



Region of Waterloo

# Region of Waterloo

## Land Budget

(as Revised April 30, 2009)

Prepared in support of the New Regional  
Official Plan 2009 – 2029

*emphasis on intensification and optimizing the use of the existing land supply represents a new approach to city-building in the Greater Golden Horseshoe, one which concentrates more on making better use of our existing infrastructure, and less on continuously expanding the urban area."*

*Places to Grow: Better Choices. Brighter Future. Growth Plan for the Greater Golden Horseshoe (2006)*

*NOTE: The version of the Regional Land Budget presented at the Regional Planning and Works Committee meeting of April 21, 2009 contained an error in Table 4 located in Section 3.4. This version of the Regional Land Budget includes a corrected version of Table 4 along with appropriate revisions to Sections 3.3 and 6.1. None of these changes in any way affect either the conclusions of the April 21, 2009 version of the Regional Land Budget or the recommendation contained in Regional Planning, Housing and Community Services Report P-09-023.*

*This version of the Regional Land Budget also contains an additional appendix which provides answers to commonly asked questions that arose throughout the process leading to the completion of this document.*

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## Executive Summary

On June 16, 2006, the Province of Ontario's (Province) Growth Plan for the Greater Golden Horseshoe (Growth Plan) came into effect, thereby creating a new set of rules regulating how expansions to urban areas within the Greater Golden Horseshoe will be considered. The Growth Plan also establishes population and employment forecasts for the Region of Waterloo that are to be used in all planning studies including the preparation of the Regional Municipality of Waterloo's (Region) new Regional Official Plan (ROP). **The Regional Land Budget has been prepared in accordance with the provisions of the Growth Plan as a background document to the new ROP to determine whether justification exists to add land to the urban areas of the region as part of the adoption of the new ROP.**

In accordance with the provisions of the Growth Plan, the planning horizon for municipal official plans, including the new ROP, is restricted to 20 years. The Places to Grow Act requires that all municipal official plans be brought into conformity with the Growth Plan by June 2009. As a result, the planning horizon for both the Regional Land Budget and the new ROP is the year 2029.

**It is important to note that this is not the only opportunity to provide additional land to accommodate development occurring in the next twenty years. In accordance with the provisions of the Planning Act, the new ROP (and by extension corresponding background documents such as the Regional Land Budget) is to be reviewed every five years. As a result, a minimum of three such mandated reviews will occur before the 20 year planning horizon of the new ROP expires. Future changes in assumptions, market conditions and legislation can be reviewed through these processes and appropriate amendments to the ROP, potentially including the extension of the planning horizon to a maximum of 20 years from the date of the review, can be considered at that time. In addition, should an immediate need for urban boundary expansion be determined prior to, or between such reviews, Regional Council may initiate a comprehensive review of the land supply at any time.**

There are a number of factors that impact how the community will evolve over the coming years that are in the process of changing. These changes include: the legislative framework within which growth will occur; the demographic make-up of the community; the rising cost of transportation; the changing economy; and the availability of a wider variety of housing, all of which have the potential to affect people's choice of housing type and location as well as the nature of the living arrangements that will form over time. The degree of potential change that can be expected in many of the variables makes accurate forecasting extremely difficult, if not impossible. As a result, the Regional Land Budget does not seek to offer definitive predictions of household size, or choice of unit type that will be experienced in the future. Instead, the Regional Land Budget analyses a range of outcomes for these variables and then tests them against their impact on the need for additional land to accommodate the population and employment forecast within the rules established through the Growth Plan.

The Growth Plan requires that a minimum of 40% of all new residential development occur within the *built-up area* as defined by the Province by the year 2015, and that *designated greenfield areas* be planned to achieve an average density of 50 people and jobs per hectare. **These requirements within the Growth Plan effectively establish the minimum capacity of the urban areas to accommodate growth.**

Expansions are only permitted when the growth forecasted by the Growth Plan exceeds the minimum capacity of the urban area.

The Growth Plan states that the *designated greenfield areas* will be planned to achieve a minimum *density target* that is not less than 50 people and jobs combined per hectare. If this density cannot be met on certain types of land uses (e.g. non-residential lands or lands already subject to existing plans of subdivision), the Growth Plan requires that the shortfall in capacity be met by increasing the densities on other lands.

One of the difficulties this presents, is that the extent of the transfers in density required to compensate for lower densities elsewhere results in unreasonable densities needing to be achieved in residential *designated greenfield areas*. As a consequence, unless the standard methodology is modified, the resulting densities on the remaining buildable residential *designated greenfield areas* would likely be unachievable.

To address this issue, the Region has proposed to achieve the minimum urban area capacity as anticipated through the Growth Plan using alternative means. By requiring a minimum of 45% intensification to be achieved by the year 2015 instead of 40%, the densities within the residential *designated greenfield areas* required to achieve the minimum urban area capacity can be reduced down to an achievable level with no impact, positive or negative, on the need for urban area expansions. Therefore, the Regional Land Budget recommends that the minimum capacity of the urban area, as calculated by applying the density and intensification targets of the Growth Plan, be achieved by requiring that:

- a) an average of 45% of residential development occur within the *built boundary* by the year 2015 and every year thereafter; and
- b) *designated greenfield areas* be planned to achieve on average across the region the following densities:
  - i) 55 people and jobs per hectare within the residential *Urban Area designated greenfield areas* not subject to plans of subdivision submitted prior to June 16, 2006;
  - ii) 45 people and jobs per hectare within the residential *Township Urban Area designated greenfield areas* not subject to plans of subdivision submitted prior to June 16, 2006;
  - iii) 40 jobs per hectare within serviced non-residential *designated greenfield areas*;
  - iv) 25 jobs per hectare within Prime Industrial / Strategic Reserve lands within the *designated greenfield areas*; and
  - iv) 25 jobs per hectare for unserviced non-residential *designated greenfield areas* of the Townships.

The Regional Land Budget also concludes that no additional residential or commercial land is required to meet forecasted growth to 2029, but does continue to support expansions of the urban area for Prime Industrial / Strategic Reserve purposes consistent with the results of the 2006 Industrial and Business Park

Vacant Land Inventory and Demand Analysis. In addition, the Regional Land Budget proposes to permit an urban area expansion for employment purposes within Wellesley Township to provide opportunities for additional land (currently only 2 hectares of vacant non-residential lands exist within the *designated greenfield area*) to assist in meeting the applicable employment forecast.

## 1.0 Introduction

On June 16, 2006, the Province of Ontario's (Province) Growth Plan for the Greater Golden Horseshoe (Growth Plan) came into effect, thereby creating a new set of rules regulating how expansions to urban areas within the Greater Golden Horseshoe will be considered. The Regional Land Budget has been prepared as a background document to the Regional Municipality of Waterloo's (Region) new Regional Official Plan (ROP). **The purpose of the Regional Land Budget is to determine whether justification exists under the provisions of the Provincial Growth Plan to add land to the urban areas of the Region as part of the development of the new ROP.** These rules now exist and must be complied with in accordance with the provisions of the Planning Act and other applicable Provincial legislation.

It is important to note that this is not the only opportunity to provide additional land to accommodate development occurring in the next twenty years. In accordance with the provisions of the Planning Act, the new ROP (and by extension corresponding background documents such as the Regional Land Budget) is to be reviewed every five years. As a result, a minimum of three such mandated reviews will occur before the 20 year planning horizon of the new ROP expires. Future changes in assumptions, market conditions and legislation can be reviewed through these processes and appropriate amendments to the ROP, potentially including the extension of the planning horizon to a maximum of 20 years from the date of the review, can be considered at that time. In addition, should an immediate need for urban boundary expansion be determined prior to, or between such reviews, Regional Council may initiate a comprehensive review of the land supply at any time.

There are a number of factors that impact how the community will evolve over the coming years that are in the process of changing. These changes include: the legislative framework within which growth will occur; the demographic make-up of the community; the rising cost of transportation; the changing economy; and the availability of a wider variety of housing, all of which have the potential to affect people's choice of housing type and location as well as the nature of the living arrangements that will form over time. The degree of potential change that can be expected in many of the variables makes accurate forecasting extremely difficult, if not impossible. As a result, the Regional Land Budget does not seek to offer definitive predictions of household size, or choice of unit type that will be experienced in the future. Instead, the Regional Land Budget illustrates a most likely scenario and then analyses a range of outcomes for these variables against their impact on the need for additional land to accommodate the population and employment forecast within the objectives established through the Growth Plan. Within the Regional Land Budget, the terms intensification (as used in the Growth Plan) and reurbanization (as used in the new ROP) are used interchangeably and are intended to mean the same thing.

As part of the preparation of the Regional Land Budget, Regional staff has consulted with the Province, the Area Municipalities, the Waterloo Regional Homebuilder's Association, and the Prosperity Council of Waterloo Region's Regional Growth Management Strategy Liaison Task Force. Subsequent implementation processes, such as the establishment and distribution of density targets will also be undertaken in collaboration with our Area Municipal partners.

## 2.0 The Growth Plan - Context

In June 2006, the Province established the Growth Plan under the Places to Grow Act, 2005 that regulates how growth is to be managed within the Greater Golden Horseshoe (which includes the Region of Waterloo). All decisions relating to Planning Act applications, and all municipal planning exercises within the Region of Waterloo, must conform to the Growth Plan.

The Growth Plan was prepared and needs to be read in conjunction with the 2005 Provincial Policy Statement and the Greenbelt Plan. In the event of conflict between these Provincial documents, the Growth Plan prevails to the extent of any conflict, the one exception being where the policies of the other documents speak to protection of the natural environment or human health. In such a case, the policies that provide more protection to the natural environment or human health prevail. For the purposes of the Regional Land Budget, the policies of the Growth Plan are the appropriate policies to be considered.

The Growth Plan contains residential and employment growth forecasts for the region that are to be used for planning and managing growth. The Growth Plan also specifies density and intensification targets that must be met within the Growth Plan's planning horizon of 2031. The need to achieve these targets represents one of the most important changes in policy direction the Province has established through the development and approval of the Growth Plan.

The following are the key policy areas of the Growth Plan that need to be addressed and considered as part of the Regional Land Budget.

