INTEGRATED GROWTH MANAGEMENT STRATEGTY

GROWTH SCENARIOS:

Halton Region to 2041

Halton REGION

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Executive Summary

This is the first in a series of reports prepared as part of Halton Region's Integrated Growth Management Strategy (IGMS). The IGMS is a critical component of the Region's ongoing Official Plan Review.

The IGMS will guide growth and development in the Region to 2041. While building on previous plans that largely focused on designating new lands for development, the IGMS places greater emphasis on accommodating growth in existing urban areas. This approach is consistent with current Provincial, Regional and local land use planning principles and policies.

By way of illustration, the *Halton Urban Structure Plan* of the 1990s designated about 5,200 ha of greenfield land for urban use, much of which is still being developed. The *Sustainable Halton Plan* of the 2000s designated a further 2,800 ha of greenfield land for urban use, including about 1,700 ha of greenfield land for community urban use, which will begin to be developed in the 2020s, and about 1,100 ha of greenfield land for employment activities. However, the range of growth scenarios discussed in this report would result in anywhere between 0 and 1,000 ha of additional residential greenfield land to accommodate growth to 2041.

This report establishes the framework for the IGMS and serves as an information resource for policy makers and stakeholders. It discusses demographics, housing, and economic trends in Halton and sets out growth scenarios for consideration.

The scenarios were prepared prior to the recently announced changes to planning policy, land use appeals and infrastructure financing, including the adoption of A Place to Grow: Growth Plan for the Greater Golden Horseshoe, 2019 (Growth Plan) to replace the Growth Plan, 2017. However, all eight of the scenarios conform to targets in Provincial land use plans, including the new Growth Plan. The Growth Plan provides the population and employment forecasts that the Region must use as a basis for planning as well as policies that, among other matters, regulate minimum targets for residential intensification and population and employment densities. The Growth Plan policies play a central role in where new development is to be located in Halton and what form it takes. Six of the scenarios consider and demonstrate the potential impacts on growth in Halton Region of intensification rates higher than the minimum intensification rate of

50% in the Build Up Areas (BUA), while two of the scenarios are based on the 50% minimum, now in the Growth Plan.

The IGMS is an important initiative as it will help shape the future of Halton Region to 2041. While this report makes no specific recommendations on the preferred form and location of growth and development, it does provide background information, options for decision makers, and proposed evaluation criteria to be used in the next stages of the IGMS process, working towards a Preferred Growth Concept to guide growth in Halton to 2041.

A. Halton Will Continue to Experience Strong Growth

a. Rapid growth in Halton, a longstanding feature of the Region, is anticipated to continue: the Region's population is forecast to grow from nearly 600,000 today to 1,000,000 by 2041. Population growth will be fueled by a combination of natural increase of the existing population and net in-migration from other parts of the Greater Toronto Area and Hamilton (GTAH).

b. The demand for housing in Halton will remain high over the long term. To date, the predominant form of housing has been "ground-related". Local and provincial planning policies seek to broaden the current range and mix of housing by encouraging more high-density built forms.

c. Halton's strong economic growth—particularly in trade-oriented and high skilled service industries—is anticipated to continue: the Region is forecast to grow from about 264,000 jobs today to 470,000 jobs by 2041.

d. The Region's current urban structure and land designations are well positioned to accommodate all types of employment. The demand for urban lands designated specifically for employment uses ("Employment Areas") will remain high over the long term.

e. Halton's strategic location at the west of the GTAH, together with its rail, road, and major utility infrastructure, provide a solid foundation for future economic development. Disrupters to economic prospects include:

    i. Ongoing shifts in the economy from goods producing to service providing activities.
    ii. Continued growth in logistics and transportation industries, reflecting the increasing scale and complexity of goods movement activity.
    iii. The evolving role of Pearson Airport as a significant economic centre.
    iv. Technological innovation, leading to increased e-retailing, mobility and, by extension, more people choosing to work at home or without a fixed place of work.

v. Housing affordability and the locational choices of the millennial generation.

B. Planning Policy, Together with Demographic and Housing Market Conditions, Will Shape Residential Land Needs and Built Form

a. While not immune to the nationwide aging population trend, high levels of in-migration mean that Halton's population as a whole will remain comparatively young, though newer neighbourhoods will be much younger than the older population of established neighbourhoods.

b. Long term population forecasts for the Region overall are realistic and have not changed materially in recent years. At the local municipal level, Milton has accounted for almost half of all population growth in Halton since 2001. However, growth in Milton has not occurred as quickly as anticipated when decisions to extend lake-based water and wastewater services northwards were made in the 1990s. Local conditions suggest that Burlington and Oakville will accommodate slightly more growth by 2031 than previously anticipated. As a result, Halton Hills and Milton will likely achieve the 2031 population targets established in ROPA 38, while Burlington and Oakville are likely to exceed those targets.

c. Meeting *Growth Plan* intensification policies requires a shift in housing patterns in the Region—away from single-detached houses and towards apartment forms. Given a relatively high proportion of households will continue to be families, which have historically preferred ground-related housing, achieving this shift in Halton will pose a challenge.

C. Halton Plays an Important Role in the GTAH Economy

a. Halton plays an important role in a fast growing regional economy—12% of GTAH job growth since 2001 has occurred in the Region. However, like the rest of the GTAH, outside of Toronto, job growth in Halton has been slower than anticipated in recent years, particularly on lands dedicated for employment uses.

b. Consistent with national and regional trends, the Region has experienced a shift in employment from goods producing to service-providing industries over the last decade. Nevertheless, Halton's manufacturing sector remains an important component of the local economy, exhibiting modest growth between 2011 and 2016.

c. Other key features of Halton's economy that affect land use planning are:

i. The geography of employment in Halton is shifting: the number of people working with no fixed place of work or who work at home has steadily increased in recent years.
ii. Halton is well served by a variety of retail formats, with the highest density of retail uses being in Burlington and Oakville.
iii. Halton's employment lands are increasingly diverse and the density of employment on these lands is variable. Predicting the need for future employment land is critical to the IGMS work.

D. Growth to 2041: Accommodated Future Growth Post-2031

a. Most growth in Halton to 2041 will be accommodated in existing settlement areas, either as intensification within the Provincially designated Built-Up Area (BUA) or as new development in the Designated Greenfield Area. Depending upon the intensification rate chosen, a portion of growth between 2031 and 2041 may require new greenfield areas to be designated through settlement area boundary expansions.

b. The ability of the Region to accommodate growth through the redevelopment and intensification of existing urban areas is a key focus of the IGMS.

i. Since 2016, Halton has achieved the *Growth Plan* requirement that 40% of all new housing units be constructed within the BUA. Local plans and studies demonstrate that the Region has the capacity to continue achieving this rate of intensification over the long-term.
ii. The *Growth Plan* identifies three Urban Growth Centres (UGCs) in Halton: Downtown Burlington, Midtown Oakville, and Downtown Milton. It is intended that these centres be the focus of new growth and infrastructure investment. A minimum density target for these areas is a combination of 200 people and jobs per hectare by 2031. The IGMS background analyses identify capacity for more than 26,000 housing units—mostly apartments—in these centres to meet the density target.
iii. Significant intensification is also planned for Major Transit Station Areas (MTSAs), which generally represent a 10 minute walk to existing or planned higher order transit stations/stops. The *Growth Plan* establishes an intensification target of 150 people and jobs per hectare for these areas. There are currently 11 existing and proposed MTSAs in the Region: 4 in Burlington; 3 in Milton; and 2 each in Oakville and Halton Hills.

c. There is capacity for about 107,000 additional residential units within the existing Designated Greenfield Area in Halton, including 70,000 units in approved plans of subdivision and 37,000 units in vacant unplanned areas. The vast majority of this land supply is in North Oakville and Milton.

d. Milton and Halton Hills are the only two municipalities with the potential to expand settlement area boundaries to accommodate additional Designated Greenfield Area, either for new community uses or for employment uses.

e. Employment lands are critical to the growing Regional economy. However, it is recognized that there may be circumstances—when MTSA are located in employment areas, for example—where it may be appropriate to convert existing employment lands to other uses in order to meet intensification targets. Employment land conversions are tightly regulated by the *Growth Plan.*

f. Employment in Halton is forecast to grow by almost 80% or 207,000 jobs from 2016 to 2041. About 40% of the growth is expected to be in each of the population-related employment (mainly retail, institutional and work at home in community areas), the employment-land employment (jobs in industrial-type buildings in employment areas), and the remaining 20% in major-office employment, located both within the employment areas and in other locations. This represents a significant shift in growth into major offices, which today accommodate about 10% of Regional employment.

g. The existing developed and vacant designated employment areas in Halton can accommodate about 186,000 to 194,000 of the 207,000 employment land jobs, depending on how much employment might be converted to non-employment uses. The capacities are based on Burlington and Oakville maintaining their relatively high employment densities and Milton and Halton Hills achieving their current planned employment densities. These planned densities do account, in part, for the prevalence of low-employment density logistics uses in the vicinity of Highway 401. The result is a need for new employment land in the range of 560 to 890 ha, which is significantly less than the 1,100 ha added through the Sustainable Halton process.

h. Any additional employment areas are expected to be accommodated somewhere within the Future Strategic Employment Areas currently identified in the Regional Plan. These areas are not land use designations but rather the areas identified as well-located lands, generally close to highway infrastructure that would be suitable for employment uses, if required in the future. For the purposes of the growth scenarios, new employment areas are assumed to be in the Future Strategic Employment Areas closest to Highway 401, in both Milton and Halton Hills.

E. A Range of Growth Scenarios Has Been Developed

a. In order to test the range of growth options available to the Region, eight growth scenarios have been developed. The differences between the scenarios are relatively small. However, the scenarios represent as wide a range as possible,

given the current Provincial policy framework, and the overriding priority to accommodate growth within existing urban areas.

b. All scenarios maintain the Natural Heritage System and Greenbelt boundaries as currently mapped and have regard for Halton's long standing goal to protect agricultural lands. All scenarios also conform to the provisions of the *Growth Plan*. As well, current levels of intensification and density in the Region are achieved as minimum benchmarks. These are considered common criteria within the context of the growth scenario evaluation framework.

c. With respect to residential land needs, a number of detailed assumptions need to be made to describe the scenarios:
    i. All scenarios accommodate 157,400 new housing units between 2016 and 2041.
    ii. All scenarios assume 50% of new homes constructed between 2021 and 2031 will be within the BUA, rising to 60% between 2031 and 2041 for six of the scenarios and remaining at 50% for the two scenarios that consider the new targets as set out in the Provincial *Growth Plan, 2019*. Altogether, the BUA will accommodate 82,200 housing units for 6 of the scenarios to 2041 (52% of all new housing) and 75,600 housing units for the two scenarios with 50% of units in the BUA in the 2030s.
    iii. New housing in the BUA will be 80% apartments and 20% ground-related forms to 2021, in line with current trends, and 90% apartments thereafter to 2041.
    iv. New housing on the existing Designated Greenfield Area will be 90% ground-related forms in the lower intensification scenarios and a somewhat lower percentage in scenarios with less new greenfield land. It is noted that recently developed lands in Milton and Oakville contain about 95% ground-related housing
    v. Assume housing in new Designated Greenfield Areas will be 80% ground-related forms (90% in the two scenarios with new targets as set out in the Provincial *Growth Plan, 2019*).

d. The housing outlook is predicated on significant changes to the housing mix in Halton—mainly a much higher number of apartments than would otherwise be expected—as well as the occupancy patterns of new ground-related housing. In this last respect, new homes are assumed to accommodate more people than recently constructed homes in Halton.

e. With respect to employment land needs, all scenarios also require some assumptions about future development, including:

    i. A relatively steady relationship of population-related employment to population to 2041. Significant restructuring of the retail landscape will result in a reduced demand for land for retail uses.

ii. Demand for industrial land in Halton will remain strong, especially in north Halton, though the employment associated with industrial development is likely to continue to fall as a share of total employment.

iii. The recent shift in demand for major office space, from suburban locations in the GTAH to downtown Toronto locations, calls into question previous forecasts of major office employment in Halton. That said, the rapidly-rising lease rates and other factors will eventually see a return to a more balanced distribution of major office growth moving forward, particularly south Halton.

F. Growth Scenarios Test Different Development Patterns for Post-2031 Growth

a. For all eight scenarios, the pattern of growth planned for by the current in force *Halton Region Official Plan,* through Regional Official Plan Amendment (ROPA) 38 to 2031 is largely maintained. All scenarios reflect development that has taken place since ROPA 38 was approved and a 2013 amendment to the *Growth Plan* that increased the Region's 2031 population forecast by 40,000.

b. Four of the eight growth scenarios (1A, 2A, 3A, and 4A) are based on the planned pattern of growth established by ROPA 38 continuing between 2031 and 2041 but at varying levels of intensification.

c. The other four scenarios (1B, 2B, 3B, and 4B) also test the effects of varying rates of intensification but in accordance with existing trends and emerging local plans for a number of higher-density mixed-use centres.

d. In each of the "higher intensification" scenarios, additional units are allocated as apartments to the DGA rather than being added to the BUA to increase intensification beyond 60%. Making use of substantial DGA supply in this way achieves the twin goals of minimizing new greenfield land while contributing to the planned development of nodes and corridors in the DGA. This is shown as DGA Nodes and Corridors in the figures below and represents additional growth to the nodes and corridors above the growth already allocated in Scenarios 1 and 4.

Figures for Growth Scenarios 1A, 2A, 3A, and 4A

Figure 1. Share of Regional Residential Growth by Planning Areas based on the Existing Planned Pattern Lens from 2031 to 2041 (Growth Scenarios 1A, 2A, 3A, and 4A)

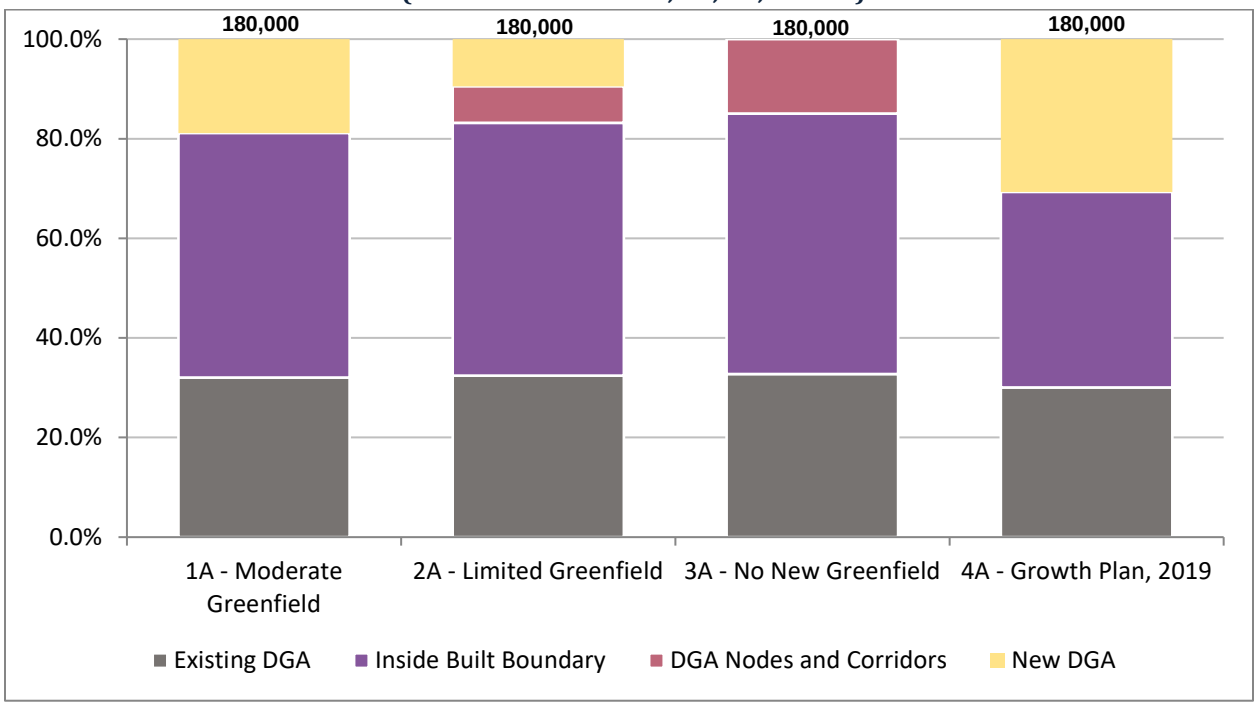


Figure 2. Burlington's Residential Share of the Regional Growth Scenario "A" from 2031 to 2041 (1A, 2A, 3A, and 4A)

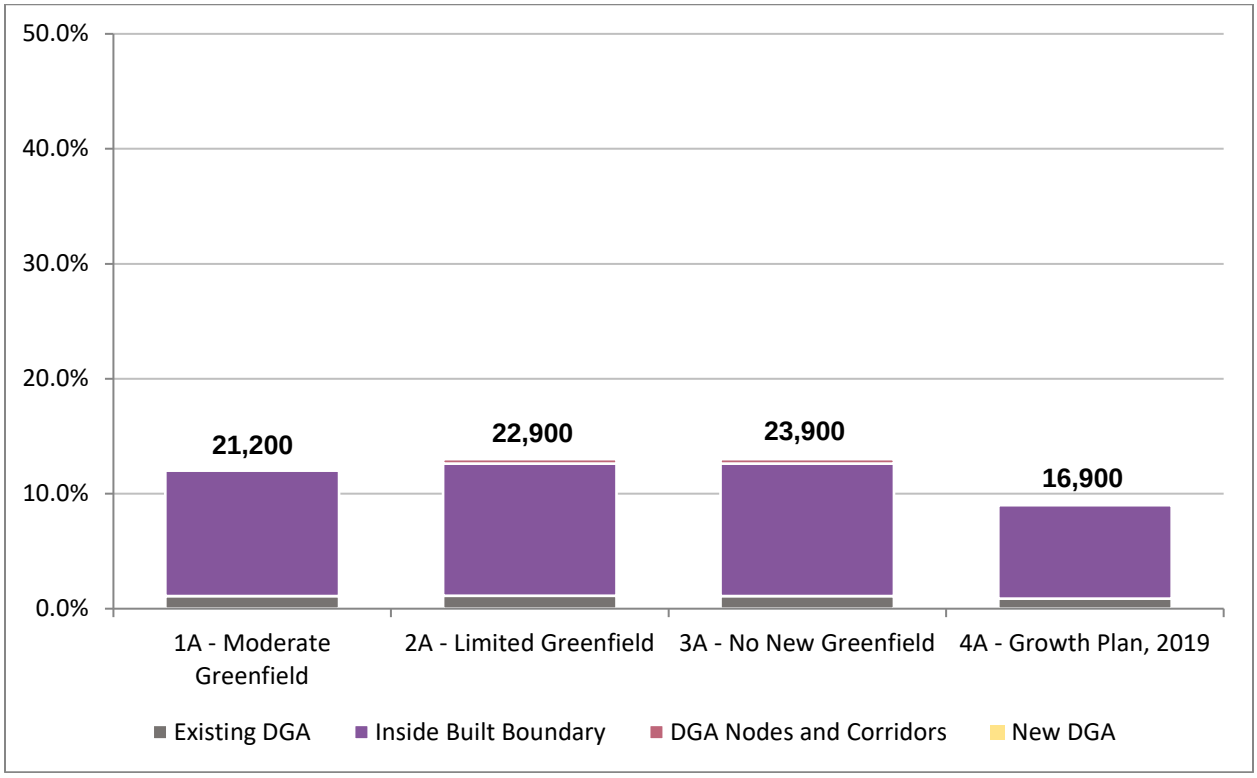


Figure 3. Halton Hills' Residential Share of the Regional Growth Scenario "A" from 2031 to 2041 (1A, 2A, 3A, and 4A)

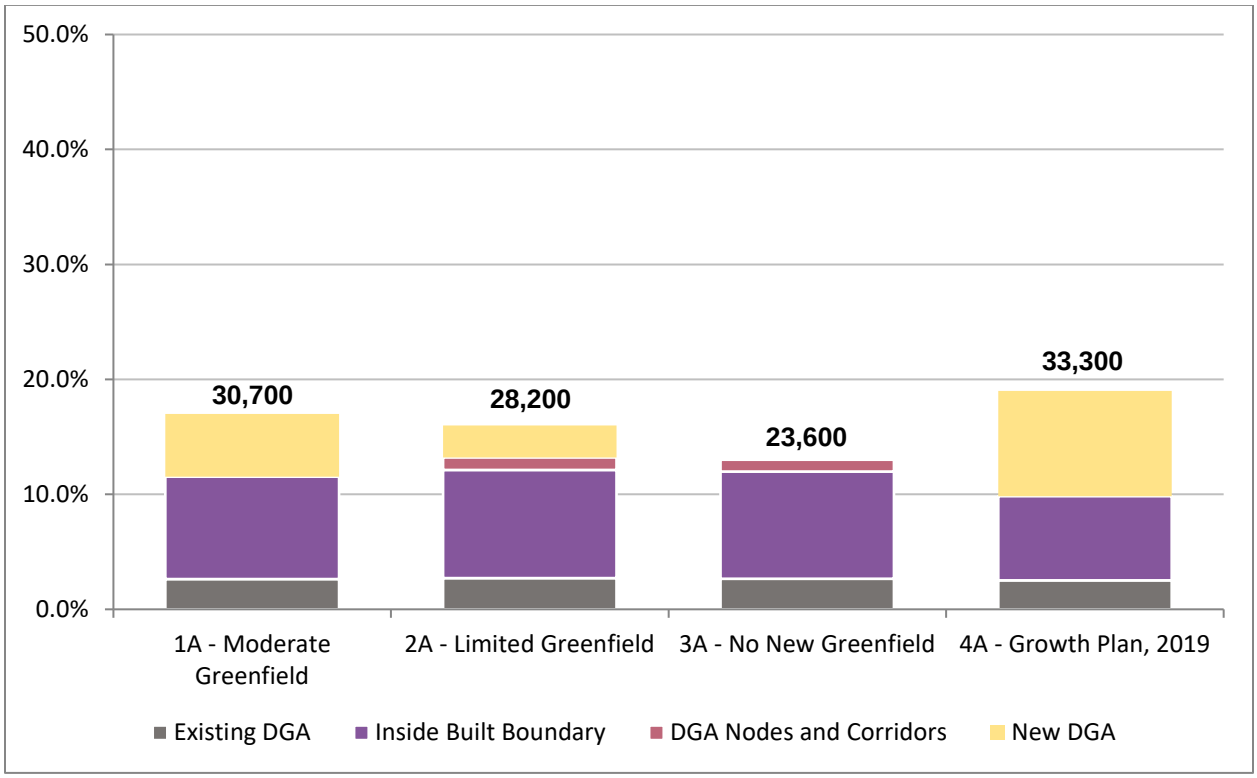


Figure 4. Milton's Residential Share of the Regional Growth Scenario "A" from 2031 to 2041 (1A, 2A, 3A, and 4A)

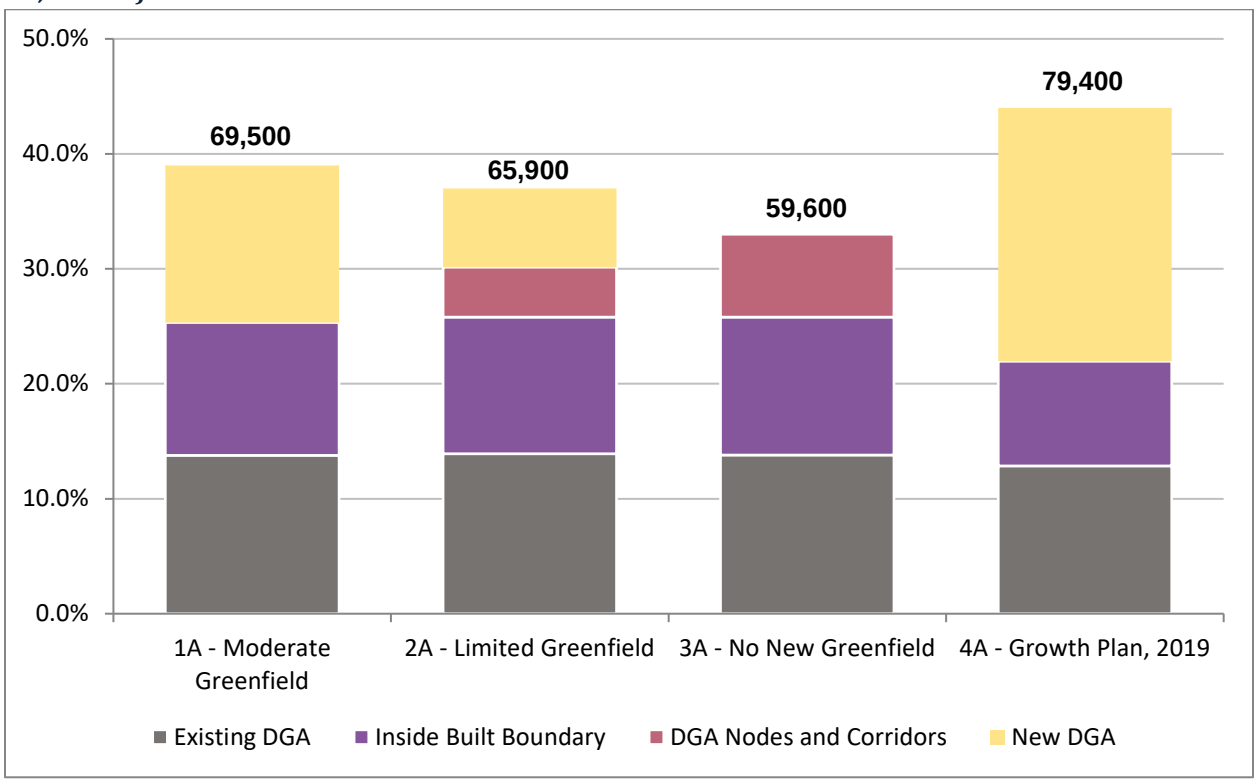
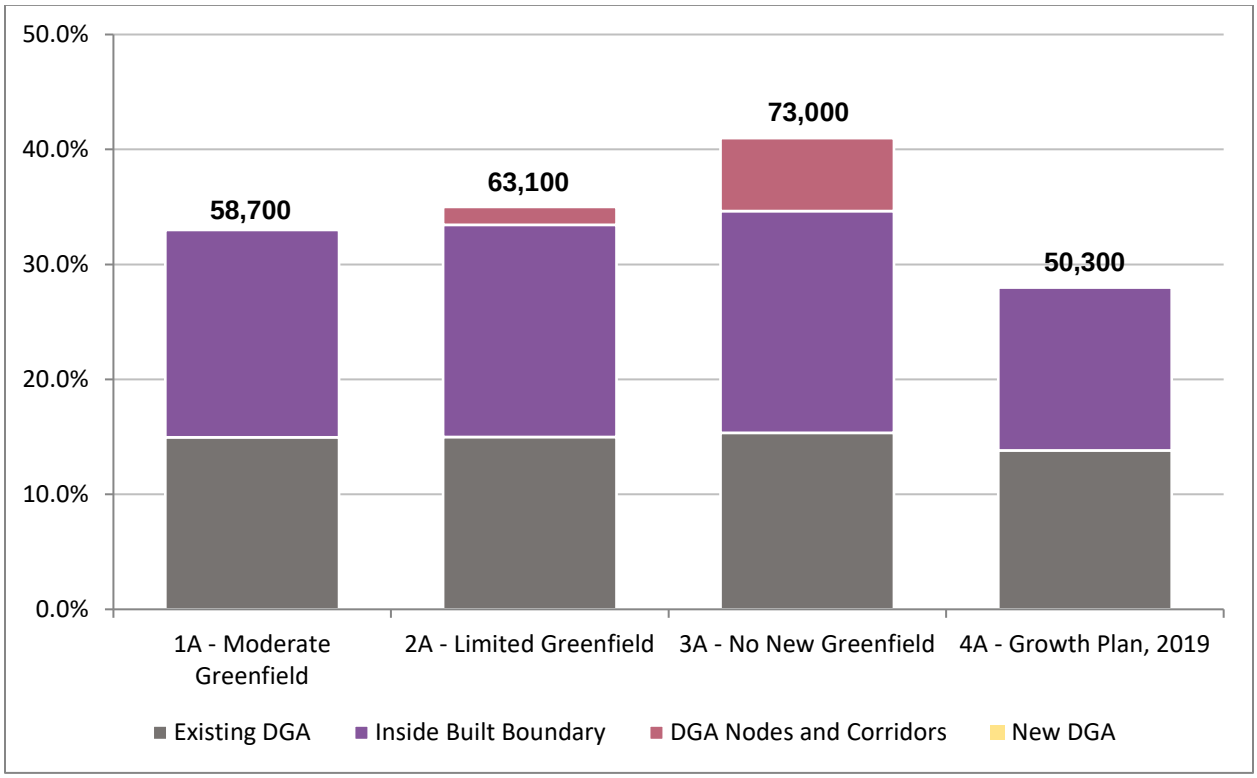


Figure 5. Oakville's Residential Share of the Regional Growth Scenario "A" from 2031 to 2041 (1A, 2A, 3A, and 4A)



Figures for Growth Scenarios 1B, 2B, 3B, and 4B

Figure 6. Share of Regional Residential Growth by Planning Areas based on Growth Scenario "B" from 2031 to 2041 (1B, 2B, 3B, and 4B)

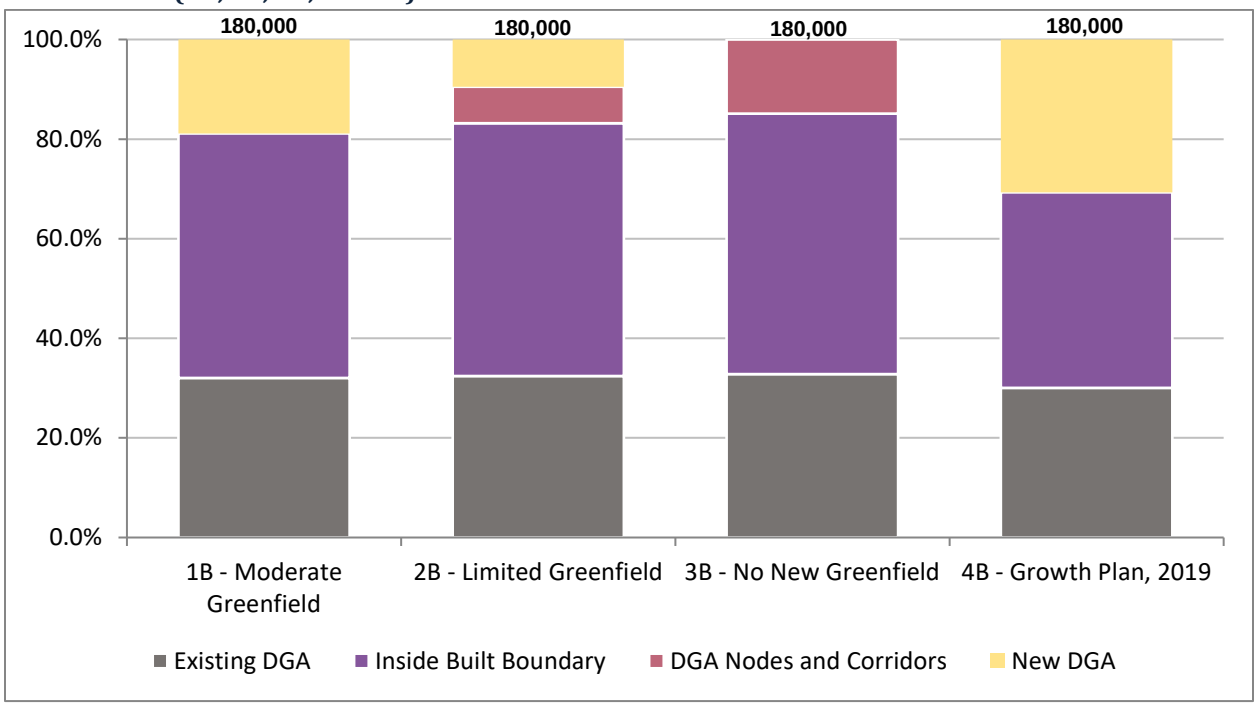


Figure 7. Burlington's Share of Regional Residential Growth Scenario "B" from 2031 to 2041 (1B, 2B, 3B, and 4B)

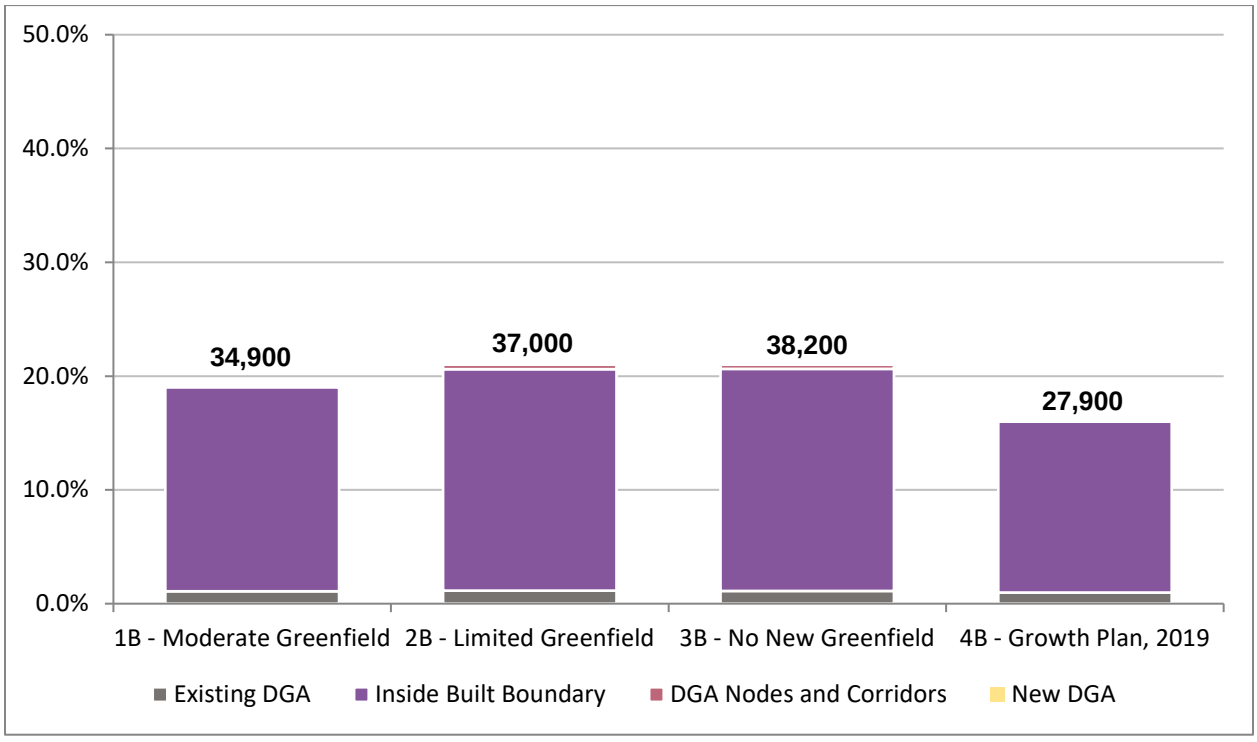


Figure 8. Halton Hills' Share of Regional Residential Growth Scenario "B" from 2031 to 2041 (1B, 2B, 3B, and 4B)

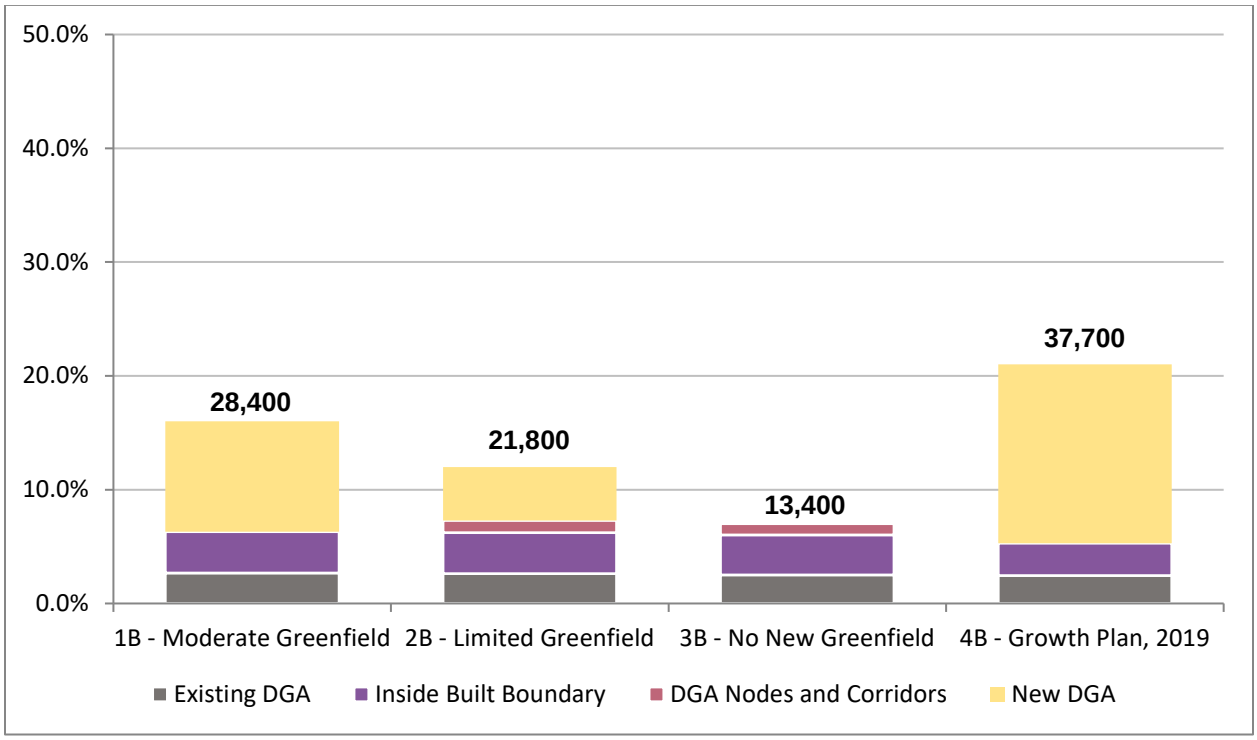


Figure 9. Milton's Share of Regional Residential Growth Scenario "B" from 2031 to 2041 (1B, 2B, 3B, and 4B)

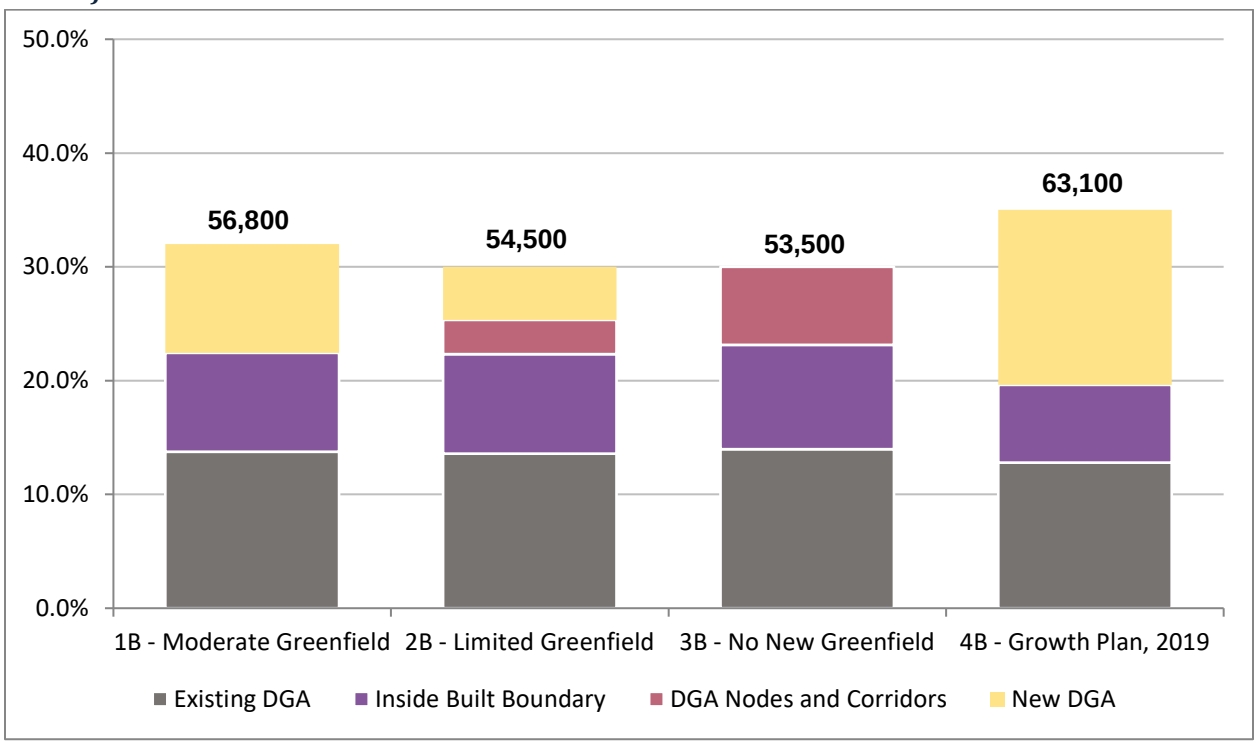
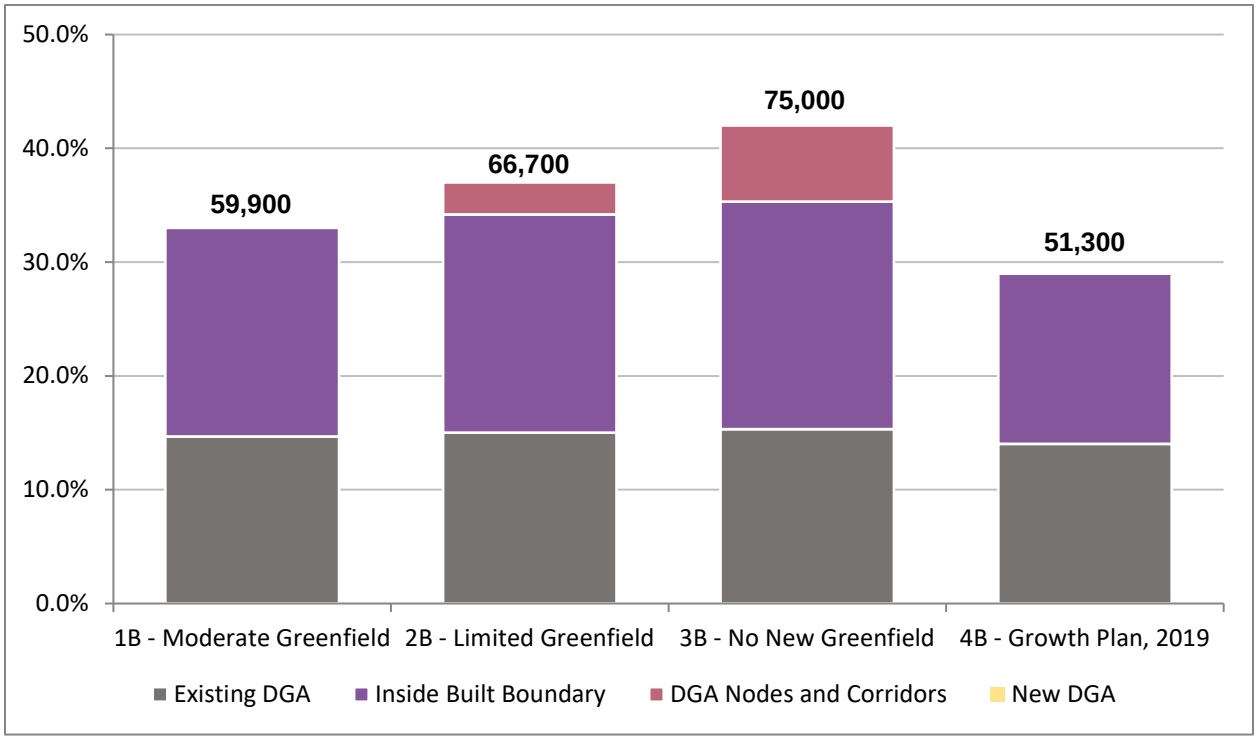


Figure 10. Oakville's Share of Regional Growth Scenario "B" from 2031 to 2041 (1B, 2B, 3B, and 4B)



e. Scenarios 2B (Alt) tests an alternative location for accommodating growth in Scenario 2B, accounting for the Town of Milton's proposed Agerton Secondary Plan.

f. Each set of four scenarios also tests the extent to which new Designated Greenfield Area will be required to accommodate growth beyond 2031:

   i. Scenarios 1A and 1B – assume a moderate amount of new greenfield land
   ii. Scenarios 2A and 2B – assume a limited amount of new greenfield land
   iii. Scenarios 3A and 3B – assume no new greenfield land
   iv. Scenarios 4A and 4B – test what may be required to address intensification and greenfield density targets in the Provincial *Growth Plan*, 2019.

G. Servicing and Financing Growth Will Be Similar Under All Scenarios

a. The infrastructure assessment demonstrates that there are no substantial differences in infrastructure (water, wastewater and transportation) opportunities and constraints to 2041 between the eight scenarios.

b. All scenarios also exhibit similar transportation capacity deficiencies over the long term.

c. As a result, the preliminary assessment suggests that there will be minimal differences between the financial impacts of the scenarios for the Region. A more detailed review of impacts will be reviewed as we move towards a set of evaluated Growth Concepts.

H. Next Steps

a. Building on this report, the next step in the IGMS process will be to evaluate the growth scenarios in consultation with Regional and local municipal staff, the IGMS governing committees, key stakeholders, and the consulting team. The result will be a Preferred Growth Concept for the Region.

b. A framework for evaluating the growth scenarios has been developed based on the following themes:

   i. Regional urban system and local character
   ii. Infrastructure and financing
   iii. Agriculture, environment and climate change
   iv. Growing the economy and moving people and goods

c. This report will be presented to Regional Council in June 2019, and feedback will help guide the evaluation which will run from June to September 2019.

d. A set of evaluated Growth Concepts are planned to be circulated in September 2019 with a view to adopting a final Growth Management Plan for the Region in early 2020.

1. Introduction

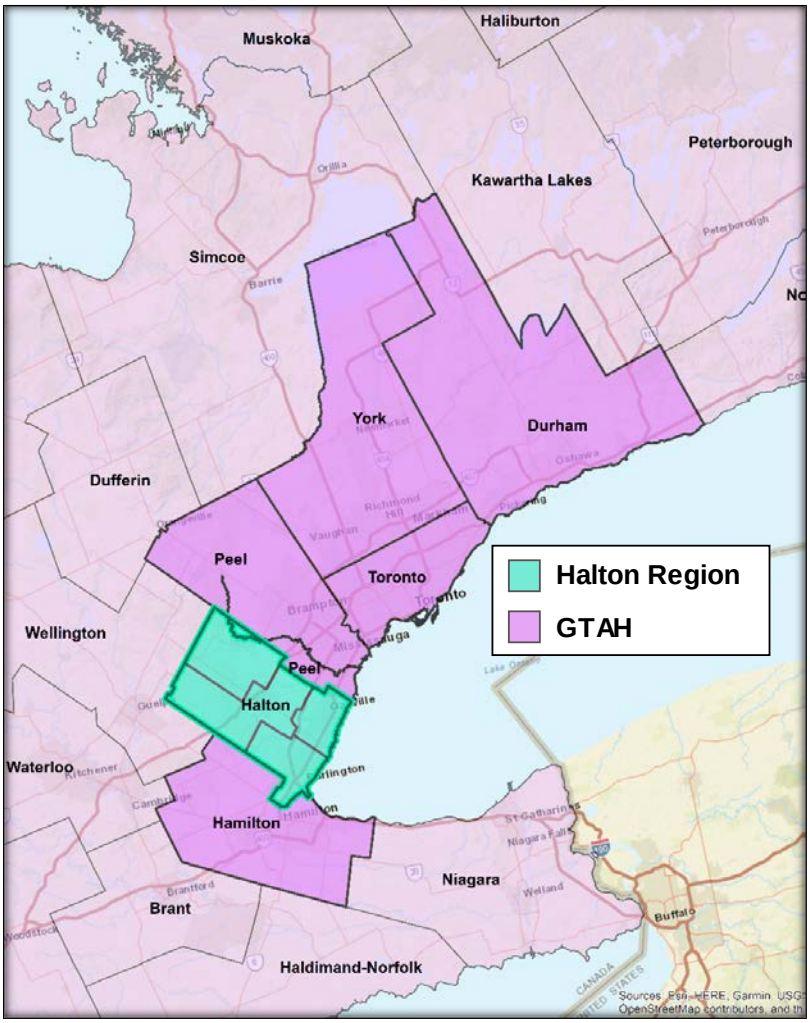
A. IGMS Purpose and Overview

The Region of Halton is an upper-tier municipality within the Greater Toronto and Hamilton Area (GTAH) of the Greater Golden Horseshoe (GGH) region of Ontario (see Map 1 below). Municipalities in the GGH are required to plan for and manage growth in a manner that has regard to Section 2 of the *Planning Act*, including being consistent with the *Provincial Policy Statement 2014* (PPS) and conforming to Provincial plans. The most consequential Provincial plan for the purpose of this report is the *A Place to Grow*: *Growth Plan for the Greater Golden Horseshoe 2019 (Growth Plan)*.

It is this context that the Region is undertaking a Regional Official Plan Review (ROPR). Among the review's key initiatives is an Integrated Growth Management Strategy (IGMS) which will establish a vision and implementation plan to guide growth and development in Halton and its local municipalities—the City of Burlington and the Towns of Oakville, Milton, and Halton Hills—to 2041. The current ROPR and IGMS build on previous growth management and long-range planning initiatives in Halton.

This is the first in a series of IGMS reports. This introductory section of the report provides context for the IGMS, a brief history of key growth management and infrastructure decisions in the Region, and a summary of the contents that follow.

Map 1: Halton Region in the Greater Golden Horseshoe Context



1. Regional Official Plan Review and the IGMS

The ROPR is currently in its second phase, which involves developing discussion papers and policy directions and is intended to be completed by Q1 of 2020. Part of the Phase 2 work is for the IGMS to develop and analyse growth scenarios. To date, a range of background analysis has been undertaken, culminating in eight growth scenarios for evaluation. The ROPR Phase 2 work will result in a Preferred Growth Concept for Halton Region being adopted.

2. IGMS Overview

This report is a foundation document for the IGMS. It contains background research into demographics, housing and economic trends, and develops eight growth scenarios for consideration. The report concludes with a discussion of the next steps of the process, which include refinements to a set of evaluated Growth Concepts for the purposes of

consultation and further review in the Fall of 2019. These Concepts will be the foundation upon which a final Preferred Growth Concept will be based, and provide direction for future land use planning in the Region.

In subsequent stages of the IGMS, a Growth Management Plan to implement the Preferred Growth Concept for the Region will be prepared, including identifying the quantum and location of population, housing and employment growth and associated land, and infrastructure needs, and financial impacts to support the vision for Halton. A following update and amendment to the *Halton Region Official Plan* will bring planning in Halton Region into conformity with the *Growth Plan* (2019) and any other legislative amendments that may come into force within the timeframe of the IGMS.

The IGMS builds on *Sustainable Halton*, which was the previous official plan review carried out between 2007 and 2011, culminating in Regional Official Plan Amendment 38 (ROPA 38). ROPA 38 brought the Region into conformity with the original 2006 *Growth Plan* and set the planning context for Halton Region to 2031.

The purpose of the IGMS is to extend the planning horizon for growth management in Halton to 2041. Based on Regional and Provincial policy directives, the IGMS will balance a range of Regional and local municipal priorities in planning for the next phase of growth, including:

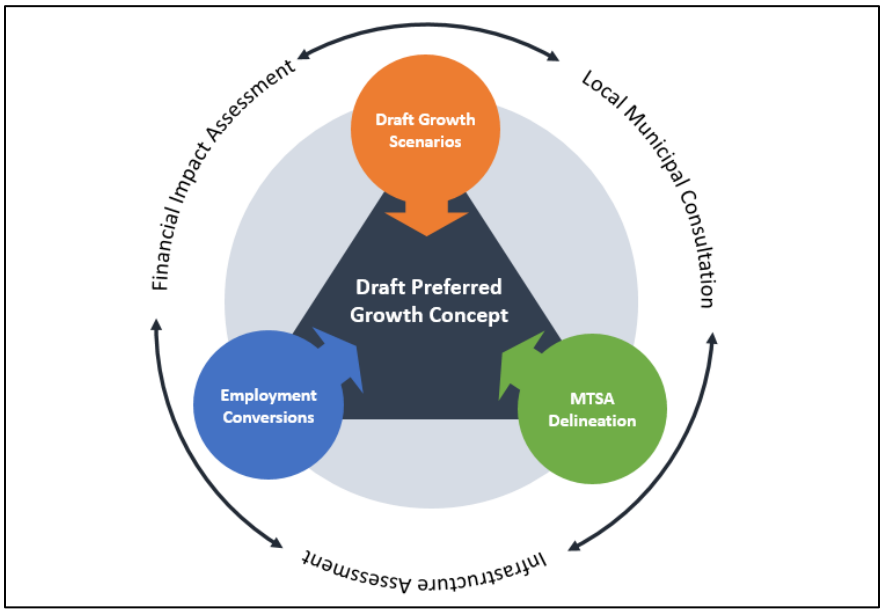
- amount, location and pace of growth;
- intensification versus greenfield development;
- location of any potential urban boundary expansion;
- where and how intensification is accommodated;
- planning for Major Transit Station Areas (MTSAs);
- identification of strategic growth areas;
- employment land conversions; and
- infrastructure and financial implications of growth.

Eight growth scenarios have been prepared and refined based on a range of background analyses, growth management policy parameters, direction from the IGMS Steering Committee and consultation with Regional and local municipal staff, in particular regarding planned development and land supply potential. The scenarios are based on a range of Regional-level approaches to intensification versus greenfield growth and varied local-level lenses for allocating Region-wide growth to the four local municipalities in Halton. The alternative local allocations are based on the existing planned pattern as well as local plans and priorities, and take into account identified land supply and development potential. Qualitative input received through consultation with the IGMS committees and local municipal staff has been considered, including

feedback received at a Vision and Guiding Principles Workshop held on June 7, 2018, at the outset of this IGMS process.

A multi-disciplinary team is assisting the Region in preparing the IGMS including, Hemson Consulting Ltd., GM BluePlan, Ellso Consulting, Paradigm Transportation Solutions, and SvN Planning & Architects.

Figure 11: Halton Region Integrated Growth Management Strategy Framework



B. Managing Growth in Halton: A Brief History of Big Decisions

The ROPR and IGMS build on a history of significant planning and growth management initiatives and key decisions in Halton Region which established the current urban structure and put the infrastructure in place to support growth. This is the third large-scale regional growth management exercise undertaken since the Region and its local municipalities were created in their current form in 1974. Halton made some very large decisions through the *Halton Urban Structure Plan* in the early 1990s and more recently, *Sustainable Halton*, which addressed the then-new provincial planning policy and targets put in place by the original *Growth Plan* (2006). The decisions to be made through the current IGMS by comparison to prior large-scale planning exercises in the Region are more incremental; the differences in the choices to be made about where and how to grow are more subtle.

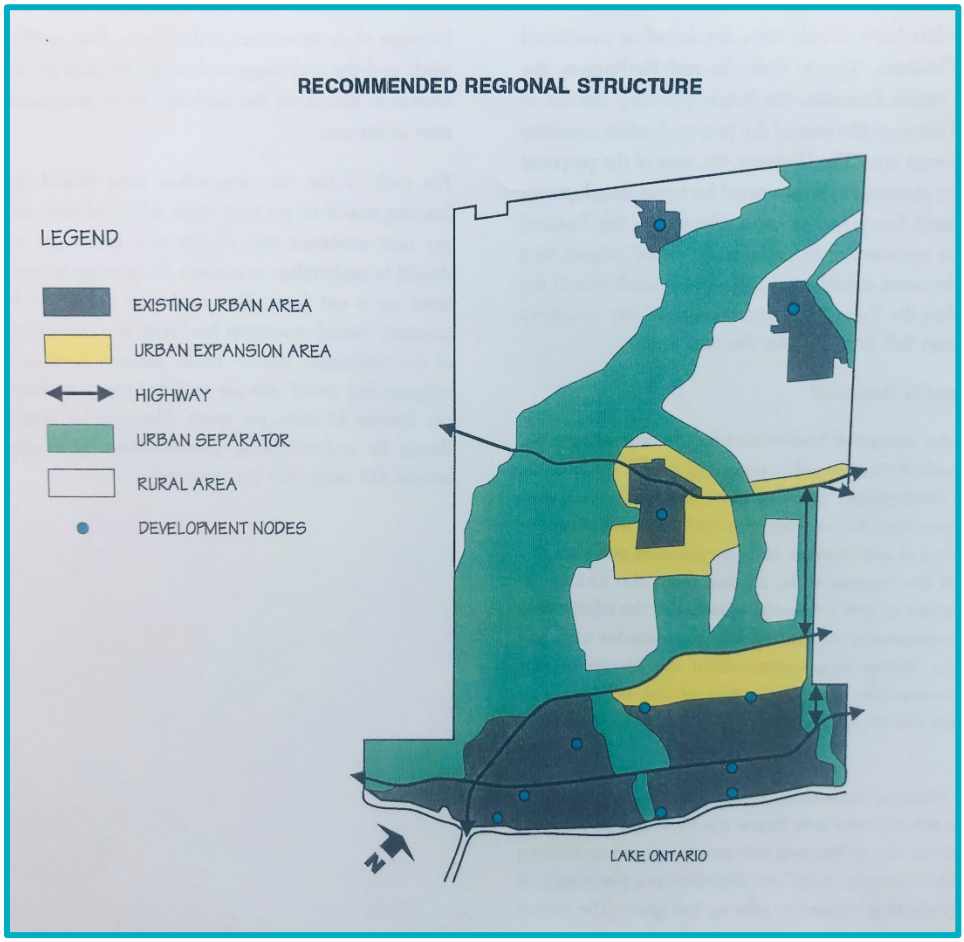
The Region's current urban structure is characterized by the historic centres of Burlington and Oakville on the Lake Ontario shoreline, and the newer settlements of

Milton, Georgetown, and Acton to the north. The Niagara Escarpment dominates the natural landscape and is protected from urban development by the *Niagara Escarpment Plan*. A large agricultural area is also protected, in part by Protected Countryside designations in the *Greenbelt Plan for the Greater Golden Horseshoe*. The Queen Elizabeth Highway (QEW) and Highways 401 and 407 are the main east-west transportation and economic corridors that pass through the Region. Many businesses and industries are located along these corridors. New urban development in the past 25 years has been focused in Oakville and Milton as planned extensions of the existing towns.

1. Halton's Current Urban Structure Shaped in 1990s

While early regional growth management reflected the plans of local municipalities brought together to form the Region, the Region's current urban structure was shaped by significant planning efforts and decision-making in the early 1990s through the *Halton Urban Structure Plan* in 1994 and the implementing 1999 ROPA.

Map 2: *Halton Urban Structure Plan*: Recommended Regional Structure



Map 2 (above) illustrates several key decisions made in the 1990s about the future of Halton that have shaped the present-day urban structure.

The key decision made as a result of the *Halton Urban Structure Plan* was that urban growth would be accommodated through intensification within existing communities and as extensions of existing communities. Growth would not continue north from the lake simply as the incremental northward extension of Oakville. The idea of "new towns", unattached to existing communities, was not entertained. Rather, in addition to planned growth in North Oakville, Milton was to be expanded and a major decision was therefore made to extend lake-based water and wastewater servicing to Milton in order to allow for that expansion. Long-term employment growth would be accommodated along Highway 401 between Milton and Halton Hills.

About 5,200 ha of land was newly designated for urban development: 2,100 ha in North Oakville and Burlington; 2,500 ha in Milton; and 600 ha along Highway 401 in Halton Hills.

The decision to extend lake-based servicing to Milton was likely the largest single financial decision made in the Region's history.

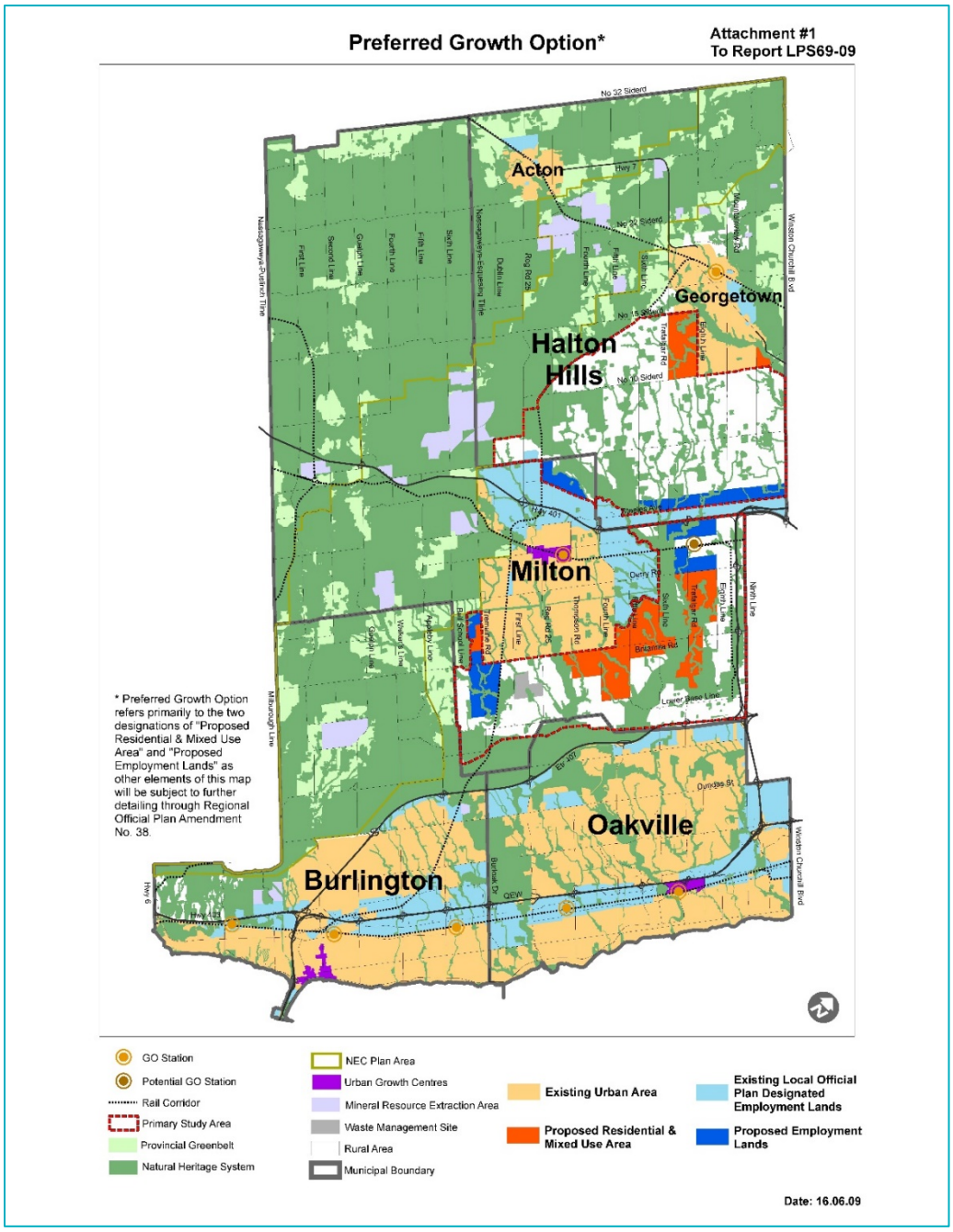
The growth that has since occurred in North Oakville, in the Milton area and along the Highway 401 corridor, is a direct result of the *Halton Urban Structure Plan*. Hints at the future centres, nodes and corridors were also embedded in this plan.

2. Sustainable Halton Defines Major Centres and Key Corridors

The second major regional growth management exercise was the *Sustainable Halton* process, which was completed in 2009. This was a Regional Official Plan Review in part intended to bring official plan policies into conformity with the *Growth Plan* and *Greenbelt Plan* enacted by the Province in 2006.

The *Sustainable Halton Plan* shown on the Map 3 (below) resulted in several key decisions about the Region's future. Under this plan, more future urban growth in the Region would be accommodated within existing areas through a clearly-defined system of centres, nodes and corridors, including the three Urban Growth Centres (UGCs) identified by the *Growth Plan* (in Milton and Burlington these were based on existing downtowns). In addition to continuing to expand Milton to the south and east, and adding employment land to the Highway 401 corridor in Halton Hills, Georgetown would be expanded by extending lake-based servicing northwards into Halton Hills, building on the decision of the late 1990s to extend services to Milton. This too was a major financial decision for the Region.

Map 3: Sustainable Halton, Preferred Growth Option



Most of the new greenfield growth in the next few years through the 2020s will be on lands that were designated in the *Sustainable Halton* plan: about 1,300 ha of community land in Milton and 400 ha of community land in Halton Hills; and about 1,100 ha of new employment land, 800 ha in Milton and 300 ha in Halton Hills.

A long-term employment structure was also established through the identification of Future Strategic Employment Areas, adjacent to Highways 407, 401 and a future Northwest GTA corridor.

3. "Big Decision" of IGMS Is Balancing Growth in Existing Communities vs Greenfields

The current ROPR and IGMS process builds on the previous plans. However, owing to the current Provincial policy framework and growth management practices in Halton, greater emphasis on accommodating growth within existing urban areas is required than was the case in the 1990s and 2000s. The Region must plan for a much greater population - 1,000,000 people and 470,000 jobs by 2041. It must also carefully manage remaining greenfield land supply and infrastructure investment.

The Region, through the previous work through *Halton Urban Structure Plan* and *Sustainable Halton*, is largely planned to 2031. Policies and targets to 2031 are essentially in place under the current *Halton Region Official Plan*. So, what decisions are to be made through the IGMS?

The major question at hand is about the amount of growth to be accommodated within existing urban areas versus new greenfield development. The focus of the IGMS is mostly on growth between 2031 and 2041. Within areas already designed for urban development, planning to accommodate people and jobs will build on the existing centres, nodes and corridors structure plus a new focus on intensification including MTSAs as highlighted in the *Growth Plan* (2019). The challenge for decision making is about the sequencing of development and infrastructure requirements and investment because of the potentially large number and capacity of these areas.

New greenfield land designations would be incremental additions to already-serviced areas of Milton and Halton Hills. Long-term employment growth would be accommodated along Highway 401 between the Towns of Milton and Halton Hills. These designations would be relatively more limited and much smaller in size than in past planning exercise as choices are more limited now than in the past for any additional community greenfield lands.

While there are many important decisions to be made about accommodating growth, the IGMS will not result in a single large investment decision in scope and impact equivalent to the lake-based servicing extensions and large land designations of the *Halton Urban Structure Plan* or *Sustainable Halton*.

C. Report Purpose is to Present Scenarios for Growth to 2041

1. IGMS Stage One Report

This report presents IGMS Stage One work completed to date. At this point in the process, the project team has undertaken technical analyses related to residential and employment growth and change, growth management policy and infrastructure, and has prepared eight growth scenarios. The scenarios will be refined into growth concepts, which will be evaluated in the next stages of the IGMS. The growth scenarios provide a range of approaches to, and distributions of population, housing and employment growth and land supply by policy area in the Region and its local municipalities to 2041 for consideration by Regional and local municipal Councils and staff, IGMS Committees, and residents and other stakeholders. The scenarios are being examined in terms of economic and demographic trends, growth management policies, and the water and wastewater, transportation and community infrastructure and financial implications of each scenario, with a view to developing a set of evaluated Growth Concepts for consultation, ultimately leading to the development of a Preferred Growth Concept for planning Halton Region to 2041.

The report discusses the results of IGMS background analyses regarding demographics, housing and economic trends influencing future growth in Halton Region. The scenarios are introduced and the planning issues arising from alternative distributions of growth as represented by the eight growth scenarios are detailed. At a high-level, possible implications of each scenario with respect to growth management policy, infrastructure and transportation, and finance are discussed. The process for evaluating the scenarios is presented through which a set of evaluated Growth Concepts will be identified for detailed assessment of infrastructure need, related financial need and land supply implications.

2. Report Structure

Chapters 1, 2 and 3 provide an overview of the IGMS and the current regional planning environment, including broad national and provincial economic and demographic trends and the provincial policy context. Chapters 4, 5 and 6 discuss current economic and demographic trends and conditions specific to the Region. Chapters 7, 8 and 9 outline the constraints to growth and present regional forecasts of population, housing and employment and discuss the eight options for how this growth might be accommodated out to 2041. Chapters 10, 11 and 12 provide preliminary high-level land needs, infrastructure and finance considerations. Chapter 13 discusses the evaluation of the

growth scenarios, including the evaluation criteria, while Chapter 14 sets out the next steps in the IGMS process.

2. Broad GGH Economic and Demographic Trends

The growth outlook for Halton Region and development of growth scenarios looking ahead to 2041, begins with consideration of broader demographic and economic trend, historically and happening now. This section provides a high-level overview of some of these key trends and what they mean for Halton.

A. Halton is Part of a Rapidly Growing GTAH and GGH

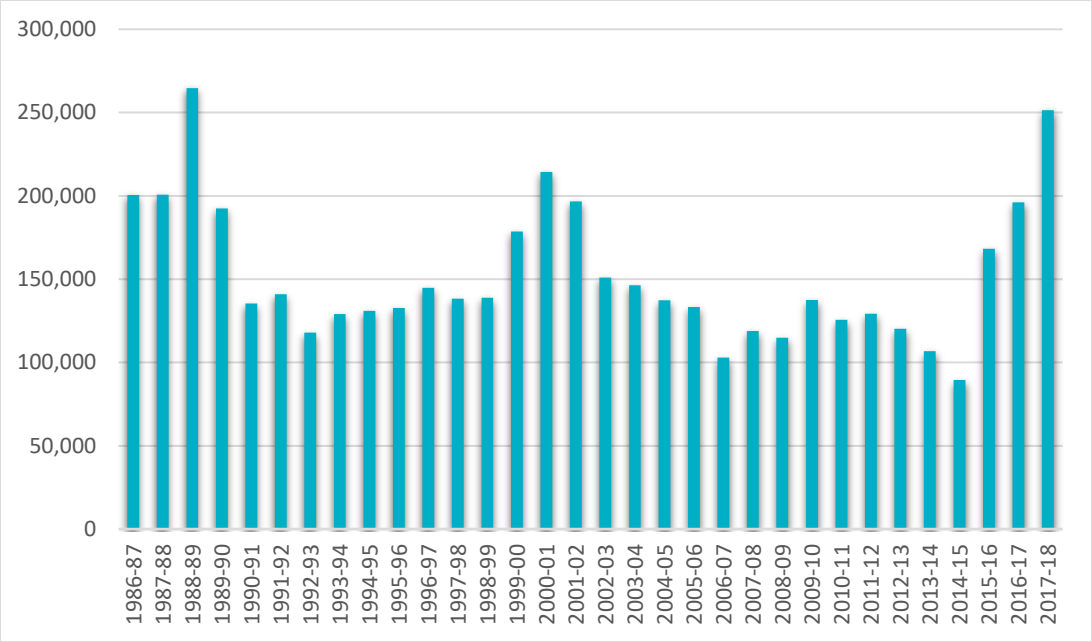
The Region of Halton is part of the GTAH, a rapidly-growing urban region in southern Ontario, which is the eighth largest region in North America and among the fastest-growing of the continent's large urban areas. The GTAH comprises the Regional Municipalities of Halton, Peel, York, and Durham, and the Cities of Toronto and Hamilton. The GGH is the broader planning region covered by the *Growth Plan*, which includes the GTAH and Outer Ring municipalities that surround the GTAH. Within the GGH, Halton plays an important role in providing housing and places for work for the growing population and economic activity for the expanding economic base.

Population has been growing rapidly in the GTAH for the past 30 years largely as a result of migration into the area. The primary source of migration is immigration, which has been kept at relatively high levels for the past three decades through Federal policy. Ontario and the GTAH receive a significant share of national immigration.

Economic cycles do affect the rate of immigrant settlement and influence the locational choices of those who move around within Canada. As shown in Figure 12, Ontario's population growth slowed earlier in this decade due to the attraction of western Canada to migrants. That trend has now reversed and, coupled with a significant increase in national immigration, population growth has increased significantly in the past three years, with 2018 being the highest Ontario population growth year since 1989. Within the GTAH, 2018 is likely to be the year of highest population growth ever.

While overall population growth in the GTAH is driven by immigration, growth in Halton is fuelled by a combination of natural increase of its existing population as well as by people moving into Halton from other parts of the GTAH to occupy new housing. Through the IGMS, Halton is planning for the continuation of this pattern of growth. The Region's population is expected to grow from nearly 600,000 today to 1,000,000 by 2041, while the GTAH will grow from 7.5 million today to 10.1 million by 2041.

Figure 12: Ontario Population Growth, 1986 - 2018



Source: Hemson Consulting Ltd. based on Statistics Canada data.

