

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, Report No. 10, of the Committee of the Whole, which was adopted, as amended, by the Council of the City of Vaughan on March 18, 2014, as follows:

By approving that the following Communications be received:

- C1. Anthony Francescucci and Sonia Meucci, Weston Downs Ratepayers' Association, Blackburn Boulevard, Vaughan;***
- C7. Ms. Mary Flynn-Guglietti, McMillan LLP, Bay Street, Toronto, dated March 14, 2014; and***
- C8. Mr. Peter R. Walker, Walker, Nott, Dragicevic Associates Limited, Eglinton Avenue East, Toronto, dated March 14, 2014.***

Regional Councillor Di Biase declared an interest with respect to the foregoing matter insofar as it relates to the lands in the study area west of Hwy 400 on the basis that his Chief Financial Officer in the upcoming municipal election is a landowner in this area, and did not take part in the discussion or vote on the matter.

**5 VAUGHAN MILLS CENTRE SECONDARY PLAN (THE "VMCS PLAN")
CITY OF VAUGHAN RESPONSE TO PUBLIC, GOVERNMENT AND AGENCY SUBMISSIONS
FILE #: 26.1
WARD 3 & 4**

The Committee of the Whole recommends:

- 1) That the recommendation contained in the following report of the Commissioner of Planning, dated February 25, 2014, be approved subject to the following:**
 - 1. That the Vaughan Mills Centre Secondary Plan be further modified by deleting the sixth bullet point "The necessary transportation facilities;" in Policy 10.3 of Part C, Section 1.0 Plan Implementation and substituting the following: "The necessary transportation facilities, including road network improvements and infrastructure, transportation demand management measures and the implementation of timely transit improvements or the approved funding to provide such improvements by the responsible transit authority, to the satisfaction of the City, as identified in Table 2: "Transportation Network Improvements" or as provided for in any update to any Provincial, York Region or City policy or master plan".**
- 2) That the following deputations and Communications be received:**
 - 1. Mr. Gerard Borean, Parente Borean, Hwy 7, Vaughan, and Communication C5, dated February 24, 2014;**
 - 2. Mr. Mark Flowers, Davies Howe Partners, Spadina Avenue, Toronto, and Communication C12, dated February 25, 2014; and**
 - 3. Ms. Rose Savage, Radley Street, Woodbridge; and**
- 3) That the following Communications be received:**
 - C3 Mr. Steven A. Zakem, Aird & Berlis, Barristers and Solicitors, Bay Street, Toronto, dated February 24, 2014;**
 - C6 Ms. Nima Kia, Lakeshore Group, Wellington Street West, Toronto, dated February 24, 2014;**
 - C7. Ms. Rosemarie L. Humphries, Humphries Planning Group Inc., Chrislea Road, Vaughan, dated February 24, 2014;**
 - C8 Mr. Rod Fortune, Murlee Holdings Limited, Gordon MacKay Road, Toronto, dated February 24, 2014;**

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 2

- C9 Mr. Alan Young, Weston Consulting, Millway Avenue, Vaughan, dated February 24, 2014;**
- C10 Mr. Barry A. Horosko, Brattys, Barristers and Solicitors, Keele Street, Vaughan, dated February 24, 2014;**
- C11 Ms. Mary Flynn-Guglietti, McMillan, Bay Street, Toronto, dated February 25, 2014;**
- C13 A. Milliken Heisey, Papazian Heisey Myers, Barristers & Solicitors, 121 King Street West, Toronto, dated February 25, 2014; and**
- C14 Mr. Mariusz B. Jastrzebski, Goldberg Group, Avenue Road, Toronto, dated February 25, 2014.**

Recommendation

The Commissioner of Planning recommends that:

1. The “Track Changes” version of the draft Vaughan Mills Centre Secondary Plan (February 2014), forming Attachment 3 to this report, reflecting the modifications set out in the section of the report entitled “Issues Resulting in Substantive Changes to the Plan and in Attachment 2 “Response Table for Agency and Public Comments”, BE APPROVED and be forwarded to Council for adoption, subject to any further direction resulting from this meeting and final staff review;
2. The “Transportation Assessment - Vaughan Mills Centre Secondary Plan Area” (February 2014), MMM Group Ltd. forming Attachment 8, BE RECEIVED;
3. The adopted Secondary Plan be forwarded to York Region for approval as an insertion into Volume 2 of the Vaughan Official Plan 2010, being the incorporation of a new Section 11.11 “Vaughan Mills Centre” as one of the “Secondary Plan Areas” identified on Schedule 14-A to Volume 1 of VOP 2010;
4. The adopted Vaughan Mills Centre Secondary Plan form the basis for the City's position at the Ontario Municipal Board in respect of the appeals within the Secondary Plan Area, in regard to, among other things, such matters as land use, development density and phasing, building height, transportation, urban design, parkland amount and distribution, open space areas/stormwater management and servicing;
5. York Region be requested to initiate a review of its Transportation Master Plan in 2014 to assess, among other things, the priority and timing of various transit and road network improvements and new initiatives required to address local development. Such review, in consultation with Local Municipalities, should provide advice to Metrolinx about project prioritization and timing under the “Big Move” Plan. In regard to the Jane Street and Weston Road corridors, the following matters should be investigated as priority matters:
 - a) Advancing the implementation of rapid transit on Jane Street;
 - b) The implementation of Quick Start/Rapid Transit Service on Jane Street;
 - c) The upgrading of transit service on Weston Road;
 - d) The potential role of a transit hub serving the Secondary Plan area in support of existing and proposed development.

Contribution to Sustainability

Green Directions Vaughan was approved by Council in April 2009. It is the City's Community Sustainability and Environmental Master Plan and is one of the foundations for the Vaughan Mills Centre Secondary Plan. It is designed to guide the community toward a more sustainable future by addressing environmental, cultural, social and economic issues. The goals, objectives and

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 3

action items of Green Directions were considered in the preparation of the Plan, under the following:

Objectives:

- 2.2 – To develop Vaughan as a City with maximum greenspace and an urban form that supports our expected population growth.
- 3.1 – To develop and sustain a network of sidewalks, paths and trails that supports all modes of non-vehicular transportation.
- 4.1 - To foster a city with strong social cohesion, an engaging arts scene, and a clear sense of its culture and heritage.
- 4.2 – Ensure that the City of Vaughan attracts businesses and investment that will result in well-paying jobs for Vaughan Citizens, sustainable tax base and continuing prosperity into the 21st Century.

Economic Impact

The new Vaughan Official Plan 2010 (“VOP 2010”) including the Vaughan Mills Centre Secondary Plan, establishes the planning framework for development throughout the City to 2031. The Plan will have a positive impact on the City of Vaughan in terms of managing growth. It will also foster employment opportunities while fulfilling the City’s obligations to conform to Provincial policies and meet regionally imposed targets for employment growth and residential intensification.

Communications Plan

On February 12, 2014, Notice of this Committee of the Whole meeting was mailed to those who requested notification at the June 11, 2013 Public Hearing and/or by written correspondence. This notice was also posted on the City’s website at www.vaughan.ca, the City Page Online and through social media sites.

Purpose

To report on requested modifications and issues emerging from the June 11, 2013 Public Hearing and the agency and stakeholder review process and to:

- Obtain direction on further modifications to the Vaughan Mills Centre Secondary Plan for the purpose of its finalization and ultimate adoption by Council;
- Confirm the adopted Vaughan Mills Centre Secondary Plan as the City’s land use and development vision for the response to the appeals currently before the Ontario Municipal Board.

Background - Analysis and Options

Background

On May 22, 2013 the Vaughan Mills Centre Secondary Plan was made available for public review and was the subject of a Public Open House on that date. On June 11, 2013 Staff brought forward a Public Hearing Report to Committee of the Whole presenting the draft VMCS Plan. The Public Hearing Report discussed the provisions of the Plan including: Key principles and objectives of the Plan; the general development framework, including policies respecting land use and urban design, the proposed transportation network, parks and open space framework, sustainable development measures, community service requirements and implementation

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 4

policies. In addition, it included a preliminary land use plan. The following recommendations of Committee of the Whole were ratified by Council on June 25, 2013 by approving the following:

- 1) *That the recommendation contained in the following report of the Commissioner of Planning and the Director of Development Planning, dated June 11, 2013 be approved;*

THAT the draft Vaughan Mills Centre Secondary Plan, prepared by Dialog Inc. forming [Attachment 8] to this report, BE RECEIVED; and any issues raised at the public hearing be addressed by the Policy Planning Department in a future Technical Report to Committee of the Whole.

- 2) *That the following resolution submitted by Councillor DeFrancesca, be approved:*

Whereas, residents have raised concerns with the proposed intersection at Astona Boulevard and Weston Road;

Whereas, a connection to Weston Road is proposed at the future intersection of the extended Bass Pro Mills Drive and Weston Road;

Whereas, opportunities exist to connect the future Bass Pro Mills Drive to Langstaff Road and Rutherford Road through the future extensions of Creditview Road and Westcreek Drive;

Therefore be it resolved that:

Staff will be directed to eliminate the eastern roadway connection to the proposed intersection at Weston Road and Astona Boulevard, and that staff continue to work with York Region and landowners on the proposed intersection at Weston Road and the Bass Pro Mills Drive extension, and that staff report back on the timing and implementation of the extension of Bass Pro Mills Drive and the extensions of Creditview Road and Westcreek Drive.

This report has been prepared in response to Council's direction.

Recommended Modifications to the Draft VMCS Plan (May 2013)

Staff has received submissions from a number of sources, which will be addressed in this report. For the purpose of responding to the comments and requested changes, two categories of revisions were identified. These include:

- a. Major Changes that would potentially have a substantive effect on the Secondary Plan; and
- b. Other issues that may be resolved through minor changes to the Plan or further clarification.

Issues that may result in a major change to the VMCS Plan are discussed in the staff report in the section entitled "Issues Resulting in Substantive Changes to the Plan". More minor issues are identified and commented on in the "Response Table for Agency and Public Comments", forming Attachment 2. Where warranted, modifications to the VMCS Plan have been recommended.

The Response Table for Agency and Public Comments

Staff has endeavoured to respond to all comments that have been received. As such, responses have been prepared to each submission, which are reflected either in the body of the report or in Attachment 2.

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 5

Several objectives were used as the basis for analyzing the submissions made by landowners, public agencies and residents regarding the VMCS Plan. This included ensuring that the principles of VOP 2010 were maintained, that the broader policy direction was considered (Regional Official Plan, Places to Grow, VOP 2010 supporting studies) along with the application of sound planning principles.

The submissions were each considered on their own merit and recommendations made on appropriate responses and actions. In addition, Staff has identified areas where changes should be made to the Plan policies. The “Response Table for Agency and Public Comments” (Attachment 2) presents information response/concerns/requests, staff comments and any recommended policy and schedule changes. Summaries in Attachment 2 contain the following in tabular format:

- The Item number;
- The submission date;
- The correspondence content, as summarized by Staff;
- Staff comment on the submission; and
- Staff recommendation on the submission.

The “Response Table for Agency and Public Comments” (Attachment 2) will form part of the public record of comments.

The “Track Changes” Version of the VMCS Plan

The resulting changes to the version of the Secondary Plan that was received at the June 11, 2013 Public Hearing are reflected in the “Track Changes” version of the Plan which forms Attachment 3 to this report. It includes the changes identified in this staff report in the section entitled “Issues Resulting in Substantive Changes to the Plan”, in the “Response Table for Agency and Public Comments” (Attachment 2) and minor changes required to improve clarity and readability of the Plan. It is recommended that this version of the Plan be the basis for finalization and adoption, subject to any further direction resulting from this meeting and final staff review;

Ontario Municipal Board Appeals

There are currently eight Ontario Municipal Board appeals of the VOP 2010 related to the lands in the Secondary Plan area. Four are related to lands located on the east side of Highway 400 along the Jane Street Corridor; three of which are related to on-going site specific appeals. The other four are related to lands located on the west side of Highway 400, along Weston Road. Ultimately, any changes resulting from the resolution of the site specific appeals will be incorporated into Volume 2 of VOP 2010, as required.

It is noted that the City received a number of responses to the draft Secondary Plan from participants in the aforementioned Ontario Municipal Board appeals. This report will not be responding directly to the issues raised in those letters because there continue to be “Without Prejudice” negotiations in hopes of settling or scoping the appeals. As per Recommendation 4, the Council endorsed/adopted Secondary Plan is intended to form the basis for the City's position at the Ontario Municipal Board in respect of the appeals in regard to, among other things, such matters as land use, development density and phasing, building height, transportation, urban design, parkland amount and distribution, open space areas/stormwater management and servicing.

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 6

Issues Resulting in Substantive Changes to the Plan

a) Character Areas and Design Principles

Urban Design will play an important role in the evolution of the plan area. It will help shape the identity of its distinct elements while serving to ensure that each area contributes to the overall quality of the plan. To this end, Part B, Policy 1.4 “Character Areas” has been added to provide context and vision for the different areas within the Vaughan Mills Centre Secondary Plan to enhance the quality of development, and build on the potential of each of the areas. The modified February 2014 Plan continues to divide the Secondary Plan into four (4) development areas, however, each area is defined by a dominant function and urban character/quality. These areas are shown on Schedule A (Refer to Attachment 4). The new text setting out the governing policies is included in the Track Changes version of the revised VMCS Plan (Attachment 3), commencing on page 33. An overview of the policies is provided below.

Synopsis of the Character Area Policies

The purpose of Character Areas policies is to:

- Define the distinct areas of the Plan and provide an organizational structure for development towards achieving the Vision identified in Section 1.1 of the Plan (e.g. the Guiding Principles and Big Moves);
- Identify the desired future character and function of the areas within the Plan, building on existing assets, structure, and future vision; and
- Create a framework for development that serves to enhance the character of the Vaughan Mills Centre area encouraging the application of ‘place-making’ principles set out in VOP 2010.

The four character areas include:

1. Jane Street Corridor

The Jane Street Corridor includes the Jane Street and Rutherford Road intersection and the lands fronting along the Jane Street Corridor between Locke Street and Rutherford Road. The area plays an important role as a transportation node and as an important employment and mixed-use corridor connecting the Vaughan Metropolitan Centre to the south (Jane Street and Highway 7) to the proposed Mackenzie Vaughan Hospital to the north (Jane Street and Major Mackenzie Drive). The area is in transition and provides opportunity for intensification along the corridor with future higher-order transit in coordination with other planned development along Jane Street.

The Plan envisions the Jane Street Corridor area as a higher density mixed-use neighbourhood supported by high order transit, served by accessible open space, parks, pedestrian connections, community services and an enhanced pedestrian realm. The Corridor is proposed to be a key destination and gateway for the emerging Centre. It will be urban in nature reflecting its function as a regional attraction and as a transit oriented development along Jane Street.

Defining Characteristics include, without limitation:

- Supporting a gateway development character at the corner of Jane Street and Rutherford Road as a symbolic point of reference for the area;
- Orienting the tallest buildings towards the Jane Street and Rutherford Road intersection and transit nodes;

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 7

- A pedestrian-oriented and urban cross-section for Rutherford Road and Jane Street with a mixed-use retail/residential frontage with buildings set close to the street to create an address and relationship to the street;
- High quality streetscaping and pedestrian facilities;
- Providing mid-block connections and linkages to surrounding land uses and open spaces, with trail linkages to the West Don River Valley to the east;
- Creating internal public street networks for improved traffic flow and connectivity to develop the city grid;
- Providing publicly accessible open spaces that function as a central feature for development ensuring that amenity spaces are well connected to the broader public realm network;
- Incorporating iconic elements, architectural features and public art that contributes to the character and identity of the community;
- Creating mixed-use frontages along Jane Street to encourage animation of the street and neighbourhood vibrancy;
- Exploring typological variation in building design to increase visual interest by considering variation in tower shape, orientation, and façade design;
- Orienting and massing buildings to frame views and control privacy between properties;
- Structuring building massing to create a public realm interface that frames open spaces and provides a sense of enclosure and human scale for pedestrians;
- Providing pedestrian connections with existing and future transit facilities, retail, open space, and natural heritage areas; and buffering from surrounding employment uses.

2. Rutherford Road Area

Lands in this area include the commercial blocks on the south side of Rutherford Road between the Jane Street character area and the Highway 400 interchange. The development outlook for this area reflects the commercial mixed-use function and interface with the Vaughan Mills Mall.

It is anticipated that this area will evolve from a predominantly single storey commercial plaza form with large surface parking areas into a vibrant commercial and mixed-use residential area that transitions down from higher density areas along Jane Street. The Plan proposes this area to include a variety of housing typologies from low-rise to high-rise, offering a range of housing to the community. The Plan envisions this area as having street level commercial frontages with residential uses served by community amenities and parks. The proposed character of the area will be defined by a fine grain of blocks, connected streets and pedestrian connections, with lower built form that frames the public realm and open space areas.

Defining Characteristics include, without limitation:

- Encouraging a mixed-use retail frontage along Rutherford Road to enhance pedestrian activity along the street;
- Providing a fine grain of streets and blocks conducive to walking and transit to support an enhanced pedestrian setting;
- Aligning neighbourhood parks with development to make parkland accessible and centrally located to residents;
- Transitioning building heights down from Rutherford Road towards the Vaughan Mills Mall Area;
- Framing open spaces with mixed-use frontages;

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 8

- Providing pedestrian connections to Rutherford Road, the Vaughan Mills Mall, and between blocks; and
- Structuring and enhancing east-west connections to ensure development blocks are woven together cohesively.

3. Bass Pro Mills Area

This area includes the lands between the southerly leg of the internal ring road and Bass Pro Mills Drive between the Jane Street Corridor Area and the Highway 400 interchange. The Plan envisions this area transitioning from higher densities along the Jane Street corridor to lower densities approaching the Highway 400 corridor. This area will provide a transition between the employment uses to the south and the Vaughan Mills Mall to the north with a mixed-use development format. The area is proposed to maintain the prevalent commercial use but encourages some residential development to help distribute residential uses throughout the Centre.

Defining Characteristics include, without limitation:

- Providing additional street connections to further develop the street grid;
- Creating a system of neighbourhood parks and public squares to provide amenity uses for the future community in this area;
- Creating a comparatively wide streetscape along Bass Pro Mills Drive with cycling facilities, a multiuse path, and high quality landscaping to improve the pedestrian experience and connectivity between the existing residential areas west of Weston Road through to Jane Street;
- Encouraging modest residential intensification to benefit from surrounding employment and commercial land uses, future road connections, and public amenities envisioned for the area;
- Creating north-south and east-west connections that aligns streets and pathways with and to the Vaughan Mills Mall;
- Providing mixed-use retail and office frontages along Bass Pro Mills Drive to enhance pedestrian activity along the street;
- Encouraging pedestrian-oriented retail by providing direct pedestrian access from the street; and
- Encouraging pedestrian-scaled design through the use of building stepbacks, multiple entrances, midblock connections, and a consistent street wall.

4. Vaughan Mills Centre Business District

The Vaughan Mills Centre Business District is located south of Rutherford Road, north of the proposed Bass Pro Mills Drive extension, between Highway 400 and Weston Road and is envisioned to develop with a mix of prestige employment uses directing most of the office uses to the Highway 400 corridor as encouraged by VOP 2010. The strategic importance of these employment lands was recently confirmed through *the Housing Analysis and Employment Land Needs Report (Hemson Consulting, 2010)* that informed VOP 2010. The District is proposed to be a centre for innovation and design excellence that capitalizes on its location and visibility, and has been generally configured to coordinate with lands to the south of the proposed Bass Pro Mills extension. This area is envisioned to be a nexus of activity and function as a 'knowledge hub' attracting businesses in the 'green' and 'creative', technology, research and development industries.

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 9

Defining Characteristics include, without limitation:

- Creating a fine grain block and street pattern with opportunities for mid-block connections providing pedestrian access to Weston Road, and the Vaughan Mills Mall area;
- Providing an internal collector road network with new connections to surrounding arterial roads and the Highway 400 interchange;
- Transitioning heights from higher buildings adjacent to Highway 400, to low-rise buildings along Weston Road;
- Directing the Black Creek northwards by incorporating it into a naturalized open space feature, providing a multi-use amenity space with cycling and pedestrian paths to serve the employment area and surrounding neighbourhood, while recognizing and addressing flood risks;
- Creating a connected public realm through midblock connections and linkages to open spaces, natural features, and the surrounding area;
- Structuring and concentrating retail at key intersections and areas of activity, as well as along primary arterial streets;
- Orienting buildings towards open spaces to reinforce a strong visual linkage within the landscape; and
- Maintaining, enhancing, and restoring the natural environment in support of sustainable development objectives.

The modified division of development areas by proposed function and character supports the coordination of development while simultaneously addressing issues unique to each area. The inclusion of the subject policies in Section B, Policy 1.4 enhances the Plan by strengthening the policy framework that sets out the City's vision and expectations for implementation through the development approvals process.

b) Transportation Network & Capacity

Results of the Transportation Assessment

In light of the modifications resulting from the Public Hearing held on June 11, 2013, Planning and Engineering Staff together with the consultant team and the Region of York held a series of meetings to finalize the Transportation Assessment undertaken by MMM Group Ltd. A number of transit and network improvements have been recommended as shown in Table 2 – “Recommended Transportation Network Improvements Horizon 2021” (Attachment 5a), and illustrated in Attachment 5b.

The Transportation Assessment concludes that:

- Traffic operations at major intersections in the boundary road network around the Vaughan Mills Centre Secondary Plan Area are generally operating at a moderate to poor level of service under the existing conditions, with Rutherford Road being the key congested link, particularly during the p.m. peak hour;
- One of the key limiting factors in terms of traffic operations in the Vaughan Mills Centre area's road network is the capacity constraints already being experienced on the existing boundary roads, such as along Rutherford Road and Weston Road, for which the opportunities for major additional capacity improvements are very limited. The extension of Bass Pro Mills Drive from Jane to Weston will be an essential element for network improvement, and will provide more routing options for better traffic distribution around the Vaughan Mills area;

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 10

- Under the interim horizon 2021, with the implementation of some initial transportation system and network improvements, and assuming a full completion of Bass Pro Mills Drive extension from Jane Street to Weston Road, it is estimated that up to 80% of the Secondary Plan could be developed for the areas east of Highway 400, and up to 40% for the area west of Highway 400, before the boundary road network is expected to reach capacity conditions. The Secondary Plan proposed only approximately 70% to be developed for the areas east of Highway 400, which is within the assumed threshold level;
- Under the alternative scenario assuming a partial completion of Bass Pro Mills Drive, with connection to Jane Street, but no extension to Weston Road by horizon 2021, some roadway capacity in the network east of Highway 400 is expected to become available resulting from traffic reassignment. It is expected that up to 70% of the Secondary Plan development could be accommodated in the areas east of Highway 400 with similar capacity conditions, while the 40% development level could still be maintained west of Highway 400; and
- It is expected that a more aggressive travel mode shift would be needed, along with further alternative transportation system developments, in order to accommodate the area's transportation demands by 2031.

Horizon 2021: Improvements Needed for Further Development

The plan to accommodate the projected Secondary Plan development for 2021 should include the following:

- The City of Vaughan should work with YRT to monitor transit ridership in Vaughan the Mills area and usage of the Vaughan Mills Transit Terminal on a semi-annual basis, to determine when expansion may be needed. YRT should be proactive in terms of expanding service frequencies to attract more riders, again based on bi-annual monitoring.
- Viva Quick Start rapid bus service on Jane Street, from Rutherford Road to the planned Spadina Subway extension station at Highway 7. The design for the Viva Quick Start service on Jane Street should include transit signal priority at all signalized intersections south of Rutherford Road, and specifically at the access from Jane to the YRT Terminal at Vaughan Mills, to facilitate access to the terminal. Queue jump lanes should be planned at all intersections on Jane Street where general traffic volumes create a significant impediment to regular transit service, and where either sufficient right-of-way exists currently, or can be obtained. The Region with the City's input should initiate development of a plan for this service in the immediate term.
- A similar program of transit signal priority and queue jump lanes should be considered on Weston Road. It is acknowledged that such a program is not foreseen in the Region's transit network at present, but it is apparent based on the projected conditions that transportation alternatives are needed for travel in the Weston Road corridor. The proposed high-order transit on Jane Street is outside of a convenient walking distance, and the congestion created at the Highway 400 interchange discourages the short trip to Jane Street that would be required by transit to access the Jane BRT service. The City and Region should initiate a review of the feasibility of changes to this corridor, in the immediate term, to review opportunities and constraints (e.g. the road right-of-way width).

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 11

- Enhanced bus service on Rutherford Road, connecting to the Rutherford GO Station, particularly during weekday peak periods.
- Reconfiguration of YRT local bus routes to provide more convenient access to the YRT bus terminal at Vaughan Mills, via Bass Pro Mills Drive once it is extended to connect Weston Road to Jane Street.
- YRT and the City should work together to develop and implement programs and incentives to promote greater use of transit as the network evolves, through community engagement.
- The City should work through the existing Transportation Management Association to reinforce the need to create change in modal split behavior, within the business community, and to develop programs to manage demand in terms of the amount and time of travel. Businesses need to understand that there are limits to accessibility under the current regime of highly auto-dependent behaviour, and if accessibility is limited, so are the profits and operational efficiency that businesses depend on.
- The City and YRT should work with the Vaughan Mills Mall owner to create an organized Passenger Pick-up and Drop-off (PPUDO) area adjacent to the transit terminal. This will facilitate travellers exiting from Highway 400 and area roadways who wish to access transit.
- The PPUDO should also include space for car-share and bike rental systems. The City should work with car share operators to introduce car-sharing here (and elsewhere in the City), to facilitate greater use of transit for travellers coming to the broader Vaughan Mills area.
- The City should implement a phased program of reductions to parking standards for residential and office developments as the enhanced transit infrastructure is introduced, within 500 metres walking distance of any rapid transit corridor. These should include consideration of maximum parking standards and shared parking. A requirement for carpooling spaces for office developments should also be introduced (preferred parking for vehicles with 2 or more registered occupants); preferred parking for hybrid and electric vehicles should also be included. The City should also work with developers to plan for an integrated technology system to advise drivers of where parking is available within the district.

Horizon 2021: Recommended Road Network Improvements

In addition to the recommended transit related improvements, the Transportation Assessment also recommends the following road-network improvements required in order to support the proposed development in the VMCSF to the 2021 Horizon.

LOCATION	RECOMMENDED IMPROVEMENTS
Rutherford Road at Weston Road	North Bound Dual Left-Turn Lanes (Dependent on effects of the proposed Major Mackenzie Drive at Highway 27; conditions should be monitored prior to introducing this improvement)
Bass Pro Mills Drive	Extension of Bass Pro Mills Drive between Weston Road and Jane Street

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 12

Jane Street at East Access Road A	Full moves signalized access subject to warrant analysis
Bass Pro Mills Drive at Weston Road	Install new Traffic Signals
Bass Pro Mills Drive at Hwy 400 NB Off-Ramp	Additional exclusive south-bound right-turn lane
Vellore Woods Boulevard	Plan for 4-lane cross-section south of Rutherford Road
Creditview Road	Plan for 4-lane cross-section north of Bass Pro Mills Drive
Rutherford Road at Vellore Woods Boulevard	Exclusive North Bound Right-Turn Lane

The results from the transportation study support the level of development proposed in the VM CSP, subject to the phasing of the transportation and servicing infrastructure as proposed in Section 7, Part C of the Plan.

Horizon 2031: Required Improvements

For accommodation of further development to 2031, the following improvements are required in addition to those cited for 2021.

Road Network Improvements: (West of Highway 400)

- Completion of Bass Pro Mills Drive extension to Weston Road;
- Install traffic signals at the intersection of Bass Pro Mills Drive at Weston Road.

Other Transportation Improvements:

- Higher-order transit service on Jane Street, in the form of BRT or LRT, with its dedicated right-of-way connecting the Spadina Subway extension to Vaughan Mills Centre and up to Canada's Wonderland and the future Mackenzie Vaughan Hospital on Major Mackenzie Drive;
- Enhancing priority transit service on Rutherford Road to Viva service;
- Pedestrian and cyclist bridge crossing over Highway 400 midblock between Bass Pro Mills Drive and Rutherford Road to provide an additional non-auto connection within the Secondary Plan;
- Continue to promote sustainable transportation (transit, walking, cycling) and other transportation demand management programs and measures to encourage a greater shift in travel mode patterns to achieve the assumed modal split.

Traffic Infiltration

In the draft Secondary Plan, a road connection to Weston Road was provided directly opposite Astona Boulevard creating a full four-way intersection. The concern was raised that the resulting intersection would increase traffic infiltration into the existing residential neighbourhood particularly to the west of Weston Road. On June 25, 2013 Council directed staff to remove the direct access across from Astona Boulevard. Therefore, Schedule F "Transportation Network", has been modified to reflect this direction. This modification to the road configuration was taken into consideration in the modeling and analysis done for the transportation assessment.

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 13

The City has received numerous resident concerns about the amount of non-local traffic infiltrating through the communities surrounding the Vaughan Mills Centre Secondary Plan (VMCSP), namely the Weston Downs Community, Block 32 west and Block 32 east. In the City's continuing effort to identify the extent vehicular infiltration, staff has undertaken numerous traffic studies and has been monitoring traffic patterns within these communities. The data obtained through these community studies has provided staff with an understanding of the existing traffic patterns. This "baseline" data can be used to determine the contribution to traffic as a result of the development of the VMCSP. In particular, staff will be able to fully understand the extent of increased traffic infiltration and develop the appropriate mitigation measures to reduce this traffic infiltration within these communities, as development of the VMCSP progresses.

c) Growth Forecasts, Heights & Densities

Growth Forecast

Based on input received during the agency and public consultation process and the further direction of Council, the consulting team completed the Transportation Analysis and gave further consideration to the growth projections for the Secondary Plan area. The Transportation Analysis has provided the opportunity to better relate the population growth, measured in the number of residential units, to improvements in the transportation system.

Part B, Policy 3.2 "Growth" of the Plan now proposes a maximum of approximately 4,303 units for total build-out at 2031, an increase of 460 units from the initial May 2013 Draft VMCSP which proposed a total of 3,843 units. This is supported by the supplementary MMM Group Ltd. December 2013 Transportation Assessment Report. The additional 460 units translate to an increased population of approximately 930 residents. The proposed number of jobs in the modified plan remains consistent with the initial May 2013 Draft VMCSP.

The following modifications respecting growth forecasts are summarized below:

Total (Up to 2031)	May 2013 Draft VMCSP	Dec 2013 Modified Draft VMCSP	Differential
Units	3,843	4,303	460
Population	7,839	8,778	939
Jobs	10,912	10,907	5

Height & Density

In order to accommodate the proposed increase in density, in addition to applying the design principles set-out in Part B, Policy 1.4 "Character Areas", modifications were made to Schedule B – "Height & Density" of the Plan (Attachment 6). The heights and densities in the proposed "Jane Street Corridor" were marginally increased to reflect the principles and policies of the Region and VOP 2010 by directing growth to major corridors.

Schedule B assigns the maximum heights and densities to the immediate southeast and south west corners of Jane Street and Rutherford Road to support the "gateway" role envisioned in Part B, Section 1.4.1 of the Plan. The plan permits a maximum height of 25 storeys and a density of 4.0, of which 0.5 FSI is for non-residential uses. The densities in the Jane Street Corridor Area are gradually stepped down from the intersection of Jane Street and Rutherford Road starting at 4.0 (0.5 non-residential); to 3.5 (0.5 non-residential); and to 3.0 (0.5 non-residential) on to Bass

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 14

Pro Mills Drive. A decrease in the maximum building heights also occurs, from 25 storeys in the north to 16 storeys along Bass Pro Mills Drive. This corresponds with the modifications to Policy 3.5.7 of the Plan.

d) Development Thresholds

Part C, Policy 7.3, Part B of the Plan has been updated for the Jane Street Corridor Area, Rutherford Road Area and Bass Pro Mills Area to reflect the revised development statistics discussed in Part C of this report. The Plan now identifies requirements for community facilities and parkland/ public space and other infrastructure to be provided and made available at certain development thresholds to ensure that services are coordinated with development. Residential development in the Rutherford Road and Bass Pro Mills Areas is anticipated to take place with the coordination and provision of improved transit infrastructure including higher order transit to occur between 2021 and 2031. The “threshold” limits are listed as maximum upset limits per character areas and are proposed as follows:

Jane Street Corridor (*within the 2021 time horizon*)

- Up to 3,371 residential units;
- Up to 16,304 m2 retail uses;
- Up to 46,079 m2 office; and
- 4.3 ha of public parks

Vaughan Mills Centre Business District (*within the 2021 time horizon*)

- Up to 101,600 m2 prestige employment uses;
- Up to 39,494 m2 of office uses;
- Up to 30,715 m2 of neighbourhood and medium format retail uses;
- Up to 14,520 m2 of other uses including hotel entertainment, and cultural uses; and,

Rutherford Road and Bass Pro Mills Areas (*within the 2021 and 2031 time horizon*)

- Up to 932 residential units;
- Up to 55,931 m2 retail uses;
- Up to 31,500 m2 office; and
- 2.5 ha of public parks
- 1.3 ha for potential school site or park

Vaughan Mills Centre Business District (*within the 2031 time horizon with full build out of the Bass Pro Mills Drive Extension*)

- Up to 152,400 m2 prestige employment uses;
- Up to 59,241 m2 of office uses;
- Up to 46,072 m2 of neighbourhood and medium format retail uses;
- Up to 21,781 m2 of other uses including hotel entertainment, and cultural uses; and,
- Minimum 1.1 ha of parkland

The Vaughan Mills Mall

This Plan does not anticipate the change in form or function of the Vaughan Mills Mall over the life of this plan. Policy 7.3.4.Part C of the Plan has been modified to permit expansions or changes to the Vaughan Mills Mall, beyond the current permissions set out in Policy 3.6.5,

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 15

Part B, by way of an official plan amendment, in accordance with the requirements of the VM CSP. However, the preparation of a Tertiary Plan, by way of official plan amendment will be required, should the Vaughan Mills Mall be proposed for redevelopment to allow for residential uses

e) Key Transportation and Servicing Requirements

Part C, Policy 7.4 has been modified to include specific infrastructure and servicing requirements for each development block, as shown on Schedule I – Development Blocks (Attachment 7). The policies in this section have been added to ensure the necessary transportation and servicing infrastructure will be available as development occurs. This includes: adequate storm, sewer and water services, transportation improvements, streetscape enhancements, street connections, appropriate acquisition of dedication spaces such as parks, roads and school sites.

Jane Street Corridor Area (B3 – B8)

The Plan indicates that the key benchmarks for the advancement of development in this area includes among other things: the completion of Bass Pro Mills Drive to Jane Street; the northerly extension of Caldari Road to Rutherford Road; higher-order 'quick-start' VIVA transit service along Jane Street; and, higher order priority transit service and features (HOV lanes, transit priority signals, queue jump lanes) along Rutherford Road between Jane Street and Yonge Street. The following shall be required as a condition of development for the following Blocks as shown on Schedule I.

Block 3

- New local street parallel to Rutherford Road to provide for the existing development blocks; and
- The dedication of parks as identified in the Plan

Block 4

- The northerly extension of Caldari Road from River Rock Gate to Rutherford Road and the implementation of a signalized intersection at Rutherford Road and Caldari Road;
- The provision of a signalized public street on the west side of Jane Street, between Locke Street and Riverock Gate;
- The dedication of parks as identified in the Plan;
- That the existing woodlot located along the southern boundary of the existing lot be protected in accordance with the City's preliminary findings of and directions arising from the Vaughan Natural Heritage Network Review currently underway. The exact boundaries of the woodlot and protected area will be determined and/or refined through the development approvals process to the satisfaction of the City, in consultation with the Region and TRCA.

Block 5

- The northerly extension of Caldari Road from Riverock Gate to south boundary extents of Block 4; and
- An east-west public street along the north boundary of the block between Jane Street and Caldari Road.

Block 7

- The provisions of an east-west signalized public street between Jane Street and the internal Ring Road; and
- The dedication of parks as identified in the Plan

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 16

Block 8

- A north-south local street connection between Bass Pro Mills Drive and the ring road west of Romina Drive;
- The extension of Romina Drive north to the internal Ring Road; and
- The dedication of parks as identified in this Plan.

Blocks 7 & 8

- Major collector road connecting the Bass pro Mills interchange with Jane Street opposite Locke Street. Intersection improvements, including turning lanes and traffic signals, will be required at this intersection.

Rutherford Road Area (B1 & B2) and Bass Pro Mills Drive Area (B9 & B10)

The Plan suggests key benchmarks for the advancement of development to occur within The Rutherford Area and the Bass Pro Mills Area. These benchmarks shall include, among other things: the completion of Bass Pro Mills Drive from Jane Street to Weston Road; Higher order rapid transit along Jane Street; and transit priority service along Rutherford Road.

Block 1 and 2

- A new local street parallel to Rutherford Road to provide internal circulation for the existing development blocks; and
- The dedication of parks as identified in the Plan;

Block 10

- A new north-south and east-west internal local street network within the development block between Edgeley Boulevard and Fisherman's Way; and
- The dedication of parks as identified in the Plan;

Vaughan Mills Centre Business District (B11 – B19)

Key benchmarks for the advancement of development within the Vaughan Mills Centre Business District shall include, among other things: the completion of Bass Pro Mills Drive from Jane Street to Weston Road; and a revised ramp entrance to the existing partial interchange at Bass Pro Mills Drive via a new intersection at the proposed east-west and north-south collector parallel to Highway 400.

Block 11 – 17

- Development for Blocks 11 – 17 will require a Block Plan, and will address the matters set out in Policies 10.1.1.15 of VOP 2010 and shall constitute a complete application to the satisfaction of the City of Vaughan. In addition to Block Plan requirements set out in VOP 2010, the following matters are considered to be a priority for development in the Vaughan Mills Centre Business District, and in the preparation of the Block Plan:
 - Extension of Bass Pro Mills Road from the Highway 400 interchange to Weston Road;
 - The design and realignment of the Black Creek within the Black Creek Greenway as identified in this Plan;
 - The dedication of parks and road connections as identified in the VM CSP;
 - New internal north-south collector street between the proposed Bass Pro Mills extension with Rutherford Road opposite the Vellore Woods Boulevard/Rutherford Road intersection;

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 16

- New internal north-south collector streets with a new connection at Rutherford Road parallel to Weston Road; and
- Roadway connections to Westcreek Drive and Creditview Road south of the Study Area.

Relationship to Vaughan Vision 2020/Strategic Plan

This report is consistent with the priorities of Council in the Vaughan Vision 2020 Plan, and in particular to the City's commitment to "plan and manage growth and economic vitality". The following component relates directly to the Vaughan Mills Centre Secondary Plan:

- "Support and coordinate land use planning for high capacity transit at strategic locations in the City".

Regional Implications

The Vaughan Mills Centre Secondary Plan has been prepared in consultation with Region of York staff and to ensure it is in conformity with the new Regional Official Plan. Regional staff participated in the process through the Technical Advisory Committee with follow-up consultation with Regional staff taking place through the finalization of this Plan. As the approval authority for the Vaughan Official Plan, this report will be forwarded to York Region upon its adoption by Council.

Conclusion

The Vaughan Mills Centre Secondary Plan supports the longer term transition of the Secondary Plan area into a higher density mixed-use Primary Centre (east of Highway 400) and an employment area focusing on prestige uses including offices, knowledge based uses oriented toward green and creative businesses and industries in the technology and research and development sectors (west of Highway 400).

Given its 2031 time horizon, this is a transformative plan. Outside of the Jane Street Corridor, it is not expected to result in significant changes in the plan area in the short term. This is a result of the approval processes that would be required for the greenfield areas west of Highway 400 and the fact that much of the land east of Highway 400, except along Jane Street, is already developed. As such, uses like the Vaughan Mills Mall are anticipated to have a long lifespan extending into the next decade and possibly beyond. This is recognized in the Plan. The most immediate changes may be the result of ongoing Ontario Municipal Board processes that are currently underway in the Jane Street corridor. This Secondary Plan will also serve to inform the City's position at the OMB on related appeals.

The Secondary Plan provides policies governing such matters as land use, development density, including the maximum number of residential units, building height, transportation, urban design, parkland amount and distribution open space areas/stormwater management and servicing. Implementation has also been an important consideration. Development will be phased and coordinated with the availability of transportation and other infrastructure improvements including upgrades to the transit system and key road network improvements, a number of which will be required as a condition of development approval for various sites within the Plan area.

The draft Vaughan Mills Centre Secondary Plan was made available for public review and was presented at a public open house on May 22, 2013. This was followed by a statutory public hearing held on June 11, 2013. At the public hearing the Committee received deputations and written submissions and directed that such issues be addressed in a Technical Report to Committee of the Whole. This decision was ratified by Council on June 25, 2013.

CITY OF VAUGHAN

EXTRACT FROM COUNCIL MEETING MINUTES OF MARCH 18, 2014

Item 5, CW Report No. 10 – Page 17

Written submissions received from private citizens/landowners, development interests, governments and government agencies, have been analyzed and recommendations have been developed to respond to the identified issues. These are set out in detail in Attachment 2. The approach taken to some of the key policy areas has also been addressed in the main body of the report as set out in the section entitled “Issues Resulting in Substantive Changes to the Plan”.

Each request for a change was considered on its merit taking into consideration the principles of the new Official Plan, the need to ensure continuing conformity with policy direction provided by senior levels of government (e.g. the Region Official Plan, Planning Act, Places to Grow Plan, and Provincial Policy Statement) and adherence to sound planning principles.

Therefore it is recommended that the draft Vaughan Mills Centre Secondary Plan (May 22, 2013) be modified in accordance with the recommendations contained in this report. It is further recommended that staff proceed with revisions to the plan, incorporating the changes recommended herein, along with any further direction resulting from this meeting and final staff review and that the revised plan proceed to Council for adoption.

Attachments

1. Location Map and Context Plan
2. Response Table for Agency and Public Comments
3. Final Draft Vaughan Mills Centre Secondary Plan, February 2014 (*Annotated*)
4. Schedule A – Plan Area (*modified February 2014*)
- 5a) Table 2 – Transportation Network Improvements
- 5b) Figure E1 – Recommended Transportation Improvements Horizon 2021 Schedule (*MMM Group Limited February 2014 – Vaughan Mills Centre Secondary Plan Transportation Assessment*)
6. Schedule B – Height & Density (revised February 2014)
7. Schedule I – Development Blocks
8. Vaughan Mills Centre Secondary Plan Transportation Assessment, February 2014 (*MMM Group Limited*)

Note: A hard copy of Attachments 3 and 8 are on file in the City Clerk’s Department and are available on the City of Vaughan website.

Report prepared by:

Melissa Rossi, Senior Policy Planner, ext. 8320
Roy McQuillin, Manager of Policy Planning, ext. 8211

(A copy of the attachments referred to in the foregoing have been forwarded to each Member of Council and a copy thereof is also on file in the office of the City Clerk.)

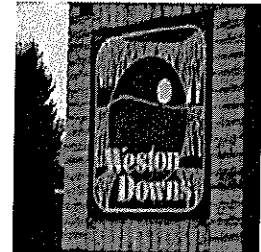
Regional Councillor Di Biase declared an interest with respect to the foregoing matter insofar as it relates to the lands in the study area west of Hwy 400 on the basis that his Chief Financial Officer in the upcoming municipal election is a landowner in this area, and did not take part in the discussion or vote on the matter.

Councillor Yeung Racco declared an interest with respect to the foregoing matter, as it relates to the Northeast corner of Jane Street and Riverrock Gate, Tesmar Holdings Inc., as her daughter is working for a related company, and did not take part in the discussion or vote on the matter.

C	1
Item #	5 & 15
Report No.	10 (CW)
Council - March 18/14	

Weston Down Ratepayers' Association

1 Blackburn Blvd.
Vaughan, Ontario, L4L 7J2



Dear Members of Council & City Clerk,

Unfortunately, due to the fact that as a volunteer organization, most of our board and members have a full-time job, which requires them to work during the day, we are unable to attend an afternoon meeting in person to address our concerns. Therefore, on behalf of the Weston Downs Ratepayers' Association (WDRA), we are writing to you to address two issues on the agenda of the Committee of the Whole (February 25, 2014 at 1pm) meeting.

The first issue is regarding agenda item #5 – "VAUGHAN MILLS CENTRE SECONDARY PLAN (THE "VMCS PLAN") CITY OF VAUGHAN RESPONSE TO PUBLIC, GOVERNMENT AND AGENCY SUBMISSIONS FILE #: 26.1 WARD 3 & 4". We understand from reviewing the documentation provided on the City's website, that the road network on the west side of the Vaughan Mills Centre Secondary Plan will not have a direct (westbound) connection to Astona Blvd (which is within the Weston Downs Community) at Weston Rd. We would like to reiterate our **community's strong concerns against** having a direct connection and remind everyone of the motion passed by council last fall that recommended that the "originally proposed" connection with Astona Blvd be "eliminated" from the Vaughan Mills Centre Secondary Plan.

The second issue is regarding agenda item #15 – "REGISTERED RATEPAYERS / COMMUNITY ASSOCIATION POLICY REVIEW". We understand that it is due process that staff be afforded the opportunity to review and report back on the recommendations provided by the taskforce. We wanted to indicate that the WDRA fully supports the recommendations of the Registered Ratepayer Policy Review taskforce and that we impress upon council to direct staff to report back as quickly as possible with a maximum timeframe of 45 days. Furthermore, given that the forthcoming recommendations impact the civic engagement of a number of volunteer organization whose members are mostly likely unavailable to attend a daytime meeting to provide their input on the recommendations, we would ask that Council direct staff to schedule this item during a special committee of the whole (working session) meeting that takes place in the evening hours (at or after 7pm).

Respectfully,

Anthony Francescucci
President

Sonia Meucci
Vice President

Weston Downs Ratepayers' Association
www.westondownsRA.com

C	7
Item #	5
Report No.	10 (CW)
Council - March 18/14	

Reply to the Attention of	Mary L. Flynn-Guglietti
Direct Line	416.865.7256
Email Address	mary.flynn@mcmillan.ca
Our File No.	201539
Date	March 14, 2014

E-MAIL (clerks@vaughan.ca)

Vaughan City Council
City Hall
2141 Major Mackenzie Drive West
Vaughan, Ontario
L6A 1W8

Dear Council:

**Re: Revised Draft Vaughan Mills Centre Secondary Plan
(February 14, 2014)
City Council Meeting of March 18, 2014**

We are the solicitors retained on behalf of Starburst Developments Inc. ("Starburst"), owner of the property municipally known as 9070 Jane Street, and Dimerra Investment Corp. ("Dimerra"), owner of commercial condominium units at the property municipally known as 9100 Jane Street (together, the "Properties").

The Properties are located within the Draft Vaughan Mills Centre Secondary Plan (the "VMC Secondary Plan") and, further, form part of the **Jane Street Corridor** under the VMC Secondary Plan.

We have had an opportunity to review the revised Draft VMC Secondary Plan referenced above as well as the Staff Report to the Committee of the Whole at its meeting held February 25, 2014 (the "Staff Report"). Pursuant to the Staff Report, 3,371 residential units have been assigned to the Jane Street Corridor for development within the 2021 time horizon. In our review of the VMC Secondary Plan and Staff Report, however, it has become apparent that part of this density has been attributed to properties that cannot and will not be developed within the lifetime of the VMC Secondary Plan. The properties so identified are as follows:

- **9070 Jane Street:** a 1.49 acre property owned by Starburst, currently occupied by a gas station;
- **9088 Jane Street:** a 2.98 acre property owned by Pfaff Audi; and

- **9100 Jane Street:** a 9.927 acre property owned by York Region Standard Condominium Corporation No. 1086 ("YRSCC 1086"), a commercial condominium wherein Dimerra is the owner of approximately 48% of the condominium units.

Attached for your reference, please find a key map identifying each of the properties listed above within the Jane Street Corridor.

9070 Jane Street is owned by our client, Starburst. As a result, we may advise that 9070 Jane Street will not be developed for high density residential use within the lifetime of the VMC Secondary Plan. Furthermore, the lands at 9100 Jane Street, being owned by condominium corporation YRSCC 1086, can only be redeveloped with the consent of a significant majority of its condominium owners which is very difficult to achieve and approximately 48% of the condominium units at 9100 Jane Street are owned by our client, Dimerra. As a result, we may also advise that 9100 Jane Street will not be subject to redevelopment within the lifetime of the VMC Secondary Plan. Finally, Pfaff Audi, owner of 9088 Jane Street, is a successful car dealership which we understand has no interest in developing at this time.

For the reasons described above, it is clear that density has been improperly attributed to several properties within the Jane Street Corridor which will not be developed within the lifetime of the VMC Secondary Plan. Consequently, we respectfully submit that the VMC Secondary Plan should be modified and attributed high density residential density be redistributed within the Jane Street Corridor.

Should you have any questions or require any further information, please do not hesitate to contact us.

Yours truly,



Mary Flynn-Guglietti

CC: Jeffrey Abrams, Clerk, City of Vaughan
Claudia A. Storto, City of Vaughan
Rick F. Coburn, Borden Ladner Gervais, on behalf of the City of Vaughan
Frank Santaguida, Region of York
Ted Wine
Joe DiGiuseppe
Alan Young, Weston Consulting

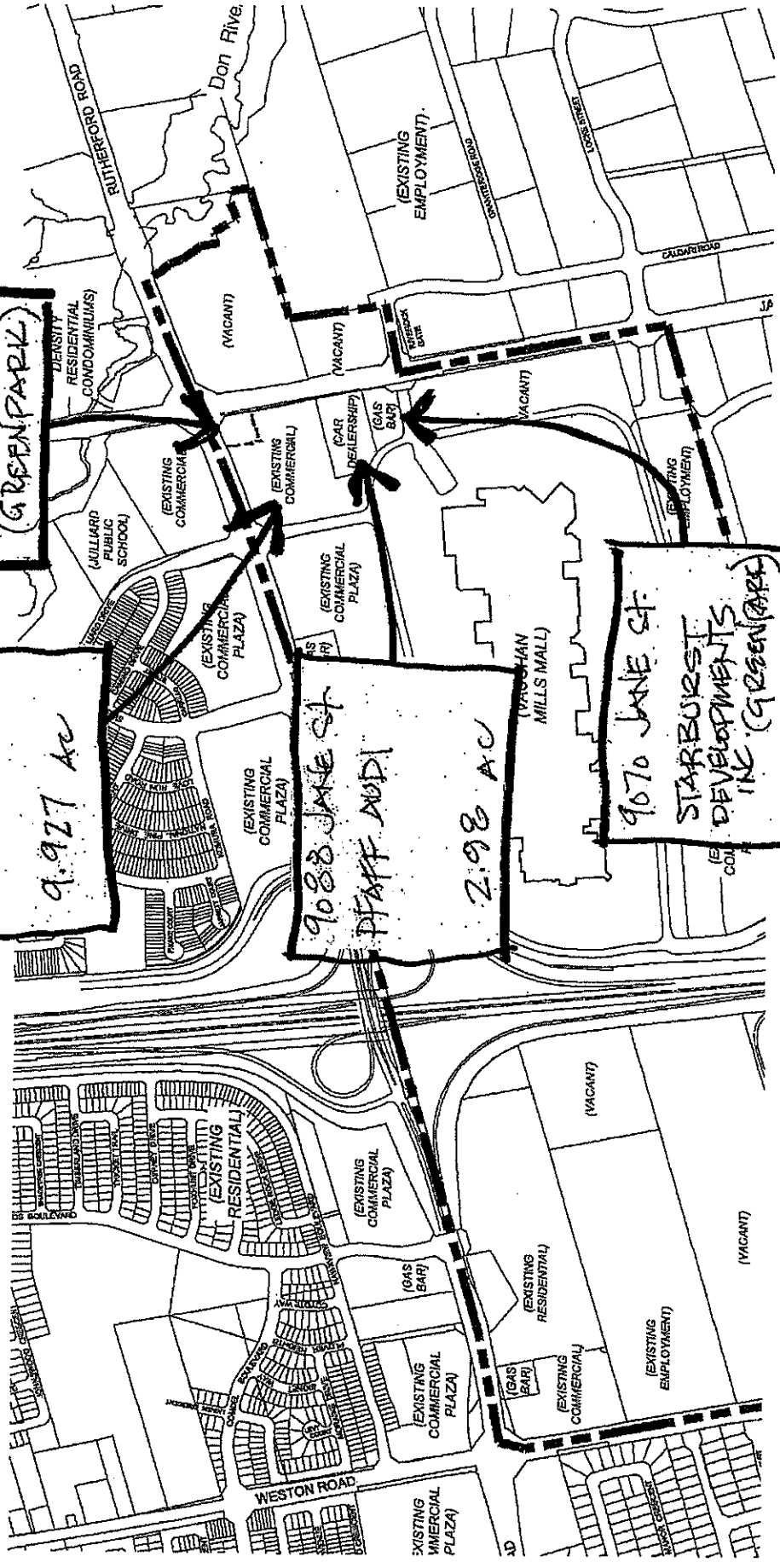
Attach.

9100 JANE ST
DANPRA
INVESTMENT
CORP.
(GREENPARK)

9100 JANE ST
VRSU 1086
9.927 AC

9088 JANE ST
PLAFF MCD
2.98 AC

9070 JANE ST
STARBURST
DEVELOPMENTS
INC. (GREENPARK)
1.49 AC



March 14, 2014

City of Vaughan
2141 Major Mackenzie Drive
Vaughan, ON L6A 1T1

C	8
Item #	5
Report No.	10 (CW)
Council - March 18 / 14	

**Walker, Nott, Dragicevic
Associates Limited**
Planning
Urban Design

Attention: Mr. Jeffery Abrams, City Clerk
Members of Council

Dear Sirs/Mesdames:

**Re: Response to Vaughan Mills Centre Secondary Plan
City of Vaughan Response to Public, Government and Agency
Submissions
March 18, 2014 Council Meeting
City File No. 26.1
Our File No. 13.557**

Walker, Nott, Dragicevic Associates Limited has been retained as planning consultants for Valley Mill Developments Limited ("Valley Mill"), the owner of lands located at the southwest corner of Rutherford Road and Highway 400 (the "Subject Site") within the Vaughan Mills Centre Secondary Plan (the "VMCSP") area. The Valley Mill lands are located within the area identified as the "Vaughan Mills Centre Business District" (formerly "Area 3") and are designated "Employment Commercial Mixed Use".

This letter is submitted in response to the revised draft VMCSP dated February 2014, and the accompanying report of the City's Commissioner of Planning entitled "City of Vaughan Response to Public, Government and Agency Submissions" (the "Staff Report") as released by the City for the February 25, 2014 meeting of the Committee of the Whole.

Representatives from Valley Mill have attended several public meetings related to the VMCSP and provided written comments on June 10, 2013 which included a request to meet in order to discuss their concerns which included:

- The 3,500 m² gross floor area limit for retail units under the Employment Commercial Mixed Use designation;
- The 30% minimum gross floor area requirement for non-retail uses; and,
- The proposed road network.

Regrettably, Valley Mills was not contacted by staff in response to these concerns, which remain outstanding. Based on a review of the draft VMCSP and the Staff Report, we are concerned that none of the issues identified by Valley Mills have been addressed or responded to either within the body of the Staff Report, or the "Response Table for Agency and Public Comments" which claims to reflect the responses from staff which were prepared for each submission provided to the City.

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Tel. 416/968-3511
Fax. 416/960-0172
e-mail: admin@wndplan.com
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Peter R. Walker, FCIP, RPP
Wendy Nott, FCIP, RPP
Robert A. Dragicevic, MCIP, RPP
Senior Principals

Andrew Ferancik, MCIP, RPP
Senior Associate

Martha Coffey
Controller

Accordingly, we are writing to advise that Valley Mills continues to express concerns with the revised draft VMCSP as it related to its lands. We would like to work in a cooperative manner with the City to resolve these outstanding concerns.

Should you have any questions or require additional information regarding this matter, please do not hesitate to contact the undersigned or Katherine Bailey of our office.

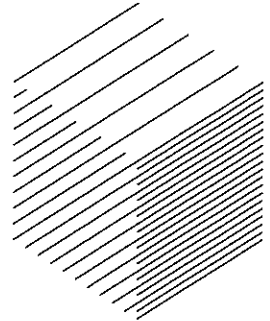
Yours very truly,

WALKER, NOTT, DRAGICEVIC ASSOCIATES LIMITED
Planning • Urban Design



Peter R. Walker, FCIP, RPP
President and Senior Principal

cc. Mario Iacobelli, Valley Mill Developments Limited
John MacKenzie, Commissioner of Planning



AIRD & BERLIS LLP

Barristers and Solicitors

Steven A. Zakem
Direct: 416.865.3440
E-mail: szakem@airdberlis.com

c 3
Communication
CW: Feb 25/14
Item: 5

February 24, 2014

Our File No. 91037

BY EMAIL

Vaughan Committee of the Whole
Vaughan City Hall
2141 Major Mackenzie Drive
Vaughan, ON L6A 1T1

Members of the Committee:

**Re: Re: Vaughan Mills Centre Secondary Plan (the "VMCS Plan")
City of Vaughan Response to Public, Government and Agency Submissions
File#:26.1**

Aird & Berlis LLP represents Granite REIT ("Granite") (formerly MI Developments Inc.) and Magna International Inc. ("Magna") in respect of lands municipally known as 401 Caldari Road and the above-noted matter. On June 10, 2013 we wrote the attached letter setting out the concerns of our clients. These concerns have been ignored in the staff report on the basis that the Tesmar matter is before the Ontario Municipal Board ("OMB"). This approach is inconsistent with the approach being taken with respect to other lands currently before the OMB (Casertano/Mammone).

Granite and Magna strongly oppose the inclusion in the Vaughan Mills Centre Secondary Plan Study Area of the lands east of Jane Street and the proposed redesignation of those lands for residential purposes. Such an approach is fundamentally flawed and will create land use conflicts with thriving and existing employment uses within a large and important Employment Area. No need exists for residential uses in this area.

Granite and Magna request that the lands east of Jane street be removed from the Secondary Plan and that the plan be otherwise modified accordingly.

February 24, 2014

Page 2

Yours truly,

AIRD & BERLIS LLP



Steven A. Zakem

SAZ

Encl.

cc. Granite REIT (Lorne Kumer and Lawrence Clarfield)
Magna International Inc. (Hilary Stedwill)
Walker, Nott, Dragicevic Associates Limited (Wendy Nott)

AIRD & BERLIS LLP

Barristers and Solicitors

Steven A. Zakem
Direct: 416.865.3440
E-mail: szakem@airdberlis.com

June 10, 2013

BY EMAIL

Our File No. 91037

Vaughan Committee of the Whole
Vaughan City Hall
2141 Major Mackenzie Drive
Vaughan, ON L6A 1T1

Attention: Rose Magnifico

Chair de Francesca and Members of the Committee:

Re: Draft Vaughan Mills Centre Secondary Plan – City File No. 26.1 (the “Plan”)

Aird & Berlis LLP represents Granite REIT (“Granite”) (formerly MI Developments Inc.) and Magna International Inc. (“Magna”) in respect of lands municipally known as 401 Caldari Road and the above-noted matter.

Granite is a public real estate operating company engaged principally in the acquisition, development, construction, leasing, management and ownership of a predominantly industrial rental portfolio leased primarily to Magna and its automotive operating units. Granite’s properties consist of manufacturing plants, light industrial properties, corporate offices, product development and engineering centers and test facilities. Granite holds a global portfolio of over 100 income producing industrial and commercial properties, over a dozen of which are located within the City of Vaughan. These properties, both historically and today, represent a significant employment base within the City of Vaughan.

One of Granite’s properties is known municipally as 401 Caldari Road (the “Granite Site”) which is held by a subsidiary of Granite and is leased on a long term basis to Magna. The Granite Site is designated and zoned for industrial uses. The site contains a heavy stamping plant which generally operates 24 hours a day, 7 days a week, 365 days per year. The stamping plant, by its very nature, creates noise, both directly as a result of the stamping of metal, handling of materials, as well as the large transport trucks that deliver and pick up from the plant 24 hours a day.

Accordingly, both Granite and Magna have a direct interest in the Vaughan Mills Secondary Plan as the land uses and transportation infrastructure framework arising therefrom would have direct impacts on the Granite Site specifically and corporate interests more generally. Both have participated in the Secondary Plan process to-date.

The following outlines Granite and Magna’s principal concerns with respect to the draft Secondary Plan document.

Secondary Plan Study Area Boundary

When Vaughan initially commenced the preparation of a Secondary Plan for the Vaughan Mills Area, the study area/secondary plan boundaries were established, in part, as Jane Street (a major Regional arterial road) in the east. This boundary was later arbitrarily adjusted to include two (vacant) properties located on the east side of Jane Street, north of Riverrock Gate within the larger employment area located between Jane and Keele Streets.

In our submission, the expansion of the study area was advanced without any planning rationale or basis to support the inclusion of these lands. Further, the addition of these lands and their subsequent consideration for residential uses results in fundamental land use issues, as discussed below.

Proposed Land Uses East of Jane Street

There are two distinct properties located east of Jane Street known generally as: "Tesmar" (located at the northeast corner of Jane Street and Riverrock Gate); and, "Delisle" (located immediately abutting the southeast corner of Jane Street and Rutherford Road). These properties are proposed to be designated (Schedule B):

Tesmar	"Lands Subject top Ontario Municipal Board Hearing. Maximum height and density will be determined through the Ontario Municipal Board hearing process."
Delisle	High-Rise Mixed-Use; with a Height of 22 storeys and a Density of 3.2

Granite and Magna are parties to the above-noted Ontario Municipal Board hearing with respect to the Tesmar lands. They object to the introduction of residential land uses in proximity to their operations where the potential for land use compatibility issues arising from (in particular) noise from the existing stamping operation renders such residential uses inappropriate.

Notwithstanding the outstanding appeal on the Tesmar lands respecting land uses, the draft Secondary Plan proposes to designate the abutting Delisle lands for residential uses. The same concerns regarding land use compatibility with respect to the existing stamping operation (and other employment uses, such as noise and vibration from the MacMillan rail yard) also affects the Delisle lands.

Residential developments on either property will be exposed to noise levels from adjoining employment area that are not consistent with the standards for industrial noise levels established by the Ontario Ministry of the Environment Guidelines and the City of Vaughan Noise Bylaw. The Secondary Plan study process did no independent evaluation or assessment of the appropriateness of allowing residential land uses east of Jane Street. In our submission, the appropriate designation for the lands located east of Jane Street,

June 10, 2013

Page 3

including Tesmar and Delisle sites, remains that which was approved by the City of Vaughan when it adopted its new Official Plan in 2010. Conversely, there is no justification from a land use planning perspective for the proposed introduction of residential uses on these lands.

Section 3.5.10

Section 3.5.10 is intended to provide policy direction with respect to land use compatibility between the development of residential (and other sensitive) land uses and existing industry, the rail yard and Highway 400.

In our submission, these policies are generic and do not adequately reflect the scope and range of area-specific environmental noise, vibration and/or emission considerations relating to the development of residential and other sensitive land uses in proximity to the large employment area located east of Jane Street (including the MacMillan rail yard).

Conclusion

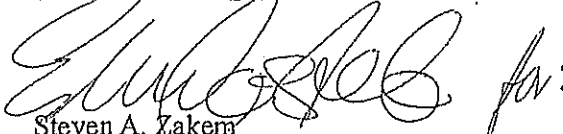
In our submission, the afore mentioned lands located east of Jane Street should be removed from the draft Secondary Plan planning area and the designation for those lands as approved by the City of Vaughan when it adopted its Official Plan in September, 2010, should remain

The inclusion of the Tesmar and Delisle lands in the Secondary Plan and the proposal to consider them for residential uses is without any land use planning rationale and does not constitute good land use planning in the public interest.

We would request written notice of adoption of an Official Plan Amendment and notice of any further meetings and/or decisions by Council or its Committee in respect of this matter. Additionally, we request copies of the Minutes from any meeting held by Committee and/or Council in respect of this matter.

Yours truly,

AIRD & BERLIS LLP


Steven A. Zakem
SAZ/EPC/sh

- c. Granite REIT (Lorne Kumer and Lawrence Clarfield)
Magna International Inc. (Hilary Stedwill)
Walker, Nott, Dragicevic Associates Limited (Wendy Nott)
14825080.1



PARENTE • BOREAN
BARRISTERS AND SOLICITORS

c 5
Communication
CW: Feb 25/14
Item: 5

February 24, 2014

Our File No. 280218

SENT BY FAX -905-832-8535;

**EMAIL – Jeffrey.Abrams@vaughan.ca;
and COURIER**

Lawyer Direct Dial: (905) 850-6068

Email: gborean@parenteborean.com

Law Clerks: (905) 850 6066 ext's. 237/231

Email: mmuccilli@parenteborean.com

Email: marinam@parenteborean.com

City of Vaughan

Committee of the Whole

2141 Major Mackenzie Drive

Vaughan, Ontario L6A 1T1

Attn: Mr. Jeffrey Abrams, City Clerk

Re: February 25, 2014 Committee of the Whole Meeting

Response to Vaughan Mills Centre Secondary Plan (The "VMCS Plan")

City of Vaughan Response to Public, Government and Agency Submissions

City File #:26.1

This letter is submitted in response to Staff Report and Proposed VMCS as released by the City for the February 25 2014 Committee of the Whole Meeting on behalf of 2811187 Ontario Limited, and Anland Developments Inc. as represented by Parente Borean and Humphries Planning Group Inc., respectively.

The 2811187 Ontario Limited and Anland Development lands are located within the area identified as the "Vaughan Mills Centre Business District" / Area 3 of the plan. We have provided previous comments on the proposed plan (June 10, 2013) and indicate that previous concerns still remain outstanding. These concerns include but are not limited to the following matters:

- The revised Secondary Plan continues to contain several short comings which require further review and therefore we continue object to the draft secondary plan;

- The plan continues to fail to address many fundamental land use planning issues in the absence of study information inclusive of servicing and storm water management and environmental work. Further, we have reviewed the Transportation Assessment as authored by the MMM Group Limited and have concerns respecting such.
- The proposed secondary plan as related to the Vaughan Mills Centre Business District and the Guiding Principles remain inappropriate.

The south west quadrant of Rutherford Road and Weston Road represents a unique area and circumstance. The secondary plan and policy as proposed by the City deserves further discussion and attention. The proposed land use and policy applicable to this area should be more flexible allowing additional land uses and the reassignment of additional densities.

Landowners of these lands have filed letters of objection and appeals to the Ontario Municipal Board respecting the City's Official Plan. Letters of objection have also been filed at various stages of the process of this secondary plan process. We would like to work in a cooperative manner with the City to resolve these outstanding concerns so as to avoid an adversarial position before the Ontario Municipal Board if at all possible.

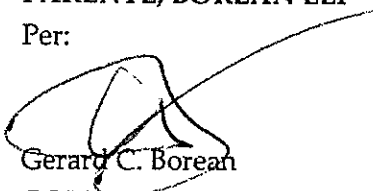
We request that the City of Vaughan defer a final decision on Area 3 of the Secondary Plan. In the interest of allowing the designations of the other areas of the plan to proceed it is requested that Area 3

be designated as a 'Study Area' subject to further review which retains its current permissions under OPA 450, until such time that the review is completed and/or is adjudicated by the OMB as may be necessary if concurrence on the issues is not achieved by the parties after the review process. Accordingly it is requested that the Commissioner of planning and appropriate staff be directed to engage in a further review process with the landowners group to receive and review updated information from the group and to share information and studies with the group and to conduct a process in dialogue and re-evaluation of the current secondary plan which is to be conducted in an effort to resolve the land use and policy issues. Further a final report by the Commissioner of planning will be submitted after the conclusion of the review process by no later than June 2014.

Yours very truly,

PARENTE, BOREAN LLP

Per:



Gerard C. Borean
GCB/mmu

cc: Claudia Storto

cc: Clients



LAKE SHORE GROUP

c 6
Communication
cw: Feb 25/14
Item: 5

February 24, 2014

VIA EMAIL Clerks@vaughan.ca

Mr. Jeffrey A. Abrams, City Clerk
City Clerk's Office
City of Vaughan
Vaughan City Hall
2141 Major Mackenzie Drive
Vaughan, ON L6A 1T1

Dear Members of the Committee:

RE: File # 26.1, Vaughan Mills Centre Secondary Plan Study – Stronach Trust Comments

We are the planning consultants for Stronach Trust ("Stronach"), owner of the recently created industrial parcel immediately west of the Maple Stamping Facility at 401 Caldari Road (a municipal address for our client's property has yet to be assigned, which was created through Consent application B016/11) (the "Stronach Lands"). We have previously submitted comments on the Vaughan Mills Centre Secondary Plan on June 10, 2013. We have reviewed the most recent draft of the Vaughan Mills Centre Secondary Plan dated February 2013 and it appears that no significant modifications have been made with respect to our concerns regarding the establishment of sensitive land uses on the east side of Jane Street. We continue to maintain our position as set out in our June 10, 2013 letter which is attached for your convenience.

Please provide us and Stronach's legal counsel, Steven O'Melia of Miller Thomson LLP (who is copied on this correspondence) with notice of any decision or any further consideration of this matter, including the adoption of the Secondary Plan.

Should you have any questions, please feel free to call me at (416) 364-5926.

Sincerely,
THE LAKESHORE GROUP

Nima Kia

Nima Kia, M.C.I.P., R.P.P.
MANAGER

c.c
Melissa Rossi, Senior Policy Planner
Rick Pennycooke, Lakeshore Group
Steven O'Melia – Miller Thomson LLP (via email: somelia@millerthomson.com)

LAND DEVELOPMENT ADVICE • ZONING ISSUES • DUE DILIGENCE • MASTER PLANS • MARKET INTELLIGENCE



LAKE SHORE GROUP

June 10, 2013

VIA EMAIL Melissa.Rossi@vaughan.ca

Ms. Melissa Rossi, Senior Policy Planner
Policy Planning Department
City of Vaughan
Vaughan City Hall, Level 200
2141 Major Mackenzie Drive
Vaughan, ON L6A 1T1

Dear Ms. Rossi:

RE: Draft Vaughan Mills Centre Secondary Plan Study – Stronach Trust Comments

We are the planning consultants for Stronach Trust ("Stronach"), owner of the recently created industrial parcel immediately west of the Maple Stamping Facility at 401 Caldari Road (a municipal address for our client's property has yet to be assigned, which was created through Consent application B016/11) (the "Stronach Lands").

We have reviewed the May 22, 2013 draft of the Vaughan Mills Centre Secondary Plan and wish to provide the following comments:

LAND USE COMPATIBILITY CONCERNS

The current boundaries of the Secondary Plan Study Area include two properties on the east side of Jane Street, immediately adjacent to the Stronach Lands. These properties were initially designated as "Prestige Employment" in the new 2010 Vaughan Official Plan (VOP2010) when adopted by City Council on September 7, 2010. One of these properties is immediately adjacent to northeast corner of Jane Street and Riverrock Gate, and is hereinafter referred to as the "Tesmar Lands". The other property is located immediately adjacent to the southeast corner of Jane Street and Rutherford Road, and is hereinafter referred to as the "Delisle Lands".

The Tesmar Lands and the Delisle Lands were not initially within the boundaries of the Vaughan Mills Centre Secondary Plan. However, pursuant to a motion carried by City Council on September 27, 2011, these lands were subsequently incorporated into the boundaries of the Secondary Plan Study Area. Pursuant to the same motion, it was resolved that consideration be given to redesignate the Tesmar Lands and the Delisle Lands from Prestige Employment to Commercial Mixed Use in the VOP2010.

Within Schedule C of the May 2013 draft Vaughan Mills Centre Secondary Plan, the Tesmar Lands are identified as being "subject to a current Ontario Municipal Board hearing" with no specific land use

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recommendations included for the property. The Delisle Lands are split-designated as "High-Rise Mixed-Use" and "Neighbourhood Park".

The Stronach Lands are immediately adjacent to the Tesmar Lands and the Delisle Lands and the boundaries of the Vaughan Mills Centre Secondary Plan Study Area. The Stronach Lands are designated "General Employment" in VOP2010, and are included within the broader Employment Area designation. As per Section 2.2.4.1 of VOP2010, the planned function of the Employment Areas is to support economic activity in Vaughan by supplying land for a range of industrial, manufacturing, warehousing and, where appropriate, some office uses.

Although the Stronach Lands are currently vacant, the planned function of the lands and their intended use for heavy industry will be detrimentally impacted by future residential uses currently contemplated on the Delisle Lands in the draft May 2013 Secondary Plan Document (in addition to the residential uses contemplated for the Tesmar Lands which are currently before the Ontario Municipal Board).

As per the Ministry of Environment's D-6 Guideline document (compatibility between industrial facilities and sensitive land uses), the high-rise mixed-use developments currently contemplated for the Tesmar Lands and the Delisle Lands are considered a sensitive land use (with residential land uses considered sensitive 24 hours/day). The existing land use permissions for the Stronach Lands (including those in VOP2010 which are under appeal) permit a Class III Industrial Facility to be developed on the lands. As per Section 4.4.5 of the D-6 Guideline (emphasis added):

"where there is no existing industrial facility within the area designated/zoned for industrial land use, determination of the potential influence area shall be based upon a hypothetical worst-case scenario for which the zoned area is committed".

As such, and as per Section 4.1.1 of the D-6 Guideline, both the Tesmar Lands and the Delisle Lands are within the potential influence area of the Stronach Lands and minimum separation distances must be employed. The Ministry's Guideline further indicates that when impacts from industrial activities cannot be mitigated or prevented to the level of a trivial impact (i.e. no adverse effects), new development, whether it be an industrial facility or a sensitive land use, shall not be permitted.

In light of the foregoing, the current draft recommendations for a High-Rise Mixed-Use designation for a portion of the Delisle Lands does not represent good land use planning and would not meet with Ministry standards. Should permissions for the future development of sensitive land uses on the Delisle Lands be adopted by City Council (as is currently recommended in the draft Secondary Plan document), it will lead to land use compatibility issues with development on the Stronach Lands and the broader employment area east of Jane Street.

JANE STREET CORRIDOR RESIDENTIAL POTENTIAL LAND USE REVIEW

In September 2006, Vaughan City Council directed staff to undertake a Land Use Review for the Jane Street Corridor area, south of Rutherford Road, with respect to the potential for the establishment of residential development. The Land Use Review includes an analysis of both the Tesmar Lands and the Delisle Lands. The Review concludes that the employment designations on the east side of Jane



Street as found in OPA 450 be retained, and that development applications for residential uses within the Review Area be considered premature pending the completion of the Vaughan Centre Update focused study and plan.

Among the key findings of the report regarding the non-suitability of residential uses in the Review Area were as follows:

- Limited number of school spaces available in the general area – busing likely required
- Lack of other community services, including parks
- Hard services, notably sewage services, are currently unavailable for residential uses even though both water and sewer lines exist
- The finer grain road network required to support residential neighbourhoods would need to be addressed, as would traffic impacts

The findings of the Review when coupled with the aforementioned compatibility concerns indicate that the High-Rise Mixed-Use designation currently proposed for the Delisle Lands is not supportable.

HEMSON HOUSING ANALYSIS AND EMPLOYMENT LANDS NEEDS STUDY

Hemson Consulting Ltd. was retained by the City of Vaughan to prepare a Housing Analysis and Employment Land Needs study (Employment Study) to inform the Official Plan Review process. A 2011 addendum to this Study was also prepared by Hemson.

One of the findings of the Employment Study was that the current supply of employment land should be maintained in Vaughan. This was based on a finding that at the current prevailing densities, there would be a shortage of employment land in 2031.

The addendum to the Study addresses the Jane Street Corridor including the Tesmar Lands and the Delisle Lands. Hemson indicates that the proposed land use conversion of the Tesmar Lands and the Delisle Lands to "Commercial Mixed-Use" (this proposed redesignation was being considered by Council at the time, as per a motion carried at its September 27, 2011 meeting) is not appropriate for a number of reasons, including:

- *The lands are located within a large and almost fully developed employment area around the CN Concord Yard. As noted in the April 2010 report, this area contains a major concentration of economic activity and is healthy and competitive for continued employment land use.*
- *The lands occupy a central position within the larger area, traversing both the Vaughan 400 and Vaughan 400 North Employment Areas. As also noted in the April 2010 report, no change is recommended for interior portions of the major employment areas due to the risk of area destabilization.*

The addendum goes on to state that:



"based on the Growth Plan tests, changes of the Jane Street Corridor lands to a Commercial Mixed-Use designation is not considered good planning and does not meet the tests set out in Section 2.2.6.5 of the Growth Plan."

Given the foregoing, the High-Rise Mixed-Use designation currently proposed for the Delisle Lands is not appropriate.

PROPOSED GENERAL LAND USE POLICIES

Section 3.5.10 of the May 2013 draft Secondary Plan document includes policies which require the submission of noise, vibration and odour studies by the proponents of sensitive land uses within 300 metres of an industrial use to the satisfaction of the City. These studies are required to:

- Include recommendations for materials and construction methods to be employed to meet the Ministry of the Environment Guidelines.
- Recommend provisions to be included in the Site Plan Agreement that requires an engineer to certify that the building plans implement the recommendations contained in the mitigation reports before a building permit is issued.
- Recommend inclusions in the conditions of condominium approval that the mitigation measures recommended be implemented and certified, as well as a condition requiring the inclusion of noise, vibration, odour warning clause in the applicable condominium documents.

Stronach is supportive of this policy framework. However, as per the Ministry of Environment's D-6 Guideline, appropriate buffers from sensitive land uses will be required in addition to appropriate mitigation measures and warning clauses.

FURTHER COMMENT

We are available at any time to meet or to provide any additional information you may require regarding this submission. Please notify us and Stronach's legal counsel, Steven O'Melia of Miller Thomson LLP (who is copied on this correspondence) of all future public meetings and Council's decision regarding the adoption of the Vaughan Mills Centre Secondary Plan.

We look forward to working with you to address our client's comments and concerns.

Should you have any questions, please feel free to call me at (416) 364-5926.

Sincerely,
THE LAKESHORE GROUP

Nima Kia, M.C.I.P., R.P.P.
MANAGER



LAKESHORE GROUP

C.C

Rick Pennycooke, Lakeshore Group

Steven O'Melia – Miller Thomson LLP (*via email: somelia@millerthomson.com*)

HUMPHRIES PLANNING GROUP INC.

February 24, 2014
HPGI File: 11263

c-7 Communication CW: Feb 25/14 Item: 5

City of Vaughan
Clerks Department
2141 Major Mackenzie Drive
Vaughan, ON L6A 1T1

Attn: Jeffrey Abrams, City Clerk

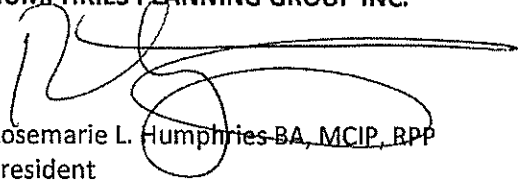
RE: February 25, 2014 Meeting of the Committee of the Whole
Response to Draft Vaughan Mills Centre Secondary Plan
By: Anland Developments Inc., 2811187 Ontario Limited

Further to Mr. Boreans letter dated February 24, 2014; a copy of which is attached hereto, this shall confirm that Humphries Planning Group Inc., represents Anland Developments Inc. On behalf of Anland Developments Inc., we confirm support of the position put forth by Mr. Borean on behalf of the Group as described therein and further advise that Anland Developments Inc., adopts and puts forth on its own the position as set out in Mr. Boreans correspondence.

Anland Developments Inc. continues objects to the Draft Secondary Plan in its entirety and submits that further work and consultation is required and would be most pleased to meet with the City of Vaughan and its representatives to further this study process in order to arrive at a positive solution.

If you have any questions, please do not hesitate to contact me.

Yours truly,
HUMPHRIES PLANNING GROUP INC.


Rosemarie L. Humphries BA, MCIP, RPP
President

cc. Anland Developments Inc.

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MURLEE HOLDINGS LIMITED

45 Gordon Mackay Road, Toronto, Ontario M9N 3X3 (416)243-7880

C8
Communication
cw: Feb 25/14
Item: 5

February 24, 2014

VIA EMAIL

Rose Magnifico
Assistant City Clerk
City Clerk's Office
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, ON L6A 1T1

**RE: Committee of the Whole Meeting
February 25, 2014
Vaughan Mills Centre Secondary Plan (The "VMCS Plan")
Leon's Home Furnishing Superstore
299 Bass Pro Mills Drive**

We are the owners of the land that presently a Leon's Furniture Store operates. I am writing this letter as we are concerned that the "VMCS PLAN" identifies a portion of our retail lands to be identified as Public Space on Schedule C: Land Use Designation.

I apologize for not picking this up earlier in the process. We own 4.29 acres of land in which the store occupies. Albeit the "Public Square" looks small on the map, it actually occupies a third of an acre of our parking lot not including existing landscaped area along Fisherman's Way. We would lose 47 (or 30%) of our 157 customer parking stalls.

We recognize the "VMCS PLAN" is a vision for the future where it is increasing the density and height on our lands for future redevelopment.

We are looking for clarification when this public space would be required and what would trigger such an acquisition by the City.

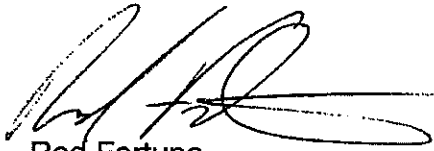
- 1) When we redevelop and increase the density of our lands,
- 2) Or when surrounding development as shown on the schedules occurs going forward through the municipal approval process.

If the intent of the document is to take land away from our store to benefit growth of the surrounding properties, we must object to the "VMCS PLAN".

We would appreciate staff's comments so we can more fully understand the implication of this document on our business.

Again please accept my apologies in asking these questions so late in the process and just before the meeting.

Regards,

A handwritten signature in black ink, appearing to read 'Rod Fortune', with a stylized flourish extending to the right.

Rod Fortune
National Real Estate Manager
Leon's Furniture Limited
45 Gordon Mackay Road
Toronto, Ontario M9N 3X3
(T) 416-243-4063



**WESTON
CONSULTING**

planning + urban design

c9 Communication CW: Feb 25/14 Item: 5

February 24, 2014
File 4742

Chair and Members
Committee of the Whole
City of Vaughan
2141 Major Mackenzie Drive
Vaughan ON
L6A 1T1

Dear Sirs and Mesdames,

RE: Revised Draft Vaughan Mills Centre Secondary Plan (Feb. 14, 2014) (File 26.1)

As explained previously in our letter dated June 10, 2013, Weston Consulting is the planning consultant for Casertano Developments Corporation ("Casertano") and Sandra Mammone ("Mammone") who own adjoining sites on the west side of Jane Street within the above secondary plan area, and who have been working together to achieve official plan and zoning amendment approvals to permit the co-ordinated development of their lands for high density mixed use purposes.

The Casertano and Mammone applications for official plan and zoning amendments, which were submitted in 2007/2009, were appealed following Council's determination that they did not meet the new Official Plan's criteria for consideration in advance of the preparation of a secondary plan. The owners subsequently agreed to place their appeals in abeyance given the City's commitment to timely preparation of the secondary plan. However, following significant delays by the City in the hiring of consultants and the study process itself, the owners reactivated their appeals. A three-week hearing is scheduled to begin on March 18, 2014.

We provided comments on the draft Vaughan Mills Centre Secondary Plan in our letter dated June 10, 2013. The covering staff report, which will be considered by the Committee of the Whole on February 25, 2014, and which responds to various submissions made at the public meeting, indicates that responses have not been provided to submissions made by appellants, such as Casertano and Mammone, because "there continue to be Without Prejudice negotiations in the hopes of settling or scoping the appeals". To be clear, Casertano and Mammone are unaware of any such discussions or negotiations as referenced in the staff report. The comments included in our letter of June 10, 2013 continue to apply in the context of the revised draft secondary plan and have been attached for your reference.

Background

The Casertano and Mammone plans of 2009 envisaged densities of approximately 5.0 F.S.I. on the gross area each of the two sites (but excluding the Bass Pro Mills extension lands and the residual Mammone lands to the south of the extension). The tower heights ranged between 26 and 40 storeys on the Casertano site and between 25 and 35 storeys on the Mammone site. A total of 3,650 units were proposed. A public park was also proposed at the northwest corner of Jane Street and Bass Pro Mills Drive.

In revised submissions made to the City in October 2013, the proposed densities were reduced to 3.7 F.S.I. over the same gross land areas, and the building heights were reduced to a range of 26 to 30 storeys on the Casertano lands, and 16 to 30 storeys on the Mammone lands. A total of 3,211 units are now proposed. A public park, with an area of 0.74 ha, continues to be proposed at the northwest corner of Jane Street and Bass Pro Mills Drive.

Revised Draft Vaughan Mills Centre Secondary Plan (February 14, 2014)

As stated, the comments included in our letter of June 10, 2013 continue to apply. However we have reviewed the draft revised secondary plan on behalf of Casertano and Mammone and observe as follows:

1. The Casertano lands, including the area recently transferred to York Region for its office building, would be designated Community Commercial Mixed Use (1.5 F.S.I./6 storeys), High-Rise Mixed Use (3.5 F.S.I./22 storeys) and Neighbourhood Park. These land use designations are the same as in the May 2013 version, but the maximum net density on the High-Rise Mixed Use lands has been increased from 3.2 F.S.I. to 3.5 F.S.I.
2. The Mammone lands would be designated High-Rise Mixed Use (3.0 F.S.I./18 storeys) and Neighbourhood Park. Again, these land use designations are the same as in the May 2013 version, but the maximum net density and maximum height have been increased from 2.0 F.S.I. to 3.0 F.S.I. and from 16 to 18 storeys.
3. The effect of the revised density maximums and related density calculation policies would be to allow approximately 106,245 m² of floor area on the Casertano lands and approximately 57,030 m² of floor area on the Mammone lands, which represents 73% of what is proposed in the revised Casertano concept, and 50% of what is proposed in the revised Mammone concept.
4. Similarly, the allowable building heights in the revised draft secondary plan continue to be lower than what is contemplated in the revised Casertano and Mammone proposals.
5. At approximately 1.4 ha, the proposed Neighbourhood Park is twice the size of the public park (or "Public Square") that is proposed in the combined Casertano and Mammone concepts. Moreover, the draft revised Secondary Plan continues not to allow any density to be transferred from the park to help compensate for its dedication.

