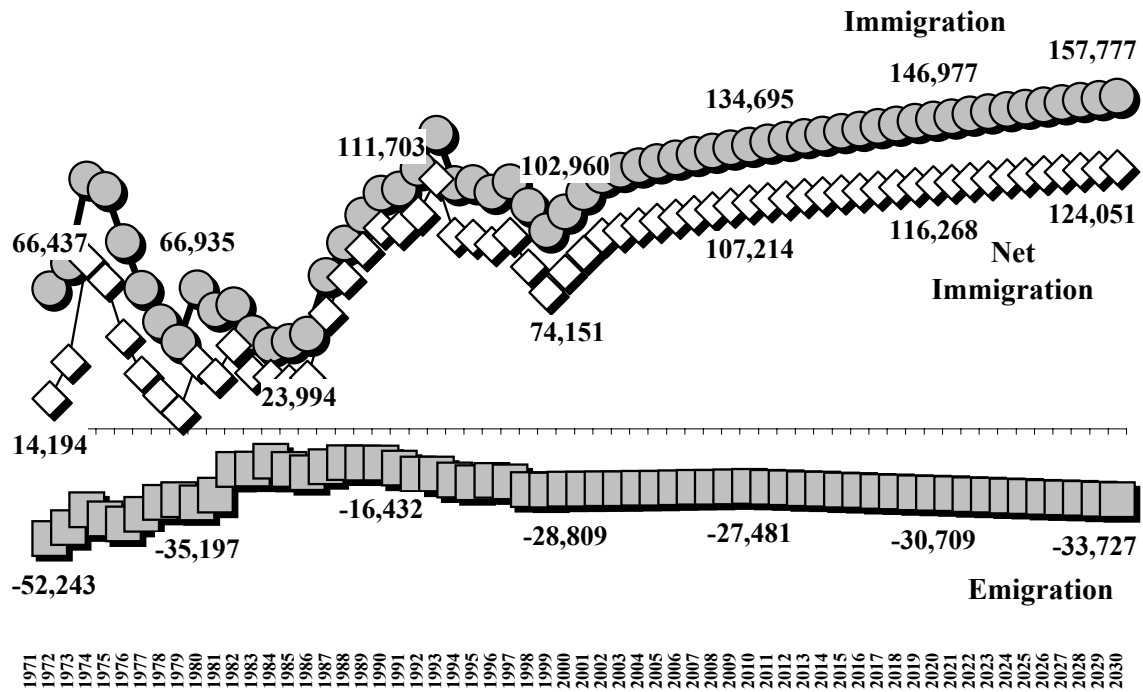
**Figure 15: Ontario Population, 1971-1999 Actual 2000-2030 Trend Projection**



**Fig 16: Interprovincial Migration, Ontario, 1971-99 Actual 2000-30 Trend Projection**



**Figure 17: Immigration, Ontario, 1971-1999 Actual 2000-2030 Trend Projection**



Most of the additional population needed would come from net- international migration. Long-term trend net inter-provincial migration would add approximately 14,000 people per year to Ontario's population from other provinces (Figure 16<sup>16</sup>). Long-term net immigration could increase from its 74,000 person contribution last year to a 124,000 person contribution in 2030 (Figure 17<sup>17</sup>). To the extent that these levels are not achieved, the elderly dependency ratio will be higher than it otherwise would be.

The reason that the majority of the additional population will come from international migration stems from the fact that Canada has an age profile that is functionally the same as that of Ontario: fewer people of every age under 28 than in the 29 to 54 age groups, and a declining population from age 10 to age 1 (Figure 18<sup>18</sup>). This means that the potential supply of young people in Canada who might migrate to Ontario will decline without immigration to Canada, and that these young people will be increasingly in demand in their resident provinces to replace retiring members of the demographic wedge. Without net immigration, the number of people in Canada under the age of 54 in Canada will decline, just as it will in Ontario without migration. Thus net migration to Ontario will depend upon net immigration, both directly to Ontario, and indirectly as a result of net immigration to other provinces.

**Figure 18: Population of Canada, by Age and Sex, 2000**

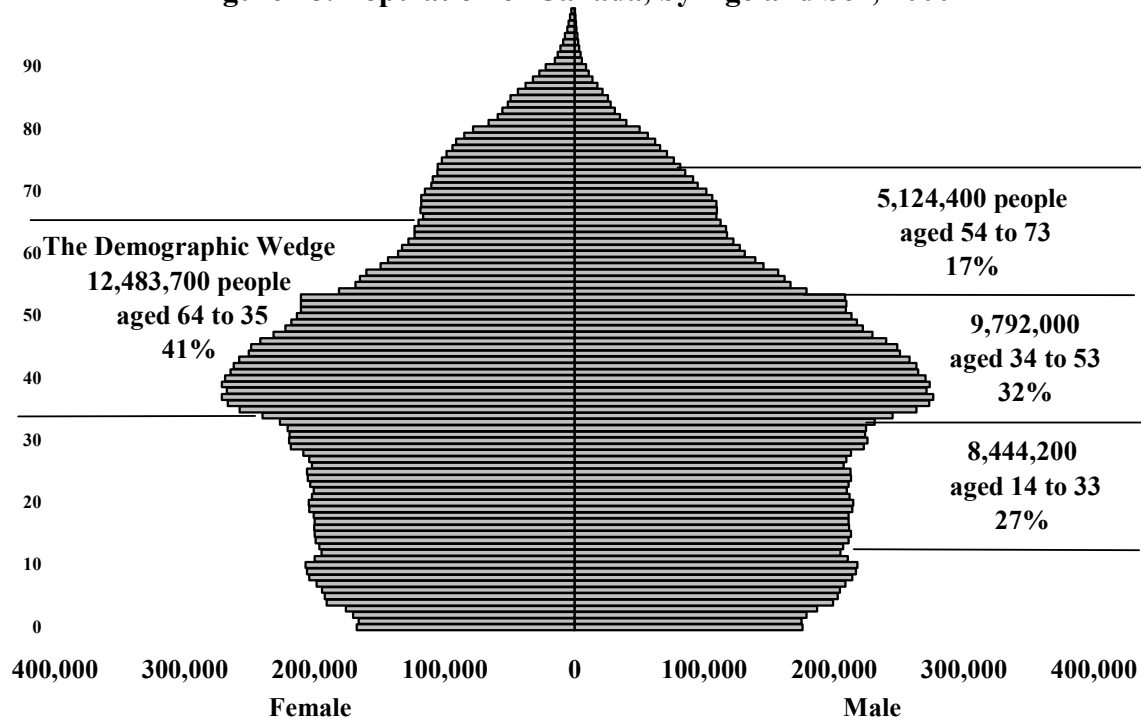


Figure 19: Immigration and Emigration, Canada, 1987 to 1999

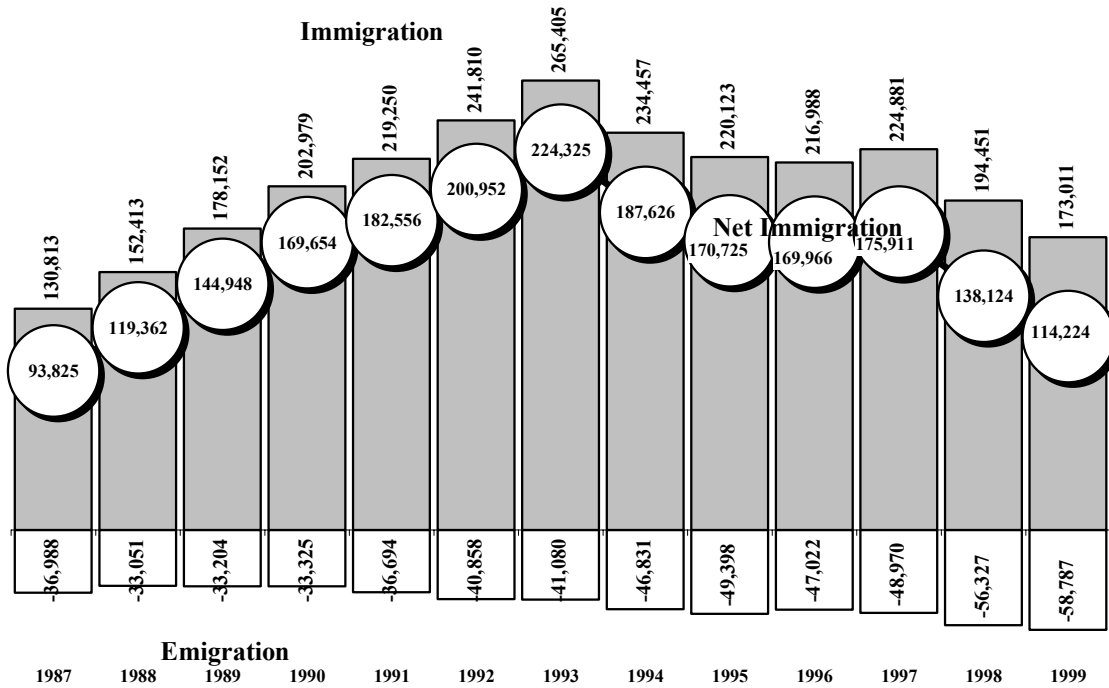
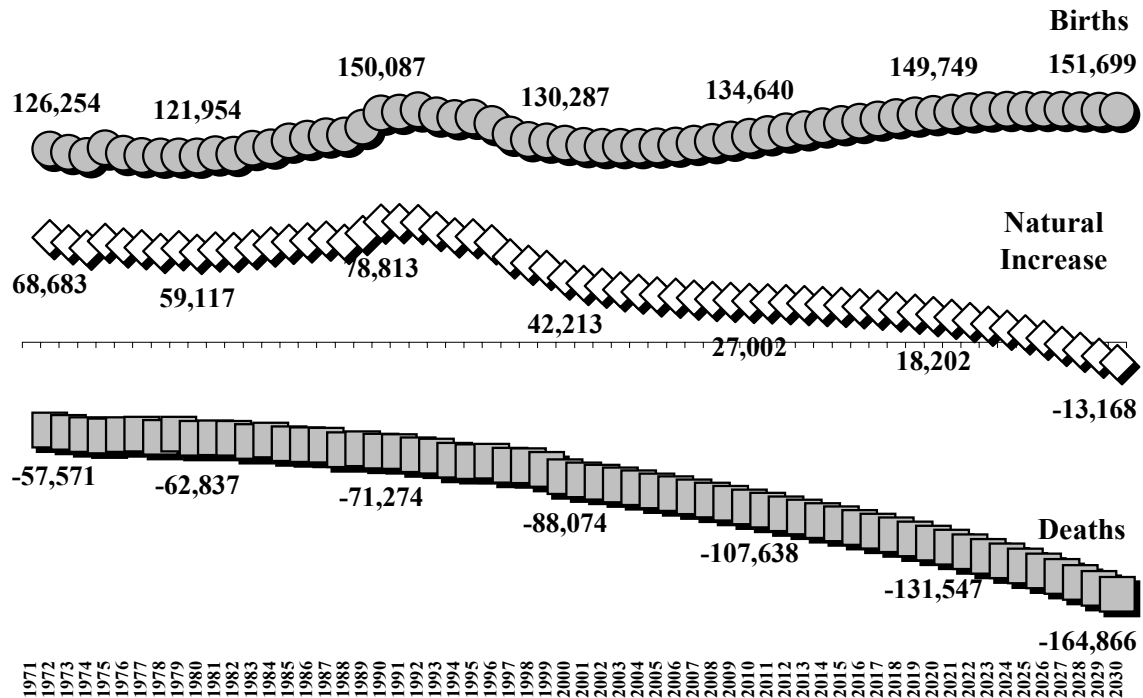


