

York Region 2031 Land Budget

York Region Planning and Development Services

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Executive Summary

The Province of Ontario released a Growth Plan for the Greater Golden Horseshoe (GGH) – *Places to Grow* in 2006. The *Growth Plan* contains population and employment growth forecasts for all upper and single-tier municipalities in the GGH and includes specific policies for where and how to grow including policies for Designated Greenfield Areas and for settlement area boundary expansions.

The *Growth Plan* states that a settlement area boundary expansion may only occur as part of a municipal comprehensive review.

This report details York Region's residential and employment land requirements to 2031 and provides an analysis of the density achieved in relation to the *Growth Plan's* Designated Greenfield Area density target of 50 people and jobs per hectare.

The following observations and conclusions can be drawn from the analysis.

- York Region's forecast anticipates 1.5 million people, 510,000 households and 799,000 jobs by 2031. This represents growth of 577,000 people, 234,000 households and 336,000 jobs from 2006 to 2031.
- The forecasted employment growth for York Region is approximately 20,000 jobs, slightly higher than the *Growth Plan* forecast.
- An urban boundary expansion is required to accommodate the 2031 forecasted population and employment growth in York Region. Boundary expansions will occur on Whitebelt lands in East Gwillimbury, Markham and Vaughan.
- A total of 2,837 developable hectares (ha) of land in the Whitebelt are required for residential and employment uses in order to achieve the 2031 forecast. This includes 1,771 ha for community land development (including 296 ha for major retail uses) and 1,066 ha for employment land development. The Whitebelt land requirements are distributed to the three local municipalities based on local municipal forecasts.
- The analysis includes the identification of 90,700 households to be accommodated within the Built-up Areas of the Region in order to achieve the minimum 40% residential intensification target.
- Forty-two percent (42%) of the Region's employment growth will be accommodated within the Region's Built-up Areas.
- The land budget analysis includes targets for achieving more compact, pedestrian and transit supportive communities designed to achieve an average minimum density of 50 people/ jobs per ha that is applied to the developable area in the Designated Greenfield and Whitebelt Areas of the Region

- The developable area was determined by excluding the features listed in the *Growth Plan* and environmental and infrastructure features and existing land uses as identified by York Region.
- Community lands in the Whitebelt are planned based on achieving a density of 70 people/jobs per ha. The addition of employment lands lowers the total to 59 people/jobs per ha. Communities at these densities represent a more compact built form than traditionally built in York Region.
- Community lands in existing Designated Greenfield Areas and Whitebelt areas combined are planned based on achieving a density of 55 people and jobs per ha.
- Employment lands in the Whitebelt Areas are planned based on achieving a density of 40 jobs per ha (50 jobs per net ha). Employment lands in vacant Designated Greenfield Areas and Whitebelt Areas combined are planned based on achieving a density of 36 jobs per ha (46 jobs per net ha).
- The overall Designated Greenfield Area density for York Region is 50 people/jobs per ha, which meets the *Growth Plan* target.

York Region's forecasting and land budget work is an important component of the Region's municipal comprehensive review being undertaken to conform to the Provincial *Growth Plan*.

In addition to forecasting and land budget work, the Region's 'Planning for Tomorrow' exercise includes a Regional Intensification Strategy, a comprehensive public consultation exercise, infrastructure master plan updates for transportation, sewer and water, an updated Natural Heritage Strategy and a 25 year fiscal impact analysis.

The results of the Region's municipal comprehensive review will be implemented through the Regional Official Plan process.

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YORK REGION 2031 LAND REQUIREMENTS

Background

Prepared in context of Places to Grow

The Province of Ontario released a Growth Plan for the Greater Golden Horseshoe (GGH) – *Places to Grow* in 2006. The *Growth Plan* guides decisions on issues relating to transportation, infrastructure planning, land use planning, urban form, housing, natural heritage and resource protection with the intent to help secure the future prosperity of the GGH.

The *Growth Plan* contains population and employment growth forecasts for all upper and single-tier municipalities in the GGH and includes specific policies for where and how to grow including policies for Designated Greenfield Areas and for settlement area boundary expansions.

The *Growth Plan* states that a settlement area boundary expansion may only occur as part of a municipal comprehensive review that is defined as “an official plan review, or an official plan amendment, initiated by a municipality which comprehensively applies the policies and schedules of the *Growth Plan*”. The municipal comprehensive review includes:

- The use of the *Growth Plan*’s forecasts;
- The completion of an intensification strategy that identifies a minimum 40% residential intensification target between 2015 to 2031, and plans for a significant portion of future population and employment growth within the Built-up Areas;
- An assessment of the available residential and employment land supplies and demonstration of the need for a proposed urban expansion; and
- A demonstration of how the minimum Designated Greenfield Area density target of 50 people and jobs per hectare is to be achieved.

The Region is undertaking a ‘Planning for Tomorrow’ exercise that is an important component of York Region’s overall conformity work. The ‘Planning for Tomorrow’ exercise includes forecasting and land budget work, a Regional Intensification Strategy, a comprehensive public consultation exercise, infrastructure master plan updates for transportation, sewer and water, an updated Natural Heritage Strategy and a 25 year fiscal impact analysis.

The results of the municipal comprehensive review are to be implemented through the Regional Official Plan process.

This report details York Region’s residential and employment land requirements to 2031 and provides an analysis of the Region’s ability to achieve the *Growth Plan*’s Designated Greenfield density target.

A Greater Toronto and Hamilton Area (GTAH) working group was established under the direction of the Regional Planning Commissioners of Ontario (RPCO) to establish a consistent methodology to measure land needs. The analysis detailed below on land budget and measuring the 50 people/jobs per hectare Designated Greenfield density target is based on the methodology defined by the GTAH working group.

Land Budget based on York Region's 2031 Forecast

York Region's land budget analysis is based on the Region's 2031 population, household and employment forecast. The forecast anticipates 1.5 million people, 510,000 households and 799,000 jobs in the Region by 2031. This represents growth of 577,000 people, 234,000 households and 336,000 jobs from 2006 to 2031.

The forecasted employment growth for York Region is approximately 20,000 jobs higher than the *Growth Plan* forecast. The basis for the higher employment forecast includes:

- A need to create and maintain a strong and balanced relationship between residents and jobs for each local municipality
- A commitment to improve the live/work relationship for York Region residents in each local municipality
- A commitment to maintain the current Regional Official Plan (ROP) employment forecasts for each local municipality. The *Growth Plan*'s employment forecast for York Region would result in some municipalities not meeting the current ROP employment forecasts.

The Forecast is distributed to three Land Area Categories

The land budget exercise distributes the population and employment forecast into the three land area categories of Built-up Areas, Designated Greenfield Areas and Whitebelt Areas. *Figure One* on the following page illustrates the location of each land area category. The Built-up Areas are represented by the dark pink, the Designated Greenfield Areas are represented in tan, and the Whitebelt Areas are represented in white.

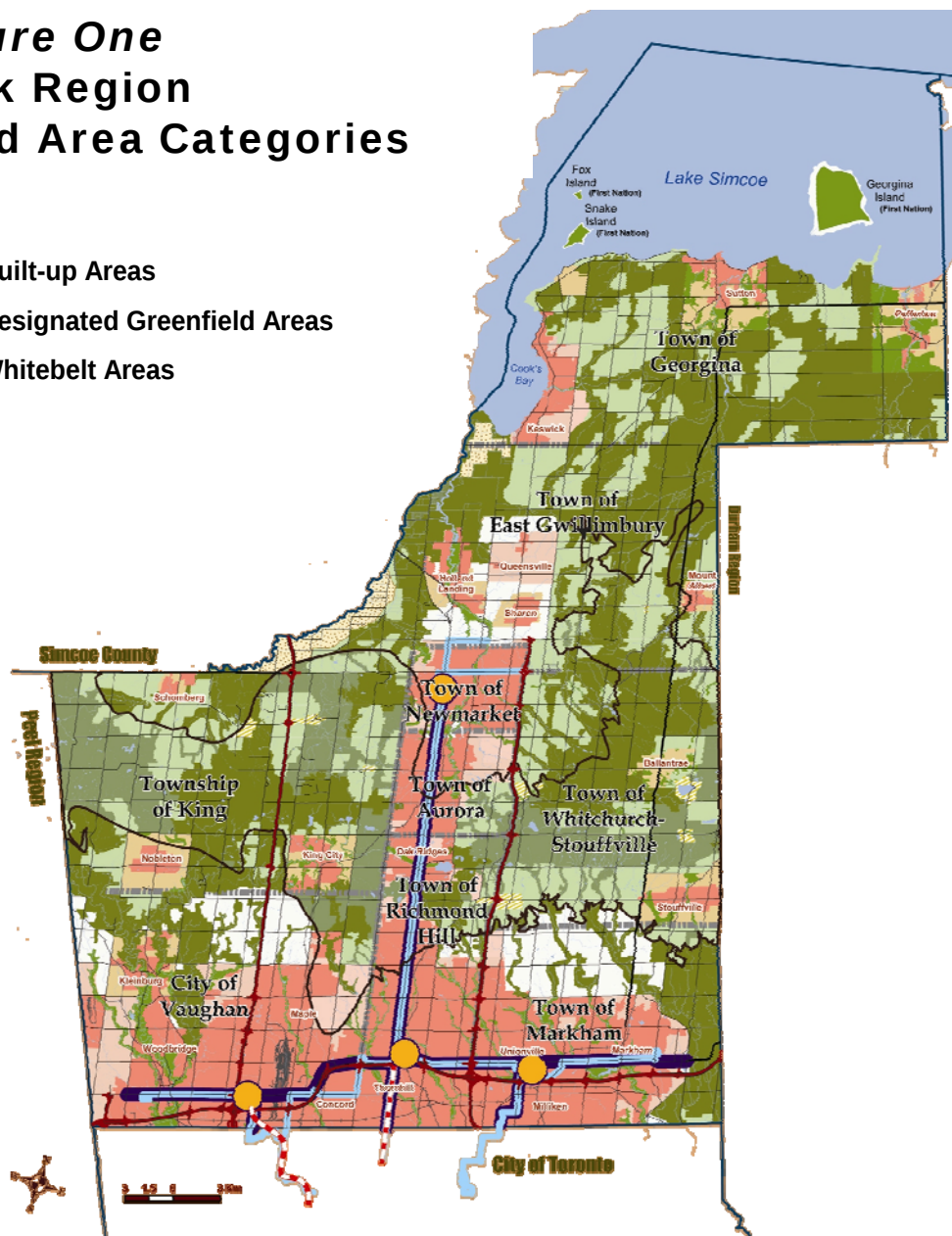
Built-up Areas were "built-up" as of June 2006 and are defined by the provincially delineated built boundary. Clause 2.2.3.1 of the *Growth Plan* stipulates that "By the year 2015 and for each year thereafter, a minimum of 40% of all residential development occurring annually in each upper- and single-tier municipality will be within the *built-up area*." In addition to the areas delineated by the built boundary, the Province has identified a number of "undelineated areas", which are predominately Hamlets that were considered to be built-up as of June 2006. Growth in the undelineated areas also counts towards intensification in the land budget.

