



Appendix B

Transportation Analysis for West Vaughan Employment Area

City of Vaughan

West Vaughan Employment Area Transportation Plan

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Table of Contents

Statement of Qualifications and Limitations

| | page |
|--|-----------|
| 1. Introduction and Background | 1 |
| 1.1 Study Purpose | 1 |
| 1.2 Study Area | 1 |
| 1.3 Policy Context | 3 |
| 1.4 Related Studies by Others | 3 |
| 2. Existing Conditions | 5 |
| 2.1 Road Network | 5 |
| 2.2 Transit Service | 5 |
| 2.3 Employment Projections | 5 |
| 2.4 Land Uses | 7 |
| 3. Future Transportation Conditions | 7 |
| 4. Recommended Transportation Plan | 10 |
| 4.1 Road Network Plan | 10 |
| 4.2 Transit Network Plan | 12 |
| 4.3 Pedestrian and Cycling Network Plan | 12 |
| 5. Policies to Support Plan | 16 |
| 6. Plan Implementation and Priorities | 17 |
| 7. Conclusions | 17 |

List of Figures

| | |
|--|----|
| Figure 1. Existing Transportation Network | 2 |
| Figure 2. 2006 to 2031 Employment Growth by Traffic Analysis Zones | 6 |
| Figure 3. Employment Growth 2006 to 2031 | 6 |
| Figure 4. 2031 AM Peak Hour Traffic Congestion Analysis (Volume to Capacity Ratios for Individual Road Segments) | 8 |
| Figure 5. Transportation Improvements | 11 |
| Figure 6. Recommended Road Classification | 13 |
| Figure 7. Recommended Transit Route | 14 |
| Figure 8. Recommended Bike Routes | 15 |

List of Tables

| | |
|---|----|
| Table 1. Existing Traffic Operations on Roadway Sections | 5 |
| Table 2. 2031 Trip Summary for West Vaughan Employment Area in AM Peak Hour | 7 |
| Table 3. 2031 Corridor V/C Ratios for AM and PM Peak Hours | 9 |
| Table 4. 2021 and 2031 Peak Hour V/C Ratios for Collector and Local Roads within the WVEA (Auto +Truck Volumes) | 9 |
| Table 5. Recommended Road Network for WVEA | 10 |

1. Introduction and Background

The City of Vaughan is undertaking a Transportation Master Plan (TMP) Study as part of the Official Plan (OP) Review to govern growth in the City to the year 2031. The TMP is being prepared to identify the infrastructure¹ requirements necessary to accommodate the population and employment growth expected from the implementation of the City's Growth Management Strategy. As part of the OP Review, the City identified the West Vaughan Employment Area (WVEA) as requiring a detailed secondary plan with supporting transportation analysis. As shown in **Figure 1**, the WVEA refers to a broad area generally bordered by Highway 50 and Highway 27 from Langstaff Road north to Major Mackenzie Drive, plus an area between Highway 50 and Huntington Road from Major Mackenzie Drive north to Nashville Road. The southern part of this area is developed; however, the northern part still awaits development due in part to the ongoing environmental assessment for the extension project of Highway 427. The determination of a preferred alignment through the environmental assessment process has led the way for the planning and development of the WVEA. This report documents existing transportation conditions, examines projected future travel demands arising from the proposed land uses, examines the transportation improvements necessary to accommodate future travel demands and recommends road and transit network improvements to accommodate development expected by 2031. The analysis and assessment in this document are undertaken at a broad area level commensurate with the requirements of a Secondary Plan Study, as opposed to what would be expected in a more detailed Traffic Impact Study.

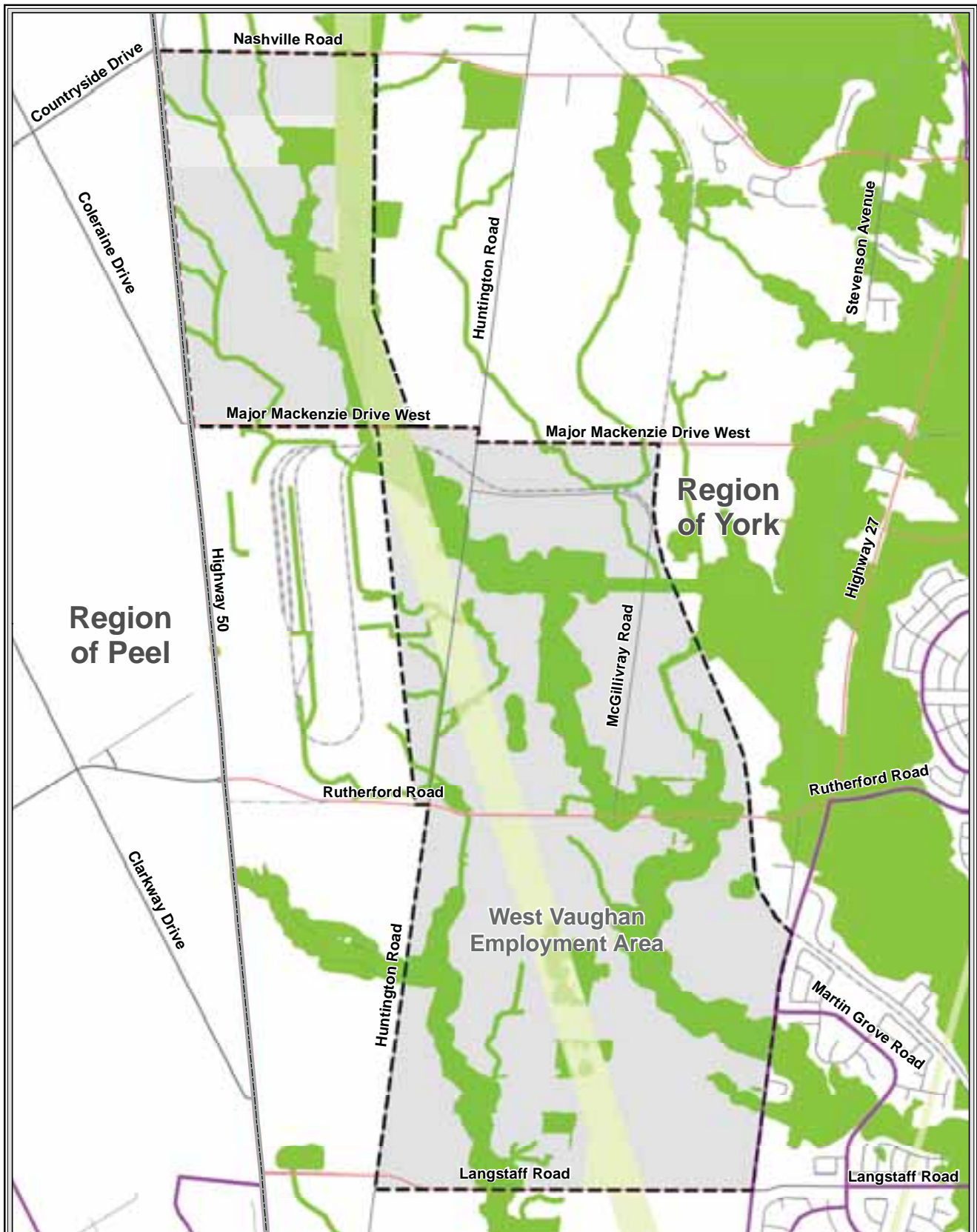
1.1 Study Purpose

This study assesses and identifies, at a network level, the transportation infrastructure requirements and supportive policies necessary to support the potential WVEA, as well as to provide guidance for preparation of the Secondary Plan. The resulting objectives will provide direction for transportation infrastructure development in the WVEA in order to maximize its potential to support a major employment area.