In our opinion, the above proposals in the revised draft Secondary Plan continue not to take proper advantage of the planned function of Jane Street as a designated rapid transit corridor

and do not appropriately reflect the status of Vaughan Mills as a Primary Centre within the City's hierarchy of intensification areas.

The revised draft plan states that the 2021 horizon for the "Jane Corridor" area allows up to 3,371 residential units, 16,330 m² of retail uses and 46,079 m² of office uses. The City has not provided its calculations or methodology as to how it arrived at these highly specific numbers. In addition, it is unclear whether the office building on the Casertano lands has been included in the 46,079 m². In any event, it is clear that the overall number of residential units that is available would be insufficient to allow approval of the number of residential units proposed on the Casertano and Mammone lands, in conjunction with the approval of proposals for other sites.

It appears that the revised land use and density designations within the "Jane Corridor" area are based on the conclusions of the MMM Transportation Assessment dated February 2014 in terms of what could be accommodated on the road network up to the year 2021. We submit that a longer term view needs to be taken with regard to such designations because not all of the lands within the "Jane Corridor" area will be developed or redeveloped by 2021.

The revised draft plan contains a new section entitled "Character Areas" (1.4), wherein the Jane/Rutherford intersection is defined as a "gateway location" where the tallest buildings would be permitted, of up to 25 storeys compared with 22 storeys elsewhere in the Jane corridor. We would question whether the proposed minimal differentiation in building height would create a meaningful gateway. Nevertheless, in our opinion, the entire Jane corridor, between Bass Pro Mills Drive and Rutherford Road, should be treated as a single "focal point" for the Jane corridor and the Vaughan Mills Primary Centre as a whole, and should read as such when approaching the Centre from any direction.

In its Transportation Assessment dated February 2014, MMM proposes an east/west public street which crosses the Casertano site, and connects Jane Street to Vaughan Mills Circle. This new street would be aligned with a future extension of Graniteridge Drive and would have a full-moves, signalized intersection at Jane Street. This proposal has been reviewed by Casertano's transportation consultant, Mr. Bill O'Brien of Paradigm Transportation Solutions. He is of the opinion that Casertano's current proposal for an east/west road link, intersecting Jane Street approximately mid-way between the Casertano office driveway and Bass Pro Mills Drive, and being restricted to right-in right-out movements only, is preferable to the MMM proposal for several reasons, including:

- (a) Better integration with loading and driveway accesses for the mall on the west side of Vaughan Mills Circle
- (b) Improved separation distance from the existing Casertano office driveway; and
- (c) Less impact on future rapid transit operations on Jane Street by avoiding the addition of a new signalized intersection with minimal spacing from existing signalized intersections.

We would accordingly request that MMM's proposal for the east/west public street be reconsidered.

We note that the MMM assessment does not rely on the proposed Romina Drive extension across the Mammone lands for the purpose of estimating the capacity of the road network to support the proposed development levels. We acknowledge that roadways are accompanied by sidewalks and accordingly also accommodate pedestrian movements as well as vehicular circulation, but pedestrian routes along private driveways and within public parks can also contribute to the creation of a fine-grained pedestrian network. Accordingly, we submit that there should be more flexibility in the location and format of the connecting links to Vaughan Mills Circle than what the current revised draft plan provides.

Please do not hesitate to contact me if there any questions regarding the foregoing.

Yours truly,

Weston Consulting

Per:



Alan Young, BES, MSc, MCIP, RPP
Senior Associate

- c. Joe DiGiuseppe, Casertano Development Corporation
Sandra Mammone
Mary Flynn-Guglietti, McMillan LLP
Bill O'Brien, Paradigm Transportation Solutions



**WESTON
CONSULTING**

planning + urban design

June 10, 2013

File 4742

Chair and Members
Committee of the Whole
City of Vaughan
2141 Major Mackenzie Drive
Vaughan ON
L6A 1T1

Dear Sirs and Mesdames,

RE: Vaughan Mills Centre Secondary Plan (File 26.1)

Weston Consulting is the planning consultant for Casertano Developments Corporation ("Casertano") and Sandra Mammone ("Mammone") who own adjoining sites on the west side of Jane Street within the above secondary plan area, and who have been working together to achieve official plan and zoning amendment approvals to permit the co-ordinated development of their lands for high density mixed use purposes.

The location of the Casertano and Mammone sites is shown on the attached Land Use Designation plan from the draft secondary plan.

Background

The Casertano and Mammone official plan and zoning amendment applications were originally submitted in 2007/2009. The applications envisaged densities of approximately 5.0 F.S.I. on each of the two sites, with tower heights ranging between 26 and 40 storeys on the Casertano site and between 25 and 35 storeys on the Mammone site. A total of 3,650 units were proposed. A public park was proposed at the northwest corner of Jane Street and Bass Pro Mills Drive.

The statutory public meeting was held in January 2010. Council adopted the Committee of the Whole recommendation to defer the applications pending completion of a secondary plan review for Vaughan Mills.

In September 2010, Council adopted the City's new Official Plan which designated the Casertano and Mammone lands as High-Rise Mixed Use, as part of the Vaughan Mills primary centre where a secondary plan was required. The new Official Plan provided some flexibility for applications already in progress to proceed in advance of the secondary plan, subject to certain

criteria being satisfied. By letter dated November 1, 2010, Weston Consulting made a submission on behalf Casertano and Mammone, addressing the City's criteria, but in March 2011, Council turned down the owners' request to have their applications considered in advance of the secondary plan.

Casertano and Mammone appealed their applications to the Ontario Municipal Board in April 2011. On the basis that the City then adopted a program to complete the Vaughan Mills Secondary Plan by the end of 2012, the owners asked that their appeals be held in abeyance pending the outcome of that process. The appeals were reactivated earlier this year when it became apparent that the conclusion of the secondary plan process would be delayed.

Revised Casertano/Mammone Concept

By letter dated May 24, 2013, Weston Consulting submitted a revised development concept (attached) which reduces the proposed density to 3.7 F.S.I. on each of the two sites.

The number of towers on the Casertano lands would be reduced from six to five. This change arises from Casertano's decision to proceed with the construction of an office building in accordance with the existing zoning at the north end of its parcel. There would continue to be six towers on the Mammone lands.

Tower heights would be reduced to a range of 26-30 storeys on the Casertano lands, and 16-30 storeys on the Mammone lands.

A total of 3,211 units are proposed in the two concepts combined.

The concept continues to show the dedication of a public park at the northwest corner of Jane Street and future Bass Pro Mills Drive, stretching through the block to Vaughan Mills Circle. The aggregate area of the park is 0.74 ha, which falls within the category of "Urban Square" as defined in Vaughan Official Plan 2010.

Draft Vaughan Mills Secondary Plan (May 22, 2013)

We have reviewed the draft secondary plan on behalf of Casertano and Mammone and observe as follows:

1. The Casertano lands would be designated Community Commercial Mixed Use (1.5 F.S.I./6 storeys), High-Rise Mixed Use (3.2 F.S.I./22 storeys) and Neighbourhood Park.
2. The Mammone lands would be designated High-Rise Mixed Use (2.0 F.S.I./16 storeys) and Neighbourhood Park.
3. The effect of the above density maximums and related density calculation policies would be to allow approximately 90,930 m² of floor area on the Casertano lands and approximately 38,200 m² of floor area on the Mammone lands, which represents 63% of what is proposed in the revised Casertano concept, and 33% of what is proposed in the revised Casertano/Mammone concept.

4. Similarly, the building heights in the draft secondary plan are lower than what is contemplated in the revised Casertano/Mammone concept.
5. At approximately 1.4 ha, the proposed Neighbourhood Park is twice the size of the public park (or "Urban Square") that is proposed in the combined Casertano and Mammone concepts. Moreover, the draft Secondary Plan would not allow any density to be transferred from the park to help compensate for its dedication.

In our opinion, the above proposals in the draft Secondary Plan do not take proper advantage of the planned function of Jane Street as a designated rapid transit corridor and do not appropriately reflect the status of Vaughan Mills as Primary Centre within the City's hierarchy of intensification areas.

The covering staff report for the plan explains how important Jane Street is to the Region and the City as a future rapid transit corridor yet the Key Principles and Objectives of the draft Secondary Plan are silent on the need to designate lands for high density along Jane Street to support public sector investment in rapid transit.

The top proposed density of 3.2 F.S.I. is lower than existing densities in the area, Bellaria, which is 4.0 F.S.I., and planned densities in the immediate area, at Jane Street/Auto Vaughan Drive (3.5 F.S.I.), yet neither of these sites are within the Primary Centre. Similarly, the top building height at 22 storeys, is only five storeys more than what exists at Bellaria. The strict control on building height in the Primary Centre is not justified from an impact perspective, given the significant distance of most of the area from low density residential areas.

Getting the density right at Vaughan Mills is very important for building the case for public sector investment in rapid transit on Jane Street. No rationale has been presented for the particular densities or heights that have been advanced in the draft Secondary Plan. In our submission, sites that are within walking distance (500 metres) of Jane Street should be designated for higher densities and accompanying building heights, to set the scene for development that is more genuinely transit-supportive.

Both the Casertano and Mammone sites abut Jane Street. The entire Casertano site is within 100 metres of Jane Street, and the entire Mammone site is within 400 metres of Jane Street. Unlike most other sites in the Primary Centre and the Jane corridor, the Casertano and Mammone sites are significantly underutilized and they are ripe for development. They present an opportunity to realize transit-supportive development in the near future. In our submission there is ample room to increase the densities and heights to at least what is represented in the revised Casertano and Mammone concepts, while maintaining the Vaughan Metropolitan Centre as the place where the greatest densities and heights are allowed (up to 6.0 F.S.I. and up to 35/42 storeys).

The proposed Neighbourhood Park at the northwest corner of Jane Street and Bass Pro Mills Drive is also problematic because it reduces the supply of development land within walking distance of the transit corridor. The scale of the proposed Urban Square in the Mammone and Casertano concepts is more suitable for this prime location.

The draft Secondary Plan does not provide for any density transfers from public park designations. It is unclear, therefore, how the local park system is to be established on an equitable basis, particularly in a centre like Vaughan Mills where redevelopment of existing buildings will likely be slow in occurring. A density transfer mechanism would help resolve this issue.

For the same reason, we would request that density calculations include lands dedicated for public roads purposes. We note that OPA 400 and the Vaughan Metropolitan Centre Plan allow at least some public road dedications to be included in density calculations.

The revised Casertano and Mammone concepts both provide for road links connecting Vaughan Mills Circle to Jane Street and Bass Pro Mills Drive, as envisaged in the draft Secondary Plan, but not in the same specific location shown in the Secondary Plan. We propose these as private streets since Vaughan Mills Circle is not envisaged to be dedicated as a public road for the foreseeable future. We are however open to discussing the location and ownership of the road links with staff further, as part of a general discussion relating to the revised concepts and in the interests of achieving a settlement of the appeals.

Other observations and comments relating to the draft Secondary Plan are provided below:

1. The 2031 targets for the Vaughan Mills Centre are equivalent to full build-out of the Plan's assigned development potential. To achieve a target, the overall assigned development potential needs to be much higher than the 2031 target, as in the Vaughan Metropolitan Centre Plan.
2. The location of the proposed Mobility Hub is detached from the existing York Region Transit Terminal and is hypothetical at this time. For the purpose of assigning density in relation to transit, the draft Secondary Plan should focus on the entire Jane Street corridor, or the "potential future transit stops" along Jane Street (at Rutherford, Riverrock and Bass Pro Mills) as shown on Schedule "G" to the draft secondary plan.
3. The Plan's policies and density/height assignments should clearly differentiate Jane Street, a designated Regional Rapid Transit Corridor, from Rutherford Road, a Regional Transit Priority Corridor. Higher densities and heights are appropriate to future rapid transit corridors, particularly Jane Street where a subway extension is sought.
4. The Casertano lands comprise a single parcel but are proposed for a split development designation. Since the site abuts Jane Street and is entirely within 100 m of Jane Street, the entire parcel should be placed in the High-Rise Mixed Use designation.
5. The commercial density in the revised Casertano/Mammone concept is approximately 0.25 F.S.I. on each site. Draft policy 3.5.7 requires that at least 0.5 F.S.I. of the top density category, 3.2 F.S.I., be devoted to non-residential uses. We concur with the principle of mixed use, but request that a more general principle be articulated in the Secondary Plan, encouraging or requiring at least the ground floors of apartment buildings to contain retail/service commercial or institutional uses in targeted locations.
6. As expressed in Casertano's and Mammone's appeals of Vaughan Official Plan 2010, mandatory built form parameters should not be contained in the Official Plan. We

request that general built form principles be articulated in the Secondary Plan, but that the numeric parameters be reworked as guidelines for inclusion in an appendix.

7. No rationale has been presented for reducing the maximum floorplate size for high-rise buildings above 12 storeys, from 850 m² to 750 m².
8. Draft policy 3.8.3(ii) appears to require a street wall along a minimum of 80% of all public street frontages. In our opinion, flexibility should be retained for privately owned yet publicly accessible open space features which could be similar in function to Urban Squares.
9. Draft policy 3.6.1.7 carries forward the existing site-specific policy applicable to the Mammone site. This provides guidance for a previous as-of-right zoning scenario. It is obsolete in the context of the Secondary Plan and should be deleted.
10. The draft "Development Progression" policies in Section 7.0 should be clarified to indicate that the initial phase of development runs to the year 2031, since the number of residential units in Areas 1 and 2 corresponds to the build-out potential indicated in the Table on p. 41.

We thank for the Committee for this opportunity for input and we look forward to discussing the foregoing matters with the City further.

Yours truly,

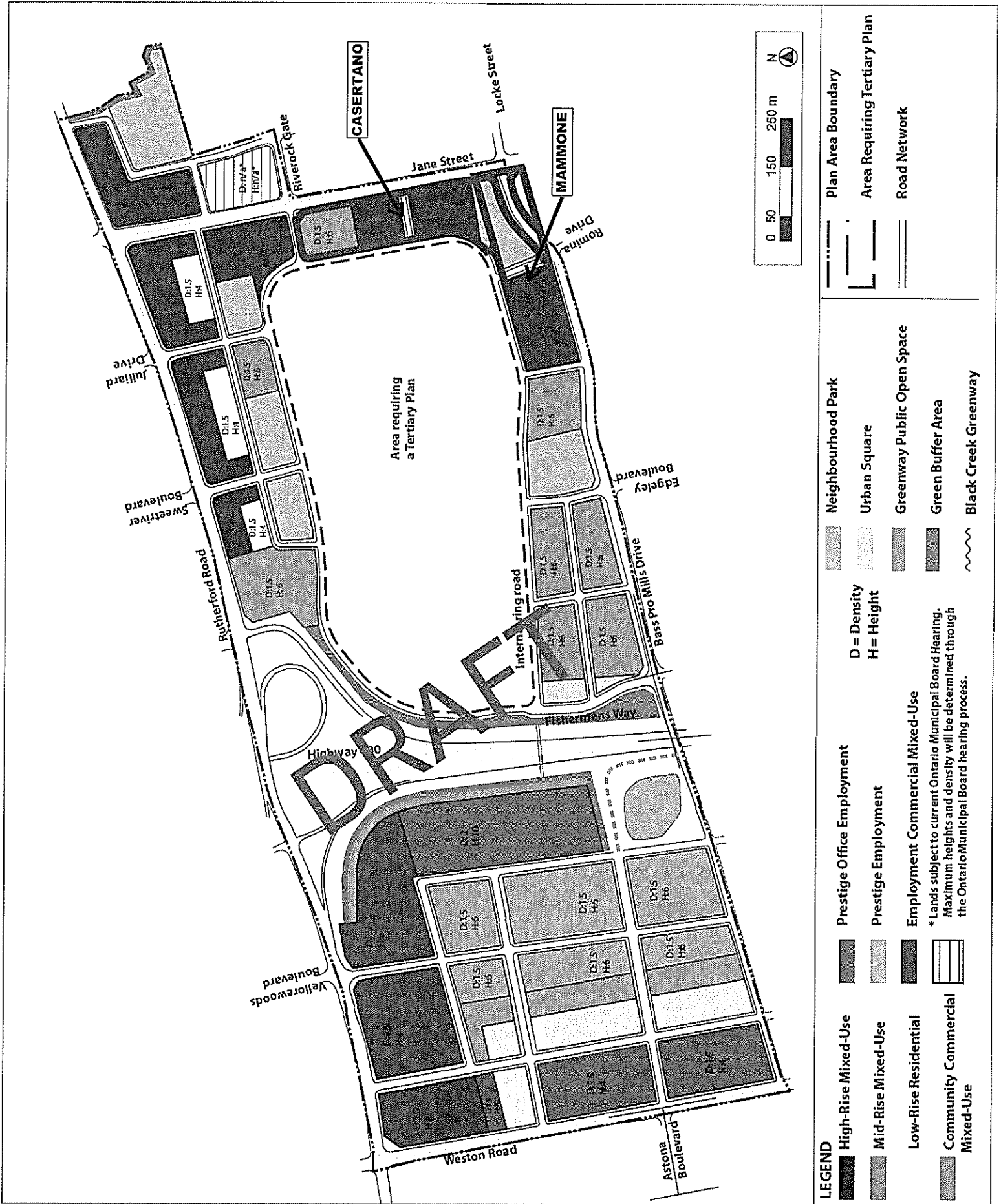
Weston Consulting

Per:



Alan Young, BES, MSc, MCIP, RPP
Senior Associate

- c. Casertano Development Corporation
Sandra Mammone
Mary Flynn-Guglietti, McMillan LLP





BRATTYS LLP
BARRISTERS AND SOLICITORS

c10
Communication
CW: Feb 25/14
Item: 5

PLEASE REFER TO:
Barry Horosko (Ext: 339)
Email: bhorosko@bratty.com
Assistant: Brendan Smith (Ext: 455)
Email: Bsmith@bratty.com
Telephone: (905)760-2600

February 24, 2014

Chair & Members of the Committee of the Whole
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario L6A 1T1

Dear Sirs/Madame:

**Re: February 2014 Draft Vaughan Mills Centre Secondary Plan
Delisle Properties, Southeast Corner of Jane Street and Rutherford Road**

We are the solicitors for Delisle Properties Limited and Rutherford Lands Corporation ("Delisle/Rutherford") with respect to the above referenced matter. Our clients are the owners of approximately 14 acres of land at the southeast corner of Jane Street and Rutherford Road (the "Site"). As you know, Rutherford Lands Corporation has a 37 storey condominium project under construction in the VMC.

Further to our letter provided to you on June 11, 2013, we have now reviewed the updated draft Vaughan Mills Secondary Plan dated February 2014. We are writing to continue to express our support for the proposed High-Rise Mixed-Use designation and to acknowledge and support the revision to increase the density on the Delisle Site, including providing for additional height at the intersection of Jane/Rutherford to recognize the prominent intersection location.

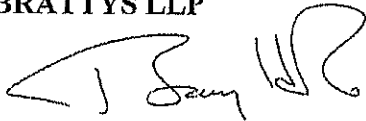
While we support the proposed land use and appreciate the revision to increase height and density, we believe that prescribed densities and development thresholds should be much more flexible in order to achieve the desired effect of intensifying the Jane Street corridor. Also, we note that the wording of 2.4.4 references maximum heights of 35 storeys and maximum densities of 6.0 times for the Vaughan Metropolitan Centre, which is intended to have the highest and most intense development in the City. However, the VMC Secondary Plan has existing buildings approved and under currently construction at 39 storeys and the adopted VMC Secondary Plan allows for heights of 42 storeys. Furthermore, the City has allowed heights exceeding 30 storeys outside of the VMC (Liberty at Weston Rd. and Highway 7) and the VMC Secondary Plan remains under appeal with the heights and densities still to be determined.

With respect to the proposed development thresholds, or limit of 3,300 units to the year 2021 within the Jane Street Corridor, it is our opinion that such limitations may frustrate the intensification of an important transit corridor. The approach to planning for intensification areas such as the Jane Street corridor should be flexible and provide incentives to develop rather than imposing limitations and constraints. The application of rigid planning controls typically results in unintended consequences with development finding the path of least resistance, which may very well be in a location where development is not intended. Such a result may frustrate the ability to meet intensification targets to support the viability of planned transit and to optimize the use of existing and planned infrastructure.

As the new Vaughan Mills Secondary Plan seeks to promote a more urban form of development, we have provided a large percentage of high quality urban (park and pedestrian) spaces such as a mix of a linear and pedestrian park connections, parkettes and urban squares as opposed to the typical suburban neighbourhood park. In our opinion, the location of the proposed "**Neighbourhood Park**" on the Delisle Site is not appropriate and would not serve the community or the objectives for the Jane Street Corridor.

We trust you will take our submissions into consideration while you consider this Report. Further comments may be forthcoming upon further review. Please keep us informed as this matter proceeds.

Yours truly,
BRATTYS LLP



Barry A Horosko

cc: John Mackenzie, City of Vaughan
L. Kot, Cortel Group
Tony Barry, Delisle Properties Ltd.
M. Bissett, Bousfields Inc.

c 11
Communication
CW: Feb 25/14
Item: 5

Reply to the Attention of	Mary Flynn-Guglietti
Direct Line	416.865.7256
Email Address	mary.flynn@mcmillan.ca
Our File No.	81376
Date	February 25, 2014

DELIVERED BY EMAIL clerks@vaughan.ca

Committee of the Whole
City of Vaughan
2141 Major Mackenzie Drive
Vaughan ON
L6A 1T1

Attention: Chair and Members of the Committee of the Whole

Dear Sirs/Mesdames:

**Re: Revised Draft Vaughan Mills Centre Secondary Plan
February 14, 2014 (File 26.1)
Limestone Gallery Investments Inc. – 3255 Rutherford Road &
Damara Investment Corp. – 9100 Jane Street**

We are the solicitors retained to act on behalf of Limestone Gallery Investments Inc. (“**Limestone Gallery**”) and Damara Investment Corp. (“**Damara**”), owners of properties located within the Vaughan Mills Centre Secondary Plan (“**VMCS**”).

The Limestone Gallery lands are located on the south-east quadrant of Rutherford Road and Highway 400 and are municipally known as 3255 Rutherford Road. The property is currently developed with 12 commercial buildings with six (6) single tenant occupied buildings and 6 multi-tenanted occupied buildings for a total of 55 units.

The Damara lands are located at the south-west corner of Jane Street and Rutherford Road and municipally known as 9100 Jane Street. The site is currently developed with a three (3) storey office building.

As you can appreciate our clients have made significant investments in developing the above noted properties for commercial and office use. In reviewing the draft VMCS Plan our clients are concerned that the vision as set out in the VMCS plan is not consistent with the investment and direction of development that our clients have undertaken. For example Damara’s 3 storey office building at the south-west corner of Jane and Rutherford is a recent and significant development of the lands. Pursuant to section 4.8 of the VMCS Plan the site is envisioned as a transit hub and a proposed high-rise residential block.

Similarly the commercial plaza located on the Limestone Gallery lands along Rutherford Road, east of Highway 400 is being redesignated for low, mid and high-rise development and parkland. The site is currently connected to an appropriate and efficient road network, however section 4.2.7.3 of the VMCS envisions road connections through the site. Clearly the vision in the draft VMCS Plan does not reflect the significant investment on the above noted sites.

We respectfully submit that the VMCS Plan must contain satisfactory provisions that respect and encourage the existing developments and permit said developments to expand as needed and necessary to meet market conditions in order to remain viable commercial entities. We submit that the current draft of the VMCS would impede and negatively impact the viability of our clients' sites.

On June 11, 2013 we wrote to the Committee of the Whole setting out our concerns and stated that my client's would be willing to meet with staff to discuss our concerns, regrettably we were not contacted by staff nor do we believe the revised draft of the Vaughan Mills Centre Secondary Plan attempts to resolve our concern. Kindly ensure that our concerns are brought forward at today's meeting.

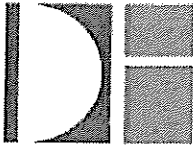
Yours truly,

A handwritten signature in black ink, appearing to read 'Mary Flynn-Guglietti', with a stylized, cursive script.

Mary Flynn-Guglietti

/sb

c.c. Lisa Di Clemente
Joe Di Giuseppe



Davies
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Lawyers

The Fifth Floor
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M5V 3P8

T 416.977.7088
F 416.977.8931
davieshowe.com

c 12
Communication
cw: Feb 25/14
Item: 5

Please refer to: **Mark Flowers**
e-mail: markf@davieshowe.com
direct line: 416.263.4513
File No. 702586

February 25, 2014

By E-Mail to clerks@vaughan.ca

Chair and Members of the Committee of the Whole
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

Dear Sirs / Mesdames:

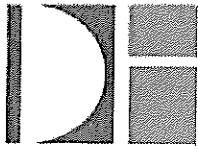
**Re: Draft Vaughan Mills Centre Secondary Plan
Agenda Item 5 – Committee of the Whole Meeting on February 25,
2014
File #: 26.1
Submissions on behalf of H & L Title Inc. and Ledbury
Investments Ltd.**

We are counsel to H & L Title Inc. and Ledbury Investments Ltd., the owners of lands located east of Weston Road and south of Rutherford Road, within the Vaughan Mills Centre Secondary Plan area. Our clients are also appellants to the Vaughan Official Plan (2010).

By letter dated June 10, 2013, we submitted detailed comments on behalf our clients and also on behalf of other landowners (Anland Developments Inc. and 2811187 Ontario Limited) situated west of Highway 400 in the Vaughan Mills Centre Secondary Plan area in response to various concerns with the original draft Vaughan Mills Centre Secondary Plan, dated May 22, 2013. A copy of the previous submission is attached for ease of reference.

It is our understanding that representatives for Anland Developments Inc. and 2811187 Ontario Limited will be submitting separate comments on the revised draft Secondary Plan on behalf of their clients.

We have had the opportunity to review the revised draft Vaughan Mills Centre Secondary Plan (the "VMCSP") dated February 14, 2014, together with the



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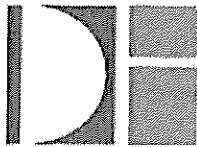
related report of the City's Commissioner of Planning entitled "City of Vaughan Response to Public, Government and Agency Submissions" (the "Staff Report").

We are disappointed that none of the previous concerns raised have been addressed in the revised draft VMCSPP, nor has our previous submission been recognized or responded to in the Staff Report.

Accordingly, we are writing to advise the Committee that our clients oppose the revised draft VMCSPP in its current form.

Among the outstanding concerns with the draft VMCSPP are the following:

- The revised draft VMCSPP proposes to designate our clients' lands in the so-called "Vaughan Mills Centre Business District" (formerly known as Area 3) only for Prestige Office Employment and Prestige Employment. The proposed land use pattern will further segregate this area from the mixed use areas proposed for the east side of Highway 400 and south of Rutherford Road;
- The revised draft VMCSPP does not provide for any form of housing or mixed commercial/residential uses within the "Vaughan Mills Centre Business District", specifically along the east side of Weston Road, where such uses could provide an appropriate transition to the established residential community to the west of Weston Road. Allowing for such uses would be consistent with Principle 3 of the VMCSPP, which aims to provide a diverse range of housing options in the secondary plan area;
- The revised draft VMCSPP fails to recognize the west side of the Highway 400 corridor as an appropriate location for a broader range of compatible commercial and residential uses. The development potential of these lands is further hindered by the proposed introduction of policies that would restrict building heights to 10 storeys and a density of 2.0 FSI;
- The proposed 70m Black Creek Corridor and 50m District Greenway are inappropriate from a land use perspective, and the extent of these proposed corridors have not been justified; and
- In keeping with its designation as a transit priority corridor, lands located on the east side of Weston Road should be identified as an appropriate location for mixed use intensification, and the proposed transportation



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network for the lands west of Highway 400 should be reconsidered in the context of future mixed use development on these lands.

We request that the Committee direct staff to reconsider the draft VMCSPP in light of these comments and bring forward a further revised draft of the Secondary Plan that addresses the various concerns that have been identified by our clients.

Our clients remain committed to continuing to work with the City and other stakeholders in finalizing the VMCSPP in a manner that appropriately addresses their concerns and, at the same time, satisfies the City's objectives.

Yours truly,

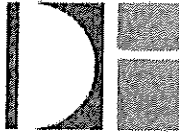
DAVIES HOWE PARTNERS LLP


Mark R. Flowers
Professional Corporation

encl.

copy: John Mackenzie, Commissioner of Planning, City of Vaughan
H & L Title Inc. and Ledbury Investments Ltd.
Jim Levac / Jack Wong, Weston Consulting Group Inc.

COPY



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Please refer to: **Jeffrey L. Davies**
e-mail: jdavies@davieshowe.com
direct line: 416.263.4508
File No. 702586

June 10, 2013

By Courier

Committee of the Whole
City of Vaughan
Clerks Department
2141 Major Mackenzie Drive
Vaughan, ON L6A 1T1

Attention: Rosanna DeFrancesca, Chair of the Committee of the Whole
Jeffrey Abrams, City Clerk
John MacKenzie, Commissioner of Planning

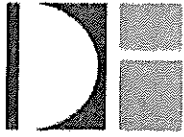
Dear Sirs/Mesdames:

Re: June 11, 2013 Public Meeting of the Committee of the Whole
Response to Draft Vaughan Mills Centre Secondary Plan
By: H & L Title Inc., Ledbury Investments Ltd., Anland
Developments Inc. & 281187 Ontario Limited

Davies Howe Partners LLP and Weston Consulting Group Inc. represent H&L Title Inc. and Ledbury Investments Ltd. Parente Borean LLP and Humphries Planning Group Inc. represent 281187 Ontario Limited, and Humphries Planning Group Inc. represents Anland Developments Inc. This letter is submitted on behalf of the four companies (collectively referred to herein as "the Group").

The Group's lands are located within "Area 3" of the Draft Vaughan Mills Centre Secondary Plan (Draft Secondary Plan). These lands amount to approximately 97 acres or roughly 73% of the remaining undeveloped lands within Area 3 and are located south of Rutherford Road to the north, Highway 400 to the east, Weston Road to the west and the future extension of Bass Pro Mills Drive to the south. A map is attached for your convenience.

By way of background information, the Group members have actively participated in both the City of Vaughan Official Plan and the Vaughan Mills Centre Secondary Plan Study review processes. The Group members have obtained party status in the Ontario Municipal Board proceedings for the Vaughan Official Plan.



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We take this opportunity to provide the following submissions regarding the Draft Secondary Plan:

First, the Group submits that the Draft Secondary Plan contains several shortcomings and requires further review. Accordingly, the Group objects to the Draft Secondary Plan.

Second, the Plan fails to address many fundamental land use planning issues and was created prior to the finalization of necessary background and technical studies. The Draft Secondary Plan has also failed to appropriately incorporate the Group's submissions throughout the study process. It is submitted that the elements of land uses, density, height and street network all require further consideration.

Third, the Draft Secondary Plan provides nine (9) Guiding Principles within Part B, Section 1.2 and uses these principles as a benchmark for guiding the development and measuring the success of the plan. We have reviewed these principles and submit that the distribution of land uses and associated policy regimes in the Draft Secondary Plan are inappropriate. Therefore, the Draft Secondary Plan should be amended to designate the Group's lands for mixed use purposes. This designation would more appropriately account for the land's context and relationship to Vaughan Mills, the mixed use lands to the north, the residential lands to the west, and the future extension of Bass Pro Drive to the south.

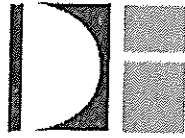
Principle 1 – Create a Vibrant, Complete, Mixed-Use Urban Centre

The Draft Secondary Plan does little to integrate future land uses on both sides of Highway 400 and continues the highway as a major physical boundary. As a result, the Group's lands within Area 3 Employment are inappropriately segregated from the high density, retail and mixed uses on the east side of Highway 400 and south of Rutherford Road. Little effort or initiative has been made to link the Group's lands, and the projected 7590 jobs associated with their lands, to the planned transit hub connected to the mall. The Group submits this land use pattern is not good planning and will hinder the creation of a vibrant and complete mixed-use urban centre.

The proposed road network within Area 3 is comprised of too many planned streets. The Group submits this requires further consideration in order to appropriately contribute to this principle.

Principle 2 – Foster a High Quality of Place, Design Excellence, and Sustainability

While we generally agree with this principle, we observe that its implementation is undermined by the land use issues outlined above, resulting in the loss of the



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opportunity for considerable synergy between both sides of Highway 400 and a “human scaled” environment. A mixed use designation in Area 3 would better reflect Principle 2.

Principle 3 – Provide a Diverse Range of Housing Options in Vaughan Mills Centre

The Draft Secondary Plan does not provide for any type of housing within Area 3, which is inconsistent with the permitted residential uses within Area 1 and Area 2. It is also unclear as to whether building “ground family oriented” housing around a regional mall has been thoroughly considered.

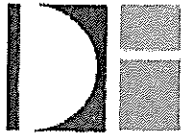
Furthermore, it is highly unlikely that low and medium density/ground housing will replace any of the out-parcel retail buildings in the Vaughan Mills Mall. In order to achieve the desired variety of housing options, we submit that low, medium and high density residential uses should be planned within Area 3, having regard to the residential area to the west.

Principle 4 – Enhance the Role of Vaughan Mills Centre as a “Centre” of Economic Activity, Jobs, and Commerce in the Region

We submit that it is common for regional shopping centres like Vaughan Mills to create sizable land use synergies for the surrounding area, especially as the regional centre matures. Vaughan Mills is not yet complete, so this process will continue for the foreseeable future. The Draft Secondary Plan fails to recognize these positive spin-off effects and how to plan for them for the future. The creation of a unique employment and commercial environment is restrained by the rigid policies in the Plan, such as maximum floor area. Likewise, the Draft Secondary Plan fails to recognize the west side of the Highway 400 corridor in this area as an attractive location for offices, corporate headquarters, hotels, convention centres and forms of residential use. The restrictions placed on Area 3, including 10 storey building heights and 2.0 FSI, are arbitrary and should be revisited. Area 3 requires higher building types, heights and density in order to better utilize existing investments in provincial and city infrastructure, such as Highway 400, its interchanges and the road network.

Principle 5 – A Walkable Urban Environment

Promoting a pedestrian and cyclist-friendly environment is an admirable goal. However, given the shortcomings of the Proposed Secondary Plan, it is unlikely that this goal will materialize.



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Principle 6 – Provide High Quality Open Spaces

The Group submits that the proposed Black Creek Greenway is not considered to be an enhancement of the existing open space corridor, as suggested in the Plan. The proposed location of the Greenway is completely realigned from its existing location and the proposed 70 metre wide Black Creek Greenway is inappropriate. The Group understands that a report prepared by the MMM Group, entitled “Stormwater Management Conceptual Strategy,” has not been made available to the public. This report may prove to be helpful to stakeholders and should be released to allow for their consideration and input. As such, the Group submits that further discussion among the stakeholders is required once the MMM report is released to the public. Following these discussions, it may also be necessary for stakeholders to seek independent advice regarding the MMM report.

Principle 7 – Protect, Restore, and Enhance Natural and Cultural Heritage Resource

The Group submits that further discussions on matters pertaining to natural and cultural resources should be provided for in the Draft Secondary Plan.

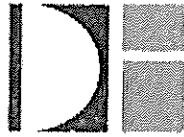
Principle 8 – Create Multi-Model Transportation Network

The Group submits that a multi-model transportation network is another area which requires more attention in order to improve the Draft Secondary Plan. Creating a multi-model transportation network throughout the study area is a good objective if density is allocated in a manner that will be supportive. Weston Road is designated as part of the Region’s Transit Priority Network, therefore, land use and intensification should be better implemented within this corridor.

Principle 9 – Sustainable and Resilient

Achieving a full range of housing types in concert with many of the other objectives discussed above can be reached if Area 3 is designated for mixed uses. Area 3 is the most suitable area to provide smaller and compact housing forms, as suggested in the plan (see policy 2.5.2). Many opportunities exist to attain a more appropriate land use designation in Area 3. Further discussions in this regard are required.

Staff and study team members have made it clear that the study process would not consider a reassignment of land use designations from the Official Plan. Nevertheless, lands at the southeast side of Jane Street and Rutherford Avenue that are presently designated for Employment Uses have been added to the planning area for the Draft Secondary Plan. These lands are proposed to be re-designated for High-Rise Mixed-Use. This is one area where the study process was



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Partners
LLP

varied, presumably for good reason. Likewise, the Group submits that Area 3 should be considered for uses beyond those shown in the Official Plan and these lands should be more appropriately designated for mixed use purposes.

Area 3 holds considerable potential to accommodate a higher and broader range of land uses than reflected by the Draft Secondary Plan and this too should be recognized. In this regard, the table located on page 41 of the Draft Secondary Plan, which provides projections for jobs, units, and population by area, does not provide any unit and population projections for Area 3. We submit that units and population should be added into the projection chart in order to accommodate residential development for Area 3 landholdings and that the table be revised to ensure the mixed use potential of Area 3 is optimized.

Conclusion

In conclusion, the Group objects to the Draft Secondary Plan in its entirety and submits that further work and consultation is required to improve the opportunities for, and treatment of, Area 3.

We request the Group's input be considered by Committee members and staff. The Group asks that staff be directed to work with all stakeholders (including the Group) in order to realize the full potential of the planning area. Following this collaboration, the Group asks that staff report back to the Committee with the necessary revisions. The Group is committed to continuing to work with the City and other stakeholders.

Yours sincerely,
DAVIES HOWE PARTNERS LLP

Jeffrey L. Davies
Partner

copy Members of Council
Diana Birchall, Director of Policy Planning
Paul Jankowski, Commissioner of Engineering and Public Works
Members of Landowners Group



**WESTON
CONSULTING**

planning + urban design

LEGEND

— LAND OWNERS GROUP

LAND OWNERSHIP MAP

File Number:	3867
Date Drawn:	10 JUNE 13
Drawn By:	SM
Planner:	JL
Scale:	NTS
CAD:	3867/schedules/3867 Ownership map.dgn

Air Photograph from Google Earth Pro.
Date of photography: August 2009

February 25, 2014

Councillor Alan Shefman and Members of the Committee of the Whole
Vaughan City Hall
2141 Major Mackenzie Drive
Vaughan, Ontario
L6A 1T1

Attention: Rose Magnifico

rose.magnifico@vaughan.ca

Chair Shefman and Members of the Committee:

RE: Draft Vaughan Mills Centre Secondary Plan - City File 26.1 (the "Plan")
RE: Meeting of the Committee of Whole February 25, 2014

Please be advised that we are the solicitors for Canadian National Railway ("CNR"). Our client owns and operates the MacMillan Classification Yard (the "Yard") located east of Jane Street nearby the eastern edge of the proposed Plan. The Yard comprises about 1000 acres and is about three times the size of the total proposed Vaughan Mills Center Secondary Plan Planning Area.

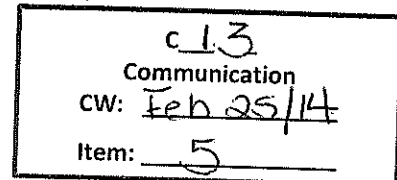
CNR employs 1500 people at this location and has, over the last fifty years, attracted numerous other industries to the employment lands that have developed around the Yard in the heart of Vaughan. The Yard is one of the most important transportation terminals in Canada and North America.

CNR was invited by the City of Vaughan to participate as a member of the Technical Advisory Committee for the Study leading up to the preparation of this draft amendment as a member representative of a relevant agency or stakeholder, along with City staff, and participants from MTO, TRCA, Metrolinx, and York Region. The City invited CNR's participation out of recognition of the large influence area of the Yard's operation and the Yard's significant role in the Regional, Provincial and National economy. CNR attended and actively participated throughout the study process.

CNR maintains the following comments:

1. AMENDMENT AREA IS INAPPROPRIATE

CNR states that the inclusion of the lands east of Jane Street and south of Rutherford Road and north of Riverock Gate in the Study Area and the proposed Secondary Plan Planning Area has been done with no planning rationale or analysis to support the inclusion of these lands in the Amendment Area.



2. PROPOSED DESIGNATION OF LANDS EAST OF JANE STREET AS HIGH-RISE MIXED USE IS BAD PLANNING

The current version of the proposed Secondary Plan calls for mixed use high-rise, with a substantial portion being contemplated as residential condominium towers of up to 22 storeys for the lands east of Jane Street and south of Rutherford Road. This area is within the noise influence area of the Yard and within the original setback zone established by the Township of Vaughan established to protect residential areas from excessive noise.

These lands were originally designated as "Commercial Mixed Use" but have been subsequently proposed to be redesignated by Vaughan City Council (as of June 2012), as "High-Rise Mixed Use". There has not been any analysis as to the land use compatibility between the new proposed high-density residential uses and the existing uses of the employment area abutting to the south and east, including the Yard.

Our client believes that, should high rise residential developments be permitted in the area east of Jane Street and south of Rutherford Road many of the new residents will be exposed to noise levels from the Yard and the adjoining industrial area that are not consistent with the standards for industrial noise levels established by the Ontario Ministry of the Environment Guidelines and the City of Vaughan Noise Bylaw.

CNR as a railway is exempt from the provisions of the Vaughan Noise Bylaw and the Ontario Environmental Protection Act.

Additionally, CNR believes that traffic infiltration from this proposed residential area into the employment lands may lead to conflicts with industrial traffic and in particular tractor trailers.

3. HISTORY OF RESIDENTIAL ENCROACHMENTS ON THE MACMILLAN YARD

Over the last twenty years, there have been considerable residential encroachments permitted adjacent to the MacMillan Yard. Initially in the 1980's residential development was allowed to the north of the yard's pull back track at a distance of 150 metres. This community generated a number of complaints for CN and Vaughan given the twenty-four hour noise generated by the MacMillan Yard.

Subsequent to that the Villa Giardino residential condominium development was approved by Vaughan in 1999 and then for the first time, south of the yard's pull back track north of Rutherford Road high rise residential development was permitted by the OMB in 2004 after a lengthy hearing over the objections of the City of Vaughan and CN Rail.

CN is very concerned by the possible introduction of residential and other sensitive land uses to the northwest of its yard, south of Rutherford Road and east of Jane Street.

4. THE 2005 PROVINCIAL POLICY STATEMENT

CN would refer Vaughan Council to the 2005 Provincial Policy Statement issued under the Planning Act and in particular section 1.6.6 of that policy.

Transportation and Infrastructure Corridors

1.6.6.1 Planning authorities shall plan for and protect corridors and rights-of-way for transportation, transit and *infrastructure* facilities to meet current and projected needs.

1.6.6.2 Planning authorities shall not permit *development* in *planned corridors* that could preclude or negatively affect the use of the corridor for the purpose(s) for which it was identified.

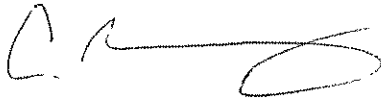
The MacMillan Classification Yard is one of the most important transportation terminals in Canada and its continued successful and efficient operation is important to the economies of Vaughan, York Region and North America in making rail an affordable and sustainable transportation option.

Kindly provide the author with written notice of adoption of an Official Plan Amendment and notice of any further meetings and/or decisions by Council or its Committee in respect of this matter.

We would request copies of the Minutes of the Committee of the Whole and Vaughan Council meetings addressing this matter.

Kindly acknowledge receipt of this letter in writing.

Yours very truly,



A. MILLIKEN HEISEY Q.C.
AMH/rm

cc: Canadian National Railway

Steve Zakem, solicitor for Granite Real Estate
(Formerly M1 Developments Inc.)

Michael Melling, Solicitor for Tesmar

Clerk of the City of Vaughan
clerks@vaughan.ca

Mary Flynn- Guglietti, solicitor for Casertano Development Corporation



MARIUSZ JASTRZEBSKI MCIP RPP
mbj@goldberggroup.ca
(416) 322-6364 EXT. 2102

February 25, 2014

Mr. John MacKenzie
Commissioner of Planning
City of Vaughan
2141 Major Mackenzie Drive
Vaughan, ON
L6A 1T1

c14
Communication
cw: Feb 25/14
Item: 5

Dear Mr. MacKenzie:

**RE: The Draft Vaughan Mills Centre Secondary Plan
Comments on Behalf of Ivanhoe Cambridge
City of Vaughan
City File No.: 26.1**

Further to our letter dated July 3, 2013 regarding our comments on the Draft Vaughan Mills Secondary Plan, and further to the City of Vaughan Staff Report that will be proceeding to the February 25, 2014 Committee of the Whole meeting, we wish to thank you, on behalf of Ivanhoe Cambridge (IC), for addressing some of our concerns with the Draft Vaughan Mills Secondary Plan. However, there continue to remain concerns and objections with the Draft Vaughan Mills Secondary Plan, dated February 2014 and we wish to express these in this letter. This correspondence is to be read in conjunction with our letter dated July 3, 2013 as the reasons for our concerns.

1. Schedules B, C, D, E and H

All of these Schedules continue to plan for a Neighbourhood Park and a "Potential Location for School and/or Other Community Facility" on the IC block at the northwest corner of Edgeley Boulevard and Bass Pro Mills Drive. We understand that the York Region District School Board prefers to locate a future school at this location however the premise on which locating a school at this location is to take place is unrealistic and impractical. The majority of the surrounding lands are already developed for long term non-residential uses and it is not anticipated that any of these lands will be redeveloped for residential uses in the foreseeable future. In addition, locating the school at this location would lead to an incompatible use with the existing Vaughan Mills Shopping Centre and would not be supported by the absence of residential uses in the immediate area. IC wishes to maintain their development permissions by being able to develop on this site which has already been designated to be used for commercial uses.

2. Schedules F, G and H and Section 4.2.7.3.2 Streets Proposed for the Vaughan Mills Mall Area

Schedules F and G have been revised to remove the Potential Future Collector Street traveling through the existing and expanded shopping centre building, however, the ring road continues to be shown as a Potential Future Collector Street and the driveways continue to be shown as public roads. Putting these public road conversions into an Official Plan document would enable the taking of this public road system through subsequent Planning Act applications by IC. IC objects to any such road conversions.

The ring road is an integral part of the Vaughan Mills Shopping Centre. No changes to the form of the Vaughan Mills Shopping Centre are expected to take place within the next 30 years as long term leases between IC and tenants are existing. Given the planning and operations of the Shopping Centre, IC is opposed to transferring ownership and control of the ring road to the municipality as it is an integral part of the Vaughan Mills property and will remain so for the foreseeable future.

IC continues to object to any such public road conversion and requests the entire deletion of these public roads from the text and schedules of the draft Secondary Plan.

At the appropriate time, we welcome an invitation to speak with you further about this.

Please accept this correspondence as our formal comments on the February 2014 Draft Vaughan Mills Secondary Plan and ensure that it is submitted to the Committee of Whole for their meeting of February 25, 2014. In addition, we wish to continue to be notified of any further meetings and reports concerning this topic area.

Thank you in advance for your consideration of this information and input, and we look forward to our ongoing work together on this project.

Yours truly,
GOLDBERG GROUP



Mariusz B. Jastrzebski, MCIP, RPP
Planner

Cc: David Baffa, Ivanhoe Cambridge
Michael S. Goldberg, Goldberg Group
Jeff Davies, Davies Howe
Melissa Rossi, Vaughan Planning
Roy McQuillin, Vaughan Planning

COMMITTEE OF THE WHOLE FEBRUARY 25, 2014

VAUGHAN MILLS CENTRE SECONDARY PLAN (THE “VMCS PLAN”) CITY OF VAUGHAN RESPONSE TO PUBLIC, GOVERNMENT AND AGENCY SUBMISSIONS

FILE #: 26.1

WARD 3 & 4

Recommendation

The Commissioner of Planning recommends that:

1. The “Track Changes” version of the draft Vaughan Mills Centre Secondary Plan (February 2014), forming Attachment 3 to this report, reflecting the modifications set out in the section of the report entitled “Issues Resulting in Substantive Changes to the Plan and in Attachment 2 “Response Table for Agency and Public Comments”, BE APPROVED and be forwarded to Council for adoption, subject to any further direction resulting from this meeting and final staff review;
2. The “Transportation Assessment - Vaughan Mills Centre Secondary Plan Area” (February 2014), MMM Group Ltd. forming Attachment 8, BE RECEIVED;
3. The adopted Secondary Plan be forwarded to York Region for approval as an insertion into Volume 2 of the Vaughan Official Plan 2010, being the incorporation of a new Section 11.11 “Vaughan Mills Centre” as one of the “Secondary Plan Areas” identified on Schedule 14-A to Volume 1 of VOP 2010;
4. The adopted Vaughan Mills Centre Secondary Plan form the basis for the City’s position at the Ontario Municipal Board in respect of the appeals within the Secondary Plan Area, in regard to, among other things, such matters as land use, development density and phasing, building height, transportation, urban design, parkland amount and distribution, open space areas/stormwater management and servicing;
5. York Region be requested to initiate a review of its Transportation Master Plan in 2014 to assess, among other things, the priority and timing of various transit and road network improvements and new initiatives required to address local development. Such review, in consultation with Local Municipalities, should provide advice to Metrolinx about project prioritization and timing under the “Big Move” Plan. In regard to the Jane Street and Weston Road corridors, the following matters should be investigated as priority matters:
 - a) Advancing the implementation of rapid transit on Jane Street;
 - b) The implementation of Quick Start/Rapid Transit Service on Jane Street;
 - c) The upgrading of transit service on Weston Road;
 - d) The potential role of a transit hub serving the Secondary Plan area in support of existing and proposed development.

Contribution to Sustainability

Green Directions Vaughan was approved by Council in April 2009. It is the City’s Community Sustainability and Environmental Master Plan and is one of the foundations for the Vaughan Mills Centre Secondary Plan. It is designed to guide the community toward a more sustainable future by addressing environmental, cultural, social and economic issues. The goals, objectives and action items of Green Directions were considered in the preparation of the Plan, under the following:

Objectives:

- 2.2 – To develop Vaughan as a City with maximum greenspace and an urban form that supports our expected population growth.
- 3.1 – To develop and sustain a network of sidewalks, paths and trails that supports all modes of non-vehicular transportation.
- 4.1 - To foster a city with strong social cohesion, an engaging arts scene, and a clear sense of its culture and heritage.
- 4.2 – Ensure that the City of Vaughan attracts businesses and investment that will result in well-paying jobs for Vaughan Citizens, sustainable tax base and continuing prosperity into the 21st Century.

Economic Impact

The new Vaughan Official Plan 2010 (“VOP 2010”) including the Vaughan Mills Centre Secondary Plan, establishes the planning framework for development throughout the City to 2031. The Plan will have a positive impact on the City of Vaughan in terms of managing growth. It will also foster employment opportunities while fulfilling the City's obligations to conform to Provincial policies and meet regionally imposed targets for employment growth and residential intensification.

Communications Plan

On February 12, 2014, Notice of this Committee of the Whole meeting was mailed to those who requested notification at the June 11, 2013 Public Hearing and/or by written correspondence. This notice was also posted on the City's website at www.vaughan.ca, the City Page Online and through social media sites.

Purpose

To report on requested modifications and issues emerging from the June 11, 2013 Public Hearing and the agency and stakeholder review process and to:

- Obtain direction on further modifications to the Vaughan Mills Centre Secondary Plan for the purpose of its finalization and ultimate adoption by Council;
- Confirm the adopted Vaughan Mills Centre Secondary Plan as the City's land use and development vision for the response to the appeals currently before the Ontario Municipal Board.

Background - Analysis and Options

Background

On May 22, 2013 the Vaughan Mills Centre Secondary Plan was made available for public review and was the subject of a Public Open House on that date. On June 11, 2013 Staff brought forward a Public Hearing Report to Committee of the Whole presenting the draft VMCS Plan. The Public Hearing Report discussed the provisions of the Plan including: Key principles and objectives of the Plan; the general development framework, including policies respecting land use and urban design, the proposed transportation network, parks and open space framework, sustainable development measures, community service requirements and implementation policies. In addition, it included a preliminary land use plan. The following recommendations of Committee of the Whole were ratified by Council on June 25, 2013 by approving the following:

- 1) *That the recommendation contained in the following report of the Commissioner of Planning and the Director of Development Planning, dated June 11, 2013 be approved;*

THAT the draft Vaughan Mills Centre Secondary Plan, prepared by Dialog Inc. forming [Attachment 8] to this report, BE RECEIVED; and any issues raised at the public hearing be addressed by the Policy Planning Department in a future Technical Report to Committee of the Whole.

2) *That the following resolution submitted by Councillor DeFrancesca, be approved:*

Whereas, residents have raised concerns with the proposed intersection at Astona Boulevard and Weston Road;

Whereas, a connection to Weston Road is proposed at the future intersection of the extended Bass Pro Mills Drive and Weston Road;

*Whereas, opportunities exist to connect the future Bass Pro Mills Drive to Langstaff Road and Rutherford Road through the future extensions of Creditview Road and Westcreek Drive;
Therefore be it resolved that:*

Staff will be directed to eliminate the eastern roadway connection to the proposed intersection at Weston Road and Astona Boulevard, and that staff continue to work with York Region and landowners on the proposed intersection at Weston Road and the Bass Pro Mills Drive extension, and that staff report back on the timing and implementation of the extension of Bass Pro Mills Drive and the extensions of Creditview Road and Westcreek Drive.

This report has been prepared in response to Council's direction.

Recommended Modifications to the Draft VMCS Plan (May 2013)

Staff has received submissions from a number of sources, which will be addressed in this report. For the purpose of responding to the comments and requested changes, two categories of revisions were identified. These include:

- a. Major Changes that would potentially have a substantive effect on the Secondary Plan; and
- b. Other issues that may be resolved through minor changes to the Plan or further clarification.

Issues that may result in a major change to the VMCS Plan are discussed in the staff report in the section entitled "Issues Resulting in Substantive Changes to the Plan". More minor issues are identified and commented on in the "Response Table for Agency and Public Comments", forming Attachment 2. Where warranted, modifications to the VMCS Plan have been recommended.

The Response Table for Agency and Public Comments

Staff has endeavoured to respond to all comments that have been received. As such, responses have been prepared to each submission, which are reflected either in the body of the report or in Attachment 2.

Several objectives were used as the basis for analyzing the submissions made by landowners, public agencies and residents regarding the VMCS Plan. This included ensuring that the principles of VOP 2010 were maintained, that the broader policy direction was considered (Regional Official Plan, Places to Grow, VOP 2010 supporting studies) along with the application of sound planning principles.

The submissions were each considered on their own merit and recommendations made on appropriate responses and actions. In addition, Staff has identified areas where changes should

be made to the Plan policies. The “Response Table for Agency and Public Comments” (Attachment 2) presents information response/concerns/requests, staff comments and any recommended policy and schedule changes. Summaries in Attachment 2 contain the following in tabular format:

- The Item number;
- The submission date;
- The correspondence content, as summarized by Staff;
- Staff comment on the submission; and
- Staff recommendation on the submission.

The “Response Table for Agency and Public Comments” (Attachment 2) will form part of the public record of comments.

The “Track Changes” Version of the VMCS Plan

The resulting changes to the version of the Secondary Plan that was received at the June 11, 2013 Public Hearing are reflected in the “Track Changes” version of the Plan which forms Attachment 3 to this report. It includes the changes identified in this staff report in the section entitled “Issues Resulting in Substantive Changes to the Plan”, in the “Response Table for Agency and Public Comments” (Attachment 2) and minor changes required to improve clarity and readability of the Plan. It is recommended that this version of the Plan be the basis for finalization and adoption, subject to any further direction resulting from this meeting and final staff review;

Ontario Municipal Board Appeals

There are currently eight Ontario Municipal Board appeals of the VOP 2010 related to the lands in the Secondary Plan area. Four are related to lands located on the east side of Highway 400 along the Jane Street Corridor; three of which are related to on-going site specific appeals. The other four are related to lands located on the west side of Highway 400, along Weston Road. Ultimately, any changes resulting from the resolution of the site specific appeals will be incorporated into Volume 2 of VOP 2010, as required.

It is noted that the City received a number of responses to the draft Secondary Plan from participants in the aforementioned Ontario Municipal Board appeals. This report will not be responding directly to the issues raised in those letters because there continue to be “Without Prejudice” negotiations in hopes of settling or scoping the appeals. As per Recommendation 4, the Council endorsed/adopted Secondary Plan is intended to form the basis for the City's position at the Ontario Municipal Board in respect of the appeals in regard to, among other things, such matters as land use, development density and phasing, building height, transportation, urban design, parkland amount and distribution, open space areas/stormwater management and servicing.

Issues Resulting in Substantive Changes to the Plan

a) Character Areas and Design Principles

Urban Design will play an important role in the evolution of the plan area. It will help shape the identity of its distinct elements while serving to ensure that each area contributes to the overall quality of the plan. To this end, Part B, Policy 1.4 “Character Areas” has been added to provide context and vision for the different areas within the Vaughan Mills Centre Secondary Plan to enhance the quality of development, and build on the potential of each of the areas. The modified February 2014 Plan continues to divide the Secondary Plan into four (4) development areas, however, each area is defined by a dominant function and urban character/quality. These areas are shown on Schedule A (Refer to Attachment 4). The new text setting out the governing policies is included in the Track Changes version of the revised VMCS Plan (Attachment 3), commencing on page 33. An overview of the policies is provided below.

Synopsis of the Character Area Policies

The purpose of Character Areas policies is to:

- Define the distinct areas of the Plan and provide an organizational structure for development towards achieving the Vision identified in Section 1.1 of the Plan (e.g. the Guiding Principles and Big Moves);
- Identify the desired future character and function of the areas within the Plan, building on existing assets, structure, and future vision; and
- Create a framework for development that serves to enhance the character of the Vaughan Mills Centre area encouraging the application of 'place-making' principles set out in VOP 2010.

The four character areas include:

1. Jane Street Corridor

The Jane Street Corridor includes the Jane Street and Rutherford Road intersection and the lands fronting along the Jane Street Corridor between Locke Street and Rutherford Road. The area plays an important role as a transportation node and as an important employment and mixed-use corridor connecting the Vaughan Metropolitan Centre to the south (Jane Street and Highway 7) to the proposed Mackenzie Vaughan Hospital to the north (Jane Street and Major Mackenzie Drive). The area is in transition and provides opportunity for intensification along the corridor with future higher-order transit in coordination with other planned development along Jane Street.

The Plan envisions the Jane Street Corridor area as a higher density mixed-use neighbourhood supported by high order transit, served by accessible open space, parks, pedestrian connections, community services and an enhanced pedestrian realm. The Corridor is proposed to be a key destination and gateway for the emerging Centre. It will be urban in nature reflecting its function as a regional attraction and as a transit oriented development along Jane Street.

Defining Characteristics include, without limitation:

- Supporting a gateway development character at the corner of Jane Street and Rutherford Road as a symbolic point of reference for the area;
- Orienting the tallest buildings towards the Jane Street and Rutherford Road intersection and transit nodes;
- A pedestrian-oriented and urban cross-section for Rutherford Road and Jane Street with a mixed-use retail/residential frontage with buildings set close to the street to create an address and relationship to the street;
- High quality streetscaping and pedestrian facilities;
- Providing mid-block connections and linkages to surrounding land uses and open spaces, with trail linkages to the West Don River Valley to the east;
- Creating internal public street networks for improved traffic flow and connectivity to develop the city grid;
- Providing publicly accessible open spaces that function as a central feature for development ensuring that amenity spaces are well connected to the broader public realm network;
- Incorporating iconic elements, architectural features and public art that contributes to the character and identity of the community;
- Creating mixed-use frontages along Jane Street to encourage animation of the street and neighbourhood vibrancy;
- Exploring typological variation in building design to increase visual interest by considering variation in tower shape, orientation, and façade design;

- Orienting and massing buildings to frame views and control privacy between properties;
- Structuring building massing to create a public realm interface that frames open spaces and provides a sense of enclosure and human scale for pedestrians;
- Providing pedestrian connections with existing and future transit facilities, retail, open space, and natural heritage areas; and buffering from surrounding employment uses.

2. Rutherford Road Area

Lands in this area include the commercial blocks on the south side of Rutherford Road between the Jane Street character area and the Highway 400 interchange. The development outlook for this area reflects the commercial mixed-use function and interface with the Vaughan Mills Mall.

It is anticipated that this area will evolve from a predominantly single storey commercial plaza form with large surface parking areas into a vibrant commercial and mixed-use residential area that transitions down from higher density areas along Jane Street. The Plan proposes this area to include a variety of housing typologies from low-rise to high-rise, offering a range of housing to the community. The Plan envisions this area as having street level commercial frontages with residential uses served by community amenities and parks. The proposed character of the area will be defined by a fine grain of blocks, connected streets and pedestrian connections, with lower built form that frames the public realm and open space areas.

Defining Characteristics include, without limitation:

- Encouraging a mixed-use retail frontage along Rutherford Road to enhance pedestrian activity along the street;
- Providing a fine grain of streets and blocks conducive to walking and transit to support an enhanced pedestrian setting;
- Aligning neighbourhood parks with development to make parkland accessible and centrally located to residents;
- Transitioning building heights down from Rutherford Road towards the Vaughan Mills Mall Area;
- Framing open spaces with mixed-use frontages;
- Providing pedestrian connections to Rutherford Road, the Vaughan Mills Mall, and between blocks; and
- Structuring and enhancing east-west connections to ensure development blocks are woven together cohesively.

3. Bass Pro Mills Area

This area includes the lands between the southerly leg of the internal ring road and Bass Pro Mills Drive between the Jane Street Corridor Area and the Highway 400 interchange. The Plan envisions this area transitioning from higher densities along the Jane Street corridor to lower densities approaching the Highway 400 corridor. This area will provide a transition between the employment uses to the south and the Vaughan Mills Mall to the north with a mixed-use development format. The area is proposed to maintain the prevalent commercial use but encourages some residential development to help distribute residential uses throughout the Centre.

Defining Characteristics include, without limitation:

- Providing additional street connections to further develop the street grid;
- Creating a system of neighbourhood parks and public squares to provide amenity uses for the future community in this area;

- Creating a comparatively wide streetscape along Bass Pro Mills Drive with cycling facilities, a multiuse path, and high quality landscaping to improve the pedestrian experience and connectivity between the existing residential areas west of Weston Road through to Jane Street;
- Encouraging modest residential intensification to benefit from surrounding employment and commercial land uses, future road connections, and public amenities envisioned for the area;
- Creating north-south and east-west connections that aligns streets and pathways with and to the Vaughan Mills Mall;
- Providing mixed-use retail and office frontages along Bass Pro Mills Drive to enhance pedestrian activity along the street;
- Encouraging pedestrian-oriented retail by providing direct pedestrian access from the street; and
- Encouraging pedestrian-scaled design through the use of building stepbacks, multiple entrances, midblock connections, and a consistent street wall.

4. Vaughan Mills Centre Business District

The Vaughan Mills Centre Business District is located south of Rutherford Road, north of the proposed Bass Pro Mills Drive extension, between Highway 400 and Weston Road and is envisioned to develop with a mix of prestige employment uses directing most of the office uses to the Highway 400 corridor as encouraged by VOP 2010. The strategic importance of these employment lands was recently confirmed through *the Housing Analysis and Employment Land Needs Report (Hemson Consulting, 2010)* that informed VOP 2010. The District is proposed to be a centre for innovation and design excellence that capitalizes on its location and visibility, and has been generally configured to coordinate with lands to the south of the proposed Bass Pro Mills extension. This area is envisioned to be a nexus of activity and function as a 'knowledge hub' attracting businesses in the 'green' and 'creative', technology, research and development industries.

Defining Characteristics include, without limitation:

- Creating a fine grain block and street pattern with opportunities for mid-block connections providing pedestrian access to Weston Road, and the Vaughan Mills Mall area;
- Providing an internal collector road network with new connections to surrounding arterial roads and the Highway 400 interchange;
- Transitioning heights from higher buildings adjacent to Highway 400, to low-rise buildings along Weston Road;
- Directing the Black Creek northwards by incorporating it into a naturalized open space feature, providing a multi-use amenity space with cycling and pedestrian paths to serve the employment area and surrounding neighbourhood, while recognizing and addressing flood risks;
- Creating a connected public realm through midblock connections and linkages to open spaces, natural features, and the surrounding area;
- Structuring and concentrating retail at key intersections and areas of activity, as well as along primary arterial streets;
- Orienting buildings towards open spaces to reinforce a strong visual linkage within the landscape; and
- Maintaining, enhancing, and restoring the natural environment in support of sustainable development objectives.

The modified division of development areas by proposed function and character supports the coordination of development while simultaneously addressing issues unique to each area. The inclusion of the subject policies in Section B, Policy 1.4 enhances the Plan by strengthening the policy framework that sets out the City's vision and expectations for implementation through the development approvals process.

b) Transportation Network & Capacity

Results of the Transportation Assessment

In light of the modifications resulting from the Public Hearing held on June 11, 2013, Planning and Engineering Staff together with the consultant team and the Region of York held a series of meetings to finalize the Transportation Assessment undertaken by MMM Group Ltd. A number of transit and network improvements have been recommended as shown in Table 2 – “Recommended Transportation Network Improvements Horizon 2021” (Attachment 5a), and illustrated in Attachment 5b.

The Transportation Assessment concludes that:

- Traffic operations at major intersections in the boundary road network around the Vaughan Mills Centre Secondary Plan Area are generally operating at a moderate to poor level of service under the existing conditions, with Rutherford Road being the key congested link, particularly during the p.m. peak hour;
- One of the key limiting factors in terms of traffic operations in the Vaughan Mills Centre area's road network is the capacity constraints already being experienced on the existing boundary roads, such as along Rutherford Road and Weston Road, for which the opportunities for major additional capacity improvements are very limited. The extension of Bass Pro Mills Drive from Jane to Weston will be an essential element for network improvement, and will provide more routing options for better traffic distribution around the Vaughan Mills area;
- Under the interim horizon 2021, with the implementation of some initial transportation system and network improvements, and assuming a full completion of Bass Pro Mills Drive extension from Jane Street to Weston Road, it is estimated that up to 80% of the Secondary Plan could be developed for the areas east of Highway 400, and up to 40% for the area west of Highway 400, before the boundary road network is expected to reach capacity conditions. The Secondary Plan proposed only approximately 70% to be developed for the areas east of Highway 400, which is within the assumed threshold level;
- Under the alternative scenario assuming a partial completion of Bass Pro Mills Drive, with connection to Jane Street, but no extension to Weston Road by horizon 2021, some roadway capacity in the network east of Highway 400 is expected to become available resulting from traffic reassignment. It is expected that up to 70% of the Secondary Plan development could be accommodated in the areas east of Highway 400 with similar capacity conditions, while the 40% development level could still be maintained west of Highway 400; and
- It is expected that a more aggressive travel mode shift would be needed, along with further alternative transportation system developments, in order to accommodate the area's transportation demands by 2031.

Horizon 2021: Improvements Needed for Further Development

The plan to accommodate the projected Secondary Plan development for 2021 should include the following:

- The City of Vaughan should work with YRT to monitor transit ridership in Vaughan the Mills area and usage of the Vaughan Mills Transit Terminal on a semi-annual basis, to determine when expansion may be needed. YRT should be proactive in

terms of expanding service frequencies to attract more riders, again based on bi-annual monitoring.

- Viva Quick Start rapid bus service on Jane Street, from Rutherford Road to the planned Spadina Subway extension station at Highway 7. The design for the Viva Quick Start service on Jane Street should include transit signal priority at all signalized intersections south of Rutherford Road, and specifically at the access from Jane to the YRT Terminal at Vaughan Mills, to facilitate access to the terminal. Queue jump lanes should be planned at all intersections on Jane Street where general traffic volumes create a significant impediment to regular transit service, and where either sufficient right-of-way exists currently, or can be obtained. The Region with the City's input should initiate development of a plan for this service in the immediate term.
- A similar program of transit signal priority and queue jump lanes should be considered on Weston Road. It is acknowledged that such a program is not foreseen in the Region's transit network at present, but it is apparent based on the projected conditions that transportation alternatives are needed for travel in the Weston Road corridor. The proposed high-order transit on Jane Street is outside of a convenient walking distance, and the congestion created at the Highway 400 interchange discourages the short trip to Jane Street that would be required by transit to access the Jane BRT service. The City and Region should initiate a review of the feasibility of changes to this corridor, in the immediate term, to review opportunities and constraints (e.g. the road right-of-way width).
- Enhanced bus service on Rutherford Road, connecting to the Rutherford GO Station, particularly during weekday peak periods.
- Reconfiguration of YRT local bus routes to provide more convenient access to the YRT bus terminal at Vaughan Mills, via Bass Pro Mills Drive once it is extended to connect Weston Road to Jane Street.
- YRT and the City should work together to develop and implement programs and incentives to promote greater use of transit as the network evolves, through community engagement.
- The City should work through the existing Transportation Management Association to reinforce the need to create change in modal split behavior, within the business community, and to develop programs to manage demand in terms of the amount and time of travel. Businesses need to understand that there are limits to accessibility under the current regime of highly auto-dependent behaviour, and if accessibility is limited, so are the profits and operational efficiency that businesses depend on.
- The City and YRT should work with the Vaughan Mills Mall owner to create an organized Passenger Pick-up and Drop-off (PPUDO) area adjacent to the transit terminal. This will facilitate travellers exiting from Highway 400 and area roadways who wish to access transit.
- The PPUDO should also include space for car-share and bike rental systems. The City should work with car share operators to introduce car-sharing here (and elsewhere in the City), to facilitate greater use of transit for travellers coming to the broader Vaughan Mills area.
- The City should implement a phased program of reductions to parking standards for residential and office developments as the enhanced transit infrastructure is introduced, within 500 metres walking distance of any rapid transit corridor. These should include consideration of maximum parking standards and shared parking. A

requirement for carpooling spaces for office developments should also be introduced (preferred parking for vehicles with 2 or more registered occupants); preferred parking for hybrid and electric vehicles should also be included. The City should also work with developers to plan for an integrated technology system to advise drivers of where parking is available within the district.

Horizon 2021: Recommended Road Network Improvements

In addition to the recommended transit related improvements, the Transportation Assessment also recommends the following road-network improvements required in order to support the proposed development in the VMCSF to the 2021 Horizon.

LOCATION	RECOMMENDED IMPROVEMENTS
Rutherford Road at Weston Road	North Bound Dual Left-Turn Lanes (Dependent on effects of the proposed Major Mackenzie Drive at Highway 27; conditions should be monitored prior to introducing this improvement)
Bass Pro Mills Drive	Extension of Bass Pro Mills Drive between Weston Road and Jane Street
Jane Street at East Access Road A	Full moves signalized access subject to warrant analysis
Bass Pro Mills Drive at Weston Road	Install new Traffic Signals
Bass Pro Mills Drive at Hwy 400 NB Off-Ramp	Additional exclusive south-bound right-turn lane
Vellore Woods Boulevard	Plan for 4-lane cross-section south of Rutherford Road
Creditview Road	Plan for 4-lane cross-section north of Bass Pro Mills Drive
Rutherford Road at Vellore Woods Boulevard	Exclusive North Bound Right-Turn Lane

The results from the transportation study support the level of development proposed in the VMCSF, subject to the phasing of the transportation and servicing infrastructure as proposed in Section 7, Part C of the Plan.

Horizon 2031: Required Improvements

For accommodation of further development to 2031, the following improvements are required in addition to those cited for 2021.

Road Network Improvements: (West of Highway 400)

- Completion of Bass Pro Mills Drive extension to Weston Road;
- Install traffic signals at the intersection of Bass Pro Mills Drive at Weston Road.

Other Transportation Improvements:

- Higher-order transit service on Jane Street, in the form of BRT or LRT, with its dedicated right-of-way connecting the Spadina Subway extension to Vaughan Mills Centre and up to Canada's Wonderland and the future Mackenzie Vaughan Hospital on Major Mackenzie Drive;
- Enhancing priority transit service on Rutherford Road to Viva service;

- Pedestrian and cyclist bridge crossing over Highway 400 midblock between Bass Pro Mills Drive and Rutherford Road to provide an additional non-auto connection within the Secondary Plan;
- Continue to promote sustainable transportation (transit, walking, cycling) and other transportation demand management programs and measures to encourage a greater shift in travel mode patterns to achieve the assumed modal split.

Traffic Infiltration

In the draft Secondary Plan, a road connection to Weston Road was provided directly opposite Astona Boulevard creating a full four-way intersection. The concern was raised that the resulting intersection would increase traffic infiltration into the existing residential neighbourhood particularly to the west of Weston Road. On June 25, 2013 Council directed staff to remove the direct access across from Astona Boulevard. Therefore, Schedule F "Transportation Network", has been modified to reflect this direction. This modification to the road configuration was taken into consideration in the modeling and analysis done for the transportation assessment.

The City has received numerous resident concerns about the amount of non-local traffic infiltrating through the communities surrounding the Vaughan Mills Centre Secondary Plan (VMCSP), namely the Weston Downs Community, Block 32 west and Block 32 east. In the City's continuing effort to identify the extent vehicular infiltration, staff has undertaken numerous traffic studies and has been monitoring traffic patterns within these communities. The data obtained through these community studies has provided staff with an understanding of the existing traffic patterns. This "baseline" data can be used to determine the contribution to traffic as a result of the development of the VMCSP. In particular, staff will be able to fully understand the extent of increased traffic infiltration and develop the appropriate mitigation measures to reduce this traffic infiltration within these communities, as development of the VMCSP progresses.

c) Growth Forecasts, Heights & Densities

Growth Forecast

Based on input received during the agency and public consultation process and the further direction of Council, the consulting team completed the Transportation Analysis and gave further consideration to the growth projections for the Secondary Plan area. The Transportation Analysis has provided the opportunity to better relate the population growth, measured in the number of residential units, to improvements in the transportation system.

Part B, Policy 3.2 "Growth" of the Plan now proposes a maximum of approximately 4,303 units for total build-out at 2031, an increase of 460 units from the initial May 2013 Draft VMCSP which proposed a total of 3,843 units. This is supported by the supplementary MMM Group Ltd. December 2013 Transportation Assessment Report. The additional 460 units translate to an increased population of approximately 930 residents. The proposed number of jobs in the modified plan remains consistent with the initial May 2013 Draft VMCSP.

The following modifications respecting growth forecasts are summarized below:

Total (Up to 2031)	May 2013 Draft VMCSP	Dec 2013 Modified Draft VMCSP	Differential
Units	3,843	4,303	460
Population	7,839	8,778	939
Jobs	10,912	10,907	5

Height & Density

In order to accommodate the proposed increase in density, in addition to applying the design principles set-out in Part B, Policy 1.4 “Character Areas”, modifications were made to Schedule B – “Height & Density” of the Plan (Attachment 6). The heights and densities in the proposed “Jane Street Corridor” were marginally increased to reflect the principles and policies of the Region and VOP 2010 by directing growth to major corridors.

Schedule B assigns the maximum heights and densities to the immediate southeast and south west corners of Jane Street and Rutherford Road to support the “gateway” role envisioned in Part B, Section 1.4.1 of the Plan. The plan permits a maximum height of 25 storeys and a density of 4.0, of which 0.5 FSI is for non-residential uses. The densities in the Jane Street Corridor Area are gradually stepped down from the intersection of Jane Street and Rutherford Road starting at 4.0 (0.5 non-residential); to 3.5 (0.5 non-residential); and to 3.0 (0.5 non-residential) on to Bass Pro Mills Drive. A decrease in the maximum building heights also occurs, from 25 storeys in the north to 16 storeys along Bass Pro Mills Drive. This corresponds with the modifications to Policy 3.5.7 of the Plan.

d) Development Thresholds

Part C, Policy 7.3, Part B of the Plan has been updated for the Jane Street Corridor Area, Rutherford Road Area and Bass Pro Mills Area to reflect the revised development statistics discussed in Part C of this report. The Plan now identifies requirements for community facilities and parkland/ public space and other infrastructure to be provided and made available at certain development thresholds to ensure that services are coordinated with development. Residential development in the Rutherford Road and Bass Pro Mills Areas is anticipated to take place with the coordination and provision of improved transit infrastructure including higher order transit to occur between 2021 and 2031. The “threshold” limits are listed as maximum upset limits per character areas and are proposed as follows:

Jane Street Corridor (*within the 2021 time horizon*)

- Up to 3,371 residential units;
- Up to 16,304 m2 retail uses;
- Up to 46,079 m2 office; and
- 4.3 ha of public parks

Vaughan Mills Centre Business District (*within the 2021 time horizon*)

- Up to 101,600 m2 prestige employment uses;
- Up to 39,494 m2 of office uses;
- Up to 30,715 m2 of neighbourhood and medium format retail uses;
- Up to 14,520 m2 of other uses including hotel entertainment, and cultural uses; and,

Rutherford Road and Bass Pro Mills Areas (*within the 2021 and 2031 time horizon*)

- Up to 932 residential units;
- Up to 55,931 m2 retail uses;
- Up to 31,500 m2 office; and
- 2.5 ha of public parks
- 1.3 ha for potential school site or park

Vaughan Mills Centre Business District (*within the 2031 time horizon with full build out of the Bass Pro Mills Drive Extension*)

- Up to 152,400 m2 prestige employment uses;

- Up to 59,241 m2 of office uses;
- Up to 46,072 m2 of neighbourhood and medium format retail uses;
- Up to 21,781 m2 of other uses including hotel entertainment, and cultural uses; and,
- Minimum 1.1 ha of parkland

The Vaughan Mills Mall

This Plan does not anticipate the change in form or function of the Vaughan Mills Mall over the life of this plan. Policy 7.3.4.Part C of the Plan has been modified to permit expansions or changes to the Vaughan Mills Mall, beyond the current permissions set out in Policy 3.6.5, Part B, by way of an official plan amendment, in accordance with the requirements of the VM CSP. However, the preparation of a Tertiary Plan, by way of official plan amendment will be required, should the Vaughan Mills Mall be proposed for redevelopment to allow for residential uses

e) Key Transportation and Servicing Requirements

Part C, Policy 7.4 has been modified to include specific infrastructure and servicing requirements for each development block, as shown on Schedule I – Development Blocks (Attachment 7). The policies in this section have been added to ensure the necessary transportation and servicing infrastructure will be available as development occurs. This includes: adequate storm, sewer and water services, transportation improvements, streetscape enhancements, street connections, appropriate acquisition of dedication spaces such as parks, roads and school sites.

Jane Street Corridor Area (B3 – B8)

The Plan indicates that the key benchmarks for the advancement of development in this area includes among other things: the completion of Bass Pro Mills Drive to Jane Street; the northerly extension of Caldari Road to Rutherford Road; higher-order 'quick-start' VIVA transit service along Jane Street; and, higher order priority transit service and features (HOV lanes, transit priority signals, queue jump lanes) along Rutherford Road between Jane Street and Yonge Street. The following shall be required as a condition of development for the following Blocks as shown on Schedule I.

Block 3

- New local street parallel to Rutherford Road to provide for the existing development blocks; and
- The dedication of parks as identified in the Plan

Block 4

- The northerly extension of Caldari Road from River Rock Gate to Rutherford Road and the implementation of a signalized intersection at Rutherford Road and Caldari Road;
- The provision of a signalized public street on the west side of Jane Street, between Locke Street and Riverock Gate;
- The dedication of parks as identified in the Plan;
- That the existing woodlot located along the southern boundary of the existing lot be protected in accordance with the City's preliminary findings of and directions arising from the Vaughan Natural Heritage Network Review currently underway. The exact boundaries of the woodlot and protected area will be determined and/or refined through the development approvals process to the satisfaction of the City, in consultation with the Region and TRCA.

Block 5

- The northerly extension of Caldari Road from Riverock Gate to south boundary extents of Block 4; and

- An east-west public street along the north boundary of the block between Jane Street and Caldari Road.

Block 7

- The provisions of an east-west signalized public street between Jane Street and the internal Ring Road; and
- The dedication of parks as identified in the Plan

Block 8

- A north-south local street connection between Bass Pro Mills Drive and the ring road west of Romina Drive;
- The extension of Romina Drive north to the internal Ring Road; and
- The dedication of parks as identified in this Plan.

Blocks 7 & 8

- Major collector road connecting the Bass pro Mills interchange with Jane Street opposite Locke Street. Intersection improvements, including turning lanes and traffic signals, will be required at this intersection.

Rutherford Road Area (B1 & B2) and Bass Pro Mills Drive Area (B9 & B10)

The Plan suggests key benchmarks for the advancement of development to occur within The Rutherford Area and the Bass Pro Mills Area. These benchmarks shall include, among other things: the completion of Bass Pro Mills Drive from Jane Street to Weston Road; Higher order rapid transit along Jane Street; and transit priority service along Rutherford Road.

Block 1 and 2

- A new local street parallel to Rutherford Road to provide internal circulation for the existing development blocks; and
- The dedication of parks as identified in the Plan;

Block 10

- A new north-south and east-west internal local street network within the development block between Edgeley Boulevard and Fisherman's Way; and
- The dedication of parks as identified in the Plan;

Vaughan Mills Centre Business District (B11 – B19)

Key benchmarks for the advancement of development within the Vaughan Mills Centre Business District shall include, among other things: the completion of Bass Pro Mills Drive from Jane Street to Weston Road; and a revised ramp entrance to the existing partial interchange at Bass Pro Mills Drive via a new intersection at the proposed east-west and north-south collector parallel to Highway 400.

Block 11 – 17

- Development for Blocks 11 – 17 will require a Block Plan, and will address the matters set out in Policies 10.1.1.15 of VOP 2010 and shall constitute a complete application to the satisfaction of the City of Vaughan. In addition to Block Plan requirements set out in VOP 2010, the following matters are considered to be a priority for development in the Vaughan Mills Centre Business District, and in the preparation of the Block Plan:
 - Extension of Bass Pro Mills Road from the Highway 400 interchange to Weston Road;
 - The design and realignment of the Black Creek within the Black Creek Greenway as identified in this Plan;
 - The dedication of parks and road connections as identified in the VMCSPP;

- New internal north-south collector street between the proposed Bass Pro Mills extension with Rutherford Road opposite the Vellore Woods Boulevard/Rutherford Road intersection;
- New internal north-south collector streets with a new connection at Rutherford Road parallel to Weston Road; and
- Roadway connections to Westcreek Drive and Creditview Road south of the Study Area.

Relationship to Vaughan Vision 2020/Strategic Plan

This report is consistent with the priorities of Council in the Vaughan Vision 2020 Plan, and in particular to the City's commitment to "plan and manage growth and economic vitality". The following component relates directly to the Vaughan Mills Centre Secondary Plan:

- "Support and coordinate land use planning for high capacity transit at strategic locations in the City".

Regional Implications

The Vaughan Mills Centre Secondary Plan has been prepared in consultation with Region of York staff and to ensure it is in conformity with the new Regional Official Plan. Regional staff participated in the process through the Technical Advisory Committee with follow-up consultation with Regional staff taking place through the finalization of this Plan. As the approval authority for the Vaughan Official Plan, this report will be forwarded to York Region upon its adoption by Council.

Conclusion

The Vaughan Mills Centre Secondary Plan supports the longer term transition of the Secondary Plan area into a higher density mixed-use Primary Centre (east of Highway 400) and an employment area focusing on prestige uses including offices, knowledge based uses oriented toward green and creative businesses and industries in the technology and research and development sectors (west of Highway 400).

Given its 2031 time horizon, this is a transformative plan. Outside of the Jane Street Corridor, it is not expected to result in significant changes in the plan area in the short term. This is a result of the approval processes that would be required for the greenfield areas west of Highway 400 and the fact that much of the land east of Highway 400, except along Jane Street, is already developed. As such, uses like the Vaughan Mills Mall are anticipated to have a long lifespan extending into the next decade and possibly beyond. This is recognized in the Plan. The most immediate changes may be the result of ongoing Ontario Municipal Board processes that are currently underway in the Jane Street corridor. This Secondary Plan will also serve to inform the City's position at the OMB on related appeals.

The Secondary Plan provides policies governing such matters as land use, development density, including the maximum number of residential units, building height, transportation, urban design, parkland amount and distribution open space areas/stormwater management and servicing. Implementation has also been an important consideration. Development will be phased and coordinated with the availability of transportation and other infrastructure improvements including upgrades to the transit system and key road network improvements, a number of which will be required as a condition of development approval for various sites within the Plan area.

The draft Vaughan Mills Centre Secondary Plan was made available for public review and was presented at a public open house on May 22, 2013. This was followed by a statutory public hearing held on June 11, 2013. At the public hearing the Committee received deputations and written submissions and directed that such issues be addressed in a Technical Report to Committee of the Whole. This decision was ratified by Council on June 25, 2013.

Written submissions received from private citizens/landowners, development interests, governments and government agencies, have been analyzed and recommendations have been developed to respond to the identified issues. These are set out in detail in Attachment 2. The approach taken to some of the key policy areas has also been addressed in the main body of the report as set out in the section entitled "Issues Resulting in Substantive Changes to the Plan".

Each request for a change was considered on its merit taking into consideration the principles of the new Official Plan, the need to ensure continuing conformity with policy direction provided by senior levels of government (e.g. the Region Official Plan, Planning Act, Places to Grow Plan, and Provincial Policy Statement) and adherence to sound planning principles.

Therefore it is recommended that the draft Vaughan Mills Centre Secondary Plan (May 22, 2013) be modified in accordance with the recommendations contained in this report. It is further recommended that staff proceed with revisions to the plan, incorporating the changes recommended herein, along with any further direction resulting from this meeting and final staff review and that the revised plan proceed to Council for adoption.