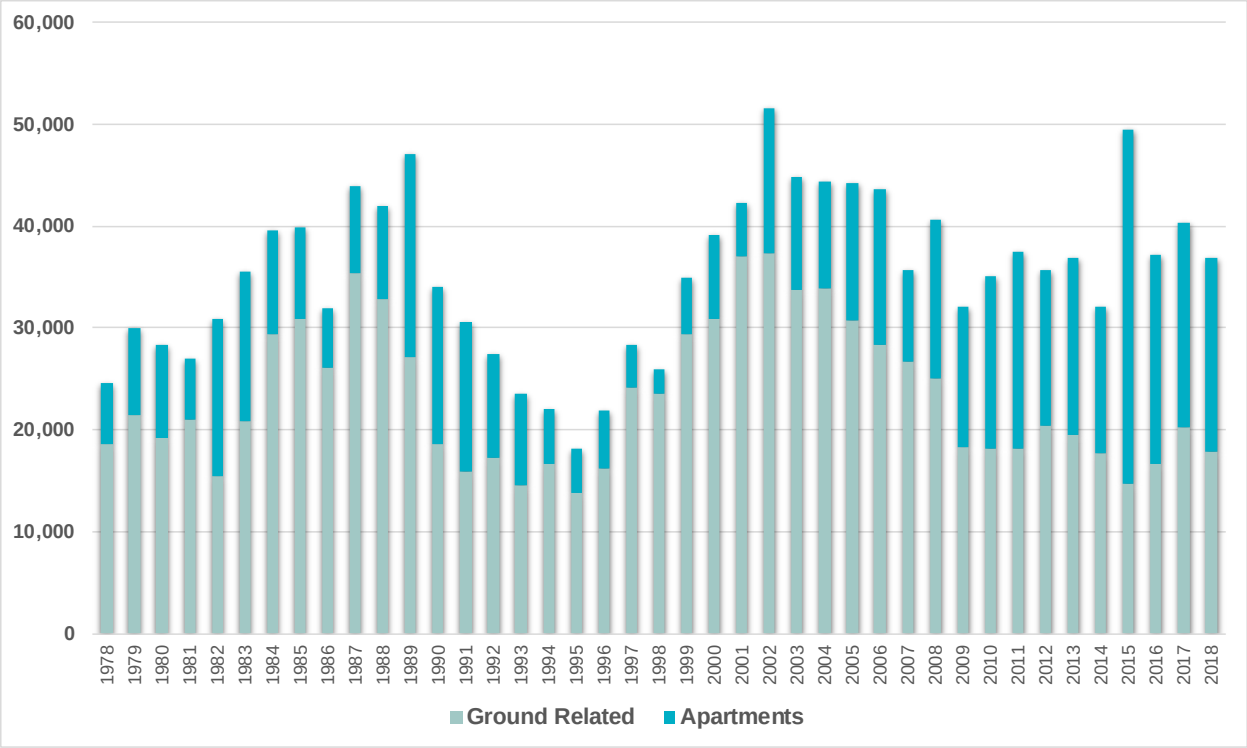
Housing growth is also responsive to economic cycles and, while housing provides accommodation for population, the two do not always move in lockstep. Figure 13 below shows housing growth in the GTAH over the past 40 years. It demonstrates the extended period of high growth in housing since the beginning of the century.

Housing types are also sensitive to demographic cycles within the population. Figure 13 provides shows the high demand for apartments in the 1970s, driven by the baby boom generation starting their first households as young adults. A shift to a greater share of family-oriented "ground-related"[1] housing followed in the 1980s and 1990s. In recent years, the demand has shifted back to apartment forms in part because of the Millennial generation starting their first households. As Millennials enter their family formation years, pressure for more family-oriented housing in the coming years is likely.

The housing choices reflected in Figure 13 are also highly influenced by affordability, with the late 1980s and the past decade exhibiting relatively high house prices. This has tended to increase the demand for smaller units and depress the number of new households as children stay at home longer with their parents and new households delay entry into the housing market.

[1] Ground-related housing is a collective term for single-detached, semi-detached and rowhouses. In the IGMS stacked townhouses are treated as rowhouses, despite the Census and other housing statistics typically excluding them from ground-related housing categories.

Figure 13: Housing Completions in the GTAH, 1986 - 2018



Source: Hemson Consulting Ltd. based on CMHC Housing Market Tables.

Notwithstanding continued high population growth, new home sales hit a 25 year low in 2018. Most observers attribute the decline to new mortgage "stress test" rules, the foreign-buyers tax, and normal cyclicality after an extended growth period. Low sales in 2018 will translate into lower starts and completions in 2019 and 2020.

Over the 40 years shown in Figure 13, ground-related housing has been almost entirely built in the regional markets surrounding Toronto, including Halton Region, in large part because these markets had available greenfield land for the development of such housing. At the same time, the apartment market has remained highly concentrated in the City of Toronto, especially in the downtown. Planning for the GGH, including Halton, seeks to profoundly change these historical patterns, by introducing far more apartments into the broader housing market as well as within local market areas, including Halton. This planned shift in the range and mix of housing underlies much of the IGMS work and long-term growth planning in Halton.

B. Key Economic Trends Affecting the Outlook for the GTAH and Halton

With global economic growth expected to slow over the next few years, Canada's economy is anticipated to grow at a somewhat slower rate (approximately 2% to 2020)

due in part to market access issues in the energy sector. Within Canada, growth rates are expected to be amongst the highest for British Columbia, Ontario and Quebec with the Prairies and Atlantic Canada lagging behind. Growth rates for all Provinces are expected to slow gradually over the short-term.

The recently-signed free trade agreement replacing NAFTA, Canada-US-Mexico Agreement (CUSMA) is anticipated to have a positive influence on non-energy trade and investment by reducing trade risks and elevating business confidence. The manufacturing sectors in Ontario, Quebec and Manitoba are viewed as being positioned to benefit from an improved export environment, although ongoing tariffs on key commodity groupings will likely have some negative regional trade implications.

As Canada's economic engine in recent years, Ontario has been performing well. According to the Conference Board of Canada, growth has settled back into the range of 2 per cent annually, still one of the strongest in the country but somewhat below the very strong performance of 2017. In the short-term, growth is expected to continue to be slow, in large part due to capacity constraints.

Other dampening factors include a tight labour market, the current housing market slowdown, rising interest rates, and lost tax competitiveness relative to the United States. Slower economic growth will also be a major challenge for the Provincial government as it focuses on the broad goal of tackling the deficit. Events like the recently announced closure of the GM automotive plant in Oshawa will not help to this end, especially as overall growth is expected to continue to slow beyond 2020.

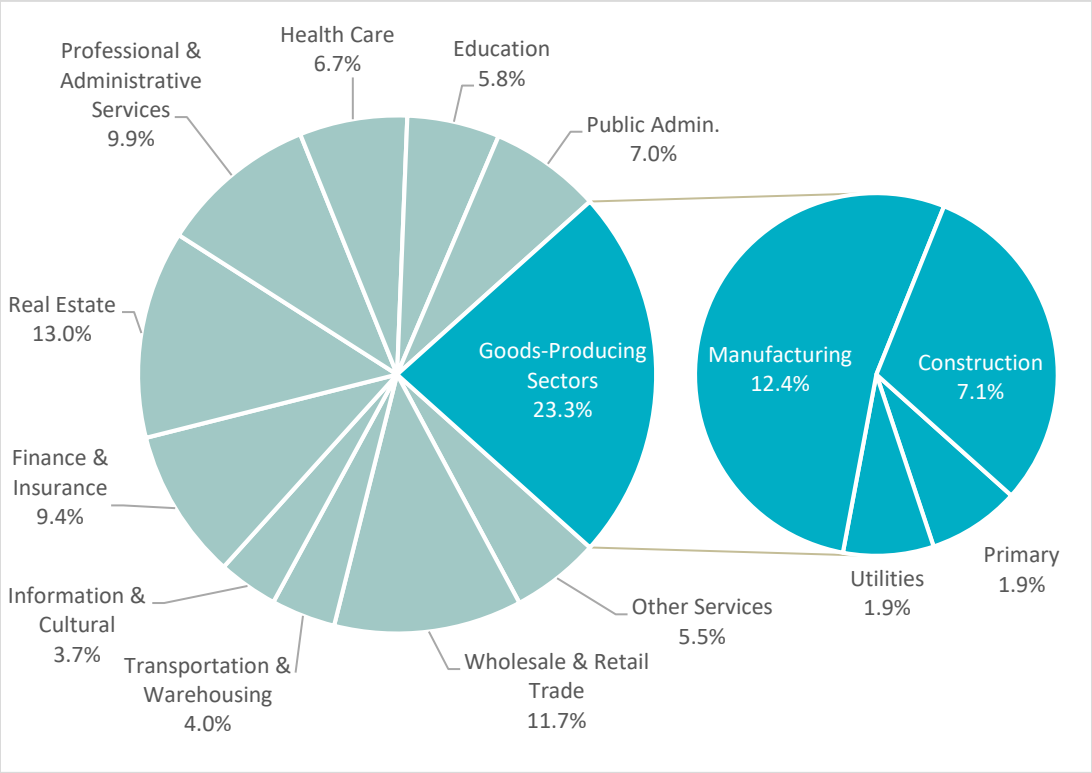
The CUSMA is expected to influence investment in machinery and equipment allowing Ontario firms to become more competitive. At the same time, the application of new technologies will continue to change the way we work, from rapidly increased automation, to the expansion of the information economy and use of artificial intelligence, changing business models, and workplace transformation, all part of the rise of "Smart Cities" and an increasingly technology-oriented economy.

Reflecting these trends, there has been a marked acceleration in the shift of employment from goods production to the provision of services since the 2008-2009 recession. As shown below, as measured by provincial Gross Domestic Product (GDP), fully 77% of Ontario's economic output is driven by service-producing activities (Figure 14). Province-wide, there has been considerable growth in knowledge intensive and creative industries, such as financial services, information technology, and business services, as well as in health care, education and social services.

Technology has facilitated specialization across the manufacturing sector, both in terms of the production of goods and in the supply chain with innovations in warehousing and

distribution. The increasing volume of goods handled has led to growth in the distribution and logistics sectors and expansion of the industrial building space required to accommodate these activities. Consistent with national and global trends, growth in Ontario's economy is expected to favour the trade-oriented and high-skill service industries that have led the way for many years.

Figure 14: Share of Nominal GDP, Ontario 2017



Source: Hemson Consulting Ltd. based on Statistics Canada, Cansim database, 2017

While described at the national and provincial level, all of these trends in the economy are reflected locally and affect the economic outlook for the GTAH and Halton Region. In particular, the rapid economic growth of recent years has resulted in just over 10% growth in employment in the GTAH over the past four years, over double the rate of the prior four years. This is a rapid rate of employment growth by any measure.

C. Potential Disrupters and Opportunities Affecting Growth Prospects

Notwithstanding these broad economic and demographic trends, the economic outlook may be affected by potential "disruptors" whose impacts are currently unknown. Halton must be aware of the potential influence key disruptive forces may have on the steady-state economic forecast, including:

- Ongoing shifts in the economy from goods-producing to services-producing activities.
- Continued growth in logistics and transportation industries, reflecting the increasing scale and complexity of goods movement activity.
- The evolving role of Toronto Pearson Airport area as a significant economic centre.
- Technological innovation, leading to increased e-retailing, mobility and, by extension, more people choosing to work at home or without a fixed place of work.
- Housing affordability and the location choices of the Millennial generation.

Keeping these potential disruptors in mind, some key considerations underpinning the economic side of the growth scenarios include:

- The “bull” market of the past 10-years appears to be slowing but to what extent might this affect growth planning in Halton?
- Affordability is critical to home buyers and we are increasingly seeing a trend of people seeking single-detached homes outside of Toronto to “drive ‘til you qualify”.
- Growth continues to be heavily weighted to the west GTAH, including Halton.
- The importance of GO Transit Regional Express Rail (RER) and the Northwest GTA transportation and utility corridor.

3. Provincial Policy Guidance for IGMS

Planning in Halton Region is undertaken in the context of the Provincial policy framework for managing growth. The *Growth Plan* provides Provincial direction for where and how to accommodate urban growth and development. The Region and local municipalities within Halton must conform to the *Growth Plan* when planning for residential and employment growth. Also at the Provincial level guiding planning in Halton Region are the *Provincial Policy Statement* (PPS), *Niagara Escarpment Plan* and the *Greenbelt Plan*.

- Since *Sustainable Halton* and the adoption of ROPA 38, a number of updates to relevant provincial policy direction have been undertaken which have implications for planning for growth in Halton, including updates to the *PPS* and *Growth Plan*.
- The *PPS* was updated in 2014 and extended the timeframe for which municipalities can plan for employment growth to beyond 20 years.
- The *Growth Plan*, originally released in 2006, was amended in June 2013, updating the population and employment growth forecasts that the Region must use as a basis for planning. Through this Amendment 2, the forecasts to 2031 were revised, and the planning horizon and forecasts were extended to 2041.
- Following the 10-year review of the *Growth Plan*, a new revised plan was released in June 2017, including updated policies for managing growth, and revised targets for intensification and density of development on Designated Greenfield Areas (DGA).
- The 10-year review of the *Growth Plan* was coordinated with the review of the *Greenbelt Plan* and the *Niagara Escarpment Plan*, which were also updated.
- Most recently, the *Growth Plan, 2019* came into effect May 16, 2019. The policy revisions include adjustments to the intensification and density targets that came into effect with the *Growth Plan,* 2017, along with a number of amendments to policies related to settlement area boundaries, employment land conversions, MTSAs, and mapping of natural heritage, among others.

The implications of the updated *Growth Plan, 2019* have been addressed through the development of growth scenarios for the IGMS. Additional detail on the policy changes are provided in report Chapter 8 Section A.

1. Halton Now Planning for Higher Growth to 2031 and to a 2041 Horizon

Through Amendment 2 to the *Growth Plan* in 2013, the Province updated the forecasts of population and employment growth that upper- and single-tier municipalities within the GGH, including Halton, must use as a basis for planning. The 2031 allocations in the *Growth Plan* were revised and the forecasts were extended to a 2041 planning horizon. The population forecast for Halton to 2031 was increased by 40,000 residents; no change was made to the 2031 employment forecast. Halton is now planning to a 2031 population of 820,000 (previously 780,000) and employment of 390,000; and an additional 180,000 residents and 80,000 jobs by 2041. The revised Schedule 3 forecasts provide the growth that the IGMS is planning for, and the growth scenarios are based on differing distributions of, and ways of accommodating, this growth within the Region.

Table 1: *Growth Plan* Schedule 3 Forecasts, Halton Region, 2031 and 2041

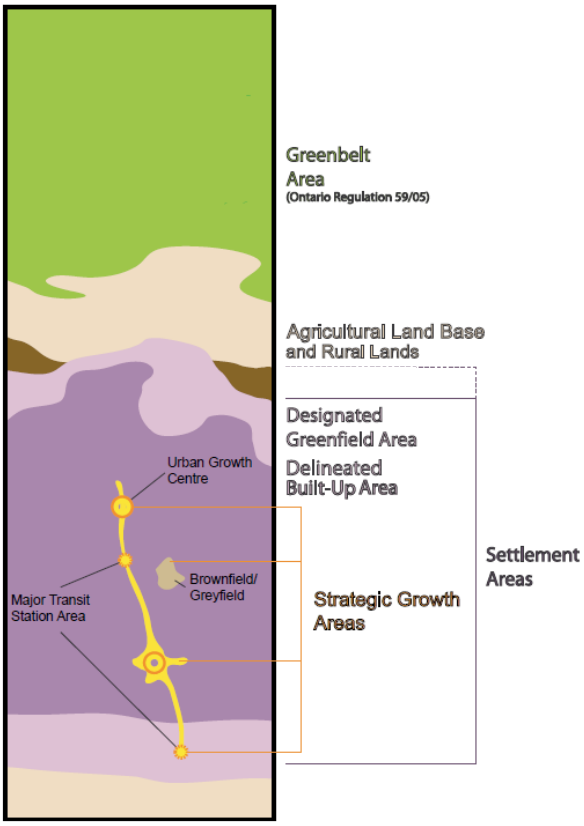
Growth Plan Schedule 3 Forecasts, Halton Region				
	Population		Employment	
	2031	2041	2031	2041
Original Schedule 3 (2006)	780,000	n/a	390,000	n/a
Current Schedule 3 (2013)	820,000	1,000,000	390,000	470,000

Source: *Growth Plan for the Greater Golden Horseshoe*, 2006, 2013.

2. Significant Shift in How Growth is to be Accommodated

The introduction of the *Growth Plan* in 2006 brought a significant policy-driven shift in how growth was to be accommodated within the GGH, with Provincially-mandated direction for compact development, complete communities, protection of employment lands and efficient use of urban land and infrastructure investment. *Growth Plan* policy areas redefined how communities were conceptualized for growth management purposes and minimum targets for intensification of residential development within Provincially-drawn built boundaries demarcating Built-Up Areas (BUA) and for density of development on DGA provided key parameters for managing growth and justifying necessary urban land supply. Municipalities are required to undertake a Municipal Comprehensive Review (MCR) and demonstrate they have met a range of tests addressing, among other matters, targets by policy areas, in order to expand settlement area boundaries or convert employment lands to other uses.

Figure 15: *Growth Plan* Policy Areas



Sustainable Halton and the resulting ROPA 38 brought the Region into conformity with the *Growth Plan*, *2006*.

The new *Growth Plan*, *2019* includes revised policy direction and targets for planning for growth in Halton and need to be addressed through the IGMS growth scenarios. Notably:

- the minimum intensification target was increased from 40% of residential development occurring annually within the built boundary from 2015 onward; to 50%;

- the minimum density target of 50 persons plus jobs (ppj) per ha across the Designated Greenfield Area by 2031 was increased and municipalities within the inner ring of the GGH (including Halton) are now required to plan for a minimum of 60 ppj/ha at the time of the next MCR (now); and 80 ppj/ha across the DGA by 2041 in the *Growth Plan*, 2017. The *Growth Plan*, 2017 also redefined how the DGA density is to be measured, adding employment areas to the list of take-outs for this purpose. That is, only jobs located on community area lands are now counted towards the DGA density. With the change of definition, the new 60 measure is essentially the same as the previous 50 ppj/ha for community areas. These intensification rates and associated timing for reaching growth targets have been changed in the

> *Growth Plan*, 2019, with the intensification target becoming 50% to 2041. Despite the change in *Growth Plan* 2019, the Region may choose to exceed the 50% intensification target through the MCR.

The forecasts and policy targets of the *Growth Plan* necessitate a shift in how growth is to be accommodated and are key considerations in the development of growth scenarios through the IGMS. The degree to which *Growth Plan* policy necessitates a significant shift in new housing markets to higher-density is chief among the key considerations for developing growth scenarios under the IGMS, and for growth planning more broadly throughout the GTAH.

Meeting the basic *Growth Plan* policies for intensification and density requires a change, not only with respect to the amount of residential growth occurring in the BUA relative to greenfield settings, but also in the types of units occupied. That is, in order to meet the policy targets, the housing market may require a shift from being primarily focused on ground-related housing units to largely apartment housing. This in turn means that more, larger households will need to occupy higher-density units than the housing market would likely otherwise suggest. The demographic composition of households is not changed by the policies; the change is in how we house the households.

This part of the report has set the scene in terms of broad social and economic influences on growth patterns through the broader economic region, as well as the policy and process context for this study. We now focus on more specific background and context for Regional planning in Halton, demographic trends within the Region and the regional economy as a basis for the detailed discussion of the development of growth scenarios.

4. Halton Well-positioned to Accommodate Growth

From the *Halton Urban Structure Plan* of the 1990s, through the Sustainable Halton initiative (ROPA 38), the Region has pursued a long-term vision for building healthy complete communities in a way that preserves the natural heritage and agricultural lands that lie at the heart of the Region's identity. Regional official plan policies have effectively shaped the development of residential communities, retail and commercial nodes, and employment lands. Among the many initiatives has been to phase urban development by extending lake-based servicing in an efficient and financially sustainable way.

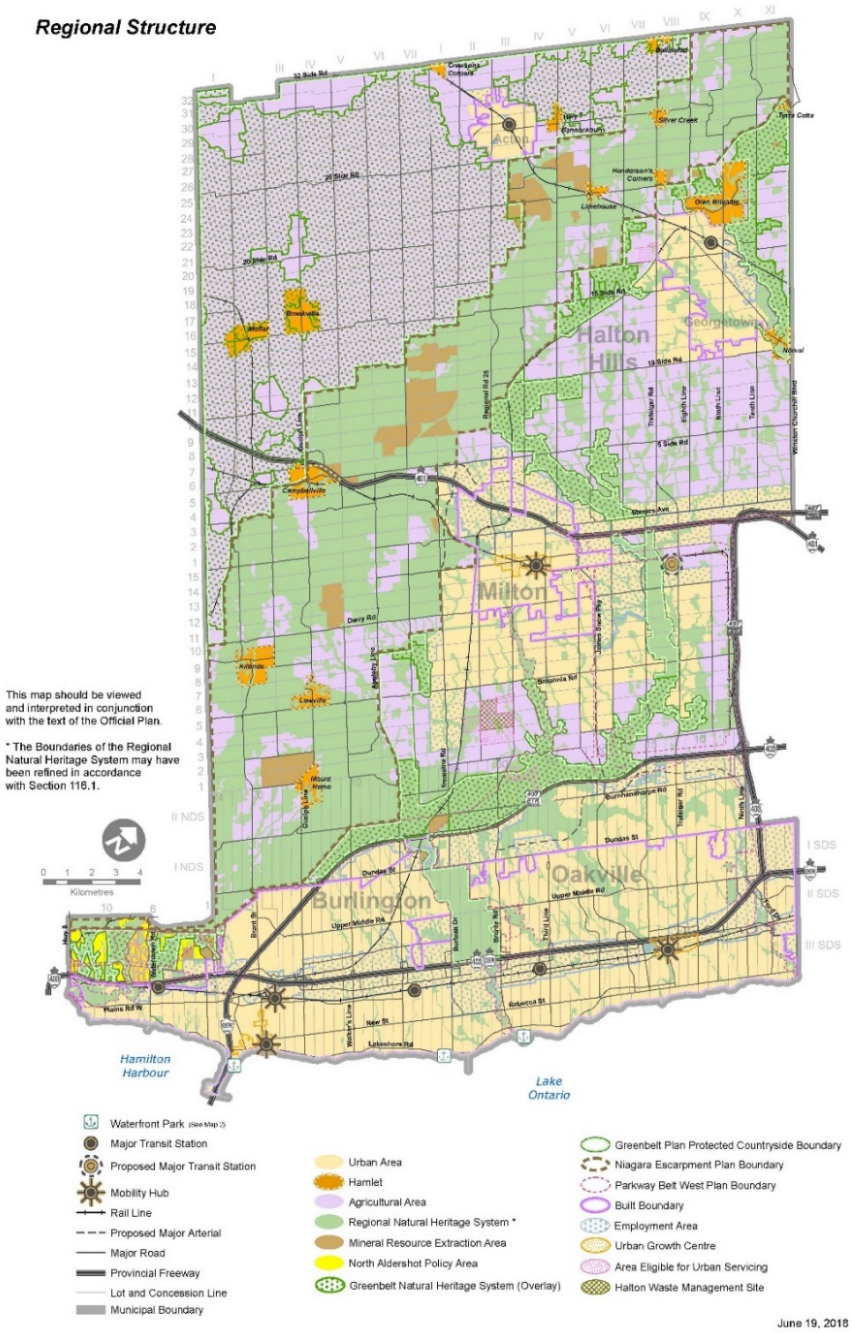
A. Regional Planning and ROPA 38

GGH municipalities must conform to the *Growth Plan*. Schedule 3 of the *Growth Plan* provides population and employment forecasts that each upper-tier and single-tier municipality must use as a basis for planning. The previous *Growth Plan* conformity exercise, Sustainable Halton, resulted in ROPA 38 which brought the Regional official plan into conformity with the original version of the *Growth Plan* (2006). That exercise evaluated alternative growth scenarios against a number of objectives, grouped under four themes:

- Foster Complete, Healthy and Sustainable Communities;
- Protect What is Valuable;
- Ensure Sustainable Infrastructure to Support Growth; and
- Promote Health for All.

Through ROPA 38, the Region allocated Halton's Schedule 3 forecasts to each local municipality, including Best Planning Estimates of growth by planning period and policy area. ROPA 38 also implemented housing targets by BUA and DGA, designed to meet the *Growth Plan* policy targets. Growth was allocated to local municipalities so as to achieve a Region-wide intensification rate within the BUA of 40% by 2031 and overall DGA densities of 50 persons and jobs per ha (ppj/ha). The DGA land supply to accommodate growth to 2031 was also established.

Map 4: Regional Structure, *Halton Region Official Plan*



Halton's future will not look like the past. This was reinforced at a Vision and Guiding Principles Workshop at the outset of the IGMS, with intensification pointed to as a key determinant of the Region's future structure. Intensification is required to make transit viable, both regionally (RER) and locally if concept plans for nodes and corridors are to be successful. The ROP reflects a vision of land stewardship, expressed through policies to protect agricultural lands and the broader countryside identified in the *Greenbelt Plan*, as well as managing growth to create healthy communities.

Planning for employment is guided by policies in section 2.2.5 of the *Growth Plan*. These policies address planning for economic growth, including how to designate new employment lands in greenfield settings, and convert existing employment lands to non-employment uses to achieve a suitable balance of jobs and population.

As required by the *Growth Plan*, the Halton IGMS is planning for a forecast of 470,000 jobs for 2041. The challenge in planning for employment is to ensure there is sufficient capacity (in land and/or development potential) to accommodate the forecast economic growth, both Region-wide as well as in each local municipality. To do this the IGMS groups employment into three broad land-use-based categories:

- Major Office Employment: jobs occurring in free-standing office buildings of 20,000 square feet (1,960 m^2) or more.
- Population-Related Employment: jobs that primarily serve a resident population. This category includes retail, education, health care, local government and work-at-home employment.
- Employment Land Employment: jobs accommodated primarily in low-rise industrial-type buildings, the majority of which are located within business parks and industrial areas

Through ROPA 38, the Region prepared for economic growth by designating UGCs as locations for Major Office Employment, along with Major Transit Stations, Mobility Hubs and Intensification Corridors to accommodate office and some population-related employment in a mixed-use setting, and designated Employment Areas for industrial type activities.

Additionally, the *Halton Region Official Plan* identified Future Strategic Employment Areas, considered to be most suitable for accommodating employment over the long term. These areas are to be protected from incompatible uses. They are strategically located in relation to major transportation facilities and corridors as well as existing Employment Areas. Though not an urban designation, these lands will be considered when assessing the need for additional greenfield employment lands for the various

growth scenarios and could be brought into the settlement area boundary, should a need for additional employment land to 2041 be identified.

5. Halton's Demographic and Housing Market Conditions

This chapter examines recent residential development in Halton Region and discusses demographic change, housing patterns and considerations for the IGMS growth scenarios.

A. Recent Population Growth in the Region

The Region has grown significantly in population and households since 2001, amidst rapid housing growth throughout GTAH communities. As southern Peel Region became more fully developed, the significant greenfield supply for ground-related housing in Milton resulted in Milton becoming the fastest growing municipality in Canada over the 2001 to 2011 period, accounting for nearly half of Halton's population growth over this timeframe. Growth since 2011 has continued this pattern with rapid development of lands in Milton and north Oakville, notwithstanding somewhat slower than anticipated growth across the Region in recent years. Table 2 through 5 provide Census counts for population and household growth since 2001.

The lands in Milton and Oakville accommodating much of this growth were planned through the *Halton Urban Structure Plan* in the 1990s and designated as urban in ROPA 8 in 1999. The new greenfield land designated for development in ROPA 38 in the south and east of Milton and the southwest Georgetown area of Halton Hills are planned for development in the 2020s.

Table 2: Population by Local Municipality, Halton Region, 2001 - 2016

Total Population by Local Municipality, Halton Region, 2001-2016						
Municipality	**Total Population Including Census Net Undercoverage**				**2001-2016**	
	2001	**2006**	**2011**	**2016**	**Growth**	**Share of Region**
Burlington	157,100	171,400	181,200	189,000	31,900	18%
Oakville	150,800	172,600	188,200	199,800	49,000	28%
Milton	32,800	56,200	87,000	113,500	80,700	46%
Halton Hills	50,200	57,600	60,800	63,000	12,800	7%
Halton Region	**390,900**	**457,800**	**517,200**	**565,000**	**174,100**	**100%**

*Figures are rounded

Source: Statistics Canada.

Table 3: Households by Local Municipality, Halton Region, 2001 - 2016

Households by Local Municipality, Halton Region, 2001-2016						
Municipality	Occupied Households				2001-2016	
	2001	2006	2011	2016	Growth	Share of Region
Burlington	57,400	63,300	68,800	71,400	14,000	24%
Oakville	49,300	56,600	62,400	66,300	17,000	29%
Milton	10,700	18,500	27,600	34,300	23,600	40%
Halton Hills	16,400	18,800	20,300	21,100	4,700	8%
Halton Region	**133,800**	**157,200**	**179,100**	**193,100**	**59,300**	**100%**

*Figures are rounded

Source: Statistics Canada.

Table 4: Annual Growth Rates, Population, Halton Region

Compound Annual Growth Rate by Census Period, Population* Halton Region by Local Municipality, 2001-2016			
Municipality	**2001-2006**	**2006-2011**	**2011-2016**
Burlington	1.8%	1.1%	0.9%
Oakville	2.9%	1.8%	1.2%
Milton	14.3%	11.0%	6.1%
Halton Hills	2.9%	1.1%	0.7%
Halton Region	**3.4%**	**2.6%**	**1.8%**

*Total population including Census net undercoverage.

Source: Hemson Consulting based on Statistics Canada data.

Table 5: Annual Growth Rates, Households, Halton Region

Compound Annual Growth Rate by Census Period, Households Halton Region by Local Municipality, 2001-2016			
Municipality	**2001-2006**	**2006-2011**	**2011-2016**
Burlington	2.1%	1.7%	0.8%
Oakville	3.0%	2.0%	1.3%
Milton	14.6%	9.8%	4.9%
Halton Hills	2.9%	1.6%	0.8%
Halton Region	**3.5%**	**2.8%**	**1.6%**

Source: Hemson Consulting based on Statistics Canada data.

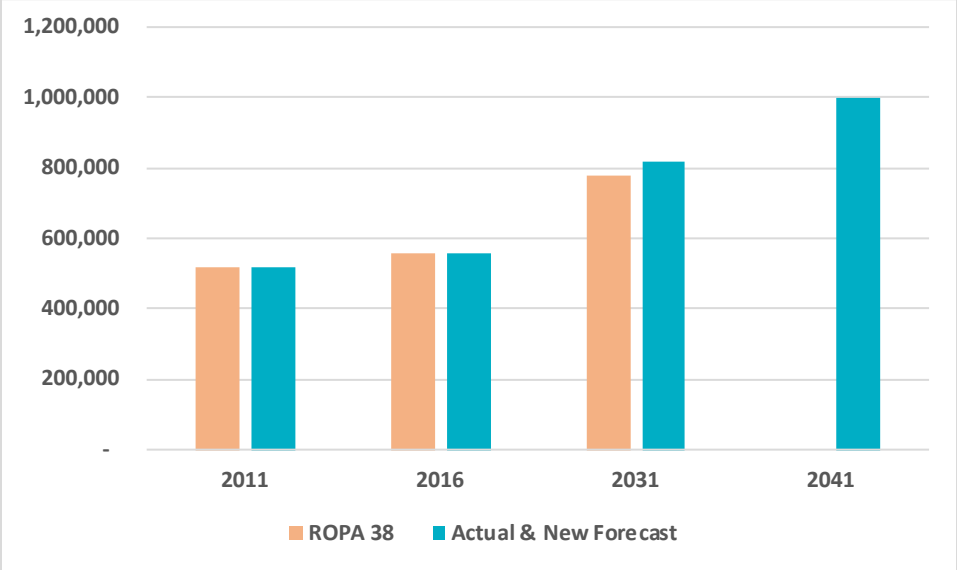
1. Population Growth Outlook to 2031 and 2041

As part of extending the growth planning horizon to 2041 through the IGMS, it is important to understand how growth in the Region has been tracking to expectations established under ROPA 38 and planned for through the *Halton Region Official Plan*. The ROPA 38 forecasts were prepared in 2009 on the basis of 2006 Census information and in conformity with the original *Growth Plan* Schedule 3 forecasts which had been prepared in 2006 (which in turn were largely based on 2001 Census data).

Figure 16 to Figure 20 highlight how population growth compares with the forecasts prepared for ROPA 38. The Region as a whole was growing moderately faster than

expected in 2011 (by 4,000 residents), but fell somewhat short of the ROPA 38 forecasts over the most recent Census period to 2016—by 22,000 residents (see Figure 6).

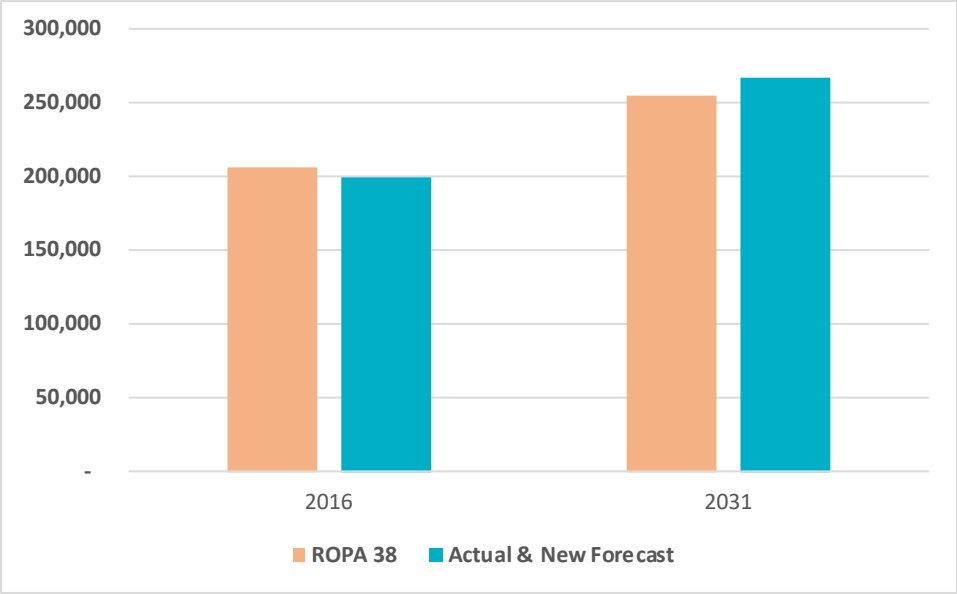
Figure 16: Comparison of Population Forecasts for Halton Region, 2011 - 2041



Source: Hemson Consulting Ltd.

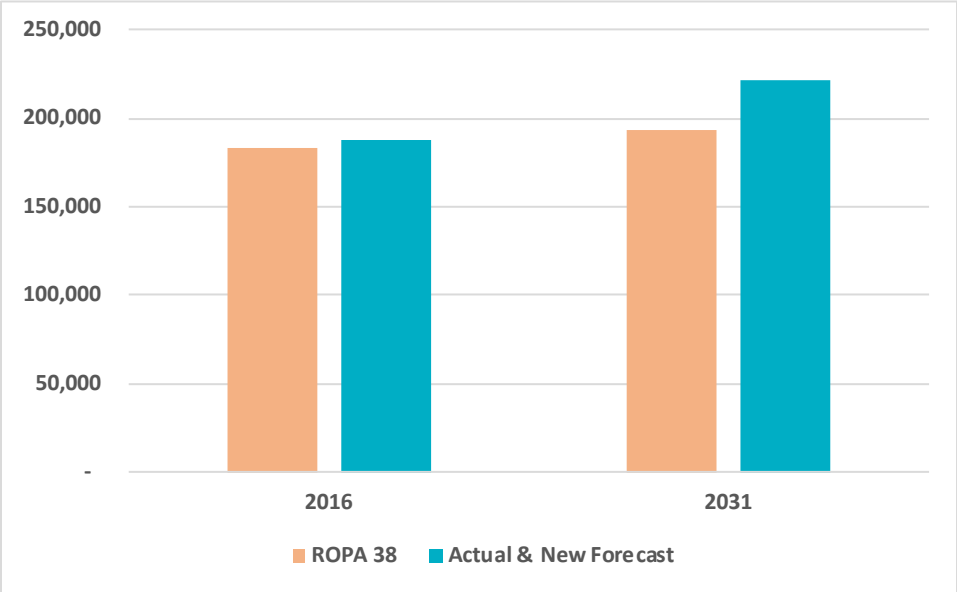
Results at 2016 varied at the local municipal level, with Burlington ahead of its population forecast by roughly 6,000 residents, and the other municipalities falling slightly behind their allocations. The greatest shortfall was in Milton, which had 20,000 fewer residents in 2016 than planned for under ROPA 38.

Figure 17: Comparison of Population Forecasts for Oakville, 2016 - 2031



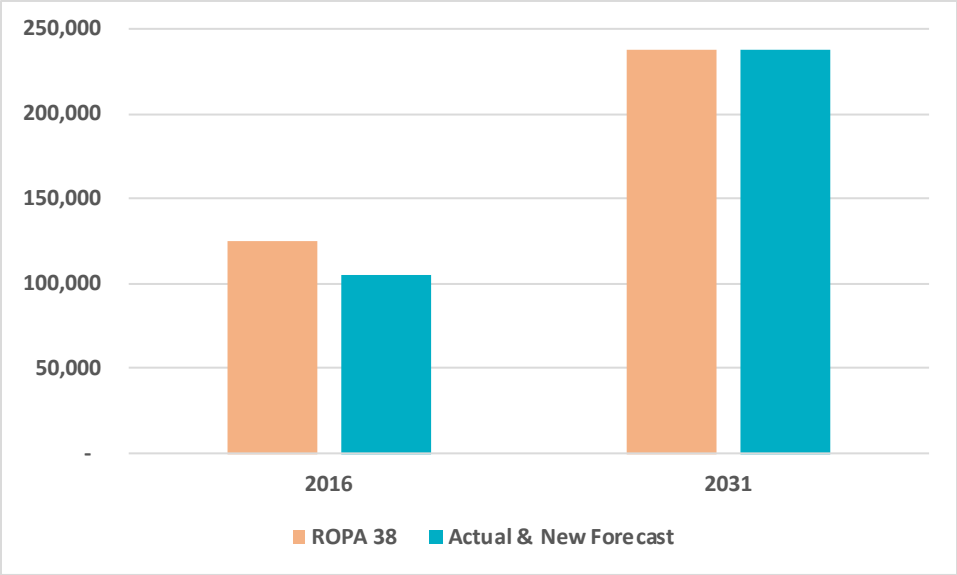
Source: Hemson Consulting Ltd.

Figure 18: Comparison of Population Forecasts for Burlington, 2016 - 2031



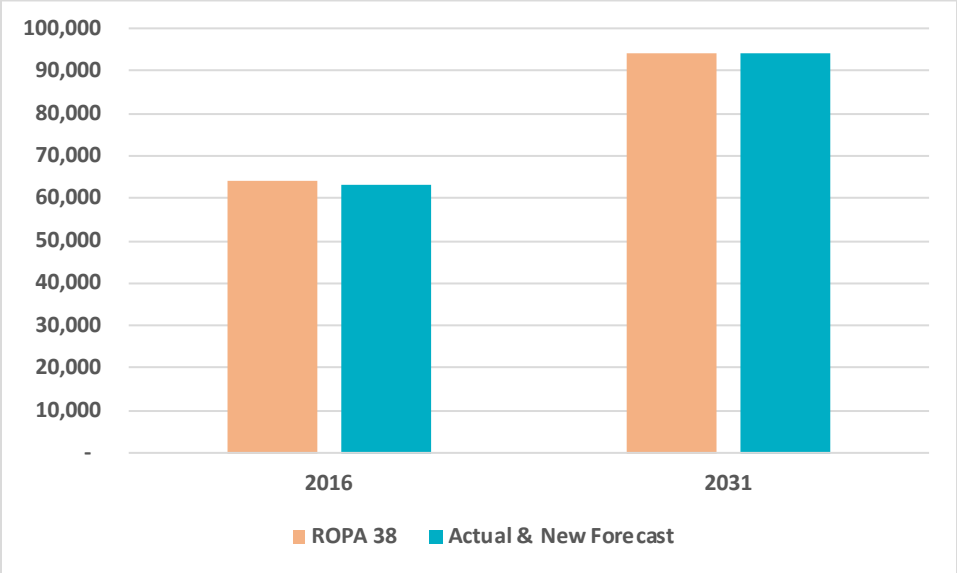
Source: Hemson Consulting Ltd.

Figure 19: Comparison of Population Forecasts for Milton, 2016 - 2031



Source: Hemson Consulting Ltd.

Figure 20: Comparison of Population Forecasts for Halton Hills, 2016-2031



Source: Hemson Consulting Ltd.

The IGMS analysis forecasts that local municipalities will be on track to meet the ROPA 38 forecasts at 2031, with the higher growth increment than anticipated under Schedule 3 (as updated in 2013) anticipated to be in Burlington and Oakville. Based on its current share of the housing market, Burlington is likely to have a much higher population at 2031 than was allocated under ROPA 38. Oakville is also expected to have a higher than anticipated population, though in its case the cause is mainly increases in average household size relative to previous forecast expectations.

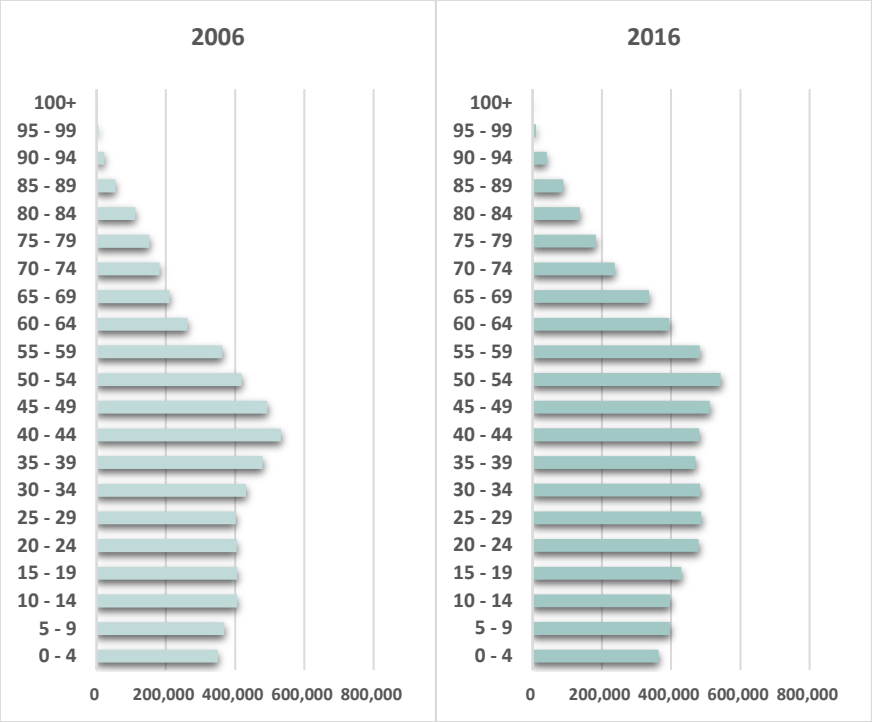
Larger average household size results in greater population being housed in the same number of units, and has important implications for land needs, as discussed later in this report. That said, Milton and Halton Hills are now both expected to have populations at 2031 similar to those provided for in the current Regional official plan. Unlike Burlington and Oakville, these municipalities will continue to build-out their available greenfield supply.

2. Halton Population Not Aging as Fast as Elsewhere

There is widespread discussion about Canada's aging population, and while the population will age overall, it will not age evenly. In the GTAH, the aging of the population, resulting from baby boomers getting older and low fertility rates over the past 40 years, is balanced by steady in-migration. This in-migration keeps the population younger as these in-migrants are primarily adults in their 20s and early 30s; some already have children; others are entering the peak age for having children. In Halton, a similar pattern is evident in the age structure (see Figure 21). The peak population age group rose from 40-44 in 2001 and 2006 to 50-54 in 2016, a little younger than the peak baby boom age group. By 2041, this age group will be in its late 70s. However, continued in-migration will mean that the largest age groups in 2041 will return to being people in their 40s.

While in-migration keeps the overall population younger, the number of retired and elderly people in Halton is increasing. Those over 65 years of age comprised 12% of Halton's population in 2001 and 14% in 2016. By 2041, these older adults will be 21% of the population, still below the 26% of older adults in the Ontario population.

Figure 21: Historical Age Structure of Halton Region, 2006 & 2016



Source: Hemson Consulting Ltd. based on Statistics Canada data.

The composition of the resident population by age within each of local municipality in Halton is shown in the charts below. While the Region as a whole has a relatively young population, the aging demographic trend is more apparent in Burlington, a more mature community of Burlington which has had relatively less growth and in-migration during the past 15 years compared to other Halton municipalities. Figure 24 shows the effect of rapid growth of adult in-migrants and their children on Milton's age structure over the last decade.

The age structures of the local municipalities over the long-term will depend on how much growth is allocated to each. However, Burlington will continue to age as it will accommodate a relatively smaller amount of growth for its size. Oakville will begin to show the effects of aging. Both Milton and Halton Hills will continue to experience significant growth, with their age structures reflecting the occupants of new housing.

Figure 22: Historical Age Structure of Oakville, 2006 & 2016

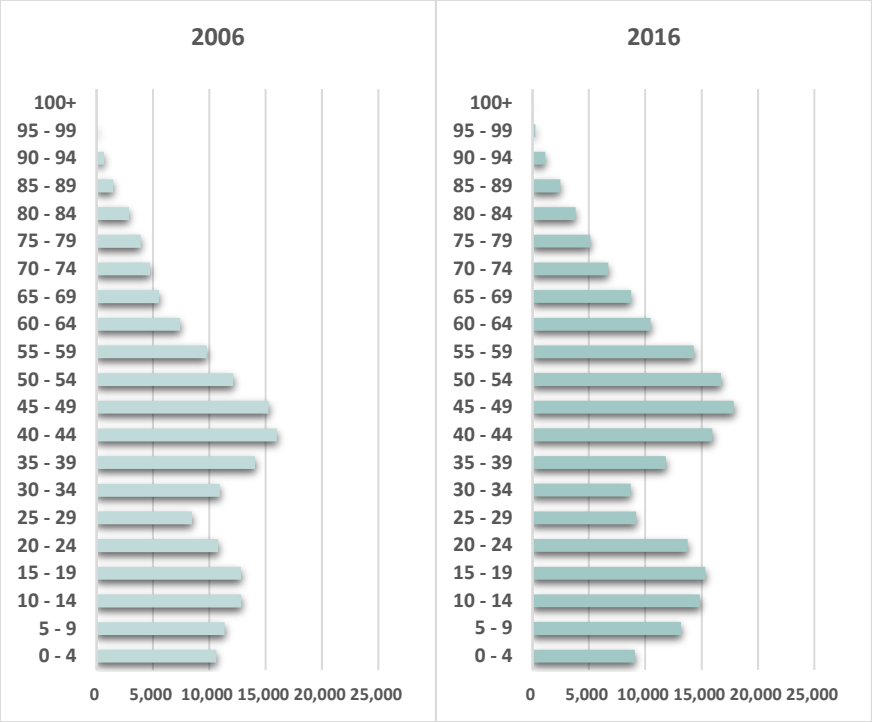
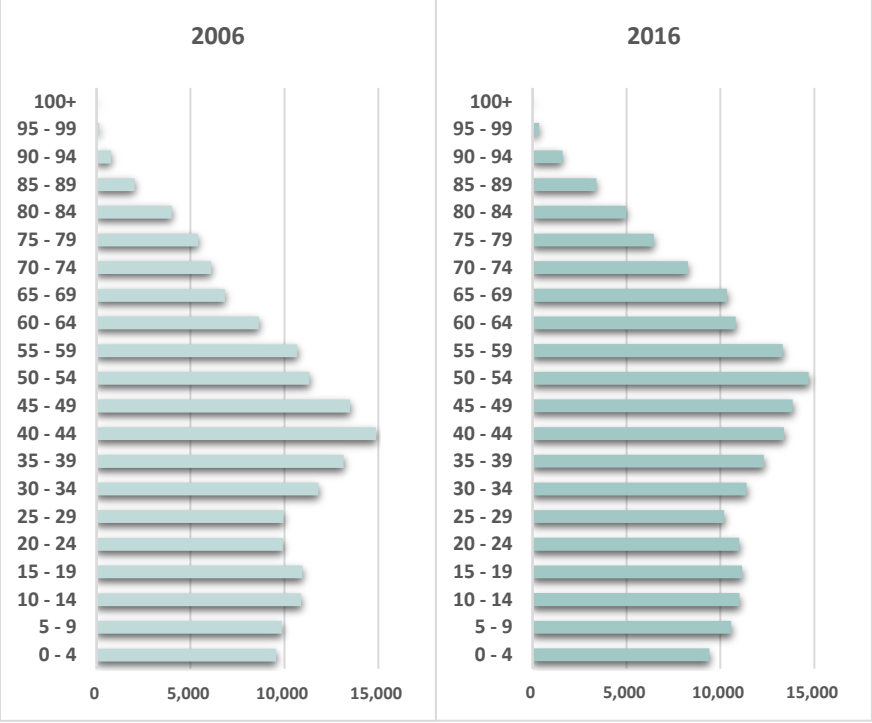


Figure 23: Historical Age Structure of Burlington, 2006 & 2016



Source: Hemson Consulting Ltd. based on Statistics Canada data.

Figure 24: Historical Age Structure of Milton, 2006 & 2016

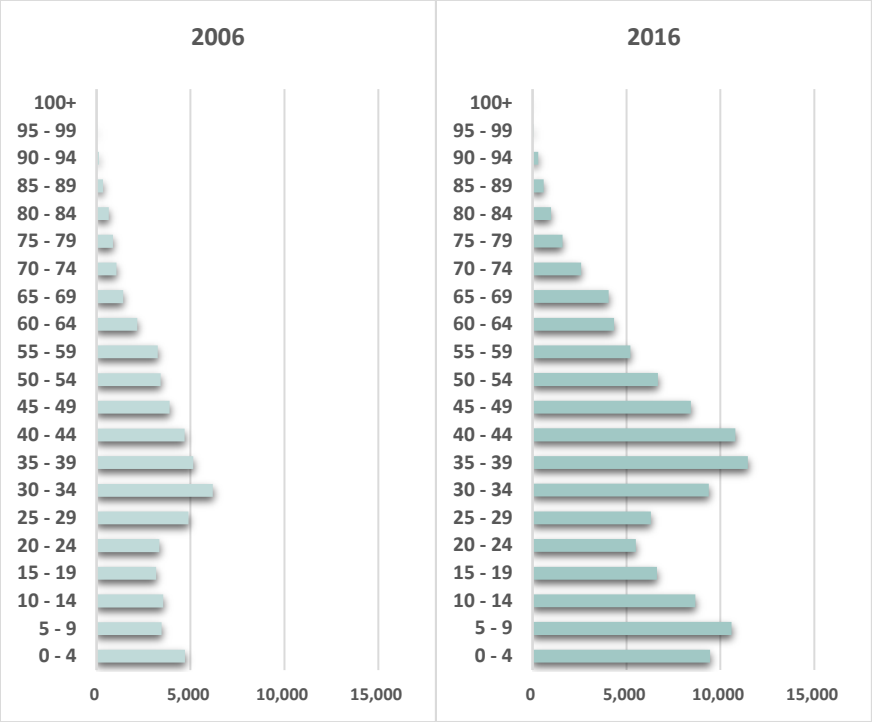
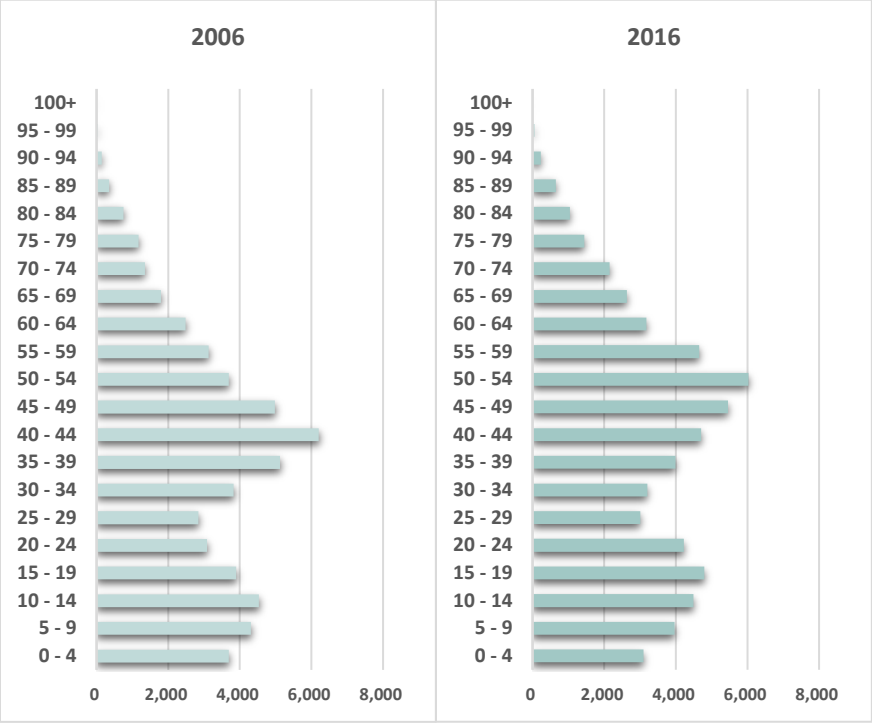


Figure 25: Historical Age Structure of Halton Hills, 2006 & 2016



Source: Hemson Consulting Ltd. based on Statistics Canada data.

B. Key Demographic Consideration for the IGMS is Relationship to Housing and Housing Type

Because the IGMS is ultimately about planning for the physical development of urban land in the Region, the key demographic consideration is the relationship between the growing population and households and housing. *Growth Plan* and Halton Region policies promote intensification, and to some degree higher densities for greenfield development, as a way of reducing the amount of new greenfield land and making more efficient use of land inside existing BUA. Since the vast majority of housing provided through intensification is apartments, more residential intensification means building more apartment units and fewer ground-related units in the future. Higher-density greenfield development also means that more apartments are required in greenfield areas and the mix of new ground-related housing must shift towards row houses and away from single-detached units.

An understanding of household formation is critical to assessing land needs for housing. Households are one or more people occupying a housing unit. Two main types of household are distinguished: family and non-family. Non-family households are any single person household and any household with two or more adults not in some type of domestic partnership (e.g. roommates). All other households are family households, mainly couples with or without children at home or single parents with children at home.

In 2016, 71.3% of GTAH households were family households. This share was much higher in Halton, where 78.4% were family households (the offsetting area in the GTAH is Toronto where only 61.5% of households are families). Despite the increasing number of older people (there will be a larger number of single person households through divorce or death of a spouse), the proportion of family households in Halton is not expected to change significantly over the long-term. By 2041 the proportion of family households is forecast to decline only a small amount to 75.8%. This is the result of Halton's growth mainly arising from families moving into the Region.

The composition of households matters to the IGMS because household characteristics are directly connected to housing type demand. In 2016, about 81% of households in Halton occupied ground-related units. However, ground-related occupancy was 89% for family households and only 52% of non-family households reside in ground-related housing. Should current patterns by age remain unchanged through to 2041 about 23% of new housing would be in apartments. In the normal course of events, as Halton becomes a more mature community with a more diverse population and income range and a greater range of housing options become available, the patterns would be expected to shift. As well the continuing high cost of housing will encourage some

market shift as well, so a share of, say, 25% or 27% of apartments might be a reasonable expectation.

Planning policy seeks a very different outcome, with many more apartments in the housing mix. The effect of policy is that empty-nesters are expected to move from their “family home” to apartments as they age in much greater numbers than they do now, something they show little inclination to do until they are very old. Another shift that is required would be among young families moving to Halton. Achieving intensification and density policy objectives requires these households to choose apartment living over ground-related housing, which is their current preference.

A significant change to housing patterns are fundamental to the IGMS work, so it is important to understand that the forces behind these changes and the likely challenges in achieving these changes through land use planning. The specifics of these changes for the IGMS plans and further implications of housing market shifts are addressed in Chapter 7.

6. Halton's Role in GTAH Economy

Canada's economy is influenced by global forces. From free trade agreements among nations, to the price of oil and other commodities, to executive decisions of global corporations that determine plant closures and openings, our economic prospects are to a large degree beyond our control. Another broad influence is the effect of new technologies. From robotic manufacturing to new information management and communications technology, tech innovation is influencing how we work, from the home to the warehouse to the executive suite, how we shop, and how we size and locate plants, warehouses, retail stores and office buildings.

A. GTAH Continues to Exhibit Strong Economic and Employment Growth

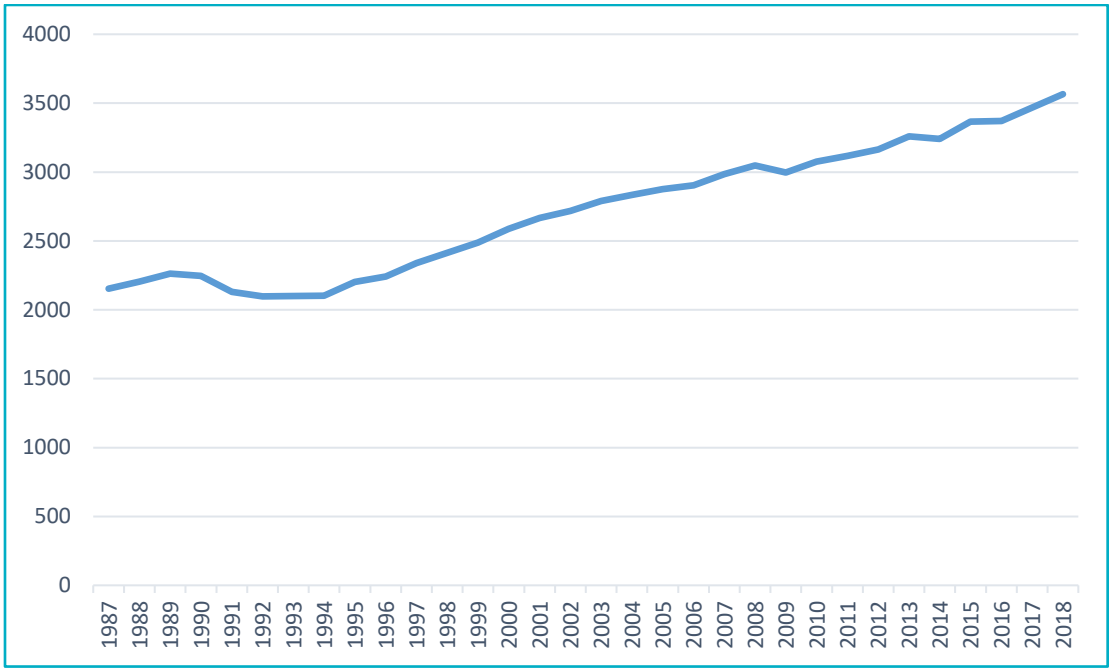
These broad forces are prominent in an economic region that continues to experience high levels of in-migration, including international immigration, and evolving demographic and lifestyle choices. From a planning perspective, what matters is not just how the economy is changing and how jobs are adjusting to technological change, but how economic activity is organized into physical space and how economic and employment growth are reflected in land use and its supporting infrastructure.

1. Employment Growth and Change in the GTAH

The big picture story for the Toronto-centred economic region is one of sustained economic growth and strong performance over the past 30 years. As shown below in Figure 26, employment in the region has grown steadily since the 1980s and stood at just over 3.5 million jobs in 2016. Other than the protracted recession of the early 1990s, employment growth has been almost continuous, with even the "great recession" of 2008-2009 being not particularly striking.

The large and competitive municipalities in the west and central parts of the GTA have been the focus of the bulk of this economic growth. But more recently, the City of Toronto has been performing exceptionally well, as indicated by the surge of high-rise residential and major office development in the Financial District and South Core, combined with numerous high-profile investments in the City's technology and innovation ecosystem.

Figure 26: Total Employment in Toronto Economic Region, 1987 – 2018



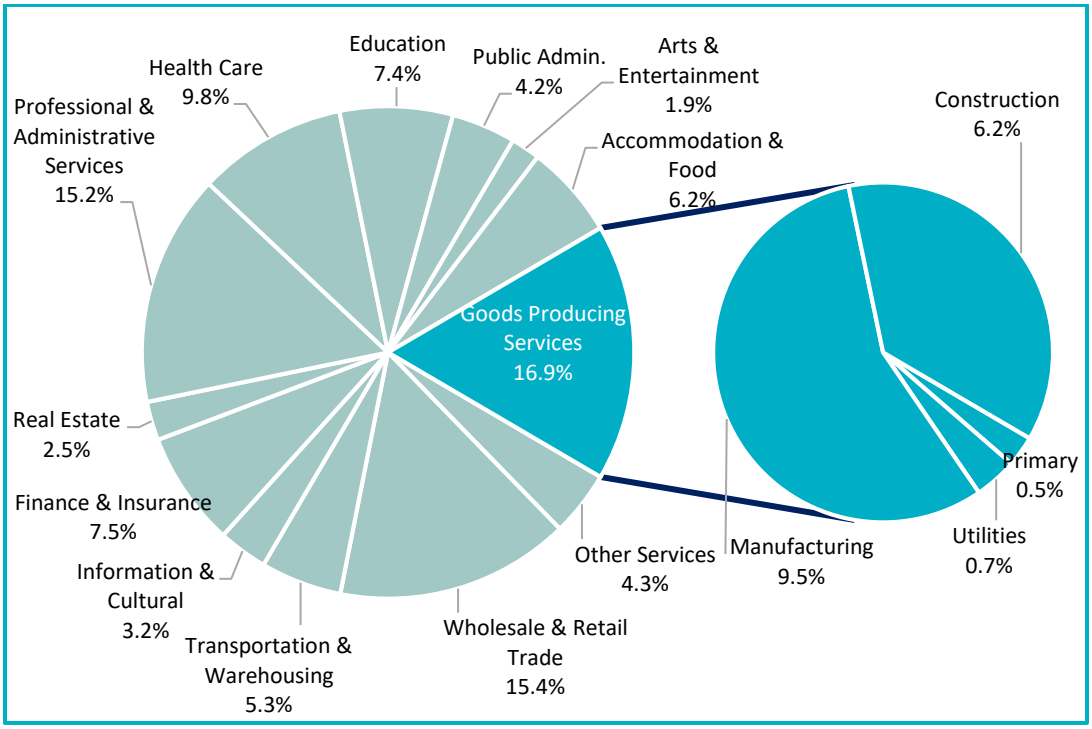
Source: Statistics Canada Labour Force Survey.

2. Sectoral Change Underway

As noted earlier, Ontario's economy has been shifting in focus from goods-producing to services-providing industries for more than two decades. As one might expect, the shift to a service based economy has been more pronounced in Ontario's urban centres as service jobs tend to concentrate around their potential customers. The shift to services-providing employment is particularly prevalent in the GTAH (see Figure 27).

Goods-producing industries create a product for consumption; traditionally these have included manufacturing, construction, agriculture, and utilities. More recently, goods-producing industries in the tech sector have had an increasing presence (for example, software development and manufacturing, and digital media). Goods-producing industries are an important part of the GTAH economy because of their role in overall trade. However, only 17% of jobs involve "making things". Fully 83% of all GTAH employment is in service sectors according to NAICS categorization (Figure 27; see also P. Blais, *Planning for Prosperity: Globalization, Competitiveness and the Growth Plan for the Greater Golden Horseshoe*, Neptis, 2015).

Figure 27: Goods-Producing / Services-Providing Employment, GTAH, 2016

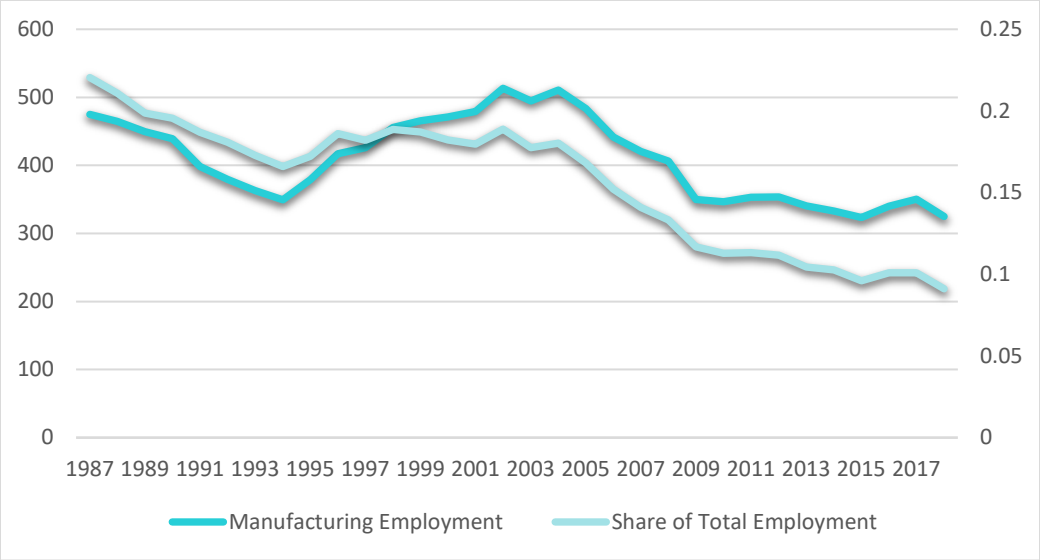


Source: Hemson Consulting Ltd. Based on Statistics Canada Census data.

One of the defining features of the broader regional economy over the last 20 years has been a long and steady decline in employment in the manufacturing sector. After recovering from the recession of 1990-92, manufacturing employment began to decline from 2004 when GTAH employment peaked during the last cycle at almost 511,000 jobs. The sector was already in a steep decline before the latest recession hit in 2008-09. In 2008 manufacturing was already down by 104,600 jobs from the peak; a further 59,000 jobs were lost before total employment stabilized for a few years. The sector has largely stabilized since 2013. Currently, there are more than 191,000 fewer manufacturing jobs across the broader region than at the peak 14 years ago (Figure 28). Notwithstanding these sectoral changes in the GTAH overall, Halton has experienced growth in its manufacturing sector. Manufacturing remains an important part of Halton's local economy.

Advances in technology affect the changes described above. Not only have such advances been prominent in information and culture, professional scientific and technical industries, new applications have been influential in the financial sector as well as the manufacturing sector.

Figure 28: Manufacturing Employment, Toronto Economic Region, 1987 - 2018

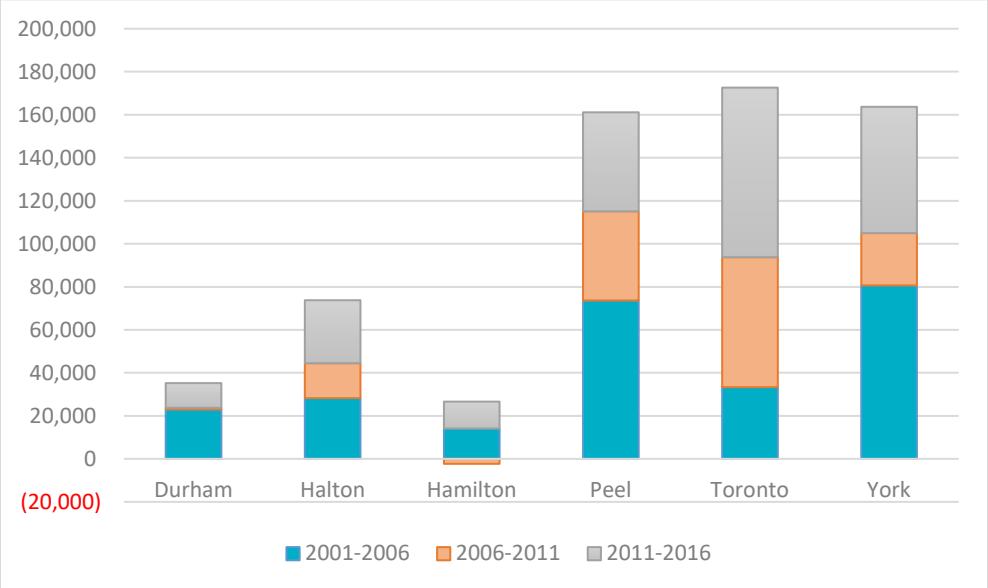


Source: Hemson Consulting Ltd. based on Statistics Canada data.

3. Recent Employment Growth Not Evenly Distributed

While economic growth has been robust across the broader region, employment growth has been concentrated in the City of Toronto and, to a lesser extent, the Regions of Peel and York. As a result, many of the regions outside Toronto have not achieved their Growth Plan Schedule 3 employment forecasts while based on current trends. In contrast, the City of Toronto will soon exceed its 2031 employment forecast.

Figure 29: GTAH Total Employment Growth by Region, 2001 - 2016



Source: Hemson Consulting Ltd. Based on Statistics Canada Census data

From a land use perspective, employment lands across the GTAH are well-used and productive, although newer land-intensive manufacturing establishments require fewer workers and with some older buildings becoming home to new ventures, plus offices and other uses. While manufacturing has been shedding traditional jobs, other sectors have grown apace, adding over 625,000 jobs in the GTAH in total over the fifteen years. Manufacturing losses have been more than made up for in two key sectors – Finance and Insurance and Professional & Technical Services, which have posted a combined increase of 208,000 jobs. Additionally, the largely public employers grouped into Education, Health and Public Administration added almost 182,000 jobs, while Retail Trade, Food and Accommodation firms added over 138,000 jobs.

Total employment recovered relatively quickly from the recent recession, as compared with the recession of the early 1990s, and continues to grow. Total employment in the GTAH rose by 21%, or 626,000 jobs, from 2001 to 2016, growing from just over 2.9 million to over 3.5 million jobs, as shown in Table 6.

Table 6: Total Employment by Region / Single-tier GTAH 2001 - 2016

Historical Total Employment Regions Within the GTAH, 2001 - 2016						
	2001	**2006**	**2011**	**2016**	**2001-16**	**2001-16 Share**
Durham	188,400	211,400	212,100	223,600	35,200	5.6%
Halton	189,400	217,700	233,900	263,200	73,800	11.7%
Hamilton	205,100	219,200	216,900	229,400	24,300	3.9%
Peel	534,300	608,000	649,400	695,500	161,100	25.5%
Toronto	1,435,200	1,468,500	1,529,000	1,607,800	172,600	27.4%
York	380,400	461,000	485,400	544,100	163,700	26.0%
GTAH	**2,932,800**	**3,185,800**	**3,326,700**	**3,563,600**	**630,800**	**100.0%**
Halton (share)	**6.5%**	**6.8%**	**7.0%**	**7.4%**		

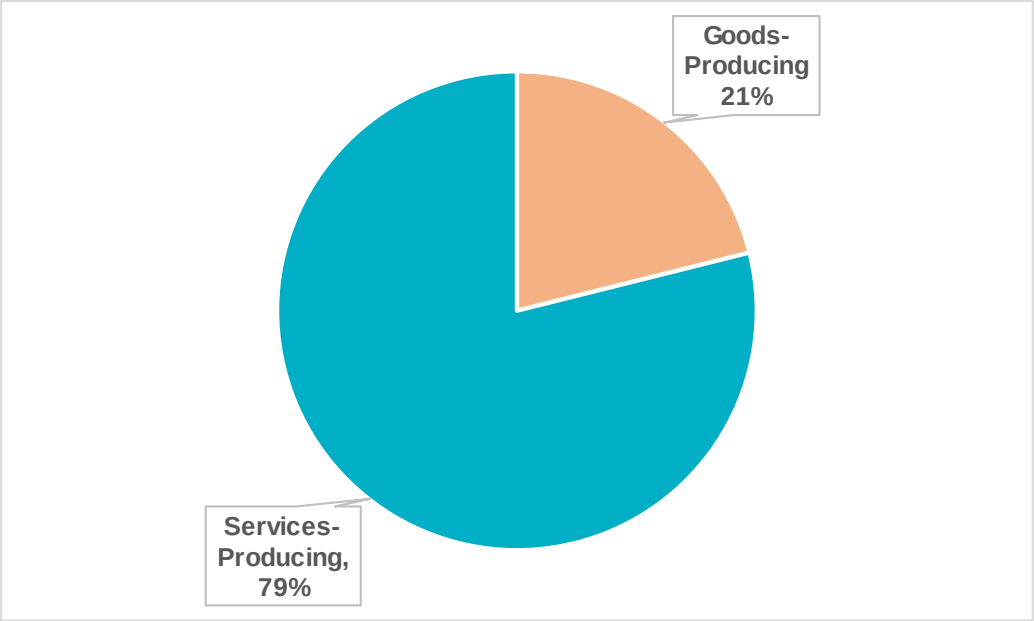
Source: Hemson Consulting based on Statistics Canada data.

B. Economic Trends in Halton

1. Halton Continues to Grow in Total Jobs and Share of GTAH

Employment in Halton has been growing and the Region accounted for 12% of GTAH growth since 2001. With total jobs growing from 189,000 to 265,000 from 2001 to 2016, Halton outpaced both Hamilton and Durham Region in each five-year Census period. The 29,000 jobs added in the last five years from 2011 to 2016 represent a 12% increase in total employment (Figure 29 above). Figure 30 shows that the share of jobs within Halton is somewhat more oriented to goods production than the GTAH overall.

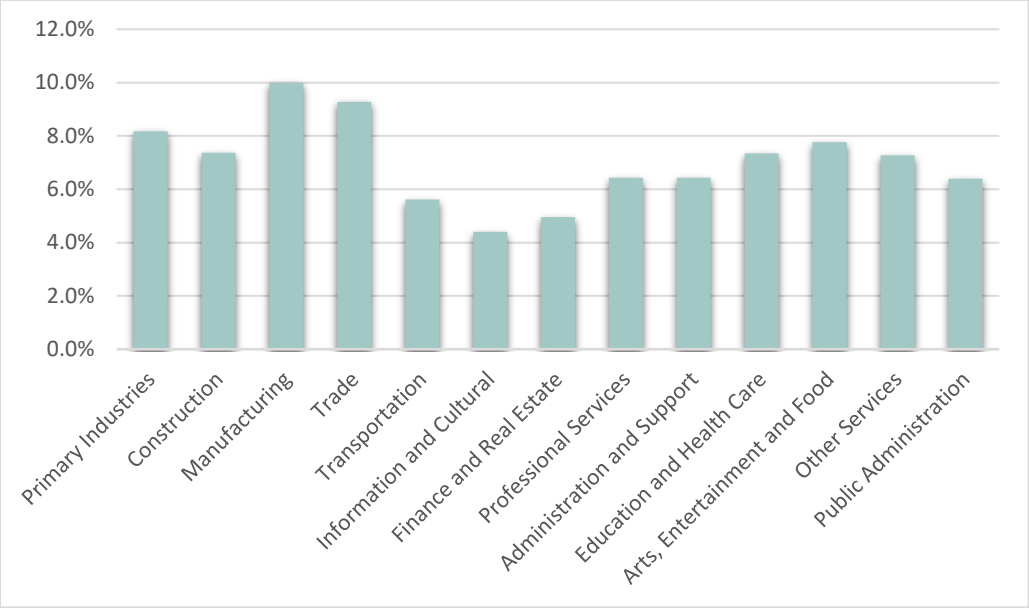
Figure 30: Halton Goods-Producing / Services-Producing Employment, 2016



Source: Hemson Consulting Ltd. Based on Statistics Canada Census data.