### 2.1 *Geographic Area of the Analysis*

Policy 2.2.8.2 a) of the Growth Plan regulates the geographic area to which the justification analysis applies. Policy 2.2.8.2 a) states that expansions may only occur where:

"Sufficient opportunities to accommodate forecasted growth contained in Schedule 3, through intensification and in *designated greenfield areas*, using the intensification target and density targets, are not available:

- i) within the regional market area, as determined by the upper- or single-tier municipality, and
- ii) within the applicable lower-tier municipality to accommodate the growth allocated to the municipality pursuant to this plan"

The Glossary in the Growth Plan describes the "regional market area" as an area that has a high degree of social and economic interaction and in Southern Ontario in particular, as normally being the area of the upper- or single tier municipality. Consistent with the Growth Plan, the Region of Waterloo will be considered the regional housing market area for the purposes of the analysis.

The test provided in Policy 2.2.8.2 a) of the Growth Plan first requires there to be a lack of sufficient

opportunities to accommodate growth at the 'regional market level' (determined above to be the Region of Waterloo) before any expansions can be considered. As a result, the analysis contained in the Regional Land Budget initially addresses the need at the Regional scale. If there is found to be a lack of sufficient capacity, consistent with the policies of the Growth Plan, the analysis will be expanded to address which of the Area Municipalities requires additional land to be added to their respective urban areas.

## 2.2 *Planning Horizon*

The Places to Grow Act requires all municipalities within the Greater Golden Horseshoe to amend their Official Plans to conform to the Growth Plan by June 16, 2009. Policy 2.2.8.2 b) in the Growth Plan requires that expansions may only occur where:

"the expansion makes available sufficient lands for a time horizon not exceeding 20 years, based on the analysis provided for in Policy 2.2.8.2 (a)"

Consequently, the maximum planning horizon for the new ROP, and therefore the Regional Land Budget, is the year 2029.

## 2.3 *Built Boundary*

The *built boundary* is defined by the glossary in the Growth Plan as being: "The limits of the developed urban area as defined by the Minister of Public Infrastructure Renewal" (now the Ministry of Energy and Infrastructure). On April 2, 2008, the Ministry of Public Infrastructure Renewal released the final version of the *built boundary* (see Appendix 'A'). The *built boundary* is to remain fixed in place throughout the life of the Growth Plan and is to be used primarily for two purposes:

- a) to delineate the boundary between the *built-up area* and the *designated greenfield area* for the purposes of implementation of policies within the Growth Plan; and
- b) to serve as a monitoring line for the purposes of determining compliance with the policies of the Growth Plan.

## 2.4 *Designated Greenfield Areas*

The Growth Plan defines the *designated greenfield area* as the area within a *settlement area* that is not within the *built-up area* (See Appendix A). For the purposes of the Regional Land Budget, the "*settlement area*" referred to in the definition of *designated greenfield area* will consist of the lands designated as *City Urban Area* or *Township Urban Area* and *Settlement Areas* within the current Regional Official Policies Plan, where a *built boundary* has been delineated by the Province. Given their extremely limited capacity for new development, and the fact they are primarily privately serviced, *Rural Settlement Areas* and/or *Industrial/Commercial Areas* that have not been assigned a *built boundary* by the Province are not considered to contain any *designated greenfield area*.

The Growth Plan states that the *designated greenfield area* will be planned to achieve a minimum *density target*. The Growth Plan's *designated greenfield area density target* applies to all lands within the *designated greenfield area* net of *provincially constrained environmental areas* as defined in Section 2.6 below. The Growth Plan does **not** allow other areas of land that may otherwise be undevelopable due to existing development, the lack of existing or planned infrastructure, or environmental constraints (e.g. locally significant woodlots, wetlands and parkland) to be exempt from the *density target* in the *designated greenfield area*. As a result, developable land will have to achieve a density higher than the overall average *density target* to compensate for density that cannot be accommodated on otherwise undevelopable land not meeting the test of a *provincially constrained environmental area* as provided for in the Growth Plan (see Section 2.6 below).

Similar to undevelopable land not meeting the test of a *provincially constrained environmental area*, where certain categories of development within the *designated greenfield area* (such as privately serviced non-residential land) cannot meet the *density target*, then the density of another category needs to be increased accordingly to compensate for it.

While plans of subdivision (pending, draft approved and registered) that existed as of June 16, 2006 are exempted from the provisions of the Growth Plan, the lands subject to these plans remain subject to the *density target*. As a result, any shortfall in the densities associated with the existence of these plans needs to be made up on the remainder of the *designated greenfield area*. Therefore, the actual density which must be achieved on the developable portion of the region's *designated greenfield area* will be higher than the overall average *density target* established by the Province.

## **2.5 Provincially Constrained Environmental Areas**

*Provincially constrained environmental areas* refer to natural features found in the *designated greenfield area* where the feature is both identified in an applicable official plan or Provincial plan, and where the applicable Provincial plan or policy statement prohibits development in the feature. The area of these features will be considered *provincially constrained environmental area* and will be removed from the *designated greenfield area* to which the *density target* will be applied. Mapping of *provincially constrained environmental areas* can be seen in Appendix A. For the purpose of the Regional Land Budget, these features are defined as:

- a) Environmentally Sensitive Policy Areas (as designated in the ROP);
- b) Provincially Significant Wetlands (as identified by MNR);
- c) Provincially Significant Woodlands (woodlands > 4 hectares in size);
- d) Significant Valleys (includes the floodplains of the Grand, Conestogo, Speed and Nith Rivers); and
- e) Habitat of Threatened and Endangered Species (as identified by MNR).

Note: The Habitat of Endangered and Threatened Species is not included on mapping as part of Appendix 'A' in order to protect such area from disturbance. However, the area of such habitat not

included in the other features noted above, will be considered *provincially constrained environmental area* for the purposes of density calculations.

## 2.6 Minimum Urban Area Capacity

The Growth Plan requires that a minimum intensification rate of 40% of all new residential development occur within the *built-up area* as defined by the Province by the year 2015, and that *designated greenfield areas* be planned to achieve an average density of 50 people and jobs per hectare. The combination of these requirements within the Growth Plan effectively establishes the minimum capacity of the urban areas within the region to accommodate growth. Expansions are only permitted when the growth forecasted by the Growth Plan exceeds the minimum capacity of the urban area.

As noted above, the Growth Plan states that the *designated greenfield areas* will be planned to achieve a minimum *density target* that is not less than 50 people and jobs combined per hectare. If this density cannot be met on certain types of land uses (e.g. non-residential lands or lands already subject to existing plans of subdivision), the Growth Plan requires that the shortfall in capacity be met by increasing the densities on other lands. As part of the preparation of the Regional Land Budget, it has been determined that such transfers in density onto the remaining residential *designated greenfield areas* to compensate for lower densities on non-residential lands and existing residential subdivisions would result in densities on this remaining land that are unachievable without locating significant quantities of high density development within the *designated greenfield area*, high density development that would be required around Major Transit Station Areas to achieve other policies within the Growth Plan.

To address this issue, the Regional Land Budget proposes to achieve the same minimum urban area capacity as anticipated through the Growth Plan through alternative means. By requiring a minimum intensification rate 45% to be achieved by the year 2015 instead of 40%, the densities within the residential *designated greenfield areas* required to achieve the minimum urban area capacity as anticipated by the Growth Plan can be reduced down to an achievable amount with no impact, positive or negative, on the need for urban area expansions. Therefore, the Regional Land Budget recommends that the minimum capacity of the urban area, as calculated by applying the density and intensification targets of the Growth Plan, be achieved by requiring that:

- a) an average of 45% of residential development occur within the *built boundary* by the year 2015 and every year thereafter; and
- b) *designated greenfield areas* be planned to achieve on average across the region the following densities:
  - i) 55 people and jobs per hectare within the residential *Urban Area designated greenfield areas* not subject to plans of subdivision submitted prior to June 16, 2006;
  - ii) 45 people and jobs per hectare within the residential *Township Urban Area designated greenfield areas* not subject to plans of subdivision submitted prior to June 16, 2006;

- iii) 40 jobs per hectare within serviced non-residential *designated greenfield areas*;
- iv) 25 jobs per hectare within Prime Industrial / Strategic Reserve lands within the *designated greenfield areas*, and
- iv) 25 jobs per hectare for unserviced non-residential *designated greenfield areas* of the Townships.

Plans of subdivision submitted prior to June 16, 2006 are exempt from the minimum *designated greenfield area* densities noted above, but will be required on average to achieve densities consistent with the those incorporated in the plans at the time of submission. The proposed *designated greenfield area* density and intensification targets provided for in the Regional Land Budget, including the capacity of plans of subdivision submitted prior to June 16, 2006 as noted above, deliver the same minimum urban area capacity as anticipated by the Growth Plan.

### 3.0 Designated Greenfield Area Capacity

Determination of the capacity of the *designated greenfield area* is a relatively simple process given the rules established in the Growth Plan. The first step in this process is to determine the area between the *built boundary* established by the Province and the urban boundary as designated in the ROP. The second step is to net out the *provincially constrained environmental areas* as defined in accordance with the provisions of the Growth Plan. The third is to multiply the *designated greenfield area* net of the *provincially constrained environmental areas* by the 50 people and jobs per hectare *density target* established in the Growth Plan. The fourth step is to subtract the number of residents and jobs that already exist within the area. The result of these calculations is the capacity within the *designated greenfield area* for the purposes of the justification process established by the Growth Plan.

In order to determine the capacity of the *designated greenfield area* for employment and residential uses, land use designations in Area Municipal official plans were aggregated into two categories; “residential” and “non-residential” lands and were mapped accordingly (See Appendix B). The non-residential category reflects lands designated for non-residential uses only, such as business parks and industrial land. The remaining land was considered residential. For the purposes of the Regional Land Budget, lands categorized as residential will contain all residential land uses, and may contain blocks of land set aside for commercial plazas, small businesses and other employment uses generally associated with residential areas (such as schools, daycares and churches), it may also contain mixed use blocks where both employment and residential uses may be located in one area.