Designated Greenfield Areas are designated "Urban Area" or "Towns and Villages" in the Regional Official Plan, and are outside of the built boundary.

Whitebelt Areas are not currently designated “Urban Area” or “Townships and Villages” and are outside of the Greenbelt and Oak Ridges Moraine. The Whitebelt Areas are the last available lands with development opportunities within the Region and are where urban boundary expansions will occur. Whitebelt Areas are located in East Gwillimbury, Markham/Whitchurch-Stouffville and Vaughan/King.

Figure One
York Region
Land Area Categories

- Built-up Areas
- Designated Greenfield Areas
- Whitebelt Areas

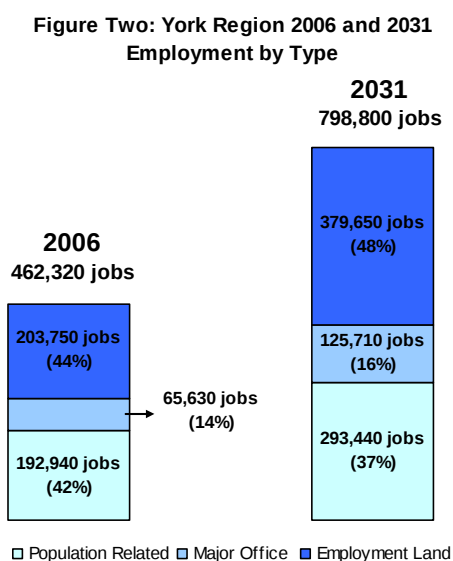


Overview of Land Budget Methodology

York Region's 2031 land requirements were based on a comprehensive demand/supply analysis for residential and employment growth, a consideration of both residential and employment intensification and on an evaluation of the Region's ability to achieve the *Growth Plan's* Designated Greenfield Area density target.

As mentioned above the residential demand was based on the Region's 2031 population and household forecast. The residential supply included an update of the unit growth potential in vacant designated lands in the Region's approved communities as well as the potential supply in the Built-up Areas to meet the 40% intensification target. Additional unit requirements to meet the forecast demand were then determined.

The employment demand was based on the Region's 2031 employment forecast for the three employment types of employment land employment, major office employment and population-related employment. An updated supply analysis was undertaken for employment land employment growth potential in the Region's vacant designated employment lands and additional job requirements were then determined. A separate analysis was undertaken for major office employment and population related employment (including major retail). *Figure 2* depicts 2006 and 2031 total employment by type.



Additional land requirements for both residential and employment included an analysis for both residential and employment intensification within the Region's Built-up Areas and an evaluation of the Region's ability to achieve the *Growth Plan's* Designated Greenfield density target of 50 people and jobs per hectare.

Residential Analysis

Residential Demand

The residential component of the land budget analysis is based on the Region's forecasted household growth from 2006 to 2031. The Region's forecast of households is divided into four dwelling types: single detached, semi-detached, rows (townhouses) and apartments.

Table 1 below illustrates the forecast household growth by dwelling type and local municipality.

Table 1: York Region Forecast Unit Growth by Local Municipality 2006-2031¹

	Single	Semi	Row	Apt.	Total
Aurora	3,740	690	1,590	2,570	8,560
East Gwillimbury	13,290	2,390	5,290	3,450	24,420
Georgina	6,090	470	1,520	2,990	11,070
King	3,520	420	860	1,240	6,030
Markham	16,540	3,750	11,890	28,710	60,900
Newmarket	3,480	590	1,040	4,480	9,580
Richmond Hill	9,630	3,060	5,790	11,270	29,750
Vaughan	22,640	4,930	11,010	26,270	64,850
Whitchurch-Stouffville	7,730	1,680	2,340	2,390	14,120
York Region	86,650	17,980	41,330	83,360	229,290

Source: York Region Planning and Development Services Department, 2008

1. York Region's forecast anticipates 234,100 additional households between 2006 and 2031.

For the purposes of the land budget exercise, the duplex forecast of 9,065 units was assumed to locate within Designated Greenfield Areas and to be accommodated within single detached units: two duplex units were assumed to equate to one single detached unit. The single detached unit total is increased by 4,533 units (half of the 9,065 duplex total) and the overall unit growth total from York Region's household forecast declines from 234,100 to 229,300.

The household growth forecast by dwelling type is distributed into the three land area categories of Built-up Areas, Designated Greenfield Areas and Whitebelt Areas based on a demand/supply analysis that considers:

- the forecast demand;
- the potential supply required within the Built-up Areas to achieve the 40% intensification target;
- the potential supply in vacant Designated Greenfield Areas; and
- the additional units required in Whitebelt Areas to meet the forecast demand.

Residential Supply

Potential Residential Supply in the Built-up Areas

Table 2 illustrates York Region's intensification target by local municipality. The figure of 90,720 is an update from the preliminary intensification target of 87,400 previously presented in *Planning for Tomorrow – Refined York Region 2031 Forecast and Land Budget*, Planning and Economic Development Committee (PEDC) Report No. 8, 2008. This revised intensification total of approximately 90,700 units was derived based on detailed spatial analysis by regional staff using the final built boundary released by the Province. The local municipalities will be reviewing

Table 2: York Region Residential Intensification Targets by Local Municipality 2006-2031

	Units
Aurora	3,140
East Gwillimbury	1,030
Georgina	2,690
King	920
Markham	31,590
Newmarket	5,250
Richmond Hill	14,700
Vaughan	29,300
Whitchurch-Stouffville	2,100
York Region	90,720

Source: York Region Planning and Development Services Department, 2008

these targets as they work on their individual intensification strategies which will identify the appropriate level and location of intensification.

Of the required 90,700 units, over 50,000 already have some level of approval. This includes existing applications for communities within the Built-up Area, including Regional Centres and Corridors. Planning is underway for York Region's four urban growth centres (regional centres) of Markham, Vaughan, Richmond Hill and Newmarket. These centres are required to plan for a minimum of 200 people and jobs per hectare. The targets listed in *Table 2* for those four municipalities include assumptions on meeting the urban growth centre density requirements.

More detail on the Regional Intensification Strategy will be forthcoming in early in 2009.

The final built boundary released by the Province included areas of low-density greenfield development in the vicinity of major transportation corridors and along the edges or fringe areas of the Built-up Areas. From a technical perspective these greenfield areas are within the Built-up Area, but have not been included as part of the intensification target analysis since large-scale low density greenfield development does not meet the intent of intensification policies in the *Growth Plan*.

An estimated 16,700 single detached and semi-detached units are being planned for within the Built-up Areas and are located across the Region in planned communities such as Cathedral and Box Grove in Markham, Newmarket Southeast in Newmarket, Kleinburg in Vaughan and within various secondary plans on the fringe of the built boundary. The majority of these units will be built within the next few years. These low density greenfield units are classified as a sub-total within the Built-up Areas strictly for the purpose of measuring the Designated Greenfield Area density target, but are not considered to be intensification.

Residential Unit Supply Potential in Designated Greenfield Areas

The vacant residential supply analysis is based on an update of the Region's mid-year 2005 vacant residential unit supply inventory, presented to Planning Committee in February, 2006. The 2005 residential supply of 130,080 units was found in both Designated Greenfield and Built-up Areas.

An update to the inventory includes the addition of the 2C lands in Aurora and the North Leslie secondary plan in Richmond Hill as well as minor adjustments to the potential supply of approved communities throughout the Region. The updated inventory also separates the vacant supply in Designated Greenfield Areas from the supply in the Built-up Areas.

The vacant Designated Greenfield Area supply includes communities throughout the Region that were not built as of mid-year 2006. These communities include the 2C lands in Aurora; Holland Landing and Queensville in East Gwillimbury; King City and Nobleton in King; Cornell and Wismer Commons in Markham; Newmarket Northwest in

Newmarket; North Leslie, Yonge East and Yonge West in Richmond Hill; Blocks 11, 12, 18, and 39 in Vaughan; and the community of Stouffville in Whitchurch-Stouffville.

The potential unit supply in vacant Designated Greenfield Areas is presented in *Table 3*.

Table 3: York Region Vacant Designated Greenfield Area Unit Potential by Local Municipality 2006

	Single	Semi	Row	Apt.	Total
Aurora	2,800	690	740	290	4,510
East Gwillimbury	9,370	1,740	3,150	1,730	15,990
Georgina	5,720	460	990	830	8,000
King	3,520	420	670	500	5,110
Markham	6,520	1,950	3,570	1,410	13,450
Newmarket	1,870	40	260	0	2,180
Richmond Hill	6,150	140	2,310	50	8,650
Vaughan	15,160	3,490	3,800	860	23,310
Whitchurch-Stouffville	6,930	1,680	1,860	760	11,230
York Region	58,050	10,600	17,340	6,430	92,430

Source: York Region Planning and Development Services Department, 2008

Residential Unit Requirements in the Whitebelt Areas

Residential Units in Built-up Areas and in Designated Greenfield Areas do not meet the forecast demand.

As illustrated in *Table 4*, the potential supply from vacant Designated Greenfield Areas and potential growth within the Built-up Areas can accommodate approximately 199,860 units of the required 229,290 units from 2006 to 2031. The remaining 29,430 units will need to be accommodated in the Region's Whitebelt areas.

Table 4: York Region 2031 Residential Requirements in the Whitebelt Areas

Forecast Demand, 2006-2031¹	229,290
Built-up Area Intensification Target ²	90,720
Low Density Supply in Built-up Areas ³	16,730
Designated Greenfield Area Supply ⁴	92,430
Sub Total⁵	199,860
Whitebelt Area Residential Requirements⁶	29,430

Source: York Region Planning and Development Services Department, 2008

1. From Table 1

2. From Table 2

3. Short term supply of low density units (singles and semi's) within the built boundary

4. From Table 3

5. Total 2006-2031 units in Built-up and Designated Greenfield Areas.

6. Forecast demand less supply subtotal

East Gwillimbury, Markham and Vaughan are the three municipalities with a considerable potential supply of land for residential development in Whitebelt Areas. Each of these municipalities will play a significant role in accommodating growth in these areas to 2031 as shown in *Table 5* below.

Table 5: York Region 2031 Whitebelt Areas Unit Requirements by Structure Type and Local Municipality

	Single	Semi	Row	Apt.	Total
East Gwillimbury	3,880	650	1,940	900	7,360
Markham	6,950	1,160	3,480	550	12,140
Vaughan	5,660	940	2,830	490	9,930
York Region	16,490	2,750	8,250	1,940	29,430

Source: York Region Planning and Development Services Department, 2008

Residential Unit Growth Summary by Land Area Category

Figure 3 below graphically displays the forecast unit growth by the three land area categories, showing that approximately 47% of the Region's residential growth can be accommodated within the Built-up Areas, which includes 90,720 intensification units and 16,730 low density units. Approximately 40% of the growth can be accommodated within Designated Greenfield Areas and 13% will be accommodated in the Whitebelt Areas.