Figure 20: Natural Increase, Ontario, 1971-1999 Actual 2000-2030 Trend Projection

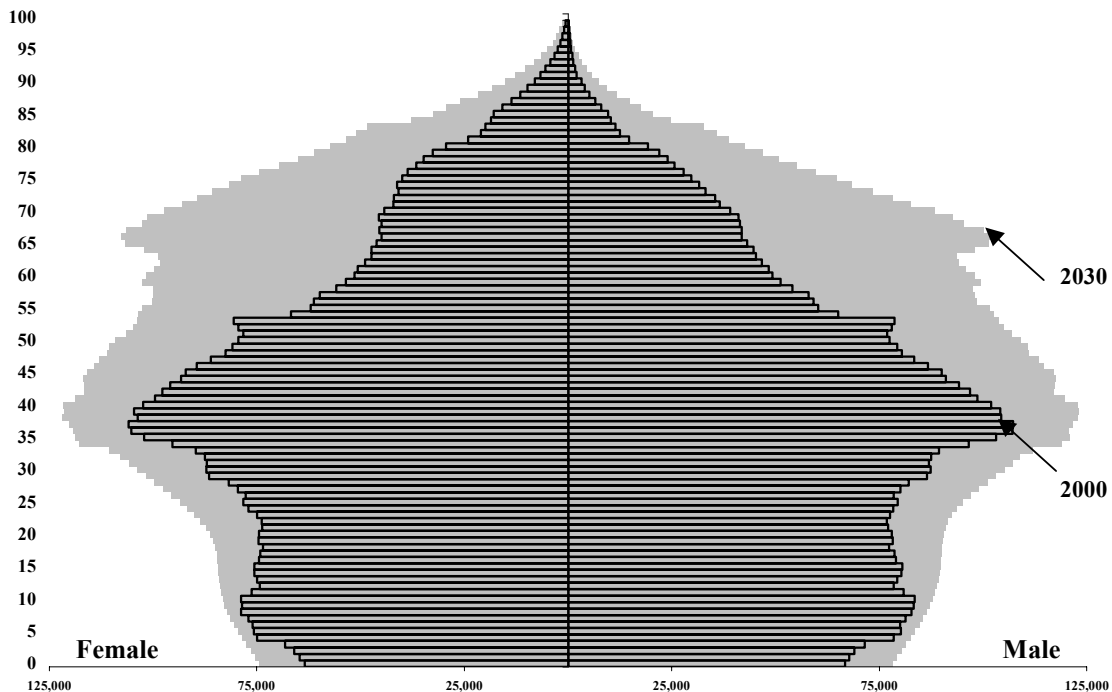


The issue for Ontario, and for Canada, will not be to set maximum limits on immigration (in recent years Canada has not attained the targets it has set) but rather to strive to attract immigrants in an increasingly competitive world. Since 1993, the level of immigration to Canada has declined and that of emigration has increased (Figure 19<sup>19</sup>): as a result, net immigration has fallen by almost 50%, from 224,324 in 1993 to 114,224 in 1999. With both the United States of America and Europe facing chronic labour shortages, particularly in the skilled and professional occupations, their demand for immigrants will make it increasingly difficult for Canada to attract immigrants: the projections of increasing immigration to Ontario, and to Canada, on which the trend projection is based, assumes that Canada will be successful. To the extent that it is not, the elderly dependency ratio in Ontario will be greater than the trend projection.

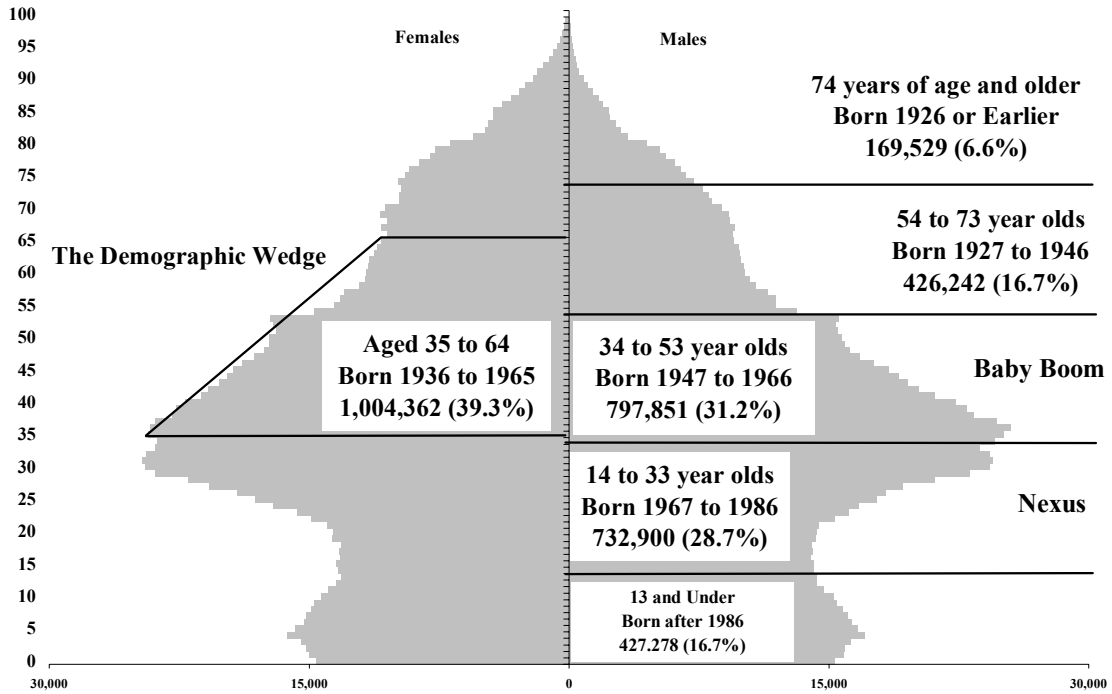
Even with a constant positive level of net inter-provincial migration and increasing net immigration, the average annual rate of growth of Ontario's population will slow, dropping below 1% in the 2020s. The reason is the declining contribution of natural increase to the province's population (Figure 20<sup>20</sup>). Net migration will mean that the number of births in the province will increase from the current 130,000 births per year level to 150,000 per year by 2030, but this will not be sufficient to offset the faster increase in the annual number of deaths (from the current 88,000 per year level to 165,000 per year by 2030) that will result from the eventual mortality of the province's current demographic wedge.

If Ontario is able to attain the trend projections of migration and immigration, its 2030 age profile will still show the significant growth in the 54 plus age groups (Figure 21<sup>21</sup> compared to Figure 7) that will result from the aging of the demographic wedge. However, rather than the decline in the under 54 age groups that would result in a no migration (no growth) scenario, there would be an increase, not dramatic, but still sufficient to reduce the percentage increase in the elderly dependency ratio by almost 50%. If Ontario is to sustain its pay-as-you-go social services that rely on inter-generational transfer of resources, it must increase its contributory population: its population must grow.

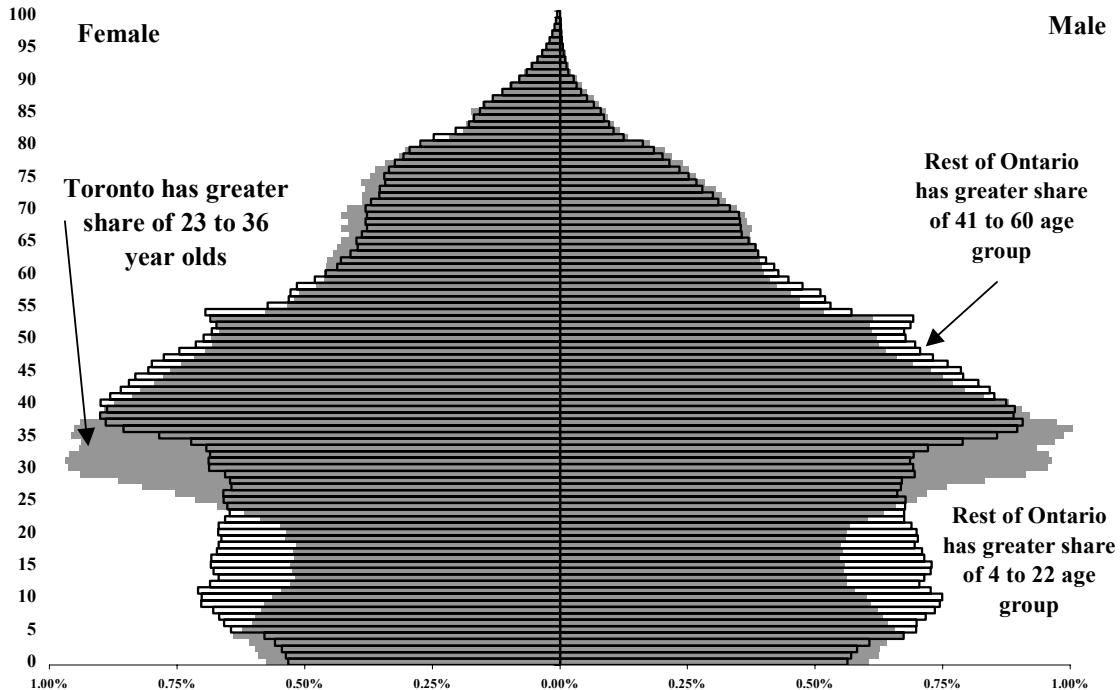
**Figure 21: Population Age Profile, Ontario, Trend Projection**



**Figure 22: Population Age Profile, City of Toronto, 2000**



**Figure 23: Population Age Profile, City of Toronto and Rest of Ontario**



## **b) The Population of the City of Toronto**

How much of the population growth of Ontario will – and should – go into the City of Toronto? Part of this answer will be determined by economics: not much of the growth will go north of the line from Penetanguishene to Calabogie. Some of it will go in the Ottawa/Hull-centered region: most of it will go in the extended version of the Golden Horseshoe, the connected band of urban regions that extends along the north shore of the St. Lawrence, Lake Ontario and Lake Erie. While economics will continue to influence how population growth is shared among these communities, and particularly how much goes into the Toronto-centered metropolitan region from Hamilton to Oshawa, land use and transportation planning will also play a significant role. As the scale becomes even finer, with a focus on the pattern of population growth within the Toronto metropolitan region, land use and transportation planning will exert an increasing importance.