For the purposes of the Regional Land Budget, Area Municipal Official Plan land use designations where development is not generally permitted, such as parks or designated open space, have been assigned to the adjacent or surrounding “non-residential” or “residential” category land uses. Where such lands meet the test of a *provincially constrained environmental area*, they are netted out as noted above.

Mapping of the *designated greenfield area*, including the residential and non-residential categories and the *provincially constrained environmental areas* are contained in Appendix B.

#### 3.1 Residential Designated Greenfield Area

The total area of the residential component of the *designated greenfield area* net of *provincially constrained environmental areas* is 3,612 ha. Table 1 provides a breakdown of the residential component of the *designated greenfield area* net of *provincially constrained environmental areas* by Area Municipality.

Residential Designated Greenfield Area by Municipality (Table 1)			
Municipality	Urban Area Residential DGA net of provincial constraints (ha)	Township Urban Area Residential DGA net of provincial constraints (ha)	Total
City of Cambridge	774		774
City of Kitchener	1,553		1,553
City of Waterloo	529		529
Township of North Dumfries		128	128
Township of Wellesley		50	50
Township of Wilmot		177	177
Township of Woolwich	157	244	401
<b>REGION TOTAL</b>	<b>3,013</b>	<b>599</b>	<b>3,612</b>

### 3.2 Non-Residential Designated Greenfield Area

The total area of the non-residential component of the *designated greenfield area*, net of *provincially constrained environmental areas*, is 1,955 ha. Table 2 provides a breakdown of the non-residential component of the *designated greenfield area* net of *provincially constrained environmental areas* by Area Municipality.

Non-residential Designated Greenfield Area by Municipality (Table 2)				
Municipality	Designated Serviced Non-residential DGA net of provincial constraints (ha)	Designated Unserviced Non-residential DGA net of provincial constraints (ha)	Prime Industrial Non-residential DGA net of provincial constraints	Total
City of Cambridge (includes 300 net hectares of PISR and 43 hectares of associated land justified for inclusion)	429		343	772
City of Kitchener	225		0	225
City of Waterloo	320		0	320
Township of North Dumfries (includes 100 ha of soon to be designated PISR)		100	100	200
Township of Wellesley		2	0	2
Township of Wilmot	92		0	92
Township of Woolwich	201	143	0	344
<b>REGION TOTAL</b>	<b>1,267</b>	<b>245</b>	<b>443</b>	<b>1,955</b>

### 3.3 Allocation of Required Density Target Between Residential and Non-residential Designated Greenfield Areas

The Growth Plan requires *designated greenfield areas* to be developed at an average density of 50 people and jobs per hectare. Achieving this *density target* is virtually impossible in some categories of land uses and so there needs to be compensation for reduced densities in some areas, by applying higher densities in others. Consideration in establishing these densities was given to the availability of transit services, wastewater and water servicing, and the current understanding as to the proposed uses of the land. Compensation for reduced densities on residential plans of subdivision within the *designated greenfield area* submitted prior to June 16, 2006 is calculated based on the actual densities of the plans submitted (see Table 3).

Total Area of Land Under Residential Plan as of June 16, 2006 and Average Density of Residential Land Under Plans of Subdivision within the Designated Greenfield Area by Municipality (Table 3)								
Urban Area					Township Urban Area			
	Cambridge	Kitchener	Waterloo	Woolwich UA	Woolwich TUA	Wilmot	North Dumfries	Wellesley
Area (ha)	178	670	256.7	92.2	14.6	112.7	24.2	28.8
Population and PRE (P&J)	7,468	34,621	11,822	2,983	740	4,604	1,084	1047
Density Under Plan (P&J/ha)	42	51.6	46.1	32.4	50.7	40.85	44.8	36.4

To compensate for the reduced densities on residential plans of subdivision within the designated greenfield area, while keeping the density required to be achieved on the residential lands outside of plans of subdivision to a reasonable level, Regional staff is proposing an alternative calculation methodology which achieves the minimum urban area capacity as described in Section 2.6. To achieve this minimum urban area capacity, Regional staff propose increasing the reurbanization rate to 45 percent by 2015 (an average annual rate of 42% to 2029) as discussed in Section 2.6. This increase in reurbanization effectively transfers higher density development to areas better serviced by high frequency transit consistent with the objectives of the Growth Plan.

Compensation for reduced densities on non-residential lands was based on the amount of land expected to be used within the planning horizon. This will be assumed to be: 10% of the forecast on unserved non-residential lands (87.7 ha); 15% of the forecast on Prime Industrial / Strategic Reserve non-residential lands (131.47 ha); and 75% of the forecast on served non-residential lands (410.85 ha).

The following are the densities proposed for the *designated greenfield area* in order to achieve the minimum urban area capacity consistent with the objectives of the Growth Plan.

**Residential Designated Greenfield Areas within the Urban Area (55 people and jobs/hectare for all land not subject to a plan of subdivision as of June 16, 2006)** - Includes all residential *designated greenfield areas* within the Cities of Cambridge, Waterloo and Kitchener and the Breslau Settlement Area in the Township of Woolwich as shown in Appendix B. There are 3,013 hectares of residential *designated greenfield area* within the *Urban Areas* of the region.

**Residential Designated Greenfield Areas within Township Urban Areas (45 people and jobs/hectare for all land not subject to a plan of subdivision as of June 16, 2006)** - Includes all residential *designated greenfield areas* within the *Township Urban Areas* of Wellesley, Elmira, St. Jacobs, New Hamburg, Baden and Ayr as shown in Appendix B. There are 599 hectares of residential *designated greenfield area* within the *Township Urban Areas* of the region.

**Serviced Non-residential Designated Greenfield Areas (40 jobs/hectare)** - Includes all non-residential areas designated for full services. There are 1,609 hectares of full serviced non-residential *designated greenfield area* within the region.

**Unserviced non-residential Designated Greenfield Areas (25 jobs/hectare)** - Includes all non-residential areas not designated for full services. There are 345 hectares of unserviced non-residential *designated greenfield area* within the region.

**Prime Industrial / Strategic Reserve Lands (25 jobs/ha)** - This will include all lands designated as Prime Industrial / Strategic Reserve within the ROP. There are currently no lands designated as Prime Industrial / Strategic Reserve fully approved at this time. Regional Official Plan Amendment No. 28, which seeks to establish the first 150 hectares of Prime Industrial / Strategic Reserve in the northern part of Cambridge is currently before the Ontario Municipal Board. In addition to the lands subject to Amendment No. 28, justification has been established for an additional 150 hectares of serviced and 100 hectares of unserviced Prime Industrial / Strategic Reserve through the Industrial and Business Park Vacant Land Inventory and Demand Analysis (2006). This justification was recently accepted by the Ontario Municipal Board in a preliminary ruling relating to ROPP Amendment No. 28.

### ***3.4 Capacity of Residential and Non-residential Designated Greenfield Areas***

Based on the required densities as outlined in Section 3.3, Tables 4 and 5 illustrate the capacities within the residential and non-residential *designated greenfield areas*.

Capacity in the Designated Greenfield with 42% Average Yearly Reurbanization (Table 4)						
City	Capacity of Plans of Subdivision in the DGA (p&j)	DGA Outside of Plans of Subdivision (ha)	Capacity of Urban Area DGA outside of Plans of Subdivision 55 p&j density	Capacity of Township Urban Area DGA outside of Plans of Subdivision 45 p&j density	Existing Development Outside of Plans (p&j)	Net Residential DGA Capacity (p&j)
Cambridge	7,468	596	32,780		1,111	39,137
Kitchener	35,621	883	48,565		2,899	81,287
Waterloo	11,822	272.3	14,976.5		703	26,096
Woolwich UA	2,983	64.8	3,564			
Woolwich TUA	740	229.4		10,323	352	17,258
Wilmot	4,604	64.3		2,893.5	140	7,358
North Dumfries	1,084	103.8		4,671	19	5,736
Wellesley	1,047	21.2		954	54	1,947
<b>REGIONAL TOTAL</b>	<b>65,369</b>	<b>2,235</b>	<b>99,886</b>	<b>18,842</b>	<b>5,278</b>	<b>178,818</b>

Non-residential Designated Greenfield Area and Capacity by Municipality (Table 5)					
Municipality	Non-residential DGA Net of Provincial Constraints (ha)	Gross Non-residential DGA Capacity (40 Jobs) (25 PISR)	Gross Non-residential Unserviced DGA Capacity (25 Jobs) (25 PISR)	Existing Development (P&J)	Net Non-residential DGA Capacity (Jobs)
City of Cambridge	429	17,160		95	25,640
	343 PISR	8,575			
City of Kitchener	224	8,960		14	8,946
City of Waterloo	320	12,800		21	12,779
Township of North Dumfries	100		2,500	9	4,991
	100 PISR		2,500		
Township of Wellesley	2		50	1	49
Township of Wilmot	92	3,680		5	3,675
Township of Woolwich	201 Serviced 143 Unserviced	8,040	3,575	73	11,542
<b>REGION TOTAL</b>	<b>1,954</b>	<b>59,215</b>	<b>8,625</b>	<b>218</b>	<b>67,622</b>

## 4.0 Residential Demand

### 4.1 *Net Household Population Increase – Year End 2006 to Year End 2029*

#### 4.1.1 2006 Census Household Population

The household population of the Region of Waterloo as reported in the 2006 Census was 478,121.

#### 4.1.2 Census Household Population Undercount Adjustment Factor

The population forecasts provided within the Growth Plan for the Region of Waterloo use the population reported through the 2001 Census inflated by an undercount assumption of 4% as the population for its 2001 base year. As a result, the 2031 forecasted population contained in the Growth Plan also is reflective of an assumed undercount of 4%. For the purposes of the Regional Land Budget, a 4% undercount factor is applied to the 2006 Census household population.