Attachments

1. Location Map and Context Plan
2. Response Table for Agency and Public Comments
3. Final Draft Vaughan Mills Centre Secondary Plan, February 2014 (*Annotated*)
4. Schedule A – Plan Area (*modified February 2014*)
- 5a) Table 2 – Transportation Network Improvements
- 5b) Figure E1 – Recommended Transportation Improvements Horizon 2021 Schedule (*MMM Group Limited February 2014 – Vaughan Mills Centre Secondary Plan Transportation Assessment*)
6. Schedule B – Height & Density (revised February 2014)
7. Schedule I – Development Blocks
8. Vaughan Mills Centre Secondary Plan Transportation Assessment, February 2014 (*MMM Group Limited*)

Note: A hard copy of Attachments 3 and 8 are on file in the City Clerk's Department and are available on the City of Vaughan website.

Report prepared by:

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Respectfully submitted,

JOHN MACKENZIE
Commissioner of Planning

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ATTACHMENT 2: Response Table for Agency and Public Comments

Item	Submission	Issue	Comments	Recommendation
1	DATE: June 10, 2013 RESPONDENT: N. Jane Pepino LOCATION: Husky Gas Station at southeast corner of Rutherford Road and Sweetriver Boulevard; Petro Canada Gas Station at northwest corner of Riverrock Gate	The built form policies of the high-rise mixed-use designation given to these gas stations should not apply to these sites as gas stations are different from other high-rise mixed-uses (Sections 3.8.1.i, 3.8.2.i, 3.8.2.ii, 3.8.3.i, 3.8.3.iv; Schedule D: Ground Floor Frontage Types). The main concern is that this will render these sites as legal non-conforming, hindering the redevelopment of the gas stations, which includes replacement of equipment necessary to ensure safe operation of the stations. The respondent requests that the gas stations be exempt from the built form policies of the Secondary Plan.	The issues raised by the respondent are being addressed through processes related to the finalization of VOP 2010.	No change recommended.
2	DATE: June 11, 2013 RESPONDENT: Sonia Meucci LOCATION: 1 Blackburn Boulevard	Would like to ensure that there is community input on the developments occurring within the Secondary Plan study area. Would also like to ensure that new development complements the current surroundings and is of high quality.	Extensive consultation with the affected communities has been and continues to be an important component of this Study. Consultation opportunities such as interviews, Public Forums and Workshops, and Public Open Houses were held. There	No change recommended.

ATTACHMENT 2: Response Table for Agency and Public Comments

Item	Submission	Issue	Comments	Recommendation
			continues to be opportunity for public input through the formal public process (Committee of the Whole). Going forward implementation measures will require future public processes at the zoning and subdivision approval stages.	
3	DATE: July 03, 2013 RESPONDENT: Michael S. Goldberg LOCATION: Vaughan Mills Shopping Centre	1. Request that the Secondary Plan does not suggest a change in the form or function of the Vaughan Mills Shopping Centre. Further to this, that the language from OPA 505 be carried forward into the draft Secondary Plan.	1. Language concerning the Tertiary Plan will be changed in the Vaughan Mills Centre Secondary Plan to allow more flexibility for the short and medium term growth of the site.	1. Modify Policy 3.6.5.1 <i>“Vaughan Mills Mall Area”</i>, <i>Second bullet point to read as:</i> <i>“This Plan does not anticipate the change in the form or function of the Vaughan Mills Shopping Centre over the life of this Plan. Any expansion or changes to its current use, beyond what is prescribed in existing OPA, will be subject to the standard planning approvals process as set out in VOP 2010. However, if the current use, form or function as a shopping centre is anticipated to be redeveloped and changed from its current use to allow</i>

ATTACHMENT 2: Response Table for Agency and Public Comments

Item	Submission	Issue	Comments	Recommendation
3	Continued DATE: July 03, 2013 RESPONDENT: Michael S. Goldberg LOCATION: Vaughan Mills Shopping Centre			<i>residential development, then a future redevelopment of Vaughan Mills Mall will require the approval of a Tertiary Plan by way of an amendment to this Plan”.</i> That 4.2.4.4 “The Ring Road – Specific Guidelines”, Part B (first paragraph) shall be modified to read as: <i>The existing internal private ring road in the Vaughan Mills Mall Area is envisioned in this Plan to transition to a public mixed-use commercial street in the future (as shown on Schedule F: Transportation Network). Although not anticipated during the life of Vaughan Mills Mall, the timing for its transition will be determined through the Tertiary Plan process as described as described in this Plan.”</i>

ATTACHMENT 2: Response Table for Agency and Public Comments

Item	Submission	Issue	Comments	Recommendation
3	Continued DATE: July 03, 2013 RESPONDENT: Michael S. Goldberg LOCATION: Vaughan Mills Shopping Centre	2. Objects to the inclusion of a "Potential Location for School and/or Other Community Facility" on Schedules B, C, D, E, and H at the northwest corner of Edgeley Boulevard and Bass Pro Mills Drive. Request that the potential park or school be relocated to an area that is intended to accommodate residential uses, given that potential residential development is occurring on lands not owned by Ivanhoe Cambridge. 3. Objects to the conversion of the ring road to a public road, and requests that references to that effect be deleted in text and Schedules F, G, and H of the draft Secondary Plan.	2. York Region District School Board has declared that a public elementary school will be required to locate within the east side of the Vaughan Mills Centre Secondary Plan Area. The YRDSB has identified this site as the preferred location for a school. 3. The City will only require the portions shown of the ring road to become public to meet the safety and maintenance standards required by the City. As a condition of major redevelopment The ring-road will serve the broader community and should be brought to City standards.	2. No change recommended. 3. That 4.2.4.4 "The Ring Road – Specific Guidelines", Part B (first paragraph) shall be modified to read as: The existing internal private ring road in the Vaughan Mills Mall Area is envisioned in this Plan to transition to a public mixed-use commercial street in the future (as shown on Schedule F: Transportation Network). Although not anticipated during the life of the Vaughan Mills Mall, the timing for its transition will be determined through the Tertiary Plan process as described in this Plan.

ATTACHMENT 2: Response Table for Agency and Public Comments

Item	Submission	Issue	Comments	Recommendation
3	Continued DATE: July 03, 2013 RESPONDENT: Michael S. Goldberg LOCATION: Vaughan Mills Shopping Centre	4. Ivanhoe Cambridge objects to any policies (Section 3.6.5.1.c Area 4, Section 4.2.7.3.2 Streets Proposed for Area 4, Section 7.3.1 Area 4) of the draft Secondary Plan relating to the potential redevelopment of the mall site through a Tertiary Plan, which would be triggered once the overall floor space cap of the current Official Plan is exceeded (as set out in Section 3.6.5.1 of the draft Secondary Plan). Ivanhoe Cambridge requests that the draft Secondary Plan be silent on processes related to future planning of the mall.	4. The Secondary Plan does not restrict or preclude the property owner from maintaining the viability of its site, and is meant to provide guidance for when major redevelopment does occur. The draft Secondary Plan has been modified to remove the conceptual internal road network in the Vaughan Mills Mall Area (formerly Area 4).	4. See comment 1 above.
4	DATE: January 13, 2014 RESPONDENT: Coreena Smith, TRCA LOCATION: TRCA	Policy 1.2 - Guiding Principles 1. (Issue 11) Principle 7 - It is recommended that natural heritage be treated separately from cultural heritage. Alternatively, objectives should be listed under Principle 7 that speak to cultural heritage, in addition to those already provided for natural heritage. Not addressed, but TRCA staff defer to the City on this issue. - Only natural heritage objectives are listed under Principle 7, not cultural heritage.	1. The overall principal is to preserve and protect natural and cultural features as per VOP 2010. In some instances natural heritage features can be considered "cultural". It is also the City's intention to preserve and protect both natural and cultural features that may be discovered in through future development.	1. No change recommended

ATTACHMENT 2: Response Table for Agency and Public Comments

Item	Submission	Issue	Comments	Recommendation
4	Continued DATE: January 13, 2014 RESPONDENT: Coreena Smith, TRCA LOCATION: TRCA	<i>Policy 2.2 - The Big Moves</i> 2. (Issue 15) Subsection 7 - Clear ecological restoration and hazard management objectives for the Black Creek Greenway are needed in this subsection. Not addressed, but no change is required. – This comment was not addressed, but policies for the Black Creek Greenway are found elsewhere in the Plan. <i>Policy 4.0 – The Transportation Network</i> 3. (Issue 16) There are three road crossings and two pedestrian crossings of the Black Creek Greenway proposed. Protection of this natural system would be better achieved with a reduced number of crossings. An alternative transportation pattern is recommended to minimize the number of crossings.	2. Wording to emphasize Big Move #7 “Black Creek Corridor” should be included to reinforce the objective of ecological restoration and hazard management. 3. The Vaughan Mills Centre Secondary Plan was prepared in careful consultation with MMM Transportation Engineers. Transportation is a major concern for the area and the street network proposed is the optimum solution based on the technical analysis conducted. The City will work closely with TRCA through the Block Plan process to consider any further possible improvements to minimize the number of crossings	2. That Policy 2.2 – The Big Moves, Subsection 7 (first bullet point) be revised to read as: <i>Create a ‘corridor’ west of Highway 400 for the Black Creek tributary in order to maintain and enhance its ecological function, restoration and hazard management.</i> 3. No change recommended at this time.

ATTACHMENT 2: Response Table for Agency and Public Comments

Item	Submission	Issue	Comments	Recommendation
4	Continued DATE: January 13, 2014 RESPONDENT: Coreena Smith, TRCA LOCATION: TRCA	<i>Policy 5.3.1 Neighbourhood Parks and 5.3.2. Urban Squares</i> 4. (Issue 25) In Sections 5.3.1 and 5.3.2, the description for the neighbourhood parks and public squares indicates that storm sewer servicing will be provided. Please also state that LID strategies will be explored for treating runoff, which can be incorporated into the landscape setting. Partially addressed. – The reference to servicing in Section 5.3.1 was removed entirely, which was not the intent of the comment. If, however, the reference to servicing is to be deleted in Section 5.3.1, it should be similarly deleted in Section 5.3.2, or further clarification is required. <i>Policy 5.3.3. Greenways</i> 5. (Issue 26) Section 5.3.3 provides descriptions and policies for the greenways under the headings General, The District Greenway and The Bass Pro Mills Multi-Use Path, but there is no description or policies provided for the Black Creek Greenway. Specific	over Black Creek, provided it does not impact Transportation network and efficiencies. 4. Agreed and there has been a reference including the requirement for LID measures as per Section 3.6.6.4 and 3.6.6.8 of VOP 2010. 5. To ensure clarification of between the difference of “greenspace” versus “natural or ecological” spaces, all references to “Black Creek Greenway” will now be	4. That wording in Sections 5.3.1 and 5.3.2. be revised to read as: <i>“Sites shall have flat topography (max 2% slope), be easily developed, and shall incorporate Low Impact Development Measures as per Section 3 of VOP 2010 where feasible”.</i> 5. That all references to “Black Creek Greenway” be revised to “Black Creek Corridor” in the Plan, inclusive of all references in Schedules.

ATTACHMENT 2: Response Table for Agency and Public Comments

Item	Submission	Issue	Comments	Recommendation
4	Continued DATE: January 13, 2014 RESPONDENT: Coreena Smith, TRCA LOCATION: TRCA	ecological and hazard management objectives and policies for the Black Creek Greenway should be provided. Policy 5.3.3.1 – General Greenways 6. (Item 26 a) There are several editorial issues with the revised first paragraph in Section 5.3.3.1, which require the City’s attention: i) The Black Creek Greenway is referenced. Please see the comment above about the best location for the Black Creek Greenway. The reference should be removed or left as is depending on which section the Black Creek Greenway falls under. ii) The first sentence does not reference the Bass Pro Mills Multi-Use Path, which is described later in the section.	referenced as “Black Creek Corridor” inclusive of all Schedules. Policies referring to the (now) “Black Creek Corridor” was moved to Section 5.4 as it is considered as part of a “system” of natural, green, and open space infrastructure. 6. i) See comment 5) above. ii) After further review it was felt that it was more appropriate to include the policies of Section 5.3.3.3. – Bass Pro Mills Multi-Use Path to Section	6. i) See recommendation 5) above. ii) That policy 4.2.4.2 “Bass Pro Mills Drive – Specific Guidelines” add a last sentence to the second paragraph to read:

ATTACHMENT 2: Response Table for Agency and Public Comments

Item	Submission	Issue	Comments	Recommendation
4	Continued DATE: January 13, 2014 RESPONDENT: Coreena Smith, TRCA LOCATION: TRCA	Policy 5.4 – Green Infrastructure 7. (Item 26. b) In the second paragraph, the following wording is provided: “The policies of this section of the Plan are intended to encourage preserving, enhancing, and restoring the function and value of this system.” The word “encourage” was not in the previous version of the Plan and it is recommended that it be removed.	4.2.4.2 “Bass Pro Mills Drive – Specific Guidelines” and 4.2.4.3 “The Bass Pro Mills Multi-Use Path” 7. Agreed. It will be reworded to strengthen the intent of the policy.	<i>“The proposed multi-use path is planned to extend west over Highway 400 along Bass Pro Mills Drive to connect to the proposed trail network on the western side of the Plan area”.</i> That Policy 4.2.4.3. “That Bass Pro Mills Multi-Use Path”, Part B be added to set out design criteria. 7. That the wording in Policy 5.4 “Green Infrastructure” (second paragraph be revised to read: <i>“The policies of this section of the Plan are intended to preserve, enhance and, restore the function and value of the system”.</i>

ATTACHMENT 2: Response Table for Agency and Public Comments

Item	Submission	Issue	Comments	Recommendation
4	Continued DATE: January 13, 2014 RESPONDENT: Coreena Smith, TRCA LOCATION: TRCA	Policy 1.10 (Part C) – Application Requirements 8. (Item 36) Subsection 1.10.4 – The list of phasing criteria to be considered in the review of all development applications should include: For those lands west of Highway 400 (identified as Area 3 in the Secondary Plan), a plan to realign and naturalize Black Creek, including determination of an appropriate corridor width, has been approved and implementation of the approved plan has occurred. Addressed. – Now Section 7.8. This comment was not addressed in this section, but is adequately covered in Section 7.4.3. Schedule H: Active Transportation Network 9. (Item 39) There are three road crossings and two pedestrian crossings of the Black Creek Greenway proposed. Protection of this natural system would be better achieved with a reduced number of crossings. An alternative transportation pattern is recommended to minimize the number of crossings.	8. Detailed design and phasing for Black Creek will be determined through the Block Plan process and through the MESP. 9. Refer to comment for Issue 3 above.	8. No change recommended. 9. Refer to recommendation for Issue 3 above.

ATTACHMENT 2: Response Table for Agency and Public Comments

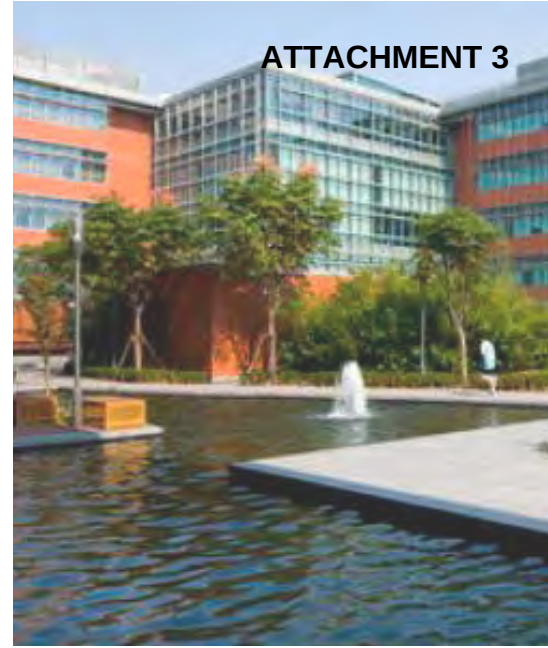
Item	Submission	Issue	Comments	Recommendation
5.	DATE: Jan 10, 2014 RESPONDENT: Policy Planning, City of Vaughan LOCATION: S/E Corner of Jane St and Rutherford Road.	1. Schedule E – Ensure that the eastern boundary at the SW corner of Jane Street and Rutherford Road is consistent with past decisions regarding the Delisle application. In particular, there are past decisions to retain a woodland on the property of 401 Caldari Road and connection to the riparian woodland, but this may also affect the manner in which the woodland edge, corridor to the riparian area, riparian buffer and any extension of Caldari Road are shown on Schedule E.	1. Wording shall be included to ensure the protection of the woodland to the south of the subject lands is assessed and protected if required through the NHN study.	1. That a fourth bullet point be added under Policy 7.4.1, Block 4 be added to read as: <i>“That the existing woodlot located along the southern boundary of the existing lot be protected in accordance with the City of Vaughan NHN Review currently underway. The boundaries of the woodlot and protected area will be determined and /or refined through the development approvals process, to the satisfaction of the City, in consultation with the TRCA.”</i>
6.	DATE: Jan 13, 2014 RESPONDENT: Transportation Engineering – City of Vaughan	1. Amend 4.4.3. to add requirement for Bicycle parking in all mixed-use, residential, institutional and apartment buildings.	1. The recommended request supports Policy 4.2.3.12 of VOP 2010.	1. That additional wording to 4.4.3, Part C of the VM CSP to read: <i>Bicycle parking is encouraged in mixed-use buildings, residential apartment buildings, institutional and office buildings. Major office developments shall be encouraged to include change rooms, showers and</i>

ATTACHMENT 2: Response Table for Agency and Public Comments

Item	Submission	Issue	Comments	Recommendation
	LOCATION: VMCSP	2. (Item 7) Schedule H – Show approved bicycle network on roads surrounding the Plan Area Boundary as per the approved Transportation Master Plan. 3. (Item 11) Schedule F and Appendix H – As per Transportation Assessment, 4 lane roads are recommended for Vellore Woods Boulevard South of Rutherford Road, and Creditview North of Bass Pro Mills Drive. Cross sections should be consistent for these roadways.	2. Approved Bicycle network as per TMP has been incorporated to show complete Pedestrian and Cycling Network. 3. Agreed. The Transportation Assessment recommends 4 lane road ways at these entrances.	<i>lockers for commuter cyclists. Further to Policy 4.2.3.13 of VOP 2010 the City shall encourage the coordination of central bicycle parking facilities in the Vaughan Mills Centre Secondary Plan area, which may include supporting amenities such as showers and changing facilities”.</i> 2. Modify Schedule H –“Active Transportation Network” to illustrate the existing approved Pedestrian and Cycling network for lands outside the study area boundary. 3. That Schedule F, and Cross-Section F in Appendix B be revised to designate the road south of Rutherford Road opposite Vellorewoods Boulevard, and the third entrance from the proposed Bass Pro Mills , east of Weston Road a both “Minor Collector”.

ATTACHMENT 2: Response Table for Agency and Public Comments

Item	Submission	Issue	Comments	Recommendation
		4. (Item 8) Schedule H – Road proposed east of Jane Street south of Rutherford Road should be changed from “Dedicated On-Street Cycling” to “Shared Roadways”, and that these roadways should have a “Minor Collector” cross-section however dedicated bike-lanes are not recommended.	4. Confirmed with City’s Engineering Department that the road east of Jane Street south of Rutherford Road should be designated and function as a “Minor Collector” as opposed to a “Local Road”.	4. That Schedule H be modified to designate the extension of Caldari Road north to Rutherford Road as “Minor Collector”.
7.	DATE: Jan 13, 2014 RESPONDENT: Vi Bui, Transportation & Community Planning, York Region LOCATION: VMCSP	1. Request to summarize recommended transit network improvements, time horizons and development thresholds into a table within the Secondary Plan.	1. This is supported	1. That Part C, Section 7.3 “Development Thresholds” be modified to include Table 2 – Network Improvements to summarize the recommended Transit and Transportation Infrastructure Improvements, Time Horizons, and Development Thresholds.



DRAFT
Feb 2014

VAUGHAN MILLS CENTRE SECONDARY PLAN

Prepared by DIALOG and MMM Group
Distributed February 14, 2014

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PREFACE //

DIALOG as project lead, and The MMM Group for transportation, servicing, and economic development were retained by the City of Vaughan to develop the *Vaughan Mills Centre Secondary Plan Study*. The project included three phases beginning with a background policy and existing conditions review and an opportunities and constraints analysis; phase two provided an opportunity to create development concepts, for the purposes of evaluation and identification of a preferred development option; and phase three included the preparation of the Draft and Final Secondary Plan.

The purpose of the *Vaughan Mills Centre Secondary Plan Study* is to develop appropriate land use and urban design policies and designations for the *Vaughan Mills Centre Secondary Plan* area for a planning horizon extending out to 2031.



CONTENTS //

PART A: Introduction to the Plan

- 1.0 Vaughan Mills Center in a Changing City**
 - 1.1 Purpose and Objectives of the Plan
 - 1.2 How to Read the Plan
 - 1.3 Organization of the Plan
- 2.0 Directing Change in Vaughan Mills Centre**
 - 2.1 Study Area
 - 2.2 The Study Process
 - 2.3 Community Consultation
 - 2.4 The Planning Context
 - 2.5 Vaughan Mills Centre Today - Existing Conditions and Opportunities

PART B: The Secondary Plan: Creating a Vibrant Urban Centre

- 1.0 The Vision & Guiding Principles**
 - 1.1 The Vision Statement
 - 1.2 The Vision
 - 1.3 Guiding Principles
 - 1.4 Character Areas
- 2.0 Big Moves**
 - 2.1 The Big Moves

3.0 Development Character, Land Use, and Built Form

- 3.1 Development Framework
- 3.2 Growth
- 3.3 Density
- 3.4 Land Use Framework
- 3.5 General Land Use Policies
- 3.6 Vaughan Mills Primary Centre
- 3.7 Vaughan Mills Centre Business District
- 3.8 Built form
- 3.9 Parking and Servicing Facilities

4.0 The Transportation Framework

- 4.1 The Transportation Framework
- 4.2 Future Street Network
- 4.3 Crosswalks
- 4.4 Transportation Demand Management
- 4.5 Parking and Loading
- 4.6 Right-of-Way Design
- 4.7 Enhanced Streetscapes
- 4.8 Public Transit

5.0 The Open Space Framework

- 5.1 General Policies
- 5.2 Parkland Dedication
- 5.3 Open Space Typologies
- 5.4 Green Infrastructure and the Black Creek Corridor
- 5.5 Natural Heritage

6.0 Community Facilities

- 6.1 General Policies
- 6.2 Schools
- 6.3 Daycare Facilities
- 6.4 Libraries
- 6.5 Other Facilities

7.0 Sustainable Site Design and Integrated Infrastructure

- 7.1 General Policies
- 7.2 Energy Efficiency
- 7.3 Water, Stormwater and Wastewater Systems

PART C: Making it Happen

- 1.0 Introduction
- 2.0 Application
- 3.0 Status of Uses Permitted Under Previous Official Plans
- 4.0 Interpretation
- 5.0 Infrastructure
- 6.0 Development Approvals
- 7.0 Development Progression
- 8.0 Land Owners and Developers Agreements
- 9.0 Section 37 Provisions
- 10.0 Zoning By-law
- 11.0 Legal Nonconforming Uses
- 12.0 Consents
- 13.0 Site Plan and Design Review
- 14.0 Plans of Subdivision
- 15.0 Community Improvement

- 16.0 Plan Monitoring

- 17.0 Public Works and Financial Management

APPENDICES

Appendix A: Schedules

Appendix B: Street Cross-Sections

Appendix C: Built Form Guidelines

PART A INTRODUCTION TO THE PLAN

Sections

- 1.0 Vaughan Mills Center in a Changing City
- 2.0 Directing Change in Vaughan MillsCentre

PART A
Section...

1.0

» VAUGHAN MILLS CENTRE IN A CHANGING CITY

1.0 Introduction

The *Vaughan Mills Centre Secondary Plan* reflects a new direction in city building and land use development for the area. The Plan moves towards the goal of creating a healthy and unique complete community environment that provides a mix of uses, promotes diversity, encourages walkability and accessibility, and builds community identity.



1.1 Purpose and Objectives of the Plan

1.1.1 Purpose

The *Vaughan Mills Centre Secondary Plan Study* (the Study) was initiated by the City of Vaughan in May 2012. The purpose of the Study is to identify a comprehensive vision, identify any gaps in the overall policy framework for the area, and to establish a current land use and urban design policy framework to appropriately guide future development within the subject lands. A specific focus of the Study is to seek conformity of planning policy with current provincial, regional, and city policy, as well as policies under the Toronto Region and Conservation Authority (TRCA) and other relevant authorities.

The Study is one of several focused area studies, together with the Vaughan Metropolitan Centre and other studies, included in the overall Official Plan review. The *Vaughan Mills Centre Secondary Plan Study* is consistent with, and is prepared with the intention, of establishing a document, that will be used to inform the new Volume 2 City of Vaughan Official Plan.

1.1.2 Goals and Objectives

It is the intent of the *Vaughan Mills Secondary Plan* to:

- Identify and address the opportunities and constraints imposed by the current situation and emerging influences, including but not limited to: The current policy framework (Provincial, Regional and City); existing land uses; transportation including street network capacity and transit availability and phasing; opportunities to develop a Transit Hub; barriers to connectivity, the economics influencing the evolution of the current uses; retail viability and structure; streetscaping and urban design; servicing; environmental sustainability; natural heritage features and natural hazards; current stormwater management targets and guidelines; integrating existing and proposed infrastructure; social and economic sustainability; and the refinement and integration of current development applications.
- Evaluate the Study Area's future potential, to a 2031 horizon, in order to:
 - » Refine its role in the city's urban structure;
 - » Explore and refine its role in the city's economy and as provider of employment;
 - » Explore and refine the optimal mix of land uses, built form, affordable housing, public realm, densities and their distribution with the goal of creating a complete community;
 - » Consider and address issues pertaining to the functional, aesthetic, and land use integration of/and connectivity between the western and eastern areas of the Study Area and to adjacent lands;
 - » Determine requirements for social and recreational amenities, parks, open space, and facilities; and
 - » Establish environmentally sustainable measures pertaining to the provision of ecological and social services and the creation

of a complete community.

- Develop with community input, a long-term vision and development framework for the Study Area as a basis for creating, testing, recommending, and implementing Secondary Plan policies and guidelines;
- Establish in the policy framework transitional measures to support the evolution of the Secondary Plan Area from its current state to the planned vision;
- Identify any infrastructure improvements to support population and jobs as well as opportunities for integration between existing and new infrastructure to implement the Secondary Plan;
- Incorporate provisions for a Transit Hub; and
- Prepare Secondary Plan policies for inclusion in Volume 2 of the City's Official Plan.

1.2 How to Read the Plan

The City of Vaughan *Official Plan 2010* ("VOP 2010") provides general policies for the growth of Vaughan Mills Centre. This Secondary Plan document provides more detailed and strategic direction including guiding development principles, a vision, policy framework, land use, and built form policies, and tools for implementation, to be utilized by the municipality to guide land use and development decisions, investment, and community building initiatives in Vaughan Mills centre. This Plan will replace and modify/update existing OPAs for lands within the existing Secondary Plan area including the Vaughan Mills Mall area specific policies in Section 12.6 of Volume 2 (VOP 2010) and constitutes the Official Plan for Vaughan Mills Centre.

The Secondary Plan responds to a distinctive context and the needs of future residents of the Vaughan Mills Centre Study Area. The Plan addresses key challenges and opportunities to ensure that future change can be

effectively managed to positively contribute to the quality, beauty, and vitality of Vaughan Mills Centre. The Secondary Plan is consistent with the intent of the provisions of the *VOP 2010*, and provides more detailed land use, public realm, and development parameters that respond to the changing characteristics of the area and community aspirations. In doing so, the Secondary Plan provides greater certainty and clarity about the future of Vaughan Mills Centre.

More specifically, the Secondary Plan:

- Creates a detailed policy framework to guide land use and development decisions in a manner that is compatible with the local context and respectful of the broad aspirations of the community;
- Builds on existing assets and opportunities within Vaughan Mills Centre;
- Responds to unique circumstances and realities facing Vaughan Mills Centre;
- Creates opportunities to increase the diversity of housing types attractive to seniors and families wishing to downsize, and for a wide range of family types;
- Establishes specific urban design and sustainability guidelines that will inform the design details of site specific development applications; and;
- Describes opportunities for open space, community facilities, and infrastructure improvements.

1.3 Organization of the Plan

This Plan includes interrelated components: the Policies, Schedules and Figures, and Appendices that must be considered together.

1.3.1 Document Structure

This Plan document is structured in three “parts” and is further divided into “sections.”

PART A // INTRODUCTION TO THE PLAN:

This part outlines the background context, purpose, and process by which the plan was created, the broad municipal goals, the planning process, the public consultation events that occurred throughout the study, and existing conditions, challenges, and opportunities.

PART B // THE SECONDARY PLAN - DIRECTING CHANGE IN VAUGHAN MILLS CENTRE:

This part defines the policies and urban design provisions of the Secondary Plan. It also describes the vision and principles that structure the policies to guide how change and development is managed and should take place. The land use policies guide the physical framework for development related to use, location, and development density, and also provides guidance for public infrastructure.

The land use provisions, and built form, transportation, open space, sustainability, and servicing policies, which form part of the Secondary Plan, establish specific direction for the enhancement and improvement of built form, the public realm, and mobility to ensure a contextual fit, a safe and accessible environment, and an enhanced quality of place.

PART C // IMPLEMENTING THE PLAN - HOW TO MAKE IT HAPPEN:

This part outlines an implementation process that includes how development will be monitored and reviewed. It includes policies and requirements for development approvals, land dedication, and development thresholds and progression, and provides recommendations to guide servicing and infrastructure improvements.

PART A
Section...

2.0

» DIRECTING CHANGE IN VAUGHAN MILLS CENTRE



2.1 Study Area

2.1.1 Location

The *Vaughan Mills Centre Secondary Plan Study Area* (the Study Area) is bordered on the north by Rutherford Road; on the west by Weston Road; on the south by Bass Pro Mills Drive; and on the east by Jane Street. It also includes the parcels immediately fronting along the east side of Jane Street between Rutherford Road and River Rock Gate. The site has a total area of 146.4 ha. +/- (361.76 acres) excluding the Highway 400 right of way which bisects the site, and the Rutherford Road interchange.

2.1.2 Context

Abutting the Study Area are residential neighbourhoods to the north and west, and employment lands to the south and east. It will be important for all new development to be sensitive to abutting land use types, and built form context to ensure an appropriate transition across the Study Area boundary.

There are also two major water tributaries near the Study Area. Black Creek runs along the south and west sides and the West Don River Valley along the north and east sides. Redevelopment and development around these green corridors create opportunities for recreation, stormwater management, and environmental enhancements. Other features include a stormwater management pond on the north-east corner of Weston and Rutherford Road, and a small stormwater management facility near the Bass Pro Mills Drive/ Highway 400 interchange.

Notable is the Study Area's location along the Highway 400 corridor. The Highway 400 corridor is one of the city's prominent economic drivers and accommodates a wide range of commerce, including employment, office, retail, and tourist oriented uses, as well as several residential neighbourhoods. The city's new mixed-use downtown, the Vaughan Metropolitan Centre, anchors

the corridor at its south end at Highway 7. Also located adjacent to Highway 400, will be the city's new Mackenzie Health Hospital at Major Mackenzie Drive and the newest Employment Area (the 'Vaughan-400 North Employment Area), which extends from Teston Road to the King-Vaughan Town Line.

The Study Area occupies a strategic position along Highway 400, and within the city as a whole. Some of its attributes include:

- Proximity to the geographic centre of the city;
- It is located 3 km to the west of the Rutherford Station on the Barrie GO Rail Line, which is ultimately planned to provide 2-way, all day service to Downtown Toronto;
- Good access to 400-series Highways, with a full-movement interchange to Highway 400 at Rutherford Road; and a partial interchange at Bass Pro Mills Drive with northbound off and southbound on ramps. It is located 5 km north of the Highway 407 interchange providing east-west highway connectivity to the GTA and beyond;
- It is 3 km north of the Vaughan Metropolitan Centre, the city's planned downtown, which is also the terminus of the Spadina Subway Extension, Avenue 7, and bus rapid transit that is scheduled to open in 2016;
- It is 1 km south of Canada's Wonderland, a major tourist attraction in the Greater Toronto Area; and 2 km south of the site of the city's new Mackenzie Health Hospital, which is currently in planning stages;
- Rutherford Road is a major east-west arterial corridor in Vaughan and South York Region, and is part of the Regional Transit Priority Network. Similarly, Weston Road, is also part of the Transit Priority Network;
- Jane Street is defined as a Regional Rapid Transit



FIGURE 1: VAUGHAN MILLS CENTRE SECONDARY PLAN STUDY AREA



Corridor, which can accommodate, in the longer term, Bus Rapid Transit/LRT service between the subway terminus at the Vaughan Metropolitan Centre to Major Mackenzie Drive and the new hospital;

- The Study Area includes the Vaughan Mills Mall, a super-regional scale shopping centre that attracts consumers from the GTA market and beyond; and
- Includes readily serviceable employment lands on both sides of Highway 400.

2.2 The Study Process

The Secondary Plan process was completed in three phases and began in May 2012. Throughout the entire process, meetings were held with the Technical Advisory Committee (TAC), The Committee of the Whole (COW), key stakeholders, and the public at large.

Phase 1: Background Review included initial meetings with the client; site reconnaissance, and a Community Kick-off event and workshop to assess existing conditions, opportunities and challenges, as well as the vision, aspirations, and issues identified by stakeholders. Following the event, the Phase 1 Engagement Summary Report (November 2012) was prepared to provide a summary overview of the work completed to date.

Phase 2: Draft Concept Plans entailed the development of the Vaughan Mills Centre Concept Plan; the development of draft policies, implementation, and a public open house to develop draft concept plans and policies.

Phase 3: Final Plans included finalizing the Secondary Plan and related policies.

2.3 Community Consultation

The community consultation process involved ongoing engagement with key stakeholders including residents, property owners, developers, related agencies, Council, and municipal staff. The goal of the consultation process was geared toward keeping stakeholders well informed and involved throughout the process. The consultation process was structured to ensure that participant ideas and concerns were considered and addressed, to mitigate differing community sentiments, and to achieve solutions that meet the goals and expectations of the community for Vaughan Mills Centre.

Key components of the community consultation process included:

- **Stakeholder Interviews** were conducted in June 2012 with representatives of the community.
- **Forum 1: Kick-Off and Visioning Workshop** was held on September 11, 2012 to kick-off the project with over 100 members of the community. The event provided the opportunity to share information with the community and provide a forum for brainstorming ideas towards developing a vision, guiding principles, and strategic moves to inform the development of the Secondary Plan. The event opened with an introduction to the process, a presentation on best practices and a 'fresh eyes' opportunities and constraints analysis. Following the presentations, participants gathered into groups to participate in a workshop to brainstorm a Vision, Guiding Principles, and key "Big Moves". Following the workshop, participants engaged in a design charrette to conceptualize and illustrate their ideas on paper. Following the workshop and design charrette, each group reported their outcomes to the larger group. To conclude with the event, the community was provided the opportunity to ask questions and provide comments regarding the Secondary Plan.

VAUGHAN MILLS CENTRE SECONDARY PLAN STUDY | WORK PROGRAM

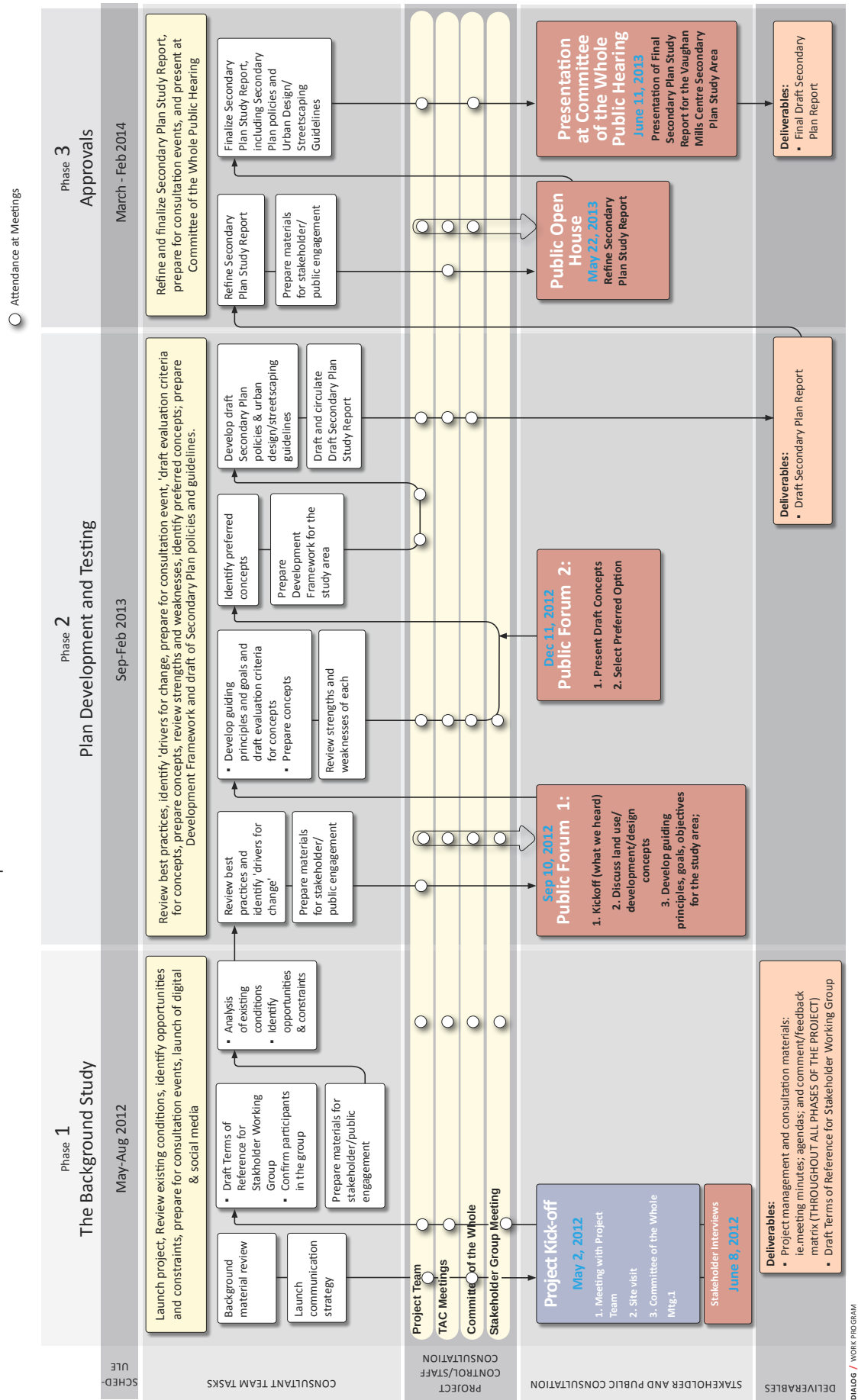


FIGURE 2: VAUGHAN MILLS CENTRE SECONDARY PLAN STUDY WORK PROGRAM

- **Forum 2: Development Concepts Workshop** was held on December 11, 2012 with over 40 members of the community to present draft development concepts for the Vaughan Mills Centre Study Area, outlining land use, open space, movement, and built form frameworks. This event provided an overview of emerging development concepts and included a facilitated discussion with the community. Comments received during this event were used in preparing the *Vaughan Mills Centre Secondary Plan*.
- **The Committee of the Whole Working Session** was held on January 22, 2013 to present a project update and emerging development concepts.
- **Forum 3: Draft Secondary Plan Public Open House** was held on May 22, 2013 to present the Draft Secondary Plan policies and Plan components to the community for review and feedback.
- The **Committee of the Whole Public Hearing** was held on June 11, 2013.
- The **Committee of the Whole** was held on February 25, 2014.

2.3.1 Emerging Themes

Through the various stakeholder interviews, workshops, and public forums, a series of key themes emerged with respect to the community's desires for the Vaughan Mills Centre Plan Study Area.

- A vibrant, green, sustainable community;
- Compact development that promotes walkability and connectedness;
- An integrated community-oriented commercial development;
- Vibrant public spaces for social interaction, recreation, and gathering;
- A mix of housing choices, including affordable options;

- Mobility options including walking, cycling, and transit; and,
- Healthy development transition from existing neighbourhoods abutting the study area boundary.

2.4 The Planning Context

The Vaughan Mills Centre Secondary Plan area is currently governed by planning policy directions established by the Province of Ontario, York Region, and the City of Vaughan. The Province's *Places to Grow: Growth Plan for the Greater Golden Horseshoe*, *Greenbelt Plan*, and *Provincial Policy Statement (PPS)* provides the basis for future development plans in the area. Municipal Official Plans are required to conform to provincial plans and be consistent with the *PPS*.

The Secondary Plan sets specific policy tailored to Vaughan Mills Centre. The following section outlines, without limitation, some notable provisions of the existing policy framework.

2.4.1 Provincial Policy Statement (2005)

The *PPS*, enacted in March 2005, provides policy direction on matters of provincial interest related to land use planning and development. The *PPS* supports efficient use of land, resources, and infrastructure. It encourages development patterns that support strong, livable, and healthy communities by endorsing intensification as a means to accommodate growth and increase urban vitality. It promotes land use patterns, densities, and a mix of uses that minimize vehicular trips and facilitate viable choices for public transportation.

The Policy Statement provides direction for building strong communities by promoting efficient land use and development patterns. In particular, the Policy Statement supports densities and a mix of land uses, which efficiently use land, resources, infrastructure, and public service facilities, and indicates that

appropriate development standards should be promoted to facilitate intensification, redevelopment, and compact built form. The policy statement further establishes land use patterns, density, and a mix of uses and housing options towards minimizing the length and number of vehicle trips that supports the development of viable choices and plans for public transit and other alternative transportation modes. The *PPS* states that growth shall be focused within settlement areas, and away from significant or sensitive resources. It recognizes that the wise management of development may involve directing, promoting, or sustaining growth.

2.4.2 Places to Grow: Growth Plan for the Greater Golden Horseshoe

Places to Grow: Growth Plan for the Greater Golden Horseshoe (The Growth Plan) will have a significant impact on future land uses within the *Vaughan Mills Centre Secondary Plan* area as it requires the development of compact and transit supportive communities in both urban and rural contexts. *The Growth Plan* provides municipalities with a 25-year framework to 2031 to manage growth in urban areas, and to protect farmland and green spaces by curbing sprawl.

The Growth Plan provides policies to:

- Reduce automobile dependency through mixed-use, transit-supportive, and pedestrian friendly development;
- Efficiently use existing infrastructure, and directs growth at higher densities with a mix of uses;
- Create complete communities in both existing built-up areas, and new developments;
- Preserve designated employment areas for future economic growth;
- Provide convenient access to a greater range of transportation options;
- Provide for a range and mix of housing, including

affordable housing;

- A diverse and compatible mix of land uses and high quality public open spaces; and
- Conserve cultural heritage and archaeological resources as intensification occurs.

2.4.3 Region of York Official Plan (ROP)

The new *Region of York Official Plan* was approved by the Province in September, 2010, and a large majority approved by the Ontario Municipal Board in January 2013. *ROP 2010* reflects conformity with the 2005 *Provincial Policy Statement*, the *Greenbelt Plan* and the province's *Growth Plan*. An important policy initiative of the Plan is to promote city building, focusing on regional centres and corridors, and including innovation in urban design and green building. The overall intensification objective in the Plan is aligned with the *Provincial Places to Grow Plan*: a minimum of 40% residential intensification within the built-up area. More specifically, *ROP 2010* is one of the components in the *Region's Planning for Tomorrow* growth management initiative. The Plan integrates the York Region Master Plans for Pedestrian and Cycling, Transportation and Transit, and Water and Wastewater. *ROP 2010* designates the Study Area as an Urban Area on Map 1-Urban Structure.

Within the *ROP*, local municipalities are required to plan for the comprehensive and long-term growth of Regional Corridors as mixed-use areas in a comprehensive manner including their role and function as transportation, transit, and neighbourhood areas. Jane Street and Rutherford Road are identified as "Local Corridors" within *ROP 2010*. Local Corridors have the potential for intensive and mixed-use land development supported by public transit services. Local Corridors link Regional and Local Centres and may be identified as routes for transit services and facilities.

2.4.4 *Vaughan Tomorrow and the New VOP 2010*

Vaughan Tomorrow is the City's growth management strategy, which has entailed a number of studies, all of them informing the preparation of *VOP 2010* for the city, and guided by a vision developed through extensive consultations with the community. The Strategy is based on a vision for transforming the city. *VOP 2010* will direct future growth and development to specific and appropriate locations, including the Vaughan Mills Centre, and identified these locations as primary intensification areas.

VOP 2010 designates lands within the Study Area, located between Jane Street and Highway 400 as a Primary Centre. It also designates lands located between Weston Road and Highway 400, and lands east of Jane Street as Employment Areas. Primary Centres are intended to be areas characterized by a mix of land uses, higher density development, enhanced pedestrian activity and environment, and a high standard of urban design.

Jane Street and Rutherford Road have been identified as Primary Intensification Corridors based on future high order transit service planned along these roads.

Employment Areas are intended for the use of economic activities such as manufacturing, industrial, warehouse, and office uses, that support employment growth in the city and require separation from other uses in order to achieve their maximum potential.

Within the *VOP 2010* Vaughan Mills Centre is envisioned to evolve as a distinct place of major urban activity. Increased development intensification is directed towards higher order transit corridors around planned transit/subway stations and the existing regional shopping destination.

The *VOP 2010*, establishes an Urban Structure for the city (*VOP 2010 Schedule 1 Urban Structure*), which

identifies a development framework and hierarchy of Intensification Areas that range in height and intensity of use for guiding growth in Vaughan.

The Urban Structure hierarchy directs the most intense development towards a number of intensification areas including the Vaughan Metropolitan Centre, and to a lesser extent, Regional Intensification Corridors, Primary Intensification Corridors, and Primary and Local Centres throughout the city. The tallest buildings and most dense development is directed towards the Vaughan Metropolitan Centre (VMC) in particular to support the growth of Vaughan's downtown. The current *VOP 2010* and the Secondary Plan for the VMC establish maximum heights of 35 storeys and a maximum 6.0 floor space index (FSI) for the most dense and central area of the VMC.

2.4.5 *The City's Urban Structure:*

- Vaughan Metropolitan Centre is proposed to be the major focus for intensification for a wide range of residential, office, retail, cultural and civic uses, and will be the location of the tallest buildings and most intense concentration of development.
- Regional Intensification Corridors (e.g. Highway 7, Bathurst Street, Yonge Street) are proposed to be a major focus for intensification on lands adjacent to major transit routes, at densities and in a form supportive of the adjacent higher-order transit. The Regional Intensification Corridors link the Vaughan Metropolitan Centre with other intensification areas in Vaughan and across York Region.
- Primary Centres (e.g. Vaughan Mills Centre between Jane and Highway 400) are proposed as locations for intensification accommodated in the form of predominantly mixed-use high and mid-rise buildings, developed at an intensity supportive of transit.

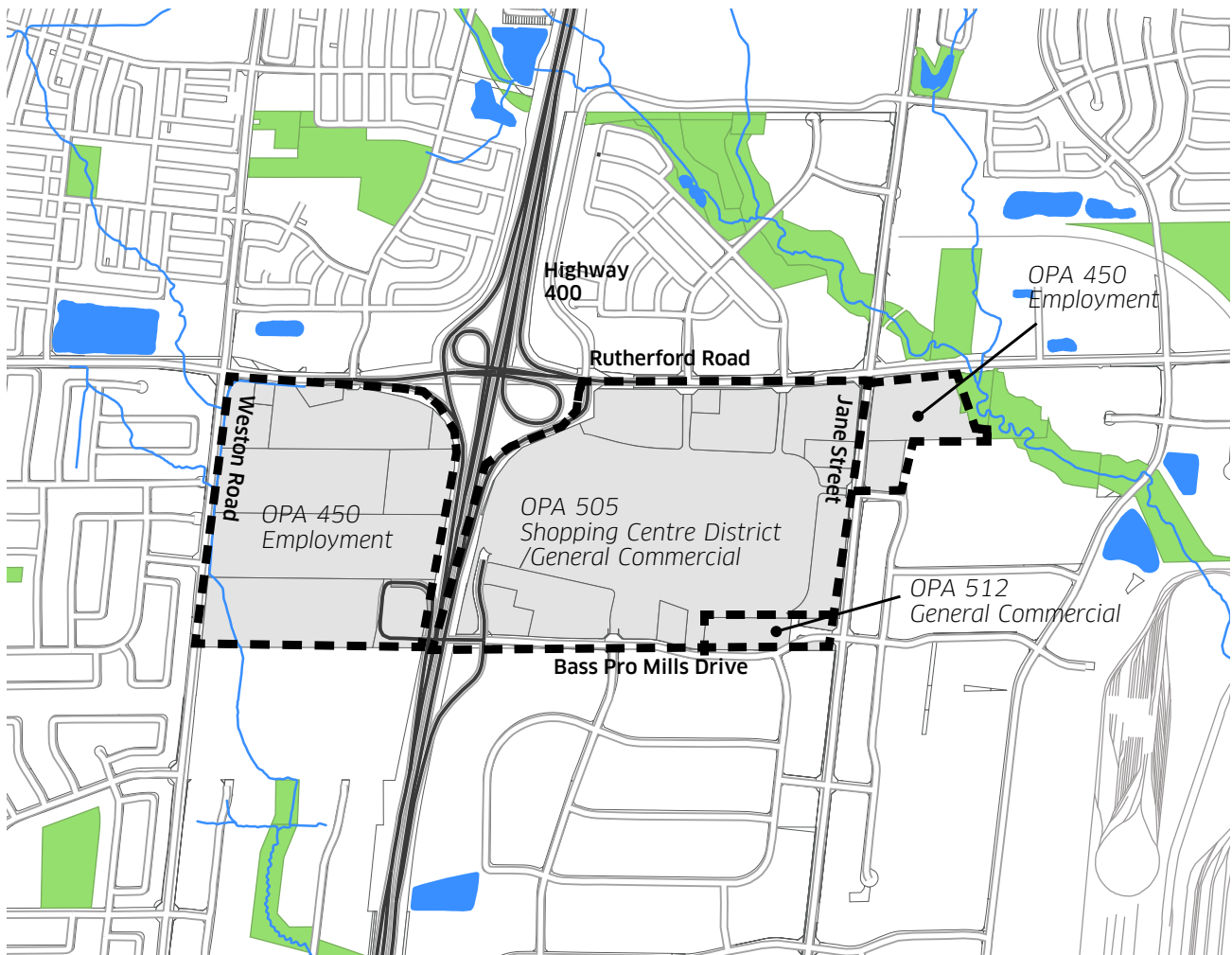


FIGURE 3: OPA 600 DESIGNATIONS AND RELATED OPAS

- Local Centres will provide the mixed-use focus for their respective communities in a manner that is compatible with the local context.
- Primary Intensification Corridors (e.g. Rutherford Road, and Jane Street) link together the various centres on transit supportive corridors and will be places to accommodate intensification in the form of mid-rise, and limited high-rise and low-rise buildings with a mix of uses.

2.4.5 Other Official Plan Amendments (OPA) for the Study Area

OPA 600 - the City of Vaughan Official Plan (2000)

The currently in-force City of Vaughan Official Plan OPA 600 was approved by Regional Council on June 29, 2002, amending OPA No.400 (the previous Growth Management and Land Use Plan). OPA 600 will be superseded by the adoption and approval of the new VOP 2010. OPA 450 is currently in effect for the employment lands located west of Highway 400 and lands east of Jane Street. OPA 600 designates areas within the Secondary Plan boundary between Highway 400 and Jane Street as the Vaughan District Commercial Centre. The lands west of Highway 400 (western area) and the lands east of Jane Street (eastern area) are designated Employment Area, as areas subject to the policies of OPA 450.

OPA 450 (1997)

OPA 450 designates the lands within the Study Area on the east side of Jane Street and west of Highway 400 as Prestige Employment and General Employment areas. Prestige Employment areas are generally directed along arterial and highway corridors to provide high visual exposure, good accessibility, and an attractive working environment. General Employment areas are located within the interior of Employment lands for uses that do not require high profile locations, and may need areas for outside storage for industrial operations.

OPA 505 (1998)

Currently, the Vaughan Mills Mall lands between Highway 400 and Jane Street north of Bass Pro Mills Drive are part of site-specific OPA 505, which has since been incorporated into the new VOP 2010. The amendment was approved in 1998 by the Ontario Municipal Board to bring the lands south of Rutherford Road within the *Vaughan Mills Centre Secondary Plan* area and to permit the use of the lands as a 'Mills' format shopping centre and related development. OPA 505 designates the Vaughan Mills Mall area as Vaughan Centre Shopping Centre District, and General Commercial, allowing for a 'Mills' format mall and related commercial uses, respectively. The maximum commercial floor area of all commercial uses located within the Vaughan Centre Secondary Plan, south of Rutherford Road, with the exception of offices, hotels, and accessory convention centres, is 160,000 sq.m (1,722,225 sq.ft). A maximum 10,000 sq.m (107,639 sq.ft) of office space with a maximum 5-storey height for offices is also permitted.

OPA 512 (1998)

OPA 512 incorporates lands located at the north-west corner of the intersection of Jane Street and Bass Pro Mills Drive, as shown on Figure 5 in the *Official Plan*, within the Vaughan Centre Secondary Plan Area, and redesignates those lands as General Commercial.

2.4.6 Green Directions Vaughan

Green Directions Vaughan is the City's community sustainability and environmental master plan. It establishes the principles of sustainability to be used in development and planning, to achieve a healthy natural environment, vibrant communities, and a strong economy. The document creates a series of sustainability action plans to guide the city's operational and regulatory functions, and acts as the city's first *Integrated Community Sustainability Plan*.



EXISTING SMALLER FORMAT RETAIL AT RUTHERFORD ROAD AND WESTON ROAD



BIRD'S EYE VIEW OF VAUGHAN MILLS MALL LOOKING SOUTH

The document is underpinned by a series of operational and regulatory recommendations, as well as long-term sustainability objectives with implications for the development of the *Vaughan Mills Centre Secondary Plan*, including:

- The potential for all new development to use district energy systems or other appropriate alternative energy forms;
- Ensuring the protection of remaining natural features, and opportunities for habitat restoration in headwater areas, along riparian corridors, and around wetlands;
- Ensuring that policies in the City's new *VOP 2010* protect all ecological features and functions as per current provincial and regional policies, and also includes considerations for locally significant natural features and functions;
- Redefine the maximum amount of impermeable area permitted on a development site. Work with developers to create alternative surfaces with the objective of increasing overall site permeability;
- Enable Vaughan to achieve increased intensification in development nodes and transit corridors;
- Develop sustainable development evaluation criteria;
- Ensure that a mix of housing types is provided in Vaughan and that affordability is a consideration in planning; and
- Continue to apply energy efficient building standard options for new developments in the city.

2.4.7 York Region Transportation Master Plan (2009)

The York Region Transportation Master Plan (Regional TMP) establishes a series of transit, roadway, and policy directions that support the Region's vision for a more sustainable transportation system, which will be required to cope with growth projected in York Region over the next 20 years. The 2009 Regional TMP update identifies a number of planned road improvements in or near the Study Area. These include:

- Improvements to Jane Street, Rutherford Road, and Weston Road to accommodate a proposed Rapid Transit Corridor along Jane Street, and a Transit Priority Network along Rutherford Road and Weston Roads, with dedicated transit and/or HOV lanes.

In addition to the proposed improvements in the Regional TMP, the Rutherford Road corridor is also planned for major improvements in several stages until 2020 under the Region's 10-Year Roads Construction Program that was approved in 2012. Currently, a Municipal Class Environmental Assessment (EA) is underway for the Rutherford Road corridor between Jane Street and Yonge Street.

2.5 Vaughan Mills Centre Today - Existing Conditions and Opportunities

A comprehensive planning framework requires examination of not only the Vaughan Mills Centre area, but also its relationship to adjacent neighbourhoods and its connection to the broader city. The Vaughan Mills Centre Study Area is approximately 146 hectares in size and can be generally described as comprising three areas defined by their urban structure and character, which includes the Western Area for lands west of Highway 400, the Central Area for the lands between Highway 400 and Jane Street, and a smaller Eastern Area for lands east of Jane Street.

2.5.1 Development Pattern and Neighbourhood Character

The Western Area

The Western Area includes 50.73 ha of land area between Highway 400 and Weston Road. The land is largely vacant except for some smaller retail establishments along the south side of Rutherford Road, including restaurants and a service station. The Black Creek tributary traverses through this area, exiting from the south and entering across Weston Road.

The area is flanked by the Weston Downs neighbourhood, which is a low density residential area to the west along Weston Road, the Vellore Corners Retail Plaza to the north of Rutherford Road, including a number of restaurants, a supermarket, smaller format retail stores, and Highway 400 to the east. There are no internal roads that service the site, however there is a road connection that links a partial interchange from Bass Pro Mills Drive across Highway 400 to a ramp. The partial interchange has been constructed, however, the final design and its connections with the employment lands to the west of Highway 400 has not yet been established.

The Central Area (Vaughan Mills Mall Lands and Related Parcels)

The Central Area contains the Vaughan Mills Mall area and surrounding parcels, and acts as the primary focus of Vaughan Mills Centre. The mall is centrally located and is served by a private ring road network that connects at multiple locations to Rutherford Road, Jane Street, and Bass Pro Mills Drive. The parcels between the mall and the perimeter arterial roads are partially developed, with a variety of office, retail, service station, and restaurant uses in a low-rise format. The site was developed over the last 10-years on the basis of a number of site specific Official Plan and Zoning By-law Amendments. The lands to the north of Vaughan Mills Mall include a mix of commercial-retail plazas abutting

low-rise residential neighbourhoods, and an auto-park to the north of Rutherford Road. A number of retail condominium units exist along the southern frontage of Rutherford Road between the internal ring road and Bass Pro Mills Drive. This area includes a waste disposal operation at Jane Street, a hotel, Leon's furniture store, and "the Village of Vaughan Mills", which is a 'lifestyle' format retail area with a number of household accessory-focused retail stores. South of the Study Area flanking Bass Pro Mills Drive are a number of 1-2 storey retail plazas, offices, and employment uses, representing the boundary of the Vaughan Enterprise Employment Area that runs south to Portage Parkway.

The Eastern Area

The lands along the southeast side of Jane Street from Rutherford Road to Riverrock Gate are currently vacant with an abutting woodlot and natural heritage corridor, forming part of the West Don River tributary system. Abutting lands to the south include the Magna International Stamping Plant and a number of 1-2 storey retail and employment operations. The lands north of Rutherford Road on the east side of Jane Street include a high-rise residential complex composed of three 16+ storey towers (a 4th is proposed), with a combined total of 901 units and approximately 1800 residents. To the south and east of the Study Area, CN Rail operates its MacMillan Classification Rail Yard, which comprises approximately 1100 acres of land as CN Rail's main Classification Yard for freight for North America.

Redevelopment Challenges and Opportunities

Just as the opportunities offered by redevelopment are tremendous, the challenges are also considerable. Vaughan Mills Centre is surrounded by established residential neighbourhoods and thriving industrial-employment areas that must be considered in managing the impacts of future redevelopment and intensification. The scope of redevelopment for Vaughan Mills Centre envisions a development format for Vaughan Mills Centre based on the creation of a complete, walkable,



EXISTING HIGH-RISE RESIDENTIAL BUILDINGS AT RUTHERFORD ROAD AND JANE STREET



and mixed-use community.

Future redevelopment must grapple with the challenges of relatively poor access through Vaughan Mills Centre to the city's road network, an existing road pattern that does not support intensification, the physical isolation of the Vaughan Mills Mall area from its surroundings, the impact of Highway 400 that bisects the area, and the existing land use typologies in the Study Area. These challenges underscore the need for a comprehensive planning framework for Vaughan Mills Centre. A comprehensive planning framework ensures that a full range of planning issues are addressed, that synergies between different public and private investments can be built upon, and that a sustainable approach to neighbourhood planning results in a community that balances a broad range of competing public objectives and private interests.

2.5.2 A Changing Context

In recent years, Vaughan Mills Centre has seen increasing development pressures for high-rise residential development in an area of the city historically characterized by low-rise typologies largely centered around Vaughan Mills Mall. With the *VOP 2010*, however, the City is providing further development opportunities to create new communities, and for a mix of land uses within intensification areas such as Vaughan Mills Centre.

A key City objective in increasing residential and employment density within Vaughan Mills Centre is for the creation of sustainable urban environments. From a city-building perspective, higher densities makes it easier to encourage active transportation and public transit use, which can have positive effects on the environment and physical health of the community. This is a key reason why the *Growth Plan for the Greater Golden Horseshoe*, the *Provincial Policy Statement*, and the *VOP 2010* promotes higher densities through intensification and compact development. Within

Vaughan Mills Centre there is a unique opportunity to create a mix of land uses in a more compact urban form that supports higher order transit in support of the creation of a lasting, complete community.

A key function of Vaughan Mills Centre is its role as a regional destination, employment hub, and commercial centre. Given that Vaughan Mills Centre serves a local and regional catchment area, and is a centre of economic activity for industry, there is a need to encourage residential uses and population densities that can support planned transit, expanded retail shopping, and employment/office uses. Shifting demographics will result in a need to provide opportunities for smaller, more compact housing forms for both the aging demographic, and for youth entering the housing market for the first time, to be located closer to jobs and amenities like transit, parks, shopping, and other community facilities. In the future, as the area grows, and new economic sectors and jobs emerge, the demand for housing and amenities within close walking distance to residential areas will also increase.

2.5.3 A Shifting Modal Split

The transportation infrastructure environment is changing as well. Regional street design is moving towards a context sensitive solutions approach that promotes and supports all modes of transportation including walking, cycling and transit. In addition, the Region is proposing new street cross-sections for some of the major transit corridors such as Rutherford Road and Jane Street. Key enhancements will support higher volumes of circulation, high occupancy vehicle lanes, higher-order transit, dedicated cycling lanes, and enhanced public boulevard facilities making it easier for both pedestrians and vehicles to move in and around Vaughan Mills Centre. These roadway enhancements are the initial stages for increasing the modal split towards supporting increased pedestrian movement, transit, and vehicular circulation.



VIEW OF THE NORTH ENTRANCE OF VAUGHAN MILLS MALL



VIEW OF THE VILLAGE AT VAUGHAN MILLS LIFESTYLE CENTRE

The current Vaughan Mills transit terminal provides a major transit opportunity for Vaughan Mills Centre. According to York Region's Transportation Master Plan (2009), the Vaughan Mills terminal is planned to become one of the key transit gateways in the area. In the future, the Spadina subway extension to the Vaughan Metropolitan Centre (VMC) at Jane Street and Highway 7 will provide future opportunities for new higher order transit connections between the VMC to the midtown area of the city and Vaughan Mills Centre. This will have positive impacts for future higher order transit such as subway and other rapid transit and pedestrian movement for the Study Area, and support the potential future development of a Transit/Mobility Hub around the intersection of Jane Street and Rutherford Road. Currently, there are a number of proposed developments which would support higher order transit at this location including the York Region government offices and a number of high-rise mixed-use developments which are helping to create a critical mass of institutional, residential, and community uses at the intersection.

2.5.4 Tourism and Commercial Node

The Vaughan Mills Centre Secondary Plan area is emerging as a major centre of activity in the city and region. The area already benefits from an advantageous location along Highway 400, its relative proximity to Pearson International Airport, and central location within the Greater Toronto Area (GTA). In addition, the area benefits from a draw of tourism activity generated from Paramount Canada's Wonderland and the Vaughan Mills Mall, making this area a major tourist and commercial destination in the region.

In addition, due mostly to the Vaughan Mills Mall activities, the Study Area sits at the upper spectrum of Vaughan's commercial hierarchy serving a dominant role over most retail in Vaughan, and in adjacent communities. Over the last 10 years, Vaughan Mills Centre has grown with the development of the Vaughan

Mills Mall and related commercial areas, but has not yet developed as the vibrant urban centre envisioned in the VOP 2010. A key component of the Vaughan Mills Centre area is its role as a regional destination, employment hub, and commercial centre. Given that Vaughan Mills Centre serves a local and regional catchment area and is a centre of economic activity in the GTA, there is a need to expand the mix of uses that can facilitate planned transit, expanded retail shopping, and employment/office uses in support of an emerging urban centre.

While much of Vaughan's retail hierarchy is focused towards enclosed shopping malls and auto-oriented big-box retail outlets, the community has expressed a desire for a more walkable convenience-based retail offering (grocery, daily amenity, restaurant, medical, and outdoor formats) for Vaughan Mills Centre. This retail format relies on a more local catchment area to be competitive, supporting opportunities to walk to amenity areas. The regional trend towards big-box retail uses, which demands high traffic volumes, large floor plates, expansive parking and circulation areas can be at odds with creating a more pedestrian-oriented retail environment.

2.5.5 Employment Centre

A large portion of the lands surrounding and within Vaughan Mills Centre are designated Employment. This existing employment base, and the development of future jobs in vacant lands, provides a unique condition and opportunity for the Study Area as it intensifies. In addition, over the years surrounding development has outpaced the development of the vacant employment lands within the Study Area towards a more residential and retail character. This existing land use condition provides challenges in dealing with issues of adjacency and for transitioning between development forms. In this regard, as Vaughan Mills Centre sits at the convergence of a number of different land uses, future development will need to provide appropriate solutions



EXISTING STORMWATER MANAGEMENT FACILITY NORTH-EAST OF RUTHERFORD/WESTON ROADS



EXISTING WOOD LOT SOUTH-EAST OF JANE STREET/RUTHERFORD ROAD

for dealing with issues of adjacency and separation between land uses that serve to reduce impacts on existing areas.

The employment areas located along the Highway 400 corridor provide excellent highway access and visual exposure, and an opportunity to create an unique employment area that integrates with, and reduces impacts on existing land uses. To the south and east of the Study Area, CN Rail operates its MacMillan Classification Rail Yard, which comprises approximately 1100 acres of land as CN Rail's main Classification Yard for freight for North America. Surrounding employment uses such as those in the warehouse sector, have taken advantage of proximity to the MacMillan Rail Yard and have helped to attract businesses and investment to the city over the years.

2.5.6 Open Space and Natural Heritage

Natural Heritage

Although the Vaughan Mills Centre area is completely within the built-up area of the city, it is part of a regional ecosystem that includes natural features such as the tributaries of the Humber River, the Black Creek Subwatershed, and the West Don River Valley. Both of these environmental features are designated as Core Features within the *VOP 2010*.

Maintaining, restoring and enhancing the health of natural features to improve ecological integrity on and off-site will be a major objective for the *Vaughan Mills Centre Secondary Plan*. Consideration for managing post-development water recharge to pre-development conditions will be necessary in order to maintain the function of the groundwater system and other natural features (e.g. streams, wetlands, and forests). Future development will need to consider natural features and functions, towards providing protection and extensive restoration measures to enhance and improve natural systems and their functions.

Open Space

With increased residential intensification planned for the Vaughan Mills Centre area, new parks and other community amenities will be required to serve a growing population.

Currently there are no parks that serve Vaughan Mills Centre. However, through the City's *Pedestrian and Bicycle Master Plan Study (2007)* and the revised Draft *Active Together Master Plan (2013)*, the City has recommend new cycling connections and parks requirements towards providing guidance for new facilities within Vaughan Mills Centre.

One of the objectives of the Secondary Plan will be to assess and recommend the open space needs for Vaughan Mills Centre in response to the recommendations brought forward in the updated *Active Together Master Plan (2008)* while taking into consideration the future demands that growth and intensification will have on the demand for new parks.

The Secondary Plan will recommend ways to:

- Integrate an open space framework throughout the Vaughan Mills Centre Study Area and with surrounding neighbourhoods;
- Create new amenities in concert with emerging development;
- Incorporate stormwater management features within the public realm; and
- Enhance and improve the health and function of natural environmental features.

PART B CREATING A VIBRANT URBAN CENTRE

Sections

- 1.0 The Vision, **Character Areas**, and Guiding Principles
- 2.0 Big Moves
- 3.0 Development Character, Land Use, and Built Form
- 4.0 Transportation Framework
- 5.0 Parks and Open Space Framework
- 6.0 Community Facilities
- 7.0 Sustainable Site Design and Integrated Infrastructure

PART B
Section...

1.0

» THE VISION & GUIDING PRINCIPLES



1.1 // The Vision Statement

Vaughan Mills Centre is Vaughan's 'midtown' urban centre for commerce, tourism, entertainment, and gathering. Designed for walking and anchored by its retail and employment base, Vaughan Mills Centre is a place to live, work, and play and is a regional destination. As one of the primary urban centres in the city, it is a gathering place with unique amenities and supported by great retail areas, entertainment, residential enclaves, bustling employment, and public spaces.

1.2 The Vision

The Vision and its Guiding Principles will shape the evolution of the Vaughan Mills Centre Study Area. A denser mix of uses is envisioned, including residential, office, and commercial uses in a more complete, sustainable, vibrant, and self-sufficient urban environment. The Vision is in keeping with the many aspirations, priorities, and objectives of the City and community.

The Vision for Vaughan Mills Centre is a beautiful and distinct new urban area of the city, structured along an enhanced public realm and a celebration of natural spaces that connects neighbourhoods throughout. The Vision reflects a desired "urban village" character, having a regular pattern of connected streets and blocks, focusing areas of intensification around unique and vibrant pedestrian oriented mixed-use corridors that provide neighbourhood amenity for Vaughan Mills Centre, and function as both local and regional destinations. These include creating gateways with new parks that are animated with mixed commercial/residential uses, and new community amenities that support a new residential community.

The urban village character is further enhanced with new mixed-use residential areas that offer a variety of mid-to-high density typologies, tenures and affordable housing options, and are served by ample private and public open spaces. Each mixed-use residential block is linked by connected open spaces that join a series of integrated neighbourhood parks and publicly accessible private amenity areas. Each block is within a five-minute walking radius from a public open space. All streets are tree-lined, pedestrian and bicycle friendly, with sidewalks that encourage walking and connect to existing and new development. In addition, a new multi-use path along Bass Pro Mills Drive connects into the rest of the pedestrian/cycling network. This network allows pedestrian/cyclists to travel safely through

Vaughan Mills Centre from Jane Street to Weston Road, and connects to significant open spaces such as a new greenway within the employment area to the west of Highway 400.

An enhanced internal ring road provides a new residential address and is designed with sidewalks and tree planting on both sides, with on-street parking, and dedicated cycling lanes to provide a diversity of mobility options throughout the Vaughan Mills Mall Area.

The Vision supports a modal shift that accommodates transportation modes such as cycling and walking. This, in conjunction with a mix of land uses, housing diversity, connected streets and paths, supports a walkable, pedestrian-friendly environment, towards a healthier lifestyle.

The retention and enhancement of natural features celebrates the natural heritage character of the area. In addition, an overall emphasis placed on creating a unique environment with quality built form, animated commercial areas, and the expansion of the open space system strengthens the function of the Vaughan Mills Centre and surrounding land parcels.



1.3 Guiding Principles

Together with the Plan Vision, the following nine Guiding Principles provide direction and support for the overall development of a concept plan for the Vaughan Mills Secondary Plan area. The Guiding Principles and associated policies, represent the fundamental objectives that must be considered when making planning-related decisions within the Secondary Plan Area. The Guiding Principles have been derived through the public consultation process and site analysis, to ensure the successful evolution of the Vaughan Mills Centre area.

Principle 1

Create a Vibrant, Complete, Mixed-Use Urban Centre

The Vaughan Mills Centre Secondary Plan area should accommodate and encourage a mix of uses to support a vibrant, compact, complete community and urban hub.

Objectives:

- Establish a mix of land uses, including compatible residential, retail, office, institutional, and amenity uses that foster diversity, create a pedestrian-oriented environment, encourage social interaction, and a mix of demographics, while enabling residents to live, work, and play in the area;
- Provide opportunities for an urban form of gathering places, destinations, and amenities within close proximity to proposed residential areas;
- Provide uses to support a diverse demographic, including youth and seniors; ensure visitors and tourists have places to stay; provide citizens with interesting, unique commercial areas focused on pedestrians; and encourage both residents and visitors to spend time in vibrant public spaces; and
- Support the development of creative industries, green industries, and knowledge economy markets to diversify the range of economic and employment opportunities in Vaughan Mills Centre.



Principle 2

Foster a High Quality of Place, Design Excellence, and Sustainability

Development should contribute to creating a new identity, uniqueness, and quality of place for Vaughan Mills Centre.

Objectives:

- Develop an approach to urban design that provides a high quality pedestrian realm and built form environment, and creates inspiring and memorable places;
- Ensure development that is “human scaled” - welcoming, accessible, and appropriate to its context, and creates a comfortable pedestrian environment;
- All development will aim to enhance or benefit the city, and enhance Vaughan Mills Centre as a vibrant urban environment;
- Provide appropriate transition to surrounding neighbourhoods to the north and west, and to employment areas to the south and east; and
- All development should be conducted to the environmental standards of the City, Region, TRCA, and Province.



Principle 3

Provide a Diverse Range of Housing Options in Vaughan Mills Centre

The Secondary Plan should provide for a diverse range of housing options in high-rise, mid-rise, and lower-rise buildings, to support a variety of incomes, family types, and age groups that allows people to live in the Vaughan Mills Centre area through all stages of their lives.

Objectives:

- Encourage a diverse mix of housing typologies, tenures, and affordable housing opportunities within compact residential areas in order to provide options for people of all ages in more urban housing forms; and
- Allow for housing in mixed-use developments to ensure that the street is active and animated all days of the week, and all times of the day.



Principle 4

Enhance the Role of Vaughan Mills Centre as a 'Centre of Economic Activity, Jobs, and Commerce in the Region'

Create a unique employment and commercial environment that is vibrant, walkable, diverse, active, visible, and accessible, and that is based on a financially and socially viable commercial plan that is supportable in the local market.

Objectives:

- Create a commercial environment that will draw high visitor traffic, and that provides compelling reasons to visit;
- Create a commercial base that can respond to the ever-changing needs and preferences of its customer base and local residents, and that appeals to all demographics, from teenagers to young families and seniors;
- Create a commercial environment that is highly visible and accessible to all modes of transportation, transit supportive, and an active public realm and pedestrian environment; and
- Support the development of high quality employment uses designed to provide a lasting amenity for workers, businesses, and residents, integrated into the community with a high quality public realm, open spaces, streetscapes, landscaping, public parks, and community-focused retail and amenity uses.

Principle 5

A Walkable Urban Environment

The identity of Vaughan Mills Centre will be strengthened by its walkability and accessibility through the development of high quality, pedestrian-oriented streetscapes that are safe, welcoming, accessible, and create a distinct public realm environment.

Objectives:

- Design for pedestrians and cyclists as a priority, and ensure the design of paths and sidewalks to facilitate movement in all seasons;
- Provide well-linked and safe pedestrian connections through mews streets and linkages to amenities throughout Vaughan Mills Centre;
- Maintain efficient access for vehicles through Vaughan Mills Center while incorporating transit oriented design measures;
- Explore alternatives to large surface parking areas;
- Ensure streets are designed with appropriately scaled street lighting, street trees, landscaping, and generous sidewalks, with an emphasis on 'greening' Vaughan Mills Centre to distinguish and unify the character of the area;
- Provide centrally located amenities (retail and community facilities and gathering spaces) within a 5-10 minute walking distance to residential areas;
- Ensure new development includes adequate setbacks for sidewalks, walkways, and lanes;
- Improve pedestrian connectivity across Highway 400; and
- Use green infrastructure that blends with the proposed urban environment and provides necessary function.



Principle 6

Provide High Quality Open Spaces

Development in Vaughan Mills Centre should provide a balanced approach to built form, and high quality open spaces.

Objectives:

- Ensure that new development is adequately served by community amenities such as public parks and urban squares, recreational facilities, and other community amenities;
- Provide a defined network of open spaces, parks, and trails that are connected through a network of attractive pedestrian walkways, mid-block connections, and urban plazas;
- Enhance existing open space corridors (i.e. the Black Creek subwatershed and the West Don River valley), and ensure they are well connected with the overall pedestrian network;
- Design parks that reflect the scale and form of adjacent development, and serve as an amenity to the area by providing activities for a range of demographics; and
- Where possible, use existing heritage and stormwater management features as active/passive park space.
- Ensure orientation and massing of buildings adjacent to public spaces provide adequate access to skyview, sunlight, and appropriate pedestrian level wind conditions and micro-climates for public users.

Principle 7

Protect, Restore, and Enhance Natural and Cultural Heritage Resources

All new development will respect Vaughan's natural and cultural heritage assets and contribute to its natural heritage character.

Objectives:

- Conserve, restore, and enhance natural heritage areas such as the Black Creek Subwatershed and the West Don River Valley in the Study Area; and
- Ensure that new development will not have an adverse impact on the conservation of natural heritage features and increase the risk of downstream flooding.



Principle 8

Create a Multi-Modal Transportation Network

The design of the transportation network should support a range of users including pedestrians, cyclists, public transit, goods movement, and private vehicles.

Objectives:

- Support and encourage the development of a multi-modal transit/mobility hub at Vaughan Mills Centre that connects to other hubs and destinations, and supports the development of future rapid transit along Jane Street;
- Develop a well connected and fine grid street network;
- Create streets that are 'complete', and designed for a variety of abilities and modes of travel, and that provide safe and efficient movement for a diversity of users;
- Design streets and the public realm to ensure pedestrian safety and comfort as a priority;
- Provide a safe and well-connected pedestrian and cycling network that facilitates movement throughout the Study Area, as well as to surrounding areas;
- Ensure that pedestrian pathways, mews, and sidewalks are provided to ensure safe and comfortable pedestrian movement through the Vaughan Mills Mall parking area; and
- Explore safe, attractive, comfortable, and multi-modal crossing opportunities over Highway 400.



Principle 9

Sustainable and Resilient

The development and evolution of Vaughan Mills Centre should be socially, economically, and environmentally sustainable over the long-term, while making efficient use of existing infrastructure, energy, and other resources.

Objectives:

- Provide for a socially diverse community and ensure the efficient use of land through mixed-use development with a full range of housing types, tenures, and amenities to support a growing community;
- Support economic and employment growth through allowing a wide range of commercial, employment, and office activities to provide residents with the ability to walk or cycle to a range of activities;
- Ensure that Vaughan Mills Centre is accessible by transit, vehicles, pedestrians, and cyclists to permit a full range of mobility choices, and to support an efficient transportation system;
- Develop sites, buildings, and structures that reduce environmental impacts. Provide energy conservation improvements, and resource-efficient buildings throughout a building's full life-cycle; and
- Ensure environmental sustainability and resiliency of natural areas.

1.4 Character Areas

To provide a context and development outlook for different areas throughout the Vaughan Mills Centre Secondary Plan Area, character areas have been defined. Each area is defined by a dominant function, and urban quality intended to be achieved. The general approach to identifying character areas is shaped by the City's existing policies, the Guiding Principles and Big Moves of this Plan, and other character-specific considerations.

This section identifies the desired future character, function, and urban design outlook of the various areas within the Vaughan Mills Centre Secondary Plan.

Character Areas:

- Defines the various distinct areas of the Plan and provides an organizational structure for development towards achieving the Vision;
- Identifies the desired future character and function of the areas within the Plan, building on existing assets, structure, and future vision; and
- Creates a framework for development that serves to enhance the Vaughan Mills Centre area.

1.4.1 Jane Street Corridor

The Jane Street Corridor includes lands within the Jane Street and Rutherford Road intersection and lands fronting along the Jane Street Corridor between Locke Street and Rutherford Road. The Jane Street and Rutherford Road area plays an important role as a transportation node, as well as an employment and mixed-use commercial corridor in the city. The area is in transition and is part of a chain of major redevelopment currently planned such as the proposed Hospital redevelopment area to the north (Jane Street and Major Mackenzie Drive) and the Vaughan Metropolitan Centre to the south (Jane Street and Highway 7). This area provides an opportunity for intensification along with future higher-order transit in coordination with other planned development along Jane Street.

The overall vision for the area is towards achieving a higher density mixed use neighbourhood supported by high order transit that is all served by accessible open space and parks, pedestrian connections, community services, and an enhanced pedestrian realm.

The Jane Street Corridor is proposed to become a key destination and gateway within the emerging Vaughan Mills Centre. The Jane Street Corridor will be urban in nature, reflecting its function as a regional point of attraction and transit oriented development.

Defining characteristics include, without limitation:

- Supporting a gateway development character at the corner of Jane Street and Rutherford Road as a symbolic point of reference for the area;
- Orienting the tallest buildings towards the Jane Street and Rutherford Road intersection and transit nodes;
- A pedestrian-oriented and urban cross-section for Rutherford Road and Jane Street with a mixed-use retail/residential frontage with buildings set close to



HIGH DENSITY DEVELOPMENT FRAMING A PUBLIC PARK



HIGH QUALITY PEDESTRIAN REALM AND BUILT FORM ALONG AN ARTERIAL CORRIDOR

- the street to create address;
- High quality streetscaping and pedestrian facilities;
- Providing mid-block connections and linkages to surrounding land uses and open spaces, with trail linkages to the West Don River Valley to the east;
- Creating internal public street networks for improved traffic flow and connectivity to develop the city grid;
- Providing publicly accessible open spaces that functions as a central feature for development ensuring that amenity spaces are well connected to the broader public realm network;
- Incorporating iconic elements, architectural features and public art that contributes to the character and identity of the community;
- Creating mixed-use frontages along Jane Street
- to encourage animation of the street and neighbourhood vibrancy;
- Exploring typological variation in building design to increase visual interest by considering variation in tower shape, orientation, and façade design;
- Orienting and massing buildings to frame views and control privacy between properties;
- Structuring building massing to create a public realm interface that frames open spaces and provides a sense of enclosure and human scale for pedestrians;
- Providing pedestrian connections with existing and future transit facilities, retail, open space, and natural heritage areas; and
- Buffering from surrounding employment land uses.

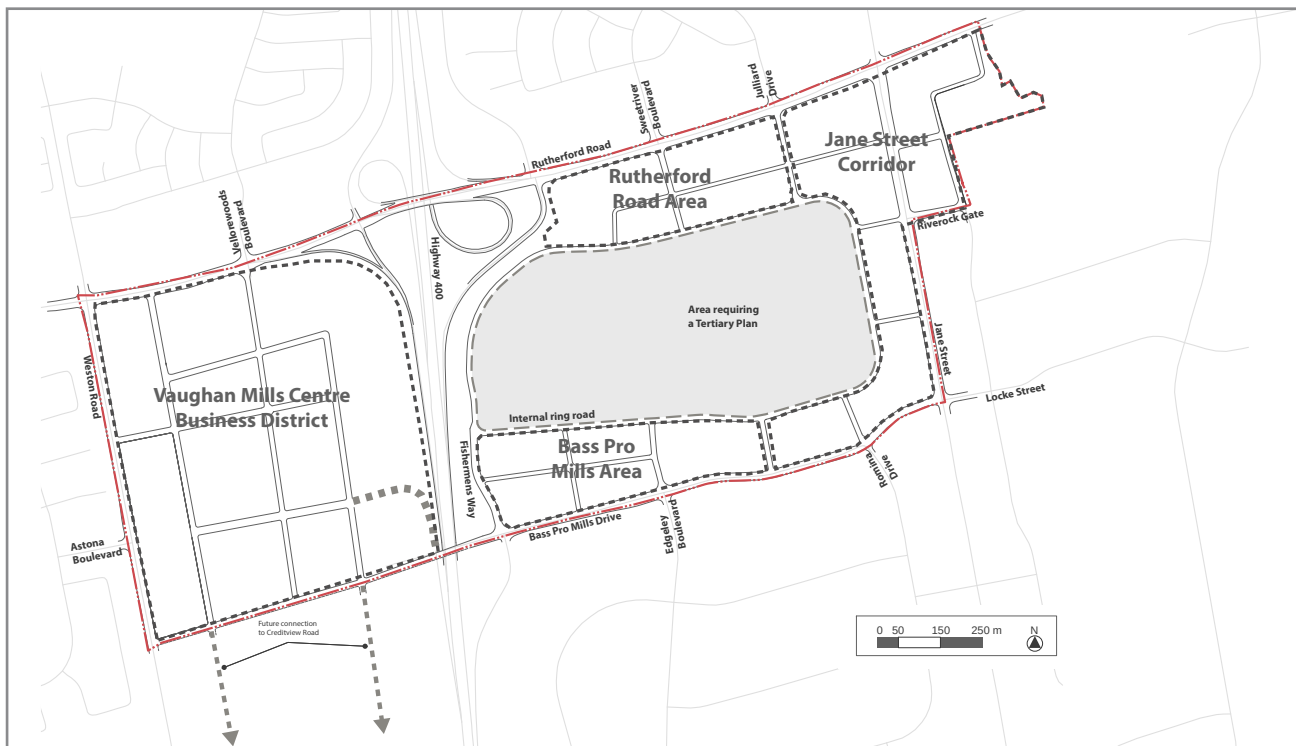


FIGURE 4: CHARACTER AREAS



MIXED USE COMMERCIAL STREET



MIXED USE COMMERCIAL DEVELOPMENT FRAMING A PUBLIC OPEN SPACE

1.4.2 Rutherford Road Area

The Rutherford Road Area includes the commercial blocks on the south side of Rutherford Road between the Jane Street character area and the Highway 400 interchange. The development outlook and vision for this area reflects the commercial mixed-use function and interface with Vaughan Mills Mall. This area is envisioned to transform from a predominantly single storey commercial plaza form with large surface parking areas into a vibrant commercial and mixed-use residential area that transitions down from the higher density areas along Jane Street. This area is proposed to include a variety of housing typologies from low-rise to high-rise, offering a range of housing to residents in the community.