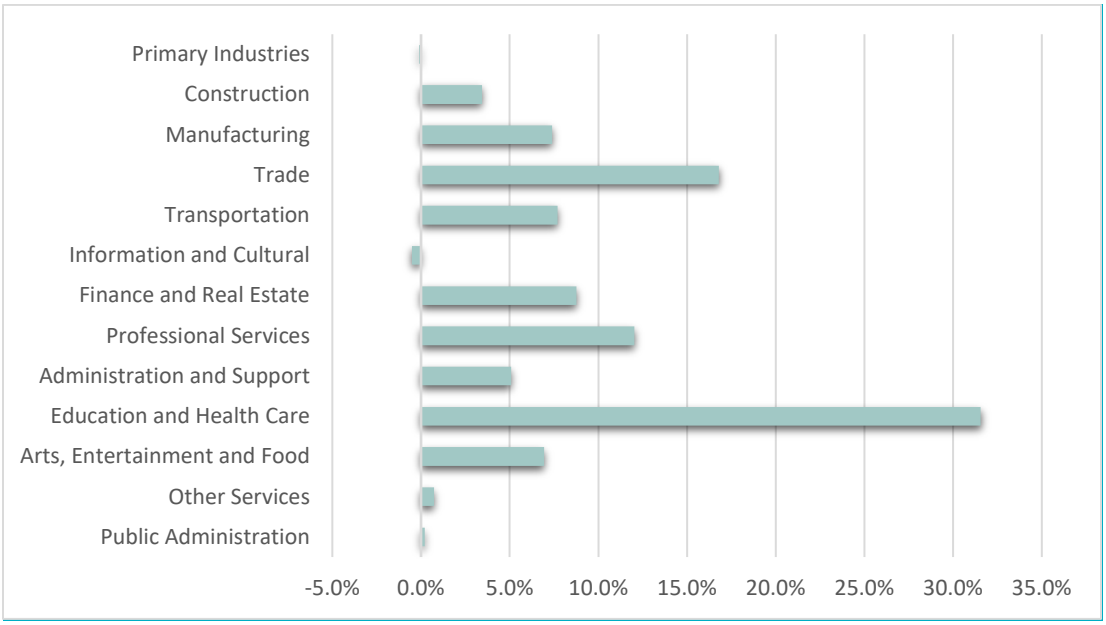
Figure 31 below shows the share of GTAH employment by sector that is found in Halton Region. Given the dominance of agricultural and extractive industries in Halton's economy, the overall share of the total in the GTAH of these sectors within Halton is higher than Halton's overall share of total jobs (7.2%). Change by sector over the 2011 to 2016 period is illustrated in Figure 32. The largest gains were in the Health & Social Services and Retail sectors, followed by Education, Accommodation & Food Service, and Manufacturing, which grew by over 10%. The 3.2% loss in Information & Culture represents only 640 jobs.

Figure 31: Halton Share of GTAH Total Employment by NAICS, 2016



Source: Hemson Consulting based on Statistics Canada data.

Figure 32: % Change in Employment by Sector, Halton Region 2011 - 2016



Source: Hemson Consulting based on Statistics Canada data.

2. Geography of Employment Is Shifting

In terms of the potential disruptors to the economic pattern and prospects for employment growth across the broader economic region, Figure 33 illustrates the trends in those reporting they "work from home" on a regular basis and those reporting "no fixed place of work", for both the GTAH overall and Halton Region.

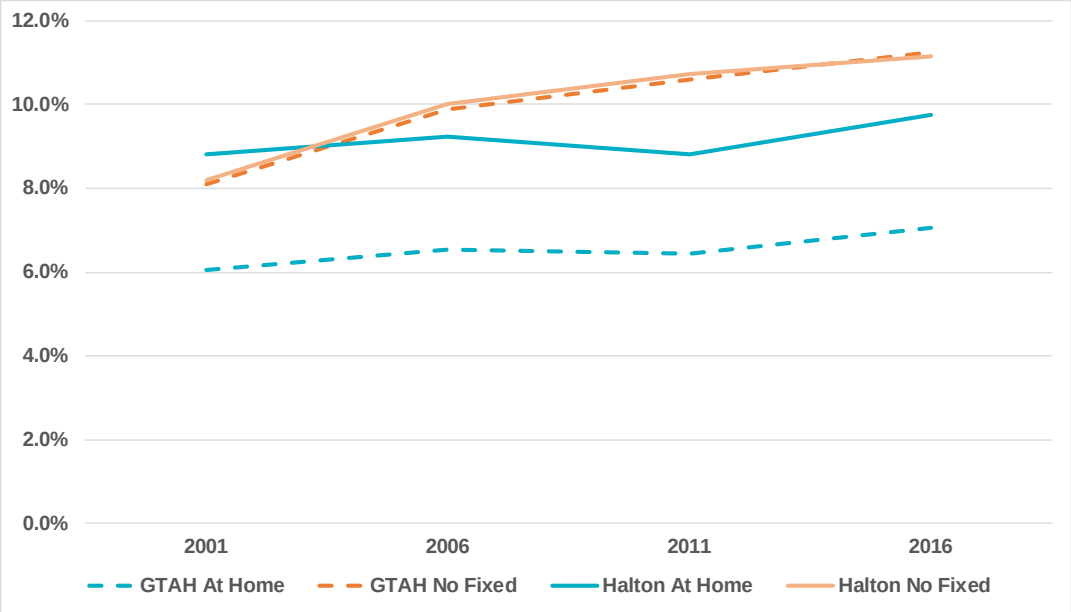
During the 1990s and early 2000s advances in information and communications technology had a significant influence in the way people work in offices. Along with some major changes in the sector focused on services to business, notably the outsourcing of some internal service units, these changes contributed to a rise for many in the ability to work from home. While the number of people reporting they worked from home on a regular basis has increased, the degree to which this pervades the workforce is not as extensive as many had forecast twenty years ago. What we have seen, particularly in recent office development projects, is the incorporation of some potential for working away from the office with the notion of 'hoteling' as key to workplace design. This really has resulted in introducing more flexibility in daily routines, but does not appear to be displacing large numbers of workers on a permanent basis. Figure 34 below shows that across the GTAH the percentage of workers reporting they usually work from home has only increased marginally, from 6.1% to 7.1%. In Halton Region the share of the workforce who report they work from home is more than two percentage points higher than the GTAH average, and, after a dip in 2011, sits at almost 10%.

A somewhat more interesting phenomenon is the tendency to have no fixed place of work to report to on a daily basis. This does appear to be pervasive, increasing consistently across Census periods. As a share of total jobs, "no fixed" has grown from 8.1% in 2001 to 11.2% in 2016 across the GTAH. This pattern is consistent within Halton Region where the share has tracked from 8.2% in 2001 to 11.1% in 2016.

In Halton, the two categories combined total almost 55,000 jobs representing 21% of total employment, as shown in Figure 34. There are a number of economy-wide factors potentially influencing this, including:

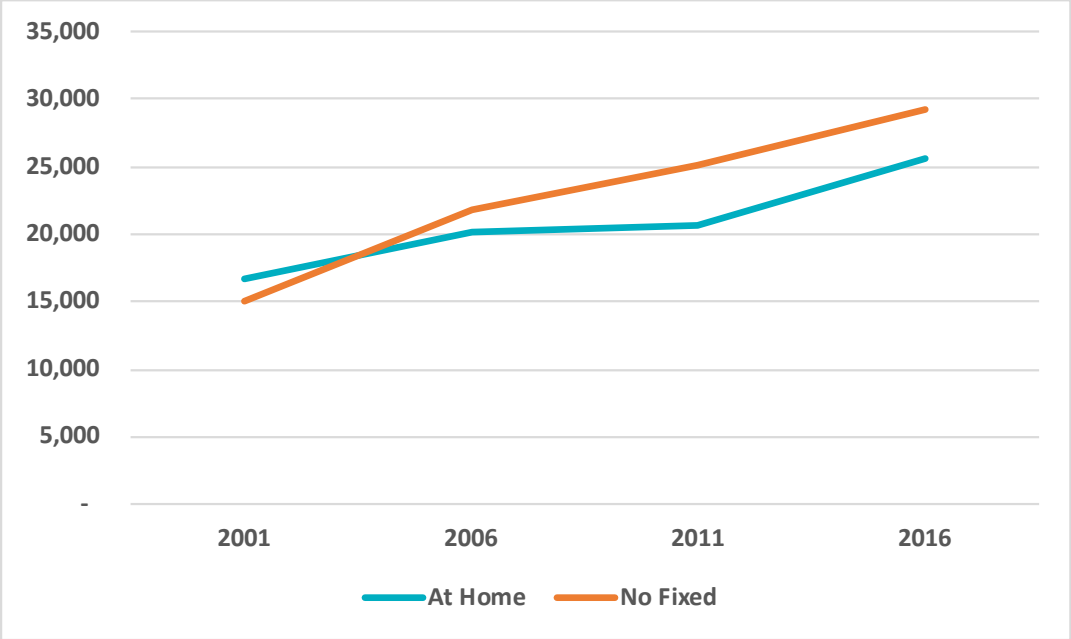
- The "gig" economy of short-term, temporary, or multiple contract assignments.
- Increases in trucking associated with the logistics sector, along with other activities of workers on the road such as delivery services, Uber and Lyft drivers as well as contract work.

Figure 33: Work at Home & No Fixed Place of Work - Percentage Shares Halton Region and GTAH Overall 2001 - 2016



Source: Hemson Consulting based on Statistics Canada data.

Figure 34: Work at Home & No Fixed Place of Work, Halton Region, 2001 - 2016



Source: Hemson Consulting based on Statistics Canada data.

3. Halton Well Served with a Variety of Retail Formats

Retail employment makes up a significant share of all the jobs across the Region with 15% of all jobs shown in the 2017 employment survey (over 34,000 jobs). Understanding retail needs for the future is key to planning for complete communities as

well as forecasting population-related employment growth. With a considerable share of these jobs being part-time, and considering variations in employment levels as new retail operations start up¸ grow, and sometimes decline, from a planning perspective it is important to look at the amount of space devoted to retailing.

The Toronto Census Metropolitan Area (CMA) has more than 119 million square feet of retail space in its many shopping centres, with Neighbourhood/Community/Convenience being the largest single category accounting for over one-half of the space. A comparison of the breakdown of the Toronto CMA and Halton Region shows that Halton has a significantly higher proportion of its retail space in Power Centres and relatively lower amounts proportionately of the other shopping centre categories. The timing of much of Halton's build-out coincided with the introduction of Power Centres as the preferred form for commercial shopping centres coupled with enough greenfield land to accommodate the required space. Of course, this differential is weighted by the fact that some of the biggest Super Regional and Regional centres in Canada, including the three Super Regional centres: The CF Toronto Eaton Centre, Square One Shopping Centre, and Yorkdale Shopping Centre, are located in Toronto.

a. Halton Retail Base

Halton's retail space is summarized in Table 7. The current base of retail floor space in Halton is approximately 25 million square feet. This data has been developed using reports from each of the four municipalities. Burlington has the largest amount of retail space and the highest density of retail floor space at 58 square feet per capita. Oakville is second at 46 square feet per capita, followed by Milton at 35 and then Halton Hills at 26. To put this in the context of some comparable GTHA municipalities, Mississauga's retail services are estimated to be about 41 square feet per capita, while Markham is at 30 and Brampton is at 21 (see Table 8 following).

Table 7: Retail Assessments by Municipality

Retail Assessment by Local Municipality, Halton Region, 2016						
		Halton Hills	Milton	Oakville	Burlington	Total
Report Population		63,049	113,528	199,817	188,975	**565,369**
Census Population 2016		61,161	110,128	193,832	183,314	**548,435**
Difference		1,888	3,400	5,985	5,661	**16,934**
Census Population Change 2011–2016		4%	31%	6%	4%	**9,3%**
Existing Retail (Sq.ft.)	Food Oriented Retail	347,982	536,800	1,000,400	1,098,243	**2,983,425**
	Non Food Oriented Retail	585,618	1,426,900	3,775,900	4,801,961	**10,590,379**
	Services	586,013	1,719,400	3,758,700	4,164,408	**10,228,521**
	Vacant	85,067	127,000	378,900	529,949	**1,120,916**
	Vacancy Rate	5%	3%	4%	5%	4%
	TOTAL	**1,604,680**	**3,810,100**	**8,913,900**	**10,594,561**	**24,923,241**
	Density (sq.ft./capita)	**26**	**35**	**46**	**58**	**45**
	Date	Nov. 2015	Aug. 2018	Oct. 2016	Feb. 2013	

Sources:

- Population: Statistics Canada, Census of Canada 2016
- Oakville Retail: Town of Oakville. Employment and Commercial Review. Summary of Retail and Service Space in Town of Oakville, October 2016
- Halton Hills Retail: Retail Commercial Demand Analysis, Georgetown Trade Area, November 2015
- Burlington Retail: Burlington Market Supply and Demand Study, February 2013
- Milton Retail: Retail Market Assessment Trafalgar Corridor, August 2018

Table 8: Density Per Capita in Neighbouring Municipalities

	Brampton	Mississauga	Markham
Census Population 2016	614,000	721,599	351,600
Existing retail space 2016 (sq.ft)	13,200,000	29,585,559	10,490,046
Density as of 2016 (sq.ft./capita)	**21**	**41**	**30**

Sources: Review - Phase 1 Report March 2016; Statistics Canada Census Population 2016; Report: Markham Retail - Service Demand and Supply Analysis.

b. Retail Base by Type of Development

More than 15 million square feet of the retail or approximately 60% of total Halton retail is located in malls, strip centres, and community centres within Halton. The additional 10 million square feet includes the downtown areas of each community as well as the many small single stores and centres that are less than 10,000 square feet or which are not classified as shopping centres.

Table 9 shows the breakdown for the shopping centre data. The highest amount of shopping centre space is found in the Neighbourhood/ Community/ Convenience centres followed by Power Centres, Regional/Superregional, Mixed-Use and Outlet Centres. The footnote below the chart provides the International Council of Shopping Centre's definitions for each of these classifications.

Table 9: Square Feet in Shopping Centres with 10,000 sq. ft. or more by Category and Municipality[2]

Square Feet of Retail Space by Commmerical Type							
Typology	**Halton Hills**	**Milton**	**Oakville**	**Burlington**	**Total**	**Halton Region % of sq. ft. in Shopping Centres**	**CMA % of sq. ft. in Shopping Centres**
Neighbourhood[1], Community[2] Conveni	543,227	1,128,551	2,345,991	2,718,150	**6,735,919**	44%	57%
Power Centres[4]		860,494	2,476,324	2,374,814	**5,711,632**	37%	19%
Regional[5]/ Super Regional[6]	441,966		455,002	1,419,041	**2,316,009**	15%	18%
Mixed-use Centres[7]				113,200	**113,200**	1%	4%
Outlet[8]	358,000				**358,000**	2%	1%
Total	**1,343,193**	**1,989,045**	**5,277,317**	**6,625,205**	**15,234,760**		

Source: CSCA, 2017, Shopping Centres Database

- **Neighbourhood, Community, Convenience**: More than 40% of all retail space in shopping centres in the Halton Region is in Neighbourhood, Community, or Convenience centres category. It is the biggest category in all of the four municipalities and comprising between 40–57% of each of the municipalities' retail space. In Milton, the Neighbourhood, Community, and Convenience centres category account for 57% of the entire retail space in shopping centres. Milton has the highest proportion of their retail in this category followed by Oakville at 44%. In Burlington and Halton Hills, the different types of centres are more evenly distributed, where the

[2] Shopping Centres are defined as follows:

2[1] Open-air property designed to address the daily needs of consumers in the immediate neighbourhood but with a broader offering than the convenience centre. Typical GLA: 40,000–99,000 sq. ft.

2[2] Cluster of attached retail units with significant off-street paved parking surrounding the building. Focuses on daily needs but with a wider range of soft goods and services than neighbourhood centres. Typical GLA: 100,000–400,000 sq. ft.

2[3] Few tenants that offer a narrow mix of goods and personal services to a very limited trade area, including walk-in traffic. The configuration is typically linear and managed as a coherent retail unit. Typical GLA: 10,000–39,000

2[4] Specialty Shopping Centre. Open-air centre that typically comprises three or more unconnected large-format retailers. May also have a few small specialty tenants. Typical GLA: 100,000–1,000,000 sq. ft.

2[5] Enclosed comparison-based centre. General merchandise or fashion-oriented offerings. Provides services in full depth and variety. Inward orientation of the stores connected by common areas/walkways. Typical Gross Leasable Area (GLA): 300,000–799,999 sq. ft.

2[6] Deeper breadth and depth of merchandise and stores, larger food court, greater offering of food stores and service uses, and more comprehensive mix of entertainment activities and dining options than the Regional malls. Typical GLA: 800,000+ sq. ft.

2[7] Multi-component structure developed as a single and coherent entity. The retail component is predominant and non-retail uses could be residential, offices etc. Typical GLA: 50,000+ sq. ft.

2[8] Open-air and/or enclosed centre that comprise manufacturers' and retailers' outlet stores selling brand-name goods at a discount. Typical GLA: 50,000–400,000

Neighbourhood, Community, and Convenience centres takes up 41% and 40% of the retail space respectively.

- **Power Centres:** Almost 40% of all retail space in the shopping centres in Halton is found in Power Centres. The 40% is distributed between Milton, Burlington, and Oakville; Halton Hills does not have retail in the Power Centres category. Oakville is the municipality with the highest percentage of Power Centres (47%) and is home to the two largest Power Centres in the entire Region. The SmartCentres Oakville centre and the RioCan Centre Burloak centre make up 9.6% and 9.3% of the Region's entire retail square footage in Power Centres. Power Centres account for 43% of the retail space in Milton, and Milton is home to the third biggest Power Centre in the region: Milton's Crossroads Power Centre represents 8.7% of Halton's entire square footage in Power Centres.

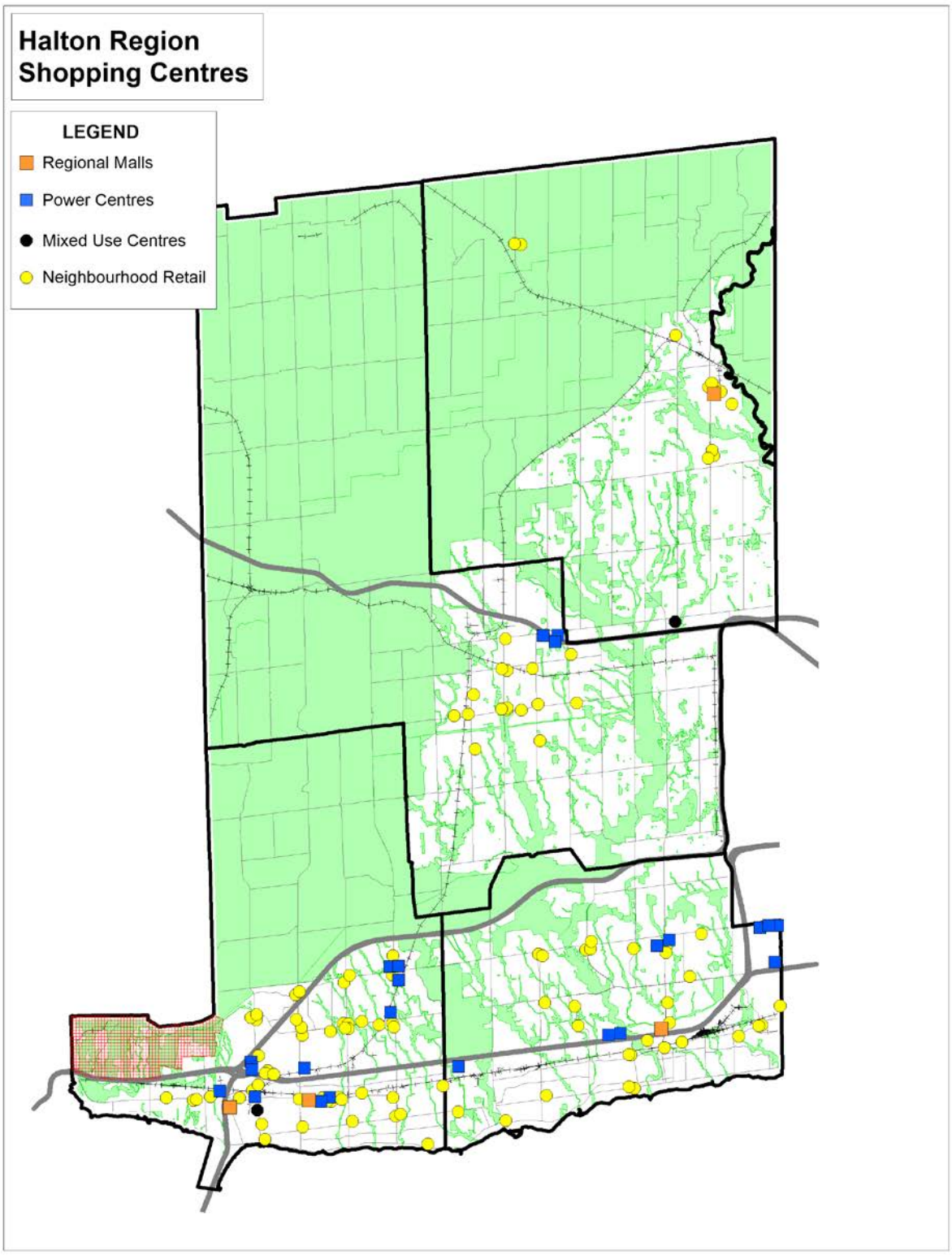
- **Regional / Super Regional:** The Regional shopping centres category represents 15% of Halton's retail space in shopping centres. As the biggest municipality in the region, Burlington has the most retail square footage in this category with the biggest Regional centres in Halton: Mapleview Shopping Centre and Burlington Mall which represent 61% of the entire square footage of Regional shopping centre space in Halton as well as 9.3% of all the combined retail space.

  In Halton Hills, Regional centres make up 33% of the municipality's retail space, and Halton Hills is the municipality with the largest share of space in Regional shopping centres. Milton does not have a Regional shopping centre and in Oakville, Oakville Place represents 9% of the municipality's shopping centre retail space.

  No shopping centres are characterized as Super Regional centres in Halton according to ICSC definitions.

- **Mixed-use and Outlet Centres**: Burlington is the only municipality with a shopping centre characterized as a Mixed-use Centre namely, the Burlington Square Plaza Mixed-Use Centre. Halton Hills is the only municipality with a shopping centre characterized as an Outlet Centre; Toronto Premium Outlets covers 358,000 square feet and is one of the biggest outlet centres in Canada.

Map 5: Shopping Centres in Halton Region



Source: JC Williams Group Inc.

4. Employment Land Densities Key to Future Land Needs

The IGMS process is considering the need for additional employment lands in the Region. Understanding how the existing 6,000 ha of employment lands throughout the Region are currently being used is essential to this work. Employment lands are designated as “Employment Areas”. The density of jobs on employment lands helps to make choices about designating land for growth but is difficult to accurately determine. Not all of the employment land designated is eventually used for the range of activities typically associated with these areas (i.e. manufacturing, warehousing and distribution and the range of services that typically occupy industrial-type buildings). This diversity of use is quite noticeable in the southern municipalities where the employment lands and buildings are older. By way of example, in 2016 we estimate that close to 9,000 jobs located in employment areas in Burlington are in major offices and retail.

Table 10 illustrates the variation in employment density for each local municipality. The density is based only on the employment land employment occupying industrial-type buildings. Employment and land areas for Major Office buildings, large retail areas and large institutions within employment areas are excluded from the density calculation. The large amount of more office-oriented activities occurring in industrial buildings in Oakville and Burlington as well as the age of the employment areas leads to the higher densities shown in those communities. The older parts of the Milton Highway 401 employment area, south of the Highway are somewhat higher density than the newer areas to the north. There is a stark difference in Halton Hills, however, where Georgetown’s largely older industrial area is about 40 employees per net ha, but the new buildings on the Highway 401 Corridor at about 19 employees per ha (recognizing the relatively small sample in this area in 2016).

Table 10: Estimated Average Employment Land Densities, 2016

	Employment Land Employment	Occupied Employment Area (ha)	Density (employees per ha)
Oakville	50,300	1,170	43.0
Burlington	43,200	1,080	39.8
Milton	19,600	720	27.3
Halton Hills	9,100	290	31.9
Halton Region	**122,200**	**3,260**	**37.5**

Note: Based on the Region of Halton Employment survey, 2016 adjusted to total occupied land area (due to non-responses in the survey) and adjusted to the Census employment figures used as the basis for Regional planning.

This development pattern introduces a level of complexity in preparing employment forecasts and translating those forecasts into land needs. The pattern varies considerably between new greenfield development and the redevelopment or reuse of buildings within older employment areas. Most notably with the latter, the opportunities afforded for new businesses, sometimes in emerging sectors, makes it quite difficult to foresee how employment density may change over time. Furthermore, the provincial policy context requires municipalities to more restrictively limit uses in employment lands going forward, making it quite difficult to consider such diversity of uses in the IGMS planning process.

Therefore, while we have an indication of current densities, it does not provide a definitive benchmark for understanding the future needs for employment lands. These needs will vary across the region depending on the variation in opportunities afforded by the lands available in the local municipalities.

C. Economic Basis for Employment in IGMS Growth Scenario Development

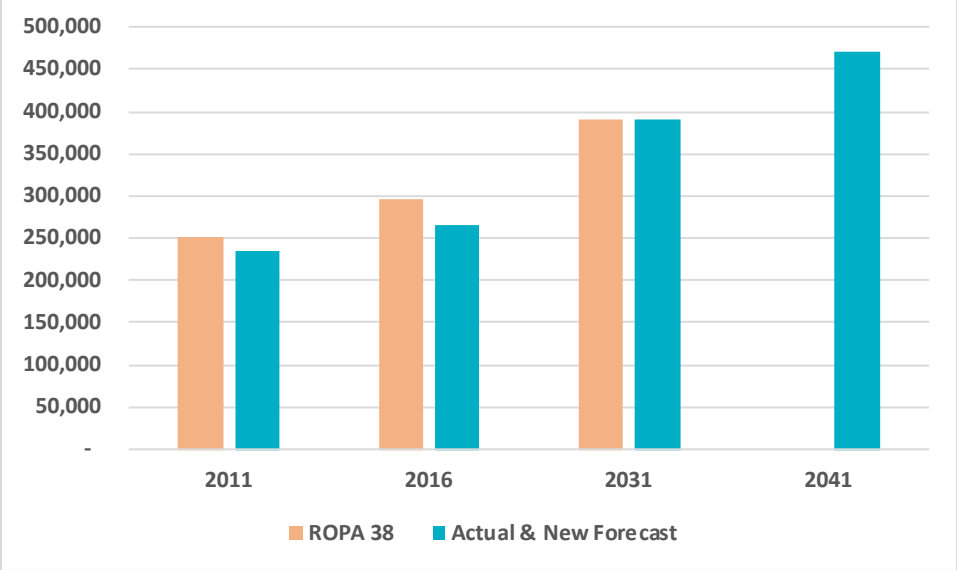
1. Employment Growth Lags ROPA 38 Forecast

Total employment growth has been somewhat slower than anticipated in the lead up to ROPA 38. With 265,000 jobs observed in 2016, there is a 32,000 job shortfall compared with the 297,000 that had been anticipated for 2016 in the Sustainable Halton background work, as shown in Figure 35 below. Other regions and single-tier municipalities across the GGH have experienced a similar shortfall between planned growth for 2016 and actual employment achievement according to the 2016 Census.

a. Total Employment

The *Growth Plan* 2031 employment forecast for Halton did not change under Amendment 2; however, Schedule 3 now requires the Region to plan for a 2041 employment forecast of 470,000 jobs. While the current shortfall between anticipated growth in the Sustainable Halton process and the 2016 Census suggests that Halton may not be on track to achieve its forecast level of 390,000 jobs by 2031, it will be close. It is anticipated that the shortfall will diminish to 11,000 by 2031: small enough to foresee the Region meeting the 2041 employment target of the *Growth Plan*. The implication for the development of growth scenarios is that the pace of employment growth will have to accelerate between 2031 and 2041 as shown below in Figure 35. There will be implications for the local municipal distribution that will be explored as the scenarios are developed and evaluated.

Figure 35: Halton Total Employment: Comparison of ROPA 38 Allocation with Census and Current Regional Forecast, 2011 - 2041



Source: Hemson Consulting Ltd. Based on Census 2006, 2011, 2016, Halton Region Official Plan, and forecast for IGMS.

In this part of the report we have discussed current trends and conditions in Halton to provide background and context on the regional economy as a basis for the detailed discussion of the development of growth scenarios. Shifts in the GTAH economy have resulted in slightly lower-then-anticipated job growth in Halton as the impact of the technology and innovation sector towards clustering in downtown Toronto is reflected in overall employment. However, the number of jobs in Halton has continued to grow, including in the manufacturing sector, as well as in service sectors, and the Region has increased its share of GTAH job growth. What does this all mean for the IGMS process? The next chapters discuss the challenge of determining the future land need for employment lands as a key to the future regional structure.

7. Accommodating Growth in Halton

The IGMS process is about how and where growth will be accommodated in the Region, balancing growth within existing urban areas with growth on new greenfield areas to be designated as a result of this process.

Through the analysis completed in the process so far, we have determined that forecast population growth to 2031 can likely be accommodated within existing settlement area boundaries as currently designated, with the result that the focus of the growth scenarios is accommodating additional growth to 2041. Milton and Halton Hills are the only municipalities with room to expand settlement area boundaries, so the scenarios with greenfield expansion test combinations of locations within these two areas, as discussed later in this report.

In this chapter we discuss where and how growth will be accommodated in Halton from a *Growth Plan* policy perspective. In developing the scenarios, we have used policy assumptions based on the *Growth Plan* about the mix of apartments vs ground-related housing, and this mix is also tested in the scenarios. Accommodating population growth largely through intensification means sustained pressure to shift the housing mix to apartments; especially apartments suited to families, in order to accommodate the demographic profile of Halton residents.

This chapter also addresses the employment outlook for Halton Region being planned for through the IGMS. The employment forecast is translated into land need by considering whether the jobs are in major office-type employment, population-related employment, which are mostly services-producing jobs, and in employment-land employment. The future of retailing is also discussed, with the conclusion that anticipated shifts in retailing are not of sufficient magnitude to factor into growth scenario assumptions. More detailed planning work to follow the IGMS will have to consider the impact of changes in retailing on commercial areas within the Region.

A. IGMS Planning How and Where Growth will be Accommodated

A primary task of the IGMS is to determine where and how to allocate growth in the Region to 2041 in such a way that meets Provincial growth management policy targets, reinforces the Regional urban structure, and balances local municipal plans and priorities. The growth scenarios prepared for evaluation through the IGMS identify a

quantum of growth for each local municipality but also address where that growth should be accommodated in local municipalities within the Region. This section describes those areas, key parameters for allocating growth within them at a high level, and examines the policy area structure at the local municipal level. Emerging changes to *Growth Plan* policy targets and their implications for managing growth in Halton are discussed in greater detail later in this report.

Map 6 below highlights various policy areas in the Region, including:

- Built-Up Area (BUA): The Province delineated built boundaries as part of implementation matters related to the 2006 *Growth Plan.* Built boundaries indicate the divide between the BUA and DGA of each local municipality. Residential development occurring within the BUA counts towards achievement of the intensification targets as set out in s.2.2.2 of the *Growth Plan*, 2019. Within the BUA, intensification occurs either within strategic growth areas, with specific density targets attached to them in the case of UGCs or MTSAs, or as general intensification, which applies to units throughout the balance of the BUA. Both of which count towards meeting the mandated minimum proportion of residential development occurring within the BUA.

- Designated Greenfield Area: the DGA are the developing areas of the Region that are outside of the Built-Up Area but within the settlement area boundary of municipalities, where urban development is permitted and on which the DGA density targets of the *Growth Plan* apply. A minimum number of persons and jobs per ha is required to be planned for on DGA lands, as set out in s.2.2.7 of the *Growth Plan*, 2019.

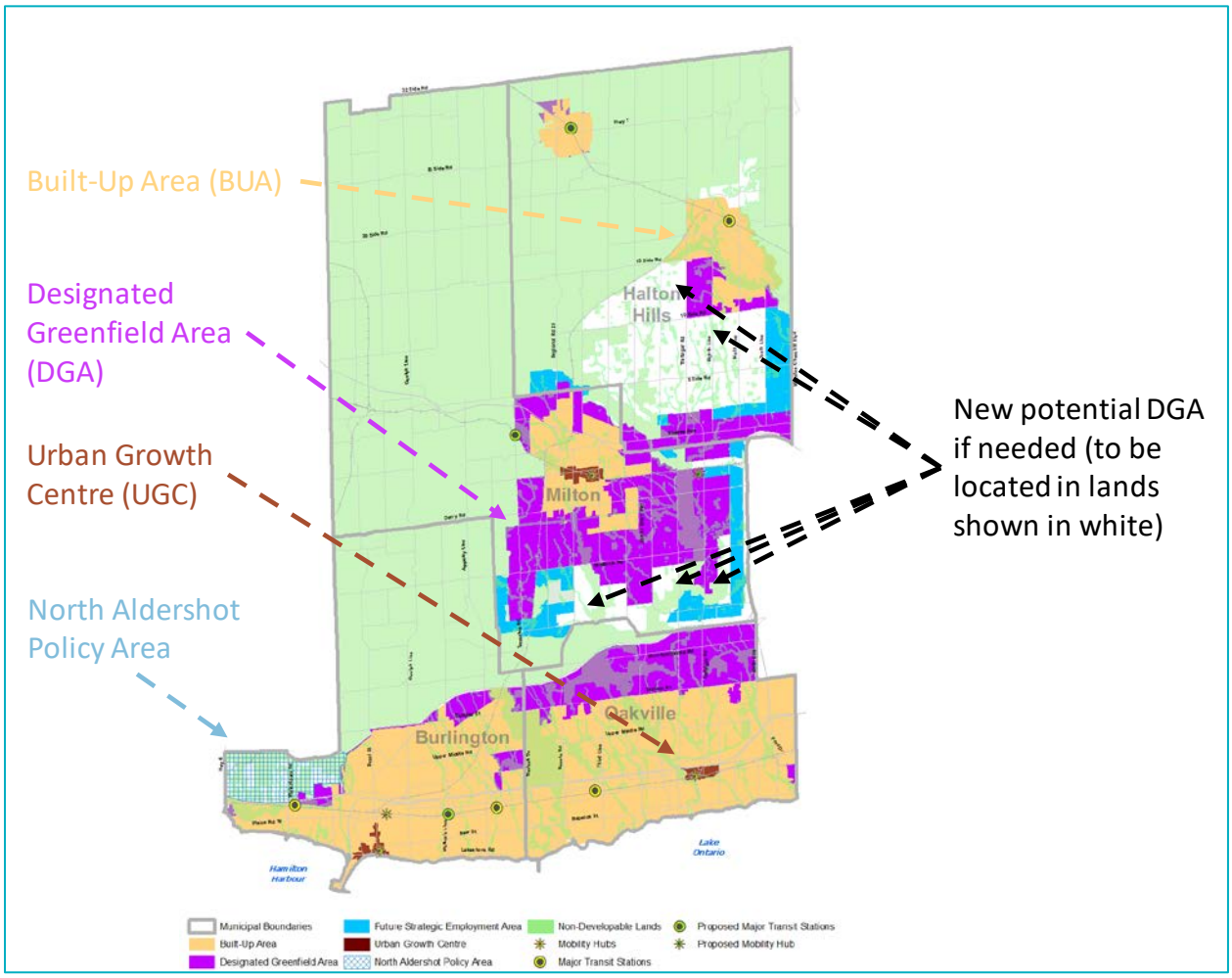
- Potential New DGA: these are areas within municipal boundaries but outside of currently-designated settlement area boundaries. Areas within the *Greenbelt Plan* cannot be considered for urban development. Shown as white in the map, these are the areas within Halton where settlement area boundaries can potentially be expanded, should the need for additional community area DGA lands to accommodate growth to 2041 be identified.

- Urban Growth Centres (UGCs): also delineated by the Province (on Schedule 4 of the *Growth Plan*), UGCs are focal points for high-density transit-supportive development. In Halton Region a minimum target of 200 persons and jobs per hectare is required to be planned for to a 2031 horizon for the Region's three UGCs, including Downtown Burlington, Midtown Oakville, and Downtown Milton. Other significant focal points for intensification and higher-density development are discussed below, including MTSAs, nodes and corridors.

- Unique within Halton Region, the North Aldershot Policy Area in the City of Burlington is a Special Study Area, with some limited development and

significant environmental features. The potential for future urban development of this area is a subject of review as part of the IGMS process, as discussed below in this section.

Map 6: Policy Areas



Residential growth can be accommodated in Halton Region in four ways:

1. In existing settlement area boundaries within the BUA;
2. In existing settlement area boundaries on the current Designated Greenfield Area;
3. Through employment land conversions; and
4. Designating new Greenfield Areas through settlement area boundary expansion.

1. Growth in Existing Settlement Area Boundaries as Currently Designated

Most of the growth in Halton Region to 2041 will be accommodated within existing settlement area boundaries. As described earlier, the higher growth increment of additional 40,000 residents at 2031 forecasts under Schedule 3 (as amended in 2013), can be accommodated within the currently designated DGA supply to 2031. The focus of the IGMS growth scenarios is to allocate growth for the extended planning horizon from 2031 to 2041. The growth scenarios prepared for evaluation through the IGMS are based first on varied Regional-level approaches to intensification versus greenfield development; and next on different lenses for allocating growth locally. The IGMS growth scenario analysis has tested various allocations of where and how growth can be accommodated in the various policy areas of the Region, where all scenarios meet at least minimum Provincial targets.

a. Growth in Built-Up Area

The IGMS needs to plan for at least the minimum proportion of residential development within the BUA, consistent with *Growth Plan* targets. This includes development within UGCs, MTSAs as well as general intensification throughout the BUA in strategic corridors and nodes.

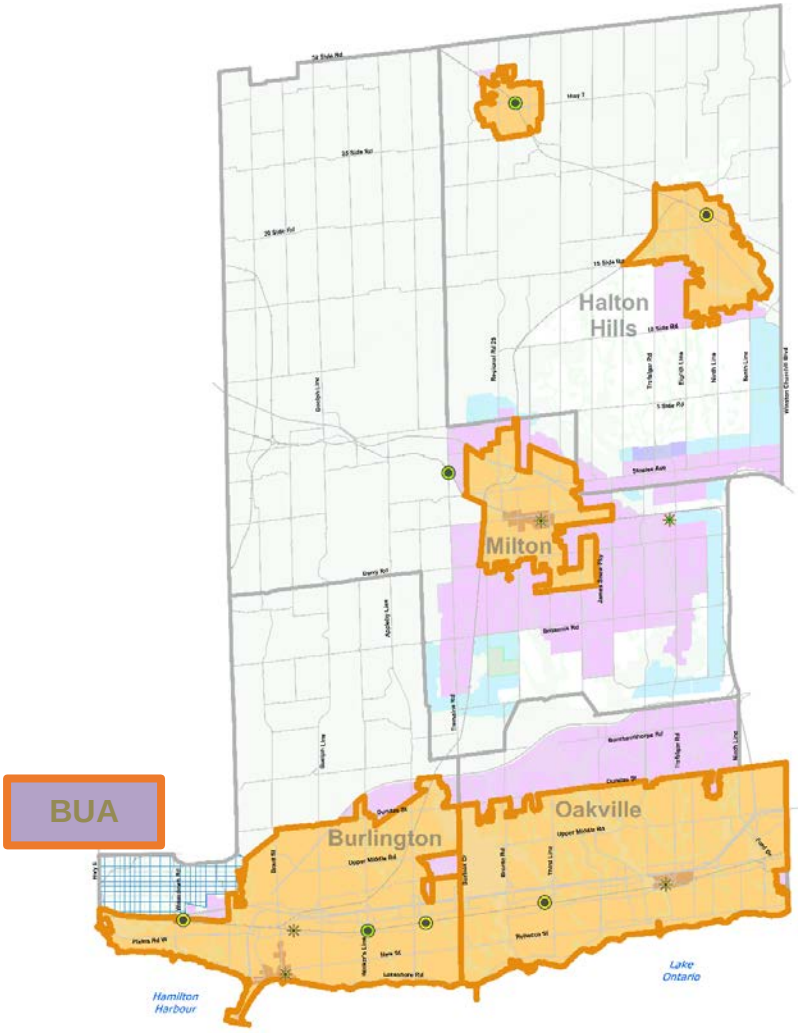
Table 11 below indicates the relative shares of residential building permits by local municipality in Halton from 2011 to 2015, when the *Growth Plan* intensification monitoring requirement came into effect; and more recently, from 2016 to 2018. For the 2016 to 2021 period, it appears likely that Halton will achieve the 40% minimum residential development within the BUA, as was required under the *Growth Plan*, 2006, with variable results at the local municipal level. Within the rapidly-growing greenfield-oriented communities of Milton and Oakville, the shift to the built boundary has been limited to date; conversely, in the urbanized City of Burlington, with very limited remaining greenfield opportunity, the contribution to meeting the Regional intensification target has been greater.

Table 11: Recent Residential Development Inside BUA versus Outside BUA

Share of Residential Building Permits by Policy Area, by Local Municipality in Halton, 2011 - 2018						
	2011 - 2015			2016 - 2018		
	Inside Built Boundary	Outside Built Boundary	Total	Inside Built Boundary	Outside Built Boundary	Total
Burlington	85%	15%	100%	93%	7%	100%
Oakville	42%	58%	100%	36%	64%	100%
Milton	11%	89%	100%	13%	87%	100%
Halton Hills	43%	57%	100%	46%	54%	100%
Halton Region	**36%**	**64%**	**100%**	**39%**	**61%**	**100%**

Source: Hemson Consulting Ltd. based on Halton Region building permit data.

Map 7: Built-Up Areas

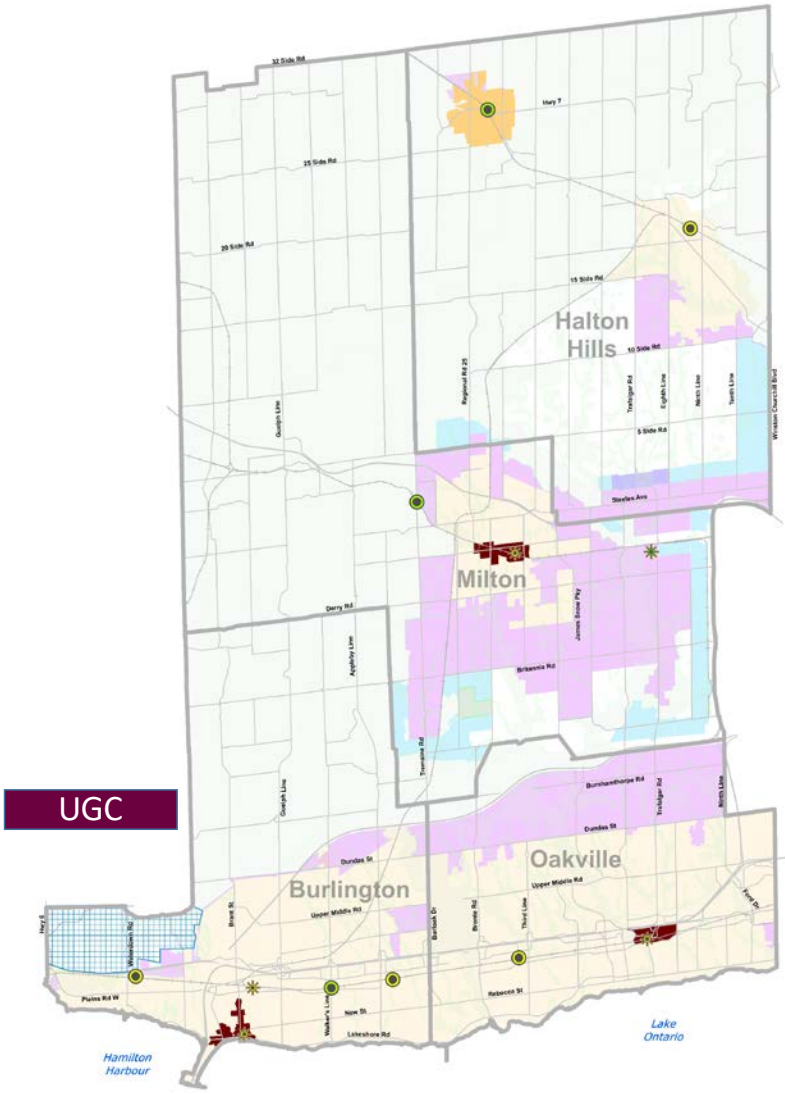


Local municipalities within Halton have undertaken significant planning for intensification, establishing visions for UGCs (and other strategic growth areas) which support Provincial policy objectives and targets. Local intensification studies have identified significant potential for development and redevelopment within strategic growth areas and general intensification throughout the BUA within each local municipality. Taken together, the identified supply for intensification units across the Region's BUAs is likely well in excess of what will be needed to accommodate growth in Halton within the 2041 planning horizon. It is however important to identify the supply both to illustrate capacity to meet Provincial targets, but also in recognition that growth in Halton will not end at 2041.

b. Urban Growth Centres

Halton Region has three Provincially-designated UGCs as set out on Schedule 4 of the *Growth Plan* and highlighted on Map 8 below: Downtown Burlington, Downtown Milton and Midtown Oakville. Section 2.2.3 of the *Growth Plan* provides policy direction for development in these strategic growth areas, requiring, among other matters, that they be planned to achieve a minimum target of person plus jobs per hectare by 2031. For the UCG's in Halton Region, that minimum target is 200 persons and jobs per hectare. The IGMS must allocate sufficient growth to achieve this target, whether or not it appears reasonable to realize this level of development within the next 12 years; and whether or not the implied supply potential is identified. As part of the IGMS background analysis, estimates were made as to the units required to achieve this density of development based on existing and approved planned development and on consultation with local municipal planning staff. Based on this, a supply potential of 9,700 units in the Burlington UGC, 11,000 in Midtown Oakville, and another 5,300 in the Downtown Milton were identified through the IGMS analysis. The Regions UGCs, taken together, have an identified capacity for more than 26,000 units, predominately apartments.

Map 8: Urban Growth Centres



c. Growth in the Existing Designated Greenfield Area

The Region is required to plan for meeting the minimum applicable intensification target for residential development occurring within the BUA. Once that minimum is met, the balance of forecast housing growth thus represents the maximum that can be allocated to the Region's DGA. Through Sustainable Halton and ROPA 38, the Region added roughly 1,700 ha of new DGA, planned to accommodate forecasted growth to 2031. The analysis of local plans and land supply undertaken as input to the development of IGMS growth scenarios, and reviewed with Regional and local municipal planning staff, identified significant remaining supply potential across Halton's DGA, as discussed in greater detail in the growth scenarios section in the next chapter and in Appendix B of this report. DGA unit capacity region-wide is estimated at nearly 70,000 units in

approved plans of subdivision; and another 37,000 for vacant unplanned greenfield areas, based on a density of DGA development assumed to meet the *Growth Plan* requirements.

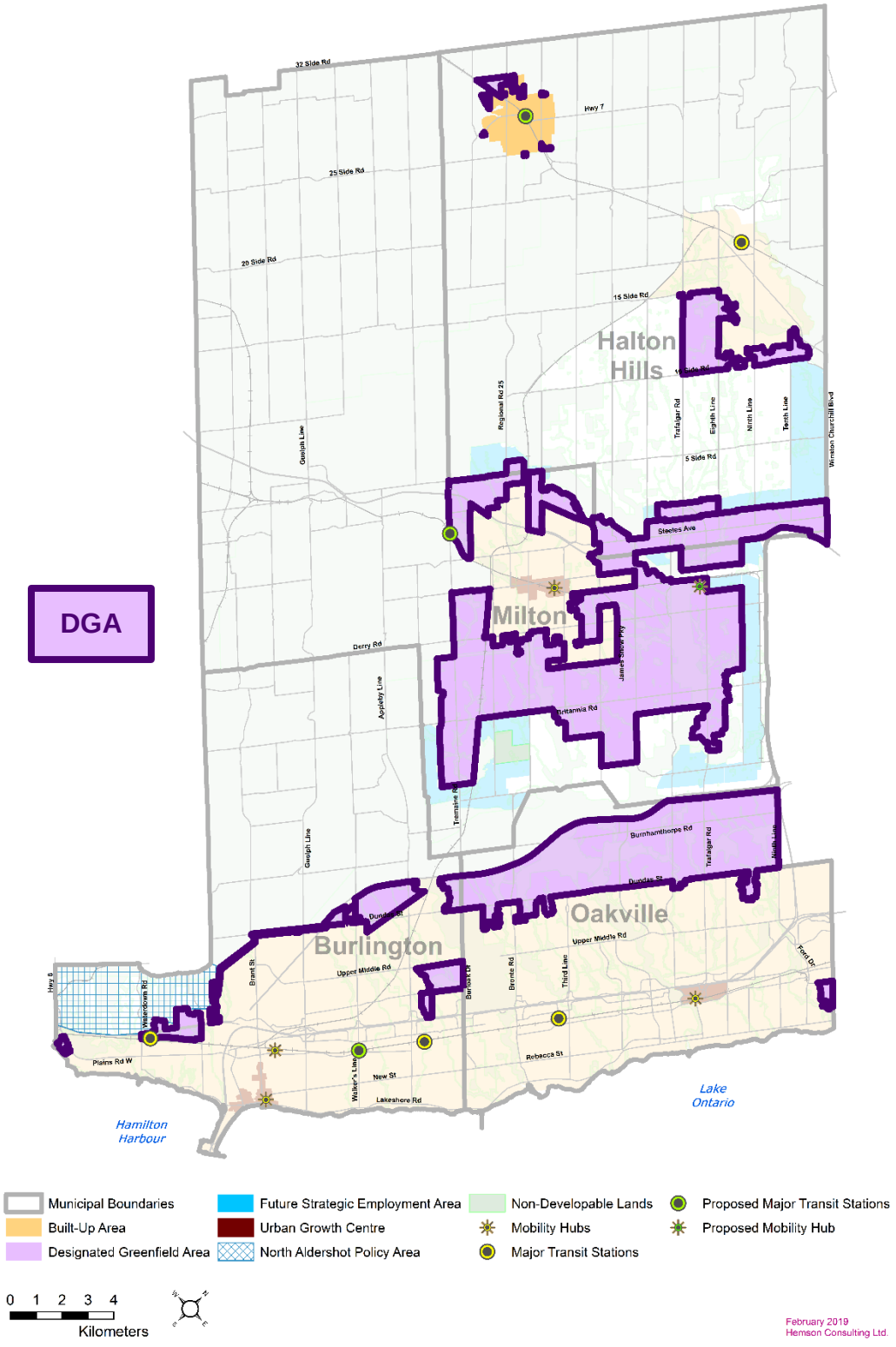
- There is only a small remaining supply of DGA potential in northern Burlington, consisting of a few remaining medium and high-density parcels near at the east end of the Alton area, lands in Alton West lands, and in the Evergreen Secondary Plan Area. DGA potential on vacant and planned lands of approximately 2,100 units was identified.

- Greenfield potential for the Town of Oakville includes vacant and potential DGA capacity in North Oakville, Palermo Village, Uptown Core, and other DGA pockets south of Dundas Street. Of particular interest to the IGMS analysis, the identified unit potential in North Oakville is now significantly higher than was originally contemplated for North Oakville under the North Oakville Secondary Plan. The potential for many more ground-related units and apartment units in the Trafalgar Corridor was identified under the recent Official Plan Amendment (OPA) 321. Based on recent work completed by the Town, more than 50,000 units may be accommodated in Oakville DGA.

- The bulk of the Region's remaining vacant DGA lands, not within approved plans, are located in Milton. Taking planned and vacant lands together, the Town has an identified greenfield supply of nearly 45,000 units.

- In Halton Hills, the DGA includes South Georgetown, Southwest Georgetown, as well as some potential in Stewarttown, now within the urban area. In total, an identified unit supply within the current DGA of nearly 8,500 units has been identified.

Map 9: Designated Greenfield Areas



2. Employment Land Conversions within Existing Settlement Areas

The current Built-Up Area includes extensive land throughout Halton devoted to employment activities. These employment lands are critical to growing the economy and the *Growth Plan* and *Halton Region Official Plan* provide policy guidance on protecting these lands. It is recognized, however, that as the economy evolves, and in order to help accommodate overall residential growth, and notably achieve intensification targets, that the use permissions on certain employment lands may be changed through an MCR. A structured set of conditions must be satisfied before any of these lands can be converted to non-employment use, such as residential, mixed-use or major retail. Conversion of such lands for non-employment purposes is only permitted once an MCR review satisfies the conditions of Section 2.2.5.9:

The conversion of lands within employment areas or prime employment areas to non-employment uses may be permitted only through a municipal comprehensive review where it has been demonstrated that:

a. *There is a need for the conversion;*
b. *The lands are not required over the horizon of this Plan for the employment purposes for which they are designated;*
c. *The municipality will maintain sufficient employment lands to accommodate forecasted employment growth to the horizon of this Plan;*
d. *The proposed uses would not adversely affect the overall viability of the employment area or prime employment area or the achievement of the minimum intensification and density targets in this Plan, as well as other policies of this Plan; and*
e. *There are existing or planned infrastructure and public service facilities to accommodate the proposed uses.*

There are three potential reasons to assess employment lands against these criteria as the Halton IGMS moves forward:

- While, considerable potential exists to accommodate residential growth within the currently identified DGA and through intensification, there may be strategic locations where it may be appropriate to convert employment lands in order to achieve growth objectives and realize the official plan vision. For example, some MTSAs are located in employment lands and conversion may be required in order to achieve the vision of mixed-use development and complete communities.

- Strategic sites in Future Strategic Employment Areas may need to be reviewed and a broader range of land uses considered in order to realize the vision of secondary plans.

- Owners of individual sites may have an interest in redeveloping their site before the next MCR and so may apply for conversion through the current IGMS exercise.

Regardless of the origin of the identified need for the consideration of conversion, assessing their merits against the tests of the *Growth Plan* policy can only really be performed once a Draft Preferred Growth Concept has been identified. The conversion would only be implemented following completion of the MCR.

The *Growth Plan* 2019 introduces another degree of protection for employment lands through the designation of Provincially Significant Employment Zones. This includes the identification of key employment lands in Halton, both within current employment areas and in the Future Strategic Employment Areas. A further consideration from a process standpoint is in the inclusion of a policy permitting municipalities to consider the conversion of some employment lands to non-employment purposes prior to the completion of the current MCR provided policies a), d) and e) above are satisfied and that the conversion would maintain a significant number of jobs on those lands.

The employment land conversion analysis will be conducted in the next stage of the IGMS work. It is assumed that the new policies that the Region will be operating under will be known in the spring of 2019 in order to conduct the analysis.

3. Major Transit Station Areas (MTSAs)

MTSAs are important Regional Transit Nodes within Halton, where a major portion of growth and intensification in the form of mixed-use and higher-density will occur. The *Growth Plan*, 2019 defines MTSAs as:

> *"The area including and around any existing or planned higher order transit station or stop within a settlement area; or the area including and around a major bus depot in an urban core. Major transit station areas generally are defined as the area within an approximate 500 to 800 metre radius of a transit station, representing about a 10-minute walk."*

To support prioritizing intensification, higher densities and transit viability, the *Growth Plan* sets out intensification targets for MTSAs to achieve an overall density of 150 residents and jobs per hectare. *Growth Plan* policies require MTSAs that are located on Priority Transit Corridors, as shown on Schedule 5 of the *Growth Plan* (i.e. Lakeshore West Line to Burlington GO), to be delineated in the Regional official plan and planned to achieve the density targets. The Region, in consultation with the local municipalities, can also delineate and assign alternative targets to MTSAs outside of the Priority Transit Corridor.

ROPA 38 established Major Transit Stations (including Mobility Hubs designated by Metrolinx) as key intensification areas in the Region. Two additional future GO rail stations have been identified through other plans and studies.

Existing and proposed MTSAs in Halton Region include:

Burlington

- Aldershot GO
- Burlington GO
- Walkers Line (Proposed)
- Appleby GO

Oakville

- Bronte GO
- Midtown-Oakville GO

Milton

- Milton GO
- Trafalgar/401 (Proposed)
- Tremaine/Steeles (Proposed)

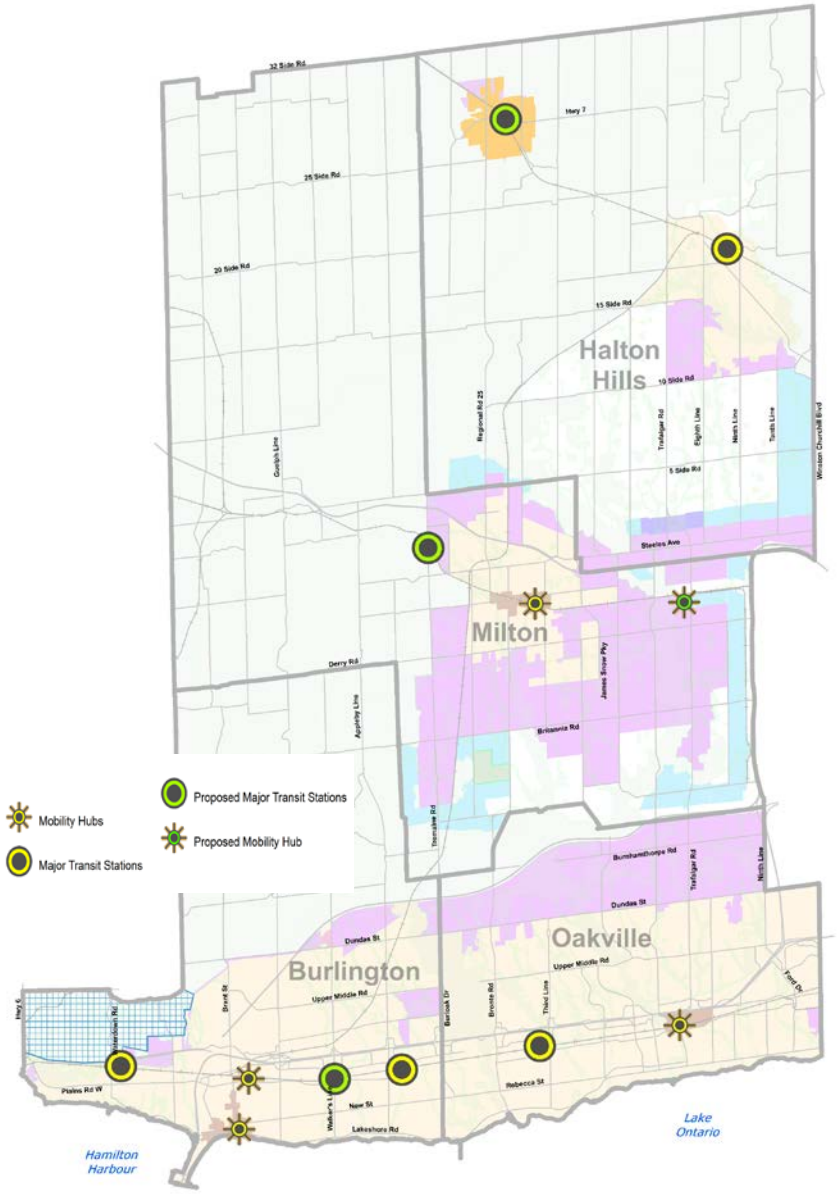
Halton Hills

- Georgetown GO
- Acton GO

The vision for the MTSAs is for employment as well as for residential growth, through mixed-use development. Within Halton, significant Regional and local municipal planning for existing and future MTSA development is underway with some requiring considerations of the conversion of employment lands to accommodate a wide range of uses. Assigning growth in MTSAs served by higher order transit creates opportunities to live and work within walking distance of a station. Furthermore, regional and local policies will need to be aligned in order to ensure servicing and transportation infrastructure is in place to facilitate the future growth of these areas.

Work is underway to analyze existing and proposed stations taking into account the local studies completed or currently underway. The Region's *Defining Major Transit Requirements in Halton* study provides a preliminary evaluation of the existing and proposed stations to identify existing infrastructure gaps in achieving the *Growth Plan* targets, or allow for alternative targets. The final delineation and assignment of targets will be part of the Preferred Growth Concept.

Map 10: Existing and Proposed Major Transit Station Areas



4. Growth through Settlement Area Expansion

Should the need for additional urban designated lands be identified to accommodate planned growth to 2041, settlement area boundary expansion may be justified. Settlement area boundary expansion involves the addition of those lands outside of a municipality's current BUA, DGA and Employment Areas, but within the municipal boundary.

Section 2.2.8.2 of the *Growth Plan*, 2019 provides that:

A settlement area boundary expansion may only occur through a municipal comprehensive review where it is demonstrated that:

> *a) based on the minimum intensification and density targets in this Plan and a land needs assessment undertaken in accordance with policy 2.2.1.5, sufficient opportunities to accommodate forecasted growth to the horizon of this Plan are not available through intensification and in the designated greenfield area:*
>
> *i. within the upper- or single-tier municipality, and*
>
> *ii. within the applicable lower-tier municipality;*
>
> *b) the proposed expansion will make available sufficient lands not exceeding the horizon of this Plan, based on the analysis provided for in policy 2.2.8.2 a), while minimizing land consumption; and*
>
> *c) the timing of the proposed expansion and the phasing of development within the designated greenfield area will not adversely affect the achievement of the minimum intensification and density targets in this Plan, as well as the other policies of this Plan.*

Should the addition of lands be justifiable, additional range of criteria for what lands can be added, are provided for in section 2.2.8.3.

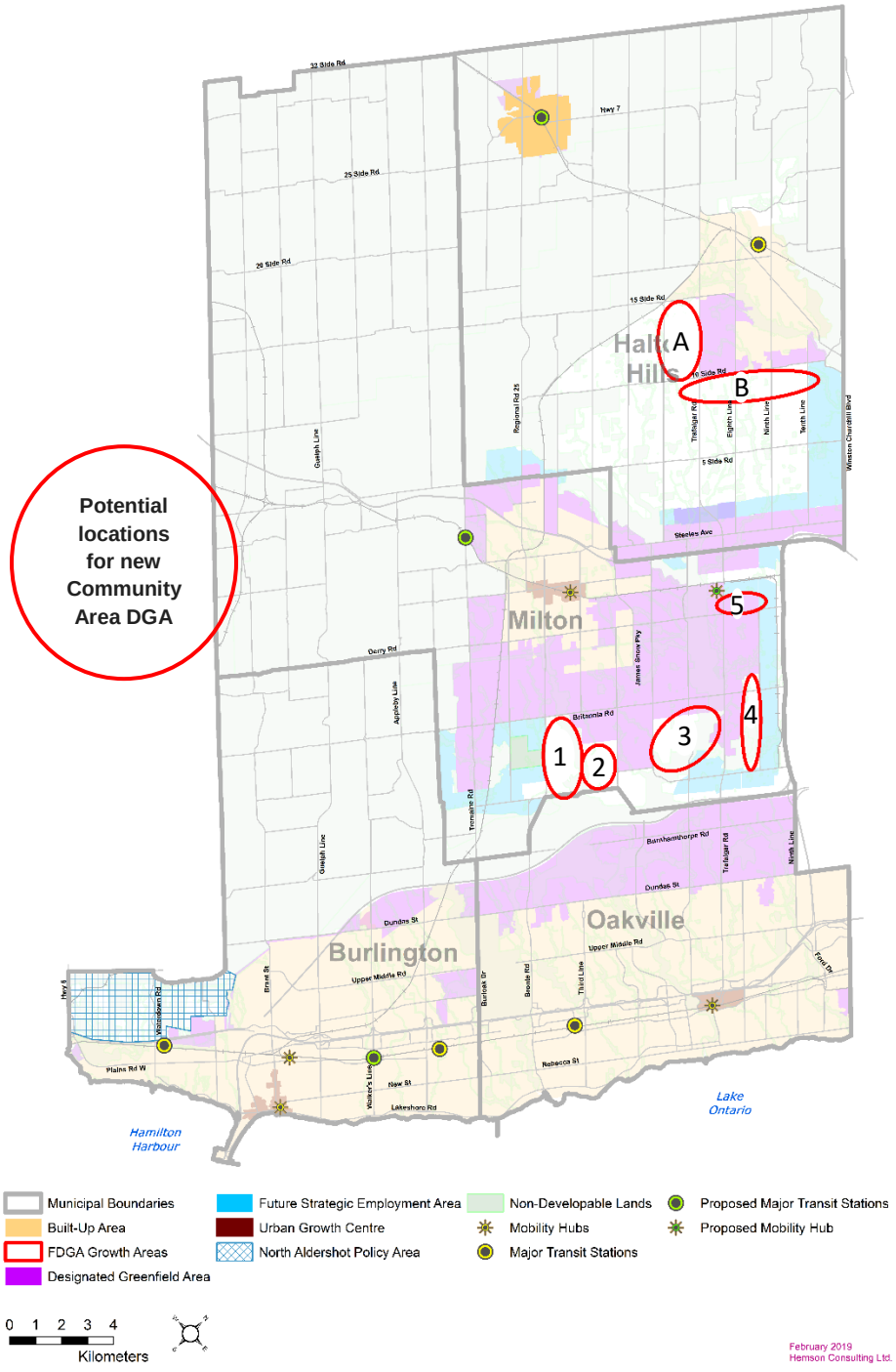
Within Halton Region, only the municipalities of Milton and Halton Hills have remaining lands outside of urban designation but still within the municipal boundary (with the exception of North Aldershot in Burlington, which is a Special Study Area), thus are the only two with the potential to add new community area DGA. Potential locations where this could occur, if warranted under the final Preferred Growth Concept, have been identified, as shown generally on Map 11 below and with measured land areas on Map 12 which follows. There are five potential areas in Milton[3] and two in Halton Hills, each of which would provide for contiguous extension of the existing urban area. Map 12 also provides the land area for a change of use proposed in the Agerton employment area that has been tested as part of sub-growth scenario under analysis and which would be treated as a new DGA area should it go ahead under a Preferred Growth Concept through the IGMS.

In lands presently no designated as urban, but designated as Future Strategic Employment Area (highlighted on Map 13), indicate potential locations for addition of employment area lands, or, lands for community area uses, should addition and

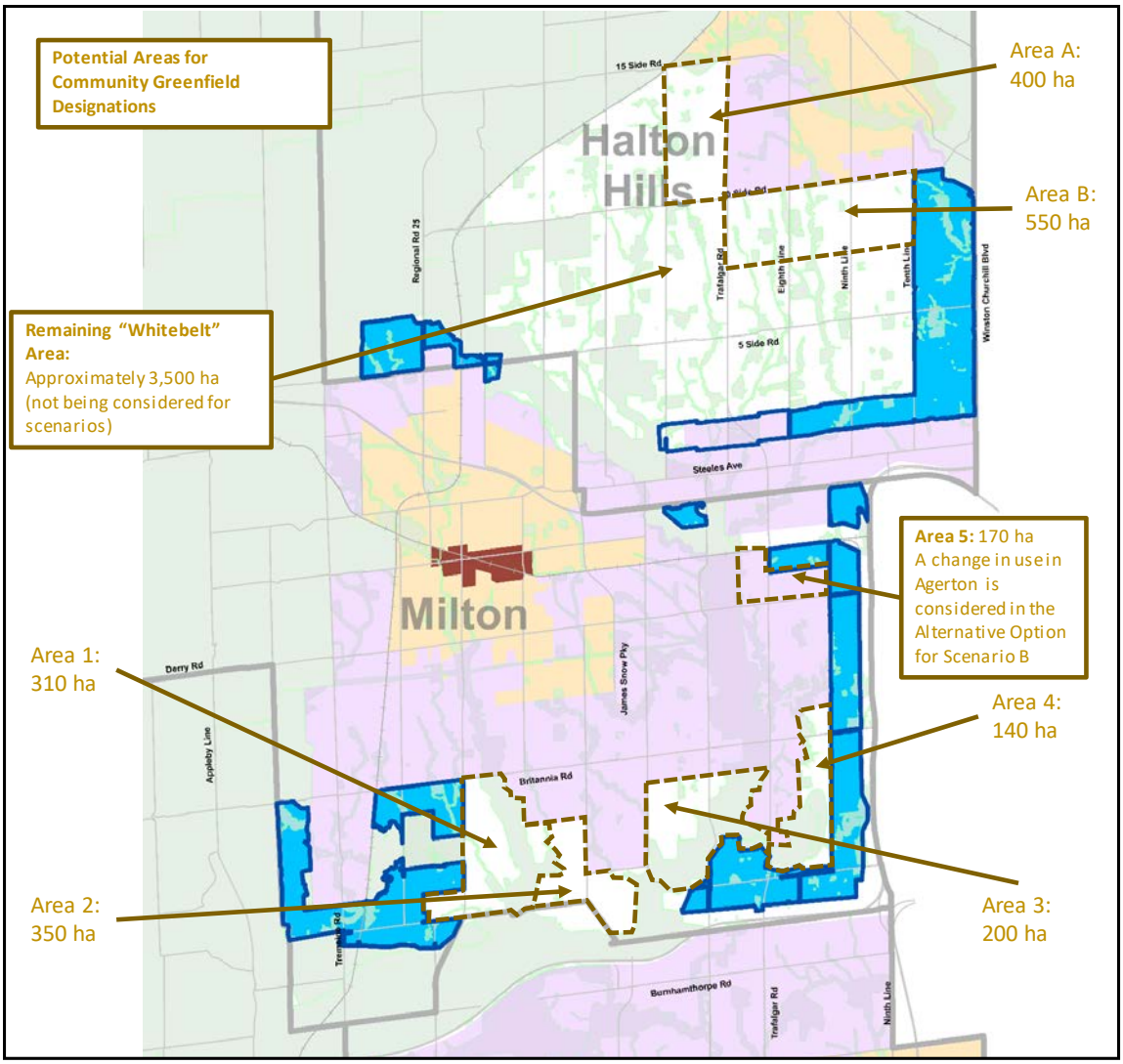
[3] The South Agerton area that the Town of Milton has proposed to be a mixed-use area rather than its current employment designation is technically an employment land conversion. However, because it is a larger undeveloped greenfield area, the potential change is being treated as part of the new community DGA analysis (rather than a site specific conversion).

conversion be warranted. The specific locations and size of any proposed expansions through the IGMS would be determined on the basis of the ultimate Preferred Growth Concept at the conclusion of Stage 2 of the process, involving a Growth Management Plan and implementation.

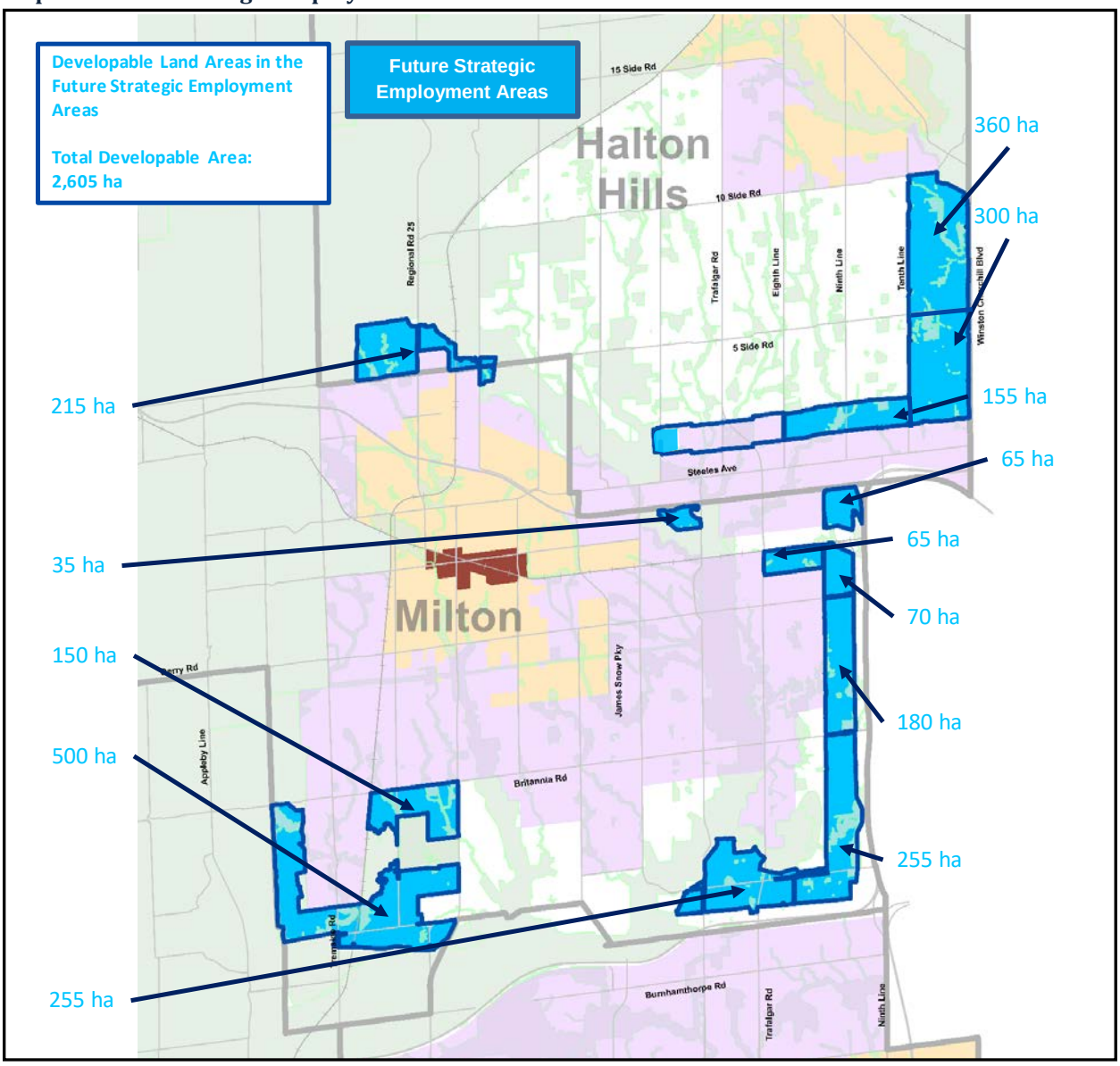
Map 11: Potential General Locations for Adding New Community Area DGA



Map 12: Potential New Community Area DGA Land Areas (Developable ha)



Map 13: Future Strategic Employment Areas



B. Housing Demand Factors and Supply Limitations

The primary consideration for residential development is about housing types and where the housing is provided.