#### 4.1.3 Year End 2006 Household Population

One of the key factors in determining the amount of land required to accommodate growth is the location of the *built boundary* established by the Province to reflect the extent of the *built-up area* as of the coming into effect of the Growth Plan on June 16, 2006. The process used to determine the extent of the *built boundary* included a review of all building permits issued up until that date, with such permits recognized as built provided construction of the foundations had begun. Consequently, the *built boundary* included homes that otherwise were not occupied at the time of the 2006 Census. In order to properly correlate the *built-up area* with the population it actually reflects, the Region uses the population at year end 2006 as the base population for this Regional Land Budget. This population would correlate with the building permits issued prior to June 16, 2006 as there is an approximate six month lag time between building permit issuance and occupancy of such dwellings. The year end 2006 household population was then determined using the 2006 Census population, the undercount adjustment factor, population projections to year end 2006, and students requiring regular housing that would not otherwise be included within the Census population. The household population including students to year end 2006 was 510,600.

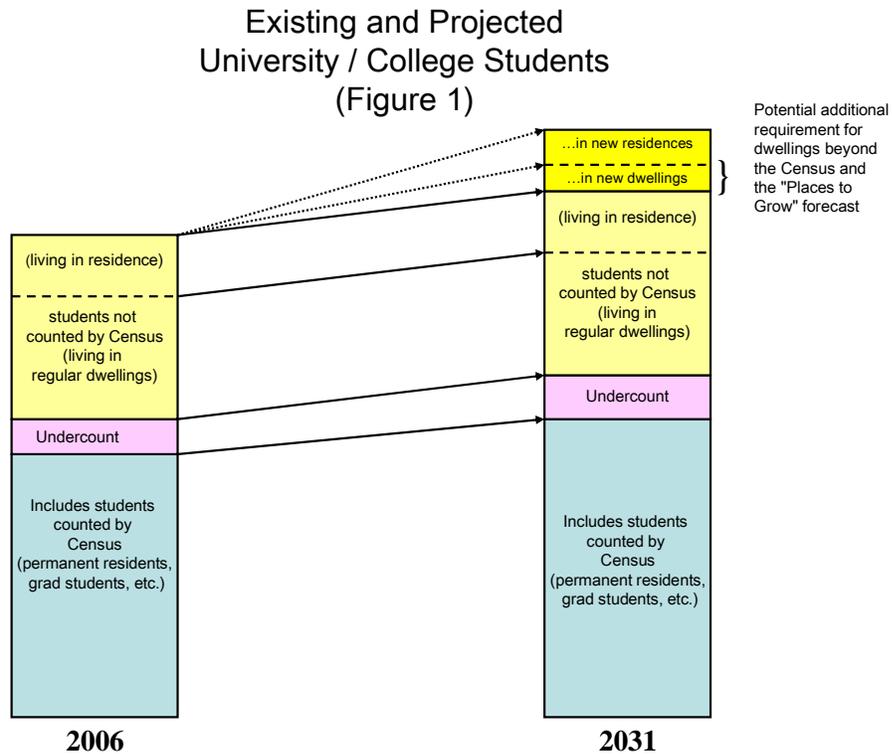
#### 4.1.4 Growth Plan Population Forecast Extrapolated to 2029

In keeping with the requirements of the Growth Plan, the new ROP will have a planning horizon of 2029. As a result, the 2021 population forecast contained in the Growth Plan needs to be extrapolated to year end 2029 for use in both the new ROP and the Regional Land Budget. This process was undertaken through a modeling exercise using the Region's Population and Land Use Model (PLUM) employing rates of growth since the 2001 base year of the Growth Plan, and applying the projected mortality, birth and immigration rates to the year 2029. As a result of this modeling exercise, a household population of 716,000 will be used as the forecasted population for year end 2029 in the calculations contained in the Regional Land Budget.

#### 4.1.5 Adjustment for Students

Many of the students attending the University of Waterloo, Wilfrid Laurier University or Conestoga College are counted through the Census process, either as students living at home (within the region or elsewhere),

or as students who have become full time residents in the region. In addition to the growth in students reflected through the Census, the Region anticipates that there will be a number of students not counted through the Census process that must be accommodated in residential units within the region (see Figure 1).

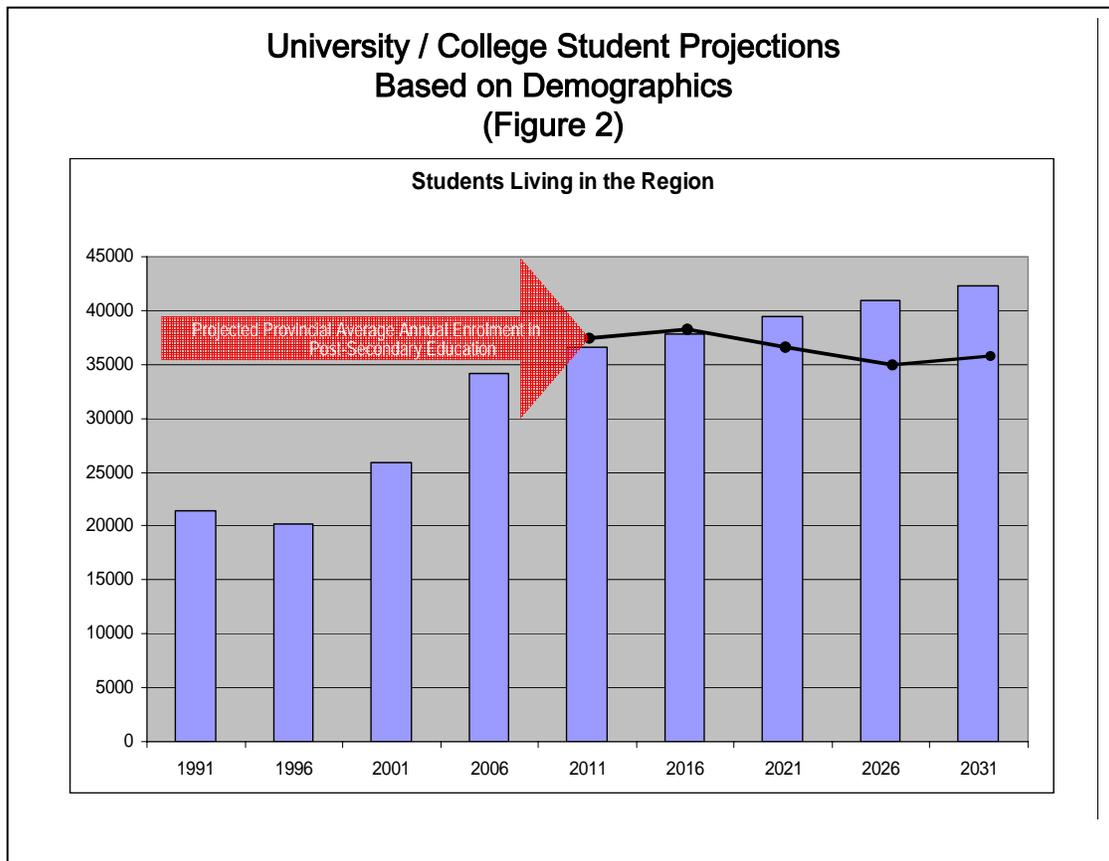


In the time period between the 2001 and 2006 Census, universities and colleges absorbed what is commonly referred to as the "double cohort" that resulted from the elimination of the fifth year of high school within the Provincial education system. This produced two years of students graduating high school and subsequently entering post secondary education at the same time. In response to the double cohort, the capacity of the post secondary education facilities in the region was increased dramatically to accommodate the sudden influx of students. This has resulted in a one time increase in the number of students of approximately 7,000 students between 2001 and 2006 that may otherwise not have been captured in the Census process. While the effects of the double cohort will pass through the post secondary education system fairly quickly, the housing capacity increases already developed in the region in 2006 are expected to be maintained and will result in little need to expand the capacity of undergraduate programs and therefore housing capacity for a significant number of years.

While it is expected that the post secondary educational institutions will continue to grow in the Region of Waterloo, this growth will be primarily focused on growth in the post graduate students. Unlike undergrads, graduate students usually live within the community year round and as a result are picked up by the Census and therefore factored into any Census based projections.

Historical trends in student age population in the region, forecasts provided by the Universities and

Conestoga College, and the demographic profile of the regional population to the year 2029 were used to develop a student forecast to the year 2031. This forecast (see Figure 2) includes a net increase in the number of students that would not be accounted for in the Census based forecasts that would require regular housing of 2,700 (to 2029). Also included on Figure 2 is an extrapolation of the Statistics Canada projection of annual enrollment in post secondary education in the Province of Ontario. This projection, which is based on demographic trends, would indicate that the Region's forecast for 2031 is optimistic, reflecting an assumption that the quality of the region's post-secondary institutions will draw a greater than average proportion of the available Provincial student population.



#### 4.1.6 Forecasted Increase in Household Population Year End 2006 to Year End 2029

The forecasted increase in the household population from the year end 2006 base year for this analysis (510,600) to the horizon year of 2029 (716,000) including an adjustment for students (2,700) is 208,100. This is the net household population increase that needs to be accommodated through the Regional Land Budget process.

NOTE: The population living in collectives has been excluded within the net increase in the household population that needs to be accommodated for the purposes of the Regional Land Budget calculations.

#### 4.1.7 Forecasted Increase in Households Year End 2006 to Year End 2029

The forecasted increase in new households for the period year end 2006 to year end 2009 is 90,000. This forecast has been developed in consultation with Hemson Consulting Ltd. and is consistent with the household forecasts being used for other planning and development charge studies being undertaken in the region.

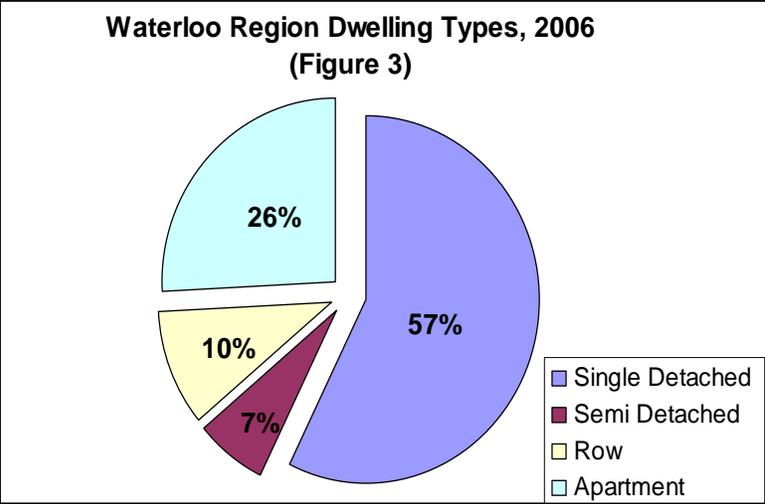
#### 4.1.8 Person per Unit Values for New Development

For the purposes of the Regional Land Budget, the PPU values used in all calculations of population accommodated in new development will be: single-detached units (3.30), townhouses (2.48) and apartments (1.83). These figures reflect the historic average PPU for these units developed between 1986 and 2006 (see Table 6) and likely reflect the PPU values that could be expected from new development at the end of the Regional Land Budget's planning horizon. Single-detached units will include semi-detached units for the purposes of this analysis, and the blended weighted average of singles detached and semi detached units is reflected in the 3.3 PPU.