The land use structure envisioned includes street level commercial frontages with residential served by community amenities and parks. The character proposed is defined by a fine grain of blocks, connected streets and pedestrian connections, with lower built form that frames open space and the public realm.

Defining characteristics include, without limitation:

- Encouraging a mixed-use retail frontage along Rutherford Road to enhance pedestrian activity along the street;
- Providing a fine grain of streets and blocks conducive to walking and transit to support an enhanced pedestrian setting;
- Aligning neighbourhood parks with development to make parkland accessible and centrally located to residents;
- Transitioning building heights down from Rutherford Road towards the Vaughan Mills Mall Area;
- Framing open spaces with mixed-use frontages;
- Providing pedestrian connections to Rutherford

Road, the Vaughan Mills Mall, and between blocks; and

- Structuring and enhancing east-west connections to ensure development blocks are woven together cohesively.

1.4.3 Bass Pro Mills Area

The Bass Pro Mills Area includes lands south of the internal ring road north of Bass Pro Mills Drive between Jane Street character area and the Highway 400 interchange. This area is envisioned to transition down from the higher densities along Jane Street. Development in this area is envisioned to provide a transition between the employment uses to the south and Vaughan Mills Mall to the north with a mixed use development format. The area is proposed to maintain the prevalent commercial use of the Bass Pro Mills Area but encourages some residential development to help distribute residential uses throughout Vaughan Mills Centre.

Defining characteristics include, without limitation:

- Providing additional street connections to further develop the street grid;
- Creating a system of neighbourhood parks and public squares to provide amenity uses for the future community in this area;
- Creating a comparatively wide streetscape along Bass Pro Mills Drive with cycling facilities, a multi-use path, and high quality landscaping to improve the pedestrian experience and connectivity between the existing residential areas west of Weston Road through to Jane Street;
- Encouraging modest residential intensification to benefit from surrounding employment and commercial land uses, future road connections, and



EXAMPLE OF A MULTIUSE USE PATHWAY WITHIN A LANDSCAPED BOULEVARD



EXAMPLE OF A HIGH QUALITY PEDESTRIAN-ORIENTED EMPLOYMENT AREA

public amenities envisioned for the area;

- Creating north-south and east-west connections that aligns the area with the Vaughan Mills Mall area;
- Providing mixed-use retail and office frontages along Bass Pro Mills Drive to enhance pedestrian activity along the street;
- Encouraging pedestrian-oriented retail by providing direct pedestrian access from the street; and
- Encouraging pedestrian-scaled design through the use of building stepbacks, multiple entrances, mid-block connections, and a consistent street wall.

1.4.4 Vaughan Mills Centre Business District

The Vaughan Mills Centre Business District is envisioned to develop with a mix of prestige employment uses directing most of the office uses along the Highway 400 corridor. The Vaughan Mills Centre Business District is proposed to be a centre for innovation and design excellence that capitalizes on its location and visibility. A nexus of activity, this area is envisioned to function as a knowledge hub attracting businesses in 'green' and creative industries, technology, and research and development.

Defining characteristics include, without limitation:

- Creating a fine grain block and street pattern with opportunities for mid-block connections providing pedestrian access to Weston Road, and the Vaughan Mills Mall area;
- Providing an internal collector road network with new connections to surrounding arterial roads and the Highway 400 interchange;
- Transitioning heights from higher buildings adjacent to Highway 400, to low-rise buildings along Weston Road;
- Directing the Black Creek northwards and incorporating it into a naturalized open space

feature, providing a multi-use amenity with cycling and pedestrian paths to serve the employment area and surrounding neighbourhood;

- Creating a connected public realm through mid-block connections and linkages to open spaces, natural features, and the surrounding area;
- Structuring and concentrating retail at key intersections and areas of activity, as well as along primary arterial streets;
- Orienting buildings towards open spaces to reinforce a strong visual linkage within the landscape; and
- Maintaining, enhancing, and restoring the natural environment supporting sustainable development objectives.

PART B
Section...

2.0

» BIG MOVES



~~2.2~~ 2.1 // The Big Moves

The 'Big Moves' for the Vaughan Mills Centre Secondary area, outlined below, form the basis for the Plan's policies, and implementation strategies. They are key design moves that support the Vision and Guiding Principles, and define the Concept Plan.



1. PEDESTRIAN-ORIENTED STREETS:

- Provide a green streetscape;
- Include intimately-scaled open spaces along the street, active at-grade uses, gathering spaces, safe and well-connected boulevards and pathways, and various landscape forms; and
- Use appropriately-scaled buildings.



2. STRONG CONNECTIONS:

- Create pedestrian and bicycle connections throughout and ensure that transit is connected appropriately to amenities and the public realm; and
- Develop trails/paths throughout Vaughan Mills Centre, with connections to surrounding natural heritage features and open space.



3. COMMUNITY GATHERING PLACE:

- Provide community gathering places as the central focus for the area; and
- Front gathering places with active frontages (retail/commercial) to create a vibrant street-level environment.



4. ~~INCREASED DENSITY:~~ INTENSIFICATION

- Allow Vaughan Mills Mall to expand through a mix of retail/residential development. Future expansion of the shopping centre parking areas to be redeveloped as mixed-use development blocks supported by structured parking;
- Focus mid-rise development around the ring road and Bass Pro Mills Drive; and
- Locate taller buildings along Rutherford Road, Jane Street, and the Highway 400.



5. EMPLOYMENT DISTRICT:

- Create a unique employment district on the west side of Highway 400 that is vibrant, walkable, and active, while supporting a high quality urban environment for a range of office and other employment land uses; and
- Improve pedestrian connectivity to the future transit hub from the employment district.



6. JANE AND RUTHERFORD TRANSIT HUB GATEWAY:

- Recognize and develop the Rutherford Road and Jane Street intersection as a significant gateway node through unique architectural features, active at-grade uses, and consider introducing a significant gathering place;
- Support the development of a Transit Hub and the possible extension of the Spadina Subway from the Vaughan Metropolitan Centre to Vaughan Mills Centre; and
- Encourage the development and location of government and public uses close to existing and planned transit stops.



7. BLACK CREEK:

- Create a naturalized corridor west of Highway 400 for the Black Creek tributary in order to maintain and enhance its ecological function/ restoration, and hazard management; and
- To establish public common areas and active transportation pathways along the edges of the corridor to ensure interconnections, and promote stewardship of open space and natural features.



8. ENHANCED DESTINATION:

- Enhance Vaughan Mills Centre's existing role as a destination through the addition of other entertainment and cultural uses (theatre, performing arts, museum, recreation/sports etc.); and
- Improve connectivity with other tourist uses such as Canada's Wonderland and the Vaughan Metropolitan Centre.



9. OUTDOOR RETAIL FORMATS:

- Encourage the development of outdoor format retail uses, with direct pedestrian access from the street, and spill-over areas.

10. PEDESTRIAN AND BICYCLE CROSSING:

- Support a future pedestrian connection across Highway 400 that aligns with the internal ring road to link the employment district and surrounding community with future development areas east of Highway 400.

PART B
Section...

3.0

» DEVELOPMENT FRAMEWORK, LAND USE, AND BUILT FORM



3.0 // Introduction

The policies in this section address land use for Vaughan Mills Centre and are intended to ensure all future planning and development is in keeping with the desired build out of the area. The policies established in this section build upon those in the *Vaughan Official Plan 2010 (VOP 2010)* and other applicable policies.

3.1 Development Framework

The Development Framework reflects a more complete mixed-use community structure with the inclusion of additional neighbourhood parks and open spaces, neighbourhood scale amenities, and new streets that connect these uses, while improving walkability and accessibility. The *Vaughan Mills Centre Secondary Plan* encourages the development of a compact, mixed-use community that is well-connected to the external street network. The Plan strives to accommodate growth through a mix of densities and is based on the premise that a well-served, well-connected, and well-designed community will encourage walking, cycling, and transit use as preferred transportation choices. The Plan encourages sustainability, the restoration of the natural landscape, and environmental best practices.

A background report has been prepared (*Transportation Assessment: Vaughan Mills Centre Secondary Plan, MMM Group, February 2014*), which identifies recommended transportation improvements in order to ensure sufficient transportation capacities are in place to support the development limits proposed in the Vaughan Mills Centre Secondary Plan Area.

3.2 Growth

The Vaughan Mills Centre Secondary Plan establishes a planning framework to direct growth in the Vaughan Mills Centre area and to guide and manage the change that it represents. The Vaughan Mills Centre area is an appropriate part of the City for intensification. The Jane Street and Rutherford Road transit corridors currently serve the area, and future opportunities exist for a Transit Hub around the Jane Street and Rutherford Road intersection. This area provides an ideal location to create synergies with the existing Vaughan Mills Mall Transit Terminal and the future potential extension of the subway. Improved transit infrastructure will provide new intensification opportunities for the City of Vaughan.

The area includes large parcels of underutilized land, most of which are currently single use. This represents an opportunity to reconfigure land to achieve a strong network of infrastructure, and to develop a public realm that supports a mix of land uses, housing, built form, and intensification. Intensification provides an opportunity for investment, renewal, vibrancy, and improved public amenities in one of the City's priority areas.

The Highway 400 corridor is a major physical barrier. While providing good access to the Plan area, it poses some significant challenges. In addition, the high-level exposure from the highway to adjacent uses provides opportunities to create gateway design features such as additional building height permissions, and connectivity between neighbourhoods by promoting enhanced crossings over the Highway.

These local growth opportunities, coupled with an array of city-building objectives that can be achieved in the Vaughan Mills Centre area, underscore the need for a Secondary Plan. The *VOP 2010* identifies Vaughan Mills Centre as a Priority Area for intensification, and consequently, the Secondary Plan envisions intensification and reurbanization throughout all areas of Vaughan Mills Centre.

UNITS, POPULATION, AND JOB PROJECTIONS BY AREA

	Units	Population	Jobs
Jane Street Corridor	3,373	6,881	1,438
Bass Pro Mills Area and the Rutherford Road Area	930	1,897	1,879
Vaughan Mills Centre Business District	-	-	7,590
Vaughan Mills Mall Area	n/a	n/a	n/a
Total	4,303	8,778	10,907

The projected population and jobs associated with the Secondary Plan are related to the various development areas, as identified on Schedule A: Plan Area. In order to ensure development proceeds with adequate transportation, municipal services, and community facilities all development in Vaughan Mills Centre will be subject to the development progression policies as set out in Part C, Section 7.0 of this Plan.

The number of residential units, associated population, and jobs projected in the Secondary Plan reflects planning analysis, the City's development intensification and transportation hierarchy, and opportunities for growth within the City's urban structure.

The Secondary Plan distributes development to different parts of the Vaughan Mills Centre area. Land use and built form policies will further define the arrangement of height and density across the area.

The Secondary Plan is an opportunity to guide residential growth within the area east of Highway 400, along Rutherford Road and Jane Street in a desirable manner. Through development of a diverse range of housing, redevelopment provides an opportunity to incorporate affordable housing in an area of the city that currently offers only market housing.

Growth and new development in the Plan are leveraged to achieve public investment to strengthen the quality of life for future residents of the Vaughan Mills Centre area. A complete and liveable community requires public investment to proceed alongside growth and development. A projected ~~7,839~~ 8,778 new residents, and development intensification can only be achieved if accompanied by a range of improvements to transportation, municipal servicing, community facilities, parks, and the public realm. Phasing of new development is a tool that the City will rely on to ensure that growth in the Vaughan Mills Centre is concurrent

with the development of amenities and public services required to support it.

3.3 Density

Refer to Schedule B: Height & Density in Appendix A

The approach to height and density in the *Vaughan Mills Secondary Plan* arranges residential density along major transit corridors (Jane Street and Rutherford Road) and in proximity to the future potential Transit Hub (Jane Street/Rutherford Road intersection). The built form is planned to frame the public realm and higher order roads and gateways, and establish a transition between different scales of development. Proposed heights and densities are highest in close proximity to transit and exposure to Highway 400, moderate along internal collector streets, and lowest near the stable neighbourhoods along Weston Road.

Density (D) is expressed as a ratio of floor space to site area, called Floor Space Index (FSI). The purpose of including FSI on the diagram is to arrange density across the Secondary Plan in a manner that is consistent with the area structure and character. The FSI shown for different areas is also consistent with the built form and land use framework of this Secondary Plan, and therefore lends support to important built-form principles as per Schedule B: Height and Density.

3.4 Land Use Framework

Refer to Schedule C: Land Use Designations in Appendix A

Major components of the land use framework for the Vaughan Mills Centre area encourage the development of multi-family residential, commercial, office and employment uses, and community facilities.

Key land use objectives of the *Vaughan Mills Secondary Plan* are:

- To create a diverse and active mixed-use community that capitalizes on investment in future higher order transit;
- To accommodate new population growth over time, ensuring each development phase contributes to the overall vision of an urban centre;
- To ensure new development is sensitive to existing adjacent uses, particularly existing employment uses, existing residential neighbourhoods, and open spaces;
- To provide a comprehensive open space system both public and private that is connected to, and integrated with, other existing open spaces and networks;
- To develop the conditions for a highly walkable, pedestrian friendly environment that integrates with other transportation modes;
- To support the City's employment base; and
- To conserve and enhance natural heritage areas.

The land use policies and built form policies that follow are meant to be read in conjunction with one another. They identify more detailed development parameters for built form regarding height, density, massing, and open space in terms of size, use, and character and movement in terms of establishing a clear hierarchy, connectivity, and function of streets.

The land uses may be zoned on a site specific basis in the implementing Zoning Bylaw. The site-specific zoning may identify specific permitted requirements and regulations which may include minimum setback requirements; maximum building heights; separation distances between buildings, minimum landscaping, open space, and buffering requirements; on-site recreational and commercial uses; minimum parking, access, and loading requirements; and other matters deemed necessary by the City of Vaughan.

All development within the land use areas of this Plan are subject to Site Plan Control pursuant to Section 41 of the Planning Act and Section 10.1.2.20 of the VOP 2010. The Land Use Map, Schedule C: Land Use Designations, delineates land use designations for the *Vaughan Mills Centre Secondary Plan*.

3.5 General Land Use Policies

3.5.1

The land use designations on Schedule C: Land Use Designations establish the general patterns of development for the existing and future use of the *Vaughan Mills Centre Secondary Plan*. Policies for these designations are set out in this section.

The land use designations do the following:

- Define the various distinct areas of Vaughan Mills Centre and provide an organizational structure for development towards achieving a sensible and comprehensive Secondary Plan Vision;
- Identify the desired future character and function of the various distinct areas within the Plan, building on existing assets, structure, and land use; and
- Create a framework for future development that serves to enhance and create a vibrant urban centre, while at the same time, creating a structure that accommodates sustainable growth, and encourages investment toward achieving a long term vision.

3.5.2

The Vaughan Mills Centre area is intended to accommodate approximately ~~4,303~~ ~~3,843~~ ~~7,839~~ 8,778 units and people east of Highway 400 in order to accommodate a proportion of Vaughan's projected population growth to 2031. A minimum of 35% of new housing units shall be affordable as required by Policy 7.5.1.2 of VOP 2010. The affordable housing

shall comprise a range of housing forms and tenures and include intrinsically affordable units for low and moderate income households.

3.5.3

The Vaughan Mills Centre Secondary Plan area is intended to accommodate approximately ~~10,912~~ **10,907** new jobs at full build out to 2031. Schedule C: Land Use Designations identifies areas in the Vaughan Mills Centre area where employment, office, commercial, and mixed-uses are permitted. Schedule D: Ground Floor Frontage Types identifies areas for street-related commercial or public uses, including retail stores, restaurants, places of entertainment, personal and business services, professional offices, and public institutions that shall be required or permitted on the ground floors of mixed-use buildings. Vaughan Mills Centre is envisioned as a mixed-use and pedestrian-oriented urban environment, therefore single-storey commercial and auto-oriented uses are discouraged.

3.5.4

Notwithstanding any of the policies of this section, previously approved and existing uses in Vaughan Mills Centre shall be permitted, subject to Policy 9.2 of the *VOP 2010*. Nevertheless, for any future redevelopment or expansion, the policies of this Plan shall prevail.

3.5.5

Through the policies of this Plan, the City shall seek to meet an overall density target of ~~184~~ **193** people and jobs per hectare by 2031 in Vaughan Mills Centre. Notwithstanding the policies of this Plan, the City may revise the overall density targets without amendment to this Plan, but any revised target should be consistent with goals and objectives of this Plan.

3.5.6

Schedule B: Height and Density establishes the maximum and minimum densities (D) permitted in Vaughan Mills Centre, expressed as floor space index (FSI). With the exception of public safety services and community facilities, no development shall have a density lower or higher than the FSI range as of right. The FSI and developable area requirements of a parcel shall be defined and calculated as per Section 10 of the *VOP 2010*.

3.5.7

In addition to Part B Section 3.5.6 of this Plan, for lands east of Highway 400 the maximum density limits shall be according to the following:

- Where the maximum FSI shown is 4.0, any development in excess of a FSI of 3.5 shall be used for non-residential uses;
- Where the maximum FSI shown is 3.5, any development in excess of a FSI of 3.0 shall be used for non-residential uses; and
- Where the maximum FSI shown is 3.0, any development in excess of a FSI of 2.5 shall be used for non-residential uses.

3.5.8

The City may use the bonusing provisions under Section 37 of the Planning Act to secure a range of community benefits in Vaughan Mills Centre. In addition to the community benefits identified in Policy 10.1.2.9 of Volume 1 of the *VOP 2010* that may qualify for bonusing, the City shall determine the required community benefit at the time of the development application process.



EXAMPLES OF BUILDING TYPOLOGIES APPROPRIATE IN HIGH-RISE MIXED USE AREAS

3.5.9

All development on lands adjacent to the Highway 400 corridor shall be setback a minimum of 14 metres from the highway right-of-way.

3.5.10

Further to Policy 5.2.1.2 of the *VOP 2010*, the development of residential and other sensitive land uses shall have regard for potential noise and vibration impacts from industrial uses. Applications for residential development and other sensitive land uses within 1,000 metres of the MacMillan Rail Yard, and within 300 metres of an industrial use or Highway 400 shall include a noise and vibration study to the satisfaction of the City and in consultation with CN where deemed necessary by the City. The purpose of which would be to identify any measures to mitigate adverse impacts from the source of noise and vibration including as a minimum:

- Noise, vibration, and odour studies that include recommendations for materials and construction methods to be employed to meet the Ministry of the Environment guidelines;
- A provision in the Site Plan Agreement that requires an engineer to certify that the building plans implement the recommendations contained in the above stated mitigation reports before a building permit is issued; and
- The inclusion in the conditions of condominium approval of a condition requiring that the mitigation measures recommended by the required studies be implemented and certified, as well as a condition requiring the inclusion of a noise, vibration, odour warning clause in the applicable condominium documents.

In addition to the above provisions, Policy 9.2.2.10(d) and 9.2.2.11(e) of the *VOP 2010*, new development should refer to the Ministry of the Environment

Land Use Compatibility Guidelines, which provides recommendations to ensure that sensitive land uses are appropriately designed, buffered, and/or separated from each other.

3.5.11

In addition to the policies of this Plan for development along the Jane Street corridor, where future potential rapid transit is identified on Schedule G of this Plan, development adjacent to the rapid transit line and conceptual Transit Hub area shall have regard to the York Region Transit-Oriented Development Guidelines and the Provincial Transit-Supportive Land Use Guidelines, through the development approvals process.

3.5.12

In addition to the uses outlined in Section 9.2.1.9 of the *VOP 2010*, the following land uses shall be permitted in all designations within the *Vaughan Mills Centre Secondary Plan* area:

- Public Safety Services and Community Facilities; and,
- Renewable energy facilities and district energy systems.



EXAMPLES OF BUILDING TYPOLOGIES APPROPRIATE IN HIGH-RISE MIXED USE AREAS

3.6 Vaughan Mills Primary Centre

3.6.1 High-Rise Mixed-Use

3.6.1.1

The High-Rise Mixed-Use designation is intended to provide for the creation of a connected urban block structure adjacent to the main arterial corridors surrounding the Vaughan Mills Mall area including Jane Street and Rutherford Road, in a higher density and mixed-use development form that is pedestrian and transit oriented. The highest densities will be focused along the Jane Street and Rutherford Road intersection and along Jane Street to benefit from existing transit, and future high-order transit facilities anticipated for these areas.

3.6.1.2

In addition to the uses permitted in Section 9.2.2.6 of the *VOP 2010*, the following uses shall be permitted:

- Conference facilities, private education facility, places of entertainment, restaurants, financial institutions, art studios, and public parking.

3.6.1.3

Notwithstanding Policy 9.2.2.6(e) of the *VOP 2010*, areas within 500 metres of an existing or planned subway station may exceed 12,500 square metres of office space, provided that the total permitted FSI and building height, as shown in Schedule B: Height and Density of the Secondary Plan is not exceeded.

3.6.1.4

A mix of low, mid, and high-rise building typologies shall be permitted as identified in Part B, Section 3.8 of this Plan.

3.6.1.5

At-grade uses shall predominantly consist of retail uses including retail stores, restaurants, places of entertainment, personal and business services, professional offices, community facilities, and day care facilities. A minimum of 60% of the building frontage facing an arterial or collector street shall consist of at-grade retail uses as identified in Schedule D: Ground Floor Frontage Types.

3.6.1.6

Notwithstanding Policy 9.2.2.6 of the *VOP 2010*, office uses shall be permitted within the High-Rise Mixed-Use designation at a maximum gross floor area of 12,500 square metres, or the greater of the maximum permitted density for lots identified with a maximum FSI of 3.5 or 4.0.

3.6.1.7

Notwithstanding the foregoing, the lands located at the northwest corner of the future extension of Bass Pro Mills Drive to Jane Street, as shown on Schedule C: Land Use Designations shall be subject to the following policies:

- The lands shall be zoned with the Holding Symbol (H) in accordance with Section 36 of the Planning Act. A by-law to remove the Holding Symbol (H) shall not be enacted until such time as:
 - » Draft Plan of Subdivision 19T-98V10 has been registered and Bass Pro Mills Drive extension to Jane Street at Locke Street has been constructed and dedicated as a public right-of-way;
 - » A Site Plan Agreement for the development of the subject lands has been registered;
 - » The Owner shall have ceased all operations and demolished all buildings and structures; and
 - » The Owner shall have provided a Record



EXAMPLES OF BUILDING TYPOLOGIES APPROPRIATE IN MID-RISE MIXED USE AREAS

of Site Condition, based on the studies of a qualified environmental consultant and the completion of any necessary remediation work, which indicates that the entire site is free of environmental hazard and meets the Ministry of the Environment (MOE) Guidelines for Industrial and Commercial Uses. The record of site condition shall be acknowledged by MOE;

- Notwithstanding the above, a by-law to remove the Holding Symbol (H) from the portion of the lands located at the northwest corner of Jane Street and Bass Pro Mills Drive (opposite Locke Street), as defined in the implementing zoning by-law, may proceed in advance of the removal of the Holding Symbol. The by-law to remove the Holding Symbol (H) for this area shall not be enacted until such time as:
 - » The policies of section 3.6.1.7 above shall have been fulfilled;
 - » The Owner shall have ceased all operations and demolished all buildings and structures within the defined area; and
 - » A Site Plan Agreement or Site Plan Letter of Undertaking, whichever is in effect, has been registered for the lands within the defined area from which the Holding Symbol (H) is to be removed and Vaughan Council has concurrently approved a conceptual plan for the remaining portion of the subject lands which demonstrates that the remaining lands can be developed in a manner which is functional, compatible with adjacent development and visually attractive.

3.6.2 Mid-Rise Mixed-Use

3.6.2.1

The Mid-Rise Mixed-Use designation primarily corresponds to the lands bounded by Jane Street and Highway 400 south of Rutherford Road, and north of Bass Pro Mills Drive, as identified in Schedule C: Land Use Designations in Appendix A of this Plan.

3.6.2.2

In addition to the uses permitted in Section 9.2.2.4 of the *VOP 2010*, the following uses shall be permitted:

- Conference facilities, private education facility, places of entertainment, restaurants, financial institutions, art studios, and public parking.

3.6.2.3

A mix of Mid-Rise Mixed-Use building typologies shall be permitted as identified in Section 3.8 of this Plan.

3.6.3 Community Commercial Mixed-Use

3.6.3.1

The Community Commercial Mixed-Use designation primarily corresponds to the lands adjacent to Rutherford Road, Jane Street, and Bass Pro Mills Drive, as identified in Schedule C: Land Use Designations in Appendix A of this Plan. These areas are intended to provide commercial activity in a variety of building typologies that meets the commercial needs of residents and businesses, and provides jobs within proximity to residential areas.

3.6.3.2

The Community Commercial Mixed-Use designation permits all the uses under 9.2.2.8 of *VOP 2010*.



EXAMPLES OF BUILDING TYPOLOGIES APPROPRIATE IN LOW-RISE RESIDENTIAL AREAS AREAS

3.6.3.3

A mix of low and medium-rise building typologies shall be permitted as identified on Schedule B: Height and Density.

3.6.4 Low-Rise Residential

3.6.4.1

The Low-Rise Residential designation primarily corresponds to the lands internal to high density development blocks fronting on Rutherford Road as identified in Schedule C: Land Use Designations in Appendix A of this Plan. These areas are intended to provide a transitional low-rise built form and frontage condition along a future proposed local street and neighbourhood parks south of Rutherford Road.

3.6.4.2

The Low-Rise Residential designation permits all the uses under 9.2.2.1(c) of the *VOP 2010*.

3.6.4.3

In addition to the building types permitted under Section 9.2.2.1 of *VOP 2010*, low-rise building typologies shall be permitted as identified on Schedule B: Height and Density, including:

- Stacked Townhouses and Low-Rise Buildings

3.6.5 Lands within the Vaughan Mills Mall Area

3.6.5.1 Vaughan Mills Mall Area

- The maximum gross floor area related to the enclosed mall within Vaughan Mills Mall Area shall:
 - » Have a maximum commercial floor area (CFA) of 134,340.9 square metres; and
 - » Be permitted to contain a full range of commercial uses including retail, service commercial, entertainment, and restaurant uses

subject to the limitations established herein.

- The commercial uses established within the Vaughan Mills Mall Area: Mall District shall be subject to the following polices:
 - » All uses shall be collectively permitted only within a fully enclosed shopping mall, except for limited outside display, storage and sales accessory to a permitted use, outdoor seating areas associated with restaurant uses and uses for the entertainment and recreation of mall patrons, subject to standards set out in the implementing zoning by-law;
 - » A maximum of 10%, not including the food court, of the commercial floor area (C.F.A.) of the mall shall be provided in commercial units having an area of 185 square metres C.F.A. or less;
 - » A minimum of eight (8) commercial units shall be provided which have a minimum commercial floor area of 1,850 square metres which cumulatively have a minimum area of 35% of the commercial floor area of the mall; and,
 - » Department stores and supermarkets shall not be permitted.
- This Plan does not anticipate the change in the form or function of the Vaughan Mills Shopping Centre over the life of this Plan. Any expansion or changes to its current use will be subject to the standard planning approvals process as set out VOP 2010 and will not require amendment to this Plan. However, if the current use, form or function as a shopping centre is anticipated to be redeveloped and changed from its current use to allow residential development, then the future redevelopment of the Vaughan Mills mall will require the approval of a Tertiary Plan by way of an amendment to his Plan. The requirements for the preparation of the Tertiary Plan are set out in Part C, Section 7.3.4 of this Plan.



EXAMPLES OF BUILDING TYPOLOGIES APPROPRIATE IN PRESTIGE OFFICE EMPLOYMENT AREAS

3.7 Vaughan Mills Centre Business District

3.7.1 General

The Vaughan Mills Centre Business District is situated along the Highway 400 corridor (the Western Area of the Vaughan Mills Centre Study Area) and serves as a midtown gateway in the city. The district is intended to function as an employment office district due to high exposure and access to Highway 400. The range and scale of uses are designed to be sensitive to the adjacency and compatibility with the surrounding residential neighbourhoods, and benefit from exposure to the Highway 400 corridor.

The Secondary Plan is designed to create a comprehensively planned and high quality business district with office and other prestige employment uses. This area will serve as one of the gateways in the city, and as such, is intended to reflect a focus towards the reinforcement of a strong sense of community, sustainability, and economic development.

The Secondary Plan for the Vaughan Mills Centre Business District is designed to provide flexibility in responding to the market, while ensuring a significant opportunity for business park employment, and prestige office uses. A focus towards technology, office, services, and other employment uses will be promoted within the District.

The Secondary Plan transportation framework outlined in more detail in Section 4.0 of this document encourages the development of a mobility system which will provide an efficient way for employees to travel between blocks, whether by automobile, transit, walking or cycling, and promote efficient goods movement and future effective and efficient transit service.

In the future, it is intended that the Vaughan Mills Centre

Business District will provide meaningful employment opportunities for residents in a variety of professional and market sectors, supported by a strong public realm and accessory retail amenities primarily focused around serving employment areas.

3.7.2 Prestige Office Employment

3.7.2.1

The Prestige Office Employment designation corresponds to areas located along major arterials, lands adjacent to Highway 400, and at key entrances to the Business District. These areas also act as the “interface” with the larger community, in particular the residential communities to the west. Therefore, their use and form should be of the highest quality and most compatible with the surrounding residential areas. Particular attention should be paid to architectural design, and the animation of Weston Road with active building frontages, high quality public realm, and sustainable site design.

Consistent with Policy 9.2.2.11 of the *VOP 2010*, Prestige Office Employment Areas shall be characterized by high quality buildings in an attractive pedestrian-friendly, connected, and transit-oriented working environment. A variety of lot sizes should be made available in areas designated as Prestige Employment to provide flexibility for attracting and accommodating a wide range of employment uses.

3.7.2.2

The following uses shall be permitted on lands within the Prestige Office Employment designation, subject to a development plan or site plan that illustrates how the policies of this Plan are complied with. Uses permitted in the Prestige Office Employment designation include:

- Office buildings;
- Research and development facilities;



EXAMPLES OF BUILDING TYPOLOGIES APPROPRIATE IN PRESTIGE EMPLOYMENT AREAS

- Commercial and technical schools;
- Hotels and convention centres;
- Ancillary uses;
- Day care centres not located adjacent to the Highway 400 corridor; and
- Accessory retail uses as permitted through Policy 9.2.2.11 (c) of the VOP 2010.

3.7.2.3

Notwithstanding 9.2.2.11 c.iii, the maximum gross floor area for a free standing office building shall not be greater than 12,500 square metres.

3.7.2.4

All uses within the Prestige Office designation shall be wholly enclosed within a building, and no outdoor storage are permitted.

3.7.2.5

A mix of low and medium-rise building typologies shall be permitted as identified on Schedule B: Height and Density.

3.7.3 Prestige Employment

3.7.3.1

The Prestige Employment designation permits all the uses under 9.2.2.11 of the VOP 2010 including the following uses:

- Research and development facilities

3.7.3.2

A mix of low and mid-rise building typologies shall be encouraged as identified on Schedule B: Height and Density.

3.7.4 Employment Commercial Mixed-Use

3.7.4.1

The Employment Commercial Mixed-Use designation includes an existing commercial area at the south-east corner of the Rutherford Road and Weston Road intersection. The commercial format envisioned at this juncture is intended to function as the primary commercial anchor for the Vaughan Mills Centre Business District area. Uses permitted are in accordance with Section 9.2.2.7 in VOP 2010. Surface parking lots shall be placed interior to the block, behind the building, satisfying the requirements of retailers for customers to have an awareness of parking availability and convenient access to retail uses.

3.7.4.2

The Employment Commercial Mixed-Use designation is applicable to lands along Rutherford Road within the Vaughan Mills Centre Business District, as identified on Schedule C: Land Use Designations. This designation is intended to encourage development of a concentration of ancillary uses to serve the surrounding employment areas.

Development within this designation is intended to be designed with a high quality public realm and urban built form. The intent is to contribute to the creation of an urban environment with a strong pedestrian orientation and attractive streetscapes in keeping with the high profile locations of this designation and proximity to existing residential neighbourhoods.

3.7.4.3

The Employment Commercial Mixed-Use designation permits the development of a range of uses including:

- Office uses up to a maximum 12,500 square metres;
- Hotel;



EXAMPLES OF BUILDING TYPOLOGIES APPROPRIATE IN EMPLOYMENT COMMERCIAL MIXED-USE AREAS

- Cultural and Entertainment Uses;
- Retail Uses; provided that no retail unit shall exceed a gross floor area of 3,500 square meters; and
- A minimum of 30% of the total gross floor area of all uses shall consist of uses other than retail uses.

3.8 Built Form

3.8.1 General

The built form policies of this Plan define the parameters for a desired future built environment in Vaughan Mills Centre. The intent is to ensure that new buildings reinforce a coherent, harmonious, and appealing urban environment, as well as contribute to the structure and enhancement of the Open Space and Transportation Frameworks of this Plan. In addition to the land use policies of this Plan, the built form policies provide more detailed direction for development. The policies and guidelines below are illustrated by the figures in Appendix C.

As outlined in Policy 9.2.3 of the VOP 2010, a wide variety of building typologies are permitted within Vaughan Mills Centre. This Secondary Plan builds on the policies of the VOP 2010 while providing additional direction in guiding built form. In addition to the permitted height and density parameters, as indicated on Schedule B: Height and Density, and Schedule D: Ground Floor Frontage Types, the following policies shall apply.

- A wide variety of buildings shall be permitted in Vaughan Mills Centre including Low-rise, Mid-rise, and High-rise buildings, in accordance with Schedule B: Height & Density, including:
 - » Low-rise buildings (2-4 storeys) including townhouses, apartments and office, employment, institutional and mixed-use buildings. Low-Rise buildings shall have a minimum height of 2 storeys, and a maximum of 4 storeys. Low-Rise buildings are appropriate for areas within the Vaughan Mills Primary Centre that do not front onto arterial streets (Jane Street, Rutherford Road, or Bass Pro Mills Drive). Low-rise buildings are generally located internal to the block fronting onto lower order streets, as identified on



PROVIDE TRANSITION IN HEIGHTS TO LOWER BUILDINGS



MAINTAIN A CONSISTENT STREET WALL

Schedule F: Transportation Framework.

- » Mid-rise buildings (generally 6-12 storeys), which may contain a mix of uses and built forms. Mid-rise buildings are permitted throughout Vaughan Mills Centre, and shall have a minimum height of 2 storeys in the employment area, 3 storeys in the areas east of Highway 400.
- » High-rise buildings (up to approximately ~~22~~ 25 storeys), as identified on Schedule B: Height and Density.
- The maximum permitted height and density identifies a height and density range for each land use designation. The height in storeys shall not exceed the numbers following the letter H, as shown on Schedule B: Height and Density.
- The built form policies of this Plan define the desired future character and function of the built environment including height and massing, parking and movement, and landscaping in contributing to a pedestrian-oriented environment. The intent is to ensure that new buildings reinforce a coherent, harmonious and appealing urban environment, as well as contribute to the enhancement of the public realm according to the following built form criteria.

3.8.2 Massing and Setbacks

- The siting of buildings, in terms of their location within a property and the orientation of their facades are critical factors in defining comfortable and safe pedestrian environments along streets and public spaces. All building frontages must be oriented toward public streets and other public spaces in order to clearly define the public realm, create a consistent street wall, and to provide a safe and attractive street environment for pedestrians. Schedule D: Ground Floor Frontage Types, outlines the required setbacks for development throughout Vaughan Mills Centre.

- All new buildings along arterial roads (refer to Schedule F: Transportation Network) shall have a minimum height of 10.5 metres.
- The building envelope should allow for a maximum amount of sunlight and minimize wind onto the public realm and surrounding sidewalks through stepping back the building mass along upper floors, demonstrated through a pedestrian level wind study and sun/shadow analysis.
- High-rise buildings shall be designed with a pedestrian-scaled podium between three and six storeys in height and shall provide a minimum 3 metres setback from the podium along all frontages.
- The tower elements of high-rise buildings shall be designed with slender tower floorplates and should be designed to minimize shadow impacts and the loss of views and maintain privacy in appropriately spacing taller building elements. The distance between any portion of the high-rise building above twelve storeys and another tower shall be at least 30 metres.
- The floorplate, measured as the total area contained within the exterior face of a building excluding balconies, for portions of high-rise buildings above the twelfth storey for residential buildings shall generally be no greater than 750 sq.m to minimize shadow and skyview impacts. There are no restrictions on office tower floorplates.

3.8.3 Urban Edge

- Buildings shall be built to a consistent build-to line. Maximum and minimum setbacks and build-to lines shall be guided by Schedule D: Ground Floor Frontage Types and included in the Zoning By-law.
- Buildings should have a minimum 80% of the building frontage built to the setback line, with a maximum of 20% of the street wall permitted



ENCOURAGE AN ACTIVE GROUND FLOOR



PROVIDE FOR CAFE/RETAIL SPILL OVER

to setback an additional distance to provide deeper areas for lobby entrances, cafes, or other architectural elements.

- Buildings in general shall be designed to create mid-block connections and shall be massed and articulated to avoid creating excessively long continuous building facades. Buildings shall generally be not more than 80 metres long.
- Buildings shall be built along a consistent setback line, as identified on Schedule D: Ground Floor Frontage Types.

3.8.4 Ground Floor

- The use and animation of the ground level of buildings define the character and experience at street level. Creating a sense of pedestrianism that draws people along the street through a mix of animated and active uses encourages neighbourhood vitality, promotes walking, and creates porous and permeable buildings on all sides of the block.
- The façades of buildings facing public streets or open spaces should be varied in form and materials. Multiple entrances and active grade related uses area encouraged. Building mass should be consistent along the length of the street. The ground floor of all buildings with commercial and retail uses should be highly transparent with a minimum 70% of this frontage to be glazed and transparent.
- Buildings located on arterial streets, or any retail street as indicated on Schedule D: Ground Floor Frontage Types shall be designed with multiple access points focussed on creating a more animated and active mixed-use edge.
- All residential units located at grade must have a direct entrance from the street and have the characteristics of a front entrance.
- Architectural features and articulation are encouraged for all corner building locations including residential buildings to enhance the visual prominence and identity of the area and to provide gateway moments.
- All corner buildings should provide a double frontage addressing both streets, which include grade related active facades with high-quality architecture.
- Ground floor retail is permitted to front onto a publicly accessible private amenity space at the discretion and satisfaction of the City.
- Public accessible private courts and forecourts will require a permanent easement taken as a condition of development approval.
- Large residential lobby frontages, pick-up and drop-off areas and lay-bys should be located on local streets and/or laneways and generally shall not be located on arterial or collector streets.
- Where residential uses are permitted at grade, the design of the ground floor should allow for adequate transition between the private and public realm. A minimum set back of 3 metres is required beyond the sidewalk zone for awnings, front steps, walkways, or planters. In addition, internal courtyards are encouraged to provide additional transition between the public and private realm.
- Generally, entrances to retail establishments shall be flush with the sidewalk. In order to maintain a strong relationship to the street, the ground floor of buildings occupied by other uses should be raised no higher than 0.5 m above the ground level elevation.
- The floor to floor ceiling height of retail/commercial ground floor units shall be a minimum 4.5 metres.



PROVIDE OUTDOOR AMENITY SPACE THAT IS BARRIER FREE, INTEGRATED WITH THE PUBLIC REALM, AND ACCESSIBLE FROM THE STREET

3.8.5 Building Materials

- Buildings should be designed with high quality materials selected for their performance, durability, and energy efficiency. The use of Exterior Insulation Finish Systems (EIFS), as primary facade cladding, is strongly discouraged.
- Architectural features and materials should be used to emphasize entry areas and other special building areas, and to articulate large expanses of solid blank walls. Primary entrances should be oriented towards streets and emphasized through canopies, awnings, and other architectural elements.
- Buildings located at corners should be designed to emphasize prominence to locations through special design features, building articulation, public art, or open space areas.
- Rooftop mechanical equipment shall be integrated into the overall design and screened from view. Within the Mixed-Use High-Rise and Mixed-Use Low-Rise, and Prestige Office designations, all roof areas are required to incorporate green roofs, solar capture equipment and/or cool roof materials. To reduce the urban heat island effect, Mid-Rise buildings and High-Rise podiums particularly, when neighbouring buildings are high-rise, are strongly encouraged to incorporate green roofs incorporating amenity open space, and other features to enhance the views of those overlooking these spaces through incorporating amenity open space, and other features.

3.8.6 Landscaping and Private Amenity Space

- All development shall incorporate outdoor amenity space. In general, for all land use designations all portions of a lot not occupied by a building or structure or used for off-street parking or loading must be landscaped and maintained. Private amenity spaces associated with new development shall incorporate publicly accessible open space as part of the development project through mid-block connections, plazas, or pocket parks in order to provide connectivity between the private and public realms. For development located around the identified Transit Hub (as identified on Schedule G: Transit Network), publicly accessible pedestrian areas and connections shall be required and demonstrated through the development approval process to the satisfaction of the City.
- For any street or private amenity area, spill-over activities such as courtyards, forecourts, and other intimate spaces should be accessible to the public and animated with at grade uses.
- Landscaping and planting should be grouped to frame building elevations, add a visual interest to building facades, and accentuate building entrances and screen building services.
- Individual courtyards should be provided for at-grade residential units where appropriate to provide outdoor amenity space and enhance urban design quality of the streetscape.



FRONT OUTDOOR AMENITY SPACE/OPEN SPACE AREAS WITH ACTIVE USES



SCREEN SURFACE PARKING AREAS WITH LANDSCAPING

3.9 Parking and Servicing Facilities

3.9.1 General

Parking and servicing are necessary aspects of development, and should be directly linked to the areas where they are most effective and reduce impacts on the public realm. The minimum and maximum parking requirements for each land use designation will be set out in the implementing By-law. The following general policies apply to parking and servicing facilities:

- In general, all surface parking areas and servicing should be located interior to the block, and not adjacent to, or visible from the street or open space, except for the existing parking areas associated with the existing Vaughan Mills Mall.
- A significant amount of surface parking exists to serve the Vaughan Mills Mall site. Ultimately, these surface parking lots will become prime opportunities for intensification through the future development of structured parking and other uses. In the interim, existing surface parking lots should be enhanced to minimize their impact on the public realm and provide a more comfortable pedestrian environment.
- Wherever possible, parking and servicing for all development should be placed at the rear of buildings, and accessed by a rear or side yard lane.
- Where surface parking or service areas are exposed, a generous separation from the public realm should be provided, and designed to include enhanced landscaping along the streetscape, such as an additional row of trees, or buffered with landscaping or other mitigating design measures. Pedestrian areas and paths should be designed with high quality landscaping features and provided with adequate lighting for pedestrian safety and wayfinding. Off-street surface parking shall not be located between the front of the building and the street.
- Parking for residential and mixed-use development, including visitor parking, generally shall be located underground. Parking for public and commercial uses, including office and retail uses may be provided in above-grade or below-grade structures or facilities in the interior of development blocks.
- In general, all parking related to mixed-use high-rise and mid-rise buildings shall be provided within the building, or within a below grade parking facility. Any proposed surface parking areas related to high-rise or mid-rise buildings are seen as temporary, and therefore, all high-to-mid-rise buildings are required to accommodate a minimum amount of parking within the building structure. A phasing plan which shows how the surface parking is to be phased-out over time shall be provided.
- Shared private driveways or public lanes will provide vehicular and servicing access to development blocks. Shared private driveways or public lanes will be coordinated within the blocks to give access to multiple buildings. Shared private driveways or public lanes will be designed to meet technical standards of the City and enhance pedestrian safety through providing adequate lighting, connecting with a street at both ends, and providing sufficient landscaping to buffer the lane from outdoor amenity areas.
- All surface parking facilities shall be landscaped and provide for safe pedestrian circulation and movement. Trees and shrubs shall be planted throughout the parking area to intercept precipitation, reduce surface heating, enhance appearance and protect pedestrians from the elements. The use of native plants is preferred. Distinctive pavement and/or markings should be used to indicate pedestrian pathways and crossings. Further, it is encouraged that grading and landscaping materials for surface parking



DESIGN STRUCTURED PARKING TO BE INTEGRATED INTO THE DEVELOPMENT



lots be designed as part of the site's stormwater management system.

- The amount of landscaping should be proportionate to the overall parking lot size but one tree for every eight parking spaces is recommended.
- Pedestrian-scaled downcast lighting should be provided along pathways in order to enhance visibility and security, in keeping with Crime Prevention Through Environmental Design (CPTED) principles while mitigating light pollution.

3.9.2 Structured Parking

As intensification occurs within the Vaughan Mills Centre, a shortage in the supply of parking spaces may occur. To address this potential shortage, the following recommendations provide guidance for the introduction of structured parking as well as potential future locations for consideration.

- Structured parking should be developed with active uses on buildings facing the public realm to provide attractive facades, animate the streetscape, and enhance pedestrian safety;
- Vehicular access to the parking structure should be located at the rear or side of the building away from the primary frontage, where possible; and
- Pedestrian entrances for the parking structure should be located adjacent to the main building entrances, public streets, or other highly visible locations.

PART B
Section...

4.0

>> The Transportation Framework



4.0 // Introduction

The Transportation Framework provides a workable balance between vehicular traffic, cyclists, pedestrians, and sets the stage for future road and public transit opportunities. The Transportation Framework establishes a hierarchy of streets that creates a clear circulation pattern and street network for the Vaughan Mills Centre area. This section provides a description of the proposed transportation network and general design standards for typical street cross-sections. The street cross-sections demonstrate that right-of-ways are about much more than just vehicular movement, and have the potential to be beautiful, comfortable, safe and multi-functional urban places.

4.1 The Transportation Framework

Transportation Targets

4.1.1

The planning for Vaughan Mills Centre responds proactively to existing transportation and transit service in and around Vaughan Mills Centre. The Secondary Plan supports the City's and Region's intention for higher-order rapid transit along Jane Street in the form of VIVA Bus Rapid Transit, and the future potential for LRT, and/or the extension of the Spadina Subway to Vaughan Mills Centre, as well as enhanced arterial roadways through increased travel lanes, HOV lanes, transit priority services, and active transportation throughout. The land use and development framework articulates an opportunity for enhanced transit services at this location. The transportation and development policies, and recommendations in this Plan have been developed in coordination with a background report (*Transportation Assessment: Vaughan Mills Centre Secondary Plan*, MMM Group, February 2014).

The recommendations in the Transportation Assessment and this Plan supports the development of future higher-order transit, increased cycling, walking and carpooling as necessary strategies in order to increase non-auto oriented travel for Vaughan Mills Centre. Transit, transportation and infrastructure improvements are also recommended for the Vaughan Mills Centre area through this Plan. The following transportation targets are recommended given the proposed transportation improvements for the Vaughan Mills Centre area:

- 25% non auto modal split -2021 Plan Horizon
- 40% non auto modal split -2021-2031 Plan Horizon

These modal split targets are based on required improvements to transit, active transportation, and transportation demand management strategies proposed in this Plan including:

- Transit priority enhancements along Jane Street, Weston Road, and Rutherford Road including HOV lanes, cycling lanes, and transit priority lanes;
- Increased cycling facilities throughout the Plan area;
- Opportunities for additional car pooling at the Rutherford GO Station;
- Additional transportation demand management strategies; and
- Implementation of higher order rapid transit along Jane Street.

In addition to the general transportation improvements listed above, Part C, Section 7.3 and 7.4 of this Plan, identifies specific transportation improvements recommended in order to support the development thresholds proposed in this Plan.

4.1.2

The Transportation Framework for the Vaughan Mills Centre Secondary Plan area has been developed to provide and encourage an efficient and pedestrian-oriented movement system. The Transportation Framework proposes a variety of transportation modes to support the growth of Vaughan Mills Centre.

The Transportation Framework is based on a combination of transportation analysis, planning, and urban design focused on realizing the objectives of the Plan.

The following section describes the recommended character, function, and hierarchy of proposed and existing streets within Vaughan Mills Centre. The Transportation Network and related policies of this Plan have been developed to support the anticipated growth and facilitate the establishment of a mixed-use centre, increase connectivity, and reduce impacts from heavy traffic in the area to enhance the quality of the urban environment.

4.1.3

The intent of the Secondary Plan is to:

- Integrate transportation and land use decision making to support the development of Vaughan Mills Centre as a compact, transit-oriented, and complete community;
- Enhance the connectivity of the transportation network for both motorized and other active modes of transportation;
- Support the development of a future transit hub around the intersection of Jane Street and Rutherford Road in promoting higher order rapid transit and the potential subway extension, and encourage transit-oriented development policies to guide development around the a potential future Transit Hub, as identified on Schedule G: Transit Network;
- Utilize transportation demand management to influence travel patterns and reduce auto dependency; and
- Encourage active transportation by providing safe and barrier-free access, human-scaled built environments, pedestrian-oriented streetscapes and amenities, and a network of connected destinations.

4.1.4

Development in Vaughan Mills Centre shall incorporate an attractive public realm, part of which will include public and private streets, and their design and connectivity. This shall include, but not limited to, generous sidewalks, street furniture, and landscaping, and shall be designed for universal accessibility.

4.2 Future Street Network

4.2.1

The future streets hierarchy supports a vision that promotes a shift from the dependency of vehicular use to walking, cycling, and transit. The Vision recommends the type of development that supports this multi-modal shift to provide more mobility options for a diverse range of users and demographics. Other initiatives such as the *City's Active Together Master Plan* and *The City of Vaughan Transportation Master Plan*, *The York Region Transportation Master Plan*, also seek to establish a modal shift in order to create more opportunities for non auto-oriented travel, and enhanced pedestrian environment, and encourage healthier lifestyles.

The design of streets is intended to enhance the urban experience and nurture a culture of walking. Streets are the primary components of the public realm and supplement the open space network by providing pedestrian and green amenities. Streets also function as access routes and maintain a fine grain of permeability. Streetscapes strengthen the area character and identities, and reinforce visual and physical connections across Vaughan Mills Centre and to adjacent neighbourhoods.

The use of space within the public right of way should reflect the importance placed on its various users and modes of movement. The *Vaughan Mills Centre Secondary Plan* seeks to shift the culture of predominant vehicle use towards more non auto-oriented travel - active transportation, transit, walking and cycling. As a consequence, space given to sidewalks and bike lanes must be generous and consistent throughout, such that they create an ideal environment for active transportation, validate these users, and signal the importance of these forms of movement to drivers.

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EXAMPLE OF DESIGN IMPROVEMENTS TO THE STREETScape OF A TYPICAL ARTERIAL STREET TO MAKE IT MORE PEDESTRIAN, TRANSIT, AND CYCLING FRIENDLY

4.2.2

Streetscape elements and materials should be of high quality, inclusive of paving, lighting, bollards, benches, waste receptacles, utility boxes, paving materials, tree grates, vending boxes, signage, wayfinding, and transit shelters, among others. These elements should be coordinated along streets to create a well-designed, cohesive and legible public realm consistent throughout Vaughan Mills Centre. Streetscape elements should be used sparingly, and consolidated wherever possible, in order to reduce clutter and create a clean, legible streetscape environment (see Part B, Section 4.6).

- Public Lanes (min. 8m)
- Mews Streets (15m-17m)

The diagrams in Appendix B: Street Cross-Sections and the descriptions on the following pages represent prototypical conceptual design qualities for a selection of streetscape types. The following recommended right-of-way cross-sections are based on a more urban format similar to other recommended street cross-sections in the city, such as those used within the Vaughan Metropolitan Centre. The following provides recommendations for the allocation of space within the right-of-way, and the look and feel of each typology.

4.2.3

A network of public streets for pedestrians, cyclists, transit, cars and trucks is established throughout the Vaughan Mills Centre Area to create a coherent, interconnected, and viable framework for future incremental development. This street network is identified on Schedule F: Transportation Network, and outlines a hierarchy of streets. Minor modifications to the location and alignment of planned streets are permitted without amendment to this plan, provided the intersections in Schedule F that include a major or minor collector street or arterial street are maintained in their general location, to the satisfaction of the City and York Region.

4.2.3 Regional Arterial Streets

4.2.3.1 General Guidelines

The surrounding arterial streets define the three major edges/transition areas within Vaughan Mills Centre. Currently dominated by fast moving traffic, as well as suburban character buildings and parking lots. In the future, Regional roads, including Jane Street, Rutherford Road and Weston Road, will be designed by the Region of York in consultation with the City of Vaughan. Right-of-way designs for these roadways will promote all modes of travel including walking, cycling and transit.

4.2.4

The hierarchy of streets identified in Schedule F includes the following classifications and suggested right-of-way widths:

- ~~Regional Arterial Streets (43-45m)~~
- Major Collector Streets (28-30m)
- Minor Collector Streets (23-26m)
- Local Streets (22 m)

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EXAMPLE OF DESIGN IMPROVEMENTS TO THE STREETScape OF A TYPICAL COLLECTOR STREET TO MAKE IT MORE PEDESTRIAN, TRANSIT, AND CYCLING FRIENDLY

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4.2.4 Collector Streets

4.2.4.1 General Guidelines

Collector streets are designed to collect and distribute traffic and to provide a supportive role to Arterial Streets. Collector Streets may be served by local transit and should support active ground floor uses by allowing on-street parking and a generous public boulevard. This Plan proposes Collector streets have a design right-of-way of 23-30 metres, include 2-4 travel lanes, and provide access to abutting properties.

Collector streets facilitate the majority of vehicular and pedestrian circulation and movement, and also create a less intense development frontage, providing for a more pedestrian-oriented and walkable streetscape environment. These streets provide access to Vaughan Mills Centre from surrounding arterials and should be designed to accommodate on-street parking and future bicycle and transit circulation. Collector streets should also function to support a mix of uses including commercial/retail, residential, community facilities, civic buildings, and open space. In general, all new and existing collector streets should have continuous street tree planting to provide an attractive and comfortable pedestrian environment, and to contribute to the overall tree canopy. Features of these streets should include:

- Broad sidewalks with street trees on each side of the street;
- A 3-5 metre setback is proposed for new buildings;
- A palette of paving, lighting, banners, and furnishing that is distinctive to Vaughan Mills Centre;
- Permanent on-street parking and cycling lanes. This helps buffer pedestrians from traffic and enhances street level activity; and
- Left turn lanes should be minimized where feasible.

4.2.4.2 Bass Pro Mills Drive - Specific Guidelines

An important new recommended major collector street proposed in this Plan is the Bass Pro Mills Drive extension to Weston Road. Bass Pro Mills Drive is designated as a major collector street in the *VOP 2010*, and in this Plan. This street is envisioned to become a major “green street” and grand gesture, providing an important east-west connection uniting neighbourhoods from Weston Road to Jane Street. It will also provide a new street frontage needed to define development parcels within the Vaughan Mills Centre Business District. At such a point when the Bass Pro Mills Drive interchange across Highway 400 requires replacement or substantial improvements, the interchange should be designed to accommodate active forms of transportation.

A proposed street cross-section for Bass Pro Mills Drive includes an expanded public boulevard along the north edge of the street for enhanced landscaping and separation from the employment lands to the south. The boulevard is proposed to accommodate a multi-use path for non-vehicular modes of transportation (walking, cycling, wheelchair, etc.), a double row of trees, and sidewalks for enhanced pedestrian movement. The proposed multi-use path is planned to extend west over Highway 400 along Bass Pro Mills to connect with a proposed trail network on the western side of the Plan Area.

4.2.4.3 The Bass Pro Mills Multi-Use Path

This Plan recommends the creation of the Bass Pro Mills Drive Multi-Use Path, which is proposed as an enhanced boulevard that extends the length of the north side of Bass Pro Mills Drive from the proposed Jane Street intersection to Weston Road (See Appendix B: Street Cross-Sections, Section D). The Multi-Use path has three primary functions: a) to provide a green, attractive interface to create a more pedestrian friendly and urban environment; b) to create an attractive and usable green buffer for adjacent development planned

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EXAMPLE OF DESIGN IMPROVEMENTS TO THE STREETScape OF A TYPICAL LOCAL STREET TO MAKE IT MORE PEDESTRIAN, AND CYCLING FRIENDLY

to front the roadway; and c) to create a multi-use trail that links the east and west areas of Vaughan Mills Centre.

The Multi-use path is intended to incorporate the following design considerations:

- A treed urban multi-use trail with a double row of street trees on either side of the pedestrian sidewalk, with a generous central pathway that accommodates pedestrian, bicycle, and wheelchair movement in both directions;
- The pathway should have a paved surface with directional and lane markings;
- The character of the landscape should be treed but manicured (mowed grass) to provide high visibility and a feeling of comfort and safety for the path; and
- Pedestrian-scaled lighting in conjunction with street lighting, wayfinding signage, and seating should be provided as part of the streetscape furnishing.

4.2.4.4 The Ring Road - Specific Guidelines

The existing internal private ring road in the Vaughan Mills Mall Area is envisioned in this Plan to transition to a public mixed-use commercial street in the future (as shown on Schedule F: Transportation Network). Although not anticipated during the life of Vaughan Mills Mall, the timing for its transition will be determined through the Tertiary Plan process as described in this Plan.

This street provides the internal circulation and access through Vaughan Mills Centre. The design vision for this street is to transition from its role as a private mall serving ring road, to be a primary “high street” in Vaughan Mills Centre, and thus should be designed to provide an improved pedestrian environment through streetscape enhancements. The proposed right-of-way for this street in this Plan provides an opportunity to create an attractive urban and green pedestrian

environment and multi-modal route, supporting future mixed-use addresses.

4.2.5.5

The future evolution of the ring road will be addressed through the Tertiary Plan for the Vaughan Mills Mall Area or at a time of a municipal comprehensive review.

4.2.5.6 Other Collector Streets

The other collector streets within Vaughan Mills Centre will provide vehicular and enhanced pedestrian movement with a typical ROW of 23 or 26 metres for streets without and with dedicated cycling lanes, respectively.

4.2.5 Local Streets

4.2.5.1

A number of local streets are proposed for Vaughan Mills Centre in both the east-west and north-south directions. The proposed new local streets will be required to complete a permeable street and block network and ensure a functional overall transportation network.

Local streets are designed to provide access to abutting properties at low operating speeds. In this Plan, local streets have a designed right-of-way width of 22 metres unless otherwise approved by the City, and generally include two travel lanes. These streets function as neighbourhood streets, have narrower roadways, with on-street parking and connected sidewalks, discouraging heavy traffic flow and higher speeds. Local streets are meant to be pedestrian oriented in character, and provide an environment for pedestrians and cyclists as a priority. Local streets are envisioned to support a retail vibrancy, and serve to minimize driving distances within Vaughan Mills Centre. One future proposed local street within Vaughan Mills Centre is an east-west street



LOCAL STREET WITH ON-STREET PARKING AND HIGH QUALITY LANDSCAPING



TYPICAL LANE WITH ACTIVE AT-GRADE USES AND SIDEWALKS

that runs parallel with Rutherford Road, providing for a new active frontage and compact block structure for the future redevelopment of these commercial blocks, currently occupied by large surface parking areas.

4.2.5.2

Features of local streets should include:

- Sidewalks with a single row of street trees on each side of the street;
- A palette of paving, lighting, and furnishing that is distinctive to Vaughan Mills Centre;
- Crosswalks at all intersections, including decorative crosswalks in pedestrian priority areas such as around parks, community facilities, and pedestrian streets. Permanent on-street parking on one or both sides of the street. This helps buffer pedestrians from traffic, as well as creates enhanced street level activity; and

4.2.6 Lanes and Mews Streets

4.2.6.1

Lanes and mews streets are utilized to provide direct driveway ingress and egress where access from a street is inappropriate. A mews street also provides the most pedestrian-focused street type in the streets hierarchy. The design requirements for these streets should be of a high standard in terms of contributing to a high quality public realm environment. At a minimum, laneway design is required to address issues such as pavement width and the relationship to parking and service areas, but must also provide a safe environment for pedestrian circulation, and connections between development blocks.

Laneways should be located and designed to provide direct pedestrian access, connect parking facilities and services, and they should provide continuous pedestrian

connections to adjacent streets or open spaces. In general, laneways and mews streets contribute to the overall street network in providing a finer grain of connectivity as they provide linkages throughout the area and should be designed to be pedestrian friendly, accessible, visible, and safe for all users. Lanes are typically 8 metres, and mews streets have a designed right-of-way width of 15-17 metres.

4.2.7 New Streets and Connections

4.2.7.1

All streets providing access to, and circulation within the Vaughan Mills Centre Secondary Plan area shall be developed to reflect a block system that provides permeability and improved access and traffic movement. New streets shall be landscaped in a manner which is attractive, provides amenity, facilitates pedestrian and cycling movement, and provides on-street parking where indicated. Streets within the Secondary Plan Area shall be generally in accordance with proposed street cross-sections identified in Appendix B: Street Cross-Sections. Final turning radius and intersection requirements will be determined during the development application process. Any additional streets not already identified on this Plan will be subject to the approval and satisfaction of the City, without amendment to this Plan.

4.2.7.2

New public streets as identified in Schedule F: Transportation Network, or any other public street approved by the City, shall be identified in all approved plans within Vaughan Mills Centre and shall be conveyed to the municipality as a condition of approval of draft plans of subdivision and site plan applications, at no cost to the City. In addition, new streets proposed in the Vaughan Mills Mall Area of the Vaughan Mills Centre Secondary Plan will be subject to further review through

a Tertiary Plan at time when the area redevelops. In addition, Council shall be satisfied, in consultation with the Region of York and the Ministry of Transportation, that prior to development proceeding, satisfactory arrangements are in place to ensure the completion of the following road improvements. The nature and timing of these road improvements may be modified with the consent of the affected road authorities, and the City, without amendment to this plan:

4.2.7.3

Proposed new street connections and road improvements include:

1. East of Highway 400

- A major collector road connecting the Bass Pro Mills interchange with Jane Street opposite Locke Street. Intersection improvements, including turning lanes and traffic signals, will be required at this intersection.
- An east-west connection from Jane Street to the internal ring road, north of the proposed intersection of Bass Pro Mills Drive and Jane Street. Intersection improvements, including turning lanes and traffic signals, will be required at this intersection.
- The extension of Caldari Road north from Riverrock Gate to Rutherford Road.
- A new north-south local street connection between Bass Pro Mills Drive and the ring road west of Romina Drive.
- A new north-south and east-west internal local street network within the development block between Edgeley Boulevard and Fishermens Way.
- A new local street parallel to Rutherford Road to provide internal circulation for the existing development blocks adjacent to Rutherford Road. This will provide a more compact block structure for

future redevelopment, and enhanced pedestrian and vehicular circulation.

2. Streets proposed for the Vaughan Mills Mall Area

- The conversion of the portion of the ring road, identified on Schedule F: Transportation Network, connecting from Fishermens Way east to the intersection at Sweetriver Boulevard, to a local public street.
- The conversion of the portion of the ring road, identified on Schedule F: Transportation Network, connecting from Fishermens Way at Bass Pro Mills Drive to Sweetriver Boulevard, to a public collector street.
- A future collector street connecting Edgeley Boulevard to Rutherford Road at the existing Sweetriver Boulevard intersection, and a future collector street connecting Romina Drive to Rutherford Road at the existing Julliard Drive intersection.

These proposed future public street connections through the existing Vaughan Mills Mall property, are not anticipated during the life of the Mall, however, should the mall redevelop at some point in the future, then the extension of Edgeley Boulevard and Romina Drive to Rutherford Road, as public streets, and the transition of the ring road to a public right-of-way, amongst other road network improvements, will be examined through the Tertiary Plan process. In the interim, the City will secure public and transit access (if required) to the Mall's internal circulation system to allow traffic to flow from surrounding roads.

3. West of Highway 400 (Vaughan Mills Centre Business District)

- A revised ramp entrance to the existing partial interchange at Bass Pro Mills Drive via a new intersection at the proposed east-west collector

road and the proposed north-south collector parallel to Highway 400. This will provide south bound access for traffic originating on both the east and west side of Highway 400, and help to distribute southbound traffic away from boundary roads.

- The extension of Bass Pro Mills Drive to Weston Road. This roadway extension will provide an important connection between lands west and east of Highway 400 and will generally help to distribute east-west traffic in the area. Existing and future highway crossings should be pedestrian and bicycle friendly. The proposed Bass Pro Mills extension to Weston Road will help to mitigate through-traffic along Weston Road and Rutherford Road. Intersection improvements, including turning lanes and traffic signals, will be required at this intersection.

The proposed Bass Pro Mills Drive connections with Jane Street and Weston Road will also help to divert traffic from Rutherford and thus improve the level of service at the Weston Road/Rutherford Road intersection.

- A second connection to Weston Road from the internal street grid north of the proposed Weston Road/Bass Pro Mills Drive intersection is proposed.
- A new internal north-south collector street between the proposed Bass Pro Mills extension with Rutherford Road opposite the Vellore Woods Boulevard/Rutherford Road intersection.
- New internal north-south collector streets are proposed with a new connection at Rutherford Road parallel to Weston Road. Consideration will be given to connecting these streets with the existing Westcreek Drive and Creditview Road south of the Study Area. This internal street network will help to keep traffic internal to development blocks, and divert traffic away from Weston Road.

The long-term plan for these streets, additional

transportation improvements, and strategies beyond the Secondary Plan boundary will need to be planned and implemented over time. Further comprehensive transportation analysis will be required through the Tertiary Plan process for the Vaughan Mills Mall Area as identified on Schedule A.

4. Enhanced Connections across Highway 400

Connecting the areas east and west of Highway 400 for sustainable travel modes is an important goal, which is integral to moving this area beyond its current pattern of auto dominance. Pedestrian and bike facilities should be enhanced on the Rutherford Road and Bass Pro Mills Drive crossings as opportunities and/or funding permit. Cantilevering a wider pedestrian/cycling path is possible on both existing bridges crossing Highway 400. This should be completed on the north side of Bass Pro Mills Drive to continue the proposed multi-use path west to Weston Road. On Rutherford Road, given the presence of the Highway 400 ramps, a wider sidewalk can be created by cantilevering out from the bridge. Alternatively, when and if the bridge is reconstructed in future, a wider sidewalk can be built.

Finally, the potential for a new pedestrian bridge is a long-term option for enhanced connectivity mid-way between Rutherford Road and Bass Pro Mills Drive, as shown on Schedule H: Active Transportation Network.

4.2.7.4 Private Lanes

In addition to the public streets identified in Schedule: F: Transportation Network, private laneways and/ or private streets may be required to service development within a block. The need for laneways and private streets and their location, function, and character shall be determined during the development application process with the City.

Private lanes shall be designed according to the following design considerations:

- Lanes and service roads are utilized to provide direct driveway access where access from a roadway is inappropriate. The design requirements for these streets should be of a high standard in terms of contributing to a quality public realm environment. At a minimum, laneway design is required to address issues such as pavement width and the relationship to parking and service areas, but must also provide a safe environment for other uses such as pedestrian circulation and linkages;
- Laneways should be located at the rear of buildings only as means of accessing and connecting to parking facilities and services;
- Laneways should provide a continuous pedestrian connection to adjacent streets or open spaces; and
- In a commercial context, laneways and service roads should be organized to connect surface parking lots, and link to local roads to the satisfaction of the City.

4.3 Crosswalks

Crosswalks are delineated areas of the street that indicate where pedestrians are expected to cross and alert drivers to that possibility. In certain instances, crosswalks may have patterns, or be constructed from materials that further increase their visibility and add character to a particular area or neighbourhood.

Crosswalks serve two functions: the clear demarcation of a safe route for a pedestrian to cross; and as a traffic calming measure. Frequent crosswalks will help promote slower traffic speeds and cautious driving. All intersections in Vaughan Mills Centre should have crosswalks, with the following design objectives:

- When streets are renewed, surfaces such as stamped coloured asphalt could be incorporated as the new minimum crosswalk standard.
- Materials will need to be explored that are tolerant of snow plow equipment and winter weather

conditions;

- Crosswalks at special locations should incorporate higher quality treatments. These locations could include:
 - » Primary gateway connections (internal ring road intersections), which should have a unique treatment and wider crosswalk zones;
 - » Around proposed parks and at mid-block pedestrian connection locations; and
 - » At all intersections near the proposed Transit Hub area.
- Crosswalks should provide smoothly graded transitions including depressed curbs.

4.4 Transportation Demand Management

4.4.1

Transportation Demand Management (TDM) refers to a wide range of policies, programs, services, and products that influence how, why, when, and where people travel as a means of making travel more sustainable. With Vaughan Mills Centre, TDM should be used to make more efficient use of the transportation system, such as shifting travel from peak to off-peak periods, shifting from automobile to alternative means of transportation, and shifting from dispersed to closer destinations. It can also be used to alleviate seasonal congestion. The City recognizes the role of Transportation Demand Management in promoting more efficient use of transportation infrastructure, making the use of private vehicles more sustainable, and encouraging active transportation and transit. The existing Transportation Management Association should be enhanced to lead this initiative with the City as the area redevelops, seeking opportunities to continue to move towards a greater degree of sustainability in mobility.



EXAMPLE OF TRANSITION OF MATERIALS FOR CROSSWALKS AND PEDESTRIAN PATHWAYS



4.4.2

Pursuant to Policy 4.3.3.8 of the *VOP 2010*, the City shall require the preparation of a Transportation Demand Management Program for all site plan and draft plan of subdivision applications for office uses greater than 2,000 square metres or residential apartment or mixed-use buildings with greater than 50 residential units, to encourage the use of Transportation Demand Management strategies. **The Transportation Demand Management Program should consider the policies identified in Section 4.3.3 of VOP 2010** which promote more efficient use of existing road facilities, encourage car-pooling and car-sharing programs, promote transit use, cycling, and other approaches for reducing parking demand and the use of single-occupancy vehicle travel.

4.4.3

The City may permit reduced parking requirements for developments that demonstrate through their Transportation Demand Management Program and transportation impact and operations studies that a reduction in the parking requirement is appropriate. A reduction in parking may also be considered where mixed-use development is permitted and where there are higher development densities and good accessibility to rapid transit. Shared parking opportunities should be explicitly considered to minimize the supply of parking. **Bicycle parking is encouraged in mixed-use buildings, residential apartment buildings, institutions and office buildings. Major office developments shall be encouraged to include change rooms, showers and lockers for commuter cyclists. Further to Policy 4.2.3.12 of the VOP 2010, the City shall encourage the coordination of central bicycle parking facilities for developments in the Vaughan Mills Centre Secondary Plan Area, which may include supporting amenities such as showers and changing facilities.**

4.5 Parking and Loading

4.5.1

Further to Policy 4.3.2.2 of the *VOP 2010* and guided by the City Parking Standards, the City shall require as a condition of development that adequate parking and loading facilities be provided. Such parking may include on-street parking or the use of municipal parking facilities.

4.5.2

Further to Policy 4.3.2.3 of the *VOP 2010* the City may at its discretion, consider adopting a cash-in-lieu-of-parking by-law for the Vaughan Mills Centre area that would permit development applicants proposing office or retail uses to pay a fee in lieu of providing parking spaces as required by City policy. The funds collected should be dedicated to the creation of parking within the Secondary Plan area.

4.5.3

At the discretion of the City, surface parking lots shall be designed, in keeping with Part B, Section 3.9 of this Plan, and to reduce their visual and physical impact by:

- Locating parking lots in the interior of the lot;
- Screening the parking lot from the street and from adjacent development areas through the use of deep setbacks, low fences, walls, architectural elements, landscaping and/or other appropriate screening treatments. These features must contribute to the visual continuity and appeal of the public realm, ensuring that safety and security measures are maintained;
- Reducing the prominence of parking areas through the use of landscaped islands and pedestrian walkways; and



BOULEVARD WITH A CLEARLY IDENTIFIED PLANTING ZONE, PEDESTRIAN ZONE, DEDICATED CYCLING, AND TRAVEL LANES



- Providing joint access to parking lots, via a service lane, on adjoining properties, where feasible.

4.5.4

On-street parking is encouraged within the Vaughan Mills Centre area, especially within commercial areas, as it provides a safety buffer for pedestrian movement, and increases the opportunity to establish a healthy commercial presence.

4.5.5

Internal parking and servicing access to buildings should be discouraged along the main street frontages. Access should be provided from the side or rear of buildings through a public or private lane.

4.6 Right-of-Way Design

4.6.1 General

Further to Part B, Section 4.2 and the street cross-sections found in Appendix B of this Plan, this section provides guidance and recommendations for structuring and organizing elements within the right-of-way. The Vaughan Mills Centre Transportation Network, proposed Street Cross-Sections, and Open Space and Active Transportation Plan in this Plan provide a guide for the design and improvement of streets in Vaughan Mills Centre.

The street cross-sections found in Appendix B, which illustrate proposed streetscape conditions for the different street types illustrate the recommended placement of streetscape elements addressed in the following policies. Generally, all streets shall be built with a public boulevard on both sides that includes street trees, walking zones, landscaping, street furniture, and lighting.

4.6.2 The Public Boulevard

- The Public Boulevard should be urban in character with hard surfaced paving treatments to accommodate the movement of people, and provide for a variety of streetscape amenities;
- Sidewalks should be located on both sides of the street, and be universally accessible with curb cuts at the intersections and at any signalized mid-street crossings;
- Street trees should be planted in a below grade trench and not in planters, using sustainable methods to encourage longevity and viability;
- Street trees should be placed at a rhythm of 7-10 metres in spacing to create a continuous tree canopy;
- The burial of overhead utilities should be considered to allow for the healthy growth of street trees. Street tree locations should be coordinated with utilities to minimize root pruning during utility maintenance and to ensure optimum tree growth; and
- To reduce the perceived width of the street, parallel on-street parking spaces should be grouped within parking bump-outs (maximum 4 in a row) to provide additional public realm, tree planting, and furnishing space.

4.6.3 The Walking Zone

The pedestrian Walking Zone is the unobstructed area of the boulevard between the edge of the public right-of-way and the Planting and Furnishing Zone. The defined area must remain clear for the safe and comfortable movement of pedestrians. The Walking Zone should be a minimum of 2 metres wide. The Walking Zone shall be extended to the curb at all intersections and designated street crossing locations.



UNOBSTRUCTED PEDESTRIAN WALKING AREA



INTEGRATED LANDSCAPING AND RAINWATER CAPTURE WITHIN THE BOULEVARD

The design of the boulevard should consider special paving that clearly delineates the Walking Zone within the boulevard.

4.6.4 The Planting and Furnishing Zone

The Planting and Furnishing Zone plays an important role within the street cross-section. It functions as a physical buffer between the pedestrian Walking Zone and vehicular traffic, and provides a means of organizing street furnishings, street tree planting and landscaping, and maintenance.

Street furnishings refer to all fixtures, furniture, and amenities that are added to a streetscape to make it a comfortable, safe, and navigable environment that supports pedestrian and transit use. Street furnishings include, but are not limited to, seating, light standards, parking metres, bicycle racks, newspaper boxes, waste receptacles, transit shelters, and mail boxes.

- The Planting and Furnishing Zone should be a minimum 2.5m area adjacent to the curb edge. All street furniture located within the furnishing and planting zone within the boulevard shall not impede travel within the adjacent pedestrian walking zone.

4.6.5 Cycling

Places that thrive as cycling-friendly environments do so as a result of a concerted strategy designed to create a cycling culture over time. Facilitating safe and convenient cycling as a form of transportation in Vaughan Mills Centre is a key objective of this Plan. The combination of new cycling infrastructure such as bike lanes, bike facilities such as bike locks, a linked bike trail system, and ease of access within the Secondary Plan Area will encourage cycling as a key alternative to driving within the community.

Schedule H: Active Transportation Network identifies

the bicycle network for the Vaughan Mills Centre area. It is intended to link directly to the planned city-wide bicycle and pedestrian network. Cycling facilities are intended to be built as existing roads are improved and new roads are built.

The policies that relate to cycling are as follows:

- Designated streets in the Vaughan Mills Centre area shall be designed for the safety, comfort, and convenience of cyclists;
- Rutherford Road, Jane Street, Weston Road, Bass Pro Mills Drive and all other streets as indicated on Schedule H: Active Transportation Network, should include on-street cycling lanes. Street cross-sections found in Appendix B illustrate where cycling facilities should be accommodated within the right-of-way for each type of street;
- In addition to the cycling routes identified, major open spaces shall include multi-use recreational trails linked to the street network to enhance connectivity for cyclists; and
- Provide bike lock facilities within the Planting and Furnishing Zone.

4.6.6 Pedestrian-Scaled Lighting

- Pedestrian-scaled lighting should be provided for the purpose of creating a safe, comfortable, attractive, and welcoming public realm environment throughout Vaughan Mills Centre;
- Ensure street lighting does not conflict with street trees;
- Street lighting should be located at the midpoint between every second street tree, occurring at 14m intervals to coincide with a 7m street tree spacing;
- Additional lighting should be considered in areas with higher volumes of pedestrian activity,



INCORPORATE WAYFINDING FOR KEY DESTINATIONS



PROVIDE OPPORTUNITIES FOR PUBLIC ART

including key intersections, transit stops, open space areas, mid-block connections, and passageways; and

- Low voltage, low glare street and pedestrian scale lighting are recommended to provide a safe and comfortable environment for pedestrians and cyclists. Luminaries should be of such design that the light they produce is focused downwards so as to avoid light pollution and wasted energy.

4.6.7 Signage and Wayfinding

- Signage and Wayfinding orient users to ensure they are able to move with ease and confidence through an urban environment;
- All elements of the public realm and built environment have the potential to contribute to wayfinding. Wayfinding tools can include signage and mapping, streetscape elements, streetscape design, and building design such as gateway or landmark elements. All elements should work together to ensure that routes are easily understood and navigable for all users and destinations are clearly identified;
- Signage throughout the Vaughan Mills Centre area should be of high quality, reflective of the desired character of the area, and exhibit consistency of design and material selection that is part of an overall design strategy for the street and the area;
- Signs should be integrated into the design of building façades by placing them within architectural bays, articulated datum lines, including coordinated proportion, materials, and colour; and
- Signs must not obscure windows, cornices, or other architectural elements, and should not be obtrusive to pedestrians, and should complement the pedestrian scale of the street.

4.6.8 Public Art

Public art provides an opportunity to celebrate and showcase local arts and culture, establish a unique identity for an area or development, and contribute to enhancing the quality of the public realm in ways that conventional streetscape elements cannot.

- Public art should be considered at a variety of scales and in diverse contexts. This includes larger installations at visually strategic locations such as the terminus of view corridors, at gateways, on prominent corners, or in public open spaces. It also includes smaller or more unexpected installations such as along sidewalks, integrated with buildings, and in alternative public spaces such as parking lots and garages;
- Public art may include memorials, sculpture, water features, murals, lighting, or individual art installations, and may be combined with the building and landscape design. It may also include street furniture, utility boxes, and other elements not commonly displayed as art in a gallery setting; and
- The location and visual prominence of a public art piece should correspond to the scale of its site and must be determined in consultation with the community and the City.

4.6.9 Universal Accessibility

Universal accessibility is defined as the ease with which all individuals can safely access or move within buildings as well as within the public realm, and is a priority for the Vaughan Mills Centre area. Universal accessibility is an important design consideration for any urban environment that promotes creating accessible and welcoming interior and exterior pedestrian spaces.

The following key policies apply:



INTEGRATED TRANSIT WITH PUBLIC OPEN SPACE AND SURROUNDING DEVELOPMENT

- The design of new buildings and the public realm must comply with the Accessibility for Ontarians with Disabilities Act, in order to meet provincial accessibility standards; and
- A universal design checklist should be established by the City for all aspects of development, including buildings (interior and exterior), entrances and connections, parking structures, streets, open spaces, pathways, and trails. This will help to ensure that Vaughan Mills Centre evolves as an accessible and barrier free environment.

4.7 Enhanced Streetscapes

All streets identified on Schedule F: Transportation Network, as well as any additional streets approved by the City, are encouraged to be designed as “enhanced streetscapes”. Enhanced streetscapes are streets designed as high quality landscaped environments, that contribute to defining a unique and distinct character of place. They are an important wayfinding component of the open space network, and will act as key connectors to parks, open spaces, commercial areas, and other major roadways.

In addition to the policies of Part B, Section 4.6 of this Plan, Enhanced Streetscapes shall be designed according to the following design considerations:

- Provide enhanced landscape treatments such as a double row of trees where the right-of-way permits, attractive landscaping such as grasses and perennials in the boulevard, generous sidewalks, high quality street furnishing, amenities, signage, and safe and distinct crosswalks, and opportunities for public art. The character of these streets should contribute to creating a unique and distinct identity for Vaughan Mills Centre;
- Additional streetscape enhancement should be provided at key gateway intersections, the

commercial nodes, and pedestrian priority areas such as parks and urban squares; and

- On-street parking dedicated bike lanes should be provided on all identified streets.

4.8 Public Transit

The Vaughan Mills Centre area currently has good access to public transit along the existing arterial road network. Much of the area is accessible to York Region Transit service along Jane Street, Rutherford Road, and Weston Road, with bus services that connect to Vaughan Mills Mall and surrounding areas. Vaughan Mills Mall is serviced by an existing transit terminal. While the terminal primarily serves for trips to and from Vaughan Mills Mall, transit is envisioned to play a larger role in the future through promoting the development of a Transit Hub in Vaughan Mills Centre, and the future potential for higher order rapid transit along Jane Street.

The Plan envisions a multi-modal Transit Hub indicated by a suggested location and subway alignment as identified on Schedule G: Transit Network. The Transit Hub is envisioned to be designed and developed based on the *York Region Transit-Oriented Development Guidelines*, and *Provincial Transit-Supportive Land Use Guidelines*, and City policy through the development approvals process.

Transit throughout the Vaughan Mills Centre will consider the following:

- Future public transit facilities, including but not limited to right-of-ways, stations, station entrances, stops and utilities shall be integrated into the design of adjacent streets and open spaces and built form. Other facilities and infrastructure not required to be accommodated within the subway right-of-way, such as electrical sub-stations and service

buildings, shall be integrated within adjacent development as unobtrusively and attractively as possible;

- The pedestrian access and entrances to a potential future Transit Hub along the west side of Jane Street shall provide direct access to a public open space and direct access to the Vaughan Mills Mall. The Transit Hub/Station area entrance building shall be highly visible from adjacent sidewalks and Jane Street. The entrance building/facility shall be set back from the public right-of-way to create a public open space and accommodate high pedestrian volumes around the entrance;
- The envisioned Transit Hub location identified on Schedule G: Transit Network, is intended to also incorporate a future York Region Transit bus station and related facilities. York Region shall negotiate and secure appropriate land arrangements with the landowner and the City of Vaughan for such a purpose; and
- Prior to development in and around the future potential Transit Hub area, including development of transit facilities, a Transit Hub Block Plan and Urban Design Brief may be required to be prepared that satisfies the following, and any other conditions required by the City:
 - » analysis of pedestrian connections;
 - » open space;
 - » built form;
 - » integration with future planned transit; and
 - » connectivity with Vaughan Mills Mall.



PART B
Section...

5.0

» The Open Space Framework



5.0 // Introduction

The open space policies outlined in the following section are intended to ensure that a high quality public realm, open space, and protected environment is achieved for Vaughan Mills Centre. The policies define an open space framework that links outdoor spaces through the creation of new parks, green streets, greenway corridors, and multi-use paths to create a unique, beautiful, and healthy public realm environment. The open space framework also provides guidance and direction for future investment into new parks, trails, streetscapes, sidewalks, and green spaces.

5.1 General Policies

The policies of this section provide direction regarding the distribution and allocation of open space elements in Vaughan Mills Centre. The policies of the Secondary Plan regarding park typologies and required parkland are consistent with Policies 7.3.1 of the *VOP 2010*.

5.1.1

The delineation of open spaces shown on Schedule E: Open Space Network is approximate and adjustments to the boundaries will not require an amendment to this Secondary Plan provided the intent and policies of this Plan are maintained to the satisfaction of the City. The needs, extent, and location of parks within the Vaughan Mills Mall Area specifically will be confirmed through a Tertiary Planning Process as described in this Plan.

5.1.2

The form and design of publicly accessible open space shall do the following:

- Create a range of park types, urban squares, and gateways in Vaughan Mills Centre and their equitable distribution across the community to ensure access to a diversity of recreation opportunities within a ten minute walking radius to surrounding neighbourhoods;
- Facilitate beautiful, high quality, unique open spaces, as appropriate to meet the recreation needs of all ages and interests. Opportunities for art and innovative design should be considered for all open spaces;
- Provide pathways throughout public parks and greenways in a manner that are connected, accessible, well-linked, and facilitate movement throughout Vaughan Mills Centre;
- Identify and secure active transportation connections between new and existing open space

(as shown on Schedule H: Active Transportation Network), and new and existing neighbourhoods. This system will be implemented during the development approval process, and will be comprised of pedestrian trails, bike trails, and enhanced streetscapes. These connections should include pedestrian amenities such as generous sidewalks, lighting, waste receptacles, bike facilities, wayfinding signage, and places to sit;

- Protect and enhance natural heritage lands as important natural and managed landscapes and to protect public safety by directing development to locations outside of hazardous lands and sites.
- Create an Open Space Network that supports the *City of Vaughan Active Together Master Plan*; and
- Encourage the use of planned open spaces for cultural and community events.

5.1.3

The *Vaughan Mills Centre Secondary Plan's* Open Space Network is scaled to appropriately reflect proposed development densities, and reflect a more urban public space format.

5.2 Parkland Dedication

5.2.1

It is a goal of this plan to develop approximately of 7 hectares of parkland to serve new residents in Vaughan Mills Centre. The City shall monitor the use and demand for parkland as Vaughan Mills Centre develops and may adjust the target without amendment to this Plan. To meet or exceed the target, the City may require the dedication of additional parkland to that identified in Schedule E, in accordance with the Planning Act. The additional parkland may constitute additions to the parks in Schedule E or may take the form of a Neighbourhood park, Public Square or other usable,

accessible open space. Alternatively, or in addition, the City may seek to acquire parkland in areas adjacent to the Vaughan Mills Centre, accessible to residents.