Figure 3: York Region 2006-2031 Residential Unit Growth by Land Area Category

Intensification Target in Built- up Areas 40% (90,720 units)	Low Density Supply 7% (16,730 units)*	Designated Greenfield Areas 40% (92,430 units)	Whitebelt Areas 13% (29,430 units)
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Source: York Region Planning and Development Services Department, 2008

* The low density supply of 16,730 units is within the Built-up Area, but is not included in the intensification target.

Employment Analysis

Employment Demand

The York Region 2031 employment forecast of approximately 799,000 jobs is used as the basis for determining land requirements for employment uses. The forecasted employment growth for York Region is approximately 20,000 jobs higher than the *Growth Plan* forecast. The basis for the higher employment forecast includes:

- A need to create and maintain a strong and balanced relationship between residents and jobs for each local municipality
- A commitment to improve the live/work relationship for York Region residents in each local municipality

- A commitment to maintain the current Regional Official Plan (ROP) employment forecasts for each local municipality. The *Growth Plan's* employment forecast for York Region would result in some municipalities not meeting the current ROP employment forecasts.

Table 6 below indicates that over 336,000 new jobs are anticipated within York Region by 2031.

Table 6: York Region Forecast Employment Growth by Local Municipality 2006 to 2031¹

	Total Employment 2006	Total Employment 2031	Employment Growth 2006-31	2006-31 Share of Growth (%)	2006-31 Avg Annual Increase (%)
Aurora	20,260	34,740	14,470	4%	2.2%
East Gwillimbury	5,870	31,800	25,930	8%	7.0%
Georgina	8,030	21,670	13,640	4%	4.1%
King	7,060	12,120	5,060	2%	2.2%
Markham	144,830	248,520	103,690	31%	2.2%
Newmarket	42,080	49,680	7,590	2%	0.7%
Richmond Hill	61,090	100,650	39,550	12%	2.0%
Vaughan	162,160	275,930	113,770	34%	2.1%
Whitchurch-Stouffville	10,920	23,700	12,770	4%	3.2%
York Region	462,310	798,800	336,490	100%	2.2%

Source: York Region Planning and Development Services Department, 2008

1. 2006 employment data is based on the York Region Employment Survey.

Employment Forecast is distributed into Three Types

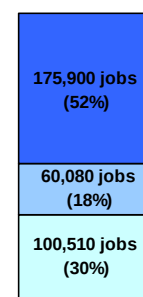
For the purposes of the forecast, York Region's employment has been divided into three distinct types: Employment Land, Major Office and Population Related Employment. *Figure 4* shows total 2006-2031 employment growth by employment type.

Employment Land Employment: Located on Employment Lands (industrial or business parks) and typically require large areas of vacant designated greenfield land in strategic locations along major transportation routes (i.e. 400-series highways) and near existing markets.

Major Office Employment: Occurs in office buildings of 1,860 square metres (20,000 sq ft.) or larger. Policies in the *Growth Plan* attempt to direct the location for Major Office within the Built-up Areas along transit routes and in centres and corridors. Major Office employment does not typically require large vacant lands for development and can locate on both employment lands and within a community.

Population-Related Employment: Located within communities and includes services that serve the local population such as retail services, education services, municipal government services, social, community and health services, and local office uses. Major

Figure 4: York Region 2006-2031 Employment Growth by Type



■ Employment Land
■ Major Office
■ Population Related

Retail, which is also classified as population-related employment, is calculated separately and requires significant land in addition to land requirements for a typical new community.

Table 7 shows the York Region forecast for the three distinct employment types described above:

Table 7: York Region Forecast Employment Growth by Type and Local Municipality 2006 to 2031

	Employment Land	Major Office	Population-Related	Total
Aurora	8,430	1,920	4,120	14,470
East Gwillimbury	15,800	580	9,540	25,930
Georgina	9,500	0	4,140	13,640
King	2,520	0	2,540	5,060
Markham	36,530	41,340	25,820	103,690
Newmarket	2,980	960	3,650	7,590
Richmond Hill	16,360	9,020	14,170	39,550
Vaughan	77,920	6,260	29,590	113,770
Whitchurch-Stouffville	5,850	0	6,920	12,770
York Region	175,900	60,080	100,510	336,490

Source: York Region Planning and Development Services Department, 2008

Employment Supply

Employment Lands in Designated Greenfield and Built-up Areas

The Vacant Employment Land Inventory 2006, presented in PEDC Report No. 10, 2007, was updated and used as the basis for determining the current supply of vacant designated lands available for employment land employment. A number of adjustments have been made to the inventory based on more up to date information. These adjustments include a modification to the supply in Georgina removing commercial/retail lands from Sutton and Keswick and adding subsequent approvals in Georgina for the Keswick Business Park, the 2C Lands in Aurora and North Leslie in Richmond Hill. The modifications resulted in an increase of 277 net hectares to the vacant land supply ('net' refers to the private lot area available for development and excludes roads, open space and other public uses).

Table 8 shows the updated inventory of employment land employment inside and outside the Built-up Areas by local municipality.

Table 8: York Region Vacant Designated Employment Land Supply by Local Municipality (Net Hectares) 2006¹

	Built-up Area (ha)	Designated Greenfield Area (ha)	Total Designated Lands (ha)
Aurora	33	168	201
East Gwillimbury	12	282	294
Georgina	1	188	189
King	2	90	93
Markham	252	129	381
Newmarket	59	0	59
Richmond Hill	210	76	286
Vaughan	329	922	1,251
Whitchurch-Stouffville	9	90	99
York Region	908	1,945	2,853

Source: York Region Planning and Development Services Department, 2008

1. Excludes Industries on Private Services (191 net hectares) and Major Office Employment land requirements on Employment Lands (144 net hectares). The land budget assumes that 100% of Major Office growth in Aurora and 50% of Major Office growth in Markham and Vaughan will be on Employment Lands.

The job potential from the vacant employment land inventory is derived by applying density assumptions to the available supply. The density assumptions are based on the *York Region Employment Land Area Analysis*, PEDC Report No. 5, 2008. Densities on employment lands vary considerably due to the nature and type of business and employment activity that occurs at various locations across the Region. *Table 9* displays York Region densities on designated occupied employment lands for each local municipality in 2006.

Table 9: York Region Employment Land Employment Densities by Local Municipality, 2006¹

	2006 Occupied Land (net ha)	2006 Jobs on Occupied Land	2006 Net Density ²
Aurora	187	7,910	42
East Gwillimbury	62	800	13
Georgina	23	910	40
King	37	960	26
Markham	850	49,990	59
Newmarket	212	14,350	68
Richmond Hill	333	21,750	65
Vaughan	2,077	101,820	49
Whitchurch-Stouffville	61	2,880	47
York Region	3,842	201,370	52

Source: York Region Planning and Development Services Department, 2008

1. Major Office and Industries on Private Services are not included.
2. Density figures are rounded

The Land Budget exercise removes IPS (Industries on Private Services) lands from the analysis. These lands are located within Towns and Villages within the Built-up Area or within existing designated areas in the Greenbelt. Removing IPS employment from the

analysis adjusts the densities that are used by local municipality for deriving the job potential on vacant designated employment lands. *Table 10* below lists the densities assumed for each local municipality and the resulting job potential for vacant designated lands. Detailed assumptions on the assumed densities by local municipality are listed in *Appendix 1*

Table 10: York Region Employment Land Potential by Local Municipality 2006¹

	Designated Employment Land Density ²	Job Potential in Built-up Areas	Jobs Potential in Designated Greenfield Areas	Total Employment Land Potential
Aurora	42	1,400	7,030	8,430
East Gwillimbury	40	500	11,400	11,900
Georgina	48	40	9,060	9,090
King	27	60	2,430	2,490
Markham	50	12,610	6,430	19,030
Newmarket	50	2,980	0	2,980
Richmond Hill	57	12,010	4,350	16,360
Vaughan	45	14,800	41,500	56,300
Whitchurch-Stouffville	38	320	3,390	3,710
York Region	46	44,710	85,580	130,290

Source: York Region Planning and Development Services Department, 2008

1. Excludes jobs on lands designated for Industries on Private Services

2. Densities are expressed in net density. Refer to Appendix 1 for density assumptions

As *Table 10* illustrates, an analysis of employment land employment growth potential in Built-up Areas indicates that over 44,700 jobs can be counted as intensification.

The employment potential on vacant designated lands made no assumption for a vacancy factor, which historically has been used for land budget work the Region has completed. A number of parcels in employment lands tend to remain vacant over the long term for reasons related to site size, location and other factors. Since the Region has not made use of a vacancy factor, a greater number of jobs have been assumed for employment lands within the Built-up Areas, thereby increasing intensification.

Employment Land Employment Requirements in Whitebelt Areas

The employment potential from vacant designated employment lands is subtracted from the 2006-2031 forecast growth of employment land employment to generate jobs that require additional lands for approval. *Table 11* displays the number of jobs required on employment lands in the Whitebelt to meet the 2031 employment land employment forecast.

**Table 11: York Region 2031 Employment Land
Employment Requirement**

Forecast Demand, 2006-2031¹	172,910
Built-up Area Potential	44,710
Designated Greenfield Potential	85,580
<i>Supply Subtotal²</i>	<i>130,290</i>
Whitebelt Area Employment Land Employment Requirements³	42,620

Source: York Region Planning and Development Services
Department, 2008

1. Excludes jobs on lands designated for Industries on Private Services

2. Intensification + Designated Greenfield. From Table 10

3. Forecast Demand less Supply Subtotal

Employment Land Employment by Land Area Category

Figure 5 below graphically depicts the distribution of employment land employment by land area category, showing that approximately 26% of the Region's growth of employment land employment is within the Built-up Areas. Approximately 50% of the growth can be accommodated within employment lands in Designated Greenfield Areas and just under 25% will be accommodated in the Whitebelt Areas.

**Figure 5: York Region 2006-2031 Employment Land
Employment Growth by Land Area Category**

Built-up Areas 26% (44,710 jobs)	Designated Greenfield Areas 50% (85,580 jobs)	Whitebelt Areas 24% (42,620 jobs)
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Source: York Region Planning and Development Services Department, 2008

Major Office Employment

York Region's major office employment has been increasing rapidly over the past twenty years. This increase has been fuelled by the growth of significant clusters of knowledge based employment in the Towns of Markham and Richmond Hill. There are also major office sites in the City of Vaughan, the Town of Aurora and the Town of Newmarket. York Region's land budget exercise assumes that a portion of major office growth will expand upon existing major office locations on employment lands and also assumes a significant increase in major office employment along Regional centres and corridors. In particular, it is anticipated that large numbers of major office employment will locate within the Region's four urban growth centres over the 25 year period of the forecast.