Household Size by Unit Type by Period of Construction: 2006 Census (Table 6)										
	Period of Construction									
	Pre 1946	1946- 60	1961- 70	1971- 80	1981- 85	1986- 90	1991- 95	1996- 01	2001- 06	20 year AVG.
<b>Single Detached</b>										
Number	13,900	14,480	12,655	14,430	6,210	10,305	6,185	9,630	13,975	40,095
Household Size	2.81	2.43	2.71	2.92	3.15	3.3	3.32	3.38	3.31	3.32
<b>Semis</b>										
Number	1,100	635	1,415	3,060	940	1,145	1,530	1,085	1,135	4,895
Household Size	2.79	2.85	2.8	2.99	3.16	2.96	2.95	3.04	2.86	2.95
<b>Rows</b>										
Number	265	530	1,730	3,815	1,700	2,525	2,290	2,155	3,030	10,000
Household Size	2.68	2.96	2.85	2.68	2.73	2.65	2.72	2.31	2.28	2.48
<b>Apartments</b>										
Number	6,060	6,110	9,545	10,200	4,200	3,790	2,740	1,355	2,240	7,297
Household Size	1.81	1.81	1.82	1.84	1.88	1.78	1.83	1.85	1.9	1.83

## 4.2 Change in Number of People Housed in the Existing Housing Stock

One of the most significant variables in determining how much additional land will be required to accommodate forecasted growth to the year 2029 is the number of people that will be housed at that time in units that currently exist today. In 2006, Waterloo Region contained 178,095 occupied dwelling units (*existing housing stock*) with an average person per unit value (PPU) of 2.64 (2006 Census). The inventory of dwelling types by percentage of unit type as derived from the 2006 Census is shown on Figure 3.



### 4.2.1 Impact of Vacant Dwellings on Existing Housing Stock Capacity

For the purposes of the Regional Land Budget it is assumed that the vacancy rate within the *existing housing stock* over the next twenty years will fluctuate, but at the end of the twenty year planning horizon will remain at a similar rate to what the vacancy rate was in 2006 (between 3 and 4%). As a result, vacancy rates are assumed to have no impact on the calculations within the Regional Land Budget.

### 4.2.2 Forecasted Change in Number of People Housed in Existing Housing Stock to 2029

The average PPU by dwelling type for the dwelling units that existed in the Region of Waterloo as of June 16, 2006, were derived from the 2006 Census as contained in Table 7. Table 8 provides the same data for 1991 for comparison purposes.

	Occupied Dwellings	PPU
Total	178,095	2.64
Single Detached	101,770	2.98
Semi Detached	12,045	2.94
Row	18,040	2.6
Apartment	46,240	1.83

Persons per Unit Values for Dwellings in Region of Waterloo Existing Housing Stock 1991 (Table 8)		
	Occupied Dwellings	PPU
Total	134,730	2.76
Single Detached	75,610	3.13
Semi Detached	8,975	3.20
Row	10,845	3.00
Apartment	38,515	1.87

The number of people that will occupy the 178,095 housing units (the *existing housing stock*) in the year 2029 is dictated by a multitude of factors including: the changing demographics of the community; changes in preferences for housing types and locations; and the response by the development industry to changing market demands associated with these factors.

Examining the impact of these factors is important because a decline in the average PPU within the *existing housing stock* (i.e. fewer people living within these units) means that more people than the net increase in population would need to be accommodated within new development. Alternatively, a rise in the average PPU within the *existing housing stock* (i.e. more people living within these units) would mean that fewer people than the net increase in population would need to be housed in new residential units within the planning horizon.

There is considerable debate among professionals as to when the impact of the future turnover of the single detached dwellings currently occupied in large numbers by the Baby Boom generation will take effect. For the purposes of the Regional Land Budget, it is forecasted that number of people in the *existing housing stock* will decline by 20,000 to year end 2029, resulting in a total of 228,125 people having to be accommodated within new development between year end 2006 and year end 2009. This represents a decline in the average PPU for existing dwellings to approximately 2.53 from the current 2.64, and is consistent with the leveling off of the decline in PPU's that has occurred over the past several decades.

### 4.3 Reurbanization Rates

#### 4.3.1 Existing Reurbanization Rate

The Regional Land Budget requires that by the year 2015, and every year after, a minimum of 45% of all new residential units be built within the *built-up area* as it existed on June 16, 2006 (see Section 2.6).

Since 2004, the Region has been monitoring the rate of reurbanization activity based on a monitoring line, separate but internal to the *built boundary* (see Appendix C). This monitoring line is based on the built form in the year 1994, (reflective of building permits issued prior to this time) and was established to exclude unbuilt portions of plans of subdivision as well as natural areas found around the periphery of the line in a manner similar to that used by the Province in establishing the *built boundary*. A monitoring line was deemed necessary to capture "true" reurbanization, so that unbuilt units within plans of subdivision, which

were caught within the *built boundary* on June 16, 2006, do not artificially inflate the average regional reurbanization rate in the early years of reurbanization monitoring. Given the majority of plans of subdivision take approximately 10 to 12 years to almost entirely build out after registration, the year 1994 was picked as the basis for the monitoring line. In 2006, reurbanization activity within the monitoring line represented 29% of the residential building permits issued throughout the year.

#### 4.3.2 Required Reurbanization Rate 2006 - 2029

In order to simplify the Regional Land Budget calculation, a yearly average reurbanization will be used that reflects a combination of the phase-in period to 2015 and the 45% reurbanization rate to be achieved annually between 2015 and 2029. This average utilizes a linear increase between the reurbanization rates in 2006 (29%) and 2015 and thereafter at a steady rate of 45%. Using this formula, the average minimum yearly reurbanization rate to be achieved between the years 2006 and 2029 is 42.2%. This has been rounded down to 42% for the purposes of calculations within the Regional Land Budget.

#### 4.4 Calculation of Population and Related Employment to be accommodated within the Residential Portion of the Designated Greenfield Area

The residential portion of the *designated greenfield area* (as shown in Appendix B) represents large discrete areas within the *designated greenfield area* that are expected to accommodate primarily residential uses, but may also contain population serving employment uses such as commercial areas, schools, churches and small offices. The process for calculating the population and related employment that will be located within the residential *designated greenfield area* is as described in Steps 1 to 5 below. Assumptions have been derived for each of the factors necessary for the purposes of demonstrating the methodology. These factors presented in this section represent a combination of assumptions that could reasonably reflect future development within the community. Other combinations of these factors are presented through the sensitivity analysis contained in Section 4.5.

#### Step 1 – DETERMINE THE NUMBER OF UNITS REQUIRED WITHIN THE BUILT-UP AREA

The average minimum yearly reurbanization rate (proportion of residential units to be built within the *built-up area*) was determined through the process outlined in Section 4.3.2 to be 42%. As a result, the number of residential units expected to be built within the *built boundary* between 2006 and 2029 would be determined as follows:

Proportion of total development within the *built-up area* x the total number of new residential units = the number of new residential units anticipated to be built within the *built boundary* (2006 – 2029)

$$0.42 \times 90,000 = 37,800 \text{ (rounded to nearest unit)}$$

The number of residential units required within the *built-up area* is 37,800.

## Step 2 - PPU PROJECTION FOR NEW RESIDENTIAL UNITS WITHIN THE BUILT BOUNDARY

The starting point for estimating the PPU for new residential units within the *built boundary*, is the 2006 Census apartment PPU of 1.83, as the majority of such units will be multiple dwellings typically in the form of apartments. However, consideration needs to be given to adjusting this number based on several factors:

- a) **Development of Ground-oriented Reurbanization Units** - Within the *built-up area* there is considerable opportunity for the development of a mix of housing through reurbanization. As can be seen in many of the projects built to date, a mix of ground oriented units in the form of townhouses or stacked townhouses can often be incorporated into such developments. The average PPU for townhouse units that have been built over the past 20 years in the Region of Waterloo is 2.48.
- b) **Build out of the Remaining Suburban Development Captured within the Built-up Area** - The *built boundary* captures a considerable amount of yet unbuilt units in plans of subdivision, including a significant number of ground oriented and single-detached units. On June 16, 2006, there were 1,947 unbuilt single-detached units, 197 unbuilt semi-detached units and 1,580 unbuilt townhome units in registered, draft approved and pending plans of subdivision delivering PPU factors (based on 20 year averages as noted in Section 4.1.8) of 3.30 for single-detached / semi-detached units and 2.48 for townhome units caught within the *built boundary*. Although these units will be absorbed fairly early in the planning horizon, they count toward the residential units to be located within the *built boundary*, and so need to be considered within the PPU factor. The existence of these units alone will increase the PPU for reurbanization units by approximately 0.11 (based on 37,800 units) above the current apartment rate.

In consideration of the factors noted above, an average PPU value of 2.05 will be assigned to new residential units within the *built-up area* for the purposes of this analysis.