1. Housing Type Varies Depending on Where It Is Provided

For the growth scenarios, the future population is distributed according to the type and location of housing. The growth choices are differentiated depending upon the location

of lands for future growth, whether: within the BUA, within existing DGA, or whether in new greenfield areas identified for designation through the IGMS.

Planning for housing in the Region is based on provincial and regional policies to encourage intensification within the existing Built-Up Area. The planned housing mix relies on a shift to more apartments in the housing mix for new residential growth in order to meet planning goals related to intensification, and to achieve the overall residential growth outlook for the Region. This has already been happening in Halton in some measure as shown in Figure 37, with the greatest shift in housing mix to apartments experienced in Burlington where there is little remaining greenfield land to accommodate ground-related housing and in Oakville which is becoming a larger more mature community. Moving to higher levels of intensification to 2041 means the shift has to be much greater to meet policy goals as reflected in the scenarios.

Figure 36: Housing Patterns by Ground-Oriented and Apartment Units, Pre-*Growth Plan*, 1986 - 2006 and Post-*Growth Plan*, 2006 - 2021, Halton Region

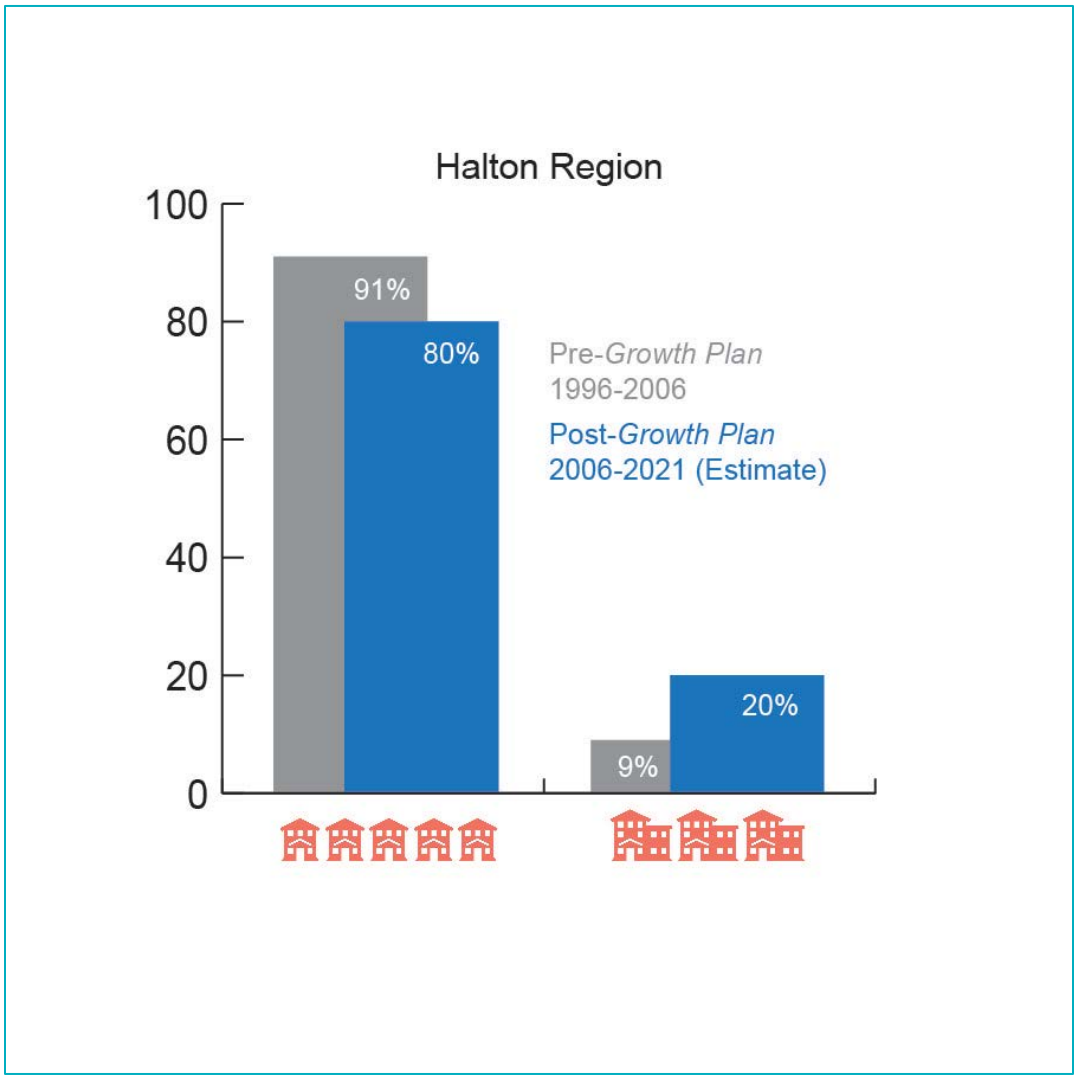
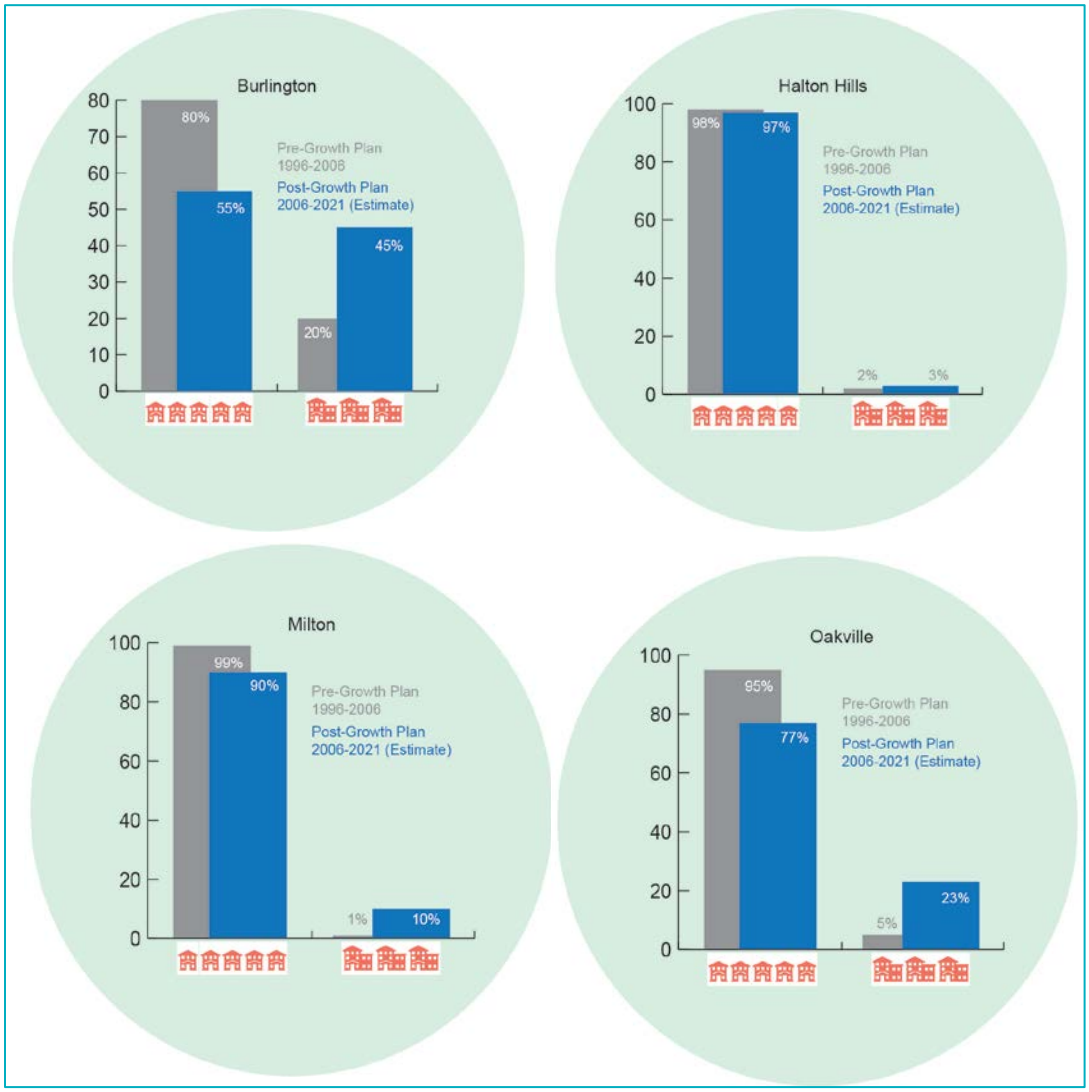


Figure 37: Housing Patterns by Ground-Oriented and Apartment Units, Pre-*Growth Plan*, 1986 - 2006 and Post-*Growth Plan*, 2006 - 2021, Local Municipalities in Halton



The first assumption is that nearly all of the development that occurs through intensification needs to be in an apartment form. By definition a BUA is built-up and so there are no large areas of land on which to build large numbers of ground-related units. When an area is relatively new, there may be a first round of intensification that occurs on parcels within the BUA that were passed by or in alternative use at the time of initial development. These often provide some amount of ground-related development. A recent example is the development of the former Saw-Whet Golf Course site on Bronte Road in Oakville where ground-related units are planned on lands within the BUA. As well, a number of ground-related units can be provided through infill projects on large

former rural or exurban lots within the urban area, and on small former commercial and institutional sites.
The majority of new units, however, will be apartment units. Within the urban structure of the BUA in the Region's municipalities, intensification is planned to occur in designated areas in nodes and corridors. Apartment units are the highest density and highest value developments suited to the redevelopment of existing commercial, institutional, or residential uses. The vast majority of newer apartment buildings in the Region are of this type, for example, downtown Burlington, Palermo in Oakville, the urban growth centre in Milton, or an infill site in Georgetown.

For the growth scenarios, the following assumptions about housing type within the BUA have been made to reflect the nature of intensification development:

- Based on analysis of the building permit data in the Region, new development inside built boundary is about 80% apartments and 20% ground-related. It is assumed this continues through 2021.

- After 2021, it is assumed that intensification is 90% apartments and 10% ground-related units. This is a typical assumption applied elsewhere. The share of apartment rises to 90% since a larger overall number of units is to be accommodated between 2021 and 2041 and the sites that are available for ground-related development are of a diminishing supply.

A second assumption addresses housing mix in the DGA areas. In the past, the normal course of development of a greenfield area in the Toronto region has been for the initial wave of development to consist of ground-related units and a few lower-scale apartments, with build-out of the remaining apartment sites over a much longer time horizon. This is particularly the case where higher-density apartments are planned as part of eventual mixed-use development along arterial road frontages or large mixed-use residential-commercial areas where the retail-commercial component is built in stand-alone stores in the initial development. An example of the latter is the retail development in the Uptown Core in Oakville where long-term redevelopment to mixed-use is anticipated, now more than 20 years ago, but not occurring quickly after the initial development.

For the growth scenarios, the following assumptions about housing type have been made to reflect the nature of higher-density development in DGA:

- Based on analysis of greenfield lands in Milton, developed lands are about 95% ground-related and 5% apartments, with a density in excess of 60 persons plus jobs per hectare in the community area. Similar numbers are suggested in North Oakville currently. In the scenarios just meeting the *Growth Plan*'s 50% intensification target

in the 2030s (Scenarios 4 and 8, described later in report), it is assumed that 90% of units will be ground-related for initial development of new greenfield lands during the planning period. This still exceeds the *Growth Plan*, 2019 policy standards for greenfield density.

- The Scenarios with less new greenfield land (Scenarios 2 and 3) accommodate the growth that would otherwise be in new greenfield lands through apartments within the existing greenfield area. The result is more units within these areas with a mix 31% and 69% ground related in the limited new greenfield land scenario (Scenario 2) and 43% apartments and 57% ground-related units in the no new greenfield land scenario (Scenario 3).

- In the scenarios which analyse the higher greenfield densities from the *Growth Plan*, 2017 (Scenarios 2 A&B, 3 A&B), the newly-designated areas need to meet the higher density of 80 persons plus jobs per ha by 2041. All apartments are assumed to be developed during the first wave of development (or the 80 persons plus jobs per hectare not be met). It is assumed that these areas, within the 2041 *Growth Plan* horizon, will be developed at 80% ground related units and 20% apartments. In new greenfield areas in scenarios built in accordance with the *Growth Plan,* 2019 at 65 persons plus jobs per hectare, the housing mix in the initial wave of development would be the 90% ground-related units applied to the existing DGA.

2. Change in Housing Mix Will Also Mean a Shift to More Family-Oriented Apartments

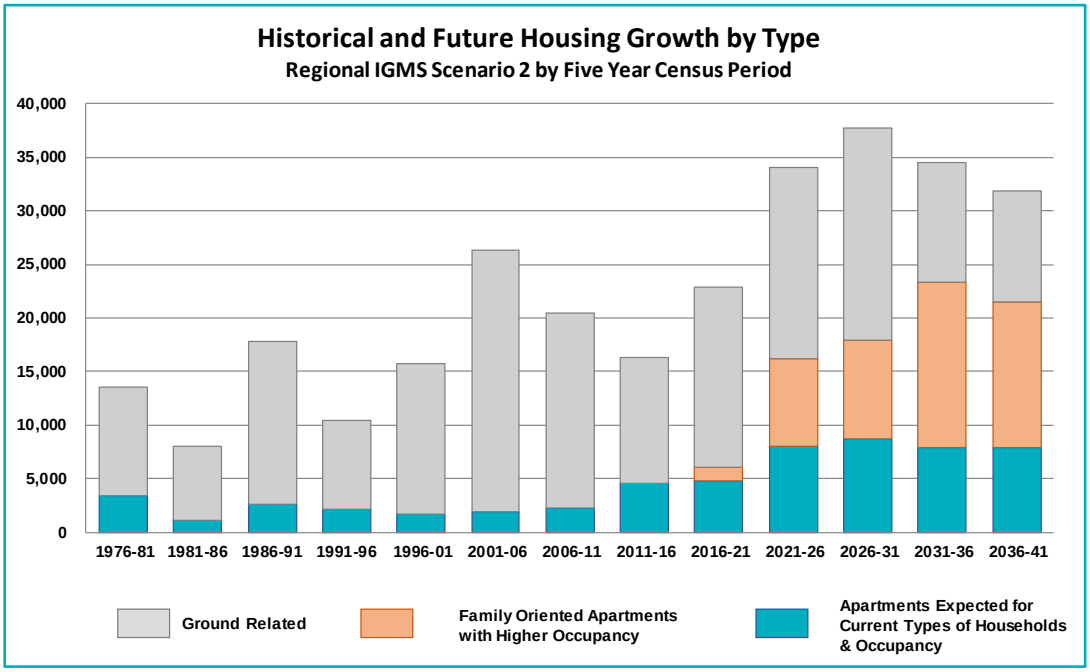
As described above, a housing mix very different from the past will be needed to support growth because of the higher intensification rates. The shift to apartments is different than would be expected for the types of households in Halton, which is and will be dominated by family households.

Figure 38 below illustrates historical housing-by-unit type in the Region and the necessary planned forecast housing mix to achieve the required density and intensification within the scenarios. The shift in housing mix is considerable, with a much larger proportion of apartments than might otherwise occur in the absence of policy intervention.

Figure 38 shows, in the bottom of the column in blue, the number of apartments built in the past in the Region and, going forward, the number of apartments that would be expected to be built to accommodate the forecast of population and households if current patterns of occupancy by age of household do not shift significantly over the forecast period. This illustrates what we might typically expect to be the housing demand without a policy intervention to change the pattern.

The top of the column, in grey, shows the ground-related units that have historically dominated the market in Halton. The middle part of the column, in orange, shows the units that under current occupancy patterns would have been expected to occupy ground-related housing but will need to instead occupy apartment units meet intensification policy expectations for the shift in housing mix. This graphic depicts Regional Scenario 2. The shift in housing varies between the scenarios, as described in the next chapter, but the general pattern exists for all scenarios.

Figure 38: Historical and Future Housing Growth by Type, Regional Growth Scenario 2, 1976 - 2041



Source: Hemson Consulting; Statistics Canada.

The intensification and density expectations mean that not only would there be an increased prevalence of apartment units in the overall housing mix accommodating larger-sized households (rather than ground-related units) but that new ground-related units would also have higher average household size:

- For ground-related households (singles, semi-detached, row houses), shown in grey in Figure 38, there would need to be a higher "new unit" persons per unit than today, about 3.7 persons per unit compared to about 3.4 for new units today, on the assumption that some of the smaller households that might typically be in ground-related units will be in apartments.

- The households that would normally be expected to occupy apartments, shown in orange in Figure 38, would have an assumed new unit average household size of 1.9 persons per unit.

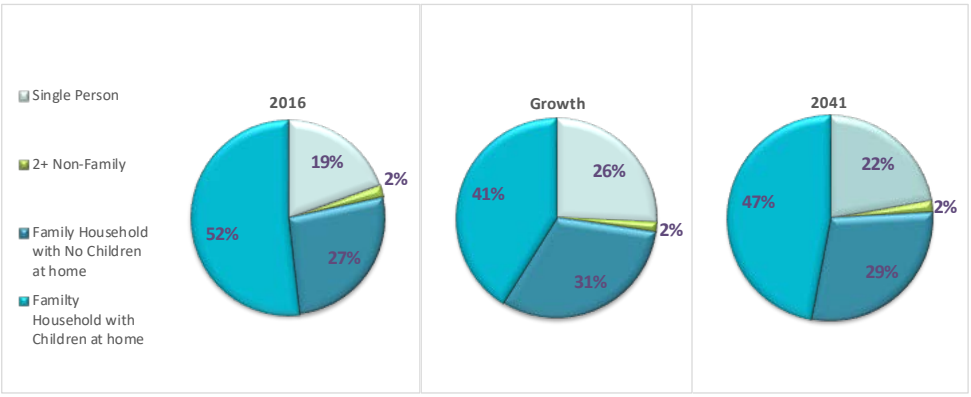
- In the 2030s, the additional larger family households that would need to be in apartment forms would be about two-thirds of all apartment units, as shown in orange on the graph. For this portion of the apartments, the average household size would need to be about 2.5 persons per unit. The overall combined average occupancy for new apartments in the 2030s would be about 2.2 persons per unit.

Forecast totals for households and population at 2041 that are the same for all scenarios can be reached through other combinations of average household size arithmetic, but all would need to reflect a pattern of increased higher-density unit-type occupancies of some magnitude.

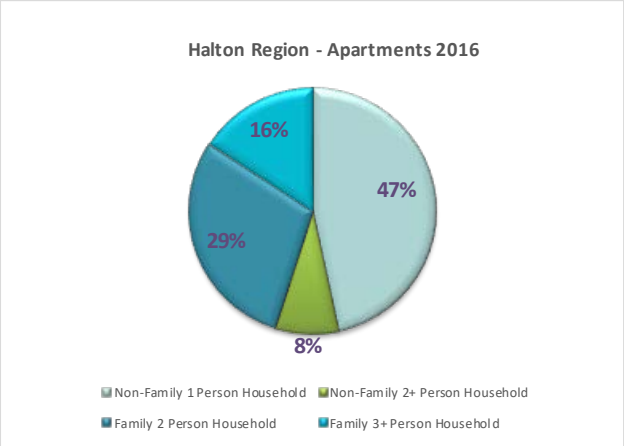
Making policy decisions about how housing is accommodated through intensification is also making decisions about how people and households of different types are to be accommodated. And, while we must assume all of this change comes to pass within the scenario development, in reality the risk of some of the growth and development not occurring as planned increases in direct relation to the extent to which patterns of housing are anticipated to change. Further details on the make up of households in Halton, the types of units they occupy and how this would change in the future is described in the following text boxes.

What types of households typically occupy apartments in Halton?

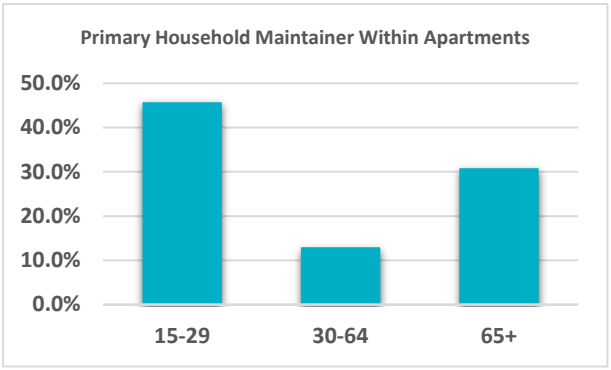
In Halton in 2016, 21.6% (41,600) of all households were non-family households, that is, single persons or two or more unrelated persons. However, about 90% of these non-family households are also single-person households. In part due to an aging population, there is expected to be more single-person households in the future (most of these households are late middle-aged to elderly as a result of divorce or widowhood). Most of the households now and in the future are and will be family households, which are primarily made up of couples with or without children at home or single parents with at least one child at home. The charts below indicate the existing and forecast make up of households in the Region.



Who currently occupies apartment units in Halton? According to the 2016 Census, most apartments are occupied by a single person, the majority of the remainder by two people (either family or non-family), and a small number by 3 or more people.



Apartment occupancy is also highly related to age as shown in the following graph where nearly half of households headed by a person under 30 are in apartments, few in middle age, and then more again among the elderly. The overlap here between the two viewpoints on apartment occupancy is that the largest number of households are elderly, single persons, and couples.



How will housing occupancy need to change to achieve intensification goals?

The types of households occupying both ground-related housing and apartments has not changed significantly over time. The historic persons per unit in the table below indicate little change in the average household size since 1996, meaning that there has not been a significant change in the types of households over that time. The decline from 1986 to 1991 was primarily related to the tail-end of the baby-boom generation moving out of their parental home.

Halton Region Persons per Unit by Housing Type				
Census Year		Ground Related	Apartment Units	All Units
Historic	1986	3.29	1.86	2.98
	1991	3.19	1.80	2.90
	1996	3.13	1.79	2.85
	2001	3.04	1.73	2.78
	2006	2.99	1.74	2.76
	2011	3.00	1.72	2.77
	2016	3.05	1.74	2.80
Forecast (Scenario 2 for 2041)	2021	3.06	1.76	2.81
	2031	3.10	1.84	2.77
	2041	3.13	1.98	2.73

A significant rise is forecast in the average household size for both ground-related housing and apartments. The rise in average household size indicates a change in what types of households are occupying specific types of units, a change that is necessary if the planned intensification goal are to be achieved. In 2016 nearly 19% of housing units in Halton were apartments, but in the scenarios for the 2016 to 2041 period that share will need to be 47% to 55% of all new units in apartments in order to meet the higher intensification targets. While there is a growing number of elderly couples and singles over time, there will not be enough of them to occupy these units. Many of these apartments will need to be occupied by larger family households, many of which will be 2-person couples or a single parent with a child as well as some 3 or more person family households. These are the family-oriented apartments shown in the graphic in Figure 38. The result is a rise expected in the average persons per unit in apartments.

There is also a rise in the persons per unit in ground-related housing on the basis that if more two-person households are in apartments in the future than currently, there will necessarily also be a higher proportion of 3 or more person households within the ground-related housing stock.

These changes in the types of households occupying apartment units represents a significant change from current patterns and would require a shift in housing choices to be made by these households compared to the choices that similar households might have made in the past.

3. Relationship of Development Potential and Demand for Intensification in Greenfield Development

It has already been described that much of the higher-density supply in the DGA should be considered as long-term development potential since much of it is very unlikely to develop during the period to 2041. This is the case mainly because there is lower demand for units than there is site potential rather than any challenges in bringing the land to market. Much of the intensification supply is also a long-term prospect but for very different reasons.

Most intensification through redevelopment is typically a long-term prospect. Redevelopment sites often require land assembly, which involves is notoriously difficult

and time-consuming process. Not only does one need to wait for multiple owners to want to sell, once it is clear an assembly is under way, hold outs seek very high prices. Even where assembly is not required, only a few types of property owners, out of all the lands in a particular area, may be entrepreneurial residential developers. For example, often an owner can feel quite comfortable with the reasonable return on investment from an existing occupied strip mall and have no interest in selling or developing; or they may be interested in the future, but not today. Some properties owned by development interests are banked and kept for use once some other intended development sites are completed, or the company itself only undertakes a certain number of projects at a time, so some lands may be developed much later than others. All of this can occur even when properties for intensification are in demand.

Some sites may not be well-suited to redevelopment. Site issues are more common in older areas due to size or configuration, since newer areas typically have larger land parcels laid out in planned subdivisions. Newer areas typically have newer buildings on site, which means the buildings themselves are of higher value and there is less interest or incentive in seeking additional value. There is always financial risk to development. The occupant of a building may also give it value. For example, as long as a retail big box business is a profitable operation for its occupant, and therefore to the landowner, the property is very unlikely to be a candidate for redevelopment. Planners, in hopes of seeing denser mixed-use development, have often portrayed big box retail as “temporary use”, assuming that a greater intensity of development will occur over time as the area matures. While change does occur, there is little indication that these uses will change *en masse* within the forecast time frame.

A good example of where change has occurred is where the mid-size grocery stores of the 1950s and 1960s were mostly shuttered in favour of much larger stores in the 1980s and 1990s. Often these buildings went through a cycle of uses with relatively low rents, such as martial arts studios, dance studios, and gyms. Many of these sites, now 50 or more years old, have since become sites for infill development.

None of the forgoing is intended to discourage notions of intensification and redevelopment in any particular location. Rather the purpose is to make clear that such change is often a long and slow process. This means that, from a regional planning perspective, it is important to have a far greater supply potential identified for development through intensification than is strictly needed to satisfy the amount of development allocated during the planning time frame.

C. Prospects and Limitations Influencing Employment Outlook by Type

The growing influence of the sectoral shift to a services-dominated economy and the influence of technology are quite pronounced in the GTAH and are anticipated to continue to affect economic conditions throughout the forecast period. While we have noted earlier the trend in terms of goods-producing versus services-producing industries, there is, quite possibly, a more significant shift occurring within firms. A shift from routine to knowledge-intensive activities across industry categories is occurring irrespective of the goods versus services nature of firms. Advances in information and communications technology and automation are leading to fewer person-hours, although of higher-value and more skilled labour per unit of output. This process is otherwise known as rising labour productivity.

This shift has been documented by The Neptis Foundation and Metropole Consultants in two significant research reports: *"Planning for Prosperity: Globalization, Competitiveness and the Growth Plan for the Greater Golden Horseshoe"* (2015) and *"Planning the Next GGH"* (2018).

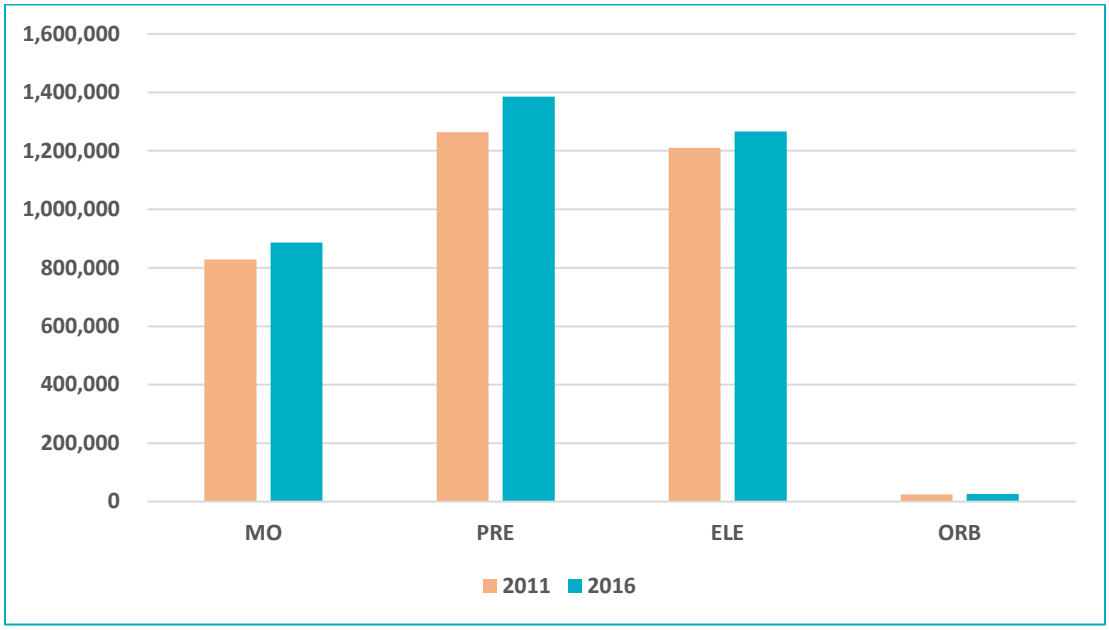
> *"The change is better described as a shift from low-value-added to high-value-added activities, from low-knowledge-content to knowledge-intensive activities, and from routine to creative and executive activities." (Planning for Prosperity, 2015 p. 8)*

These trends have worked together to reshape the economic landscape of the GTAH as the long-standing migration of traditional manufacturing from the urban core to greenfield settings continues. This migration has resulted in larger sites and buildings with fewer employees, while the older inner-city locations have become quite popular for new, creative economy activities. This process is repeating as some manufacturing and goods distribution declines in the older suburban employment areas of the 1960s and 1970s and is replaced by growth of new modern space in greenfield areas. The space left behind is then reused by a range of more service-oriented firms.

Both influences must be acknowledged as we plan for Halton's future. The shift from goods-producing to services-producing will inform the outlook for employment land employment and hence employment land needs as the number of jobs per hectare in new employment lands is expected to be low for industries locating here, even though the economic input of these industries is expected to be robust. Also, the influence of knowledge-intensive activities and the impacts of information and communications technology will inform the outlook for employment land development as well as the demand for, and location of, major office employment. Figure 39 illustrates the

distribution of employment growth from 2011 to 2016 by land-use-based type of employment.

Figure 39: Total Employment by Type GTAH 2011 - 2016



Source: Hemson Consulting based on Statistics Canada data.

In the forecasts that form the background to Amendment 2 to the *Growth Plan* (2013), which extends the planning horizon from 2031 to 2041, the categories of employment were shifted relative to the 2005 forecasts for the GGH such that a greater proportion of future employment was Major Office and Population-Related and a reduced proportion was on Employment Lands, accelerating the observed shift in employment that has been occurring for some time. The Censuses of 2011 and 2016 and the Labour Force Survey to current are indicating the shift is occurring earlier than anticipated in the Amendment 2 background work.

1. Major Office Employment

a. GTAH Office Market

The GTAH Office market has been characterized by a recent shift in demand for downtown Toronto locations. During the 1990s and 2000s, about three-quarters of new office development in the GTAH occurred in the four Regions around Toronto: in York mainly near Highways 404 and 7 in Markham and Richmond Hill; in Peel, the Highway 401 corridor in Mississauga; and in Halton in the QEW corridor in Oakville and Burlington. This pattern has entirely reversed in this decade, as the post-recession recovery focused a large proportion of office employment growth in Downtown Toronto.

CBRE reports for the fourth quarter of 2018 that Downtown Toronto has an office vacancy rate of 2.7% compared with 7.6% across the GTA. Flexible, sustainable, high quality space is in demand in Downtown Toronto. Over 4 million sq. ft. has been built in recent years and over 7 million sq. ft. is under construction (CBRE, “Greater Toronto Area Office Marketview, Q4 2018”).

This is not to suggest that the market is not active outside of Toronto. Halton’s major office locations are in Oakville and Burlington along the QEW. Although vacancy rates for Oakville and Burlington are reported at 19.2% and 14.3% respectively for the fourth quarter of 2018, positive absorption year-over-year occurred in both municipalities and there is almost 260,000 sq. ft. under construction.

Two significant changes within Halton’s office market have important implications for the development outlook

There are two trends that will have significant effects on the Halton office market and demand for new office development: declining floor space per worker and the rise of “flex space.” After decades of increase, floor space per worker in new offices has declined significantly in recent years. Open concept work areas (for all levels of an organization), shared work spaces and “hoteling” (unassigned work space) have all led to reduced overall space consumption. What does this mean for Halton? New office designs take a long time to work through the system as renovations usually occur between tenancies, so the decrease in demand for space is taking time to work through the office market. Also, new designs are not suited to all companies or to all buildings, complicating overall expectation for the future. Nevertheless, standing office buildings in Halton can be reasonably expected to accommodate 10 to 15% more employees over the next decade or so. Coupled with occupancy of currently vacant space, existing buildings could accommodate one-quarter of major office employment growth to 2041.

The other trend is flex office space, which refers to offices locating in single storey buildings originally built with high ceilings to accommodate industrial use. Offices may occupy industrial buildings right from initial occupancy or buildings may be converted to office use over time with new tenants. The Halton Regional Planning office in a multi-tenant industrial building on North Service Road in Oakville is an example of flex office space. In fact, a substantial proportion of the industrial buildings on the QEW in Oakville and Burlington are used as flex space, even where neighbouring properties are purpose-built multi-storey office buildings. Flex office space has led to occupancy of buildings that might otherwise have had an industrial use and to rising employment densities on designated employment lands where this is occurring.

The more existing industrial space is converted to flex office, the less standard office space is required. If this trend continues office development of the type the region and local municipalities are hoping to direct to their planned mixed-use centres cannot be expected to locate as planned. The future distribution of office space creates challenges in trying to determine the character of future planned major office and employment areas and appropriate future land needs for employment areas.

b. Implications of Market Conditions

The significant shift in the office market back to Downtown Toronto will affect the office employment outlook in Halton. *Growth Plan* forecasts, within which growth management planning must take place, are optimistic because the majority of office employment was assumed to continue to be in the Regions. The shift Downtown Toronto is attributed to many factors, but chief among them is employers' access to labour force and the growth in tech-related sectors. Availability of a large and growing pool of Millennials occupying a large (and rapidly growing) stock of downtown apartments makes the area attractive to employers. Access to the regional labour force through the GO and TTC Subway systems is even more important. As congestion continues to worsen in the GTAH, Union Station is increasingly the one location in the GTAH with accessibility to the largest pool of potential workers. Growth in the tech-related sectors has magnified these effects, since both the companies and the workers in much of this sector have a high desire for more urban locations, including the much-sought-after "brick and beam" office space in historic downtown industrial buildings.

The market will almost certainly cycle back to a more even balance between downtown and the Regions during the planning period. Rapidly-rising lease rates downtown can be expected to encourage employers to seek more affordable space in the Regions.

Planning in Halton is working within the mandated employment forecasts to 2041 in the *Growth Plan*. Underlying these forecasts, prepared in 2012, is a distribution of office employment growth that assumes the majority of new office building development would be in the Regions. At the same time there is a more rapid shift in overall GTAH employment toward Major Office than anticipated in the forecasts. The combination of the overall shift in employment and the Regional development pattern that has occurred in the 2010s, means that the 2031 Major Office employment forecasts for Halton should be seen as somewhat optimistic, but that 2041 is more likely to be achieved.

2. Population-Related Employment

Population-related employment is employment that primarily serves a resident population. This category includes retail, education, health care, local government and work-at-home employment. As Ontario and the GGH enter into a period of relative labour shortage, especially after 2021, the ratio of population to population-related employment is expected to remain stable. There may be decreases, largely as a result of capital-labour substitution through increasing technology as discussed previously (e.g. self-scanning at retail cashiers). Balancing these decreases there will be increases due to the continual rise of personal services generally and the increasing demand for healthcare and other call and support services for a growing population of elderly

people. This ratio has been at a historical level between 4.80 and 5.00 persons for every population-related job over the past 25 years. The ratio is forecast to be 5.10 in 2041.

3. Employment Land Employment

Employment Land Employment includes jobs accommodated primarily in low-rise industrial-type buildings, the majority of which are located within business parks and industrial areas. Between 2011 and 2016 employment on Employment Lands throughout the Region grew by almost 13,000 jobs to a total of 122,000 jobs. While some of this growth took place through the development of new employment lands in the DGA, growth also occurred in existing employment areas.

In contrast to the regional office market, the demand for new industrial space is quite strong and largely focused outside of the City of Toronto. GTAH-wide, the availability of space is historically low, with a vacancy rate of 0.6% in the fourth quarter of 2018 (CBRE Toronto Industrial Marketview Q4 2018). Over 5.7 million square feet of new supply was added during 2018 with 6.6 million square feet currently under construction. This tight market has resulted in increased asking rents and market conditions that may continue into 2020.

The focus of the GTAH activity in employment lands employment is in the west, in Peel and Halton Regions. The tight market here saw very low vacancy rates in Burlington (2.7%), Milton (1.2%) and Oakville (1.0%) according to fourth quarter 2018 statistics from CBRE. As the current supply of greenfield land in Western Peel is rapidly diminishing, demand for employment land in Halton is expected to be strong. In Halton, new industrial building permits valued at $72.5 million were issued in 2018, following a total of $117 million in 2017, and servicing is underway across the region to facilitate new industrial development.

While the demand for industrial space is strong, total employment is expected to be low. The relative paucity of jobs associated with such a dynamic industrial market in the GTA West in particular can be attributed to the continued need for large warehousing facilities to handle the shipment of goods: both those produced in the GTA and those arriving here from elsewhere. Notably, only 20% of cargo handled at Toronto Pearson Airport originates from and is destined for, Canadian locations. The majority involves international trade. Cargo volumes at Pearson (434,000 tonnes in 2014) are anticipated to grow by 4.4% annually to almost 1 million tonnes by 2034 (Peel Region Goods Movement Strategic Plan 2017 – 2021, p. 21).

A recent study by Watson & Associates Economists (2017) examined the competitiveness of Halton's employment areas against competitor locations across the GGH. The study concluded that the employment areas in North Halton were well positioned to compete for land-extensive industrial development such as logistics centres, while lands in South Halton were somewhat limited in opportunities and price. However, South Halton was seen as being highly competitive in attracting office firms, comparing favourably with office nodes in Meadowvale and West Brampton.

D. The Future of Retailing

Anticipated shifts in retailing are not of sufficient magnitude to factor into growth scenario assumptions. More detailed planning work to follow the IGMS will have to consider the impact of potential pressure to downsize and consolidate retailing centres, making room for mixed-use development and residential intensification, as appropriate.

1. Issues That Halton Will Face

As regions and municipalities plan for a 20-year time horizon, some of the important challenges they will face in the future include the following:

- Retailers and developers will start to include a mix of retail and supply chain uses within the same developments in response to the need for managing online order fulfillment. This will likely mean that retail developments will need to accommodate more truck deliveries and customer pickups.
- Because of the downsizing of many big box stores, the owners of big box centres will push for reuse/intensification of this real estate. Most will try to include a mix of uses such as residential but will be faced with challenges from existing tenants because of their lease provisions.
- Building good successful mixed-use centres will be a learning process for developers. Development is typically siloed so mixed-use is a challenge. For example, a residential developer doing retail and/or a retail developer doing residential may not have the experience to create a truly great project.
- Currently, retail is not a favoured real estate asset class. Developers now want to build less retail, which may lead to undersupply rather than the push to over supply as in the past.
- An important consideration around employment in retail in the future is that in most cases, there will be fewer employees in stores and the work that those employees will be doing will change. It is likely that the jobs that remain will require more selling and technology skills and will have less focus on manual labour.

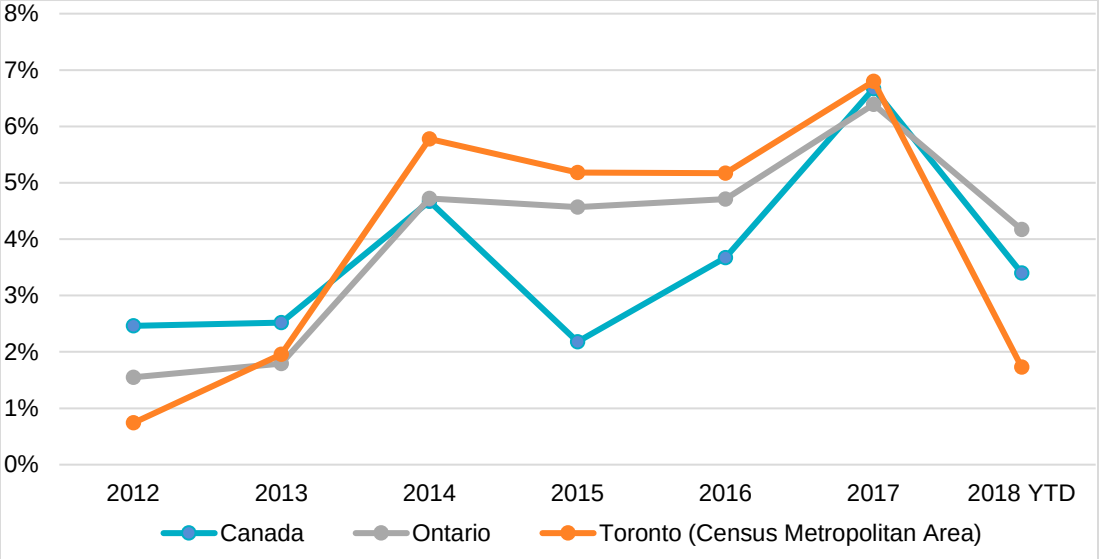
- An important consideration in planning shopping centres in the future will be the advent of autonomous vehicles. With autonomous vehicles, less parking will be required but there will be a great need to organize expanded drop off and pickup facilities.

2. Retail Growth Trends in Canada and Toronto

In Toronto and Ontario, retail growth has been relatively strong over the past five years at over 5% as low interest rates and higher housing prices encouraged consumers to spend, especially on home-related goods. However, growth dropped in 2018 as higher interest rates and softening house values dampened consumer enthusiasm.

The higher value of the American dollar has encouraged an increase in retail as Canadians refrain from cross-border shopping while Americans shop in Canada. A more normalized growth rate for Canada is under 4%.

Figure 40: Percentage Change in Retail Trade Year Over Year



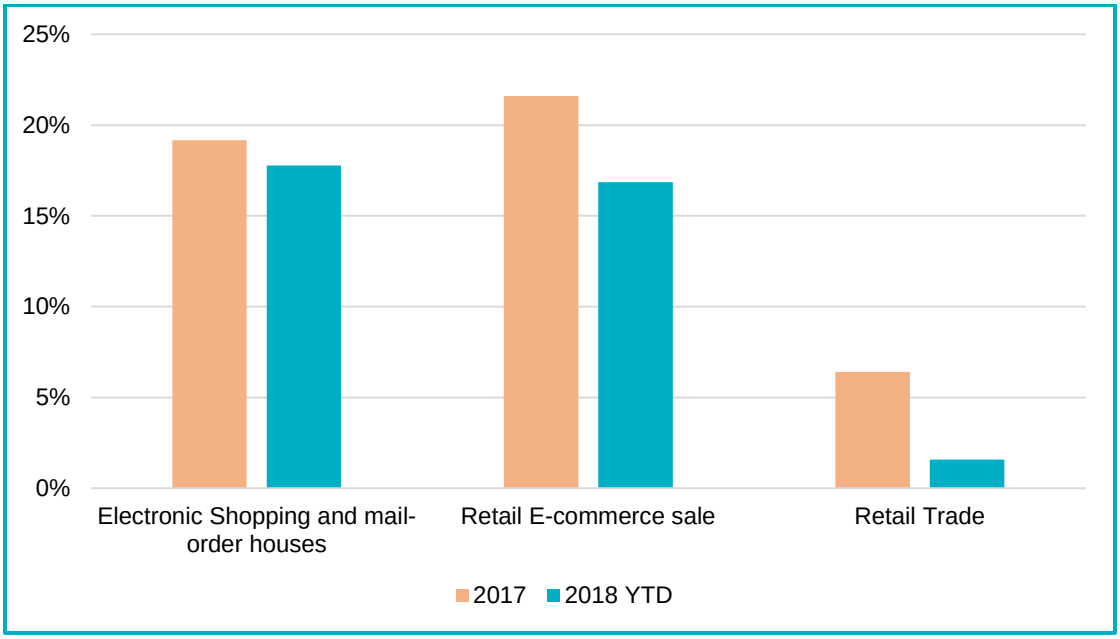
Source: Statistics Canada

Until 2017, Statistics Canada did not measure the value of e-commerce sales as a component of retail sales. Instead these sales were included in a measurement of non-store spending that included mail order houses and vending machines. In 2017, Statistics Canada unveiled e-commerce sales data, which includes a combination of sales at "pure play" e-commerce retailers[4] and retailers that have both stores and e-commerce operations.

[4] "Pure play" retailers do not have stores and conduct all their business digitally. Amazon and Ebay are the largest of these merchants.

The chart below shows the first two years of results from these sales. Sales for e-commerce retailers are growing at a double-digit rate, significantly faster than store-based retailers. The e-commerce sales measured by Statistics Canada are now approximately 4% of all retail sales. This number does not include purchases by Canadians at retailers based outside of Canada and is believed to significantly under-report these sales.

Figure 41: Percentage Growth in Retail E-Commerce Sales Year Over Year



Source: Statistics Canada
Note that online sales data for the Toronto CMA and Ontario are not available.

3. Trends Influencing Retail Real Estate Development

Reduced demand for land devoted to retail real estate needs is expected. Some of the important retail trends driving retail real estate needs include the following:

- **Luxury/Value Divide** – the most successful retailers have been ones that are at either end of the value scale with both luxury retailers, e.g., Gucci, Burberry, etc. and low price retailers, e.g., Dollarama, Winners, etc. performing well. Retailers that have focused on the middle such as Le Chateau have struggled and some have gone out of business, e.g., Sears. Witness the recent decision by the Hudson Bay Corporation to close their line of Home Outfitter stores.

- **Fast Fashion** – this trend refers to stores like H&M, Zara, and Forever 21, which have lower prices on fashionable merchandise and higher number of inventory cycles compared to more traditional fashion retailers such as Reitmans and Le Chateau. Fast-fashion retailers have put huge pressure on

the more traditional regional mall tenants that have depended on having a relatively higher margin in order to pay higher rents at these malls. While these fast fashion stores have been very successful in Canada, they are very selective about locations, are not often found outside of major urban centres and even then, tend to be only in the best malls.

- **Ethnic Retailers** – retail is a fluid business and entrepreneurial retailers are always looking for unmet needs. Retail offerings in larger urban centres, notably in Ontario and B.C., has always reflected waves of immigration from different lands. While some large international retailers have found success here, the market was prepared for them, in part, by a wide range of independent business owners that opened to serve their communities with products appropriate for their culture, from Italian to Polish to South-Asian, and many nations in between.

- **Urban Retailing** – Many retailers, especially general merchandise and food retailers, have developed smaller units and different operating models as they try to cater to residents of dense urban areas where they see growth of younger populations. While these retailers are willing to experiment in areas like Downtown Toronto, they are very resistant to try these new models in suburban areas that currently have less density to allow them to use their traditional models.

4. Trends Influencing How Consumers Shop

What started at the beginning of the 2000s as online shopping has now morphed into what is referred to as omni-channel retailing. This refers to the concept that a customer can shop through any channel—stores, online, mobile—and be recognized and served through their channel of choice. They can also shop, buy, take possession of their purchase, and/or return the items through any channel. This has been enabled through a wide variety of new technologies, which are not reviewed here but have become very important in delivering this omni-channel service.

- **Online Shopping** – While many retailers are working hard to include a role for their stores in omni-channel shopping, the big trend driver has been Amazon, which has not opened their own stores in Canada but has used their limited number of Whole Foods stores to give their brand a face here. Their push into grocery and their Prime membership offers has ensured that Canadians have moved many of their purchases online. They have also provided a marketplace where smaller retailers and individual product makers can access Amazon's search and delivery expertise. This allows any scale of retailer to sell online though one of the most powerful merchandise search engines in the world.

- **Fewer, Smaller Stores** – As the internet has become an important part of the operations of most retailers, they have found the need for, and use of, stores

has changed. Customers use stores to pick up something quickly or to see, touch, and potentially get advice on more complicated products. Stores have also become a place where customers can "experience" the brand. Stores like Best Buy and Walmart have used their websites to support their stores allowing them to carry fewer individual products and providing quick delivery of merchandise not stocked in the store. Best Buy has been particularly successful at this.

- **Fewer Stores** – Chain stores like American Eagle and Reitmans have been able to reduce their store count but still increase overall revenues within their market areas. These stores used to be the staples in smaller regional malls (less than 400,000 square feet), but now are mostly only found in larger regional centres that serve bigger trade areas.

- **Grocery, The Next Frontier** – grocery has been largely immune to online with only a very small fraction of transactions taking place online in Canada. However, that is about to change because there has been an enormous amount of innovation in this area that ultimately will change the way people shop for grocery. In the future, customers will most likely buy more basics and packaged goods online or through automatic reorder but shop in grocery stores for fresh products such as produce, meat, and bakery. Physical grocery stores will become more about experience, food tasting, and eating out while shopping for food, rather than a place to do a full shop. The shopper of the future may order their basics online and go to the grocery store to get their fresh products, while at the same time picking up their online order. This shopping trend will likely lead to smaller selling space in grocery stores with larger stock spaces for picking online orders.

- **Other Innovations** – Currently retailers are testing many new innovations such as self-service models, which have automatic check out and/or the use of robots for stocking shelves and filling online orders. This will change how stores are built and how many employees work there. While these innovations are still in test mode, they will likely happen within the next five to ten years.

5. New Roles for Stores and Shopping Centres

Shopping centres have been going through considerable transition as the fallout from the changes in how customers shop has hit retail real estate. In the future, the role of shopping centres will change. The most successful will fall into the following categories:

- **Experience centres** – these include large regional centres such as Yorkdale and Square One, which continue to attract new retailers and retain the remaining chain stores. Owners of these so called "fortress" centres continue to invest in them and improve the experience to maintain their hold on the market.

- **Community Centres** – These will be built on convenience where customers either shop the store or order-online-pickup-in-store. They will be directly focused on reflecting the needs of the local trade area close to the centre. These are the centres that will maintain their relevance by adding mixed-use functions and integrating shopping, community uses, health/medical centres, and residential while using the same common areas.

- **Gathering Places** – These are another form of community centre but will be focused on providing products and services to a particular customer group that may live close by but may also travel to these centres. They will be especially relevant as ethnic specialty areas providing a convenient place for certain shoppers to find specific products and services.

While the parts of stores where customers shop will continue to evolve, the areas that customers do not see will go through radical transformation. Stores will become smaller and/or will be demised with part of a store used to fill online orders that may or may not be picked up by local customers. As retailers seek to shorten the distance and cost of online deliveries, they will use stores as one of the tools to do this. This will be especially relevant for food stores but stores like Walmart will seek to use their store network as an important tool in their competition with Amazon.

E. North Aldershot Policy Area

As part of the IGMS process consideration is being given to the potential and appropriate planning approach for the North Aldershot Policy Area, a unique special study area in the City of Burlington.

1. Background

The area identified as the North Aldershot Policy Area (NAPA) was identified as a distinct area for land use policy consideration by Halton Region and the City of Burlington in the early 1990s. To develop a policy framework for the NAPA, the Inter-Agency Review was initiated in early 1993. The participants in the Inter-Agency Review included the City of Burlington, Region of Halton, Niagara Escarpment Commission, Halton Region Conservation Authority, Ministry of Natural Resources, Ministry of Environment and Energy and Ministry of Municipal Affairs, as well as involvement from residents, landowners, businesses, ratepayers groups, and other interest groups and agencies. The resulting land use plan, and implementation strategy were endorsed in 1994 by Regional Council and were implemented through amendments to the Region and City of Burlington official plans.

In 1998, an amendment was developed to introduce the formal designation of the North Aldershot Policy Area. It identified areas eligible for potential urban services and those

that were considered appropriate to remain unserviced, as well as identifying Environmental Protection Areas and Environmentally Sensitive Areas.

Since the amendment in 1998, no additional policy review, revision or amendment has been undertaken. As a result, the policy framework for the NAPA no longer conforms to the *Provincial Policy Statement*, the *Growth Plan*, the *Greenbelt Plan*, the *Niagara Escarpment Plan* nor the Regional and City of Burlington official plans. This review will address the need to update land use policies and permissions, and ensure that this area of Halton is considered thoroughly and consistently with the rest of the Region.

2. Existing Land Use Policies

Land use policies in the *Halton Region Official Plan* (ROPA 38) outline the Regional land use policies and related permissions for the NAPA. These include four land use designations: Agricultural Area; Mineral Resource Extraction Area; North Aldershot Policy Area; and Regional Natural Heritage System. These designations are supplemented by two overlays: Area Eligible for Urban Servicing and Greenbelt Natural Heritage System

Additionally, the *City of Burlington Official Plan* contains 10 land use designations: Infill Residential; Detached Residential; Cluster Residential; North Aldershot Office; Environmental Protection Area; North Aldershot Commercial; Parkway Belt West; Mineral Resource Extraction; Recreation and Open Space; North Aldershot Special Study Area; Greenlands Escarpment Plan Area; and Escarpment Protection Area. The Burlington Plan, and by extension, its land use designations, were developed and adopted in 1994 and predate the Provincial Plans, the Regional official plan and their associated policy permissions.

The area identified as eligible for urban servicing is contained within the lands identified as the Central Area, and as per the permissions in the *City of Burlington Official Plan*, 505 units are currently permitted should servicing be deemed fiscally feasible. At this time there remains a single site specific appeal of ROPA 38 polices, in addition to development application appeals (Draft Plan, ZBA) for the same lands subject to the ROPA 38 appeal.

3. Relationship to IGMS and Other ROPR Studies

The review and update of land use permissions and policies in the NAPA is being undertaken as part of the larger ROPR process. The growth potential and associated potential servicing requirements, as well as the costing of potential servicing are being considered through the IGMS. Analysis of the Natural Heritage System, and revision of the NHS maps for the NAPA, are being undertaken through the Natural Heritage

Review. Additionally, consideration of Agricultural land uses, as deemed appropriate in the NAPA will be assessed as part of the Agricultural Review.
Each of these review processes will facilitate the identification of current conditions in the NAPA, land use policy update requirements and provide the opportunity to ensure that the permissions and policies that apply to the lands in the NAPA are current, consistent with, and conforming to, all necessary plans and policies. Preliminary analysis of the land use permissions, necessary land use policy updates and mapping updates are currently underway. Consultation with the City of Burlington and the North Aldershot land owners will be undertaken, and the analysis of these lands, their potential servicing, and the financial impact analysis of all current and proposed land use permissions will be conducted concurrently with the development of a set of evaluated Growth Concepts in 2019.

In this chapter, we have discussed the planning assumptions for population and employment based on the *Growth Plan*, *Greenbelt Plan*, and Halton's previous work through Sustainable Halton and ROPA 38 as they influence alternative locations where growth could be accommodated. We have also discussed the housing demand factors and supply limitations to accommodating that growth as well as the prospects and limitations that could influence the outlook for employment growth including the influence of the rapidly evolving retail sector. Additionally, an update on the North Aldershot Policy Area is included.

Details of the growth scenarios are discussed in the next chapter.

8. Regional Scenarios and Community Area Land Need

This section describes the growth scenarios at the Regional level, as well as their community area land needs, based on the growth outlook and planning policy framework set out in the previous chapters.

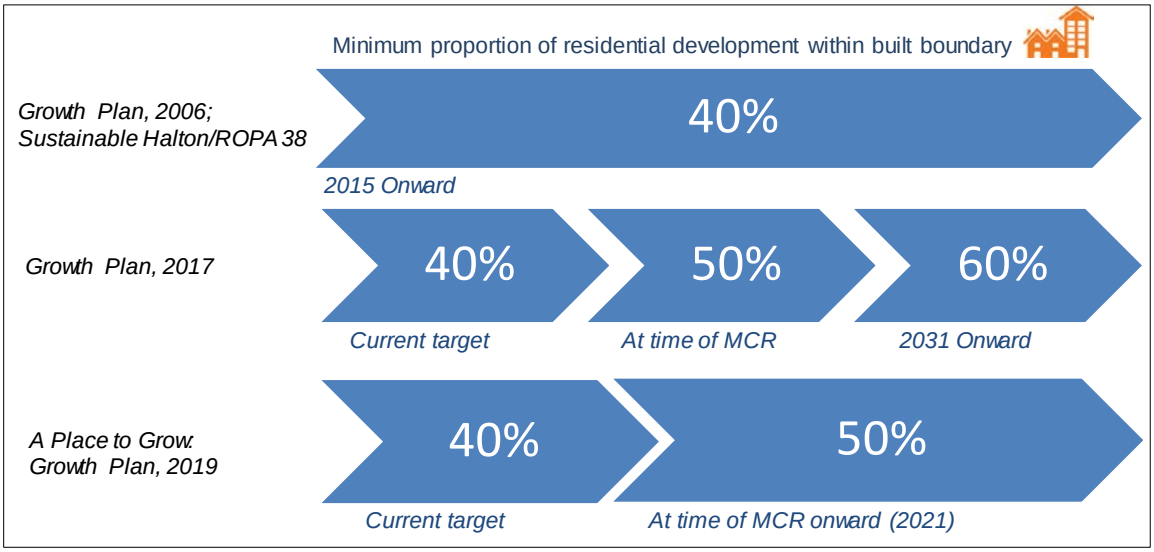
Scenarios are distinguished by varying the number of housing units and the population. The approach used is consistent with the Province's *Land Needs Assessment Methodology for the Greater Golden Horseshoe* (LNA). The LNA was adopted in 2018 and remains in force. An update is anticipated to reflect the policy changes in the *Growth Plan*, 2019. The new policies have been addressed in the land budget contained in this report with a few minor exceptions that will be incorporated into the land budget later in the IGMS.

A. Defining Scenarios in a Fluid Policy Environment

The IGMS growth scenarios are prepared so as to meet the policy targets of the *Growth Plan*, 2017, and maintained to test growth in Halton Region at higher intensification rates, as introduced earlier in this report. The *Growth Plan*, 2019 came into effect on May 16, 2019, and includes a number of policy updates that are of interest to the IGMS as it is implemented. The growth management targets have been revised and are of key relevance to the growth scenarios. In response to the release of the draft Amendment 1 to the Growth Plan 2017 in January 2019, two IGMS growth scenarios were prepared based on meeting the revised policy direction. The key intensification and density targets for Halton did not change between the proposed amendment and the final Growth Plan, 2019. The other six scenarios address, higher potential intensification rates to consider when allocating growth through the MCR.

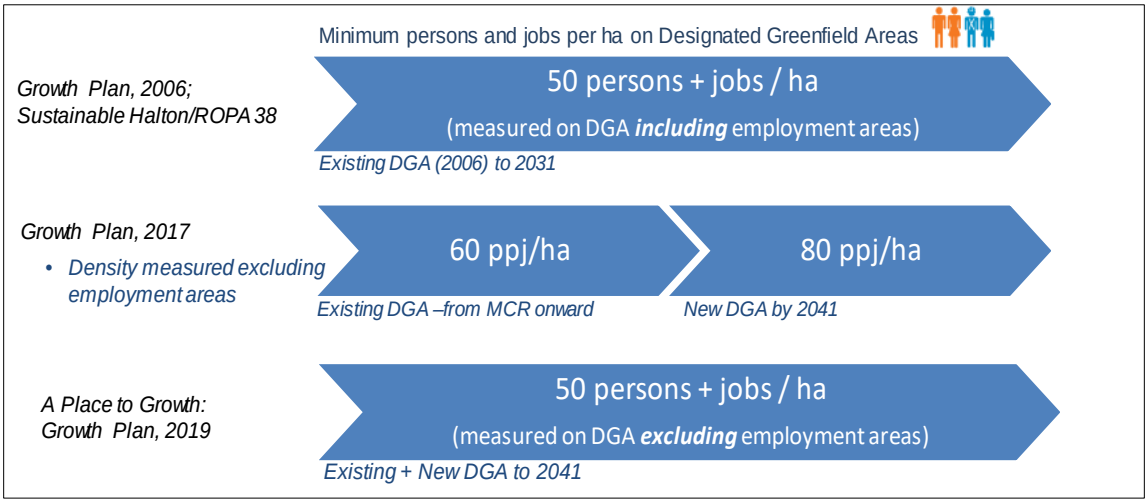
Regarding intensification targets within the Built-Up Area, the first *Growth Plan*, 2006 required 40% to be achieved from 2015 onward. The 2017 *Growth Plan* targets were more ambitious, with 50% intensification required from the time of the next MCR process, and then 60% between 2031-2041. Growth Plan 2019 keeps the 50% intensification target the same from the MCR onward, but then remaining at 50% from 2031-2041. The intensification and density targets for Halton Region are shown in Figure 42 and Figure 43 below.

Figure 42: Changes to *Growth Plan* Intensification Targets



Regarding greenfield density targets, the original *Growth Plan*, 2006 required a minimum of 50 persons and jobs per hectare across the Designated Greenfield Area of an upper- or single-tier municipality. The *Growth Plan*, 2017, in effect during the development of Scenarios 1 – 3 (A&B), required 60 persons and jobs per hectare to 2031, and then 80 persons and jobs per hectare on any new community area greenfield designations. The manner in which density is calculated was revised so that the calculation now excludes designated employment areas. These scenarios have been maintained to provide the opportunity to consider intensification rates and greenfield densities higher than the new minimums in *Growth Plan*, 2019.

Figure 43: Changes to *Growth Plan* Density Targets



In addition to the target revisions, the *Growth Plan, 2019* also, among other matters:

- Changes the rules associated with employment land conversion to allow for some conversion associated with MTSAs or other proposed mixed-use areas.
- Changes the policy treatment of rural communities, including removing the need to consider some Undelineated BUA as DGA in density calculations.
- Includes a number of changes to the processes for designating land and the requirements for the MCR.

For the purposes of defining growth scenarios for Halton Region, the intensification target and minimum DGA density targets are most critical. The employment conversion rules may be important in implementation, particularly as the new policies would enable some elements of a Local Plans & Priorities lens that may ultimately be recommended in the IGMS. Reporting requirements may be affected by some of the process changes. For instance, among other changes in the *Growth Plan, 2019*, the potential for a revised Land Needs Assessment method and dropping of the need for a specific Housing Strategy or Employment Strategy are not likely to affect what analysis is done, but rather how growth management issues are reported on in later stages of the IGMS.

B. Elements that Are Common to All Scenarios

Common to all growth scenarios is the planning framework in which the Region operates. Therefore, all scenarios were formulated to meet the goals and objectives set out by the Province and implemented through the *Halton Region Official Plan*. The Provincial policy parameters, the Schedule 3 forecasts and planned growth in the Region to 2031 means there is a somewhat limited range of options for the growth scenarios. Notwithstanding this, and the focus on the 2031 to 2041 period, it is important to note the degree to which all scenarios meet key objectives, notably many of those articulated in the *Halton Region Official Plan* and Provincial policy directives. A number of objectives are addressed by all scenarios and are considered as common criteria from an evaluation framework perspective in that, at a minimum, each scenario must:

- Maintain the Natural Heritage System and Greenbelt boundaries as currently mapped;
- Meet provincial policy targets; and
- Plan for current levels of intensification and density achievement minimum benchmarks going forward.

Further, all scenarios have been developed in a manner which prioritizes growth in the BUA, support complete communities and provide a range of housing choice, although some will do this to a greater extent than others.

All scenarios have also been considered within the context of the employed Province's *Land Needs Assessment Methodology* in determining potential future land needs. Other Provincial policy objectives are also included in the criteria that will be used to evaluate the scenarios.

Each of the eight growth scenarios were also prepared so as to continue Halton's long-standing vision of protecting the agricultural land base as much as possible along with natural heritage assets, while accommodating growth and planning for healthy, complete communities. This has been, and will continue to be, accomplished by making the most of existing infrastructure capacity through intensification and through the potential expansion of urban areas in an efficient and cost effective manner.

The Provincial policy parameters, the Schedule 3 forecasts and planned growth in the Region to 2031 means there is a somewhat limited range of options for the growth scenarios

C. Unit Potential within Existing Designated Areas

A key factor in determining the allocation of units and population in each scenario is the housing unit potential within the BUA and DGA areas of the Region. An analysis of available information regarding land supply was undertaken in the fall of 2018. Using this information, the development potential and draft unit estimates by planning policy area were determined for each local municipality. Technical memoranda were circulated to local municipal staff, and the land supply and development information was updated as appropriate based on feedback received.

The future housing unit potential is based on adding up various plans and development assumptions for areas within each local municipality. Details of this analysis are provided in the following chapter. For Regional-level scenario testing, the future housing unit potential is summarized in Table 12. Existing Planned Pattern ("A") Scenarios include existing potential only; Local Plans and Priorities ("B") Scenarios incorporate additional potential shown in the table over and above the existing potential. There is a range of supply depending on which of the two local lenses is applied for the purposes of the local allocation in the next chapter. The figures in the table are adjusted to mid-2016 to match the Census-based starting point for the analysis.

Table 12: Halton Housing Unit Potential

Halton Region Residential Unit Potential (adjusted to a mid-2016 base)				
	Ground Related Units	Apartment Units	Total	
BUA - Intensification	6,900	91,500	98,400	Units for Existing Planned Pattern (A) Scenarios with no employment land conversion
DGA - Greenfield	59,600	46,900	106,500	
Sub-Total	66,500	138,400	204,900	
Additional BUA	1,700	28,600	30,300	Additional Units in mixed-use nodes on converted employment lands for Local Plans and Priorities (B) Scenarios
Additional DGA	4,900	11,400	16,300	
Sub-Total	6,600	40,000	46,600	
Total Halton Region	73,100	178,400	251,500	

Note: This is the total supply before adjustments are made for unit vacancy and for ground-related units associated with apartment projects that are unlikely to be constructed before 2041 (note that identified supply is more than double the highest apartment forecast and therefore delivering all of these units is very long-term prospect).

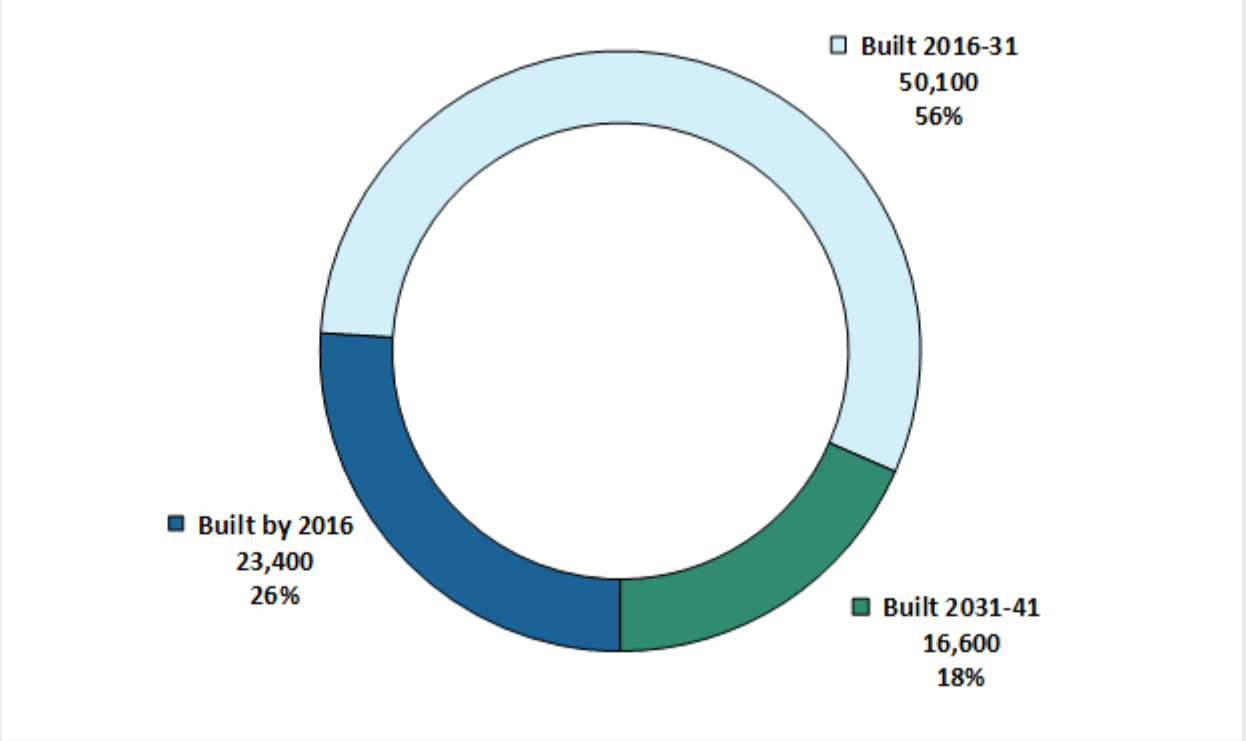
There are important conclusions to be drawn from these figures:

- Ground-related units inside the built boundary are not shown, since it is difficult to identify overall potential. These units will include some obvious sites, but will also include less identifiable rowhouses associated with, for example, larger mixed-use developments as well as small infill projects and severances scattered throughout communities. Overall, the number of these units will be small: an average of 10% of all BUA units for the period from 2021 to 2041.

- Apartment units in the BUA represent a very large number of units, well beyond what will likely occur by 2041. Because of the challenges associated with bringing redevelopment sites to market, having an identified supply potential well beyond what is required is prudent.

Ground-related units in the DGA are a critical variable for land needs assessment. The DGA supply is assumed to be fully built out during the 2030s and the final consumption of this supply is treated as the trigger for new DGA lands (in scenarios where new DGA is considered). The analysis indicates that nearly one-fifth of the housing units in the DGA would be post-2031 and that these units would represent nearly one quarter of all housing growth in Halton between 2031 and 2041 (see Figure 44).

Figure 44: Existing Designated Greenfield Area Shares of Total Regional Housing Unit Growth to 2041



Note: Figures show minimum number of units that would be built in the 2031 to 2041 period, represented in Scenarios 1 and 4. Scenario 2 includes an additional 4,900 apartments for a total of 21,600 units in the 2031 to 2041 period. Scenario 3 includes an additional 9,700 apartments for a total of 26,300 units in the 2031 to 2041 period.

The longevity of existing greenfield lands beyond 2031 is the result of:

- Higher rates of intensification planned for the 2020s — 50% now versus 40% under Sustainable Halton.
- More units on DGA lands than had been expected in Sustainable Halton.
- A higher average household size that originally forecast under Sustainable Halton, meaning the same population can be accommodated in fewer units.

It is important to understand how the number of potential apartment units in the DGA affects scenarios that test lower or no new DGA land needs. In these “high intensification” scenarios additional units, rather than being added to the BUA to increase intensification beyond 60%, are allocated as apartments to the DGA. Making use of substantial DGA supply in this way achieves the twin goals of minimizing new greenfield land while contributing to the planned development of nodes and corridors in the DGA.

The Trafalgar Corridor in Oakville provides a good example of how this approach would work in practice. Only units within the BUA, south of Dundas Street, count toward the previous 60% *Growth Plan*, 2017intensification target even though there will be significant vacant apartment unit potential in the DGA along the Corridor north of Dundas. In Scenarios 2A, 2B, 3A and 3B the "extra intensification", rather than being treated as units that exceed the 60% target, are instead allocated to the high-density areas in the DGA.

Other areas in Halton where the DGA can accommodate this kind of intensification would include Trafalgar Road, north of Dundas in Oakville, as well as Milton's planned DGA nodes.

D. Regional Scenario Growth Allocation by Time Period

All scenarios are based on the population and housing forecasts set out in Table 13.

Table 13: Region of Halton Population and Housing Forecast to 2041

Halton Population and Housing		
	Housing Units	Population
2016	193,000	565,000
2021	212,000	622,000
2031	284,000	820,000
2041	350,000	1,000,000
2016-2041 Growth	157,000	435,000

1. Growth Estimates from 2016 to 2021

The IGMS growth forecasts are Census based. Given the base year of the forecasts is mid-2016, the date of the most recent Census, 2021 is the first date of the forecast results. 2021 is also the assumed effective date of the MCR and, as such, is the date that the minimum intensification rule changes from 40% to 50%.

Growth to 2021 is based on estimates of housing development that has occurred since 2016 including units currently under construction. Because of construction timing, nearly all the apartment units that will be occupied by mid-2021 are already under construction.

Housing and population estimates for the 2016 to 2021 period account for the high number of units under construction today and an expected decline in new units completed over the next two years. New housing sales for 2018 have been at their lowest level in the GTAH in decades, though there have been signs of improvement in

the first two months of 2019. The result, however, likely means fewer housing starts in 2019 and fewer completions in 2019 and 2020.

As well, a small number of units are allocated to the rural area to account for development on lots of record and any remaining rural subdivisions.

The estimates indicate the Halton is likely to meet the 40% intensification target for the 2016 to 2021 period. Regional growth for the 2016 to 2021 period is shown in Table 14.