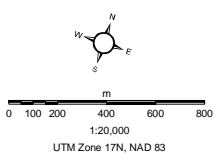
1.2 Study Area

As depicted in Figure 1, the WVEA has a total of 975 gross hectares, which includes the northerly extension of the employment area known as the Vaughan Enterprise Zone. It encompasses lands north of Langstaff Road, between Huntington Road and Highway 27, extending north to Major Mackenzie Drive between the Intermodal Facility and the CP MacTier Rail Subdivision, and the lands between Highway 50 and the Hydro corridor between Major Mackenzie Drive and Nashville Road. Located east of the WVEA is the residential community of Woodbridge, including a newly designated residential area located just east of the rail line between Major Mackenzie Drive and Rutherford Road. Bounded from the north is the Kleinburg-Nashville community, including the recently planned Nashville Heights area. Located west of the WVEA is the CP Intermodal Facility, which is connected by a spur line to the CP MacTier Subdivision which generally runs north-south along the eastern limits of the WVEA. The CP intermodal facility is the largest rail-truck terminal in the CPR network and via the MacTier Subdivision, providing services across the country and North America. Over 400,000 containers pass through this intermodal facility annually. The Region of Peel and City of Brampton are west of Highway 50. The area located south of Castlemore Road, which is the extension of Rutherford Road in Brampton, has been designated as a new residential community in the Brampton East Area. A business concentration is planned along Castlemore Road and the west side of Highway 50. The planned Highway 427 Industrial Zone in Brampton is located north of Castlemore Road. This Industrial Zone would extend north to Mayfield Road in Peel Region, which terminates at Highway 50, between Kirby Road and Nashville Road. Currently, these Brampton lands are rural, but the planning process has recently begun to facilitate the development of the Industrial Zone.

1. *Growth in specific area, associated land use changes, and transportation are connected. Transportation infrastructure extensions and capacity improvements, whether for vehicles or transit, may shift growth away from areas designated for more intense development which, in turn, may be less sustainable in the long term.*



Basemapping from Ontario Ministry of Natural Resources



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Legend

- West Vaughan Employment Area
- Vaughan Municipal Boundary
- Natural Areas
- Hydro Corridor
- Railway
- Transit Routes
- Existing Roads
- Arterial Road
- Regional Road
- Rural Road
- Urban Road/Existing Municipal Roads
- Laneway
- Unopened Road Allowance

West Vaughan
Employment Area

Existing
Transportation
Network

August 2010



Figure 1

1.3 Policy Context

The WVEA Secondary Plan is being prepared within the context of Provincial, Regional and Municipal policy initiatives including the Growth Plan for the Greater Golden Horseshoe, the York Region Official Plan and the Draft City-wide Vaughan Official Plan.

- ***Growth Plan for the Greater Golden Horseshoe***
The Province of Ontario has undertaken a study to identify and protect employment lands, which are laid out in the Growth Plan for the Greater Golden Horseshoe (Growth Plan). In the document, it can be found that the Growth Plan has established specific density targets that have to be achieved in areas dedicated for employment and non-employment uses. The proposed WVEA Secondary Plan conforms to the employment density targets of the Growth Plan.
- ***York Region Official Plan***
In December 2009, York Region council adopted an updated York Region Official Plan, which specifies the WVEA as “strategic employment lands” that have to be protected for employment use. The WVEA Secondary Plan conforms to the Regional Official Plan. Also in December 2009, York Region Council approved an updated TMP, which provides a key transportation policy context for the subject study.
- ***Draft Vaughan Official Plan***
The recently completed Draft Official Plan for the City of Vaughan has identified the WVEA as an Employment Area. The Draft Vaughan Official Plan states that a Secondary Plan must be completed to address the specific needs of the WVEA.

1.4 Related Studies by Others

A number of studies are currently underway that will significantly impact future travel patterns within the WVEA and provide the foundations for the area’s future transportation network. These studies include:

- **Highway 427 Extension EA by Ministry of Transportation (MTO)**
This study examined extension of Highway 427 from Highway 7 to Major Mackenzie Drive. The proposed Highway 427 extension will be 6.6 km long and includes 3 interchanges at Langstaff Road, Rutherford Road and Major Mackenzie Drive. The freeway will have 6 lanes from Steeles Avenue to Rutherford Road and 4 lanes from Rutherford Road to Major Mackenzie Drive. There is a provision of median HOV lanes in each direction and a carpool lot at Rutherford Road interchange. The preferred design alternative involves an alignment that passes through the Huntington Road and Major Mackenzie Avenue intersection. That alternative will involve discontinuation of Huntington Road to the north and south of the proposed interchange.
- **Kleinburg-Nashville Focus Area Study by City of Vaughan**
The purpose of the North Kleinburg-Nashville Secondary Plan is to provide a detailed land use plan and policies for the regulation of land use and development within the North Kleinburg-Nashville Secondary Plan Area, in conjunction with the policies of the City of Vaughan Official Plan. The study examines future transportation operations in the year 2031 and identifies network improvements that will be required to accommodate expected traffic demands arising from the proposed Land Use Plans in the Focus Areas.
- **Nashville West Community Plan Study (Block 61)**
This Study was commissioned by the Nashville West Landowners Group to investigate alternative configurations of Highway 427 Interchange at Major Mackenzie Drive and Huntington Road in view of

the recommendations of the Highway 427 EA Study. As part of this Study, various transportation network modifications are being considered. The recommendations include several potential connections to Major Mackenzie Drive which, in turn, may impact the configuration of the Highway 427 off-ramp terminal intersection with Major Mackenzie Drive. A significant proposal involves realignment of Huntington Road to connect with Major Mackenzie Drive at the aforementioned ramp terminal. The proposal is currently being reviewed by MTO, as part of its consideration of stakeholder comments.

- **Western Vaughan Individual EA Study**

This Study was undertaken by the Regional Municipality of York to identify transportation deficiencies in Western Vaughan and to develop alternatives to address the problems. Specifically within the WVEA, the Study is proposing improvements to Highway 27, Rutherford Road and Major Mackenzie Drive which will include widening of these roadways to six lanes. North of Major Mackenzie Drive to Nashville Road, Highway 27 is proposed to be widened to 4 lanes. In addition, elimination of the jog on Major Mackenzie Drive at Highway 27 is recommended.

- **GTA West Corridor Study by MTO**

The purpose of this Study is to examine a northern east-west transportation corridor connecting the western cities of Kitchener, Waterloo and Guelph to the GTA with a connection to the Highway 427 extension and possibly continuing easterly to connect with Highway 400 within Vaughan. A preliminary corridor has been identified to run north of Kirby Road extending easterly to Highway 400 in the vicinity of the King-Vaughan Line.

- **Peel Highway 427 Extension Area Transportation Master Plan Study**

This Study is a joint study between the Region of Peel, City of Brampton and Town of Caledon in coordination with MTO, York Region and City of Vaughan. The objective is to carry out a comprehensive review of the future transportation network needs in Northeast Brampton and Southeast Caledon. A specific objective of study is to identify the best ways to connect municipal roads across the Peel/York Regional boundary and connect with to Highway 427. The Study recommends a combination of road widening and the provision of a new road connection from Mayfield Road to Highway 50 and Major Mackenzie Drive. The proposed arterial road will connect Mayfield Road in Peel and Major Mackenzie Drive to form a continuous route across both Regions of York and Peel. It will also handle traffic to and from the Highway 427 extension. Traffic volumes are expected to be as high as 2,500 vehicles per hour in the morning peak period and truck volumes could represent 10 to 20 percent of the total vehicular traffic, given the proximity to the CP Vaughan Intermodal Terminal.