## Step 3 - CALCULATE PPU FOR ALL NEW RESIDENTIAL UNITS

The average PPU for all new residential units developed between 2006 and 2029 is calculated as follows:

Net increase in population to the year 2029 (208,125) + assumption of decline in *existing housing stock* (20,000) / household forecast (90,000) = PPU for all new residential units

$$\begin{aligned} &= 228,125 / 90,000 \\ &= 2.53 \end{aligned}$$

## Step 4 - CALCULATE PPU FOR NEW RESIDENTIAL UNITS WITHIN THE DESIGNATED GREENFIELD AREA

The average PPU for new residential units developed between 2006 and 2029 within the *designated greenfield area* is determined as follows:

Average PPU for all new development (2.53) – (reurbanization rate (42%) x reurbanization PPU factor (2.05)) / Proportion of new development to locate within the *designated greenfield area* (58%)

$$= (2.53 - (0.42 \times 2.05)) / 0.58$$

$$= 2.88 \text{ PPU}$$

As of June 16, 2006, a significant portion of the lands within the residential *designated greenfield area* were already the subject of applications for plan of subdivision approval (planned portion of the *designated greenfield area*). These subdivisions, which were in various stages of approval, encompass approximately 37.9% of the residential *designated greenfield area*. The breakdown of unbuilt residential units within the plans of subdivision applicable to lands within the *designated greenfield area* as of June 16, 2006 is as shown on Table 9.

Unbuilt Units in Plans in the Designated Greenfield Area as of June 16, 2006 (Table 9)				
	Single/Semis	Rows	Apartments	Total
Registered	2,793	828	1,227	4,848
Draft Approved	6,105	1,640	1,167	8,911
Pending	4,394	870	279	5,542
TOTAL	13,292	3,338	2,672	19,301
Percent of Total	69%	17%	14%	-

Based on 20 year PPU values for development within the *designated greenfield area*, this unbuilt inventory can be anticipated to yield a PPU of approximately 2.95 with an average density of approximately 49.5 (including *population related employment*). It is important to remember that achieving the required density of 55 people and jobs per hectare within the portion not subject to these plans of subdivision will result in an increase in both the number of units and the percentage of these units having to be townhomes or apartments. As a result, it can reasonably be expected that the overall PPU for the urban *designated greenfield areas* will have to decrease to meet these density requirements. This further reinforces the case for a 2.88 PPU for *designated greenfield area* units as noted above..

#### Step 5 – DETERMINE THE NUMBER OF PEOPLE TO BE ACCOMMODATED WITHIN THE RESIDENTIAL DESIGNATED GREENFIELD AREA

The formula for determining the number of people to be accommodated within the residential *designated greenfield area* is as follows:

$$(\text{Total number of units of new development} \times \text{percentage of units to be built within the } \textit{designated greenfield area}) \times \text{PPU of new development within the } \textit{designated greenfield area} = \text{the number of people to be accommodated within the } \textit{designated greenfield area}$$

$90,000 \times .58 \times 2.88 =$  number of people to be accommodated within the *designated greenfield area*  
 $52,200 \times 2.85 = 150,336$  people

#### Step 6 – CALCULATE THE AMOUNT OF EMPLOYMENT ASSOCIATED WITH THE RESIDENTIAL DESIGNATED GREENFIELD AREA

*Population related employment (PRE)* is the employment directly related to and located within what are primarily residential areas. This includes people that telecommute/work from home (work-at-home) and employment in residential areas associated with churches, schools and local, community and neighbourhood commercial malls, arterial commercial adjacent to residential areas and small professional offices (population serving employment).

*PRE* is calculated based on the number of people and units expected to be found in *designated greenfield areas*. Work-at-home has been projected based on the results of the 2006 Census and represents a factor of 2.8% of the overall population. Population serving employment has been calculated based on a review of the employment occurring within existing primarily residential neighbourhoods within Waterloo Region using the 2001 Census. Population serving employment has been found to occur at a rate of 0.3 employees per residential unit.

The formula for calculating *PRE* within the residential portion of the *designated greenfield area* is as follows:

(Population to be accommodated within the *designated greenfield area* x 0.028%) +  
(number of new residential units within the *designated greenfield area* x 0.3) = *PRE*

$(150,336 \times 0.028) + (52,200 \times 0.3) = PRE$

$4,209 + 15,660 = 19,869$  jobs

#### Step 7 – CALCULATE THE TOTAL PEOPLE AND JOBS TO BE ACCOMMODATED WITHIN THE RESIDENTIAL DESIGNATED GREENFIELD AREA

The formula for calculating the total people and jobs in the residential *designated greenfield area* is as follows:

Number of people to be accommodated within the residential *designated greenfield area* +  
*PRE* = total people and jobs

$150,336 + 19,869 = 170,205$  people and jobs

#### 4.5 Sensitivity Analysis of Reurbanization Rates, Net Population Increases and PPU Projections for Residential Units within the Residential Designated Greenfield Area and within the Built Boundary

For the purposes of this sensitivity analysis, PPU values of 1.9, 2.05 and 2.2 for dwelling units within the *built boundary* will be tested against reurbanization rates of 40% and 45% by the year 2015 and each year there after (average reurbanization rates of 38% and 42% respectively), and a decrease in population housed within the housing stock of 10,000, 20,000 and 30,000 people.

The 2.05 reurbanization PPU tested through Steps 1 to 5 in the previous section (Scenario 11) yielded an need to accommodate 170,205 people and jobs within the *designated greenfield area*. Scenario 11 is the scenario recommended by the Regional Land Budget.

Sensitivity Analysis of PPU Projections for Residential Units within the Residential <i>Designated Greenfield Area</i> and within the Built Boundary - Net Population Increase of <u>218,125</u> (decline of 10,000 in the population within the existing housing stock) ( Table 10)								
	Average Reurb. Rate	Household Forecast	Overall PPU New Dev.	PPU Reurb Units	PPU Greenfield Units	Pop'n in Greenfield	Pop'n Related Emp.	Total Greenfield P&J
1	38%	90,000	2.42	1.9	2.74	152,892	21,021	173,913
2	38%	90,000	2.42	2.05	2.65	147,870	20,880	168,750
3	38%	90,000	2.42	2.2	2.55	142,290	20,724	163,014
4	42%	90,000	2.42	1.9	2.80	146,160	19,752	165,912
5	42%	90,000	2.42	2.05	2.69	140,418	19,592	160,010
6	42%	90,000	2.42	2.2	2.58	134,676	19,431	154,107

Sensitivity Analysis of PPU Projections for Residential Units within the Residential <i>Designated Greenfield Area</i> and within the Built Boundary - Net Population Increase of <u>228,125</u> (decline of 20,000 in the population within the existing housing stock) ( Table 11)								
	Average Reurb. Rate	Household Forecast	Overall PPU New Dev.	PPU Reurb Units	PPU Greenfield Units	Pop'n in Greenfield	Pop'n Related Emp.	Total Greenfield P&J
7	38%	90,000	2.53	1.9	2.92	162,936	21,302	184,238
8	38%	90,000	2.53	2.05	2.82	157,356	21,146	178,502
9	38%	90,000	2.53	2.2	2.73	152,334	21,005	173,339
10	42%	90,000	2.53	1.9	2.99	156,078	20,030	176,108
11	42%	90,000	2.53	2.05	2.88	150,336	19,869	170,205
12	42%	90,000	2.53	2.2	2.77	144,594	19,709	164,303

**Sensitivity Analysis of PPU Projections for Residential Units within the Residential *Designated Greenfield Area* and within the Built Boundary - Net Population Increase of 238,125  
(decline of 30,000 in the population within the existing housing stock)  
( Table 12)**

	Average Reurb. Rate	Household Forecast	Overall PPU New Dev.	PPU Reurb Units	PPU Greenfield Units	Pop'n in Greenfield	Pop'n Related Emp.	Total Greenfield P&J
13	38%	90,000	2.65	1.9	3.11	173,538	21,599	195,137
14	38%	90,000	2.65	2.05	3.02	168,516	21,458	189,974
15	38%	90,000	2.65	2.2	2.93	163,494	21,318	184,812
16	42%	90,000	2.65	1.9	3.19	166,518	20,323	186,841
17	42%	90,000	2.65	2.05	3.08	160,776	20,162	180,938
18	42%	90,000	2.65	2.2	2.98	155,556	20,016	175,572

## 5.0 Employment

### 5.1 *Employment Forecast – 2006 to 2029*

#### 5.1.1 2006 Census – Employment

Employment within the Region of Waterloo as reported in the 2006 Census was 262,308.

#### 5.1.2 Census Employment Undercount Adjustment Factor and Adjustment to Year End.

The employment forecast provided in the Growth Plan for the Region of Waterloo use the employment reported through the 2001 Census inflated by a factor of 1.72% as the employment for the 2001 base year. As a result, the 2031 employment forecast in the Growth Plan is also reflective of this assumed undercount factor. The Regional Land Budget utilizes the results of the 2006 Census as its base year. In order to be consistent with the forecast used within the Growth Plan, the 2006 Census results for employment have also been inflated by 1.72%, resulting in a 2006 Census Population (adjusted for the assumed undercount) of 266,820. This was then extrapolated to year end 2006 as a year end employment total of 270,600. This is the base employment that will be used in all calculations within the Regional Land Budget.

#### 5.1.3 Growth Plan Employment Forecast Extrapolated to 2029

Consistent with the process described in section 4.1.3, the Growth Plan employment forecast extrapolated to the year 2029 is 361,900.

#### 5.1.4 Forecasted Increase in Regional Employment 2006-2029

The forecasted net increase in employment from the base year of 2006 (270,600) to the horizon year of 2029 (361,900) is 91,300.

### 5.2 *Jobs to be accommodated within the Non-residential Portion of the Designated Greenfield Area*

The non-residential portion of the *designated greenfield area* as shown on Appendix 'B' represents large discrete areas within the *designated greenfield area* that are expected to accommodate only employment uses. Only a portion of the new jobs that will be created within the region from 2006 to 2029 can be expected to locate within the non-residential *designated greenfield area*. New employment occurring within the Urban Growth Centres, Major Transit Station Areas, Major Local Nodes and Reurbanization Corridors as well as major institutional uses, population serving employment, work-at-home and no-fixed-place-of-work represent the majority all employment within the Region. Other than two areas which are currently proposed to accommodate major commercial uses, the non-residential portion of the *designated greenfield area* will primarily be developed for non-residential uses traditionally found in industrial and business parks.

