Land Needs Assessment Methodology for the Greater Golden Horseshoe

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Policy Authority

On May 18, 2017, the Government of Ontario released the Growth Plan for the Greater Golden Horseshoe, 2017 ("the Growth Plan, 2017", "the Growth Plan", or "the Plan"). The Growth Plan states that the Minister will establish a methodology for assessing land needs to implement the Growth Plan.

On December 19, 2017, the Minister released the Proposed Methodology for Land Needs Assessment in the *Greater Golden Horseshoe* for consultation. After considering comments received, the Minister formally issued this final methodology on May 4th, 2018 in accordance with Growth Plan policy 5.2.2.1 c).

Upper- and single-tier municipalities in the Greater Golden Horseshoe are required to use this methodology to assess the quantity of land required to accommodate forecasted growth in conformity with the policies in the Growth Plan.

Further Information

For further information, please contact:

Ontario Growth Secretariat
Ministry of Municipal Affairs
777 Bay Street, Suite 2304
Toronto ON M5G 2E5

Phone: 416-325-1210
Toll-free: 1-866-479-9781
Fax: 416-325-7403
Web: http://www.placestogrow.ca/
Email: placestogrow@ontario.ca

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1 Introduction

On May 18, 2017, the Government of Ontario released the Growth Plan for the Greater Golden Horseshoe, 2017 (the "Growth Plan, 2017", or the "Growth Plan" or "the Plan"), and on July 1, 2017 the Growth Plan, 2017 came into effect. The Growth Plan, 2017 was prepared under the Places to Grow Act, 2005 which requires that growth plans be reviewed at least every ten years. It replaces the previous version of the Growth Plan originally introduced by the Province in June, 2006 (the "2006 Growth Plan").

The policies of the Growth Plan, 2017 create a framework for managing the population and employment growth projected in the *Greater Golden Horseshoe* (the "*GGH*"). The Plan aims to:

- Support the achievement of *complete communities* that offer more options for living, working, learning, shopping and playing;

- Prioritize *intensification* and higher densities to make efficient use of land and *infrastructure*;

- Promote an integrated transportation network that allows people choices for easy travel both within and between urban centres throughout the region;

- Reduce traffic gridlock by improving access to a greater range of transportation choices including viable transit;

- Provide housing options to meet the needs of people at any age;

- Promote downtowns that are vibrant and provide convenient access to an appropriate mix of jobs, local services, public service facilities and a full range of housing;

- Curb sprawl and protect farmland and natural heritage features and areas; and

- Promote long-term economic growth.

The updated Growth Plan, 2017 states that the Minister of Municipal Affairs will establish a standard methodology for assessing land needs to implement the Plan. It also requires upper- and single-tier municipalities to use this methodology to assess the quantity of land needed to accommodate forecasted growth to the Growth Plan horizon (currently 2041). This document establishes

the methodology for assessing land needs in the *GGH* pursuant to the Growth Plan, 2017.

1.1 The Growth Plan for the Greater Golden Horseshoe and Land Supply

The Growth Plan lays out the Province's vision for how and where urban development is to occur within the *GGH*. The Plan provides the forecasts that municipalities must use as a basis for planning and policies for managing population and employment growth in the region. This includes direction for where growth will be focused (e.g. *strategic growth areas*, locations with existing or planned *higher order transit*) and where it will be limited (e.g. *settlement areas* that are not serviced by *municipal water and wastewater systems*).

The Growth Plan recognizes that there is a large supply of land already designated for future urban development in the *GGH* and that in some municipalities, there may already be more land designated for development than is required to accommodate forecasted growth to the Growth Plan horizon.

It is important to optimize the use of the existing urban land supply as well as the existing building and housing stock in order to avoid over designating land for urban development. In recognition of this, the Growth Plan establishes an *intensification* first approach to development and community building, one which requires municipalities to first demonstrate that they are optimizing existing urban land, *infrastructure* and *public service facilities*, before they expand the urban area to accommodate population and employment growth.

Some key elements of the *intensification* first approach of the Growth Plan include:

- minimum intensification targets that set the percentage of residential development that must occur annually within the *delineated built-up area* of municipalities;

- minimum density targets for the number of residents and jobs combined per hectare in the *designated greenfield area*; and

- additional density targets for *strategic growth areas*, including *urban growth centres* and *major transit station areas*.

To support these minimum targets, the Growth Plan requires certain tests to be met in order to justify need for any *settlement area* boundary expansions. Municipalities are required to demonstrate, among other matters, that there are

insufficient opportunities to accommodate forecasted growth to the Growth Plan horizon through *intensification* in *delineated built-up areas* and in *designated greenfield areas* based on the respective minimum intensification and density targets for each of these policy areas.

1.2   Land Needs Assessment and Growth Plan Conformity

The Growth Plan is implemented by upper- and single-tier municipalities through a *municipal comprehensive review*. A *municipal comprehensive review* is the process of comprehensively applying the policies of the Growth Plan, 2017 at the upper- and single-tier municipal level. It involves integrated technical analysis of a variety of matters, of which land needs assessment is just one component, as illustrated in Figure 1.

The results of a land needs assessment can only be implemented through a *municipal comprehensive review*, which is a new official plan, or official plan amendment, initiated by an upper- or single-tier municipality under section 26 of the Planning Act that comprehensively applies the policies and schedules in the Growth Plan.

Upper-tier municipalities are responsible for allocating the Schedule 3 population and employment to lower-tier municipalities. The entire growth increment from the *municipal comprehensive review* to the Growth Plan horizon must be allocated along with the entirety of land need as identified through the methodology.

Lower-tier municipalities are then responsible for further implementing the results of the upper-tier process by updating their official plans to conform with the applicable upper-tier official plan and the Growth Plan.

The policies provide for some flexibility in terms of how and at what stage a municipality may choose to undertake certain aspects of this background analysis during the *municipal comprehensive review*. However, there is some background analysis that must be completed in advance of undertaking a land needs assessment to provide certain inputs. This analysis includes:

- Identification of the hierarchy of *settlement areas* and areas within *settlement areas* where growth will be focused, such as the *delineated built-up areas, urban growth centres*, and other *strategic growth areas;*

- Identification of an appropriate intensification target through an *intensification* analysis that accounts for opportunities to accommodate residential growth in *strategic growth areas*, based on applicable density targets for the *strategic growth areas*;

- Identification of an appropriate *designated greenfield area* density target through an analysis of existing development and potential for increased density within the *designated greenfield area* including opportunities in *strategic growth areas*, based on applicable density targets for the *strategic growth areas*;

- An assessment of the anticipated structure and composition of employment at the Growth Plan horizon;

- Identification of an appropriate density target for newly developing *employment areas* based on an assessment of the types of economic activities that are likely to locate on those lands and the approximate densities at which they are anticipated to develop; and

- An assessment of the anticipated composition of households at the Growth Plan horizon.

Municipalities should consult with Provincial staff before incorporating the outcomes of this work into their land needs assessment and at other key points in the *municipal comprehensive review* process. This will help streamline decision-making on official plans and official plan amendments that implement the land needs assessment results.

Figure 1: Other Analysis and Strategies Associated with Land Needs Assessment
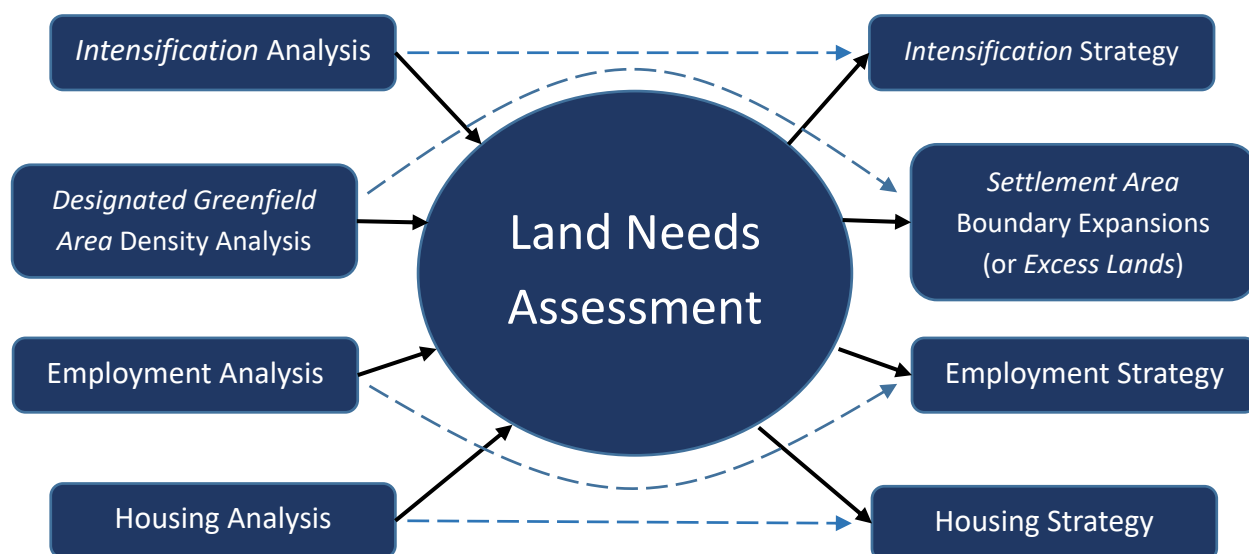
1.3   Purpose of Methodology

This methodology provides direction on how to determine the quantity of land needed to accommodate forecasted population and employment growth to the Growth Plan horizon in a manner that supports Growth Plan policy objectives. Upper- and single-tier municipalities are required to use this methodology.

If a land need is established, the location of any *settlement area* boundary expansions is to be determined later in the *municipal comprehensive review* process by applying Growth Plan policy direction regarding the feasibility of a proposed *settlement area* boundary expansion and the most appropriate location for the proposed expansion.

In some cases in the *outer ring*, the land needs assessment may determine that an upper- or single-tier municipality has *excess lands*.

The land needs assessment also informs part of the analysis to determine whether any lands within *employment areas* may be converted to non-employment uses, subject to meeting all of the Growth Plan's other relevant policy requirements (i.e. ensuring the availability of sufficient land, in appropriate locations, for a variety of employment uses to accommodate forecasted employment to the horizon of the Growth Plan).

In both cases, as with *settlement area* boundary expansions, other policies in the Growth Plan provide direction for which lands should be identified as *excess lands* and whether lands within *employment areas* may be appropriate for conversion (refer to Section 2.3.2).

1.4   Methodology Contents

Following this introduction section, the other sections of the methodology are organized as follows:

- Section 2 outlines key guiding principles, provides an overview of Growth Plan policy areas and planning periods that are the foundation for the methodology, and provides an overview of the approach to the methodology.

- Section 3 focuses on the steps involved in determining community area land need.

- Section 4 provides the steps involved in determining *employment area* land need.

- Section 5 provides guidance for documenting the results of land need assessment, Provincial review and feedback during the assessment process and municipal implementation.

Where a word is italicized, the definition of the word or phrase is to be understood as reflecting the corresponding definition in the Growth Plan, 2017. For non-italicized terms, the normal meaning of the word applies. Where a word or phrase is typically used in a planning context, the meaning associated with the use of that word or phrase within the planning context is intended to apply.

Any references to specific policies and associated policy numbers in this document are references to the corresponding policies in the Growth Plan, 2017.

2 Methodology Approach

This section describes the key guiding principles that the methodology is based on, provides an overview of Growth Plan policy areas and planning periods that are the foundation for the methodology, and summarizes the approach.

2.1 Guiding Principles

The methodology is based on a number of guiding principles that address municipal experience and stakeholder feedback received throughout the course of Growth Plan implementation to date.

1. **Conformity**

   The methodology must conform with the Growth Plan, 2017.

2. **Function and Use**

   The methodology must enable upper- and single-tier municipalities to determine the total quantity of land needed to accommodate forecasted growth, including the need for any *settlement area* boundary expansions and the quantity of any *excess lands*. Use of the methodology does not determine the location of any *settlement area* boundary expansion or the location of any *excess lands* or the location of any land in an *employment area* that may be converted to a non-employment use.

3. **Transparency and Consistency**

   The methodology must provide a standardized approach to assessing land needs that enables comparison and contrast of key elements across upper- and single-tier municipalities.

4. **Clarity and Ease of Implementation**

   The methodology must provide a clear set of requirements that can be easily followed by upper- and single-tier municipalities of various sizes and contexts.

2.2 Policy Areas and Planning Periods

This methodology involves steps that clearly demonstrate how key Growth Plan policy requirements will be met by accommodating growth in different Growth Plan geographies or **"policy areas"** and over different **"planning periods"**. The following is an overview of these policies.

Growth Forecasts

The Growth Plan requires upper- and single-tier municipalities to use the population and employment forecasts contained in Schedule 3 for planning and managing growth in the *GGH*. These are the only forecasts that can be used for the purposes of land needs assessment in the *GGH*.

Growth Plan Policy Areas

The Growth Plan identifies key **policy areas** that are to be used when allocating and planning for growth.

Settlement Areas
Settlement areas are identified in official plans based on the definition in the Growth Plan.

The output of a land needs assessment is a conclusion as to whether there is a sufficient amount of land in *settlement areas* to accommodate forecasted growth. Policy 2.2.8.1 requires all municipalities to delineate *settlement area* boundaries in their official plans.

Delineated Built-up Areas and Undelineated Built-up Areas
For certain *settlement areas*, the *delineated built-up area* is the area that was already built when the 2006 Growth Plan first took effect. For other *settlement areas* that were small, unserviced and were not expected to be the focus of growth, a built boundary was not delineated. *Settlement areas* that do not have a *delineated built boundary* are called *undelineated built-up areas*. Existing clusters of development in rural areas that are not identified as *settlement areas* in the applicable official plan are part of the rural area and are not *undelineated built-up areas*.

The Growth Plan, 2017 specifies that *delineated built-up areas* are to be the focus for accommodating growth, and that growth is to be limited in *undelineated built-up areas*. Only development in *delineated built-up areas* can be counted towards the achievement of the intensification target. Lands in the majority of *undelineated built-up areas* will be either *designated greenfield areas* or *excess lands* (see below).

Designated Greenfield Area
The *designated greenfield area* is all land within *settlement areas*, but outside of *delineated built-up areas*. This includes all land within *undelineated built-up areas,* although the policies require growth to be limited in these *settlement*

areas. O. Reg. 311/06 provides an exception from the *designated greenfield area* density target for *undelineated built-up areas* in the *inner ring* that are identified as either a Hamlet in the Greenbelt Plan (2017), Rural Settlement in the Oak Ridges Moraine Conservation Plan (2017) or a Minor Urban Centre in the Niagara Escarpment Plan (2017). For the purposes of the application of the density target for the *designated greenfield area* and for land needs assessment, any development occurring within the *settlement areas* identified in O. Reg. 311/06 may be treated the same as development in the rural area (see below).

Rural Areas

The Growth Plan directs the vast majority of growth to *settlement areas* and restricts development outside of *settlement areas* in rural areas (i.e. *rural lands*, *prime agricultural areas,* existing *employment areas* outside of *settlement areas* on *rural lands*). In accordance with the Growth Plan policies directing growth to *settlement areas*, only a very small proportion of forecasted growth may occur in rural areas.

Employment Areas

Employment areas are areas designated in an official plan for clusters of business and economic activities and in which residential development is prohibited. The Growth Plan requires upper- and single-tier municipalities to designate *employment areas*, including *prime employment areas,* in their official plans. While there are many jobs located throughout community areas as well, *employment areas* are specifically protected for certain types of employment uses.

While most *employment areas* are located inside *settlement areas*, there may be some existing *employment areas* outside of *settlement areas* on *rural lands* that were designated for employment uses prior to the original Growth Plan taking effect in 2006. Going forward under the Growth Plan, any new *employment areas* are required to be located inside *settlement areas*.

Growth Plan Targets and Planning Periods

Intensification Target

The intensification target is the required minimum percentage of the total new residential development (housing units) occurring annually that are to be within the *delineated built-up area* of each upper- and single-tier municipality. Any limited growth that occurs in *undelineated built-up areas* does not count towards the achievement of the intensification target.

The Growth Plan establishes three **planning periods** for measuring the intensification target:

- From July 1, 2017 until the next *municipal comprehensive review* is approved and in effect;

- From the time the next *municipal comprehensive review* is approved and in effect until 2031; and

- From 2031 to the Growth Plan horizon.

For the first planning period (between July 1, 2017 and the next *municipal comprehensive review*), the intensification target that is currently in effect in the applicable upper- or single-tier official plan continues to apply.

For subsequent planning periods, the Growth Plan policies require that minimum targets apply. However, in order for an upper- or single-tier municipality to determine an appropriate intensification target for each of those planning periods, they will undertake an *intensification* analysis, which will include an assessment of the anticipated growth of *urban growth centres*, *major transit station areas* and other *strategic growth areas* to the Growth Plan horizon, based on the applicable density targets and other Growth Plan policies. Where this assessment concludes that a significant amount of growth is anticipated in these areas within the Growth Plan horizon, a municipality should consider setting a higher intensification target than the minimum provided for in the Growth Plan, 2017 and use this higher target.

Beyond the next *municipal comprehensive review*, the minimum intensification targets required by the Growth Plan policies are as follows:

- Between the time of the next *municipal comprehensive review* and 2031, a minimum of 50 per cent of all new residential development occurring annually is to be accommodated within *delineated built-up areas*; and

- Between 2031 and the Growth Plan horizon, municipalities must accommodate 60 per cent of all new residential development occurring annually within *delineated built-up areas*.

Any targets lower than the minimum intensification target established by the Growth Plan, 2017 must conform with all applicable policies in the Plan and be permitted by the Minister. Municipalities must obtain permission to use alternative targets prior to undertaking a land needs assessment.

The intensification target is fundamental to land needs assessment because it determines the minimum amount of residential development that must be allocated to *delineated built-up areas* and, in doing so, limits the amount of residential development that can be allocated to other areas (i.e. *designated greenfield area*, rural areas).

Designated Greenfield Area Density Target

The *designated greenfield area* density target is the minimum density, measured in residents and jobs combined per hectare, that municipalities are required to plan to achieve (by the Growth Plan horizon) within the *designated greenfield area*. The *designated greenfield area* density target varies between the *inner ring* and *outer ring*, and, in the *inner ring* between existing and new *designated greenfield area.*

The minimum density targets for the *designated greenfield area* required by Growth Plan policies, which must be planned to be achieved by the Growth Plan horizon, are as follows:

- For the existing *designated greenfield area* in the *inner ring*, municipalities must plan to achieve an increase in the density that is currently planned. After changing how the minimum density target is measured and planning to increase the density of the lands that are subject to the target, the density target cannot be less than 60 residents and jobs combined per hectare. The policies allow for alternative targets to be considered for these lands (see below).

- For any new *designated greenfield area* in the *inner ring* that is added through the next *municipal comprehensive review* (or a subsequent *municipal comprehensive review*), the minimum density target will be 80 residents and jobs combined per hectare. The policies do not allow for alternative targets to be considered for these lands.

- In the *outer ring*, municipalities must plan to achieve a minimum density target of 80 residents and jobs as an average across both the existing and the new *designated greenfield area*. The policies allow for alternative targets to be considered for these lands.

Any targets lower than the minimum density targets established by the Plan must conform with all applicable policies in the Plan and be permitted by the Minister. Municipalities must obtain written permission to use alternative targets prior to undertaking land needs assessment.

The density of the *designated greenfield area* is measured over the entire applicable *designated greenfield area* of each upper- or single-tier municipality (refer to previous section that clarifies how *designated greenfield areas* are defined), excluding the features and areas specifically identified in Growth Plan policy.

The density target for the *designated greenfield area* is fundamental to land needs assessment because population and jobs allocated to the *designated greenfield area* must be accommodated at, or above, the minimum density target requirements set out in the Growth Plan.

Employment Area Density Target

The Growth Plan requires upper- and single-tier municipalities to establish a minimum density target for all *employment areas*. The *employment area* density target is the minimum density, measured in jobs per hectare, required to be achieved across all *employment areas* (including *prime employment areas*) that are designated in the upper- and single-tier official plan. This overall *employment area* density target is calculated after the land needs assessment based on an assessment of the density of all existing and new *employment areas* (refer to Explanation Box 10).

The two key determinants of the need for land in *employment areas* inside *settlement areas* are an analysis of the minimum number of jobs that can be accommodated at the Growth Plan horizon in the built *employment areas* inside *settlement areas* and the projected density of newly developing *employment areas* inside *settlement areas* (based on an assessment done as a part of the employment strategy that considers the types of economic activities that are likely to locate on those lands and the approximate densities at which they are anticipated to develop).

Employment areas and *prime employment areas* that are designated in upper- and single-tier official plans are excluded from the calculation of the minimum density target for the *designated greenfield area*. Employment lands or clusters of employment located within *designated greenfield areas* that are not designated as *employment areas* or *prime employment areas,* in upper- and single-tier official plans cannot be excluded from the *designated greenfield area* density target calculation and therefore remain subject to the *designated greenfield area* density target.

Urban Growth Centre and Major Transit Station Area Density Targets

The Growth Plan establishes minimum density targets for *urban growth centres* and *major transit station areas*. The minimum density targets required by the Growth Plan policies are as follows:

- For *urban growth centres*, municipalities must plan to achieve, by 2031 or earlier, specific densities ranging from 150 to 400 residents and jobs combined per hectare (refer to policy 2.2.3.2). For the purposes of *intensification* analysis, municipalities must assume that these planned densities will be achieved within that planning period. The policies do not allow for alternative targets.

- For *major transit station areas* on *priority transit corridors* and existing subway lines, municipalities must plan for specific densities ranging from 150 to 200 residents and jobs combined per hectare (refer to policy 2.2.4.3). Municipalities are required to plan for these areas to meet these densities by the Growth Plan horizon, however, there is a level of flexibility regarding assumptions for timing for build-out in these areas that does not exist for the other density targets in the Plan.

These targets are not a direct input into land needs assessment. However, they are an indirect input because the growth that is to be accommodated in these areas to achieve these targets must be taken into consideration in setting the intensification target for the *delineated built-up area* and the density target for the *designated greenfield area*.

2.3   Overview of Methodology

The Growth Plan, 2017, establishes a framework to optimize the use of existing land within *settlement areas* to avoid over-designating land for future urban development. This methodology takes a policy-led approach to determining how much land is needed in each upper- or single-tier municipality to accommodate forecasted population and employment growth to the Growth Plan horizon, as illustrated in Figure 2. Refer to Sections 3 and 4 for the technical details of this methodology.

In accordance with policy requirements, the key determinants of land needs in the *GGH* are the intensification target for the *delineated built-up area*, the density target for the *designated greenfield area*, the projected density of newly developing *employment areas*, and the population and employment forecasts.

Land needs will be assessed based on two different areas:

- Community Areas: Areas where the vast majority of housing required to accommodate forecasted population will be located, as well as the majority of population-related jobs, most office jobs and some employment land employment jobs. Community areas include *delineated built-up areas* and the *designated greenfield area* (excluding *employment areas*).

- *Employment Areas*: Areas where most of the employment land employment (employment in industrial-type buildings) jobs are, as well as some office jobs and some population-related jobs, particularly those providing services to the *employment area*. *Employment areas* (including *prime employment areas*) may be located in both *delineated built-up areas* and the *designated greenfield area*.