As illustrated in *Table 12*, there were approximately 1.6 million square meters of major office space in York Region in 2006. The vast majority (93%) of the existing major office space is within employment lands.

Table 12: York Region 2006 Major Office Building Space by Local Municipality

	Total Major Office Space in 2006 (square metres)	Major Office Space on Employment Lands (square metres)	Share of Total on Employment Lands
Aurora	N/A	N/A	N/A
East Gwillimbury	N/A	N/A	N/A
Markham	1,134,480	1,113,679	98%
Newmarket	2,028	0	0%
Richmond Hill	229,529	170,792	74%
Vaughan	206,116	175,440	85%
York Region	1,572,153	1,459,911	93%

Source: York Region Planning and Development Services Department, 2008

York Region is forecast to add an additional 60,080 major office jobs within approximately 1,514,000 square meters of total new major office space by 2031. The majority of the major office growth is anticipated to locate in the Town of Markham, the Town of Richmond Hill and the City of Vaughan. A large proportion of the major office growth will be directed to the regional centres in each of these municipalities. Major office growth in the Town of Aurora will be located adjacent to existing major office uses as areas have been identified in local planning documents. Newmarket's major office growth will be focused in the Regional Centre. The Town of East Gwillimbury's detailed official plan review identifies the area adjacent to the existing GO Train Station as a potential location for major office. *Table 13* below illustrates the distribution of major office space and land area required by local municipality to 2031.

Table 13: York Region 2031 Major Office Land Requirements by Local Municipality

	2031 Major Office Space Forecast (square metres)	2006 Major Office Space (square metres) ¹	Growth in Major Office Space 2006 to 2031 (square metres) ²	Total Land Area Required (net ha) ³
Aurora	45,443	0	45,443	10.1
East Gwillimbury	14,466	0	14,466	3.2
Markham	2,177,164	1,134,480	1,042,684	231.7
Newmarket	25,030	2,028	23,002	5.1
Richmond Hill	456,579	229,529	227,050	50.5
Vaughan	367,140	206,116	161,024	35.8
York Region	3,085,822	1,572,153	1,513,669	336.4

Source: York Region Planning and Development Services Department, 2008

1. From Table 12

2. 2031 Major Office Space Forecast less 2006 Major Office Space

3. Assumes 45% Coverage

As shown in *Table 14* below, the land budget exercise assumes that approximately 43% of the 336 net hectares required to accommodate the forecasted major office growth will be located on employment lands. In total, approximately 144 net hectares of employment land will be required to accommodate major office growth between 2006 and 2031, while 193 net hectares (57%) of land for major office uses is assumed to locate outside of employment lands, predominately in regional centres and corridors.

Table 14: York Region 2031 Major Office Land Requirements by Local Municipality

	Total Land Area Required (net ha) ¹	Share of Land on Employment Lands	Major Office Growth on Employment Lands (net ha)	Major Office Growth in Centres and Corridors (net ha)
Aurora	10.1	100%	10.1 ²	0.0
East Gwillimbury	3.2	0%	0.0	3.2 ⁵
Markham	231.7	50%	115.8 ³	115.9
Newmarket	5.1	0%	0.0	5.1
Richmond Hill	50.5	0%	0.0	50.5
Vaughan	35.8	50%	17.9 ⁴	17.9
York Region	336.4	43%	143.9	192.5

Source: York Region Planning and Development Services Department, 2008

1. From Table 13

2. 100% of Aurora major office land area is assumed to locate within Designated Greenfield Areas

3. 80% of Markham major office growth on employment lands is assumed to locate within the Built-up Areas

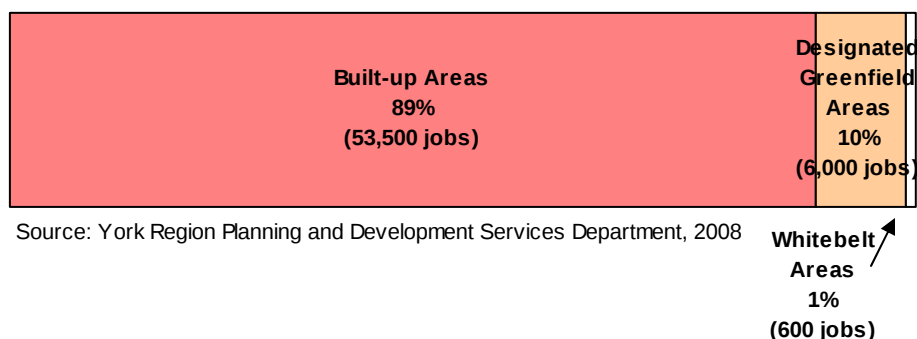
4. 100% of Vaughan major office growth on employment lands is assumed to locate within the Built-up Areas

5. 100% of East Gwillimbury major office land area is assumed to locate in the Whitebelt Areas.

Major Office Employment by Land Area Category

Figure 6 below graphically depicts the distribution of major office employment by land area category, showing that approximately 89% of the Region's growth of major office employment is within the Built-up Areas. This includes major office employment within centres and corridors as well as a portion of major office growth on employment lands within the Built-up Area. In addition, approximately 10% of major office growth will be accommodated within existing approved communities in Designated Greenfield Areas, while 1% will be accommodated in the Whitebelt Areas.

Figure 6: York Region 2006-2031 Major Office Growth by Land Area Category



Population Related Employment

The land budget exercise assumes that all population related employment will be located within communities. Land area requirements for population related jobs have therefore been included in community land density assumptions. The only exception to this is major retail employment (i.e. big box commercial, power centres) which is dealt with separately from a land budget perspective. A more detailed discussion on the major retail portion of the land budget exercise is provided in the major retail section below.

Some jobs on Employment Lands are ancillary uses to employment land employment uses and are included in the employment land employment classification for the land budget analysis.

Population related employment occurs in step with the population growth in communities. Therefore, the distribution of population related employment growth to the three land area categories (i.e. Built-up Areas, Designated Greenfield Areas and Whitebelt Areas) is based on the distribution of household growth. Primary jobs (i.e. agricultural and aggregates) are classified in the population related category for the employment forecast and removed from the land budget analysis (as this type of employment occurs outside of communities and employment lands and does not require additional lands for development).

Table 15 below displays the distribution of 2006-2031 population related employment growth to the three land area categories.

Table 15: York Region Population Related Employment Growth by Land Area Category and Local Municipality, 2006-2031

	Population Related Employment Growth		Residential Growth by Land Area Category (%) ³			Population Related Employment Growth by Land Area Category ⁴		
	Total ¹	Revised Total ²	Built-up Areas	DGF Areas ⁵	Whitebelt Areas	Built-up Areas	DGF Areas ⁵	Whitebelt Areas
Aurora	4,123	3,976	47%	53%	0%	1,873	2,103	0
East Gwillimbury	9,541	6,507	4%	65%	30%	287	4,260	1,960
Georgina	4,138	3,919	28%	72%	0%	1,086	2,833	0
King	2,545	1,867	15%	85%	0%	284	1,582	0
Markham	25,823	19,290	58%	22%	20%	11,183	4,261	3,846
Newmarket	3,649	3,578	77%	23%	0%	2,766	812	0
Richmond Hill	14,174	14,007	71%	29%	0%	9,937	4,071	0
Vaughan	29,589	23,012	49%	36%	15%	11,217	8,270	3,525
Whitchurch-Stouffville	6,925	6,440	22%	78%	0%	1,409	5,031	0
York Region	100,508	82,597	47%	40%	13%	40,042	33,223	9,331

Source: York Region Planning and Development Services Department, 2008

1. From Table 7

2. Total growth less major retail and primary (i.e. agricultural and aggregate jobs)

3. Proportion of residential growth in each land area category by local municipality

4. Revised population related employment growth distributed to the land area categories based on distribution of residential growth

5. Designated Greenfield Areas

The distribution of population related employment is based on the distribution of residential growth by the three land area categories. The units classified as “low density supply in built-up areas” have been included in the Built-up Area category along with the intensification units.

Major Retail Employment

Retail trade is an essential component of a healthy economy. The appropriate amount of retail activity allows both residents and workers to purchase goods and services locally. However, it is important to consider the appropriate location for these major retail uses. Major retail includes big box power centres and major shopping centres. A power centre is defined as a conglomeration of large format retailing (Big Box) that houses a wide variety of goods and focuses on one kind of merchandise.

The *York Region Employment Land Area Analysis*, PEDC Report No. 5, 2008 identified the power centres and major shopping centres in the Region. There are four major Power Centres in York Region located in the municipalities of Vaughan, Richmond Hill, Markham and Newmarket/East Gwillimbury. These locations often act as regional retail hubs, attracting shoppers from across other parts of the GTAH and beyond. Major shopping centres are defined as indoor shopping malls that are larger than 500,000 square feet. There are six major shopping centres that have been identified in York Region. These areas are located in the local municipalities of Vaughan, Richmond Hill, Markham and Newmarket.

As York Region’s population grows, additional major retail uses are anticipated. These uses will need to be considered as part of the Region’s urban land area requirements. An

analysis of major retail was completed to determine the amount of additional major retail employment required to 2031. In 2006, approximately 24,000 major retail jobs were located in power centres and shopping centres across York Region. These areas occupy approximately 460 gross hectares (gross area includes the parcel area, roads, green space, utility right of ways and parking area), resulting in an average employment density of 52 jobs per hectare.

Major retail employment to 2031 was forecast based on the number of major retail jobs per capita. In 2006, there was approximately one major retail job for every 39 people in York Region. This benchmark was applied to the forecasted 2031 population growth of 577,000 to derive an additional 14,810 major retail jobs in York Region by 2031. Major retail land requirements were determined using a density assumption of 50 major retail jobs per hectare, resulting in 296 hectares of land required in the Whitebelt for major retail uses.

It is generally assumed that major retail employment serves a region-wide population base that extends beyond the population of a local municipality. As such, the distribution of the forecasted major retail land requirements at the local municipal level is not based on the jobs per capita method described above. It was assumed that the three municipalities of East Gwillimbury, Markham and Vaughan, each with large areas of whitebelt lands, would accommodate the major retail jobs forecasted for the Region.

The Town of East Gwillimbury has completed detailed planning work as part of their local municipal Official Plan review and have identified approximately 56 hectares for commercial uses that the Region is assuming will accommodate major retail uses.

The remaining 240 hectares required are distributed evenly between the Town of Markham and the City of Vaughan. The land budget analysis assumes that these jobs will locate within the Whitebelt Areas of these two municipalities adjacent to significant residential growth. *Table 16* below depicts major retail land area and job requirements by local municipality.