In early 2006, the Region, in conjunction with the Area Municipalities and the Prosperity Council of Waterloo Region's Regional Growth Management Strategy Liaison Task Force, undertook the completion of the Region of Waterloo Industrial and Business Park Vacant Land Inventory and Demand Analysis. This study established and qualitatively analyzed the existing inventory of vacant industrial and business park lands within the region. The study also contained a supply / demand analysis that looked at historic rates of land absorption, the movement away from a public to a private sector led market place, and the changing nature of the industrial and business park land supply within the Region.

### 5.2.1 Industrial and Business Park Uses

The current share of all regional employment accommodated within industrial and business parks is approximately 40%. For the purposes of this analysis it will be assumed that while there will be changes in the form, density and mix of uses associated with businesses within industrial and business parks, the overall percentage of employment that locates within these areas will remain at 40%. This would result in a need to accommodate 36,520 new jobs, within industrial and business parks to 2029. It should be noted that Growth Plan strongly promotes an urban form that would result in a significant number of office jobs within the Urban Growth Centres and Major Transit Station Areas to support and be supported by the development of a rapid transit system. With full implementation of these policies over time, it can be expected that there will be some decline in the office component of what has more recently become considered as typical industrial and business park uses. As a result, the forecasted 40% of overall employment anticipated to occur within the industrial and business parks could be expected to decline in the future, but will be used within this Regional Land Budget as a conservative estimate.

The 2006 Industrial and Business Park Vacant Land Inventory and Demand Analysis as noted below also addressed the absorption of some of the new industrial and business park job growth through intensification.

One of the important factors that have to be taken into consideration in determining how this employment will be accommodated relates to the intensification that can reasonably be expected to occur through additions to existing buildings. Over the ten years between 1995 and 2004, additions have averaged approximately 40% of total growth in industrial floor space and given the low to moderate densities existing on industrial and business park lands, it is not unreasonable to assume this trend will continue for the foreseeable future. Over this same ten year period, the square footage cost of additions has been approximately 8 percent higher than the square footage cost of new development. While the cost of additions traditionally exceeds the cost of new development, the relative value of the construction suggests that the intensification being experienced is relatively complex in form (i.e. not simply storage or warehousing space), and will continue to represent a significant factor in accommodating new employment through intensification.

At the time (2006), the 3,433 hectares of built industrial and business park lands within the Cities of Cambridge, Kitchener and Waterloo were found to have employment densities of approximately 27.6 jobs per hectare, providing considerable opportunity for intensification. In addition, as of year end 2006, there was 305 net hectares of fully serviced vacant industrial and business park lands located within the *built*

*boundary*. While these lands are not subject to the Growth Plan *density targets*, it is still reasonable to assume that vacant industrial and business parks located within the *built boundary* will continue to absorb a reasonable level of employment over the 2029 planning horizon. For the purposes of this analysis, it is assumed that 40% of all of the anticipated industrial and business park employment (14,608) will occur within the *built boundary*. While this is not a requirement of the Growth Plan, it is a reasonable assumption based upon the factors noted above. As a result, 21,912 of the new industrial and business park jobs will occur within the non-residential portion of the *designated greenfield area*.

## 5.2.2 Prime Industrial / Strategic Reserve

The 2006 Industrial and Business Park Vacant Land Inventory and Demand Analysis also addressed the issue of the need to maintain a continuous supply of large lot industrial land available in the market place in order to maximize the opportunities for such development when it occurs. The study addressed the issue of the Prime Industrial component as follows:

One of the keys to ensuring the Region is in a position to maximize long term economic development opportunities is to ensure the immediate and consistent availability of large lot industrial land. Although these “prime industrial” parcels have historically represented a small percentage of the total volume of land sales, the types of business they can accommodate have significant positive impact on both the regional and provincial economy, and need to be consistently available if the maximum community benefit associated with attracting such businesses is to be realized.

A review of the inventory in Appendix 3 reveals a number of parcels exist in this size range (10 hectares or 25 acres and up), however, it is extremely difficult to ensure the long term availability of such parcels, as they are often broken up into smaller inventories for easier sale. A review of the sales data for the City of Cambridge contained in Table 13 demonstrates the difficulty of maintaining inventories of larger parcels. Between 1998 and 2005, only 3 of the 143 parcels sold by the City of Cambridge were within this size range. A review of the longer term municipal land sales (Table 10) indicates that only eleven times between 1980 and 2004 did any individual municipality have total annual land sales in excess of 50 acres or 20 hectares (with seven of these falling in the years 1986 to 1989). Only once in this time frame has a municipality sold more than 100 acres (40 ha)(Cambridge 1999 – Loblaws and Seaforth Creamery lands being the two major sales).

Given the sales history, it would be difficult to expect land owners to hold large parcels voluntarily for what could be a decade between sales of parcels in this size range. The Provincial interest in ensuring Prime Industrial lands are available to accommodate future growth is identified in the Proposed Growth Plan and is to be further defined through the associated sub-area assessment process. The East Side Lands represent a significant opportunity to work with the Province to create a Prime Industrial area. Its proximity to the Region of Waterloo International Airport, and major transportation corridors including Highways 401, 6, 7 and 8, as well as its relatively flat topography, make these very worthy of consideration for this type of designation.

One of the keys to establishing a Prime Industrial area will be not only the immediate availability of servicing, but also the establishment of policy regulations to ensure parcels remain large enough to attract large scale manufacturing uses. These policy regulations could potentially be established in the Regional Official Plan and/or in the Growth Plan, and could be reviewed and updated as conditions change.

The 2006 study also addressed a second potential role for the Prime Industrial Lands, a Strategic Reserve function.

Prime Industrial land can also serve a very important second purpose. Ensuring consistent availability of both a variety of lands for purchase and of a range of tenure opportunities (whether provided by the public or private sector), is key to ensuring the continued prosperity of our community and needs to be considered a priority for all levels of government. In addition to providing for the future development of large scale manufacturing uses, Prime Industrial lands can also serve as a "Strategic Reserve" that can be partially tapped into if on-going monitoring clearly demonstrates that the land requirements of new and expanding businesses are not being met within the market place. This is especially important in times of transition similar to that occurring in the Region of Waterloo today. Having the ability to strategically access previously serviced large parcels of industrial land to respond to critical shortfalls in available short and medium term inventory, would provide municipalities with the ability to more effectively manage such situations.

The study concluded that 300 net hectares of fully serviced Prime Industrial land needed to be added to the *Urban Area* to properly meet the objective of ensuring large lot industrial lands are consistently available throughout the planning horizon. The study then went on to conclude that consideration should also be given to expanding the 97/401 Industrial Area by up to 100 net hectares of unserviced Prime Industrial Lands to provide additional capacity to accommodate logistics and dry industrial uses. All lands designated as Prime Industrial / Strategic Reserve were to be regulated in a manner to ensure such parcels were not reduced in size below eight hectares, except where necessary to fulfill the strategic reserve function.

In August 2007, Regional Council adopted Regional Official Policies Plan Amendment No. 28 which seeks to designate 150 net hectares in the northern part of the City of Cambridge as Prime Industrial / Strategic Reserve. This amendment was subsequently appealed and is now before the Ontario Municipal Board. The conclusions of the 2006 Industrial and Business Park Vacant Land Inventory and Demand Analysis continue to be supported and it is currently anticipated that the designation of the remaining 150 net hectares of serviced and 100 net hectares of unserviced Prime Industrial / Strategic Reserve will occur within the next several years following completion of appropriate planning related studies. As a result, both the remaining serviced and unserviced Prime Industrial Strategic Reserve Lands will be accounted for within this Regional Land Budget.

### 5.2.3 Major Retail Commercial

There were two proposed major retail commercial sites that existed within the non-residential portion of the *designated greenfield area* as of 2006 totaling approximately 73 hectares. The first site is located in the Mercedes Industrial Commercial Area in Woolwich and is currently being developed to accommodate major

commercial uses. The second site, which straddles the boundaries of Kitchener and Waterloo west of the intersection of University Avenue and Ira Needles Boulevard, is currently the subject of an application seeking to expand existing permission for major commercial uses on the Waterloo end of the property over all or a portion of the remainder of the site. The review of this proposal is still in progress and no decision has been made with regard to the acceptability of the proposed uses on the site.

Although the Regional Land Budget does not directly address the adequacy of the supply of land designated for retail commercial uses in the *designated greenfield area*, the new community structure introduced within the ROP directs retail commercial uses into Urban Growth Centres, Major Transit Station Areas, Rurbanization Corridors and Local Nodes. Even if the retail commercial policies of the new ROP were to change so as to support suburban major retail commercial centres, consideration would have to be first given to conversion of a portion of this excess inventory, justified through a local municipal comprehensive review and appropriate planning studies, before an expansion of the *Urban Area* or *Township Urban Area* within the ROP could occur.

## 6.0 Demand Versus Capacity Analysis

### 6.1 Residential Demand versus Capacity Sensitivity Analysis

Tables 13-15 compare the sensitivity analysis undertaken in Section 4.5 with the capacity within the *residential greenfield areas* as determined in Section 3.4. Each of the scenarios below includes a factor for PRE and has been calculated using the methodology described in Section 4.4.

The net capacity available in all scenarios assuming a 38% percent average annual reurbanization rate is 187,392 (based on 55 and 45 people and jobs / hectare densities on all lands within Urban Area and Township Urban Area *designated greenfield areas* net of provincial constraints and existing development respectively). This would require the lands outside of plans of subdivision to be developed at an average density of 61 to compensate for the lower densities on existing plans of subdivision.

The net capacity available in all scenarios assuming a 42% percent average annual reurbanization rate is 178,818 (based on 55 and 45 people and jobs / hectare densities on lands outside of plans of subdivision within Urban Area and Township Urban Area *designated greenfield areas* net of provincial constraints and existing development respectively - see Table 4). Lands outside of plans of subdivision would be required to develop at an average density of 55 with no compensation required for lower densities on existing plans of subdivision. Scenario 11 is the scenario assumed by the Regional Land Budget.