Figure 2: Methodology – General Approach
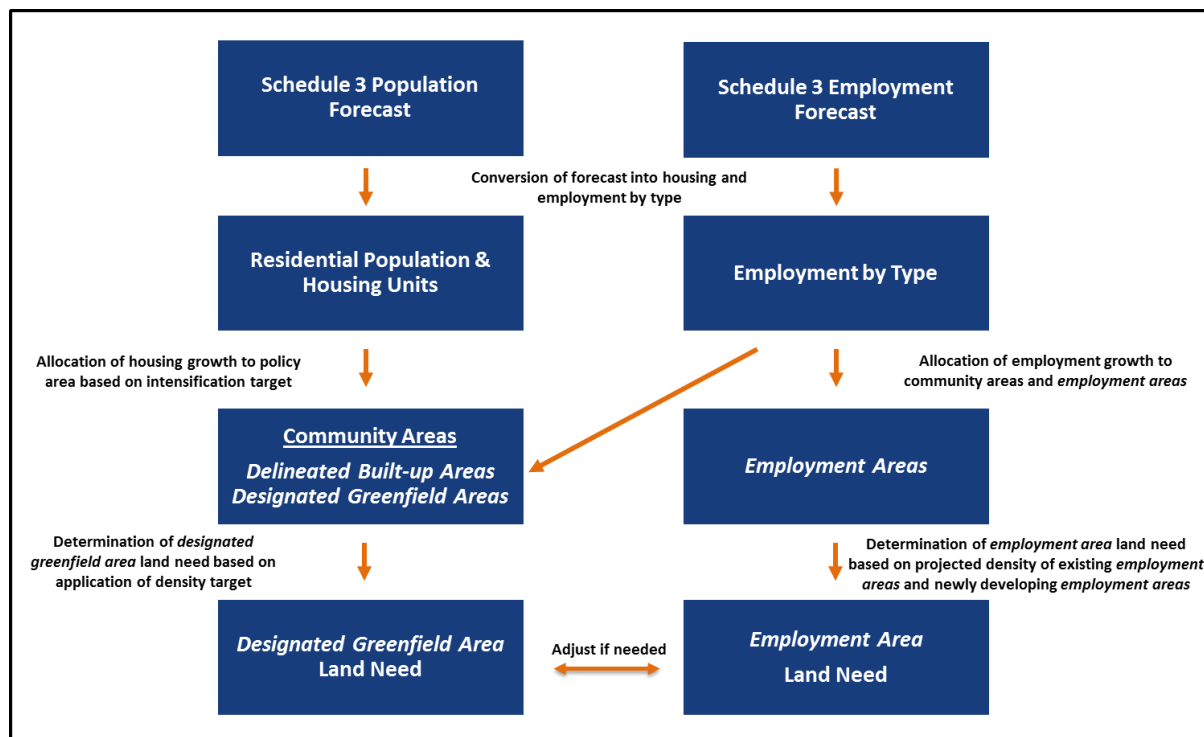
As noted above, the population and employment forecasts for upper- and single-tier municipalities in Schedule 3 of the Growth Plan are the starting point for land needs assessment. Population growth will only occur in community areas, but employment growth can occur in both community areas and *employment areas*.

The result of land needs assessment is a conclusion on the amount of land needed in the upper- or single-tier municipality to accommodate the forecasts in Schedule 3 of the Growth Plan. This provides a key input into the broader process to implement the Growth Plan through a municipal comprehensive review.

2.3.1   Community Area Land Need

Community area land need is established based on the application of the forecasts and the intensification and density targets in the Growth Plan, and the number of jobs to be accommodated outside of *employment areas*. Refer to Section 3 for the technical steps in determining community area land need.

Planning for a Range and Mix of Housing

The Growth Plan provides direction to plan for a range and mix of housing options that can accommodate households of different sizes and incomes in locations that provide transportation options and access to jobs and other amenities. The Growth Plan's policy directions designed to make better use of land, and in particular the density and intensification targets, necessitate a shift in how housing is planned. It requires moving away from traditional concepts that certain structure types are more appropriate for certain household sizes.

As communities in the *GGH* continue to grow, mature and evolve, it is important to think about housing suitability in terms of unit size and number of bedrooms instead of only by historic demand for specific structure types. It is anticipated that ground-related units will continue to dominate the overall housing stock in the *GGH* due to the large number of existing ground-related units and the continued addition of new ground-related units – however, the pace and scale at which the region is growing necessitates changes in how the population will be housed in the future.

An approach to land needs assessment driven primarily by assumptions about market demand for specific types of housing, and how much land it might require, would likely be more land consumptive and not effectively implement the policies of the Growth Plan, 2017. For this reason, the approach taken in this methodology focuses on the total quantity of housing required to accommodate the forecasted population and does not base the assessment of land need on plans for a particular mix of housing units by structure type (e.g. single-detached, row house and apartment). By basing the land needs assessment on meeting the targets in the Growth Plan, it is expected that municipalities will plan to

accommodate forecasted population growth through a diverse mix of housing options, the specific details of which will be determined through a separate (but parallel and aligned) process.

Preparation of a Housing Strategy

In order to support the achievement of *complete communities*, municipalities are required to prepare a housing strategy that considers the existing housing stock and plans to diversify the overall range and mix of housing options that are available. The development of this strategy should begin with a foundational analysis of the anticipated composition of households (i.e. size, age of occupants, income, and family versus non-family households) at the Growth Plan horizon. It should also involve analysis of the existing housing stock in terms of the range and mix of housing options (including unit size and numbers of bedrooms), as well as the needs of future households. This analysis to support the development of a housing strategy should be undertaken early in the *municipal comprehensive review* process so that it can help to inform some of the assumptions that are required for the land needs assessment.

Based on this analysis, municipalities will make certain assumptions about (among other things) the average number of persons per unit (PPU) that are forecasted to occupy new units in the *delineated built-up area* and the *designated greenfield area* at the Growth Plan horizon. In order to test these assumptions, it is anticipated that municipalities would assess the various mixes of housing options that would meet the density requirements in the Growth Plan, which would in turn show the feasibility of the forecasted PPU and demonstrate that the typical size and number of occupants for a particular housing type will change from what it is today.

Once these assumptions have been established as part of land needs assessment, the same assumptions should then be used for the housing strategy. It is through preparation of a housing strategy at a later point in the *municipal comprehensive review* process (after the land needs assessment has been completed and after the feasibility and location of any *settlement area* boundary expansion(s) has been determined) that a specific mix of housing units for any new *designated greenfield areas* will be planned.

By starting with the same foundational analysis and using the assumptions established through land needs assessment as a direct input into the preparation of a housing strategy, the two planning processes will be aligned and will conform with Growth Plan policy. In addition to determining the specific mix of

new housing units to be planned, the housing strategy should also identify the specific land use planning and financial tools that will be used to achieve the objective of diversifying the overall range and mix of housing options available.

2.3.2   Employment Area Land Need

The need for *employment area* land will be established based on the number of jobs to be accommodated in *employment areas* inside *settlement areas* and the projected densities of those *employment areas*, both existing and newly developing. Refer to Section 4 for the technical steps in determining land needed for employment.

Employment Area Protection

The Growth Plan *employment area* policies are intended to protect lands in *employment areas* for employment uses that are not appropriate in community areas (and their associated retail and ancillary facilities). In addition to establishing a restriction on the range of uses permitted, the *employment area* policy framework requires that the introduction of any non-employment uses can only occur as part of a *municipal comprehensive review* process initiated by an upper- or single-tier municipality. This ensures that any decisions made relating to such lands occur within the context of the broader Growth Plan policy framework.

Lands that accommodate various employment uses are located throughout municipalities, however, only certain lands meet the definition of *employment areas* in the Growth Plan, 2017. Where uses that do not require an *employment area* designation are located on the periphery of an *employment area*, consideration should be given to delineating the *employment area* in a manner that excludes those lands. For example, in delineating an *employment area* adjacent to a commercial/retail area, any non-associated or non-ancillary retail activity should not be included in the *employment area.*

Where the outcome of land needs assessment indicates a surplus of land in employment areas, this should not undermine municipal efforts to protect these areas for employment uses. While municipalities must consider whether any lands in *employment areas* may be appropriate for conversion to non-employment uses to satisfy community area land need prior to proposing a *settlement area* boundary expansion, any proposed conversions would be subject to the requirements of policy 2.2.5.9 and is not required where it would not be appropriate. The assessment of employment conversions must be done

as part of a *municipal comprehensive review* that assesses employment land need in the context of a comprehensive application of all policies in the Growth Plan.

3   Community Area Land Need

This first part of the methodology involves steps to determine where and how forecasted population and community area job growth will be accommodated within the upper- or single-tier municipality in order to meet Growth Plan targets and the amount of community area land needed (in hectares) to accommodate that growth.

- First, the population forecasts in Schedule 3 are converted into a forecasted number of households.

- Then a specific minimum proportion of new residential units (and hence population) is allocated to the *delineated built-up area* based on specific planning periods, in accordance with the applicable intensification targets.

- Then, in recognition of existing development permissions in rural areas, and based on policies that limit but do not prohibit growth in rural areas, the number of residential units (and hence population) that will be accommodated in rural areas in each planning period is estimated.

- Finally, the remaining residential units are allocated to the *designated greenfield area*. The population associated with these units is then accommodated at the *designated greenfield area* density target in order to determine if additional land is needed.

The methodology also assesses job growth in community areas, based on an analysis of forecasted employment growth by type. This is required as an input to identify employment growth in the *designated greenfield area* to demonstrate meeting the residents and jobs combined per hectare density target set out in the Growth Plan. Jobs are accommodated at the *designated greenfield area* density target in order to determine if additional land is needed.

3.1   Policy Context

When planning for community areas, municipalities address Growth Plan policy requirements to:

- Direct development to *settlement areas*, except where the policies permit otherwise;

- Plan to achieve minimum intensification and density targets;

- Support the achievement of *complete communities* that offer and support opportunities for people of all ages and abilities to conveniently

access most of the necessities for daily living, including an appropriate mix of jobs, local stores, and services, a full range of housing, transportation options and *public service facilities*;

- Consider the range and mix of housing options and densities of the existing housing stock and plan to diversify the housing options available; and

- Plan for a more *compact built form* that reduces the rate at which land is consumed and supports the integration and sustained viability of transit services.

3.2 Key Terminology

Household: A person or a group of persons who occupy the same housing unit as their usual place of residence. It may consist of: a family group (Census family) with or without other persons; two or more families sharing a housing unit; a group of unrelated persons; or one person living alone. Every person is a member of one and only one household.

Household population: All persons who are part of a household.

Non-household population: All persons who are not part of a household. This would include residents of institutions and collective dwellings such as long-term care facilities, correctional institutions, group homes, and some student and seniors residences, typically where there are collective dining facilities.

Housing unit: A house, an apartment, a mobile home, a group of rooms, or a single room intended for occupancy as a separate living quarters.

Units not occupied by usual residents: A housing unit not occupied as the primary residence of a household. These would include units occupied by students that report their permanent place of residence elsewhere, units used for seasonal or recreational purposes and units that are vacant.

Census population: Those people counted in the Census every five years.

Total population: The Census population adjusted upward to account for Census net undercoverage (which are those people missed by the Census less those who have been double-counted). Growth Plan Schedule 3 population forecasts are expressed in total population.

3.3 Key Steps

There are six key steps to establishing community area land need:

- Step R1: Forecast Population Growth by Planning Period

- Step R2: Forecast Total Number of Housing Units Required to Accommodate Population Growth in Each Planning Period

- Step R3: Allocate Housing Units to Each Policy Area for Each Planning Period

- Step R4: Forecast Population of Each Policy Area

- Step R5: Calculate the Minimum Number of Residents and Jobs to be Accommodated in the Existing *Designated Greenfield Area*

- Step R6: Establish Community Area Land Need

The following provides a more detailed explanation of each step using the same set of sub-headings: Purpose; Method; Inputs/Data Sources; Assumptions and Example. The Example shows how the step is to be undertaken using a hypothetical upper- or single-tier municipality.

In some instances there is flexibility in different inputs/data sources or assumptions used in applying the methodology, however, there can be no deviations from the steps outlined below or the required outputs.

Step R1 Forecast Population Growth by Planning Period

Purpose

The purpose of this step is to calculate how many additional people a municipality needs to plan to house during each planning period to the Growth Plan horizon. This involves examination of the forecasts in Schedule 3 in terms of total population, Census population and household population for each of the three planning periods: 1) base year to the next *municipal comprehensive review*, 2) the next *municipal comprehensive review* to 2031 and 3) from 2031 to the Growth Plan horizon. This provides a starting point for forecasting household growth and community area land need for residential purposes in accordance with Growth Plan policies (refer to Section 2.2).

Step R1 is highlighted in the graphic of residential land needs steps shown in Figure 3.

Figure 3: Residential Growth by Policy Area and Planning Period
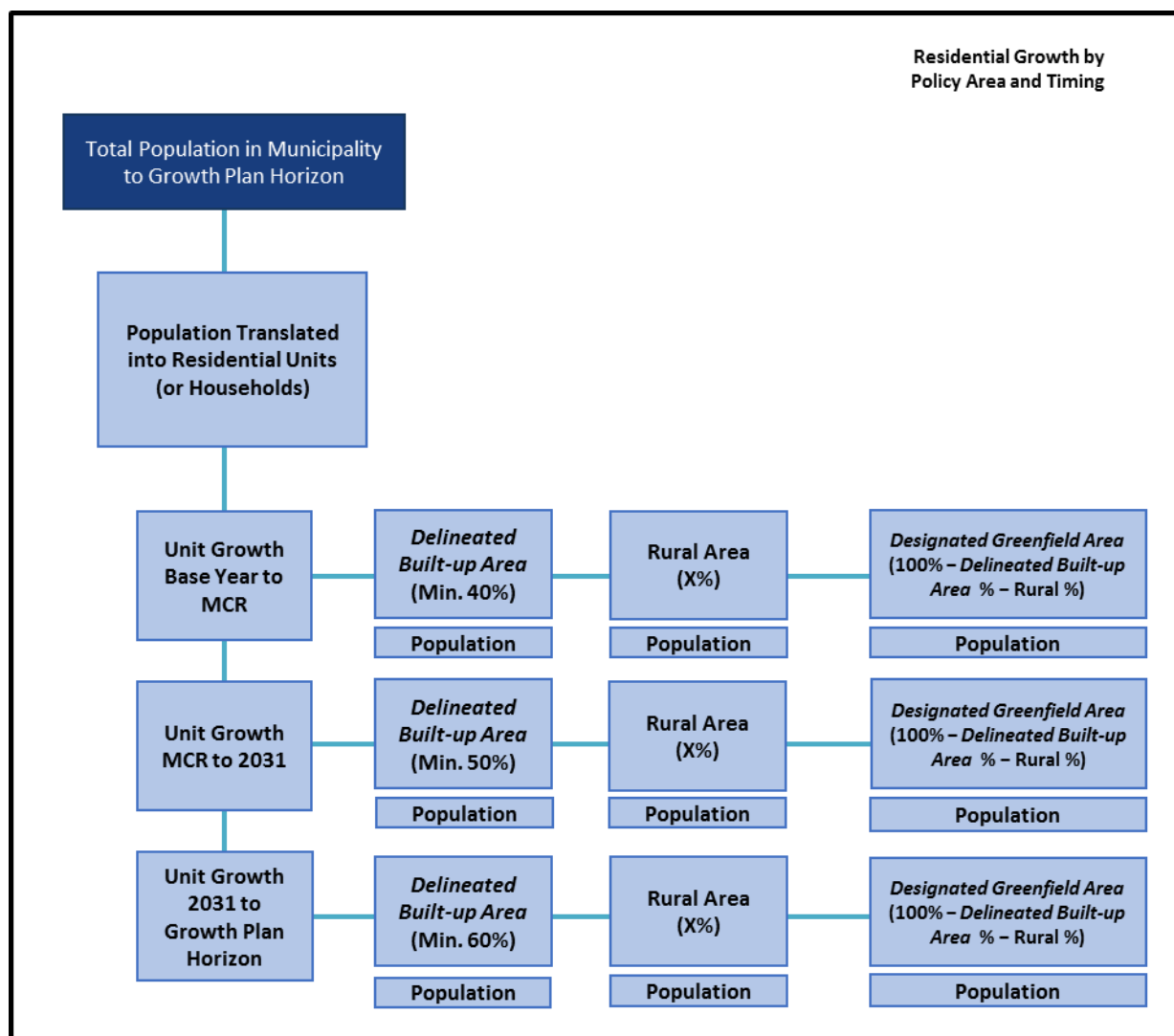
Method

In this step, population growth to 2031 and from 2031 to the Growth Plan horizon is calculated based on Census base year information (latest available at the time of the analysis) and the forecasts in Schedule 3 of the Growth Plan.

The Schedule 3 population forecasts are total population including Census net undercoverage. Census net undercoverage is estimated by Statistics Canada and in most areas of Ontario is between three per cent and four per cent of the total population and the information is typically available two years after the Census date.

For the purposes of land needs assessment, it is necessary to identify not only the total population but also the Census population, including a further breakdown into household and non-household populations.

These components of the population need to be identified for the base year and Growth Plan horizon year as inputs to subsequent steps in the methodology. In particular, the count of households or occupied housing units from the Census is tied to the Census population and the household population. As explained in detail in Explanation Box 1, since Growth Plan policies only apply to municipalities, populations residing outside of municipalities (i.e. populations living on First Nations reserves) are not counted.

Explanation Box 1: How are Indigenous Communities Treated in the Schedule 3 Forecasts and the Methodology?

Seven *GGH* Census Divisions include reserves under the federal Indian Act: York, Durham, Simcoe, Northumberland, Peterborough, Haldimand-Norfolk and Brant[1]. While part of the broader *GGH* with an interest in the long-term growth of the region, for forecasting and land needs assessment purposes, Indigenous communities are not included in the population or other calculations. These communities are separately governed and are not subject to provincial or municipal jurisdiction in land-use planning matters. The Schedule 3 forecasts do not include the on-reserve Indigenous populations.

Some First Nations reserves are not completely enumerated in the Census. For example, the estimated Census net undercoverage in Brant tends to be very high to partly compensate for the incomplete enumeration. For the purposes of Step R1 of the Methodology, Brant County and the City of Brantford should apply a standard Census net undercoverage rate to their Census populations since the high rate is associated with Six Nations itself, rather than its neighbouring communities. This specific issue does not exist elsewhere in the *GGH*.

For the base year information, Statistics Canada provides Census population and household and non-household population as well as information to calculate the Census net undercoverage rate.

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[1] Census Divisions are named according to their geographic counties, that is, the Census Divisions include the municipal county, separated cities and any reserves.

- First, adjust the base year Census population by the undercoverage rate to identify total population for consistency with the Schedule 3 forecasts.

- For the forecast years, adjust the total population forecast from Schedule 3 to isolate the Census population by applying the base year Census net undercoverage rate (from the last available Census at the time of land needs assessment).

- Apply the rate of non-household population (typically 0.5 per cent to 2 per cent of the Census population) to the Census population forecast in order to project the household and non-household population at 2031 and the Growth Plan horizon.

The results are an upper- or single-tier municipal-wide base year population and forecast for 2031 and the Growth Plan horizon for each of the following:

- Total population including Census net undercoverage;

- Census population; and

- Household and non-household population.

Additional explanation about Census net undercoverage and the reason both total and Census population are used in the methodology is provided in Explanation Box *2*.

Inputs / Data Sources

For the base year, this step relies on Statistics Canada Census information for Census, household and non-household population as well as the Census net undercoverage rates. The Census net undercoverage rate is based on Statistics Canada's post-Censal population estimates published in the Annual Demographic Estimates. For 2031 and the Growth Plan horizon, it also relies on the population forecasts in Schedule 3 of the Growth Plan.

Assumptions

Upper- and single-tier municipalities should use the most current available Census information to establish the baseline population.

Upper- and single-tier municipalities should assume that the ratios for Census net undercoverage and non-household population at the Growth Plan horizon year are held constant to the ratios observed in the base year.

The share of non-household population typically remains at a relatively constant rate that does not change significantly from one Census to the next. If there are large institutional facilities that are not expected to grow at the same rate as the population within the Growth Plan horizon, upper- and single-tier municipalities may adjust this share marginally downward to accommodate this change. Any deviation needs to be justified and documented.

Depending on the timing of the land needs assessment, the analysis may need to apply the Census net undercoverage rate from the prior Census, as there is typically a significant lag time between the release of Census data and the determination of the Census net undercoverage rate based on Statistics Canada's Annual Demographic Estimates.

Explanation Box 2: Who are the Net Undercoverage Population and Why Would Some of the Analysis Use Census Population Instead of Total Population?

The Census net undercoverage population are people missed by the Census. They may be missed either because the housing unit they occupy has been missed or the people themselves (who may or may not be associated with a counted housing unit) have been missed. Missed housing units could occur anywhere but are most likely those in unusual locations such as within non-residential buildings or secondary suites with no visible entrance from the street. The people that are missed could be for many reasons, but it has been observed that net undercoverage generally tends to be highly concentrated among young adults in their 20s and early 30s and is disproportionately male. Some are people who are simply missed, despite being in a regular household setting. However, many of this group are likely people staying with friends or relatives briefly or in some more informal arrangement. There are those in remote work sites (such as some in Northern Ontario and many in Northern Alberta), who may be missed at wherever they should be counted. As well, there are homeless individuals; though they would represent a statistically small number of the nearly 300,000 net undercoverage population in the *GGH*.

The analysis of households and housing uses Census population because the counts are from the same Census source and according to the same definitions. There is no net undercoverage estimate for households and, if there were, it would likely be much smaller than population Census net undercoverage, since it would be a combination of some missed households and some other missed people. As a result, the estimate of households based on the Census household and population counts is considered complete for the purposes of land needs assessment.

Example

Example Box 1: Calculate Population Growth to 2031 and 2041.

Step R1 involves the calculations of the population, including the total population (including Census net undercoverage), Census population, the population in private households and the non-household population. Schedule 3 in the Growth Plan is the source of information regarding total population of the municipality in 2031 and 2041.

In this example, the share of non-household population within the Census population is maintained at the 2016 rate of 0.66 per cent non-household population for the forecast period.

The Census net undercoverage rate for 2016, 2031 and 2041 is assumed to remain at the 2011 level. This could be updated with the 2016 rates, once available through Statistics Canada's Annual Demographic Estimates, expected in 2018.

Legend		
Colour	**General Source or Purpose**	**Source or Purpose in this Step**
	Externally sourced data	Statistics Canada Census. Schedule 3.
	Results needed for a later land needs assessment step	Steps R4a, R4b and R4c

Population	2016	2031	2041
Total Population (including Census net undercoverage)	714,100	885,000	985,000
Census net undercoverage rate (see note)	3.26%	3.26%	3.26%
Census Population	690,850	856,150	952,890
Household Population	686,300	850,510	946,610
Non-Household Population	4,550	5,640	6,280
Non-Household Population Rate	0.66%	0.66%	0.66%

Source: Statistics Canada Census Schedule 3

Note: Census net undercoverage rate, Census population, household population and non-household population for 2016 as well as total population in 2031 and 2041 are externally sourced data. Census population, household population, and non-household population for 2031 and 2041 will be required for Steps R4a, R4b and R4c.

Step R2 Forecast Total Number of Housing Units Required to Accommodate Population Growth in Each Planning Period

Purpose

The purpose of this step is to translate the population forecast for the upper- and single-tier municipality in Schedule 3 for each planning period into residential development (i.e. housing units). Forecasting the number of households in the upper- or single-tier municipality to 2031 and from 2031 to the Growth Plan horizon is necessary because the minimum intensification target is an annual measure of residential development and it is required by policy to increase in 2031.

As a part of the first *municipal comprehensive review* to implement the Growth Plan, 2017, an additional part of this step is to estimate the total number of households in the municipality at the date of the *municipal comprehensive review*, which could be any year between 2018 and 2022. This is necessary because the annual intensification target that is currently in effect in the applicable upper- or single-tier official plan continues to apply until the *municipal comprehensive review* date.

Method

This step involves applying age-specific household formation rates to the forecast Census population by age in order to forecast growth in number of households. Household growth equates to occupied housing unit growth for each of the planning periods.

The method is best understood by reviewing the example. In Example Box 2 (Step R2a), for those aged 30-34, 35.1 per cent are a primary household maintainer (Adult person #1 on the Census form). If there were growth of 1,000 people in this age group, an additional 351 households would be expected. The reason this is an important factor to consider is that the number of households expected from a given number of people in an age group tends to change significantly by age, therefore the projected number of households is generally related to the forecasted age-structure.

Totaling the households for each age group at the forecast years of 2031 and the Growth Plan horizon provides a total forecasted household count for each of those planning periods, as shown in Example Box 2.

Estimating the total household count at the *municipal comprehensive review* date is not based on the larger demographic trends, but rather on known housing construction and planned development. This is a more reliable approach to estimating growth in households for short near-term periods. If, for example, at mid-year 2019, the municipality is estimating growth from 2016 to the end of 2019, this is estimated as units completed from Census day 2016 to mid-2019 plus the share of units under construction at that time that were expected to be completed by the end of 2019. The addition of the *municipal comprehensive review* date is shown as Step R2b in Example Box 3.

The growth in number of units not occupied by usual residents expected to be built can be added to the household growth to provide the total housing unit growth. These additional housing units may be vacant or could be occupied by students or otherwise used exclusively for recreational purposes on a seasonal basis (refer to Explanation Box 3). The addition of these units is prudent because the annual intensification target in the Plan applies to all units constructed, not just those housing permanent population. However, these units are not counted for the purposes of planning to achieve the minimum density targets, which are measured in residents and jobs, since they are not occupied by usual residents (refer to Step R4).

Once the total housing unit growth has been forecasted, an overall average PPU in households can be derived from this step by the simple division of the total household counts into the total household population (from Step R1). This overall average PPU provides a control total in subsequent steps when adjustments are being made to account for the differences in household sizes in existing units compared with new units in the different policy areas.