The answer to how much the population of the City of Toronto increases will derive from a wide range of considerations, ranging from the external (for examples, how much agricultural land in the GTA is to be converted to urban use? and how much of the natural landscape such as the Halton Hills is to be preserved?) to the internal (for examples, how much industrial land in the City of Toronto is to be converted to non-industrial uses? and what forms of housing will be required to house the City's future population?). The answers to these component questions, to the fundamental question of the size of the future population of the city, and to the question of how to accommodate this future population, must be made by the community of the City of Toronto. With this in mind, this presentation limits its comments to a consideration of the implications of the City's current age profile.

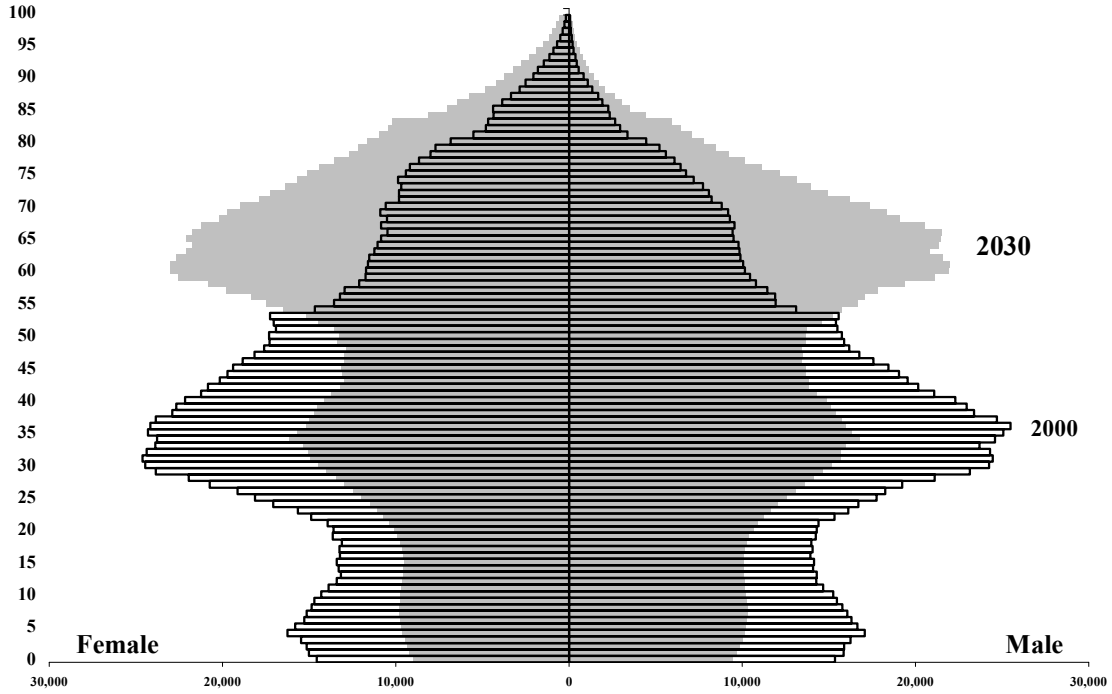
The 2,553,800 people who live in the City of Toronto account for slightly more than 20% of the 11.5 million person population of the province of Ontario. The age profile of the City of Toronto is roughly the same as that of province, with the demographic wedge of 35 to 64 year olds accounting for 39.3% of the City of Toronto's population and 40.2% of the Province's (Figure 22<sup>22</sup>). The generational structure of the City (with the province's values following for comparison) is composed of 6.6% (6.1% in Ontario as a whole) of the population in the 74+ age group, 16.7% (16.6%) in the 54 to 73 age group, 31.2% (31.7%) in the 34 to 53 year of age baby boomer generation, 28.7% (27.4%) in the 14 to 33 year old Nexus generation, and 16.7% (18.1%) in the emerging generation that is under the age of 14.

The differences between the age structure of the City of Toronto and the rest of the province are most clearly shown in individual years of age (rather than generations), and are largely explained by land use and life style patterns within the Metropolitan Toronto Region. Part of the explanation has to do with the City of Toronto being the location of the region's downtown: it has a disproportionate share of its population in the 23 to 36 year old age groups, apartment dwelling singles and couples seeking urban lifestyles (Figure 23<sup>23</sup>).

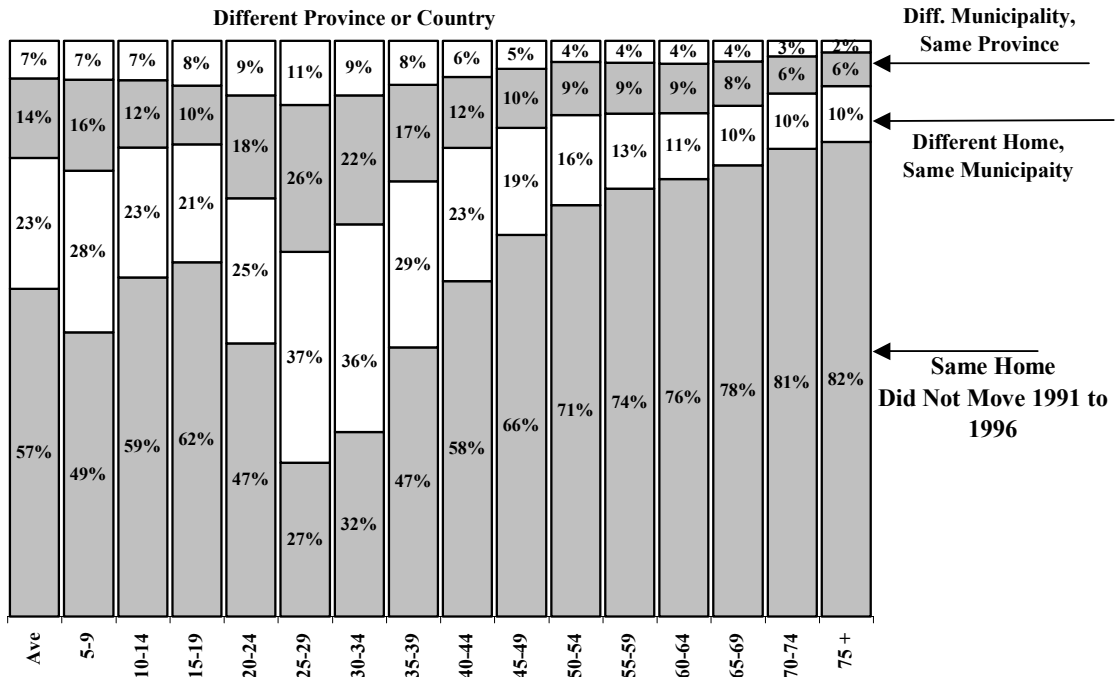
Conversely, it has a less than proportionate share of its population in the "family with children" stage of the life cycle, in the 41 to 60 age group (parents) and the 4 to 22 age group (children). Concentrations of these populations are more common in the suburbs/exurbs of metropolitan regions and in small towns and rural areas of the province.

The City of Toronto has essentially a proportionate share of its population in the under 4 and 60 and older age groups: the slightly higher proportion in these age groups shown on Figure 23 is not significant.

**Figure 24: Population Age Profile, City of Toronto, No Migration**



**Figure 25. Mobility Status, Ontario, 1996 Population Five and Older by 1991 Residence**





It is appropriate to ask what the future population of the City of Toronto would look like without migration – if the only factors shaping its future profile were the births to, aging and mortality of, its current residents and their dependents. As with the province, it would be a much older population (Figure 24<sup>24</sup>). Without the refreshing of its younger population by migration, a below the replacement level birth rate and the City’s current age profile would ensure that the under 55 population would decline significantly. The same age profile and the long life expectancies that residents enjoy would ensure that the over 55 population would grow dramatically.

There will be significant aging of the City of Toronto’s population even with migration, as the propensity to change places of residence decline with increasing age. For example, in the Province of Ontario, only 27% of the people aged 25 to 29 in 1996 lived in the same residence in 1996 as they did in 1991 (Figure 25<sup>25</sup>). The propensity to stay put was almost three times as great in the 55 to 59 age group (where 74% of the people lived in the same residence in 1996 as they had in 1991), and was more than three times as great in the 75 plus age group, where 82% of the population did not change places of residence between 1991 and 1996.

The aging of its current residents will mean that the City of Toronto will have an abundant supply of people 55 and older in the future. The challenge will be to attract a sufficient share of younger people to ensure a reasonable demographic balance with respect to contributions to, as well as benefits from, taxation and the provision of social services. How many younger people it attracts and retains, as well as how many of its current residents it retains, will depend on land use decisions both within the City and outside of it. The way change, and growth, is accommodated within the City will shape the character of both the City and of the larger metropolitan region: for example, by its actions in accommodating change and growth, the City of Toronto has a significant role to play in determining the extent to which farmland and green space in the rest of the region are converted to urban uses, an issue of increasing concern in the region, as evidenced by the following newspaper clipping:

A8 • THURSDAY, NOVEMBER 23, 1999

NATIONAL NEWS

THE GLOBE AND MAIL

## Farmers feel under siege as cities close in

*New home developments and roads threaten to swallow up farmlands in greater Toronto*

**NATALIE SOUTHWORTH**  
*The Globe and Mail, Toronto*

For 42 years, Marion Buckle and her husband, Bruce, have operated their 100-head dairy farm in East Gwillimbury, 40 minutes north of Toronto, confident they would never leave.

But now urban sprawl is lapping at their back door.

A residential housing project, set to become a community of 2,000 people, sits near their 80-hectare farm. As well, their farm could be cut in half if the province approves a proposal to extend Highway 404 to Queensville.

"If the highway comes further east, we wouldn't have enough land to farm," Mrs. Buckle said. "We would have to decide then what we would do."

Increasingly, housing developments, new roads and recreational land uses are eating up farmland in the Greater Toronto Area, which includes the most productive agricultural land in Canada, according to

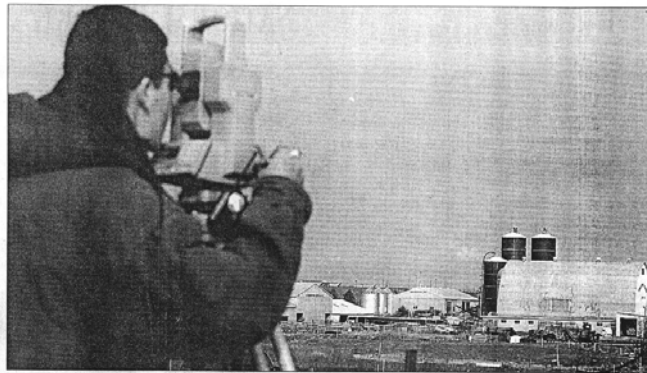
new study released this week.