Residential Demand and Capacity for net population increase of <u>218,125</u> (decline of 10,000 in the population within the existing housing stock) ( Table 13)							
	Household forecast	Overall PPU New Development	Reurb Rate	PPU Reurb	PPU DGA	Total Demand for DGA (P&J)	Remaining capacity (P&J)
1	90,000	2.42	38%	1.9	2.74	173,913	13,479
2	90,000	2.42	38%	2.05	2.65	168,750	18,642
3	90,000	2.42	38%	2.2	2.55	163,014	24,378
4	90,000	2.42	42%	1.9	2.80	165,912	12,906
5	90,000	2.42	42%	2.05	2.69	160,010	18,808
6	90,000	2.42	42%	2.2	2.58	154,107	24,711

Residential Demand and Capacity for net population increase of <u>228,125</u> (decline of 20,000 in the population within the existing housing stock) ( Table 14)							
	Household forecast	Overall PPU New Development	Reurb Rate	PPU Reurb	PPU DGA	Total Demand for DGA (P&J)	Remaining capacity (P&J)
7	90,000	2.53	38%	1.9	2.92	184,238	3,154
8	90,000	2.53	38%	2.05	2.82	178,502	8,890
9	90,000	2.53	38%	2.2	2.73	173,339	14,053
10	90,000	2.53	42%	1.9	2.99	176,108	2,710
11	90,000	2.53	42%	2.05	2.88	170,205	8,613
12	90,000	2.53	42%	2.2	2.77	164,303	14,515

Residential Demand and Capacity for net population increase of <u>238,125</u> (decline of 30,000 in the population within the existing housing stock) ( Table 15)							
	Household forecast	Overall PPU New Development	Reurb Rate	PPU Reurb	PPU DGA	Total Demand for DGA (P&J)	Remaining capacity (P&J)
13	90,000	2.65	38%	1.9	3.11	195,137	(7,745)
14	90,000	2.65	38%	2.05	3.02	189,974	(2,582)
15	90,000	2.65	38%	2.2	2.93	184,812	2,580
16	90,000	2.65	42%	1.9	3.19	186,841	(8,023)
17	90,000	2.65	42%	2.05	3.08	180,938	(2,120)
18	90,000	2.65	42%	2.2	2.98	175,572	3,246

In all but four of the scenarios tested (Scenario Nos. 13, 14, 16 and 17), no additional land is required to accommodate residential development within the planning horizon.

In these four scenarios, the associated PPUs within the *designated greenfield area* would require between approximately 75% (3.01 PPU) and 90% (3.19 PPU) of all units in the *designated greenfield area* to be built as single detached units. For comparison purposes, each of these scenarios significantly exceeds the 2.95 PPU in the inventory of plans of subdivision (as it existed on June 16, 2006) within the *designated greenfield area*, which consisted of 69% singles (see Table 9).

It is also important to note that based on the PPU values for various forms of development used within this Regional Land Budget, it would be physically impossible to build the minimum 75% single-detached units (at a density of 55 people and jobs / hectare as required within the *Urban Area designated greenfield area*), required to achieve any of these four scenarios. Given that the land outside of plans of subdivision within the *Urban Area designated greenfield area* constitutes 81% of all of such land, none of these four scenarios can realistically be achieved and as such are discounted from further consideration.

## 6.2 Capacity to Accommodate Forecasted Employment

Section 5.2 provides an overview of the demand for non-residential lands between 2006 and 2029. Except for a couple of potential major commercial sites, the non-residential portion of the *designated greenfield area* is anticipated to accommodate primarily industrial and business park type uses. This report adopts the basic demand analysis from the 2006 Industrial and Business Park Vacant Land Inventory and Demand Analysis with respect to industrial and business park uses and provides updates of the related forecasted employment information to year end 2006. This updated forecast would result in a total of 36,520 jobs within industrial and business parks, with 40% of these jobs (14,608) occurring through intensification of already built non-residential lands and infill of the approximately 305 net hectares of vacant industrial and business park parcels located within the *built boundary*. The remaining 21,912 jobs are anticipated to be accommodated within the non-residential portion of the *designated greenfield area*.

If the approximately 73 hectares associated with the two proposed major commercial sites are subtracted from the non-residential *designated greenfield area* calculations provided in Table 5 (at the forecasted density for serviced non-residential land of 40 jobs per hectare used in the calculations), there would

remain capacity for approximately 64,702 jobs within the non-residential portion of the *designated greenfield area*. This would not only accommodate the 60% of industrial and business park type jobs forecasted to locate within the *designated greenfield area* (21,912) but would actually accommodate 100% of these jobs (36,520) if necessary.

Therefore, there is more than sufficient capacity within the non-residential portion of the *designated greenfield area* to accommodate the forecasted employment anticipated to occur on such lands.

The one notable exception is in the Township of Wellesley, where there is clearly a shortfall of opportunity for the development of non-residential uses (2 hectares). Consideration should be given to allowing for a reasonable amount of additional lands to be brought into an urban designation within the Township of Wellesley to accommodate forecasted employment growth as determined through the process leading to the development of the new ROP.

It is also important to remember that providing choice in location is critical to the successful marketing of Waterloo Region. As a result, the conversion of industrial or business park lands to major commercial or residential uses should be strongly discouraged where such lands can reasonably accommodate light or heavy industrial uses. Such conversions should only be considered following completion of a comprehensive review consistent with the provisions of the Provincial Policy Statement which considers the information contained in this report and the 2006 Industrial and Business Park Vacant Land Inventory and Demand Analysis (and its subsequent updates), both within a regional context and within the context of the available supply and anticipated short, medium and long term demand for such lands within the Area Municipalities.

## 7.0 Conclusions

- 1) Sufficient capacity exists within the residential *designated greenfield area* to accommodate forecasted population growth to the year 2029. As a result, no justification exists under the provisions of the Growth Plan for any expansion to the *Urban Area* or *Township Urban Area* of the region for residential purposes at this time.
- 2) The minimum capacity of urban areas, as calculated by applying the density and intensification targets of the Growth Plan, be achieved by establishing policies in the ROP requiring that:
  - a) an average of 45% of residential development occur within the *built boundary* by the year 2015 and every year thereafter; and
  - b) *designated greenfield areas* be planned to achieve on average across the region the following densities:
    - i) 55 people and jobs per hectare within the residential *Urban Area designated greenfield areas* not subject to plans of subdivision submitted prior to June 16, 2006;
    - ii) 45 people and jobs per hectare within the residential *Township Urban Area designated greenfield areas* not subject to plans of subdivision submitted prior to June 16, 2006;
    - iii) 40 jobs per hectare within serviced non-residential *designated greenfield areas*;
    - iv) 25 jobs per hectare within Prime Industrial / Strategic Reserve lands within the *designated greenfield areas*; and
    - iv) 25 jobs per hectare for unserviced non-residential *designated greenfield areas* of the Townships.
- 3) The Region and Area Municipalities should immediately begin a process of determining how the overall density requirements identified through this Regional Land Budget, (residential, non-residential and reurbanization) will be distributed among the various municipalities. Consideration of the distribution of the 42% yearly average reurbanization requirement should also be addressed through the same process.
- 4) Until such time as the process of distributing the densities between area municipal *designated greenfield areas* is complete, plans of subdivision submitted after June 16, 2006 should be required, wherever possible, to meet a minimum of 55 people and jobs per hectare in the *Urban Area* and 45 people and jobs per hectare in the *Township Urban Area*, with such areas being as defined in the draft ROP.
- 5) The methodology of future Water and Wastewater Monitoring Reports should be changed to ensure water and wastewater capacity is reserved to accommodate forecasted reurbanization.

6) Sufficient capacity exists within the overall non-residential *designated greenfield area* to accommodate forecasted employment to the year 2029. However, the following demand in the market place remains to be addressed:

- i) As previously justified through the 2006 Industrial and Business Park Vacant Land Inventory and Demand Analysis, 400 net hectares of Prime Industrial / Strategic Reserve (300 serviced and 100 unserved) are required to ensure a continuous supply of parcels over 8 hectares in size is available within the market place. 150 net hectares of the serviced Prime Industrial / Strategic Reserve need is being addressed by Regional Official Plan Amendment No. 28 which is currently before the Ontario Municipal Board for approval. The additional lands should be considered for designation either through the preparation of the new ROP or at the earliest opportunity thereafter if sufficient information to support such expansions is not available at the time the new ROP proceeds to Regional Council for approval; and
- ii) The new ROP should provide an opportunity for consideration to be given to the designation of additional non-residential lands within the Township of Wellesley to accommodate forecasted employment growth.

7) This Regional Land Budget should be updated every five years as part of the mandated five year review of the ROP to see if additional land is required to accommodate forecasted population or employment growth.

## 8.0 Glossary

***Built-up Area***- all land within the built boundary, which delineates the limits of the developed urban area.

***Built Boundary***- defined as the limits of development within the *City* and *Township Urban Areas* as of June 16, 2006. This boundary was determined by the Ministry of Public Infrastructure Renewal as part of the Places to Grow initiative and will remain fixed in place.

***Density Target*** - refers to the target for the designated greenfield area of 50 people and jobs per hectare as defined in the Growth Plan S. 2.2.7.2, 2.2.7.3 and 2.2.7.5.

***Designated Greenfield Area*** - is the area within a CUA or TUA and Settlement Areas for which a built boundary has been applied, which is not the Built-up Area.

***Existing Housing Stock*** - refers to housing units built as of June 16, 2006 within Waterloo Region.

***Population Related Employment (PRE)*** - employment directly related to and located within residential areas. This type of employment includes people that telecommute / work from home, employment in churches and schools and employment in commercial areas located within primarily residential neighbourhoods.

***Provincially Constrained Environmental Areas*** – landscape features where the features are both identified in any applicable official plan or *Provincial plan*, and where the applicable *Provincial plan* or Provincial Policy Statement prohibits development in the features: wetlands, woodlands, valleys/valleylands, areas of natural and scientific interest, habitat of endangered species and threatened species, wildlife habitat and fish habitat

***Settlement Areas*** - areas designated in Area Municipal official plans to accommodate residential and other land uses.

***Urban Areas and Township Urban Areas (UA/TUA)*** - These lands are designated within the ROP to provide employment opportunities and to accommodate growth for the Cities of Cambridge, Kitchener and Waterloo and the Townships of North Dumfries, Wellesley, Wilmot and Woolwich.