5.2.2

Parkland shall be conveyed in accordance with *VOP 2010* policy 7.3.3.1-7.3.3.5, on the basis of 5% of the gross land area for residential areas and 2% for commercial and employment areas, or 1.0 hectare for each 300 dwelling units, or a combination thereof, whichever yields the most favourable supply of parkland at the City's discretion, as provided for in Section 42 of the Planning Act. Lands to be conveyed for parks purposes shall be located generally in accordance with Schedule E: Open Space Network.

5.2.3

Public parks and plazas shall be unencumbered by strata, underground parking, easements required for utility services, transformer boxes, Canada Post mail boxes, overland flow routes, or anything that would negatively impact the public use of the public park.

5.2.4

Notwithstanding Part B, Policy 5.2.3 of this Plan, the City may permit parking or utilities under a park or square, for a use adjacent to the open space, where the following have been demonstrated to the City's satisfaction:

- Due to extreme hydrogeological and/or geotechnical conditions, it is unreasonable to accommodate all of the required parking or utilities for the adjacent use under a building, private amenity space and/or local street;
- All of the required parking cannot be accommodated in an above- and/or below-ground structure without

compromising the vision, principles and objectives of this plan; and,

- The proposed underground parking will not materially or qualitatively compromise the intended purpose, function and character of the park or square.

Parking generally will not be appropriate under Neighbourhood Parks where trees are intended to grow to their full potential, and above-grade elements of underground parking would significantly compromise the design and programming of the park. Underground parking will generally be more appropriate under parks and Public Squares designed predominantly for intense daily use and/or civic events and where mature trees and a significant tree canopy are not envisioned.

Where underground parking is appropriate, a strata title agreement to the satisfaction of the City, describing such matters as access, maintenance, liability and monetary contributions, shall be required. Vehicular ramps and other accesses shall be located within adjacent buildings wherever possible. Structures within parks associated with below grade uses, such as pedestrian entrances/exits, emergency access, and vents, where required, shall be integrated into the design of the open space. The area occupied by such structures shall not count toward parkland dedication. In addition, encumbered parkland will not receive equal credit and any parkland credit shall be valued to the satisfaction of the City.

5.3 Open Space Typologies

The following section describes the Open Space Network hierarchy, identified on Schedule E: Open Space Network which includes Neighbourhood Parks, Public Squares, Greenways, and streetscapes as well as the character and function of proposed parks in accordance with the Vision for this Secondary Plan.



DESIGN PARKS WITH A MIX OF ACTIVE AND PASSIVE RECREATION



DEMONSTRATION RENDERING OF A NEIGHBOURHOOD PARK

5.3.1 Neighbourhood Parks

Neighbourhood Parks are intended to provide outdoor recreation and leisure opportunities at the neighbourhood level, and should be designed, programmed and furnished to meet day-to-day open space needs. These parks are the neighbourhood focal points, and should function as the place where residents converge and interact on a day-to-day basis.

Neighbourhood parks may include active and passive uses as identified in the *Active Together Master Plan Update 2013*, balancing the needs of the City as a whole and those of the local community. Land intended for Neighbourhood Parks shall be generally greater than 1 ha in size and should be rectangular in shape. Sites shall have flat topography (2% slope), be easily developed, and incorporate Low Impact Development strategies as per Policy 3.6.6.4 and 3.6.6.8 of VOP 2010. Sites shall provide connections to transit, automobile routes, pedestrian and bike paths, and shall be situated generally within a ten minute walking radius (800m) of residents to be served. The intended park site shall be situated in a location which is uninterrupted from the community by arterial roads or highways, rail lines, and major physical barriers such as valley lands, water bodies, or ravines. Extensive street frontage including visibility from adjacent homes to encourage passive surveillance shall be considered. Sites shall be unencumbered by any easements, utilities, or access routes.

Further to Policy 7.3.1.2(c) of VOP 2010, Neighbourhood Parks identified in Schedule E should have the following characteristics or features:

- Open, grassed areas for casual recreation
 - Shade trees and other plantings
 - A pavilion or shade structure
 - Lighted walking and cycling paths
 - Site furnishings including benches
 - Trash and recycling receptacles
 - Intimate hard surface areas for gathering
 - Public art
 - Outdoor recreation facilities that can be accommodated in the park and meet the needs of area residents, such as a mini soccer pitch, basketball court, skateboarding facility, tennis courts and/or skating rink
-
- Street frontage on at least three sides
 - Convenient pedestrian access points
 - An accessible playground
 - A splash pad, where warranted



PROVIDE SMALLER SCALE URBAN SQUARES AND PARKS WITH PLAY AREAS CLOSE TO RESIDENTIAL DEVELOPMENT

5.3.2 Public Squares

Further to the VOP 2010 Policy 7.3.1.2 (d), Public Squares are intensively used spaces that can accommodate a range of neighborhood oriented social activities. Public Squares may include seating, bicycle parking, contemporary playground structures, fountains/waterplay, and shall be accommodating of street related activities such as vendors, festivals, temporary markets, performance space, and art installations. Schedule E identifies the general locations for Public Squares. The precise location, size, shape and characteristics of Public Squares shall be determined to the satisfaction of the City during the review of development applications. Generally, a Public Square shall have a minimum area of 0.2 hectares and have at least 50% of its edges fronting a street or mews. Private amenity spaces shall not be considered Public Squares. Public Squares are generally rectangular in shape with extensive street frontage onto public roads. They shall have flat topography (2% slope), be easily developed, and incorporate Low Impact Development strategies as per Policy 3.6.6.4 and 3.6.6.8 of VOP 2010. Direct connections to transit, and links to pedestrian and bike paths are encouraged. Public Squares shall be situated within 5 minutes walk (500m) of the community to be served, in locations which are uninterrupted from intended community by arterial roads or highways, rail lines, and major physical barriers such as valley lands, water bodies, or ravines. Sites shall be unencumbered by any easements, utilities, or access routes.



DEMONSTRATION RENDERING OF A LINEAR GREENWAY WITH A MIX OF PASSIVE AND ACTIVE RECREATION SPACES

5.3.3 Greenway

5.3.3.1 General

The Greenway identified on Schedule E: Open Space Network, including the District Greenway, is intended to provide universally accessible open space amenities important linkages for pedestrians and cyclists, and may provide opportunities for recreational activities within the greenway corridor for the community in addition to public parks and urban squares. It builds on the *City of Vaughan Active Together Master Plan*, and the *Pedestrian and Cycling Master Plan*, in providing new open spaces and pedestrian connectivity.

In addition to the recommended multi-use paths in this Plan, the Greenway Public Open Space identified as a the District Greenway on Schedule E may be used for both passive and active park space depending on the size and function of the open space feature.

5.3.3.2 The District Greenway

The District Greenway is an approximately 50 metre wide open space corridor that runs adjacent to the proposed Black Creek Corridor identified on Schedule E: Open Space Network. This open space is intended to be the main park and green space linkage for the Vaughan Mills Centre Business District area and shall be recognized as dedicated park land. The park provides an open space focus for new development. The District Greenway is intended to provide important park space for the community and shall incorporate the following design components as a minimum:

- Incorporate a multi-use pathway;
- Provide opportunities for active and passive recreation;
- Provide opportunities for seating and heritage interpretation plaques or wayfinding signage to convey the historic evolution of the Black Creek as

well as topography and other features;

- Provide pedestrian-scaled lighting, where permitted, and multiple entrance and connections throughout the corridor to create a safe and attractive environment;
- Integrate with adjacent development parcels by providing enhanced landscaping around mid-block connections as identified on Schedule E: Open Space Network; and
- Incorporate stormwater features of a form and size to the satisfaction of the City of Vaughan.

5.4 Green Infrastructure and The Black Creek Corridor

Parks, urban squares, greenways, and natural heritage areas comprise Vaughan Mills Centre's green infrastructure and are important in supporting a healthy community and environment. Not only does green infrastructure provide opportunities for recreation and leisure, but also for environmental protection and management.

These areas and features are considered as comprising a connected open space and natural environmental areas with long term ecological value. The policies of this section of the Plan are intended to preserve, enhance, and restore the function and value of this system.

While the policies of this section provide direction regarding the natural heritage system, the policies of Part B, Section 7.0 Sustainable Site Design and Integrated Infrastructure addresses the stormwater management function of these areas. As such, the policies of this section are to be read in conjunction with those of Section 7.0 of this Plan.

5.4.1

The *Vaughan Mills Secondary Plan* proposes areas to be dedicated for Open Space in an effort to both provide an adequate amount of open space. In addition, the Plan



HIGH QUALITY PUBLIC BOULEVARD WITH A MULTI-USE PATH

encourages the rehabilitation and enhancement of the natural environment, and to prevent new development from occurring within areas that may introduce risk to life and property associated with flooding, erosion, and slope instability. In addition to the public open space policies discussed in Part B, Section 5.1 of this Plan, the following are recommended:

- That the proposed rainwater bioretention basins within the western area of the Study Area as identified on Schedule E: Open Space Network in this Plan, should be integrated into the District Greenway;
- Requirements for trees to be planted along all streets and within private lots;
- Green roofs and “living walls” on building exteriors are encouraged. Planting native species, conifers, large-canopied deciduous trees, edible fruit and nut-bearing tree species that attract beneficial insects and birds, and a diverse mix of species are priorities; and
- Maintaining, restoring, and enhancing portions of the Black Creek as identified on Schedule E: Open Space Network, in conjunction with the development of stormwater management facilities and landscaped corridors with native species. This will provide an opportunity for stream restoration and enhancement to a natural state.

5.4.2

Vaughan Mills Centre area is located adjacent to the West Don River Valley which is designated as a Core Natural Heritage Feature in the *VOP 2010*. In addition, the Black Creek Core Natural Heritage Feature traverses the western extent of the Secondary Plan area in a ditch along Weston Road. Further south of the Study Area the Creek follows a previously realigned and naturalized corridor in an existing industrial subdivision. It is an objective of this Plan to encourage and support development practices that protect, restore, and



INCORPORATE PARKS AND TRAILS WITH NATURAL AREAS AND MUNICIPAL STORMWATER MANAGEMENT FACILITIES

enhance surrounding ecosystems, and to illustrate environmental sustainability through:

- Integrating the Open Space network throughout Vaughan Mills Centre, and with the surrounding neighbourhoods;
- Create new amenities to support emerging uses;
- Incorporate green infrastructure for stormwater management in the public realm, and leverage these opportunities to enhance the ecological functions and aesthetic aspects of these features;
- Enhance and restore the overall health of the natural environmental and heritage features;
- Ensure new development recognizes, respects, and is compatible with the natural features and natural hazards identified in the Plan; and
- Ensuring all development adjacent to the Black Creek Corridor be consistent with the ecological and hazard management objectives and policies of Section 3.6.3 and 3.6.4 of *VOP 2010*, as amended;

5.4.3

The Black Creek Corridor identified on Schedule E: Open Space Network provides an opportunity to enhance and expand the Natural Heritage Network. The course of the Black Creek is expected to be slightly altered, and is anticipated to provide better access for the public. A background report has been prepared (*Stormwater Management Brief: Vaughan Mills Centre Secondary Plan: Stormwater Management Conceptual Strategy*, MMM Group, 2014), which provides stormwater management strategies and recommendations for the realignment the Black Creek.

All development adjacent to the Black Creek Corridor shall complement the natural heritage feature and provide views and pedestrian access to such features by:

- Appropriately designing, locating and orienting abutting buildings and landscaped open space including buffer areas as necessary;
- Landscaping abutting areas in a manner that enhances the Natural Heritage Network;
- Locating streets to protect views and access; and
- Locating parks, trails, and other public facilities to connect to natural heritage features.

These connections should have natural cover in whole or in part, as appropriate. Where no natural cover currently exists, land owners are encouraged to restore cover.

5.4.4

Lands required for stormwater management facilities shall not be considered as parkland for the purposes of calculating the parkland dedication requirement.

5.5 Natural Heritage

It is the policy of this Plan to apply the environment policies of Chapter 3 of Volume 1 of the *VOP 2010* including protection of the Core Features of the Natural Heritage Network and the naturalization and improvement of Enhancement Areas. This includes the overall protection and enhancement of Vaughan's Natural Heritage Network in the Vaughan Mills Centre area by supporting biodiversity, protecting wildlife corridors, enhancing water quality in the West Don River Valley and the Humber River watershed and tributary system, and enhancing ecosystem functions.

5.5.1

The City shall work with the Toronto and Region Conservation Authority (TRCA) and landowners to enhance existing natural heritage and establish new areas for active naturalization in conjunction with the development or improvement of stormwater

management facilities.

5.5.2

The intent of this section of the Plan is to:

- Recognize environmental areas and features as important contributors to the quality of place in Vaughan Mills Centre and as invaluable to the long-term environmental health and sustainability of the community;
- Work toward the creation of a natural heritage system and an interconnected network of environmental features and areas linked by a series of connected natural spaces; and
- Respect and celebrate natural spaces and to enhance natural features through ecological restoration.

5.5.3

The City shall encourage the integration of the natural heritage and open space system with the active transportation network in Vaughan as shown on Schedule H: Active Transportation Network.

5.5.4

That the woodlot located within the lands at the south-east intersection of Jane Street and Rutherford Road along the southern boundary of the existing lot be protected in accordance with the City of Vaughan Natural Heritage Network Review currently underway. The boundaries of the woodlot and protected area will be determined and/or refined through the development approvals process, to the satisfaction of the City.



PART B
Section...

6.0

» Community Facilities



6.0 // Introduction

In addition to public open space, the City recognizes the need for community services such as schools, day care centres, libraries, and community centres, and other potential facilities such as museums, and cultural or arts centres, that support an accessible and complete community for Vaughan Mills Centre. Providing community services within close proximity to residential areas will be key to support the development of Vaughan Mills Centre as a vibrant urban centre of the city.

6.1 General Policies

6.1.1

As population increases, community facilities will be required and provided throughout Vaughan Mills Centre to support the needs of the emerging community. The City will monitor population growth through the planning horizon, in cooperation with related public agencies and school boards to determine and confirm appropriate locations as well as program requirements and facility needs as population demographic statistics and projections are confirmed in the future.

6.1.2

In order to address the community facility and servicing needs within Vaughan Mills Centre the City will work with relevant agencies for the timely provision of community services and facilities. The intent is to try and secure community services and facilities in such a way as to allow them to be phased into an area in coordination with approved future residential development and anticipated population growth. This will allow for residents to have access to community services as they emerge, and contribute to the resident's quality of life.

6.1.3

For all residential development within Vaughan Mills Centre, land owners proposing development shall prepare a Community Services and Facilities Study (CSF) to assist in the identification of current and anticipated levels of social infrastructure required to support the health, safety, and well-being of local residents. Accessible, high quality community services and facilities are essential to promote community interaction, engagement in community life, and opportunities for education and recreation.

The CSF Study shall include the following, and any other information required by the City at the time of the development application, including:

- elementary and secondary schools;
- public libraries;
- child care centres;
- community and recreation centres;
- social services; and
- community space.

The CSF Study will review social, economic, and demographic information in light of existing and projected supply and demand of community services and facilities. The CSF Study will provide a detailed inventory of all community services and facilities within a prescribed study area, to be defined in consultation with the City, as well as a review of available capacities within those services and facilities, in light of planned development in the area.

The CSF Study will be prepared by the applicant, their agent, or consultant. During pre-application consultation, City staff will work with the applicant and/or their consultant to determine the specific requirements and study area boundary of the CSF Study based on the nature of the proposed application and the context of the study area.

6.1.4

Schedule C: Land Use Designations identifies appropriate sites for potential community facilities. As plans for any such facilities are developed, the City shall seek to secure the necessary land or space within this area through an agreement with the relevant landowner.

6.1.5

The City may utilize the provisions of Section 37 of the Planning Act to secure additional community services or facilities beyond standard levels of service within Vaughan Mills Centre.

6.2 Schools

6.2.1

York Region District School Board has identified the need for an elementary school in the Vaughan Mills Centre Study area. The ultimate number of schools required will depend on the size, and make-up of the residential population in this Plan. A recommended school site is shown on Schedule C: Land Use Designations located on the southern end of the Secondary Plan Area. This location could be combined with a local recreation centre, day care facility, and other community uses.

6.2.2

The precise location, size, phasing, and number of future schools shall be determined in consultation with the School Boards prior to any planning approvals for development within the blocks surrounding an identified school site. Subject to the satisfaction of the City and the School Boards, the school sites identified may be relocated without amendment to this Plan. When the appropriate timing for the schools has been determined, the School Boards shall pursue acquisition of the land required and coordinate the design and construction of the school with surrounding development.

6.2.3

The size and configuration of each school site shall be consistent with the policies or requirements of the respective School Board.

6.3 Day Care Facilities

There will likely be a need for day care facilities in Vaughan Mills Centre in the near future. Day care facilities could be included as part of a recreation centre, elementary school, or mixed-use building. Considering the provision of an elementary school or recreation centre will not be built during the early phases of plan implementation, day care facilities should be provided in the early phases and integrated within residential

developments proposed in the short-term.

6.4 Libraries

5.4.1

According to the City's *Active Together Master Plan* Vaughan Mills Centre is generally outside of the catchment areas of the Vaughan Public Libraries: Current Facility Classification Model. The Maple Library is the closest and is approximately 5 km from Vaughan Mills Centre. Based with an anticipated population of approximately ~~7,839~~ 8,778 new residents, there will be a need for additional library space in the area to facilitate this demand. Future library facility requirements will be determined in cooperation with the City and according to the *City of Vaughan Active Together Master Plan*. Opportunities will be sought to locate the library within walking distance and in areas accessible to transit.

6.4.2

A library can be located at one of several prominent sites adjacent to a proposed school site, park, or combined with a mixed-use development.

6.5 Other Facilities and Government Offices

To implement the facility requirements and objectives of the *City of Vaughan Active Together Master Plan*, the needs of additional services, such as a recreation facility, community centre, museum, or art gallery may be assessed by the City at a later date.

Institutional and Government offices will be encouraged to locate in areas that are in close proximity (within 250m) to planned and future transit stops.

PART B
Section...

7.0

» Sustainable Site Design and Integrated Infrastructure



7.0 // Introduction

In keeping with the objectives of this Secondary Plan, the City of Vaughan is committed to principles of sustainability and 'building green' in the development of Vaughan Mills Centre. The 'building green' strategy outlined in this section provides policies with respect to the implementation of this principle through all aspects of development in Vaughan Mills Centre as it relates to built form, and to the protection, conservation, restoration, and enhancement of air, water, and ecological features and functions, energy, and other environmental resources.

7.1 General Policies

7.1.1

The *Vaughan Mills Centre Secondary Plan* is based on a design concept that maximizes the potential for sustainable living and development through encouraging a mix of uses, a functional pattern of streets and blocks, with an inter-connected open space system, and opportunities for active transportation.

In addition to the general objectives discussed in this Plan, the City will actively encourage sustainable development and have regard for the goals and objectives of the *Green Directions Vaughan*, the City's *Community Sustainability and Environmental Master Plan* to:

- Reduce the consumption of energy, land, and other non-renewable resources;
- Minimize waste of materials, water, and other limited resources;
- Create livable, healthy, and productive environments; and
- Reduce greenhouse gases.

7.1.2

In addition to the objectives of the City's *Community Sustainability and Environmental Master Plan*, all development is encouraged to incorporate significant innovative initiatives to reflect the principle of sustainability as determined by the City through the following, without limitation:

- Implementing innovative efficient and effective methods of providing energy;
- Incorporating alternative energy options including the use of renewable energy sources and/or district energy systems;
- Minimizing energy needs for the development;

- Increase energy efficiency in building and site design;
- Incorporating opportunities for efficiencies through orientation and the use of passive solar energy;
- Incorporating the potential for future alternative uses and life cycle stages of building design;
- Incorporating measures to reduce heat island effects including installation of green roofs, increasing reflective materials, and landscaping;
- Providing an integrated infrastructure system that accounts for rainwater, wastewater, and sewage;
- Provide at grade rainwater management facilities that can accommodate on site rainfall, and naturally filter and detain water while providing aesthetic amenities;
- Maximize access to public open space for new and existing residents;
- Increase opportunities for residents to interact with nature and the local ecology; and
- Provide opportunities for on-site treatment of stormwater and integrating stormwater features into open spaces.

7.1.3

Support the objectives of *Green Directions Vaughan* for encouraging strategies to reduce energy use on a community basis by applying measures such as district energy systems and creating a centralized location for residential and commercial heating, cooling, and domestic hot water systems.

7.1.4

That the sustainable development policies of Section 9.1.3 of Volume 1 of the *VOP 2010* apply, as well as the Sustainability Performance Metrics, as approved by Council on December 10, 2013 and as may be amended from time to time, be used to determine the

contribution to sustainability of each application. The following additional green development approaches shall be considered:

- Requiring on-site and shared stormwater management approaches and infrastructure that contribute to and are integrated with the Natural Heritage Network, where appropriate;
- Minimizing stormwater runoff through on-site approaches including extensive landscaping and porous paving materials where appropriate;
- Implementing a treatment train approach and/or at-source controls to protect water quality; and
- On-site energy production, such as solar electricity, solar hot water and small scale wind energy.

7.2 Energy Efficiency

7.2.1

Energy represents a significant and rising cost of doing business and its use is related to greenhouse gas emissions and reduced air quality. In Vaughan Mills Centre the City shall support and encourage strategies to reduce energy use within individual sites and through sharing of heating and cooling loads between different operations, as they relate to the building process.

7.2.2 Energy Conservation

Vaughan Mills Centre will strive towards carbon neutrality for buildings and infrastructure to reduce its greenhouse gas emissions and increase its resilience. This will be accomplished primarily through on-site energy conservation and energy efficiency applications, renewable energy production, and shared/district energy systems.

Strategies may include:

- Energy Efficiency - all new buildings will be required to demonstrate improved energy efficiency strategies. This includes building design, efficient technologies, and behavioural change initiatives.
- District Energy - District energy production and sharing systems, which are considered feasible in this area, will also be explored.
- Waste Heat Recovery - Waste heat from commercial uses, sewers, and wastewater should be used to heat buildings and water.
- Renewable Energy Generation - Renewable energy generation and use should be maximized as much as possible in Vaughan Mills Centre. Renewable heat sources can include solar, thermal, and geo-exchange. Renewable energy generation can include biomass or biogas, combined heat and power, wind, active solar, and geothermal.

7.2.3 District Energy

The City encourages the development of a district energy system to service development in Vaughan Mills Centre. Where a system is defined, the City shall require new buildings to sign on to a district energy system from landowners proposing any major development to service public and private development. The City shall cooperate with landowners to determine whether it is economically feasible for land owners and the City.

7.2.3.1

If and when a district energy system is established in the Vaughan Mills Centre, public institutional uses shall utilize the system where possible. All private development shall be encouraged to utilize the district energy system. For public and private projects proceeding prior to construction of the system, development plans shall demonstrate how they may link into the system



INTEGRATE STORMWATER MANAGEMENT FACILITIES WITH PARKS AND OPEN SPACE



in the future, through submission of a District Energy Viability Study. The requirements of the District Energy Viability Study will be determined in consultation with the City through the development approvals process.

7.2.3.2

The location for a district energy plant could be integrated with new development on the east side Highway 400 within the Jane Street Corridor Area, Rutherford Road Area, Bass Pro Mills Area, or the Vaughan Mills Centre Business District Area either within the podium of a building, below grade, or as a stand-alone facility. The design of the facility shall be sensitive to and enhance its planned surroundings. The integration of the facility with another compatible use, such as a parking structure, shall be considered. In addition, a district energy plant is also encouraged within the Employment Area west of Highway 400.

7.2.4 Waste Heat Recovery

Evaluation of using waste heat from commercial uses, sewers, and wastewater shall be demonstrated in an energy modelling report or other appropriate information as deemed necessary to the satisfaction of the City.

7.2.5 Renewable Energy Generation

Renewable energy generation and use should be maximized as much as possible. Renewable heat sources can include solar, thermal, and geo-exchange. Renewable energy generation can include biomass or biogas, combined heat and power, wind, active solar, and geothermal.

7.2.6 Building Lighting Systems

Use natural lighting strategies and seasonal and/or user-controlled shading techniques to take advantage of sunlight while minimizing unwanted heat gain in

the summer. Minimize lighting energy demand by minimizing lighting, using high-efficiency luminaires and bulbs, and maximizing user control.

7.3 Water, Stormwater and Wastewater Systems

7.3.1

The intent of this section with respect to sustainable site design to encourage minimizing consumption of water, and to facilitate the reclamation and re-use of stormwater and treated wastewater.

The existing storm sewers within Vaughan Mills Centre area east of Highway 400 have been designed to service the current land use designations, which include large areas of impermeable services with high runoff coefficients. As such, redevelopment is not expected to require new storm sewers except on new streets. The recommended concept for stormwater management and the implementation of bioretention basins and the naturalization of the Black Creek are intended to transform stormwater management techniques into functional and attractive features towards an enhanced and naturalized landscape in Vaughan Mills Centre. *A background report has been prepared (Stormwater Management Brief: Vaughan Mills Centre Secondary Plan: Stormwater Management Conceptual Strategy, MMM Group, 2014), which provides stormwater management strategies and recommendations for the realignment the Black Creek.*

7.3.2 Stormwater

- Stormwater management measures, on-site landscaping, and streetscape elements shall be designed to minimize stormwater run-off and the impact on the downstream environment. These stormwater management strategies shall be guided by the provisions contained in the *City-Wide Drainage/Stormwater Management Master Plan*



USE IMPERVIOUS MATERIALS, RAIN GARDENS, AND BIOSWALES TO HELP MANAGE STORMWATER AND GROUND WATER RECHARGE

Class Environmental Assessment and designed and implemented to the satisfaction of the City and the TRCA. Refinements to the location and size of stormwater management ponds/facilities will be required to be supported by detailed designs and appropriate technical studies completed to the satisfaction of the TRCA, the City, and where provincial regulatory requirements are triggered, the Province of Ontario.

- Development in Vaughan Mills Centre is encouraged to incorporate "Low-Impact Development" measures which minimize runoff, reduce water pollution, and enhance groundwater. These measures may include porous pavements, bioretention basins, enhanced swales, green roofs and rain gardens among others.
- Shared at-grade stormwater management facilities are proposed in the employment district west of Highway 400, however all sites shall be developed with on-site stormwater management facilities to the satisfaction of the City. The size and design of each facility shall be confirmed during the plan of subdivision process and any changes to the stormwater facilities shown on Schedule E: Open Space Network shall not require an amendment to this plan, to the satisfaction and approval of the City, TRCA, and where provincial regulatory requirements are triggered, the Province of Ontario.
- Portions of Black Creek, as shown on Schedule E: Open Space Network, are proposed for realignment within a natural channel design in accordance with the TRCA and the City. The Creek is proposed to be realigned within a minimum 70 metre open space corridor that shall be restored to a natural state through the planting of native trees, shrubs and other foliage and designed to the satisfaction of the City and the TRCA. The design of the realigned section should be completed as part of the Block Plan process as set out in Section 10.1.1.14 of Volume 1 of VOP 2010 or development approvals process and it should include confirmation of the required corridor width.
- Comprehensive stormwater management plans will be required for all development. Each site should "disconnect" from the municipal stormwater system to the greatest extent possible. This could be achieved through the extensive use of rain gardens, bioretention basins, stormwater detention ponds in new landscaping areas, permeable paving for all internal access roads and parking lots, and green roofs. The aim should be to maintain the pre-development annual runoff volume.
- To satisfy the City and demonstrate consistency with the Toronto and Region Conservation Authority (TRCA) Stormwater Management Criteria, innovative stormwater management approaches must be implemented and designed in accordance with the Ministry of Environment Stormwater Management Practices Planning and Design Manual and with reference to TRCA's Low Impact Development Stormwater Management Planning and Design Guide (2010), as may be updated from time to time. For all development, a treatment train approach to stormwater must be considered consisting of source controls (for example, green roofs, permeable paving, improved urban tree canopy), conveyance controls (for example, bioswales and permeable pipes), and end of pipe treatment (for example, wetlands and ponds). Consideration of the suitable treatment train approach will be determined by local studies. Such studies should also include direction regarding the short and long term maintenance needs for the recommended source controls, conveyance controls, and/or end of pipe treatment.
- Development east of Highway 400 may continue to be serviced by the existing stormwater management ponds which currently collect and treat runoff from this area. Stormwater management plans shall

consider the conditions for which each pond was designed and demonstrate that the pond's design capacity is not exceeded, to the satisfaction of the City.

- Development west of Highway 400 may be partially serviced by the existing stormwater management pond located in this area. Stormwater management plans shall consider the conditions for which this pond was designed and demonstrate that the pond's design capacity is not exceeded. Shared at-grade stormwater management facilities may be provided to service the remaining area, to the satisfaction of the City.
- The design of all stormwater management facilities should consider incorporating these features into recreational trails and passive open space.
- As an organizing principle, plan surface runoff management elements into landscape design. Consider the following strategies:
 - » Direct roof runoff to infiltration basins;
 - » Capture roof runoff for irrigation;
 - » Develop green roofs; and/or
 - » Provide soakaway pits.
- Design parking and other paved areas to minimize the negative impacts on surface runoff volume and quality. Use an appropriate selection of strategies such as; installing oil-grit separators in high traffic areas, constructing parking lots using porous surfaces, and directing runoff to landscaped filter strips or enhanced swales
- Where catchment and runoff conveyance into a pipe is necessary, minimize the length of pipe required and endeavour to return runoff to the soil through exfiltration or other means.

7.3.3 Integrated water infrastructure systems

- Servicing infrastructure for water and wastewater shall be planned on a comprehensive basis and shall be guided by the recommendations contained in the *City-Wide Water/Wastewater Master Plan Class Environmental Assessment*. Phasing of development shall be coordinated with the phasing of municipal services.
- Prior to the approval of new urban development, with the exception on an interim basis for expansions to existing uses approved by the City, a Master Environment and Servicing Plan shall be prepared in accordance with Section 3.9.3 of Volume 1 of VOP 2010 in conjunction with any Block Plan requirement as per Section 10.1.1.14 of VOP 2010.
- Consider non-potable water sources, including treated wastewater from an on-site treatment plant or retained stormwater, for use where appropriate in industrial processes, wetland flow stabilization, and irrigation through:
 - » The provision of a storage and distribution for roof runoff and treated at-grade runoff to provide a non-potable water supply. Where roof runoff is to be maximize for on-site use, utilize roofing materials that do not yield contaminants into runoff.
 - » Designing water systems to use high quality clean and potable water only for drinking water and processes which require clean water sources (e.g., to prevent scaling or contamination), and to use lower quality water for other purposes (e.g., vehicle washing).

7.3.4 *Water Efficiency*

- Consider opportunities to recirculate water, including collected stormwater or high quality wastewater within industrial operations and between other employment uses.

PART C MAKING IT HAPPEN

Sections

- 1.0 General
- 2.0 Application
- 3.0 Status of Uses Permitted Under Previous Official Plans
- 4.0 Interpretation
- 5.0 Infrastructure
- 6.0 Development Approvals
- 7.0 Development Progression
- 8.0 Land Owners and Developers Agreements
- 9.0 Section 37 Provisions
- 10.0 Zoning By-law
- 11.0 Legal Nonconforming

Uses

- 12.0 Consents
- 13.0 Site Plan and Design Review
- 14.0 Plans of Subdivision
- 15.0 Community Improvement
- 16.0 Plan Monitoring
- 17.0 Public Works and Financial Management

PART C
Section...

1.0

» PLAN
IMPLEMENTATION



1.0 Introduction

This section outlines how progress will be monitored and reviewed, how the Plan will be administered and interpreted, and how plan implementation will be coordinated within the City. These policies are intended to be read in conjunction with the other policies of this Plan and those of Volume 1 of VOP 2010.

1.1 General

The implementation and interpretation of this Secondary Plan shall be in accordance with the provisions of the *VOP 2010* and the policies of this Plan. This Secondary Plan shall be implemented using some or all of the following, without limitation as provided for under the Planning Act, and Chapter 10 of VOP 2010:

- The approval of individual draft plans of subdivision/condominium, consents and part lot control exemptions;
- The enactment of zoning by-laws;
- The use of density and height bonusing provisions;
- The execution of Letters of Undertaking and/or registration of site plan agreements;
- The use of the Holding Symbol “H”;
- The dedication of parkland or cash-in-lieu of parkland;
- The use of powers and incentives enabled by a Community Improvement Plan;
- The use of development agreements registered on title; and
- The use of development thresholds which set development to servicing requirements as set out in Section 7.0, Part C of this Plan.

2.0 Application

2.1

The policies contained in this Plan shall apply to the lands shown in Figure 1: Study Area, as the *Vaughan Mills Centre Secondary Plan* area. Except as otherwise provided herein, the policies of this Plan shall supersede the policies of any other area or site specific Official Plan Amendment which is in force for the subject lands on the date of the approval of this Plan. Although this plan will not be in force until approved by York Region

Council, or the Ontario Municipal Board in the event of an appeal, City staff will use it to guide their review of development applications and other proposals for the Vaughan Mills Centre.

2.2

Lands identified as the Vaughan Mills Mall Area on Schedule A: Plan Area shall be subject to Section 3.6.5 in Part B, of this Plan.

3.0 Status of Uses Permitted Under Previous Official Plans

3.1

Existing land uses throughout the Vaughan Mills Centre are expected to continue to exist in the near term, and some may remain for the foreseeable future.

3.2

Expansions of previously approved uses shall be in accordance with policies of 10.2.1.4 of VOP 2010, except as otherwise provided for in this Plan.

4.0 Interpretation

4.1

This Secondary Plan is a statement of policy intended to guide the development of the *Vaughan Mills Centre Secondary Plan* area. A degree of flexibility in interpretation is permitted, provided the intent of the principles and policies of this Plan are maintained at the sole discretion of the City of Vaughan.

4.2

The Schedules A to H included in Appendix A of this Plan are general. Minor adjustments to the boundaries of designations are permitted, to the satisfaction of the

City, without amendment to the Plan, except where the designations are established by fixed boundaries, such as existing road right-of-ways, or where existing right-of-way adjustments and new minimum street right-of-ways are specifically stated as fixed in the policies of this Plan.

4.3

Where lists or examples of permitted uses are provided, they are intended to indicate the possible range and type of uses that are to be considered. Specific uses not listed but considered by the City to be similar to the listed uses and to conform to the general intent of the applicable land use designation may be recognized as a permitted use and recognized in the implementing zoning by-law.

4.4

That where policies of this Plan contain numerical standards, minor variations from those standards may be permitted without amendment to this Plan, with the exception of any variations to floor space index, height or environmental standards set out in Chapter 3 of *VOP 2010*, provided that such variations respond to unique conditions or context of a site, and are supported through a Planning Justification Report and/or Urban Design Brief to the satisfaction of the City.

5.0 Infrastructure

5.1

The City, at its discretion, may require lands for planned infrastructure improvements, or where lands have been identified as required for the construction of the road network, parkland, facility, or any other open space as indicated in this Plan, and where such lands are the subject of a development application, the dedication of such lands shall be required as a condition of approval

of development on the site.

5.2

The City and the Region of York, in cooperation with the Ontario Ministry of Transportation, will complete Environmental Assessments for major new or improved streets in Vaughan Mills Centre that may be required in advance of development on affected lands, including the Bass Pro Mills Interchange.

5.3

The City, through the development approval process and consistent with the Planning Act, shall assist the Region of York in protecting and obtaining lands required for right-of-ways, street widening or other facilities for the provision of public transit services through the development approval process.

5.4

Where lands have been identified as required for the construction of the street network or for parkland, and where such lands are the subject of a development application, the dedication of such lands shall be required as a condition of development approval, in accordance with the Planning Act.

5.5

It is the City's intent to foster the planned and orderly development of the Vaughan Mills Centre Area. To that end, planned infrastructure improvements and the conveyance of parks, streets, and other facilities shall be implemented generally through the Draft Plan of Subdivision process, wherever possible, as set out in Section 10.1.2.30 of Volume 1 of the *VOP 2010*. In addition, the following shall also apply in the Vaughan Mills Centre area:

- The City, at its discretion, may directly purchase lands for planned infrastructure improvements; and

- Subject to the satisfaction of the City, if lands are not being conveyed to the City, a draft plan of subdivision may not be required for a initial phase of development. The City may permit a portion of a street to be conveyed through the rezoning and/or site plan approval process. A development agreement may be required for services that extend off site or onto a municipal right-of-way.

5.6

To encourage and support the future development of the Vaughan Mills Centre, the City shall include planned transportation improvements in the capital works forecasts and any Development Charges By-law.. The City will urge other levels of government to proceed likewise in circumstances where the jurisdiction for a transportation network improvement is not with the City. The specific need and timing for these improvements will be determined based on the development thresholds set out in Part C, Section 7.0, of this plan.

5.7

The City will coordinate with the Region of York and other related transit and transportation agencies, including Metrolinx to initiate a study of the potential higher order transit improvements and the potential development of a Transit/Mobility Hub for Vaughan Mills Centre. The study will consider the potential extension of the Spadina Subway from the Vaughan Metropolitan Centre to the Vaughan Mills Centre Secondary Plan area ,and determine a preferred alternative. The study will include a strategy for implementing the recommended solution. In the interim, improved bus connections throughout the Secondary Plan area will be protected for.

6.0 Development Approvals

6.1

To ensure that the development approval process is clearly understood by all involved, the City will require pre-consultation meeting(s) with municipal staff to identify the required studies, information, and materials required as part of the development review process.

6.2

To ensure development is coordinated with public infrastructure, phased appropriately, and fully conforms to this Plan, development applications, including Official Plan Amendment, Plan of Subdivision, Rezoning and Site Plan applications, for properties comprising a logical planning unit shall include a Development Concept Report. The extent of the logical planning unit shall be to the satisfaction of the City and may include parcels defined by elements of the public and private road network or be composed of individual, adjacent or functionally connected properties. The long-term solution for every phase of the development shall be described in the Development Concept Report. The Development Concept Report will be required in accordance with Policy 10.1.1.7 of VOP 2010, including the following:

- Phasing of development, from initial construction to ultimate completion;
- A traffic impact study and functional design for public and private streets and lanes, and connections to the external street network and including the identification of new public streets for dedication to the City through the Development approval process;
- Achievement of the transit-supportive and pedestrian-oriented uses;
- Height and massing of buildings;
- Distribution of land uses, lot sizes and densities;

-
- Relationship between streets and buildings, including how the proposed development and subsequent phases address any Secondary Plan policies respecting build-to lines;
 - How the street-related retail uses are being provided in the current phase of the application;
 - Integration of development with transit services;
 - Pedestrian, bicycle, and vehicular circulation networks and integration with the City's Pedestrian and Bicycle Master Plan, as appropriate;
 - Parks and open space system;
 - Location, dimensions and character of publicly accessible private open spaces and pedestrian routes, showing their continuity and complementary relationship to adjacent public spaces, pedestrian routes and streets;
 - Size and treatment of parking facilities and vehicular access points, including the potential for shared parking, parking ramps and loading facilities and access and identification of streetscape improvements and relationship to public sidewalks and pedestrian routes;
 - Signage, streetscape amenity elements, lighting and site furnishings;
 - Location, size and design of stormwater management facilities;
 - Identification and design of streetscape and pedestrian route improvements for the entire subject property including the area from the building face to the curb, with respect to the provision of street trees, signage, street furniture, landscaping, street and pedestrian scale lighting;
 - Location of street-related uses and principal pedestrian building entrances to street frontages, and how the role of the public street and pedestrian movement along the street are supported;
 - Micro-climatic conditions, modifications or enhancements;
 - Cultural heritage resources, and proposed measures to conserve them;
 - Proposed measures to remediate and restore significant natural features and conditions, and to address other environmental matters, consistent with the City's Environmental Management Guideline;
 - Energy conservation and other proposed sustainability features of the development;
 - A Community Services Study in accordance with Section 6.1 in Part B of this Plan;
 - Analysis of the existing neighbouring uses and the potential need to buffer or separation from sensitive land uses;
 - The public infrastructure and facilities required to serve the development, including water, sewer, stormwater management, roads, transit, community facilities, open spaces, streetscaping and their proposed phased construction;
 - Engagement with utility providers to ensure that sufficient services are or will be in place to support the proposed growth and development; and
 - Any other additional information identified as necessary by the City.
- ### 6.3
- Building on the Development Concept Report, plans of subdivision and rezoning applications may also include the following, prepared to the City's satisfaction:
- Traffic impact study and pedestrian and bicycle circulation plan;
 - Transportation Demand Management plan;
 - Stormwater management plan;
 - Master environment and servicing plan pursuant to Section 3.9.3 of Volume 1 VOP 2010;
 - Noise and vibration study, where required by this plan;

- Archaeological survey; and
- Other studies as identified in Section 10.1.3 of Volume 1 of the *VOP 2010*, as determined and required by the City.

The City shall establish specific requirements for the above plans/studies with development proponents. The costs for these studies shall be the responsibility of the applicant. The City at its discretion may require a peer review of any study at the cost of the applicant.

6.4

Development should be planned comprehensively on the basis of a Development Concept Report. For Blocks with multiple owners, the Development Concept Report will coordinate development of neighbouring lands in a mutually complementary fashion. Non-participating lands in the Block shall be shown conceptually in the Development Concept Report and Phasing Plan.

7.0 Development Progression

7.1

Development in Vaughan Mills Centre will take place incrementally over time. Considering the variety of landowners, variation in market conditions and delivery of infrastructure and services, there are numerous ways in which development could proceed. Planning controls such as holding by-laws could be used to ensure that development occurs with an appropriate level of infrastructure and community facilities. The allocation of services will be confirmed through the execution of applicable subdivision, condominium, and site plan agreements.

7.2

Development progression may take place in the context of the provision of adequate infrastructure

and community facilities; capacity improvements for sanitary and water services; transportation improvements and enhanced transit to ensure sufficient transportation capacity exists or will be in place through committed improvements to serve development; and requirements for the delivery of community facilities shall be in accordance with the Vaughan Mills Centre Development Thresholds referred to in Part C, Section 7.3 of this Plan, and any other requirements deemed necessary by the City.

7.3 Development Thresholds

Development in Vaughan Mills Centre shall be correlated with the availability of services and facilities sufficient to ensure the timely and coordinated development of the Plan area. The level of development is set out in Part C, Section 7.3.1 below. Development beyond the limits prescribed in Sections 7.3 - 7.4 may be modified through a five year review, or where the City determines that additional development is appropriate due to improved transportation capacities or adjustments to planning policy in the future. The recommended development thresholds were developed in coordination with a background *Transportation Assessment, February 2014*, produced by the MMM Group. The *Transportation Assessment* recommends maximum development limits based on the necessary transportation improvements to ensure appropriate transportation capacities are in place to support development proposed in the Plan. Table 2: *Transportation Network Improvements* identifies the recommended transportation improvements in order to facilitate the orderly progression of development in Vaughan Mills Centre, as referenced in the *Transportation Assessment*.

Table 2: Transportation Network Improvements

Horizon	Development Level	Recommended Network Improvements to Accommodate the Proposed Development Level at the Stated Horizon
2021 Horizon	<i>Includes all of the Jane Street Corridor Area as shown in Schedule A of the Vaughan Mills Centre Secondary Plan (70% of all proposed development east of Highway 400)*</i> - Up to 3,371 residential units - Up to 16, 304 m² retail uses - Up to 46, 079 m² of office <i>Within the Vaughan Mills Centre Business District as shown in Schedule A of the Vaughan Mills Centre Secondary Plan (40% of all proposed development west of Highway 400)**</i> - Up to 101,600 m² of prestige employment uses - Up to 39,494 m² of office uses - Up to 30,715 m² of neighbourhood and medium format retail uses - Up to 14,520 m² of other uses including hotel, entertainment, and cultural uses	Road Network Improvements: (Jane Street Corridor Area) - Completion of Bass Pro Mills Drive extension to Jane Street. - Implement a full-moves signalized access on Jane Street mid-block between Riverrock Gate and Bass Pro Mills Drive. - Provide an additional right-turn lane on southbound Fisherman's Way at Bass Pro Mills Drive. Road Network Improvements: (Vaughan Mills Centre Business District Area**) - Plan for a four-lane cross-section for Vellore Woods Boulevard south of Rutherford Road, and for Creditview Road north of Bass Pro Mills Drive. - Implement the internal road network as show in the Vaughan Mills Centre Secondary Plan, Schedule F. - Northbound dual left-turn lanes on Weston Road at Rutherford Road (dependent on effects of the improvements on Major Mackenzie Drive at Highway 27). - Provide an additional right-turn lane on Vellore Woods Boulevard at Rutherford Road. Other Transportation Improvements: - Implement a strong internal grid network as outlined in the Secondary Plan to enhance traffic connectivity across the site. - Viva Quick Start rapid bus service on Jane Street, from Rutherford Road to the planned Spadina Subway extension station at Highway 7. - Transit signal priority and queue jump lanes on Jane Street, Weston Road and Rutherford Road. - Enhancement of YRT bus service on Rutherford Road and to the YRT Vaughan Mills bus terminal. - Proactive and aggressive programs and initiatives to reinforce the need to create change in modal split behavior, to promote greater use of transit, to attract more riders and to achieve the assumed modal split. - Create an organized Passenger Pick-up and Drop-off (PPUDO) area adjacent to the Vaughan Mills transit terminal. - Collaborate with car share operators to introduce car-sharing. - Revise parking standards for developments to discourage single-occupancy vehicle use. - Consider use of shared parking, and preferred parking for hybrid and electric vehicles. - Implement intelligent parking information systems across the Vaughan Mills Centre area parking lots for more effective distribution of parking demands. - Implement transportation demand management strategies within the Vaughan Mills Centre area to discourage heavy car uses and encourage developing less auto-dependent travel behaviours. - Integrate comprehensive pedestrian and cycling route facilities and network to promote active transportation. - Promote self-contained neighbourhood living/working and recreation within the Vaughan Mills Centre area to help reduce traffic demands on the area's road network.

* Up to 80% of the proposed development east of Highway 400 could be accommodated if the full extension of Bass Pro Mills Drive to Weston Road is also completed by 2021.

** Development thresholds and transportation improvements will be confirmed through the Block Plan process as identified in Part C, Section 7.4.3 of this Plan for lands located in the Vaughan Mills Centre Business District Area (west of Highway 400). The Block Plan application will address the matters set out in Policies 10.1.1.15 of VOP 2010 and shall constitute a complete application to the satisfaction of the City of Vaughan.

Horizon	Development Level		Recommended Network Improvements to Accommodate the Proposed Development Level at the Stated Horizon
Full Build-out (Horizon 2031)	Includes development within the Rutherford Road Area, and the Bass Pro Mills Area, as shown in Schedule A of the Vaughan Mills Centre Secondary Plan. Includes the remainder of development within the Vaughan Mills Business District as shown in Schedule A of the Vaughan Mills Centre Secondary Plan*	- Up to 932 residential units - Up to 55,931 m² retail and other uses - Up to 31,500 m² of office - Up to 152,400 m² of prestige employment uses - Up to 59,241 m² of office uses - Up to 46,072 m² of neighbourhood and medium format retail uses - Up to 21,781 m² of other uses including hotel, entertainment, and cultural uses	Road Network Improvements: (West of Highway 400) - Extension of Bass Pro Mills Drive to Weston Road. - Install traffic signals at the intersection of Bass Pro Mills and Weston Road. Other Transportation Improvements: - Higher-order transit service on Jane Street, in the form of BRT or LRT, with its dedicated right-of-way connecting the Spadina Subway extension to Vaughan Mills Centre and up to Canada's Wonderland and the future Mackenzie Vaughan Hospital on Major Mackenzie Drive. - Enhancing priority transit service on Rutherford Road to Viva service; - Continue to promote sustainable transportation (transit, walking, cycling) and other transportation demand management programs and measures to encourage a greater shift in travel mode patterns to achieve the assumed modal split.

7.3.1 Jane Street Corridor

The Jane Street Corridor includes those lands identified on Schedule A. These areas are planned for additional transit and transportation improvements within the 2021 plan horizon. Based on sufficient transportation servicing capacities available to serve development, and in order to allow development to proceed in a coordinated, consistent, and logical manner, the following is anticipated in the Jane Street Corridor area within the 2021 plan horizon:

- Up to ~~1,879~~ 3,371 residential units;
- Up to ~~10,043~~ 16,304 m² retail uses;
- Up to ~~29,579~~ 46,079 m² of office; and
- ~~3.3~~ 4.3 ha of public parks.

7.3.2 Rutherford Road Area and the Bass Pro Mills Area

The Rutherford Road Area and the Bass Pro Mills Area includes the lands shown on Schedule A, generally including the remainder of lands east of Highway 400 within Vaughan Mills Centre, which includes largely developed commercial condominium buildings, and recently developed commercial, office, and hotel developments, and excluding Vaughan Mills Mall. Residential intensification in this area is anticipated to take place in coordination with the provision of additional transportation improvements including higher order transit anticipated to occur between the 2021 and 2031 planning horizon, or at a time when additional transportation capacity is available to serve development in these areas, to the satisfaction of the City. The following level of development is anticipated for the Rutherford Road Area and the Bass Pro Mills Area:

- Up to ~~1,964~~ 932 residential units;
- Up to ~~60,894~~ 55,931 m² retail and other uses;
- Up to ~~44,000~~ 31,500 m² of office; and

- ~~4.5~~ 2.5 ha of public parks
- 1.3 ha for a potential school site or park

7.3.3 Vaughan Mills Centre Business District

The Vaughan Mills Centre Business District includes lands west of Highway 400 within the Vaughan Mills Centre Secondary Plan area, and is planned to develop as a technology and office-focused prestige employment area. As shown in Table 2: Transportation Network Improvements, a breakdown of development thresholds with recommended transportation improvements for each horizon is provided. Development within this area will be subject to the Block Plan application process and will address the matters set out in Policies 10.1.1.15 of VOP 2010 and shall constitute a complete application to the satisfaction of the City of Vaughan. Development will only proceed where sufficient servicing and transportation capacity is available to support development. The following is anticipated within the Vaughan Mills Centre Business District within the 2021 horizon:

- Up to 101,600 m² of prestige employment uses;
- Up to 39,494 m² of office uses;
- Up to 30,715 m² of neighbourhood and medium format retail uses; and
- Up to 14,520 m² of other uses including hotel, entertainment, and cultural uses

The following is anticipated within the Vaughan Mills Centre Business District within the 2031 horizon:

- Up to 152,400 m² of prestige employment uses
- Up to 59,241 m² of office uses
- Up to 46,072 m² of neighbourhood and medium format retail uses
- Up to 21,781 m² of other uses including hotel,

entertainment, and cultural uses

7.3.4 Vaughan Mills Mall Area

This Plan does not anticipate the change in the form or function of the Vaughan Mills Mall over the life of this Plan. Any expansion or changes to its current use will be subject to the standard planning approvals process as set out *VOP 2010*. However, if the current use, form or function of the Vaughan Mills Mall is planned to be redeveloped and changed from its current use to allow residential development then redevelopment of the existing Vaughan Mills Mall beyond the level of development prescribed by Policy 3.6.5 in Part B of this Plan, shall require the approval of a Tertiary Plan, by way of an Official Plan Amendment. The Tertiary Plan application will address the matters set out in Policies 10.1.1.3 and 10.1.1.4 of *VOP 2010* and shall constitute a complete application to the satisfaction of the City. The following matters are considered to be a priority in the preparation of the Tertiary Plan:

- The provision of a coordinated and comprehensive system of internal urban scaled blocks and streets providing connectivity to the existing and planned external street network;
- The submission of a comprehensive transportation study and plan, prepared to the satisfaction of the City of Vaughan, the Region of York and any other transportation or transit authorities having jurisdiction. The study and plan will address, among other things, the proposed land uses and densities, the traffic impacts on critical link volumes and intersection operations, Transportation Demand Management measures and the necessary transit and road network measures required to support the planned level of development. The study will confirm the internal road network within the Tertiary Plan area and the connections to the external road network;
- The submission of a Social/Community Needs Assessment which will include, among other things,

to the satisfaction of the City of Vaughan, the provision of community services including parks, open spaces, schools, libraries and community centres and the provision of human services needs, including educational, social, health, arts and cultural services and facilities and other such facilities and services required to ensure the healthy functioning of the community. The plan will also provide a strategy for the timely delivery of such services; and

- An Urban Design/Architectural Plan, which builds on the policies of this Plan, to the satisfaction of the City, addressing built form and the public realm, including streetscapes, squares and parks and open space areas;

7.4 Key Transportation and Servicing Requirements

Key infrastructure and service requirements to facilitate development in accordance with this Plan, for the Jane Street Corridor Area, Rutherford Road Area, Bass Pro Mills Area, and the Vaughan Mills Centre Business District shall include, among other things: adequate municipal storm, sewer, and water services; a plan to realign and naturalize the Black Creek, and related stormwater management including determination of an appropriate corridor width consistent with the recommendations in this Plan; transportation improvements, streetscape enhancements, new street connections, and the acquisition and dedication of streets as identified in this Plan; the development and acquisition of identified parks; any elementary schools in accordance with respective School Boards, required community facilities in accordance with the Active Together Master Plan and any other community facility required by the City. Such infrastructure and service requirements will be secured through the required Development Concept Reports and the development approvals process.

In addition to the transportation requirements listed

under Part B, Section 4.2.7.3, and Part C, Section 7.3 of this Plan, the implementation of the following transportation improvements and dedication of parks shall be required. The dedication and provision of the following services shall be to the satisfaction of the City and the Region of York with specific timing confirmed through the development approval process.

7.4.1

For development within the Jane Street Corridor:

Key benchmarks for the advancement of development within the Jane Street Corridor shall include, the completion of Bass Pro Mills Drive to Jane Street and the northerly extension of Caldari Road to Rutherford Road, amongst other road network improvements as identified in this Plan. Other recommended transportation improvements include higher order 'quick start' VIVA transit service along Jane Street and higher order priority transit service and other features (HOV lanes, transit priority signals, queue jump lanes) along Rutherford Road.

The following shall be required as a condition of development for the following blocks as shown on Schedule I.

Block 3

- A new local street parallel to Rutherford Road to provide internal circulation for the existing development blocks; and
- The dedication of parks as identified in this Plan.

Block 4

- The northerly extension of Caldari Road from Riverrock Gate to Rutherford Road and the implementation of a signalized intersection at Rutherford Road and Caldari Road;

- Implementation of other roads within the block area as identified in this Plan;
- The dedication of parks as identified in this Plan; and
- That the existing woodlot located along the southern boundary of the existing lot be protected in accordance with the City of Vaughan Natural Heritage Network Review currently underway. The boundaries of the woodlot and protected area will be determined and/or refined through the development approvals process, to the satisfaction of the City.

Block 5

- The northerly extension of Caldari Road from Riverrock Gate to the south boundary of Block 4;
- An east-west public street along the north boundary of the block between Jane Street and Caldari Road.

Block 7

- The provision of an east-west signalized public street between Jane Street and the internal Ring Road; and
- The dedication of parks as identified in this Plan.

Block 8

- A north-south local street connection between Bass Pro Mills Drive and the ring road west of Romina Drive;
- The extension of Romina Drive north to the internal Ring Road; and
- The dedication of parks as identified in this Plan.

Block 7 and 8

- Completion of Bass Pro Mills Drive extension to Jane Street. Intersection improvements will be required at this location.

7.4.2

For development within the Rutherford Road Area and the Bass Pro Mills Area:

Key benchmarks for the advancement of development within the Rutherford Road Area and the Bass Pro Mills Area shall include, among other things: the completion of Bass Pro Mills Drive from Jane Street to Weston Road; Higher order rapid transit along Jane Street; and transit priority service along Rutherford Road.

The following shall be required as a condition of development for the following blocks as shown on Schedule I.

Block 1 and 2

- A new local street parallel to Rutherford Road to provide internal circulation for the existing development blocks; and
- The dedication of parks as identified in this Plan;

Block 10

- A new north-south and east-west internal local street network within the development block between Edgeley Boulevard and Fishermens Way; and
- The dedication of parks as identified in this Plan.

7.4.3

For development within the Vaughan Mills Centre Business District:

Key benchmarks for the advancement of development within the Vaughan Mills Centre Business District shall include, among other things: the completion of Bass Pro Mills Drive from Jane Street to Weston Road; and a revised ramp entrance to the existing partial interchange at Bass Pro Mills Drive via a new intersection at the

proposed east-west and north-south collector parallel to Highway 400.

The following shall be required as a condition of development for the following blocks as shown on Schedule I.

Blocks 11-17

Development within the Vaughan Mills Centre Business District for Blocks 11-17 will require a Block Plan. The Block Plan application will address the matters set out in Policies 10.1.1.15 of VOP 2010 and shall constitute a complete application to the satisfaction of the City of Vaughan. In addition to the Block Plan requirements of VOP 2010, the following matters are considered to be a priority for development in the Vaughan Mills Centre Business District:

- The extension of Bass Pro Mills Road from the Highway 400 interchange to Weston Road;
- The design and realignment of the Black Creek as identified in this Plan;
- The dedication of parks and road connections as identified in this Plan;
- A new internal north-south collector street between the proposed Bass Pro Mills extension with Rutherford Road opposite the Vellore Woods Boulevard/Rutherford Road intersection;
- New internal north-south collector streets with a new connection at Rutherford Road parallel to Weston Road; and
- Roadway connections to Westcreek Drive and Creditview Road south of the Study Area.

7.5

To achieve the development thresholds and required infrastructure investments, as outlined in Part C, Section 7.3.1, of this Plan and elsewhere, the City shall ensure through the use of holding provisions of the Zoning By-law, that the progression of development in Vaughan Mills Centre occurs as described in this Plan results in the orderly development of Vaughan Mills Centre Secondary Plan and ensures the most efficient and economical use of existing and planned infrastructure.

7.6

In considering future amendments to this Plan to permit development beyond the levels set out in Part C, Section 7.3.1 of this Plan, the City will take into consideration the full range of infrastructure, facility and service needs required to ensure that the ultimate mix of land uses and densities is well supported and contributes to the creation of a complete community.

Key benchmarks for reviewing the potential for increasing the maximum densities proposed for the Vaughan Mills Centre Secondary Plan shall include, among other things: updated Region of York Population and Employment allocations; updated City and York Region Master Plans relating to the provision of infrastructure, facilities and services; transportation improvements originating with York Region, the City and the Province through Metrolinx including the completion of sufficient higher order rapid transit along Jane Street to support future development, and enhancements to Weston Road and Rutherford Road to accommodate additional transit, auto, and cycling capacity.

7.7

As a component of the Development Concept Report referenced in Section 6.2 in Part C, of this Plan, development applications shall include a Phasing Plan

that:

- Describes and illustrates how existing and proposed development can be incorporated while protecting for the ultimate vision for the site at full development potential;
- Considers existing neighbouring uses and the potential need to buffer or stage uses; and
- Identifies the public infrastructure and facilities required to serve the development, including water, sewer, stormwater management, streets, traffic, transit, utilities, parks, streetscaping and other community facilities and services, and their proposed phased construction.

Development associated with any of the Plan Areas as shown on Schedule A shall not be approved by the City until the required components of the area including, the community uses, retail and service commercial floorspace, public parks and required servicing and transportation infrastructure have been identified, secured and where necessary constructed. Phases are to be based upon the existence of, or commitment to provide and/or construct by way of agreement to the satisfaction to the City, the planned services and infrastructure.

Minor alterations to the development thresholds shall be permitted through agreements between the proponent of development and the City without amendment to this Secondary Plan, and shall ensure that the necessary servicing infrastructure and servicing capacity allocation for those uses are available, to the satisfaction of the City.

7.8

The following criteria shall be considered in the review of all development applications:

- The development contributes to, or can be

appropriately integrated within, the logical sequencing of all required sewer, water, stormwater and transportation facilities;

- The development satisfies all requirements regarding the provision of parkland and other public facilities, including streetscaping and landscaping; and
- Traffic from the proposed development can be accommodated on the existing and planned street network.

8.0 Landowners and Developers Agreements: Block Plans and Development Concept Reports

8.1

Development will be coordinated through the preparation of block plans and development concept reports pursuant to the policies of Chapter 10, Volume 1, of VOP 2010. Development of the Vaughan Mills Centre Business District will proceed by way of the Block Plan approval process. Development Concept Reports will be required in accordance with Policy 10.1.1.7 of Volume 1, of VOP 2010.

8.2

Prior to approving implementing development applications in Vaughan Mills Centre, the City shall require that landowners enter into an agreement or agreements to coordinate development and equitably distribute the costs of shared infrastructure, including but not limited to streets and street improvements, water and wastewater services, parkland, stormwater management facilities, and land for schools and other community services. Alternatively, the City may implement other arrangements to address cost sharing.

8.2

Development agreements among landowners, the City and potentially other public agencies shall be required to ensure that the necessary approvals and the required contributions of funds, lands and commitments for services will be in place and operative prior to, or coincident with occupancy and use of land, without adverse impact on the City's financial capability. In some cases, front-ending agreements may be needed to advance the timing for required infrastructure and to address any acceleration in associated costs.

8.3

Where the bonusing of density and/or height in exchange for community benefits has been approved, an agreement will be required setting out the benefits to be provided and/or the financial contribution toward community benefits.

9.0 Section 37 Provisions

9.1

The City may pass a site-specific zoning by-law amendment to allow increases in building height and/or density, above that permitted in exchange for the provision of community benefits as identified in this Plan, as well as Section 10.1.2.9 of Volume 1 of the VOP 2010, or any other community benefit determined appropriate by the City.

9.2

Community benefits which are the subject of Section 37 provisions will be determined based on local community needs, intensification issues in the area, and the objectives of this Secondary Plan, with priority given to provision of community benefits in proximity to the proposed development.

10.0 Zoning By-Law

10.1

This Secondary Plan will be implemented by appropriate amendments to the City's Zoning By-law in accordance with the policies of this Secondary Plan, and the appropriate sections of the *VOP 2010*.

10.2

The Zoning By-Law will contain provisions to regulate use, building size, building height, location of buildings on property, density of development, and parking requirements. It may also include the following:

- Amendments and updates as necessary to bring the Zoning By-Law into conformity with the goals, policies, and schedules of this Secondary Plan. Such amendments and updates shall include the establishment of zones specifying permitted uses and development standards enabling the implementation of this Plan;
- Recognize that within each land use area, more than one zone may be established to ensure that the goals, policies, and schedules of this Plan are implemented; and
- Prior to the issuance of building permits for any development in Vaughan Mills Centre, the necessary external servicing improvements shall be completed and appropriate servicing allocations shall be allocated by the City and Region of York.

10.3

The City may, when enacting and implementing zoning bylaws, apply a Holding Symbol "H" in accordance with Sections 10.1.2.5, 10.1.2.6 and 10.1.2.7 of the *VOP 2010*, and in addition, specify the future uses of these lands that, at the present time, are considered premature or inappropriate for development until one

or more of the following have been provided, to the satisfaction of the City:

- A Development Concept Report has been submitted and finalized to the City's satisfaction;
- The number and location of access points to the site are inadequate to function safely and efficiently;
- Where development relies upon other matters occurring first, such as the consolidation of land ownership or completion of a development agreement, to ensure the orderly development of the project, and/or to secure funding and/or to equitably cost-share among benefiting landowners, for sewer, water, stormwater, roads, parks, community services and facilities, or outstanding application processing fees;
- The necessary sanitary wastewater, water and stormwater services;
- A plan to realign and naturalize the Black Creek, including determination of an appropriate corridor width, consistent with the recommendations in this Plan, for those lands west of Highway 400 identified as the Vaughan Mills Centre Business District;
- The necessary transportation facilities;
- The necessary community facilities and public infrastructure;
- Special design features as required;
- Certain studies, as required, regarding the timeliness of the development, such as a market impact study;
- Approval of a Site Plan application; and
- The required agreements, as appropriate, are entered into.

11.0 Legal Non-conforming Uses

Legal non-conforming uses shall be subject to 10.1.2.16 – 10.1.2.19 of *VOP 2010*.

12.0 Consents

12.1

That a consent(s) to sever land may be considered, pursuant to Section 53 of the Planning Act, provided that a Plan of Subdivision is not deemed necessary by the City, and may only be permitted for the following purposes:

- The creation of new lots;
- Boundary adjustments to existing lots;
- The creation of easements over existing lots; and/or
- To convey additional lands to an adjacent lot, provided a lot smaller than that otherwise permitted by the Zoning By-law is not created.

12.2

That a lot(s) may be created only if there is enough net developable area on both the severed lot and the remainder lot to accommodate proposed uses, buildings and structures and accessory uses without encroachment on the Natural Heritage Network.

12.3

That the Committee of Adjustment in assessing each consent application is required to consider the matters set out in Section 51(24) of the Planning Act. In addition to these matters, Council considers the following to apply:

- In the case of non-conformity of the approval with the Official Plan, no consent shall be granted;
- In cases where either or both of the subject or

retained lands are not in conformity with the approved Zoning By-law, the applicant shall file a Zoning By-law amendment application prior to or concurrently with the consent application, or where the required zoning exceptions to facilitate the severance are minor in nature and maintain the intent of this Plan, a minor variance application. When considering such Zoning By-law Amendment or minor variance applications, Council or the Committee of Adjustment shall have regard for the consent policies of this Plan; and

- In cases where a Site Plan application is deemed necessary to assess a consent application, the City may defer the consent application until the related Site Plan has been approved by Council.

12.4

That in addition to matters under the Planning Act, the Committee of Adjustment, in determining whether a consent is to be granted, shall have regard for the following matters in consultation with the appropriate departments and agencies, and to the satisfaction of the City for the following:

- Compatibility of the proposed size, shape and use of the lot;
- Site Access;
- Servicing;
- Conservation; and
- Financial Implication

13.0 Site Plan and Design Review

13.1

The Vaughan Mills Centre Secondary Plan area is subject to site plan control.

13.2

At the City's discretion, all development in the Vaughan Mills Centre Secondary Plan area may be subject to review by the City's Design Review Panel prior to Council approval.

14.0 Plans of Subdivision

14.1

To secure the related infrastructure improvements and community facilities required, all new development in Vaughan Mills Centre that requires the conveyance of land for streets, parks and/ or other public facilities, as part of its initial development application process, generally shall proceed by way of the draft plan of subdivision process. The City shall implement the planned network of Collector and Local Streets through this process. Where the City and an applicant agree that a plan of subdivision is not required for an initial phase of development, the City may permit a portion of a street to be conveyed through the rezoning and/ or site plan approval process, subject to a development agreement satisfactory to the City. Further, the conveyance of public right-of-ways to the City, for the purpose of public walkways, may proceed through the rezoning or site plan process, if determined appropriate by the City.

14.2

Plan of subdivision applications shall include a Development Concept Report and Phasing Plan, as described in Part C, Section 6.2 and 7.3.4 of this Plan, and prepared to the City's satisfaction. The City shall approve only plans of subdivision/condominium that:

- conform with the policies and designations of this Secondary Plan;
- can be provided with adequate services and facilities as required by this Plan; and

- are not premature and are in the best interest of the municipality.

15.0 Community Improvement

15.1

Vaughan Mills Centre is identified as a Community Improvement Area under Section 28 of the Planning Act. Further, Vaughan Mills Centre may in whole or in part be further designated by by-law as a "Community Improvement Project Area", for which a detailed Community Improvement Plan will be prepared. The City will identify and delineate a "Community Improvement Project Area" in areas that display any or all of the following conditions identified in Policy 10.1.2.13 of *VOP 2010*:

- Inadequate municipal infrastructure, including piped services, streets and streetscapes, public parking facilities and/or stormwater management facilities;
- Inadequate community services such as social services, public recreational/cultural facilities, and public parks or open spaces;
- Building and/or property deterioration to the extent that it negatively affects the overall image of the area;
- Development at densities that are too low to support the planned transit facilities; and,
- Site contamination levels that require environmental site remediation prior to development.

15.2

Upon adoption of a Community Improvement Plan for Vaughan Mills Centre, the City may engage in the following activities:

- Acquire, hold, clear, grade or otherwise prepare land for community improvement activities;

- Construct, repair, rehabilitate or improve buildings on land acquired or held by it in conformity with the Community Improvement Plan;
- Sell, lease, or otherwise dispose of land and any buildings acquired or held by it in conformity with the Community Improvement Plan; and
- Make grants or loans to the registered owners or the assessed owners to pay for the whole or any part of the cost of developing or rehabilitating such lands and buildings in conformity with the Community Improvement Plan, and the policies of this Plan.

15.3

The strategy for the application of any financial or other incentives established by the Community Improvement Plan shall be tied to achieving the density targets, mix of uses, required infrastructure and public realm improvements identified in this plan.

16.0 Plan Monitoring

16.1

To ensure the continued use, relevance, and effectiveness of this Secondary Plan, it is important that the policies and schedules of this Plan are reviewed and updated on a regular basis as is required by the Ontario Planning Act. The following policies regarding interpretation, amendments, and monitoring of the Secondary Plan will ensure that it remains a “living document” well into the future.

16.2

Review the Secondary Plan at least once every five years, or at an earlier time to be determined by the City, and evaluate the need to update the Plan as necessary, pursuant to Section 26 of the Planning Act. This review shall determine if:

- The goals, policies, and schedules of this Plan remain valid and realistic in view of changing development circumstances; and
- If the policies of this Plan are adequate to achieve the vision and goals of this Plan.

16.3

The City will monitor and track the number of amendments to the Secondary Plan that have been processed and any challenges faced in dealing with proposals to change the Plan as a means of determining its effectiveness and evaluating the need to update the Plan as necessary.

17.0 Public Works and Financial Management

17.1

Implementation of the principles, goals, and policies of this Secondary Plan may involve the financing of certain projects through development charges, such as the provision of piped water and sanitary sewers, the development of parks and playgrounds, the upgrading of roads, streetscape enhancements, and the establishment of an active transportation system, and other public facilities as deemed necessary by the City. No public work will be undertaken unless it conforms to this Secondary Plan and meets the requirements of Section 24 of the Planning Act.

17.2

The City will establish a priority list of projects and estimated costs, where possible, associated with implementation of the Secondary Plan. The City will continue to utilize a municipal capital works program as a key means of implementing the Secondary Plan.

17.3

The City will seek to cover the cost of providing the additional facilities and services, or the extension of existing facilities and services associated with growth, are appropriately and equitably covered by development proponents and in conformity and compliance with this Secondary Plan and Zoning By-law.

17.4

The City will require that all necessary development agreements be executed prior to any development proceeding. Such agreements may include front-end, financial, development charges, and development agreements to provide the infrastructure and community services necessary to serve the new development.