Consultant Margaret Walton, whose company prepared the report, titled Greater Toronto Area Agricultural Economic Impact Study, said farmers are worried that people in urban communities have forgotten that they need high-quality agricultural land to produce Ontario's food.

Too often, she said, city dwellers assume that land used for agriculture is waiting to be developed. Farmers have a different tale to tell.

"Farmers are saying: 'We have a valuable industry that is a big part of the economy in the GTA. Just give us the environment we need to compete,'" Ms. Walton said.

Concern about the loss of prime farmland in the GTA dates back decades. But the economic impact study, commissioned by the Federations of Agriculture in Halton, Peel, York and Durham, now documents the risks of ignoring the economic value of the region's farm production.



A surveyor takes measurements for a housing project at Roundtree Farms near Brampton, Ont.

TIMOR KOLLEY/The Globe and Mail

For example, agribusiness in the region generates more than \$300-million in direct sales, more than the provinces of Nova Scotia, New Brunswick or Prince Edward Island. In addition, a significant proportion of GTA farms have the highest-grade agricultural land in Canada.

Despite this, there is no overall

official plan for long-term protection of farmland in the GTA. Until such a plan is in place, some of the country's most valuable farmland is at risk of disappearing, farmers, politicians and planners warn.

"There is far too much development," Mrs. Buckle said. "As they take more agriculture land out of production, they don't realize how much business they are losing."

Toronto councillor Joan King, co-chairwoman of the city and country committee of the Greater Toronto Services Board, says the board has not developed a comprehensive plan so far.

"I'm not sure there is the political will to do it," she said, adding that regional governments are loathe to relinquish local control to a new overarching body like the GTSB.

"It's shortsighted. We need to make a tighter urban form, rather than large sprawling lots that leave no room for agricultural land."

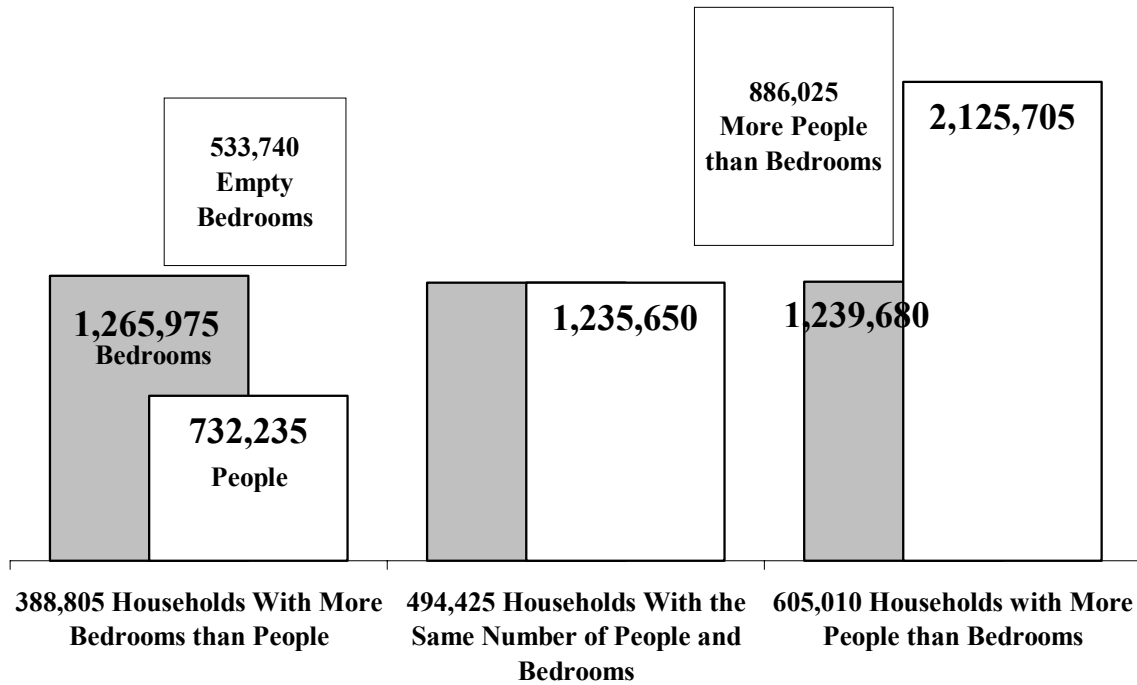
According to the new study, the most effective over-all strategy would ensure the preservation of large tracts of agricultural land.

Policies that allow fragmentation of contiguous agricultural

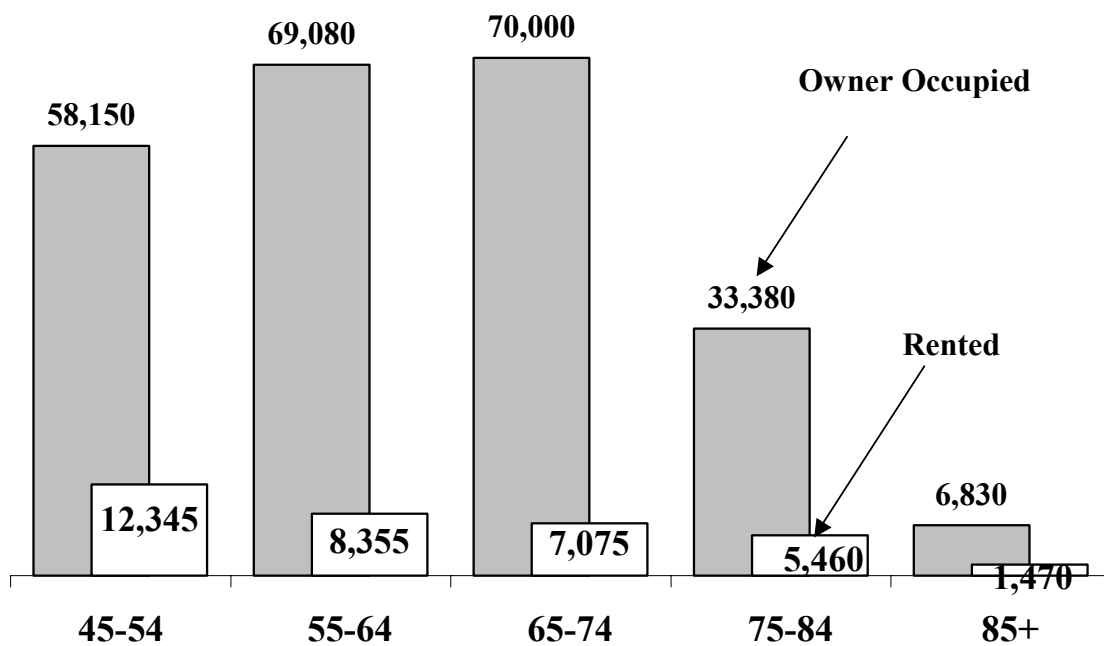


**Figure 26 : From the Globe and Mail, November 23, 1999, Page A8**

**Figure 26: People & Bedrooms by Household Type, Toronto CMA, 1996**



**Figure 27: Numer of Households with Empty Bedrooms, by Age of Maintainer and Tenure, Toronto CMA, 1996**



The City of Toronto will be fortunate both to have the opportunity to use population growth to help it balance population change and to have the land resources to accommodate both change and growth. One of the opportunities will be to develop alternatives housing forms for the significant number of “empty nesters” in the region. The concept of the empty nester households is well known – it is the parents who remain (see Figure 25 for the evidence of the remaining) in a relatively large home that was suitable for raising children after the children have left to establish their own households. Measuring the extent to which such households exist is difficult. One way to do so is to assume that everyone in a household has their own bedroom: households with more bedrooms than people could be considered empty nester households.

Using this definition, there are a significant number of empty nesters households in the metropolitan Toronto region. According to the 1996 Census, there were 4,093,590 people in 1,488,240 households in the Toronto CMA, for an average of 2.75 persons per household. There were 3,741,305 bedrooms in these 1,488,240 households, for an average of 1.09 persons per bedroom. While this appears to be a pretty good balance between people and bedrooms, with almost 1 bedroom for every person in the region, such a uniform distribution did not in fact prevail (Figure 26<sup>26</sup>). There were 494,425 households where there were the same number of people as bedrooms (1,235,650 people and bedrooms), a further 605,010 households where there were more people than bedrooms (2,125,705 people in 1,239,680 bedrooms), and 388,805 households where there were more bedrooms than people (732,235 people and 1,265,975 bedrooms). One out of every four occupied dwellings in the Toronto CMA had more bedrooms in it than it had people, for a total of 533,740 empty bedrooms (14% of all bedrooms in occupied dwellings).

Of the 388,805 households with empty bedrooms in the Toronto Metropolitan Region, 272,145 (70%) are in households maintained by people aged 45 and older (Figure 27<sup>27</sup>): 61% (237,400) are in owner-occupied dwellings with a maintainer aged 45 plus and 9% (34,705) are in rental dwellings with a maintainer aged 45 plus. Out of the total of 388,805 households with empty bedrooms in the region, 347,480 are in single detached dwellings: 16% of all single detached dwelling have one or more empty bedrooms.

None of this proves either that these are empty nester households or that these households are consuming more housing than they need, but it all points in that direction. To the extent that these households are over consuming housing, they represent an opportunity for the City of Toronto to accommodate both change and growth. If these people can be attracted to other, less land extensive forms of housing, the empty nest can once again become full, bringing youth to the City’s aging population profile while accommodating the changing housing needs of its current population as it ages.

The real estate market will help to provide inducements: three quarters of the owner-occupier households in Ontario with maintainers 55 and older have paid off the mortgage on their home. After a 30% drop in housing prices in Toronto between 1989 and 1996, housing prices have been increasing, with a 2000 average climbing to within 10% of the 1989 record. This equity return has brought liquidity to the market, providing older empty nesters with purchasers should they seek to reduce their level of housing consumption and be able to find suitable accommodation. Large scale projects such as the Railyards and the Waterfront, moderate scale community change programs, and micro scale infill projects all hold the dual potential of providing more suitable housing forms for an aging population and attracting and retaining a younger population. As long as Ontario’s economy – and population – grows, so that there are both the incomes and the people to provide liquidity to the housing market, the City of Toronto will have the opportunity to change and to grow in order to better support the social service and housing needs of its residents, current and future.