Table 16: York Region 2031 Whitebelt Area Major Retail Requirements by Local Municipality

	Forecast Employment	Density	Land Area Required (ha)
East Gwillimbury	2,810	50	56
Markham	6,000	50	120
Vaughan	6,000	50	120
Total	14,810	50	296

Source: York Region Planning and Development Services Department, 2008

Population Related Employment by Land Area Category

Figure 7 below graphically depicts the distribution of population related employment (including major retail employment) by land area category, showing that approximately 41% of the Region's growth of population related employment is within Built-up Areas. Approximately 34% of the growth can be accommodated within existing approved communities in Designated Greenfield Areas and just under 25% will be accommodated in the Whitebelt Areas.

Figure 7: York Region 2006-2031 Population Related Employment Growth by Land Area Category

Built-up Areas 41% (40,040 jobs)	Designated Greenfield Areas 34% (33,220 jobs)	Whitebelt Areas 25% (24,140 jobs)
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Source: York Region Planning and Development Services Department, 2008

Total Employment by Land Area Category

York Region's land budget analysis accounts for employment growth within the Built-up Area. Although the *Growth Plan* does not include an intensification target for employment growth, York Region has directed a significant portion of its employment growth to its Built-up Areas, as depicted in *Table 17*.

Table 17: York Region Employment Growth by Land Area Category 2006-2031

	Land Area Category				Built-up Areas (%)
	Built-up Areas	Designated Greenfield Areas	Whitebelt Areas	All Areas	
Employment Land Employment ¹	44,710	85,580	42,620	172,910	26%
Major Office Employment ²	53,500	6,000	600	60,100	89%
Population Related Employment ³	40,040	33,220	24,140	97,400	41%
Total Employment	138,250	124,800	67,360	330,410	42%

Source: York Region Planning and Development Services Department, 2008

1. From Figure 5

2. From Figure 6

3. From Figure 7

Figure 8 below graphically depicts the distribution of total employment growth by land area category, showing that approximately 42% of the Region's employment growth is classified as intensification. Approximately 38% of the growth can be accommodated within existing approved communities in Designated Greenfield Areas and 20% will be accommodated in the Whitebelt Areas.

Figure 8: York Region 2006-2031 Total Employment Growth by Land Area Category

Built-up Areas 42% (138,250 jobs)	Designated Greenfield Areas 38% (124,800 jobs)	Whitebelt Areas 20% (67,360 jobs)
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Source: York Region Planning and Development Services Department, 2008

Whitebelt Area Land Requirements Analysis

An urban area expansion is required to accommodate the York Region forecast for residential and employment to 2031. The municipalities of Markham, Vaughan and East Gwillimbury have a considerable potential land supply for housing and employment opportunities in the Whitebelt lands.

The York Region developable area was determined for both Designated Greenfield and Whitebelt Areas by excluding the features listed in the *Growth Plan* and excluding additional environmental and infrastructure features as well as existing land uses as identified by York Region. The developable area includes all land available for private development for both residential and employment uses, open space and infrastructure (i.e. local and regional roads and storm water ponds) requirements (refer to *Appendixes 2-4* for a detailed discussion on developable area calculation).

The land requirements to 2031 for major retail and major office have been discussed above. Major retail jobs will be accommodated in Whitebelt Areas. Major office jobs are assumed to locate primarily within Built-up Areas with some located within the Designated Greenfield Areas. There are a small amount of major office jobs locating in the Whitebelt Areas of the Town of East Gwillimbury.

Further analysis is required to determine land requirements for residential, population related employment and employment land employment.

Community Land Requirements

Community land requirements within the Whitebelt Areas include both residential and population related employment growth.

The community land area requirements for 2031 were derived based on a 20 unit per hectare (20 uph) density assumption, applied to the developable lands of the Whitebelt Area. This density assumes that both residential and population related employment growth (excluding major retail) will be accommodated within the derived land area. The 20 unit per hectare density assumption is reflective of the more compact transit supportive communities that the Region is planning.

As indicated above, the land area requirement for major retail is in addition to the community land density assumption of 20 uph. *Table 18* below shows the 2031 Community land requirements for the Region.

Table 18: 2031 Community Land Requirements in the Whitebelt by Local Municipality⁵

	2031 Whitebelt Units ¹	Density	2031 Area Requirement (ha) ²	Major Retail Area Requirement (ha) ³	2031 Total Area Requirement (ha) ⁴
East Gwillimbury	7,360	20	368	56	427
Markham	12,140	20	607	120	727
Vaughan	9,930	20	497	120	617
Total	29,430	20	1,472	296	1,771

Source: York Region Planning and Development Services Department, 2008

1. From Table 5

2. 2031 Whitebelt Units/Density

3. From Table 16

4. 2031 Area Requirement + 2031 Major Retail Area Req'm't. Figure includes 3.2 ha to account for East Gwillimbury major office in the Whitebelt Area.

5. Calculations are based on the Developable Area.

Employment Land Requirements

Similar to community land area requirements, employment land area requirements are derived based on a density assumption that is applied to the developable lands of the Whitebelt Area. In the case of employment land employment, the density assumed is 40 jobs per hectare. The 40 jobs per hectare density equates to 50 jobs per net hectare assuming that the net land area is 80% of the developable land area (net to gross assumes that 20% of the land area is required for public uses such as roads, utility right of ways, open space and storm water management).

Table 19 below shows the 2031 employment land requirements within the Whitebelt Area.

Table 19: 2031 Employment Land Requirements by Local Municipality¹

	2031 Whitebelt Jobs	Developable Density	Land Requirement
East Gwillimbury	3,495	40	87
Markham	17,498	40	437
Vaughan	21,627	40	541
Total	42,621	40	1,066

Source: York Region Planning and Development Services Department, 2008

Note: The developable density of 40 jobs per ha is equivalent to 50 jobs per net ha assuming a net to gross assumption of 20%.

1. Calculations are based on the Developable Area.

Table 20 below shows that based on the land requirement analysis, approximately 40% of the developable Whitebelt will be required to the year 2031. The requirements range from a high of 45% of the developable area in Vaughan to a low of 29% of the developable area in East Gwillimbury. Appendix 5 includes mapping for the 2031 Whitebelt requirements.

Table 20: 2031 Percent of Total Whitebelt Required by Local Municipality²

	Total Developable Whitebelt (ha)	2031 Whitebelt Requirement (ha)	2031 Percent of Total ¹
East Gwillimbury	1,802	515	29%
Markham/Whitchurch-Stouffville	2,693	1,165	43%
Vaughan/King	2,576	1,157	45%
Total	7,072	2,837	40%

Source: York Region Planning and Development Services Department, 2008

1. The 2031 percentage for Markham and Vaughan are based on total Whitebelt Area for Markham and Whitchurch-Stouffville and Vaughan and King.
2. Calculations are based on the Developable Area.

The Designated Greenfield Area Density Target Analysis

Clause 2.2.7.2 of the *Growth Plan* stipulates that “the *designated greenfield area* of each upper or single-tier municipality will be planned to achieve a minimum *density target* that is not less than 50 residents and jobs combined per hectare”. This density target applies to both the Designated Greenfield Areas and the Whitebelt Areas.

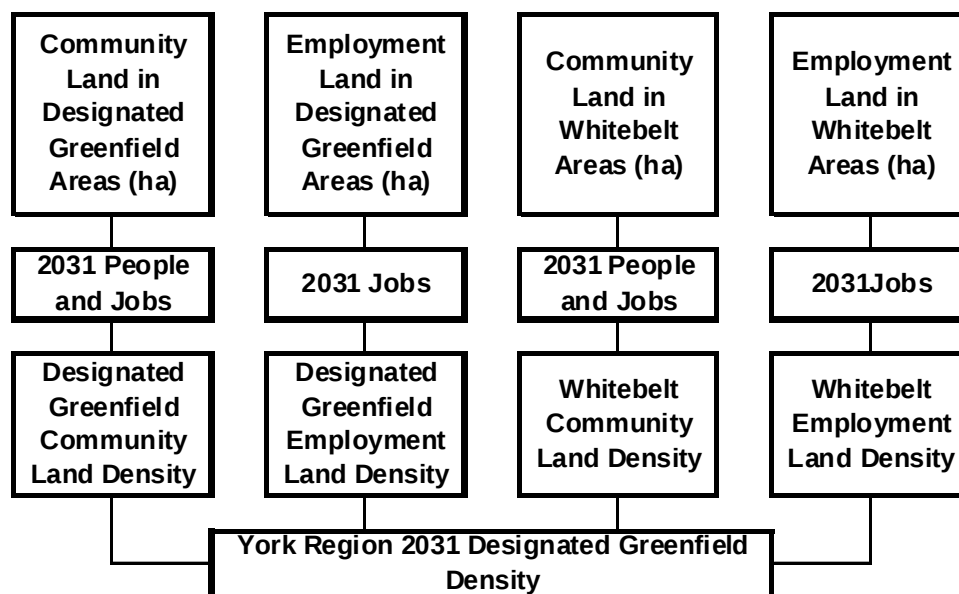
The York Region analysis of the density target is organized by four distinct categories and is based on the information derived from the land budget analysis detailed above:

- Community Land in Designated Greenfield Areas
- Employment Land in Designated Greenfield Areas
- Community Land in Whitebelt Areas
- Employment Land in Whitebelt Areas

Each category of analysis is calculated distinctly and then summed in order to determine the overall York Region greenfield area density.

Figure 9 below describes the approach used to determine the overall Designated Greenfield Area Density in York Region. The population and employment growth from 2006 to 2031 that falls within Designated Greenfield Areas and the Whitebelt areas is divided by the land area for each of the four categories to determine a category density. The total growth in people and jobs from 2006 to 2031 is then summed and divided by the total land area to determine the overall density. The land area derived is equivalent to the developable area that was calculated based on the assumptions outlined in Appendix 2.

Figure 9: York Region Density Target Analysis Flow Chart



Source: York Region Planning and Development Services Department, 2008

The residential units and jobs used to calculate density for each category of analysis are those outlined in the above sections to this report. Population was calculated by applying a 2016 region-wide Persons Per Unit (PPU) by structure type to the residential unit growth. Historically, the number of persons per unit in York Region has varied considerably through the life cycle as children enter the household. This is particularly true for new communities, which have attracted higher PPU values when compared to more mature communities. It was assumed that Designated Greenfield and Whitebelt Areas would have a higher PPU than Built-up Areas.

An analysis of York Region's dwelling unit data by age of construction was completed. This analysis showed that the average PPU for dwelling units under 20 years of age (the planning horizon) was 3.45, while dwelling units 20 years or older averaged 2.84. The PPU's in Designated Greenfield and Whitebelt Areas were adjusted upwards to 3.36 from the region-wide 2016 average of 3.1. A subsequent adjustment was made to the PPU's within the Built-up Areas to maintain the overall 2016 region-wide PPU of 3.1. A 4.16% undercount adjustment was then applied to the population. *Table 21* below shows a summary for each category illustrating land area, people and jobs, and derived density. More detail by local municipality is provided in *Appendix 5 and 6*.