- **Metrolinx/GO Transit Station Feasibility Study for Commuter Rail Service to Bolton**

The study investigated potential stations along the proposed Bolton line as part of the agency's strategic plan to increase service frequencies and provide for new rail service and extensions throughout the GTA. Five GO stations are proposed in the York Region TMP update, four of which have the potential to serve development in the WVEA.

Some of these studies are preliminary and may be subject to detailed Environmental Assessment considerations. Nevertheless, as a package they provide a good context for consideration of additional transportation options as part of the WVEA secondary plan and for that matter the whole Vaughan TMP Study.

2. Existing Conditions

2.1 Road Network

The existing road network of the WVEA is primarily limited to arterial roads as shown by Figure 1. The east-west roads include Langstaff Road, Rutherford Road, Major Mackenzie Drive and Nashville Road. The north-south roads include Highway 27, Huntington Road and McGillivray Road.

Existing operations on roadway sections were assessed based on their volume to capacity (V/C) ratios in the peak hours. The assessment was based on existing traffic volumes and typical lane capacities. For collector and arterials roads, planning capacities are typically in the range of 700 to 1,000 vehicles per hour per lane (vph/l) depending on the class of the road and the traffic controls at intersections. The surrounding environment, continuity, number of accesses and the presence of turning lanes are among other factors that influence road capacities. The results of the assessment are summarized in **Table 1**. While some roads operate with low V/C ratios, most of the arterial roads have V/C ratios greater than 0.5 with those for Highway 27 and Highway 50 greater than 0.9. Those operations indicate existing problems on Highway 50 and Highway 27 that require attention. With background growth and future developments, traffic volumes on the other roadways are expected to increase and some improvements will most likely be required to maintain satisfactory operations.

Table 1. Existing Traffic Operations on Roadway Sections

| Street | 2006 Traffic Volumes | | 2010 Projected Traffic Volumes | | Existing # Lanes per Direction | Capacity Per Lane | V/C Ratio | |
|---|----------------------|------|--------------------------------|------|--------------------------------|-------------------|-----------|------|
| | AM | PM | AM | PM | | | AM | PM |
| Major Mackenzie Drive (Highway 27 to Highway 50) | 454 | 389 | 491 | 421 | 1 | 800 | 0.61 | 0.53 |
| Rutherford Road (Highway 27 to Highway 50) | 927 | 929 | 1003 | 1006 | 2 | 1600 | 0.63 | 0.63 |
| Nashville Road (Highway 27 to Highway 50) | 523 | 536 | 566 | 580 | 1 | 800 | 0.71 | 0.73 |
| Highway 27 (Langstaff Road to Rutherford Rd) | 1746 | 2092 | 1890 | 2264 | 2 | 1600 | 1.18 | 1.42 |
| Huntington Road (Langstaff Road to Rutherford Rd) | 59 | 120 | 64 | 130 | 1 | 700 | 0.09 | 0.19 |
| Highway 50 (Rutherford Rd to Major Mackenzie Dr) | 1863 | 1878 | 2017 | 2033 | 2 | 1600 | 1.26 | 1.27 |

Note: Assumes 2% growth rate per year

2.2 Transit Service

York Region Transit (YRT) service is currently not available within the WVEA due to lack of development in the area. Available services within the vicinity are concentrated on parts of Highway 27 to the east and Highway 7 to the south through Routes 7 and 10. Figure 1 shows the transit routes within the vicinity of the study area.

2.3 Employment Projections

Employment projections within the study area were extracted from the regional travel demand model obtained from the Region of York. As indicated by **Figure 2**, the study area encompasses five traffic analysis zones including 6012, 6013, 6015, and 6016. The highest employment growth between 2006 and 2031 is approximately 7,400 occurring in TAZ 6015. As shown in **Figure 3**, the base (2006) total employment for the WVEA is approximately 1,775 and projected to increase significantly to about 23,050 by the year 2031. This large increase is a reflection of the area's designation as major employment area served by a new provincial freeway.



Figure 2. 2006 to 2031 Employment Growth by Traffic Analysis Zones

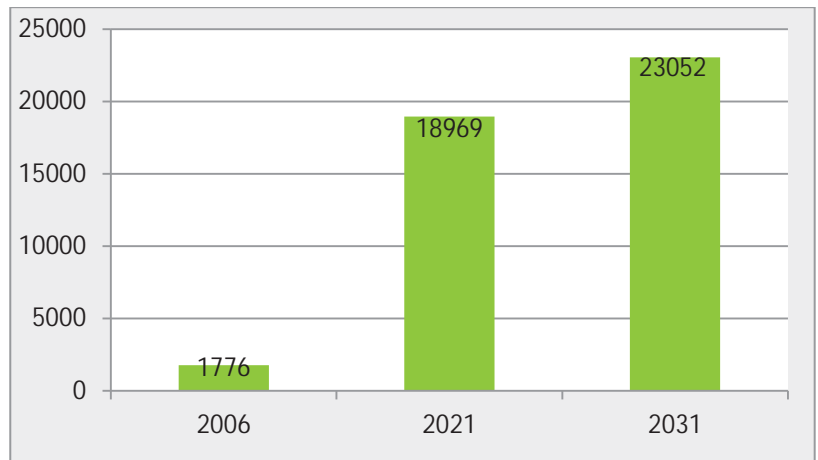


Figure 3. Employment Growth 2006 to 2031

2.4 Land Uses

Two distinct land uses (general and prestige employment) have been identified by the new Draft Official Plan to comprise the WVEA. General employment is designated for areas intended to accommodate industrial, manufacturing and warehousing. These areas were designated for these types of activities due to their likelihood to produce noxious emissions and require outdoor storage areas, which would not be compatible with other uses. Conversely, the prestige employment is designated to accommodate employment for limited office, light industrial, manufacturing, and warehousing uses that do not produce noxious emissions and that do not require outside storage. These areas were also chosen for their strategic locations and to act as interface and buffers between other and more sensitive community areas of the City, as well as the heavy industrial areas of the general employment designation, and they are often located in highly visible and accessible corridors. Furthermore, the City of Vaughan has included restrictions in the new Official Plan for non-employment uses in designated employment areas, such as the WVEA. In order to cater to the daily needs of employees and visitors, some small-scale, employment-supportive retail uses are also to be permitted. (Employment-supportive retail, including eating establishments, within the prestige employment areas will tend to decrease the need for automobile trips during the lunch hour) Large scale retail-commercial clusters exist or are planned just north and south of the WVEA.

3. Future Transportation Conditions

Future transportation conditions were determined through the assessment of horizon year 2031 transportation demands reflecting the ultimate long term needs of the WVEA. Future (2021 and 2031) travel demands were prepared using the new GTA-wide EMME model for the City as part of the Vaughan TMP project. Based on the proposed land uses in the WVEA, the trip generation for the various modes of travel – auto and transit – were assessed to determine transportation demand in the area with assumed road and transit networks. Results of AM peak trip generation are presented in **Table 2**. The AM peak trip generation indicates that transportation demand in the future would be dominated by auto travel with only 5% transit mode share for the WVEA.