Inputs / Data Sources

Completion of this step relies upon data from two sources: Statistics Canada Census data and a municipally prepared age-structure forecast. The base year population age structure data is available directly from the Statistics Canada website. The private households by age of household maintainer data, used to calculate the household formation rates is also available from Statistics Canada, but as a special run. There are standard methods for preparing age structure forecasts based on a cohort survival model that accounts for births, deaths and

migrants by age. These methods are described in more detail in the background reports that support the Schedule 3 forecasts and the Ministry of Finance's regular demographic forecast updates.

Data regarding short-term housing completions and units under construction to be used to estimate the short-term household growth from 2016 to the *municipal comprehensive review* date is available for most municipalities in Canada Mortgage and Housing Corporation (CMHC) housing market publications. Alternatively, municipalities can use their own building permit tracking systems to provide this data (e.g. data regarding actual and planned housing units under construction and in the building permit approval process). Where CMHC or building permit data are used to estimate household growth to the *municipal comprehensive review* effective date, an adjustment will need to be made to reflect demolitions. Most demolitions are a simple replacement of an existing house, while some are the result of redevelopment to higher densities and a greater number of units than were demolished.

Explanation Box 3: What about Units that are Not Occupied by Usual Residents?

Land needs assessment determines the amount of land needed in an upper- or single-tier municipality in order to accommodate the population and employment forecasts in Schedule 3 of the Growth Plan. The Schedule 3 population forecasts are of permanent population thus the associated housing growth outlook must be of housing units occupied by usual residents. There are, however, three other notable contributors to residential unit demand that are not attributed to permanent population that need to be addressed and may count toward meeting intensification targets for residential development occurring within *delineated built-up areas*. However, the people associated with these units do not count towards meeting the density target for the *designated greenfield area* which is based on the Schedule 3 population forecasts.

Firstly, a portion of the total housing units in any municipality at any given time will be vacant and not house any population. This typically represents a very small portion of housing stock, which is, for the most part, located within the standing stock of units. For ongoing vacancy within the new housing stock, a factor of approximately 1 per cent would be sufficient in most growing areas, and may be as high as 2 per cent in slower growth areas.

Second, in communities with post-secondary institutions, some students may occupy housing units but report themselves as permanent residents in another

municipality. Generally, most existing student housing is located within *delineated built-up areas*, thus does not generate demand for new *designated greenfield area* land. While there is nothing to limit municipalities from planning for student residences in the *designated greenfield area*, the students residing there would not count towards achievement of the minimum density target. The amount of new student housing required should be based on recent construction (i.e. over the last 10 years). It should be assumed that a portion of the units required will already be counted by the Census (i.e. households), and the rest will be units not occupied by usual residents.

A third type of residential unit that does not house permanent population, is seasonal and recreational dwellings. While these units are a component of the overall housing stock, they are overwhelmingly located in rural areas, for example, in countryside settings and along shorelines. There are only a few municipalities within the *GGH* where seasonal and recreational units are located within *settlement areas*. Where there are new seasonal or recreational units expected within the Growth Plan horizon, the estimated number of units should be based on recent construction (i.e. over the last 10 years). However, restrictions on development and anticipated construction could lead to lower or higher figures.

Estimating a reasonable number of vacant units for the analysis could be based on municipal information if it is collected, CMHC data on rental housing for that portion of the market, or other sources of information that account for vacancies between tenants, between owners or during renovations (such as 1 per cent of the overall new units over the period). New units not occupied by usual residents (mainly by students or others with a permanent residence elsewhere) will be an additional factor. This will vary depending on the community, but will likely be quite small in most locations[2]. Assumptions must be substantiated through reasonable and robust data/evidence.

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[2] The Census reports total housing units as well as those occupied by usual residents. It is often supposed that the difference between these represents the number of units not occupied by usual residents that is being described here. The Census figure is much higher, however, as it appears to include a large number of recently or nearly completed new units that have not yet been occupied by the purchaser as well as a large number of units that once existed but are no longer available (such as secondary suites, divided houses, rectories, and caretaker suites that no longer exist).

Assumptions

In general, upper- and single-tier municipalities should assume that household formation rates by age in 2031 and 2041 will not vary significantly from those in the latest Census. Households are social arrangements that vary by age and life cycle choices and events such as moving away from one's parents, forming couples, getting divorced, or the death of a spouse. While each household is associated with a housing unit, it is not necessarily a particular type of housing unit. As a result, household formation should not vary in response to the expected change in the mix of housing types resulting from Growth Plan policy. If any deviation from recent Census rates is assumed, a clear rationale and robust analysis must be provided to substantiate the change. An assumed shift in household formation due to changes in housing mix would not be an acceptable rationale. Further explanation of the nature and history of household formation rates is provided in Explanation Box 4.

In most municipalities, the number of units not occupied by usual residents is likely to be within the range of one to two per cent of new units. The number that may already exist is not relevant to this step. A figure higher than two per cent additional units not occupied by usual residents might occur in a relatively small community with an especially large number of post-secondary students or in small communities with a large number of seasonal and recreational properties. Beyond a basic vacancy rate in the vicinity of one per cent, the assumed number of other new units for students and new recreational properties would need to be thoroughly substantiated through explanatory text as a part of this step.

Explanation Box 4: Age-specific Household Formation Rates Have Been Declining for 25 Years

Census data in the table below shows that household formation rates have been gradually declining for all age groups over the past 25 years in the Greater Toronto and Hamilton area. The comparison in the table below shows that the change in the middle age groups has been modest, but it has been very noticeable in the young adult age groups and those 70–74 (as evidenced in the bolded figures below). The table also includes data from the 2001 Census to demonstrate that this has been a continuous gradual change.

The change in young adults is owing to two factors: more people in these age groups are staying in the homes of their parent(s) for longer than they did in the past; and more young adults are sharing accommodations (i.e. have roommates) than they had in the past. Both of these changes are related to a number of factors but increasing enrollment in post-secondary education and cost of living are likely among the reasons.

For those in their early 70s, the change is primarily related to longevity. That is, as people live longer, a larger proportion of the population are couples and a smaller proportion are widow(er)s. This same shift is occurring amongst those in their late 70s and 80s, but is balanced in the overall 75+ age group by those aged 90+, who have a low headship rate but are an increasing proportion of the total 75+ age group.

As a result, a forecast of stable age-specific household formation rates in most jurisdictions would be reasonable given the past pattern, recognizing that the rates cannot keep declining indefinitely.

Please see Explanation Box 6 for additional information on household formation.

Census Age	Household Formation Rate by Age of Primary Household Maintainer 1991	Household Formation Rate by Age of Primary Household Maintainer 2001	Household Formation Rate by Age of Primary Household Maintainer 2016	1991 to 2016 Change
0-14	0%	0%	0%	0%
15 - 19	1.6%	1.2%	1.4%	-0.2%
20 - 24	15.0%	11.6%	10.5%	**-4.5%**
25 - 29	36.4%	31.5%	28.8%	**-7.6%**
30 - 34	47.1%	44.3%	42.3%	**-7.8%**
35 - 39	51.2%	50.6%	48.0%	-3.3%
40 - 44	54.1%	53.3%	51.7%	-2.4%
45 - 49	56.0%	54.8%	54.2%	-1.8%
50 - 54	56.2%	55.8%	56.4%	0.2%
55 - 59	56.4%	56.2%	56.7%	0.4%
60 - 64	56.7%	55.4%	56.0%	-0.7%
65 - 69	57.8%	57.2%	56.3%	-1.5%
70 - 74	60.6%	58.5%	56.0%	**-4.6%**
75 +	56.8%	59.0%	55.8%	1.1%

Example

Example Box 2: Forecast Households at 2031 and 2041 based on Household Formation Rates.

Step R2a provides the household forecast based on applying household formation rates (also known as headship rates) to a forecast of population by age cohorts. The calculations are based on Census counts of units occupied by usual residents and the Census population (not including Census net undercoverage).

The result of this part of the analysis is the forecast of total occupied housing units (households) for 2031 and 2041 that are needed to accommodate the population forecasts in Schedule 3

Legend		
Colour	**General Source or Purpose**	**Source or Purpose in this Step**
	Externally sourced data	Statistics Canada Census
	Data or assumptions from background analysis	Age structure forecast prepared by municipality
	Results needed for a later land needs assessment step	Step R2b, household counts

Household Forecast

Census Age	2016 Population by Age	2016 Households by Age of Primary Household Maintainer	2016 Household Formation Rate	2031 Population by Age	2031 Households by Age of Primary Household Maintainer	2041 Population by Age	2041 Households by Age of Primary Household Maintainer
0 - 14	122,230	0	0%	147,880	0	157,730	0
15 - 19	48,680	430	0.9%	53,030	470	58,750	520
20 - 24	52,720	2,790	5.3%	55,100	2,920	58,080	3,070
25 - 29	48,800	9,560	19.6%	54,680	10,710	57,770	11,320
30 - 34	45,900	16,120	35.1%	58,410	20,510	62,540	21,960
35 - 39	45,440	19,990	44.0%	63,750	28,040	64,980	28,590
40 - 44	48,260	23,810	49.3%	58,750	28,990	66,200	32,660
45 - 49	51,790	26,650	51.5%	54,940	28,270	67,070	34,510
50 - 54	54,340	29,300	53.9%	49,570	26,730	58,870	31,740
55 - 59	47,020	24,800	52.7%	46,760	24,660	52,320	27,600
60 - 64	37,620	19,140	50.9%	46,960	23,890	46,130	23,470
65 - 69	31,150	15,620	50.1%	47,790	23,960	43,330	21,730
70 - 74	21,750	10,700	49.2%	41,070	20,200	43,550	21,420
75 - 79	15,480	7,360	47.5%	31,740	15,090	43,150	20,520
80 - 84	10,260	5,350	52.1%	23,990	12,510	34,020	17,740
85 - 89	5,790	2,520	43.5%	13,310	5,790	21,890	9,530
90+	3,620	980	27.1%	8,420	2,280	16,510	4,470
Total Households		**215,120**			**275,020**		**310,850**

Note: 2016 population by age and 2016 households by age of primary household maintainer are externally sourced from Statistics Canada Census data. Age structure forecasts prepared by a municipality are used for the 2031 and 2041 population by age figures. Total households by age of primary household maintainer for 2016, 2031 and 2041 will be required for Step R2b.

Example Box 3: Forecast Household Growth to Municipal Comprehensive Review Date.

Step R2b adds the units for the interim years from the Census date to the date of the *municipal comprehensive review*. As also noted in the text, the effective date of the *municipal comprehensive review* is shown as 2021* for convenience in the tables, although the date could be any year between now and 2022 , depending on when a municipality completes its work and the implementing official plan (or amendment) is likely to obtain final approval and take effect.

The units added from Census Day 2016 to 2021* are not forecasted demographically. Instead, they are estimated based on housing construction data, which could be CMHC housing completions and under construction data, Statistics Canada's reported municipal building permit data or the municipality's own building permit data. With any of these sources, new units added from mid-2016 to completion of those currently under construction (accounting for the time to complete units) address most of the period. The remaining time to 2021* could be estimated based on this recent activity.

The result is the forecast households and household growth for the three planning periods needed for the remainder of this step and the next step.

Legend Colour	General Source or Purpose	Source or Purpose in this Step
	Data or assumptions from background analysis	From other municipally-prepared analysis, CMHC data or building permits
	Figure from another land needs assessment step	Step R2a, total households
	Results needed for a later land needs assessment step	Step 3 for household counts by policy area

Household Forecast by Forecast Period, including 2021*

Date	Total Households	Planning Period	Household Growth
2016	215,120		
2021*	234,830	2016-2021	19,710
2031	275,020	2021-2031	40,190
2041	310,850	2031-2041	35,830

Note: Total households for 2016, 2031 and 2041 are figures from Step R2a. Household growth from 2016-2021 is data from other background analysis. Household growth from 2021-2031 and 2031-2041 will be required for Step R3.

Example Box 4: Forecast Growth in Housing Units not Occupied by Usual Residents.

In Step R2c, the forecasted household growth and the forecasted growth in units not occupied by usual residents are added to provide a forecast of total housing unit growth. The units not occupied by usual residents are vacant, seasonal and recreational or occupied by students that report themselves as living at another location.

In this example, the overall figure is based on a total of two per cent additional units not occupied by usual residents.

The result is the forecast of total housing unit growth for the three planning periods required for the next step.

Legend Colour	General Source or Purpose	Source or Purpose in this Step
	Data or assumptions from background analysis	From other municipally-prepared analysis, CMHC data or Building Permits
	Figure from another land needs assessment step	Step R2a, total households
	Results needed for a later land needs assessment step	Step R3 for household counts by policy area

Housing Unit Growth by Forecast Period, including 2021*

Planning Period	Household Growth	Growth in Housing Units Not Occupied by Usual Residents	Growth in Total Housing Units
2016-2021*	19,710	390	20,100
2021-2031	40,190	800	40,990
2031-2041	35,830	720	36,550

Note: Household growth for all planning periods are figures from Step R2a. Growth in housing units not occupied by usual residents for all planning periods are assumptions from other background analysis.

Step R3 Allocate Housing Units to Each Policy Area for Each Planning Period

Purpose

The purpose of this step is to assess how the housing units projected in Step R2 will be planned in order to meet Growth Plan direction for the timing and location of housing growth between the *delineated built-up area*, rural area and *designated greenfield area* of the upper- or single-tier municipality.

This addresses the Growth Plan requirement that a minimum amount of residential development must occur annually within the *delineated built-up area* during each applicable planning period (refer to Section 2.2).

Method

The overall housing unit[3] growth for each of the three planning periods (calculated in Step R2) is allocated to each of the three policy areas.

Figure 4 illustrates how Growth Plan policy directs proportions of housing units to the three policy areas (*delineated built-up area*, rural areas and *designated greenfield area*) for each planning period.

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[3] The allocation to planning periods and policy areas is undertaken on a unit basis then translated back to households. Households will be translated back to population in the next step in the Methodology.

Figure 4: Step R3 – Allocate Housing Units to Each Area for Each Planning Period
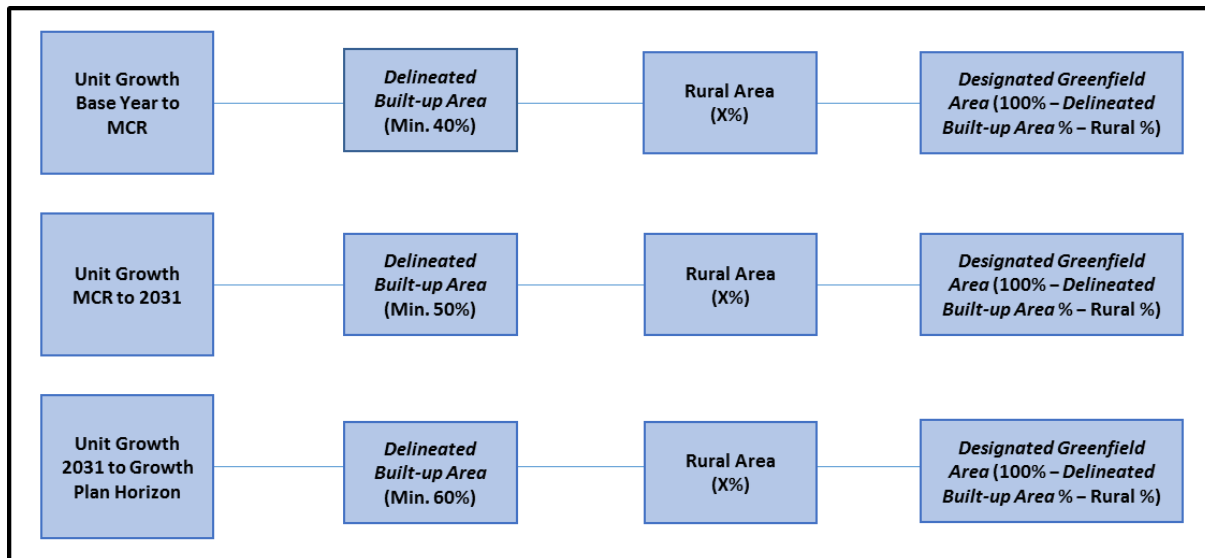
Delineated Built-up Areas

From the *municipal comprehensive review* to 2031 and from 2031 to the Growth Plan horizon, the proportion of total housing growth allocated to the *delineated built-up area* is based on the applicable intensification targets required by Growth Plan policy (refer to Section 2.2.2). For the period prior to the *municipal comprehensive review,* the policies provide that the target that is approved and in effect in the applicable upper- or single-tier official plan will continue to apply. However, for municipalities that counted development in *undelineated built-up areas* towards the achievement of the intensification target, the number in the official plan may have to be adjusted for this step. For the majority of municipalities in the *GGH* where the amount of development occurring annually in *undelineated built-up areas* is very limited, this change in measurement should be minimal.

Rural Area

For each of the three planning periods, upper- and single-tier municipalities are to allocate a certain number of units to the rural area. However, this allocation should be minimal, given the policies that restrict the type and amount of development that can occur outside of *settlement areas*. The Growth Plan provides direction for rural development. Development permitted on *rural lands* includes resource-based recreational uses, the management or use of resources, and other uses that are not appropriate in *settlement areas* but are compatible

with the rural landscape, can be sustained by rural service levels, and will not adversely affect the protection of agricultural uses or other resource-based uses, such as aggregate operations.

The amount of growth allocated to the rural areas will likely differ amongst upper- and single-tier municipalities. In setting the allocation, upper- and single-tier municipalities are to give consideration to the historic amount of new development in these areas and their recent share of municipal development. Upper- and single-tier municipalities are to account for the development expected to occur on the existing supply of approved lots, including existing lots of record or registered or draft approved rural lots. There may be legacy zoning or official plan policies that permit the creation of new lots to a limited extent in some areas. The allocation of growth to rural areas, if any, should be small and should represent very modest demand. In most cases, the allocation will be less than what could potentially be accommodated based on existing land-use planning approvals, since most rural areas have legacy permissions that are not being developed (such as existing lots of record that may be decades old).

Designated Greenfield Area

Once the *delineated built-up area* and rural area (if applicable) housing unit growth is allocated for each planning period, the balance of forecasted housing units is allocated to the *designated greenfield area* for each of the three planning periods.

Finally, once the housing units are allocated to the policy areas, the units not occupied by usual residents are removed from the total housing units to bring the forecast back to that of households that are exclusively occupied by permanent population. In the subsequent steps, which will involve the application of the density target for the *designated greenfield area*, only the permanent population (i.e. the population forecasts in Schedule 3) will be applicable. The permanent population is associated with households, not the total housing units.

Inputs / Data Sources

Household data from the latest Census is needed to provide the number of existing households within the *delineated built-up area*, rural area and *designated greenfield area*.

Upper- and single-tier municipalities will also need to further analyze estimated growth from the Census date to the time of *municipal comprehensive review* in

order to allocate the housing growth for that planning period to each of the policy areas. Municipalities may use their existing data and development tracking systems to inform this analysis (for example, recent development activity should help to estimate the number of households at the time of the *municipal comprehensive review*). Application data can also be used for tracking longer term development activity.

Assumptions

In determining an appropriate intensification target, upper- and single-tier municipalities must assume that any *urban growth centres* within the *delineated built-up area* of the municipality will achieve the applicable minimum density target for the *urban growth centre* by 2031. However, for *major transit station areas* on *priority transit corridors* and subway lines, which are also subject to minimum density targets, there is some limited flexibility to assume that certain stations may not achieve full build-out at the required densities by the Growth Plan horizon. In these cases, upper- and single-tier municipalities need to provide analysis to justify how much of the growth is expected to happen beyond the Growth Plan horizon.

Upper- and single-tier municipalities must also assume that the intensification targets that are applied for each planning period will be achieved on an annual basis, supported by the *intensification* strategy that the Growth Plan requires municipalities to develop and implement through their official plan policies and designations, updated zoning and other supporting documents. Further discussion of the identified *intensification* potential is provided in Explanation Box 5.

Explanation Box 5: How Would the Identified Intensification Potential Relate to the Assumed Share of New Households in Delineated Built-up Areas?

Cataloguing *intensification* potential in most municipalities would be based on adding up vacant lands, under-utilized lands, major anticipated redevelopment sites, some *brownfield sites*, main street retail or strip malls that may be redeveloped for mixed use and many other types of lands. In policy, these areas are represented as *urban growth centres*, *major transit station areas*, and other *strategic growth areas*. Future housing unit potential in these areas may be calculated based on zoning minimums/maximums or some other assumption of development density. However, for various reasons, the theoretical unit potential from *intensification* typically exceeds the number of units that are likely to be built within a given time period.

The intensification target that is applied is based on theoretical potential with reasonable assumptions made about what proportion of redevelopment is likely to occur within each planning period. However, the intensification target cannot be lower than the minimum intensification target set out in the Growth Plan unless the Minister has permitted an alternative target.

Example

Example Box 5: Allocate Housing Unit Growth by Policy Area and Planning Period.

Step R3a allocates the housing unit growth for each of the three planning periods to each of the three policy areas based on Growth Plan policy. The key inputs in this step are the assumptions for the *delineated built-up area* and the rural area. As described in the text, the allocation to the rural area must be small to reflect Growth Plan policies that restrict new rural residential development while recognizing that there are some lots of record and legacy approvals that may accommodate some growth.

The key input is the housing unit allocation to the *delineated built-up area*. The minimums required in the Growth Plan are 40 per cent up to 2021*, 50 per cent from 2021* to 2031, and 60 per cent from 2031 to 2041. The example shows a higher figure for the first two planning periods.

The result is a forecasted housing unit growth for each of the three policy areas. Having made this allocation to the *delineated built-up area*, the housing unit growth is restated to remove the units not occupied by usual residents in Example 6 (Step R3b), so that only the units occupied by households will be shown for use in the subsequent steps.

Legend Colour	General Source or Purpose	Source or Purpose in this Step
	Data or assumptions from background analysis	Municipal analysis and policy respecting anticipated rural development
	Figure from another land needs assessment step	From Step R2b, total households
	Policy input	Policy input (this example exceeds the minimum 40%, 50% and 60% *delineated built up area* rates)
	Results needed for a later land needs assessment step	Step R3b households and population by policy area

Forecast Share of Housing Unit Growth by Policy Area

Planning Period	Delineated Built Up Area	Designated Greenfield Area	Rural Area	Total
2016-2021*	49.0%	50.5%	0.5%	100.0%
2021-2031	51.0%	48.5%	0.5%	100.0%
2031-2041	60.0%	39.5%	0.5%	100.0%
Total	**54.0%**	**45.5%**	**0.5%**	**100.0%**

Note: Policy inputs, although they exceed the minimum rates, are used to forecast housing unit growth by delineated built up area. Rural area share of housing unit growth is sourced from municipal analysis and policy.

Forecast Housing Unit Growth by Policy Area

Planning Period	Delineated Built Up Area	Designated Greenfield Area	Rural Area	Total
2016-2021*	9,850	10,150	100	20,100
2021-2031	20,910	19,880	200	40,990
2031-2041	21,930	14,440	180	36,550
Total	**52,690**	**44,470**	**480**	**97,640**

Note: All data for the three policy geographies are results from Step R3b households and population by policy area.

Example Box 6: Remove Units Not Occupied by Usual Residents.

For Step R3b, after the housing units are allocated to the three policy areas, the units not occupied by usual residents are removed from the housing unit total to yield the occupied housing unit or household growth for each policy area in each planning period. As noted above, any assumptions about units not occupied by usual residents must be substantiated. In this example there is an expectation of about 1 per cent of the unit growth in the *designated greenfield area* to reflect vacant units. A higher figure is applied in the *delineated built-up area* to account for student residences. In the rural area a higher than 1 per cent figure is also applied to account for seasonal and recreational units.

The result is the forecasted household growth for each of the three policy geographies. Only the totals from 2016 to 2041 will be required for the following steps.

Legend		
Colour	**General Source or Purpose**	**Source or Purpose in this Step**
	Externally sourced data	Statistics Canada Census counts by policy geography (may require municipal analysis)
	Figure from another land needs assessment step	From Step R2b, total households and Step R2c, housing units not occupied by usual residents
	Results needed for a later land needs assessment step	Step R4b households and population by policy area

Forecast Growth in Housing Units Not Occupied by Usual Residents

Planning Period	Delineated Built-Up Area	Designated Greenfield Area	Rural Area	Total
2016-2021*	280	100	10	390
2021-2031	580	200	20	800
2031-2041	560	140	20	720
Total	**1,420**	**440**	**50**	**1,910**

Forecast Household Growth by Policy Area

Planning Period	Delineated Built-Up Area	Designated Greenfield Area	Rural Area	Total
2016-2021*	9,570	10,050	90	19,710
2021-2031	20,330	19,680	180	40,190
2031-2041	21,370	14,300	160	35,830
Total	**51,270**	**44,030**	**430**	**95,730**

Forecast Households by Policy Area

Date	Delineated Built-Up Area	Designated Greenfield Area	Rural Area	Total
2016	194,700	16,520	3,900	215,120
2021*	204,270	26,570	3,990	234,830
2031	224,600	46,250	4,170	275,020
2041	245,970	60,550	4,330	310,850

Note: All information for 2016 is externally sourced data by Statistics Canada Census counts. Forecasted households by policy area (delineated built up area, *designated greenfield area* and rural area) for 2021, 2031 and 2041 are needed for Step R4b. Total number of forecasted households from 2021 – 2041 are figures from Step R2b.