### **III. Planning Platitudes<sup>28</sup>**

How the City of Toronto changes, and how much growth is necessary to support the changes, will be the subject of much research, debate and discussion. In this discussion, it will be important to follow the more difficult path of looking at the reality of life in the City, and in the region, in the 21<sup>st</sup> century, rather than of simply reiterating planning slogans which, while sounding meaningful, signify little. In this section, a very few of the many platitudes which emerge in discussions of urban growth management are briefly considered.

#### **A. Platitude 1. Goal setting is the first step in planning.**

Most growth management programs start with a goal setting exercise, focused on the preparation of a list of objectives and visions for the future of the community. Certainly it is necessary to know where a community wants to go before setting out, and agreement on objectives is part of the foundation of plan implementation. But this is only half of the first step, as agreement on objectives will only have meaning when the cost of achieving them and the trade offs between mutually exclusive objectives are made. Without acknowledgment of the cost, and constraints, that limit the attainment of goals, agreement on goals alone is a pointless exercise.

Strategic plans are perhaps the worst in this regard, as they often postpone the hard realities of feasibility and tradeoffs to subsequent implementation plans. This often results in a sense of betrayal on the part of many stakeholders, as they see changes and tradeoffs subsequently imposed by reality as being a violation of the agreement on the goals, rather than an acknowledgement of the fact that they could not all be attained. The facts of life, and of plans that can be implemented, is that trade offs and compromises must be made. Goal setting is easy, as it simply means articulating a wish list that reflects everyone's objectives without constraint: prioritization and cost assignment is difficult, as it means acknowledging that many people's most important goals can only be achieved by ensuring that others' are not achieved. A plan that is merely a list of goals, without a statement of cost, priorities, and methods of implementation, may be easily accepted, but it will be worse than no plan at all, as it will foster not only conflict, but a lack of trust as well.

#### **B. Platitude 2. Preserve the irreplaceable first and make the best use of what is not.**

This approach to planning, which might be called planning for the residual, is most often found with respect to preservations of green zones, environmentally sensitive areas, and farmland. While it has a strong emotional appeal, particularly in context of current conservative attitudes, it is an example of goal setting without consideration of either costs or consequences, holding implicitly that "green space" has an infinitely high value relative to all other uses of land.

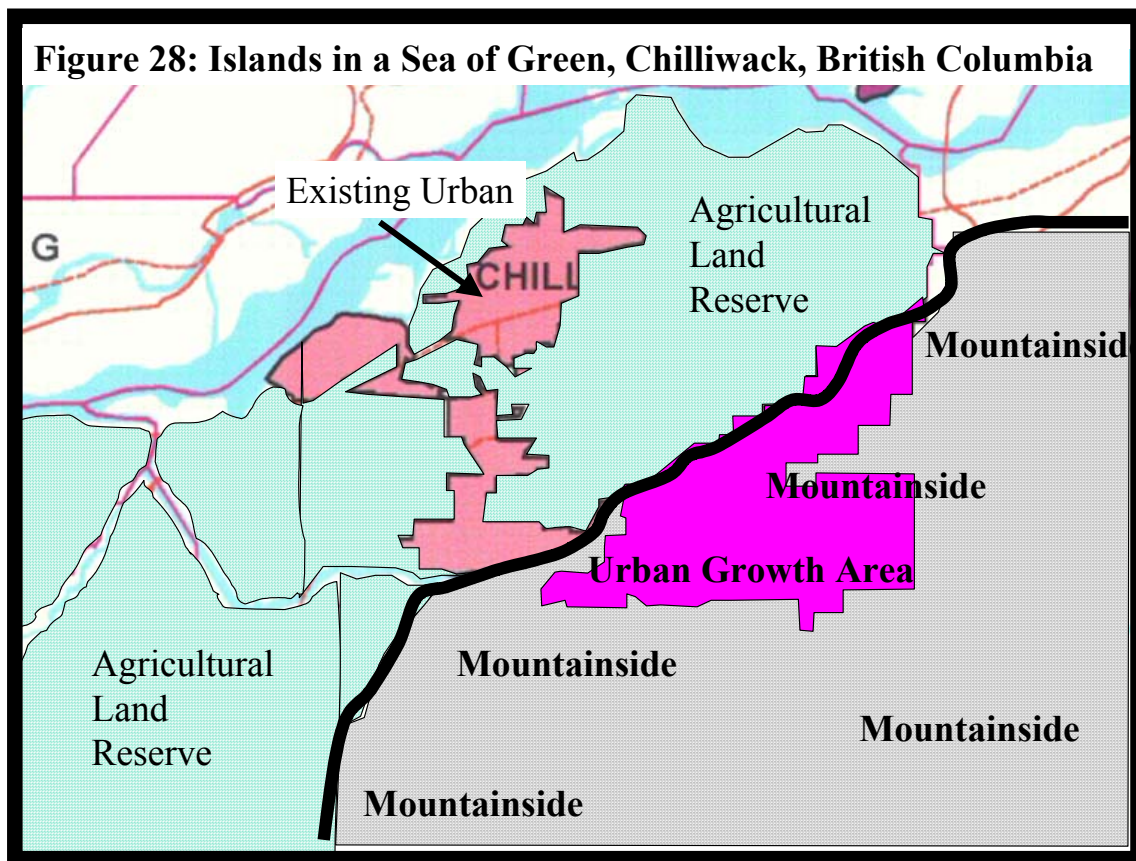
While it is never presented this way, the approach that all space that is green today must always remain green implies that there is no better alternative use for the land: alas, saying that a parcel of green space is irreplaceable, and then acting as though it was true does not make it true. Responsible policy decisions with respect to society's resources should be based on knowledge rather than unproven statements in order to ensure that society's resources are used wisely. This is not to say that having a parcel of land as green space is, or is not, the highest and best use of the land, but rather to say that without research nobody knows.

The reason for raising this issue is that keeping a particular parcel of land as green space has a cost beyond excluding other uses from the site, as the excluded uses must occur on some other site. This trade-off is most cogently presented in the conflict between green space preservation and neighbourhood density preservation: if non-urban land cannot be converted to urban uses,

urban land must be used more intensely; if urban land is not used more intensely, non-urban land must be converted to urban uses.

Further, keeping a particular piece of land green may be harmful to the environment as a result of the environmental costs of pushing urban development to sites that lie beyond the green parcel, and the resultant transportation of goods and services through green space between urbanized areas. Green space preservation often leads to urban areas as “islands in a sea of green”. While a charming image, it is not complete, as it fails to mention that the islands are connected by bridges. It takes land and resources to build and maintain these bridges, and it takes energy resources to move people and commodities across them. Before advocating continuing to expand the use of bridges or expand the bridges themselves as is implied by the "islands in a sea of green" planning model, there is a need for research into the costs of this and of alternative forms of urban development.

One example of the consequences of green space preservation, as contrasted with green space planning, is found in the community of Chilliwack, British Columbia, where the preservation of agricultural land, without consideration of urban planning, has created an extremely inefficient land use pattern in terms of both initial servicing and energy consumed in transportation (Figure 28). The designation of urban growth areas is only possible on mountain sides at significant distance from the urban centre: servicing costs alone will be over \$162 million dollars greater than they would be if a more compact urban form could be used<sup>29</sup>.



One alternative, as an example for both this specific circumstance and in general for islands in a sea of green, would be to convert some of the green zone with a lot of travel through it into destination uses (e.g., housing) and not develop these uses in more distant locations, thereby reducing the amount of travel across bridges to far away islands. This would involve trading off some of the green space closer to existing urban areas for green space farther away in exchange for less investment in bridges (transportation infrastructure) and fewer energy resources used in moving people and goods. In the long run, the environmental objectives of regional change management may mean a more compact region in terms of both density and extent.

Suggesting that there be a valuation of the costs and benefits of the “islands in a sea of green” planning model, and a comparison of these to those of other forms of urban development, does not mean that the sea of green should not exist. It fully and simply means that there are direct and indirect costs of preserving the current pattern of green space in a region, that these costs must be measured, and that research must be carried out to identify the economically and environmentally best form of urban development for the region, considering the consequences of both changing, and not changing, the current regional landscape.

### **C. Platitude 3. Build Complete Communities So People Can Live Close to Work**

One land use planning concept that is often suggested to reduce demand for transportation services and infrastructure is to get people to live close to work by maximizing “the opportunities for people to live close to work and work close to home”. If not subjected to analysis, this concept has a strong appeal, as it appears to reflect irrefutable logic: a person would reduce their travel costs if they lived closer to work, and, accordingly, if it was easier for people to live closer to work, they would. Unfortunately, this logic is not complete, as it ignores both the consequences of trying to live close to work and the fact that travel cost minimization assumes that all other things are equal. When these aspects of economics are considered, as they are in the following points, it is apparent that “maximizing the opportunities to live close to work and work close to home” will have little, if any, impact on transportation demand in metropolitan regions.

#### **1. Land prices and accessibility.**

Travel costs are primarily a function of distance: the farther a person lives from a place of work, the greater the direct and indirect costs (time lost, multi-zone fares, gas, tire wear, depreciation, etc.) incurred by traveling between the places of residence and of work. Further, these increased costs will reduce the amount of a household's income that is available to spend on other goods and services. All other things equal, a worker who lives close to work will have a lot more money to spend on things other than getting to work: assuming throughout this section that the place of work is downtown, the further workers choose to live from downtown, the less money they will have to spend on other goods and services.

For example, consider the cost relationship between housing and transportation for workers employed downtown: living downtown means that a worker would have no travel costs and hence could use the entire housing/travel budget for housing. Workers would have less money to pay for housing the further they lived from work as travel costs would increase as a function of increasing distance from downtown. In the extreme, travel costs determine the boundary of urban development, as to travel beyond a certain distance would consume a worker's entire budget, leaving nothing for housing.

However, in order to live close to work to save money and time due to a shorter journey to work, a downtown worker has to be able to outbid all other workers who also want to live close to downtown places of work in order to save money and time. The reality is that competition between workers for highly accessible sites will result in a direct trade off of transportation

savings for higher housing costs. As all workers will be willing to exchange some of the economic benefits that result from living close to work in order to live close to work, competition between them will ensure that the travel saving benefit of living close to work will be spent on obtaining a place of residence which offers these benefits. Thus there is a swapping of the costs of travel to downtown and the costs of places of residence for downtown workers: in a perfect market, the sum of these two costs will be essentially the same at all sites. The benefit of living close to work is lower travel costs: the cost of living close to work is higher housing costs.

The transportation costs associated with each site in the region will be capitalized into unit land prices. In a perfectly competitive situation, the difference in land values (all other things equal) between two sites will be the present value of the difference in transportation costs associated with living at each site. The land price/accessibility trade off ensures that rational economic people are indifferent (all other things being equal) to where their residences are, as any travel cost saving will be competed away in higher land prices. They would certainly welcome the opportunity to live close to work if they did not have to compete with other workers for the sites close to work: without artificial land use restrictions that reduce land prices this would not occur. With such restrictions, the lucky worker who gets the cheap site wins and the unlucky one that does not loses: their travel demand is in no way changed (in a more complex model, where density is considered, travel demand is increased by restrictions that keep land prices low).