Table 2. 2031 Trip Summary for West Vaughan Employment Area in AM Peak Hour

| Zone | 2021 | | 2031 | | 2021 | | | | 2031 | | | |
|--------------|-------------|--------------|-------------|--------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|
| | Population | Employment | Population | Employment | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | | | | Originating Trips | Destinated Trips | Originating Trips | Destinated Trips | Originating Trips | Destinated Trips | Originating Trips | Destinated Trips |
| 6011 | 43 | 3789 | 43 | 5505 | 59 | 506 | 432 | 84 | 80 | 1209 | 857 | 115 |
| 6012 | 43 | 3789 | 43 | 4904 | 59 | 848 | 605 | 85 | 72 | 1074 | 765 | 106 |
| 6013 | 43 | 3789 | 43 | 5505 | 60 | 856 | 611 | 86 | 81 | 1204 | 858 | 117 |
| 6014 | 0 | 1410 | 0 | 1641 | 20 | 343 | 249 | 28 | 22 | 394 | 286 | 32 |
| 6015 | 33 | 6380 | 33 | 7401 | 90 | 1447 | 1022 | 127 | 102 | 1645 | 1163 | 145 |
| 6016 | 0 | 3601 | 0 | 3601 | 50 | 853 | 603 | 72 | 49 | 846 | 599 | 72 |
| 6017 | 2885 | 206 | 4575 | 206 | 383 | 56 | 57 | 303 | 411 | 96 | 94 | 389 |
| 6018 | 2865 | 224 | 4575 | 224 | 502 | 167 | 207 | 407 | 799 | 230 | 300 | 644 |
| Total | 5912 | 23188 | 9312 | 28987 | 1223 | 5076 | 3786 | 1192 | 1616 | 6698 | 4922 | 1620 |

The future transportation needs for the area were assessed through analysis of congestion levels on the roadways using travel demand modelling output obtained from the application of the EMME modelling tool. The model output is part of the City-wide travel demand model developed for the ongoing Transportation Master Plan study. Two approaches were used in analyzing the future traffic conditions in the area.

The first approach employed the use of volume to capacity (V/C) ratios focusing on specific roadway segments. The V/C ratio is defined as an index showing the level of congestion along roads or corridors. The level of congestion along the road or corridor is usually depicted by color coding. Based on standard V/C ratios defined through the Vaughan TMP study, V/C ratios less than 0.8 translate as uncongested road conditions which are usually depicted by a green color. Depicted by a yellow color are V/C ratios ranging from 0.8 to 0.9, which indicates some congestion on the road. Any V/C ratio of 0.9 or above is color coded red and translates into congested levels of traffic on the road. **Figure 4** shows projected level of congestion within the WVEA during the 2031 PM peak hour. The numeric values show the V/C ratios for roadway segments in each direction. Congestion levels on local roads are projected to be generally low with few exceptions. However, arterial roadways would all be congested as indicated by the predominantly red color on Figure 4.



Figure 4. 2031 AM Peak Hour Traffic Congestion Analysis (Volume to Capacity Ratios for Individual Road Segments)

The second approach used in analyzing future transportation conditions within the area used a screenline analysis which shows the potential congestion along broad travel corridors instead of individual road segments. Table 3 illustrates the screenline analysis results for AM and PM peak hours. As shown, congestion would be expected in the eastbound direction of the Rutherford Road corridor and southbound in the Highway 427 corridor within the study area.

Table 3. 2031 Corridor V/C Ratios for AM and PM Peak Hours

| Screenline Location | | Direction of Travel | AM Peak Hour | PM Peak Hour |
|--|--------------------------|---------------------|--------------|--------------|
| North-South Screenlines Across Rutherford Corridor | East of Highway 50 | EB | 1.26 | 0.54 |
| | | WB | 0.48 | 1.10 |
| | East of Highway 27 | EB | 0.61 | 0.81 |
| | | WB | 0.79 | 0.61 |
| East-West Screenlines Across Highway 427 Corridor | North of Teston Road | NB | 0.31 | 0.87 |
| | | SB | 0.87 | 0.32 |
| | North of Rutherford Road | NB | 0.38 | 0.89 |
| | | SB | 0.92 | 0.48 |

The assumed road improvements within the area are shown in **Figure 5** and described in **Table 4** under the proposed transportation improvement section. Given that nearly all these assumed collector road improvements were not included in the EMM model, the future 2021 and 2031 model outputs were post processed to better reflect future travel demands on these roads. Based on the capacity per lane as defined in the model input, the V/C ratio for each road segment during AM and PM peak hours in each direction were calculated and presented in Table 4. Road segments where V/C ratios are higher than 0.9 are highlighted in red while those V/C ratios above 0.9 indicates that the road section is operating above capacity and may require road widening. For instance, the sections of McGillivray Road and Huntington Road north of Rutherford Road are congested with the assumption of 2 lanes in both 2021 and 2031. With road widening to 2 lanes per direction the same segments operate at capacities with V/C ratios of less than 0.9 in both year 2021 and 2031.

Table 4. 2021 and 2031 Peak Hour V/C Ratios for Collector and Local Roads within the WVEA (Auto +Truck Volumes)

| Road Definition | Capacity per Lane | 2021 | | | | | | 2031 | | | | | |
|--|-------------------|--------------------------------|--------------------------------|-------------------------------------|--------------------------------------|--------------------------------|--------------------------------|-------------------------------------|--------------------------------------|------|------|------|------|
| | | AM Peak Hour Auto+Truck Volume | PM Peak Hour Auto+Truck Volume | V/C Ratio, 1 Lane in Each Direction | V/C Ratio, 2 Lanes in Each Direction | AM Peak Hour Auto+Truck Volume | PM Peak Hour Auto+Truck Volume | V/C Ratio, 1 Lane in Each Direction | V/C Ratio, 2 Lanes in Each Direction | | | | |
| McGillivray Road (North of Rutherford Road) | 500 | 636 | 474 | 1.27 | 0.95 | 0.64 | 0.47 | 724 | 540 | 1.45 | 1.08 | 0.72 | 0.54 |
| East-West Roads connected to McGillivray Road | 500 | 635 | 474 | 1.27 | 0.95 | 0.64 | 0.47 | 722 | 540 | 1.44 | 1.08 | 0.72 | 0.54 |
| Huntington Road | 600 | 814 | 548 | 1.36 | 0.91 | 0.68 | 0.46 | 925 | 623 | 1.54 | 1.04 | 0.77 | 0.52 |
| East-West Collector Roads connected to Highway 50 | 400 | 343 | 249 | 0.86 | 0.62 | | | 394 | 286 | 0.99 | 0.72 | 0.49 | 0.57 |
| East-West Collector Roads connected to Huntington Road | 500 | 812 | 548 | 1.62 | 1.10 | 0.81 | 0.55 | 923 | 623 | 1.85 | 1.25 | 0.92 | 0.62 |
| McGillivray Road (South of Rutherford Rd. – East of Hwy 427) | 500 | 300 | 338 | 0.60 | 0.68 | | | 610 | 525 | 1.22 | 1.05 | 0.61 | 0.53 |
| East-West Road (North of Langstaff Road between Highway 27 and Highway 427 (WVEA 6)) | 400 | 63 | 21 | 0.05 | 0.02 | | | 170 | 68 | 0.14 | 0.06 | | |
| Huntington Road + 2 North-South Roads (WVEA 5 & WVEA 1) | 600 | 741 | 524 | 0.41 | 0.29 | | | 670 | 584 | 0.37 | 0.32 | | |