Table 21: 2031 Designated Greenfield Density

	York Region Developable Area (ha) ¹	People and Jobs	Density
Community Land in Designated Greenfield Areas	6,993	361,764	51.7
Employment Land in Designated Greenfield Areas	2,657	93,145	35.1
Community Land in Whitebelt Areas	1,771	123,428	69.7
Employment Land in Whitebelt Areas	1,066	42,621	40.0
Total	12,486	620,957	49.7

Source: York Region Planning and Development Services Department, 2008

1. Whitebelt Areas from Table 18 and 19. Designated Greenfield Areas based on calculation described in Appendix 3.

2. People and Jobs/York Region Developable Area

Community Land in Designated Greenfield Areas – The overall density for this category is 52 people/jobs per ha. These lands are all within approved community plans and no adjustments can be made to the planned densities. As shown in *Appendix 7*, the densities are higher within communities that are linked to the York Durham Sewage System.

Employment Land in Designated Greenfield Areas – Employment land densities within vacant Designated Greenfield Areas vary considerably depending on the nature and type of business activity and range from a low of 23 jobs per hectare in King to a high of 55 jobs per hectare in Markham. The overall density for this category is 35.1 jobs per hectare.

Community Land in Whitebelt Areas – This category includes the three municipalities of East Gwillimbury, Markham and Vaughan and is based on an assumption of 20 units per hectare. The major retail land requirement is also included as is the major office forecast for the Town of East Gwillimbury. The density average is 70 people/jobs per hectare.

Employment Land in Whitebelt Areas – The assumed density for this category is based on 40 jobs per hectare (50 jobs per net hectare assuming that 20% of the land area is required for public uses such as roads, utility right of ways and storm water management).

The land budget analysis includes targets for achieving more compact, pedestrian and transit supportive communities designed to achieve an average minimum density of 50 people/ jobs per ha that is applied to the developable area in the Designated Greenfield and Whitebelt Areas of the Region. The developable area was determined by excluding the features listed in the *Growth Plan* and environmental and infrastructure features as well as existing land uses as identified by York Region.

Community lands in the Whitebelt are planned based on achieving a density of 70 people/jobs per ha. The addition of employment lands lowers the total to 59 people/jobs

per ha. Communities at these densities represent a more compact built form than traditionally built in York Region.

Community lands in existing Designated Greenfield Areas and Whitebelt Areas combined are planned based on achieving a density of 55 people and jobs per ha.

Employment lands in the Whitebelt Areas are planned based on achieving a density of 40 jobs per ha (50 jobs per net ha). Employment lands in vacant Designated Greenfield Areas and Whitebelt Areas combined are planned based on achieving a density of 36 jobs per ha (46 jobs per net ha).

The overall Designated Greenfield Area density for York Region is 50 people/jobs per ha.

It is very difficult to alter the densities for planned development within approved community lands. Similarly, employment densities are also virtually impossible to change due to business requirements and the structure of the Region's economy. A large portion of the Region's vacant employment land within Designated Greenfield Areas is anticipated to attract manufacturing, distribution and warehousing uses, which typically have lower employment densities. Existing and planned for employment densities within the Region are amongst the highest in the GTA. Further analysis has been conducted on the density information by category and is detailed in *Appendix 5 and 6*.

Summary of Analyses

York Region's land budget was prepared in the context of key policies in the *Growth Plan* regarding the protection of the natural environment and the development of more compact transit supportive communities and considered targets for intensification, urban growth centres and the Greenfield Area densities.

This report details York Region's residential and employment land requirements to 2031 and provides an analysis of the density achieved in relation to the *Growth Plan's* Designated Greenfield Area density target of 50 people and jobs per hectare.

The following is a technical summary of the land budget exercise.

The residential analysis included a comprehensive demand/supply analysis that considered:

- The forecast demand of 234,100 households (577,000 people) from York Region's 2031 population and household forecast
- The intensification target of 90,720 units and an additional 16,730 low density units within Built-up Areas
- The potential unit supply of 92,430 in vacant Designated Greenfield Areas
- Additional requirement of 29,340 units in the Whitebelt Areas on 1,472 ha

The employment analysis included a comprehensive analysis of the forecasted demand of 336,490 new jobs from York Region's 2031 employment forecast. This included:

- A demand/supply analysis of employment land employment growth that considered:
 - The forecast demand of 175,900 jobs on employment lands
 - The potential supply of 130,290 jobs on vacant designated employment lands
 - The additional requirement of 42,620 employment land jobs on 1,066 hectares of land in the Whitebelt
- An analysis of where the 60,080 major office jobs forecast will be accommodated:
 - New major office building space of 1.5 million square metres will be accommodated on 336 hectares of land of which 89% is in the Built-up Areas, 10% in Designated Greenfield Areas, and 1% within Whitebelt Areas.
- An analysis of where the 100,510 population related job forecast will be accommodated:
 - 3,100 primary jobs (i.e. agricultural and aggregate jobs) were removed from the land budget analysis.
 - The majority of population related jobs will be accommodated within the Built up Area (41% or 40,040 jobs) and within Designated Greenfield Areas (34% or 33,220 jobs)
 - Fifteen percent (15%) of the population related jobs are classified as major retail jobs. These 14,810 major retail jobs will be accommodated on 296 ha of land in the Whitebelt Areas
 - The remaining 10% (9,330) of population related jobs will be accommodated within new communities in the Whitebelt Areas.

Observations and Conclusions

The following observations and conclusions can be drawn from the analysis.

- An urban boundary expansion is required to accommodate the 2031 forecasted population and employment growth in York Region. Boundary expansions will occur on Whitebelt lands in East Gwillimbury, Markham and Vaughan.
- A total of 2,837 developable hectares (ha) (see *Appendixes 2-4* for definition of "developable") of land in the Whitebelt are required for residential and employment uses in order to achieve the 2031 forecast. This includes 1,771 ha for community land development (including 296 ha for major retail uses) and 1,066 ha for employment land development. The Whitebelt land requirements are distributed to the three local municipalities based on local municipal forecasts. *Table 22* shows Whitebelt requirements by local municipality.

Table 22: 2031 Total Land Requirements by Local Municipality

	Community Lands (ha)	Employment Lands (ha)	Total (ha)
East Gwillimbury	427	87	515
Markham	727	437	1,165
Vaughan	617	541	1,157
Total	1,771	1,066	2,837

Source: York Region Planning and Development Services Department, 2008

- The analysis includes the identification of 90,700 households to be accommodated within the Built-up Areas of the Region in order to achieve the minimum 40% residential intensification target.
- Forty-two percent (42%) of the Region's employment growth will be accommodated within the Region's Built-up Areas.
- The land budget analysis includes targets for achieving more compact, pedestrian and transit supportive communities designed to achieve an average minimum density of 50 people/ jobs per ha that is applied to the developable area in the Designated Greenfield and Whitebelt Areas of the Region
- The developable area was determined by excluding the features listed in the *Growth Plan* and environmental and infrastructure features and existing land uses as identified by York Region.
- Community lands in the Whitebelt are planned based on achieving a density of 70 people and jobs per ha. The addition of employment lands lowers the total to 59 people and jobs per ha. Communities at these densities represent a more compact built form than traditionally built in York Region.
- Community lands in existing Designated Greenfield Areas and Whitebelt Areas combined are planned based on achieving a density of 55 people and jobs per ha.
- Employment lands in the Whitebelt Areas are planned based on achieving a density of 40 jobs per ha (50 jobs per net ha). Employment lands in vacant Designated Greenfield Areas and Whitebelt Areas combined are planned based on achieving a density of 36 jobs per ha (46 jobs per net ha).
- The overall Greenfield Area Density for York Region is 50 people/jobs per ha.

York Region's forecasting and land budget work is an important component of the Region's municipal comprehensive review being undertaken to conform to the Provincial *Growth Plan*.

In addition to forecasting and land budget work, the Region's 'Planning for Tomorrow' exercise includes a Regional Intensification Strategy, a comprehensive public

consultation exercise, infrastructure master plan updates for transportation, sewer and water, an updated Natural Heritage Strategy and a 25 year fiscal impact analysis.

The results of the Region's municipal comprehensive review will be implemented through the Regional Official Plan process.

Appendix 1 - Employment Land Employment Growth Density Assumptions

Aurora: Existing employment densities (42 jobs per net hectare) are forecast to be maintained to 2031.

East Gwillimbury: The assumed density (40 jobs per net hectare) is an average density based on 50 jobs per net hectare for the Queensville employment lands and 25 jobs per hectare for employment areas of Holland Landing, Mount Albert and Green Lane. It was assumed that full water and wastewater servicing would be available to the community of Holland Landing and employment areas along Green Lane. Employment densities would rise from the 2006 average of 13 jobs to 25 jobs per net hectare, yet still remain lower than comparable densities in Queensville due to the existing nature and type of employment and site characteristics of these areas.

Georgina: The assumed density of 48 jobs per net hectare is based on 50 jobs per net hectare in the Keswick Business Park and 40 jobs per net hectare in remaining existing vacant lands in Keswick which is consistent with the 2006 density.

King: The assumed density of 27 jobs per net hectare is an average density based on an analysis of existing densities by employment area in King which range from 25 to 30 jobs per net hectare.

Markham: The land budget analysis uses a cautious, prudent approach in determining the density assumption for new employment land growth in Markham, since it is difficult to determine the nature and type of employment activity that will locate in new growth areas. Therefore, the York Region average of approximately 50 jobs per net hectare was assumed for this analysis.

Newmarket: The land budget analysis uses a cautious, prudent approach in determining the density assumption for new employment land growth in Newmarket, since it is difficult to determine the nature and type of employment activity that will locate in new growth areas. Therefore, the York Region average of approximately 50 jobs per net hectare was assumed for this analysis.

Richmond Hill: The assumed density of 57 jobs per net hectare for new employment growth in the Town is more conservative than the existing density of 65 jobs per net hectare since it is difficult to determine the nature and type of employment activity that will locate in new growth areas. A higher density than the York Region average of approximately 50 jobs per net hectare was used in new growth areas to provide a better balance of population and employment and to promote a healthier live/work relationship for the Town.

Vaughan: The assumed density of 45 jobs per net hectare is a conservative estimate for new employment growth in the City of Vaughan. A slightly lower density than 50 jobs

per net hectare was assumed as it is anticipated that a significant portion of future employment activity in Vaughan will be within the manufacturing, transportation, distribution and warehousing sectors. The forecast assumes that the City of Vaughan will build on its existing strong base of employment activity in these sectors.

Whitchurch-Stouffville: The assumed density of 38 jobs per net hectare is an average density based on an analysis of existing densities by employment area in Whitchurch-Stouffville which range from 25 to 50 jobs per net hectare.