Step R4   Forecast Population of Each Policy Area

Purpose

The purpose of this step is to translate the total households occupied by permanent residents by policy area (established in Step R3) back into permanent population in order to assess the portion of the Schedule 3 population forecast that is allocated to each of the policy areas. This step forecasts how much population is to be accommodated in the *designated greenfield area*, which is required to demonstrate that the upper- or single-tier municipality is planning to achieve the required minimum density target for the *designated greenfield area* by the Growth Plan horizon.

While only the population in the *designated greenfield area* is required for further steps in the land needs assessment, the process of making assumptions about the average persons per unit (PPU) in the *designated greenfield area* at the Growth Plan horizon involves analysis of the types and sizes of households that are anticipated to occupy new and existing units in each of the policy areas at the Growth Plan horizon. The assumptions that are made about average PPU for the purposes of land needs assessment will also be a key input into the housing strategy that municipalities are also required to prepare in order to implement the Growth Plan.

Method

Steps R1 to R3 provide total households, total household population, overall average PPU, and total population as well as the number of households by each policy area and in each planning period. Translating policy area households into population at the Growth Plan horizon involves applying an assumed PPU factor (i.e. ratio of household population to households) to the household forecast for each policy area which was established in Step R3.

An overall forecasted PPU at the Growth Plan horizon was established in Step R2 by dividing the total household population into the total number of households. This overall PPU can be refined for each policy area through a (potentially iterative) process of making reasonable, evidence-based assumptions that work within that established control total. This generally involves detailed analysis (undertaken as the basis for the required housing strategy) to understand the types and sizes of households that typically occupy new and existing units in

each of the policy areas and how such trends are anticipated to change over time.

The assumed PPU for new units in each of the policy areas that is used in the final land needs assessment must then also be used as a key input into the housing strategy, through which the municipality will determine the final mix of new units at a later point in the *municipal comprehensive review* process.

For land needs assessment, an overall assumed PPU by policy area (calculated from existing and new units) will be used as the basis to forecast the household population at the Growth Plan horizon for each policy area. Once that has been forecasted, the final part of this step is to add the non-household population and the Census net undercoverage to provide the total population. Non-household population and total population are established based on the breakdown of the population shown in Step R1.

Inputs / Data Sources

Background analysis undertaken to inform the development of the housing strategy (e.g. composition of future households by policy area) and intensification strategy (e.g. opportunities for *intensification* and *redevelopment*) that municipalities are required to prepare should inform the assumptions that must be made for this step in the land needs assessment. In addition:

- base year PPU in existing units can be calculated using Census data;
- building permit data (e.g. size of unit) can be used to help make assumptions about recent trends in PPU in new units;
- period of construction data (available by special run from Statistics Canada) can inform assumptions about PPU in new units at the Growth Plan horizon.

Assumptions

When making assumptions about PPU factors for each of the policy areas, municipalities should give consideration to known patterns in household size, while recognizing that such patterns are likely to change over time as the range of housing options available continues to evolve as a result of Growth Plan implementation.

Making assumptions about future PPU typically begins with new units as they reflect a smaller portion of the total units and the types of households that tend to occupy new units has historically been more predictable than changes in

households occupying existing units have been. However, some municipalities may prefer to begin by making assumptions about future PPU in existing units (based on demographic analysis) as a means of narrowing the potential range for PPU in new units. Regardless of which approach is taken, the assumptions that are made about changes in PPU in new and existing units must be thoroughly tested against various scenarios for housing turnover and new development. This analysis must be reasonable, evidence-based and well-documented.

New Unit PPU and Relationship to the Existing Base

While it is recognized that there are long-standing trends in the types and sizes of households that tend to occupy new units in each of the policy areas (i.e. larger units in the *designated greenfield area*, smaller units in the *delineated built-up area*), these trends are anticipated to gradually change over time. This is partly as a result of Growth Plan policies directing municipalities to plan for a more diverse range of housing options to support the achievement of *complete communities*, but also as a result of gradual generational shifts in lifestyle and housing preferences (type and location). When making assumptions about the PPU in new units at the Growth Plan horizon, it should be assumed that the new unit PPU in the *delineated built-up area* will gradually increase over time and the new unit PPU in the *designated greenfield area* will gradually decrease over time.

For the *delineated built-up area*, the potential to increase the size (number of bedrooms) of new units through the use of planning tools and other incentives (as part of the housing strategy) should be factored into the assumptions being made about how the PPU for this policy area could change by the Growth Plan horizon.

In order to meet the *designated greenfield area* density target and support the achievement of *complete communities*, an increasing proportion of new units in *designated greenfield areas* will be apartments or other denser forms of housing (e.g. townhouses). As the overall unit mix generally shifts towards more medium and higher density units — an intended goal of Growth Plan policies — the PPU by unit type will not necessarily remain the same as it has in the past. Achieving the overall Growth Plan policy objectives will likely mean higher PPUs in new medium and higher density housing than in the past. Over time, these shifts will become embedded within overall trends in new unit PPUs.

If a municipality begins by making assumptions about PPU in new units, the forecasted population associated with those units can be calculated and then

subtracted from the total population to be housed in all units in order to establish the remaining population to be housed in existing units at the Growth Plan horizon. This can help simplify some of the complexity associated with establishing PPU for the existing units, which tend to have a greater variety of household and unit characteristics that vary across the communities in a municipality. However, the existing unit PPU must then be assessed for reasonableness based on factors such as the size of existing units (i.e. number of bedrooms), composition of households that currently occupy them and how those units may be anticipated to turnover in the future. Again, municipalities must consider how past trends are anticipated to change as a result of Growth Plan implementation.

Existing Base PPU and Relationship to New Units

Generally speaking, the existing base of ground-related units typically has a lower PPU than new ground-related units. In the *designated greenfield area* where ground-related units tend to predominate, this typically means a somewhat higher PPU in units overall than in the existing base within the *delineated built up area*. This is because more recently built ground-related units tend to be occupied by younger families typically with children at home and as the housing stock ages, so do families, the result being more empty-nesters and a declining average household size.

In the *delineated built-up area* the PPU in the existing base may be lower than new units in some cases, but it depends on the age of the development and the characteristics of the community. See Explanation Box 6 for more details on demographic change and housing turnover on PPU.

For municipalities that begin by making assumptions about PPU in existing units, the forecasted population associated with those units can be calculated and then subtracted from the total population to be housed in all units. The resulting new unit PPU should be tested through analysis of the various potential combinations of housing types and unit sizes that could accommodate a diverse mix of households (for new units in the *designated greenfield area*, this analysis also involves the minimum density target that is applicable). These housing mix scenarios would then also inform the completion of the housing strategy later in the MCR process.

Explanation Box 6: How does Demographic Change and Turnover in the Housing Stock Affect the Persons per Unit Relationships in Communities?

As already described in the discussion of Step R2, the formation of households is a social construct largely unrelated to specific housing unit types. Household formation is highly related to age, that is, the formation of a household and its size are about choices made, or events that occur, at certain ages. The total number of households in a population is defined by these factors and events such as moving away from one's parents, forming a couple, remaining single, having children, getting divorced, the death of a spouse or an aging parent moving in with grown children. In so far as people continue to make similar household arrangements at similar ages, the number of households and the overall average household size can be predicted with a reasonably high level of accuracy for a given population.

The households themselves, however, make different housing choices throughout their lives. The effect of these decisions on the occupancy of units in the existing housing stock is that there is turnover of units through time. This has always occurred in housing markets and will continue to occur in the future, the only difference being that there will be a higher proportion of medium and higher density units and fewer single- and semi-detached units available through different points in the life cycle.

There will be significant turnover of single- and semi-detached units in the housing stock occurring as the baby boom generation ages. This turnover will be gradual. Municipalities need to assess the pace and impact of this change in their communities and to what extent past trends are expected to continue. Currently, occupancy of ground-related housing peaks in households in the 55-59 age group – 67 per cent of households headed by that age group reside in ground-related housing, and most remain in these homes for a very long time. Some people sell the family home when they retire, but most remain far longer. Eventually a large proportion of the elderly are likely to move to higher density housing. Currently, those who are 85 and older are the only age group among those 35 and above where a majority of households reside in apartments. The leading edge of the baby boom was born in 1946. These first members of the baby boom will reach 85 in the early 2030s, and the peak years of the baby boom (those born around 1960) will turn 85 in the mid-2040s. At this pace, only some of the process of housing turnover will be complete within the Growth Plan horizon. By that time, the millennial generation will have advanced considerably through the household structure life cycle as well.

Community change and the turnover of units are incorporated into the age-specific averages applied at an earlier step in the methodology. The average household size is expected to continue its gradual decline. Individual neighbourhoods may experience larger or faster changes, they may even experience rising PPU as the housing stock turns over, but it is unlikely to occur at a speed and scale to reverse the broader pattern over the large scale of the upper- and single-tier municipalities.

Example

Example Box 7: Calculate Municipal-wide Persons per Unit.

In Step R4a the households will now be connected with the household population. The PPU is the ratio of household population to households (both having been forecasted in previous steps for 2031 and 2041) as well as a household count for 2021*. The household population for 2021* will be based on interpolating the PPU between the known Census base and the forecasted PPU for 2031 then multiplying by the households. While shown for completeness in the table, the figures for 2021* and 2031 are not required for the next steps of the methodology, rather only 2041 figures are now needed.

Legend		
Colour	**General Source or Purpose**	**Source or Purpose in this Step**
	Figure from another land needs assessment step	From Step R2b, total households and Step 1 household population Step R4b
	Results needed for a later land needs assessment step	
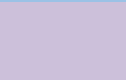
Persons per Unit Forecast

Date	Household Population	Households	Persons per Unit
2016	686,300	215,120	3.19
2021*	741,530	234,830	3.16
2031	850,510	275,020	3.09
2041	946,610	310,850	3.05

Example Box 8: Forecast Household Population by Delineated Built-up Area, Rural Area and Designated Greenfield Area at 2016 and 2041.

The purpose of Step R4b is to determine the household population of the *designated greenfield area* in 2041. The result of this step is the household population in the *designated greenfield area*.

Legend Colour	Legend Colour	General Source or Purpose
	Externally sourced data	Statistics Canada Census (adjusted to specific policy geographies)
	Data or assumptions from background analysis	Based on other municipal analysis (in turn based on Census data)
	Figure from another land needs assessment step	Steps R1 through R4b, households by policy and household populations
	Results needed for a later land needs assessment step	Step R6

Households in Privately Occupied Units, 2016, 2041 and 2016 to 2041 Growth

Date / Planning Period	Delineated Built-Up Area	Designated Greenfield Area	Rural Area	Total
2016	194,700	16,520	3,900	215,120
2041	245,970	60,550	4,330	310,850
2016-41	51,270	44,030	430	95,730

Note: Data from Step R1 through R4b provides the household population at 2016 and 2041 as well as household growth over the 2016-2041 planning period.

Existing 2016 Base in 2016 and 2041

Date	Delineated Built-Up Area	Designated Greenfield Area	Rural Area	Total
2016 Households	194,700	16,520	3,900	215,120
2016 PPU	3.15	3.76	2.98	3.19
2016 Household Population	612,510	62,150	11,640	686,300
2041 Households	194,700	16,520	3,900	215,120
2041 PPU	2.96	3.43	2.72	2.99
2041 Household Population	575,700	56,700	10,600	643,000

Note: 2016 households for all three policy geographies and the 2016 household population total are figures from Step R1 through R4b. 2016 household population for all three policy geographies are externally sourced by Statistics Canada Census data.

New Units in 2016 and 2041

Date	Delineated Built-Up Area	Designated Greenfield Area	Rural Area	Total
2016 Households	0	0	0	0
2016 PPU	2.80	3.60	3.60	
2016 Household Population	0	0	0	0
2041 Households	51,270	44,030	430	95,730
2041 PPU	2.80	3.60	3.60	3.17
2041 Household Population	143,550	158,510	1,550	303,610

Note: 2016 and 2041 households for all three policy geographies are figures from Step R1 through R4b. 2016 and 2041 persons per unit are based on other municipal analysis.

Total Units in 2016 and 2041

Date	Delineated Built-Up Area	Designated Greenfield Area	Rural Area	Total
2016 Households	194,700	16,520	3,900	215,120
2016 PPU	3.15	3.76	2.98	3.19
2016 Household Population	612,510	62,150	11,640	686,300
2041 Households	245,970	60,550	4,330	310,850
2041 PPU	2.92	3.55	2.81	3.05
2041 Household Population	719,250	215,210	12,150	946,610

Note: 2016 and 2041 households for all three policy geographies as well as total 2041 persons per unit of 3.05 and total 2041 household population of 946,610 are figures from Step R1 through R4b. 2041 household population for the *designated greenfield area* will be required for Step R6.

Example Box 9: Step R4c – Forecast Total Population by Delineated Built-up Area, Rural Area and Designated Greenfield Area at 2016 and 2041.

This step converts the household population in the *designated greenfield area* from household population to total population. The latter is required for the land need calculations. Household population from above is converted to Census population by adding the non-household (institutional) population. In this example the *delineated built-up area* and *designated greenfield area* are assumed to be the same, which is a reasonable assumption if the non-household population is 1.0% or less of the Census population. Where the figure is much greater than 1.0%, there are probably some major facilities or central-city concentrations of non-household population. In these cases, a municipality may choose a lower non-household population rate in the *designated greenfield area* and a higher rate in the *delineated built-up area*, noting that it does need to add up to the control total established in Step R1.

Legend		
Colour	**General Source or Purpose**	**Source or Purpose in this Step**
	Figure from another land needs assessment step	Steps R1 and R4b, population statistics
	Results needed for a later land needs assessment step	Step R6, community area land need

2016 Total Population	Delineated Built-Up Area	Designated Greenfield Area	Rural Area	Total
Household Population	612,510	62,150	11,640	686,300
Non-Household Population Rate	0.66%	0.66%	0.66%	0.66%
Non-Household Population	4,060	410	80	4,550
Census Population	616,570	62,560	11,720	690,850
Net Undercoverage Rate	3.26%	3.26%	3.26%	3.26%
Total Population	637,320	64,670	12,110	714,100

Note: Household population for all three policy geographies as well as all total figures are from Step R1 and R4b.

2041 Total Population	Delineated Built-Up Area	Designated Greenfield Area	Rural Area	Total
Household Population	719,220	215,220	12,170	946,610
Non-Household Population Rate	0.66%	0.66%	0.66%	0.66%
Non-Household Population	4,770	1,430	80	6,280
Census Population	723,990	216,650	12,250	952,890
Net Undercoverage Rate	3.26%	3.26%	3.26%	3.26%
Total Population	748,390	223,950	12,660	985,000

Note: Household population for all three policy geographies as well as all total figures are from Step R1 and R4b. Total population in the *designated greenfield area* will be required for Step R6.

Step R5 Calculate the Minimum Number of Residents and Jobs to be Accommodated in the Existing Designated Greenfield Area

Purpose

The purpose of this step is to determine the minimum number of residents and jobs that are planned to be accommodated in the existing *designated greenfield area* at the Growth Plan horizon to meet Growth Plan policies, specifically the applicable density targets. The density target for the existing *designated greenfield area* is the combined number of residents and jobs divided by the area of land over which the *designated greenfield area* density target is to be measured in accordance with Growth Plan policy.

Most upper- and single-tier municipalities would have determined the information required in this step through analysis of their d*esignated greenfield area* density completed as part of their background analysis for the *municipal comprehensive review* process (particularly where they are seeking an alternative density target for their *designated greenfield area*).

Upper- and single-tier municipalities that are seeking an alternative density target for the *designated greenfield area* should have submitted a request (supported by *designated greenfield area* density analysis) prior to undertaking land needs assessment (refer to technical guidance on targets for more information on that process). If an alternative target has been permitted by the Minister (for the existing *designated greenfield area* in *inner ring* municipalities or all *designated greenfield area* in *outer ring* municipalities), that target provides the key input for this step. For upper- and single-tier municipalities that are not requesting an alternative target, the key input for minimum density will be derived using the following method.

Method

Where an upper- or single-tier municipality has established a minimum density target for the *designated greenfield area* prior to land needs assessment, that target number is multiplied by the area of land over which the *designated greenfield area* density target is to be measured in accordance with Growth Plan policy to determine the minimum number of residents and jobs combined that

the upper- or single-tier municipality must plan to accommodate on those lands by the Growth Plan horizon.

Where an upper- or single-tier municipality has not completed a *designated greenfield area* density analysis prior to land needs assessment, the following method is to be applied in order to determine the minimum number of residents and jobs that the upper- or single-tier municipality is to plan to accommodate in the existing *designated greenfield area* by the Growth Plan horizon:

- Identify the lands that were identified as *designated greenfield area* in the applicable official plan that was approved and in effect on July 1, 2017;
- Identify the lands that can now be "netted out" from the calculation of *designated greenfield area* density in accordance with policy 2.2.7.3 of the Growth Plan, 2017;
- Based on municipal land supply information (e.g. secondary plans, plans of subdivision, etc.), determine the minimum density that is already planned on the lands that remain subject to the target;
- Identify any opportunities to increase the planned density of those lands;
- On that basis, set an appropriate minimum density target that will be applicable to those lands (in the *inner ring*, the target can be no less than 60 residents and jobs per hectare unless an alternative target is requested).

The minimum density target for the existing *designated greenfield area* that is established either prior to land needs assessment or through this step can be multiplied by the total net land area of the existing *designated greenfield area* (all lands with the exception of those that meet the criteria specified in policy 2.2.7.3 of the Growth Plan) to determine the minimum number of residents and jobs that must be planned to be accommodated on those lands by the Growth Plan horizon.

The result of this step is the number of residents and jobs that must be accommodated in the existing *designated greenfield area* based on the applicable minimum density target. Step R5 is illustrated in Figure 5.

Figure 5: Step R5 – Calculate the Minimum Density Target for the Residents and Jobs to be Accommodated in the Existing Designated Greenfield Area
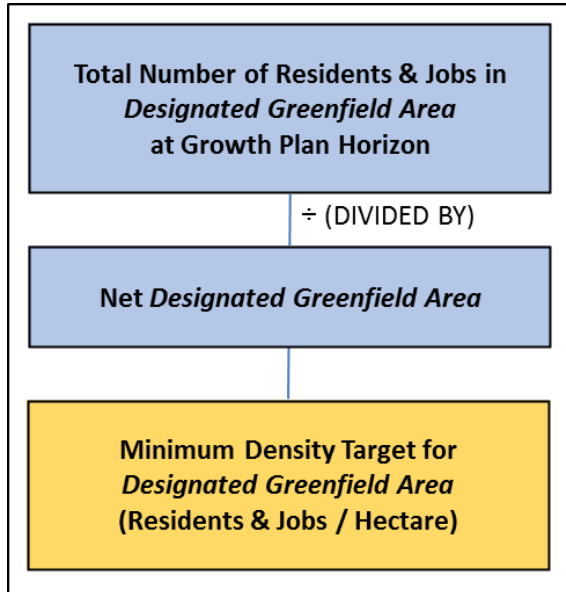
Inputs / Data Sources

The key inputs in this step are the background analysis and land area information used to analyze the minimum density target for the existing *designated greenfield area*. Whether already complete or conducted as part of this methodology, the analysis involves assessing the existing and currently planned development in the existing *designated greenfield area* and identifying opportunities to increase the planned density. It also incorporates the measurement of the density of the currently planned *designated greenfield area* in accordance with Growth Plan policy 2.2.7.3, which permits an increased number of features to be excluded in the measurement of the density of this area. Additional data inputs include information about the size of the existing *designated greenfield area* (in hectares) and the size of the features that are permitted to be excluded from the measurement of the density target for the *designated greenfield area* (in hectares).

Assumptions

Upper- and single-tier municipalities must assume that the density target for the existing *designated greenfield area* that is applied for the purposes of land needs assessment (either the minimum required by policy, a higher target or an alternative lower target where it has been permitted) is achieved within the

Growth Plan horizon. To assume that any of the planned density is achieved post-horizon would not conform with Growth Plan policies.

Example

Example Box 10: Calculate the Designated Greenfield Area Population and Employment Potential, Land Area and Density

Step R5 shows the results of the *designated greenfield area* density analysis. The density of the existing *designated greenfield area* is calculated from the planned population and employment in the area adjusted to reflect the land area used for the calculation of density in accordance with policy 2.2.7.3 of the Growth Plan.

The population and employment is the existing development in the *designated greenfield area* at the base year plus all new development that could occur by the Growth Plan horizon. The residential development is translated into population based on the PPU assumptions in Step R4. The employment in this part of the community area is determined as part of the employment analysis in Step E5.

The total population and employment potential in the *designated greenfield area* may be less than the total residents and jobs expected in the *designated greenfield area* (indicating land need in the next step) or it may exceed the expected residents and jobs (indicating *excess land* in the next step). The next step provides information about how to address these results.

The land area shown takes account of the permitted exclusions (net outs) to be used in the calculation. The density for the area is the simple division of the population plus employment into the total land area (less the exclusions specified in policy 2.2.7.3). In the *inner ring*, the density will need to meet the required minimum 60 residents and jobs per ha or an approved alternative target. In the *outer ring* the density will either meet the minimum 80 residents and jobs per hectare or an alternative density target. Where there is an approved alternative density target, the analysis shown in this step will already have been completed as part of the *designated greenfield area* density analysis and is repeated here for completeness and continuity in the methodology.

Legend		
Colour	**General Source or Purpose**	**Source or Purpose in this Step**
	Data or assumptions from background analysis	Population and employment at 2041 and land area measures
	Policy input	*Designated greenfield area* minimum density policies

Minimum Population and Employment Planned for Existing Designated Greenfield Area at 2041

Population	184,090
Employment	25,770
Total	**209,860**

Existing Designated Greenfield Area with Net Outs (hectares)

Total *Designated Greenfield Area*	6,592
Less Natural Features and Areas	(912)
Less Applicable Infrastructure Rights-of-Way	(158)
Less Employment Areas	(2,230)
Less Cemeteries	(22)
Existing *Designated Greenfield Area* (in ha)	3,270

Existing Designated Greenfield Area Density

Density in residents + jobs per ha	64.2

Note: Population and employment at 2041 and land area measures are figures from other *municipal comprehensive review* work.

Step R6 Establish Community Area Land Need

Purpose

The purpose of this step is to identify whether there is a sufficient amount of land in the existing *designated greenfield area* to accommodate the forecasted growth to the Growth Plan horizon. This is a key input for determining whether a *settlement area* boundary expansion is needed or whether there are *excess lands*, where applicable.

Method

The assessment of community area land need is undertaken based on the difference between the minimum number of residents and jobs that must be accommodated in the existing *designated greenfield area* based on the minimum density target (determined in Step R5) and the population that needs to be accommodated in the overall *designated greenfield area* (existing and potentially new) determined in Step R4 plus the employment in this area determined in Step E3 (Section 4.3). *Designated greenfield area* land need will first be expressed as total population and employment and then translated to actual land area by applying the minimum density target.

The approach is illustrated in the diagram in Figure 6.

Figure 6: Step R6 – Establish Community Area Land Need

Depending on municipal circumstances, this subtraction of the residents and jobs that must be accommodated in the existing *designated greenfield area* from what needs to be accommodated in the overall *designated greenfield area* could potentially result in one of two scenarios:

- If the result is a negative figure, then no additional community area *designated greenfield area* is needed to meet the community area growth outlook. If the municipality is located in the *outer ring*, the *excess lands* policies of the Growth Plan would apply.

- If the result is a positive figure, this represents the number of additional residents and jobs that need to be accommodated in new *designated greenfield area* within the Growth Plan horizon. The number of additional residents and jobs that need to be on new *designated greenfield area* is then divided by the applicable minimum density target for the *designated*

greenfield area in order to determine the number of hectares of new *designated greenfield area* (excluding the lands specified in Growth Plan policy 2.2.7.3, which identifies the lands over which the *designated greenfield area* density target is measured) needed to meet the Schedule 3 forecast for permanent population and community area jobs to the Growth Plan horizon.

The result of this step is the amount of new community area land needed to accommodate forecasted growth. The most appropriate location for any new *designated greenfield area* land is determined by the upper- or single-tier municipality at a later stage in the *municipal comprehensive review* process.