Table 4. 2021 and 2031 Peak Hour V/C Ratios for Collector and Local Roads within the WVEA (Auto +Truck Volumes)

| Road Definition | Capacity per Lane | 2021 | | | | 2031 | | | | | | | |
|--|-------------------|--------------------------------|--------------------------------|-------------------------------------|--------------------------------------|--------------------------------|--------------------------------|-------------------------------------|--------------------------------------|------|------|------|------|
| | | AM Peak Hour Auto+Truck Volume | PM Peak Hour Auto+Truck Volume | V/C Ratio, 1 Lane in Each Direction | V/C Ratio, 2 Lanes in Each Direction | AM Peak Hour Auto+Truck Volume | PM Peak Hour Auto+Truck Volume | V/C Ratio, 1 Lane in Each Direction | V/C Ratio, 2 Lanes in Each Direction | | | | |
| East-West Road (North of Langstaff Road between Highway 50 and Highway 427 (WVEA 4)) | 500 | 848 | 605 | 1.70 | 1.21 | 0.85 | 0.61 | 806 | 765 | 1.61 | 1.53 | 0.81 | 0.77 |
| North-South Road (East of Highway 50 between Major MacKenzie Drive and Nashville Road (WVEA 2)) | 400 | | | | | | | 303 | 247 | 0.76 | 0.62 | | |
| 3 East-West Road (South of Nashville Road between Highway 50 and Highway 27 (WVEA 3, WVEA 7, WVEA 8)) | 400 | 853 | 603 | 0.71 | 0.50 | | | 846 | 599 | 0.71 | 0.50 | | |

4. Recommended Transportation Plan

The recommended Transportation Plan for the WVEA outlines the infrastructure improvements which would accommodate the projected employment increases and associated land use in the area. This section presents the recommended plans to satisfy expected capacity deficiencies and best support the City's secondary plan for the WVEA.

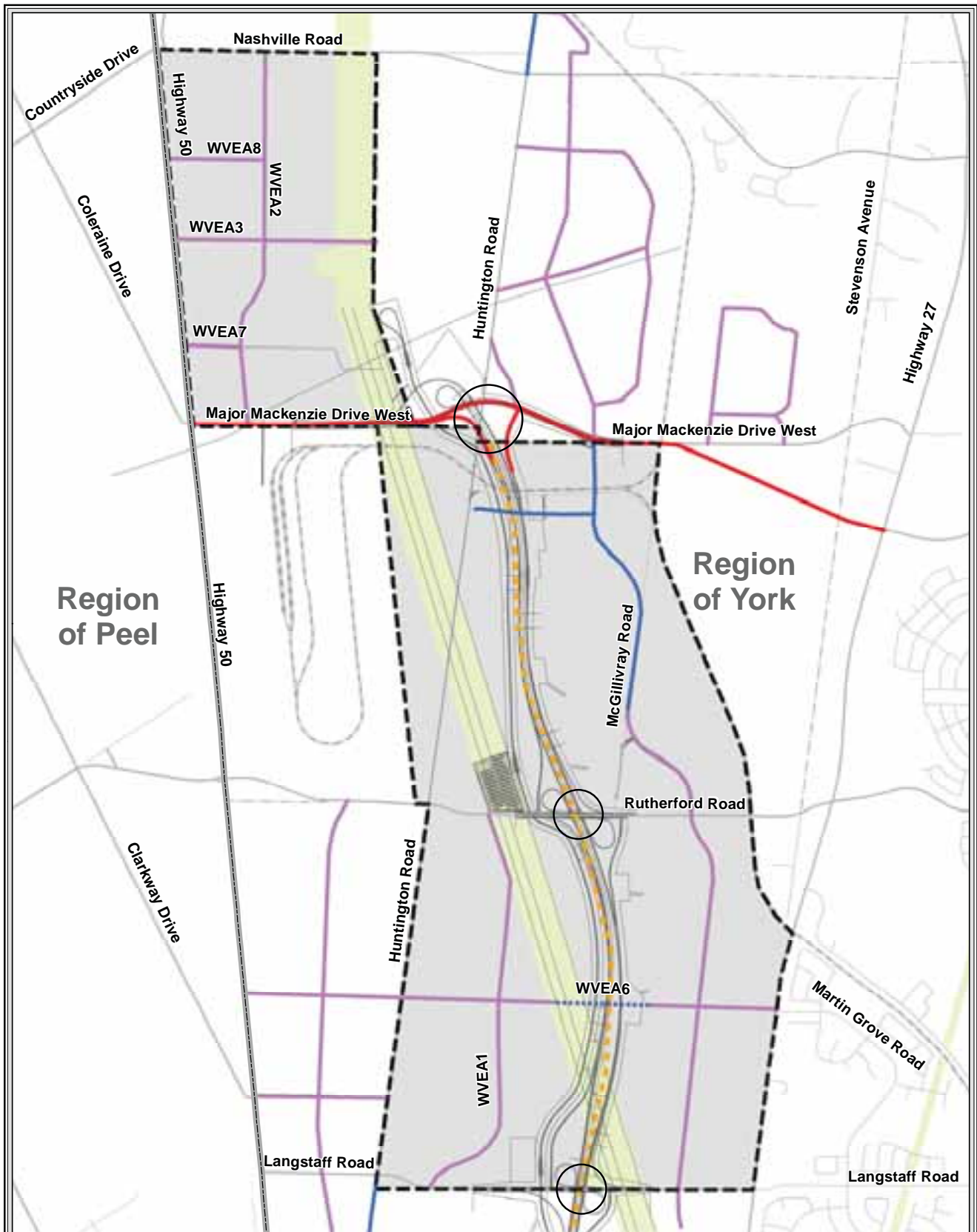
4.1 Road Network Plan

Based on future transportation analysis presented in the preceding section, it is recommended that additional capacity be provided on local roads to help alleviate the expected traffic congestion on the arterials. Additional development in the area prompted by the expected employment growth will worsen the already congested arterials in the area. Improvements of existing local roads such as widening, resurfacing and reconfiguration of alignments to provide seamless road travel continuity; and the provision of new collectors will serve the expected developments and help alleviate congestion on the arterials. **Figure 5** and **Table 5** illustrate the various roadway improvements and newly proposed road network for the area.