APPENDIX A: SCHEDULES

Schedule A: Plan Area

Schedule B: Height and Density

Schedule C: Land Use Designation

Schedule D: Ground Floor Frontage Types

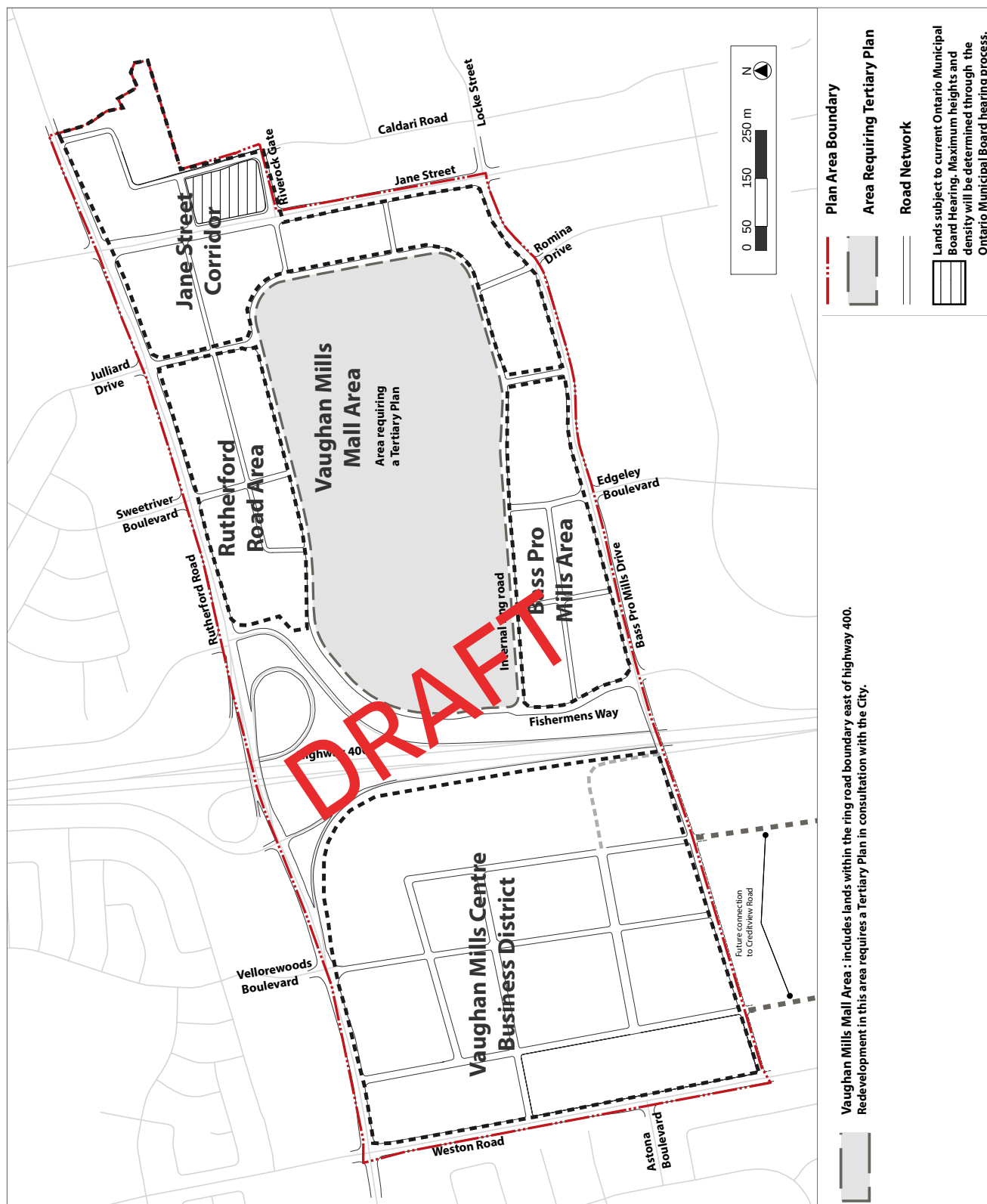
Schedule E: Open Space Network

Schedule F: Transportation Network

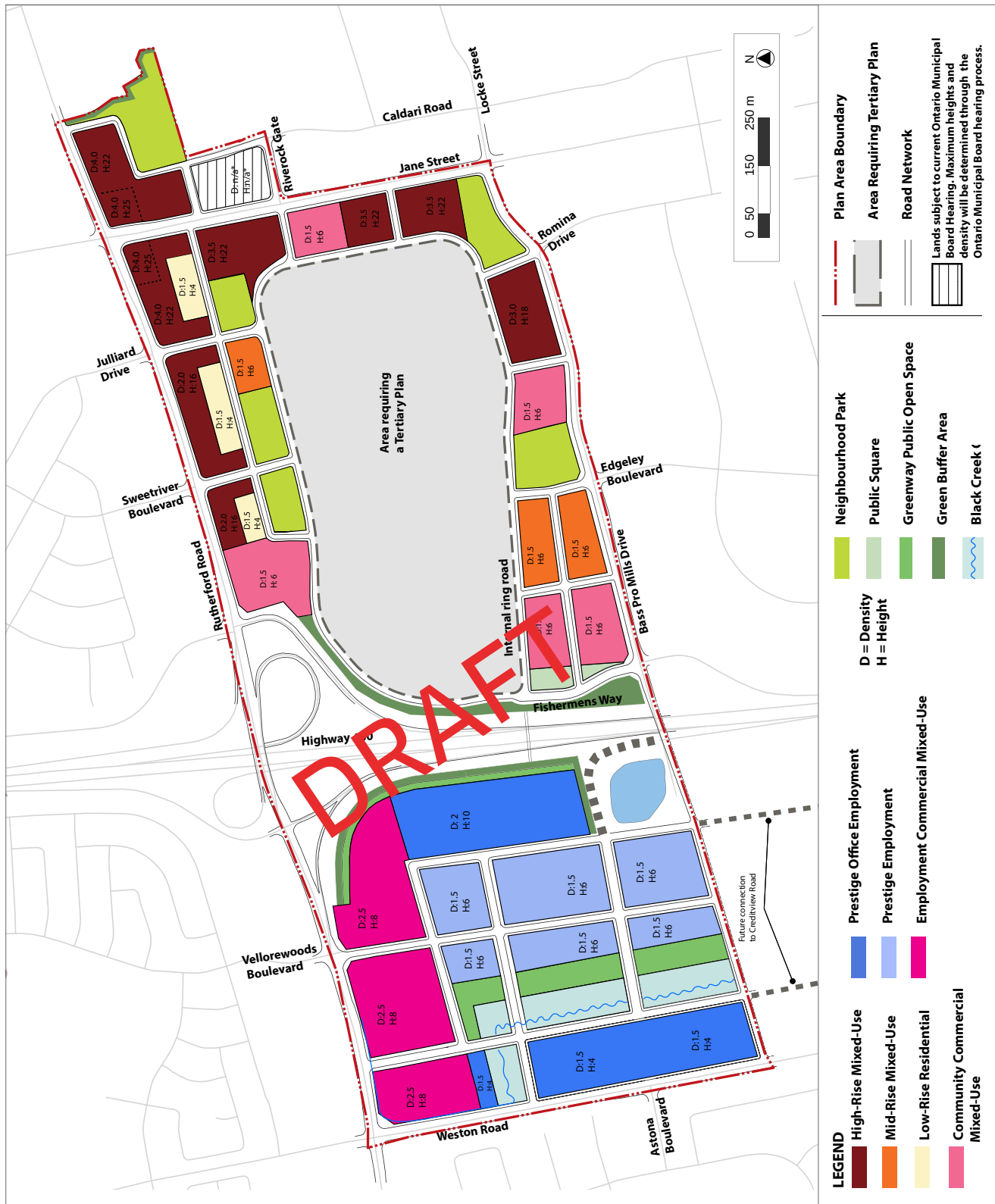
Schedule G: Transit Network

Schedule H: Active Transportation Network

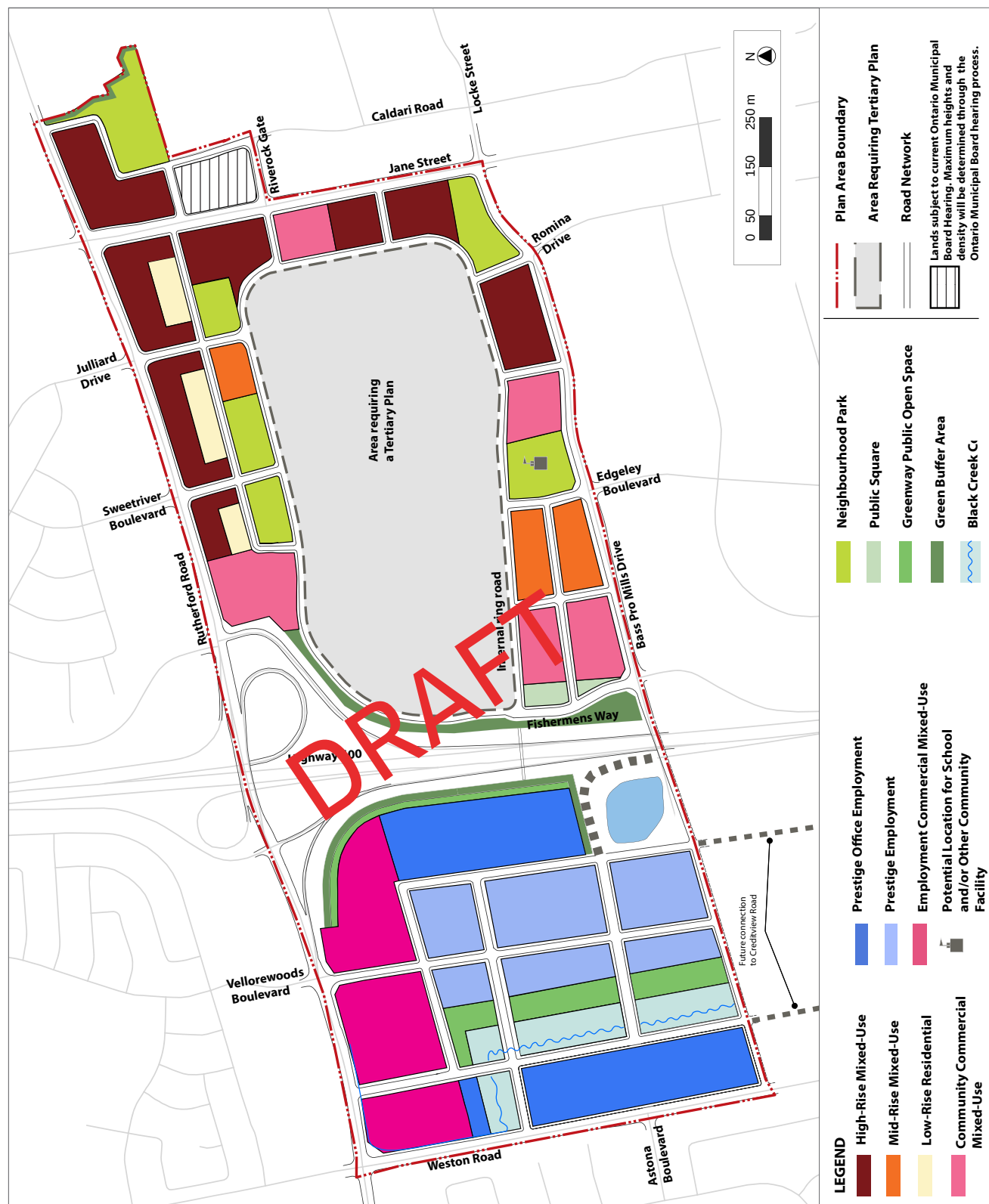
Schedule A: PLAN AREA



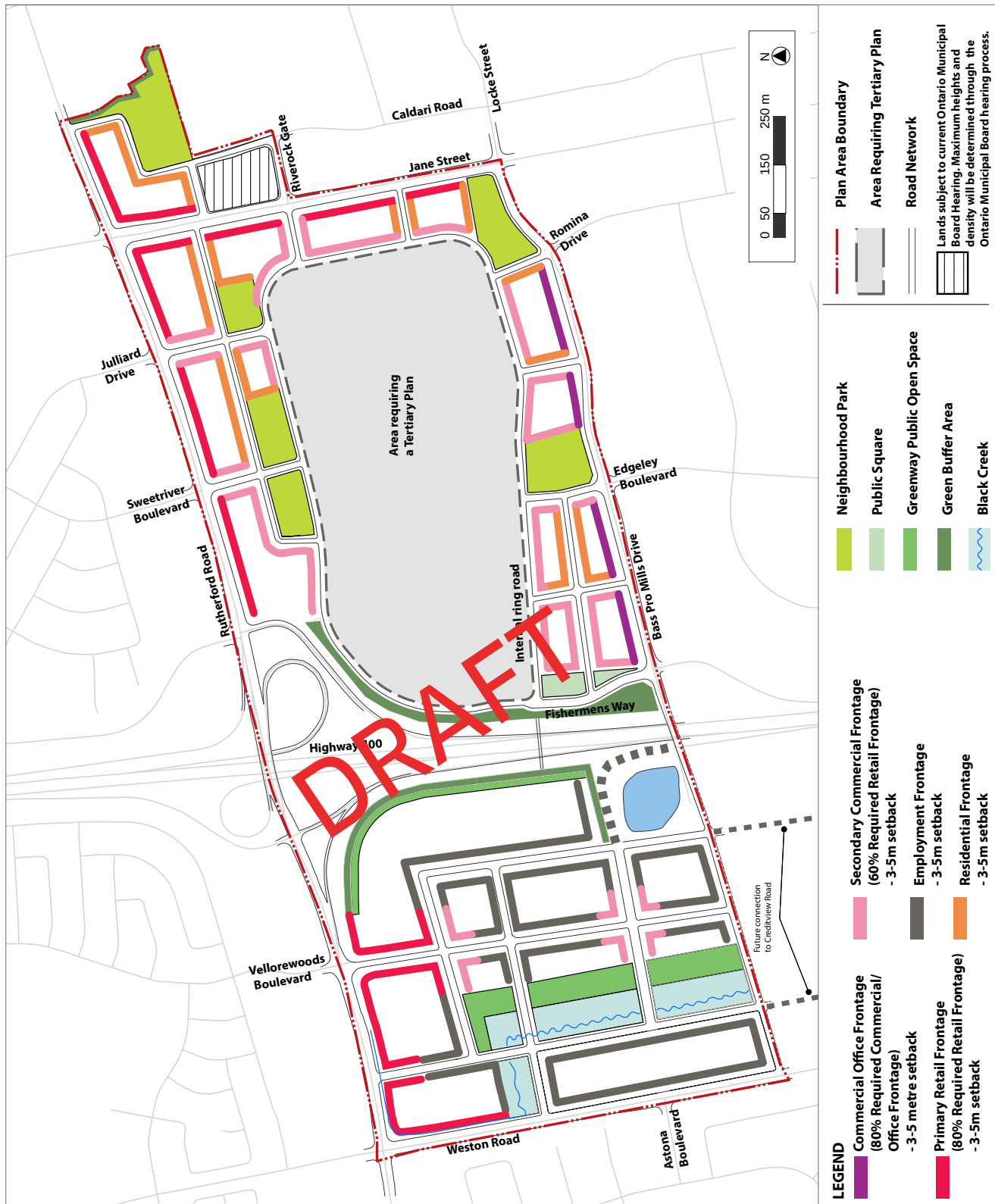
Schedule B: HEIGHT AND DENSITY



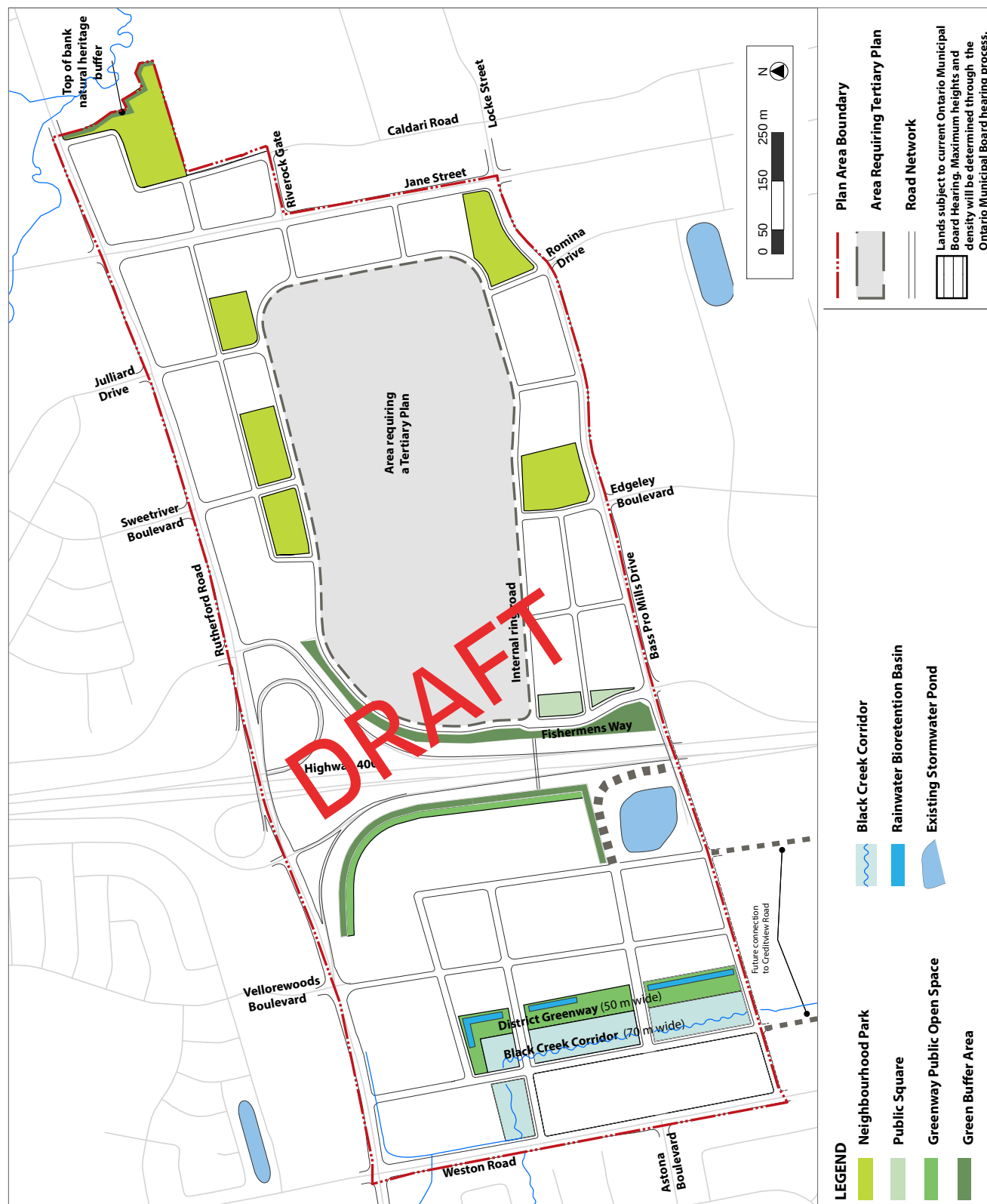
Schedule C: LAND USE DESIGNATION



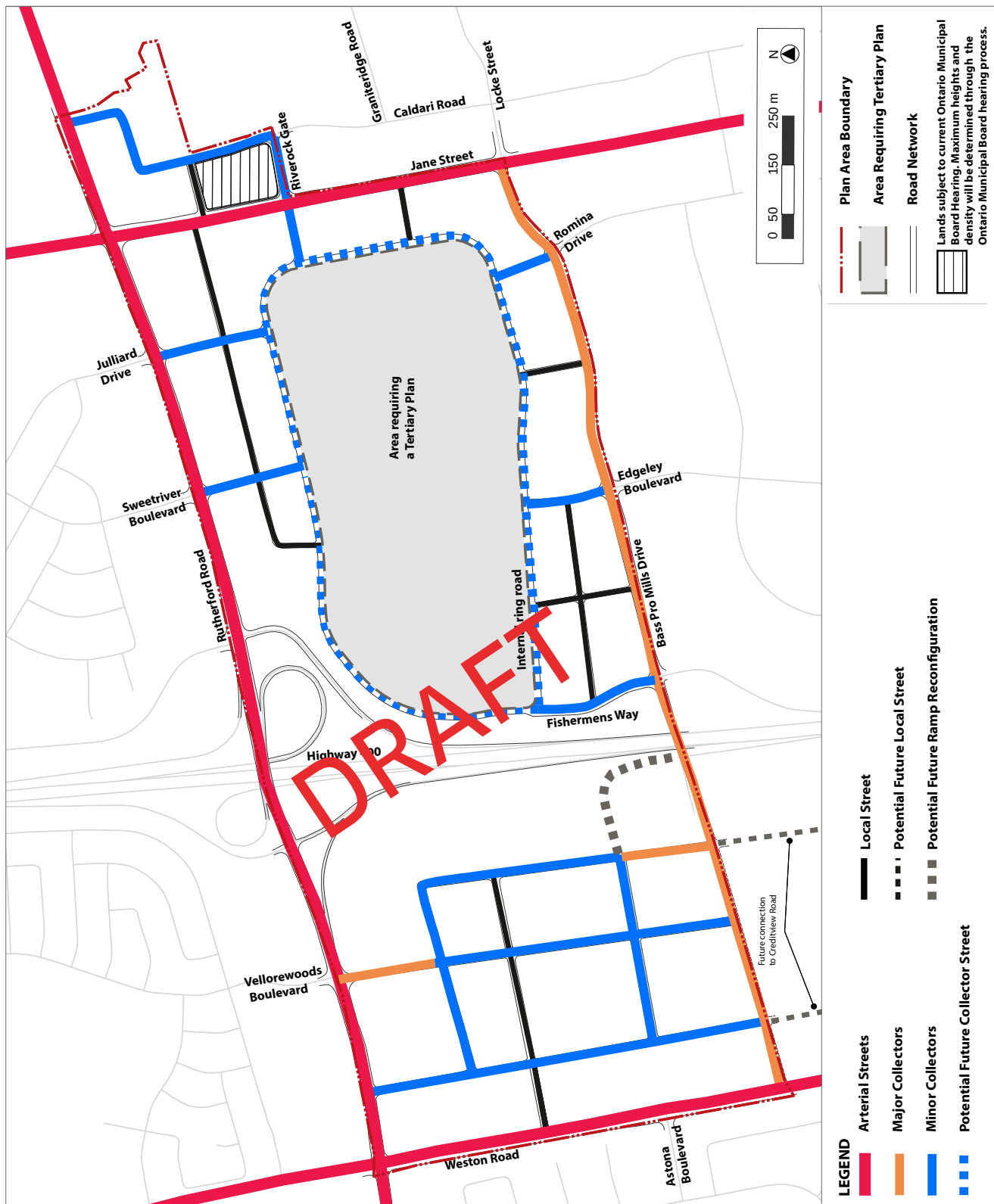
Schedule D: GROUND FLOOR FRONTAGE TYPES



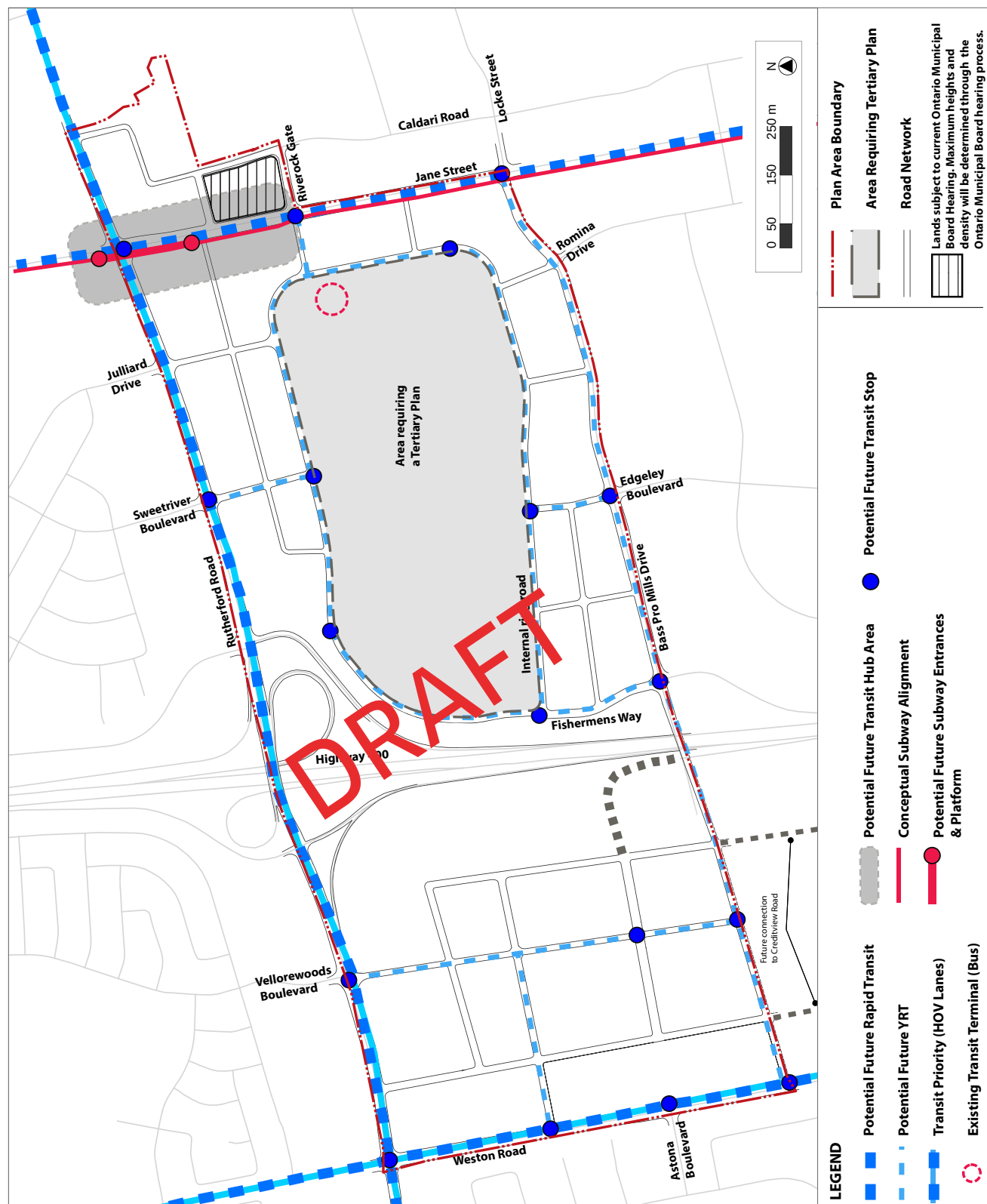
Schedule E: OPEN SPACE NETWORK



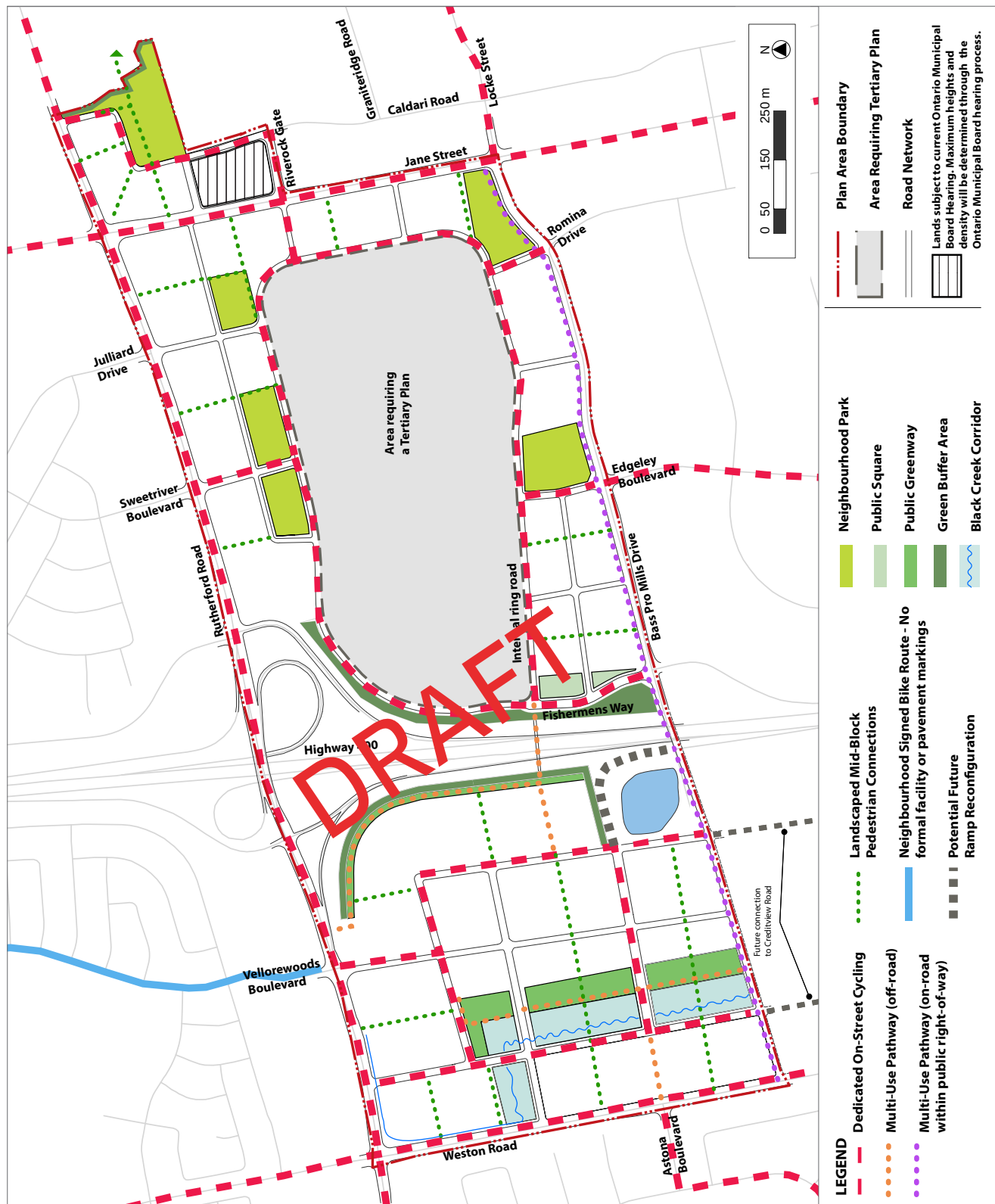
Schedule F: TRANSPORTATION NETWORK



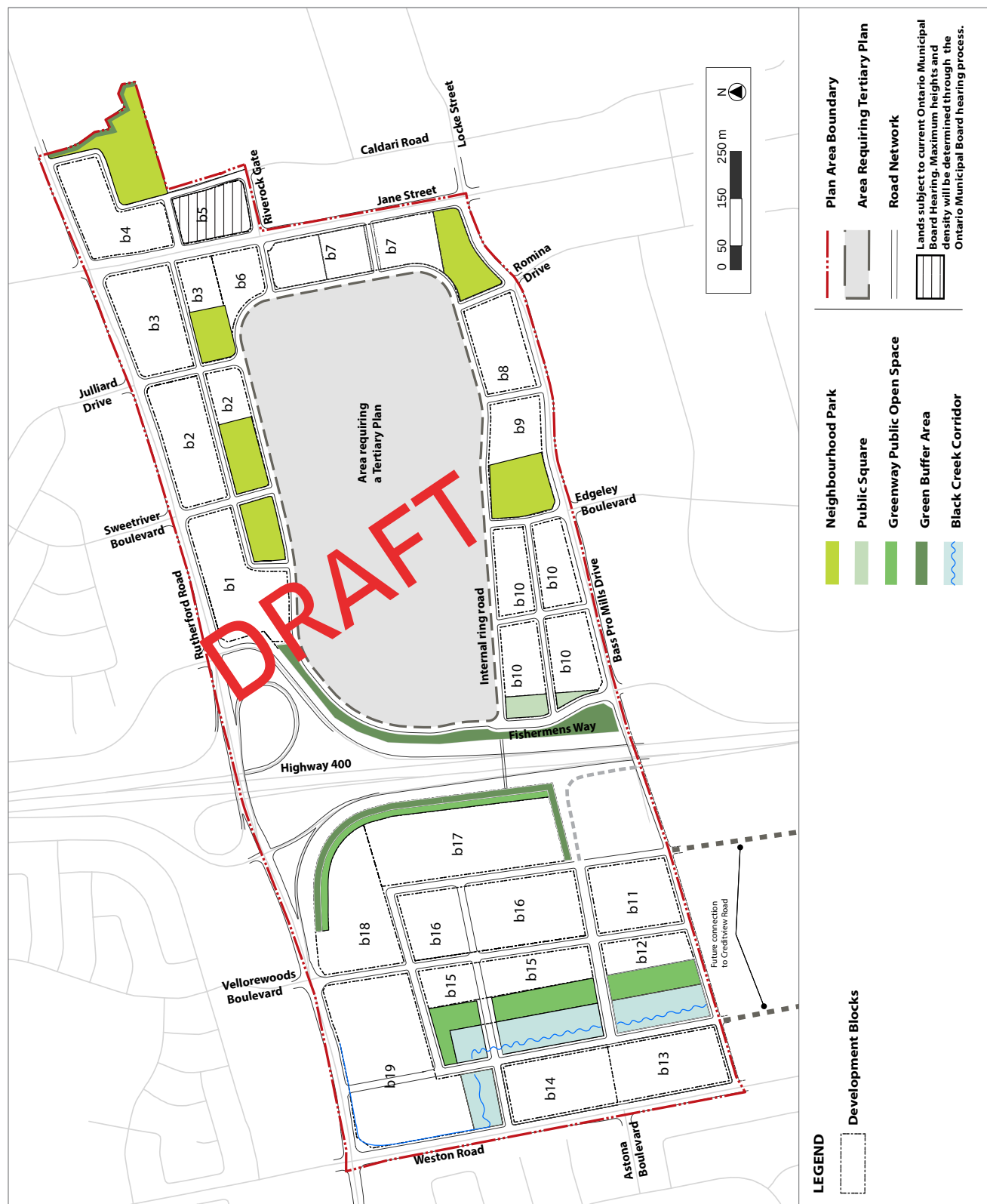
Schedule G: TRANSIT NETWORK



Schedule H: ACTIVE TRANSPORTATION NETWORK



Schedule I: DEVELOPMENT BLOCKS



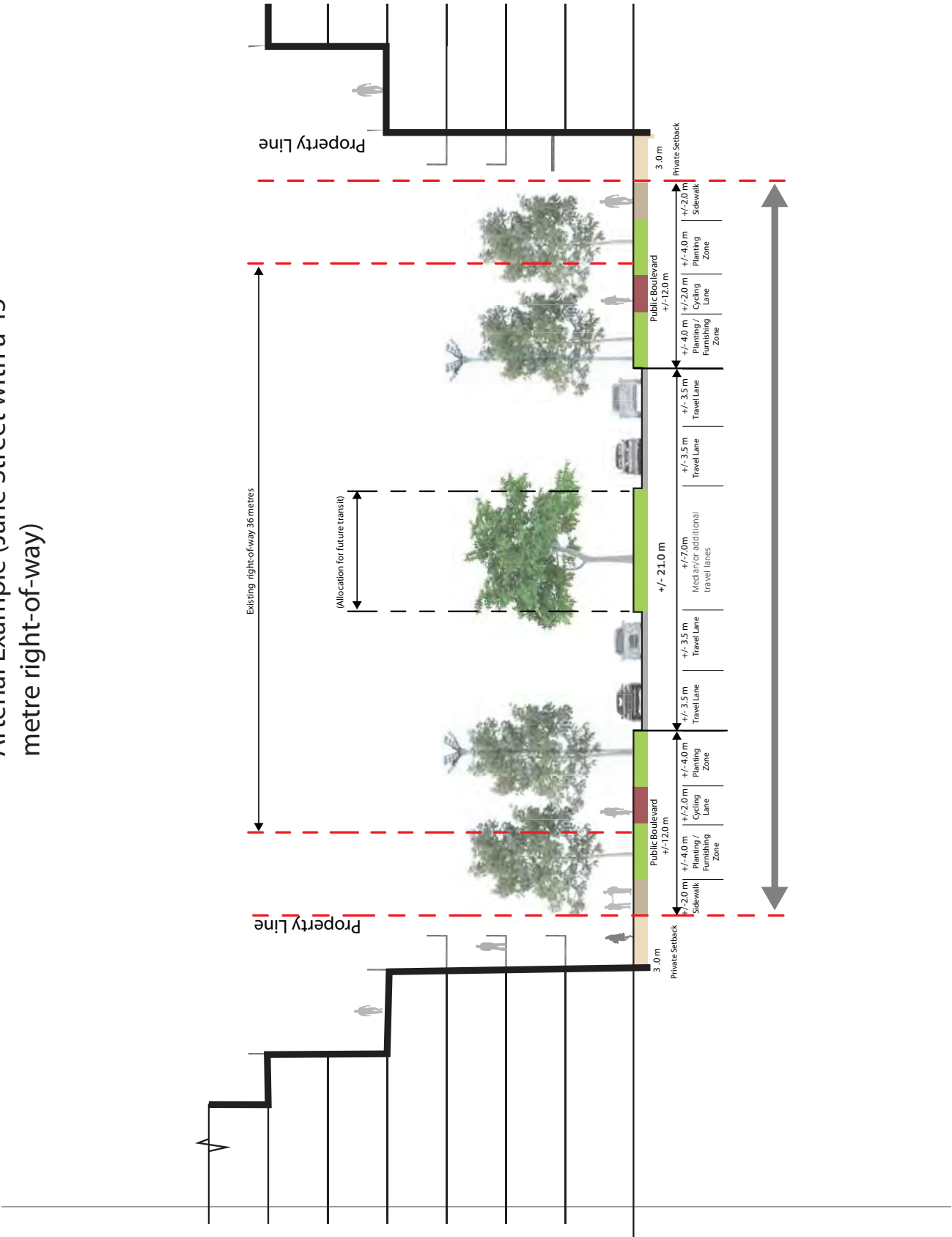
APPENDIX B: STREET CROSS SECTIONS

- Section A: Jane Street (43 Metre R.O.W)
- Section B: Rutherford Road (43 Metre R.O.W)
- Section C: Weston Road (43 Metre R.O.W)
- Section D: Major Collector Special Condition (Bass Pro Mills 30 Metre R.O.W)
- Section E: Minor Collector With Dedicated Cycling Lanes (26 Metre R.O.W)
- Section F: Minor Collector without Cycling Lanes (23 Metre R.O.W)
- Section G: Local Street (22 metre R.O.W Typical)

(For illustration purposes only)

Section A: JANE STREET

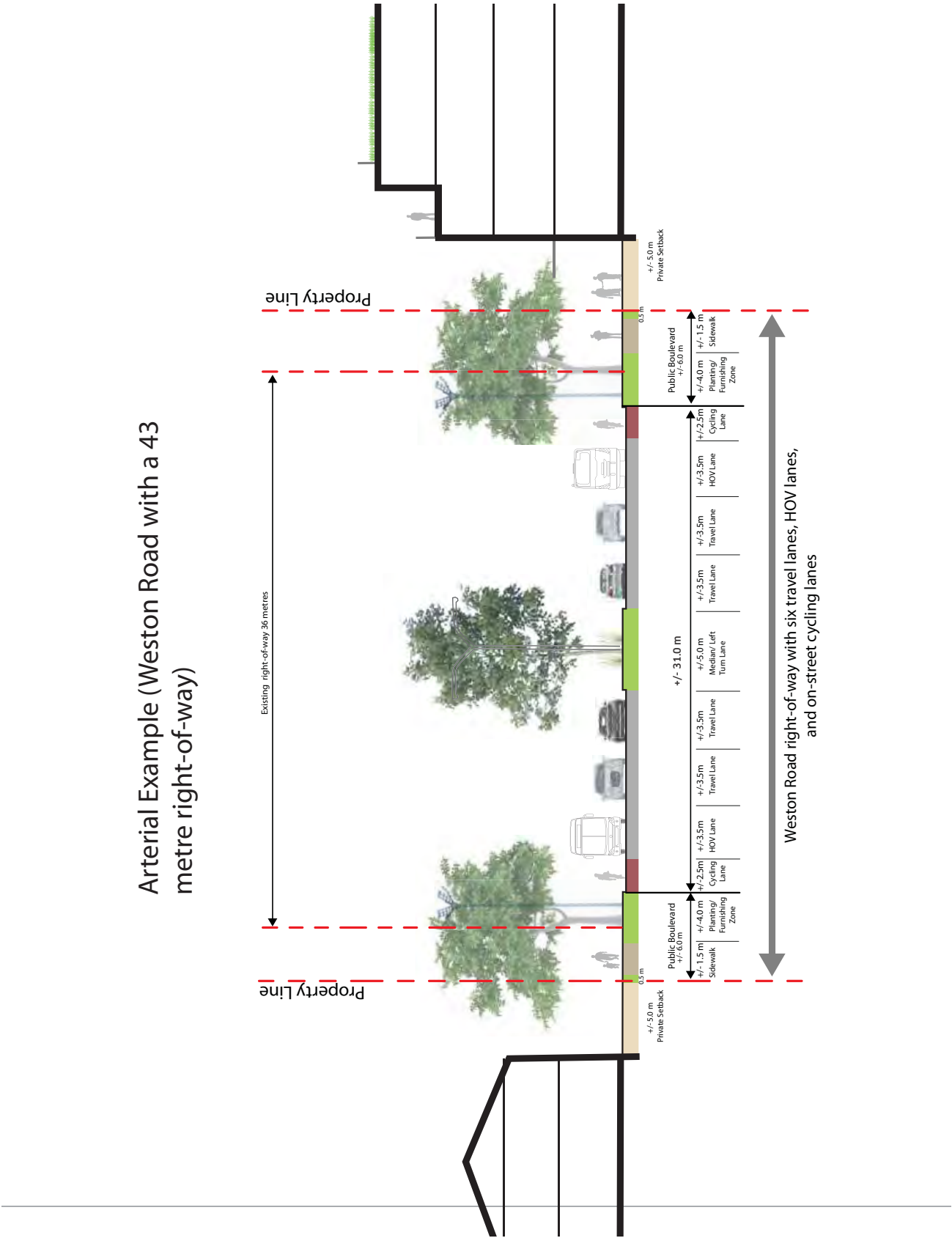
Arterial Example (Jane Street with a 45 metre right-of-way)



Arterial Example (Rutherford Road with a 43 metre right-of-way)

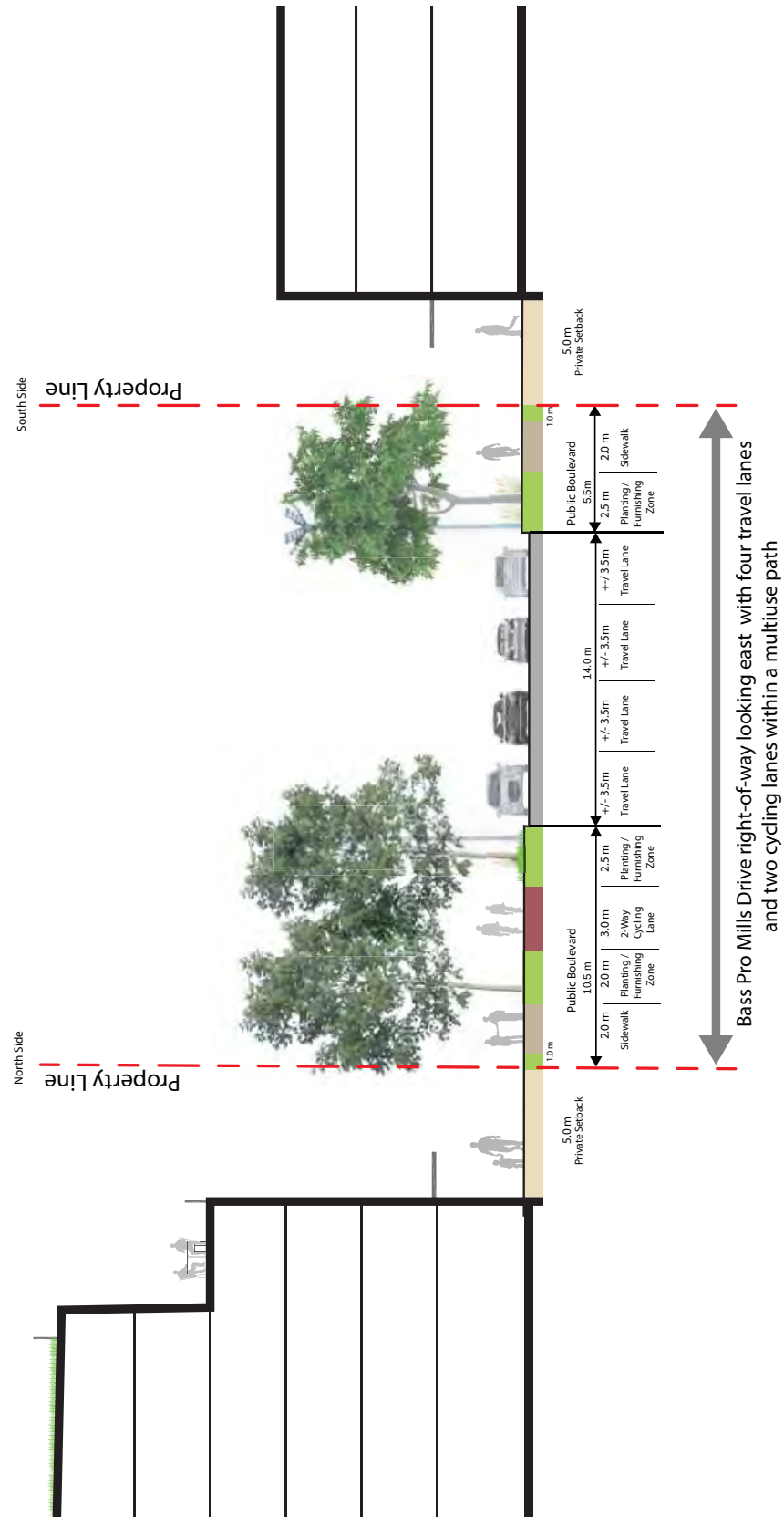


Section C: WESTON ROAD

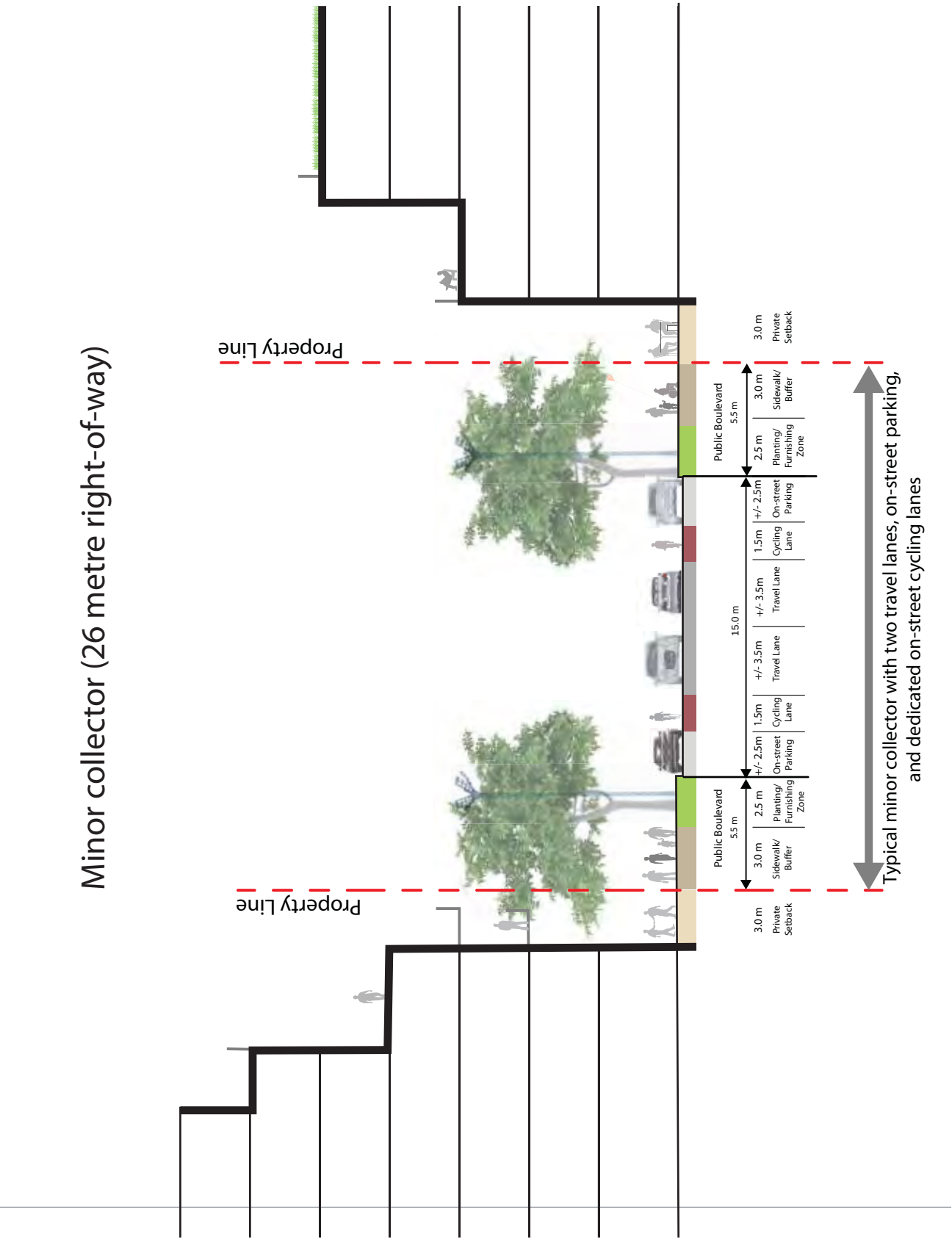


Section D: MAJOR COLLECTOR SPECIAL CONDITION (BASS PRO MILLS)

Major collector with multiuse path
(30 metre right-of-way)

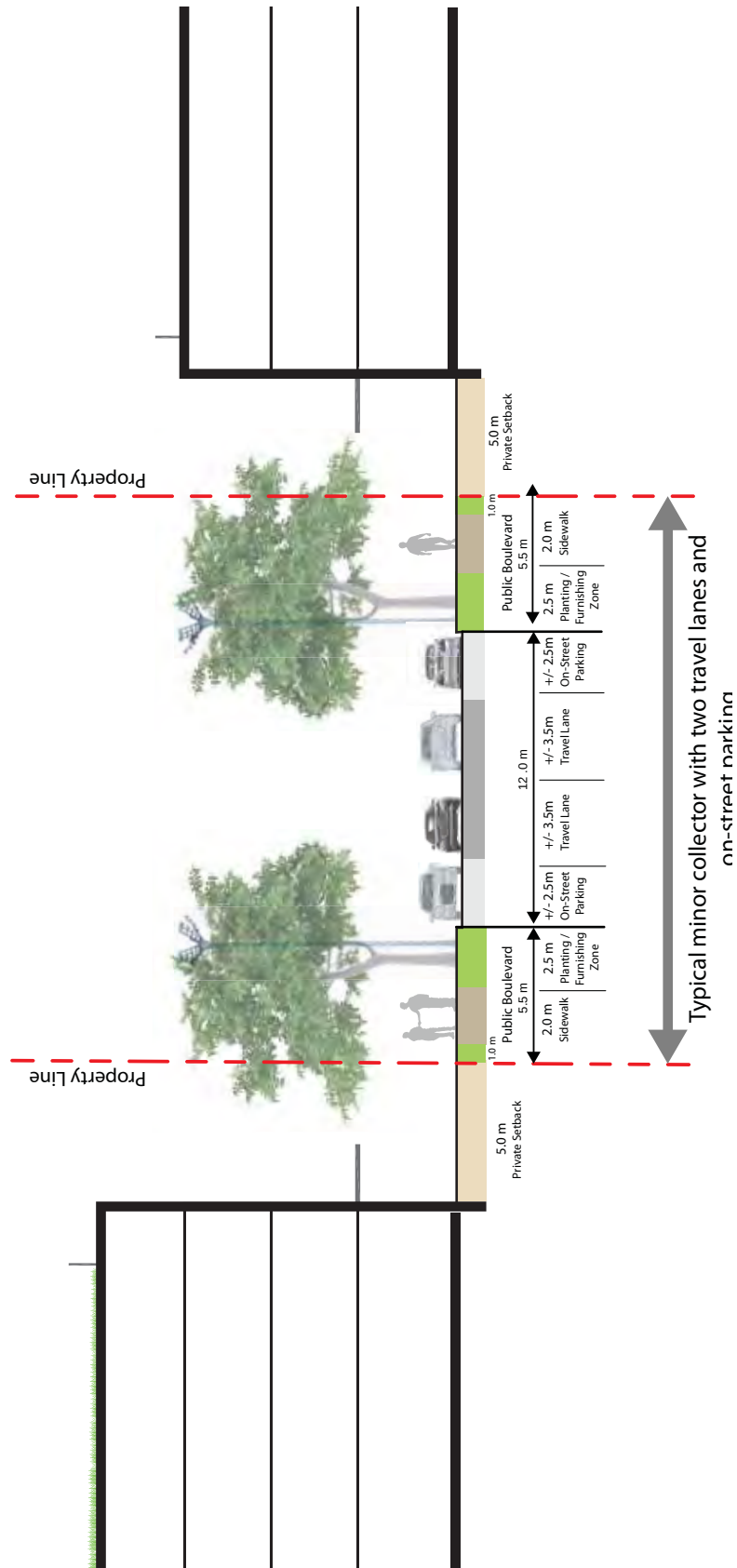


Section E: MINOR COLLECTOR WITH DEDICATED CYCLING LANES
(26 METRE RIGHT-OF-WAY)

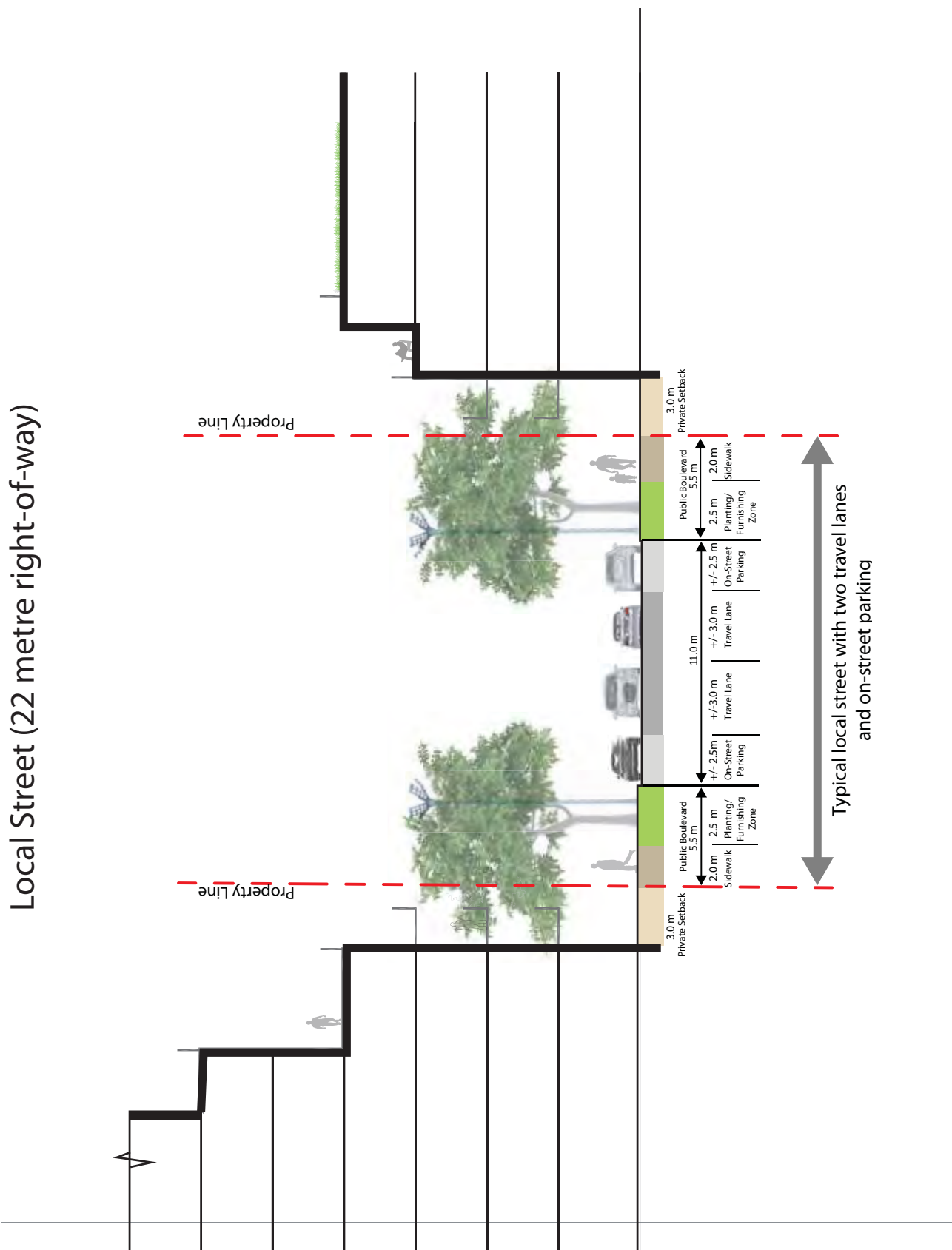


Section F: MINOR COLLECTOR WITHOUT CYCLING LANES (23 METRE RIGHT-OF-WAY)

Minor collector (23 metre right-of-way)

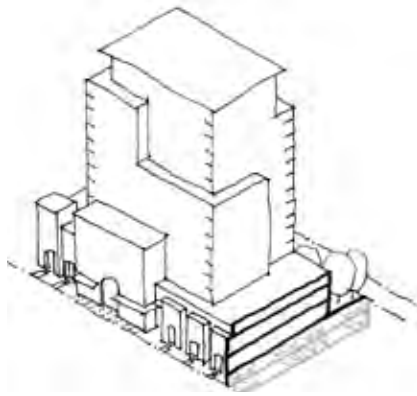


Section G: LOCAL STREET (22 METRE RIGHT-OF-WAY)



APPENDIX C: BUILT FORM GUIDELINES

FIGURE 5: HIGH-RISE BUILT FORM DIAGRAM

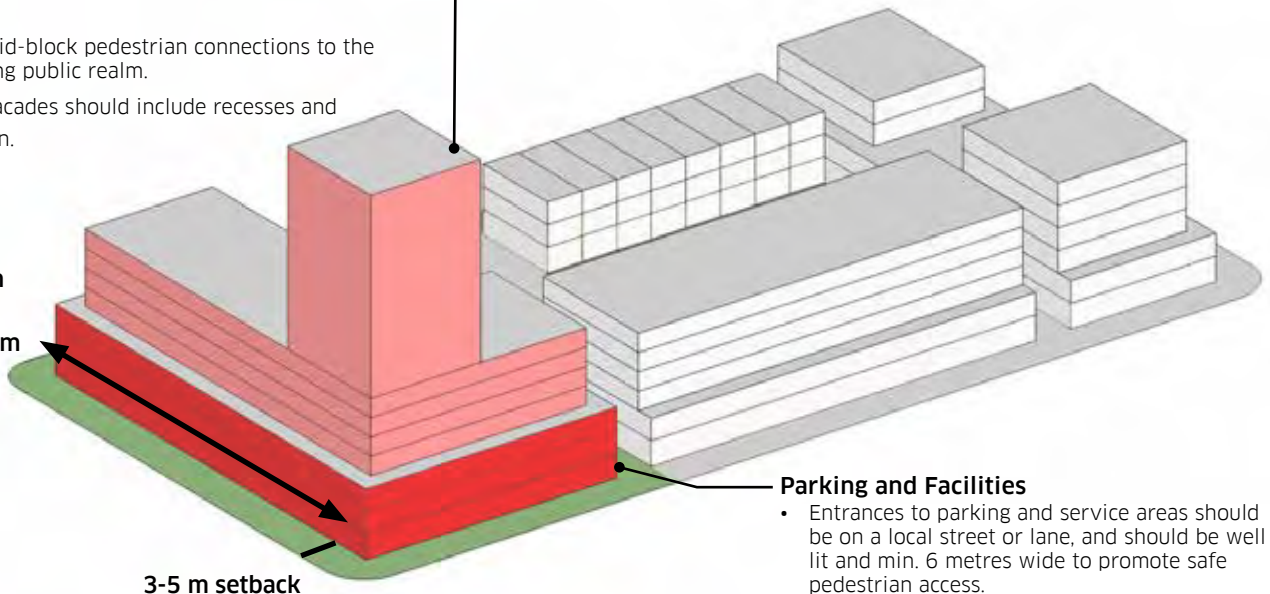


High-Rise Mixed-Use

- Generally, above 10 storeys.
- 30 metre separation distances between towers.
- Maximum residential tower floor plate 750 square metres.
- High-rise buildings consist of a 3-6 storey base building/podium. Towers will be setback a minimum of 3 metres from the podium edge.
- Ground floor to ceiling height should be a minimum 4.5 metres.
- Commercial uses required for portions of the ground floor.
- Provide mid-block pedestrian connections to the surrounding public realm.
- Building facades should include recesses and articulation.

Maximum
building
length 80m

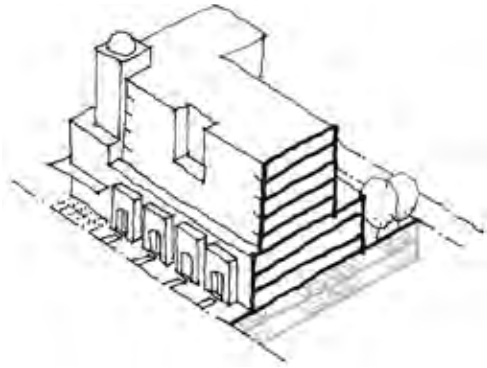
3-5 m setback



Parking and Facilities

- Entrances to parking and service areas should be on a local street or lane, and should be well lit and min. 6 metres wide to promote safe pedestrian access.
- Loading and servicing should be located interior to the block and enclosed within a building.
- Integrated structured parking generally shall be located in underground or above-grade structures, and integrates at-grade related uses.
- Screen parking, loading, and storage areas from public view using grade elevation combined with building massing and landscaping.
- Outdoor private amenity space shall be provided and integrated with the surrounding public realm.
- Provide common open space such as a courtyards, rooftop decks, or small urban squares for residents.

FIGURE 6: MID-RISE BUILT FORM DIAGRAM

**Mid-Rise Mixed-Use**

- Generally, between 6-10 storeys.
- Typically, street level units have separate individual entrances.
- Ground floor height should be a minimum 4.5 metres.
- Commercial uses required for portions of the ground floor.
- Provide a street wall (podium) at the street edge, with above grade step backs.
- Provide mid-block pedestrian connections to the surrounding public realm.

Parking and Facilities

- Entrances to parking and service areas should be on a local street or lane.
- Loading and servicing should be located interior to the block and enclosed within a building.
- Integrated structured parking generally shall be located in underground or above-grade structures.
- Outdoor private amenity space shall be provided and integrated with the surrounding public realm.
- Provide common open space such as a courtyards, rooftop decks, or small urban squares for residents.

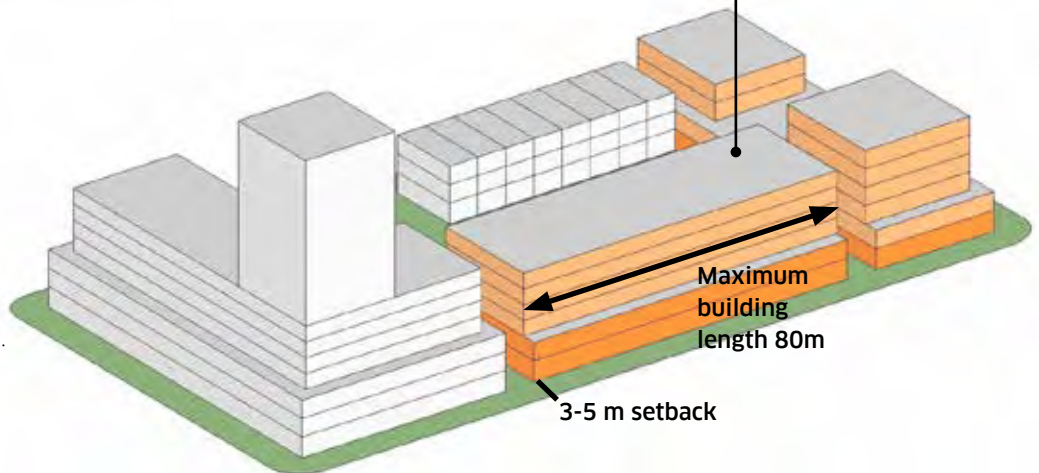
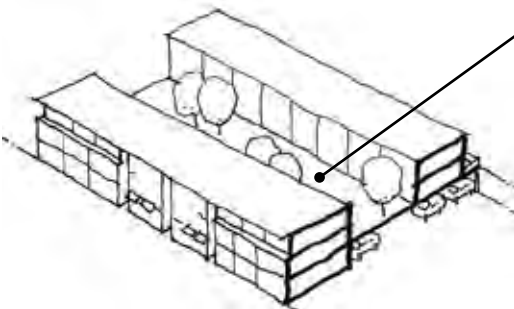


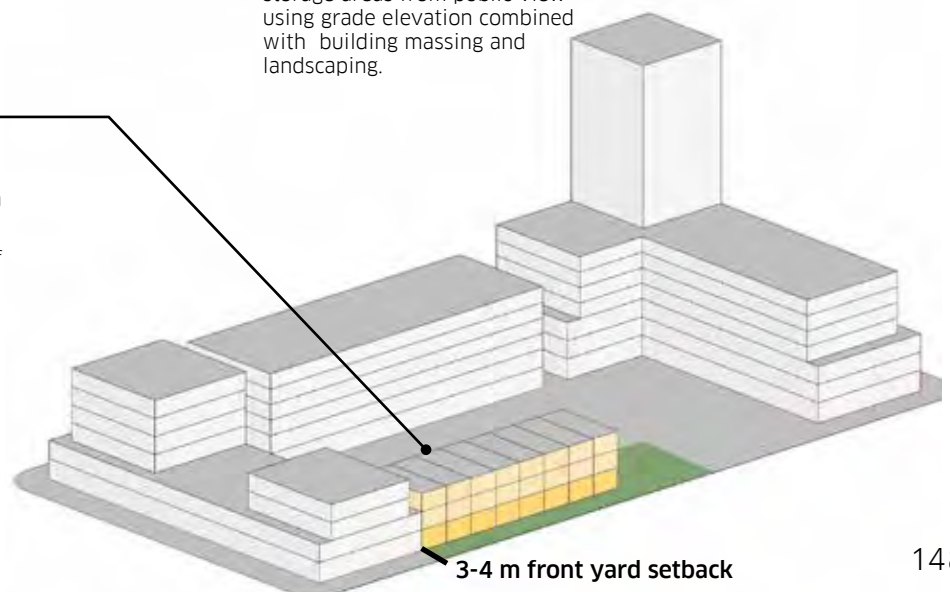
FIGURE 7: LOW-RISE BUILT FORM DIAGRAM

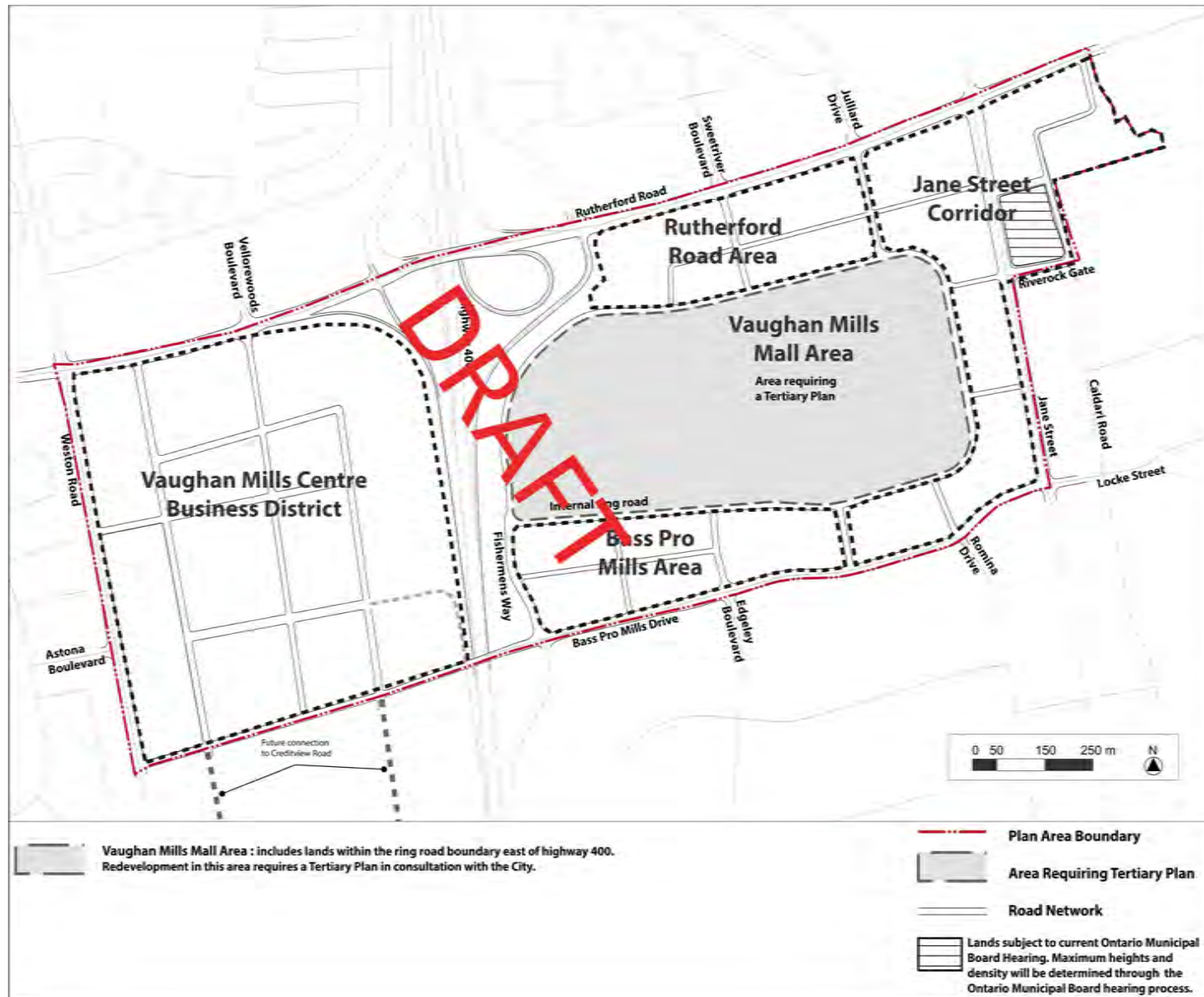
**Parking and Facilities**

- Amenity areas on deck above parking structure, where possible.
- Parking under deck, accessed by a lane, where possible.
- In general, all parking should be accessed from a rear lane.
- Active or residential uses at grade.
- Screen parking, loading and storage areas from public view using grade elevation combined with building massing and landscaping.

Low-Rise Residential/Mixed-Use

- Generally, 2-4 storeys.
- Residential units attached to their neighbours, below and to the side, within a single building.
- Private open space provided in the form of patios, balconies, or rooftops for individual units.
- Provide common open space such as a courtyard or rooftop deck for residents, except for very small projects.





Schedule A - Plan Area (modified January 2014)

Applicant:
City of Vaughan

Location: Part of Lots 13, 14, & 15
Concession 5



Attachment

File: 26.1

Date: February 5, 2014

4

Table 2: Transportation Network Improvements

Horizon	Development Level		Recommended Network Improvements to Accommodate the Proposed Development Level at the Stated Horizon
2021 Horizon	<i>Includes all of the Jane Street Corridor Area as shown in Schedule A of the Vaughan Mills Centre Secondary Plan (70% of all proposed development east of Highway 400)*</i> <i>Within the Vaughan Mills Centre Business District as shown in Schedule A of the Vaughan Mills Centre Secondary Plan (40% of all proposed development west of Highway 400)**</i>	- Up to 3,371 residential units - Up to 16,304 m² retail uses - Up to 46,079 m² of office - Up to 101,600 m² of prestige employment uses - Up to 39,494 m² of office uses - Up to 30,715 m² of neighbourhood and medium format retail uses - Up to 14,520 m² of other uses including hotel, entertainment, and cultural uses	Road Network Improvements: (Jane Street Corridor Area) - Completion of Bass Pro Mills Drive extension to Jane Street. - Implement a full-moves signalized access on Jane Street mid-block between Riverrock Gate and Bass Pro Mills Drive. - Provide an additional right-turn lane on southbound Fisherman's Way at Bass Pro Mills Drive. Road Network Improvements: (Vaughan Mills Centre Business District Area**) - Plan for a four-lane cross-section for Vellore Woods Boulevard south of Rutherford Road, and for Creditview Road north of Bass Pro Mills Drive. - Implement the internal road network as show in the Vaughan Mills Centre Secondary Plan, Schedule F. - Northbound dual left-turn lanes on Weston Road at Rutherford Road (dependent on effects of the improvements on Major Mackenzie Drive at Highway 27). - Provide an additional right-turn lane on Vellore Woods Boulevard at Rutherford Road. Other Transportation Improvements: - Implement a strong internal grid network as outlined in the Secondary Plan to enhance traffic connectivity across the site. - Viva Quick Start rapid bus service on Jane Street, from Rutherford Road to the planned Spadina Subway extension station at Highway 7. - Transit signal priority and queue jump lanes on Jane Street, Weston Road and Rutherford Road. - Enhancement of YRT bus service on Rutherford Road and to the YRT Vaughan Mills bus terminal. - Proactive and aggressive programs and initiatives to reinforce the need to create change in modal split behavior, to promote greater use of transit, to attract more riders and to achieve the assumed modal split. - Create an organized Passenger Pick-up and Drop-off (PPUDO) area adjacent to the Vaughan Mills transit terminal. - Collaborate with car share operators to introduce car-sharing. - Revise parking standards for developments to discourage single-occupancy vehicle use. - Consider use of shared parking, and preferred parking for hybrid and electric vehicles. - Implement intelligent parking information systems across the Vaughan Mills Centre area parking lots for more effective distribution of parking demands. - Implement transportation demand management strategies within the Vaughan Mills Centre area to discourage heavy car uses and encourage developing less auto-dependent travel behaviours. - Integrate comprehensive pedestrian and cycling route facilities and network to promote active transportation. - Promote self-contained neighbourhood living/working and recreation within the Vaughan Mills Centre area to help reduce traffic demands on the area's road network.

* Up to 80% of the proposed development east of Highway 400 could be accommodated if the full extension of Bass Pro Mills Drive to Weston Road is also completed by 2021.

** Development thresholds and transportation improvements will be confirmed through the Block Plan process as identified in Part C, Section 7.4.3 of this Plan for lands located in the Vaughan Mills Centre Business District Area (west of Highway 400). The Block Plan application will address the matters set out in Policies 10.1.1.15 of VOP 2010 and shall constitute a complete application to the satisfaction of the City of Vaughan.

Horizon	Development Level		Recommended Network Improvements to Accommodate the Proposed Development Level at the Stated Horizon
Full Build-out (Horizon 2031)	Includes development within the Rutherford Road Area, and the Bass Pro Mills Area, as shown in Schedule A of the Vaughan Mills Centre Secondary Plan. Includes the remainder of development within the Vaughan Mills Business District as shown in Schedule A of the Vaughan Mills Centre Secondary Plan*	- Up to 932 residential units - Up to 55,931 m² retail and other uses - Up to 31,500 m² of office - Up to 152,400 m² of prestige employment uses - Up to 59,241 m² of office uses - Up to 46,072 m² of neighbourhood and medium format retail uses - Up to 21,781 m² of other uses including hotel, entertainment, and cultural uses	Road Network Improvements: (West of Highway 400) - Extension of Bass Pro Mills Drive to Weston Road. - Install traffic signals at the intersection of Bass Pro Mills and Weston Road. Other Transportation Improvements: - Higher-order transit service on Jane Street, in the form of BRT or LRT, with its dedicated right-of-way connecting the Spadina Subway extension to Vaughan Mills Centre and up to Canada's Wonderland and the future Mackenzie Vaughan Hospital on Major Mackenzie Drive. - Enhancing priority transit service on Rutherford Road to Viva service; - Continue to promote sustainable transportation (transit, walking, cycling) and other transportation demand management programs and measures to encourage a greater shift in travel mode patterns to achieve the assumed modal split.

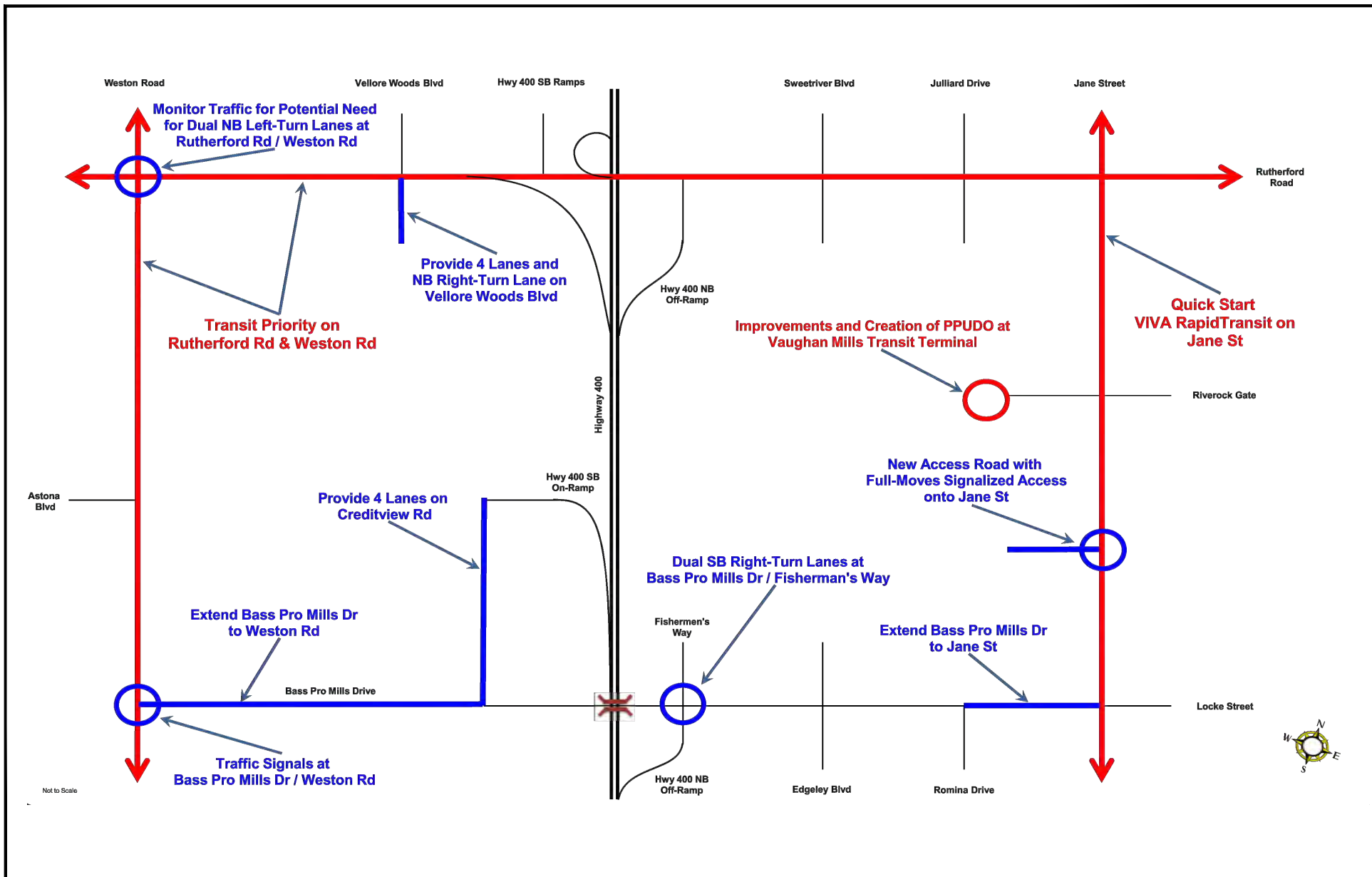


Figure E1 - Recommended Transportation Improvements Horizon 2021

Applicant: City of Vaughan
Location: Part of Lots 13, 14, & 15
Concession 5

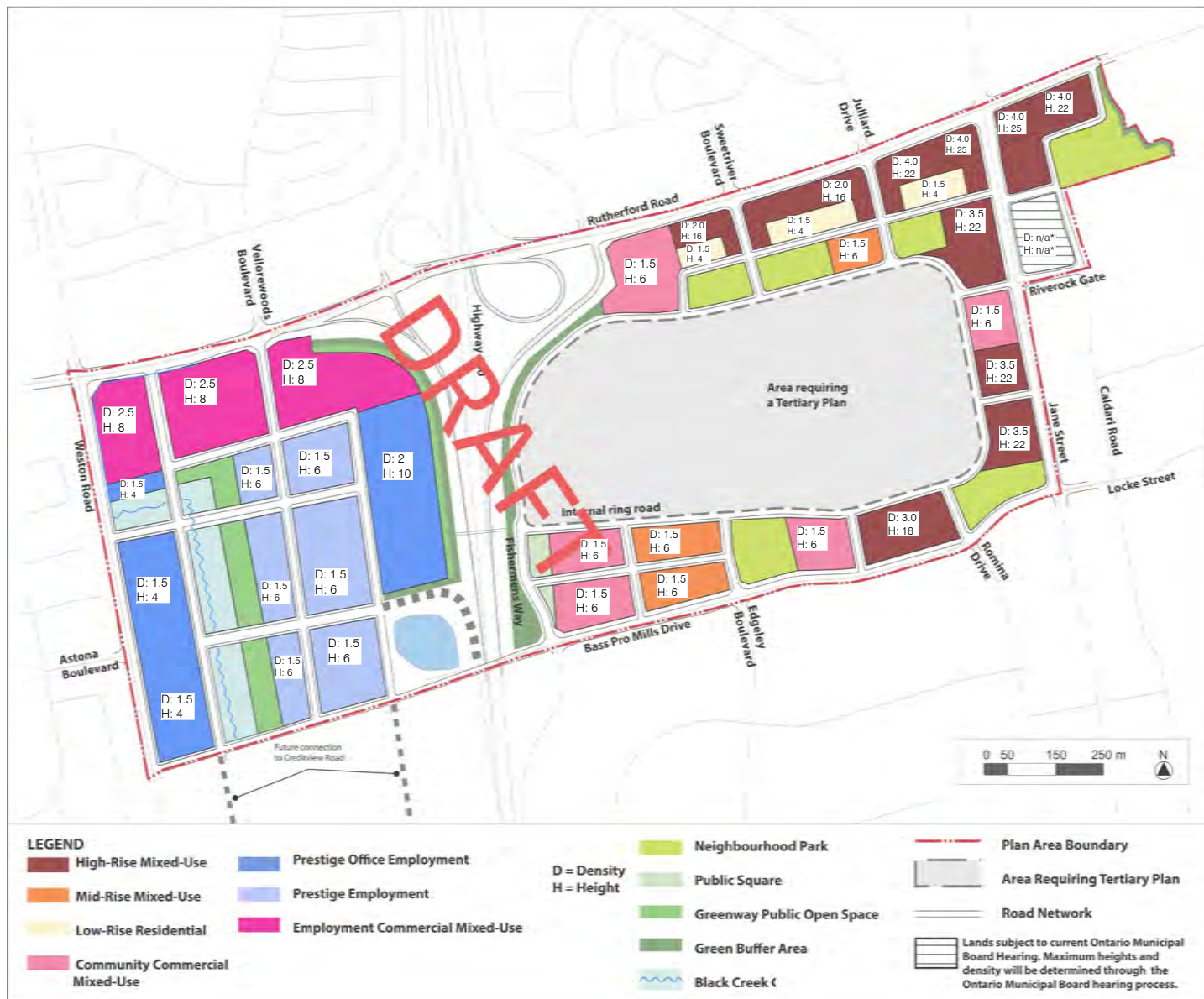


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Date: February 5, 2014

5b



Schedule B - Height & Density Schedule

Applicant: City of Vaughan
 Location: Part of Lots 13, 14, & 15
 Concession 5

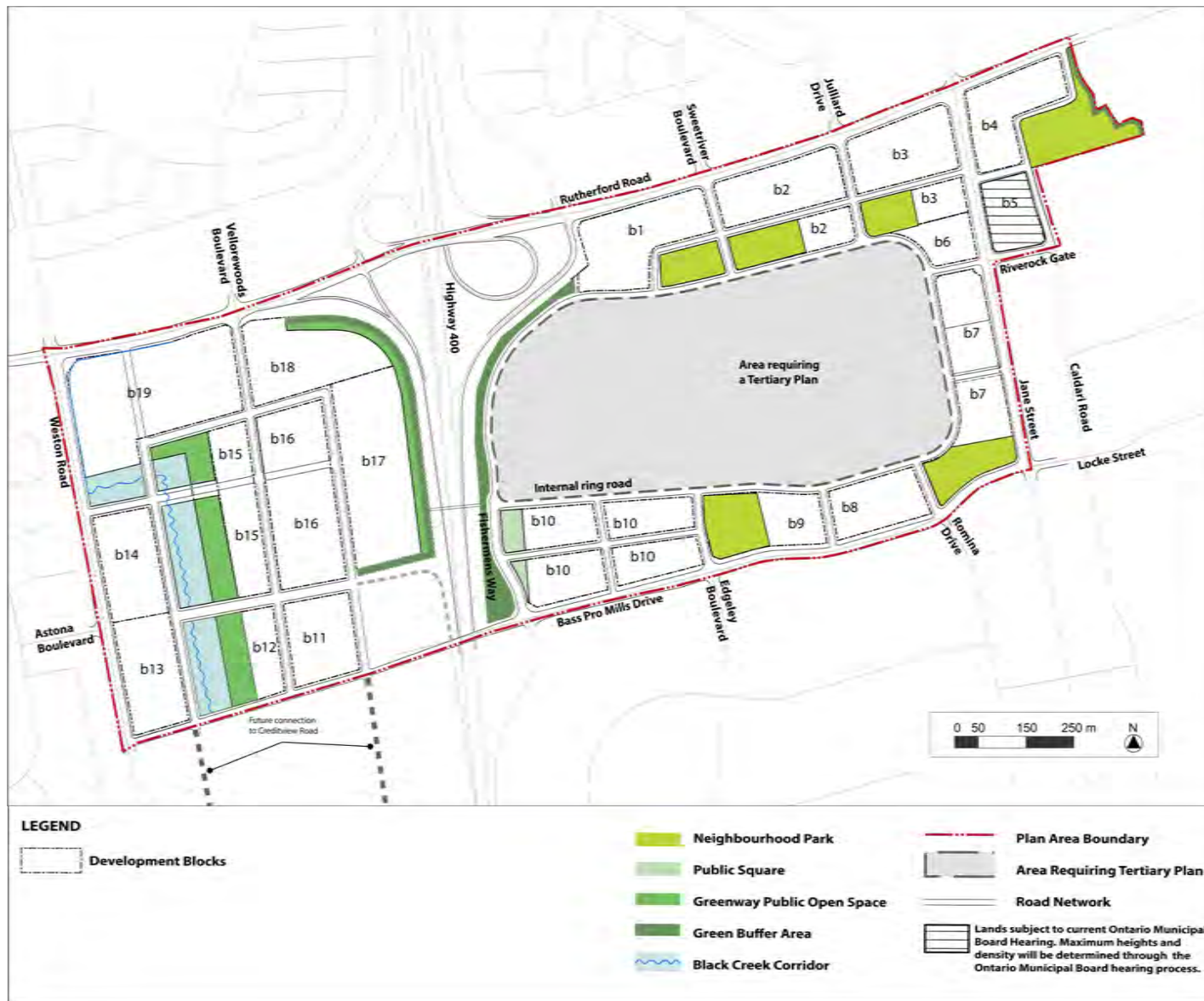


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File: 26.1

Date: February 5, 2014

6



Schedule I - Development Blocks

Location: Part of Lots 13, 14, & 15
Concession 5

Applicant:
City of Vaughan



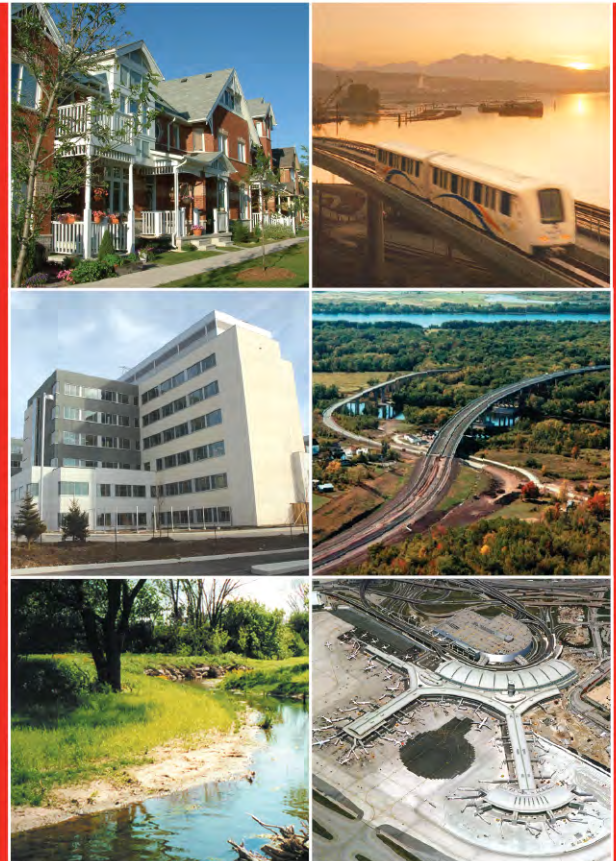
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File: 26.1

Date: February 5, 2014

7

MMM Group Limited



Transportation Assessment

Vaughan Mills Centre
Secondary Plan

City of Vaughan

16-12038-001-T01

DRAFT



February 2014

COMMUNITIES
TRANSPORTATION
BUILDINGS
INFRASTRUCTURE

PROJECT TEAM MEMBER LIST

Project Manager: Jim Gough, P.Eng.

Project Co-ordinator: Tommy Wong, P. Eng.

Technical Staff: Nemanja Radakovic

EXECUTIVE SUMMARY

The vision articulated in the Vaughan Mills Centre Secondary Plan is one of an active, mixed-use area which is supported by a multimodal transportation system. The Secondary Plan area will also feature opportunities for local residents to work, shop and play here, reducing demands on the surrounding transportation system.

Travel to, from and within Vaughan Mills is currently heavily auto-oriented. Very few people walk or cycle, and only a small number use public transit. Drivers from across the region are using the area roads at a level close to capacity during weekday peak periods, and this causes friction with surrounding established residential communities.

How can the Vaughan Mills Centre SP Area transition from this current state to the vision espoused in the Secondary Plan? Significant change is required, in terms of both transportation infrastructure for sustainable modes, and in the ways and times that residents, employees and visitors travel. It is important to understand that there is a positive base on which to build here – the area has excellent highway access to and from both north and south, via Highway 400; there is public transit service on all of the boundary roads; there is an existing York Region Transit (YRT) terminal on the Vaughan Mills mall site, close to the intersection of Jane Street and Rutherford Road; there is high demand for development in the area, and the pedestrian network is generally continuous throughout this area. Most importantly, perhaps, there are plans for significant upgrades to the transit infrastructure.

Mississauga City Centre provides a plausible comparator, in terms of how this area can be enhanced to fulfil the Secondary Plan vision. Twenty-five years ago, Mississauga City Centre consisted of Square One on the west side of Hurontario Street and a four-tower office development on the east side, with access from Highway 403 – this is very similar to Vaughan Mills now. Since then, Mississauga has made major changes in planning and infrastructure, and is creating a much more urban place, with transportation demands balanced among different modes. Square One remains as a central feature in the City Centre District – so there is a direct parallel to the Vaughan Mills Shopping Centre.

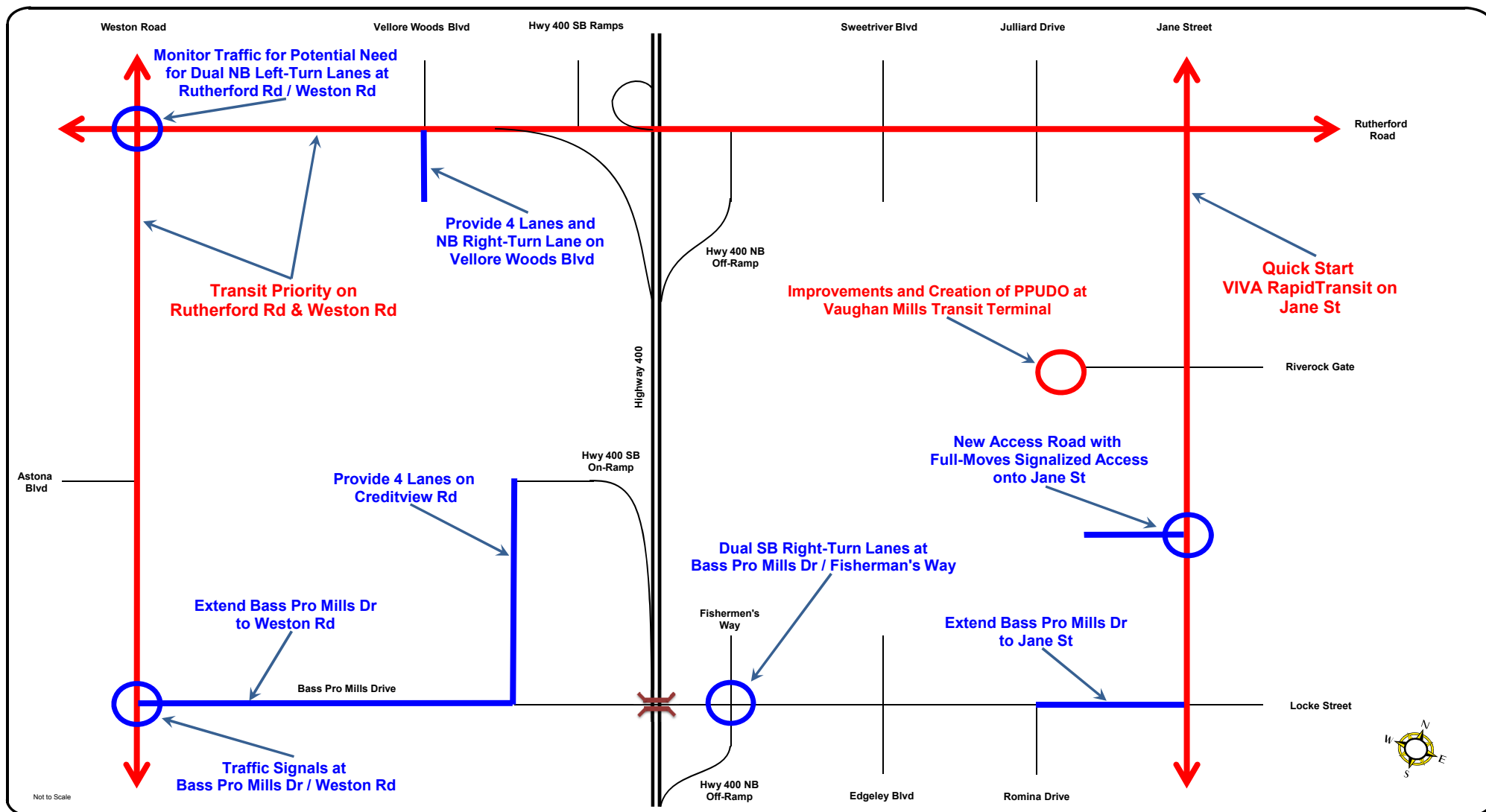
Steps that the City of Mississauga has taken to develop a true urban centre include: expansion of the transit terminal to serve as a focal point for numerous Mississauga Transit services; planned and begun construction of a grade-separated busway connecting to the City Centre Transit Terminal; implemented a District Plan that breaks up the large parcels of land into blocks which are oriented towards a pedestrian/cycling scale of movement; planned a Light Rail Transit system on Hurontario Street (and diverting into the City Centre District), a project which will involve the conversion of two general purpose travel lanes to exclusive transit lanes.

The City of Vaughan is not planning for the Vaughan Mills area to house all the civic functions which Mississauga has introduced in the City Centre (i.e. City Hall, Seneca College, performing arts centre). Nonetheless, there are parallels in the objectives which each municipality has for these two areas.

Improvements Needed for Further Development

The plan to accommodate the projected Secondary Plan development level for 2021 should include the following (also shown in **Figure E1**):

- As first steps, the City of Vaughan should work with YRT to monitor transit ridership in Vaughan Mills area and usage of the Vaughan Mills Transit Terminal on a semi-annual basis, to determine when expansion may be needed. YRT should be proactive in terms of expanding service frequencies to attract more riders, again based on monitoring on a twice-yearly basis.
- Viva Quick Start rapid bus service on Jane Street, from Rutherford Road to the planned Spadina Subway extension station at Highway 7. The design for the Viva Quick Start service on Jane Street should include transit signal priority at all signalized intersections south of Rutherford Road, and specifically at the access from Jane to the YRT Terminal at Vaughan Mills, to facilitate access to the terminal. Queue jump lanes should be planned at all intersections on Jane Street where general traffic volumes create a significant impediment to regular transit service, and where either sufficient right-of-way exists currently, or can be obtained. The City and Region should initiate development of a plan for this service in the immediate term.
- A similar Viva Quick Start program of transit signal priority and queue jump lanes should be considered on Weston Road. It is acknowledged that such a program is not foreseen in the Region's transit network at present, but it is apparent based on the projected conditions that transportation alternatives are needed for travel in the Weston Road corridor. The proposed high-order transit on Jane Street is outside of a convenient walking distance, and the congestion created at the Highway 400 interchange discourages the short trip to Jane Street that would be required by transit to access the Jane BRT service. The City and Region should initiate a review of the feasibility of changes to this corridor, in the immediate term, to review opportunities and constraints (e.g. the road right-of-way width).
- Enhanced bus service on Rutherford Road, connecting to the Rutherford GO Station, particularly during weekday peak periods.
- Reconfiguration of YRT local bus routes to provide more convenient access to the YRT bus terminal at Vaughan Mills, via Bass Pro Mills Drive, once it is extended to connect Weston Road to Jane Street.
- YRT and the City should work together to develop and implement programs and incentives to promote greater use of transit as the network evolves, through community engagement.
- The City should work through the existing Transportation Management Association to reinforce the need to create change in modal split behavior, within the business community, and to develop programs to manage demand in terms of the amount and time of travel. Businesses need to understand that there are limits to accessibility under the current regime of highly auto-dependent behaviour, and if accessibility is limited, so are the profits and operational efficiency that businesses depend on.



DRAFT

Figure E1
Recommended Improvements
Horizon 2021

- The City and YRT should work with the Vaughan Mills Mall owner to create an organized Passenger Pick-up and Drop-off (PPUDO) area adjacent to the transit terminal. This will facilitate travellers exiting from Highway 400 and area roadways who wish to access transit.
- The PPUDO should also include space for car-share and bike rental systems. The City should work with car share operators to introduce car-sharing here (and elsewhere in the City), to facilitate greater use of transit for travellers coming to the broader Vaughan Mills area.
- The City should implement a phased program of reductions to parking standards for residential and office developments as the enhanced transit infrastructure is introduced, within 500 metres walking distance of any rapid transit corridor. These should include consideration of maximum parking standards, and shared parking. A requirement for carpooling spaces for office developments should also be introduced (preferred parking for vehicles with 2 or more registered occupants); preferred parking for hybrid and electric vehicles should also be included. The City should also work with developers to plan for an integrated technology system to advise drivers of where parking is available within the district.