Table 14: 2016 to 2021 Growth by Policy Area

2016 to 2021 Housing Growth by Policy Area				
	Ground Related Units	Apartment Units	Total	Share of Total
BUA Intensification plus Rural	2,900	4,800	7,700	40%
DGA	10,700	800	11,500	60%
Total	13,600	5,600	19,200	100%
Housing Mix	71%	29%	100%	
Population Growth				
Population 2016				565,000
Population Growth 2016-2021				57,000
Population 2021				622,000

2. 2021-2031

During the 2021 to 2031 period Halton must accommodate more population growth than previously planned. Overall, the Region must plan for a population of 820,000 at 2031, up from 780,000 under the current official plan. Given the higher population is primarily the result of larger average household sizes rather than a larger number of housing units, the greenfield land currently planned for remains sufficient.

From 2021 to 2031 Halton will also need to accommodate more growth through intensification, as the required minimum intensification rate for the 2020s rises to 50%. Regional growth for the 2016 to 2021 period is shown in Table 15.

Table 15: 2021 to 2031 Growth by Policy Area

2021 to 2031 Housing Growth by Policy Area				
	Ground Related Units	Apartment Units	Total	Share of Total
BUA Intensification plus Rural	5,400	30,600	36,000	50%
DGA	32,200	3,600	35,800	50%
Total	37,600	34,200	71,800	100%
Housing Mix	52%	48%	100%	
Population Growth				
Population 2021				622,000
Population Growth 2021-2031				198,000
Population 2031				820,000

3. 2031-2041 Scenarios

The allocation of growth for the 2031 to 2041 period varies by scenario. As with pre-2031 growth, shares of housing by type are allocated to each of the policy area under each scenario. There are five policy areas:

- A rural area, to which a very small allocation is made.
- The BUA, where intensification is to occur.
- Existing DGA to be built out by mostly ground-related housing.
- Existing DGA where, under Scenarios 2 and 3, additional apartment units are required in lieu of the ground-related units that would otherwise be expected.
- New DGA, which is required in Regional Scenarios 1 and 2 and 4, but not in 3 (the No Additional Community Greenfield Scenario).

The four scenarios, and the key assumptions that underpin each, are:

Scenario 1: Moderate Greenfield Growth

- 60% of units in the BUA
- Build out of existing DGA ground-related supply
- Units on new greenfield land to continue ground-related housing development after build out of existing DGA supply

Scenario 2: Limited Greenfield Growth

- 60% of units in the BUA
- Build out of the existing DGA ground-related supply
- Units on new greenfield land to continue some ground-related housing development after build out of existing DGA supply
- DGA shares set to yield half the amount of greenfield land as Scenario 1, that is, the mid-point between Scenarios 1 and 3
- Units that would have been on new DGA in Scenario 1 now allocated as the additional apartments to the DGA nodes and corridors

Scenario 3: No New Community Greenfield Land

- 60% of units in the BUA
- Build out of the existing DGA ground-related supply
- No units assigned to new greenfield land
- Units that would have been on new DGA in Scenario 1 now allocated as the additional apartments to the DGA nodes and corridors

Scenario 4: *Growth Plan, 2019*

- 50% of units in the BUA, the proposed new minimum for Halton in the 2030s
- Built out of the existing DGA ground-related supply
- Units on new greenfield land to continue ground-related housing development after build out of existing DGA supply

Table 16: Housing Growth by Policy Area for Four Regional Scenarios

2031 to 2041 Housing Growth by Policy Area: Scenario 1					
		Ground Related Units	Apartment Units	Total	Share of Total
BUA Intensification plus Rural		4,000	35,900	39,900	60%
DGA	Existing DGA	15,000	1,700	16,600	25%
	DGA "Additional Apartments"	0	0	0	0%
	New DGA	7,800	1,900	9,700	15%
Total		26,800	39,500	66,200	100%
Housing Mix		40%	60%	100%	

2031 to 2041 Housing Growth by Policy Area: Scenario 2					
		Ground Related Units	Apartment Units	Total	Share of Total
BUA Intensification plus Rural		4,000	35,900	39,900	60%
DGA	Existing DGA	15,000	1,700	16,700	25%
	DGA "Additional Apartments"	0	4,900	4,900	7%
	New DGA	3,800	1,000	4,800	7%
Total		22,800	43,500	66,300	100%
Housing Mix		34%	66%	100%	

2031 to 2041 Housing Growth by Policy Area: Scenario 3					
		Ground Related Units	Apartment Units	Total	Share of Total
BUA Intensification plus Rural		4,000	35,900	39,900	60%
DGA	Existing DGA	15,000	1,700	16,700	25%
	DGA "Additional Apartments"	0	9,700	9,700	15%
	New DGA	0	0	0	0%
Total		19,000	47,300	66,300	100%
Housing Mix		29%	71%	100%	

2031 to 2041 Housing Growth by Policy Area: Scenario 4					
		Ground Related Units	Apartment Units	Total	Share of Total
BUA Intensification plus Rural		3,300	30,000	33,300	50%
DGA	Existing DGA	15,000	1,700	16,700	25%
	DGA "Additional Apartments"	0	0	0	0%
	New DGA	14,700	1,600	16,300	25%
Total		33,000	33,300	66,300	100%
Housing Mix		50%	50%	100%	

E. Community Area Land Need

The community area land need is determined based on translating the number of units in new DGA under each scenario to persons and jobs using appropriate density assumptions. The *Growth Plan*, 2017 required that new DGA in the GTAH be planned at a minimum of 80 persons plus jobs per hectare. A density this high may be difficult to achieve in itself, this new minimum is applied only for Scenarios 1 and 2.

Growth Plan, 2019 reduces the minimum density for new DGA lands to 50 persons plus jobs per hectare which is much lower than current greenfield development densities in Halton. For Scenario 4, a density of 65 persons plus jobs per hectare has been applied, consistent with current development. Density on lands designated for development under ROPA 8 in the late 1990s is likely to meet or exceed 60 persons plus jobs per hectare. In Milton, these lands are at the 60 persons and jobs per hectare at initial development and will exceed that density when fully developed. Development originally proposed for North Oakville was somewhat less dense (by *Growth Plan* measures). However, development that has been occurring, combined with recent changes to the North Oakville Secondary Plan, should also bring the density here to at least 60 persons plus jobs per hectare. The somewhat lower density in smaller developed DGA lands in Halton Hills (south Georgetown) and Burlington (Alton) significantly reduce the Region-wide average density. Newly designated areas that have not yet developed (Southwest Georgetown, Britannia East and Trafalgar in Milton and Tremaine in Burlington) are all planned to meet or exceed the 60 target.

For Scenario 4, a density of 65 persons plus jobs per hectare has been applied to reflect a continuation of current greenfield development patterns. There is no need to test the new 80 minimum density as it is far less dense than current and expected development and would be a significant challenge to implement. However, a density of 65 is known to be achievable in the Region.

The amount of new community area land for each scenario is shown in Table 17. The results indicate a range from 0 to 1,000 ha of new DGA community area land. By comparison the Sustainable Halton process resulted in the designation of 1,700 developable hectares of community DGA land.

Table 17: Developable Hectares of Community Area Land Needed

Community Area Land Need (developable ha)					
		Scenario 1 (A and B)	Scenario 2 (A and B)	Scenario 3 (A and B)	Scenario 4 (A and B)
Units Allocated to New DGA		9,700	4,800	0	16,300
Persons plus Jobs	Population	35,000	17,500	0	58,800
	Associated Community Jobs	5,200	2,600	0	8,800
	Total Persons plus Jobs	40,200	20,100	0	67,600
Density (in persons plus jobs per ha)		80	80	80	65
Community Area Land Need (developable ha)		500	250	0	1,040

The allocation of Regional growth to the local municipalities under each scenario is provided in the next chapter.

9. Local Municipal Allocation of Scenarios

Based on the four regional scenarios, growth is allocated to the local municipalities according to two “lenses”; that is two approaches to allocating growth. The four regional scenarios under each lens results in the eight scenarios presented in this report. The two lenses vary according to the unit potential considered and the shares of growth applied to each policy-area grouping of housing units for the 2031 to 2041 period.

The Existing Planned Pattern Lens Scenarios (denoted with an “A”) are based on existing housing supply, but no employment land conversions to provide additional residential potential. Shares of growth are based on the shares already established in ROPA 38 for the 2020s.

The Local Plans and Priorities Lens Scenarios (denoted with a “B”) for the 2030s are based on additional housing supply added to accommodate planned higher-density mixed-use nodes. Other site-specific employment land conversions, whether at the request of an owner or a municipality, are to be considered in the next stage of the IGMS, so are not addressed in this lens. For example, the Local Plans and Priorities lens does include the proposed conversion of lands for an MTSA at Derry/Trafalgar in Milton, but the site-specific conversions proposed for the Meritor site will be considered in the next stage.

Shares of growth in the Local Plans and Priorities Lens take account of market shares, planned development and a reasonable balance between communities given their size and character.

A. Unit Potential in Existing Designated Areas

The unit potential for each municipality was compiled based on a variety of sources available through the municipalities. In many cases, the consulting team had to make some assumptions about unit yields or unit types. All of the information was reviewed with local municipal staff though not every staff suggestion was incorporated into the analysis in order to maintain a consistent approach across the Region (for site-specific employment land conversions, for example). The most critical supply figure in the analysis is the ground-related unit supply in the DGA. It is important that this figure is as accurate as possible, since it drives the need for new DGA designations.

For each local municipality in Halton, estimates were prepared of unit capacity for different policy areas considered in the growth scenarios, including:

- Designated Greenfield Area residential supply in ground related and apartment units;
- Currently planned intensification units;
- Potential additional significant intensification areas within the BUA in units;
- Potential new mixed-use concentrations in the DGA in units; and
- Potential new community DGA.

Summary results by local municipality are provided in Table 18 below. For the most part, in the DGA, the tables provide a capacity figure at build out and deduct the counted units as of the 2016 Census in order to provide an estimate of supply from a mid-2016 base. For intensification areas, the tables reflect units that could be added over and above any existing units in those areas. The specific areas that are included as supply in the different lenses and scenarios are in the text boxes that follow for each of the municipalities.

Table 18: Available Residential Unit Potential, Existing Planned Pattern Scenarios ("A" Scenarios) with No Employment Land Conversions

Unit Potential (adjusted to a mid-2016 base)				
	Ground Related Units	Apartment Units	Total	Notes
Burlington				
BUA - Intensification	900	20,400	20,400	Mainly UGC and MTSAs
DGA - Greenfield	1,100	1,000	2,100	Mainly Evergreen-Tremaine
Total Burlington	2,000	21,400	23,400	
Oakville				
BUA - Intensification	3,400	49,100	49,100	UGC and Trafalgar Corridor are largest areas
DGA - Greenfield	15,900	32,800	48,700	North Oakville
Total Oakville	19,300	81,900	101,200	
Milton				
BUA - Intensification	1,400	18,000	19,400	Almost all in UGC
DGA - Greenfield	35,600	11,900	47,500	Boyne and Sustainable Halton areas
Total Milton	37,000	29,900	66,900	
Halton Hills				
BUA - Intensification	1,200	4,000	5,200	Mainly Georgetown Downtown and GO Station areas
DGA - Greenfield	7,000	1,200	8,200	Southwest and Southeast Georgetown
Total Halton Hills	8,200	5,200	13,400	
Halton Region				
BUA - Intensification	6,900	91,500	98,400	
DGA - Greenfield	59,600	46,900	106,500	
Total Halton Region	66,500	138,400	204,900	

Table 19: Available Residential Unit Potential, Local Plans and Priorities Scenarios ("B" Scenarios) with Added Mixed-Use Nodes on Converted Employment Lands

Unit Potential (adjusted to a mid-2016 base), with Additional Mixed-Use Nodes				
	Ground Related Units	Apartment Units	Total	Notes
Burlington				
BUA - Intensification	900	20,400	21,300	
DGA - Greenfield	1,100	1,000	2,100	
Additional BUA	1,400	25,700	27,100	Proposed GO Station MTSAs/Mobility Hubs
Total Burlington	3,400	47,100	50,500	
Oakville				
BUA - Intensification	3,400	49,100	52,500	
DGA - Greenfield	15,900	32,800	48,700	
Additional BUA	300	2,900	3,200	Bronte GO MTSA
Additional DGA	100	5,000	5,100	Palermo North and Health-Oriented Mixed-Use Area
Total Oakville	19,700	89,800	109,500	
Milton				
BUA - Intensification	1,400	18,000	19,400	
DGA - Greenfield	35,600	11,900	47,500	
Additional DGA	4,800	6,400	11,200	Derry/Trafalgar Node and Conversion of MEV Employment
Total Milton	6,200	24,400	30,600	
Halton Hills				
BUA - Intensification	1,200	4,000	5,200	
DGA - Greenfield	7,000	1,200	8,200	
Total Halton Hills	8,200	5,200	13,400	
Halton Region				
BUA - Intensification	6,900	91,500	98,400	
Additional BUA	1,700	28,600	30,300	
DGA - Greenfield	59,600	46,900	106,500	
Additional DGA	4,900	11,400	16,300	
Total Halton Region	73,100	178,400	251,500	

What future residential development has been considered in the Scenarios in Burlington?

Some plans for development are approved and can proceed, while others are emerging proposals or ideas that have yet to be approved, but should be given consideration in some of the Scenarios.

For Burlington, in all scenarios the following is considered:

- New greenfield residential development in the remaining lands in Alton plus the recently approved plan for the Evergreen lands on Tremaine Road.
- New higher-density development planned in Downtown Burlington, some lands near the Burlington GO Station and other smaller nodes and the corridors that can be developed in accordance with the in-force official plan.

The “A” scenarios assume there will be no employment land conversions to residential to accommodate new development. The “B” scenarios test the possibility of various proposed nodes that would require employment land conversions to be realized. In Burlington, these are the MTSAs at Appleby, Burlington and Aldershot GO stations in accordance with the proposed directions for these areas supported by Burlington Council in July 2018.

Potential development in the North Aldershot area has not been included in the urban supply for the scenarios at this time. Should the conclusions of the current analysis of North Aldershot indicate future development approvals (as discussed elsewhere in the report), units would be incorporated in the Preferred Growth Concept as either rural communities or new DGA, as appropriate.

What future residential development has been considered in the Scenarios in Oakville?

Some plans for development are approved and can proceed, while others are emerging proposals or ideas that have yet to be approved, but should be given consideration in some of the Scenarios. For Oakville, in all scenarios the following is considered:

- New greenfield residential development is almost entirely in North Oakville and is assumed to proceed as planned including the development potential in the Trafalgar Corridor added through OPA 321, recognizing that the significant new apartment supply here will extend beyond the 2041 planning horizon.
- New higher density development planned in Midtown Oakville, Uptown Core, Palermo and Bronte Village as well as various planned corridors, including Trafalgar Road, south of Dundas.

The “A” scenarios assume there will be no employment land conversions to residential to accommodate new development. The “B” scenarios test the possibility of proposed nodes that would require employment land conversions to be realized. In Oakville, these are:

- Health-Oriented Mixed-Use Node adjacent to the Oakville Trafalgar Memorial Hospital.
- Palermo North area (which remains under appeal from ROPA 25 in 2004).
- A mixed-use Bronte GO Station MTSA.

Any other additional site-specific requests for employment land conversion to accommodate residential development will be considered in the next stages of the IGMS, working towards a Draft Preferred Growth Concept.

What future residential development has been considered in the Scenarios in Milton?

Some plans for development are approved and can proceed, while others are emerging proposals or ideas that have yet to be approved, but should be given consideration in some of the Scenarios. For Milton, in all scenarios the following is considered:

- Remaining greenfield residential development in Boyne;
- Planned greenfield development in Britannia South and the Trafalgar Corridor, south of Derry Road.
- Education Village development on those lands currently planned as mixed-use.
- Planned development in the Downtown Milton Urban Growth Centre.
- Other redevelopment and intensification that may occur in other parts of the defined BUA of Milton, plus any remaining sites still within Bristol or Sherwood.

The “A” scenarios assume there will be no employment land conversions to residential to accommodate new development. The “B” scenarios test the possibility of some proposed nodes that would require employment land conversions to be realized. In Milton, these are:

- Derry/Trafalgar Node in the immediate vicinity of the potential new GO station.
- Conversion of the employment lands in the Education Village to mixed-use in accordance with the Town’s recent work for this area.

In Scenarios 1, 2 and 4 where there would be the designation of new community area greenfield land, the portions allocated to Milton are being considered in one or more of five locations. Four of these are lands in south Milton that are not within the Greenbelt, natural heritage system, or identified in the Regional Plan as Future Strategic Employment Area. These four areas have all been analyzed as potential new greenfield locations in the infrastructure analysis.

The fifth potential greenfield community area are the lands forming the southerly portion of the planned Agerton employment area that the Town has proposed to convert to community area for employment-focused mixed-use development. While it is a conversion, it is considered as a location for new community DGA within the scenarios since it is a very large greenfield area and its conversion would mean the replacement of some of the employment lands elsewhere as a new land designation. The Town’s proposed Derry/Trafalgar MTSA is part of this area. The potential for some of the Milton’s new community area DGA to locate on these lands is being analyzed as part of an alternative version of Scenario 2B. Because it also involves employment lands, the treatment of this unique proposal in the scenario is described in the next chapter on employment.

Any other additional site-specific requests for employment land conversion to accommodate residential development, such as the Meritor site and Bronte/Main, will be considered in the next stages of the IGMS, working towards a Draft Preferred Growth Concept.

What future residential development has been considered in the Scenarios in Halton Hills?

Some plans for development are approved and can proceed, while others are emerging proposals or ideas that have yet to be approved, but should be given consideration in some of the Scenarios. For Halton Hills, in all scenarios the following is considered:

- New greenfield residential development in Southwest Georgetown as approved in the secondary plan in 2018. Southeast Georgetown is also assumed to develop at a similar density to Southwest Georgetown.
- New higher density development is assumed to occur in the vicinity of the Georgetown GO station and in Downtown Georgetown. It is recognized that plans are still emerging, so the analysis has not been precise as to numbers of units or specific location.
- Remaining rural development potential in Glen Williams.
- Limited greenfield and infill development in Acton, recognizing the servicing limitations to accommodating growth.

In Scenarios 1, 2 and 4 where there would be the designation of new community area greenfield land, the portions allocated to Halton Hills have tested two general locations, which are the only two available options: a southerly extension or a westerly extension to Georgetown.

B. Local Allocations by Two Lens by Time Period

This section discusses the approach to allocating local municipal growth in each of the three planning periods for the IGMS: 2016 to 2021; 2021 to 2031; and 2031 to 2041.

1. Local Municipal Allocation 2016 to 2021

Growth to 2021 is based on estimates of housing development that has occurred since 2016 including units currently under construction. Because of construction timing, nearly all of the apartment units that will be occupied by mid-2021 are already under construction. The allocation of much of the housing and population in this period is already set. The results are shown in Table 20.

Table 20: Residential Growth Allocation to Local Municipalities, 2016-2021

Residential Growth Allocation 2016-2021						
		Burlington	Oakville	Milton	Halton Hills	Halton Region
Population 2016		189,000	182,300	113,500	63,000	565,400
Growth 2016-2021	Unit Growth	3,000	2,700	7,000	1,000	13,700
	Share	21.9%	19.7%	51.1%	7.3%	100.0%
	Population Growth	6,500	6,000	23,000	3,300	56,600
Population 2021		195,500	188,300	136,500	66,300	622,000

a. 2021 to 2031

There is a uniform growth allocation for each municipality for the 2021 to 2031 period as the allocation of growth through the scenarios is only for the 2031 to 2041 period. The local municipal allocation is largely based on current and expected market shares of development within the planned areas, as follows:

- Growth allocations for intensification units and population are based on a combination of market observation and the Regional Plan allocation policy. In particular Oakville and Burlington are attracting higher shares of regional intensification than Milton and Halton Hills. However, Milton is assigned a much higher share in the post-2031 period than the recent market would suggest, since the *Growth Plan* requires that the Milton UGC be planned to achieve its density target by 2031 (notwithstanding that 5,000+ additional units would need to be completed within the next 12 years). The Midtown Oakville UGC is subject to the same allocation requirement.

- Milton and Halton Hills are expected to meet the population allocation shown in Table 1 of the *Halton Regional Plan*. Burlington and Oakville are expected to exceed the *Halton Region Official Plan* Table 1 populations.

- Burlington's higher population is due to its accommodating a greater share of development than had been expected together with a higher persons per unit than had been forecast in the original Sustainable Halton work.

- In Oakville's case, the higher population is mostly related to a larger average household size.

Housing allocations and populations area shown in Table 21.

Table 21: Residential Growth Allocation to Local Municipalities by Policy Area, 2021-2031

Residential Growth Allocation 2021 to 2031						
		Burlington	Oakville	Milton	Halton Hills	Halton Region
Population 2021		195,500	223,700	136,500	66,300	622,000
BUA plus Rural Growth 2021 to 2031	Unit Growth	10,500	11,700	10,300	3,500	36,000
	Share of Region	29.2%	32.5%	28.6%	9.7%	100.0%
DGA Growth 2021 to 2031	Unit Growth	800	5,600	23,700	5,600	35,700
	Share of Region	2.2%	15.7%	66.4%	15.7%	100.0%
All Units Growth 2021 to 2031	Unit Growth	11,400	17,300	33,900	9,100	71,700
	Share of Region	15.9%	24.1%	47.3%	12.7%	100.0%
Population Growth 2021 to 2031		24,400	44,200	101,800	27,700	198,000
Population 2031		219,900	267,900	238,300	94,000	820,000

b. 2031 to 2041

The allocation of growth to the municipalities post-2031 applies shares housing units by type for each of the policy areas in each scenario.

The five policy areas for this purpose are:

- A rural area, to which a very small allocation is made.
- The BUA, where intensification is to occur.
- Existing DGA to be built out by mostly ground-related housing.
- Existing DGA where, under Scenarios 2 and 3, additional apartment units are required in lieu of the ground-related units that would otherwise be expected.
- New DGA, which is required in Regional Scenarios 1 and 2 and 4, but not in 3 (the No Additional Community Greenfield Scenario).

The shares are assigned based on existing official plan phasing for the A lens scenarios. The B lens scenarios are generally based on a combination of local municipal plans and priorities as well as the observed market for development.

The Existing Planned Pattern Lens (Scenarios with an “A”) are based on:

- Identified housing unit potential but without any conversions of employment land to accommodate mixed-use areas.
- Shares of intensification housing growth for local municipalities set at the shares shown for the allocation of intensification from 2021 to 2031 in ROPA 38.
- Existing greenfield ground-related housing is assumed to build out in all areas, regardless of the implied shares.
- The additional apartments allocated to the DGA in the high intensification scenarios 2A and 3A is allocated to Halton Hills and Burlington to reflect the build out by 2041 of the relatively small supply of this type of unit. The remaining allocation is split between Milton and Oakville, partly reflecting their relative shares of DGA growth in ROPA 38 in the 2020s.
- New greenfield community lands are split at 71% to Milton and 29% to Halton Hills which is the relative share between the two in the 2020s in ROPA 38.

The shares of unit growth for each of the Existing Planned Pattern Lens scenarios are provided in Table 22 and the resulting households in Table 23 and population in Table 24.

Table 22: Residential Allocation Unit Shares, Existing Planned Pattern Lens

Residential Allocation Shares by Policy Area 2031 to 2041						
		Burlington	Oakville	Milton	Halton Hills	Halton Region
BUA plus Rural Growth	Scenario 1A Scenario 2A Scenario 3A Scenario 4A	23%	36%	23%	18%	100%
Existing DGA Growth	Scenario 1A Scenario 2A Scenario 3A Scenario 4A	5%	46%	41%	8%	100%
Additional DGA Apartments	Scenario 1A Scenario 2A Scenario 3A Scenario 4A	0% 5% 3% 0%	0% 21% 42% 0%	0% 58% 48% 0%	0% 15% 7% 0%	0% 100% 100% 0%
New DGA	Scenario 1A Scenario 2A Scenario 3A Scenario 4A	0%	0%	71%	29%	100%
Total All Units	Scenario 1A Scenario 2A Scenario 3A Scenario 4A	15% 19% 19% 15%	33% 31% 37% 24%	35% 31% 28% 39%	17% 19% 16% 21%	100% 100% 100% 100%

Table 23: Housing Units, Existing Planned Pattern Lens

Housing Units by Policy Area 2031 to 2041						
		Burlington	Oakville	Milton	Halton Hills	Halton Region
BUA plus Rural Growth	Scenario 1A	9,190	14,570	9,160	7,150	40,070
	Scenario 2A	9,190	14,570	9,160	7,150	40,070
	Scenario 3A	9,190	14,570	9,160	7,150	40,070
	Scenario 4A	7,670	12,150	7,650	5,970	33,440
Existing DGA Growth	Scenario 1A Scenario 2A Scenario 3A Scenario 4A	780	7,610	6,900	1,340	16,630
Additional DGA Apartments	Scenario 1A	0	0	0	0	0
	Scenario 2A	270	1,050	2,860	740	4,920
	Scenario 3A	250	4,090	4,700	680	9,720
	Scenario 4A	0	0	0	0	0
New DGA	Scenario 1A	0	0	6,930	2,780	9,710
	Scenario 2A			3,420	1,370	4,790
	Scenario 3A			0	0	0
	Scenario 4A			11,660	4,680	16,340
Total All Units	Scenario 1A	9,970	22,180	22,990	11,270	66,410
	Scenario 2A	9,460	15,620	15,440	9,260	49,780
	Scenario 3A	9,440	18,660	13,860	7,830	49,790
	Scenario 4A	7,670	12,150	19,310	10,650	49,780

Table 24: Population, Existing Planned Pattern Lens

Population by Scenario 2001 to 2041						
		Burlington	Oakville	Milton	Halton Hills	Halton Region
Population	2001	157,100	150,800	32,800	50,200	390,900
	2006	171,400	172,600	56,200	57,600	457,800
	2011	181,200	188,200	87,000	60,800	517,200
	2016	189,000	199,800	113,500	63,000	565,400
	2021	195,500	223,700	136,500	66,300	622,000
	2031	219,900	267,900	238,300	94,000	820,000
Population 2041	Scenario 1A	241,000	326,600	307,800	124,700	1,000,000
	Scenario 2A	242,800	330,900	304,100	122,200	1,000,000
	Scenario 3A	243,700	340,800	297,900	117,600	1,000,000
	Scenario 4A	236,800	318,200	317,700	127,300	1,000,000

The Local Plans and Priorities Lens (Scenarios with a “B”) is based on:

- Identified housing unit potential with the addition of mixed-use MTSAs and nodes that require conversion of employment land to be realized.

- Shares of intensification housing growth for the local municipalities set more in accordance with observed market and reasonable expectations for growth given the size of the communities and the intensification opportunities. It is important to note, as well that the BUA is a relatively small part of the Milton urban area and that much of Milton’s expectations for higher-density mixed-use growth are in the DGA rather than within the BUA.

- Existing greenfield ground-related housing is assumed to build out in all areas.

- The additional apartments allocated to the DGA in the high intensification scenarios 2A and 3A is allocated to Halton Hills and Burlington to reflect the build out by 2041 of the relatively small supply of this type of unit. The remaining allocation is almost evenly split between Milton and Oakville.

- New DGA community lands are split at 50% to Milton and 50% to Halton Hills, recognizing that in the existing DGA Milton has five time the amount of growth post-2031 as Halton Hills.

The shares of unit growth for each of the Local Plans and Priorities Lens scenarios are provided in Table 25 and the resulting households in Table 26 and population in Table 27.

Table 25: Residential Allocation Unit Shares, Local Plans and Priorities Lens

Residential Allocation Shares by Policy Area 2031 to 2041						
		Burlington	Oakville	Milton	Halton Hills	Halton Region
BUA plus Rural Growth	Scenario 1B Scenario 2B Scenario 3B Scenario 4B	38%	38%	17%	7%	100%
Existing DGA Growth	Scenario 1B Scenario 2B Scenario 3B Scenario 4B	5%	46%	41%	8%	100%
Additional DGA Apartments	Scenario 1B	0%	0%	0%	0%	0%
	Scenario 2B	5%	39%	41%	15%	100%
	Scenario 3B	3%	44%	46%	7%	100%
	Scenario 4B	0%	0%	0%	0%	0%
New DGA	Scenario 1B Scenario 2B Scenario 3B Scenario 4B	0%	0%	50%	50%	100%
Total All Units	Scenario 1B	24%	34%	28%	14%	100%
	Scenario 2B	31%	34%	23%	12%	100%
	Scenario 3B	31%	39%	23%	7%	100%
	Scenario 4B	26%	25%	28%	21%	100%

Table 26: Housing Units, Local Plans and Priorities Lens

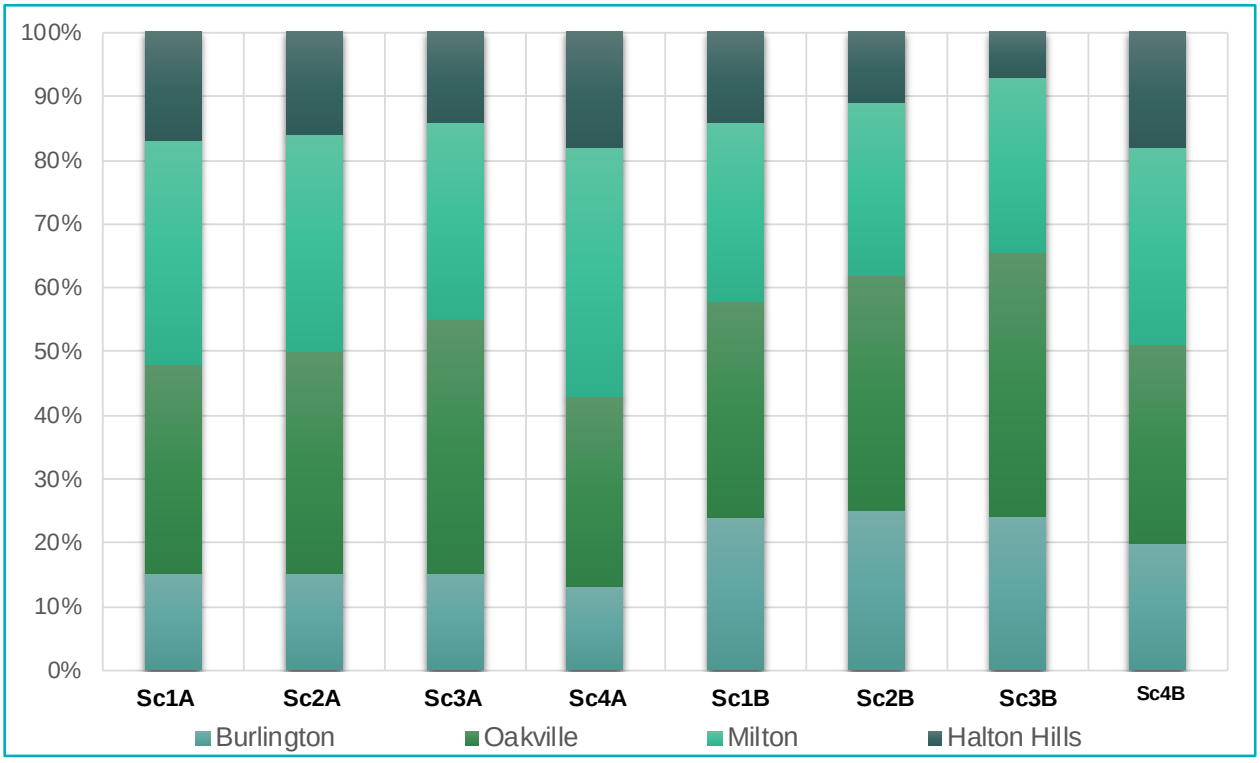
Housing Units by Policy Area 2031 to 2041						
		Burlington	Oakville	Milton	Halton Hills	Halton Region
BUA plus Rural Growth	Scenario 1B	15,220	15,170	6,840	2,850	40,080
	Scenario 2B	15,220	15,170	6,840	2,850	40,080
	Scenario 3B	15,220	15,170	6,840	2,850	40,080
	Scenario 4B	12,700	12,650	5,720	2,380	33,450
Existing DGA Growth	Scenario 1B Scenario 2B Scenario 3B Scenario 4B	780	7,610	6,900	1,340	16,630
Additional DGA Apartments	Scenario 1B	0	0	0	0	0
	Scenario 2B	270	1,900	2,020	740	4,930
	Scenario 3B	250	4,300	4,480	680	9,710
	Scenario 4B	0	0	0	0	0
New DGA	Scenario 1B	0	0	4,860	4,860	9,720
	Scenario 2B			2,390	2,390	4,780
	Scenario 3B			0	0	0
	Scenario 4B			8,170	8,170	16,340
Total All Units	Scenario 1B	16,000	22,780	18,600	9,050	66,430
	Scenario 2B	15,490	17,070	11,250	5,980	49,790
	Scenario 3B	15,470	19,470	11,320	3,530	49,790
	Scenario 4B	12,700	12,650	13,890	10,550	49,790

Table 27: Population, Local Plans and Priorities Lens

Population by Scenario 2001 to 2041						
		Burlington	Oakville	Milton	Halton Hills	Halton Region
Population	2001	157,100	150,800	32,800	50,200	390,900
	2006	171,400	172,600	56,200	57,600	457,800
	2011	181,200	188,200	87,000	60,800	517,200
	2016	189,000	199,800	113,500	63,000	565,400
	2021	195,500	223,700	136,500	66,300	622,000
	2031	219,900	267,900	238,300	94,000	820,000
Population 2041	Scenario 1B	245,200	247,700	103,400	764,100	1,000,000
	Scenario 2B	245,800	240,700	96,000	750,800	1,000,000
	Scenario 3B	246,400	233,900	88,800	737,700	1,000,000
	Scenario 4B	247,700	319,200	301,400	131,700	1,000,000

The range of growth by scenario by local municipality is shown in Figure 45. Having established the land needs and growth allocations for each of the scenarios, the following chapter turns to employment, the other key element of the scenarios.

Figure 45: Shares of 2031-2041 Housing Growth by Local Municipality by Growth Scenario



10. Employment Growth Results and Land

The eight scenarios being evaluated during this phase of the IGMS are mainly distinguished on the basis of how residential growth is accommodated and how much, if any, new additional community area land may be required. Different ways of accommodating employment, such as major office employment versus employment land employment, are not being tested. The degree to which people may work in office environments, factory floors or providing health care services is exceedingly difficult for land use planning or the policies of any level of government to influence significantly. Economic development initiatives can affect specific economic sub-sectors, clusters and individual companies. However they have limited impact on the overall structure of the economy or the employment base as a whole.

The employment forecast and the allocations of employment to local municipalities vary under each scenario based on the local shares of each employment type. For each scenario:

- the **population-related employment** varies with the population allocations in each scenario; and
- the distribution of **major office employment** is the same under all scenarios. It assumes some market shift in location to Milton and Halton Hills as they become larger communities and a new major office market in the Highway 401 corridor.

Employment land employment, and the corresponding need for new employment areas, is a more complex matter. The allocation of employment growth and new employment land need will depend in part on the extent to which employment land is converted to other uses. Potential conversions have already been identified as part of the Local Plans and Priorities Lens, but there are many other site specific employment land conversions that need to be considered through the IGMS. As well, the specific types of uses and associated employment densities varies significantly from one community to the other and cannot be simply swapped within the Region. Moreover, a conversion of use designation does not immediately result in employment loss and redevelopment, so not all converted lands would necessarily need to be replaced within the period to 2041. As a result, the actual recommended amount of new employment land to be designated will come in subsequent phases of the IGMS as the amount of land to be designated will depend on the results of the residential scenario evaluation, the MTSA analysis, and a closer examination of employment land conversion.

This section of the report provides an outlook for employment for the Region, an allocation of employment by type, and a range of employment land need depending on the amount of land that may be converted to other uses in the following phases. However, the infrastructure and financial analysis presented in this report is primarily intended to evaluate the choices for residential development and community land need. Since the range of new employment land need is somewhat uncertain at this time, a mid-point estimate of 700 gross ha of new employment area has been provided for the infrastructure and financial analysis presented in this report. Associated with the mid-point of new land need would be an assumption for analysis purposes of half of the lands suggested for conversion for mixed-use areas changing out of employment use within the period to 2041.

In preparing the Preferred Growth Concept as part of the conclusion of Phase 2 of the IGMS work, the employment land need will be revisited and further analysed taking account of the factors noted above. As well, the Preferred Growth Concept's employment area will need to incorporate the work that both Halton Hills and Milton have undertaken on long-term land need and are currently undertaking regarding employment area employment densities.

Employment forecasting and especially employment forecasting by economic sector or type of real estate required is much less certain than residential forecasting. As a result, the outlook for office employment and population-related employment will also be revisited and revised, as required.

A. Regional Employment Outlook by Land Use Incorporates Economic Transition and Provides a Range of Employment Land Need

The outlook for employment in the Region is based on the land-used based employment categories which incorporate various aspects of economic change and some anticipated workplace disruptions already described in previous chapters.

Key forecast assumptions are:

- A rising share of total employment in major office which is tied to the continued shift to service sector employment, but tempered by the continued high share of growth in GTAH office employment growth occurring in Downtown Toronto as well as a growing share of office activities occurring in non-office buildings (e.g. flex office space and higher proportions of office space within some newer industrial buildings).

- A relatively steady ratio of population-related employment to population as the demand for many services continues to grow faster than the population overall. This growth is balanced, in part, by expectations of slower retail employment growth as retail continues to restructure (see the earlier discussion of retail trends).

- A declining, but still substantial share of growth in Halton's employment will continue to be in employment land employment in the Region's employment areas. There is a mix of the types of uses in these areas today, but substantial amounts of growth in office activities occurring on non-office buildings is a major feature of the employment areas in Oakville and Burlington.

The forecast employment outlook for the Region by the land-use based categories is set out in Table 28 and the growth and growth rates are shown in Table 29. The 2031 and 2041 total employment are anchored on Regional *Growth Plan* targets.

As noted, the 2016 employment figures for Halton were somewhat lower than had been expected in the forecasts prepared as the background to the *Growth Plan.* From today's perspective, it would appear that the 2031 employment figures currently in the *Halton Regional Plan* and the *Growth Plan* are too high by about 10,000 jobs. In order to remain consistent to the Regional official plan to 2031, the 2031 employment figure is kept at 390,000 for scenario testing. In moving to a set of evaluated Growth Concepts, consideration will be given to a more "even" employment growth over the period to 2041: a constant 2.3% compound annual growth rate from 2016-2041 would result in about 375,000 jobs in 2031 and 470,000 jobs in 2041. In the scenarios, the extra jobs that are less likely to occur until after 2031 have been allocated to the major office category, hence the quite high growth rate to 2031 and the lower rate from 2031 to 2041.

Table 28: Employment by Land-Use Categories

Historic and Forecast Employment by Land-Use Based Categories				
	2001	2016	2031	2041
Major Office	16,800	26,800	52,500	69,900
Population Related	72,100	110,100	156,400	186,900
Employment Land	96,700	122,200	176,800	208,800
Other Rural-Based	3,900	4,200	4,300	4,400
Total	**189,500**	**263,300**	**390,000**	**470,000**

Table 29: Employment Growth by Land-Use Category

Historic and Forecast Employment Growth by Land-Use Based Categories			
Employment	**2001-16**	**2016-2031**	**2031-2041**
Major Office	10,000	25,700	17,400
Population Related	38,000	46,300	30,500
Employment Land	25,500	54,600	32,000
Other Rural-Based	300	100	100
Total	**73,800**	**126,700**	**80,000**
Growth Rate	**2001-16**	**2016-2031**	**2031-2041**
Major Office	3.2%	4.6%	1.9%
Population Related	2.9%	2.4%	1.2%
Employment Land	1.6%	2.5%	1.1%
Other Rural-Based	0.5%	0.2%	0.2%
Total	**2.2%**	**2.7%**	**1.3%**

Both the historical and forecast employment by land-use category have been revised from earlier work, particularly the background work to *Sustainable Halton* and the background work to the *Growth Plan*. The updated allocation to category and the much improved understanding of the geography of employment in Halton is the direct result of the Region's annual employment survey which now provides a good time series of reliable data that did not previously exist. The overall employment totals themselves are somewhat higher than the survey indicates, since the IGMS figures are based on the Census definition of employment and collected through returns from individuals, while the employment survey is a survey of businesses.

From an overall Regional perspective, the key question arising from the employment outlook is whether there is a need to designate additional employment land in a greenfield setting. Table 30 summarizes the land need analysis for employment land. The need is based on a high and low range depending on the amount of employment land that may be converted as well as the mid-point of the range that was used for the purpose of the infrastructure analysis in this report. There are some important assumptions about future growth embedded in the land need analysis, in particular regarding the employment density and the location of the new greenfield employment lands. These are described in further detail in the next section on local municipal allocations since some of these assumptions vary by location.

Table 30: Halton Employment Land Need to 2041

Halton Employment Land Need to 2041			
	No Employment Land Conversion	Employment Land Conversions in Local Plans and Priorities Lens	Mid-Point of Range
Land Supply			
Land Conversion Assumed for Scenario (net ha)	0	-340	-170
Occupied Employment Lands, Net of Conversions (net ha)	3,380	3,170	3,280
Vacant Employment Land Supply, Net of Conversions (net ha)	2,350	2,230	2,290
Total Employment Land, Net of Conversions (net ha)	5,740	5,400	5,570
Vacant Supply After Long-Term Vacancy and Land Used for Major Office and Other Large Non-Employment Land Uses	2,020	1,920	1,970
Employment to Be Accomodated on New Greenfield Lands			
Employment Density (jobs per net ha of occupied land)	35.8	0.0	0.0
Employment Land Employment Accommodated in Existing on Total Lands (before conversions)	72,400	72,400	72,400
Loss of Employment Potential through Conversion of Occupied and Vacant Employment Lands	34	34	34
Employment Land Employment Accommodated in Existing on Total Lands	72,400	63,900	68,200
Forecast Employment Land Employment Growth 2016-2041	86,600	86,600	86,600
Employment to Be Accomodated on New Greenfield Lands	14,200	22,700	18,400
Greenfield Employment Land Need			
Density for New Greenfield Employment Areas (jobs per net ha)	33.5	33.5	33.5
New Greenfield Employment Land (net ha)	420	680	550
Gross New Greenfield Land (including 20% net to gross for local roads and utilities and 5% of lands in major office or other large non-employment land uses)	560	890	720

Using the mid-point of the land need range, an approximately 700 gross hectares of new employment land is used for the infrastructure analysis in this report. This 700 ha compares to the 1,100 ha of employment lands designated through the Sustainable Halton process and implemented through ROPA 38.

B. Scenario Allocations of Employment Based on Market Characteristics and Land Supplies

Each type of employment is independently allocated to the local municipalities based on a unique method associated with each type which takes account of planned development and anticipated market demand.

1. Major Office Employment

Major Office employment is allocated to the local municipalities in accordance with expected market demand:

- Currently, nearly all major office employment is in Oakville and Burlington, with Oakville having a slightly larger existing base, plus some new construction in the Town since the 2016 base year.

- In terms of share of growth Oakville has been growing much faster than Burlington and has accommodated more than three-quarters of the Region's major office employment growth between 2001 and 2016.

- Milton and Halton Hills currently have a very small amount of major office employment. This is to be expected given their size and location—virtually all of the suburban GTA office market is located in south Halton, Mississauga and southern York Region).

- Over the forecast period, Milton and Halton Hills are expected to attract significant major office employment: about 15% and 10% of the Region's growth respectively. This development will primarily occur in the Highway 401 corridor, which will become, in a market sense, a westward extension of the Meadowvale office market, just as Winston Park in Brampton has become a northern extension of Meadowvale. Milton is planning for significant office development in the northern part of the Agerton area along Highway 401 to accommodate this shift.

- Burlington and Oakville have been allocated about 35% and 40% of the major office market respectively based on Oakville's current market dominance and balanced by expectations that the market will return to add significant space to the large office space stock in Burlington.

Within each of these communities there is a planning expectation that significant amounts of the office market will, in the future, be accommodated in various planned mixed-use nodes. It remains somewhat uncertain as to the degree to which the office market will in fact respond by significantly shifting location pattern to mixed-use transit-oriented nodes from the current focus on QEW locations.

Forecast Major Office employment growth is summarized in the table at end of this section.

2. Population-Related Employment

Population-Related employment has been combined with a category of Other Rural-Based employment for the purposes of scenario analysis. Other Rural-Based employment is a very small component of total employment and is anticipated to remain stable over the forecast period.

Population-related employment growth is allocated to local municipalities according to population growth; that is, as a ratio of population-related employment to population. The direct relationship to population is reasonable given that most of these jobs—mostly in retail, services, education, health care and work at home employment—provide services to the local population. Oakville and Burlington have higher amounts of this

type of employment as these communities provide some services to residents of Milton and Halton Hills as well as to people beyond Halton's boundaries.

Over the forecast period it is expected that the ratios of population-related employment will rise in Milton as services for local residents catches up with population growth and, as a larger community, begins to provide more higher-order services locally. A similar shift is anticipated in Halton Hills as it grows. However, Halton Hills already has a high population-related employment ratio due to its GTA-serving Toronto Premium Outlets, which alone account for about 15% of the Town's population-related employment.

The range of forecast growth in population-related employment varies for each scenario according to the variations in the population.

Most population-related employment is planned for and accommodated in normal residential community planning in the form of retail, small office and institutional development, such as schools and hospitals. Some of this will also be accommodated in the various planned mixed-use nodes.

3. Employment Land Employment

The allocation of employment land employment to the local municipalities depends largely on the consumption of the supply of land for these uses, which are any of the uses that occupy industrial-type buildings in employment areas. This includes industrial jobs along with office jobs in conjunction with industrial buildings, office jobs in flex office space and a wide range of commercial uses.

At the Regional level, a range of employment land need was determined based on whether or not some employment land conversions would occur. A more final recommendation on the amount of land to be designated will be made later in the IGMS process once other recommendations have been made respecting employment land conversions and further analysis of anticipated development forms and density of development. As such, a mid-point in the range of the amount of land converted and the amount new lands designated for employment use was incorporated for infrastructure analysis purposes to date.

The following table provides the results of the mid-point of the range of employment land employment allocation for each of the local municipalities. The following key assumptions are incorporated in the analysis:

- Conversions reflect the mid-point between zero land conversions and all of the conversions associated with the mixed-use nodes noted in the Local Plans

and Priorities Lens. Milton's somewhat unique proposal for the Agerton area is considered separately. Site-specific conversion requests, such as the Meritor site in Milton, will be analysed in the next stage of the IGMS process.

- After accounting for conversions, long-term land vacancy (3%), lands used for major office or other large uses that are not part of employment land employment (such as institutions), there remains just under 2,000 ha of vacant employment land supply to develop in Halton.
- Existing employment densities per net ha vary by location:
    - Oakville is very high at 46 employees per net ha, largely owing to the significant amount of industrial building space being used as flex office space, mainly along the QEW.
    - Densities are much lower in Milton at 27 employees per net ha, which is about what is expected on a mix of older and newer industrial land, with newer development being at lower densities.
    - Halton Hills is similar to Milton at 32 employees per net ha, but likely will decline significantly as the 2016 figure was still influenced by existing development in Georgetown and Acton, whereas new development occurring in the Highway 401 corridor is at much lower densities. This will bring down the average density over time.
    - Burlington is close to the regional average at 37 employees per net ha.
- Forecast employment densities per net ha are as follows:
    - In Burlington new development is forecast to occur at 38 employees per net ha on its small remaining land supply, similar to today's average density.
    - A density of 38 is also applied to Oakville. This is lower than the current density on the expectation that lands in North Oakville along Highway 407 will develop as a mix of modern low density industrial and the higher employment density uses characteristic of Oakville today.
    - In Milton an overall average of 35 employees per net ha is applied. This assumption is based on the expected densities of the Derry Green Secondary Plan and the anticipated density of the areas designated in Sustainable Halton (itself a combination of standard density employment areas at 37.5 employees per net ha and areas dominated by distribution and logistics uses at 21.8 employees per net ha).
    - In Halton Hills the Sustainable Halton net density figure of 33.5 employees per net ha is used for the development of the Premier Gateway area.

However, it should be noted that the development density of the buildings occupied since 2016 on the Highway 401 frontage only amounts to 20 employees per net ha.

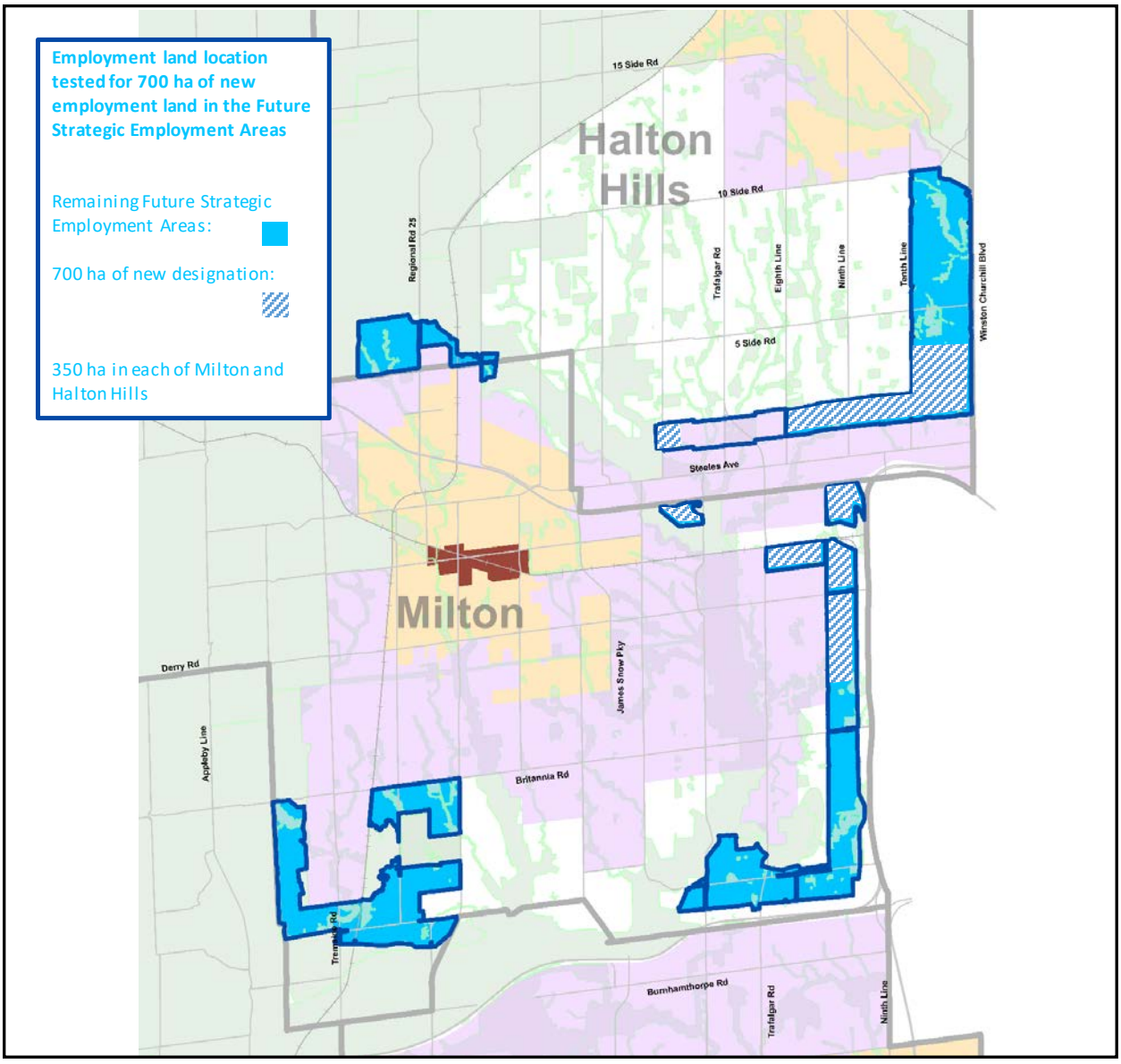
- New land designations are assumed to be split evenly between Halton Hills and Milton. Even with this even split of new lands, the total vacant land supply to 2041 would still be 70% in Milton and 30% in Halton Hills.

Table 31: Employment Land Employment Allocation

Halton Employment Land Employment Allocation to 2041 by Local Municipality, Mid-Point of Land Need Range					
	Burlington	Oakville	Milton	Halton Hills	Halton
Land Supply					
Land Conversion Assumed for Scenario (net ha)	-80	-50	-40	0	-170
Occupied Employment Lands, Net of Conversions (net ha)	1,230	1,150	720	290	3,380
Vacant Employment Land Supply, Net of Conversions (net ha)	150	730	1,140	340	2,350
Total Employment Land, Net of Conversions (net ha)	1,380	1,870	1,860	630	5,740
Vacant Supply After Long-Term Vacancy and Land Used for Major Office and Other Large Non-Employment Land Uses	90	580	990	310	1,970
Employment to Be Accomodated on New Greenfield Lands					
Employment Density (jobs per net ha of occupied land)	38.0	38.0	35.0	33.5	35.8
Employment Land Employment 2016, Less loss of job potential on converted occupied lands	3,400	22,000	34,700	10,400	70,500
Less Lost Job Potential through Conversion of Vacant Greenfield Lands	-1,500	-1,600	-1,300	0	-4,300
Employment Land Employment Accommodated in Existing on Total Lands	1,900	20,400	33,400	10,400	66,200
Forecast Employment Land Employment Growth 2016-2041 (existing designated lands)	45,000	71,600	54,300	19,400	190,400
Employment to Be Accomodated on New Greenfield Lands	0	0	9,200	9,200	18,400
Greenfield Employment Land Need					
Density for New Greenfield Employment Areas (jobs per net ha)	33.5	33.5	33.5	33.5	33.5
New Greenfield Employment Land (net ha)	0	0	280	280	550
Gross New Greenfield Land (including 20% net to gross for local roads and utilities and 5% of lands in major office or other large non-employment land uses)	0	0	360	360	720

With respect to the location of the employment land, all lands in the Future Strategic Employment Areas will be considered before a Draft Preferred Concept is presented. However, for the scenario analysis the lands were all located in the immediate vicinity of Highway 401, as shown on Map 14, Milton's proposal for the Agerton area, and its treatment in the scenario analysis, is described in the next section of the report.

Map 14: Potential Locations for Employment Land



4. Total Employment Forecast

Based on the allocation approaches described above, Table 32 provides the employment outlook by land-use based categories. The range of population-related employment is the full range arising from each scenario.

Table 32: Forecast Employment by Land-Use Categories by Local Municipality

Forecast Employment by Land-Use Based Categories by Local Municipality																	
		Burlington			Oakville			Milton			Halton Hills			Halton			
2016	Major Office		12,200			13,700			700			200			26,800		
	Population Related and Other Rural		42,300			39,000			19,200			13,800			114,200		
	Employment Land		43,200			50,300			19,600			9,100			122,200		
	Total		97,700			103,000			39,500			23,100			263,200		
2016-41	Major Office		14,800			17,400			7,000			3,900			43,100		
Growth	Population Related and Other Rural	6,300	to	10,900	18,700	to	23,200	34,200	to	39,000	8,800	to	14,000	77,100		
	Employment Land		1,800			21,300			43,900			19,500			86,600		
	Total	22,900	to	27,500	57,400	to	61,900	85,100	to	89,900	32,200	to	37,400	206,800		
2041	Major Office		27,000			31,100			7,700			4,100			69,900		
	Population Related and Other Rural	48,600	to	53,200	57,700	to	62,200	53,400	to	58,200	22,600	to	27,800	191,300		
	Employment Land		45,000			71,600			63,500			28,600			208,800		
	Total	120,600	to	125,200	160,400	to	164,900	124,600	to	129,400	55,300	to	60,500	470,000		

The results for total employment by local municipality and growth scenario are provided in Table 33 and Table 34 below, with Table 33 being 2031 interim year allocations by local municipality.

Table 33: Total Employment Forecast by Local Municipality, 2016-2041

Total Employment Forecast by Local Municpality, 2016-2041			
Municipality	**2016**	**2031**	**2016-2031**
Burlington	97,700	115,400	17,700
Oakville	103,000	137,100	34,100
Milton	39,500	92,400	52,900
Halton Hills	23,100	45,200	22,100
Halton Region	**263,000**	**390,000**	**127,000**

Table 34: Total Employment and Employment Growth, 2016 - 2041

Total Employment, 2041								
Municipality	**IGMS Growth Scenario**							
	1A	**1B**	**2A**	**2B**	**3A**	**3B**	**4A**	**4B**
Burlington	125,300	123,400	125,200	123,900	125,100	124,100	120,000	121,800
Oakville	159,500	157,200	160,100	158,000	161,600	159,600	158,200	158,200
Milton	125,400	125,600	125,200	125,400	124,200	125,000	127,200	124,900
Halton Hills	59,900	63,700	59,500	62,600	59,000	61,300	64,600	65,000
Halton Region	**470,000**	**470,000**	**470,000**	**470,000**	**470,000**	**470,000**	**470,000**	**470,000**

Employment Growth, 2016-2041								
Municipality	**IGMS Growth Scenario**							
	1A	**1B**	**2A**	**2B**	**3A**	**3B**	**4A**	**4B**
Burlington	27,600	25,700	27,500	26,200	27,400	26,400	22,300	24,100
Oakville	56,500	54,200	57,100	55,000	58,600	56,600	55,200	55,200
Milton	85,900	86,100	85,700	85,900	84,700	85,500	87,700	85,400
Halton Hills	36,800	40,600	36,400	39,500	35,900	38,200	41,500	41,900
Halton Region	**207,000**	**207,000**	**207,000**	**207,000**	**207,000**	**207,000**	**207,000**	**207,000**

C. Alternative Employment and Residential Scenario for the Agerton Area

The Town of Milton has prepared a proposed secondary plan for the Agerton area. The area was designated as urban for employment uses through Sustainable Halton and ROPA 38. The proposed secondary plan continues to see the northerly parts of the area adjacent to Highway 401 as solely for employment uses with an office focus, consistent with the original planning expectations for the area. The southerly portion was also intended as an employment area and is shown as such in the *Halton Regional Plan*. Southern Agerton is treated as an employment area as part of the Current Plans Lens for the four regional scenarios (1A, 2A, 3A and 4A). In the Local Plans and Priorities Lens, the possibility of an MTSA near a future GO Station at Trafalgar Road, north of Derry Road, is considered. For this purpose only a small MTSA area was considered because it can only be located south of the railway due to the existing hydro corridor north of the railway. The 30 ha area would have to be a conversion of employment land because residential uses would be required.

In addition to an MTSA at a potential GO Station, the proposed Agerton Secondary Plan proposes to convert the rest of the southern part of Agerton into an employment-focussed mixed-use area. In the plan, medium and high-density residential uses would be permitted in most of the area. A significant amount of major office space is suggested in the immediate station area (amounting to about half of the major office forecast allocated to Milton). Much of the remainder of Agerton area is proposed to be mixed-use with the employment portion partly being the typical community-serving uses, but mostly is some of the types of employment currently accommodated in employment lands. It is suggested that this would include uses that might otherwise be in flex office space and light industrial buildings. The mix of these uses would suggest a development form that does not currently exist for a modern development in a greenfield setting (or even in a GTAH central city redevelopment setting). Nevertheless the proposed plan has been considered as a part of one of the scenarios. Because it combines employment land employment and residential development, the plan is being treated separately as an alternative arrangement for Scenario 2B within the Local Plans and Priorities Lens (Scenario 2B (Alt)).

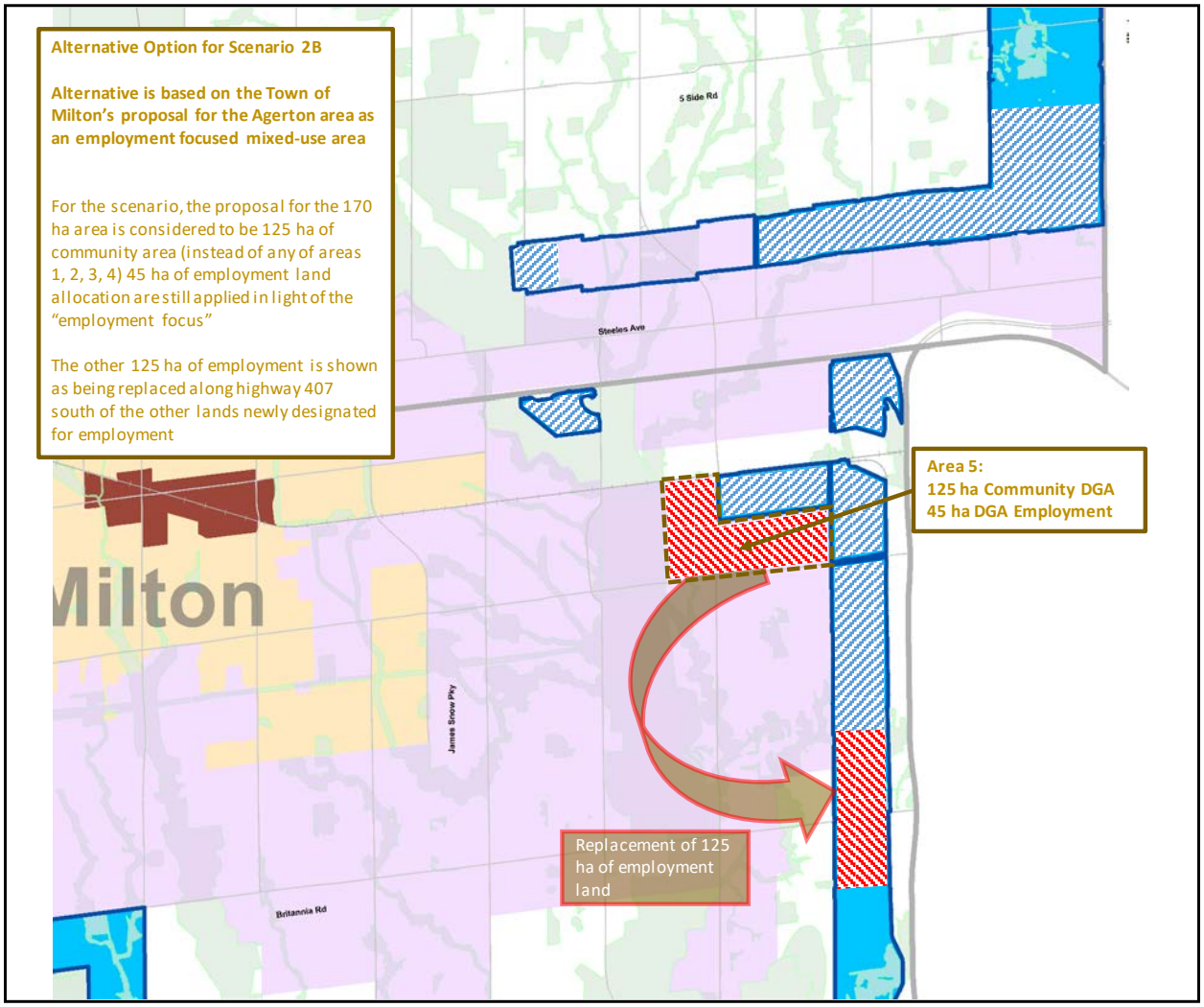
Scenario 2B(Alt) is shown in Map 15 and is, for the purpose of the scenario evaluation, to be structured as follows:

- There is total of 170 gross ha of developable land in south Agerton.
- The housing development and population associated with the 125 ha of new residential greenfield development is allocated to the area. This is shown as

Area 5 on previous maps and would be allocated to this location instead of any of Areas 1, 2, 3 or 4 considered in the other scenarios.

- Employment land employment equivalent to the remaining 45 ha of land in would also be allocated to south Agerton.

Map 15: Alternative Option for Scenario B



- The 125 gross ha and 45 gross ha in the area is only as equivalency for the population and employment allocation. The entire 170 ha would need to be considered as community area for *Growth-Plan*-based land planning purposes.

- The 125 gross ha of employment land that would need to be replaced in the land budget could be located elsewhere in the Future Strategic Employment Area. For the purposes of initial evaluation these replacement lands are shown along Highway 407 south of the potential new employment land designations along Highway 407, north of Britannia Road.

The need to directly consider this alternative scenario arose late in the process. As a result, the alternative was not directly considered in the infrastructure and financial analysis contained in this report. It will, however, be fully considered as a scenario in the evaluation process.

11. Servicing Growth

High level analyses have been undertaken of water and wastewater and transportation infrastructure and financial considerations for the Region based on the eight growth scenarios developed to date. This chapter provides the results of these high level analyses which will be undertaken in greater detail based on the growth scenarios as they are refined and evaluated in the next stage of the IGMS, working towards a Preferred Growth Concept, on which a complete infrastructure and costing analysis will be prepared.

A. System Opportunities and Constraints for Post-2031 Growth

Halton Region completed master plans for water & wastewater and transportation in 2011, and since that time the Region has been planning and implementing the infrastructure identified to accommodate growth to 2031.

As part of this study, eight growth scenarios were identified to support population and employment growth to 2041, as outlined in the previous sections of this report. The scenarios were reviewed to identify, at a high level, the impact each would have on the Region's existing and planned water, wastewater, and transportation infrastructure in order to identify opportunities and constraints in the networks to 2041. As such, high-level infrastructure needs to accommodate the incremental growth (ie. 2031 to 2041) were identified for each of the scenarios and these findings will feed into the scenario evaluation process.

Overall, the analysis demonstrated that there are no substantial differences in infrastructure opportunities and constraints to 2041 when the eight growth scenarios are compared. The methods, assumptions, and findings of this analysis for water, wastewater and transportation infrastructure are summarized in the sections below.

1. Water and Wastewater Assessment

Halton Region is responsible for planning, building, operating and maintaining municipal water and wastewater infrastructure.

Halton is currently serviced by lake water in the south and by groundwater in the north. The lake-based system includes three water purification plants (WPPs) which supply drinking water to Oakville, Burlington and part of Milton. Per the 2011 Water and Wastewater Master Plan strategy, lake-based water service will be extended from

Milton to a portion of Georgetown to accommodate planned growth, post 2021, for the area generally south of Silver Creek. The groundwater system in north Halton supplies Acton, Georgetown and a portion of Milton via nine municipal well fields.

Wastewater in Halton is collected by sanitary sewers within defined catchment areas that drain to wastewater treatment plants (WWTPs) directly by gravity sewer or via wastewater pumping stations and associated wastewater forcemains. There are currently seven WWTPs in Halton; however, the Milton WWTP is scheduled for decommissioning post 2021, with flows to be redirected to the Mid Halton WWTP. Similarly, a portion of Georgetown wastewater will be re-directed from the Georgetown WWTP to the Mid-Halton WWTP in south Halton for treatment post 2021.

a. Methodology and Assumptions

Water and wastewater infrastructure including treatment plants, storage facilities, pumping stations, and pipe networks were analyzed for each of the eight growth scenarios. For this analysis, the planned 2031 capacities of infrastructure were compared to the projected 2041 growth requirements to identify high-level system constraints and opportunities. Note that the estimates of future capacity requirements to 2041 are approximate and intended to provide a high-level assessment of potential future capacity opportunities and constraints. The analysis is subject to further refinement through this study and the future water and wastewater master plan.

Specific level of service assumptions related to the various infrastructure considered were as follows:

- **Water and Wastewater Treatment Plants** were flagged as constrained when the projected future requirement to 2041 reached 90% of their 2031 rated capacity. The capacity threshold of 90% is commonly used as the trigger for plant expansions or other measures to reduce/manage flows at the plant.

- **Water Storage Facilities, Water Pumping Stations, and Wastewater Pumping Stations** were flagged as constrained when the projected future requirement to 2041 exceeded their 2031 rated capacity.

- **Water Pipe Networks** were flagged as constrained when hydraulic head losses greater than 5m/km were predicted in the 2031 pipe network under maximum day conditions in 2041 (based on the results of hydraulic modelling).

- **Wastewater Pipe Networks** were flagged as constrained when the projected 2041 flow in a pipe (q) versus the full pipe capacity of the 2031 pipe network(Q), referred to as q/Q, was 0.85 or higher (based on the results of hydraulic modelling).

b. Analysis and Findings

The analysis revealed the following:

Water Treatment

- The lakewater based system has sufficient capacity to support growth to 2041. However, the demands of the lakewater based system are projected to reach 90% of capacity in all scenarios with the exception of 2A and 3A. Scenarios 2A and 3A include more growth in the groundwater serviced areas (i.e. Acton and Georgetown) which reduces the water demand on the lake based system.

- Acton and Georgetown groundwater systems have sufficient capacity to service the projected demands to 2041. However, the 90% capacity threshold is reached in Scenarios 1A and 3A for the Acton Groundwater system. Population growth in Acton is higher in Scenarios 1A and 3A than in other scenarios, which increases demand on the Acton groundwater system; and

- Milton groundwater system does not have sufficient capacity to supply the projected water demands in the service area to 2041.

Table 35: Summary of Water Treatment Plant Demand Projections Analysis

System	Scenarios							
	1A	1B	2A	2B	3A	3B	4A	4B
Lakewater Based	!	!	✓	!	✓	!	!	!
Acton GW	!	✓	✓	✓	!	✓	✓	✓
Georgetown GW	✓	✓	✓	✓	✓	✓	✓	✓
Milton GW	✗	✗	✗	✗	✗	✗	✗	✗

✓ < 90% Rated Capacity 90% Rated Capacity< ! <Rated Capacity ✗ >Rated Capacity

Water Storage

For the majority of pressure zones in the Region, existing and planned water storage is adequate across all scenarios. However, additional requirements were identified in all eight scenarios for the 2041 horizon for the following water pressure zones:

- Milton Pressure Zone (Zone 250 – southeast Milton) has a projected approximate 25-28 Mega Litres (ML) deficiency;
- Georgetown Pressure Zone (Zone G6L- southwest Georgetown) has a projected approximate 2-6 ML deficiency; and
- Oakville Pressure Zone (Zone O2 – central Oakville) has a projected approximate 1-2 ML deficiency.

Since a significant portion of the growth is allocated in the service areas where these pressure zones are located, such as North Oakville, Milton, Halton Hills 401 corridor and Georgetown, the deficiencies in these particular zones were not unexpected. The deficiencies are common across all scenarios.

Water Pumping Stations

Similar to the findings with respect to water storage requirements, the water pumping requirements identified as part of this analysis were consistent across all scenarios. Deficiencies in all eight scenarios were identified for the same pressure zones as above:

- Milton Pressure Zone (Zone 250 – southeast Milton) has a projected approximate 45-60 Mega Litres per Day (MLD) deficiency;
- Georgetown Pressure Zone (Zone G6L – southwest Georgetown) has a projected approximate 5-15 MLD deficiency; and
- Oakville Pressure Zone (Zone O2 – central Oakville) has a projected approximate 30 MLD deficiency

Water Network

A high level analysis of the water network was also performed. The Region's water system model was run for each scenario and assessed based on the head losses that the watermains are experiencing in the model for the all scenarios under maximum day conditions, to identify potential capacity constraints in the system.

The range of pipe lengths showing head losses greater than 5m/km is very consistent across the eight scenarios, with scenarios A showing slightly higher numbers than the counterpart B scenarios. The difference is attributed to scenarios A placing additional demand on existing pipes in built-up areas.

Wastewater Treatment

The analysis revealed the following:

- Acton WWTP and Georgetown WWTP have sufficient capacity to service growth to 2041 with the exception of 3A for Acton, which is estimated to reach

90% of the rated capacity. Similar to water treatment, there is more growth in Acton assigned to Scenario 3A, which increases wastewater flows to the Acton WWTP;

- Mid-Halton WWTP and Oakville Southwest WWTP were flagged as having potential capacity constraints to 2041;
- Oakville Southeast WWTP has sufficient capacity to service growth to 2041 in the majority of the scenarios, except for scenarios 3A and 3B where the projected flows are estimated to reach 90% of the rated capacity. Growth in the Oakville Southeast WWTP catchment area is higher in Scenarios 3A and 3B, which increases wastewater flows to the Oakville Southeast WWTP; and
- Skyway WWTP shows projected flows reach 90% of the rated capacity of the plant in all scenarios.

Table 36: Summary of Wastewater Treatment Plant Flow Projections Analysis

WWTP	Scenarios							
	1A	1B	2A	2B	3A	3B	4A	4B
Acton	✓	✓	✓	✓	!	✓	✓	✓
Georgetown	✓	✓	✓	✓	✓	✓	✓	✓
Milton	-	-	-	-	-	-	-	-
Mid-Halton	✗	✗	✗	✗	✗	✗	✗	✗
Oakville SE	✓	✓	✓	✓	!	!	✓	✓
Oakville SW	✗	✗	✗	✗	✗	✗	✗	✗
Skyway	!	!	!	!	!	!	!	!

Note: For the wastewater treatment analysis it was assumed that the Milton WWTP was decommissioned in the 2021 timeframe.

Wastewater Pumping Stations (WWPS)

Wastewater pumping station requirements were identified for existing pumping stations as well as for those proposed in the current Regional Capital Program. The analysis of the existing WWPSs shows that there could be increased growth opportunities in the

catchment areas for Britannia WWPS (Milton) and North Oakville WWPS (Oakville). The North WWPS (Oakville), Elizabeth Gardens WWPS (Burlington) and Ninth Line WWPS (Oakville) were identified as deficient by 2041 across all scenarios.

The analysis of the wastewater pumping stations that are planned but currently un-built suggests that the following Wastewater Pumping Stations could require potential adjustments to the planned capacity:

- Halton Hills #4 WWPS (Halton Hills) is currently planned for 100 Litres/second (L/s) capacity and through this analysis it is projected to need approximately 110-130 L/s total required capacity.
- Trafalgar WWPS (Milton) is currently planned for 1,200 L/s and projected to need approximately 1300-1500 L/s total required capacity.
- Lower Base Line WWPS (Milton) is currently planned for 1,805 L/s and projected to need approximately 1800-2070 L/s total required capacity.
- Tremaine South WWPS (Milton) is currently planned for 225 L/s and projected to need approximately 220-240 L/s total required capacity.

