

6. Future Transportation Needs

6.1 Future Growth Forecasts – Population and Employment

The City's Zoning By-Law was used to derive population and employment estimates for the TMP study area for two land use scenarios. Statistics about average unit sizes, the number of persons per unit based on dwelling type, and commercial gross floor area per employee were provided by the City Planning's Policy and Research staff. These statistics were used to calculate the projected population and employment for the study area traffic zones based on the two land use scenarios. Details about these statistics can be found in **Appendix I**.

Land Use Scenario 1 reflects provisions from the official Ontario Municipal Board (OMB) approved Zoning By-Law (April 25, 2014), while Land Use Scenario 2 contains slight differences in building height restrictions for certain parcels of land, reflected in the City's Area Study Staff Report (October 19, 2012).

Even with the differences in building height restrictions, the resulting population and employment forecasts were nearly identical between Land Use Scenario 1 and Scenario 2. Therefore, the OMB approved population and employment projections for Land Use Scenario 1 were used in the evaluation and analysis of the future transportation network alternatives.

The population and employment totals for the full build-out of Land Use Scenario 1 are shown in **Exhibit 6-1**. These totals represent the full build-out potential of the lands in the study area, including the area in the vicinity of the Highland Creek Overpass. Recognizing that the continued presence of the Highland Creek Overpass and associated ramps would reduce the development potential of surrounding lands (i.e., The East Village), a more modest level of development is assumed for these areas in the Do Nothing alternative. Please refer to **Appendix I** for more details.

Exhibit 6-1: Land Use Scenario 1: Unit Count and Population and Employment Summary by District (Full Build-Out)

District	# of Townhouse Units	# of Mid-Rise Units	Total # of Units	Total Persons	Total Jobs
The East Village	-	368	368	736	203
The Main Street	84	656	740	1,565	519
The South Village	146	392	538	1,223	-
Grand Total	230	1,416	1,647	3,524	722

6.2 Forecasting Future Transportation Demands

6.2.1 Model Overview

Forecasts of future travel demands were undertaken by using outputs from the City of Toronto’s Regional Travel Demand Model. The City’s Travel Demand Model is a macro-level regional travel demand model that is based on the Greater Toronto Area (GTA) Model that was developed by the University of Toronto. It is designed to provide AM peak hour forecasts of future volumes within the Region, under forecasted land use growth and transportation network improvement scenarios. The model includes a high-level representation of the transportation network with information on travel speeds, distances, and capacities. Forecasts of trip making are generated by taking traffic zone level population and employment estimates as an input, while also considering the impact of road network congestion on travel times, routing decisions, and mode choices.

Since the City’s Travel Demand Model was designed as a forecasting tool for Region-wide traffic, a new “sub-area” level model was developed by refining the City’s model and adding additional detail within the Highland Creek study area. A methodology was also developed to generate PM peak hour forecasts. An overview of the “sub-area” model development and validation process is provided in the following section. Please refer to **Appendix J** for a more detailed discussion of the model and the updates that were applied as part of this study.

6.2.2 Sub-Area Model Development and Validation

A strategic “sub-area” transportation demand model was built for the study area to assist with the assessment of major traffic patterns and link / area level capacity deficiencies. Prior to applying the model to assess future transportation needs in the study area, it was updated and refined and then its ability to reproduce observed travel patterns in the study area was confirmed. Observed 2011 Cordon Count¹⁴ data, recent traffic count data obtained from the City of Toronto (data generally dated between 2010 and 2013), and traffic count data collected as part of this study (2014) were used to assist with the validation effort.

Furthermore, additional network detail was incorporated within the study area, including a more detailed road network (e.g., addition of Morrish Road and more detail to the Highway 2A ramps), additional traffic zones, and modified zone connectors. The EMME modelling suite’s standard

¹⁴. Cordon Counts are traffic counts from the Greater Toronto Area which are undertaken by the City of Toronto and surrounding Regional Municipalities. Cordon Counts are conducted every 2 to 5 years.

practice Demand Adjustment module was also used to further improve upon the model's consistency with observed count data.

Overall, the model refinement and validation activities conducted as part of this study indicate that the newly developed "Sub-Area" model provides a good level of correlation with observed traffic volumes in the Highland Creek Village TMP Study Area at the screenline¹⁵ and link level of detail. For each individual screenline, the model's forecasts are well within the acceptable range of $\pm 20\%$ of observed volumes. Please refer to **Appendix J** for more details on the model's validation to observed traffic data.

6.2.3 Accounting for Future Year Growth

To generate future year forecasts, the City's model uses 2031 Flash Forward data as the basis for traffic zone level population and employment totals throughout the City of Toronto. As part of this study, the model's population and employment totals were updated within the HCV study area to be consistent with the population and employment projections previously discussed in **Section 6.1**. In particular, the projected growth was allocated amongst the nine traffic zones in the Village and the model's trip generation rates were used to derive outbound and inbound trips to/from each zone in 2031. The resulting total forecasted trips to/from the Village are 550 and 700 for the 2031 AM and PM peak hours respectively, which represents an increase of 450-550 trips over existing conditions. The model's population and employment totals and resulting trips in surrounding areas were maintained as-is.

The model's future year 2031 road network was also reviewed and updated for consistency with planned improvements within and in the vicinity of the study area (i.e., the planned widening of Port Union Road – See **Section 5.3.2.1** for details). The model's road network within the study area was also updated as required to support the assessment and evaluation of the various alternatives that were considered as part of this study (see **Section 8** for details).

15. A screenline is an imaginary boundary that spans over a series of roads where the overall crossing traffic can be analyzed. Screenlines are strategically located to assess traffic flows moving within, entering, and leaving an area. Please refer to **Appendix J** for a map of the validation screenlines that were used as part of this study.