Recommended road network improvements in horizon 2021 are summarized in **Table E1** below:

Table E1
Horizon 2021 Recommended Road Network Improvements

LOCATION	RECOMMENDED IMPROVEMENTS
Rutherford Road at Weston Road	NB Dual Left-Turn Lanes <i>(Dependent on the effects of the proposed improvement on Major Mackenzie Drive at Highway 27; conditions should be monitored prior to introducing this improvement)</i>
Bass Pro Mills Drive	Extension of Bass Pro Mills Drive Between Weston Road and Jane Street
Jane Street at East Access Road A	Full-Moves Signalized Access *
Bass Pro Mills Drive at Weston Road	Install New Traffic Signals
Bass Pro Mills Drive at Hwy 400 NB Off-Ramp	Additional Exclusive SB Right-Turn Lane
Vellore Woods Boulevard	Plan for 4-lane cross-section south of Rutherford Road
Creditview Road	Plan for 4-lane cross-section north of Bass Pro Mills Drive
Rutherford Road at Vellore Woods Boulevard	Exclusive NB Right-Turn Lane

* Subject to warrant analysis

The extension of Bass Pro Mills Drive to connect Weston Road and Jane Street is very important and beneficial for developments on both the east and west sides of Highway 400, because of its expected role in off-loading demand from Rutherford Road, as well as Weston Road and Jane Street, south of Rutherford Road. With only a partial completion of this extension (connection Jane Street only), the development threshold for the Secondary Plan areas east of Highway 400 is expected to be limited to 70% by 2021. Although this represents the same level of development as the Jane Street corridor planned for the same horizon period, but further development of the area may be affected by the limited network capacity and connectivity. Assuming that the full extension from Weston Road to Jane Street is in place within the same horizon year, an ultimate threshold of approximately 80% of the development could be accommodated in the areas east of Highway 400 by 2021 as a result of the improved connectivity and capacity of the road network. In addition, the congestion along Rutherford Road will continue to represent a considerable constraint to new development, especially for the area west of Highway 400. As a result, the full extension of Bass Pro Mills Drive between Weston Road and Jane Street will be needed to support the development progression of the Secondary Plan and will also highly benefit the area's road network with an additional connection and increased network capacity across Highway 400.

The Vaughan Mills Centre Secondary Plan can effectively manage the area's future transportation demands and patterns through the following initiatives:

- Establish a strong internal grid network to enhance traffic connectivity across the site;
- Integrate comprehensive pedestrian and cycling route facilities within the site road network to promote greater active transportation activities within Vaughan Mills Centre, across Highway 400 and beyond the boundary network;
- Enhance transit service within the site and its connectivity with the established and planned regional transit network to promote greater transit use and reduce auto dependence in the area. Higher-order rapid transit on Jane Street (Viva Quick Start in 2021 and potentially LRT by 2031, with connection to the Vaughan Mills Terminal) and priority transit on Rutherford Road (potentially Viva/BRT) and Weston Road are key to accommodating this development. The Region should begin planning for these improvements now, in terms of an environmental assessment for a transit or HOV-based widening;
- Implement transportation demand management strategies within the Vaughan Mills Centre area to discourage heavy car uses and encourage developing less auto-dependent travel behaviours; and
- Promote self-contained neighbourhood living/working and recreation within the Vaughan Mills Centre area to encourage greater internal activities to help reduce traffic demands on the area's road network.

For accommodation of further development to horizon 2031, the following improvements are required, in addition to those cited for 2021:

- Higher-order transit service on Jane Street, in the form of BRT or LRT, with its dedicated right-of-way connecting the Spadina Subway extension at Vaughan Metropolitan Centre on Highway 7 to Vaughan

Mills Centre and up to Canada's Wonderland and the future Mackenzie Vaughan Hospital on Major Mackenzie Drive;

- Consider further enhancing priority transit service on Rutherford Road to Viva service;
- Pedestrian and cyclist bridge crossing over Highway 400 midblock between Bass Pro Mills Drive and Rutherford Road to provide additional non-auto connection within the Secondary Plan; and
- The City of Vaughan, working with the Region, YRT, and the area's businesses, residents and developers, should continue to promote sustainable transportation (transit, walking, cycling) and other transportation demand management programs and measures to encourage a greater shift in travel mode patterns and decrease the reliance on single-occupant vehicles.

The recommended transportation network improvements throughout the various horizon years of the Vaughan Mills Centre Secondary Plan development are summarized in **Table E2**.

Table E2
Recommended Transportation Network Improvements

HORIZON	DEVELOPMENT LEVEL		RECOMMENDED NETWORK IMPROVEMENTS TO ACCOMMODATE THE PROPOSED DEVELOPMENT LEVEL AT THE STATED HORIZON
Horizon 2021	<i>Includes all of the Jane Street Corridor Area as shown in Schedule A of the Vaughan Mills Centre Secondary Plan</i> (70% of all proposed development east of Highway 400) [#] <i>Within the Vaughan Mills Business District as shown in Schedule A of the Vaughan Mills Centre Secondary Plan</i> (40% of all development west of Highway 400) *	• Up to 3,371 residential units • Up to 16,304 m² retail uses • Up to 46,079 m² of office • Up to 101,600 m² of prestige employment uses • Up to 39,494 m² of office uses • Up to 30,715 m² of neighbourhood and medium format retail uses • Up to 14,520 m² of other uses including hotel, entertainment, and cultural uses	Road Network Improvements: (Jane Street Corridor Area) • Completion of Bass Pro Mills Drive extension to Jane Street. • Complete Caldari Road extension to Rutherford Road. • Implement a full-moves signalized access on Jane Street midblock between Riverrock Gate and Bass Pro Mills Drive. • Provide an additional right-turn lane on southbound Fisherman’s Way at Bass Pro Mills Drive. Road Network Improvements: (Vaughan Mills Centre Business District Area) • Northbound dual left-turn lanes on Weston Road at Rutherford Road (dependent on effects of the improvements on Major Mackenzie Drive at Highway 27). • Implement the internal road network as show in the Vaughan Mills Centre Secondary Plan, Schedule F. • Plan for a four-lane cross-section for Vellore Woods Boulevard south of Rutherford Road, and for Creditview Road north of Bass Pro Mills Drive. • Provide an additional right-turn lane on northbound Vellore Woods Boulevard at Rutherford Road. Other Transportation Improvements: • Implement a strong internal grid network as outlined in the Secondary Plan to enhance traffic connectivity across the site. • Viva Quick Start rapid bus service on Jane Street, from Rutherford Road to the planned Spadina Subway extension station at Highway 7. • Transit signal priority and queue jump lanes on Jane Street, Weston Road and Rutherford Road. • Enhancement of YRT bus service on Rutherford Road and to the YRT Vaughan Mills bus terminal. • Proactive and aggressive programs and initiatives to reinforce the need to create change in modal split behavior, to promote greater use of transit, to attract more riders and to achieve the assumed modal split. • Create an organized Passenger Pick-up and Drop-off (PPUDO) area adjacent to the Vaughan Mills transit terminal. • Collaborate with car share operators to introduce car-sharing.

HORIZON	DEVELOPMENT LEVEL		RECOMMENDED NETWORK IMPROVEMENTS TO ACCOMMODATE THE PROPOSED DEVELOPMENT LEVEL AT THE STATED HORIZON
			• Revise parking standards for developments to discourage single-occupancy vehicle use. • Consider use of shared parking, and preferred parking for hybrid and electric vehicles. • Implement intelligent parking information systems across the Vaughan Mills Centre area parking lots for more effective distribution of parking demands. • Implement transportation demand management strategies within the Vaughan Mills Centre area to discourage heavy car uses and encourage developing less auto-dependent travel behaviours. • Integrate comprehensive pedestrian and cycling route facilities and network to promote active transportation. • Promote self-contained neighbourhood living/working and recreation within the Vaughan Mills Centre area to help reduce traffic demands on the area's road network.
Full Build-Out (Horizon 2031)	<i>Includes development within the Rutherford Road Area, and the Bass Pro Mills Area, as shown in Schedule A of the Vaughan Mills Centre Secondary Plan.</i> <i>Includes the remainder of development within the Vaughan Mills Business District as shown in Schedule A of the Vaughan Mills Centre Secondary Plan *</i>	• Up to 932 residential units • Up to 55,931 m² retail and other uses • Up to 31,500 m² of office • Up to 152,400 m² of prestige employment uses • Up to 59,241 m² of office uses • Up to 46,072 m² of neighbourhood and medium format retail uses • Up to 21,781 m² of other uses including hotel, entertainment, and cultural uses	Road Network Improvements: (West of Highway 400) • Completion of Bass Pro Mills Drive extension to Weston Road. • Install traffic signals at the intersection of Bass Pro Mills Drive at Weston Road. Other Transportation Improvements: • Higher-order transit service on Jane Street, in the form of BRT or LRT, with its dedicated right-of-way connecting the Spadina Subway extension to Vaughan Mills Centre and up to Canada's Wonderland and the future Mackenzie Vaughan Hospital on Major Mackenzie Drive. • Enhancing priority transit service on Rutherford Road to Viva service; • Pedestrian and cyclist bridge crossing over Highway 400 midblock between Bass Pro Mills Drive and Rutherford Road to provide additional non-auto connection within the Secondary Plan. • Continue to promote sustainable transportation (transit, walking, cycling) and other transportation demand management programs and measures to encourage a greater shift in travel mode patterns to achieve the assumed modal split.

[#] Up to 80% of the proposed development east of Highway 400 could be accommodated if the full extension of Bass Pro Mills Drive to Weston Road is also completed by 2021.

* Development thresholds and transportation improvements will be determined through the Block Plan process as identified in Part C, Section 7.4.3 of the Secondary Plan for lands located in the Vaughan Business District Area (west of Highway 400). The Block Plan application will address the matters set out in Policies 10.1.1.15 of VOP 2010 and shall constitute a complete application to the satisfaction of the City of Vaughan.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	ES-1
1.0 INTRODUCTION	1
2.0 EXISTING TRANSPORTATION CONDITIONS	1
3.0 PROPOSED VAUGHAN MILLS CENTRE SECONDARY PLAN	8
3.1 Description of Proposed Secondary Plan.....	8
3.2 Proposed Secondary Plan Transportation Network.....	8
3.3 Trip Generation	11
3.4 Trip Distribution and Assignment.....	15
4.0 HORIZON 2021 TRANSPORTATION ASSESSMENT	17
4.1 Background Traffic Projections	17
4.2 Transportation System Improvements.....	17
4.3 Background Traffic Conditions.....	19
4.3.1 Network Capacity Analysis	21
4.3.2 Intersection Capacity Analysis	23
4.4 Total Traffic Conditions.....	27
4.4.1 Network Capacity Analysis	30
4.4.2 Intersection Capacity Analysis	31
4.5 Transportation System Improvements and Accommodation of Development.....	34
4.5.1 Transit System Improvements.....	35
4.5.2 Pedestrian and Cycling System Improvements.....	36
4.5.3 Road Network Improvements.....	37
4.5.4 Transportation Demand Management Initiatives	37
4.6 Alternative Scenario: No Bass Pro Mills Drive Connection to Weston Road.....	38
4.6.1 Methodology.....	39
4.6.2 Assessment Results	39
5.0 HORIZON 2031 TRANSPORTATION ASSESSMENT	43
5.1 Background Traffic Projections	43
5.2 Transportation System Improvements.....	43
5.2.1 Transit System Improvements.....	43
5.2.2 Pedestrian and Cycling System Improvements.....	44
5.2.3 Road Network Improvements.....	44
5.3 Total Traffic Conditions.....	44

5.3.1 Network Capacity Analysis	44
5.4 Transportation System Improvements and Accommodation of Development.....	47
6.0 INTERNAL ROAD NETWORK CONSIDERATIONS	48
7.0 CONCLUSIONS AND RECOMMENDATIONS	49
7.1 Conclusions.....	49
7.2 Recommendations.....	49

APPENDICES

APPENDIX A: Intersection Capacity Analysis – Existing Conditions

APPENDIX B: Screenline Analysis – 2021 Background Conditions

APPENDIX C: Intersection Capacity Analysis – 2021 Background Conditions

APPENDIX D: Screenline Analysis – 2021 Total Conditions

APPENDIX E: Intersection Capacity Analysis – 2021 Total Conditions

APPENDIX F: Screenline Analysis – 2031 Total Conditions

List of Tables

	<u>Page</u>
Table E1: Horizon 2021 Recommended Road Network Improvements.....	ES-4
Table E2: Recommended Transportation Network Improvements.....	ES-7
Table 2.1: Intersection Capacity Analysis – Existing Traffic Conditions.....	5
Table 3.1: Development Breakdown (Full Build-Out).....	11
Table 3.2: ITE Trip Generation Rates, Splits and Trips (Horizon 2031 – Full Build-Out).....	13
Table 3.3: TTS Trip Distribution.....	15
Table 4.1: Screenline Analysis – Horizon 2021 Background Traffic Conditions.....	21
Table 4.2: Intersection Capacity Analysis – Horizon 2021 Background Traffic Conditions.....	25
Table 4.3: Recommended Road Improvements – Horizon 2021 Background Traffic Conditions.....	26
Table 4.4: Horizon 2021 Phasing Net Site-Generated Trips.....	30
Table 4.5: Screenline Analysis – Horizon 2021 Total Traffic Conditions.....	30
Table 4.6: Intersection Capacity Analysis – Horizon 2021 Total Traffic Conditions.....	33
Table 4.7: Recommended Road Improvements – Horizon 2021 Total Traffic Conditions.....	37
Table 5.1: Screenline Analysis – Horizon 2031 Total Traffic Conditions.....	46

List of Figures

	<u>Page</u>
Figure E1: Recommended Improvements – Horizon 2021.....	ES-3
Figure 2.1: Existing Traffic Conditions.....	3
Figure 2.2: Existing Lane Configurations.....	4
Figure 3.1: Vaughan Mills Centre Secondary Plan.....	9
Figure 3.2: 2021 Site Traffic Conditions.....	16
Figure 4.1: 2021 Background Traffic Conditions.....	20
Figure 4.2: Screenline Locations – Future Conditions.....	22
Figure 4.3: 2021 Background Lane Configurations.....	24
Figure 4.4: Assumed Development Threshold for Horizon 2021.....	28
Figure 4.5: 2021 Total Traffic Conditions.....	29
Figure 4.6: 2021 Total Lane Configurations.....	32
Figure 4.7: Alternative Scenario: Traffic Volume Differences – 2021 Total Traffic Conditions.....	40
Figure 5.1: 2031 Total Traffic Conditions.....	45

1.0 INTRODUCTION

This report documents the transportation analysis undertaken by MMM Group as part of the development of the Vaughan Mills Centre Secondary Plan, for the City of Vaughan, as a sub-consultant to DIALOG. This study analyzes existing transportation conditions and future transportation conditions under the proposed Secondary Plan development concept, for the boundary road network surrounding the Vaughan Mills Centre area and the proposed key site access points to the network. It addresses the major changes that are expected to be required to accommodate the vision of the Secondary Plan – a more vibrant, mixed-use, multimodal area, with a greater degree of containment of trip-making.

The analysis focuses on a primary study area extending from Rutherford Road in the north to Bass Pro Mills Drive in the south, and from Weston Road on the west to Jane Street on the east. Connections beyond these limits have been considered, as it is recognized that flexibility and opportunities for alternative routings are important principles in creating a transportation network that can accommodate the proposed Secondary Plan development, and the ebb and flow of traffic through and around this area.

The methodology used in this assessment, including the intersections analyzed, has been reviewed with the City of Vaughan and the Regional Municipality of York.

2.0 EXISTING TRANSPORTATION CONDITIONS

Trip-making to, from and within the Secondary Plan area is at present highly dependent on private vehicles. The current modal split for trips to this area is approximately 90% for auto users (drivers + passengers) (based on the 2006 Transportation Tomorrow Survey).

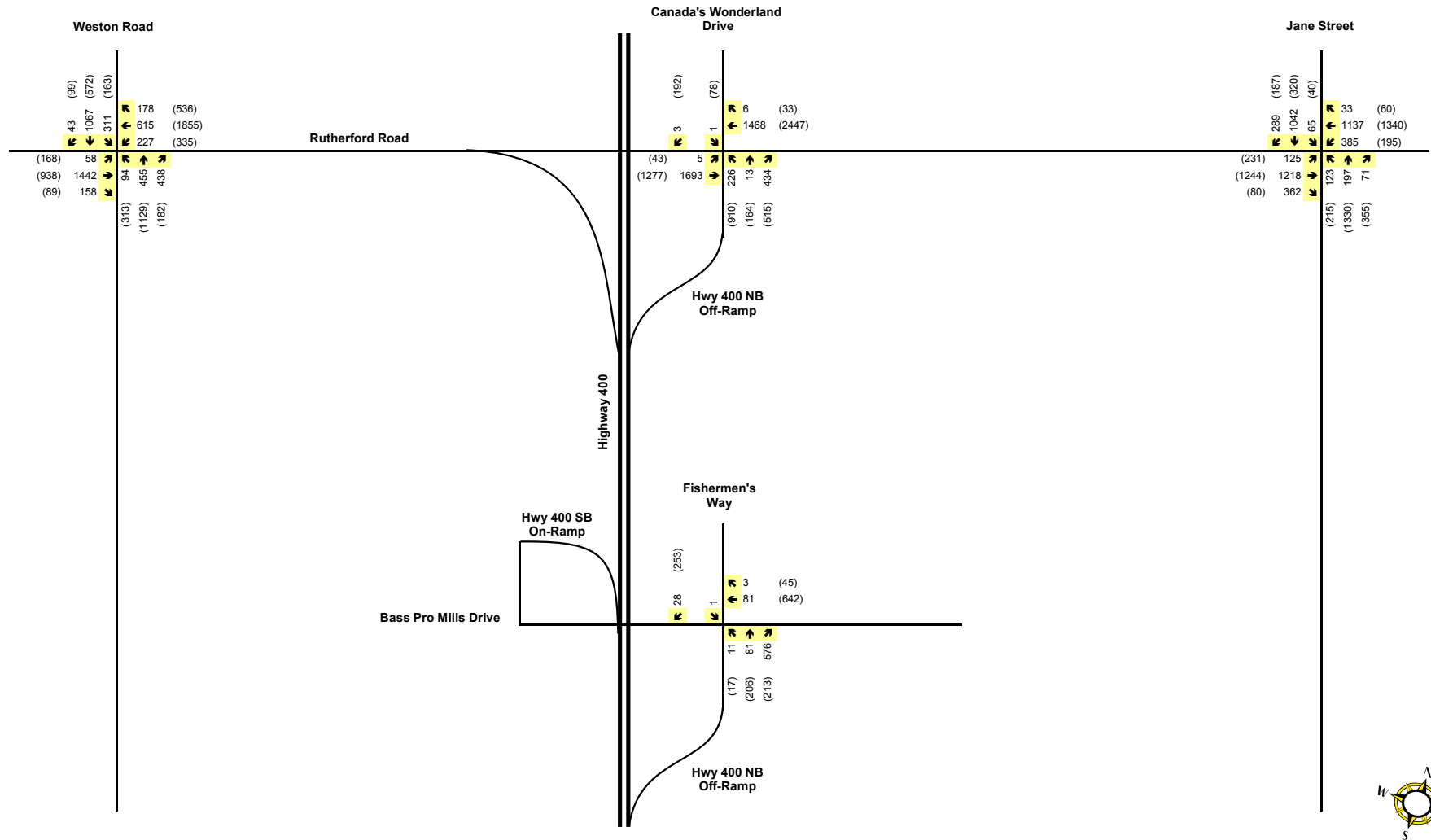
The existing York Region Transit network in this area consists of regular bus service on Jane Street, Rutherford Road and Weston Road, at 15 to 20-minute peak period frequencies. Service is focused on the transit terminal on the east side of Vaughan Mills Mall, with access via Jane Street and Rutherford Road. There is also GO Train service during the peak periods at the Rutherford GO Station, located on Rutherford Road, approximately three kilometres east of the Secondary Plan area. In addition, regular GO Bus service is available on Highway 400 to the carpool facility at Major Mackenzie Drive and Canada's Wonderland. In addition, the TTC Spadina Subway Extension, which is currently under construction and planned to be operational by 2016, will terminate at Vaughan Metropolitan Centre, located on Highway 7 at Millway Avenue, just west of Jane Street. This planned subway terminus is approximately 3.5 kilometres south of Vaughan Mills Shopping Mall. Thus there is a viable physical basis for an enhanced role for transit in place / under construction, in servicing the transportation needs of the Vaughan Mills Centre Secondary Plan area.

The pedestrian network is generally complete on the arterial road network. There are no dedicated cycling lanes on the area roads. Highway 400 represents a significant impediment to pedestrian and

cycling movement between the Secondary Plan areas east and west of the Highway (as well as other more distant areas). Currently, the only crossing point of Highway 400 is via Rutherford Road. The presence of the entry and exit ramps for the highway creates discontinuities in the pedestrian and cycling networks, as well as potential safety concerns, given the high speed and uncontrolled nature of the ramps.

Traffic operations were analyzed at key study area intersections to determine the existing Levels of Service (LOS), as an indicator of the residual capacity in the network and to determine which are the constraint points in the network. There were instances where the volume-to-capacity (v/c) ratios reported by Synchro exceeded the theoretical intersection capacity under existing conditions. This implies that more traffic may have travelled through the intersection than is considered physically feasible. A calibration process (consisting of adjusting parameters) has been completed to account for this issue within Synchro. Most of the adjustments were conducted on the lane utilization factors and lost time adjustments. Please refer to the detailed capacity analyses included in the appendices for details. Please also note that these adjustments were carried through to the future background and total future analyses in order to provide a relevant benchmark for measuring the traffic impacts.

Traffic operations were analyzed for the key intersections in the study area to determine the existing level of service (LOS) of the boundary road network during the weekday a.m. and p.m. peak hours. The existing traffic volumes have been illustrated in **Figure 2.1**. The existing lane configurations are illustrated in **Figure 2.2**. The results of the intersection capacity analysis for existing conditions are summarized in **Table 2.1**. Details of the analysis are included in **Appendix A**.



Not to Scale

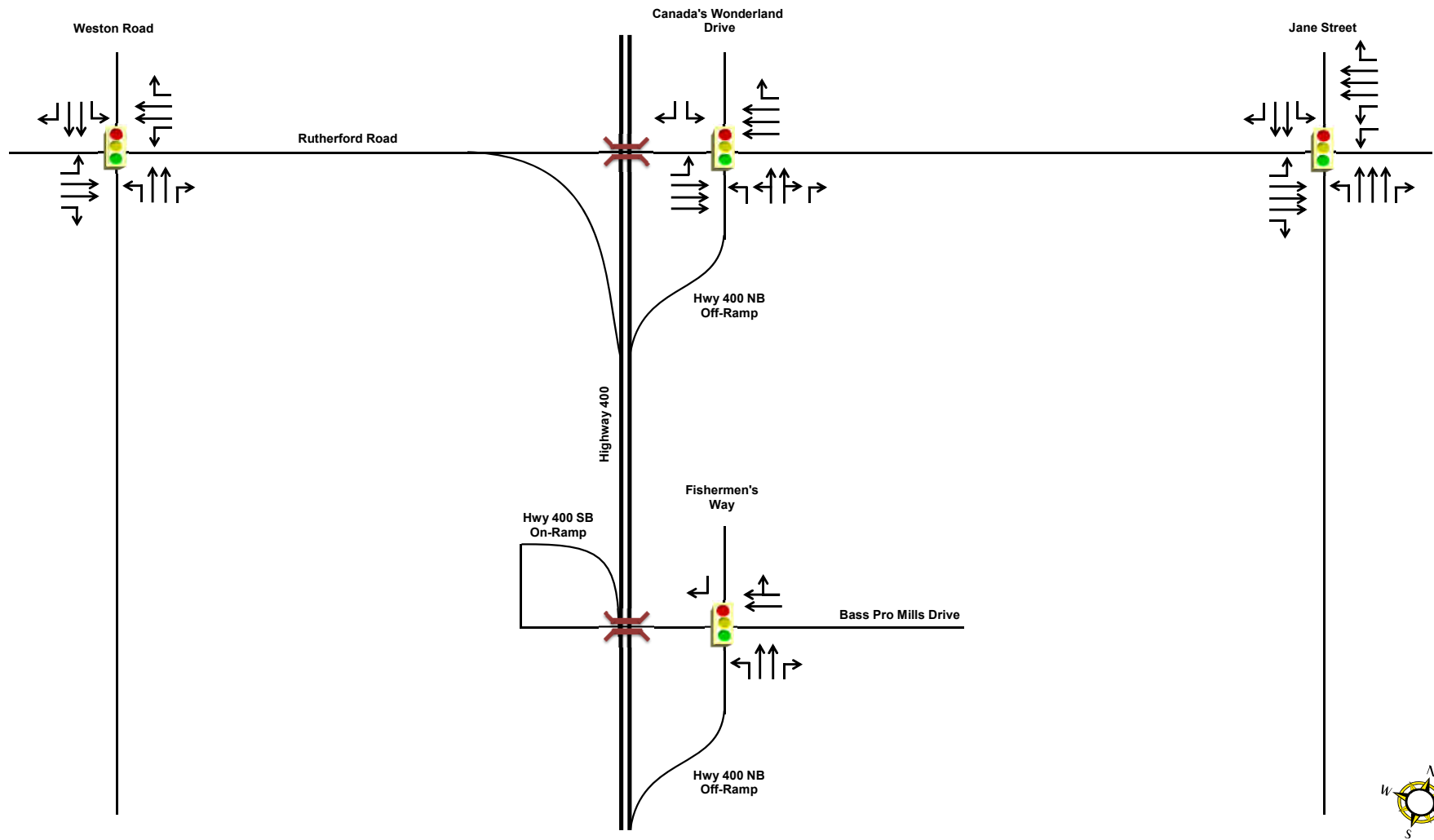


DRAFT

LEGEND

XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes

Figure 2.1
Existing Traffic Conditions



DRAFT

LEGEND



Stop-Controlled Intersection



Signalized Intersection



Bridge

Figure 2.2
Existing Lane Configurations

Table 2.1
Intersection Capacity Analysis
Existing Traffic Conditions

Intersections	Control Type	A.M Peak Hour		P.M Peak Hour	
		LOS (Delay in Seconds)	Critical Movements (v/c ratio) ¹	LOS (Delay in Seconds)	Critical Movements (v/c ratio) ¹
Rutherford Road at Weston Road	Signalized	D (54)	EB-T (0.99) WB-L (1.09) SB-L (0.90) SB-T (1.02)	E (78)	EB-L (0.99) WB-L (0.95) WB-T (1.11) NB-L (1.21) NB-T (1.14) SB-L (1.00)
Rutherford Road at Hwy 400 NB Off-Ramp	Signalized	B (15)	--	D (52)	WB-T (0.99) NB-L (1.03) NB-T (1.01) SB-R (0.91)
Rutherford Road at Jane Street	Signalized	D (45)	--	D (38)	--
Bass Pro Mills Drive at Hwy 400 NB Off-Ramp	Signalized	A (5)	--	B (16)	--

Note: 1. Critical movements are those with a volume-to-capacity ratio exceeding 0.90 for a signalized intersection.

Based on the results of the analysis, there is some residual capacity left in the network for certain movements. However, it was observed that the major intersections along Rutherford Road are the key constraint points. In general, conditions during the p.m. peak hour were observed to be less favourable, with higher delays and more capacity issues for traffic movements at most intersections.

In particular, the intersections of Rutherford Road/Weston Road and Rutherford Road/Hwy 400 NB Off-Ramp were observed to operate at the poorest conditions, with a number of movements operating near or above capacity during both peak hours.

To accommodate more development in the area, greater flexibility in routing options needs to be provided to lessen the reliance on Rutherford Road and provide relief to critical movements. Rutherford Road is performing numerous functions, which appear to be in conflict with one another, given the lack of alternate routes around the Secondary Plan area. Rutherford Road is a key east/west arterial road in the City of Vaughan and across the Region of York, serving high commuter and trucking volumes. It also provides access to and from Highway 400 for the immediate surrounding community and businesses, as well as commuting traffic from along the Rutherford Road corridor. It must also serve east/west transit, pedestrian and cycling demands, as well as local traffic movements between the communities east and west of Highway 400.

Based on the analysis of existing conditions, the network improvements which should be implemented in the next five years to provide network routing options and additional capacity include:

- The extension of Bass Pro Mills Drive as a continuous link from Jane Street to Weston Road, with signalized intersections at each end. This would provide a through connection as an alternative to Rutherford Road, with an estimated capacity of 600 vehicles per lane, per direction. This will divert some traffic from Rutherford Road;
- Together with the extension of Bass Pro Mills Drive, the ramp from this road to Highway 400 southbound should be enhanced to allow access from the west to the south via Bass Pro Mills Drive. This will also decrease the demands on Rutherford Road;
- Introduction of additional York Region Transit Service on the extended Bass Pro Mills Drive linking Weston Road and Jane Street; and
- Creation of a new access road from the Vaughan Mills area, with a full-moves signalized intersection onto Jane Street directly in line with the Graniteridge Road alignment, in concert with development applications. This will provide additional capacity in and out of the Secondary Plan area to alleviate current and projected future traffic conditions. In addition, **if Graniteridge is extended to Jane in the future**, it will form a new east/west connection across Jane Street to the east.

Further road improvements would be subject to lengthier approvals, design and funding processes, as well as development application processes. These are addressed for the longer-term horizons.

A suggestion proposed at the public forum on the Secondary Plan was for a new ramp from Bass Pro Mills Drive to Highway 400 northbound. While this would also remove some traffic from Rutherford Road in the short term period, in the longer term it would likely encourage more long-distance trip-making by car. It is recommended that instead of highway-oriented improvements linking to even more remote communities, that the City of Vaughan and the Region focus on improved transit, walking, cycling and road connections to existing surrounding and adjacent urban areas which offer the potential for greater multi-modalism. It is also our understanding that the Ministry of Transportation has reviewed the idea of a northbound ramp connection from Bass Pro Mills Drive at a conceptual level, and does not believe that it is feasible because of its proximity to the existing interchange at Rutherford Road.

The results indicate that in addition to planning for additional local road network improvements (which are likely limited), future development needs to be more balanced in terms of transportation modes, and that existing residents, workers and visitors will also need to adjust their travel mode and/or behaviours. There is little remaining reserve capacity in the system at peak times. During the summer, Canada's Wonderland also adds to the road demands. In addition, the proposed hospital on Major Mackenzie Drive (north of Canada's Wonderland) will further increase traffic demands year-round. The York Region Transit plans for Transit Priority on Rutherford Road and Light Rail Transit on Jane Street (and

also greater penetration of transit through this area), together with enhancement of the pedestrian and cycling infrastructure throughout the Secondary Plan Area, will be key facilitators for the proposed Secondary Plan development.

3.0 PROPOSED VAUGHAN MILLS CENTRE SECONDARY PLAN

3.1 Description of Proposed Secondary Plan

This analysis evaluates the expected transportation impacts of the Vaughan Mills Centre Secondary Plan Area under the proposed development plan. The proposed development will consist mainly of the redevelopment of the lands surrounding the existing Vaughan Mills Mall east of Highway 400 and the vacant lands west of Highway 400. Over 100 hectares of new development will be created, while the existing Vaughan Mills Mall continues to operate. The proposed new developments will include residential and mixed-use commercial uses in the areas east of Highway 400, and employment and mixed-use commercial uses in the areas west of Highway 400.

For purposes of this analysis, it was assumed that the development plan for the Vaughan Mills Centre Secondary Plan Area will be completed by horizon year 2031.

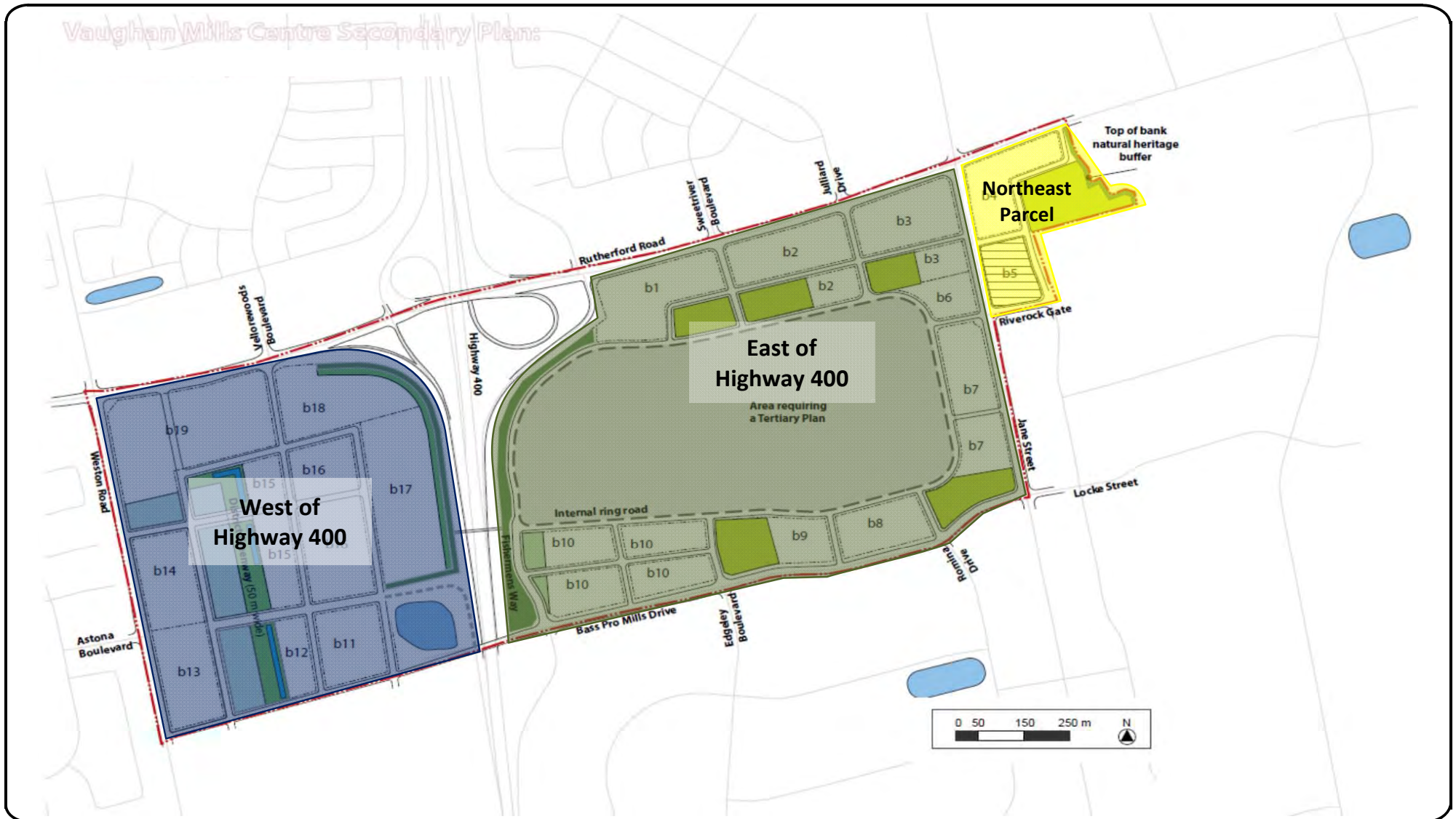
3.2 Proposed Secondary Plan Transportation Network

As illustrated in the development concept plan shown in **Figure 3.1**, the Vaughan Mills Centre Secondary Plan Area is proposed to have access on all four surrounding boundary roads. The existing access roads of Vaughan Mills Mall will continue to provide access to the site east of Highway 400. Two additional accesses onto Jane Street north of Locke Street and a new access to Bass Pro Mills Drive via the Romina Drive extension are also proposed to be included in the network. The planned connection of Bass Pro Mills Drive to Jane Street (at the Locke Street intersection) will also provide an additional indirect access route to and from Jane Street.

For the additional parcel located in the southeast corner of the intersection of Jane Street at Rutherford Road, a new road connection is planned along the eastern limit of the development blocks. This new road, an extension to Caldari Road north of Riverrock Gate, will provide access to Riverrock Gate in the south and to Rutherford Road in the north, just west of the limit of the existing natural heritage feature. It should be noted that the final intersection configuration and type of traffic control at the Rutherford Road intersection are subject to review and approval by the Region.

West of Highway 400, the Secondary Plan Area will have two accesses onto Rutherford Road (via Vellore Woods Boulevard and the right-in/right-out access adjacent east of 3711 Rutherford Road), three connections to the south and two access points onto Weston Road, including the planned completion of Bass Pro Mills Drive to Weston Road.

It is expected that the locations of all proposed new access points will satisfy the Region's minimum spacing requirement of at least 215 metres, based on York Region's Access Guidelines for Regional Roads (for signalized intersections along Regional Roads).



Based on the proposed road network in the concept plan, it is expected that infiltration of the Secondary Plan traffic into the surrounding communities would be minimized due to a lack of direct through connections from the site. In particular, the potential for Secondary Plan area traffic infiltration into the Weston Downs community west of Weston Road is expected to be minimized, considering that no direct connection is being proposed between the two areas (i.e. no through connection at Astona Boulevard). Most routings to access the Weston Downs neighbourhood from the Vaughan Mills Centre area would appear relatively circuitous with no apparent time or distances savings compared to the arterial roads for vehicular traffic, and would therefore not be attractive for through traffic.

With the implementation of these planned new accesses and connections to the Secondary Plan, it is expected that this will provide new opportunities for greater penetration of the area by transit and other non-auto modes of transportation including walking and cycling. The Secondary Plan will define and promote enhanced connections for pedestrian and cycling access, and the finer street network will also promote more effective and accessible transit service in the area. As a result, it is expected that usage of these non-auto modes of transportation will become more attractive alternatives to auto trips for travels to and from the Secondary Plan area.

While they are expected to remain a minor share of travel, it is projected that walking and cycling will experience a considerable increase from current levels (less than 1%), due to intensification of the area, introduction of mixed-use developments and creation of a finer network of accesses to and from the Secondary Plan area. It has been assumed that the future share of walking and cycling modes will reach about 5%, which is similar to the existing City-wide peak period split of 6%, and in line with the City's vision of encouraging continued growth in active transportation mode share.

In terms of transit usage, it is expected that the enhanced access points to the Secondary Plan will facilitate a greater number of transit trips, by providing opportunities for users to access the site on foot from various locations along the boundary roads, as well as connecting points within the Secondary Plan. Provision of more access points will also facilitate greater transit use for people travelling to this area – they can travel to the Transit Terminal and walk to the surrounding areas. The proposed intensification and mixed-use developments are also expected to support the introduction of priority transit services proposed by the Region on the surrounding Regional Road corridors. In addition, given the congested conditions of the existing area road network, a significant increase in transit usage would be needed to support further growth in the Vaughan Mills Centre Secondary Plan area. It is expected that the development of the Secondary Plan will also support transit improvements surrounding the Secondary Plan area; this change is essential in working towards the Region's ultimate target of 40% transit modal split for Centres and Corridors by 2031.

It is also expected that pro-active programming efforts will be needed to shift people out of their cars in this area, given the form of development to date in the Vaughan Mills area. These initiatives should include:

- a. The City of Vaughan should work with York Region Transit (YRT) to monitor transit ridership in this area twice yearly to ensure adequate transit service for the demands, and to provide the basis for further TDM program initiatives.
- b. YRT should be proactive in terms of reviewing and expanding service frequencies to address ridership needs and to attract more riders, again on a twice-yearly basis.
- c. YRT and the City should work together to implement programs and incentives that promote greater use of transit as the network evolves, through community engagement, such as information sessions or public campaigns, to get the community to learn and familiarize itself more about transit services.
- d. The City should work through the existing Transportation Management Association to reinforce the need to create change in modal split behavior, within the business community, and to develop and implement travel demand management initiatives. Businesses need to understand that there are limits to accessibility under the current regime of highly auto-dependent behaviour, and if accessibility is limited, so are profits and operational efficiency.

3.3 Trip Generation

The breakdown of the proposed development plan for each area of the Vaughan Mills Centre Secondary Plan is summarized in **Table 3.1**.

Table 3.1
Development Breakdown (Full Build-Out)

Area	Developments
East of Highway 400	• 3,151 Residential Units • 53,000 m² GFA Office Use • 67,990 m² GFA Retail Use
Northeast Parcel (East of Jane Street)	• 1,152 Residential Units • 16,500 m² GFA Office Use • 4,245 m² GFA Retail Use
West of Highway 400	• 98,735 m² Office Use • 76,788 m² GFA Retail Use • 254,000 m² GFA Prestige Employment • 36,302 m² Other Employment

The trip generation rates associated with the proposed development have been based on information provided in the Institute of Transportation Engineers' (ITE) Trip Generation (9th Edition). The trip generation rates, inbound/outbound splits and total trips for each land use within the development plan at full build-out (horizon 2031) are detailed in **Table 3.2**. The following reduction factors were considered in the trip generation calculations to account for the various travel patterns and behaviours

that would result in a reduction in the net volume of site-generated traffic that is being introduced into the road network.

Non-Auto Modal Split: Based on a comparison of a number of similar existing mixed-use development nodes in York Region, Mississauga and Toronto using modal split data from the 2006 Transportation Tomorrow Survey (TTS), it was determined that on average, non-auto travel modes account for approximately 18% of trips in and out of such development nodes. The comparison areas include Richmond Hill Centre (Yonge Street/Highway 7), Promenade Mall, North York Centre, Scarborough Town Centre and Mississauga City Centre (Square One). However, in light of the objective of the Vaughan Mills Centre Secondary Plan to promote greater use of the transit, walking and cycling modes, and considering the already congested peak period conditions on the existing boundary road network, a higher modal split was therefore assumed for the site. It is expected that initial transit improvements, including transit priority measures on Rutherford Road and Weston Road, higher-order transit service on Jane Street (mixed-traffic Viva Quick Start service), and general frequency increases, will result in a transit modal split of 20% by 2021. In addition, a modal split of 5% is assumed for active transportation modes (walking, cycling) to reflect the development of pedestrian and cycling networks and a finer street network more conducive for pedestrian activity. This total non-auto mode split level (25%) is similar to levels that are observed for mixed-use development nodes in more established suburban settings, such as Scarborough Town Centre in the City of Toronto. While the Scarborough Town Centre is served by an LRT, the predominant transit mode to the area is bus service in mixed traffic.

By 2031, it is projected that increased local and regional transit services, more advanced transit developments (including dedicated higher-order Rapid Transit service on Jane Street), as well as the proactive implementation of various transportation demand management strategies, such as reduced parking standards (within 500 m walking distance of rapid transit), supplies, car-sharing, bike-sharing and transit incentives, would allow the area's transit mode share to increase to as much as 35%. This is similar to the 2031 City-wide transit mode share target identified in the Vaughan Transportation Master Plan. In addition, a modal split of 5% is assumed for active transportation modes (walking, cycling) to result in an overall non-auto modal split of 40%. This expected mode split level is similar to those that are observed in intensification developments in more urbanized settings such as North York Centre in the City of Toronto. It should be acknowledged that while urban densities similar to the North York Centre may be unlikely on a global basis throughout the Vaughan Mills Centre Secondary Plan Area, a number of transportation components can and should be viewed as effective practices for managing car usage and encouraging non-auto travels, such as high-order transit (connecting to the subway station at Highway 7), local (YRT) and regional (GO) transit access, finer connected street network (pedestrian mobility) and controlled parking supplies (pay parking, limited parking). It is expected that proactively adopting similar transportation improvements and travel demand management measures will allow the Secondary Plan area greater potential in achieving the desired mode split targets.

Internal Trip Capture: Given the diversity of the existing and proposed developments in the Secondary Plan Area, it is expected that a portion of the generated trips (for work and retail uses) will be made internally by residents within the future Secondary Plan Area. Internal interaction reductions were determined based on the methodology as outlined in the Highway Capacity Manual 2010 (HCM 2010) and ITE Trip Generation (9th Edition). Considering the relatively short distances of developments within the Vaughan Mills Centre area and the proposed internal transportation network, it is expected that many of these internal trips will be made via walking or cycling modes, further reducing the pressure on the surrounding road network.

Pass-By Trips: Pass-by trip reductions were also estimated in the p.m. peak hour for the retail developments to account for vehicles that detour from their original travel routes to make an intermediate stop at the retail sites. A pass-by trip reduction rate of 34% was employed based on the ITE Trip Generation (9th Edition).

Table 3.2
ITE Trip Generation Rates, Splits and Trips (Horizon 2031 – Full Build-Out)

Land Use (ITE Code)	Rate Variable	Units of Variable	Peak Hour	Rate	Alternative Mode Reduction	Internal Interaction Reduction In (Out)	Pass-By Reduction (Trips)	Split	Net Trips
								Inbound (Outbound)	Inbound (Outbound)
East of Highway 400									
Residential Condominium/ Townhouse (230)	Dwelling Units	3,151 Units	A.M.	0.44	25%	2% (3%)	--	17% (83%)	139 (670)
			P.M.	0.52	25%	6% (8%)	--	67% (33%)	620 (299)
Shopping Centre (820)	Per 1,000 ft² GFA	67,990 m² GFA (731,836 ft² GFA)	A.M.	0.96	25%	17% (30%)	--	62% (38%)	216 (112)
			P.M.	3.71	25%	3% (5%)	34%	48% (52%)	503 (549)
Office Park (750)	Per 1,000 ft² GFA	53,000 m² GFA (570,487 ft² GFA)	A.M.	1.71	25%	5% (28%)	--	89% (11%)	497 (46)
			P.M.	1.48	25%	16% (1%)	--	14% (86%)	60 (429)
Sub-total (East of Highway 400)									2,035 (2,105)

Land Use (ITE Code)	Rate Variable	Units of Variable	Peak Hour	Rate	Alternative Mode Reduction	Internal Interaction Reduction In (Out)	Pass-By Reduction (Trips)	Split	Net Trips
								Inbound (Outbound)	Inbound (Outbound)
Northeast Parcel (East of Jane Street)									
Residential Condominium/ Townhouse (230)	Dwelling Units	1,152 Units	A.M.	0.44	25%	2% (3%)	--	17% (83%)	51 (245)
			P.M.	0.52	25%	6% (8%)	--	67% (33%)	227 (109)
Shopping Centre (820)	Per 1,000 ft² GFA	4,245 m² GFA (45,695 ft² GFA)	A.M.	0.96	25%	17% (30%)	--	62% (38%)	14 (7)
			P.M.	3.71	25%	3% (5%)	34%	48% (52%)	31 (34)
Office Park (750)	Per 1,000 ft² GFA	16,500 m² GFA (177,605 ft² GFA)	A.M.	1.71	25%	5% (28%)	--	89% (11%)	155 (14)
			P.M.	1.48	25%	16% (1%)	--	14% (86%)	19 (134)
Sub-total (Northeast Parcel)									446 (298)
West of Highway 400									
Shopping Centre (820)	Per 1,000 ft² GFA	76,788 m² GFA (826,540 ft² GFA)	A.M.	0.96	25%	17% (30%)	--	62% (38%)	244 (126)
			P.M.	3.71	25%	3% (5%)	34%	48% (52%)	568 (620)
Office Park (750)	Per 1,000 ft² GFA	192,384 m² GFA (2,070,805 ft² GFA)	A.M.	1.71	25%	5% (28%)	--	89% (11%)	1,802 (168)
			P.M.	1.48	25%	16% (1%)	--	14% (86%)	217 (1,558)
Industrial Park (130)	Per 1,000 ft² GFA	196,653 m² GFA (2,116,756 ft² GFA)	A.M.	0.82	25%	-- (--)	--	82% (18%)	793 (174)
			P.M.	0.85	25%	-- (--)	--	21% (79%)	211 (792)
Sub-total (West of Highway 400)									3,835 (3,438)
TOTAL TRIPS (All Areas)									6,316 (5,841)

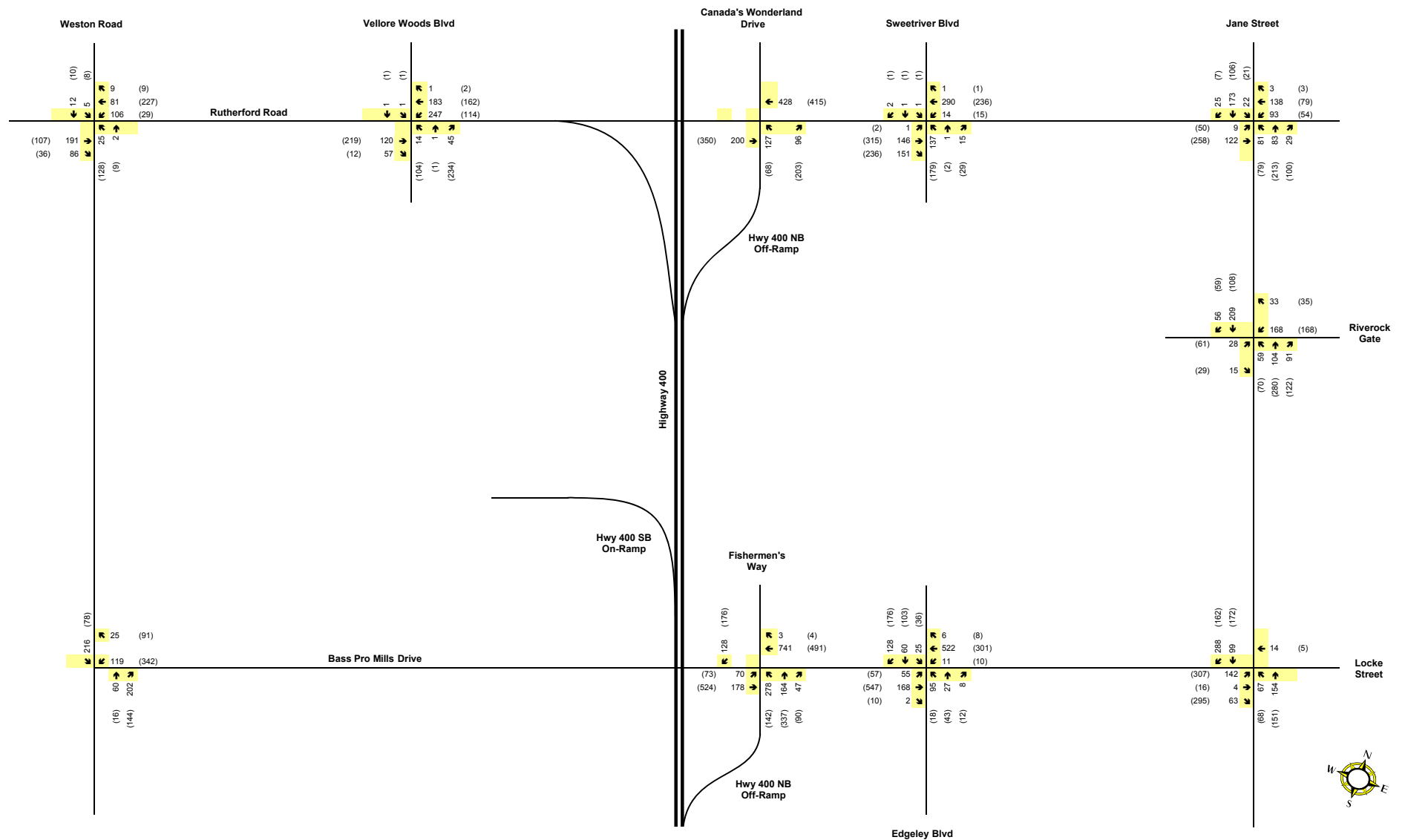
3.4 Trip Distribution and Assignment

The projected distribution for the trips generated by the proposed development was based on the 2006 TTS, a recognized source of information with respect to trip distribution. The trip distribution over the future horizon years was adjusted based on considerations relating to the local road network, specific land uses in the area, and the planned connections and improvements to the area road network. The TTS trip distribution is detailed in **Table 3.3**.

Table 3.3
TTS Trip Distribution

	Direction	A.M. Inbound	A.M. Outbound	P.M. Inbound	P.M. Outbound
External	North	10%	9%	10%	9%
	Northwest	1%	1%	1%	1%
	Northeast	25%	25%	25%	25%
	West	12%	11%	12%	11%
	Far West	2%	2%	2%	2%
	East	3%	4%	3%	4%
	South	39%	41%	39%	41%
	Southwest	8%	7%	8%	7%
Internal (Vaughan)	Northwest	1%	1%	1%	1%
	Northeast	15%	16%	15%	16%
	West	41%	41%	41%	41%
	East	20%	17%	20%	17%
	Southwest	20%	22%	20%	22%
	Southeast	3%	3%	3%	3%

The assignment of trips was based on the most logical path for vehicles in order to minimize travel time and distance, based on the proposed road network, access arrangement and type of intersection control. The site traffic assignment for horizon 2031 is shown in **Figure 3.2**.



4.0 HORIZON 2021 TRANSPORTATION ASSESSMENT

The horizon of 2021 was employed as an intermediate threshold at which the development of the Secondary Plan should be tested, given the planned evolution of the transportation system improvements.

4.1 Background Traffic Projections

Background traffic projections were developed for horizon 2021. For the purpose of this analysis, the future background traffic conditions were only based on annual growth of the existing traffic levels. There are no other developments surrounding the Secondary Plan area that are planned for development within the 2021 horizon; as a result, no other background developments in the area were included in the network.

An annual growth rate of one percent (1%) has been applied to project existing traffic volumes to 2021 conditions for the boundary road network. This growth rate was developed based on the City's traffic demand projections described in the Vaughan Transportation Master Plan, published in November 2012, which suggested an annual growth of approximately 2% up to 2031. However, it is believed that this growth rate is not sustainable over such a long period of time; 2 percent annual growth in traffic simply cannot be accommodated on the available road network in this area. (This simply reflects the difference in scale and focus between a transportation master plan and this analysis; it is not intended as a criticism of the TMP.) Given the level of development already in place in the area surrounding the Secondary Plan area and the existing traffic demand levels relative to capacity in the area, it was projected that a reduced rate of traffic growth would more accurately reflect the potential for traffic growth on the boundary road network within the timeframe. It is expected that a significant shift in modal split towards greater use of transit, walking and cycling would be needed to balance the limits in traffic growth potential, and to accommodate the planned developments.

4.2 Transportation System Improvements

According to the City of Vaughan 2012 Capital Projects listing, traffic signals are proposed to be installed at the intersection of Bass Pro Mills Drive/Edgeley Boulevard; therefore, this intersection is assumed to be signalized under horizon 2021 conditions. Only the new road connections proposed as part of the Secondary Plan were assumed in the network. This includes the completion of Bass Pro Mills Drive from Jane Street to Weston Road, which is expected to be particularly important for the boundary network since it will provide a key alternative to Rutherford Road for connecting both sides of Highway 400.

Need for Extension of Bass Pro Mills Drive

Considering the already congested conditions of the existing road network, it is expected that Rutherford Road alone will not be sufficient to handle the projected additional east/west traffic through the area and to/from the Secondary Plan area, especially at critical locations such as Weston Road and the Vaughan Mills Mall access points. In addition, the Secondary Plan developments west of Highway 400 are expected to rely heavily on the Bass Pro Mills Drive connection for access. Without this connection, all development traffic from this area would only be able to access the road network via Rutherford Road or Weston Road, where only a few access points are possible (with only one signalized access onto Rutherford Road). These limited accesses are not expected to be sufficient to accommodate the projected traffic demands from this area. Given the role of the extended Bass Pro Mills Drive in relieving Rutherford Road from Weston Road to Jane Street, Bass Pro Mills Drive is also needed to accommodate the development on the east side of Highway 400 in the Secondary Plan Area.

As a result, the full extension of Bass Pro Mills Drive between Jane Street and Weston Road will be crucial to support the projected Secondary Plan traffic demands and provide relief to the operating conditions of the area's road network, and should therefore be implemented in conjunction with the progression of the Secondary Plan development.

Additional Road Network Improvements

There is also the extension of Caldari Road north of Riverrock Gate to connect onto Rutherford Road through the Northeast Parcel area of the Secondary Plan. This connection will be important since it will provide the key internal spine road to facilitate access from this parcel's development, with a direct connection onto Rutherford Road that will provide an alternate routing to help accommodate the development traffic. It is our understanding that the type of intersection traffic control on Rutherford Road at the future intersection of the Caldari Road extension will be subject to further review and approval.

An additional southbound right-turn lane was assumed at the intersection of Bass Pro Mills Drive at Highway 400 Northbound Off-Ramp. The existing southbound approach (Fisherman's Way) has a two-lane cross-section, but the roadway narrows down to single-lane operations at the intersection. Although no operational concerns were observed under the existing conditions, it is recommended that the approach geometry should be modified to maintain a two-lane cross-section up to the intersection to improve traffic flow and capacity of the approach.

In addition, as part of the Region of York's Transportation Master Plan, Weston Road and Rutherford Road are planned to accommodate a high-occupancy vehicle (HOV) lane in each direction. No other road improvements were assumed or planned for the boundary road network by the City or Region at this time.

Transit improvements needed to support this development level in 2021 include:

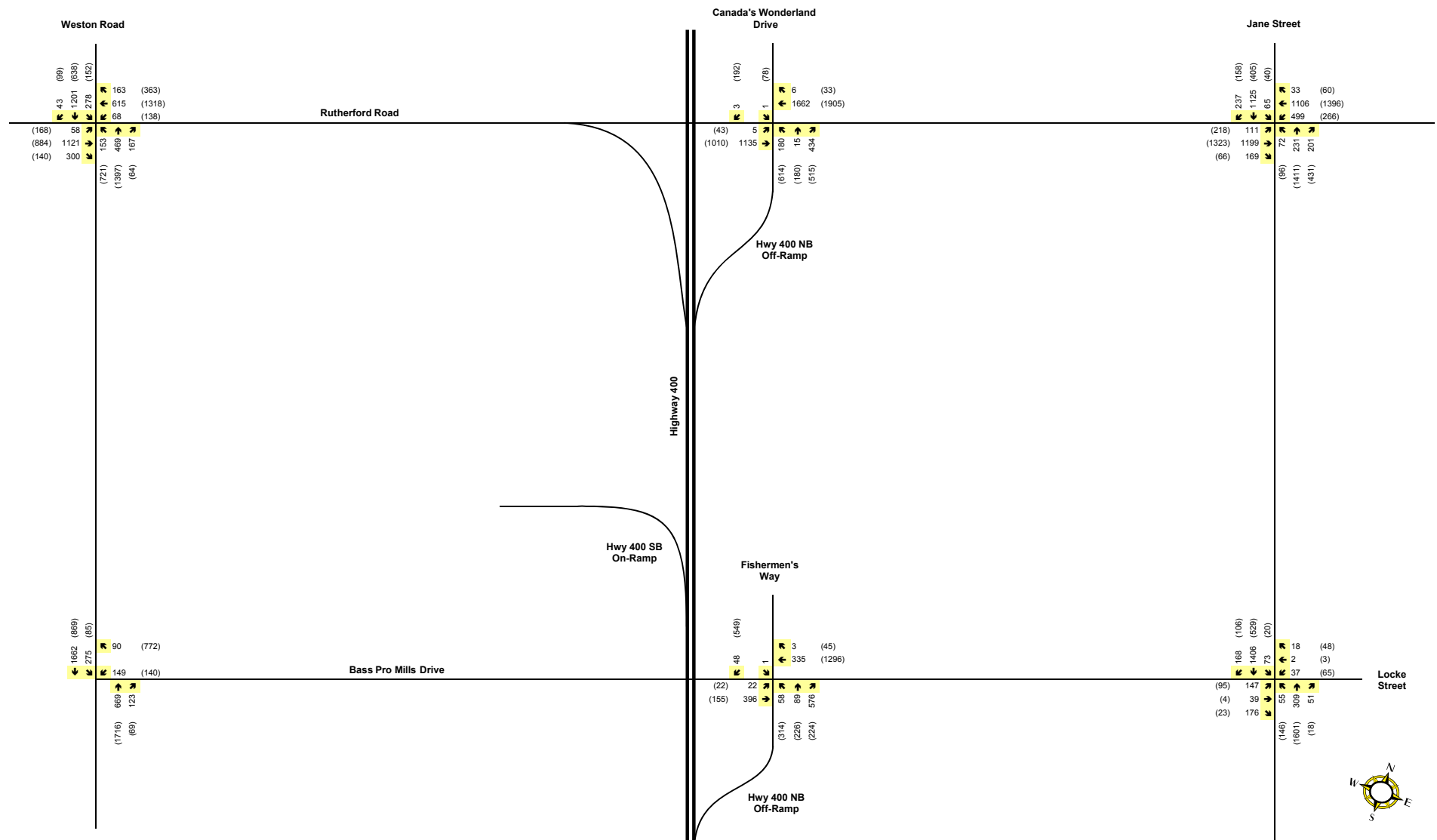
- Based on discussions with Region of York staff, it was proposed that Viva Quick Start service be implemented on Jane Street between 2016 and 2017, to coincide with the planned opening of the Spadina Subway Extension to Vaughan Metropolitan Centre in 2016.
- Transit priority service is also planned for Rutherford Road, between Vaughan Mills and Yonge Street. It is expected that transit priority features, such as HOV lanes, transit priority signals, and queue jump lanes, will be considered along this section of Rutherford Road/Carrville Road to improve capacity and service levels. The Region is looking to restart the EA for this corridor.
- Lastly, it is expected that transit frequencies on all arterial routes will be increased to meet the projected growing demands surrounding the Vaughan Mills area and across York Region in general. No other major transit improvements were assumed or planned by the Region at this time. However, the introduction of a continuous Bass Pro Mills Drive from Jane to Weston would allow greater penetration of transit into the Secondary Plan area (as would introduction of the minor streets west of Highway 400). YRT should review transit routings with this road in place.
- Capacity of the Vaughan Mills Transit Terminal should be monitored as development proceeds, to ensure that its capacity is adequate. Planning for an enhanced terminal may be needed to coordinate with the Viva Quick Start service on Jane Street.

4.3 Background Traffic Conditions

In light of the assumed completion of Bass Pro Mills Drive from Jane Street to Weston Road, it was logical that some of the background traffic along Rutherford Road would be reassigned to this new road. It is expected that this traffic reassignment will help ease the operating conditions at the intersections of Rutherford Road/Jane Street and Rutherford Road/Weston Road, as well as along Rutherford Road between Jane Street and Weston Road.

In addition, some minor reassignment was also assumed at the access points around the existing Vaughan Mills Mall site (east area of VMC) to reallocate some of the background traffic to some of the proposed additional access points on Jane Street and Bass Pro Mills Drive. It is expected that this will ease traffic conditions at the intersections of Jane Street/Riverrock Gate and Bass Pro Mills Drive/Edgeley Boulevard.

The 2021 background traffic volumes are illustrated in **Figure 4.1**.



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XX AM Peak Hour Volumes
(XX) PM Peak Hour Volumes

Figure 4.1
2021 Background Traffic Conditions

4.3.1 Network Capacity Analysis

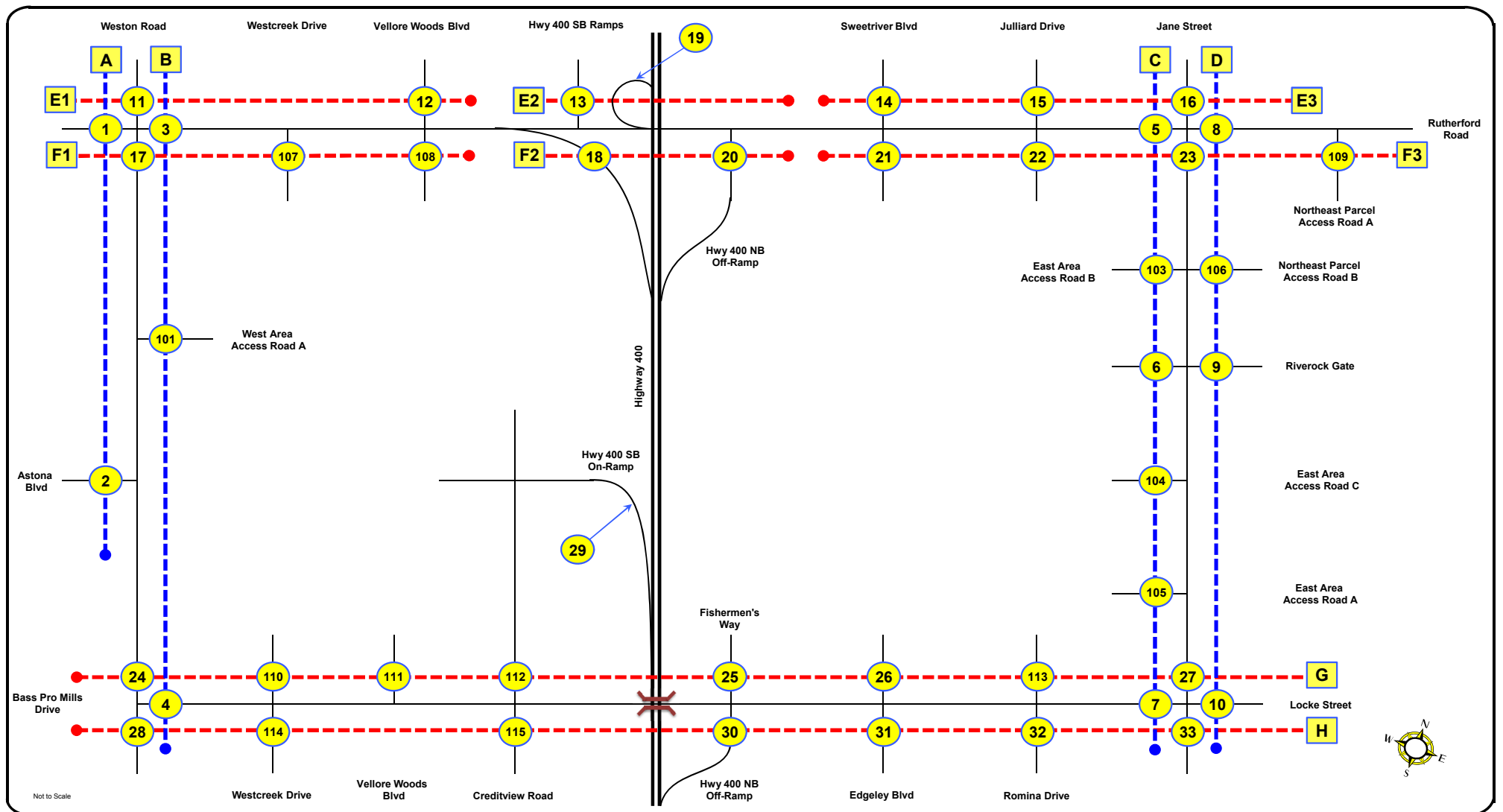
Based on the projected background trips for horizon 2021, a network screenline analysis was undertaken to assess the adequacy of the boundary road network and to determine whether additional link capacity or additional road links may be required to accommodate the future traffic growth. The locations of the screenlines and their associated screenline stations under the future road network are shown in **Figure 4.2**.

The summary of the screenline analysis results for the 2021 background traffic conditions are shown in **Table 4.1** below. Details of the screenline analysis are included in **Appendix B**.

Table 4.1
Screenline Analysis
Horizon 2021 Background Traffic Conditions

Screenline	Total Capacity (vph)	2021 Background Link Volumes				v/c Ratios ¹			
EAST-WEST SCREENLINES									
		AM		PM		AM		PM	
		WB	EB	WB	EB	WB	EB	WB	EB
A. West of Weston Road	2700	827	1807	2360	1220	0.31	0.67	0.87	0.45
B. East of Weston Road	3600	993	1796	2533	1121	0.28	0.50	0.70	0.31
C. West of Jane Street	5100	1644	1828	2193	1997	0.32	0.36	0.43	0.39
D. East of Jane Street	3200	1584	1617	1865	1711	0.50	0.51	0.58	0.53
NORTH-SOUTH SCREENLINES									
		AM		PM		AM		PM	
		SB	NB	SB	NB	SB	NB	SB	NB
E1. North of Rutherford Road (West of Hwy 400)	2700	1931	794	1065	2283	0.72	0.29	0.39	0.85
E2. North of Rutherford Road (Hwy 400 Ramps)	2800	704	--	395	--	0.25	--	0.14	--
E3. North of Rutherford Road (East of Hwy 400)	2800	1971	685	992	2258	0.70	0.24	0.35	0.81
F1. South of Rutherford Road (West of Hwy 400)	2700	1439	796	827	2451	0.53	0.29	0.31	0.91
F2. South of Rutherford Road (Hwy 400 Ramps)	5600	1017	1383	351	1812	0.18	0.25	0.06	0.32
F3. South of Rutherford Road (East of Hwy 400)	4700	1996	602	1192	2742	0.42	0.13	0.25	0.58
G. North of Bass Pro Mills Drive	8000	3868	1767	2828	6449	0.48	0.22	0.35	0.81
H. South of Bass Pro Mills Drive	10900	4251	2082	2781	5371	0.39	0.19	0.26	0.49

Note: 1. Critical screenlines are those with a volume-to-capacity ratio exceeding 0.95.



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A Screenlines

30 Screenline Stations

North-South Screenlines

East-West Screenlines

Figure 4.2
Screenline Locations
Future Conditions

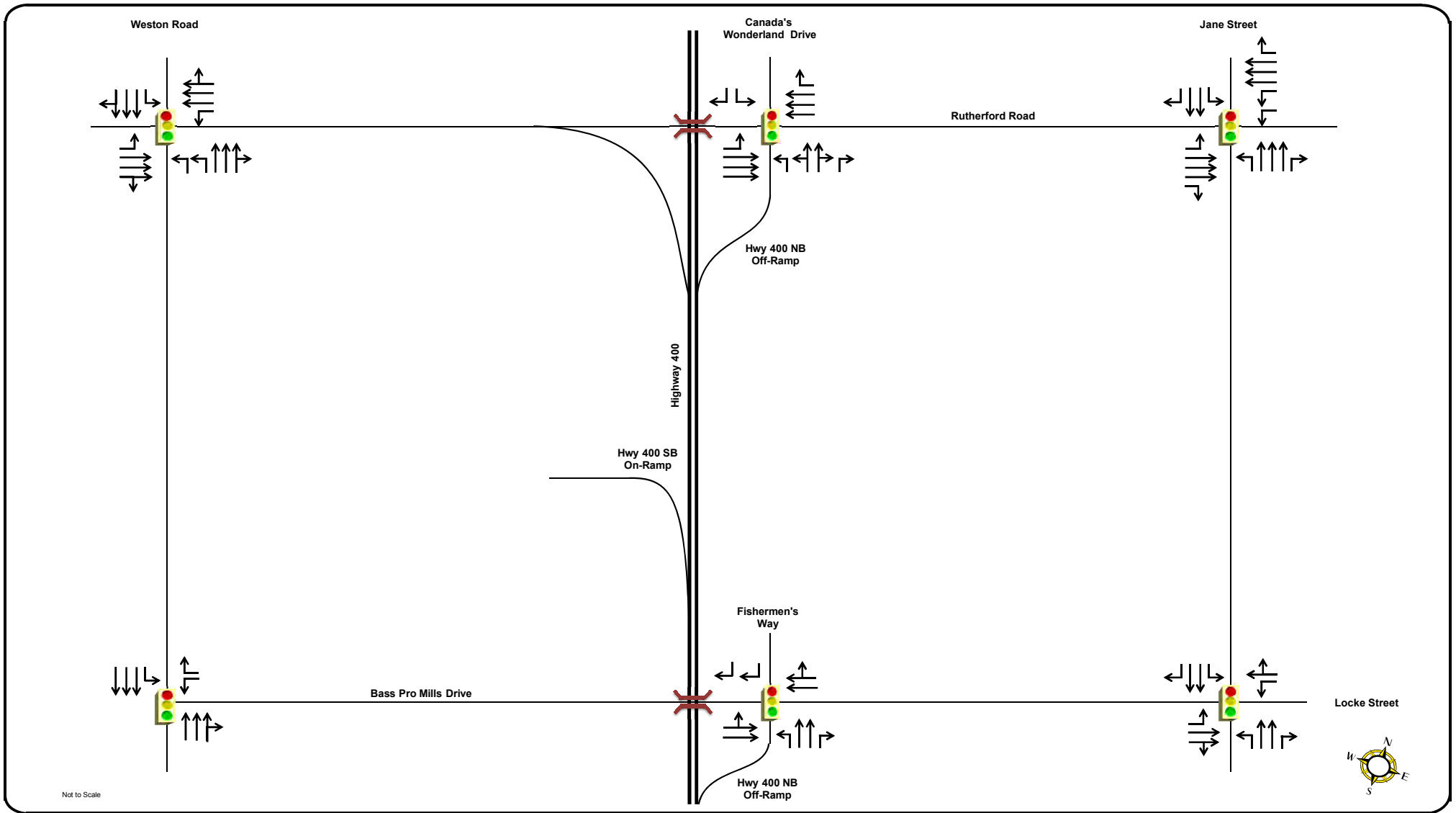
The screenline analysis shows that most of the screenlines are expected to still have overall link capacity available under the 2021 background traffic conditions. Even though some approaches are expected to operate at or over capacity conditions at intersections, this analysis indicates that many road segments in the network are still expected to have capacity at the link level. A few of the screenlines are expected to operate close to capacity conditions during the p.m. peak hour, but none are expected to be at or above capacity during the peak hours. All of the screenlines with high volume to capacity ratios are concentrated to the northwest part of the Secondary Plan area, suggesting that network connections to the west of Highway 400 remain limited, and both Weston Road and Rutherford Road are expected to experience increasing capacity constraints due to through traffic and traffic from the neighbouring developments. However, this is believed to be a conservative estimate, because all of these areas will also have greater access to enhanced transit services as well, so they too can be expected to be less auto-oriented by the 2021 horizon, thereby potentially contributing to easing traffic demands in the road network.

4.3.2 Intersection Capacity Analysis

Traffic operations under horizon 2021 background traffic conditions were analyzed in the proposed future road network to determine the expected intersection Level of Service (LOS) during the weekday a.m. and p.m. peak hours.

It should be noted that, due to limitations of the Synchro analysis software, it was not feasible to effectively analyze the planned HOV lanes on Weston Road and Rutherford Road as part of the future road network. To simulate the effects of the HOV lanes in Synchro, through traffic volumes along Weston Road and Rutherford Road were reduced by 15%. This assumes that 15% of the traffic would be expected to use the HOV lanes, which is a conservative estimate based on a lane utilization study done along Eglinton Avenue in the City of Toronto. The HOV lanes were excluded from the roadway cross-sections in the analysis network, and at locations where currently a shared through-right lane exists, the through movement was removed and a short exclusive right turn lane was added to simulate the lane configurations at intersections.

Signal timing adjustments required to accommodate the expected traffic demands at signalized intersections were assumed as part of the intersection optimization under the network calibration process. Other intersection geometric modifications, such as implementation of traffic signals or additional turning lanes, were considered as part of the recommendations for additional intersection improvements. The recommended network lane configurations under the 2021 background traffic conditions are illustrated in **Figure 4.3**. The results of the intersection capacity analysis are shown in **Table 4.2**. Details of the intersection analysis are included in **Appendix C**.



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-  Stop-Controlled Intersection
-  Signalized Intersection

-  Bridge

Figure 4.3
2021 Background Lane Configurations

Table 4.2
Intersection Capacity Analysis
Horizon 2021 Background Traffic Conditions

Intersections	Control Type	A.M Peak Hour		P.M Peak Hour	
		LOS (Delay in Seconds) ¹	Critical Movements (v/c ratio) ²	LOS (Delay in Seconds) ¹	Critical Movements (v/c ratio) ²
Rutherford Road at Weston Road	Signalized	C (31)	--	F (136)	EB-L (0.90) WB-T (1.03) NB-L (1.33)
	Signalized	C (33)	--	E (64)	EB-L (0.90) WB-T (1.00) NB-L (1.01)
Rutherford Road at Hwy 400 NB Off-Ramp	Signalized	B (13)	--	D (38)	--
Rutherford Road at Jane Street	Signalized	D (47)	EB-T (0.92) WB-L (0.93)	D (40)	--
Bass Pro Mills Drive at Hwy 400 NB Off-Ramp	Signalized	B (12)	--	C (21)	--
Jane Street at Bass Pro Mills Drive/Locke Street	Signalized	B (16)	--	B (11)	--
Bass Pro Mills Drive at Weston Road	Unsignalized	F (2926)	WB-L (2.53)	F (Err)	WB-L (3.22)
	Signalized	A (9)	--	E (67)	WB-R (1.01) NB-T (0.99)

Notes: 1. The LOS and critical movement at an unsignalized intersection is defined by the movement with the highest delay.

2. Critical movements are those with a volume-to-capacity ratio exceeding 0.90 for a signalized intersection.

Based on the analysis, most of the intersections in the boundary road network are expected to operate at acceptable levels of service (LOS) and within capacity under the 2021 background traffic conditions. Only the intersections along Weston Road, at Rutherford Road and at Bass Pro Mills Drive, are expected to experience more critical operational issues.

The intersection of Rutherford Road at Weston Road is expected to operate at a poor LOS with high delays, and with the northbound left movement operating over capacity during the p.m. peak hour. If the trend in traffic growth continues, then northbound dual left-turn lanes would need to be introduced for this location to provide additional capacity to accommodate the expected heavy left-turn movement. However, the improvements currently proposed for Major Mackenzie Drive (eliminating the extreme offset at Highway 27) can be expected to result in a shift of volumes between Rutherford Road and Major Mackenzie Drive. A reduction in the eastbound/westbound volumes (or the northbound-to-westbound left turn volume) could preclude the need for improvement at this location. It would be

premature to definitively recommend the dual northbound left without the proviso that traffic should be monitored. It should also be noted that increasing the width of the intersection would further reduce pedestrian accessibility in this area, which is contrary to the Secondary Plan objectives. With the improvement, the intersection is still expected to operate at poor LOS, but no movement is expected to operate above capacity. This intersection should be monitored annually once the Major Mackenzie Drive improvement is complete, to determine if this improvement is actually required.

Traffic operations at the intersection of Bass Pro Mills Drive at Weston Road are similarly expected to deteriorate to unacceptable levels under the 2021 background traffic conditions, with significant delays and insufficient capacities during both peak hours. Based on the signal warrant methodology in *Book 12 of the Ontario Traffic Manual (OTM Book 12)*, dated November 2007, this intersection is expected to meet the traffic signal warrant criteria under the 2021 background traffic conditions. Under the improved conditions, the intersection is expected to operate at more tolerable levels, although some capacity concerns are still expected during the p.m. peak hour. Traffic signals are therefore recommended to be installed at this intersection.

The road network improvements recommended under the 2021 background traffic conditions are summarized in **Table 4.3** below.

Table 4.3
Recommended Road Improvements
Horizon 2021 Background Traffic Conditions

Location	Recommended Improvements	Rationale
Rutherford Road at Weston Road	NB Dual Left-Turn Lanes *	Heavy NB Left-Turn Movement
Bass Pro Mills Drive	Completion from Weston Road to Jane Street	Relief to Rutherford Road and Provision of Capacity for Development adjacent to Jane Street
Jane Street at East Access Road A	Full-Moves Signalized Access	Additional Capacity for Site Access and Provision for Potential Future Extension of Graniteridge Road
Bass Pro Mills Drive at Weston Road	Install Traffic Signals	Traffic Signal Warranted
Bass Pro Mills Drive at Hwy 400 NB Off-Ramp	Additional SB Right-Turn Lane	Improve Approach Geometry and Capacity

* *Dependent on the effect of improvement to Major Mackenzie Drive; conditions should be monitored.*

Based on the analysis results described above, it is expected that even with some intersection improvements, the boundary road network may still experience capacity constraints in some key

locations under the 2021 background conditions, particularly along Weston Road. Given the limited opportunities for further major roadway improvements in the area, it is therefore crucial to provide more transit service and more aggressive transportation demand management (TDM) strategies.

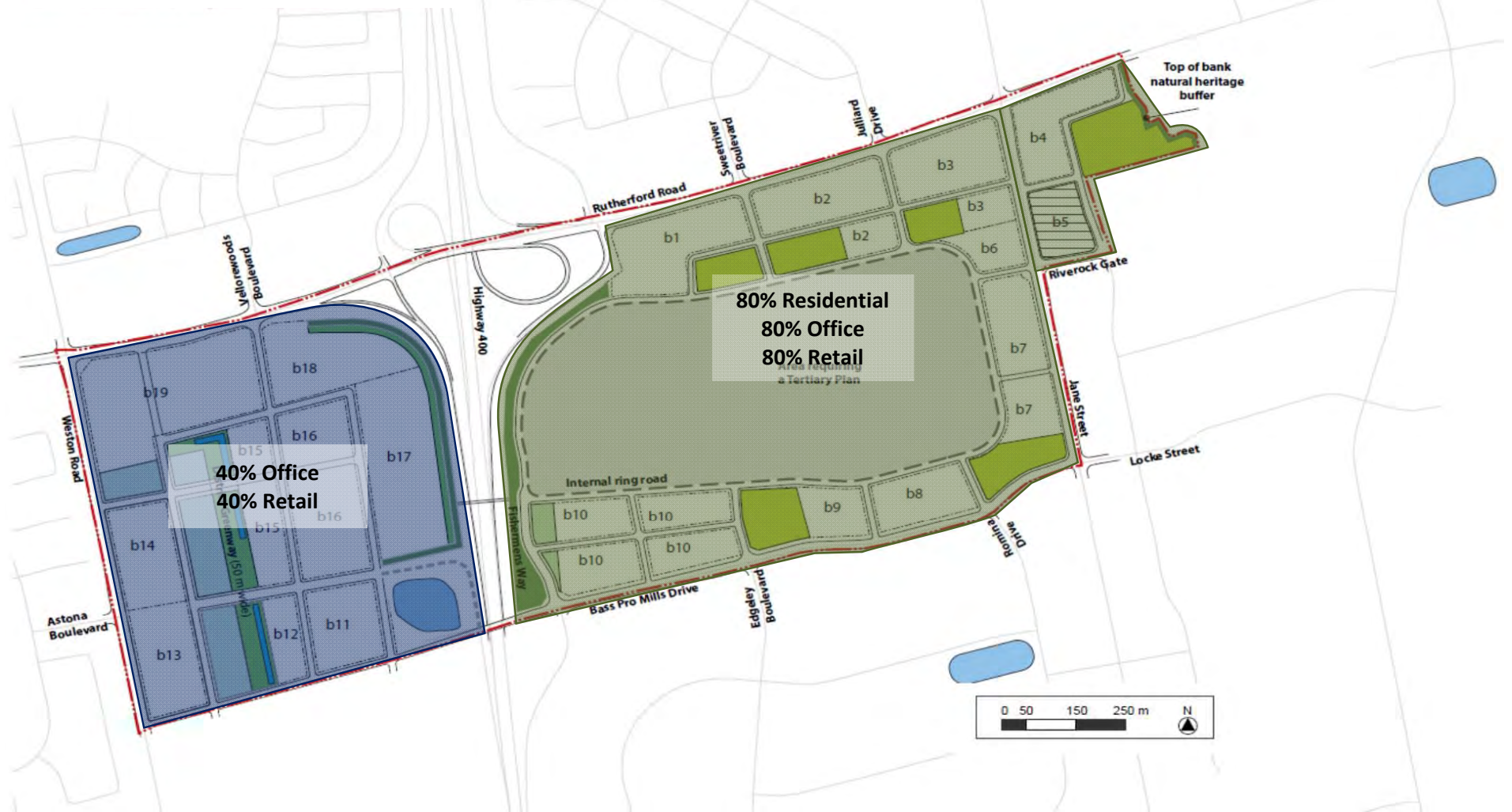
More aggressive transit service should be implemented within the boundary network to complement the planned transit initiatives. These include HOV lanes along Weston Road and Rutherford Road, Viva Quick Start transit on Jane Street and the subway extension to Vaughan Metropolitan Centre (now under construction), which should be supported by improved local service to the Vaughan Mills Transit Terminal and GO Transit services nearby. Considering that a good portion of the background traffic passing through the boundary network is commuter traffic from the surrounding residential neighbourhoods, frequent and reliable transit service connecting commuters efficiently to the larger regional transit network will be an attractive alternative over single-occupant vehicles on congested roads, thereby relieving some of the capacity issues in the network. In addition, TDM initiatives, such as reduced and/or maximum parking standards for new developments, carpooling, flexible commute times, and walking and cycling (for shorter local commutes), should also be systematically promoted and encouraged in the surrounding communities as measures to further alleviate the road network pressures during the peak hours.

4.4 Total Traffic Conditions

The 2021 total traffic conditions were established based on the 2021 background traffic, and include the site traffic generated by the proposed Secondary Plan developments. As discussed in Section 4.0, horizon 2021 has been established as an interim horizon to test the tolerance level of the assumed network improvements and determine a development threshold which the assumed future transportation system could reasonably accommodate prior to triggering the need for significant road network improvements, transit service increases and more aggressive transportation demand management measures and incentives. Based on a sensitivity assessment of the network screenline capacities, a development phasing scheme was determined for the Secondary Plan, where it could be reasonably accommodated by the transportation system in horizon 2021. This development scheme was also established in consideration of the Development Progression and Development Thresholds referred to in Part C, Section 7 of the Secondary Plan. The assumed horizon 2021 development thresholds are shown in **Figure 4.4**. It should be noted that the development threshold levels assumed in this analysis represents the maximum level of development that could be potentially accommodated within the capacity of the horizon 2021 transportation system. The actual level of development proposed by the Secondary Plan may be less than this maximum threshold. For example, for the areas east of Highway 400, where the development threshold is assumed to be up to 80%, the planned development within horizon 2021 (Jane Street Corridor developments) amounts only to the equivalent of approximately 70% of all developments in the area.

The net site traffic generated by the Secondary Plan area under the assumed development threshold is summarized in **Table 4.4**. The 2021 total traffic volumes have been illustrated in **Figure 4.5**.