Wastewater Network

A high level analysis of the wastewater network was also performed. The system was assessed based on projected flow in pipe (q) versus the total theoretical capacity of the pipe (Q), referred to as q/Q. This demonstrates what the sanitary sewers are experiencing in the model for the different scenarios under peak wet weather conditions. The range of length of pipes where capacity improvements are required is consistent across the eight scenarios being between 12 and 14 km of total pipe length.

2. Transportation Infrastructure

Halton Region is responsible for planning, constructing, operating, maintaining, and improving a network of Major Arterial roads which accommodate all modes of travel and allows for the transport of people and goods in a safe and efficient manner. As of the end of 2018, the Regional road system consisted of approximately 314 centreline kilometres (i.e. total length of all Regional roads) resulting in approximately 1,116 lane-kilometres of roadway (i.e. total length of all lanes of Regional roads) which connects the Region's rural and urban centres and provides connectivity to the provincial highway system.

The Local municipalities are responsible for all other roads which include minor arterials, multi- purpose arterials, collectors, and local roads within the road network.

These roads are the primary access to local communities and provide connection to Major Arterial roads and Provincial facilities.

Based on the Transportation Master Plan completed in 2011, the Region developed an extensive transportation capital program to accommodate growth to 2031, which included widening most regional roadways in the urban boundary to a 6-lane cross section by 2031.
A high level, preliminary transportation infrastructure analysis of the eight growth scenarios with respect to travel demand by 2041 was undertaken. The analysis of the growth scenarios was based on assessment of the transportation network performance at the screenline level to identify high-level system constraints and opportunities. Estimates of future capacity requirements to 2041 are approximate and intended to provide a high-level assessment of potential future capacity constraints and opportunities. The analysis is subject to further refinement through this and future study, and the future Transportation Master Plan.

a. Methodology and Assumptions

The analysis of the growth scenarios was undertaken using the Region's transportation Capital Program to 2031 as the base in which to determine post 2031 requirements.

The Halton Travel Demand Forecasting Model (the model) was utilized in the analysis of the growth scenarios. The model is a standard 4-stage travel demand model that has been calibrated and validated at the screenline level using the 2011 Transportation Tomorrow Survey (TTS) data. As part of this study, the model was updated to reflect the most recent regional roadway improvements to 2031 and consideration was given to adjacent municipality forecasts and network improvements. In addition, for the purpose of comparing the eight growth scenarios, the transit mode split was assumed to be an average of 10% in the PM peak period for travel to, from and within Halton Region.

The analysis of the 2041 growth scenarios was based on an assessment of the transportation network performance at the screenline level (a screenline is an imaginary boundary or line across one or more roadway links that defines a broad corridor) and the ability of the transportation network to accommodate travel demand through that screenline. The ability of the network to accommodate 2041 travel demand was measured through a volume to capacity ratio (v/c) with a threshold of equal to or greater than 0.9. As such, for screenlines where the anticipated volume of vehicles traversing that screenline divided by the capacity of the roadway network over that screenline is equal to or greater than 0.9, additional roadway capacity (i.e. lane requirements) was identified as required. The growth scenarios were analyzed as follows:

- Screenline deficiencies were identified for screenlines with a v/c equal to or greater than 0.9.
- Screenline deficiencies were divided into MTO and Regional/Local deficiencies;
- MTO deficiencies were not carried further in the analysis;
- The length of roadway requiring widening to address the identified deficiency was defined for each deficient screenline representing the Regional/Local deficiencies; and
- For each deficient screenline, the number of lanes deficient was multiplied by the corresponding length of roadway to obtain a lane-kilometre of roadway capacity improvement that would be required to support the growth scenario at the deficient screenline.

b. Transportation Analysis and Findings

Using Halton's model with a 10% transit mode split, as described above, travel demand runs were conducted for 2041 for each of the eight growth scenarios under consideration. For each of the scenarios, the deficient screenlines were reviewed to assess capacity requirements (e.g. total number of lanes required), as presented in Table 37 for Regional/Local network deficiencies.

The resulting additional transportation capacity requirements based on lane-kilometres for each growth scenario were determined and are presented in Table 37 for Regional/Local network deficiencies.

Table 37: Transportation Infrastructure Requirements by Growth Scenario

Scenario:	1A	1B	2A	2B	3A	3B	4A	4B
Total Lane deficiency at screenlines*:	19	20	21	21	21	20	17	18
Total Lane-Kilometres required to address deficiency at screenlines**	74.5	79.5	83.5	85.5	83.5	79.5	64.5	70.5

*Total Lanes – represents the sum of the lane deficiencies at all deficient screenlines.
**Total Lane-Kilometres – represents the sum of the number of lane deficiencies times the respective length of roadway needed to be widened.

Based on this preliminary assessment, all growth scenarios exhibit similar transportation capacity deficiencies assuming lane-kilometres of new roadway infrastructure as the common unit for comparison.

Common to all the growth scenarios are potential deficiencies on provincial facilities including the QEW/Highway 403 and Highway 401 freeways, as well as the Skyway Bridge. These potential deficiencies were not analysed further as part of this exercise and are not included in Table 37.

Appendix B provides figures which present the screenline deficiencies at 2041 for each growth scenario, resulting from the transportation assessment for the Regional/local network deficiencies.
Overall, the analysis demonstrated that for transportation infrastructure, there are no substantial differences in infrastructure opportunities and constraints to 2041 among the eight growth scenarios.

c. Conclusions

As presented in this section, the planned 2031 capacities of infrastructure were compared to the projected 2041 growth requirements to identify high-level system constraints and opportunities. The analysis demonstrated that for water, wastewater, and transportation infrastructure, there are no substantial differences in infrastructure opportunities and constraints to 2041 when the eight growth scenarios are compared. Note that the estimates of future capacity requirements to 2041 are approximate and intended to provide a high-level assessment of potential future capacity constraints and opportunities. The analysis is subject to further refinement through this study and the future master plans.

B. Financial Analysis

1. Background & Purpose of Financial Analysis

The planning policy regime in Ontario requires that municipalities plan for development in a way that promotes the financial well-being of provincial and local governments. For example, in accordance with the requirements of the Provincial Policy Statement (PPS) infrastructure and public service facilities, including amenities located within defined settlement areas, must be financially viable.

The *Growth Plan* also supports the policies of the PPS and requires that infrastructure and public service facilities be financially viable over their full life cycle. The analysis places emphasis on maximizing the utilization of existing infrastructure, examining the financial viability of infrastructure with regard to the impact on property tax rates and utility rates. This approach is consistent with the requirements of relevant planning legislation and represents prudent fiscal planning. It is noted that the Region and all four

of the local municipalities existing fiscal policies and practices are sound and promote fiscal sustainability, this analysis is based on those policies and practices.

As part of the IGMS report, a high-level an assessment of the eight growth scenarios has been undertaken. Based on the findings of the infrastructure assessment, the variations between scenarios are not significant, as outlined earlier in this chapter.

The analysis reflects a high-level assessment and does not provide annualized impacts to different costs and revenue sources; rather, it sets out a framework that will be used for future consideration. Financial evaluation criteria will be further explored in subsequent reports as the eight growth scenarios are refined towards a preferred growth option.

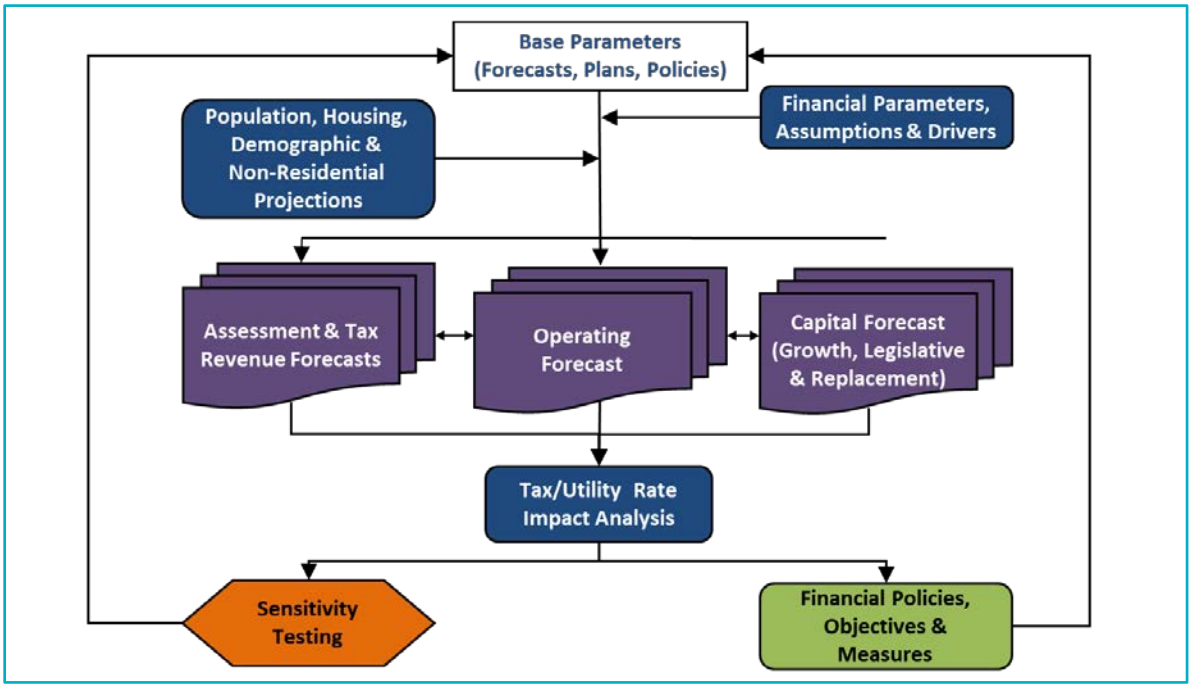
2. Overview of Major Assumptions

a. Financial Model Structure

Figure 46 below provides a schematic overview of the financial model structure that will be used in future analysis. The base parameters of the model, or primary inputs, includes financial documents such as capital and operating budgets as well as long-range financial planning policies. Other key inputs to the model include growth forecast projects (e.g. population, household and employment growth) and other capital induced and/or operating impact drivers. Individual models have been developed for the Region and each of the four local municipalities.

The model accounts for municipal expenditures, including capital and operating costs, as well as revenues generated from assessment (property taxes), utility rates (water and wastewater fees) as well as other non-tax/utility revenues. The net impact of the expenditure less revenues results in the tax rate/utility impact, which is used to assess the viability of a particular development scenario.

Figure 46: Financial Model Structure



b. General Financial Analysis Assumptions

The financial analysis is informed based on information provided by the Region and local municipalities. Generally, 2018 Capital and Operating budgets as well as relevant financial plans, development charges background studies and policies, (e.g. long-range financial planning documents) inform the base model.

The financial forecast will not consider increases in capital and/or operating costs resulting from inflation. Excluding the net effects of inflation on future expenditures allows for a comparative impact of the growth scenarios over the long-term planning period to 2041. In particular, the analysis assumes that the Region and local municipalities will continue to maximize development charge recoveries and other available funding tools for development-related infrastructure to 2041.

The analyses assume that the Region and local municipalities will continue with the "status quo" approach to utilizing property tax and utility rate funding sources; in other words, the current financial policies and practices are maintained into the future. For user fee revenue sources, it is assumed that the Region and all local municipalities will continue to base these charges on current cost recovery ratios with the exception of building permit and planning fees, assumed to be at full cost recovery.
The planning period of the financial analysis aligns with the forecast population and employment growth (2018-2041) presented as part of the growth scenarios. The

analysis is based on the cumulative impact over the planning period from 2018-2041 and does not provide an annualized assessment of net financial impacts.

Importantly, the financial analysis assumes that current service levels are maintained and does not account for service enhancements or changes to how services are delivered by the Region and local municipalities. The current services for which the local municipalities and the Region are responsible for has been maintained. In particular, Transit services are currently the responsibility of the local municipalities, this assumption has been maintained for the purposes of the comparative analysis.

c. Funding Sources for Capital Infrastructure

Halton Region and its local municipalities have different servicing responsibilities. The Region provides services that benefit large geographic areas, such as water and wastewater infrastructure as well as the regional road network. The Region is also responsible for social and community services (e.g. social housing, public health, childcare, affordable housing, senior services, waterfront parks, etc.), paramedics, police, waste diversion and others. In contrast, local municipalities are responsible for services that provide a local benefit to the residents and employees (e.g. local roads, libraries, fire services, parks and recreation, public works, general administration of the municipality etc.). The services provided by local municipalities are planned and delivered to reflect the needs, and desired services levels, of the individual municipalities.

Increases in development necessitates the need to build capital infrastructure in order to provide adequate levels of service to future growth. The Region and local municipalities must rely on a range of revenue sources to fund this infrastructure. Revenue sources include development charges, property tax, user rates and upper level government funding (e.g. gas tax).

d. Funding Sources for Operating Infrastructure

In addition to capital expenditures, municipalities must also pay for operating costs associated with new infrastructure. In comparison to capital expenditures, the range of funding sources available for operating expenditures is more limited and includes property taxes, user fees and upper level government funding.

e. Effects of Growth on Capital and Operating Budgets

As noted in Section 12 – Servicing Growth, there is minimal variation in infrastructure opportunities and constraints to 2041 when comparing the eight growth scenarios. However, as a decision is made on a preferred growth scenario (including density and

greenfield development potential) the financial impacts will be refined based on assessed value which will have an associated cost impact.

The fundamental driver of the financial analysis is the amount, type and location of development under each of the growth scenarios. Growth in population, residential dwelling units (including type and density), employment growth (including type) and amount of new non-residential building space (including type) influences the outcomes of the analysis. The location of growth, as in which local municipality, and the assumed density, or intensification, influence the comparative analysis.

In addition, the added infrastructure will result in additional operating costs, or what is referred to in the analysis as "capital induced operating cost impacts". These operating cost impacts are compared across the growth scenarios. The Region and local municipal funding sources for operating expenditures is anticipated to remain consistent with current operating funding practices over the planning period.

For the capital induced operating cost impacts, the analysis recognizes that other municipal expenditures will also increase overtime, such as general administration costs, which might be unrelated to capital expenditures. These types of operating cost impacts are included as "volume based" impacts and general increase in relation to population, or population and employment, changes.

f. Capital Forecast Includes Growth-Related Capital and Provision for Capital Rehabilitation and Replacement

The capital forecasts focus on two major types of capital investment required over the planning period to 2041: development-related infrastructure and provision for rehabilitation and replacement of existing and future assets so infrastructure is maintained in a "state of good repair". Funding for the capital program is assumed to be provided from a combination of development fees, the Region's and local municipalities various capital reserves and reserve funds (e.g. assessment and utility rates) and other financing sources including the use of debt.

g. Weighted Assessment is Forecast in Relation to Growth in New Housing and Non-Residential Floorspace

Weighted assessment will increase in the Region in relation to the growth forecasts identified in each growth scenario. The assessment forecast is prepared for each tax class so that appropriate weighting and discount factors are applied. Only taxable weighted assessment is included in the forecast. The residential forecast is based on average assessed values by housing type in each local municipality. Table 38 below sets out the assessment assumptions.

Table 38: Weighted Assessment Assumptions per Unit

Weighted Assessment Assumptions per Unit				
Residential	**Burlington**	**Oakville**	**Halton Hills**	**Milton**
Singles/Semis (Low Density)	$700,000	$1,140,000	$690,000	$560,000
Multiples (Medium Density)	$420,000	$530,000	$420,000	$380,000
Apartments (High- Density)	$360,000	$430,000	$280,000	$300,000

The non-residential forecast is based on an average assessed value per square metre of building space. It is assumed that all population-related employment included in the forecast is in the commercial occupied tax class. Building space added in the employment land category is assumed to be in the industrial occupied tax class. The categories of Major Office, Employment Land, and Population Related are consistent with the employment categories used in the IGMS forecast.

Table 39: Weighted Assessment Assumptions per Square Metre

Weighted Assessment Assumptions per Square Metre				
Residential	**Burlington**	**Oakville**	**Halton Hills**	**Milton**
Major Office	$4,000	$4,000	$2,500	$2,500
Employment Land	$3,000	$3,000	$1,500	$1,500
Population-Related	$4,000	$4,000	$2,500	$1,500

h. Forecast Assessment Growth

The following tables provide a forecast of the anticipated residential and non-residential assessment growth in the Region to 2041. The tables represent the total weighted assessment (in billions) at the end of the planning period for each scenario.

The analysis is based on the weighted assessment assumptions outlined in Table 39 above and the anticipated residential and non-residential development identified under each growth scenario. The analysis in the tables below suggest that as density increases, there is less assessment relative to other scenarios. This is because the same total number of units is planned for on a Region-wide basis, however the composition of housing mix between low density (e.g. single and semi-detached) and high-density (e.g. apartments) units shift between scenarios. As the proportion of low density units increases, so too does the amount of assessment since low density units have a higher weighted assessment value. For example Scenario 3A would have the

lowest assessment as intensification is required at greater levels. This does not mean that the overall financial result for the Region is determined based on assessment. Rather, consideration must be given to other factors including capital and operating costs and other revenues. This will be examined as part of future analysis.

For comparative purposes, the total weighted assessment in 2041 is compared to current 2018 assessment and Scenario 1A. It should be noted that at 2041, the assessment is split between residential and non-residential assessment in 2041 is based on achieving the population and employment targets are identified in the growth scenarios.

Table 40: Weighted Assessment Based on Anticipated Population and Employment

Weighted Assessment Based on Anticipated Population and Employment					
Category (billions $)	**2018**	**2041 Total W. Assessment**			
	W. Assessment	**1A**	**2A**	**3A**	**4A**
Residential	$113.90	$181.60	$181.00	$180.70	$182.50
Non-Residential	$28.50	$61.30	$61.30	$61.30	$60.90
Total	**$142.40**	**$242.90**	**$242.30**	**$242.00**	**$243.40**
Difference (2018-2041)		*$100.50*	*$99.90*	*$99.60*	*$101.00*
Difference to 1A ($)			*($0.60)*	*($0.90)*	*$0.50*
Difference to 1A (%)			-0.25%	-0.37%	0.21%

Category (billions $)	**2018 Total**	**2041 Total W. Assessment**			
	W. Assessment	**1B**	**2B**	**3B**	**4B**
Residential	$113.90	$182.30	$181.60	$181.00	$183.40
Non-Residential	$28.50	$61.00	$61.10	$61.10	$61.00
Total	**$142.40**	**$243.30**	**$242.70**	**$242.10**	**$244.40**
Difference (2018-2041)		*$100.90*	*$100.30*	*$99.70*	*$102.00*
Difference to 1A ($)		*$0.40*	*($0.20)*	*($0.80)*	*$1.50*
Difference to 1A (%)		0.16%	-0.08%	-0.33%	0.62%

i. Sensitivity Testing of Non-Residential Assessment

Recognizing that the forecast assessment shown in Table 40 reflects the highest and best use of land by 2041, and that historically the Region has experienced a lag in non-residential assessment growth, a sensitivity test is provided below that maintains the existing (as of 2018) residential and non-residential assessment growth relationship of 80% residential and 20% non-residential over the future planning period to 2041.

In part, this sensitivity test recognizes that the non-residential sector will continue to evolve over the forecast period to 2041 and that non-residential development is often

subject to different environmental and/or planning requirements that affect the timing of assessment. As such, there is some uncertainty of the total amount of forecast assessment arising from non-residential development that will be realized in the future, therefore an effort has been made to "smooth" the assessment growth over the long-term planning period to 2041.

Table 41: Weighted Assessment Based on Current Residential and Non-residential Allocations

Weighted Assessment Based on Current Residential and Non-Residential Allocations					
Category (billions $)	**2018**	**2041 Total W. Assessment**			
	W. Assessment	**1A**	**2A**	**3A**	**4A**
Residential	$113.90	$181.60	$181.00	$180.70	$182.50
Non-Residential	$28.50	$45.40	$45.30	$45.20	$45.60
Total	**$142.40**	**$227.00**	**$226.30**	**$225.90**	**$228.10**
Difference (2018-2041)		*$84.60*	*$83.90*	*$83.50*	*$85.70*
Difference to 1A ($)			*($16.70)*	*($17.00)*	*($14.80)*
Difference to 1A (%)			-6.85%	-7.01%	-6.08%

Category (billions $)	**2018 Total**	**2041 Total W. Assessment**			
	W. Assessment	**1B**	**2B**	**3B**	**4B**
Residential	$113.90	$182.30	$181.60	$181.00	$183.40
Non-Residential	$28.50	$45.60	$45.40	$45.30	$45.90
Total	**$142.40**	**$227.90**	**$227.00**	**$226.30**	**$229.30**
Difference (2018-2041)		*$85.50*	*$84.60*	*$83.90*	*$86.90*
Difference to 1A ($)		*($15.00)*	*($15.90)*	*($16.70)*	*($13.70)*
Difference to 1A (%)		-6.19%	-6.55%	-6.85%	-5.62%

j. Utility Costs and Rate Revenues Will Increase in Relation to Development

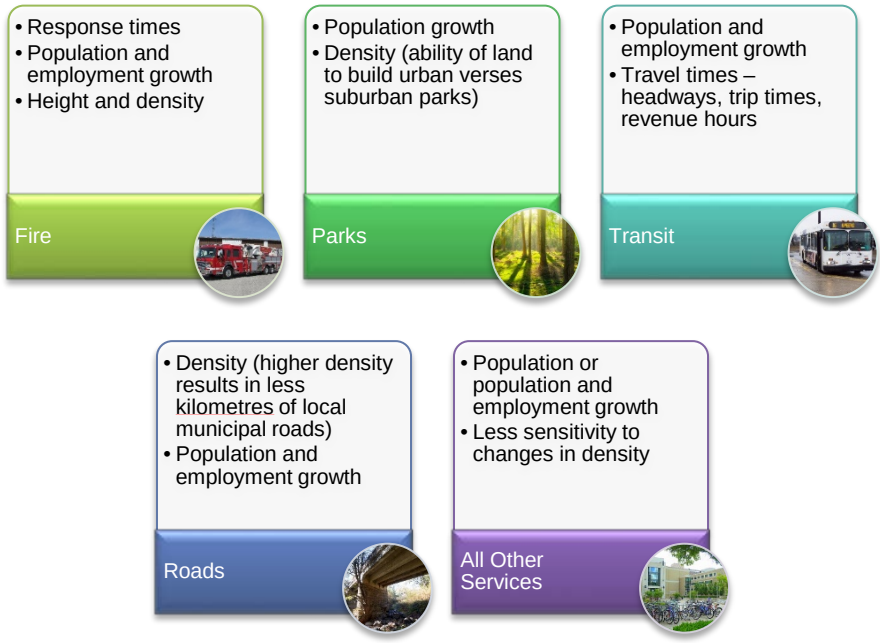
Operating costs associated with new water and wastewater infrastructure are assumed to increase in relation to new development occurring Region-wide as new residential and non-residential users connect to the system. It is assumed that water consumption will continue to decline in line with recent trends and the Region's utility rate forecast; however, total water consumption will increase due to new development occurring across the system. Similarly, from a revenue perspective, the total water and wastewater rate revenues are expected to increase, in line with full cost rate recovery for these services.

k. Drivers of Capital Infrastructure

In subsequent financial analysis as the growth scenarios are refined to a preferred growth option, drivers for different types of capital infrastructure will be explored. These drivers recognize, in part, that particular services provided by the Region's local municipalities are influenced by factors other than population and employment growth. For example, fire services is influenced by population and employment growth as well

as height and density of development. As municipalities achieve higher densities, fire response times are reduced due to increased congestion, therefore requiring the construction of additional stations to maintain response time targets. In particular, additional fire infrastructure is required to respond to higher densities (e.g. specialized fire vehicles and equipment to respond to high-rise units).
Figure 47 below provides a brief overview of the drivers that will be explored for various services as part of subsequent financial analysis.

Figure 47: Drivers of Capital Infrastructure



3. General Observations

As outlined in the water and wastewater analysis, at an infrastructure level there is not a significant variation between the growth scenarios. However, as noted above, density assumptions have financial impacts and will be assessed and refined as a preferred growth scenario is identified.

12. How Will a Preferred Growth Concept Be Established?

In the next steps of the IGMS process, the growth scenarios will be evaluated based on a range of criteria and working in consultation with Regional and local municipal staff, the IGMS governing Committees, key stakeholders and consulting team members. The evaluation phase will work towards a Preferred Growth Concept for Halton Region – one that is grounded in an achievable growth outlook and supportive of the goals and objectives of the Region and local municipalities for future development and urban structure of Halton.

A. Evaluation Framework and Criteria for Growth Scenarios

The Halton Region Integrated Growth Management Scenario Evaluation Framework (the Framework) will be used to evaluate the eight growth scenarios generated as part of the Land Needs Assessment analysis portion of the ROPR. The Framework has been informed by meetings with Regional staff, local municipal staff, as well as direction from the Steering Committee. It has also been informed by a Visioning Workshop held at the outset of the Integrated Growth Management Strategy (IGMS) project. All eight scenarios have been developed to meet a minimum standard of the requirements as set out in the Provincial Plans and the *Halton Region Official Plan*.

The Framework provides criteria that assist in differentiating between the scenarios to support the development of a single Draft Preferred Growth Concept. A set of evaluated Growth Concepts will be provided to Regional Council, with the documented selection and scenario refinement process in Q3 of 2019, and provided as part of the materials to inform Public Consultation at that time. Following completion of Public Consultation, and analysis of the information and input received, additional refinement will be undertaken to develop the Preferred Growth Concept. This work will conclude Phase 2 of the IGMS.

1. Visioning Workshop

A Visioning Workshop held on June 7, 2018 provided insight into the development of scenarios and assisted in determining the recommended approach to scenario evaluation. In terms of informing the evaluation process, the Visioning Workshop suggested inclusion of objectives related to the following key theme:

- Intensification: How compatible with existing built conditions is the level of intensification required by each scenario?

- Flexibility: How sensitive is each scenario to unknowns such as potential shifts in demographics, economic conditions and advances in technology?

- Financial Sustainability: How well does each scenario utilize existing infrastructure and ensure that growth is financially sustainable?

- Achieving Public Support: How can the results from the evaluation of scenarios be communicated so that the public can appreciate the benefits of growth and be comfortable with growth locations identified in the evaluated Growth Concepts?

2. Evaluation Criteria

The Framework centres around four themes:

1. Infrastructure & Financing;
2. Regional Urban System & Local Character;
3. Agriculture, Environment & Climate Change; and
4. Growing the Economy & Moving People and Goods.

Each theme contains 2-5 objectives which are drawn from the key objectives articulated in the policies of the Provincial Plans and the Regional official plan. Each scenario will be tested on the degree to which each meets the objectives through the use of criteria in the form of policy-based questions and a corresponding measure for each question.

The Framework will not be used to address the minimum standards that can be adequately addressed by all scenarios; rather it will be used to assess alternative land use solutions to meet those minimum standards. For instance, the scenarios will not be evaluated on meeting minimum requirements, such as density targets, in the *Growth Plan*. Instead, they will be evaluated based on objectives such as their ability to maximize the use of existing infrastructure, minimize fragmentation of agricultural lands, or balance the need to achieve the vision of MTSAs without compromising overall employment land supply.

Additionally, the Framework is not intended to be used with explicit weighting or scoring of each measure. It is designed to determine the strengths and weaknesses of each scenario and rank them accordingly. In some cases the difference between each scenario in how well it meets the criteria will be marginal.
For reference, the Framework can be found in Appendix C.

3. Addressing new DGA Land Need

It is important to note that additional evaluation of potential new community DGA locations will be required should any of the scenarios that call for additional urban land be identified as part of the refinement and development of a set of evaluated Growth Concepts. The eight scenarios as developed to date, are based on two breakdowns of new community DGA land between Halton Hills and Milton, the two Halton municipalities where settlement area expansions are possible.

It is very likely that through the evaluation process, additional splits of new community DGA land will be tested and require consideration. In addition, irrespective of how much new community DGA land need is allocated to Halton Hills or Milton, where that new community DGA land is best located within each municipality will need to be decided. To this end, two broad areas in Halton Hills and four in Milton where potential new community DGA could be located have been identified. High level opportunities and constraints related to these potential areas from servicing perspectives are being assessed through the IGMS infrastructure analysis.

The growth scenarios as developed to date, which will be the focus of the initial round of evaluation, speak to a total quantum of new DGA land need and the initial contemplated splits, as discussed above. The evaluation process will need to be flexible and provide for an additional level of evaluation to determine not only the total amount of new community DGA land need, if any, but also appropriate proportional allocations of that quantum between Halton Hills and Milton. At that point, the evaluation will shift to focus on the best location for new DGA lands within each municipality, from growth management, infrastructure and finance perspectives. This will already be informed to some extent by the analyses described in this report.

It is assumed that any additional employment land designations will be located in the already identified Future Strategic Employment Areas (FSEAs). To some extent, the quantum and location will depend on some of the conclusions reached regarding new community area DGA, if any. As a result, the quantum and location associated with the growth scenarios, will be subject to revision and refinement for the Growth Concepts, and likely again in the development of the Preferred Growth Concept.

13. Study Next Steps

This *IGMS Growth Scenarios: Halton Region to 2041* background information report has outlined the trends and factors shaping the Region and prospects for growth and provided an overview of key considerations and assumptions underlying the development of growth scenarios for evaluation through the next stages of the IGMS. The high-level infrastructure review and land budget considerations emerging from the scenarios provide a basis for moving forward with a full evaluation against key criteria that reflect the growth management priorities of Regional and local councils in Halton.

- This report will be presented to Regional Council in April, 2019, and feedback will help guide the evaluation and refinement of growth scenarios, which will run from May to September, 2019.
- Consultation will be undertaken with the IGMS Technical, Directors and Steering Committees, as input to refining the growth scenarios and evaluating the refined set of concepts, working towards a set of evaluated Growth Concepts for Public Consultation in the Fall of 2019.
- Further analysis and consideration of input received, outcomes of the evaluation process, and key planning priorities will be undertaken to develop and implement a Preferred Growth Concept. This will occur to conclude Phase 2 of the IMGS, and will include detailed assessments and preliminary recommendations related to potential employment land conversions, locations for settlement area boundary expansion and planning for MTSAs.
- A set of evaluated Growth Concepts will be reported on in September, 2019, and will include a discussion of the infrastructure and financing implications, working towards a Preferred Growth Concept for Halton Region and a Growth Management Plan to implement the vision, in early 2020.

Acronyms

DGA: Designated Greenfield Area

GGH: Greater Golden Horseshoe

GTAH: Greater Toronto Area and Hamilton

MTSA: Major Transit Station Area

ROPA: Regional Official Plan Amendment

UGC: Urban Growth Centre

IGMS: Integrated Growth Management Strategy

PPS: Provincial Policy Statement, 2014

ROPR: Regional Official Plan Review

QEW: Queen Elizabeth Highway

GTA: Greater Toronto Area

CUSMA: Canada-US-Mexico Agreement

GDP: Gross Domestic Product

RER: Regional Express Rail

BUA: Built-Up Areas

MCR: Municipal Comprehensive Review

PPJ: Persons Plus Jobs

CMA: Census Metropolitan Area

Appendix A:
Technical Appendices

Halton REGION

Appendix A.1:
Land Supply Development Potential

Halton REGION

Appendix A1:
Land Supply and Development Potential

A. Overview

This appendix documents the land supply potential for accommodating residential units along with the vacant supply of employment land, measured in hectares. With input from regional and local municipal staff, approved developments have been identified along with assumptions about the density of the build-out of remaining potential in current Designated Greenfield Areas (DGA), Urban Growth Centres (UGC), Major Transit Station Areas (MTSA), and other intensification potential. A summary table of the potential is presented here, while detailed tables documenting sources and assumptions for each local municipality appear throughout this appendix.

The key conclusions are:

- The continued build out of the current DGA, combining both approved developments and assumptions regarding build-out densities mean that there is more than enough greenfield capacity to accommodate the growth that is anticipated to 2031.
- A significant share of the growth that will occur between 2031 and 2041 can be built within the current DGA.
- Significant intensification potential has been identified in the designated UGCs, MTSAs and other intensification areas.
- Notable is the quite significant potential, identified as intensification in mixed-use settings in the UGCs and MTSAs for apartment development. This potential far exceeds the likely market demand within the IGMS planning horizon.

A summary of the results are contained in the following Tables 1, 2 and 3, with the “base” supply used in the A scenarios that do not include any conversions of employment land. Also shown is the addition supply associated with the B scenarios which test the possible conversion of employment lands to accommodate high-density mixed-use areas.

Table 1

Halton Region Residential Unit Potential (adjusted to a mid-2016 base)				
	Ground Related Units	Apartment Units	Total	
BUA - Intensification	6,900	91,500	98,400	Units for Existing Planned Pattern (A) Scenarios with no employment land conversion
DGA - Greenfield	59,600	46,900	106,500	
Sub-Total	66,500	138,400	204,900	
Additional BUA	1,700	28,600	30,300	Additional Units in mixed-use nodes on converted employment lands for Local Plans and Priorities (B) Scenarios
Additional DGA	4,900	11,400	16,300	
Sub-Total	6,600	40,000	46,600	
Total Halton Region	73,100	178,400	251,500	

Table 2

Available Residential Unit Potential, Existing Planned Pattern Scenarios ("A" Scenarios) with No Employment Land Conversions (adjusted to a mid-2016 base)				
	Ground Related Units	Apartment Units	Total	Notes
Burlington				
BUA - Intensification	900	20,400	20,400	Mainly UGC and MTSAs
DGA - Greenfield	1,100	1,000	2,100	Mainly Evergreen-Tremaine
Total Burlington	2,000	21,400	23,400	
Oakville				
BUA - Intensification	3,400	49,100	49,100	UGC and Trafalgar Corridor are largest areas
DGA - Greenfield	15,900	32,800	48,700	North Oakville
Total Oakville	19,300	81,900	101,200	
Milton				
BUA - Intensification	1,400	18,000	19,400	Almost all in UGC
DGA - Greenfield	35,600	11,900	47,500	Boyne and Sustainable Halton areas
Total Milton	37,000	29,900	66,900	
Halton Hills				
BUA - Intensification	1,200	4,000	5,200	Mainly Georgetown Downtown and GO Station areas
DGA - Greenfield	7,000	1,200	8,200	Southwest and Southeast Georgetown
Total Halton Hills	8,200	5,200	13,400	
Halton Region				
BUA - Intensification	6,900	91,500	98,400	
DGA - Greenfield	59,600	46,900	106,500	
Total Halton Region	66,500	138,400	204,900	

Table 3

Available Residential Unit Potential, Local Plans and Priorities Scenarios ("B" Scenarios) with Added Mixed-Use Nodes on Converted Employment Lands (adjusted to a mid-2016 base)				
	Ground Related Units	Apartment Units	Total	Notes
Burlington				
BUA - Intensification	900	20,400	21,300	
DGA - Greenfield	1,100	1,000	2,100	
Additional BUA	1,400	25,700	27,100	Proposed GO Station MTSAs/Mobility Hubs
Total Burlington	3,400	47,100	50,500	
Oakville				
BUA - Intensification	3,400	49,100	52,500	
DGA - Greenfield	15,900	32,800	48,700	
Additional BUA	300	2,900	3,200	Bronte GO MTSA
Additional DGA	100	5,000	5,100	Palermo North and Health-Oriented Mixed-Use Area
Total Oakville	19,700	89,800	109,500	
Milton				
BUA - Intensification	1,400	18,000	19,400	
DGA - Greenfield	35,600	11,900	47,500	
Additional DGA	4,800	6,400	11,200	Derry/Trafalgar Node and Conversion of MEV Employment
Total Milton	6,200	24,400	30,600	
Halton Hills				
BUA - Intensification	1,200	4,000	5,200	
DGA - Greenfield	7,000	1,200	8,200	
Total Halton Hills	8,200	5,200	13,400	
Halton Region				
BUA - Intensification	6,900	91,500	98,400	
Additional BUA	1,700	28,600	30,300	
DGA - Greenfield	59,600	46,900	106,500	
Additional DGA	4,900	11,400	16,300	
Total Halton Region	73,100	178,400	251,500	

B. Assumptions and Methods

Understanding the land supply and development potential for areas currently undergoing development and areas planned for development in each of the Region's local municipalities is an essential part of the land budgeting and allocation of growth. Preliminary technical memoranda with information on land supply and development potential were provided to local municipal staff for review, and the information was updated, as appropriate, over the fall of 2018, based on staff comments and additional information received. This appendix documents the revised and consolidated land supply information and development potential analysis, which forms a key basis of the refined IGMS growth scenarios.

This information has been an important input to refining and finalizing the local municipal growth allocations and will further inform the refinement and evaluation of the Growth Concepts under the IGMS. Results are provided for residential and employment areas.

Residential growth capacities are expressed in terms of housing units. For the most part, the purpose was to determine a reasonable capacity figure for an area, whether or not the units will be built by 2041. It is recognized that all unit potential will not necessarily be achieved by 2041, particularly the large potential for high-density units and units relying on land assembly and redevelopment. For the most part, capacity not used by 2041 is taken into account in the allocation of the growth, rather than within the supply analysis. It is also noted that some of the newer nodes and corridors that do not have planning approvals in place, or would require significant employment land conversions, are somewhat speculative as to the development potential. The estimates are treated strictly as assumptions for analysis, and no future approval is implied.

The supply information is considered differently based on the different scenarios. That is, some of the scenarios include assumptions of employment area conversions for mixed-use nodes, while others do not. As such, the supply information is separated in the tables so that different elements of supply can be treated differently within growth scenario evaluation and refinement.

C. Defining Housing Units by Type

For the purposes of defining the housing units by type, the usual definition of single and semi-detached is applied. The Census defines row units as standard freehold or condominium plan rows, where there is no vertical separation between units. That is, a Census rowhouse does not include stacked townhouses and may or may not include back-to-back townhouses or triplex/quadraplex units. The Census considers stacked townhouses as apartments under five storeys. Stacked townhouses and some of these other forms are becoming more commonplace and most of these units are being built in areas designated for rowhousing or medium-density development (rather than apartment or high-density designations). As a result, we have categorized the supply data and undertaken the draft scenarios and allocation work using a more expansive unit definition for rows than in the Census. This “Rows+” category is intended, wherever possible, to include standard townhouses, stacked townhouses and back-to-back townhouses. Apartments includes all low, medium and high-rise apartments as well as added secondary suites. Some additional notes in this regard, of particular relevance to Oakville and Milton:

- The purpose of defining and employing the Rows+ category in the supply analysis is to provide for a more expansive version of ground-related units in order to incorporate back-to-back and stacked townhouses. Some of the broader definition

of Rows or medium density in Oakville and Milton also included low-rise apartment units as a result.

- For North Oakville, medium-density in the neighbourhood corridors provides for up to 150 units per net ha. Developments in excess of 100 units per ha are nearly always apartment units. Thus, for the purpose of the supply analysis, we have assumed 75% of the Town's identified potential in North Oakville as actual ground-related medium density units, and the other 25% as low-rise apartments.
- Based on a similar analysis for Milton, we have assumed 90% of the category to be ground-related, recognizing that some apartments are included in the expanded rows category as determined by Milton.

D. Supply Analysis Results by Local Municipality

For each local municipality in Halton, the following tables provide the estimates of capacity for different policy areas considered in the growth scenarios, including:

- Designated Greenfield Area (DGA) residential supply in units;
- currently planned intensification units;
- potential additional significant intensification areas within the Built-Up Area in units;
- potential new mixed use concentrations in the DGA in units;
- potential new community DGA;
- Employment Area occupied and vacant lands; and
- potential new Employment DGA.

For the most part, in the Designated Greenfield Areas (DGA), the tables provide a capacity figure at build-out and deduct the counted units as of the 2016 Census in order to provide an estimate of supply from a mid-2016 base. For intensification areas, the tables reflect units that could be added over and above any existing units in those areas. The figures provided have been reviewed by local municipal staff and updated accordingly, taking into account the status of approvals.

1. DGA Residential Supply in Units

The following tables enumerate the potential supply of units by type for each municipality for specific Designated Greenfield Areas.

a. Burlington

There is only a small remaining supply of DGA potential in the northern portions of the Burlington urban areas as shown in Tables 4 and 5. The DGA supply for the City of Burlington includes:

- remaining supply in Alton, consisting of a few remaining medium and high density parcels near at the east end of the area;
- all of the Alton West lands; and
- the lands in the Evergreen Secondary Plan Area.

Table 4

Burlington Greenfield Potential: Approved Plans					
Location	Housing Units				
	Single/Semi	Rows+	Apartments	Total	Source
Alton	0	91	924	1,015	Per City data
Alton West	363	35	0	398	Per City data
2016 Supply for future occupancy	363	126	924	1,413	

Table 5

Burlington Greenfield Potential: Assumptions for Areas in Planning					
Location	Housing Units				
	Single/Semi	Rows+	Apartments	Total	Source
Tremaine / Evergreen	393	239	120	752	Per City data
Total	393	239	120	752	

b. Oakville

Greenfield potential for the Town of Oakville is shown in Tables 6 and 7. The supply includes vacant and potential DGA capacity in North Oakville, Palermo Village, Uptown Core and other DGA pockets south of Dundas St., based on Town information. It is noted that the unit potential in North Oakville is now significantly higher than originally contemplated for North Oakville under the North Oakville Secondary Plan. There are many more ground-related units and a much larger apartment unit potential in the Trafalgar Corridor, under OPA 321.

Table 6

Oakville Greenfield Potential: North Oakville Remaining Vacant Supply					
Location	**Housing Units**				
	Single/Semi	**Rows+**	**Apartments**	**Total**	**Source**
North Oakville East	11,673	7,874	30,851	50,398	Analysis Study; OPA #321, OPA #322; Oakville Planning staff
Adjustment for common definition of Rows+		75%			Assumed 75% of the potential of the neighbourhood corridors built as rows
	11,673	5,906	32,820	50,398	
North Oakville West (portion of Palermo Village, North of Dundas)	0	0	0	0	This is just the existing village area east of Bronte, other lands under appeal are considered elsewhere.
Sub-Total North Oakville	11,673	5,906	32,820	50,398	
Less Existing Units 2016 (Census)	(1,160)	(580)	(20)	(1,760)	
2016 Supply for future occupancy	10,513	5,326	32,800	48,638	

Table 7

Oakville Greenfield Potential: DGA South of Dundas Remaining Vacant Supply					
Location	**Housing Units**				
	Single/Semi	**Rows+**	**Apartments**	**Total**	**Source**
Palermo Village DGA (south of Dundas)	0	0	395	395	Per Town's information
Uptown Core DGA	0	0	2,565	2,565	Per Town's information
Other DGA Pockets south of Dundas	24	0	0	24	Per Town's information
2016 Supply for future occupancy	24	0	2,960	2,984	

c. Milton

The following is updated housing unit data for existing community areas that are located within the Milton Designated Greenfield Area (DGA), as shown in Tables 8 and 9.

Table 8

Milton Greenfield Potential: Approved Plans					
Location	Housing Units				
	Single/Semi	Rows+	Apartments	Total	Source
Bristol Survey	3,400	1,500	1,200	6,100	Per Town data; Town of Milton Residential Growth Forecast, June 2018.
Sherwood Survey	6,800	3,700	700	11,200	
Boyne Survey	7,300	6,800	3,100	17,200	
Sub-Total Approved Plans	17,500	12,000	5,000	34,500	
Adjustment for common definition of Rows+		90%			
Adjusted base for common definition of Rows+	17,500	10,800	6,200	34,500	
Less Built and Occupied	11,000	5,800	1,800	18,600	Per Town data (as of June 2018)
2016 Supply for future occupancy	6,500	5,000	4,400	15,900	

Notes:

In Bristol, this is just the portion of the secondary plan that lies within Designated Greenfield Area (much of the plan area is within the Built Up Area). All of Sherwood and Boyne are within the Designated Greenfield Area.

The following represents housing unit estimates for future community areas that are located within the Milton DGA and is considered current as of November, 2018. It is noted that the information is subject to change pending outcomes on on-going planning studies by the Town. These figures do not include the proposed changes to the Education Village or the Derry/Trafalgar and Agerton areas that involve employment land conversion. These are shown later in the Appendix.

Table 9

Milton Greenfield Potential: Assumptions for Areas in Planning					
Location	Housing Units				
	Single/Semi	Rows+	Apartments	Total	Source
Milton Education Village	0	2,844	2,323	5,167	
Britannia West	6,200	7,000	2,300	15,500	
Trafalgar Corridor	3,300	4,000	700	8,000	Updated based on information provided by Town staff; completed and on-going Town of Milton Secondary Planning Studies (October 2018).
Adjustment for common definition of Rows+		90%			
Education Village	0	2,559	2,608	5,167	
Britannia West	6,200	6,300	3,000	15,500	
Trafalgar Corridor	3,300	3,600	1,100	8,000	
Total	9,500	12,459	6,708	28,667	

Note: All of these areas are entirely in the Designated Greenfield Area

d. Halton Hills

For the purposes of this analysis, the DGA supply for Halton Hills includes South Georgetown, Southwest Georgetown as well as potential in Stewarttown, now within the urban area. Glen Williams, while rural, needed to be counted as DGA under the *Growth Plan*, 2017, but as rural in the *Growth Plan*, 2019. The supply will be adjusted accordingly to accommodate this change in the next stages of the IGMS work. The supply is shown in Tables 10 and 11.

Table10

Halton Hills Remaining Greenfield Potential: Approved Plans					
Location	**Housing Units**				
	Single/Semi	**Rows+**	**Apartments**	**Total**	**Source**
South Georgetown DGA	403		0	403	Information provided by Town staff.
Acton DGA	27	0	0	27	
Stewarttown (New development area)	40	0	0	40	
Glen Williams (Existing Rural)	110	0	0	110	Need to count any additional potential in the rural community, since Glen Williams must be counted as part of DGA according to the *Growth Plan* , 2017
2016 Supply for future occupancy	580	0	0	580	

Table 11

Halton Hills Greenfield Potential: Assumptions for Areas in Planning					
Location	**Housing Units**				
	Single/Semi	**Rows+**	**Apartments**	**Total**	**Source**
Southwest Georgetown Secondary Plan	2,925	2,705	1,016	6,646	Vision Georgetown, OPA 32
Southeast Georgetown SHP Lands	456	422	158	1,037	Assume same density and mix as Southwest Georgetown
Total	3,381	3,127	1,174	7,683	

2. Currently Planned Intensification in Units

The *Growth Plan* requires that Urban Growth Centres (UGC) be planned to achieve a minimum target of persons plus jobs per hectare (ppj/ha) by 2031. For each of the UCG's in Halton Region, the minimum target is 200 ppj/ha. Initial estimates were provided for the units required to achieve this density of development and then were updated based on local municipal input. The IGMS must allocate sufficient growth to achieve the target, whether or not it appears reasonable to realize this level of development within the next 12 years and whether or not the implied supply potential is identified.

a. Burlington

For the City of Burlington, this category includes planned development in the UGC, Uptown Core and approved development in the Burlington GO Station Area, as shown in Table 12.

Table 12

Burlington Currently Planned Intensification Areas Within the Built Up Area: Unbuilt Potential					
Location	**Housing Units**				
	Single/Semi	**Rows+**	**Apartments**	**Total**	**Source**
UGC by 2031, Projects and Applications	1	0	1,381	1,382	Per City Data
UGC by 2031, Additional Required for Density Target	0	333	0	333	Estimated for remaining 8 p+j/ha to meet target
Additional UGC to Capacity	0	0	8,060	8,060	Per City Data
Uptown Core	0	0	0	0	Parcels that may allow residential are currently developed and have a number of conditions that mitigate against near-term redevelopment. For analysis purposes for allocation, no supply is considered at this time.
Burlington GO (current in-force plan)	0	362	6,885	7,248	Units based on City Data, we have assumed 95/5 mix for analysis purposes
Appleby GO (current in-force plan)	0	181	3,434	3,615	
Aldershot GO (current in-force plan)	0	34	646	680	
Other Locations/General Intensification	0	275	4,950	5,500	Corridors, Arterial Cores and Malls
	335	0	1,665	2,000	Based on 335 LD infill, plus accessory units
Total	336	1,185	27,021	28,818	

b. Oakville

Table 13 provides the Town of Oakville BUA potential includes the following UGCs and intensification areas:

- UGC
- Uptown Core (recent open house)
- Palermo Village (recent open house)
- Kerr Street
- Downtown Oakville
- Bronte Village

Table 13

Oakville Currently Planned Intensification Areas Within the Built Up Area					
Location	Housing Units				
	Single/Semi	Rows+	Apartments	Total	Source
UGC by 2031	0	0	5,680	5,680	Based on achieving 200 persons + jobs per ha by 2031: 12,000 persons in 6,000 units (including 320 existing units)
Additional UGC to Capacity	0	0	5,406	5,406	
Uptown Core (excluding DGA parcels)	0	316	2,844	3,160	Initially based on 16,600 population from Livable Oakville, equates to 7,500 units, less 1,775 existing units less 1,900 units in DGA portion (per above). Assuming a small number of ground-related units in association with the larger developments. Figures updated based on additional information from Town staff.
Bronte Village	0	0	1,590	1,590	
Palermo Village	0	0	3,021	3,021	
Kerr Village	0	22	4,499	4,521	
Downtown Oakville	0	147	1,321	1,468	
Trafalgar Road Corridor	0	17	14,376	14,393	
Total	0	502	38,737	39,239	

c. Milton

For the Town of Milton, potential within the UGC and balance of Built Up Area is estimated based on Town MTSA study and intensification capacity analyses, as shown in Table 14.

Table 14

Milton Currently Planned Intensification Areas Within the Built Up Area					
Location	Housing Units				
	Single/Semi	Rows+	Apartments	Total	Source
UGC by 2031	0	0	5,300	5,300	Town data including MTSA/Mobility Hub study and Intensifcation Capactiy Analysis, for lands outside Town identified MTSA but within UGC.
Additional UGC to Capacity	0	0	11,000	11,000	
Other Built/Approved within Built Up Area	900	500	1,650	3,050	Town of Milton Building Permit Stats, June 2018.
Total	900	500	17,950	19,350	

d. Halton Hills

For the purpose of the IGMS, the analysis will consider intensification potential for Halton Hills as general intensification in Georgetown and Acton. Estimates in this regard have been provided by Town staff for Georgetown and are expected for Acton in 2019. The supply is shown in Table 15.

Table 15

Halton Hills Currently Planned Intensification Areas Within the Built Up Area					
Location	Housing Units				
	Single/Semi	Rows+	Apartments	Total	Source
Georgetown General Intensification				1,735-2,680	Staff estimate range of: 450-1,000 units in Downtown Georgetown, 320 units in Commercial Core, 540-610 units in Civic Centre, 425-750 units in Georgetown Community Node - no unit type breakdowns provided.
Acton General Intensification	Limited potential due to servicing constraints. Specific estimates to come from the Town's intensification study currently underway				
Total					

3. Potential Additional Significant Intensification Areas within the Built Up Area in Units

This category would include Major Transit Station Areas (MTSAs) within the Built-Up Area.

a. Burlington

For Burlington, as shown in Tables 16 and 17, this category includes:

- Burlington GO MTSA without major conversions (per proposed OP);
- Aldershot GO MTSA without major conversions (per proposed OP);
- Appleby GO MTSA without major conversions (per proposed OP);
- Burlington GO MTSA with conversion;
- Aldershot GO MTSA with conversion; and
- Appleby GO MTSA with conversion.

Table 16

Burlington Identified/Potential Intensification Concentrations within the Built Area, Additional Increment Based on City-Proposed Conversions (but no converion of Regional Employment Area)					
Location	Housing Units				
	Single/Semi	Rows+	Apartments	Total	Source
Burlington GO MTSA (proposed OP, no additional conversions)	0	83	1,584	1,668	Units based on City Data. Mix of 95% apartments has been assumed for analysis purposes.
Appleby GO MTSA (proposed OP, no additional conversions)	0	394	7,491	7,885	
Aldershot GO MTSA (proposed OP, no additional conversions)	0	98	1,862	1,960	
Total	0	576	10,937	11,513	

Table 17

Burlington Identified/Potential Intensification Concentrations within the Built Area, Additional Increment Based on Potential Conversion of Regionally Designated Employment Area					
Location	**Housing Units**				
	Single/Semi	**Rows+**	**Apartments**	**Total**	**Source**
Burlington GO MTSA (with conversions)	0	154	2,931	3,085	Units based on City Data, we have assumed 95:5 % mix for analysis purposes
Appleby GO MTSA (with conversions)	0	0	0	0	
Aldershot GO MTSA (with conversions)	0	623	11,837	12,460	
Total	0	777	14,768	15,545	

b. Oakville

Town staff have provided estimates for intensification potential outside of the identified nodes, as shown in Tables 18 and 19.

Table 18

Oakville Other Identified Intensificaiton Potential Outside of the Identified Nodes					
Location	**Housing Units**				
	Single/Semi	**Rows+**	**Apartments**	**Total**	**Source**
East Neighbourhood	100	462	1,825	2,387	Based on information provided by Town staff.
Southeast Neighbourhood	100	627	1,323	2,050	
West Neighbourhood	600	769	2,871	3,160	
Southwest Neighbourhood	50	155	1,360	1,565	
Total	850	2,013	7,379	9,162	

Table 19

Oakville Additional Identified/Potential Intensification Concentrations within the Built Area, but without Planning Approval					
Location	**Housing Units**				
	Single/Semi	**Rows+**	**Apartments**	**Total**	**Source**
Bronte GO MTSA	0	323	2,902	3,225	Per Town's Information
Total	0	323	2,902	3,225	

c. Milton

No specific supply figures have been identified, though infill opportunities will arise. This category of supply would also be augmented by any additional infill sites identified as employment land conversions, should they occur. These would include Town proposals for the Meritor site and at Bronte and Main. Whether or not these should be converted for this purpose will be determined in the next phase of the IGMS.

d. Halton Hills

For Halton Hills, this category could include the Georgetown and Acton MTSA areas, as shown in Table 20.

Table 20

Halton Hills Additional Identified/Potential Intensification Concentrations within the Built Area, but without Planning Approval					
Location	Housing Units				
	Single/Semi	Rows+	Apartments	Total	Source
Georgetown GO MTSA	0	144	1,456	1,600	Estimates provided by Town staff.
Acton GO MTSA	0	0	0	0	Estimate to come.
Total					

4. Potential New Mixed Use Concentrations in the DGA in Units

This category includes new MTSAs or other planned nodes or mixed-use concentrations in the Designated Greenfield Area (DGA). The development of these proposed new nodes is being tested; however testing the figures or testing the scenario does not presuppose support by the Region for establishing these new nodes, particularly where employment land conversions would be required.

a. Burlington

None identified.

b. Oakville

For the Town of Oakville, this category includes Palermo North and the Health Oriented Mixed Use Area, as shown in Table 21. The Health-Oriented Mixed-Use Area would require an employment land conversion. The Palermo north area is currently considered a part of the employment land supply. However, it may not technically be an employment land conversion since it remains under appeal from ROPA 25 in 2005.

Table 21

Oakville Identified/Potential Mixed-Use Nodes in the DGA, but without Planning Approval					
Location	Housing Units				
	Single/Semi	Rows+	Apartments	Total	Source
Health Oriented Mixed Use Area	0	0	3,790	3,790	Per Town's Information
North Palermo	0	129	1,163	1,292	Per Town's Information
Total	0	129	4,953	5,082	

c. Milton

A number of apartment units associated with the potential MTSA at Derry Rd. and Trafalgar Rd. have been included in accordance with the Town's suggested Plan, as shown in Table 22. However, the Town also has an interest in conversion of employment lands on the east side of the Trafalgar Corridor, in the Agerton Employment Area, from employment to community area. For the purpose of the growth scenarios, large-scale employment conversions are not considered as part of the supply, but rather are considered as potential locations for "new DGA", should any be required. For the purpose of supply, we have relied on the regional GIS analysis, as attached, and secondary plans, as approved.

Table 22

Milton Identified/Potential Mixed-Use Nodes in the DGA, but without Planning Approval					
Location	Housing Units				
	Single/Semi	Rows+	Apartments	Total	Source
Trafalgar/Derry (only proposed MTSA area at the proposed station, all in Exisiting DGA)	0	0	2,000	2,000	Information provided by the Town.
Education Village, additional supply if entire area were designated mixed use	0	4,806	3,927	8,733	
Total	0	4,806	5,927	10,733	

d. Halton Hills

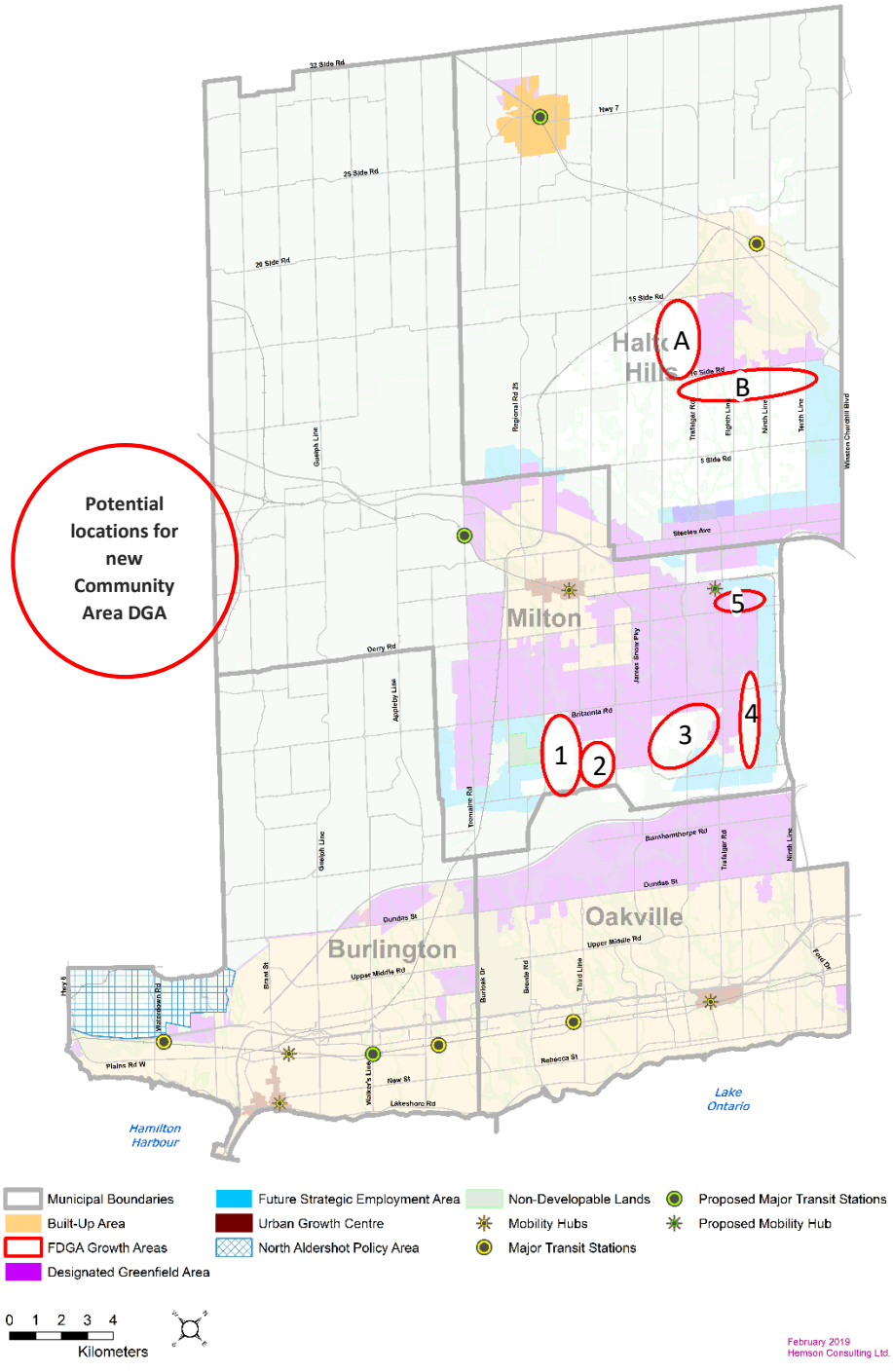
None identified.

5. Potential New Community DGA

Potential different areas for new community DGA are shown on Map A1 with five defined areas in Milton and two general locations in Halton Hills adjoining Georgetown. As well, the North Aldershot area is shown and is referenced in the next Burlington sub-section.

Map A1

Potential General Locations for Adding New Community Area DGA



a. Burlington

The City of Burlington does not have any large areas of land that could be designated for additional urban uses as a result of greenbelt protection. However, if any of the lands in the North Aldershot Special Study Area were to go forward with further development on urban services, the units and lands might be counted as part of the new DGA.

b. Oakville

None identified.

c. Milton

In Milton, most of the lands that could potentially be designated for new urban uses have been identified as Future Strategic Employment Areas. Four areas have been identified for the initial analysis as possible locations for any new community DGA land, as shown on Map 1 below. The high-level infrastructure analysis currently being undertaken is assessing potential opportunities and constraints for these areas based on assumed development potential, consistent with current Growth Plan policy. The areas will be considered further should new Community Area DGA be required. Tables 23 and 24 illustrate the potential units that could be built in these areas, if required, based on the *Growth Plan, 2019*.

Table 23

Milton Potential Locations for New Community Area, if Required (80 persons plus jobs per ha, Growth Plan 2017)					
Location	**Housing Units**				
	Single/Semi	**Rows+**	**Apartments**	**Total**	**Source**
Area 1	1,923	3,845	1,923	7,690	310 ha @ 80 p + j /ha
Area 2	2,170	4,340	2,170	8,680	350 ha @ 80 p + j /ha
Area 3	1,240	2,480	1,240	4,960	200 ha @ 80 p + j /ha
Area 4	868	1,735	868	3,470	140 ha @ 80 p + j /ha
Total	6,200	12,400	6,200	24,800	

Table 24

Milton Potential Locations for New Community Area, if Required (65 persons plus jobs per ha, Proposed Amendment 1 to the Growth Plan providing for minimum 50 persons plus jobs per ha)					
Location	**Housing Units**				
	Single/Semi	**Rows+**	**Apartments**	**Total**	**Source**
Area 1	2,460	1,968	492	4,920	310 ha @ 80 p + j /ha
Area 2	2,780	2,224	556	5,560	350 ha @ 80 p + j /ha
Area 3	1,590	1,272	318	3,180	200 ha @ 80 p + j /ha
Area 4	1,110	888	222	2,220	140 ha @ 80 p + j /ha
Total	7,940	6,352	1,588	15,880	

d. Halton Hills

There is a significant area of "white belt" land that could be designated as new DGA; well in excess of what is likely to be considered in the IGMS process. It is understood that any added DGA would be adjacent to Georgetown to the west and/or south. Again, further consideration will be given to the specific potential should additional Community Area DGA be warranted. Tables 25 and 26 illustrate the potential units that could be built in these areas, if required, based on the *Growth Plan, 2019*.

Table 25

Halton Hills Potential Locations for New Community Area, if Required (80 persons plus jobs per ha, Growth Plan 2017)					
Location	**Housing Units**				
	Single/Semi	**Rows+**	**Apartments**	**Total**	**Source**
Georgetown Expansion (5,000 Population)	470	930	470	1,870	Development at 80 persons + jobs per ha, per Growth Plan.
Georgetown Expansion (17,000 Population)	1,550	3,100	1,550	6,200	

Table 26

Halton Hills Potential Locations for New Community Area, if Required (65 persons plus jobs per ha, Proposed Amendment 1 to the Growth Plan providing for minimum 50 persons plus jobs per ha)					
Location	**Housing Units**				
	Single/Semi	**Rows+**	**Apartments**	**Total**	**Source**
Georgetown Expansion (16,000 Population)	2,380	1,900	480	4,680	Development at 65 persons + jobs per ha, per current development (exceeds proposed Amendment 1 to Growth Plan).
Georgetown Expansion (28,000 Population)	3,970	3,180	790	8,169	

E. Employment Area Occupied and Vacant Lands

The occupied and vacant employment lands are provided in the tables that follow, noting that:

- All figures are in net ha; that is, the private lot area within subdivided areas. Where parcels have yet to be subdivided, a net to gross ratio is applied. The ratio is a standard 80% in most larger areas, with an alternative rate of 90% applied in a few areas where size, access or configuration mean much less local road area would be required.
- In some areas, as noted, we have relied on other sources such as secondary plans for the land areas.

- Large retail concentrations and major institutions that lie within employment areas have been shown separately since these land uses are not "employment" uses in the sense of the Employment Areas that are being analyzed in the IGMS. Smaller retail or institutional uses would be considered ancillary uses within the employment areas.
- In some areas, the Employment Area shown on the *Halton Regional Official Plan* Regional Structure Map do not incorporate all of the entirety of the employment area based on existing land use or local land use designations. Where this situation occurs the employment lands adjacent to the Regional Employment Area have been included in the supply but shown separately.

The data for each municipality are provided in tables 27 to 30 and summarized for the Region in Table 31.

Table 27

Burlington Employment Areas: Occupied and Vacant Lands (in net ha)

Location or Business Park / Employment Area		Major Commercial or Institutional	Occupied	Vacant	Total	Source
Highway 403 West Corridor	Within Regional Employment Area	0	185	20	204	GIS mapping
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**185**	**20**	**204**	
Highway 407 Corridor (Alton)	Within Regional Employment Area	0	86	41	127	GIS mapping
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**86**	**41**	**127**	
QEW Central Corridor	Within Regional Employment Area	0	820	47	867	GIS mapping
	Outside Regional Employment Area	0	106	0	106	
	Total	**0**	**926**	**47**	**974**	
Bronte Creek Meadows	Within Regional Employment Area	0	37	40	77	GIS mapping and 80% net to gross on unsubdivided lands
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**37**	**40**	**77**	
Total Burlington	Within Regional Employment Area	0	1,128	148	1,276	
	Outside Regional Employment Area	0	106	0	106	
	Total	**0**	**1,234**	**148**	**1,382**	

Table 28

Oakville Employment Areas: Occupied and Vacant Lands (in net ha)						
Location or Business Park / Employment Area		Major Commercial or Institutional	Occupied	Vacant	Total	Source
QEW East Employment Area	Within Regional Employment Area	0	364	40	404	GIS mapping and 80% net to gross on unsubdivided lands
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**364**	**40**	**404**	
Midtown Core Employment District	Within Regional Employment Area	0	29	3	32	GIS mapping
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**29**	**3**	**32**	
QEW West Employment Area	Within Regional Employment Area	0	462	19	482	GIS mapping
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**462**	**19**	**482**	
Burloak Employment Area	Within Regional Employment Area	0	48	155	203	GIS mapping
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**48**	**155**	**203**	
Winston Park	Within Regional Employment Area	0	188	5	193	GIS mapping
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**188**	**5**	**193**	
Winston Park West	Within Regional Employment Area	0	51	32	83	Per Secondary Plan, 80% net to gross on unsubdivided lands
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**51**	**32**	**83**	
North Oakville East	Within Regional Employment Area	0	0	234	234	Per NOSP background calculations (2007), Trafalgar Corridor employment area is not within Regional Employment Area
	Outside Regional Employment Area	0	0	39	39	
	Total	**0**	**0**	**273**	**273**	
North Oakville West	Within Regional Employment Area	17	11	190	217	Per NOSP background calculations (2007), including hospital
	Outside Regional Employment Area	0	0	0	0	
	Total	**17**	**11**	**190**	**217**	
Total Oakville	Within Regional Employment Area	17	1,153	679	1,849	
	Outside Regional Employment Area	0	0	39	39	
	Total	**17**	**1,153**	**718**	**1,887**	

Table 29

Milton Employment Areas: Occupied and Vacant Lands (in net ha)						
Location or Business Park / Employment Area		Major Commercial or Institutional	Occupied	Vacant	Total	Source
Highway 401 Business Park	Within Regional Employment Area	0	724	63	786	GIS mapping
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**724**	**63**	**786**	
Highway 401 Business Park Expansion (SHP)	Within Regional Employment Area	0	0	126	126	157.8 gross ha of developable land at 80% net to gross for local roads, stormwater and utilities
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**0**	**126**	**126**	
Bronte Triangle	Within Regional Employment Area	0	20	0	20	GIS mapping
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**20**	**0**	**20**	
Derry Green Business Park	Within Regional Employment Area	0	0	391	391	Per approved secondary plan, 275.7 ha business park + 104.2 ha industrial + 11.1 ha prestige office
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**0**	**391**	**391**	
Education Village (Current Designation)	Within Regional Employment Area	0	3	67	70	87.6 gross ha of developable land at 80% net to gross
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**3**	**67**	**70**	
Agerton (Current Designation)	Within Regional Employment Area	0	14	106	120	303 gross ha with 170 gross ha proposed by Town to be converted to multi-functional mixed-use area; 133 ha of developable land at 80% net to gross
	Proposed Conversion Lands	0	0	136	136	
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**14**	**242**	**256**	
Southwest Milton	Within Regional Employment Area	0	0	208	208	260 gross ha of developable land at 80% net to gross
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**0**	**208**	**208**	
Total Milton	Within Regional Employment Area	0	761	1,097	1,858	
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**761**	**1,097**	**1,858**	

Table 30

Halton Hills Employment Areas: Occupied and Vacant Lands (in net ha)						
Location or Business Park / Employment Area		Major Commercial or Institutional	Occupied	Vacant	Total	Source
Georgetown Employment Area	Within Regional Employment Area	0	117	3	120	GIS mapping
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**117**	**3**	**120**	
Acton Employment Area	Within Regional Employment Area	0	57	30	87	GIS mapping, 80% net to gross on unsubdivided lands
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**57**	**30**	**87**	
Mansewood Industrial Area	Within Regional Employment Area	0	28	2	30	GIS mapping
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**28**	**2**	**30**	
Premier Gateway Business Park (HUSP area, south of Steeles Avenue plus Fifth Line and Bridgen Gate properties)	Within Regional Employment Area	0	223	165	388	GIS mapping and 90% net to gross on unsubdivided lands
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**223**	**165**	**388**	
Premier Gateway Business Park (SHP area, north Side of Steeles Avenue)	Within Regional Employment Area	0	43	227	270	338 gross ha of developable land at 80% net to gross for local roads, stormwater and utilities
	Outside Regional Employment Area	0	0	0	0	
	Total	**0**	**43**	**227**	**270**	
Proposed Premier Gateway Expansion (ROPA 47 lands east and west of Trafalgar Road)	Within Regional Employment Area	0	0	0	0	143 gross ha of developable land, less 43 ha of NHS and applying a 80% net to gross for local roads, stormwater and utilities on the developable land
	Outside Regional Employment Area	0	0	80	80	
	Total	**0**	**0**	**80**	**80**	
Total Halton Hills	Within Regional Employment Area	0	469	427	896	
	Outside Regional Employment Area	0	0	80	80	
	Total	**0**	**469**	**507**	**975**	

Table 31

Halton Region Employment Areas: Occupied and Vacant Lands (in net ha)

Location or Business Park / Employment Area		Major Commercial or Institutional	Occupied	Vacant	Total
Burlington	Within Regional Employment Area	0	1,128	148	1,276
	Outside Regional Employment Area	0	106	0	106
	Total	**0**	**1,234**	**148**	**1,382**
Oakville	Within Regional Employment Area	17	1,153	679	1,849
	Outside Regional Employment Area	0	0	39	39
	Total	**17**	**1,153**	**718**	**1,887**
Milton	Within Regional Employment Area	0	761	1,097	1,858
	Outside Regional Employment Area	0	0	0	0
	Total	**0**	**761**	**1,097**	**1,858**
Halton Hills	Within Regional Employment Area	0	469	427	896
	Outside Regional Employment Area	0	0	80	80
	Total	**0**	**469**	**507**	**975**
Halton Region	Within Regional Employment Area	17	3,510	2,351	5,878
	Outside Regional Employment Area	0	106	119	225
	Total	**17**	**3,616**	**2,470**	**6,103**

Appendix A.2:
Regional Residential Scenarios

Halton REGION

Appendix A2: Regional Residential Scenarios

A. Key Assumptions

The main body of this report explains in detail how changes in housing type and occupancy since the adoption of ROPA 38 have critically influenced recent and current development patterns and occupancies. These changes have been critical to shaping the outcomes for each scenario going forward.

More specifically, the following key assumptions drive the results of the Regional growth scenarios:

- All scenarios accommodate population growth from a 2016 population of 565,000 to a 2041 population of 1,000,000 as required by the *Growth Plan*.
- The Region appears to be just achieving the current intensification target of 40% of new housing units developed within the built up area for the 2016 to 2021 period. From 2021 to 2031 50% of units are assumed to be accommodated within the built up area and from 2031 to 2041, in Scenarios 1 – 3 assume 60% of new units will be through intensification. The fourth scenario tests the *Growth Plan, 2019* policy of 50% intensification for 2031 to 2041.
- The analysis of the three Regional scenarios follows other key *Growth Plan* policies including minimum density requirements for existing and new designated greenfield areas (DGA). As well, the structure of this part of the residential analysis is consistent with the Provinces' *Land Needs Assessment Methodology for the Greater Golden Horseshoe*, which must be followed to justify any designation of additional community lands.
- In all cases, the analysis accommodates 157,400 new housing units from 2016 to 2041 to reach the 1,000,000 population used for planning purposes.

B. Overview of Results of the Regional Growth Scenarios

- 157,400 additional housing units need to be built throughout Halton Region between 2016 and 2041.
- About two-thirds of the greenfield housing unit growth from 2031 to 2041 can be accommodated in the existing areas that have been intended for growth only to 2031 (about one quarter of the total growth in the Region). These lands last well into the 2030s because the *Growth Plan*, requires much higher levels of

intensification than previously planned (the Growth Plan, 2017 50% and 60% noted above, or the new Growth Plan, 2019 50% to 2041 targets are both much higher than the original *Growth Plan*, 2006 40% requirement).