In conclusion, the trade off between land prices and accessibility means that there is no economic reason to live close to work, as the total costs of housing and travel to work are the same regardless where one lives. People who do not live close to work are economically rational, as they pay lower housing costs in exchange for higher travel cost. So long as economics are permitted to determine costs, maximizing the opportunities to live close to work will bring no measurable change to travel demand.

Competition for sites that are more accessible to destinations means higher land prices in exchange for lower transportation costs. In the simple single place of work (downtown) homogeneous worker model considered in this section, increasing the opportunities to live close to work will not reduce travel demand, as the advantages of those near to places to work will be reflected in higher prices. Only in a context where there are artificial restrictions on land use and land prices can increasing the opportunities to live close to work reduce transportation demand: the opportunities will come from removing the restrictions, which will result in an increase in land prices and, as is shown in the next section, in the density of land use.

**2. Intensity of Land Use.** Two-factor accessibility/land rent tradeoff models are admittedly simple, illustrating as they do only a relationship that assumes all other things are the same. Consideration of other factors make these models more realistic, and more complex. For example, the higher land prices at more accessible sites have an impact on how intensely land is used. In production of goods and services, again all other things being equal, the more expensive a factor of production, the less of it that will be used in comparison with other factors.

At highly sought after, accessible and expensive sites, a lot of non-land resources (in the form of buildings, improvements and services) will be used to provide housing: where land prices are relatively low, more land and less of non-land resources will be used. In the absence of external (e.g., zoning) restrictions, sites that are highly accessible will have high prices and will be used at high densities. Sites that are not highly accessible will have relatively low land prices, and hence will be used less intensely. The result is that the competition for lower transportation costs that living close to work brings is both increasing land prices and increasing densities as accessibility increases and transportation cost fall.

**3. Non-homogeneous consumer/producer groups.** If transportation and housing cost were the only variants in the residential location decision, a rational economic person would not care where they lived (all other things being equal) as housing costs would account for differences between transportation costs at different locations. But there are other factors in the residential location decision: the trade-off between housing and transportation costs is not the only thing that people care about. Further, workers/consumers are not homogeneous: they have different preferences concerning travel costs, housing, and housing density.

To move a step closer towards reality from the living close to work concept, consider the situation with a single downtown employment destination when there are two consumer groups. One has a requirement for some minimum amount of land associated with their housing (call them families with small children and Mr. Turtle pools), while the other group does not have any minimum land requirement (call them hip urbanites). In such a single core two-consumer market, the hip urbanites will live in the high density high accessibility areas closest to downtown because they will, collectively, outbid the families for the more accessible sites: the effective competition for the sites closest to the downtown will be between hip urbanites.

The families, requiring some land associated with their dwelling unit, while valuing accessibility, will not be able to outbid the hip urbanites for the accessible sites because the hip urbanites can live at a density that ensures that they secure accessible sites by collectively paying more for them. Families will live further from work than hip urbanites. It is not that families will choose to: the fact that they require more space will mean fewer of them will be able to use the same area of land, and hence they will have to live further away from work to be able to afford the land on which housing is built.

It is the hip urbanites' ability to live at higher densities that ensures them the most accessible sites. While hip urbanites' incomes might be a fraction of families' incomes, collectively there will be enough hip urbanites per acre to ensure that they outbid the families for highly accessible sites. Members of families do not live at greater distances from work than hip urbanites because they care less about transportation costs or the environment. Members of families live further from work because they need room for the Mr. Turtle pool, and they cannot afford to pay apartment land prices for the space to put it on.

Of course, in reality there are more than two different worker groups, each with their own land and accessibility requirements. In the absence of land use regulation, their competition will lead to a pattern of land use where the highest land prices and the highest densities are found in the most accessible sites, with the lowest land prices and the lowest densities where transportation costs are highest (i.e., the least accessible sites). Because of this price density gradient, those consumer groups who have the highest tolerance (voluntary or otherwise) for density will be able to live close to work, while those who require lower densities will not be able to afford to pay for the land that would permit them to live close to work.

Maximizing the opportunities to live close to work can have an impact on transportation if it involves removing density restrictions on sites with relatively high accessibility. If density at accessible sites is regulated to be lower than that which would occur in the absence of regulation, then while the current users of the site are closer to work than they otherwise would be, there are fewer of them using the site than there would be in the absence of the restriction. Remove the restriction, more people will live on the site at a higher density, and there will be (all other things being equal) a reduction in aggregate travel in the region.

The single most important land use policy that could be introduced to maximize the opportunities to live close to work, that would have an impact on travel demand, would be to eliminate



restrictions on residential density on all sites. To the extent that sites were under-zoned in terms of use and density, this would have an impact of increasing price and density: note however, that this impact would push those households which previously occupied under-zoned sites, which required lower density, further out, bringing in only those households who tolerate higher density. For this to have any noticeable impact on transportation demand, there must be significant areas of relatively accessible land that are being artificially kept at a lower density than the market would dictate.

**4. Density in the Neighbourhood.** The ability of hip urbanites to live at greater density, and hence pay more for land than families, introduces conflict into urban development. As urban populations grow, there are both more families and more hip urbanites. The growth in the number of hip urbanites will mean that, without restrictions on change in land use and density, they would start to outbid families for land on the edge of the high density residential areas adjacent to downtown cores. The families in these transition areas, while supporting anything that maintains or improves their accessibility to downtown, will fight strongly to maintain the below market density of the area. It is not simply that they oppose change: they receive a strong economic benefit from being able to live closer to work than would happen in the absence of zoning restrictions. Thus in what are relatively accessible older neighbourhoods where higher density is justified by the accessibility/rent tradeoff, neighborhood preservation becomes very popular as existing residents attempt to maintain the benefits of greater relative accessibility without having to pay the price of greater density.

This introduces an interesting household income dimension to neighbourhoods where greater density is not allowed to match greater accessibility. All other things equal, higher income families will be able to outbid lower income families for family sites that are highly accessible. These areas experience rising land values as family households with high incomes win the bidding, and set the prices, for these areas. As a result, land prices in these areas rise without the density increasing. Moderate incomes families will then be faced with the issue of having to travel further to obtain the housing they can afford, or increasing the density of use of land in the “under-zoned” area by building an illegal suite to obtain the revenue to afford the close in location, thereby bringing about an unauthorized higher density.

This does not mean that there is an income gradient that matches the price-density-accessibility gradient. Certainly there are high-income family areas in places close to work where competition from high-density activity is excluded. But there are also low income and moderate-income family areas with the same proximity to places of work, and low, moderate and high-income areas that are distant from places of work. In each case, the price and density of use of locations will be determined by market (travel costs, incomes, preferences for density and other preferences) and non-market factors (zoning and redevelopment controls). Thus a high-income family with a very strong requirement for low density will be willing to travel considerable distance to find suitable housing, or will seek locations in highly accessible areas whose density is kept artificially low: in the first context, they will have high travel costs and consume a lot of cheap land, while in the second they will have low travel costs and consume less of the more expensive land. Low-income families can outbid high-income families for more accessible sites if the low-income families live at sufficiently high densities to collectively bid more for land on a unit basis.

Finally, while for purposes of discussion of the forces shaping residential location the focus is on the basic variables of transportation, density, price and income, there is a wide range of other factors that make up the preference functions of housing and transportation consumers. One of these factors is the “neighbourhood”: the price accessibility gradient may “skip” over older areas that do not have the appropriate character for certain market segments, where they would bid less

for housing in these more accessible areas than other, perhaps lower income, households. This “discontinuity” in the price-density-accessibility gradient will continue to exist as long as cost of the lower desirability of the skipped neighbourhood offsets the higher travel cost of more distant locations. Once this differential ceases to exist, the “redevelopment pioneers” arrive and begin to change the character of the neighbourhood: as this occurs, prices climb up to that dictated by accessibility. Note that when this change does occur, it will mean that the density of the area may well decline.

Intentionally using restrictions to maintain low density family housing in areas close to work will make for more complete (i.e., diverse) communities close to places of work, with lower density family housing in areas that the market would make higher density housing, but it will also mean that land will be used less intensely, and transportation systems more intensely, than they would otherwise be, allowing more families, but fewer workers in total, to live close to work.

**5. Places of work outside downtown.** There are always some employment locations proximate to family residential areas, those being either population serving (convenience stores, shopping malls, dentists offices, pizza delivery services, etc.) or because their location criteria do not require downtown site. To the extent that people working in these activities earn the same incomes as those working in downtown, they will win the housing/transportation trade off by having their work close to where they live, as they will have the same housing costs but lower transportation costs than the downtown workers (so long as the downtown commuters set the housing prices in the residential area). If non-downtown workers have lower than downtown incomes, they will find themselves in the situation of having to travel far enough from their place of work to find the density of housing that they require at a price that they can afford.

If a non-downtown location becomes a major employment centre then employees competing for more accessible sites to this non-downtown node will create, in a scaled down version and land use controls permitting, the same form of price density gradient as exists for the downtown core. This means increasing land prices adjacent to the non-downtown employment centre, pressure for conversion of family housing to higher density housing, and a pushing out of the margin of urban development as family workers travel further to find suitable accommodation. If the pre-existing family residential areas do not increase in density, the extension of the boundary will be even greater, household incomes permitting. Non-downtown employment centres can lead to an expansion of urban development into agricultural areas without an increase in income or reduction in overall transportation costs by creating a zero transportation costs point (a mini downtown) closer to the edge of existing urban development, thereby pushing the commuting threshold out into areas previously too far out to justify construction of urban housing.

**6. The Relative Unimportance of the Place of Work.** The classic accessibility/land price model is developed assuming that the place of work is the sole reference for the competition for sites by residential users. While this may have been the case decades ago, the place of work is not the fundamental criterion for residential location decisions today. Residential location decisions today consider minimizing travel cost, but generally only after other, more important criteria have been considered.

Transportation surveys have generally shown that people make residential location decisions on the basis of residential criteria – neighborhood and community characteristics; dwelling structure type, tenure, and cost; safety; proximity to friends and family; quality of schools, recreation and community services, and the like. Certainly if there were two areas that were identical on these criteria, people would, as cost minimizers, attempt to select that area which involved the lower transportation costs (which would lead to the bidding gradient that makes land more expensive as transportation costs decline), but it is rare that there are two otherwise equal residential choices.