Note: 'Net' area refers to the private lot area available for development and excludes roads, open space and other public uses.

Appendix 2 - Developable Lands within Designated Greenfield and Whitebelt Areas

Clause 2.2.7.3 of the *Growth Plan* states that the “*density target* will be measured over the entire *Designated Greenfield Area* of each upper- or single-tier municipality, excluding the following features where the features are both identified in any applicable official plan or provincial plan, and where the applicable provincial plan or policy statement prohibits development in the features: wetlands, coastal wetlands, woodlands, valley lands, areas of natural and scientific interest, habitat of endangered species and threatened species, wildlife habitat, and fish habitat. The area of the features will be defined in accordance with the applicable provincial plan or policy statement that prohibits development in the features.”

The York Region developable area was determined for both Designated Greenfield and Whitebelt Areas by excluding the features listed in the above clause of the *Growth Plan* as well as excluding additional environmental and infrastructure features and existing land uses as identified by York Region. The developable area includes all land available for private development for both residential and employment uses, open space and infrastructure (i.e. local and regional roads and storm water ponds) requirements

The additional environmental features excluded included ESA’s, environmental buffers and natural heritage systems in Whitebelt Areas. Infrastructure features excluded include rail and hydro right of ways and existing and proposed 400-series highways. Existing land uses as of June 2006, such as cemeteries, golf courses and estate subdivisions were also excluded in the analysis. *Appendix 3* provides a detailed list of all areas that were excluded in order to derive the developable area for the designated Greenfield and Whitebelt Areas. *Appendix 4* provides maps of the developable area in the Whitebelt by local municipality. The table below provides total developable Whitebelt and Designated Greenfield Areas.

The developable area derived for this analysis differs from that calculated based on the items eligible for exclusion permitted in the *Growth Plan*. The York Region developable area for Designated Greenfield and Whitebelt areas is approximately 2,850 ha less than the *Growth Plan* calculation. The difference in developable land area is due to additional environmental features (approximately 1,360 ha), existing and proposed infrastructure (approximately 860 ha) and existing uses (approximately 630 ha).

York Region Designated Greenfield and Total Whitebelt Developable Area (ha)

	Developable Area
Designated Greenfield ¹	9,650
Whitebelt	7,070
Total	16,720

Source: York Region Planning and Development Services Department, 2008

Appendix 3 - York Region Developable Areas Exclusions

Environmental Exclusions

- Provincially and locally significant wetlands (30m buffer)
- Watercourses (15m buffer)
- Waterbodies (15m buffer)
- Significant Woodlands (10m buffer)
- TRCA Engineered Floodplains
- ANSIs (earth and life science)
- ESAs (biological and physical)
- Town of Markham draft Natural Heritage Network in the Whitebelt as was available at the time of analysis
- LSRCA Level 1-3 Component Data in the Whitebelt as captured in Town of East Gwillimbury growth management work
- TRCA draft Target Terrestrial Natural Heritage System, modified for City of Vaughan Whitebelt calculations

Infrastructure Exclusions

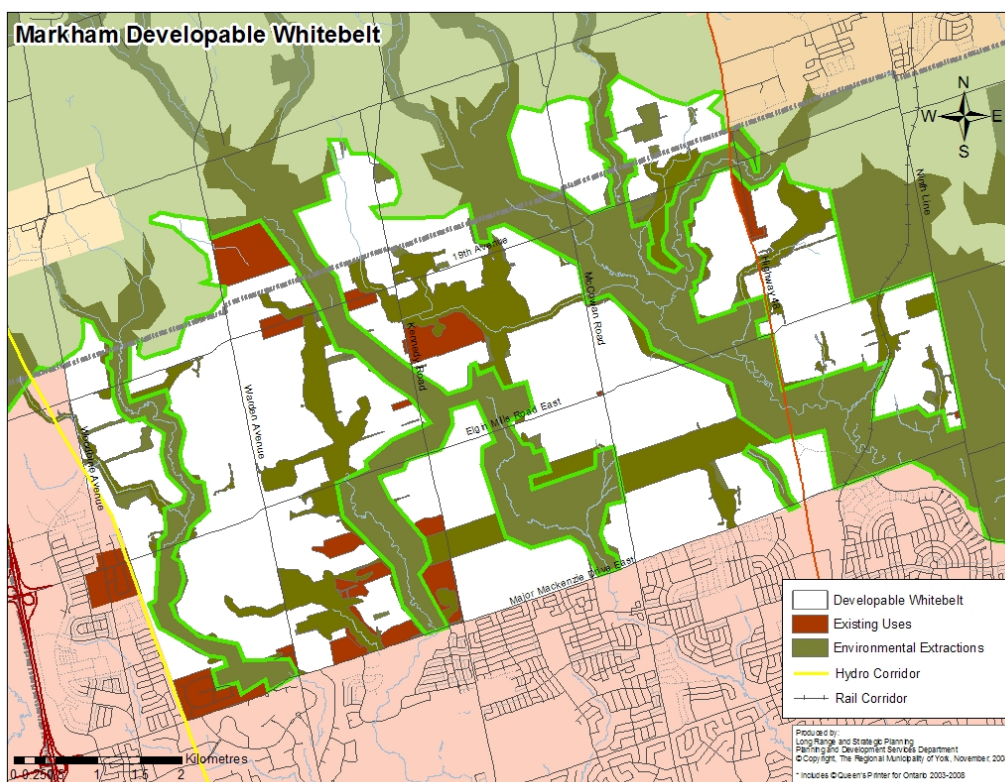
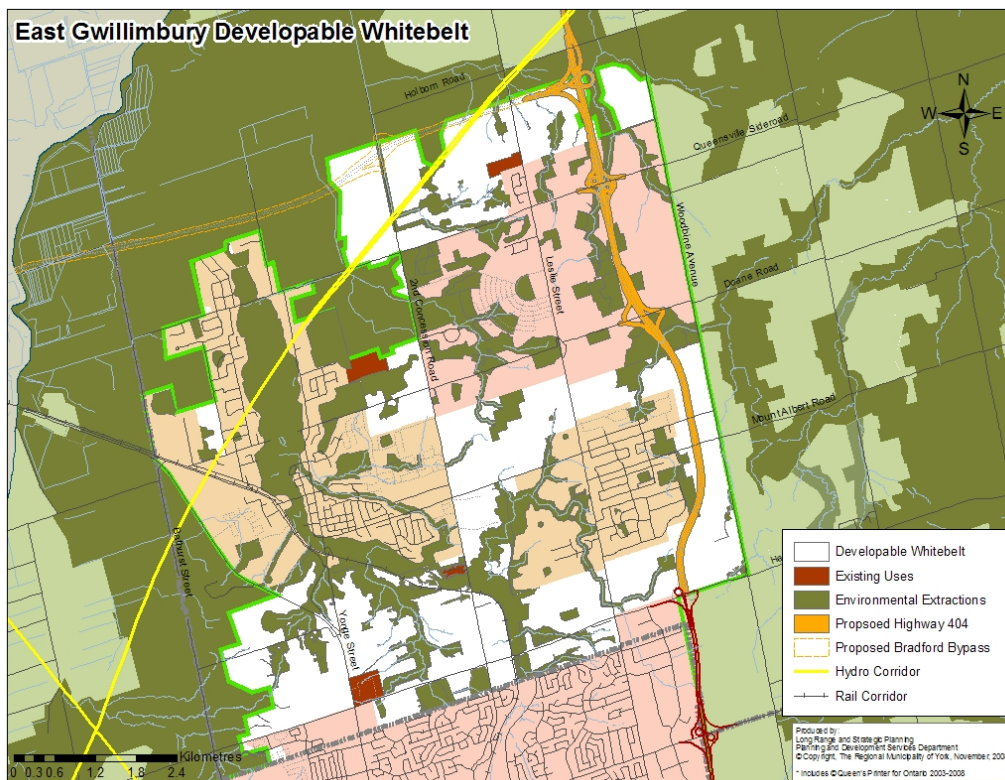
- Transmission Lines (45m ROW)
- Rail Lines (20m ROW)
- Existing and proposed 400-Series Highway, as follows:
 - Highway 400 Existing (85m ROW)
 - Highway 404 Existing (110m ROW)
 - Highway 404 Proposed north to Ravenshoe Sdrd. (110m ROW). Alignment based on approved Environmental Assessment.
 - Highway 404 Proposed Bradford Bypass (110m ROW). Alignment based on approved Environmental Assessment.
 - Highway 407 Existing (150m ROW)
 - Highway 413 Proposed (170m ROW). Alignment based on a “worst case scenario” from a land take-away perspective.
 - Highway 427 Existing (110m ROW)
 - Highway 427 Proposed (170m ROW). Alignment is proposed.

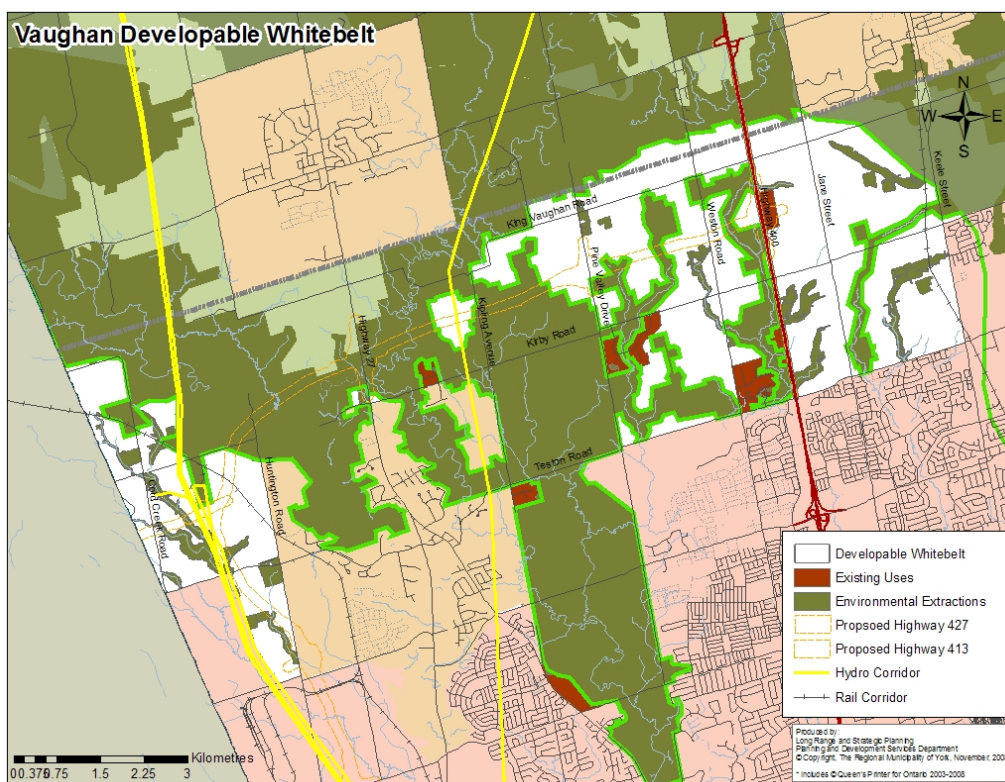
Already Developed Exclusions

- East Gwillimbury Whitebelt:
 - Queensville Cemetery
 - Holland Landing Lagoons
 - Green Lane West Employment Area
 - Valley Trail Estate Subdivision
- Markham/Whitchurch-Stouffville Whitebelt:
 - Open Space at Ninth Line and Steeles (Tompian Lands)
 - Angus Glen Golf Course
 - Mandarin Golf Course
 - Meadowbrook Golf Course
 - Boynton Circle Estate Subdivision