- **All Scenarios** include:
    - 500 housing units (0.3%) accommodated in the rural area.
    - 82,200 housing units (52%) built within the Built-Up Area (BUA).
    - 65,000 housing units (41%) built on existing DGA lands, mainly in North Oakville, in Milton south and east of existing development and in Southwest Georgetown. This includes the build-out of the ground-related housing supply within these areas plus about 10% of units in new greenfield apartment units.
- **Scenario 1: Moderate Greenfield Growth** results in:
    - 9,700 housing units (6%) on new urban designated land in the amount of 500 ha. This is considerably less than the 1,700 ha designated in Sustainable Halton in 2009 for growth from 2021 to 2031.
- **Scenario 2: Limited Greenfield Growth** results in:
    - 4,800 housing units (3%) on new urban designated land in the amount of 250 ha. This scenario is defined on the basis of half of the Scenario 1 total of 500 ha.
    - The other 4,800 housing units (3%) are assumed to be additional apartment development in the existing greenfield areas, where there is a very large long-term supply potential in areas such as the Trafalgar Corridor in North Oakville and Milton.
- **Scenario 3: No New Community Greenfield Land** results in:
    - No new community greenfield land.
    - All 9,700 additional housing units (6%) are assumed to be apartment development in the existing greenfield areas, where there is a very large long-term supply potential in areas such as the Trafalgar Corridor in North Oakville and Milton.
- **Scenario 4: Growth Plan, 2019** reduces the intensification target from 60% to 50% in the 2030s; and reduces the target density for newly designated greenfield areas from 80 to 65 persons plus jobs per ha. This results in:
    - 16,300 additional housing units (10%) on about 1,040 new ha of community DGA land, about double the 500 ha shown for the Moderate Greenfield Scenarios (1A and 1B).

- The population results compared with the Moderate Greenfield Scenarios (1A and 1B) is the following (which is the clear result of trading off some intensification for new DGA):
    - Burlington: 4,300 to 7,000 lower depending on A or B lens.
    - Oakville: 8,400 to 8,600 lower depending on A or B lens.
    - Milton: 9,900 to 6,300 higher depending on A or B lens.
    - Halton Hills: 3,000 to 9,300 higher depending on A or B lens.

The range of initial estimates of potential community area DGA land need are summarized in Table 1 below. The land needs assessment will be refined on the basis of the preferred Growth Concept at the conclusion of Stage 2 of the IGMS.

Table 1: Potential Community Area DGA Land Need by IGMS Growth Scenario

Estimated new Community Area DGA by Growth Scenario				
Scenario	**1 (A&B)**	**2 (A&B)**	**3 (A&B)**	**4 (A&B)**
Estimated new DGA Land Need (ha)	500	250	0	1,000

C. Regional Growth Scenarios and Land Needs Assessment

The key decisions under the IGMS with respect to the scenarios relate to planning for the 2031 to 2041 period, regarding:

- intensification within the built up area;
- development (and potential further densification) of the current Designated Greenfield Areas; and
- (potential) expansion into the whitebelt, requiring new DGA to be identified.

These represent the differentiating elements of the four Regional level growth scenarios, each of which carry different implications for the regional land budget and each of which must be considered within the context of the Provincial Land Needs Assessment (LNA) methodology.

The tables that follow address key elements of the LNA for Halton Region and provide the preliminary conclusions on the need for new Designated Greenfield Area (DGA) for community (residential and mixed use) purposes under the four Regional growth scenarios:

1. Moderate New Greenfield Community Area
2. Limited New Greenfield Community Area
3. No New Greenfield Community Area
4. Growth Plan, 2019 Increased New Greenfield Community Area

1. Base Information Common to All Scenarios

Table 2 below provides the historic and forecast population, households and the persons per unit for Halton Region. These elements provide the starting point for developing each of the scenarios. They were generated based on the required population targets of 820,000 in 2031; and 1,000,000 in 2041. The household forecast has been based on an age structure forecast and 2016 household formation rates in accordance with the LNA. The growth increments for the time periods are provided in Table 3. These two tables represent the results of LNA Steps 1 and 2a.

Table 2

Historic and Forecast Population, Households and Persons Per Unit Region of Halton, 2001-2041					
Year	Total Population	Census Population	Household Population	Households	PPU
2001	390,900	375,200	371,700	133,700	2.78
2006	457,800	439,300	433,500	157,100	2.76
2011	517,200	501,700	495,400	179,000	2.77
2016	565,400	548,400	541,000	193,000	2.80
2021	622,200	603,600	595,400	212,100	2.81
2026	711,600	690,300	680,900	246,200	2.77
2031	820,000	795,400	784,600	284,100	2.76
2036	913,900	890,500	878,500	318,100	2.76
2041	1,000,000	971,100	957,900	350,400	2.73

Table 3

Historic and Forecast Population and Household Growth Region of Halton, 2001-2041				
Period	Total Population	Census Population	Household Population	Households
2001-06	66,900	64,000	61,800	23,400
2006-11	59,400	62,400	61,900	21,900
2011-16	48,200	46,800	45,600	14,000
2016-21	56,900	55,200	54,400	19,200
2021-26	89,300	86,700	85,500	34,100
2026-31	108,400	105,200	103,800	37,900
2031-36	93,900	95,100	93,800	34,000
2036-41	86,100	80,600	79,400	32,300

2. Allocation of Housing Growth to Policy Area

From this stage forward, the analysis differs by Regional growth scenario; results are provided for each of the Moderate, Limited, and No New Greenfield scenarios as well as for the adjustments in response to the Growth Plan, 2019.

Key assumptions, some as already noted above:

- Limited rural area growth;
- Built Up Area (BUA) is planned to meet minimum *Growth Plan* requirements;
- The key difference between the scenarios is essentially, whether there is a need for additional Designated Greenfield Area. That is, demand shown as DGA is largely for ground-related housing and results in some additional urban land need in Scenarios 1 and 2, and the third is set at a share such that the ground-related housing in the DGA is built out by 2041, but no additional lands would be required.
- Since all scenarios must accommodate the same number of units between 2016 and 2041, as the required amount of additional DGA changes among the scenarios, the differential is made up by allocating some higher density growth as "Additional DGA apartments" which are apartment supply potential within the existing DGA. This incremental densification of the current DGA lands ranges from zero for the *Growth Plan, 2019* policy objectives as well as for the higher intensification rate Scenarios, Moderate New Community Greenfield Scenarios (Scenarios 4 and 1) to an annual average of 200 units from 2031 to 2041 in the Limited New Community Greenfield Scenario (Scenario 2) and an annual average of 400 units from 2031 to 2041 in the No New Community Greenfield Scenario (Scenario 3).

Shares and Unit Growth by Policy Area are presented in Tables 4 through 7 representing the results of LNA Step 3a for each scenario:

Table 4

Shares and New Unit Growth by Policy Area: Moderate New Community Greenfield (Regional) Scenario 1						
Share of Unit Growth by Policy Area	Period	Rural	BUA	Additional DGA Apartments	DGA (Existing & New Designations)	Total
	2016-21	0.4%	33.9%	0.0%	65.8%	100.0%
	2021-26	0.4%	50.0%	0.0%	49.6%	100.0%
	2026-31	0.4%	50.0%	0.0%	49.6%	100.0%
	2031-36	0.2%	60.0%	0.0%	39.8%	100.0%
	2036-41	0.2%	60.0%	0.0%	39.8%	100.0%
	2016-41 Annual Avg	0.3%	52.2%	0.0%	47.4%	100.0%
Unit Growth by Policy Area		Rural	BUA	Extra DGA	DGA	Total
	2016-21	100	6,500	0	12,600	19,200
	2021-26	100	17,000	0	16,900	34,100
	2026-31	100	19,000	0	18,800	37,900
	2031-36	100	20,400	0	13,500	34,000
	2036-41	100	19,400	0	12,800	32,300
	2016-41	500	82,300	0	74,600	157,500

Table 5

Shares and New Unit Growth by Policy Area: Limited New Community Greenfield (Regional) Scenario 2						
Share of Unit Growth by Policy Area	Period	Rural	BUA	Additional DGA Apartments	DGA (Existing & New Designations)	Total
	2016-21	0.4%	33.9%	0.0%	65.8%	100.0%
	2021-26	0.4%	50.0%	0.0%	49.6%	100.0%
	2026-31	0.4%	50.0%	0.0%	49.6%	100.0%
	2031-36	0.2%	60.0%	7.4%	32.3%	100.0%
	2036-41	0.2%	60.0%	7.4%	32.3%	100.0%
	2016-41 Annual Avg	0.3%	52.2%	3.1%	44.3%	100.0%
Unit Growth by Policy Area		Rural	BUA	Extra DGA	DGA	Total
	2016-21	100	6,500	0	12,600	19,200
	2021-26	100	17,000	0	16,900	34,100
	2026-31	100	19,000	0	18,800	37,900
	2031-36	100	20,400	2,500	11,000	34,000
	2036-41	100	19,400	2,400	10,400	32,300
	2016-41	500	82,300	4,900	69,700	157,500

Table 6

Shares and New Unit Growth by Policy Area: No New Community Greenfield (Regional) Scenario 3						
	Period	Rural	BUA	Additional DGA Apartments	DGA (Existing & New Designations)	Total
Share of Unit Growth by Policy Area	2016-21	0.4%	33.9%	0.0%	65.8%	100.0%
	2021-26	0.4%	50.0%	0.0%	49.6%	100.0%
	2026-31	0.4%	50.0%	0.0%	49.6%	100.0%
	2031-36	0.2%	60.0%	14.7%	25.1%	100.0%
	2036-41	0.2%	60.0%	14.7%	25.1%	100.0%
	2016-41 Annual Avg	0.3%	52.2%	6.2%	41.3%	100.0%
Unit Growth by Policy Area		Rural	BUA	Extra DGA	DGA	Total
	2016-21	100	6,500	0	12,600	19,200
	2021-26	100	17,000	0	16,900	34,100
	2026-31	100	19,000	0	18,800	37,900
	2031-36	100	20,400	5,000	8,500	34,000
	2036-41	100	19,400	4,700	8,100	32,300
	2016-41	500	82,300	9,700	64,900	157,500

Table 7

Shares and New Unit Growth by Policy Area: No New Community Greenfield (Regional) Scenario 4						
	Period	Rural	BUA	Additional DGA Apartments	DGA (Existing & New Designations)	Total
Share of Unit Growth by Policy Area	2016-21	0.4%	33.9%	0.0%	65.8%	100.0%
	2021-26	0.4%	50.0%	0.0%	49.6%	100.0%
	2026-31	0.4%	50.0%	0.0%	49.6%	100.0%
	2031-36	0.2%	50.0%	0.0%	49.8%	100.0%
	2036-41	0.2%	50.0%	0.0%	49.8%	100.0%
	2016-41 Annual Avg	0.3%	48.0%	0.0%	51.7%	100.0%
Unit Growth by Policy Area						
	2016-21	100	6,500	0	12,600	19,200
	2021-26	100	17,000	0	16,900	34,100
	2026-31	100	19,000	0	18,800	37,900
	2031-36	100	17,000	0	16,900	34,000
	2036-41	100	16,200	0	16,100	32,300
	2016-41	500	75,700	0	81,300	157,500

The shares and unit growth identified above results in the following total units by policy area to 2041. Tables 8 through 11 illustrating Total Units by Policy Area represent the results of LNA Step 3b for each scenario.

Table 8

Total Units by Policy Area: Moderate New Community Greenfield (Regional) Scenario 1						
Year	Existing Units	New in Rural	New in BUA	Additional DGA Apartments	DGA (Existing & New Designations)	Total
2001	133,700	0	0	0	0	133,700
2006	157,100	0	0	0	0	157,100
2011	179,000	0	0	0	0	179,000
2016	193,000	0	0	0	0	193,000
2021	193,000	100	6,500	0	12,600	212,100
2026	193,000	200	23,500	0	29,500	246,200
2031	193,000	300	42,500	0	48,400	284,100
2036	193,000	400	62,900	0	61,900	318,100
2041	193,000	500	82,200	0	74,700	350,400

Table 9

Total Units by Policy Area: Limited New Community Greenfield (Regional) Scenario 2						
Year	Existing	New in Rural	New in BUA	Additional DGA Apartments	DGA (Existing & New Designations)	Total
2001	133,700	0	0	0	0	133,700
2006	157,100	0	0	0	0	157,100
2011	179,000	0	0	0	0	179,000
2016	193,000	0	0	0	0	193,000
2021	193,000	100	6,500	0	12,600	212,100
2026	193,000	200	23,500	0	29,500	246,200
2031	193,000	300	42,500	0	48,400	284,100
2036	193,000	400	62,900	2,500	59,300	318,100
2041	193,000	500	82,200	4,900	69,800	350,400

Table 10

Total Units by Policy Area: No New Community Greenfield (Regional) Scenario 3						
Year	Existing	New in Rural	New in BUA	Additional DGA Apartments	DGA (Existing & New Designations)	Total
2001	133,700	0	0	0	0	133,700
2006	157,100	0	0	0	0	157,100
2011	179,000	0	0	0	0	179,000
2016	193,000	0	0	0	0	193,000
2021	193,000	100	6,500	0	12,600	212,100
2026	193,000	200	23,500	0	29,500	246,200
2031	193,000	300	42,500	0	48,400	284,100
2036	193,000	400	62,900	5,000	56,900	318,100
2041	193,000	500	82,200	9,700	65,000	350,400

Table 11

Total Units by Policy Area: Proposed Growth Plan Amendment 1 (Regional) Scenario 4						
Year	Existing	New in Rural	New in BUA	Additional DGA Apartments	DGA (Existing & New Designations)	Total
2001	133,700	0	0	0	0	133,700
2006	157,100	0	0	0	0	157,100
2011	179,000	0	0	0	0	179,000
2016	193,000	0	0	0	0	193,000
2021	193,000	100	6,500	0	12,600	212,100
2026	193,000	200	23,500	0	29,500	246,200
2031	193,000	300	42,500	0	48,400	284,100
2036	193,000	400	59,500	0	65,200	318,100
2041	193,000	500	75,600	0	81,300	350,400

3. Allocation of Population Growth to Policy Area

Results are provided for each of the Moderate, Limited, and No New Greenfield scenarios as well as for the scenario created to test the *Growth Plan, 2019 intensification minimum.* Key assumptions include:

- PPUs are established largely by household formation and remain predominately family households throughout the forecast.
- Aging of existing households does mean more empty-nester and elderly single-person households over the forecast, but the preponderance of growth in households is in younger family households, most of whom have children at home for much of the time of the forecast period.
- A shift to predominantly apartment forms with greater intensification, meaning higher density development and larger household sizes in apartments (higher PPU values), particularly in the 'New Additional DGA Apartments' category.

The results of LNA Step 4a for each scenario, Persons Per Unit by Policy Area, are presented in Tables 12 through 15 below.

Table 12

Persons Per Unit (PPU) by Policy Area: Moderate New Community Greenfield (Regional) Scenario 1						
Year	Existing	New in Rural	New in BUA	Additional DGA Apartments	New in DGA	Total
2001	2.78	–	–	–	–	2.78
2006	2.76	–	–	–	–	2.76
2011	2.77	–	–	–	–	2.77
2016	2.80	–	–	–	–	2.80
2021	2.79	3.20	2.31	0.00	3.24	2.81
2026	2.77	3.20	2.14	0.00	3.25	2.77
2031	2.77	3.20	2.14	0.00	3.25	2.76
2036	2.69	3.18	2.30	0.00	3.45	2.76
2041	2.63	3.18	2.30	0.00	3.48	2.73

Table 13

Persons Per Unit (PPU) by Policy Area: Limited New Community Greenfield (Regional) Scenario 2						
Year	Existing	New in Rural	New in BUA	Additional DGA Apartments	New in DGA	Total
2001	2.78	–	–	–	–	2.78
2006	2.76	–	–	–	–	2.76
2011	2.77	–	–	–	–	2.77
2016	2.80	–	–	–	–	2.80
2021	2.79	3.20	2.31	0.00	3.24	2.81
2026	2.77	3.20	2.14	0.00	3.24	2.77
2031	2.78	3.20	2.14	0.00	3.24	2.76
2036	2.71	3.20	2.25	2.65	3.45	2.76
2041	2.66	3.20	2.25	2.65	3.50	2.73

Table 14

Persons Per Unit (PPU) by Policy Area: No New Community Greenfield (Regional) Scenario 3						
Year	Existing	New in Rural	New in BUA	Additional DGA Apartments	New in DGA	Total
2001	2.78	–	–	–	–	2.78
2006	2.76	–	–	–	–	2.76
2011	2.77	–	–	–	–	2.77
2016	2.80	–	–	–	–	2.80
2021	2.79	3.20	2.31	0.00	3.24	2.81
2026	2.77	3.20	2.14	0.00	3.24	2.77
2031	2.78	3.20	2.14	0.00	3.24	2.76
2036	2.74	3.20	2.21	2.70	3.45	2.76
2041	2.72	3.20	2.21	2.70	3.45	2.73

Table 15

Persons Per Unit (PPU) by Policy Area: Proposed Growth Plan Amendment 1 (Regional) Scenario 4						
Year	Existing	New in Rural	New in BUA	Additional DGA Apartments	New in DGA	Total
2001	2.78	–	–	–	–	2.78
2006	2.76	–	–	–	–	2.76
2011	2.77	–	–	–	–	2.77
2016	2.80	–	–	–	–	2.80
2021	2.79	3.20	2.31	0.00	3.24	2.81
2026	2.77	3.20	2.14	0.00	3.25	2.77
2031	2.77	3.20	2.14	0.00	3.25	2.76
2036	2.75	3.00	2.28	0.00	3.22	2.76
2041	2.65	3.00	2.28	0.00	3.35	2.73

The results of LNA Steps 4b and 4c, Total Population by Policy Area, are presented for each scenario in Tables 16 through 19 below.

Table 16

Total Population by Policy Area: Moderate New Community Greenfield (Regional) Scenario 1						
Year	Existing	New in Rural	New in BUA	Additional DGA Apartments	New in DGA	Total
2001	390,900	0	0	0	0	390,900
2006	457,800	0	0	0	0	457,800
2011	517,200	0	0	0	0	517,200
2016	565,400	0	0	0	0	565,400
2021	563,600	200	15,600	0	42,700	622,200
2026	558,000	600	52,600	0	100,400	711,600
2031	559,600	1,100	94,900	0	164,400	820,000
2036	540,000	1,300	150,300	0	222,300	913,900
2041	529,700	1,600	197,300	0	271,400	1,000,000

Table 17

Total Population by Policy Area: Limited New Community Greenfield (Regional) Scenario 2						
Year	Existing	New in Rural	New in BUA	Additional DGA Apartments	New in DGA	Total
2001	390,900	0	0	0	0	390,900
2006	457,800	0	0	0	0	457,800
2011	517,200	0	0	0	0	517,200
2016	565,400	0	0	0	0	565,400
2021	563,600	200	15,600	0	42,700	622,200
2026	558,300	600	52,600	0	100,100	711,600
2031	560,000	1,100	94,900	0	163,900	820,000
2036	545,000	1,300	147,300	7,000	213,200	913,900
2041	536,400	1,600	193,400	13,600	254,900	1,000,000

Table 18

Total Population by Policy Area: No New Community Greenfield (Regional) Scenario 3						
Year	Existing	New in Rural	New in BUA	Additional DGA Apartments	New in DGA	Total
2001	390,900	0	0	0	0	390,900
2006	457,800	0	0	0	0	457,800
2011	517,200	0	0	0	0	517,200
2016	565,400	0	0	0	0	565,400
2021	563,600	200	15,600	0	42,700	622,200
2026	558,300	600	52,600	0	100,100	711,600
2031	560,000	1,100	94,900	0	163,900	820,000
2036	549,800	1,300	144,400	14,000	204,400	913,900
2041	547,100	1,600	189,600	27,400	234,400	1,000,000

Table 19

Total Population by Policy Area: Proposed Growth Plan Amendment 1 (Regional) Scenario 4						
Year	**Existing**	**New in Rural**	**New in BUA**	**Additional DGA Apartments**	**New in DGA**	**Total**
2001	390,900	0	0	0	0	390,900
2006	457,800	0	0	0	0	457,800
2011	517,200	0	0	0	0	517,200
2016	565,400	0	0	0	0	565,400
2021	563,600	200	15,600	0	42,700	622,200
2026	558,000	600	52,600	0	100,400	711,600
2031	559,600	1,100	94,900	0	164,400	820,000
2036	552,900	1,300	141,100	0	218,700	913,900
2041	534,100	1,500	180,000	0	284,400	1,000,000

The four scenarios examined assess the implications of allocating from 0% of all residential growth to 10% of all residential growth to new community area greenfield land for the 2031 to 2041 period. This yields estimates for additional community area greenfield land ranging from 0 ha to just over 1,000 ha, to be designated for the 2031 to 2041 period, by scenario, as shown below.

Table 20 below presents the results of LNA Steps 5 and 6, illustrating the resulting Community Land Need for each scenario.

Table 20

Community Area Land Need by Regional Scenario				
	Moderate New Greenfield (Scenario 1)	**Limited New Greenfield (Scenario 2)**	**No New Greenfield (Scenario 3)**	**Proposed Growth Plan Amendment (Scenario 4)**
Supply for DGA Unit Development in 2030s (see note)	16,600	16,600	16,600	16,600
DGA Unit Growth 2031-2041	26,300	21,500	16,600	33,000
Remaining Units at 2041	(9,700)	(4,900)	0	(16,300)
PPU	3.48	3.50	3.45	3.35
Household Population	(33,800)	(16,900)	0	(54,700)
Total Population (including Census net undercoverage)	(35,300)	(17,600)	0	(57,100)
Persons plus jobs per ha	80	80	80	65
Persons per ha (removing local jobs portion)	70	70	70	57
New Community Area DGA (ha)	(507)	(253)	0	1,010
Rounded to (ha):	**(510)**	**(250)**	**0**	**1,000**
Share of 2031-41 Units in New DGA Designations	37%	23%	0%	49%

Note: Supply for DGA development in the 2030s is all available ground-related units in the DGA supply, plus the number of apartments needed for the assumed 90% ground-related and 10% apartment unit mix for new DGA areas during the initial period of development.

Appendix A.3: Residential Results for Local Municipalities

Halton REGION

Appendix A3:

Residential Results for Local Municipalities

A. Overview

Local municipal staff were consulted to update the current land supply and development information through the fall of 2018. For each local municipality in Halton, estimates were prepared of unit capacity for different policy areas considered in the growth scenarios, including:

- Designated Greenfield Area (DGA) residential supply in units;
- Currently planned intensification units;
- Potential additional significant intensification areas within the Built Up Area in units;
- Potential new mixed use concentrations in the DGA in units; and
- Potential new community DGA.

Results by local municipality are provided in Appendix A1 and summarized in Tables 1 and 2. For the most part, in the Designated Greenfield Areas (DGA), the tables provide a capacity figure at build-out and deduct the counted units as of the 2016 Census in order to provide an estimate of supply from a mid-2016 base. For intensification areas, the tables reflect units that could be added over and above any existing units in those areas. The figures provided have been reviewed by local municipal staff and updated accordingly, taking into account the status of approvals. The supply shown includes various mixed use nodes and MTSAs that result from the conversion of employment land. The supply associated with conversions is only included in the Local Plans and Priorities Lens.

Table 1

Available Residential Unit Potential, Existing Planned Pattern Scenarios ("A" Scenarios) with No Employment Land Conversions (adjusted to a mid-2016 base)				
	Ground Related Units	Apartment Units	Total	Notes
Burlington				
BUA - Intensification	900	20,400	20,400	Mainly UGC and MTSAs
DGA - Greenfield	1,100	1,000	2,100	Mainly Evergreen-Tremaine
Total Burlington	2,000	21,400	23,400	
Oakville				
BUA - Intensification	3,400	49,100	49,100	UGC and Trafalgar Corridor are largest areas
DGA - Greenfield	15,900	32,800	48,700	North Oakville
Total Oakville	19,300	81,900	101,200	
Milton				
BUA - Intensification	1,400	18,000	19,400	Almost all in UGC
DGA - Greenfield	35,600	11,900	47,500	Boyne and Sustainable Halton areas
Total Milton	37,000	29,900	66,900	
Halton Hills				
BUA - Intensification	1,200	4,000	5,200	Mainly Georgetown Downtown and GO Station areas
DGA - Greenfield	7,000	1,200	8,200	Southwest and Southeast Georgetown
Total Halton Hills	8,200	5,200	13,400	
Halton Region				
BUA - Intensification	6,900	91,500	98,400	
DGA - Greenfield	59,600	46,900	106,500	
Total Halton Region	66,500	138,400	204,900	

Table 2

Available Residential Unit Potential, Local Plans and Priorities Scenarios ("B" Scenarios) with Added Mixed-Use Nodes on Converted Employment Lands (adjusted to a mid-2016 base)				
	Ground Related Units	Apartment Units	Total	Notes
Burlington				
BUA - Intensification	900	20,400	21,300	
DGA - Greenfield	1,100	1,000	2,100	
Additional BUA	1,400	25,700	27,100	Proposed GO Station MTSAs/Mobility Hubs
Total Burlington	3,400	47,100	50,500	
Oakville				
BUA - Intensification	3,400	49,100	52,500	
DGA - Greenfield	15,900	32,800	48,700	
Additional BUA	300	2,900	3,200	Bronte GO MTSA
Additional DGA	100	5,000	5,100	Palermo North and Health-Oriented Mixed-Use Area
Total Oakville	19,700	89,800	109,500	
Milton				
BUA - Intensification	1,400	18,000	19,400	
DGA - Greenfield	35,600	11,900	47,500	
Additional DGA	4,800	6,400	11,200	Derry/Trafalgar Node and Conversion of MEV Employment
Total Milton	6,200	24,400	30,600	
Halton Hills				
BUA - Intensification	1,200	4,000	5,200	
DGA - Greenfield	7,000	1,200	8,200	
Total Halton Hills	8,200	5,200	13,400	
Halton Region				
BUA - Intensification	6,900	91,500	98,400	
Additional BUA	1,700	28,600	30,300	
DGA - Greenfield	59,600	46,900	106,500	
Additional DGA	4,900	11,400	16,300	
Total Halton Region	73,100	178,400	251,500	

B. Key Assumptions and Results

Growth to 2021 is based on estimates of housing development that has occurred since 2016 including units currently under construction.

There is a single municipal growth allocation for each municipality for the 2021 to 2031 period. The testing of scenarios for the distribution of growth is only for the 2031 to 2041 period.

As shown in Table 3 below, Milton and Halton Hills are expected to meet the population allocation shown in Table 1 of the *Halton Regional Official Plan*. Burlington and Oakville are expected to exceed their Table 1 populations generally "splitting" the extra 40,000 population expected in the Region to 2031.

For the scenarios looking at the implications of the *Growth Plan, 2019*, there are no changes in the scenarios for the period to 2031; the municipal allocations remain the

same for that period under these proposed policy adjustments as for the six primary scenarios.

Table 3

Historic and Forecast Population Compared to ROPA 38					
Year	Burlington	Oakville	Milton	Halton Hills	Halton Region
2016	189,000	200,000	114,000	63,000	566,000
2021	196,000	224,000	137,000	66,000	623,000
2031	220,000	268,000	238,000	94,000	820,000
2031 (ROPA 38)	193,000	255,000	238,000	94,000	780,000
Difference	27,000	13,000	0	0	40,000

For growth from 2031 to 2041, one portion of the allocation is fixed among them. In all cases, the remaining ground-related housing potential in the greenfield areas of the Region in 2031 will be fully developed in the 2031 to 2041 period.

For the Existing Planned Pattern lens, the A range of scenarios, shares of new greenfield designations are split between Milton and Halton Hills in accordance with the Regional Phasing shares for 2021 to 2031 and intensification shares revert to the planned shares in the phasing tables.

For the Local Plans and Priorities lens, the B range of scenarios, new greenfield designations are split evenly between Milton and Halton Hills and intensification shares to the 4 municipalities are based on a combination of local plans for development and market share expectations.

The different results are enumerated in the sections that follow. It is important to note that in many cases there is not a wide range in the total population at 2041 between the scenarios. However, there may be much more significant differences in how the growth is accommodated both in terms of housing type — ground-related versus apartments — and location in terms of greenfield versus intensification.

For Scenario 4 the allocation of the growth scenarios to the municipalities uses the 2031 allocations as a base and then adds 2031 to 2041 growth in accordance with each lens. For the 2031 to 2041 period, the process and the shares of allocations to each area municipality are the same as for the lenses in the original six scenarios.

C. Growth from 2016 to 2021

Growth to 2021 is based on estimates of housing development that has occurred since 2016 including units currently under construction. Because of construction timing, nearly all of the apartment units that will be occupied by mid-2021 are already under construction.

2021 is the next Census year, and the assumed effective date of the MCR for policy purposes (that is, the date that the minimum intensification rule changes from 40% to 50%).

The estimates for new housing completions and, thus, population growth, for the 2016-2021 period, account for the current high level of units under construction today, but also an expected decline in new units completed over the next two years. New housing sales for 2018 have been at their lowest levels in the GTAH in decades, though there have been signs of improvement in the past two months. The result, however, likely means reduced housing starts in 2019 and reduced completions in 2019 and 2020.

The population estimates for 2021 are shown in Table 4.

Table 4

Forecast Population and Units 2016 to 2021					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton Region**
2016 Population	189,000	200,000	114,000	63,000	566,000
2016-21 New Units	3,050	8,070	7,000	1,030	19,150
2016-21 Population Growth	7,000	24,000	23,000	3,000	57,000
2021 Population	196,000	224,000	137,000	66,000	623,000

D. Growth from 2021 to 2031

There is a single municipal growth allocation for each municipality for the 2021 to 2031 period. The testing of scenarios for the distribution of growth is only for the 2031 to 2041 period.

Overall, the Regional total population at 2031, as required in the *Growth Plan*, is 820,000, up from the 780,000 population in the current official plan. The higher population is primarily the result of larger average household sizes rather than a larger number of housing units, so the physical planning for greenfield growth contained in the current Regional Official Plan remains intact. Intensification has, however, been following somewhat different patterns than had been anticipated.

Growth allocations for intensification units and population are based on a combination of market observation and the Regional Official Plan allocation policy. In particular Oakville and, especially Burlington, are attracting higher shares of regional intensification development while Milton and Halton Hills have lower shares.

Burlington has the higher population largely through accommodating a greater share of development than had been expected and has a higher persons per unit than had been forecast in the original Sustainable Halton work. In Oakville's case the higher population is mostly related to a larger average household size, rather than a greater amount of development.

These conclusions about growth from 2021 to 2031 are based on the municipal shares of units for the intensification areas and for the greenfield areas shown in Tables 5 and 6 and the population results are shown in Table 7.

Table 5

Intensifcation Share of Growth and Resulting Units 2016 - 2031					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton Region**
2016-31 Intensification Share	29.3%	32.5%	28.5%	9.8%	100.0%
2016-31 Unit Growh	13,130	14,360	11,010	4,060	42,560
2031 Units	80,930	75,550	29,850	24,100	210,430

Table 6

Designated Greenfield Areas Share of Growth and Resulting Units 2016 - 2031					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton Region**
2016-31 DGA Share	2.3%	15.8%	66.2%	15.7%	100.0%
2016-31 Unit Growh	300	11,040	29,920	6,110	47,370
2031 Units	14,630	53,910	155,270	25,120	248,930

Table 7

Residential Growth Allocation 2021 to 2031					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton Region**
Population 2021	195,500	223,700	136,500	66,300	622,000
Population Growth 2021 to	24,400	44,200	101,800	27,700	198,000
Population 2031	219,900	267,900	238,300	94,000	820,000
2031 Population Comparison to Current *Halton Region Official Plan* (ROPA 38)					
Population 2031	220,000	268,000	238,000	94,000	820,000
ROPA 38 Population 2031	193,000	255,000	238,000	94,000	780,000
Difference	27,000	13,000	0	0	40,000

E. Scenarios for Growth from 2031 to 2041

The allocation of the growth scenarios to the municipalities uses the 2031 allocations as a base and then adds growth for the 2031 to 2041 period in accordance with each

scenario. The process essentially applies shares of each growth type in housing units for each of the policy areas for each scenario.

The five policy areas for this purpose are:

- Intensification, that is, development occurring inside the Built Up Area (BUA).
- Build out of the mostly ground-related housing in the remaining existing greenfield areas after 2031.
- New greenfield area designations to be developed by 2041, which occurs in Regional Scenarios 1, 2, and 4 but not in 3, the No Additional Community Greenfield Scenario.
- Additional apartment units in the existing DGA. These occur only in Scenarios 2 and 3; essentially substituting apartment units for the mostly ground-related units that would otherwise be found in the larger new greenfield areas designated under Scenarios 1 and 4.

The share assignments, as detailed below, are based on the existing official plan phasing for the Existing Planned Pattern lens. The Local Plans and Priorities Lens shares are based on a combination of these plans and priorities and the observed market for development.

An additional key difference between the two lenses is in the consideration of potential conversions of employment lands to accommodate new mixed-use development areas. The Existing Planned Pattern lens for allocation does not consider any housing supply potential gained through the conversion of employment lands. The Local Plans and Priorities Lens does consider the possibility of some conversions for this purpose. The inclusion of this potential in the scenarios testing exercise is to be considered strictly as a test and in no way assumes the support for any such conversions through the MCR process. The employment land conversion aspect of the lens is not obvious from the municipal allocations described here, but is important to understand as an underlying distinction between the scenarios.

1. Existing Planned Pattern Lens (The “A” Scenarios)

The shares of each policy area type are shown for each scenario in Tables 8, 9 and 10 and are based on the following:

- Intensification shares are the shares of intensification provided for in the Regional Official Plan Table 2A for the phasing of development between 2021 and 2031. Note that while these shares are the same as in the Official Plan, the actual number of units is higher in this lens because the overall share of units to be provided through intensification across the Region is now 50% of all units instead of the 40% used in the existing official plan.

- The share of existing DGA is really the resulting share from the development of all remaining supply of ground-related units in the DGA plus a small share of apartment units in these areas.
- For the additional DGA apartments, the DGA shares from the phasing table is the starting point. However, in the case of Burlington and Halton Hills there is limited available supply potential so these are assumed to be built out in both of these cases. The remaining demand is split between Oakville and Milton in accordance with each municipality's share of DGA.

For new Community DGA designations in Milton and Halton Hills the split between the two is in accordance with their relative shares in the phasing table.

The detailed calculations for each municipality, and for the Region overall, for this range of scenarios is detailed in Tables 11 to 15 that follow.

Table 8

Residential Allocation Shares by Policy Area 2031 to 2041 Current Patterns (A) Scenarios						
		Burlington	Oakville	Milton	Halton Hills	Halton Region
BUA plus Rural Growth	Scenario 1A Scenario 2A Scenario 3A Scenario 4A	22.9%	36.4%	22.9%	17.8%	100.0%
Existing DGA Growth	Scenario 1A Scenario 2A Scenario 3A Scenario 4A	4.7%	45.8%	41.5%	8.1%	100.0%
Additional DGA Apartments	Scenario 1A	0.0%	0.0%	0.0%	0.0%	0.0%
	Scenario 2A	5.5%	21.5%	58.1%	14.9%	100.0%
	Scenario 3A	2.6%	42.1%	48.4%	7.0%	100.0%
	Scenario 4A	0.0%	0.0%	0.0%	0.0%	0.0%
New DGA	Scenario 1A Scenario 2A Scenario 3A Scenario 4A	0.0%	0.0%	71.4%	28.6%	100.0%
Total All Units	Scenario 1A	15.0%	33.4%	34.6%	17.0%	100.0%
	Scenario 2A	19.0%	31.4%	31.0%	18.6%	100.0%
	Scenario 3A	19.0%	37.5%	27.8%	15.7%	100.0%
	Scenario 4A	15.4%	24.4%	38.8%	21.4%	100.0%

Table 9

Housing Units by Policy Area 2031 to 2041 Current Patterns (A) Scenarios						
		Burlington	Oakville	Milton	Halton Hills	Halton Region
BUA plus Rural Growth	Scenario 1A	9,190	14,570	9,160	7,150	40,070
	Scenario 2A	9,190	14,570	9,160	7,150	40,070
	Scenario 3A	9,190	14,570	9,160	7,150	40,070
	Scenario 4A	7,670	12,150	7,650	5,970	33,440
Existing DGA Growth	Scenario 1A Scenario 2A Scenario 3A Scenario 4A	780	7,610	6,900	1,340	16,630
Additional DGA Apartments	Scenario 1A	0	0	0	0	0
	Scenario 2A	270	1,050	2,840	730	4,890
	Scenario 3A	250	4,090	4,700	680	9,720
	Scenario 4A	0	0	0	0	0
New DGA	Scenario 1A	0	0	6,930	2,780	9,710
	Scenario 2A			3,440	1,380	4,820
	Scenario 3A			0	0	0
	Scenario 4A			11,660	4,680	16,340
Total All Units	Scenario 1A	9,970	22,180	22,990	11,270	66,410
	Scenario 2A	9,460	15,620	15,440	9,260	49,780
	Scenario 3A	9,440	18,660	13,860	7,830	49,790
	Scenario 4A	7,670	12,150	19,310	10,650	49,780

Table 10

Population by Scenario 2001 to 2041 Current Patterns (A) Scenarios						
		Burlington	Oakville	Milton	Halton Hills	Halton Region
Population	2001	157,100	150,800	32,800	50,200	390,900
	2006	171,400	172,600	56,200	57,600	457,800
	2011	181,200	188,200	87,000	60,800	517,200
	2016	189,000	199,800	113,500	63,000	565,400
	2021	195,500	223,700	136,500	66,300	622,000
	2031	219,900	267,900	238,300	94,000	820,000
Population 2041	Scenario 1A	241,000	326,600	307,800	124,700	1,000,000
	Scenario 2A	242,800	330,900	304,200	122,200	1,000,000
	Scenario 3A	243,700	340,800	297,900	117,600	1,000,000
	Scenario 4A	236,800	318,200	317,700	127,300	1,000,000

Burlington

Table 11

Burlington	Continue Existing Planned Pattern Lens	Moderate Greenfield	Limited Greenfield	No New Greenfield	Growth Plan Amendment 1
2031 Population			**219,900**	**219,900**	**219,900**
Less Decline in Existing Base		**(1,900)**	**(1,300)**	**(800)**	**(1,600)**
Add:	In Existing DGA	2,100	2,100	2,100	1,800
	Intensification Inside Built Boundary	21,000	21,400	21,900	16,700
	Additional to Existing DGA Nodes and Corridors	0	700	700	0
	New DGA	0	0	0	0
Total added 2031-2041		**21,200**	**22,900**	**23,900**	**16,900**
Share of Regional Growth		**12%**	**13%**	**13%**	**9%**
2041 Population		**241,100**	**242,800**	**243,800**	**236,800**

Oakville

Table 12

Oakville	Continue Existing Planned Pattern Lens	Moderate Greenfield	Limited Greenfield	No New Greenfield	Growth Plan Amendment 1
2031 Population		**267,900**	**267,900**	**267,900**	**267,900**
Less Decline in Existing Base		**(2,400)**	**(1,600)**	**(1,000)**	**(2,000)**
Add:	In Existing DGA	27,700	27,700	27,700	25,800
	Intensification Inside Built Boundary	33,400	34,100	34,800	26,500
	Additional to Existing DGA Nodes and Corridors	0	2,900	11,500	0
	New DGA	0	0	0	0
Total added 2031-2041		**58,700**	**63,100**	**73,000**	**50,300**
Share of Regional Growth		**33%**	**35%**	**41%**	**28%**
2041 Population		**326,600**	**331,000**	**340,900**	**318,200**

Milton

Table 13

Milton	Continue Existing Planned Pattern Lens	Moderate Greenfield	Limited Greenfield	No New Greenfield	Growth Plan Amendment 1
2031 Population		**238,300**	**238,300**	**238,300**	**238,300**
Less Decline in Existing Base		**(2,100)**	**(1,400)**	**(900)**	**(1,800)**
Add:	In Existing DGA	25,300	25,300	25,300	23,700
	Intensification Inside Built Boundary	21,200	21,600	22,000	16,800
	Additional to Existing DGA Nodes and Corridors	0	7,900	13,200	0
	New DGA	25,100	12,500	0	40,700
Total added 2031-2041		**69,500**	**65,900**	**59,600**	**79,400**
Share of Regional Growth		**39%**	**37%**	**33%**	**44%**
2041 Population		**307,800**	**304,200**	**297,900**	**317,700**

Halton Hills

Table 14

Halton Hills Continue Existing Planned Pattern Lens		Moderate Greenfield	Limited Greenfield	No New Greenfield	Growth Plan Amendment 1
2031 Population		**94,000**	**94,000**	**94,000**	**94,000**
Less Decline in Existing Base		**(800)**	**(600)**	**(400)**	**(700)**
Add:	In Existing DGA	4,900	4,900	4,900	4,500
	Intensification Inside Built Boundary	16,500	16,900	17,200	13,100
	Additional to Existing DGA Nodes and C	0	2,000	1,900	0
	New DGA	10,100	5,000	0	16,400
Total added 2031-2041		**30,700**	**28,200**	**23,600**	**33,300**
Share of Regional Growth		**17%**	**16%**	**13%**	**19%**
2041 Population		**124,700**	**122,200**	**117,600**	**127,300**

Halton Region

Table 15

Halton Region Continue Existing Planned Pattern Lens		Moderate Greenfield	Limited Greenfield	No New Greenfield	Growth Plan Amendment 1
2031 Population		**820,000**	**820,000**	**820,000**	**820,000**
Less Decline in Existing Base		**(7,300)**	**(5,000)**	**(3,100)**	**(6,000)**
Add:	In Existing DGA	60,000	60,000	60,000	56,000
	Intensification Inside Built Boundary	92,000	93,900	95,800	73,000
	Additional to Existing DGA Nodes and Corridors	0	13,600	27,400	0
	New DGA	35,300	17,500	0	57,200
Total added 2031-2041		**180,000**	**180,000**	**180,000**	**180,000**
Share of Regional Growth		**100%**	**100%**	**100%**	**100%**
2041 Population		**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**

2. Local Plans and Priorities Lens (The "B" Scenarios)

The shares of each policy area type are shown in Tables 16 through 18 below and are based on the following:

For the intensification shares, Burlington and Oakville are assigned the same shares. Both of these communities have now, and are expected to continue to attract, high shares of intensification. Both communities also have significant plans for intensification development. These are the mobility hubs in Burlington and, in Oakville, the Midtown Core, Uptown Core, Trafalgar Corridor south of Dundas, Palermo, and Kerr Street, among others.

In Milton, about 6,780 units are assigned as the intensification potential for the 2031 to 2041 period. At what might seem like a low share of the Region, these are quite aggressive assignments of unit construction given that the Built Up Area of Milton is relatively small and the Downtown Milton Urban Growth Centre is the only large development area. Other mixed use areas considered in Milton such as the Education

Village and the Trafalgar Corridor are all within the DGA and are not part of this intensification assignment.

In Halton Hills, about 2,800 units are assigned for intensification. While it does represent a low share of the Region, given the size of Georgetown and the available opportunities, this does represent significant growth through intensification, especially added to the 3,500 units allocated in 2021 to 2031.

As with the other lens, the share of existing DGA is the resulting share from the development of all remaining supply of ground-related units in the DGA plus a small share of apartment units in these areas.

For the additional DGA apartments, Burlington and Halton Hills are assumed to build out available supply in both cases. The remaining demand is split nearly evenly between Oakville and Milton since both municipalities have very significant amounts of planned DGA apartment development. In Oakville, this includes the Trafalgar Corridor in North Oakville and the possible Health-Oriented Mixed Use Centre (near the hospital) as well as North Palermo. In Milton, planned DGA apartment areas include the Trafalgar Corridor with a possible centre at a potential new GO Station at Derry and Trafalgar as well as the Education Village.

New Community DGA designations in Milton and Halton Hills is equitably split between the two, 50–50, given that these are not large greenfield area expansions under any scenario and both municipalities have potential lands for such development. At the higher greenfield land designation, the even split results in a similar sized expansion (population-wise) as the Southwest Georgetown area that was designated through the Sustainable Halton process nearly 10 years ago.

The detailed calculations for each municipality, and for the Region overall, for this range of scenarios is detailed in Tables 19 to 23 that follow.

Table 16

Residential Allocation Shares by Policy Area 2031 to 2041 Local Plans and Priorities (B) Scenarios						
		Burlington	Oakville	Milton	Halton Hills	Halton Region
BUA plus Rural Growth	Scenario 1B Scenario 2B Scenario 3B Scenario 4B	38.0%	37.9%	17.1%	7.1%	100.0%
Existing DGA Growth	Scenario 1B Scenario 2B Scenario 3B Scenario 4B	4.7%	45.8%	41.5%	8.1%	100.0%
Additional DGA Apartments	Scenario 1B	0.0%	0.0%	0.0%	0.0%	0.0%
	Scenario 2B	5.5%	38.4%	40.9%	14.9%	99.8%
	Scenario 3B	2.6%	44.2%	46.1%	7.0%	99.9%
	Scenario 4B	0.0%	0.0%	0.0%	0.0%	0.0%
New DGA	Scenario 1B Scenario 2B Scenario 3B Scenario 4B	0.0%	0.0%	50.1%	50.1%	100.1%
Total All Units	Scenario 1B	24.1%	34.3%	28.0%	13.6%	100.0%
	Scenario 2B	31.1%	34.3%	22.6%	12.0%	100.0%
	Scenario 3B	31.1%	39.1%	22.7%	7.1%	100.0%
	Scenario 4B	25.5%	25.4%	27.9%	21.2%	100.0%

Table 17

Housing Units by Policy Area 2031 to 2041 Local Plans and Priorities (B) Scenarios						
		Burlington	Oakville	Milton	Halton Hills	Halton Region
BUA plus Rural Growth	Scenario 1B	15,220	15,170	6,840	2,850	40,080
	Scenario 2B	15,220	15,170	6,840	2,850	40,080
	Scenario 3B	15,220	15,170	6,840	2,850	40,080
	Scenario 4B	12,700	12,650	5,720	2,380	33,450
Existing DGA Growth	Scenario 1B Scenario 2B Scenario 3B Scenario 4B	780	7,610	6,900	1,340	16,630
Additional DGA Apartments	Scenario 1B	0	0	0	0	0
	Scenario 2B	270	1,880	2,000	730	4,880
	Scenario 3B	250	4,300	4,480	680	9,710
	Scenario 4B	0	0	0	0	0
New DGA	Scenario 1B	0	0	4,860	4,860	9,720
	Scenario 2B			2,410	2,410	4,820
	Scenario 3B			0	0	0
	Scenario 4B			8,170	8,170	16,340
Total All Units	Scenario 1B	16,000	22,780	18,600	9,050	66,430
	Scenario 2B	15,490	17,050	11,250	5,990	49,780
	Scenario 3B	15,470	19,470	11,320	3,530	49,790
	Scenario 4B	12,700	12,650	13,890	10,550	49,790

Table 18

Population by Scenario 2001 to 2041 Local Plans and Priorities (B) Scenarios						
		Burlington	Oakville	Milton	Halton Hills	Halton Region
Population	2001	157,100	150,800	32,800	50,200	390,900
	2006	171,400	172,600	56,200	57,600	457,800
	2011	181,200	188,200	87,000	60,800	517,200
	2016	189,000	199,800	113,500	63,000	565,400
	2021	195,500	223,700	136,500	66,300	622,000
	2031	219,900	267,900	238,300	94,000	820,000
Population 2041	Scenario 1B	245,200	247,700	103,400	764,100	1,000,000
	Scenario 2B	245,800	240,800	96,000	750,900	1,000,000
	Scenario 3B	246,400	233,900	88,800	737,700	1,000,000
	Scenario 4B	247,700	319,200	301,400	131,700	1,000,000

Burlington

Table 19

Burlington	Local Plans and Priorities Lens	Moderate Greenfield	Limited Greenfield	No New Greenfield	Growth Plan Amendment 1
2031 Population		**219,900**	**219,900**	**219,900**	**219,900**
Less Decline in Existing Base		**(2,000)**	**(1,300)**	**(800)**	**(1,600)**
Add:	In Existing DGA	2,100	2,100	2,100	1,800
	Intensification Inside Built Boundary	34,800	35,500	36,200	27,700
	Additional to Existing DGA Nodes and Corridors	0	700	700	0
	New DGA	0	0	0	0
Total added 2031-2041		**34,900**	**37,000**	**38,200**	**27,900**
Share of Regional Growth		**19%**	**21%**	**21%**	**16%**
2041 Population		**254,800**	**256,900**	**258,100**	**247,800**

Oakville

Table 20

Oakville	Local Plans and Priorities Lens	Moderate Greenfield	Limited Greenfield	No New Greenfield	Growth Plan Amendment 1
2031 Population		**267,900**	**267,900**	**267,900**	**267,900**
Less Decline in Existing Base		**(2,400)**	**(1,600)**	**(900)**	**(2,000)**
Add:	In Existing DGA	27,700	27,700	27,700	25,800
	Intensification Inside Built Boundary	34,600	35,400	36,100	27,500
	Additional to Existing DGA Nodes and Corridors	0	5,200	12,100	0
	New DGA	0	0	0	0
Total added 2031-2041		**59,900**	**66,700**	**75,000**	**51,300**
Share of Regional Growth		**33%**	**37%**	**42%**	**29%**
2041 Population		**327,800**	**334,600**	**342,900**	**319,200**

Milton

Table 21

Milton	Local Plans and Priorities Lens	Moderate Greenfield	Limited Greenfield	No New Greenfield	Growth Plan Amendment 1
2031 Population		**238,300**	**238,300**	**238,300**	**238,300**
Less Decline in Existing Base		**(2,100)**	**(1,400)**	**(800)**	**(1,800)**
Add:	In Existing DGA	25,300	25,300	25,300	23,700
	Intensification Inside Built Boundary	16,000	16,300	16,600	12,700
	Additional to Existing DGA Nodes and Corridors	0	5,600	12,400	0
	New DGA	17,600	8,700	0	28,500
Total added 2031-2041		**56,800**	**54,500**	**53,500**	**63,100**
Share of Regional Growth		**32%**	**30%**	**30%**	**35%**
2041 Population		**295,100**	**292,800**	**291,800**	**301,400**

Halton Hills

Table 22

Halton Hills Local Plans and Priorities Lens		Moderate Greenfield	Limited Greenfield	No New Greenfield	Growth Plan Amendment 1
2031 Population		**94,000**	**94,000**	**94,000**	**94,000**
Less Decline in Existing Base		**(800)**	**(600)**	**(300)**	**(700)**
Add:	In Existing DGA	4,900	4,900	4,900	4,500
	Intensification Inside Built Boundary	6,600	6,700	6,900	5,200
	Additional to Existing DGA Nodes and Corridors	0	2,000	1,900	0
	New DGA	17,700	8,800	0	28,700
Total added 2031-2041		**28,400**	**21,800**	**13,400**	**37,700**
Share of Regional Growth		**16%**	**12%**	**7%**	**21%**
2041 Population		**122,400**	**115,800**	**107,400**	**131,700**

Halton Region

Table 23

Halton Region Local Plans and Priorities Lens		Moderate Greenfield	Limited Greenfield	No New Greenfield	Growth Plan Amendment 1
2031 Population		**820,000**	**820,000**	**820,000**	**820,000**
Less Decline in Existing Base		**(7,300)**	**(5,000)**	**(2,800)**	**(6,100)**
Add:	In Existing DGA	60,000	60,000	60,000	56,000
	Intensification Inside Built Boundary	92,000	93,900	95,800	73,000
	Additional to Existing DGA Nodes and Corridors	0	13,600	27,200	0
	New DGA	35,300	17,500	0	57,200
Total added 2031-2041		**180,000**	**180,000**	**180,000**	**180,000**
Share of Regional Growth		**100%**	**100%**	**100%**	**100%**
2041 Population		**1,000,000**	**1,000,000**	**1,000,000**	**1,000,000**

3. Housing Type Forecast

All the forecasts and allocations in this report have referenced different housing types between ground related and apartments but have only been shown as total units, for the sake of manageable tables and for understanding the method. However, it is important to understand the housing types and the change in housing mix suggested by scenarios and the allocations by lens.

As is quite apparent from the Tables 24 and 25 below the shift in housing mix from today to 2021 in any of the scenarios is extremely significant. The shift is doubly significant considering that the bulk of this large number of apartment units will need to be occupied by family households and would need to be of a size and price to satisfy the housing preferences of family households. In the market place today, this remains a rare product.

Tables 26 and 27 illustrate the magnitude of this shift in housing type extended for the period 2031 – 2041 under the various scenarios

Table 24

Housing Mix 2016-2021			
	Ground Related	Apartments	Total
Burlington	27.2%	72.8%	100.0%
Oakville	71.0%	29.0%	100.0%
Milton	87.0%	13.0%	100.0%
Halton Hills	90.7%	9.3%	100.0%
Total	71.0%	29.0%	100.0%

Table 25

Housing Mix 2021-2031			
	Ground Related	Apartments	Total
Burlington	16.5%	83.5%	100.0%
Oakville	38.1%	61.9%	100.0%
Milton	66.7%	33.3%	100.0%
Halton Hills	70.7%	29.3%	100.0%
Total	52.4%	47.6%	100.0%

Table 26

Scenario 1A Moderate Greenfield / Continue Planned Pattern

Housing Mix 2031-2041			
	Ground Related	Apartments	Total
Burlington	9.8%	90.2%	100.0%
Oakville	34.7%	65.3%	100.0%
Milton	54.9%	45.1%	100.0%
Halton Hills	37.0%	63.0%	100.0%
Total	38.2%	61.8%	100.0%

Scenario 2A Limited Greenfield / Continue Planned Pattern

Housing Mix 2031-2041			
	Ground Related	Apartments	Total
Burlington	9.6%	90.4%	100.0%
Oakville	33.1%	66.9%	100.0%
Milton	43.9%	56.1%	100.0%
Halton Hills	28.7%	71.3%	100.0%
Total	32.3%	67.7%	100.0%

Scenario 3A No New Greenfield / Continue Planned Pattern

Housing Mix 2031-2041			
	Ground Related	Apartments	Total
Burlington	9.6%	90.4%	100.0%
Oakville	29.3%	70.7%	100.0%
Milton	34.1%	65.9%	100.0%
Halton Hills	21.3%	78.7%	100.0%
Total	26.5%	73.5%	100.0%

Scenario 4A Growth Plan Amend 1 / Continue Planned Pattern

Housing Mix 2031-2041			
	Ground Related	Apartments	Total
Burlington	10.0%	90.0%	100.0%
Oakville	37.9%	62.1%	100.0%
Milton	66.4%	33.6%	100.0%
Halton Hills	50.3%	49.7%	100.0%
Total	47.7%	52.3%	100.0%

Table 27

Scenario 1B Moderate Greenfield / Local Plans & Priorities

Housing Mix 2031-2041			
	Ground Related	Apartments	Total
Burlington	9.1%	90.9%	100.0%
Oakville	33.6%	66.4%	100.0%
Milton	58.7%	41.3%	100.0%
Halton Hills	60.1%	39.9%	100.0%
Total	38.2%	61.8%	100.0%

Scenario 2B Limited Greenfield / Local Plans & Priorities

Housing Mix 2031-2041			
	Ground Related	Apartments	Total
Burlington	9.0%	91.0%	100.0%
Oakville	31.0%	69.0%	100.0%
Milton	49.3%	50.7%	100.0%
Halton Hills	47.4%	52.6%	100.0%
Total	32.3%	67.7%	100.0%

Scenario 3B No New Greenfield / Local Plans & Priorities

Housing Mix 2031-2041			
	Ground Related	Apartments	Total
Burlington	9.0%	91.0%	100.0%
Oakville	28.3%	71.7%	100.0%
Milton	38.6%	61.4%	100.0%
Halton Hills	31.9%	68.1%	100.0%
Total	26.5%	73.5%	100.0%

Scenario 4B Growth Plan Amend 1 / Local Plans & Priorities

Housing Mix 2031-2041			
	Ground Related	Apartments	Total
Burlington	9.3%	90.7%	100.0%
Oakville	36.8%	63.2%	100.0%
Milton	68.4%	31.6%	100.0%
Halton Hills	74.3%	25.7%	100.0%
Total	47.7%	52.3%	100.0%

Appendix A.4:
Employment Forecast Results

Halton REGION

Appendix A4: Employment Forecast Results

A. Overview

The degree to which people may work in office environments, factory floors or providing health care services is exceedingly difficult for land use planning or the policies of any level of government to significantly shift. Economic development has its effects more in the realm specific sub-sectors, economic clusters or individual companies, rather than in the overall structure of the economy or the employment base. Having said that, it is still important to prepare a forecast for employment growth and to try to understand how this activity may vary across the region in the nature of land use development, reflecting the policy structure of the regional and local official plans.

The eight scenarios being tested and evaluated during this phase of the IGMS are mainly distinguished on the basis of how residential growth is accommodated and how much, if any, new additional greenfield land may need to be urbanized for community purposes. Different ways of accommodating employment, such as major office employment versus employment land employment, are not being tested in the same way. Population-related employment, however, is tested across the range of residential scenarios.

Building on historic and base information that are the foundation of the scenarios, this Appendix documents the allocation of employment by land use type for the region and local municipalities to 2041.

The forecast for employment and the allocation varies by the local shares of each employment type attracted:

- a single **major office employment** growth allocation has been prepared indicating some market shift in location to Milton and Halton Hills as they become larger communities and establish a major office market in the Highway 401 corridor; and
- **population-related employment** varies in accordance with the population allocations in each scenario and so slightly different scenarios for population-related employment are presented aligned with the four scenarios of residential growth and allocated in accordance with the two lenses.

Employment land employment and the need for any new employment areas is a more complex matter. The allocation of employment growth and new employment land need will depend on whether or not any employment land is converted for community purposes. Some potential conversions have already been incorporated as part of the Local Plans and Priorities Lens, but there are many other site specific employment land conversions that need to be considered in the following phase of the IGMS. As well, the

specific character of the types of uses and the associated employment densities varies significantly from one community to the other and cannot be simply swapped from one location to another. Furthermore, conversion of use designation does not mean immediate employment loss and redevelopment, so not all converted lands would necessarily need to be replaced within the period to 2041. As a result, the actual recommended amount of new employment land to be designated will come in the next phases of the IGMS as the amounts of land to be designated will depend on the results of the residential scenario evaluation, the MTSA analysis and the conversion of employment lands.

B. Regional Employment Outlook by Land Use Type

The outlook for employment region-wide incorporates key elements of change in the broader economy as well as some anticipated effects arising from potential disruptions at the national, provincial and GTAH scale. Key features incorporated into the outlook include:

- A rising share of total employment in major office buildings. This is tied to the continued shift to service sector employment, but tempered by the continued focus of the GTAH office market on Downtown Toronto as well as a growing share of office activities found in non-office buildings (e.g. flex office space and higher proportions of office space within some newer industrial buildings).

- A relatively steady ratio of population-related employment to population. The rates applied reflect the observation that demand for many services continues to grow faster than the population overall, however this growth is balanced, in part, by expectations of slower retail employment growth as retail continues to restructure.

- A declining, but still substantial share of growth in Halton's employment will continue to be in employment land employment in the Region's employment areas. There is a mix of the types of uses in these areas today, but substantial amounts of growth in office activities occurring in non-office buildings is a major feature of the employment areas in Oakville and Burlington.

Table 1 presents the historic employment levels by land use type for the Region and local municipalities since 2001, illustrating the allocations of employment for each municipality by land use category. This is the starting base for looking at scenarios of employment growth by type of employment and allocations to the local municipalities.

Table 1 Historic Employment by Land Use Type

Historic Employment by Land Use Type					
2001	**Burlington**	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Major Office	10,600	5,900	100	200	16,800
Population Related	28,000	25,700	9,600	8,800	72,100
Employment Land	37,200	38,500	13,500	7,500	96,700
Other Rural-Based	1,000	800	1,200	900	3,900
Total	**76,800**	**71,000**	**24,400**	**17,300**	**189,500**
2006	**Burlington**	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Major Office	12,000	8,300	300	200	20,800
Population Related	34,000	29,500	11,100	10,400	85,000
Employment Land	41,300	43,300	15,000	8,100	107,700
Other Rural-Based	1,100	1,000	1,200	900	4,200
Total	**88,400**	**82,100**	**27,600**	**19,600**	**217,700**
2011	**Burlington**	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Major Office	12,100	10,400	600	200	23,300
Population Related	38,100	33,600	14,300	11,300	97,300
Employment Land	41,600	44,000	16,000	8,000	109,600
Other Rural-Based	1,100	900	1,100	700	3,800
Total	**92,900**	**88,900**	**32,000**	**20,200**	**234,000**
2016	**Burlington**	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Major Office	12,200	13,700	700	200	26,800
Population Related	41,000	38,000	18,000	13,100	110,100
Employment Land	43,200	50,300	19,600	9,100	122,200
Other Rural-Based	1,300	1,000	1,200	700	4,200
Total	**97,700**	**103,000**	**39,500**	**23,100**	**263,300**

Table 2 presents the Regional employment forecast to 2031 and 2041 by land use type, while Table 3 presents the Regional growth rates by period from 2001 through to 2041. The total employment for Halton for 2031 and 2041 are the figures provided to the Region in the *Growth Plan*; 390,000 jobs in 2031 and 470,000 jobs in 2041. Most notable in the current work is the anticipated doubling of major office jobs by 2031.

Table 2 Regional Employment Forecast by Land Use Type

Regional Employment Forecast by Land Use Type	
2031	**Halton**
Major Office	52,500
Population Related	156,400
Employment Land	176,800
Other Rural-Based	4,300
Total	390,000
2041	**Halton**
Major Office	69,900
Population Related	186,900
Employment Land	208,800
Other Rural-Based	4,400
Total	470,000

For consistency to the current plan the 2031 employment figure is kept at 390,000 for the current scenarios. In moving to the evaluated Growth Concepts later in 2019, consideration will be given to a more "even" employment growth over the period to 2041: a constant 2.3% compound annual growth rate from 2016-2041 would result in about 375,000 jobs in 2031 and then 470,000 in 2041. In the event that the evaluated growth concepts result in a lower total forecast for 2031, the 15,000 jobs that are assigned to the post-2031 period should be allocated to the major office category, reflecting continuing changes in the nature of work and the long-term plans for MTSAs and other strategic mixed use development plans. Table 3 illustrates the historic and forecast growth rates by land use type for the Region overall incorporating the Growth Plan target for 2031.

The schedule of total employment by type for 2031 and 2041 provides a starting point for:

a) Evaluating the need for new greenfield land to be designated for employment land employment; and
b) Construction of scenarios for population-related employment growth and allocation to municipalities in keeping with the scenarios for residential growth.

Table 3 Historic and Forecast Employment Growth by Land Use Category

Historic and Forecast Employment Growth by Land-Use Based Categories			
Employment	**2001-16**	**2016-2031**	**2031-2041**
Major Office	10,000	25,700	17,400
Population Related	38,000	46,300	30,500
Employment Land	25,500	54,600	32,000
Other Rural-Based	300	100	100
Total	**73,800**	**126,700**	**80,000**
Growth Rate	**2001-16**	**2016-2031**	**2031-2041**
Major Office	3.2%	4.6%	1.9%
Population Related	2.9%	2.4%	1.2%
Employment Land	1.6%	2.5%	1.1%
Other Rural-Based	0.5%	0.2%	0.2%
Total	**2.2%**	**2.7%**	**1.3%**

Incorporating trends in the tendency for people to not have a usual place of work, or to work from home is important to preparing an employment outlook. The number of people reporting they have no usual place of work has been increasing, notably within Halton Region. The propensity for this to continue is accommodated by assigning a share of such activity to various industry groups (NAICS) and therefore this trend is incorporated in the forecast of total jobs by land use.

As the employment forecast is largely driven by the forecast of population, incorporating the propensity for people to work from home is important as it can have an implication for the assignment of jobs by land use type. This phenomenon is less variable and our assumed trend regarding the tendency for future residents of Halton to work from home is presented in Table 4.

Table 4 Halton Residents Working from Home – Assumed Rates

Halton Work at Home Employment			
	Work At Home	Census Population	Rate
2016	25,670	548,435	4.68%
2031	37,231	795,439	4.68%
2041	45,404	970,048	4.68%

Both the historic and forecast employment by land-use category have been revised from earlier work, particularly the background work to *Sustainable Halton* and the background work to the *Growth Plan*. The improved allocation to category and the much improved understanding of the geography of employment in Halton is the direct result of the Region's annual employment survey which now provides a good time series of reliable data that simply did not exist in the past. The overall employment totals themselves are somewhat higher than the survey figures, since these are based on the Census definition of employment, based on information collected from individuals, while the employment survey is a thorough survey of establishments.

From an overall Regional perspective, the key question arising from the employment outlook is whether there is a need for the designation of any additional employment land in a greenfield setting. In determining this need, consideration must be given to the potential conversion of some currently designated employment land (whether occupied or vacant) to accommodate mixed-use plans around MTSAs and other strategic growth locations identified by local municipalities. Such potential conversions considered at this stage of the IGMS range from zero to 340 ha of employment land that could be converted. It should be noted that these potential conversions do not incorporate any site-specific requests for conversion that may arise as part of the IGMS public process.

Table 5 calculates the need for new greenfield employment land based on the forecast of 86,600 additional employment land jobs against a range of net effective supply of currently designated employment lands that ranges from 1,920 ha net to 2,020 ha net, yielding an estimate of new greenfield employment land to be designated that ranges from 560 ha gross to 890 ha gross. The mid-point of this range, 720 ha, has been chosen for the purpose of the infrastructure analysis in this report. There are some important assumptions about future growth embedded in the land need analysis, in

particular regarding the density of jobs on employment lands and the location of the new greenfield employment lands. These assumptions are illustrated later in this appendix when we discuss the allocations to local municipalities; in particular, the variation in potential conversions is illustrated in Table 19.

Table 5: Halton Region Employment Land Need to 2041

Halton Employment Land Need to 2041			
	No Employment Land Conversion	Employment Land Conversions in Local Plans and Priorities Lens	Mid-Point of Range
Land Supply			
Land Conversion Assumed for Scenario (net ha)	**0**	**(340)**	**(170)**
Occupied Employment Lands, Net of Conversions (net ha)	3,380	3,170	3,280
Vacant Employment Land Supply, Net of Conversions (net ha)	2,350	2,230	2,290
Total Employment Land, Net of Conversions (net ha)	5,740	5,400	5,570
Vacant Supply After Long-Term Vacancy and Land Used for Major Office and Other Large Non-Employment Land Uses	2,020	1,920	1,970
Employment to Be Accomodated on New Greenfield Lands			
Employment Density (jobs per net ha of occupied land)	35.8	0.0	0.0
Employment Land Employment Accommodated in Existing on Total Lands (before conversions)	72,400	72,400	72,400
Loss of Employment Potential through Conversion of Occupied and Vacant Employment Lands	34	34	34
Employment Land Employment Accommodated in Existing on Total Lands	72,400	63,900	68,200
Forecast Employment Land Employment Growth 2016-2041	86,600	86,600	86,600
Employment to Be Accomodated on New Greenfield Lands	14,200	22,700	18,400
Greenfield Employment Land Need			
Density for New Greenfield Employment Areas (jobs per net ha)	33.5	33.5	33.5
New Greenfield Employment Land (net ha)	420	680	550
Gross New Greenfield Land (including 20% net to gross for local roads and utilities and 5% of lands in major office or other large non-employment land uses)	**560**	**890**	**720**

C. Scenario Allocations of Employment Based on Market Characteristics and Land Supply

Each type of employment is independently allocated to the local municipalities based on a unique method associated with each type which takes account of planned development and anticipated market demand.

1. Major Office Employment

Major office employment is anticipated to grow from 26,800 jobs region-wide in 2016 to 52,500 by 2031 and 69,900 by 2041. A single scenario of distribution among the local municipalities has been prepared in accordance with anticipated market demand evolving over time:

- Currently, nearly all of the major office employment is in Oakville and Burlington, with Oakville having a slightly larger existing base, plus some new construction in Oakville since the 2016 base year in the forecast.
- In terms of share of growth, Oakville has been growing much faster than Burlington and has accommodated over three-quarters of the Region's Major Office employment growth from 2001 to 2016.
- Milton and Halton Hills currently have a very small base of Major Office employment, which is expected given their size and location (virtually all of the suburban GTA office market is located in south Halton, Mississauga and southern York Region).
- Over the forecast period, Milton and Halton Hills are expected to attract significant growth of about 15% and 10% respectively. This development will primarily occur in the Highway 401 corridor, which will become, in a market sense, a westward extension of the Meadowvale office market, just as Winston Park in Brampton has become a northern extension of Meadowvale for office uses. Milton is planning for this market by planning for significant office development in the northern part of the Agerton area along Highway 401.
- Burlington and Oakville have been allocated about 35% and 40% respectively based on Oakville's current market dominance balanced by expectations that the market will return to add significant space to the large office space stock in Burlington.

Within each of these communities there is a planning expectation that significant amounts of the office market will, in the future, be accommodated in various planned mixed-use nodes. It remains somewhat uncertain as to the degree to which the office market will in fact respond by significantly shifting location pattern to mixed-use transit-oriented nodes from the current focus on QEW locations. Table 6 illustrates the forecast of major office employment allocated by local municipality along with the regional total.

The land use implications surrounding major office development will be within the built-up area and no new Designated Greenfield Area will be required.

Table 6 Major Office Employment: Historic and Forecast to 2031 and 2041 For Halton and Local Municipalities

Major Office Employment Historic and Forecast to 2031 and 2041					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Major Office Employment 2001	10,600	5,900	100	200	16,800
Major Office Employment 2006	12,000	8,300	300	200	20,700
Major Office Employment 2011	12,100	10,400	600	200	23,200
Major Office Employment 2016	12,200	13,700	700	200	26,800
Major Office Employment Growth	36.0%	42.0%	15.0%	7.0%	100.0%
Major Office Employment Growth	9,200	10,800	3,900	1,800	25,700
Major Office Employment 2031	**21,500**	**24,500**	**4,600**	**2,000**	**52,500**
Major Office Employment Growth	32.0%	38.0%	18.0%	12.0%	100.0%
Major Office Employment Growth	5,600	6,600	3,100	2,100	17,400
Major Office Employment 2041	**27,000**	**31,100**	**7,700**	**4,100**	**69,900**

2. Population-Related Employment

Population-Related employment has been combined with the small category of Other Rural-Based employment for the purposes of analysis. Other Rural-Based employment is small relative to total employment and is anticipated to remain stable over the forecast period. The growth in population-related employment is allocated to local municipalities in accordance with their forecast growth in population, that is, a ratio of population-related employment to population. The relationship by a ratio to population is reasonable given that most of these jobs provide a service to the local population in such areas as retail, services, education, and health care as well as incorporating residents who work from home. Oakville and Burlington have higher amounts of population-related employment as these communities provide some services to residents of Milton and Halton Hills as well as to people beyond Halton's boundaries. Most population-related employment is planned for and accommodated in normal residential community planning in the form of retail, small office and institutional development, such as schools and hospitals. Some of this will also be accommodated in the various planned mixed-use nodes.

Table 7 presents the trends in population-related employment by local municipality. As with the forecast of population growth there is one scenario of growth in population-related employment to 2031, reflecting the fact that no new DGA is required to

accommodate residential growth to 2031. Table 8 presents the single allocation of population-related employment to 2031.

The eight scenarios for residential growth from 2031 to 2041, on the other hand, necessitate eight scenarios of growth for population-related employment for this latter period. In keeping with the four scenarios of population growth, population-related employment is allocated across the municipalities either according to the Continue Existing Planned Pattern Lens (the A scenarios) in Tables 9 through 12, or the Local Plans and Priorities lens (the B scenarios) in Tables 13 through 16.

Table 7 Historic Population-Related & Other Rural Employment By Local Municipality with Ratios to Population

Population Related and Other Rural Employment Historic with Ratios to Population	Burlington	Oakville	Milton	Halton Hills	Halton
Population Related Employment 2001	28,000	25,700	9,600	8,800	72,100
Population Related Employment 2006	34,000	29,500	11,100	10,400	85,000
Population Related Employment 2011	38,100	33,600	14,300	11,300	97,300
Population Related Employment 2016	41,000	38,000	18,000	13,100	110,100
Other Rural Employment 2001	1,000	800	1,200	900	3,900
Other Rural Employment 2006	1,100	1,000	1,200	900	4,100
Other Rural Employment 2011	1,100	900	1,100	700	3,800
Other Rural Employment 2016	1,300	1,000	1,200	700	4,100
Combined PRE and Rural 2001	29,000	26,600	10,800	9,600	75,900
Combined PRE and Rural 2006	35,100	30,500	12,300	11,300	89,200
Combined PRE and Rural 2011	39,200	34,500	15,400	12,000	101,200
Combined PRE and Rural 2016	42,300	39,000	19,200	13,800	114,200
2001 Census Population	150,800	144,700	31,500	48,200	375,200
2006 Census Population	164,400	165,600	53,900	55,300	439,300
2011 Census Population	175,800	182,500	84,400	59,000	501,700
2016 Census Population	183,300	193,800	110,100	61,200	548,400
Combined PRE and Rural Ratio to Population 2001	5.20	5.44	2.92	5.02	4.94
Combined PRE and Rural Ratio to Population 2006	4.68	5.43	4.38	4.89	4.92
Combined PRE and Rural Ratio to Population 2011	4.48	5.29	5.48	4.92	4.96
Combined PRE and Rural Ratio to Population 2016	4.33	4.97	5.73	4.43	4.80

Table 8 Population-Related & Other Rural Employment Growth 2016 - 2031

Population Related and Other Rural Employment Growth 2016-2031	Burlington	Oakville	Milton	Halton Hills	Halton
Combined PRE and Rural Employment 2016	42,300	39,000	19,200	13,800	114,200
2031 Census Population	213,300	259,800	231,100	91,100	795,400
Ratio to Population at 2031	4.43	5.30	5.35	4.50	4.95
Combined PRE and Rural Growth 2016-2031	5,900	10,000	24,100	6,500	46,500
Combined PRE and Rural Employment 2031	**48,200**	**49,000**	**43,200**	**20,300**	**160,700**

Over the forecast period it is expected that the ratios of population-related employment will rise in Milton as the provision of services to local residents catches up with population growth and, as the Town grows, more higher-order services will be provided locally. This shift will also occur in Halton Hills as it grows in population, though it has quite a high population-related employment ratio because of the GTA-serving Toronto Premium Outlets, which alone accounts for about 15% of the Town's population-related employment. The range of forecast growth in population-related employment to 2041 varies for each of the scenarios in accordance with the variations in the population. The following tables illustrate the range of population-related employment over the eight scenarios.