Example

Example Box 11: Calculate Community Area Land Need (Inner Ring)

The final step (Step R6) in determining community area land need is based on the *designated greenfield area* density policies. The total population and employment in the *designated greenfield area* would have been determined in prior steps. The persons plus jobs not accommodated within the existing *designated greenfield area* would be accommodated by increasing the size of the *designated greenfield area* through *settlement area* expansion. Since all expansion lands in the *inner ring* must be planned to achieve a minimum density target of 80 residents and jobs per hectare (no alternative), this example demonstrates need for an additional 545 hectares of urban land in this municipality. Once need for a *settlement area* boundary expansion has been determined through land needs assessment, the location is determined in a later part of the *municipal comprehensive review* process and subject to other policy requirements (e.g. assessment of feasibility).

Legend		
Colour	**General Source or Purpose**	**Source or Purpose in this Step**
	Figure from another land needs assessment step	From Steps R4 and R5, population and employment in *designated greenfield area* community area
	Policy input	*Designated greenfield area* minimum density policies
	Results needed for a later land needs assessment step	Community land need for input to overall MCR

New Designated Greenfield Area Residents and Jobs

Total Resident and Jobs at 2041 in *Designated Greenfield Area*	255,300
Total Resident and Jobs at 2041 in Existing *Designated Greenfield Area*	209,860
Total	45,440

Land Need

Residents + Jobs in New *Designated Greenfield Area*	45,440
Minimum density target for New *Designated Greenfield Area*	80
Community area land need (ha)	568

Example Box 12: Calculate Community Area Land Need (Outer Ring)

The calculations are similar in the *outer ring* and in the *inner ring*, with two exceptions. First, in the *outer ring*, the minimum density target is measured as an average across both the existing and new *designated greenfield area*. This is a density target of either 80 residents and jobs combined per hectare or an alternative density target, where permitted by the Minister. In this example, the minimum density target shown is 62 residents and jobs combined per hectare. Second, in the *outer ring*, an upper- or single-tier municipality could have *excess lands*, which triggers the application of additional policy requirements. In the following two tables, the first provides an example resulting in community area land need and the second provides an example of a similar calculation, except where the result determines that there is *excess land*.

The total *designated greenfield area* figures are deliberately different between the following two tables in order to demonstrate the difference between a municipality with a community area land need versus a municipality with *excess land*.

Legend Colour	General Source or Purpose	Source or Purpose in this Step
(yellow)	Figure from another LNA step	From Steps R4 and R5, population and employment in *designated greenfield area* community area
(red)	Policy input	*Designated greenfield area* minimum density policies (in this example it is assumed than an alternative target of 62.0 has been permitted by the Minister)
(green)	Results needed for MCR	Community land need (or *excess land*)

Designated Greenfield Area Population, Employment and Land Need in Outer Ring (Land Needed)

New Designated Greenfield Area Residents and Jobs

Total Residents and Jobs at 2041	255,300
Less Minimum Residents and Jobs to be accommodated in Existing Area	209,860
Total Residents and Jobs in New *Designated Greenfield Area*	45,440

New Designated Greenfield Area Required

Residents + Jobs in New *Designated Greenfield Area*	45,440
Minimum *Designated Greenfield Area* Density Target	62.0
Community area land need (ha)	733

Designated Greenfield Area Population, Employment and Land Need in Outer Ring (Excess Land)

2041 Designated Greenfield Area Total

Total Residents and Jobs at 2041	180,000
Less Residents and Jobs Potential in Existing *Designated Greenfield Area*	209,860
Total Residents and Jobs Potential on *Excess Lands*	(29,860)

Excess Designated Greenfield Area

Residents + Jobs in New *Designated Greenfield Area*	(29,860)
New *Designated Greenfield Area* Density	62.0
Community area land need (ha)	(482)

4   Employment Area Land Need

The second part of the methodology involves steps to determine where and how forecasted employment in Schedule 3 will be accommodated within the upper- or single-tier municipality, in both *employment areas* and in the community area (illustrated in Figure 7). The community area jobs are those that will be located within *settlement areas* but outside of *employment areas.* The community area jobs in the *designated greenfield area* are counted towards the minimum density target for that policy area. The *employment area* jobs will determine the amount of *employment area* land needed (in hectares) to accommodate that growth. Determination of *employment area* land need entails allocating jobs to four land-use based categories based on policy direction and the particular characteristics of the municipality. The methodology provides for municipal-specific analysis of the employment base and the future growth outlook of employment by type within the context of the Schedule 3 total employment forecast.

Once the jobs by type have been allocated to land-use based categories, the methodology determines *employment area* land need as follows:

- First, a municipality determines how many jobs will be accommodated in community areas and how many will be accommodated in *employment areas*. It is expected that the vast majority of employment land employment will be accommodated in *employment areas*, and the majority of major office employment and population-related employment will be in community areas.

- Second, as discussed, community area jobs are allocated to the *delineated built-up area* and the *designated greenfield area*. Jobs in the *designated greenfield area* are accommodated at the *designated greenfield area* density target in order to determine if additional land is needed to accommodate community area job growth.

- The jobs allocated to *employment areas* are further allocated to built *employment areas* inside *settlement areas* (including *brownfield sites* and underutilized sites, even if currently vacant) and existing *employment areas* located outside *settlement areas* (a limited amount based on where permitted by Growth Plan policies).

- Finally, the remaining unallocated jobs are multiplied by the projected density of newly developing *employment areas* to determine the total amount of future *employment area* land within *settlement areas* that is

needed to the Growth Plan horizon. The amount of existing *employment area* land that is designated but currently undeveloped (new developing) is subtracted from the total that is needed to determine whether there is a shortage or a surplus.

Figure 7: Assessing Employment Growth by Type and Location
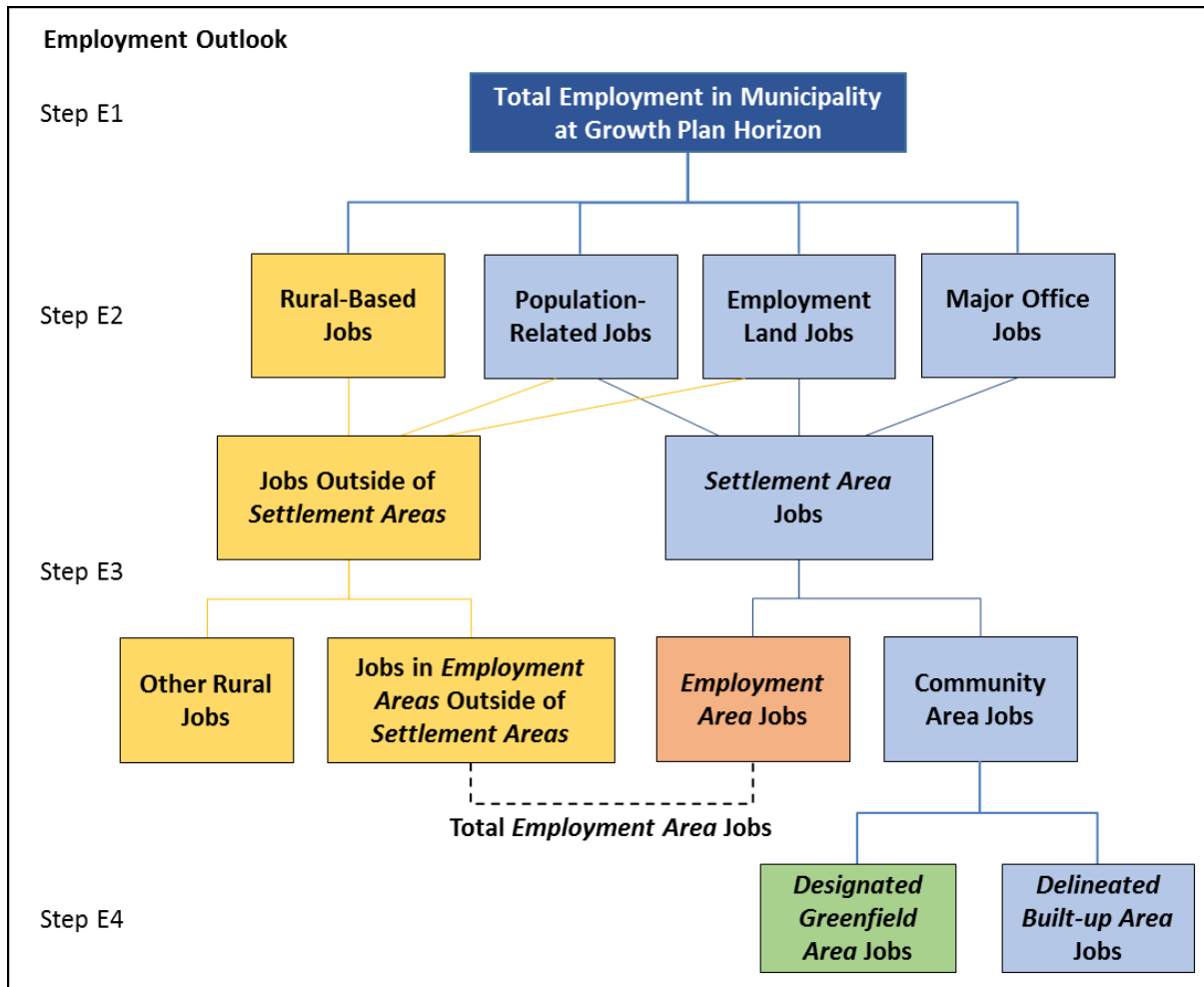
4.1   Policy Context

When planning locations for employment, municipalities will address Growth Plan policy requirements to:

- Within *settlement areas*, make more efficient use of existing *employment areas* and vacant and underutilized employment lands and increase employment densities;

- Ensure the availability of sufficient land, in appropriate locations, for a variety of employment types to accommodate forecasted employment growth to the Growth Plan horizon;

- Direct *major office* and appropriate institutional development to *urban growth centres*, *major transit station areas* and other *strategic growth areas* with existing or planned *frequent transit* service;

- Direct retail and office uses to locations that support *active transportation* and have existing or planned transit;

- Prohibit institutional, other *sensitive land uses*, and retail and office uses that are not associated or ancillary in *prime employment areas*;

- Prohibit *major retail* or establish a size and scale threshold to prohibit any *major retail* exceeding this threshold in *employment areas*; and

- Provide for economic activity on *rural lands* that is appropriate in scale and type to the rural context, for example, management and use of resources, resource-based recreational uses and other rural land uses not appropriate in *settlement areas*.

4.2   Key Terminology

Population-related employment: Jobs that primarily serve a resident population, including retail, education, health care, local government and work-at-home employment. The vast majority is located in community areas.

Major office employment: Office jobs contained within free-standing buildings more than 20,000 net square feet (1,858 m^2), as this is the size threshold that is used for most relevant datasets. This differs from the 4,000 m^2 size threshold that is used in Growth Plan policy for determining the size of buildings that must be located near existing or planned *frequent transit.*

Employment land employment: Jobs accommodated primarily in industrial-type buildings. The vast majority are located within business parks and industrial

areas (i.e. *employment areas*) within *settlement areas*. In older urban centres, some share of this type of employment also occurs in more disbursed locations. There are also some jobs in this category on lands outside *settlement areas* with existing permissions.

Rural-based employment: Jobs scattered throughout *rural lands* and include agriculture and primary industries as well as other uses that might typically be found in existing *employment areas* located outside of *settlement areas* on rural lands. Uses will typically include *agriculture-related uses* such as feed or fertilizer facilities, small-scale manufacturing or construction businesses run from rural and farm properties and some scattered retail or service users.

4.3   Key Steps

There are six key steps to establishing *employment area* land need:

- Step E1: Calculate Total Employment Growth to the Growth Plan Horizon

- Step E2: Categorize Employment Growth

- Step E3: Allocate Categorized Employment Growth to the Community Area and *Employment Areas*

- Step E4: Forecast Community Area Employment Growth in Policy Areas

- Step E5: Calculate the Minimum Number of Jobs to be Accommodated in Existing *Employment Areas*

- Step E6: Establish *Employment Area* Land Need

The following provides a more detailed explanation of each step using the same set of sub-headings: Purpose, Method, Inputs/Data Sources, Assumptions and Example. The Example shows how the step is to be undertaken using a hypothetical upper- or single-tier municipality.

In some instances there is flexibility in different inputs/data sources or assumptions used in applying the methodology, however, there can be no deviations from the steps outlined below or the required outputs.

Step E1 Calculate Total Employment Growth to the Growth Plan Horizon

Purpose

The purpose of this step is to identify the amount of employment growth anticipated to occur in the upper- or single-tier municipality between the base year and the Growth Plan horizon in accordance with Schedule 3. This provides a starting point for assessing land need for employment uses. Unlike the residential analysis, assessment of need for land in *employment areas* does not involve the use of any interim years between the base year and the Growth Plan horizon.

Method

First, the base year employment for the upper- or single-tier municipality is established. Total employment is based on Statistics Canada's Place of Work data from the most recent Census. In order to conform with the Schedule 3 employment forecasts, total employment includes work at usual place, work at home and work at no fixed workplace by place of residence for each Census Division[4]. Explanation Box 7 addresses those who are counted in the employment forecast and the treatment of those with no usual place of work. The method of treating those with no usual place of work is further described with a 2011 example for the Greater Toronto and Hamilton area in Appendix 1.

There are other approaches to count employment and allocate employment with no usual place of work. It is important that the approach used is well understood in order to remain consistent with Schedule 3 in the analysis.

Once the base year employment is established, the total forecasted employment growth from the base year to the Growth Plan horizon can be calculated by subtracting the base year employment from the total jobs in Schedule 3.

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[4] A Census Division is a Statistics Canada reporting geography for the Census. In the *inner ring*, the Census Divisions are the Region of Durham, the Region of York, the Region of Peel, the Region of Halton, the City of Toronto, and the City of Hamilton. In the *outer ring*, the Census Divisions are the Region of Niagara and the Region of Waterloo and the geographic counties, that is, the municipal counties plus any separated cities. For the purposes of the Methodology, the County of Haldimand (part of the Haldimand-Norfolk Census Division) should be treated as a Census Division, since Norfolk County is outside of the *GGH*. Like the analysis of population, employment in Indigenous communities is excluded from the employment analysis.

Explanation Box 7: Who is Counted in the Employment Forecast?

The employment forecasts in Schedule 3 of the Growth Plan adopt the Census definition of employment by place of work. Anyone employed on Census day or who had been employed any time within the previous six months is counted as employed by the Census. For each person reporting employment, a total of one job is counted, whether that person is full-time, part-time or holds multiple jobs. To the extent that people hold more than one job, the Census therefore under-represents the total number of jobs. Given that total employment does not distinguish between full-time and part-time jobs, total employment may be greater than "full-time equivalent" employment, a number sometimes used in employment counts for other purposes.

One of the ways that the Census categorizes place of work employment is the following:

- **Work at Usual Place**: includes those who reside anywhere in Canada who report their usual place of work as being within the *GGH*.
- **Work at home**: includes those who work at their place of residence within the *GGH.*
- **Work at no fixed workplace**: includes those who report that they do not work at a fixed location (for example, some truck drivers and construction workers, or people who work at multi-locations through "freelancing" or an employee relationship). To determine the employment base for forecasting purposes, these jobs are allocated to a particular location in the *GGH.*

The allocation method is based on the distribution of employees in similar economic sectors within a common labour market area. This reflects a "snapshot" of where people were working on Census day with the assumption that they would most likely have commuted to and be found in places where other people in similar activities are working.

In the *outer ring*, no fixed place of work employees are allocated to their Census Division of residence, except for those that include separated cities. In the *inner ring* and in the separated city/county sub-parts of a Census Division, the no fixed place of work employees are treated as a pool and allocated to the sub-parts in accordance with the shares in each economic sector among those with a usual place of work.

These categories are distinct from other categorisations of total employment that are used elsewhere, such as industry type or occupation.

In summary, total employment in the employment forecasts in Schedule 3 of the Growth Plan includes: all work place status types, including those with no fixed place of work and those who work at home; and all industry types including retail, industrial and service jobs, regardless of location.

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

Inputs / Data Sources

This step relies on Statistics Canada Census employment data by place of work and the employment forecast in Schedule 3 of the Growth Plan. Employment by usual place of work, work at home and no fixed place of work, by industry type (North American Industry Classification System or NAICS) is available by special run from Statistics Canada.

NAICS codes provide a detailed breakdown of employment by sector that can be used to assist in translating the total employment forecast into land-use based categories in the next step.

Information from municipal employment surveys may also be used to establish the base year employment. However, if employment survey data are used, they should be adjusted to the Census definition so that it is comparable to Schedule 3, which accounts for usual place of work, no fixed place of work and work at home employment.

Assumptions

In this step, upper- and single-tier municipalities will plan for the employment forecast in Schedule 3 to the Growth Plan horizon.

For some municipal purposes, employment forecasts sometimes exclude work-at-home or no fixed place of work. This is an appropriate approach for some purposes, such as development charge background study forecasts. However, for the purposes of a land needs assessment that conforms with the Growth Plan, these types of jobs need to be included in the total employment figure.

Example

Example Box 13: Calculate Total Employment Growth to 2041.

In Step E1, total employment is taken from the 2016 Census and includes employment by place of work in all three commuting-based categories: usual place of work, work at home and no fixed place of work. The use of all of these employees is required so that total employment is defined in the same way as the forecasts in Schedule 3. There is a specific method of allocating those with no usual place of work within the *inner ring* and in any areas where there is more than one upper- or single-tier municipality within a Census Division. Refer to Appendix 1.

The purpose is to show total employment in the Census base year, 2041 total employment from Schedule 3 and the growth increment.

Legend Colour	General Source or Purpose	Source or Purpose in this Step
	Externally sourced data	2016 Census place of work employment

Date	Total Employment	Planning Period	Total Employment Growth
2016	352,360		
2041	485,000	2016-41	132,640

Note: Total employment and total employment growth data over the 2016 – 2041 planning period is externally sourced from 2016 Census data.

Step E2   Categorize Employment Growth

Purpose

The purpose of dividing employment growth into land-use based categories is to help estimate how many jobs will be located in *employment areas* and how many jobs will be located in the community area. Meeting the density target for residents and jobs in the *designated greenfield area* (addressed in Step R6 in Section 3) and the number of community area jobs are inputs to the determination of community area land need.

Figure 8: Employment by Land-use Based Categories
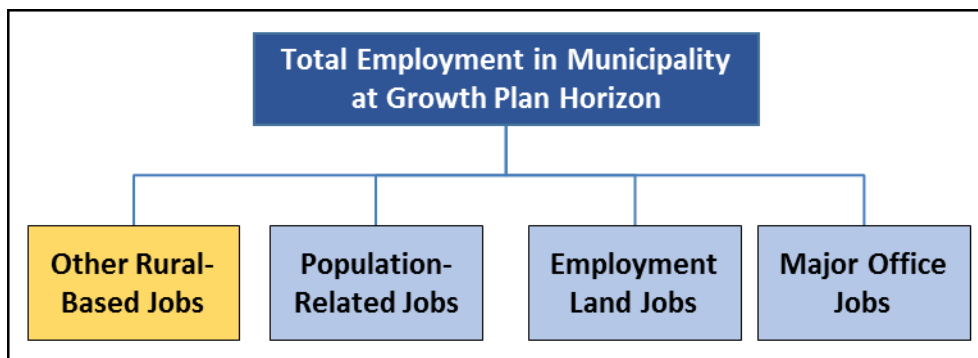
Method

In order to understand, and plan for, the geographic distribution of jobs, the employment forecast is divided into land-use based categories. The following four categories are typically used in planning for employment and *employment areas* in the *GGH* and are recommended: major office employment, population-related employment, employment land employment and rural-based employment (refer to Section 4.2 for how these categories are defined). See Figure 8 for an illustration of the four recommended categories.

Reasonable alternative categories may be acceptable as long as the definitions of the categories are clear and they support the necessary allocation of existing employment and employment growth to community areas, *employment areas* and outside *settlement areas*. See Explanation Box 8 for a discussion of historical employment patterns.

In smaller, more rural communities, a simpler approach that directly allocates to community areas, *employment areas* and outside *settlement areas* may be appropriate. This approach also requires careful consideration of growth within

the context of the employment strategy but is simpler and more appropriate in some communities.

The categorization of employment growth should be based on analysis of the current and future anticipated structure and composition of employment in the municipality, which would be undertaken as part of preparing an employment strategy. It should reflect municipal expectations for economic development, however, it is important that local expectations be realistic in terms of the local economic base and function within the broader regional economy. Forecasts of employment growth by type of employment should be based on observed recent trends, recognizing that changes in the overall employment base in any community are usually gradual (as further described in Explanation Box 8 and Explanation *Box 9*).

See Appendix 2 for additional information on the allocation of employment into land-use based categories, and see Appendix 3 for additional information on population-related employment.

Once the base year employment by type is estimated, the growth increment to the Growth Plan horizon is allocated to each employment category by share.

Explanation Box 8: Historical Shifts in Employment Growth and Economic Change.

The table below shows GTHA employment growth over the 25 year period from 1991 to 2016. This is a period when there were significant shifts in the region's economic base and employment composition. However, the overall shift in the type of space or land occupied was much less significant. Over that 25-year period, the share of total employment in offices rose by about three per cent overall and employment land employment declined about the same in overall share. Nevertheless, the employment land employment category still accounted for nearly one-third of growth and grew by about 36 per cent over the 25- year period, despite the significant shift in the general share of total employment away from goods-producing industries towards more service-oriented activities.

Date / Planning Period	Major Office Employment	Population-Related Employment	Employment Land and Rural-Based Employment	Total
1991	23.2%	37.6%	39.3%	100.0%
1991-2016 Growth	31.2%	37.4%	31.4%	100.0%
2016	25.7%	37.5%	36.8%	100.0%

The analysis on the likely location of employment land employment is critical to land needs assessment, since the majority of jobs in this category of employment will be located in the *employment area*.

Outside of the GTHA and Waterloo Region, major office jobs are and will continue to be a very small share of employment growth. Office concentrations are attractive from the perspective of density, the ability to be served by transit and to structure community development. However, there is not that much new office space to be accommodated in most communities. It is important that municipalities are realistic about their potential to attract major office employment growth.

Within the GTHA, it is also important for municipalities to consider office growth within a regional context. The GTHA has a very large office market, but there is still only a limited amount to be shared among the City of Toronto, the City of Hamilton, the Region of Peel, the Region of York, the Region of Halton and the Region of Durham. Coordination among the GTHA municipalities on planning for employment is important. Municipalities should use the most currently available data and take into consideration the broader office market and regional growth expectations when determining their own office growth outlook and allocations.

Like employment land employment, it is important to understand that the shifts among other land-use based employment categories do not occur quickly. In case of the GTHA, if it continues to accommodate 31.2% of growth in major office from 2016 to 2041, as it has in the past 25-years, by 2041, major office as a share of total employment would only rise from 25.7% to 27.0%.

Population-related employment is mostly accommodated in community areas (where the population lives) and is provided for through normal planning for commercial and institutional development. In general, this category is forecast in terms of a ratio to population. Such ratios typically do not shift rapidly for most communities and have generally proven to be a sound basis for forecasting.

However, the ratios do vary widely between municipalities, where there will be far more of these jobs in central places such as the City of Toronto, the City of Hamilton and the City of Barrie that provide services to surrounding areas and far fewer jobs of this type in smaller and more rural communities that are serviced by nearby larger centres.

Within population-related employment there are many changes occurring, though some compensate for others. In most locations, work at home employment has been relatively stable for some time. Looking forward, there is an expectation of growth in health care and other services resulting from an aging population, while retail employment growth is likely to be more restrained with the continued growth of online shopping.

Finally, rural-based employment is likely to remain relatively stable. While vibrant economic activity will continue to occur in rural areas, the economic sectors that are prevalent there are not expected to experience significant employment growth and new development for economic uses that do not need to be in the rural area is limited by policy directing development to *settlement areas.*

In determining the forecast shares, municipalities should consider these shifts in the economy while being careful not to anticipate an excessive amount of change in a relatively short time period.

Explanation Box 9: Forecasting employment growth and economic change

One of the key assumptions in planning for long-term employment growth and for determining long-term employment land need is the share of forecasted growth to occur within each of the land-use based employment categories. In determining appropriate shares for a municipality, there is much to consider.

In most cases the share of growth associated with each employment category will differ from the share of the overall base. That means the share of growth in major office employment for the 2016–41 period might be higher than its share of total employment in 2016. The difference is because the share assumptions embody anticipated economic change both in the overall economy and changes that may be more specific to the municipality.

While considering economic change, it is important to understand the likely pace of change. Even during periods of rapid change at the margin (i.e. particular sectors and firms), the overall shift in employment generally takes more time.

Inputs / Data Sources

A range of data sources may be relied on for this step, including: municipal employment surveys, Statistics Canada employment by NAICS and other municipal sources of information on the current and likely future composition and geographic distribution of the local employment base.