- o Cemeteries
- Vaughan/King Whitebelt:
 - o Open Space at Rutherford Rd. and Islington Ave.
 - o Belsite Court Estate Subdivision
 - o High Valley Court Estate Subdivision
 - o Stephanie Blvd. Estate Subdivision
 - o Phillips Lane Estate Subdivision
 - o Keele Valley Landfill Site
- Aurora:
 - o Magna lands outside of the employment area
 - o Public Natural Heritage Lands east of Bathurst St. and north of Bloomington Sdrd.
- Newmarket:
 - o Undeveloped lands within the Oak Ridges Moraine in the south/west corner of the Town

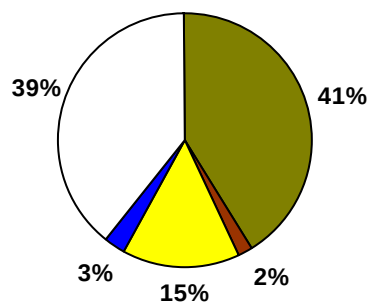
Appendix 4 - York Region Developable Whitebelt Areas



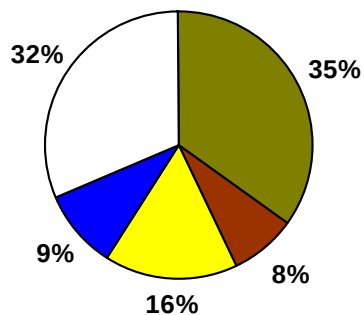


Appendix 5 - York Region 2031 Whitebelt Requirements

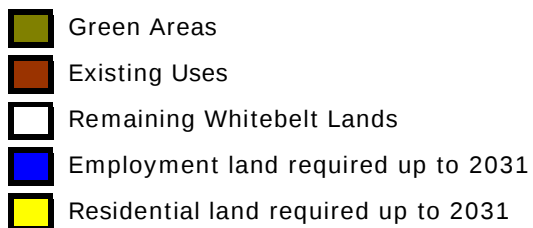
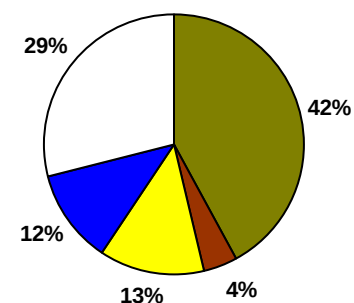
East Gwillimbury



Markham/Whitchurch-Stouffville



Vaughan/King



Note: Calculations are based on the Gross Area.

Appendix 6 - York Region Density Analysis Summary

Table 1: Community Land Designated Greenfield Areas Density

	Developable Area (ha) ¹	2031 Units ²					Population ³	Population Related Employment ⁴	Population + Employment ⁵	YR Density ⁶
		SF	SD	Row	Apt.	Total				
Aurora	345.75	2,800	718	735	290	4,543	16,187	2,103	18,290	52.9
East Gwillimbury	1,137.12	9,374	1,738	3,147	1,729	15,990	55,912	4,260	60,171	52.9
Georgina	798.78	5,722	461	992	827	8,002	28,532	2,833	31,365	39.3
King	557.81	3,517	423	673	502	5,114	18,205	1,582	19,787	35.5
Markham	804.50	6,524	1,947	3,567	1,415	13,452	46,362	4,261	50,624	62.9
Newmarket	166.67	1,874	38	263	0	2,175	8,096	812	8,908	53.4
Richmond Hill	578.25	6,146	142	2,306	50	8,645	31,326	4,071	35,396	61.2
Vaughan	1,922.30	15,163	3,486	3,798	859	23,307	83,954	8,270	92,224	48.0
Whitchurch-Stouffville	681.61	6,934	1,676	1,862	760	11,232	39,967	5,031	44,998	66.0
York Region	6,992.79	58,055	10,629	17,343	6,433	92,460	328,541	33,223	361,764	51.7

1. From Table 21 in the report.

2. From Table 3 in the report.

3. Based on 2016 PPUs by structure type and a 4.16% undercount assumption.

4. From Table 15 in the report

5. Population + Population Related Employment

6. Population and Employment/Developable Area

Table 2: Community Land Whitebelt Areas Density

	Developable Area (ha) ¹	2031 Units ²					Population Adjusted ³	Population Related Employment ⁴	Major Office ⁵	Population + Employment ⁵	Density ⁷
		SF	SD	Row	Apt.	Total					
East Gwillimbury	427.26	3,878	646	1,939	896	7,359	24,677	4,765	584	30,026	70.3
Markham	727.09	6,953	1,159	3,476	554	12,142	40,717	9,846	0	50,563	69.5
Vaughan	616.71	5,664	944	2,832	494	9,934	33,314	9,525	0	42,839	69.5
York Region	1,771.06	16,494	2,749	8,247	1,944	29,434	98,707	24,136	584	123,428	69.7

1. From Table 21 in the body of the report.

2. From Table 4 in the body of the report

3. Based on 2016 PPUs by structure type and a 4.16% undercount assumption.

4. From Table 15 and Table 16 in the report

5. From Table 13 in the report

6. Population + Population Related Employment

6. Population and Employment/Developable Area

Table 3: Employment Land Designated Greenfield Areas Density

	Developable Area (ha) ¹	2031 ELE ²	2031 Major Office ³	2031 Total Employment ⁴	Density ⁵
Aurora	272.64	7,033	3,473	10,506	38.5
East Gwillimbury	319.15	11,396		11,396	35.7
Georgina	292.31	9,057		9,057	31.0
King	107.34	2,428		2,428	22.6
Markham	190.29	6,426	4,094	10,520	55.3
Newmarket	0.00	0		0	0.0
Richmond Hill	86.57	4,347		4,347	50.2
Vaughan	1,257.17	41,499		41,499	33.0
Whitchurch-Stouffville	131.54	3,392		3,392	25.8
York Region	2,657.01	85,578	7,567	93,145	35.1

1. From Table 21 in the body of the report.
2. Employment Land Employment - From Table 10 in the body of the report.
3. From Table 13 in the report. 1,554 existing Designated Greenfield Major Office jobs added to Aurora
4. Employment Land Employment + Major Office Employment
5. Total Employment/Developable Area

Table 4: Employment Land Whitebelt Areas Density

	Developable Area (ha) ¹	2031 Employment Land	Density ³
East Gwillimbury	87.38	3,495	40.0
Markham	437.46	17,498	40.0
Vaughan	540.68	21,627	40.0
York Region	1065.52	42,621	40.0

1. From Table 21 in the report.
2. From Table 19 in the report
3. 2031 Employment Land Employment/Developable Area

Appendix 7 - York Region Density Analysis by Land Area Category and Land Use

Table 1 - Total Designated Greenfield and Whitebelt Areas Density

	Developable Area (ha)	People and Jobs	Density
Aurora	618.4	28,796	46.6
East Gwillimbury	1,970.9	105,089	53.3
Georgina	1,091.1	40,422	37.0
King	665.2	22,215	33.4
Markham	2,159.3	129,205	59.8
Newmarket	166.7	8,908	53.4
Richmond Hill	664.8	39,743	59.8
Vaughan	4,336.9	198,189	45.7
Whitchurch-Stouffville	813.2	48,390	59.5
York Region	12,486.4	620,957	49.7

Source: York Region Planning and Development Services, 2008.

Note: Includes Community and Employment Lands in Designated Greenfield and Whitebelt Areas

Table 2 - Community Land Density

	Developable Area (ha)	Population and Employment	Density
Aurora	345.8	18,290	52.9
East Gwillimbury	1,564.4	90,197	57.7
Georgina	798.8	31,365	39.3
King	557.8	19,787	35.5
Markham	1,531.6	101,187	66.1
Newmarket	166.7	8,908	53.4
Richmond Hill	578.3	35,396	61.2
Vaughan	2,539.0	135,063	53.2
Whitchurch-Stouffville	681.6	44,998	66.0
York Region	8,763.8	485,191	55.4

Source: York Region Planning and Development Services, 2008.

Note: Includes Community Lands in Designated Greenfield and Whitebelt Areas

Table 3 - Whitebelt Density

	Developable Area (ha)	Population and Employment	Density
Aurora	0.0	0	0.0
East Gwillimbury	514.6	33,522	65.1
Georgina	0.0	0	0.0
King	0.0	0	0.0
Markham	1,164.5	68,061	58.4
Newmarket	0.0	0	0.0
Richmond Hill	0.0	0	0.0
Vaughan	1,157.4	64,466	55.7
Whitchurch-Stouffville	0.0	0	0.0
York Region	2,836.6	166,048	58.5

Source: York Region Planning and Development Services, 2008.

Note: Includes Community and Employment Lands in Whitebelt Areas

Table 4 - Employment Land Density

	Developable Area (ha)	Population and Employment	Density
Aurora	272.6	10,506	38.5
East Gwillimbury	406.5	14,892	36.6
Georgina	292.3	9,057	31.0
King	107.3	2,428	22.6
Markham	627.8	28,018	44.6
Newmarket	0.0	0	0.0
Richmond Hill	86.6	4,347	50.2
Vaughan	1,797.8	63,126	35.1
Whitchurch-Stouffville	131.5	3,392	25.8
York Region	3,722.5	135,766	36.5

Source: York Region Planning and Development Services, 2008.

Note: Includes Employment Lands in Designated Greenfield and Whitebelt Areas

Table 5 - Designated Greenfield Area Density

	Developable Area (ha)	People and Jobs	Density
Aurora	618.4	28,796	46.6
East Gwillimbury	1,456.3	71,568	49.1
Georgina	1,091.1	40,422	37.0
King	665.2	22,215	33.4
Markham	994.8	61,144	61.5
Newmarket	166.7	8,908	53.4
Richmond Hill	664.8	39,743	59.8
Vaughan	3,179.5	133,723	42.1
Whitchurch-Stouffville	813.2	48,390	59.5
York Region	9,649.8	454,909	47.1

Source: York Region Planning and Development Services, 2008.

Note: Includes Community and Employment Lands in Designated
Greenfield Areas