Table 9 Scenario 1A: Moderate Greenfield / Continue Planned Pattern

Population Related and Other Rural Employment Growth 2031-2041 Scenario 1A					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Combined PRE and Rural Employment 2031	48,200	49,000	43,200	20,300	160,700
2041 Census Population	233,800	316,800	298,600	120,900	970,000
Ratio to Population at 2041	4.73	5.35	5.30	4.60	5.07
Combined PRE and Rural Growth 2031-2041	1,200	10,200	13,100	6,000	30,600
Combined PRE and Rural Employment 2041	**49,500**	**59,200**	**56,300**	**26,300**	**191,300**

Table 10 Scenario 2A: Limited Greenfield / Continue Planned Pattern

Population Related and Other Rural Employment Growth 2031-2041 Scenario 2A					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Combined PRE and Rural Employment 2031	48,200	49,000	43,200	20,300	160,700
2041 Census Population	235,500	321,000	295,000	118,500	970,000
Ratio to Population at 2041	4.72	5.35	5.30	4.60	5.07
Combined PRE and Rural Growth 2031-2041	1,700	11,000	12,500	5,500	30,600
Combined PRE and Rural Employment 2041	**49,900**	**60,000**	**55,700**	**25,800**	**191,300**

Table 11 Scenario 3A: No New Greenfield / Continue Planned Pattern

Population Related and Other Rural Employment Growth 2031-2041 Scenario 3A					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Combined PRE and Rural Employment 2031	48,200	49,000	43,200	20,300	160,700
2041 Census Population	236,400	330,600	289,000	114,100	970,000
Ratio to Population at 2041	4.71	5.35	5.30	4.60	5.07
Combined PRE and Rural Growth 2031-2041	2,000	12,800	11,300	4,500	30,600
Combined PRE and Rural Employment 2041	**50,200**	**61,800**	**54,500**	**24,800**	**191,300**

Table 12 Scenario 4A: Growth Plan, 2019 / Continue Planned Pattern

Population Related and Other Rural Employment Growth 2031-2041 Scenario 4A	Burlington	Oakville	Milton	Halton Hills	Halton
Combined PRE and Rural Employment 2031	48,200	49,000	43,200	20,300	160,700
2041 Census Population	229,700	308,700	308,200	123,500	970,000
Ratio to Population at 2041	4.73	5.35	5.30	4.60	5.07
Combined PRE and Rural Growth 2031-2041	400	8,700	14,900	6,600	30,600
Combined PRE and Rural Employment 2041	**48,600**	**57,700**	**58,100**	**26,900**	**191,300**

Table 13 Scenario 1B: Moderate Greenfield / Local Plans & Priorities

Population Related and Other Rural Employment Growth 2031-2041 Scenario 1B	Burlington	Oakville	Milton	Halton Hills	Halton
Combined PRE and Rural Employment 2031	48,200	49,000	43,200	20,300	160,700
2041 Census Population	247,100	318,000	286,300	118,600	970,000
Ratio to Population at 2041	4.75	5.35	5.30	4.60	5.07
Combined PRE and Rural Growth 2031-2041	3,800	10,400	10,800	5,500	30,600
Combined PRE and Rural Employment 2041	**52,100**	**59,400**	**54,000**	**25,800**	**191,300**

Table 14 Scenario 2B: Limited Greenfield / Local Plans & Priorities

Population Related and Other Rural Employment Growth 2031-2041 Scenario 2B	Burlington	Oakville	Milton	Halton Hills	Halton
Combined PRE and Rural Employment 2031	48,200	49,000	43,200	20,300	160,700
2041 Census Population	249,200	324,500	284,000	112,300	970,000
Ratio to Population at 2041	4.73	5.35	5.30	4.60	5.07
Combined PRE and Rural Growth 2031-2041	4,400	11,600	10,400	4,200	30,600
Combined PRE and Rural Employment 2041	**52,600**	**60,700**	**53,600**	**24,400**	**191,300**

Table 15 Scenario 3B: No New Greenfield / Local Plans & Priorities

Population Related and Other Rural Employment Growth 2031-2041 Scenario 3B	Burlington	Oakville	Milton	Halton Hills	Halton
Combined PRE and Rural Employment 2031	48,200	49,000	43,200	20,300	160,700
2041 Census Population	250,400	332,500	283,100	104,100	970,000
Ratio to Population at 2041	4.71	5.35	5.30	4.60	5.07
Combined PRE and Rural Growth 2031-2041	4,900	13,100	10,200	2,400	30,600
Combined PRE and Rural Employment 2041	**53,100**	**62,200**	**53,400**	**22,600**	**191,300**

Table 16 Scenario 4B: Growth Plan, 2019 / Local Plans & Priorities

Population Related and Other Rural Employment Growth 2031-2041 Scenario 4B	Burlington	Oakville	Milton	Halton Hills	Halton
Combined PRE and Rural Employment 2031	48,200	49,000	43,200	20,300	160,700
2041 Census Population	240,300	309,600	292,400	127,700	970,000
Ratio to Population at 2041	4.76	5.35	5.30	4.60	5.07
Combined PRE and Rural Growth 2031-2041	2,300	8,800	12,000	7,500	30,600
Combined PRE and Rural Employment 2041	**50,500**	**57,900**	**55,200**	**27,800**	**191,300**

3. Employment Land Employment

The allocation of employment land employment to the local municipalities depends largely on the consumption of the supply of land for these uses, which are any of the uses that occupy industrial-type buildings in employment areas. This includes industrial jobs along with office jobs in conjunction with industrial buildings, office jobs in flex office space and a wide range of commercial uses.

As described at the Regional level, a range of employment land need was determined based on whether or not some employment land conversions would occur. A mid-point of 720 ha of gross land need has been selected for the purposes of infrastructure and financial analysis at this stage. A final recommendation on the amount of land to be designated will be made later in the IGMS process once other recommendations have been made respecting employment land conversions and further analysis of anticipated development forms and density of development.

As with the population-related employment, there is one forecast of employment land employment growth to 2031. Current trends suggest that the growth rate of employment land employment is somewhat lagging the rate needed to attain the 2031 level forecast at the time the Sustainable Halton process resulted in ROPA 38. Therefore, the current supply of occupied and vacant employment land is considered sufficient to accommodate growth to 2031. Table 17 below presents the forecast of employment land employment for the region and local municipalities to 2031 retaining the current distribution of shares of growth between 2016 and 2031.

Table 17 Employment Land Employment Growth 2016 - 2031

Employment Land Employment Growth 2016-2031					
	Burlington	**Oakville**	**Milton**	**Halton Hills**	**Halton**
Employment Land Employment 2016	43,200	50,300	19,600	9,100	122,200
Share of 2016-2031 Growth	0.0%	2.5%	14.0%	24.5%	41.0%
Employment Land Employment 2016-31 Growth	2,700	15,300	26,700	9,800	54,600
Employment Land Employment 2031	**45,900**	**65,600**	**46,300**	**19,000**	**176,800**

Based on the mid-point of a range of potential longer term need for employment land, 720 ha gross, Table 18 allocates employment land employment to 2041 assuming the new employment land need would be assigned equally to Milton and Halton Hills, with each needing to bring 360 ha into the urban envelop from the Future Strategic Employment Areas.

Table 18 Employment Land Employment Growth 2031 – 2041

Employment Land Employment Growth 2031-2041 (Mid-Point for Scenario Analysis)					
	Burlington	Oakville	Milton	Halton Hills	Halton
Employment Land Employment 2031	45,900	65,600	46,300	19,000	176,800
Share of 2031-2041 Growth	17.0%	46.0%	30.5%	6.5%	100.0%
Emp Land Emp 2031-41 Growth Existing Urban	(900)	6,000	8,000	400	13,600
Emp Land Emp 2041 in Existing Urban	45,000	71,600	54,300	19,400	190,400
Emp Land Emp 2041 in New Urban	0	0	9,200	9,200	18,400
Emp Land Emp 2041	**45,000**	**71,600**	**63,500**	**28,600**	**208,800**

The following key assumptions are incorporated in determining the range of new employment land needed to accommodate the regional forecast of employment land employment, and the allocation of the mid-point of the range to each local municipality:

- Conversions reflect the mid-point between zero land conversions and all of the conversions associated with the mixed-use nodes noted in the Local Plans and Priorities Lens. Milton's unique proposal for the Agerton area is considered separately in a special section of the main report. Other site-specific conversion requests, such as the Meritor site in Milton, will be analysed in the next stage of the IGMS process.

- After accounting for conversions, long-term land vacancy (3%), lands used for major office or other large uses that are not part of employment land employment (such as institutions), there is just over 2,000 ha of vacant employment land supply to develop in Halton. See Table 19 below.

- Existing employment densities vary by location, as illustrated in Table 20 below:
    - Oakville is very high at 46 employees per ha, largely owing to the significant amount of industrial building space being used as flex office space, mainly along the QEW.
    - Densities are much lower in Milton at 27 employees per ha which is about what is expected for a mix of older and newer industrial development, with newer development at lower densities.
    - Halton Hills is similar to Milton at 32 employees per ha, but likely will decline significantly as the 2016 figure was still dominated by existing development in Georgetown and Acton, whereas new development occurring in the Highway 401 corridor is at much lower employment densities. This will bring down the average over time.
    - Burlington is close to the regional average at 37 employees per ha.

- Forecast employment densities are the following:

    - In Burlington new development is forecast to occur at 38 employees per ha, similar to today's average density on its small remaining land supply.

- In Oakville, 38 is also applied. This is lower than current on the expectation that the lands in North Oakville along Highway 407 would develop as a mix of modern low employment density industrial and of the higher employment density uses characteristic of Oakville today.
- In Milton an overall average of 35 employees per net ha is applied, which is based on a combination of the expected densities of the Derry Green Secondary Plan and the anticipated employment density of the areas designated in Sustainable Halton (itself a combination of standard density employment areas at 37.5 employees per net ha and areas dominated by distribution and logistics uses at 21.8 employees per net ha).
- In Halton Hills the Sustainable Halton net density figure of 33.5 employees per net ha is used for the development of the Premier Gateway area. However, it should be noted that the development density of the buildings occupied since 2016 on the Highway 401 frontage only amounted to 20 employees per ha.
- New land designations are assumed to be split evenly between Halton Hills and Milton. Even with this even split of new lands, the total vacant land supply to 2041 would still, between the two municipalities, be 70% in Milton and 30% in Halton Hills.

Table 19 Employment Land Supply by Local Municipality

Employment Land Supply (With Mixed-Use Area Conversions, inc. ROPA 47)	Burlington	Oakville	Milton	Halton Hills	Halton
Occupied	1,231.4	1,145.7	720.3	287.0	3,384.4
Vacant	150.7	725.1	1,137.5	341.7	2,354.9
Total	1,382.1	1,870.8	1,857.8	628.6	5,739.3
Less Occupied Employment Land Converted to Other Uses	(157.6)	(57.7)	0.0	0.0	(215.3)
Less Vacant Employment Land Converted to Other Uses	0.0	(45.0)	(78.6)	0.0	(123.5)
Total	1,224.5	1,768.1	1,779.3	628.6	5,400.5
Long Term Vacancy (%)	3%	3%	3%	3%	3%
Less Long Term Vacancy	(36.7)	(53.0)	(53.4)	(18.9)	(162.0)
Net Effective Supply	113.9	627.1	1,005.5	322.8	2,069.4

Table 20 Employment Land Current Density

Employment Land Current Density (With Mixed-Use Area Conversions, inc. ROPA 47)	Burlington	Oakville	Milton	Halton Hills	Halton
2016 Employment Land Employment (jobs)	43,153	50,311	19,598	9,146	122,209
Occupied Land (net ha)	1,231.4	1,145.7	720.3	287.0	3,384.4
Less Estimated Occupied By Major Office (net ha)	(61.0)	(61.6)	(2.2)	0.0	(124.8)
Land Occupied by Employment Land Employment (net ha)	1,170.4	1,084.1	718.1	287.0	3,259.6
Employment Land Employment Density (jobs per net ha)	36.9	46.4	27.3	31.9	37.5

A Note on Employment Densities

Table 19 employs the Halton employment survey to estimate employment density in jobs per net hectare for employment land employment in current employment areas, by municipality. The density is based only on the employment land employment occupying industrial-type buildings. Employment, and land areas, for Major Office buildings, large retail areas and large institutions within employment areas are excluded from the density calculation. The large amount of more office-oriented activities occurring in industrial buildings in Oakville and Burlington as well as the age of the employment areas leads to the higher densities shown in those communities. The older parts of the Milton Highway 401 employment area, south of the Highway are somewhat higher density than the newer areas to the north. There is a stark difference in Halton Hills, however, where Georgetown's largely older industrial area is about 40 employees per net ha, but the new buildings on the Highway 401 Corridor at about 19 employees per ha (recognizing the relatively small sample in this area in 2016).

Table 21 adjusts the base employment estimates for employment land employment, going forward, by estimating the employment that will be lost to conversion.

Table 21 Adjusted 2016 Base to Adjust for Occupied Land Conversions

Adjusted 2016 Base to Account for Occupied Land Conversions (With Mixed-Use Area Conversions, inc. ROPA 47)	Burlington	Oakville	Milton	Halton Hills	Halton
Current 2016 Employment Land Employment (jobs)	43,153	50,311	19,598	9,146	122,209
Occupied Land Conversions (net ha)	(152.9)	(56.0)	0.0	0.0	(208.8)
Density for Converted Lands (jobs per ha)	20.0	30.0	30.0	30.0	30.0
Employment Loss Associated with Conversion	(3,057)	(1,679)	0	0	(4,737)
Adjusted Base Employment for Forecast Allocation	**40,096**	**48,632**	**19,598**	**9,146**	**117,472**

Table 22 allocates employment land employment to local municipalities to 2041. For the Region, 22,700 additional employment land jobs will need to be accommodated on new urban land by 2041.

Table 22 Employment Land Need and Local Municipal Allocation to 2041

Employment Land Need and Local Forecast (With Mixed-Use Area Conversions, inc. ROPA 47)	Burlington	Oakville	Milton	Halton Hills	Halton
Available Vacant Employment Land (net ha)	113.9	627.1	1,005.5	322.8	2,069.4
Less Major Office and Pop. Related Occupancy (%)	20.0%	10.0%	5.0%	5.0%	7.3%
Less Major Office and Pop. Related Occupancy (net ha)	(22.8)	(62.7)	(50.3)	(16.1)	(151.9)
Supply Developed as Employment Land Employment to 2041 (net ha)	91.2	564.4	955.3	306.7	1,917.4
Employment Density for Future Development (jobs/net ha)	38.0	38.0	35.0	33.5	35.8
New Employment Land Employment	3,464	21,446	33,434	10,273	68,617
2016 Employment Land Employment (adjusted for Conversion Losses)	40,096	48,632	19,598	9,146	117,472
Employment Land Employment at 2041 (before expansions)	43,560	70,078	53,032	19,419	186,089
Regional Total Employment Land Employment at 2041					208,800
Employment on New Urban Land at 2041					22,711

In Table 23 a region-wide average employment density of 33.5 jobs per ha is applied to the 22,700 jobs that will have to locate on new employment land between 2031 and 2041. This yields a need of 678 ha for new employment land designations. For current purposes this need for new land is allocated equally to Milton and Halton Hills the only municipalities with the potential to designate new employment land. Again, using the assumed regional average density indicates that each of Milton and Halton Hills will see employment land employment grow by about 11,360 jobs. The figure of 678 ha of future land need is net of consideration of about 20% that might be occupied by major office buildings and 5% that might be allocated to significant retail.

Table 23 Local Employment Land Employment Allocation to 2041

Local Employment Land Employment Allocation (With Mixed-Use Area Conversions, inc. ROPA 47)	Burlington	Oakville	Milton	Halton Hills	Halton
Employment on New Urban Land at 2041					22,711
Density of Employment Land Employment (jobs per net ha)					33.5
New Employment Land Designations (net ha)					677.9
Supply Developed as Employment Land Employment to 2041 (ha)	0.0	0.0	339.0	339.0	677.9
Employment Density for Future Development	33.5	33.5	33.5	33.5	33.5
New Employment Land Employment	0	0	11,355	11,355	22,711
Employment Land Employment at 2041	**43,560**	**70,078**	**64,387**	**30,775**	**208,800**

Table 24 summarizes the steps in determining the need for new designated greenfield employment land by local municipality.

Table 24 Employment Land Employment Allocation to 2041 Mid-Point of Land Range

Halton Employment Land Employment Allocation to 2041 by Local Municipality, Mid-Point of Land Need Range					
	Burlington	Oakville	Milton	Halton Hills	Halton
Land Supply					
Land Conversion Assumed for Scenario (net ha)	(80)	(50)	(40)	0	(170)
Occupied Employment Lands, Net of Conversions (net ha)	1,230	1,150	720	290	3,380
Vacant Employment Land Supply, Net of Conversions (net ha)	150	730	1,140	340	2,350
Total Employment Land, Net of Conversions (net ha)	1,380	1,870	1,860	630	5,740
Vacant Supply After Long-Term Vacancy and Land Used for Major Office and Other Large Non-Employment Land Uses	90	580	990	310	1,970
Employment to Be Accomodated on New Greenfield Lands					
Employment Density (jobs per net ha of occupied land)	38.0	38.0	35.0	33.5	35.8
Employment Land Employment 2016, Less loss of job potential on converted occupied lands	3,400	22,000	34,700	10,400	70,500
Less Lost Job Potential through Conversion of Vacant Greenfield Lands	(1,500)	(1,600)	(1,300)	0	(4,300)
Employment Land Employment Accommodated in Existing on Total Lands	1,900	20,400	33,400	10,400	66,200
Forecast Employment Land Employment Growth 2016-2041 (existing designated lands)	45,000	71,600	54,300	19,400	190,400
Employment to Be Accomodated on New Greenfield Lands	0	0	9,200	9,200	18,400
Greenfield Employment Land Need					
Density for New Greenfield Employment Areas (jobs per net ha)	33.5	33.5	33.5	33.5	33.5
New Greenfield Employment Land (net ha)	0	0	280	280	550
Gross New Greenfield Land (including 20% net to gross for local roads and utilities and 5% of lands in major office or other large non-employment land uses)	**0**	**0**	**360**	**360**	**720**

For the location of the employment land in the scenarios, all lands in the Future Strategic Employment Areas will be considered before the evaluated Growth Concepts are presented. For the scenarios analysis however, the lands were all located in the immediate vicinity of Highway 401, as shown on Map A2.

Map A2 Potential Locations for Employment Land

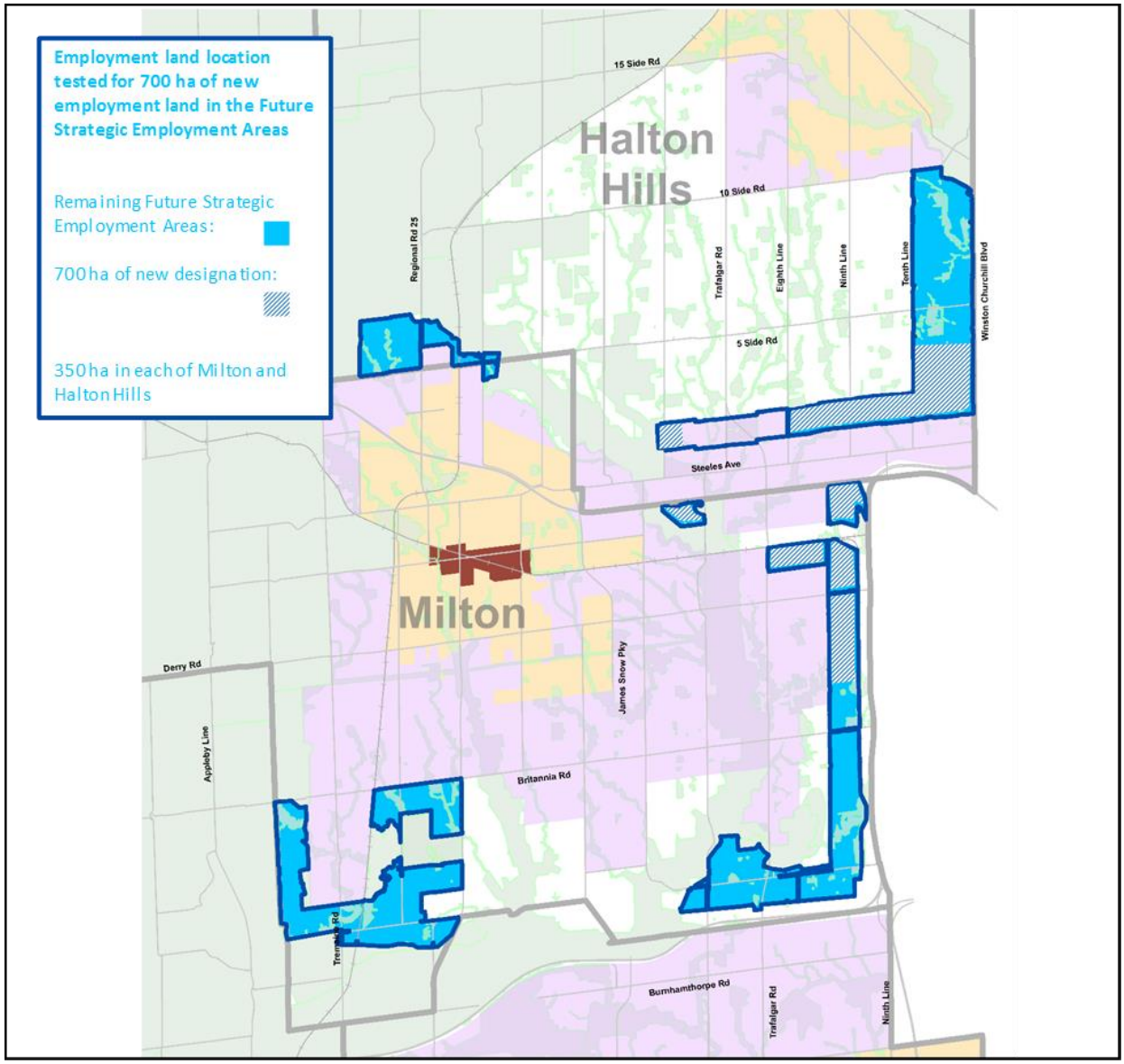


Table 25 New Employment Land Designations

New Employment Land Designations (With Mixed-Use Area Conversions, inc. ROPA 47)	Burlington	Oakville	Milton	Halton Hills	Halton
Net Employment Land Need	0.0	0.0	339.0	339.0	678
Factor for Office and Other Population Related Uses	5%	5%	5%	5%	
New Employment Land Designations (net ha)	0.0	0.0	356.8	356.8	713.6
Net to Gross for Local Roads and Utilities	80%	80%	80%	80%	
Gross ha New Employment Land Designations	0.0	0.0	446.0	446.0	892.0

The 339 net ha of new employment land need for each of Milton and Halton Hills represents 446 gross ha after accounting for office and population-related uses as well as local roads and utilities, as shown in Table 25.

Table 26 documents the 2031 scenarios for growth in employment land employment, while Table 27 takes the forecast by municipality to 2041.

Table 26 Employment Land Employment Growth 2016 - 2031

Employment Land Employment Growth 2016-2031	Burlington	Oakville	Milton	Halton Hills	Halton
Employment Land Employment 2016	43,153	50,311	19,598	9,146	122,209
Share of 2016-2031 Growth	5.0%	28.0%	49.0%	18.0%	100.0%
Employment Land Employment 2016-31 Growth	2,730	15,286	26,750	9,826	54,591
Employment Land Employment 2031	45,883	65,597	46,347	18,973	176,800

Table 27 Employment Land Employment Growth 2031 - 2041

Employment Land Employment Growth 2031-2041 (With Mixed-Use Area Conversions, inc. ROPA 47)	Burlington	Oakville	Milton	Halton Hills	Halton
Employment Land Employment 2031	45,883	65,597	46,347	18,973	176,800
Share of 2031-2041 Growth	-25.0%	48.2%	72.0%	4.8%	100.0%
Emp Land Emp 2031-41 Growth Existing Urban	(2,323)	4,482	6,684	447	9,289
Emp Land Emp 2041 in Existing Urban	43,560	70,078	53,032	19,419	186,089
Emp Land Emp 2041 in New Urban	0	0	11,355	11,355	22,711
Emp Land Emp 2041	**43,560**	**70,078**	**64,387**	**30,775**	**208,800**

D. Total Employment Forecast

Based on the allocation approaches described above, Table 28 provides the employment outlook by the land-use based categories for each local municipality. The range of population-related employment reflects the lowest and highest levels identified in the eight scenarios.

Table 28 Forecast Employment by Land Use Categories by Local Municipality

Forecast Employment by Land-Use Based Categories by Local Municipality														
		Burlington			Oakville			Milton			Halton Hills			Halton
2016	Major Office		12,200			13,700			700			200		26,800
	Population Related and Other Rural		42,300			39,000			19,200			13,800		114,200
	Employment Land		43,200			50,300			19,600			9,100		122,200
	Total		97,700			103,000			39,500			23,100		263,200
2016-41	Major Office		14,800			17,400			7,000			3,900		43,100
Growth	Population Related and Other Rural	6,300	to	10,900	18,700	to	23,200	34,200	to	39,000	8,800	to	14,000	77,100
	Employment Land		1,800			21,300			43,900			19,500		86,600
	Total	22,900	to	27,500	57,400	to	61,900	85,100	to	89,900	32,200	to	37,400	206,800
2041	Major Office		27,000			31,100			7,700			4,100		69,900
	Population Related and Other Rural	48,600	to	53,200	57,700	to	62,200	53,400	to	58,200	22,600	to	27,800	191,300
	Employment Land		45,000			71,600			63,500			28,600		208,800
	Total	120,600	to	125,200	160,400	to	164,900	124,600	to	129,400	55,300	to	60,500	470,000

The single growth scenario for total employment to 2031 is allocated to the local municipalities in Table 29 below. Table 30 illustrates the range of 2041 allocations of total employment by local municipality for the eight scenarios.

Table 29 Total Employment Forecast by Local Municipality, 2016-2031

Total Employment Forecast by Local Municpality, 2016-2031			
Municipality	**2016**	**2031**	**2016-2031**
Burlington	97,700	115,400	17,700
Oakville	103,000	137,100	34,100
Milton	39,500	92,400	52,900
Halton Hills	23,100	45,200	22,100
Halton Region	**263,000**	**390,000**	**127,000**

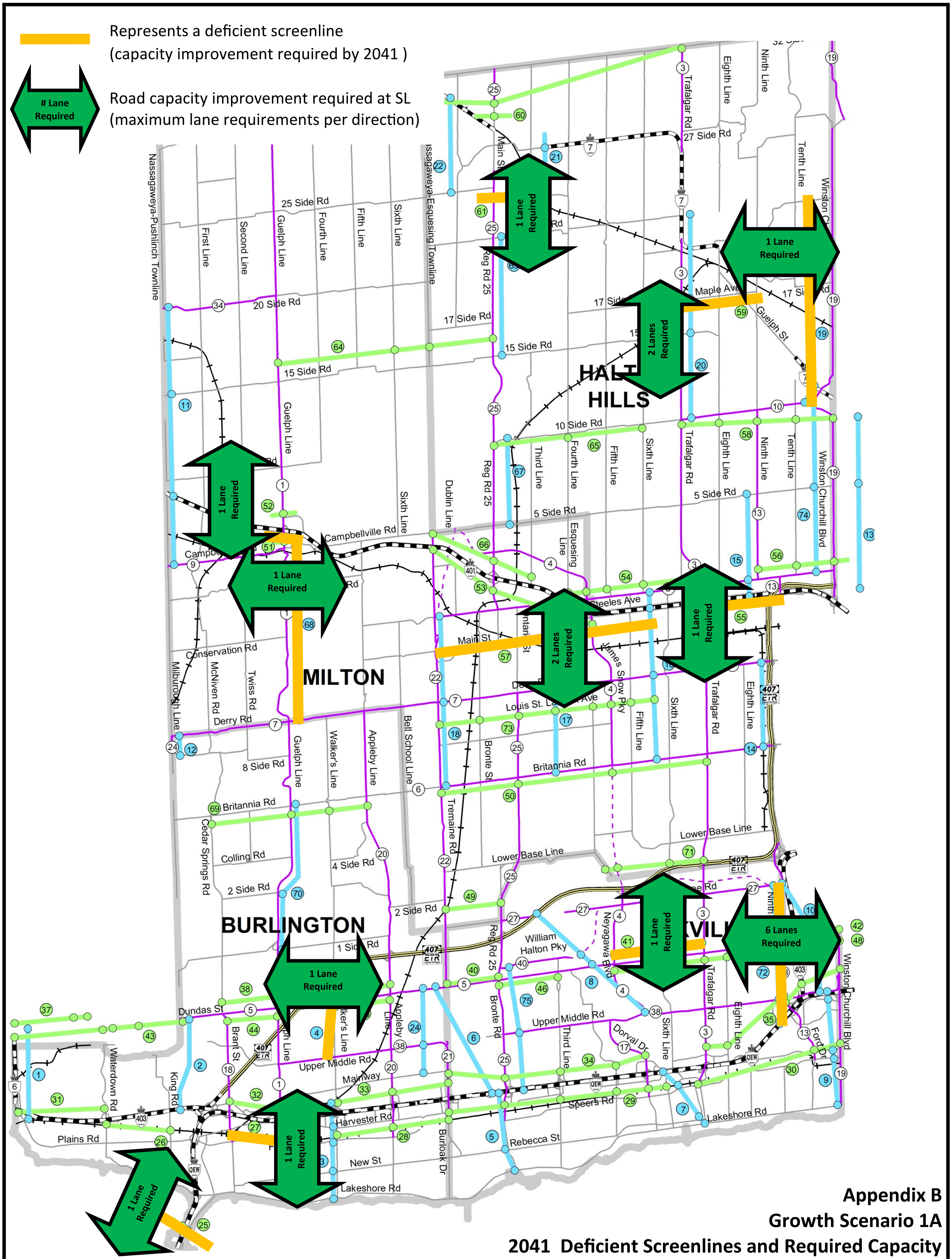
Table 30 Total Employmentnd Employment Growth, 2016-2041 by Scenario

Total Employment 2041								
Muncipality	**IGMS Growth Scenario**							
	1A	**1B**	**2A**	**2B**	**3A**	**3B**	**4A**	**4B**
Burlington	125,300	123,400	125,200	123,900	125,100	124,100	120,000	121,800
Oakville	159,500	157,200	160,100	158,000	161,600	159,600	158,200	158,200
Milton	125,400	125,600	125,200	125,400	124,200	125,000	127,200	124,900
Halton Hills	59,900	63,700	59,500	62,600	59,000	61,300	64,600	65,000
Halton Region	**470,000**	**470,000**	**470,000**	**470,000**	**470,000**	**470,000**	**470,000**	**470,000**

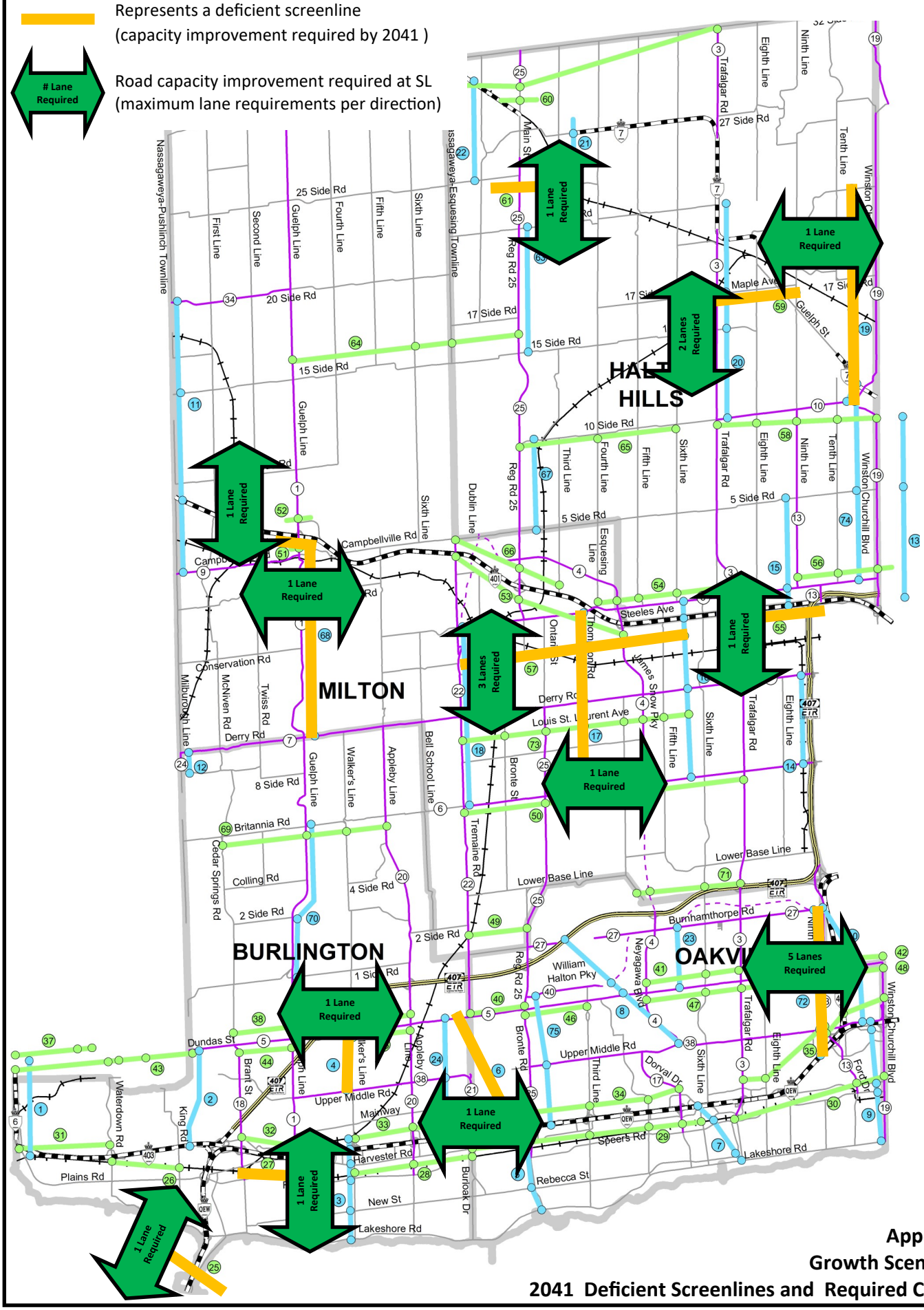
Employment Growth 2016 - 2041								
Municipality	**IGMS Growth Scenario**							
	1A	**1B**	**2A**	**2B**	**3A**	**3B**	**4A**	**4B**
Burlington	27,600	25,700	27,500	26,200	27,400	26,400	22,300	24,100
Oakville	56,500	54,200	57,100	55,000	58,600	56,600	55,200	55,200
Milton	85,900	86,100	85,700	85,900	84,700	85,500	87,700	85,400
Halton Hills	36,800	40,600	36,400	39,500	35,900	38,200	41,500	41,900
Halton Region	**207,000**	**207,000**	**207,000**	**207,000**	**207,000**	**207,000**	**207,000**	**207,000**

Appendix B: Transportation Assessment Screenline Deficiencies

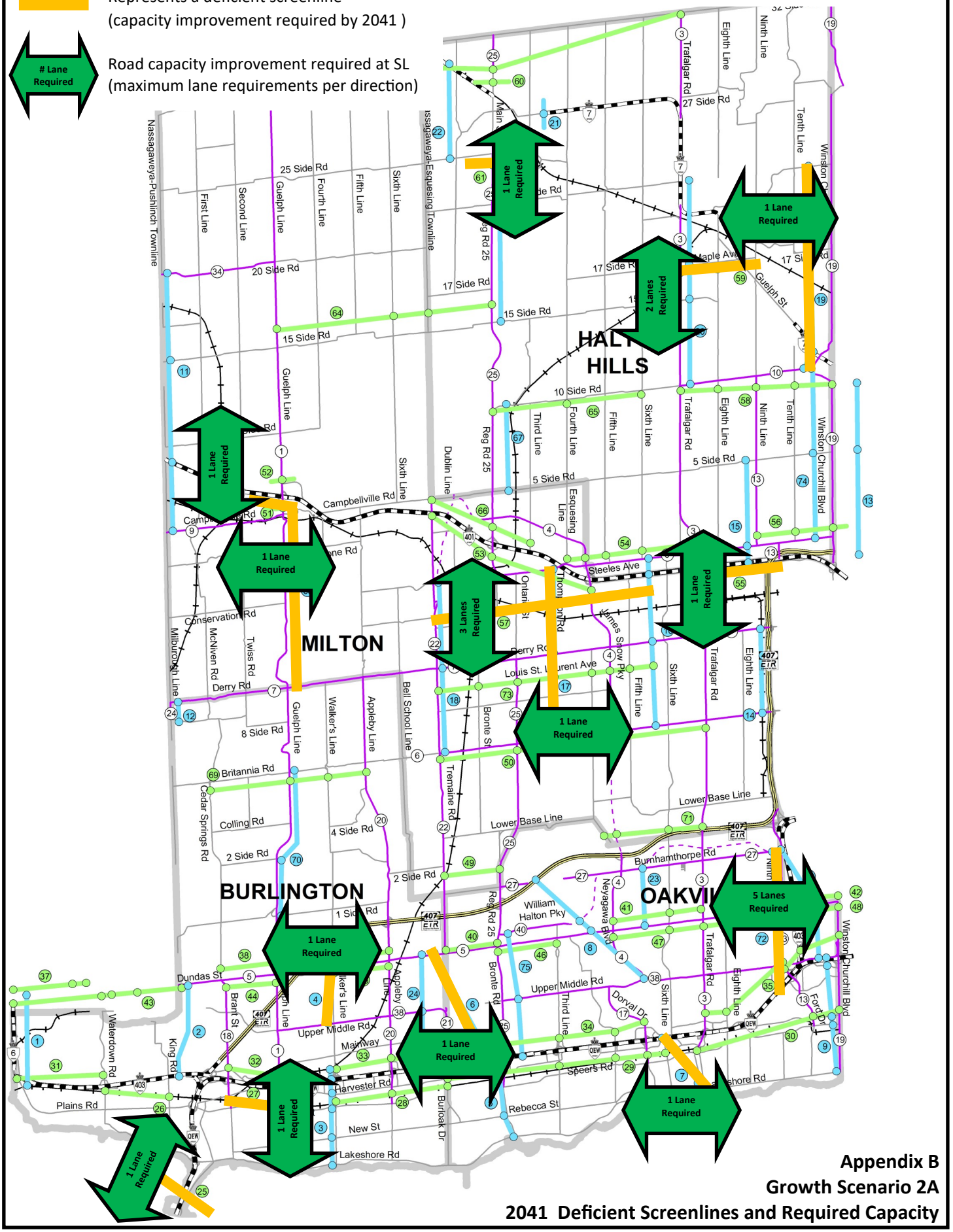
Halton REGION

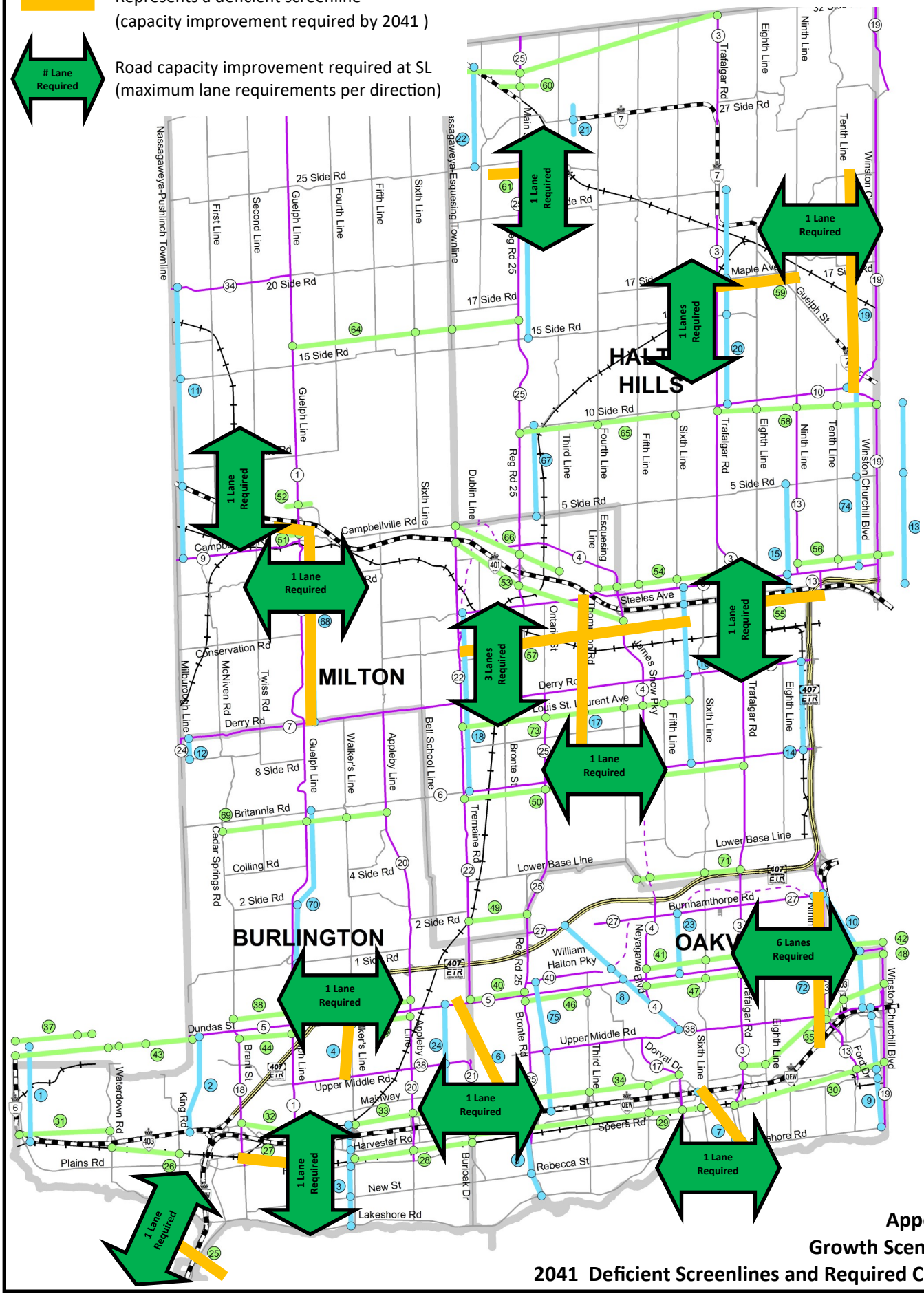


Appendix B
Growth Scenario 1A
2041 Deficient Screenlines and Required Capacity

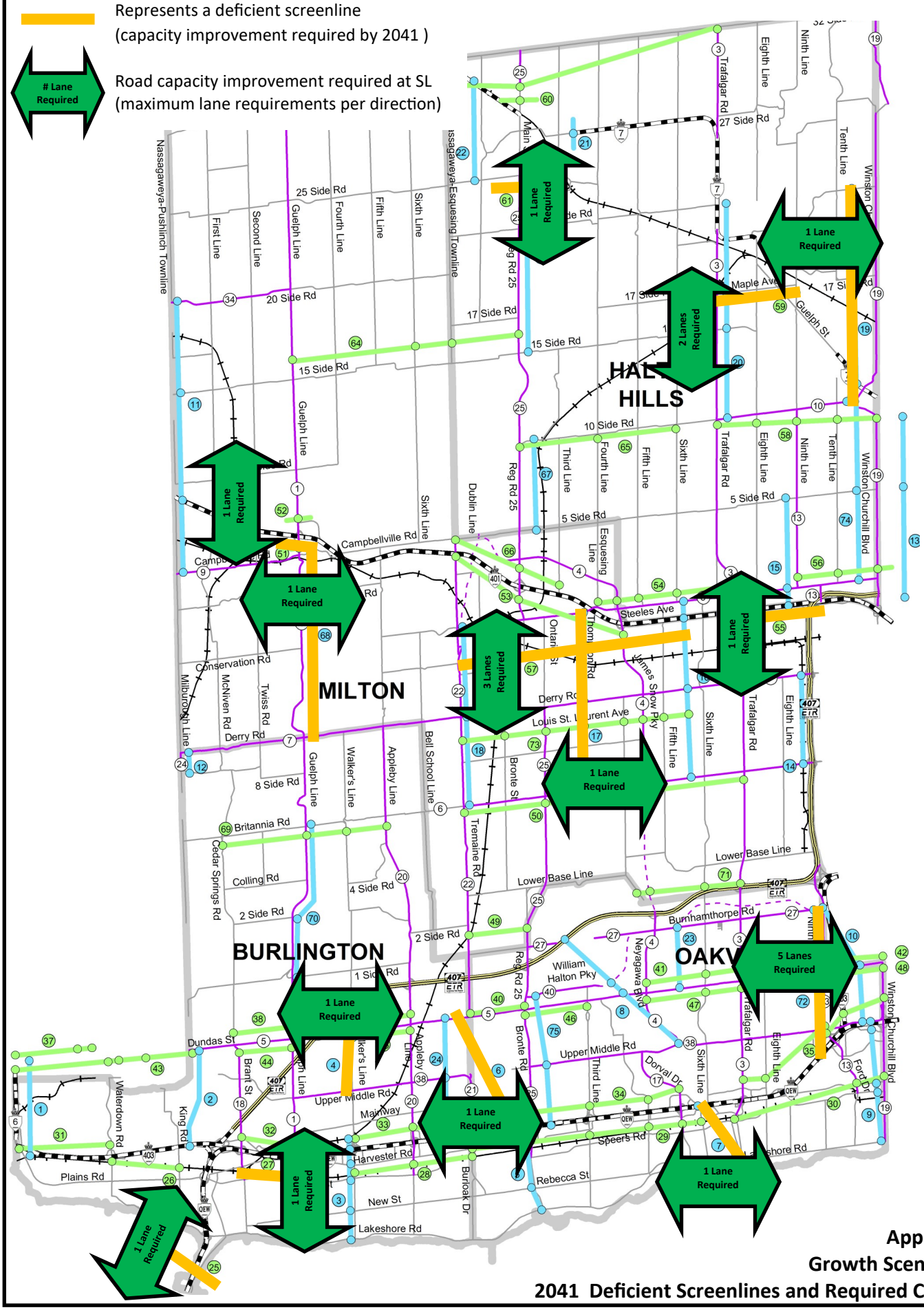


Appendix B
Growth Scenario 1B
2041 Deficient Screenlines and Required Capacity

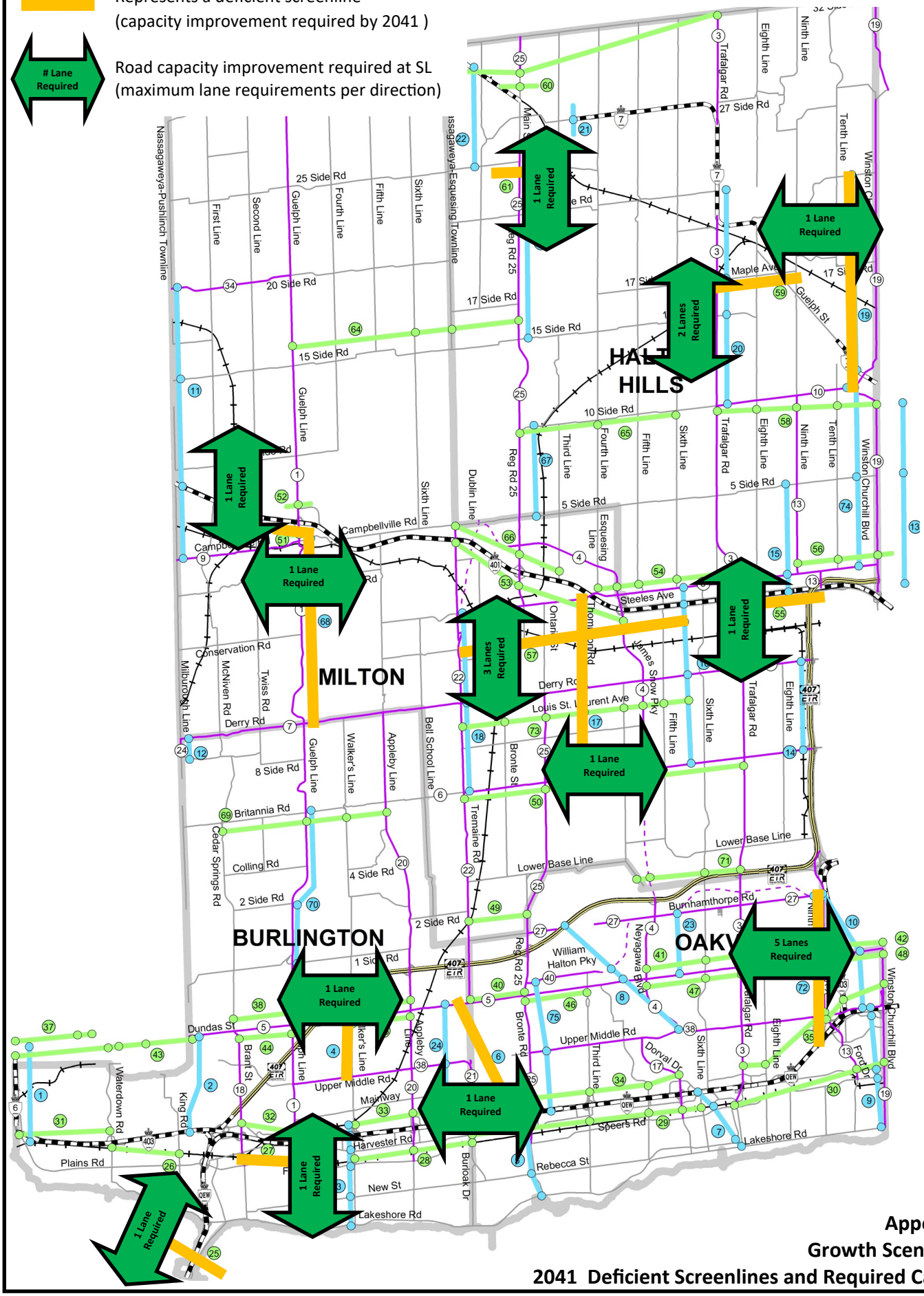

Represents a deficient screenline
(capacity improvement required by 2041)
Lane Required
Road capacity improvement required at SL
(maximum lane requirements per direction)
1 Lane Required
2 Lanes Required
3 Lanes Required
5 Lanes Required
HALTON HILLS
MILTON
BURLINGTON
OAKVILLE
Trafalgar Rd
Eighth Line
Ninth Line
Tenth Line
Winston Churchill Blvd
27 Side Rd
25 Side Rd
20 Side Rd
17 Side Rd
15 Side Rd
10 Side Rd
5 Side Rd
Guelph Line
First Line
Second Line
Third Line
Fourth Line
Fifth Line
Sixth Line
Nassagaweya-Puslinch Townline
Esquesing Townline
Reg Rd 25
Dublin Line
Esquesing Line
Campbellville Rd
Steeles Ave
Derry Rd
Louis St. Laurent Ave
James Snow Pky
Conservation Rd
Milburough Line
McNiven Rd
Twiss Rd
8 Side Rd
Britannia Rd
Colling Rd
4 Side Rd
2 Side Rd
Cedar Springs Rd
Walker's Line
Appleby Line
Bell School Line
Bronte St
Tremaine Rd
Lower Base Line
Burnhamthorpe Rd
William Halton Pky
Neyagawa Blvd
Upper Middle Rd
Dundas St
Brant St
Waterdown Rd
King Rd
Plains Rd
Harvester Rd
New St
Lakeshore Rd
Rebecca St
Speers Rd
Dorval Dr
Third Line
Sixth Line
Burloak Dr
Ford Dr
Maple Ave
Guelph St
Main St
Ontario St
Thompson Rd
Mainway
407 ETR
403
OEW
Appendix B
Growth Scenario 2A
2041 Deficient Screenlines and Required Capacity



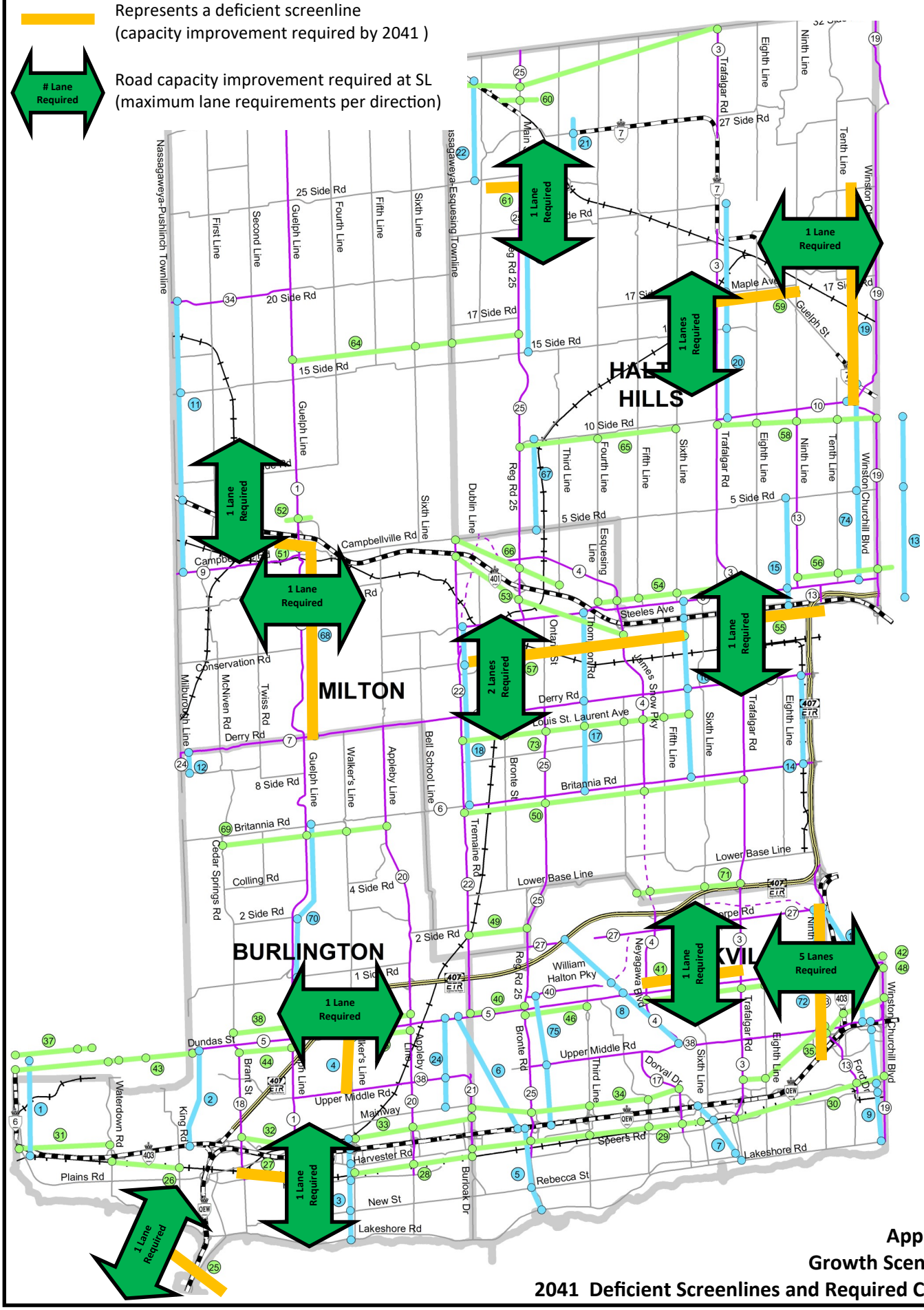
Appendix B
Growth Scenario 2B
2041 Deficient Screenlines and Required Capacity



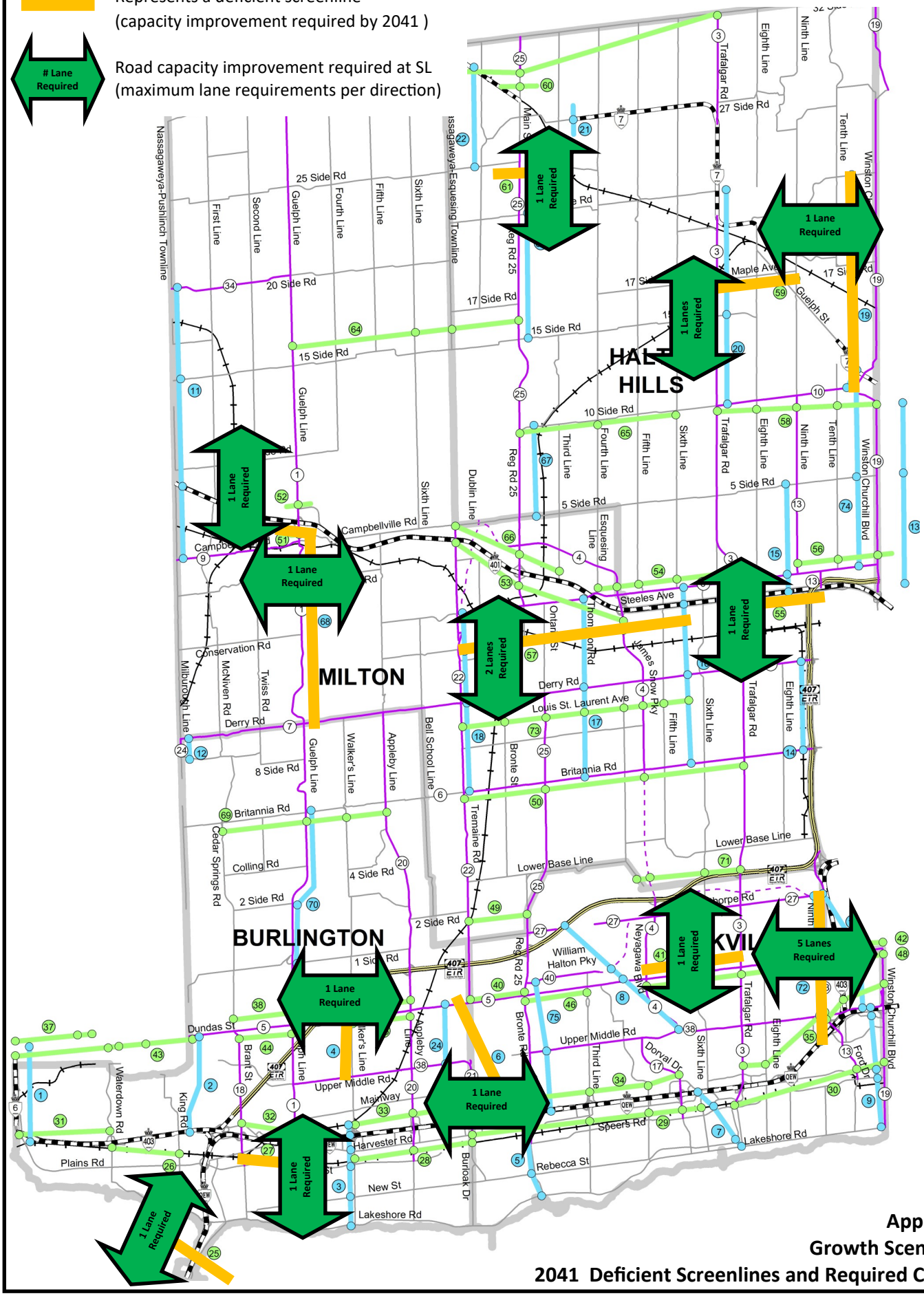
Appendix B
Growth Scenario 3A
2041 Deficient Screenlines and Required Capacity



Appendix B
Growth Scenario 3B
2041 Deficient Screenlines and Required Capacity



Appendix B
Growth Scenario 4A
2041 Deficient Screenlines and Required Capacity



Appendix B
Growth Scenario 4B
2041 Deficient Screenlines and Required Capacity

Appendix C:
Evaluation Framework

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Halton IGMS Draft Evaluation Framework: Policy Tests to Assess the 2041 Refined Growth Concepts

DRAFT Integrated Growth Management Strategy: Growth Concept Evaluation Framework Overview

The Halton Region Integrated Growth Management Concept Evaluation Framework will be used to evaluate the four Growth Concepts generated as part of the Land Needs Assessment analysis portion of the Regional Official Plan Review.

The Framework is organized by themes, each with specific objectives, evaluation questions, and measures. The themes are representative of key directions and the objectives are drawn from the Growth Plan, the Provincial Policy Statement and the Regional Official Plan. Each concept will be tested to determine whether and how each concept meets the objectives through the use of criteria in the form of policy-based questions and a corresponding measure for each question. The concept that best achieves the objectives and the Region's Planning Vision will be ranked the highest.

The Framework will not be used to address the common criteria that can be adequately addressed by all Growth Concepts. The Growth Concepts are to be refined in accordance with the following citeria that are common to all Growth Concepts, including:

- Goals and Objectives set out by the Province and implemented through the Halton Regional Official Plan;
    - Maintain the Natural Heritage System and Greenbelt boundaries as currently mapped;
    - Meet or exceed the minimum provincial policy targets;
    - Support compact, complete communities;
    - Provide a range of housing choice and affordability;
    - Plan for current levels of intensification and density achievement as minimum benchmarks going forward.
- The Schedule 3 forecasts and planned growth in the Region to 2031; and
- Prioritization of growth in built-up areas;

Given these shared foundational criteria, the Framework will be used to assess the Growth Concepts to meet those common criteria. The criteria critical to providing a mechanism to permit ranking of the Growth Concepts in relation to each other, have been identified and are grouped under four overarching themes:

1. Regional Urban System & Local Urban Structure
2. Infrastructure & Financing
3. Agriculture, Environment & Climate Change
4. Growing the Economy & Moving People and Goods

For the purposes of all documents related to the Integrated Growth Management Strategy (IGMS), infrastructure means water, wastewater and transportation, unless otherwise stated.

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Theme 1	Objectives	Evaluation Questions How well does the concept:	Measures
Regional Urban System & Local Urban Structure	**Support Regional and Local Urban Structure**	Promote appropriate intensification to meet the full range of current and future needs?	The concept that best meets or exceeds transit supportive densities in UGCs, MTSAs, and potential transit priority corridors will be ranked the highest.
		Locate new development to enhance access to employment areas?	The concept that locates employment development close to existing or potential priority corridors and provides opportunities for multi-modal access will be ranked the highest.
		Locate new development to enhance access to commercial and community services?	The concept that locates new residential development close to existing or potential priority corridors and provides opportunities for multi-modal access will be ranked the highest.
		Support the intent of local urban structure?	The concept that best reflects the intent of the local urban structure will be ranked the highest.
	Protect overall employment land supply	Adapt to economic shift in employment types as a result of changes in employment trends?	The concept that protects existing employment and supports opportunities for new employment forms will be ranked the highest.
		Balance the need to achieve the vision of MTSAs without compromising overall employment land supply?	The concept that can best accommodate the target population and jobs for the gross developable area within MTSAs will be ranked the highest.
		Balance the increased emphasis on mixed-use development without compromising overall employment land supply?	The concept that best protects critical existing employment uses while accommodating demand for mixed use development will be ranked the highest.
	Provide a Range of Identifiable, Inter-Connected, Complete Communities	Demonstrate support of logical and orderly progression of urban growth?	The concept that supports locating urban development contiguous with existing built up areas will be ranked the highest.
		Demonstrate support for an open space corridor or urban separator?	The concept that supports maintenance of contiguous Natural Heritage and Agricultural lands will be ranked the highest.
	Provide the opportunity to develop Healthy Communities	Contribute to a pattern of development that supports health and well-being objectives, like public and personal safety?	The concept that supports the greatest opportunity for a diversity of land uses, appropriate mix and densities of housing, and promotes a multi-modal transportation system that supports active transportation and transit use will be ranked the highest.
	Provide a Range of Choice for Housing, Jobs and Leisure	Demonstrate opportunities for a mix of jobs, housing and services?	The concept that supports a greater degree of access and choice for housing, employment and leisure will be ranked the highest.

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Theme 2	Objectives	Evaluation Questions How well does the concept:	Measures
Infrastructure & Financing	**Optimize current infrastructure capacity**	Make best use of existing water/wastewater and transportation infrastructure?	The concept that maximizes the use of existing capacity prior to the upgrade or expansion of infrastructure will be ranked the highest.
		Effectively expand on the existing planned infrastructure established through approved Master Plans and related studies?	The concept that makes best use of existing or planned infrastructure and that can be most easily expanded to service new development areas will be ranked the highest.
	Cost-effective replacement and/or expansion of infrastructure	Enable the coordinated construction of transportation and water/wastewater infrastructure?	The concept that best supports coordinated construction of transportation and water/wastewater infrastructure to meet development demands will be ranked the highest.
	Sustainable long-range financial planning and asset management	Minimize capital cost for water/wastewater, and transportation infrastructure?	The concept with the lowest capital cost for water/wastewater and transportation infrastructure required, while achieving a balance between community development costs and benefits will be ranked the highest.
		Minimize operating and maintenance costs for infrastructure?	The concept with the lowest operating and maintenance costs will be ranked the highest.
		Ensure financial sustainability for the Region and Local Municipalities	The concept with the least negative (most positive) net financial impact on the Region and its Local Municipalities will be ranked the highest.
	Support Regional Phasing	Allows for the phasing of needed infrastructure in a manner that integrates both transportation and water/wastewater infrastructure?	The concept with the best opportunity for phasing and scheduling with other planned infrastructure projects will be ranked the highest.
	Sound and Sustainable Infrastructure Planning	Provide for good infrastructure planning approaches. For example, maximizing wastewater gravity systems, minimizing pumping, and maximizing operational flexibility and reliability?	The concept that best supports a sustainable, long term infrastructure planning strategy will be ranked the highest.
Theme 3	**Objectives**	**Evaluation Questions How well does the concept:**	**Measures**
Agriculture, Environment, & Climate Change	**Protect the integrity and minimize impact on the agricultural land base and system**	Minimize fragmentation of agricultural lands?	The concept that retains the largest amount of contiguous agricultural land possible will be ranked the highest.
		Protect Prime Agricultural Land?	The concept that protects and avoids Prime Agricultural Land to maintain the most productive and fertile soils for agriculture will be ranked the highest.
		Protect and maximize the amount of agricultural lands?	The concept that maximizes the amount of agricultural lands to support the Agricultural System will be ranked the highest.

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		Limit the proximity of incompatible uses to the Agricultural System?	The concept that limits proximity of land uses sensitive to agricultural operations (e.g. noise, odour) will be ranked the highest.
		Protect the integrity of the Agricultural System and agri-food network?	The concept that recognizes the interconnectedness of agricultural and food assets and has the least impact on the Agricultural System will be ranked the highest.
	Enhance the Natural Heritage System to strengthen key features and areas and reduce the impact of new development	Protect the greatest overall area of natural heritage system from disturbance?	The concept that retains the greatest overall area possible of natural heritage lands will be ranked the highest.
	Reduce carbon emissions and address air quality	Minimize emissions through supporting intensification and compact form development within the built boundary?	The concept that best creates opportunities for residential uses, employment uses, and community services to be located in close proximity to one another and supported by existing or planned transit service will be ranked the highest.
		Minimize emissions through maximizing transportation efficiency and alternatives?	The concept that generates the fewest lane kilometres provides transit-supportive densities and generates opportunities for multi-modal access will be ranked the highest.
	Maintain resiliency to impacts of extreme weather events	Protect the Natural Heritage System to mitigate the impacts of extreme weather events?	The concept that emphasizes NHS protection within settlement areas and the rural area will be ranked the highest.
		Protect the Natural Heritage System to reduce the risk of flooding?	The concept that supports a contiguous Natural Heritage System will be ranked the highest.
	Consider impacts on Region's Mineral Resource Areas	Minimize impact of mineral extraction on new development?	The concept that limits proximity of incompatible uses to mineral aggregate operations and mineral extraction areas will be ranked the highest.
		Protect agricultural areas that support aggregate extraction as an interim use?	The concept that retains areas for mineral extraction, which can be rehabilitated to high value agricultural areas, will be ranked the highest.
Theme 4	**Objectives**	**Evaluation Questions How well does the concept:**	**Measures**
Growing the Economy & Moving	**Promote transit-supportive densities**	Encourage growing transit ridership demand through compact form development that supports transit oriented development and mixed use directed to nodes and corridors?	The concept that directs new mixed use and residential development to nodes and corridors will be ranked the highest.

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People and Goods	**Promote multi-modal transportation network that supports all modes of transportation**	Promote a multi-modal transportation network that supports all modes including active transportation and transit?	The concept that locates new residential development closest to nodes and corridors will be ranked the highest.
	Facilitates goods movement	Prioritize the use of existing Regional roads that exhibit the greatest potential for people/goods movement capacity?	The concept that supports connectivity between Regional roads, rail and highways will be ranked the highest.
		Accommodate land extensive and freight dependent employment that require direct access to rail and highways?	The concept that enhances the connectivity of goods related and land extensive employment areas located adjacent to or near major goods movement facilities and corridors will be ranked the highest.
	Ensure the availability of sufficient lands to accommodate forecasted employment growth	Protect employment areas around highway corridors, rail corridors and transit?	The concept where employment areas have direct access to rail and highways and are near existing or planned transit facilities will be ranked the highest.

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Relevant Policies – Halton Regional Official Plan, Growth Plan and Provincial Policy Statement			
Urban Structure	**Infrastructure & Financing**	**Agriculture, Environment, & Climate Change**	**Growing the Economy & Moving People and Goods**
ROP 31 72 (1) (2) (3) (4) (5) (6) (9) (10) (10.1) 77 (2.4) b) d), (7) f) 77.4 (2) 78 (1) (3) (4) (9) (11) 81 (1) (7.2) (10) (10.1) 155 **Growth Plan:** 2.2.1.4 a) d) 2.2.3.1 a) b) c) 2.2.4.2 2.2.4.8 2.2.4.9 a) d) 2.2.4.10 2.2.5.1 b) 3.2.3.2 b) d) e) **PPS** 1.1.1 a) b) c) 1.1.3.2 a) 1. 5. 1.1.3.3 1.1.3.4 1.1.3.8 a), b) 1.3.1 a) c) 1.3.2.1 1.8.1 a) b) c) e)	**ROP** 72(5) 77 (7) b.2) c) f), (15) 77.4 (3) 81 (7.3) a) 87 88 89 (1) (8) (10) (10.1) (23) 169(4) 170(4.1) 172 (9.2) **Growth Plan** 2.2.1.3 b) c) 2.2.2.4 e) 2.2.6.4 2.2.8.3 a) b) c) d) e) g) 3.2.1.1 3.2.1.2 3.2.2.1 3.2.3.1 3.2.5.1 a) b) 3.2.6.1 3.2.6.2 a) b) **PPS** 1.1.1 e) g) 1.1.3.2 a) 2. 1.1.3.3 1.1.3.6 1.1.3.7 b) 1.1.3.8 b) 1.1.5.5 1.3.1 d) 1.3.2.1 1.4.1 b) 1.4.3 c) d) 1.6.1 1.6.3 1.6.6.1 d) e) 1.6.6.2 1.6.7.2 1.6.8.1 1.6.8.5 1.7.1 b)	**ROP** 77 (7) a) b) b.1) d) e) f) g) 77.4(5) 91 99 (1) (2) (3) (4) (5) (7) (9) (11) (18) 101 (1.6) (1.9) (2) g) (3) (4) 107 (2) (3.1) 110 (1) (6) (6.1) 111 114 114.1 (1) (2) (4) (5) (6) (7) (8) (9) (12) (13) (14) (15) (17) 142 (2) (3) (4) (8) 176(2) **Growth Plan** 2.2.1.4 a) f) 2.2.8.3 e) f) h) j) k) l) 4.2.2.2 4.2.6.2 4.2.6.3 4.2.6.4 4.2.6.6 4.2.6.7 4.2.8.6 4.2.10.1 b) e) f) g) h) i) **PPS** 1.1.1 h) 1.1.3.2 a) 3. 1.1.3.8 c) e) 1.1.5.7 1.7.1 h) 1.8.1 e) 2.1.1 2.1.2 2.3.1 2.3.5.1 2.3.6.2 2.4.4.1 2.5.1 2.5.4.1 3.1.3	**ROP** 72 (2) (7) (10) 77.1 77.4 (2) (5) 78 (1) (5) (6) (8) 81 (8) 139.7 (1) 142 (6) 143 (4) 172 (2) (3) (9.1) (14.1) (15) 173 (30.1) **Growth Plan** 2.2.4.8 2.2.4.10 2.2.5.1 a) 2.2.5.8 2.2.7.1 3.2.2.2 3.2.2.4 3.2.3.2 b) d) 3.2.4.1 3.2.4.3 4.2.10.1 b) **PPS** 1.1.3.2 a) 4. 5. 6. 1.1.3.8 a) 1.3.1 b) 1.3.2.1 1.3.2.3 1.4.3 d) 1.5.1 a) 1.6.5 1.6.7.1 1.6.7.4 1.6.8.2 1.7.1 f) 1.8.1 b) c) e)

IGMS Growth Scenarios:
Halton Region to 2041

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