The allocation of total employment to the categories should be undertaken using available data for the base year, considering the amount of office space, employment by NAICS codes, local employment surveys and other information about local land-use.

Larger municipalities will likely have more data and more detailed methods, whereas smaller municipalities could potentially use a simpler method. In any case, the approach needs to be clear and reasonable within the local economic context and documented as part of the land needs assessment.

Assumptions

This step involves making assumptions about where and how employment is currently distributed amongst the four land-use based employment categories and how it is likely to be distributed in the future.

To apply Growth Plan policies, it must be determined where forecasted jobs will occur between the community area, *employment areas* and the rural area. As well, there are specific policies concerning the location of *major offices* occurring in either *employment areas* or community areas. Much of this type of employment will be directed to *urban growth centres*, *major transit station areas* or other *strategic growth areas* with existing or planned *frequent transit* service. The land-use based employment categories assist the municipality in allocating existing and forecasted employment to the policy areas, while also giving consideration to how policies will affect the location of employment growth.

Some municipalities may already use somewhat different definitions and categories in employment analyses. As already noted, the approach allows some flexibility in how categories are defined as long as the definitions and any variations from those described above are grounded in commonly accepted municipal practice and clearly documented.

In most *outer ring* municipalities, the amount of major office employment space (and hence major office employment jobs) will be minimal or non-existent and

may be combined with population-related employment or employment land employment for convenience.

The land-use based categories also cannot be precise to NAICS codes. For example, financial services employment could be in an office building, a retail bank in population-related employment, a data centre in employment land employment or even an insurance agent in rural-based employment.

Example

Example Box 14: Categorize Employment Growth by Land-use Based Categories.

Step E2 shows the allocation of employment and employment growth to the four recommended land-use-based employment categories. With some small variations, these categories are in general use for forecasting by most municipalities in the *GGH*. While the calculation for the purpose of this step (identifying a share of growth in each category) is relatively simple, establishing that share requires careful thought and analysis, which should align with the employment strategy that municipalities are required to develop. It is important that these shares recognize reasonable expectations for growth in the community. Where a municipality may have some aspirational economic development goals, these should not supersede an on-the-ground understanding of the nature of recent and expected growth. The results of the land needs assessment relating to *employment area* land needs are primarily driven by the growth in employment land employment, as this category is primarily accommodated in *employment areas*.

Legend		
Colour	**General Source or Purpose**	**Source or Purpose in this Step**
	Data or assumptions from background analysis	Share of growth in each category based on same analysis undertaken to inform employment strategy
	Figure from another land needs assessment step	From Step E1, total employment
	Results needed for a later land needs assessment step	Step 3 distribution of employment to policy geographies

Employment by Category

Date	Major Office	Population-Related	Employment Land	Other Rural-Based	Total
2016	60,830	117,540	172,240	1,750	352,360
2041	104,090	161,360	217,970	1,580	485,000

Note: Analysis undertaken to inform employment strategy should also be used to allocate employment to the four land-use based categories in 2016. The totals for both 2016 and 2041 are figures from Step E1.

Share of Growth by Category

Planning Period	Major Office	Population-Related	Employment Land	Other Rural-Based	Total
2016-41	32.6%	33.0%	34.5%	-0.1%	100.0%

Note: Analysis undertaken to inform employment strategy should also be used to allocate the share of growth to the four land-use-based employment categories over the 2016-2041 planning period.

Employment Growth by Category

Planning Period	Major Office	Population-Related	Employment Land	Other Rural-Based	Total
2016-41	43,260	43,820	45,730	(170)	132,640

Note: Employment growth by the four land-use based categories over the planning period 2016-2041 will be required for Step E3.

Step E3 Allocate Categorized Employment Growth to the Community Area and Employment Areas

Purpose

The allocation of employment growth by land-use employment category to community areas, employment areas and outside *settlement areas* determines how many jobs will be in the community area (and therefore subject to the *designated greenfield area* density target) as well as how many jobs will be in employment areas. See Figure 9 for an illustration of how forecasted jobs in each of the land-use employment areas are allocated to community areas, *employment areas* and outside *settlement areas*.

Figure 9: Total Employment in Municipality at Growth Plan Horizon
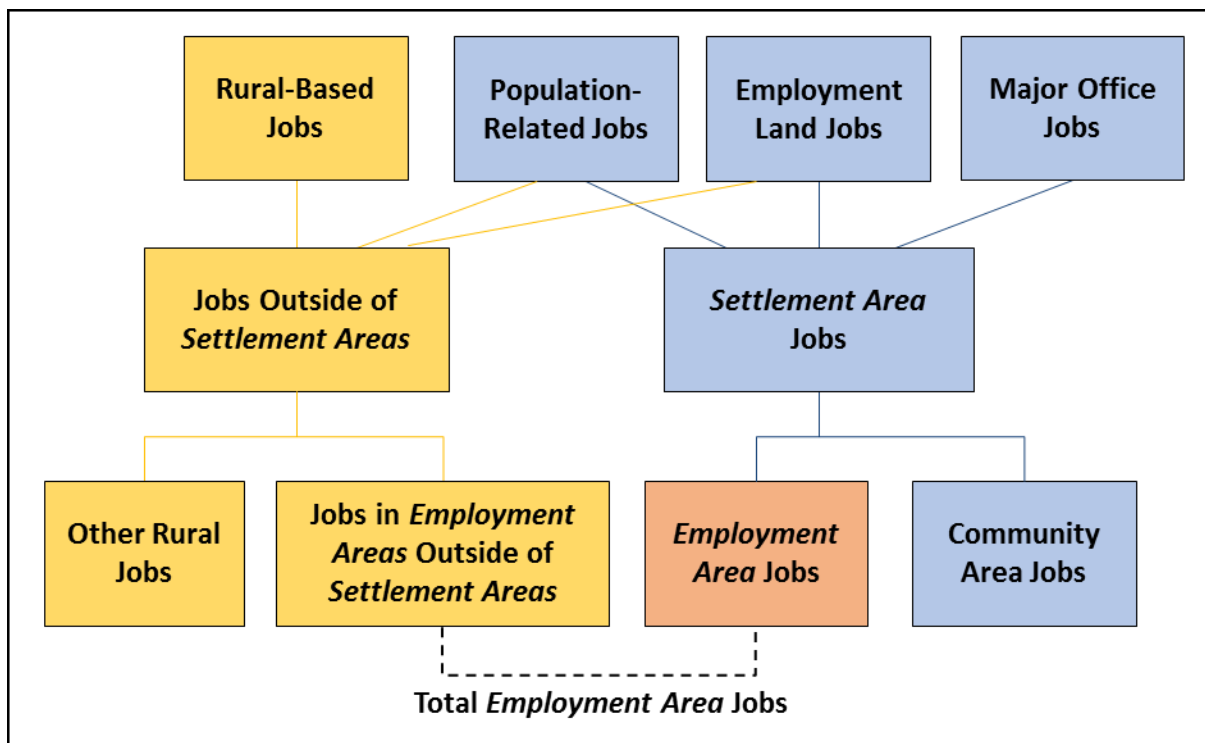
Method

In this step, the employment by type is allocated geographically to the rural area (including existing *employment areas* located outside *settlement areas*), community area and *employment areas*.

All employment that is expected to occur outside of *settlement areas* (including any existing *employment areas* outside *settlement areas*) is allocated to the rural area. This includes all of the rural-based employment jobs determined in the prior step. A small share of employment land employment and a small share of population-related employment may also be allocated to the rural area to account for existing and future development in existing *employment areas* located outside of *settlement areas* and recreational and tourism activities. This amount of employment growth in the rural area should be very limited.

The remaining jobs are allocated to community areas and *employment areas* within *settlement areas*. The result of the allocation is the number of jobs to be planned for in each of *employment areas*, community areas and the rural area from the base year to the Growth Plan horizon.

Inputs / Data Sources

This step relies on Statistics Canada data relating to the amount and location of jobs. Municipalities may also supplement this with their own data, including employment surveys, local land-use and development information.

Assumptions

In this step, assumptions are made regarding the amount and location of job growth by type by community area, *employment area*, and areas outside s*ettlement areas*, both existing and projected to the Growth Plan horizon. The analysis undertaken to support the preparation of an employment strategy (which municipalities are required to develop) should also support the assumptions made in this step.

The following are some of the general assumptions that can be made to help inform the allocation of categorized employment to community areas and *employment areas*:

- Major office employment should be divided between community areas and *employment areas*. How this is divided depends on the community: those with an established downtown office base likely have a higher share in the community area and those where offices are primarily located in business parks likely have a higher share in *employment areas*. Growth Plan policies directing *major office* development to *urban growth centres*, *major transit station areas* and other *strategic growth areas* with existing or planned *frequent transit* service should result in the direction

of a higher-than-current share of future major office employment to the community area.

- Most, or all, employment land employment should be allocated to e*mployment areas* as well as a small share of population-related employment, to reflect any service uses that may be permitted in *employment areas*.

- The balance of population-related employment growth plus, possibly, a very small share of employment land employment should be allocated to the community area. Employment land employment within community areas is typically scattered amongst individual industrial sites embedded within older community areas, often adjacent to railway lines or other major *infrastructure*. While these areas exist within the current employment base, they are not typically the locations of significant employment growth.

Example

Example Box 15: Allocate Categorized Employment Growth by type to Community Areas and Employment Areas.

Step E3 distributes the forecast of employment by type to community areas, *employment areas* and areas outside *settlement areas*. As noted in the text, most of the jobs generally align between the land-use based employment categories and the policy areas. The results are the geographic allocation of total employment to the community area, *employment area* and rural area.

Legend Colour	General Source or Purpose	Source or Purpose in this Step
	Data or assumptions from background analysis	Share of growth in each location in base year and forecast from analysis in the employment strategy
	Figure from another land needs assessment step	From Step E2, employment by type
	Results needed for a later land needs assessment step	Step E4 distribution of community area employment to *designated greenfield area* and Step E6 employment area land need

Employment by Type

Date / Planning Period	Major Office	Population-Related	Employment Land	Other Rural-Based	Total
2016	60,830	117,540	172,240	1,750	352,360
2016-2041	43,260	43,820	45,730	(170)	132,640
2041	104,090	161,360	217,970	1,580	485,000

Note: Employment by type for 2016 and 2041 are from Step E2.

Employment in Rural Area - Share of Employment and Type

Date / Planning Period	Major Office	Population-Related	Employment Land	Other Rural - Based	Total
2016	0.0%	3.0%	0.6%	100.0%	1.8%
2016-2041	0.0%	1.0%	0.6%	100.0%	
2041	0.0%	2.5%	0.6%	100.0%	1.4%

Note: Analysis completed to inform the employment strategy is used to distribute the share of employment and type to the four land-use-based employment categories over the 2016-2041 planning period for rural area employment.

Employment in Rural Area - Employment by Type

Date / Planning Period	Major Office	Population-Related	Employment Land	Other Rural-Based	Total
2016	0	3,560	1,090	1,750	6,400
2016-2041	0	440	270	(170)	540
2041	0	4,000	1,360	1,580	6,940

Note: Analysis completed to inform the employment strategy is used to distribute employment by type to the four land-use-based employment categories over 2016 for rural area employment.

Employment in Employment Areas - Share of Employment and Type

Date / Planning Period	Major Office	Population-Related	Employment Land	Other Rural - Based	Total
2016	78.9%	5.0%	98.0%	0.0%	63.2%
2016-2041	69.2%	5.0%	99.5%	0.0%	
2041	74.9%	5.0%	98.3%	0.0%	61.9%

Note: Analysis completed to inform the employment strategy is used to distribute the share of employment and type to the four land-use-based employment categories over the 2016-2041 planning period for *employment area* employment.

Employment in Employment Areas - Employment by Type

Date / Planning Period	Major Office	Population-Related	Employment Land	Other Rural - Based	Total
2016	48,000	5,880	168,790	0	222,670
2016-2041	29,930	2,190	45,520	0	77,640
2041	77,930	8,070	214,310	0	300,310

Note: Analysis from the employment strategy is used to distribute employment by type to the four land-use-based employment categories over 2016 for *employment area* employment. The *employment area* total at 2041 will be required for Step E6.

Employment in Community Area - Share of Employment and Type

Date / Planning Period	Major Office	Population-Related	Employment Land	Other Rural - Based	Total
2016	21.1%	92.0%	1.4%	0.0%	35.0%
2016-2041	30.8%	94.0%	-0.1%	0.0%	
2041	25.1%	92.5%	1.1%	0.0%	36.6%

Note: Analysis from the employment strategy is used to distribute the share of employment and type to the four land-use-based employment categories over the 2016-2041 planning period for community area employment.

Employment in Community Area - Employment by Type

Date / Planning Period	Major Office	Population-Related	Employment Land	Other Rural - Based	Total
2016	12,830	108,100	2,360	0	123,290
2016-2041	13,330	41,190	(60)	0	54,460
2041	26,160	149,290	2,300	0	177,750

Note: Analysis from the employment strategy is used to distribute the share of employment and type to the four land-use-based employment categories over the 2016-2041 planning period for community area employment.

Example Box 16: Alternative Combined Employment Steps E2 and E3 – Allocate Job Growth from 2016 to 2041 by Simplified Categories for Smaller *Outer Ring* Municipalities.

This example shows an alternative simplified allocation of the employment base and the employment growth directly from the source data to the policy areas, leaving out the four land-use-based employment categories. This type of approach may be appropriate in a smaller *outer ring* municipality where there is a smaller quantum of growth and most of the employment is either locally-based or at a small number of known larger employers.

Like the more detailed approaches already shown, *employment area* land need is determined by the industrial-type employment which make up most of the land-uses in *employment areas*.

Legend Colour	**General Source or Purpose**	**Source or Purpose in this Step**
	Data or assumptions from background analysis	Share of growth in each category based on analysis undertaken to inform employment strategy
	Figure from another land needs assessment step	From Step E1, total employment
	Results needed for a later land needs assessment step	Step E3 distribution of employment to policy geographies

Step E2 and E3: Base Year and Forecast Employment by Geographic Area for Smaller *Outer Ring* Municipalities

	Community Area	Employment Area	Rural	Community Area	Employment Area	Rural	Total
2016 Employment	43%	39%	18%	5,320	4,830	2,230	12,380
2016-2041 Growth	53%	42%	5%	1,630	1,290	150	3,080
2041 Employment	45%	40%	15%	6,950	6,120	2,380	15,460

Note: The analysis undertaken to inform employment strategy should also be used to determine the geographic allocation of shares of growth for 2016 and 2016-2041 employment. The forecasted figures for 2041 employment will be required for Step E3. Total employment is taken from Step E1.

Step E4   Forecast Community Area Employment Growth in Policy Areas

Purpose

The next step is to allocate the community area jobs, as identified in the prior step, to the *delineated built-up area* and *designated greenfield area* (see Figure 10). The purpose is to determine how many jobs will be in the *designated greenfield area* which, when combined with population, will determine density (in residents and jobs) and future community area land needed to accommodate forecasted growth.

Employment uses in the *designated greenfield area* contribute to planning to achieve the minimum density target for the *designated greenfield area*, which is measured in combined residents and jobs per hectare (refer to Section 2.2).

As outlined in Section 3 of this methodology, *designated greenfield area* employment is an input into the overall community area land need determined in Step R6.

Figure 10: Determining Location of Job Growth in Community Areas
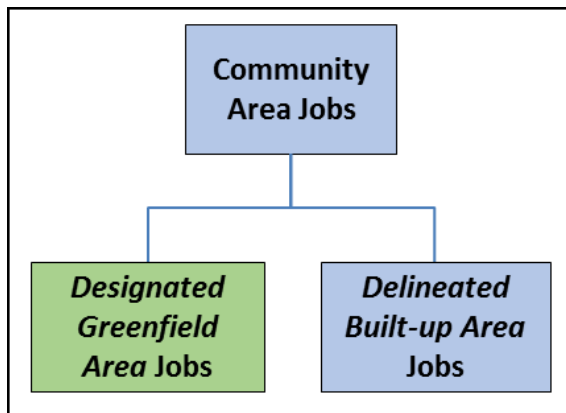
Method

The focus in this step is on jobs occurring in community areas. *Employment areas* are addressed later in Step E5 and Step E6.

Community area jobs are allocated between the *delineated built-up area* and the *designated greenfield area* of the upper- or single-tier municipality, based on the existing employment base, size and community characteristics. Municipal employment strategies and other background work conducted as part of the

broader *municipal comprehensive review* process provide the supporting analysis for how existing and forecasted jobs should be allocated to policy areas.

Inputs / Data Sources

Background analysis undertaken to inform the development of the employment strategy for the upper- and single-tier municipality (e.g. structure and composition of the economy, sectoral analyses, economic base analyses) should inform the assumptions that must be made for this step in the land needs assessment.

Assumptions

This step involves making assumptions about the relative proportions of future employment growth in community areas that will be in the *delineated built-up area* versus the *designated greenfield area*, based on the characteristics of the employment base. Generally, in larger municipalities, the amount of community area jobs is assumed to be proportional to population growth in the *delineated built-up area* and the *designated greenfield area.*

In the newly developing *designated greenfield area*, most of these jobs are assumed to be work at home and in local retail, schools and other local institutions, all of which are typically planned as part of detailed land-use planning for community areas.

It may be assumed that a very significant proportion of community area employment growth will be in the *delineated built-up area*, both to serve its local population growth and also to account for downtowns, retail centres, hospitals and post-secondary education institutions, most of which are located in *delineated built-up areas*. Similarly, in smaller municipalities where new *designated greenfield area* development tends to be located in very close proximity to the *delineated built-up area*, it may be likely that there is a high proportion of these jobs in the *delineated built-up area*.

Example

Example Box 17: Forecast Existing Employment and Employment Growth in the Community Area to the Delineated Built-up Area and the Designated Greenfield Area

Step E4 distributes the community area employment between the *delineated built-up area* and the *designated greenfield area*. The purpose is to determine the number of jobs in the *designated greenfield area* to provide the "jobs" in the "residents and jobs combined per hectare" density calculations. As discussed in the text, in most municipalities, most of the community area employment growth is likely occur within the *delineated built up area* since a significant part of the population growth being served by these jobs will occur there and, typically, most of the *major retail* and institutions are either located within the *delineated built-up area* or in the already-built portions of the existing *designated greenfield area*.

The allocation to the policy areas is not part of the calculation of the *employment area* land need analysis, but rather is an input back into the community area land need and density analysis in Step R6.

Legend		
Colour	**General Source or Purpose**	**Source or Purpose in this Step**
	Data or assumptions from background analysis	Employment and share of growth in community area
	Figure from another land needs assessment step	From Step E3, employment by policy geography
	Results needed for a later land needs assessment step	Step E6 community area *designated greenfield area* land need

Allocate employment in community areas to designated greenfield area and delineated built-up area

Date / Planning Period	Employment in Community Area
2016	123,290
2016-2041	54,460
2041	177,750

Note: All employment in community area figures are from Step E3.

Date / Planning Period	Employment in the Community Area in the Designated Greenfield Area
2016	9,050
2016-2041	22,300
2041	31,350

Note: Over the planning period of 2016-2041, figures represent growth in community area *designated greenfield area*. 2041 total will be required in Step E6.

Date / Planning Period	Employment in the Community Area in the Delineated Built-Up Area
2016	114,250
2016-2041	32,160
2041	146,400

Note: Over the planning period of 2016-2041, figures represent growth in community area delineated built up area.

Step E5 Calculate the Minimum Number of Jobs to be Accommodated in Existing Employment Areas

Purpose

The purpose of this step is to estimate the minimum number of jobs that will be accommodated in existing *employment areas* at the Growth Plan horizon. This will provide the basis for determining the *employment area* land need in the following step.

Method

The outcome of Step E3 is a determination of the total number of jobs allocated to *employment areas.* In this step, upper- and single-tier municipalities must determine how the total number of jobs allocated to *employment areas* will be distributed to the various different types of *employment areas.* Specifically, municipalities must determine how many of those jobs will be in:

- Built *employment areas* inside *settlement areas* (including brownfield and underutilized sites even if currently vacant);
- Existing *employment areas* located outside *settlement areas* (where permitted by Growth Plan policies); and
- Newly developing *employment areas* inside *settlement areas* (i.e. those recently designated but currently unbuilt).

Employment areas must be characterized this way to facilitate different approaches to analysis. For built *employment areas*, density can be estimated and thus should be forecasted to increase by the Growth Plan horizon. The amount of the increase should be based on analyses undertaken to inform intensification and employment strategies. As policy direction to optimize capacity is only applicable inside *settlement areas*, a different approach is required for *employment areas* outside *settlement areas*. Density can be estimated for *employment areas* outside *settlement areas* by taking into consideration the economic potential based on existing designations, recent trends, and applicable Growth Plan policy direction. For newly developing *employment areas* in the *designated greenfield area*, density at the Growth Plan horizon is forecasted based on detailed planning where applicable, recent development activity, and sectoral analyses.

The remaining unallocated jobs will have to be accommodated in new *employment area* lands to be added through a *settlement area* boundary expansion (determined in next step).

A geographic boundary between the built and newly developing *employment areas* can be established for analysis purposes, recognizing that there will be some remaining vacant sites within the largely built area and there may be some developed sites within the newly developing area.

For those *employment areas* inside *settlement areas*, the total land area of all of the land within this designation must be used in this analysis. However, for those *employment areas* outside *settlement areas*, the land area used in this analysis must only represent the area of land expected to be developed by the Growth Plan horizon.

The forecasted density of newly developing *employment areas* is calculated in this step and is also a key input for the next step.

Inputs / Data Sources

This step relies on data on existing development and employment, which municipalities also undertake to support the development of an employment strategy. This includes information about such matters as the land area associated with built *employment areas* (in hectares), the existing jobs currently located there, and development applications in process.

Assumptions

In determining the number of jobs, land areas and employment densities of various parts of the *employment areas*, it is anticipated that municipalities will make assumptions regarding likely changes in the existing employment base (informed by the same analysis undertaken to develop an employment strategy). To support these assumptions, municipalities are to complete analysis of employment densities and land areas by employment category for employment land employment, major office employment and population-related employment, consistent with the employment forecast categories in previous steps of the methodology.

As part of their employment strategy, upper- and single-tier municipalities must consider ways of making more efficient use of existing *employment areas* (including those that are vacant and underutilized) and planning to increase current employment densities (in accordance with policy 2.2.5.1). This

will involve analysis of the current number of jobs in built *employment areas* and, through land needs assessment, the allocation of additional jobs to those *employment area*s by 2041.

Example

Example Box 18: Step E5 – Estimate Jobs in Existing Designated Employment Areas at the Growth Plan Horizon

Step E5 estimates the number of jobs that will be in existing *employment areas* at the Growth Plan horizon. It should be based at least on the following geographic areas: built *employment areas*, existing *employment areas* located outside *settlement areas* and newly developing *employment areas*. For the purposes of the analysis, these areas may be further divided into appropriate sub-areas to account for variations in the age and character of different parts of the municipality and the availability of data by those geographic areas.

For those *employment areas* inside *settlement areas*, the estimated jobs at the Growth Plan horizon should be based on the total area of all of the lands within this designation. For those existing *employment areas* located outside *settlement areas*, estimated jobs should only be based on the land area that is actually expected to be developed by the Growth Plan horizon.

The example shows the jobs, land areas and resulting densities, since it is important to understand how all three fit together, both for clarity in this step and for use in Step E6 to determine the land need (or *excess land*). Within the built *employment area* a density is not shown in the table because only some of the 11,000 additional jobs will be on the remaining 200 hectares developed. Some of the 11,000 additional jobs will also be intensification on already developed properties.

Legend		
Colour	**General Source or Purpose**	**Source or Purpose in this Step**
	Data or assumptions from background analysis	From analysis in employment strategy
	Figure from another land needs assessment step	From Step E3, employment by policy geography
	Results needed for a later land needs assessment step	Step E6 community area *designated greenfield area* land need

Employment Area Jobs, Land and Density

Employment Area Jobs	Jobs 2016	Jobs 2016-2041	Jobs 2041
Existing *Employment Areas* Located Outside *Settlement Areas*	5,000	2,000	7,000
Built *Employment Area*	214,670	11,000	225,670
Newly Developing *Employment Area*	3,000	55,050	58,050
Total Existing *Employment Area*	222,670	68,050	290,720

Note: Total existing jobs in 2016 is a figure from Step E3. Total jobs in 2041 in the existing *employment area* is needed for Step E6. Jobs in 2016 and the growth from 2016-2041 by location are from the employment strategy.

Employment Area Land	Land (ha) 2016	Land (2016-2041)	Land (ha) 2041
Existing *Employment Areas* Located Outside *Settlement Areas*	425.0	150.0	575.0
Built *Employment Area*	6,225.2	200.0	6,425.2
Newly Developing *Employment Area*	108.0	1,966.1	2,074.1
Total Existing *Employment Area*	6,758.2	2,316.1	9,074.3

Note: Land areas by location are from the employment strategy.