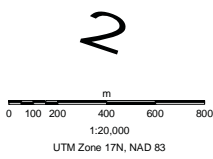
Table 5. Recommended Road Network for WVEA

| Road Name | Segment | Proposed No. of Lane(s) in each Direction | Road Classification | ROW* |
|------------------------|--|---|---------------------|------|
| McGillvray Road | Langstaff Road to south of Major Mackenzie Drive | 2 | Major collector | 26 |
| Huntington Road | Langstaff Road to south of Major Mackenzie Drive | 2 | Major collector | 26 |
| WVEA 1 | Langstaff Road to Rutherford Road (E. of Hunt.) | 2 | Major collector | 26 |
| WVEA 2 | Major Mackenzie Drive to Nashville Road | 2 | Major collector | 26 |
| WVEA 3 | Highway 50 to Huntington Road | 2 | Major collector | 26 |
| WVEA 6 | Highway 50 to Highway 27 | 2 | Major collector | 26 |
| WVEA 7 | Highway 50 to WVEA 2 | 1 | Minor collector | 24 |
| WVEA 8 | Highway 50 to WVEA 2 | 1 | Minor collector | 24 |

*Bike Facilities are to be considered as per cross-sections in Section 6.6 of the Transportation Master Plan















Basemapping from Ontario Ministry of Natural Resources



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Legend

- | | |
|--|---|
| <ul style="list-style-type: none">  West Vaughan Employment Area  Vaughan Municipal Boundary  HydroCorridor_Vaughan  Railway  New Interchanges | <ul style="list-style-type: none"> Road Classification  Major Arterial (Regional)  New Regional Road  Proposed Collector Road  Roadway/Capacity Improvements  New 400 Series Highway Crossing  Proposed Freeway  Hwy 427 Extension (Provincial) |
|--|---|

West Vaughan
Employment Area
Transportation
Improvements

August 2012



Figure 5

Roadway classification and lane requirements for the future network were analyzed with the use of future projected traffic volumes and typical lane capacities. The surrounding environment, road continuity, number of accesses and the presence of turning lanes are among other factors that influence road capacities and thus classification. **Figure 6** shows the recommended classifications and lane requirements. The lane requirements are the minimum based on vehicle operational requirements and do not take into consideration additional requirements normally included in the road right-of-way. Recommendations for future road right-of-way widths are shown in the last column of Table 5.

4.2 Transit Network Plan

Additional transit service is required to support the planned developments in the area. The recommended transit service in the area was based in part on the Region's vision to provide transit service within a five-minute walking distance for all residents; and the City's vision to achieve a city-wide transit mode share of 30%. As illustrated by **Figure 7**, bus service provision is recommended to be made available on all arterials and major collectors recommended in Section 4.1. These arterials and collectors may include Huntington road, McGillvray Road, a newly proposed north-south road connecting Major Mackenzie Drive, and Nashville Road within the northern block of the WVEA. The recently updated York Region Transportation Master plan (2009) recommends transit priority improvements for Highway 27 from Steeles Avenue to Major Mackenzie Drive, Express Bus Service along Highway 427 and for Rutherford Road and Major Mackenzie Drive. The West Vaughan individual EA supports widening of Highway 27 (Steeles Avenue to Major Mackenzie Drive), Rutherford Road (Weston Road to Highway 50) and Major Mackenzie Drive (Highway 400 to Highway 50) to 6 lanes with new lanes being dedicated to HOV use.

4.3 Pedestrian and Cycling Network Plan

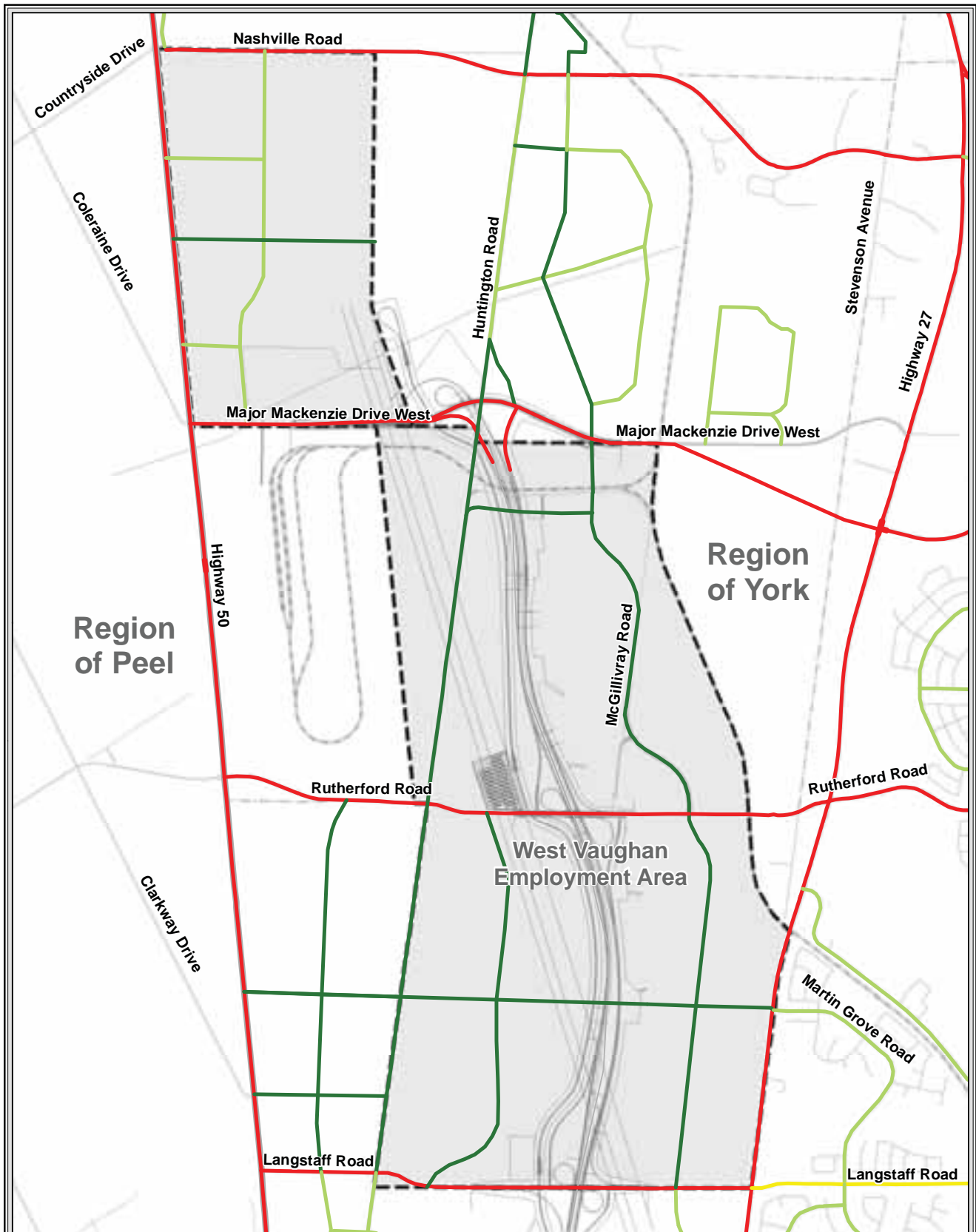
The purpose of the pedestrian and cycling network is to provide safe, convenient and attractive travel alternatives to the use of the private automobile. The Recommended Road Network can provide pedestrian and cycling connections to all areas within WVEA, including parks and conservation areas. The proposed pedestrian and cycling network can be easily integrated with the Pedestrian and Bicycle Master Plan Study adopted by the City in 2007. The Master Plan proposes a number of facilities within the WVEA including multi-use pathways, bike lanes on Rutherford Road, and community paved shoulders bikeways on Nashville Road and Langstaff Road. To complement these facilities, additional on- and off-road facilities are proposed within the WVEA roadways to create an integrated system that provides connectivity to the overall City networks and provides convenient access to points of interests. The recommended cycling and pedestrian plan for the WVEA is shown in **Figure 8**. The main components of the plan are as follows:

Sidewalks - To be provided on both sides of all arterial and collector streets, and on at least one side of all local streets. All sidewalks should be provided within the road right of way with appropriate separation from vehicular traffic. Separation can include on-street parking, grassy areas, trees, and so forth.

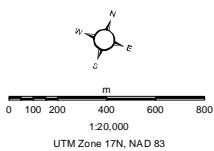
Bike Lane – All 6 lane Regional Arterials within the WVEA will incorporate on road bike lanes consistent with Regional "Great Streets" Concept.

