

APPENDIX F: Capacity Assessment Methodology

1.0 Objectives

Development Capacity Analysis, subsequently referred to here as capacity analysis, is an estimate of the total amount of development that may be built in an area under a certain set of assumptions and over a particular time frame. Assumptions to consider include applicable land use policies (e.g., zoning, policy designations) and environmental factors. While this kind of analysis is most often undertaken to forecast new residential development and population, there is also value in estimating a jurisdiction's capacity to meet commercial and industrial needs, recreational needs or other land use goals.

There are two main drivers for a capacity analysis for the Woodbridge Focused Area Study. First, the new Official Plan will bring the City of Vaughan official plan policies into conformity with the Places to Grow Act. Consistent with the direction of the Growth Plan for the Greater Golden Horseshoe, the "Where and How to Grow" report prepared as part of the City-wide Official Plan review predicts growth in Vaughan by 170,000 new residents requiring 64,850 dwelling units. This results in a population forecast of 418,000 people in 134,500 dwelling units by 2031. In the "Where and How to Grow" report, it is estimated that the Woodbridge area will intensify by 917 units, primarily along Kipling Avenue and Woodbridge Avenue. The Woodbridge Focussed Area Study will refine the intensification potential in the Study Area in relation to the Growth Plan targets and given factors related to heritage conservation, environmental protection and hazard risk.

The second driver for the capacity analysis is the need to undertake a flood risk assessment associated with the review of Special Policy Areas. Several possible build-out scenarios will be identified as outputs of the capacity analysis. The build-out scenarios will be incorporated in the flood risk assessment to determine any increase in risk and consequences from flooding hazards.

2.0 Methods

2.1 Approach

A capacity analysis was completed for the Kipling Avenue Study by Office for Urbanism. In their approach, building mass was developed for a range of parcels. That is, potential development in terms of density and additional dwelling units was determined by building-out the site. Floor Space Index (FSI) was calculated as a result.

An alternative approach is to determine the total developable area for a site, based largely on environmental factors and public land requirements, and then apply an appropriate FSI to determine the density and additional dwelling units. This latter approach was used to extend the capacity analysis beyond the Kipling Avenue Study. Parcels were selected from the Kipling Avenue Study to compare the two approaches.

2.2 Information Requirements

A comprehensive land database was compiled to assess development capacity. Three general types of data were compiled.

Parcel Data – A number of fields describe each parcel in the database, including address, parcel size and current built-form.

Zoning and Designation – Describing the current zoning and designations relevant to the parcel in various official plan amendments allows for an assessment of redevelopment potential where the designation reflects an intensification of the current development.

Constraints – The influence of environmental, cultural heritage, archaeological and other factors can be used to assess the likelihood of redevelopment as well as modifying the potential build-out to consider the factors.

The available information provided the ability to classify parcels by:

- location within or outside of the Special Policy Area (SPA),
- designation according to OPAs #240, #440, #597, #661, the Woodbridge HCD, and OPA #695,
- current built form and potential for redevelopment, and
- various constraints.

2.3 Assessment of Development Potential

For the most part, any parcel in which the current development does not reflect the approved policy designation is treated as having a high likelihood of redevelopment. Outside of Kipling Avenue, these parcels are mostly confined to Woodbridge Avenue and select parts of Islington Avenue. Parcels in stable residential neighbourhoods and having an environmental protection designation were not considered as having redevelopment potential. Consideration of parcels in the SPA is described in Appendix A (Capacity Assessments Results).

2.4 Application of FSI

The approach to determine additional residential units on a particular parcel included a straight-forward application of factors to:

- Determine net developable area from the gross site area;
- Apply the Floor Space Index (FSI) appropriate for the designation to determine a Gross Floor Area (GFA);
- Determine the proportion of the GFA for residential purposes versus commercial purposes;

- Calculate the number of potential residential units by dividing the residential GFA by the average unit size, which is assumed to be 100 square metres.

3.0 Comparative Assessment

Four redevelopment blocks from the Kipling Avenue study were selected to compare the approach of building out each site, as used in the Kipling Avenue study, to the approach applying FSI. In the examples below, coverage is a factor reducing the gross site area to derive the net developable area. In this way, coverage and the resulting net developable area is intended to consider the take-outs associated with residential land-uses. These include setbacks, laneways, roads and other aspects of public realm. While this approach may not be accurate for a specific site, it can deliver results with a degree of confidence on a neighbourhood or community scale.

FSI values for relevant designations from the Kipling Avenue are as follows:

Mid Density Mixed Use: Low FSI = 0.6 / High FSI = 1.0
 Mid Density Residential: Low FSI = 1.0 / High FSI = 2.0
 High Density Residential: Low FSI = 1.5 / High FSI = 2.5
 High Density Mixed Use: Low FSI = 2.0 / High FSI = 3.0

Block N of Kipling Avenue Study

Parcel Size	5761 square metres
Coverage	70%
Net Developable Area	4033 square metres
FSI	1.0
Resulting GFA	4033 square metres
Proportion of GFA for Residential Units	100%
Number of Residential Units	40 (69 uph)
Total Units derived in Kipling Avenue Study	41 (71 uph)

Block J of Kipling Avenue Study

Parcel Size	1546 square metres
Coverage	60%
Net Developable Area	928 square metres
FSI	3.0
Resulting GFA	2873 square metres
Proportion of GFA for Residential Units	85%
Number of Residential Units	24 (155 uph)
Total Units derived in Kipling Avenue Study	32 (207 uph)

Block P of Kipling Avenue Study

Parcel Size	3550 square metres*
Coverage	80%
Net Developable Area	2840 square metres
FSI	2.5
Resulting GFA	7100 square metres

Proportion of GFA for Residential Units	85%
Number of Residential Units	60 (93 uph)
Total Units derived in Kipling Avenue Study	74 (114 uph)

* The original parcel size is 6,476 square metres. For the purposes of the comparison, parcel size was reduced to reflect the proximity to the railway and other take-outs for road access, resulting in a modified gross site area of 3,530 square metres. Units per hectare (uph) was calculated based on the original parcel size of 6,476 square metres.

Block I

Parcel Size	2078 square metres
Application of Coverage	60%
Net Developable Area	1247 square metres
FSI	3.0
Resulting GFA	3740 square metres
Proportion of GFA for Residential Units	85%
Number of Residential Units	32 (154 uph)
Total Units derived in Kipling Avenue Study	49 (236 uph)

The approach based on FSI generally underestimates the redevelopment potential derived from the Kipling Avenue Study for the examples selected. For those parcels with a high density designation, the FSI at the higher end of the range is required to approximate the potential unit count. For the parcels proposed to redevelop to medium density (Block N), an FSI value at the lower end of the range specified in OPA #695 is sufficient to achieve the unit count.

The results of the capacity assessment comparisons indicate that an approach based on setting a static FSI and coverage for a particular designation will likely underestimate the redevelopment potential of a site. Simply adjusting the net developable area as a higher proportion of the gross site area can achieve very similar results between the two approaches. Hence, the parameters used in the capacity assessment, namely, FSI, coverage and the proportion of residential versus commercial GFA, should be noted in conjunction with intended densities expressed in units per hectare to provide a better understanding of development and redevelopment potential.