Employment Area Density	Jobs/ha 2016	Jobs/ha (2016-2041)	Jobs/ha 2041
Existing *Employment Areas* Located Outside *Settlement Areas*	11.8	13.3	12.2
Built *Employment Area*	34.5	n/a	35.1
Newly Developing *Employment Area*	<u>27.8</u>	28.0	<u>28.0</u>
Total Existing *Employment* Area	32.9		32.0

Note: *Employment area* density for new development is from the employment strategy and is also required for Step E6.

Step E6   Establish Employment Area Land Need

Purpose

The purpose of this step is to compare the minimum number of jobs that can be accommodated in existing *employment areas* at the Growth Plan horizon with the total number of jobs anticipated in *employment areas* in order to determine whether there is a sufficient amount of land in *employment areas* to accommodate the employment forecasts in Schedule 3. In some instances, the result of this step may be that a shortage is identified, whereas in other instances there may be a surplus.

Method

The assessment of *employment area* land need is undertaken based on the difference between the minimum number of jobs to be accommodated in existing *employment areas* (from Step E5) and the total amount of employment that must be accommodated in those *employment areas* including any potential future *employment areas* (from Step E3).

If there are remaining unallocated *employment area* jobs, then *employment area* land is needed. The amount is determined using the projected density for newly developing *employment areas* (used in Step E5). The projected density of future *employment areas* would be the same as what was used for newly developing *employment areas* in Step E5. This would have been determined based on sectoral analyses undertaken to inform the employment strategy regarding the types of economic activities that are likely to locate in newly developing *employment areas* and the approximate densities at which they are anticipated to develop.

Explanation Box 10: Determining an overall density target for all employment areas to be included in official plans in accordance with policy 2.2.5.5.

The overall density target for all *employment areas* (required by Growth Plan policy 2.2.5.5) is not required as an input into land needs assessment. It is calculated after land needs assessment by dividing the total number of jobs allocated to all *employment areas* by the total area of land associated with them (see Example Box 21 below). This would include:

- Built *employment areas* inside *settlement areas*;
- Newly developing *employment areas* inside *settlement areas;*
- *New employment areas* to be added to *settlement areas* through the *municipal comprehensive review* process based on land needs assessment; and
- Existing *employment areas* located outside *settlement areas* (designated but may or may not be developed).

This approach will ensure that the overall *employment area* density target included in upper- and single-tier official plans as required by the Growth Plan will reflect the diversity of conditions within the municipality. It will also ensure that the amount of new *employment area* land needed is based on the types of industries that are likely to locate on newly developing *employment area* land in the municipality and the density at which they are likely to be developed.

Inputs / Data Sources

This step relies on municipal land supply and development information, including municipal employment survey data and other data collected and analysis undertaken to inform the development of an employment strategy.

Assumptions

In terms of projecting the density of newly developing *employment areas*, sectoral analyses undertaken as part of economic development strategies should inform what kind of economic activities and employment are expected to develop in the municipality within the horizon of the Growth Plan, and generally where. This includes assessing the types of economic activities that are likely to locate in newly developing *employment areas* and the approximate densities at which they are anticipated to develop.

It is anticipated that there will be significant variation in the planned density of each individual *employment area* depending on the characteristics of the

employment area, the nature of the anticipated employment, whether the *employment area* is developed, and whether it is located inside or outside of a *settlement area*. For this reason, this approach will ensure that the amount of new or *employment area* land needed is based on the types of industries that are likely to locate on newly developing *employment area* land in the municipality and the density at which they are likely to be developed.

While the methodology does not explicitly account for a vacancy factor for employment areas, the projection of density for newly developing employment areas may take into account that there may be some vacancies at the Growth Plan horizon as a consequence of some lands not fully developing by that time (e.g. lands that are odd-shaped or difficult to access, or where the owner has decided not to develop).

If a vacancy factor assumption is assumed as part of the *employment area* density analysis, it should be a reasonable factor (i.e. in the range of 3-5%) that is explicitly acknowledged in reported results of land needs assessment and the employment strategy. The same can also be done in Step E5 when estimating the number of jobs to be accommodated in built *employment areas*, provided that the calculation is premised on the assumption that the current densities of existing *employment areas* will increase (as required by policy 2.2.5.1).

Any assumed vacancy in *employment areas* is not to be used to provide additional land for "choice and competition[5]." Availability of supply to provide for a choice of site sizes and locations to prospective employers and for competition in the land market among developers is afforded by designating a sufficient supply of lands to the Growth Plan horizon. Over the planning period, the supply would be expanded, if necessary, through a future *municipal comprehensive review* such that there would always be a sufficient amount of land designated in *employment areas* to the Growth Plan horizon (which should always be about 20 years away).

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[5]   A "choice and competition" factor is an allowance for certain proportion of additional land to increase the likelihood that there are a variety of choices available for a particular type of parcel (e.g. an ability to choose between several different vacant three hectare parcels in different locations).

Example

Example Box 19: Determine Employment Area Land Need (Shortage)

The need for land in *employment areas* is determined in Step E6. This is based on a comparison of the forecasted number of jobs in existing *employment areas* from Step E5 with the total number of jobs in *employment areas* at the Growth Plan horizon in Step E3. As described in the text, any remaining jobs not allocated to existing *employment areas* indicates the need for additional land. The amount of additional land needed is calculated based on the same projected density for newly developing *employment areas* described in Step E5.

In this example, there are 9,590 unallocated *employment area* jobs. At a projected density for newly developing *employment areas* of 28.0 employees per hectare, an additional 342.6 hectares of *employment area* land is needed. The location of *settlement area* expansion to accommodate this need would be determined in a later part of the *municipal comprehensive review* process.

Legend Colour	General Source or Purpose	Source or Purpose in this Step
	Figure from another land needs assessment step	From Steps E3 and E5
	Results needed for a later land needs assessment step	Employment Land Need for input to overall MCR

Establishment of Employment Area Land Need (Shortage)	
Total Jobs in *Employment Areas* at 2041 (Step E3)	300,310
Total Jobs in Existing *Employment Area* at 2041 (Step E5)	(290,720)
Remaining Unallocated *Employment Area* Jobs at 2041	9,590
Density of Newly Developing *Employment Areas* (employees per hectare, from E5)	28.0
Additional *Employment Area* Land Need (hectares)	342.6

Example Box 20: Determine Employment Area Land Need (Surplus)

The need for land in *employment areas* is determined in Step E6. This is based on a comparison of the employment capacity of the *employment areas* from Step E5 with the employment in *employment areas* at the Growth Plan horizon in Step E3. As described in the text, employment beyond the capacity indicates the need for additional land.

In this example, there are lands available to accommodate 19,490 jobs beyond the total number of jobs to be accommodated in *employment areas* at the Growth Plan horizon. Based on a projected density for newly developing areas of 28.0 employees per hectare, there would be 696.4 hectares of *excess land* in the municipality. The location of the *excess lands* would be determined in a later part of the *municipal comprehensive review* process.

Legend		
Colour	**General Source or Purpose**	**Source or Purpose in this Step**
	Figure from another land needs assessment step	From Steps E3 and E5
	Results needed for a later land needs assessment step	Employment Land Need for input to overall MCR

Determination of Employment Area Land Need (Surplus)	
Total Jobs in *Employment Areas* at 2041 (Step E3)	300,310
Total Jobs in Existing *Employment Area* at 2041 (Step E5)	(319,800)
Remaining unallocated *Employment Area* Jobs at 2041	(19,490)
Density of Newly Developing *Employment Areas* (employees per hectare)	28.0
Employment Area Surplus Land (hectares)	696.4

The calculation of the *employment area* density target (as required by policy 2.2.2.5) is not required within the methodology, rather it is to be shown in the employment strategy (see Explanation Box 10). However, since the density target and the methodology rely on the same information and is likely calculated at the same time, Example Box 21 provides an example of the calculation of the *employment area* density target.

Example Box 21: Calculate Employment Area Density Target.

After the completion of land needs assessment, municipalities will be able to determine the overall *employment area* density target to incorporate into the official plan.

Having established the total number of jobs at the Growth Plan horizon in *employment areas* (existing and any new), this can be divided by the total land area to determine the overall *employment area* density target. Note that where existing *employment areas* are identified as *excess lands*, those lands are no longer included for the purposes of calculating the overall density target.

In this example, where there are additional lands, the overall *employment area* density target is 31.9 employees per hectare. In the example with *excess land*, the resulting *employment area* density target is 33.1 employees per hectare.

Legend Colour	General Source or Purpose	Source or Purpose in this Step
	Figure from another land needs assessment step	From Step E5 and earlier in Step E6
	Results needed for a later land needs assessment step	Employment Land Need for input to overall MCR

Employment Area Density Target Where Employment Area Is Added	
Total Employment in Existing *Employment Areas* at 2041 (Step E5)	290,720
Total Employment on Additional Lands (earlier in Step E6)	9,590
Total Employment in *Employment Areas* at 2041	300,310
Land Area in Existing *Employment Areas* at 2041 (Step E5 in hectares)	9,074
Land Area of Additional Lands (earlier in Step E6, in hectares)	343
Total Land Area in *Employment Areas* at 2041	9,417
Employment Area Density Target	31.9

5   Finalizing Land Needs Assessment Results

This section provides direction on how upper- and single-tier municipalities are to document and finalize the results of their land needs assessment. It also provides information about how the Province is involved in land needs assessment work, and how the results of land needs assessment are implemented.

5.1   Reconciling Results

As a final step, the results of Step R6 (establishment of community area land need) and Step E6 (establishment of *employment area* land need) must be combined to establish total land needed to accommodate growth to the Growth Plan horizon.

If the results of the land needs assessment indicate a surplus of land in *employment areas*, further analysis must be undertaken to determine the appropriate approach to planning for current *employment area* lands. If there is no shortage of community area land, a municipality may consider lands for conversion subject to meeting specific criteria in accordance with policy 2.2.5.9 of the Growth Plan. If there is a shortage of community area land, a municipality will need to consider whether any *employment area* land is appropriate for conversion prior to undertaking a *settlement area* boundary expansion. However, a conversion can only occur if the municipality can demonstrate that it satisfied the tests in Growth Plan policy 2.2.5.9 (see Section 2.3.2 for further detail).

If there are any changes proposed to *employment area* designations as a result, the municipality is required to revisit the *employment area* land need analysis, so that lands that would no longer be contemplated to be *employment areas* are removed from the calculation of *employment area* density. If the amount of land in the *employment area* changes as a result, the *employment area* land need component of the land needs assessment needs to be updated. The process of assessing *employment area* land need could potentially be iterative and involve numerous points of update and review.

Once the land needs assessment has been completed, municipalities are required to indicate (through accompanying mapping) a clear delineation between which lands were counted as *designated greenfield area*, *delineated*

built-up area, and *employment area* in the final calculations. In the *outer ring*, *excess lands* in *employment areas* (if any) are also to be identified and development on these lands is to be restricted to the Growth Plan horizon.

The lands counted as *employment areas* should be reflected as such in the final official plan amendment that would implement the outcome of the *municipal comprehensive review* process and be submitted to the Province for approval. New *employment areas* that are implemented as part of a *settlement area* boundary expansion would be justified through the *municipal comprehensive review* process in accordance with the results of the land needs assessment, and the new *employment areas* would also be mapped. All final mapping is to be included with the report documenting the results of the land needs assessment.

5.2   Documentation

One of the key guiding principles for the methodology is a standard way for upper- and single-tier municipalities to assess land needs in the context of the Growth Plan in a way that enables comparison and contrast of key elements of their results with other upper- and single-tier municipalities.

Upper- and single-tier municipalities are required to report on, and make available information about their work to assess land needs in compliance with this methodology.

When reporting their land needs assessment work, it is expected that upper- and single-tier municipalities will provide the information summarized in Appendix 4. The Ministry will provide a standard form for upper- and single-tier municipalities to use to report on this information. Standardized reporting should facilitate greater transparency, comparability, accountability and evidence-based decision making for all levels of government.

In addition to the reporting using the standard form, upper- and single-tier municipalities are expected to document their land needs assessment work through a detailed written report that substantiates the specific quantitative values reported.

This could take the form of a single land needs assessment report that references other specific reports that were prepared as a part of the *municipal comprehensive review* process to substantiate various quantitative values for data (e.g. a reference to a report on *intensification* analysis where the intensification target is substantiated, a reference to a report on employment

analysis where information about the allocation of jobs by job type is substantiated, etc.).

Upper- and single-tier municipalities may also combine the written documentation of their land needs assessment work into one larger document that also addresses other aspects of their *municipal comprehensive review* work.

5.3   Provincial Staff Review

Upper- and single-tier municipalities should involve Ministry of Municipal Affairs staff in their land needs assessment work. It is recommended that municipal staff consult with Ministry staff at two different stages in the land needs assessment work, at a minimum.

Prior to undertaking the land needs assessment, upper- and single-tier municipal staff should meet with Ministry of Municipal Affairs staff to review the key inputs to the methodology (e.g. forecasts, intensification target, *designated greenfield area* density target, etc.) to obtain feedback about their conformity with policy requirements.

Following the completion of the draft land needs assessment, upper- and single-tier municipalities should complete the standard form for reporting results, and submit it to Ministry of Municipal Affairs staff for review along with necessary background analysis to explain the results. It is recommended that municipalities meet with Ministry staff to discuss the results of their land needs assessment, including a draft of the completed form for reporting on the data identified in Appendix 4 and their draft land needs assessment report, prior to reporting to municipal council about the results of their land needs assessment. This discussion will provide an opportunity to identify any elements of the land needs assessment that require clarification, or additional information. It will also provide an opportunity to address any outstanding information requirements before submitting the documentation to the Ministry as a part of the approval process for implementing the official plan or official plan amendment.

This early review of municipal land needs assessment materials will not confer an approval status on the draft land needs assessment, nor is it intended to pre-empt the municipality's established processes for consulting with the public and seeking council endorsement of the draft results.

5.4　　Finalization

Municipalities should follow this recommended process to finalize results of the land needs assessment:

- Determine key inputs to land needs assessment (e.g. forecasts, intensification target, *designated greenfield area* density target);

- Complete standard reporting template and submit draft to the Ministry of Municipal Affairs for staff to review along with necessary background analysis;

- Meet with Ministry of Municipal Affairs staff to address any issues or concerns; and

- Based on the outcomes of the review and meeting, revise results, as appropriate.

It is recommended that a municipality finalize the results of their land needs assessment after they have addressed feedback on the draft land needs assessment results from Ministry staff.

A municipality should obtain council endorsement of the total amount of land needed prior to pursuing the next steps in the *municipal comprehensive review* process (i.e. prior to determining the location of any potential *settlement area* boundary expansions, or, *excess lands*, where applicable).

To support transparency, it is recommended that council endorsement of final results be made publically accessible on municipal websites and council agendas. A copy of the council endorsement should also be filed with the Province, which may in turn make the results publicly accessible, including in an aggregated form together with the results from other *GGH* municipalities.

Beyond this point in the *municipal comprehensive review* process, there should be no substantive changes to the total land need. Any changes made should be done in consultation with Provincial staff and would require updating the results being reported prior to implementing them through an upper- or single-tier municipality's official plan or official plan amendment that is submitted to the Province for approval.

5.5 Implementation

The result of the land needs assessment is a total quantum of land needed (or *excess lands*) at the upper- or single-tier municipal level. This provides a critical input to the *municipal comprehensive review* process through which the appropriate locations of any proposed *settlement area* boundary expansions, identifications of *excess lands*, or potential conversions of *employment areas* to non-employment uses, will ultimately be determined.

These decisions are implemented through a new upper- or single-tier official plan or official plan amendment that is subject to Provincial approval. Upper- and single-tier municipalities are required by policy to delineate *settlement area* boundaries and designate all *employment areas* in their official plans. Lower-tier municipalities are required to bring their official plans into conformity with the applicable upper-tier official plan within one year of the *municipal comprehensive review* being finalized and taking effect.

6 Appendices

Appendix 1 Allocation of No Usual Place of Work

In Step E1, total employment in the base year is defined as including three types of place of work employment defined in the Census for commuting purposes: usual place of work, work at home, and no usual place of work (also often called no fixed place of work).

The allocation method for those with no usual place of work is based on the distribution of employees in similar economic sectors within a common labour market area. This reflects a "snapshot" of where people happened to be working on Census day with the assumption that they would most likely have commuted to and be found in places where other people in similar activities are working.

In the *outer ring*, no fixed place of work employees are allocated to their Census Division of residence, except for those that include separated cities. In the *inner ring* and in the separated city/county sub-parts of a Census Division, the no fixed place of work employees are treated as a pool and allocated to the sub-parts in accordance with the shares in each economic sector among those with a usual place of work (including those who work at home).

Two examples follow showing the allocation using 2011 Census data (2016 data was not yet available at the time this methodology was drafted).

The first example shows the Greater Toronto and Hamilton area, which is treated as a single labour market area for the purposes of allocating those with no usual place of work. The second example is an *outer ring* example for Census Divisions with a separated city.

Example 1: Greater Toronto and Hamilton Area Total Employment

| Usual Place of Work Plus Work at Home Employment, GTHA Census Divisions, 2011 | | | | | | | |
| Usual place of work and work at home summed from place of work Census data for each Census Division | | | | | | | |
North American Industrial Classification (NAICS)	Toronto	Peel	York	Durham	Halton	Hamilton	GTHA Total
11 Agriculture, forestry, fishing and hunting	1,285	1,935	2,280	2,325	1,655	2,610	12,090
21 Mining and oil and gas extraction	3,025	510	430	135	315	90	4,505
22 Utilities	9,265	2,455	1,720	9,825	1,205	940	25,410
23 Construction	32,300	16,670	21,235	6,150	7,570	7,440	91,365
31-33 Manufacturing	104,435	86,170	61,730	19,930	30,480	22,320	325,065
41 Wholesale trade	52,520	54,500	40,485	7,825	15,065	7,100	177,495
44-45 Retail trade	130,155	70,995	55,875	29,465	28,715	23,815	339,020
48-49 Transportation and warehousing	40,310	58,040	13,790	5,980	6,695	6,580	131,395
51 Information and cultural industries	69,560	17,775	9,900	3,745	4,805	3,440	109,225
52 Finance and insurance	165,950	30,810	22,990	6,310	10,355	7,225	243,640
53 Real estate and rental and leasing	37,220	12,600	10,505	3,945	4,355	4,005	72,630
54 Professional, scientific and technical services	163,905	45,455	46,220	10,450	18,595	10,370	294,995
55 Management of companies and enterprises	2,175	750	725	175	345	125	4,295
56 Administrative and support, waste management and remediation services	54,850	25,815	15,625	6,960	7,395	6,950	117,595
61 Educational services	103,005	34,195	28,625	16,655	14,980	21,605	219,065
62 Health care and social assistance	149,260	40,315	31,700	22,335	18,545	31,670	293,825
71 Arts, entertainment and recreation	27,165	4,715	8,690	5,065	4,715	3,505	53,855
72 Accommodation and food services	79,605	28,430	23,350	13,065	14,260	12,085	170,795
81 Other services (except public administration)	67,640	20,230	19,365	8,550	9,870	9,790	135,445
91 Public administration	85,205	22,905	12,995	10,680	8,920	11,165	151,870
Total	**1,378,835**	**575,270**	**428,235**	**189,570**	**208,840**	**192,830**	**2,973,580**

Share by NAICS of Usual Place of Work Plus Work at Home Employment, GTHA Census Divisions, 2011							
Usual place of work and work at home summed from place of work Census data for each Census Division							
North American Industrial Classification (NAICS)	Toronto	Peel	York	Durham	Halton	Hamilton	GTHA Total
11 Agriculture, forestry, fishing and hunting	10.6%	16.0%	18.9%	19.2%	13.7%	21.6%	100.0%
21 Mining and oil and gas extraction	67.1%	11.3%	9.5%	3.0%	7.0%	2.0%	100.0%
22 Utilities	36.5%	9.7%	6.8%	38.7%	4.7%	3.7%	100.0%
23 Construction	35.4%	18.2%	23.2%	6.7%	8.3%	8.1%	100.0%
31-33 Manufacturing	32.1%	26.5%	19.0%	6.1%	9.4%	6.9%	100.0%
41 Wholesale trade	29.6%	30.7%	22.8%	4.4%	8.5%	4.0%	100.0%
44-45 Retail trade	38.4%	20.9%	16.5%	8.7%	8.5%	7.0%	100.0%
48-49 Transportation and warehousing	30.7%	44.2%	10.5%	4.6%	5.1%	5.0%	100.0%
51 Information and cultural industries	63.7%	16.3%	9.1%	3.4%	4.4%	3.1%	100.0%
52 Finance and insurance	68.1%	12.6%	9.4%	2.6%	4.3%	3.0%	100.0%
53 Real estate and rental and leasing	51.2%	17.3%	14.5%	5.4%	6.0%	5.5%	100.0%
54 Professional, scientific and technical services	55.6%	15.4%	15.7%	3.5%	6.3%	3.5%	100.0%
55 Management of companies and enterprises	50.6%	17.5%	16.9%	4.1%	8.0%	2.9%	100.0%
56 Administrative and support, waste management and remediation services	46.6%	22.0%	13.3%	5.9%	6.3%	5.9%	100.0%
61 Educational services	47.0%	15.6%	13.1%	7.6%	6.8%	9.9%	100.0%
62 Health care and social assistance	50.8%	13.7%	10.8%	7.6%	6.3%	10.8%	100.0%
71 Arts, entertainment and recreation	50.4%	8.8%	16.1%	9.4%	8.8%	6.5%	100.0%
72 Accommodation and food services	46.6%	16.6%	13.7%	7.6%	8.3%	7.1%	100.0%
81 Other services (except public administration)	49.9%	14.9%	14.3%	6.3%	7.3%	7.2%	100.0%
91 Public administration	56.1%	15.1%	8.6%	7.0%	5.9%	7.4%	100.0%
Total	**46.4%**	**19.3%**	**14.4%**	**6.4%**	**7.0%**	**6.5%**	**100.0%**

North American Industrial Classification (NAICS)	Toronto	Peel	York	Durham	Halton	Hamilton	GTHA Total
No Usual Place of Work Employment Allocated by Share of NAICS of Usual Place of Work Plus Work at Home Employment, GTHA Census Divisions, 2011 GTHA total: summed from no usual place of work figure by place of residence for each Census Division Each Census division: GTHA total allocated by percentage in table above							
11 Agriculture, forestry, fishing and hunting	134	202	238	242	172	272	1,260
21 Mining and oil and gas extraction	259	44	37	12	27	8	385
22 Utilities	820	217	152	870	107	83	2,250
23 Construction	33,207	17,138	21,831	6,323	7,783	7,649	93,930
31-33 Manufacturing	4,562	3,764	2,697	871	1,331	975	14,200
41 Wholesale trade	3,986	4,136	3,072	594	1,143	539	13,470
44-45 Retail trade	6,872	3,748	2,950	1,556	1,516	1,257	17,900
48-49 Transportation and warehousing	11,517	16,582	3,940	1,709	1,913	1,880	37,540
51 Information and cultural industries	5,939	1,518	845	320	410	294	9,325
52 Finance and insurance	5,085	944	704	193	317	221	7,465
53 Real estate and rental and leasing	3,690	1,249	1,041	391	432	397	7,200
54 Professional, scientific and technical services	13,885	3,851	3,915	885	1,575	878	24,990
55 Management of companies and enterprises	66	23	22	5	10	4	130
56 Administrative and support, waste management and remediation services	18,261	8,594	5,202	2,317	2,462	2,314	39,150
61 Educational services	9,536	3,166	2,650	1,542	1,387	2,000	20,280
62 Health care and social assistance	10,543	2,848	2,239	1,578	1,310	2,237	20,755
71 Arts, entertainment and recreation	3,841	667	1,229	716	667	496	7,615
72 Accommodation and food services	4,957	1,770	1,454	814	888	753	10,635
81 Other services (except public administration)	6,942	2,076	1,987	877	1,013	1,005	13,900
91 Public administration	6,014	1,617	917	754	630	788	10,720
Total	**150,114**	**74,153**	**57,124**	**22,568**	**25,093**	**24,049**	**353,100**