Multi-Use Boulevard Pathways - Recommended on Huntington Road instead of a signed route envisioned in the Master Plan. The change recognizes the future function of Huntington Road as an arterial road with high traffic volumes and high percentage of trucks that should be separated from pedestrians and cyclists.

Multi-Use Recreational Pathways - Recommended in the Pedestrian and Bicycle Master Plan within the hydro corridor and other natural areas should be maintained.



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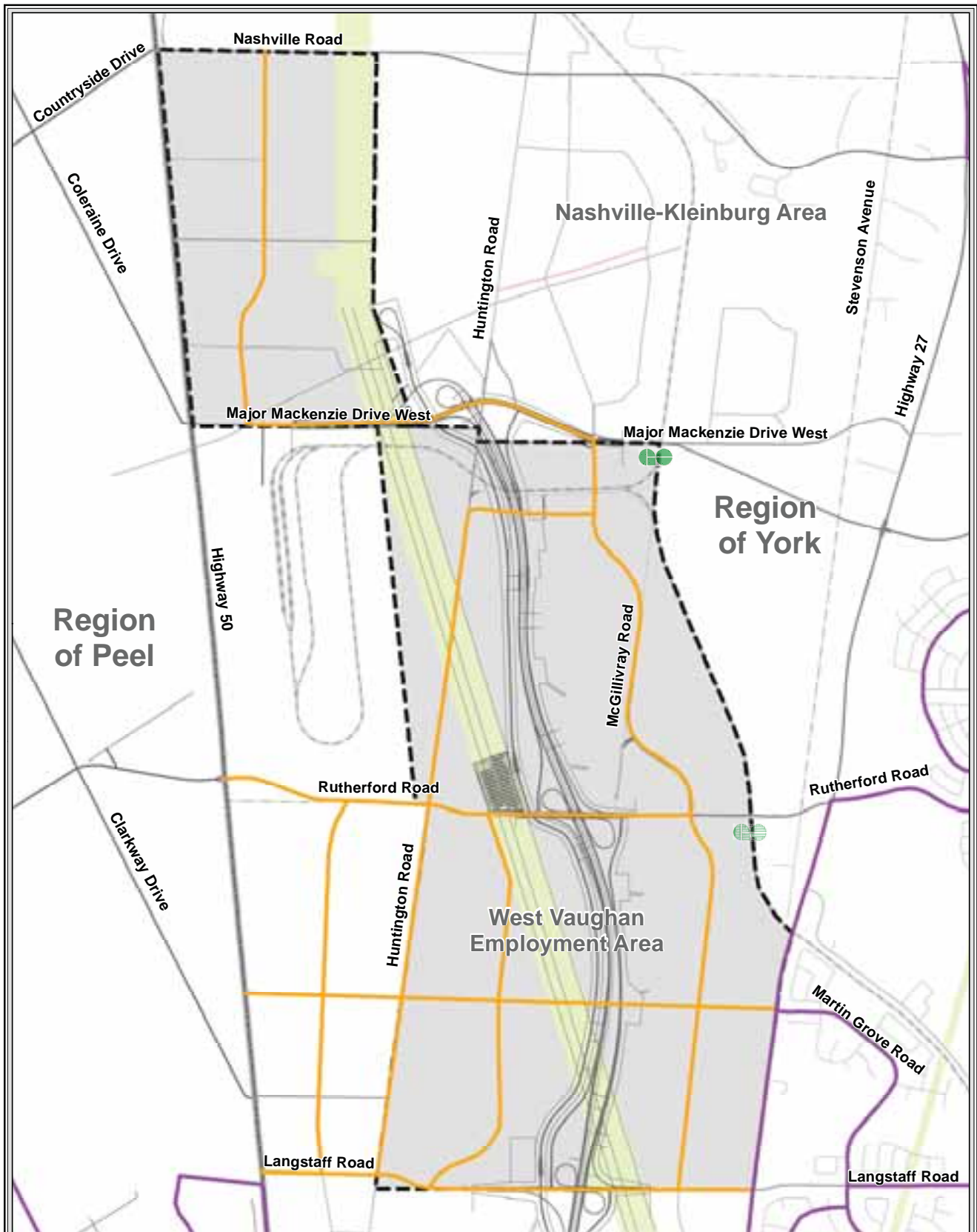
- Legend**
- Vaughan Municipal Boundary
 - West Vaughan Employment Area
 - sRoad Classification**
 - Major Arterial (Regional)
 - Minor Arterial
 - Major Collector
 - Minor Collector

**West Vaughan
Employment Area**

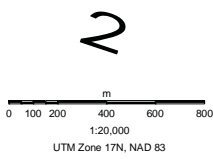
Road Classification

November 2012

AECOM Figure 6










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Legend

-  Recommended York Region Transit Routes
-  Current Transit Routes
-  Railway
-  Vaughan Municipal Boundary
-  West Vaughan Employment Area
-  Hydro Corridor
-  Proposed GO Transit Stations