Even if there is appropriate structure type diversity in two areas of a commuter shed, the “character of the neighbourhood” is likely to have a more significant impact on choice than travel costs (including time). Only over extreme distances does living close to work dominate residential location decisions. The fundamental purposes of housing will put many householders in a position where they have no options with respect to living close to work: by the time all of the higher priorities have been considered, there is no choice with respect to minimizing travel to the place of work. The journey to work, in these cases, is not a variable, but rather a price paid for achieving housing goals.

Not only is the place of work merely one of many factors taken into consideration in residential location decisions, it is also one of diminishing importance. Residential location, particularly for homeowners but also for tenants, is a major investment, one with significant transaction costs (both financial and otherwise) for both entry and exit. As Figure 25 showed, between two-thirds and four-fifths of the people over the age of 45 do not change their place of residence over a five-year period.

Perhaps in the past, when, for some workers at least, it was appropriate to make the assumption of a job for life with a single employer in a single location with regular schedule, the location of the place of work had a higher priority than it has now. Today there is rarely such thing as job security, either in tenure or location, with economic and technological variance reducing the certainty of where, when, who and for how long a job will exist.

One person’s current place of work is of no great significance today when most family households have two or more wage earners in them, many people work irregular hours and weeks, many people have car dependant jobs or work from home, and have no certainty how long they will have their current job, where they place of work will be next year, and what type of work they will be doing in two years.

The concept of living close to work also implies that it is a single place of work that a household considers. With over three quarters of husband and wife families in Canada being dual wage earner households, compared to one-third in 1967, to the extent that place of work is considered at all in residential location decisions, it is two or more places of work that must be considered. If these places of work are not in the same area, the optimal household residential location with respect to work may be sub-optimal for both individuals, in that two medium distance commutes may be more efficient for the household than one very short and one very long commute.

The increased risk of variance in the location of work increases the discount rate used to incorporate the place of work in the residential location decision, thereby reducing its impact on the decision. If a person is not certain where they will work in five years, they will not give the current place of work much importance in deciding where to establish a home.

**7. Complexity of life and life styles.** Compounding the lessened importance of the place of work in the residential location decision due to changing work patterns is the lessened importance of work due to the growing complexity of life. A wide diversity of personal life styles may not have been a major factor in the residential location decision of the suburban boom of the 1950s, but now, for many people, life style is the single most important factor in selecting a place of live. The specialization of life styles that urban and economic growth bring mean that the choice is not simply measured by price, accessibility to work and density, but rather by a complexity of life style and image considerations.

As well, with the increasing specialization of both the workforce and the urban landscape has gone an increasing emphasis on multi-purpose trips, with journey to work trips including stops to pick up groceries, go to the gym, play old-timers hockey, visit an aging parent and a new grand

child (giving rise to the term the sandwich generation for those who are making both of these visits), pick up the kids from hockey and take them to violin lessons, or go to a hospice or hospital to give volunteer services. Urban lives, be they those of a single person household or of extended families, are rich, diverse and complex, giving rise to matching transportation requirements. Even when a household has predictable places of work, and predictable morning journeys to work, it does not mean that it will have predictable journeys from work.

The various forces that are changing the role of work, of housing, and of life styles on urban areas have resulted in a decline in the importance of space in urban areas. With increased diversity of work patterns, living patterns, and life styles, activities in urban regions have become much more specialized, and hence much more interconnected, both in terms of communications and transportation. This is not a new concept, having been discussed in the mid-1960s by both Webber (in his seminal article “Community without propinquity: urban space and the non-place urban realm”) and Marshall McLuhan. The declining importance of spatial proximity does not mean a decline in the need to traverse space: quite the contrary, its has meant an increasing need to travel. Interdependence rather than proximity defines contemporary urban society.

**8. Complete communities – an incomplete concept.** Another planning concept that is often seen as helping to reduce transportation demand by changing land uses is to build complete communities, the idea being that if there is everything in a community, there will no need to travel to another community. While it may be possible to make some communities more complete, there is no reason to assume that completeness is an achievable, or even desirable goal. This is not to argue against complete communities and for incomplete ones, but rather to point out that, for a wide range of reasons, completeness may not be attainable. Without massive subsidies, there will never be farms in downtown Toronto nor a Swatch Store in rural Halton. There will always be exclusively low-density family residential areas because they serve a purpose; they reflect a specialization of land use that is required (e.g., kids being able to go to a local school and have friends that they can play with after school implies a very specific land use pattern).

On the employment side, there are two reasons why completeness will not occur. The first concerns population-serving employment. Each good or service required by a population has some threshold of demand necessary to support it. In what are referred to as low order goods and services, relatively few households will support one establishment selling these commodities. Thus we find a pizza delivery service and a convenience store in almost every neighborhood. Higher order goods and services, for example general practitioners, require a larger population to support them (higher demand thresholds), and hence several neighbourhoods are required to support one establishment. By definition, the neighborhood that gets the doctors office will be more complete than the others in the trade area: the others will remain incomplete communities because there will be only one general practitioners office to be located.

At the next higher level will be establishments were there are only enough people in the region to support three or four establishments: universities for a good example of such higher threshold activities, with only a few communities being host to these establishments and people from other parts of the region having to travel to them to consume the services they produce.

The highest order goods and services are those for which there is only sufficient demand for one establishment in a region: this establishment can locate in only one community, making all the rest incomplete. People from all other communities will have to travel to the lucky (or unlucky, depending upon what the activity is) community to purchase the highest order commodity. No matter where NBA basketball is played in a region, the stadium will be in only one community, with people traveling from the rest of the region to the one where the games are played. The same is true for establishments as diverse as a cancer clinic and a Swatch Store: until the regional

market grows sufficiently in size to support two or more of these establishments, all communities save one will be incomplete with respect to these high order commodities. [As there is a wide diversity of people who work at a highest order establishment such as a cancer clinic, there will also be a wide diversity of housing requirements and income. As a result, such establishments will also be the destination of both patients and workers who reside throughout the region].

In the absence of subsidization, there is little that can be done to expand the range of goods and services offered in a community beyond what economic demand thresholds support. There is, however, the opportunity to expand the range of goods and services where factors other than demand limit economic activity: increased zoning for employment activities, reduction of unit sizes in new commercial developments, and taxation that matches demand for services, might all lead to more employment in communities. Certainly if there are regulations that keep lower threshold goods and services out of a community that could otherwise support them, removing the constraints will lead to more complete communities, but nonetheless there will always be some more, and some less, complete communities.

The second employment related reason concerns non-population related employment: there cannot be a uniform distribution of non-population serving employment, because, as the name implies, the employment location decision is not made in terms of where the population of the region lives, but other criteria. For example, employment that is primarily related to airplane services will be in areas that are accessible to airports.

On the housing side, arguing for a more complete community in terms of a wider range of housing types in a community makes sense if there is demand for a wider range of housing types, and is a policy that can be pursued in that context. From a transportation demand perspective, however, it should not be assumed that a more diverse housing stock in a community will mean a reduction in travel demand, and in fact it is possible to argue that it may increase it. Building apartments in family residential areas would permit people (for example, young adults who grew up in the community) to establish apartment households in the neighbourhood and commute to work rather than being forced to live closer to work in apartment areas by lack of housing choice in the family residential area. It is only when lack of housing choice pushes workers further from work than they would otherwise be, and where the eventual occupants of the housing that results from increased choice are those excluded workers, that more complete housing choices in communities will result in a reduction in travel demand. [Note that, in so far as economics are concerned, any policies aimed at increasing the range of housing in a community could do so only by removing restrictions on the density and structure types of housing].

While it is true that, as urban life and life styles continue to become more diverse and more specialized there will be a need for a greater diversity of communities within urban regions, it is also true that relatively low density residential areas will continue to exist. So long as people have children, gardens, craft hobbies, and dogs as pets, single use ground oriented residential communities will continue to play a role in urban land use. Any strategic plan that assumes a radical change in the “suburbs” any time in the near future, either in character or extent, will be sorely out of step with the transportation patterns in the region. Change in either “suburban” or “urban” communities will be marginal and evolutionary, rather than major and revolutionary: the suburbs will be with us for a long time in the future because they work, and work well, for the activities that occur in them.

The acknowledgement of this fact means acknowledgement that travel characteristics will not change much either. As was noted earlier, people living in low (and any other) density areas have a very strong incentive to see accessibility between their community and the rest of the urban region improve without experiencing a change in the density of their community. Thus there will

always be calls for better transit service to low (and higher) density residential areas, but rarely will the same people call for higher density in the area.

It will be important in transportation planning both to acknowledge that the “suburbs” will be with us for a long time to come, and to acknowledge that they will be “suburbs”. Relatively low density is a defining character of family residential areas, and one of the prices that must be paid for relatively low density is relatively low levels of fare box transit services. In areas where transit is to be provided as a matter of policy rather than a matter of economics, the costs of the subsidy must be calculated and capitalized to ensure that the cost of transit opportunities forgone elsewhere in the region as a result of subsidization of below minimum ridership areas is considered in decision making.

**9. Specialization, Interdependence and the Increasing Demand for Transportation.** Perhaps the most important aspect of both economics and social development in the past few hundred years has been the growth of specialized and hence interdependent activities. Two hundred years ago, in *The Wealth of Nations*, Adam Smith explained the basic rationale for specialization in his discussion of the division of labour:

To take an example ... the trade of the pin maker: a workman not educated to this business (which the division of labour has rendered a distinct trade), nor acquainted with the use of the machinery employed in it could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty. But in the way in which this business is now ... divided into a number of branches ... [where] one man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations; to put it on, is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them.

The result of this specialization of stages in the process of making pins, which was later extended to the automobile assembly line by Henry Ford, was an average production approximately 5,000 pins per employee per day. The advantage of specialization is a dramatic increase in worker productivity: its prerequisite is a market large enough to absorb the level of production required. Population growth and inter-regional trade have provided this scale.

Along with specialization goes its logical implication, interdependence. In order to achieve the high level of productivity offered by specialization, each worker becomes dependant upon all of the other workers. It is this combination of specialization and interdependence that first permitted the specialized land uses that required people leave their cottage (and cottage industry) to go to a centralized place of work to take their place in the specialized production process. It was specialization that gave rise to the journey to work, and it is continuing specialization that is changing, not eliminating, spatial interaction between residences and places of work.

While specialization continues at the worker level, it now also characterizes firms, with each firm specializing in the core business that reflects its comparative advantage, and being linked to specialized suppliers of goods and services that support this core business. This is reflected in the changing pattern of land use in urban regions. The traditional example of this emphasizes the interdependence of firms, with linked businesses locating in proximity to each other to minimize interaction costs. Increasingly, however, the emphasis has shifted from the interdependence to the specialization. As firms become more and more specialized, they are linked to a smaller and smaller part of any one other firm, and to more and more other firms. As a result, rather than

seeking proximity, they seek accessibility: rather than snuggling up to any one firm, they must find a location that allows them to be accessible to many.