Total Place of Work Employment, GTHA Census Divisions, 2011							
Sum of usual place of work plus work at home in first table plus the no usual place of employment allocated in above table							
North American Industrial Classification (NAICS)	Toronto	Peel	York	Durham	Halton	Hamilton	GTHA Total
11 Agriculture, forestry, fishing and hunting	1,419	2,137	2,518	2,567	1,827	2,882	13,350
21 Mining and oil and gas extraction	3,284	554	467	147	342	98	4,890
22 Utilities	10,085	2,672	1,872	10,695	1,312	1,023	27,660
23 Construction	65,507	33,808	43,066	12,473	15,353	15,089	185,295
31-33 Manufacturing	108,997	89,934	64,427	20,801	31,811	23,295	339,265
41 Wholesale trade	56,506	58,636	43,557	8,419	16,208	7,639	190,965
44-45 Retail trade	137,027	74,743	58,825	31,021	30,231	25,072	356,920
48-49 Transportation and warehousing	51,827	74,622	17,730	7,689	8,608	8,460	168,935
51 Information and cultural industries	75,499	19,293	10,745	4,065	5,215	3,734	118,550
52 Finance and insurance	171,035	31,754	23,694	6,503	10,672	7,446	251,105
53 Real estate and rental and leasing	40,910	13,849	11,546	4,336	4,787	4,402	79,830
54 Professional, scientific and technical services	177,790	49,306	50,135	11,335	20,170	11,248	319,985
55 Management of companies and enterprises	2,241	773	747	180	355	129	4,425
56 Administrative and support, waste management and remediation services	73,111	34,409	20,827	9,277	9,857	9,264	156,745
61 Educational services	112,541	37,361	31,275	18,197	16,367	23,605	239,345
62 Health care and social assistance	159,803	43,163	33,939	23,913	19,855	33,907	314,580
71 Arts, entertainment and recreation	31,006	5,382	9,919	5,781	5,382	4,001	61,470
72 Accommodation and food services	84,562	30,200	24,804	13,879	15,148	12,838	181,430
81 Other services (except public administration)	74,582	22,306	21,352	9,427	10,883	10,795	149,345
91 Public administration	91,219	24,522	13,912	11,434	9,550	11,953	162,590
Total	1,528,949	649,423	485,359	212,138	233,933	216,879	3,326,680

Example 2: Guelph and Wellington County

Usual Place of Work Plus Work at Home Employment, Wellington Census Division, 2011		
Usual place of work and work at home summed from place of work Census data for Guelph and Wellington County		
North American Industrial Classification (NAICS)	**Guelph**	**Wellington County**	**Wellington Census Division**
11 Agriculture, forestry, fishing and hunting	465	3,755	4,220
21 Mining and oil and gas extraction	30	160	190
22 Utilities	265	65	330
23 Construction	1,550	1,625	3,175
31-33 Manufacturing	20,580	6,590	27,170
41 Wholesale trade	2,290	1,975	4,265
44-45 Retail trade	6,365	2,975	9,340
48-49 Transportation and warehousing	1,360	1,500	2,860
51 Information and cultural industries	945	345	1,290
52 Finance and insurance	2,625	480	3,105
53 Real estate and rental and leasing	950	295	1,245
54 Professional, scientific and technical services	3,800	1,525	5,325
55 Management of companies and enterprises	40	80	120
56 Administrative and support, waste management and remediation services	1,720	790	2,510
61 Educational services	7,895	1,275	9,170
62 Health care and social assistance	5,790	2,750	8,540
71 Arts, entertainment and recreation	755	770	1,525
72 Accommodation and food services	3,870	1,780	5,650
81 Other services (except public administration)	2,600	1,605	4,205
91 Public administration	2,620	530	3,150
Total	**66,515**	**30,870**	**97,385**

Share by NAICS of Usual Place of Work Plus Work at Home Employment, GTHA Census Divisions, 2011		
North American Industrial Classification (NAICS)	**Guelph**	**Wellington County**	**Wellington Census Division**
11 Agriculture, forestry, fishing and hunting	11.0%	89.0%	100.0%
21 Mining and oil and gas extraction	15.8%	84.2%	100.0%
22 Utilities	80.3%	19.7%	100.0%
23 Construction	48.8%	51.2%	100.0%
31-33 Manufacturing	75.7%	24.3%	100.0%
41 Wholesale trade	53.7%	46.3%	100.0%
44-45 Retail trade	68.1%	31.9%	100.0%
48-49 Transportation and warehousing	47.6%	52.4%	100.0%
51 Information and cultural industries	73.3%	26.7%	100.0%
52 Finance and insurance	84.5%	15.5%	100.0%
53 Real estate and rental and leasing	76.3%	23.7%	100.0%
54 Professional, scientific and technical services	71.4%	28.6%	100.0%
55 Management of companies and enterprises	33.3%	66.7%	100.0%
56 Administrative and support, waste management and remediation services	68.5%	31.5%	100.0%
61 Educational services	86.1%	13.9%	100.0%
62 Health care and social assistance	67.8%	32.2%	100.0%
71 Arts, entertainment and recreation	49.5%	50.5%	100.0%
72 Accommodation and food services	68.5%	31.5%	100.0%
81 Other services (except public administration)	61.8%	38.2%	100.0%
91 Public administration	83.2%	16.8%	100.0%
Total	**68.3%**	**31.7%**	**100.0%**

No Usual Place of Work Employment Allocated by Share of NAICS of Usual Place of Work Plus Work at Home Employment, GTHA Census Divisions, 2011			
GTHA total: summed from no usual place of work figure by place of residence for each Census Division Each Census Division: GTHA total allocated by percentage in table above			
North American Industrial Classification (NAICS)	**Guelph**	**Wellington County**	**Wellington Census Division**
11 Agriculture, forestry, fishing and hunting	21	174	195
21 Mining and oil and gas extraction	3	17	20
22 Utilities	52	13	65
23 Construction	1,545	1,620	3,165
31-33 Manufacturing	447	143	590
41 Wholesale trade	183	157	340
44-45 Retail trade	160	75	235
48-49 Transportation and warehousing	466	514	980
51 Information and cultural industries	77	28	105
52 Finance and insurance	42	8	50
53 Real estate and rental and leasing	80	25	105
54 Professional, scientific and technical services	264	106	370
55 Management of companies and enterprises	3	7	10
56 Administrative and support, waste management and remediation services	867	398	1,265
61 Educational services	456	74	530
62 Health care and social assistance	329	156	485
71 Arts, entertainment and recreation	101	104	205
72 Accommodation and food services	106	49	155
81 Other services (except public administration)	272	168	440
91 Public administration	171	34	205
Total	**5,645**	**3,870**	**9,515**

Total Place of Work Employment, GTHA Census Divisions, 2011			
Sum of usual place of work plus work at home in first table plus the no usual place of employment allocated in above table			
North American Industrial Classification (NAICS)	Guelph	Wellington County	Wellington Census Division
11 Agriculture, forestry, fishing and hunting	486	3,929	4,415
21 Mining and oil and gas extraction	33	177	210
22 Utilities	317	78	395
23 Construction	3,095	3,245	6,340
31-33 Manufacturing	21,027	6,733	27,760
41 Wholesale trade	2,473	2,132	4,605
44-45 Retail trade	6,525	3,050	9,575
48-49 Transportation and warehousing	1,826	2,014	3,840
51 Information and cultural industries	1,022	373	1,395
52 Finance and insurance	2,667	488	3,155
53 Real estate and rental and leasing	1,030	320	1,350
54 Professional, scientific and technical services	4,064	1,631	5,695
55 Management of companies and enterprises	43	87	130
56 Administrative and support, waste management and remediation services	2,587	1,188	3,775
61 Educational services	8,351	1,349	9,700
62 Health care and social assistance	6,119	2,906	9,025
71 Arts, entertainment and recreation	856	874	1,730
72 Accommodation and food services	3,976	1,829	5,805
81 Other services (except public administration)	2,872	1,773	4,645
91 Public administration	2,791	564	3,355
Total	**72,160**	**34,740**	**106,900**

Appendix 2   Allocation of Employment into Land-Use Based Categories

In Step E2, total employment in the base year is divided into four land-use based categories: major office employment, population-related, employment land, and rural based. As described in Section 4 of this methodology, these categories cannot be precisely defined against NAICS codes used by either the Census or municipal employment surveys. While the bulk of employment land is located in *employment areas* and population-related employment in the community area, geographic relationships to either the land-use based categories or NAICS codes are not precise. As a result, the allocation to the land-use based categories is an iterative process taking multiple data sources into account, including building or land data, municipal employment surveys information, and the Census place of work data by NAICS code.

The following is an example of the analysis and rationale used to categorize employment in the Region of Peel in 2011.

Before considering the Census data we can consider some of the other guidance provided by other sources:

- Based on information from office real estate brokers and municipal databases, there was about 2.4 million m^2 of occupied office space in Peel in 2011. Based on an average of 21.5 m^2 of office space per employee, a total major office employment of about 110,000 was estimated.
- From the municipal employment surveys, it was determined that about one-half of total employment was in *employment areas* in the Region (*major retail* concentrations were excluded).
- The 2011 Census population of Peel Region was 1,296,800. For a large urban area that is not a central city, the population-related employment is typically about 1 job for every 6 residents (in the whole Greater Toronto and Hamilton area it is about 1 job for every 5 residents, with the difference being in the City of Toronto where there are universities, medical services, retail, and entertainment that serve the entire Greater Toronto and Hamilton area).
- The rural based employment was quite small. Estimates from more recent employment surveys for the rural area provided the bulk of information regarding rural employment.

In this case, based on the conclusions drawn from various sources, the NAICS code based Census information was analysed and allocated to determine a reasonable allocation to the land-use based categories, which is shown in the following table.

This is likely to be an iterative analysis. The example is shown sequentially for illustrative purposes, however, it is important to work through and revise the analysis based on changing conditions to make sure the conclusions accurately reflect best available information.

Data sources might include the following:

- Census employment by place of work by industry;
- Municipal or commercial broker office space information;
- Municipal employment surveys by industry and by geography;
- Municipal land-use information such as occupied industrial-type employment lands; and
- Known employment at individual large public and private employers.

Forecast shares should be based on analysis undertaken to inform the development of an employment strategy and should take account of historic shares within the single or upper tier as well as the share of these types of employment in the overall Greater Toronto and Hamilton area (as applicable). As well, in larger municipalities, ratios of population-related employment to population lie within a relatively narrow range.

Some coordination between municipalities is also warranted to ensure that their analyses make sense when their individual conclusions are grouped together. For example, when the total office employment forecasts from the six components of the Greater Toronto and Hamilton area are added up the result should be reasonable as the total office employment for the Greater Toronto and Hamilton area.

Example Base Year Employment by Type Example for Region of Peel, 2011										
Employment by Industry (NAICS)	Office	PRE	ELE	Rural		Office	PRE	ELE	Rural	Total
11 Agriculture, forestry, fishing and hunting	0%	13%	24%	63%	100%	-	285	505	1,347	2,137
21 Mining and oil and gas extraction	18%	18%	46%	18%	100%	97	100	254	102	554
22 Utilities	15%	19%	63%	3%	100%	401	509	1,678	85	2,672
23 Construction	5%	3%	90%	2%	100%	1,690	875	30,555	688	33,808
31-33 Manufacturing	1%	0%	98%	0%	100%	899	392	88,332	312	89,934
41 Wholesale trade	1%	1%	98%	0%	100%	586	575	57,419	55	58,636
44-45 Retail trade	1%	88%	11%	0%	100%	747	65,873	8,021	102	74,743
48-49 Transportation and warehousing	5%	8%	87%	0%	100%	3,731	5,833	64,855	203	74,622
51 Information and cultural industries	13%	32%	55%	0%	100%	2,508	6,249	10,525	11	19,293
52 Finance and insurance	65%	19%	16%	0%	100%	20,640	6,139	4,951	24	31,754
53 Real estate and rental and leasing	50%	31%	18%	0%	100%	6,925	4,359	2,544	21	13,849
54 Professional, scientific and technical services	65%	12%	23%	0%	100%	32,049	6,005	11,188	64	49,306
55 Management of companies and enterprises	50%	13%	37%	0%	100%	386	99	288		773
56 Admin. and support, waste mgmt, etc.	50%	11%	39%	0%	100%	17,205	3,735	13,354	117	34,409
61 Educational services	5%	90%	5%	0%	100%	1,868	33,535	1,868	89	37,361
62 Health care and social assistance	10%	85%	5%	0%	100%	4,316	36,623	2,158	65	43,163
71 Arts, entertainment and recreation	5%	66%	26%	3%	100%	269	3,570	1,382	161	5,382
72 Accommodation and food services	5%	70%	25%	0%	100%	1,510	21,140	7,501	49	30,200
81 Other services (except public administration)	30%	39%	31%	0%	100%	6,692	8,619	6,950	45	22,306
91 Public administration	40%	40%	20%	0%	100%	9,809	9,809	4,870	34	24,522
Total	17.30%	33.00%	49.20%	0.60%	100.00%	112,329	214,323	319,197	3,574	649,423

Appendix 3 Understanding Population-Related Employment

Step E2 allocates employment to land-use based categories both in the base year and for the forecast. It is noted there and in the main text related to Step E2 that a ratio of residents to population-related employment is a reliable check on the base year allocation to categories and can act as a basis for the forecast of employment by category going forward. The following table provides estimated ratios of residents to population-related jobs for the upper- and single-tier municipalities in the *GGH*.

These are ratios of residents to jobs, that is, a ratio of 5.0 means 5.0 residents for each population-related job. The lower the ratio the more population-related jobs in the community.

One important conclusion to draw from the information in the table is that these ratios do not change rapidly over time, and, for most areas, do not change much in amount. As many service sector jobs are in this category, there is a general expectation that there will be a gradually increasing number of population-related jobs in the future. Some parts of this sector will be growing, in particular, an aging population would indicate increases in health-care related employment. At the same time, changes in the retail industry as a result of on-line shopping suggest there will be a declining proportion of retail jobs.

The overall Greater Toronto and Hamilton area as well as many of the areas within the *outer ring* average in the range of 5.1 to 5.5 in 2011. A ratio of less than this level would indicate that a municipality is providing some services (such as retail, health care and education) to a wider area and could be considered as having a more "central city" function. The City of Toronto and, in some measure, the City of Hamilton show this characteristic in the Greater Toronto and Hamilton area. Similarly, the separated cities within the *GGH* — the City of Peterborough, the City of Barrie, the City of Orillia, the City of Guelph and the City of Brantford — show this characteristic in their relationship to surrounding counties. If, for example, the City of St. Catharines, the City of Kitchener, the Town of Orangeville or the Town of Lindsay were looked at separately, they would all show this characteristic within their surroundings as well.

One other characteristic that affects the population-related employment rates is the presence of a significant tourism industry. Most tourism-related businesses fall into population-related employment in the form of accommodation and

food, retail, and arts and recreation. Niagara Region, Kawartha Lakes and Peterborough and Simcoe Census Divisions all have more population-related jobs than would otherwise be expected for their resident population because of proportionately large tourism industries.

With the addition of 2016 Census information, the time series can be brought more up to date. The analysis of these ratios can be a very useful guide to consider the amount and share of growth that might be expected in this category over the period to the Growth Plan horizon.

GGH Ratios of residents to population-related employment

Ratio of residents to population-related jobs			
A ratio of 5.0 indicates 5.0 residents for every 1.0 population-related job			
Area	2001	2006	2011
Toronto	4.9	4.7	4.6
Peel	6.3	6.4	6.4
York	5.9	6.0	6.4
Durham	6.6	6.3	6.5
Halton	6.2	6.3	6.8
Hamilton	5.7	5.3	5.3
GTHA	*5.5*	*5.4*	*5.5*
Northumberland	5.4	5.0	5.1
Kawartha Lakes	6.1	5.5	5.6
Peterborough City	3.4	3.1	3.0
Peterborough County	7.0	7.1	7.1
Peterborough CD	*4.4*	*4.1*	*4.0*
Barrie	4.2	4.1	4.1
Orillia	3.6	3.3	3.6
Simcoe County	7.2	6.6	6.5
Simcoe CD	*5.6*	*5.3*	*5.3*
Dufferin	5.8	5.2	5.6
Waterloo	5.9	5.5	5.6
Guelph	4.4	4.4	4.6
Wellington County	6.6	6.3	6.5
Wellington CD	*5.1*	*5.1*	*5.2*
Brant County	7.0	7.0	7.3
Brantford	5.0	4.7	4.6
Brant CD	*5.4*	*5.2*	*5.1*
Haldimand County	6.0	5.6	5.4
Niagara Region	4.9	4.5	4.7
Outer Ring	*5.3*	*5.0*	*5.1*
Greater Golden Horseshoe	*5.5*	*5.3*	*5.4*
Source: Hemson Consulting based on Statistics Canada Census data			

Appendix 4   Summary of Information that Should be Publically Reported

Upper- and single-tier municipality reporting on the results of land needs assessment should include, at minimum, the following quantitative results and notes about their specific data sources. Prior to submitting the results of land needs assessment to Provincial staff to review for compliance with this methodology, upper- and single-tier municipalities must request more specific direction and requirements for reporting from the Ministry.

The minimum results that will be required to be reported on will include:

Step R1: Forecast Population Growth by Planning Period
For MCR Base Year, 2031, and Growth Plan Horizon: • Total Population (including Census Net Undercoverage) • Census Net Undercoverage Rate • Census Population • Household Population • Non-Household Population • Non-Household Population Rate
Step R2a: Forecast Households at 2031 and at the Growth Plan Horizon based on Household Formation Rates
For MCR Base Year, 2031, and Growth Plan Horizon by 5-year age-cohorts: • Population • Household Formation Rate • Households by Age of Primary Household Maintainer
Step R2b: Forecast Household Growth
Total Households for MCR Base Year, 2031, and Growth Plan Horizon (from R1)
Total Households at MCR Date
Household Growth for MCR Base Year – MCR Date, MCR Date – 2031, and 2031 – Growth Plan Horizon Planning Periods
Step R2c: Forecast Growth in Housing Units not Occupied by Usual Residents
For MCR Base Year – MCR Date, MCR Date – 2031, and 2031 – Growth Plan Horizon Planning Periods: • Household Growth (from R2b) • Growth in Housing Units Not Occupied by Usual Residents • Total Growth in Housing Units

Step R3a: Allocate Housing Unit Growth by Policy Area and Planning Period

For 2016 – MCR Date, MCR Date – 2031, and 2031 – Growth Plan Horizon Planning Periods:
• Forecast Share of Housing Unit Growth by Policy Area:
  ○ Delineated Built-up Area
  ○ Designated Greenfield Area
  ○ Rural Area
• Forecast Housing Unit Growth by Policy Area

Step R3b: Remove Units Not Occupied by Usual Residents
For 2016 – MCR Date, MCR Date – 2031, and 2031 – Growth Plan Horizon Planning Periods by Policy Area: • Forecast Growth in Housing Units Not Occupied by Usual Residents • Forecast Household Growth
Households by Policy Area for 2016, MCR Date, 2031, and Growth Plan Horizon
Step R4a: Calculate Municipal-wide Persons per Unit
For 2016 and Growth Plan Horizon: • Household Population (from R1) • Households (from R3b) • Persons per Unit
Step R4b: Forecast Household Population by Delineated Built-up Area, Rural areas and Designated Greenfield Area at the MCR base year and the Growth Plan Horizon
Existing MCR Base Year Housing Units at MCR Base Year and Growth Plan Horizon by Policy Area: • Households by Policy Area (from R3b) • Persons per Unit • Household Population
New Housing Units to Growth Plan Horizon Planning Period: • Households by Policy Area (from R3b) • Persons per Unit • Household Population
Total Housing Units at Growth Plan Horizon Planning Period: • Households by Policy Area (from R3b) • Persons per Unit • Household Population

Step R4c: Forecast Total Population by Delineated Built-up Area, Rural Area and Designated Greenfield Area at 2016 and 2041
At MCR Base Year and Growth Plan Horizon by Policy Area: - Household Population (from R4b)   - Non-Household Population Rate   - Non-Household Population   - Census Population   - Census net undercoverage rate   - Total Population (including Census net undercoverage)
Step R5: Calculate the Minimum Number of Residents and Jobs to be Accommodated in the Existing Designated Greenfield Area
At the Growth Plan Horizon: - Minimum Population Planned for Existing Designated Greenfield Area   - Minimum Employment Planned for Existing Designated Greenfield Area   - Minimum Population and Employment Planned for Existing Designated Greenfield Area
- Land Areas Associated with Existing Designated Greenfield Area (hectares) with GIS files: - Gross Designated Greenfield Area   - Natural Features and Areas   - Applicable Infrastructure Rights-of-Way   - Employment Areas   - Cemeteries   - Net Existing Designated Greenfield Area
Existing Designated Greenfield Area Density in Residents + Jobs per Hectare
Step R6: Establish Community Area Land Need
At the Growth Plan Horizon: - Total Residents and Jobs in Designated Greenfield Area (from R4c and E4)   - Minimum Population and Employment Planned for the Existing Designated Greenfield Area (from R5)   - Total Residents and Jobs in New Designated Greenfield Area
Minimum Designated Greenfield Area Density Target
Community Area Land Need or Surplus (in Hectares)
Step E1: Calculate Total Employment Growth to the Growth Plan Horizon
Total Employment at MCR Base Year and Growth Plan Horizon
Employment Growth For MCR Base Year – Growth Plan Horizon Planning Period:

Step E2: Categorize Employment Growth

At MCR Base Year and Growth Plan Horizon:
• Total Employment by Land-Use Based Categories:
   o Major Office
   o Population-Related
   o Employment Land
   o Other Rural-Based

For MCR Base Year – Growth Plan Horizon Planning Period: • Employment Growth by Land-Use Based Categories • Percentage Share of Growth By Employment Land-Use Based Categories
Step E3: Allocate Categorized Employment Growth to the Community Area, Rural Areas and Employment Areas

At MCR Base Year and Growth Plan Horizon:
• Percentage Share of Employment By Land-Use Based Categories in Each Category for LNA:
   o Major Office
   o Population-Related
   o Employment Land
   o Other Rural-Based
• Total Employment by Land-Use Based Categories

For MCR Base Year – Growth Plan Horizon Planning Period: • Percentage Share of Employment Growth By Land-Use Based Categories in Each Category for LNA • Employment Growth by Land-Use Based Categories in Each Category for LNA
Alternative Step E2 & E3: Allocate Job Growth from 2016 to 2041 by Simplified Categories[6]

At MCR Base Year and Growth Plan Horizon:
• Percentage Share of Growth By LNA Categories
   o Community Area
   o Employment Area
   o Rural Area
• Total Employment by LNA Categories

For MCR Base Year – Growth Plan Horizon Planning Period: • Percentage Share of Growth By LNA Categories • Employment Growth by LNA Categories

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[6] This information is required only if using Alternative Step E2 & E3. If submitting a land needs assessment using the alternative step, submit the information listed here and omit the information listed above in Step E2 and Step E3.

Step E4: Forecast Community Area Employment Growth

At MCR Base Year and Growth Plan Horizon:
• Total Employment in Community Area by:
    ○ Delineated Built-up Area
    ○ Designated Greenfield Area

For MCR Base Year – Growth Plan Horizon Planning Period:
• Employment Growth in Community Area by:
    ○ Delineated Built-up Area
    ○ Designated Greenfield Area

Step E5: Calculate the Minimum Number of Jobs to be Accommodated in Existing Employment Areas

At MCR Base Year and Growth Plan Horizon:
• Employment Area Jobs in:
    ○ Existing Employment Areas Located Outside Settlement Areas
    ○ Built Employment Area
    ○ Newly Developing Employment Area
• Total Existing Employment Area Jobs
• Total Existing Employment Area Land with GIS files by:
    ○ Existing Employment Areas Located Outside Settlement Areas
    ○ Built Employment Area
    ○ Newly Developing Employment Area
• Employment Area Land Density in Jobs per Hectare in:
    ○ Existing Employment Areas Located Outside Settlement Areas
    ○ Built Employment Area
    ○ Newly Developing Employment Area

For MCR Base Year – Growth Plan Horizon Planning Period:
• Growth in Employment Area Jobs in:
    ○ Existing Employment Areas Located Outside Settlement Areas
    ○ Built Employment Area
    ○ Newly Developing Employment Area
• Growth in Employment Area Land Area
    ○ Existing Employment Areas Located Outside Settlement Areas
    ○ Built Employment Area
    ○ Newly Developing Employment Area
• Employment Area Land Density in Jobs per Hectare for land added from MCR Base Year to Growth Plan Horizon in:
    ○ Existing Employment Areas Located Outside Settlement Areas
    ○ Newly Developing Employment Area

Step E6: Establish Employment Area Land Need

For Growth Plan Horizon:

- Total Jobs in Employment Areas (from E3)
- Total Jobs in Existing Employment Area (from E5)
- Remaining Unallocated Employment Area Jobs
- Density of Newly Developing Employment Areas in Jobs per Hectare from E5)
- Total Existing Employment Area Land in Hectares (from E5)
- Employment Area Land Need (or Surplus) in Hectares
- Total Land Area in Employment Areas in Hectares
- Overall Employment Area Density Target