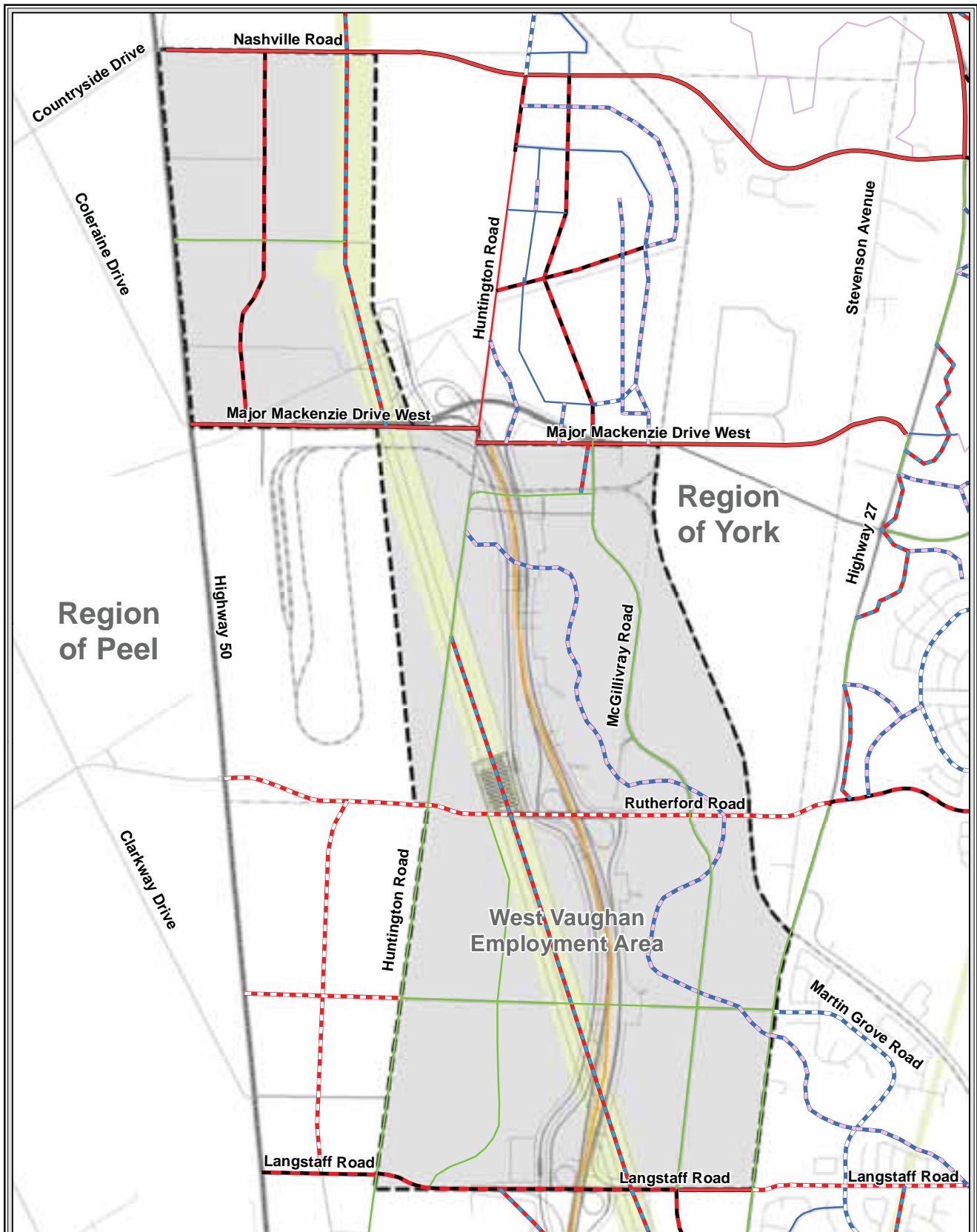
West Vaughan Employment Area

Recommended Transit Routes

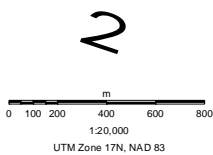
August 2012

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Figure 7



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- Railway
- Vaughan Municipal Boundary
- West Vaughan Employment Area
- Hydro Corridor
- BikeAndPedRoutesAndTrails**
- Class 1 Multi-use Recreation or Boulevard Pathway**
- Community Multi-use Recreational Pathway
- Neighbourhood Multi-use Recreational Pathway
- Community Multi-use Boulevard Pathway
- Class 2 Bike Lane/Paved Shoulder/Sidewalk**
- Community Bike Lane - Formal pavement markings and signing (CL - NO WIDENING)
- Neighbourhood Signed Bike Route - No formal facility or pavement markings
- Community Signed Bike Route - No formal facility or pavement markings
- Class 3 Bicycle Signed Route/Sidewalk**
- Neighbourhood Signed Bike Route - No formal facility or pavement markings
- Community Signed Bike Route - No formal facility or pavement markings
- Class 4 Trail Facility**
- Foot Path/Hiking Trail

Legend

- Community Bike Lane - Formal pavement markings and signing (CL - WIDENING)
- Neighbourhood Bike Lane - Formal pavement markings and signing (NL - NO WIDENING)
- Neighbourhood Bike Lane - Formal pavement markings and signing (NL - WIDENING)
- Community Paved Shoulder Bikeway - Signed as Bike Route
- Class 3 Bicycle Signed Route/Sidewalk**
- Neighbourhood Signed Bike Route - No formal facility or pavement markings
- Community Signed Bike Route - No formal facility or pavement markings
- Class 4 Trail Facility**
- Foot Path/Hiking Trail

West Vaughan Employment Area
Recommended Bike Routes

September 2012



Figure 8

Paved shoulders - Recommended on Nashville Road in accordance with the City's Master Plan.

Centres of Employment – New developments are recommended to provide appropriate facilities such as bike racks and connecting paths to the cycling route network.

5. Policies to Support Plan

The following is a set of policies recommended to help realize the transportation plans proposed for WVEA:

1. Roadways

The City supports the multi-modal use of all roadways within, through, and adjacent to the WVEA, including the new roads intended to serve the various blocks in the WVEA, the Highway 427 extension by the Province; and the arterial road improvements identified by the Region for Rutherford Road, Major Mackenzie Drive and Highway 27 for implementation of HOV lanes. Within or adjacent to the WVEA north of Major Mackenzie Drive, the City will protect a corridor for the further extension of Hwy.427 to connect with the proposed GTA West Corridor.

2. Transit

The City supports cross boundary transit initiatives to ensure seamless cross Regional boundary travel by transit across York/Peel boundary. The City also supports the early implementation of the planned Highway 427 Corridor Transitway as identified in the 427 Transportation Corridor Environmental Assessment and Regional transit service improvements to take advantage of the HOV lanes proposed in the Western Vaughan Transportation Improvements Individual Environmental Assessment. All areas of the WVEA should be penetrated in order to meet the 30% transit mode share target for the urbanized portion of the City.

3. Transportation Demand Management (TDM)

Aggressive TDM strategies seeking to minimize future travel “demand” through auto disincentives and incentives will be promoted within the WVEA. Auto disincentives should include support for significant reduction in parking supply requirements. Incentives should include collaboration with employers to introduce measures such as telecommuting, four-day work weeks, variable work hours, carpooling and greater use of transit, cycling and walking within the WVEA. TDM strategies should include:

- a. promotion and partnership with Smart Commute NTV which is an award winning non-profit organization committed to promoting TDM measures for North Toronto, and all of Vaughan.
- b. requirements that TDM programs for large employers be mandatory as a condition of development approval and that all transportation impact studies address potential TDM initiatives.
- c. investigation of the need for a separate area-wide Transportation Management Association (TMA) with a car and van-pooling focus to minimize auto trips.

These recommendations are intended to complement and support the other City policies and documents including the West Vaughan Secondary Plan, the Transportation Master Plan Study, and the Pedestrian and Bicycle Master Plan Study and other planning documents.

6. Plan Implementation and Priorities

The implementation of the proposed local road improvements will require that detailed block plans be prepared for all areas of the WVEA with the precise location and boundaries of each Block Planning Area to be identified by the City in consultation with landowners. All recommended Transit and TDM initiatives need to be considered prior to, or concurrently with, the approval of the secondary plan for the WVEA to help with the smooth implementation and success of new policies and strategies. Allowing the status quo (dominant use of automobile) to prevail before implementing these policies and strategies may inhibit the success of the programs due in part to the many challenges involved with changing established travel behaviour.

7. Conclusions

This document shows that the creation of a major employment area in Western Vaughan will require improvements of existing roadways together with new roadways to accommodate future travel demands. The extension of Highway 427 now being pursued by the Province with full interchanges at Langstaff Road, Rutherford Road and Major Mackenzie Drive will be essential to accommodating the planned levels of development. A corridor should be protected for the further extension of Highway 427 north of Major Mackenzie Drive to the proposed GTA West Corridor. Such a connection would enhance accessibility to the WVEA.

Local roadway improvements will include widening of Huntington Road, Nashville Road, McGillvray Road, and provision of new collector roads. The recommended new networks will provide vital linkages and connectivity to the overall City network and access to areas within the City of Vaughan.

Transit and cycling networks are also recommended to complement the recommended road network. Despite the high frequency bus services planned by the Region to operate in HOV lanes along Rutherford Road, Major Mackenzie Drive and Highway 27, it will be a major challenge to achieve a weekday peak hour transit modal share of 30%. To optimize the chances of achieving this modal share, frequent YRT bus service should be provided on all collector roadways. Furthermore all efforts should be pursued with Brampton Transit and Metrolinx to provide seamless cross-Peel boundary service for the many Peel Region residents expected to work within the WVEA.

Last, but not least, strong TDM initiatives will be required to help manage congestion, and a comprehensive TDM plan should be developed by the City to ensure a program is in place from the outset.