This is significant in terms not only of firms producing goods that must be transported, but of the increasingly specialized labour force as well. Rather than having a single employer of their skills, specialized workers must consider how to access a range of employers, either as departments within the same firm or increasingly in several firms, which are spread across the regional landscape. Doctors and lawyers now have several offices, equipment service experts spend as much time driving around the region as they do servicing equipment, and advertising and accounting are no longer departments down the hall, but consultants who work for a wide range of clients in a wide range of locations.

All of this means that travel within metropolitan regions increases with the specialization and interdependence that accompanies economic development. Increasing interdependence and specialization mean the regular, predictable journey to work patterns and the worker who stays at one place of work during the day, are increasingly artifacts of the past rather than presaging the future. With the increasing interdependence and mobility of work has gone a declining importance of the place of work.

Specialization of work has facilitated specialization of life styles as well. The standardized worker no longer exists from either a workplace perspective or a life style perspective. Significant diversity of lifestyles is often not compatible within traditional downtown or non-downtown residential areas. Families who require a yard for kids to play in the Mr. Turtle pool, people who want to have horses, those who are into serious gardening, those with wood working as hobbies, all seek homes in lower density housing areas. Those who want to roller blade into a club for a rave are not going to seek the tranquility of a single detached neighbourhood. There are people who wish to live in buildings, and neighbourhoods, where there are no pets or children, and there are people who wish to live in places where they share space with both. Tolerance of diversity means not unnecessarily imposing it on those who don't want it.

It is often argued that a greater diversity of housing stock in a community will assist in reducing travel requirements, assuming people who work in the area but who cannot find the kind of housing they seek are forced to travel from the chosen type of housing. This oversimplifies the meaning of housing to people: housing is not just a structure type, it is a neighbourhood and a life style. It is just as probable that increasing the diversity of housing in a neighbourhood will increase travel distances as people who were living elsewhere move to a neighborhood for its lifestyle, thereby increasing their journey to work distance. This is not to argue that neighborhoods should not have a greater diversity of housing. Rather it is to argue that this diversity should be permitted in order to meet the changing needs of residents, not merely to follow some assumed, but undemonstrated, relationship between the location of work and the location of housing.

**9. Summary.** The changing nature of work, of labour force participation, of social interaction, and of technology have all made the role of space, and specifically, the minimization of geographical distance, much less significant on household location decisions than it might have been in the past. The complexities of the residential location decisions leave little room for a concept of "living close to work" to be converted into a set of policies that will have any noticeable impact on transportation demand.

Certainly policies that permit a greater diversity of housing within a community may permit a refinement of the density gradient with intermediate density housing forming a transition between high density and low density. To the extent that this occurs, the change will come to high

accessibility areas kept at relatively low densities by regulations: the conflict that this brings has been well documented in almost every community in the region. Reducing regulation to allow a greater diversity of employment and housing in communities should be pursued in order to meet the aspirations and goals of members of those communities: they are not likely to have any great impact on transportation demand within anything but the longest time frames.

#### **D. Platitude 4. Telecommunications will eliminate the need to travel to work**

Another cherished simplistic concept is that telecommunication technology will reduce or eliminate the need to go to a place of work. Working at home, telecommuting, email, voice mail, and conference calls were supposed to reduce the need to travel: if you didn't need to be there to participate, then you didn't have to travel there. Experience, and not just recent experience, has shown that things are not as simple as this. First, in the past similar claims have been made for almost all telecommunications technology improvements including the telegraph, the telephone, the two-way radio, and the CB, and yet we still have places of work, shopping, and recreation. Second, it turns out that most often you have to be there to actually participate:

Five years ago TBWA Chiat/Day, an advertising agency, led the charge into the "virtual workplace" when its offices in Venice California, proved too small for its fast expanding workforce. The company gave everyone a mobile phone, a laptop and a locker, and told them to come into the office only when they needed to. The experiment proved a disaster: workers complained of isolation and lack of creative interaction. Last year the company traded virtual communication for the real thing, moving into large offices where everybody has their own desk, along with plenty of open space for informal meetings. TBWA Chait/Day is only one of a huge number of companies to discover that people need to "share the same air" as well as to "share the airwaves". (Adrian Wooldridge, "Telecommunications", *The Economist*, Oct. 9<sup>th</sup>, 1999)

Contemporary telecommunications have increased mobility rather than replaced it. Those who have to be mobile are no longer tied to land lines, and hence travel where they want and still stay in touch. Thus not only did telecommunications not replace the need for people to share air, it made it easier for them to do so, as it made it easier to be mobile. Rather than reducing travel, telecommunications have increased its volume and spread it around.

Another technological change that was seen to have the potential of reducing travel, by eliminating both jobs and the need to go places to get things, was the advent of e-commerce. As with many technological trends (TV shopping, network selling, e.g.), the hype is much bigger than the reality. In the first instance, e-commerce will account for no more than 10% of retailing. There is a wide range of goods that cannot be sold in an e-commerce format, and few services outside of bill paying and financial transactions can be (advertised, yes; sold, no). Amazon.com is an excellent example of this: while it burns through funds raised by repeated share offerings, it continues to lose money from its business operations.

The biggest gains in e-commerce are being made in b2b (business to business) commerce, where between firms sales are increasingly using e-commerce technology to replace catalogs and published notice of tenders. Ironically, the leaders in the application of b2b technology are the big three U.S. auto manufacturers.

Even within the sectors of retail where e-commerce will be viable, it is difficult to argue strongly that it will lead to a significant reduction of travel demand, as the customer still has to get the goods. In the case of e-sales, rather than the customer going to get the goods, the goods are delivered to the customer. Further, when goods are acquired by a customer traveling to the stores, multi-purpose trips mean that several objects from different retailers can be acquired on one trip. With e-commerce each product from each retailer involves a separate courier trip (plus,



from experience, a couple of return attempts and then the customer has to go to the warehouse any how). Certainly the courier as a retailer will become a noticeable, but minor, part of the retail landscape: to the extent this happens, travel may well increase and will be less predictable than would occur with the Saturday shopper model.

Even working at home can generate more, and less predictable, travel than the old journey to work model, with home based workers making business day trips to clients and related services, receiving more trips from courier firms delivering documents and products, and more personal day trips as boredom sets in and diversions are sought.

#### **IV. Conclusion.**

The population of the City of Toronto will change, in terms of age composition and the demand for both public and private goods and services, whether or not its population increases. Without growth, there will be a significant aging of the City's population, which will create an unsustainable imbalance between beneficiaries and contributors to pay-as-you-go inter-generational social transfers such as health care. With growth, specifically growth as a result of the net in-migration of younger labour force participants, the City's population will still age, but not nearly as much.

The choice of how much, and more significantly how, the City grows and changes is the responsibility of the community. Population growth and change will bring both challenges and opportunities to the City of Toronto: both the costs and the benefits of alternative strategies to achieve its goals with respect to growth and change must be evaluated on the basis of the reality of contemporary urban life, not from wish lists or simplistic platitudes.

**Endnotes:**

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- <sup>1</sup> From The Urban Futures Institute Population Modeling data system, based on Statistics Canada, Annual Demographic Statistics 1999, (Ottawa, Statistics Canada, 2000 CDROM).
- <sup>2</sup> Calculation by The Urban Futures Institute based on data from Statistics Canada, Annual Demographic Statistics, (Ottawa, Statistics Canada, various years), and Statistics Canada, Births and Deaths (Ottawa, Statistics Canada, various years), various years.
- <sup>3</sup> From The Urban Futures Institute Population Modeling data system based on data from Statistics Canada, Annual Demographic Statistics, 1999 (Ottawa, Statistics Canada, 2000 CDROM) and Government of the Province of Ontario Vital Statistics data.
- <sup>4</sup> From The Urban Futures Institute Population Modeling data system based on data from Statistics Canada, Annual Demographic Statistics, 1999 (Ottawa, Statistics Canada, 2000 CDROM).
- <sup>5</sup> Based on data from Statistics Canada, Health Statistics at a Glance, (Ottawa, Statistics Canada, 1999 CDROM).
- <sup>6</sup> From The Urban Futures Institute Population Modeling Projection System
- <sup>7</sup> From The Urban Futures Institute Population Modeling Projection System
- <sup>8</sup> From The Urban Futures Institute Population Modeling Projection System
- <sup>9</sup> Based on data from Canadian Institute for Health Information, National Health Expenditure Trends, 1975-2000 (Ottawa, Canadian Institute for Health Information, 2000), Table E.6.1. Page 415.
- <sup>10</sup> From The Urban Futures Institute Population Modeling Projection System
- <sup>11</sup> From The Urban Futures Institute Population Modeling Projection System
- <sup>12</sup> Based on data from Statistics Canada, Annual Demographic Statistics, 1999 (Ottawa, Statistics Canada, 2000 CDROM).
- <sup>13</sup> Based on data from Statistics Canada, Annual Demographic Statistics, 1999 (Ottawa, Statistics Canada, 2000 CDROM).
- <sup>14</sup> From The Urban Futures Institute Population Modeling Projection System
- <sup>15</sup> From The Urban Futures Institute Population Modeling Projection System
- <sup>16</sup> From The Urban Futures Institute Population Modeling Projection System
- <sup>17</sup> From The Urban Futures Institute Population Modeling Projection System
- <sup>18</sup> From The Urban Futures Institute Population Modeling Projection System
- <sup>19</sup> Based on data from Statistics Canada, Annual Demographic Statistics, 1999 (Ottawa, Statistics Canada, 2000 CDROM).
- <sup>20</sup> From The Urban Futures Institute Population Modeling Projection System
- <sup>21</sup> From The Urban Futures Institute Population Modeling Projection System
- <sup>22</sup> Based on data from Statistics Canada, Annual Demographic Statistics, 1999 (Ottawa, Statistics Canada, 2000 CDROM).
- <sup>23</sup> Based on data from Statistics Canada, Annual Demographic Statistics, 1999 (Ottawa, Statistics Canada, 2000 CDROM).
- <sup>24</sup> From The Urban Futures Institute Population Modeling Projection System
- <sup>25</sup> Based on data from Statistics Canada, Census of Canada 1996 National Series (Statistics Canada, Ottawa, 1998 CDROM).
- <sup>26</sup> Based on data from a custom tabulation of Statistics Canada's 1996 Census data.
- <sup>27</sup> Based on data from a custom tabulation of Statistics Canada's 1996 Census data.
- <sup>28</sup> This section is based on a report by the author prepared for Translink, The Greater Vancouver Transportation Authority: see David Baxter, Getting There: A Discussion Paper on People, Jobs and Places as a Background for Five Year Strategic Transportation Planning in Metropolitan Vancouver (Vancouver The Urban Futures Institute, January 2000).
- <sup>29</sup> Calculation by The Urban Futures Institute based on information supplied by the Office of Municipal Development, City of Chilliwack, British Columbia.