Vaughan Mills Centre Secondary Plan:



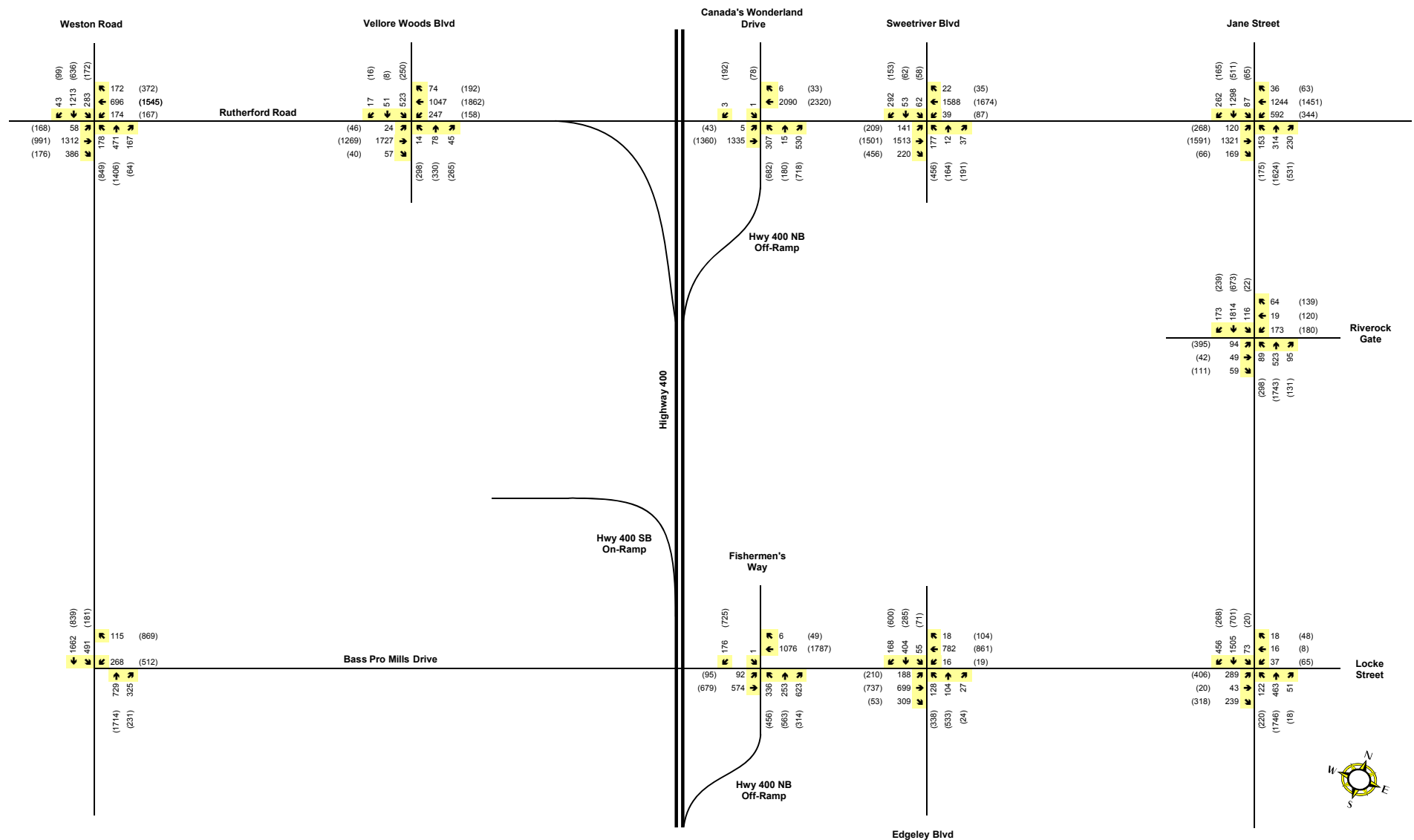


Table 4.4
Horizon 2021 Phasing Net Site-Generated Trips

Peak Hour & Direction	East of Highway 400	Northeast Parcel (East of Jane Street)	West of Highway 400
A.M. Inbound	853	245	1,448
A.M. Outbound	834	300	244
P.M. Inbound	1,190	315	500
P.M. Outbound	1,280	313	1,514

4.4.1 Network Capacity Analysis

Similar to the background conditions, a network screenline analysis was conducted under the 2021 total traffic conditions to evaluate the future road network's overall link-based capacity. The results of the analysis are summarized in **Table 4.5** below. Details of the screenline analysis are included in **Appendix D**.

Table 4.5
Screenline Analysis
Horizon 2021 Total Traffic Conditions

Screenline	Total Capacity (vph)	2021 Total Link Volumes				v/c Ratios ¹			
EAST-WEST SCREENLINES									
		AM		PM		AM		PM	
		WB	EB	WB	EB	WB	EB	WB	EB
A. West of Weston Road	2700	925	2068	2698	1352	0.34	0.77	1.00	0.50
B. East of Weston Road	4100	1327	2441	3319	1518	0.32	0.60	0.81	0.37
C. West of Jane Street	6100	2468	2261	2928	3257	0.40	0.37	0.48	0.53
D. East of Jane Street	3700	2078	1906	2269	2254	0.56	0.52	0.61	0.61
NORTH-SOUTH SCREENLINES									
		AM		PM		AM		PM	
		SB	NB	SB	NB	SB	NB	SB	NB
E1. North of Rutherford Road (West of Hwy 400)	2700	1948	806	1086	2303	0.72	0.30	0.40	0.85
E2. North of Rutherford Road (Hwy 400 Ramps)	2800	907	--	578	--	0.32	--	0.21	--
E3. North of Rutherford Road (East of Hwy 400)	2800	2199	786	1136	2534	0.79	0.28	0.41	0.91
F1. South of Rutherford Road (West of Hwy 400)	3200	1984	901	1128	3141	0.62	0.28	0.35	0.98
	3700	1984	901	1128	3141	0.54	0.24	0.30	0.85
F2. South of Rutherford Road (Hwy 400 Ramps)	5600	1946	852	1106	1580	0.35	0.15	0.20	0.28
F3. South of Rutherford Road (East of Hwy 400)	5200	2641	1109	2060	3733	0.51	0.21	0.40	0.72
G. North of Bass Pro Mills Drive	8000	5023	3864	4630	8260	0.63	0.48	0.58	1.03
	8500	5023	3864	4630	8260	0.59	0.45	0.54	0.97
H. South of Bass Pro Mills Drive	10900	4957	3416	4164	6484	0.45	0.31	0.38	0.59

Note: 1. Critical screenlines are those with a volume-to-capacity ratio exceeding 0.95.

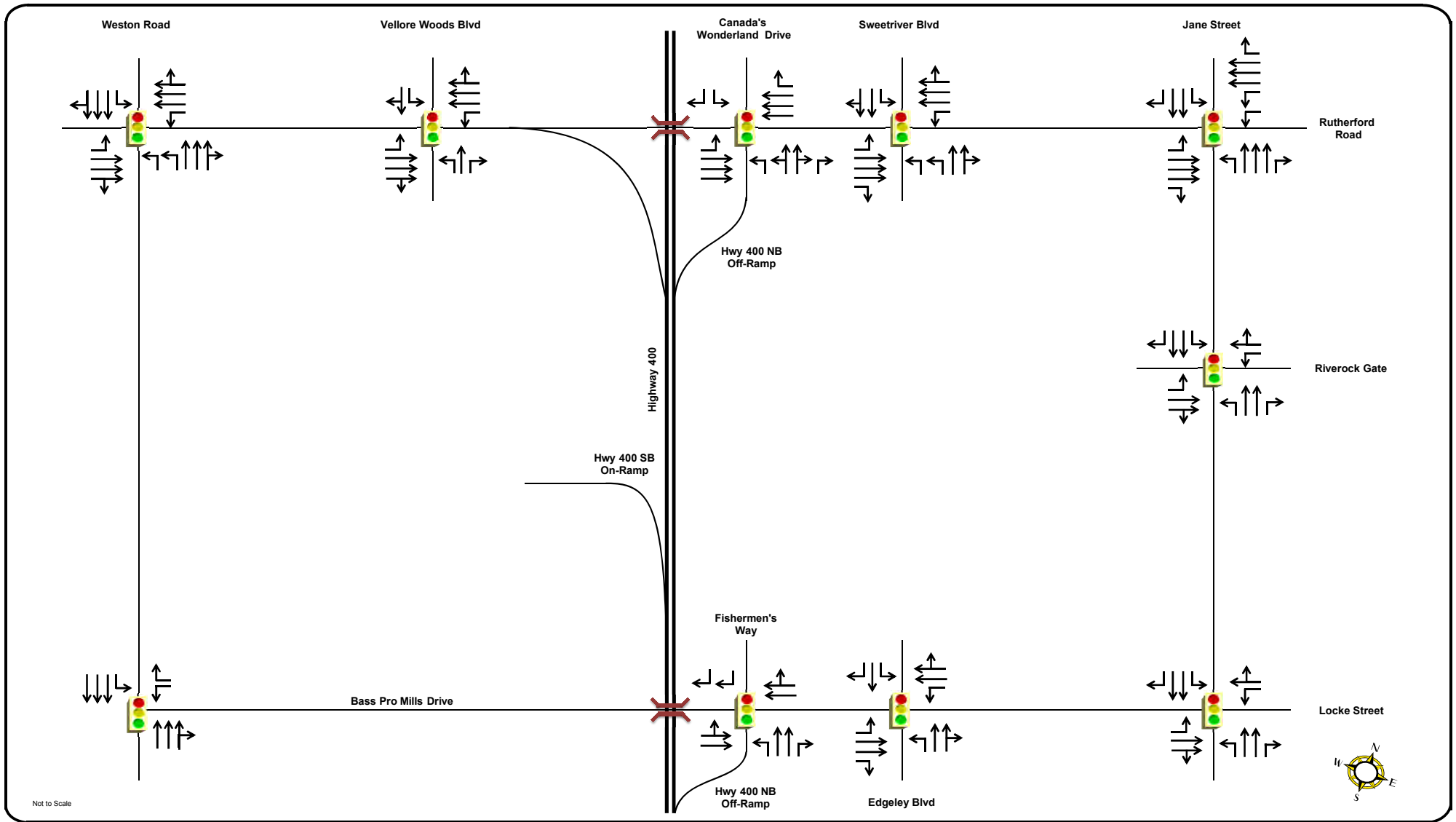
The screenline analysis shows that most of the screenlines are expected to still have some capacity available under the 2021 total traffic conditions, with the recommended network improvements in place. Similar to the background conditions, it is expected that the area of concern will be concentrated along Weston Road and Rutherford Road, where some of the screenlines are expected to be near or at capacity conditions, mainly during the p.m. peak hour. In particular, the screenline F1 (South of Rutherford Road – West of Highway 400) is expected to experience demands equal to capacity northbound during the p.m. peak hour. This is likely due to the high amount of traffic leaving the Secondary Plan's employment area. It is therefore recommended to construct Vellore Woods Boulevard, south of Rutherford Road, as a four-lane cross-section to provide additional roadway capacity to accommodate the peak traffic demands.

Similarly, screenline G (North of Bass Pro Mills Drive) is expected to operate at capacity in the northbound direction during the p.m. peak hour. This is likely due to the high amount of traffic accessing Highway 400 Southbound using the reconfigured Bass Pro Mills Drive On-Ramp within the Secondary Plan area (via Creditview Road extension). It is therefore recommended to construct the proposed Creditview Road extension (north of Bass Pro Mills Drive) as a four-lane road to accommodate the heavy peak traffic demands.

The results of the analysis further reinforce the conclusion that the road network in the vicinity of the intersection of Rutherford Road at Weston Road is expected to operate with considerable capacity constraints, given that there are limited opportunities for further improvements (pending realization of the potential benefit from the Major Mackenzie Drive improvement noted above). It is therefore necessary to focus on transportation demand management solutions in order to address the consistent and growing travel demands from the surrounding areas, in addition to the remainder of the Secondary Plan area developments.

4.4.2 Intersection Capacity Analysis

Traffic operations under horizon 2021 total traffic conditions were analyzed to determine the expected intersection LOS during the weekday a.m. and p.m. peak hours. The recommended total lane configurations are illustrated in **Figure 4.6**. The results of the intersection capacity analysis are shown in **Table 4.6**. Details of the intersection analysis are included in **Appendix E**.



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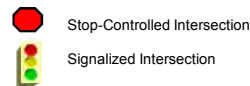


Figure 4.6
2021 Total Lane Configurations

Table 4.6
Intersection Capacity Analysis
Horizon 2021 Total Traffic Conditions

Intersections	Control Type	A.M Peak Hour		P.M Peak Hour	
		LOS (Delay in Seconds) ¹	Critical Movements (v/c ratio) ²	LOS (Delay in Seconds) ¹	Critical Movements (v/c ratio) ²
Rutherford Road at Weston Road	Signalized	D (37)	--	F (136)	EB-L (0.90) WB-T (1.10) NB-L (1.19)
Rutherford Road at Vellore Woods Boulevard	Signalized	E (56)	SB-L (1.07)	E (56)	WB-T (0.95) NB-TR (0.94) SB-L (0.99)
	Signalized	D (37)	SB-L (0.95)	C (34)	--
Rutherford Road at Hwy 400 NB Off-Ramp	Signalized	B (20)	--	E (78)	WB-T (0.99) NB-L (0.97) NB-LTR (0.93) SB-R (0.98)
Rutherford Road at Sweetriver Boulevard	Signalized	C (23)	--	C (26)	--
Rutherford Road at Jane Street	Signalized	F (81)	EB-L (0.91) EB-T (1.01) WB-L (1.03) NB-L (0.99) SB-T (1.00)	E (63)	EB-L (1.00) EB-T (0.99) WB-L (0.92) WB-T (0.95) NB-T (0.94)
Jane Street at Riverrock Gate	Signalized	C (22)	--	E (65)	EB-L (1.09) WB-L (0.91) NB-T (0.98)
Bass Pro Mills Drive at Hwy 400 NB Off-Ramp	Signalized	C (27)	--	E (70)	WB-TR (0.99) NB-L (1.00) SB-R (1.04)
Bass Pro Mills Drive at Edgeley Boulevard	Signalized	C (29)	--	D (41)	SB-R (0.96)
Jane Street at Bass Pro Mills Drive/Locke Street	Signalized	C (34)	NB-L (0.99)	D (40)	EB-L (1.05)
Bass Pro Mills Drive at Weston Road	Signalized	B (15)	--	F (94)	WB-R (1.14)

Notes: 1. The LOS and critical movement at an unsignalized intersection is defined by the movement with the highest delay.

2. Critical movements are those with a volume-to-capacity ratio exceeding 0.90 for a signalized intersection.

Based on the analysis detailed above, it is expected that a number of the intersections in the road network will experience some capacity issues under the 2021 total traffic conditions. It is expected that many key intersections in the boundary road network will operate at poor LOS, with high delays and a number of movements near or at capacity.

In particular, most intersections along Rutherford Road are expected to operate near capacity conditions, especially during the p.m. peak hour. At the intersection of Rutherford Road at Vellore Woods Boulevard, a northbound exclusive right-turn lane is recommended to provide some additional capacity for the northbound approach and to reduce delays by separating the heavy right-turn traffic from the through movement. A wider cross-section was also recommended under the network capacity analysis (Section 4.4.1); this lane configuration improvement should therefore be implemented in coordination with that concept. The improvement provides a significant improvement during the p.m. peak hour, but the southbound left movement is still expected to experience delays during the a.m. peak hour. No other roadway improvements were considered for the other intersections due to constrained right-of-way or limited benefits overall. It should also be noted that while some of the key access points to the Secondary Plan area are expected to operate poorly, traffic to and from the site is also expected to make use of all other available access points depending on traffic conditions, and will naturally readjust their routings to achieve a more optimal distribution across all major and minor access points throughout the site.

It should be noted that the intersections of Bass Pro Mills Drive/Locke Street at Jane Street and Bass Pro Mills Drive at Weston Road are expected to operate at more optimal conditions than the results shown by the Synchro analysis. Due to the configuration of these intersections and Synchro's algorithmic limitations, the software tends to underestimate the capacity of the left-turn movements and produce more conservative results than expected. In this case, even though the analysis estimates that the left-turn movements at these intersections would operate poorly, given the projected traffic volumes, it is expected that these intersections should actually operate well within capacity. Nevertheless, the Region and the City should monitor the operations of these intersections annually for any potential critical movements.

4.5 Transportation System Improvements and Accommodation of Development

As evidenced by the results of the capacity analyses above, it can be seen that the boundary road network around the Secondary Plan area is expected to reach a critical level in terms of operating capacity under the assumed development phasing threshold of the Secondary Plan. In order to effectively manage the projected travel demands under the assumed conditions, and to accommodate the remaining portion of the Secondary Plan developments, additional transportation system improvements beyond roadway capacities would need to be considered.

4.5.1 Transit System Improvements

As discussed in Section 4.2, a number of transit priority and higher-order transit improvements are planned for implementation in the vicinity of the Secondary Plan area. It is expected that priority transit operations along Weston Road and Rutherford Road will be crucial components to help maintain effective travel flows along these corridors, particularly through their intersections. Priority features such as HOV lanes and signal priority will provide major benefits in accelerating transit service through these high-volume corridors and intersections, and will also ensure the reliability and attractiveness of the service. Convenient connections on these routes should also be established with the nearby GO Transit facilities, including the GO Carpool Lot at Major Mackenzie Drive and the Rutherford GO Station further east on Rutherford Road, to provide riders direct access to the wider regional network of GO Transit.

Furthermore, higher-order rapid transit along Jane Street will also be an important component of the transit system improvements. Initially operating as a Viva Quick Start bus service involving transit signal priority and queue jump lanes, the Jane Street rapid transit service will provide a fast, frequent and direct connection for the Secondary Plan to the upcoming Spadina Subway Extension at Vaughan Metropolitan Centre, which will directly allow residents of the area to immediately gain access to the Viva BRT service on Highway 7 and into the City of Toronto's transit network. This transit service will provide an express connection between the subway system, Vaughan Mills area and Canada's Wonderland, which is also another major traffic generator in the surrounding area. This would further help to alleviate the traffic demands in the area road network, while maintaining overall mobility through the area.

Specific design elements and initiatives to improve transit access should include:

- The design for the Viva Quick Start service on Jane Street should include transit signal priority at all arterial intersections south of Rutherford Road, and also at the access from Jane to the York Region Transit (YRT) Terminal at Vaughan Mills. Queue jump lanes should be planned at all intersections on Jane Street where general traffic volumes create a significant impediment to regular transit service, and where either sufficient right-of-way exists currently, or can be obtained.
- A similar program of transit signal priority and queue jump lanes should be considered on Weston Road. It is acknowledged that such a program is not foreseen in the Region's transit network at present, but it is apparent based on the projected conditions that transportation alternatives are needed for travel in the Weston Road corridor. The proposed high-order transit on Jane Street is outside of a convenient walking distance, and the congestion created at the Highway 400 interchange discourages the short trip to Jane that would be required by transit to access the Jane BRT service. Thus the Region should begin planning for this improvement now, in terms of an environmental assessment for a transit or HOV-based widening.

- Reconfiguration of YRT local bus routes to provide more convenient access to the YRT bus terminal at Vaughan Mills, via Bass Pro Mills Drive, should also be implemented.
- YRT should monitor usage of the Vaughan Mills Transit Terminal on a semi-annual basis, to determine when expansion may be needed.
- YRT should work with the Vaughan Mills Mall owner to create an organized Passenger Pick-up and Drop-off (PPUDO) area adjacent to the transit terminal. This will facilitate travellers exiting from Highway 400 and area roadways who wish to access transit. This will not be a direct benefit to the Vaughan Mills Centre Secondary Plan, but it will support higher frequencies of transit service, which will have an indirect benefit.
- The PPUDO area should also include space for car-share systems. The City should work with car-share operators to introduce car-sharing here (and elsewhere in the City), to facilitate greater use of transit for travellers coming to the broader Vaughan Mills area.

In addition to transit service and system improvements, transit incentives should also be provided to the area's commuters to attract them to take transit. Working with businesses and residential properties in the area through the Transportation Management Association, fare discounts or free passes can be offered to commuters travelling to and from the Vaughan Mills area to encourage them to adopt more frequent or regular transit use for their travel.

4.5.2 Pedestrian and Cycling System Improvements

As noted under Part B, Sections 4.6.5 and 5.3.3 in the primary Secondary Plan report, pedestrian and cycling access should also be promoted to provide an additional alternative option for shorter trips within the area and surrounding communities. As described in the Secondary Plan, the development of the future local street network should ensure a finer grid network of streets, with smaller development blocks, to create a more pleasant walkable environment. Proper pedestrian crossing facilities should be implemented at all intersections to maintain a safe walking environment. In addition to maintaining standard sidewalk facilities along all streets, bike lanes should also be considered where feasible. Bike lanes within the local neighbourhood street network should be conveniently connected to the wider network of bike routes along City and Regional arterial roads that can provide safe and easy cycling access to other areas of the City and beyond. In addition to on-road facilities, off-road multi-use paths should also be considered. These pathways can provide bypass routes for pedestrian and cyclists across city blocks, with a dedicated route segregated from vehicular traffic that can serve both recreational and functional travel purposes. However, all of these routes and pathways must be developed in such a way to form an integrated network that users can access and navigate easily, with proper design features, signage, and connections to key travel nodes in the communities such as schools, community centres, shopping centres and bus terminals.

In addition to network improvements, local developments, residential, office, commercial and retail alike, could also contribute to encouraging cycling and walking by providing convenient secure bike storage, change facilities and shelters that are integrated into main buildings of the developments. These

facilities should be conveniently accessible from the road network and within the development, monitored for safety and security, and well-maintained to provide users a positive experience in order to encourage their use.

4.5.3 Road Network Improvements

The road network improvements recommended under the 2021 total traffic conditions are summarized in **Table 4.7** below.

Table 4.7
Recommended Road Improvements
Horizon 2021 Total Traffic Conditions

Location	Recommended Improvements	Rationale
Vellore Woods Boulevard	Plan for 4-lane cross-section south of Rutherford Road	Heavy Link Volumes
Creditview Road	Plan for 4-lane cross-section north of Bass Pro Mills Drive	Heavy Link Volumes
Rutherford Road at Vellore Woods Boulevard	NB Right-Turn Lane	Heavy NB Right-Turn Movement

4.5.4 Transportation Demand Management Initiatives

In addition to roadway improvements for traffic operations, HOV lanes and various TDM programs such as carpooling schemes or parking lots, and staggered peak periods, are also other alternative transportation strategies that should be actively considered to enhance the coordination of travel demands and optimize the use of the available road network capacities. The potential TDM measures for the Secondary Plan are also discussed under Part B, Section 4.4 of the Secondary Plan report.

Carpooling initiatives should be one of the more easily adaptable measures for initial implementation considering the dominantly auto-oriented nature of Vaughan's existing travel behaviours. As stated in the Vaughan Transportation Master Plan, the City of Vaughan is already a partner of the Smart Commute North Toronto, Vaughan program. Through this program, the City can encourage communities and businesses in and around the Vaughan Mills area to partner with Smart Commute and join Carpool Zone. Carpooling could help reduce the amount of single-occupant vehicle trips without initiating sudden drastic changes to the road users' travel habits (auto usage). The planned HOV lanes along the surrounding Regional Roads will provide incentive by offering a right-of-way to improve travel time through the area. Future office developments in the Secondary Plan and vicinity could also assist in promoting carpooling practices by provide additional incentives such as priority parking spaces for carpool vehicles, which together must provide noticeable commuting benefits over single-

occupancy vehicle use in order to attract commuters to adopt. The City should introduce requirements for carpool and car-share spaces in their parking standards.

With the considerable amount of new residential development planned for the Secondary Plan area, it would therefore be beneficial to proactively consider from the start of development, measures to limit the amount of auto trips generated from these developments. As noted under Part B, Section 4.4.3 of the Secondary Plan report, developers of these residential developments could consider providing a reduced supply of parking spaces in order to create a cap on the number of vehicles within the developments. The City should also consider shared parking, to minimize the cost of development and the amount of space occupied by parking. Strategic parking management measures, such as limited ownership of parking spaces, parking permits or fees for short-term/visitor parking, incentives (parking cash-out) for employees who do not park at work, and reserved car-sharing spaces, would also help reduce the convenience and benefits of car usage at the developments. These parking demand management strategies would discourage high car ownership in the residential developments and reduce the amount of auto trips generated. This set-up would help attract potential residents that are less dependent on their cars, thereby initiating a less auto-oriented culture. Furthermore, it would also help these properties to reduce the long-term maintenance costs of their facilities. Changes to parking standards should be phased in as the enhanced transit infrastructure and services are brought on-line.

Other innovative parking strategies such as preferred parking for hybrid and electric vehicles should also be included. The City should also work with developers to plan for an integrated technology system to advise drivers of where parking is available within the district. This would help maximize the utilization the parking lots in the area, distribute the demands more effectively, and reduce additional vehicle activities otherwise needed in finding a parking space.

In addition, as a means to optimize the use of the available network capacity throughout the day, and to diversify the area's business activities, the City should also encourage businesses to adopt alternative work arrangements such as working from home (teleworking), more flexible work hours for its employees, or attracting a mix of businesses that might have different peak demand periods. This would allow the peak travel demands to become more spread out during the day, making use of the available network capacities outside of the traditional peak periods. Furthermore, encouraging more evenly distributed travel demands across the day could also enhance the liveliness of the neighbourhood; it could maintain a steady level of activity in the area, ensuring more efficient use and greater viability of various services in the area, including transit services and retail such as convenience stores and coffee shops.

4.6 Alternative Scenario: No Bass Pro Mills Drive Connection to Weston Road

Because the implementation of the proposed Bass Pro Mills Drive extension is tied to the progression of developments that are directly linked to it, the road may not be completed to Weston Road within the

horizon 2021 timeframe. It is expected that the connection to Jane Street will be in place due to its importance in facilitating access to the Vaughan Mills Mall and proposed adjacent developments along the Jane Street corridor, where a majority of the developments is planned to occur within this horizon, as described in Part C, Section 7.3.1 of the Secondary Plan. However, the extension of Bass Pro Mills Drive to Weston Road, west of Highway 400, will be dependent on the development progression of the lands west of Highway 400 (Vaughan Mills Centre Business District), which are not likely to reach substantial development levels by horizon 2021; hence, the road extension may similarly be unlikely to be completed within this timeframe. As a result, an alternative scenario has been included in this study to provide a high-level strategic assessment of the impacts of the case in which the Bass Pro Mills Drive extension is only partially completed in 2021: i.e. connection to Jane Street only, no extension to Weston Road. In particular, this scenario examines the impact of this change in the road network development on the proposed development threshold for the Secondary Plan area east of Highway 400.

4.6.1 Methodology

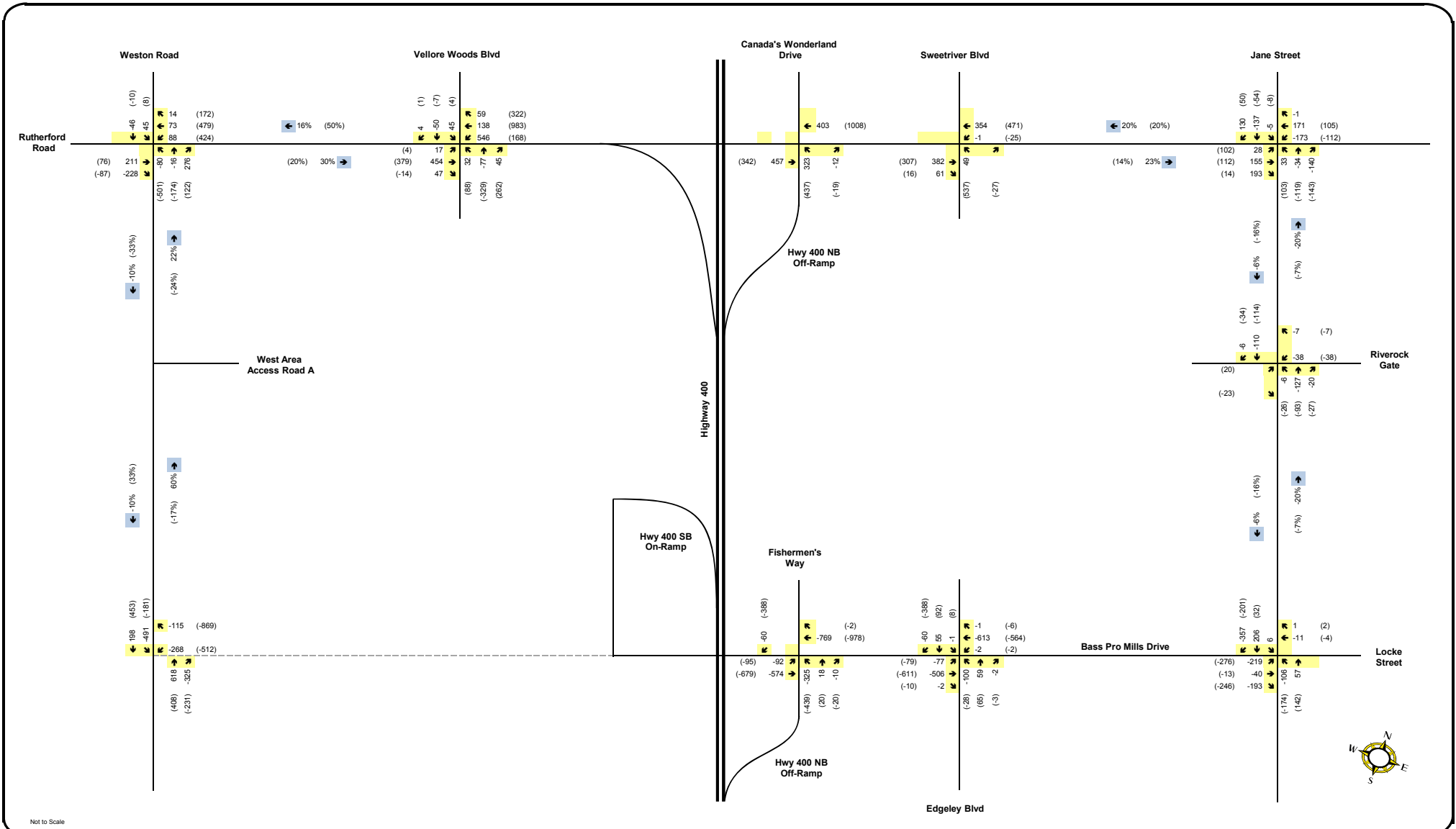
The same road network assumed for the analysis under the 2021 Total Traffic Conditions (Section 4.4) was assumed in this scenario, with the following exceptions: the Bass Pro Mills Drive connection between Highway 400 and Weston Road is excluded, as well as all of its intersecting streets proposed within the Secondary Plan area lands west of Highway 400 (Westcreek Drive, Vellore Woods Boulevard – south end, and Creditview Road). Bass Pro Mills Drive is therefore assumed to be connected to Jane Street at the Locke Street intersection and to terminate at the Highway 400 Southbound On-Ramp.

The projected 2021 background and site traffic was reassigned accordingly based on the most logical routing and taking into account the modified road network. The modified total traffic volumes were then compared with the original total traffic conditions established in Section 4.4 to determine the variations in traffic volumes along the key corridors within the boundary road network. These volume differences were then used to assess the relative change in the traffic capacity conditions in the road network, based on the capacity analysis results determined in Section 4.4.

4.6.2 Assessment Results

The resulting link volume variations for the boundary road network are summarized in **Figure 4.7**. Based on the comparative assessment of the traffic variations resulting from the modified future road network, the following conclusions were drawn:

- It is expected that the majority of the traffic volume variations are due to background traffic reassignment. The projected site traffic volumes are expected to have minor impacts on the overall link volume variations.



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- As discussed in Section 4.2, it is expected that, without the Bass Pro Mills Drive connection to Weston Road, developments in the Secondary Plan area west of Highway 400 would likely be constrained only to the northern parts of the lands, mainly along Rutherford Road, with limited access points into the road network. It is expected that the reassigned traffic for this area would mainly access the site via Weston Road, Highway 400 and Rutherford Road, with limited impacts in other parts of the study area road network. Localized operational concerns could be expected on Rutherford Road, between Weston Road and Highway 400, and at the Vellore Woods Boulevard intersection (the only full-moves signalized access to the development).
- Jane Street is expected to experience a minor reduction in traffic volumes during both peak hours, with approximately 7 percent decrease in the peak travel direction and 20 percent decrease in the opposite direction. This is likely due to the elimination of the traffic streams travelling between the southwest and northeast corners of the study area that were originally using Bass Pro Mills Drive and Jane Street as a bypass route to avoid the congested areas along Rutherford Road (at Weston Road and Vaughan Mills Mall accesses). With these traffic movements reassigned back onto Rutherford Road, some additional capacity is expected to become available along Jane Street south of Rutherford Road, which would provide opportunities to accommodate the projected traffic from the Secondary Plan developments east of Highway 400, mainly along the Jane Street corridor.
- Considerable volume increases (at least 60 additional vehicles in each direction on Edgeley Boulevard) are expected on Edgeley Boulevard and Romina Drive with traffic accessing in/out of the Vaughan Mills Mall and Secondary Plan developments. It is expected that these increases are due to traffic to/from the southwest that was previously accessing the site via Bass Pro Mills Drive across Highway 400. Under the reassigned conditions, these vehicles are expected to cross the highway via other roads further south (e.g., Langstaff Road) to reach Edgeley Boulevard to access the Secondary Plan area. Despite the increase in volumes, Edgeley Boulevard is still expected to operate within capacity.
- On Weston Road between Bass Pro Mills Drive and Rutherford Road, a 15 to 20 percent decrease in the peak direction traffic volume is expected during both peak hours. This is expected to be likely due to vehicle to/from the northwest previously using Bass Pro Mills Drive to bypass Rutherford Road to reach the Secondary Plan area or other areas southeast of the study area. This is expected to provide some relief to the traffic conditions on Weston Road, particularly at the intersection at Rutherford Road. A moderate volume increase is also expected in the northbound direction up to proposed access road to the Secondary Plan area south of Rutherford Road, mainly due to more development area traffic using Weston Road to access the site. However, the overall traffic level is expected to remain within capacity and the additional traffic is not expected to impact operations at the Rutherford Road/Weston Road intersection.
- Rutherford Road is expected to experience a general increase in traffic volumes in both directions during both peak hours (over 30% increase west of Highway 400 and around 20% east of Highway 400). As discussed above, this is expected to be mainly due to the fact that this

road will remain as the only east-west corridor within the immediate proximity of the Secondary Plan area. However, considering the roadway capacity expected to be available on Jane Street, Edgeley Boulevard, and the Highway 400 access from Bass Pro Mills Drive, it is expected that vehicles to/from the Secondary Plan area east of Highway 400 can make use of these available routes to reach other arterial routes outside of the study area, such as Major Mackenzie Drive, Langstaff Road, or Highway 7, as alternative routes to cross Highway 400, thereby alleviating some of the pressures on Rutherford Road.

Based on the results of the comparative assessment under the alternative scenario where Bass Pro Mills Drive is only connected to Jane Street, but not extended west of Highway 400 to Weston Road, it is recommended that the proposed development threshold level for the Secondary Plan area east of Highway 400 should be reduced to 70% under horizon 2021 conditions, without the extension of Bass Pro Mills Drive to Weston Road. This is equivalent to approximately 3,300 residential units, 50,600 m² of retail gross floor area (GFA) and 48,600 m² of office GFA. This is to ensure that the planned Secondary Plan developments can be adequately accommodated in the network, with tolerable capacity conditions. It is expected that the development threshold for the area west of Highway 400 can be maintained.

It is expected that the planned Secondary Plan developments within horizon 2021 (i.e., the Jane Street Corridor developments) can still be accommodated under the conditions of this alternative scenario.

5.0 HORIZON 2031 TRANSPORTATION ASSESSMENT

Horizon 2031 is assumed to be the ultimate full build-out horizon for the Secondary Plan. A high-level strategic assessment was undertaken to evaluate the overall road network capacity conditions in the Study Area. Recommendations based on this analysis will assist the Region and City in providing input on where additional transportation improvements are required within their network-wide transportation strategies.

5.1 Background Traffic Projections

Background traffic projections were developed for horizon 2031 based on the 2021 background traffic conditions. An annual growth rate of 0.5 percent has been applied to project 2021 background traffic volumes to 2031 conditions for the boundary road network. This growth rate was assumed based on a further reduction to the assumed 1 percent growth in horizon 2021. Similar to horizon 2021, given the level of development already in place and the expected traffic capacity levels in the area, it was projected that maintaining a constant growth rate over such a long period would be highly conservative and could not be sustained considering the network conditions over time. A reduced rate of traffic growth would more accurately reflect the expected growth in the boundary road network over the timeframe. With the capacity limitations expected by horizon 2021, it is expected that a major portion of the remaining planned development in the Secondary Plan and surrounding area would need to be sustained through a significant shift in modal split patterns towards greater transit, walking and cycling.

5.2 Transportation System Improvements

5.2.1 Transit System Improvements

Transit development is expected to continue to be one of the main components needed to support the continued growth of the Secondary Plan area. In addition to the planned transit improvements in place by 2021, the Region's Transportation Master Plan plans to further upgrade the Jane Street higher-order transit corridor to full BRT or LRT operations on a dedicated right-of-way by 2031, with service from the subway terminus at Vaughan Metropolitan Centre on Highway 7 up to Major Mackenzie Drive (Canada's Wonderland and proposed Mackenzie Vaughan Health Care Centre).

In addition, the transit priority corridor along Rutherford Road is recommended to provide Viva Quick Start transit service, to further enhance the transit capacity and effective use of the transit priority features on the corridor.

It is expected that these transit improvements, alongside with the ongoing improvements to the rest of the transit network, will provide a further enhancement to establish a reliable and convenient transit network that will be attractive and will have sufficient additional capacity to accommodate the additional travel demands projected from the future developments within and around the Secondary Plan area.

5.2.2 Pedestrian and Cycling System Improvements

The development of the pedestrian and cycling network in the Secondary Plan should continue to follow the same approach as discussed in Section 4.5.2 above, with the focus on creating a convenient, accessible and safe network of trails, lanes and paths to facilitate short to medium distance trips within and around the Secondary Plan area. With full build-out of the Secondary Plan expected by 2031, it is therefore recommended that the proposed pedestrian bridge across Highway 400, midblock between Bass Pro Mills Drive and Rutherford Road, be built to provide greater connectivity over the highway. With Bass Pro Mills Drive and Rutherford Road being the only existing links across the highway in the vicinity, it is expected that this midblock pedestrian bridge will provide a convenient short-cut between the two sides of the Secondary Plan, and will encourage greater interaction amongst different land uses within the Secondary Plan.

5.2.3 Road Network Improvements

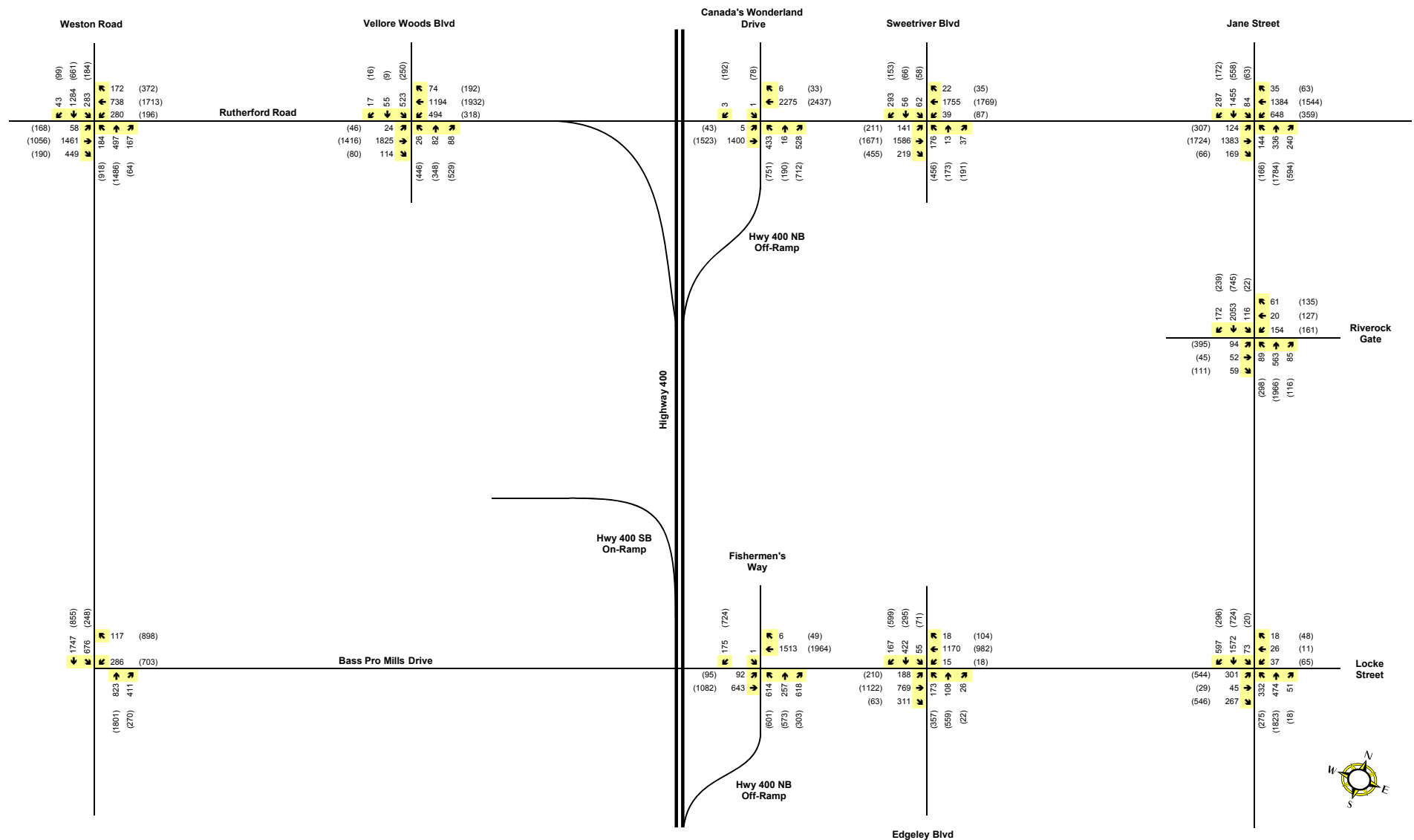
No other additional road improvements were assumed or planned for 2031 for the boundary road network by the City or Region at this time.

5.3 Total Traffic Conditions

The 2031 total traffic conditions were established based on the 2031 background traffic, and including the site traffic generated by the proposed Secondary Plan developments. The 2031 total traffic volumes have been illustrated in **Figure 5.1**.

5.3.1 Network Capacity Analysis

Based on the projected total traffic volumes, a network screenline analysis was conducted under the 2031 total traffic conditions to evaluate the future road network's overall link capacities. The results of the analysis are summarized in **Table 5.1** below. Details of the screenline analysis are included in **Appendix F**.



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XX AM Peak Hour Volumes
 (XX) PM Peak Hour Volumes

Figure 5.1
 2031 Total Traffic Conditions

Table 5.1
Screenline Analysis
Horizon 2031 Total Traffic Conditions

Screenline	Total Capacity (vph)	2031 Background Link Volumes				v/c Ratios ¹			
EAST-WEST SCREENLINES									
		AM		PM		AM		PM	
		WB	EB	WB	EB	WB	EB	WB	EB
A. West of Weston Road	2700	967	2265	2918	1423	0.36	0.84	1.08	0.53
B. East of Weston Road	4100	1494	2898	3797	1721	0.36	0.71	0.93	0.42
C. West of Jane Street	6100	2961	2362	3098	3787	0.49	0.39	0.51	0.62
D. East of Jane Street	3700	2234	1957	2342	2418	0.60	0.53	0.63	0.65
NORTH-SOUTH SCREENLINES									
		AM		PM		AM		PM	
		SB	NB	SB	NB	SB	NB	SB	NB
E1. North of Rutherford Road (West of Hwy 400)	2700	2012	832	1120	2389	0.75	0.31	0.41	0.88
E2. North of Rutherford Road (Hwy 400 Ramps)	2800	1020	--	620	--	0.36	--	0.22	--
E3. North of Rutherford Road (East of Hwy 400)	2800	2384	813	1193	2749	0.85	0.29	0.43	0.98
F1. South of Rutherford Road (West of Hwy 400)	3700	2559	1007	1431	3847	0.69	0.27	0.39	1.04
F2. South of Rutherford Road (Hwy 400 Ramps)	5600	1972	977	1225	1653	0.35	0.17	0.22	0.30
F3. South of Rutherford Road (East of Hwy 400)	5200	2845	1129	2106	3952	0.55	0.22	0.41	0.76
G. North of Bass Pro Mills Drive	8500	5601	5018	5528	9009	0.66	0.59	0.65	1.06
H. South of Bass Pro Mills Drive	10900	5167	4203	4760	6944	0.47	0.39	0.44	0.64

Note: 1. Critical screenlines are those with a volume-to-capacity ratio exceeding 0.95.

Based on the analysis, it is expected that most of the screenlines in the boundary road network will still have available capacity under the 2031 total traffic conditions. A few screenlines are expected to experience some capacity concerns; however, considering the distant timeframe of this horizon, some degree of uncertainty in the assumptions would be expected and the results are expected to represent conservative estimates of the projected conditions.

The overall results of the analysis reinforce the concept that an aggressive change to the travel habits for this area will be necessary to support a major shift in travel mode splits towards greater transit use and less dependence on single-occupant vehicle travel. This change will allow a greater portion of the area's travel demands to be accommodated by transit and alternative travel modes and options, such as walking, cycling and carpooling, and will also alleviate some of the capacity constraints in the boundary road network. These travel behaviour changes together will result in a more efficient and

diversified transportation network that will be able to sustain the planned developments of the Secondary Plan into the future.

5.4 Transportation System Improvements and Accommodation of Development

As already observed under the existing conditions, and further reinforced by the analysis results above, the Vaughan Mills Centre Secondary Plan will need to strongly emphasize establishing a greater balance in the use of alternative modes of transportation. The key infrastructure enhancements are rapid transit along Jane Street, linking to the subway at Highway 7, and also rapid transit along Rutherford Road, connecting to Yonge Street and the Rutherford GO Station. As discussed, the proposed widening of the Weston Road and Jane Street rights-of-way, as suggested in the Secondary Plan, would provide some additional roadway capacity for the corridor and form part of the infrastructure to accommodate higher-order transportation modes (high-occupancy vehicles, transit). Given the constrained road network, further opportunities for major road improvements, other than the ones assumed in the Secondary Plan, will be limited and also undesirable considering the Region's plans for implementing higher-order or priority transit services along the boundary roads. As a result, in order for the proposed development to occur in an effective and sustainable manner, it is important to consider greater focus on encouraging current and future residents, workers and visitors of the area to adjust their travel behaviours to adopt alternative travel modes, as well as implementing the necessary supporting infrastructure and facilities to accommodate these alternative travel demands.

With the planned transit improvements in place, including the proposed right-of-way widening for the boundary Regional Roads to accommodate potential high-occupancy vehicle/transit lanes, it is expected that while many intersections will still experience peak period demands close to capacity, there will also be a significantly enhanced level of multi-modal mobility into and through the Secondary Plan area. That will facilitate realization of the proposed development.

6.0 INTERNAL ROAD NETWORK CONSIDERATIONS

Detailed development information for individual internal blocks or any detailed site plan layout designs beyond those shown in the Secondary Plan were not available at this time for a more in-depth assessment of individual internal intersection operations. Additional transportation analyses will be required in the future during the development approval process to assess the specific impacts of individual development applications within the Secondary Plan Area.

Nevertheless, when assessing the adequacy of the internal network for accommodating the projected developments within the Vaughan Mills Centre area, the following components are important factors that will assist in more effective management of the traffic demands for the Secondary Plan Area and should be taken into consideration:

- Establish a grid layout for the internal network to ensure good connectivity and allow traffic to distribute across the network;
- Integrate excellent adequate pedestrian and cycling networks within the internal road network to facilitate and encourage more extensive use of active transportation modes over private vehicle uses within the Secondary Plan Area and onto the surrounding area. This should include enhancements to the pedestrian and cycling facilities crossing Highway 400 on Bass Pro Mills Drive and Rutherford Road (including potential cantilevering of expanded pedestrian/cycling facilities off the existing bridges) and the proposed mid-block pedestrian bridge;
- Enhance transit service across the Vaughan Mills Centre area and connections with the greater region beyond to promote greater transit use and reduce auto traffic demands on the roads. This should include rapid transit on Jane Street connecting to the subway at Highway 7, priority transit on Rutherford Road, and transit service on Bass Pro Mills Drive and other area streets, to ensure compliance with the YRT guidelines for walking distance to transit; and
- Promote neighbourhood living (live, work, shop, services) to encourage greater internal interactions within the site, where the short distances will likely not require auto travel and help further reduce traffic demands on the road network, through a proactive Transportation Demand Management association and programs.

Based on the proposed internal street network plan, and considering the projected development site traffic and proposed network improvements for the Vaughan Mills Centre Secondary Plan Area, it is expected that the key proposed site access points should have sufficient capacity to accommodate the future development traffic accessing the area. Within the site, it is expected that traffic will be able to distribute more evenly across the internal network through its grid and ring road setup. As such, the proposed internal local and collector roads are expected to be sufficient in accommodating the internal traffic movements. It should be noted that additional detailed transportation analyses will be needed in the future when specific developments are being proposed within the Secondary Plan Area to further confirm the projected conditions.

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Conclusions

Based on the results of the traffic analysis summarized in this report, the following conclusions were drawn:

- Traffic operations at major intersections in the boundary road network around the Vaughan Mills Centre Secondary Plan Area are generally operating at a moderate to poor level of service under the existing conditions, with Rutherford Road being the key congested link, particularly during the p.m. peak hour;
- One of the key limiting factors in terms of traffic operations in the Vaughan Mills Centre area's road network is the capacity constraints already being experienced on the existing boundary roads, such as along Rutherford Road and Weston Road, for which the opportunities for major additional capacity improvements are very limited. The extension of Bass Pro Mills Drive from Jane to Weston will be an essential element for network improvement, and will provide more routing options for better traffic distribution around the Vaughan Mills area;
- Under the interim horizon 2021, with the implementation of some initial transportation system and network improvements, and assuming a full completion of Bass Pro Mills Drive extension from Jane Street to Weston Road, it is estimated that up to 80% of the Secondary Plan could be developed for the areas east of Highway 400, and up to 40% for the area west of Highway 400, before the boundary road network is expected to reach capacity conditions. The Secondary Plan proposed only approximately 70% to be developed for the areas east of Highway 400, which is within the assumed threshold level;
- Under the alternative scenario assuming a partial completion of Bass Pro Mills Drive, with connection to Jane Street, but no extension to Weston Road by horizon 2021, some roadway capacity in the network east of Highway 400 is expected to become available resulting from traffic reassignment. It is therefore expected that up to 70% of the Secondary Plan development could be accommodated in the areas east of Highway 400 with similar capacity conditions, while the 40% development level could still be maintained west of Highway 400; and
- It is expected that more aggressive travel mode shift would be needed, along with further alternative transportation system developments, in order to accommodate the area's transportation demands by 2031.

7.2 Recommendations

The detailed listing of recommended transit, road and policy recommendations required to support full development of the Secondary Plan is provided in the Executive Summary of this report.

APPENDIX A
Intersection Capacity Analysis
Existing Conditions

Lanes, Volumes, Timings
1: Weston Road & Rutherford Road

2/3/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Volume (vph)	58	1442	158	227	615	178	94	455	438	311	1067	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	110.0		50.0	60.0		0.0	120.0		65.0	70.0		95.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98			0.97			0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3689	1538	1719	3551	1524	1517	3406	1553	1736	3471	1482
Flt Permitted	0.411			0.066			0.093			0.354		
Satd. Flow (perm)	776	3689	1505	119	3551	1481	148	3406	1522	644	3471	1457
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			94			193			178			94
Link Speed (k/h)		70			70			70			60	
Link Distance (m)		216.7			394.6			588.1			238.6	
Travel Time (s)		11.1			20.3			30.2			14.3	
Confl. Peds. (#/hr)	13		8	8		13	4		7	7		4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	5%	5%	7%	6%	19%	6%	4%	4%	4%	9%
Adj. Flow (vph)	63	1567	172	247	668	193	102	495	476	338	1160	47
Shared Lane Traffic (%)												
Lane Group Flow (vph)	63	1567	172	247	668	193	102	495	476	338	1160	47
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	2	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	40.0	40.0	40.0	7.0	37.0	37.0	7.0	1.0	1.0	7.0	10.0	10.0
Minimum Split (s)	47.0	47.0	47.0	11.0	44.0	44.0	11.0	43.0	43.0	11.0	43.0	43.0
Total Split (s)	64.0	64.0	64.0	15.0	79.0	79.0	11.0	47.0	47.0	14.0	50.0	50.0
Total Split (%)	45.7%	45.7%	45.7%	10.7%	56.4%	56.4%	7.9%	33.6%	33.6%	10.0%	35.7%	35.7%
Maximum Green (s)	57.0	57.0	57.0	11.0	72.0	72.0	7.0	40.0	40.0	10.0	43.0	43.0
Yellow Time (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	-3.0	0.0	-3.0	0.0	0.0	-3.0	0.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	7.0	4.0	7.0	1.0	7.0	7.0	1.0	7.0	7.0	1.0	4.0	7.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max	Max	None	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	27.0	27.0	27.0		27.0	27.0		29.0	29.0		29.0	29.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0		0	0
Act Effct Green (s)	57.0	60.0	57.0	78.0	72.0	72.0	56.0	40.0	40.0	60.0	46.0	43.0
Actuated g/C Ratio	0.41	0.43	0.41	0.56	0.51	0.51	0.40	0.29	0.29	0.43	0.33	0.31
v/c Ratio	0.20	0.99	0.26	1.09	0.37	0.23	0.65	0.51	0.85	0.90	1.02	0.09
Control Delay	29.0	60.3	13.3	123.4	21.1	2.9	46.9	44.0	44.1	58.9	77.3	0.3

Lanes, Volumes, Timings

1: Weston Road & Rutherford Road

2/3/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.0	60.3	13.3	123.4	21.1	2.9	46.9	44.0	44.1	58.9	77.3	0.3
LOS	C	E	B	F	C	A	D	D	D	E	E	A
Approach Delay		54.7			40.7			44.3			70.9	
Approach LOS		D			D			D			E	
Queue Length 50th (m)	11.8	224.0	14.1	~64.2	56.7	0.0	18.0	63.7	87.1	69.1	~187.6	0.0
Queue Length 95th (m)	23.4	#277.1	31.2	#121.2	70.7	12.5	#38.5	82.2	#148.8	#122.5	#232.2	0.0
Internal Link Dist (m)		192.7			370.6			564.1			214.6	
Turn Bay Length (m)	110.0		50.0	60.0			120.0		65.0	70.0		95.0
Base Capacity (vph)	315	1581	668	226	1826	855	156	973	562	377	1140	512
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.99	0.26	1.09	0.37	0.23	0.65	0.51	0.85	0.90	1.02	0.09

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 115

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 54.4

Intersection LOS: D

Intersection Capacity Utilization 132.2%

ICU Level of Service H

Analysis Period (min) 15

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Weston Road & Rutherford Road

			
15 s	64 s	11 s	50 s
			
79 s		14 s	47 s

Lanes, Volumes, Timings

4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

2/3/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  			  				
Volume (vph)	5	1693	0	0	1468	6	226	13	434	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	0.0		160.0	160.0		300.0	0.0		0.0
Storage Lanes	1		0	0		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.91	0.86	0.91	1.00	1.00	1.00
Ped Bike Factor	1.00					0.98						
Frt						0.850		0.890	0.850			0.850
Flt Protected	0.950						0.950	0.989		0.950		
Satd. Flow (prot)	1805	5429	0	0	5327	1615	1535	2678	1361	1805	0	1615
Flt Permitted	0.148						0.950	0.989		0.950		
Satd. Flow (perm)	281	5429	0	0	5327	1581	1535	2678	1361	1805	0	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						84		126	126			86
Link Speed (k/h)		70			70			40			40	
Link Distance (m)		436.0			304.4			463.2			235.3	
Travel Time (s)		22.4			15.7			41.7			21.2	
Confl. Peds. (#/hr)	7		2	2		7						
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	5%	0%	0%	7%	0%	7%	0%	8%	0%	0%	0%
Adj. Flow (vph)	5	1840	0	0	1596	7	246	14	472	1	0	3
Shared Lane Traffic (%)							29%		50%			
Lane Group Flow (vph)	5	1840	0	0	1596	7	175	321	236	1	0	3
Turn Type	Perm	NA			NA	Perm	Split	NA	Perm	Prot		custom
Protected Phases		2			6		4	4		3		3
Permitted Phases	2					6			4			
Detector Phase	2	2			6	6	4	4	4	3		3
Switch Phase												
Minimum Initial (s)	20.0	20.0			20.0	20.0	7.0	7.0	7.0	7.0		7.0
Minimum Split (s)	39.1	39.1			39.1	39.1	13.9	13.9	13.9	13.9		13.9
Total Split (s)	80.0	80.0			80.0	80.0	44.0	44.0	44.0	16.0		16.0
Total Split (%)	57.1%	57.1%			57.1%	57.1%	31.4%	31.4%	31.4%	11.4%		11.4%
Maximum Green (s)	72.9	72.9			72.9	72.9	37.1	37.1	37.1	9.1		9.1
Yellow Time (s)	5.0	5.0			5.0	5.0	4.1	4.1	4.1	4.1		4.1
All-Red Time (s)	2.1	2.1			2.1	2.1	2.8	2.8	2.8	2.8		2.8
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.1	7.1			7.1	7.1	6.9	6.9	6.9	6.9		6.9
Lead/Lag							Lead	Lead	Lead	Lag		Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max			Max	Max	None	None	None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0						
Flash Dont Walk (s)	25.0	25.0			25.0	25.0						
Pedestrian Calls (#/hr)	0	0			0	0						
Act Effct Green (s)	73.6	73.6			73.6	73.6	18.2	18.2	18.2	7.1		7.1
Actuated g/C Ratio	0.68	0.68			0.68	0.68	0.17	0.17	0.17	0.07		0.07
v/c Ratio	0.03	0.50			0.44	0.01	0.68	0.58	0.71	0.01		0.02
Control Delay	10.0	10.4			9.7	0.0	56.4	29.1	32.1	54.0		0.0

Lanes, Volumes, Timings

4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

2/3/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.0	10.4			9.7	0.0	56.4	29.1	32.1	54.0		0.0
LOS	A	B			A	A	E	C	C	D		A
Approach Delay		10.4			9.7			36.6				
Approach LOS		B			A			D				
Queue Length 50th (m)	0.3	53.6			43.9	0.0	39.0	22.0	24.0	0.2		0.0
Queue Length 95th (m)	2.7	117.6			97.5	0.0	72.8	42.9	60.6	2.3		0.0
Internal Link Dist (m)		412.0			280.4			439.2			211.3	
Turn Bay Length (m)	150.0					160.0	160.0		300.0			
Base Capacity (vph)	191	3692			3623	1102	531	1009	553	153		215
Starvation Cap Reductn	0	0			0	0	0	0	0	0		0
Spillback Cap Reductn	0	0			0	0	0	0	0	0		0
Storage Cap Reductn	0	0			0	0	0	0	0	0		0
Reduced v/c Ratio	0.03	0.50			0.44	0.01	0.33	0.32	0.43	0.01		0.01

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 108.2

Natural Cycle: 70

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 14.7

Intersection LOS: B

Intersection Capacity Utilization 69.0%

ICU Level of Service C

Analysis Period (min) 15

* User Entered Value

Splits and Phases: 4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

											
80 s						44 s					16 s
											
80 s											

Lanes, Volumes, Timings

7: Jane Street & Rutherford Road

2/3/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			  			  	
Volume (vph)	125	1218	362	385	1137	33	123	197	71	65	1042	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		55.0	160.0		80.0	80.0		70.0	120.0		120.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00					0.99			0.99	1.00		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	5327	1538	3505	5327	1242	1504	4631	1417	1770	3505	1568
Flt Permitted	0.950			0.950			0.073			0.612		
Satd. Flow (perm)	1687	5327	1538	3505	5327	1226	116	4631	1398	1139	3505	1545
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			124			101			101			314
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		268.0			392.4			370.7			251.7	
Travel Time (s)		13.8			20.2			19.1			12.9	
Confl. Peds. (#/hr)	1					1	2		1	1		2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	7%	7%	5%	3%	7%	30%	20%	12%	14%	2%	3%	3%
Adj. Flow (vph)	136	1324	393	418	1236	36	134	214	77	71	1133	314
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	1324	393	418	1236	36	134	214	77	71	1133	314
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	12.0	23.0	23.0	12.0	38.0	38.0	11.0	39.0	39.0	11.0	39.0	39.0
Total Split (s)	21.0	45.0	45.0	24.0	48.0	48.0	14.0	60.0	60.0	11.0	57.0	57.0
Total Split (%)	15.0%	32.1%	32.1%	17.1%	34.3%	34.3%	10.0%	42.9%	42.9%	7.9%	40.7%	40.7%
Maximum Green (s)	16.0	38.0	38.0	19.0	41.0	41.0	10.0	53.0	53.0	7.0	50.0	50.0
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	0.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	2.0	4.0	7.0	2.0	4.0	7.0	1.0	7.0	7.0	1.0	4.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	Max	Max	None	Max	Max
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)				24.0	24.0			25.0	25.0		25.0	25.0
Pedestrian Calls (#/hr)				0	0			0	0		0	0
Act Effct Green (s)	17.2	41.0	38.0	21.4	45.3	42.3	69.6	54.9	54.9	66.0	53.0	50.0
Actuated g/C Ratio	0.12	0.29	0.27	0.15	0.33	0.30	0.50	0.39	0.39	0.47	0.38	0.36
v/c Ratio	0.65	0.84	0.77	0.78	0.71	0.08	0.73	0.12	0.13	0.12	0.85	0.42
Control Delay	73.3	52.1	42.9	67.3	44.3	0.4	52.3	27.8	2.8	18.9	46.8	4.9

Lanes, Volumes, Timings

7: Jane Street & Rutherford Road

2/3/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	73.3	52.1	42.9	67.3	44.3	0.4	52.3	27.8	2.8	18.9	46.8	4.9
LOS	E	D	D	E	D	A	D	C	A	B	D	A
Approach Delay		51.7			49.1			31.0			36.8	
Approach LOS		D			D			C			D	
Queue Length 50th (m)	37.8	121.3	74.9	59.0	107.3	0.0	23.4	14.7	0.0	10.5	158.5	0.0
Queue Length 95th (m)	61.4	139.1	117.3	77.7	123.7	0.0	#54.8	21.3	6.3	19.5	189.4	20.4
Internal Link Dist (m)		244.0			368.4			346.7			227.7	
Turn Bay Length (m)	150.0		55.0	160.0		80.0	80.0		70.0	120.0		120.0
Base Capacity (vph)	230	1571	510	554	1734	442	187	1827	613	586	1335	756
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.84	0.77	0.75	0.71	0.08	0.72	0.12	0.13	0.12	0.85	0.42

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 139.1

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 45.2

Intersection LOS: D

Intersection Capacity Utilization 83.5%

ICU Level of Service E

Analysis Period (min) 15

* User Entered Value

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

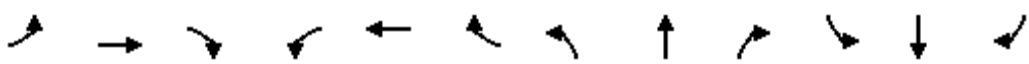
Splits and Phases: 7: Jane Street & Rutherford Road

			
24 s	45 s	14 s	57 s
			
21 s	48 s	11 s	60 s

Lanes, Volumes, Timings

10: Hwy 400 NB Off Ramp & Bass Pro Mills Dr

2/3/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑		↑	↑↑	↑			↑
Volume (vph)	0	0	0	0	81	3	11	81	576	0	0	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	120.0		200.0	0.0		0.0
Storage Lanes	0		0	0		0	1		1	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Frt					0.995				0.850			0.865
Flt Protected							0.950					
Satd. Flow (prot)	0	0	0	0	2912	0	1805	3374	1553	0	0	1580
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	0	0	2912	0	1805	3374	1553	0	0	1580
Right Turn on Red			Yes			Yes	Yes		Yes			No
Satd. Flow (RTOR)					3		31		626			
Link Speed (k/h)		50			50			60			40	
Link Distance (m)		148.4			396.5			263.1			166.8	
Travel Time (s)		10.7			28.5			15.8			15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	23%	33%	0%	7%	4%	0%	0%	4%
Adj. Flow (vph)	0	0	0	0	88	3	12	88	626	0	0	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	91	0	12	88	626	0	0	30
Turn Type					NA		Perm	NA	Perm			custom
Protected Phases					8			2				
Permitted Phases							2		2			6
Detector Phase					8		2	2	2			6
Switch Phase												
Minimum Initial (s)					10.0		10.0	10.0	10.0			10.0
Minimum Split (s)					28.0		32.5	32.5	32.5			22.1
Total Split (s)					90.0		50.0	50.0	50.0			50.0
Total Split (%)					64.3%		35.7%	35.7%	35.7%			35.7%
Maximum Green (s)					83.0		43.5	43.5	43.5			43.9
Yellow Time (s)					4.1		4.5	4.5	4.5			4.1
All-Red Time (s)					2.9		2.0	2.0	2.0			2.0
Lost Time Adjust (s)					0.0		0.0	0.0	0.0			0.0
Total Lost Time (s)					7.0		6.5	6.5	6.5			6.1
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)					3.0		3.0	3.0	3.0			3.0
Recall Mode					None		Max	Max	Max			Max
Walk Time (s)					10.0		15.0	15.0	15.0			
Flash Dont Walk (s)					7.0		5.0	5.0	5.0			
Pedestrian Calls (#/hr)					0		0	0	0			
Act Effct Green (s)					10.0		47.9	47.9	47.9			48.2
Actuated g/C Ratio					0.15		0.72	0.72	0.72			0.72
v/c Ratio					0.21		0.01	0.04	0.48			0.03
Control Delay					25.8		0.7	4.3	1.9			4.2
Queue Delay					0.0		0.0	0.0	0.0			0.0
Total Delay					25.8		0.7	4.3	1.9			4.2

Lanes, Volumes, Timings

10: Hwy 400 NB Off Ramp & Bass Pro Mills Dr

2/3/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
LOS					C		A	A	A			A
Approach Delay					25.8			2.1				
Approach LOS					C			A				
Queue Length 50th (m)					5.4		0.0	1.8	0.0			1.2
Queue Length 95th (m)					11.5		0.7	3.9	9.4			3.5
Internal Link Dist (m)		124.4			372.5			239.1			142.8	
Turn Bay Length (m)							120.0		200.0			
Base Capacity (vph)					2912		1307	2427	1292			1144
Starvation Cap Reductn					0		0	0	0			0
Spillback Cap Reductn					0		0	0	0			0
Storage Cap Reductn					0		0	0	0			0
Reduced v/c Ratio					0.03		0.01	0.04	0.48			0.03

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 66.6

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 4.7

Intersection LOS: A

Intersection Capacity Utilization 41.3%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Hwy 400 NB Off Ramp & Bass Pro Mills Dr



Lanes, Volumes, Timings
1: Weston Road & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	168	938	89	335	1855	536	313	1129	182	163	572	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	110.0		50.0	60.0		0.0	120.0		65.0	70.0		95.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor						0.98	0.99		0.96			0.97
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3725	1524	1752	3725	1599	1736	3574	1583	1703	3539	1583
Flt Permitted	0.071			0.139			0.214			0.103		
Satd. Flow (perm)	135	3725	1524	256	3725	1572	389	3574	1525	185	3539	1537
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			125			169			125			125
Link Speed (k/h)		70			70			70			60	
Link Distance (m)		216.7			394.6			588.1			238.6	
Travel Time (s)		11.1			20.3			30.2			14.3	
Confl. Peds. (#/hr)	4					4	15		22	22		15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	2%	6%	3%	2%	1%	4%	1%	2%	6%	2%	2%
Adj. Flow (vph)	183	1020	97	364	2016	583	340	1227	198	177	622	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	183	1020	97	364	2016	583	340	1227	198	177	622	108
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	40.0	40.0	7.0	40.0	40.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	11.0	47.0	47.0	11.0	47.0	47.0	11.0	43.0	43.0	11.0	43.0	43.0
Total Split (s)	11.0	60.0	60.0	23.0	72.0	72.0	14.0	46.0	46.0	11.0	43.0	43.0
Total Split (%)	7.9%	42.9%	42.9%	16.4%	51.4%	51.4%	10.0%	32.9%	32.9%	7.9%	30.7%	30.7%
Maximum Green (s)	7.0	53.0	53.0	19.0	65.0	65.0	10.0	39.0	39.0	7.0	36.0	36.0
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	1.0	4.0	7.0	1.0	4.0	7.0	1.0	4.0	7.0	1.0	4.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		29.0	29.0		29.0	29.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	69.0	56.0	53.0	82.0	68.0	65.0	56.0	42.0	39.0	52.0	39.0	36.0
Actuated g/C Ratio	0.49	0.40	0.38	0.59	0.49	0.46	0.40	0.30	0.28	0.37	0.28	0.26
v/c Ratio	0.99	0.68	0.15	0.95	1.11	0.71	1.21	1.14	0.38	1.00	0.63	0.22
Control Delay	99.4	37.6	2.5	62.8	94.3	26.2	155.7	120.3	17.6	101.3	47.6	5.6

Lanes, Volumes, Timings

1: Weston Road & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	99.4	37.6	2.5	62.8	94.3	26.2	155.7	120.3	17.6	101.3	47.6	5.6
LOS	F	D	A	E	F	C	F	F	B	F	D	A
Approach Delay	43.7			77.0			115.6			53.1		
Approach LOS	D			E			F			D		
Queue Length 50th (m)	36.4	121.6	0.0	71.3	~336.0	97.3	~83.5	~219.8	16.2	35.1	83.8	0.0
Queue Length 95th (m)	#87.7	145.4	6.7	#135.0	#377.1	145.6	#148.5	#264.4	39.3	#86.5	105.2	11.5
Internal Link Dist (m)	192.7			370.6			564.1			214.6		
Turn Bay Length (m)	110.0	50.0		60.0	120.0		65.0	70.0	95.0			
Base Capacity (vph)	185	1490	654	385	1809	820	280	1072	515	177	985	488
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.68	0.15	0.95	1.11	0.71	1.21	1.14	0.38	1.00	0.63	0.22

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 145

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.21

Intersection Signal Delay: 77.5

Intersection LOS: E

Intersection Capacity Utilization 121.3%

ICU Level of Service H

Analysis Period (min) 15

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Weston Road & Rutherford Road

			
23 s	60 s	14 s	43 s
			
11 s	72 s	11 s	46 s

Lanes, Volumes, Timings

4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

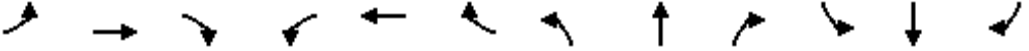
2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  				 			
Volume (vph)	43	1277	0	0	2447	33	910	164	515	78	0	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	0.0		160.0	160.0		300.0	0.0		0.0
Storage Lanes	1		0	0		1	1		2	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.95	0.95	0.88	1.00	1.00	1.00
Ped Bike Factor						0.97			0.98			
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950	0.966		0.950		
Satd. Flow (prot)	1770	5481	0	0	5534	1615	1681	1715	2760	1805	0	1615
Flt Permitted	0.062						0.950	0.966		0.950		
Satd. Flow (perm)	115	5481	0	0	5534	1569	1681	1715	2717	1805	0	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						84			113			86
Link Speed (k/h)		70			70			40			40	
Link Distance (m)		436.0			304.4			463.2			235.3	
Travel Time (s)		22.4			15.7			41.7			21.2	
Confl. Peds. (#/hr)	4		2	2		4			3			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	4%	0%	0%	3%	0%	2%	1%	3%	0%	0%	0%
Adj. Flow (vph)	47	1388	0	0	2660	36	989	178	560	85	0	209
Shared Lane Traffic (%)							41%					
Lane Group Flow (vph)	47	1388	0	0	2660	36	584	583	560	85	0	209
Turn Type	Perm	NA			NA	Perm	Split	NA	Perm	Prot		custom
Protected Phases		2			6		4	4		3		3
Permitted Phases	2					6			4			
Detector Phase	2	2			6	6	4	4	4	3		3
Switch Phase												
Minimum Initial (s)	20.0	20.0			20.0	20.0	10.0	10.0	10.0	7.0		7.0
Minimum Split (s)	39.1	39.1			39.1	39.1	42.9	42.9	42.9	13.9		13.9
Total Split (s)	72.0	72.0			72.0	72.0	51.0	51.0	51.0	17.0		17.0
Total Split (%)	51.4%	51.4%			51.4%	51.4%	36.4%	36.4%	36.4%	12.1%		12.1%
Maximum Green (s)	64.9	64.9			64.9	64.9	44.1	44.1	44.1	10.1		10.1
Yellow Time (s)	5.0	5.0			5.0	5.0	4.1	4.1	4.1	4.1		4.1
All-Red Time (s)	2.1	2.1			2.1	2.1	2.8	2.8	2.8	2.8		2.8
Lost Time Adjust (s)	0.0	-3.0			-3.0	0.0	-3.0	-3.0	-3.0	-3.0		-3.0
Total Lost Time (s)	7.1	4.1			4.1	7.1	3.9	3.9	3.9	3.9		3.9
Lead/Lag							Lead	Lead	Lead	Lag		Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max			Max	Max	None	None	None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	25.0	25.0			25.0	25.0	29.0	29.0	29.0			
Pedestrian Calls (#/hr)	0	0			0	0	0	0	0			
Act Effct Green (s)	64.9	67.9			67.9	64.9	47.1	47.1	47.1	13.1		13.1
Actuated g/C Ratio	0.46	0.48			0.48	0.46	0.34	0.34	0.34	0.09		0.09
v/c Ratio	0.89	0.52			0.99	0.05	1.03	1.01	0.57	0.51		0.91
Control Delay	133.9	25.7			51.2	0.1	91.9	86.3	32.4	71.5		77.0

Lanes, Volumes, Timings

4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	133.9	25.7			51.2	0.1	91.9	86.3	32.4	71.5		77.0
LOS	F	C			D	A	F	F	C	E		E
Approach Delay		29.3			50.5			70.8				
Approach LOS		C			D			E				
Queue Length 50th (m)	12.2	91.0			250.9	0.0	~191.7	~182.5	60.7	24.0		36.7
Queue Length 95th (m)	#40.7	103.8			#290.0	0.0	#270.0	#265.7	82.0	42.7		#86.7
Internal Link Dist (m)		412.0			280.4			439.2			211.3	
Turn Bay Length (m)	150.0					160.0	160.0		300.0			
Base Capacity (vph)	53	2658			2683	772	565	576	989	168		229
Starvation Cap Reductn	0	0			0	0	0	0	0	0		0
Spillback Cap Reductn	0	0			0	0	0	0	0	0		0
Storage Cap Reductn	0	0			0	0	0	0	0	0		0
Reduced v/c Ratio	0.89	0.52			0.99	0.05	1.03	1.01	0.57	0.51		0.91

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 120

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 52.4

Intersection LOS: D

Intersection Capacity Utilization 98.8%

ICU Level of Service F

Analysis Period (min) 15

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

 ø2	 ø4	 ø3
72 s	51 s	17 s
 ø6		
72 s		

Lanes, Volumes, Timings

7: Jane Street & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		  	  			  			 	
Volume (vph)	231	1244	80	195	1340	60	215	1330	355	40	320	187
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		55.0	160.0		80.0	80.0		70.0	120.0		120.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Ped Bike Factor			0.99	1.00			1.00					0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	5377	1417	3574	5377	1583	1656	5136	1538	1752	3505	1615
Flt Permitted	0.082			0.950			0.439			0.096		
Satd. Flow (perm)	156	5377	1399	3572	5377	1583	765	5136	1538	177	3505	1594
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			132			171			236			203
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		268.0			392.4			370.7			251.7	
Travel Time (s)		13.8			20.2			19.1			12.9	
Confl. Peds. (#/hr)			1	1			1					1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	6%	14%	1%	6%	2%	9%	1%	5%	3%	3%	0%
Adj. Flow (vph)	251	1352	87	212	1457	65	234	1446	386	43	348	203
Shared Lane Traffic (%)												
Lane Group Flow (vph)	251	1352	87	212	1457	65	234	1446	386	43	348	203
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2			6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	12.0	23.0	23.0	12.0	38.0	38.0	11.0	39.0	39.0	11.0	39.0	39.0
Total Split (s)	26.0	63.0	63.0	15.0	52.0	52.0	17.0	51.0	51.0	11.0	45.0	45.0
Total Split (%)	18.6%	45.0%	45.0%	10.7%	37.1%	37.1%	12.1%	36.4%	36.4%	7.9%	32.1%	32.1%
Maximum Green (s)	21.0	56.0	56.0	10.0	45.0	45.0	13.0	44.0	44.0	7.0	38.0	38.0
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	2.0	4.0	7.0	2.0	4.0	7.0	1.0	4.0	7.0	1.0	4.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	Max	Max	None	Max	Max
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)				24.0	24.0			25.0	25.0		25.0	25.0
Pedestrian Calls (#/hr)				0	0			0	0		0	0
Act Effct Green (s)	75.8	59.0	56.0	13.0	51.5	48.5	60.8	49.0	46.0	54.0	41.0	38.0
Actuated g/C Ratio	0.54	0.42	0.40	0.09	0.37	0.35	0.43	0.35	0.33	0.39	0.29	0.27
v/c Ratio	0.77	0.60	0.14	0.64	0.74	0.10	0.54	0.80	0.58	0.24	0.34	0.35
Control Delay	48.6	32.6	1.4	70.7	41.6	0.3	31.3	45.8	18.8	26.5	39.9	6.7

Lanes, Volumes, Timings
7: Jane Street & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	32.6	1.4	70.7	41.6	0.3	31.3	45.8	18.8	26.5	39.9	6.7
LOS	D	C	A	E	D	A	C	D	B	C	D	A
Approach Delay	33.3			43.6			39.1			27.6		
Approach LOS	C			D			D			C		
Queue Length 50th (m)	50.8	100.4	0.0	30.3	124.4	0.0	44.2	142.6	35.9	7.2	42.0	0.0
Queue Length 95th (m)	82.0	114.8	3.0	44.0	144.9	0.0	65.9	162.7	71.8	15.0	56.7	19.6
Internal Link Dist (m)	244.0			368.4			346.7			227.7		
Turn Bay Length (m)	150.0			55.0	160.0			80.0	80.0	70.0	120.0	120.0
Base Capacity (vph)	368	2270	639	332	1980	660	434	1800	664	180	1028	581
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.68	0.60	0.14	0.64	0.74	0.10	0.54	0.80	0.58	0.24	0.34	0.35

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 139.8

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 37.7

Intersection LOS: D

Intersection Capacity Utilization 90.6%

ICU Level of Service E

Analysis Period (min) 15

* User Entered Value

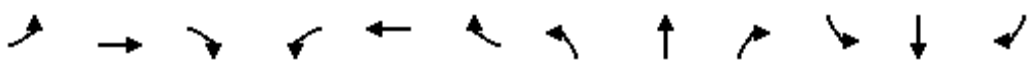
Splits and Phases: 7: Jane Street & Rutherford Road

 ϕ_1	 ϕ_2	 ϕ_3	 ϕ_4
15 s	63 s	17 s	45 s
 ϕ_5	 ϕ_6	 ϕ_7	 ϕ_8
26 s	52 s	11 s	51 s

Lanes, Volumes, Timings

10: Hwy 400 NB Off Ramp & Bass Pro Mills Dr

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑		↑	↑↑	↑			↑
Volume (vph)	0	0	0	0	642	45	17	206	213	0	0	253
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	0.0		0.0	120.0		200.0	0.0		0.0
Storage Lanes	0		0	0		0	1		1	0		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00
Frt					0.990				0.850			0.865
Flt Protected							0.950					
Satd. Flow (prot)	0	0	0	0	3541	0	1805	3610	1509	0	0	1627
Flt Permitted							0.950					
Satd. Flow (perm)	0	0	0	0	3541	0	1805	3610	1509	0	0	1627
Right Turn on Red			Yes			Yes	Yes		Yes			No
Satd. Flow (RTOR)					9		31		232			
Link Speed (k/h)		50			50			60			40	
Link Distance (m)		148.4			396.5			263.1			166.8	
Travel Time (s)		10.7			28.5			15.8			15.0	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	0%	0%	0%	1%	0%	0%	0%	7%	0%	0%	1%
Adj. Flow (vph)	0	0	0	0	698	49	18	224	232	0	0	275
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	747	0	18	224	232	0	0	275
Turn Type					NA		Perm	NA	Perm			custom
Protected Phases					8			2				
Permitted Phases							2		2			6
Detector Phase					8		2	2	2			6
Switch Phase												
Minimum Initial (s)					10.0		10.0	10.0	10.0			10.0
Minimum Split (s)					28.0		32.5	32.5	32.5			22.1
Total Split (s)					90.0		50.0	50.0	50.0			50.0
Total Split (%)					64.3%		35.7%	35.7%	35.7%			35.7%
Maximum Green (s)					83.0		43.5	43.5	43.5			43.9
Yellow Time (s)					4.1		4.5	4.5	4.5			4.1
All-Red Time (s)					2.9		2.0	2.0	2.0			2.0
Lost Time Adjust (s)					-3.0		0.0	-3.0	0.0			-3.0
Total Lost Time (s)					4.0		6.5	3.5	6.5			3.1
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)					3.0		3.0	3.0	3.0			3.0
Recall Mode					None		Max	Max	Max			Max
Walk Time (s)					10.0		15.0	15.0	15.0			
Flash Dont Walk (s)					7.0		5.0	5.0	5.0			
Pedestrian Calls (#/hr)					0		0	0	0			
Act Effct Green (s)					25.0		43.6	46.6	43.6			47.0
Actuated g/C Ratio					0.32		0.55	0.59	0.55			0.59
v/c Ratio					0.66		0.02	0.11	0.25			0.28
Control Delay					26.2		2.4	7.9	2.3			9.5
Queue Delay					0.0		0.0	0.0	0.0			0.0
Total Delay					26.2		2.4	7.9	2.3			9.5

Lanes, Volumes, Timings

10: Hwy 400 NB Off Ramp & Bass Pro Mills Dr

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS					C		A	A	A			A
Approach Delay					26.2			4.9				
Approach LOS					C			A				
Queue Length 50th (m)					52.4		0.0	7.4	0.0			19.4
Queue Length 95th (m)					70.8		2.1	14.3	10.5			38.0
Internal Link Dist (m)		124.4			372.5			239.1			142.8	
Turn Bay Length (m)							120.0		200.0			
Base Capacity (vph)					3541		1008	2125	935			966
Starvation Cap Reductn					0		0	0	0			0
Spillback Cap Reductn					0		0	0	0			0
Storage Cap Reductn					0		0	0	0			0
Reduced v/c Ratio					0.21		0.02	0.11	0.25			0.28

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 79.1

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 16.4

Intersection LOS: B

Intersection Capacity Utilization 53.2%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 10: Hwy 400 NB Off Ramp & Bass Pro Mills Dr



APPENDIX B
Screenline Analysis
2021 Background Conditions

SCREENLINE ANALYSIS
Vaughan Mills Centre Secondary Plan

2021												
Screenline Station	Locations	No. of Lanes per Direction	Capacity Per Lane	Total Capacity (vph)	2021 Background Link Volumes				v/c Ratios			
EAST-WEST SCREENLINES					AM		PM		AM		PM	
A. West of Weston Road					WB	EB	WB	EB	WB	EB	WB	EB
1	Rutherford Road	2	900	2200	719	1311	1940	1059	0.33	0.60	0.88	0.48
2	Astona Boulevard	1	500	500	108	496	420	161	0.22	0.99	0.84	0.32
Overall				2700	827	1807	2360	1220	0.31	0.67	0.87	0.45
Excess Link Capacities					1873	893	340	1480				
B. East of Weston Road												
3	Rutherford Road	2	900	2200	754	1398	1621	967	0.34	0.64	0.74	0.44
101	West Area Access Road A											
4	Bass Pro Mills Drive	2	700	1400	239	398	912	154	0.17	0.28	0.65	0.11
Overall				3600	993	1796	2533	1121	0.28	0.50	0.70	0.31
Excess Link Capacities					2607	1804	1067	2479				
C. West of Jane Street												
5	Rutherford Road	2	900	2200	1249	1299	1441	1409	0.57	0.59	0.65	0.64
103	East Area Access Road B											
6	Riverock Gate	2	500	1000	166	159	471	463	0.17	0.16	0.47	0.46
104	East Area Access Road C											
105	East Area Access Road A	1	500	500	4	8	26	3	0.01	0.02	0.05	0.01
7	Bass Pro Mills Drive	2	700	1400	225	362	255	122	0.16	0.26	0.18	0.09
Overall				5100	1644	1828	2193	1997	0.32	0.36	0.43	0.39
Excess Link Capacities					3456	3272	2907	3103				
D. East of Jane Street												
8	Rutherford Road	2	900	2200	1472	1285	1513	1596	0.67	0.58	0.69	0.73
106	NE Parcel Access Road B											
9	Riverock Gate	1	500	500	55	169	236	73	0.11	0.34	0.47	0.15
10	Locke Street	1	500	500	57	163	116	42	0.11	0.33	0.23	0.08
Overall				3200	1584	1617	1865	1711	0.50	0.51	0.58	0.53
Excess Link Capacities					1616	1583	1335	1489				

NORTH-SOUTH SCREENLINES								AM		PM		AM		PM	
								SB	NB	SB	NB	SB	NB	SB	NB
E1. North of Rutherford Road (West of Highway 400)															
11	Weston Road	2	900	2200	1342	620	793	1718	0.61	0.28	0.36	0.78			
12	Vellore Woods Boulevard	1	500	500	589	174	272	565	1.18	0.35	0.54	1.13			
	Overall			2700	1931	794	1065	2283	0.72	0.29	0.39	0.85			
	Excess Link Capacities				769	1906	1635	417							
E2. North of Rutherford Road (Highway 400 Ramps)															
13	Highway 400 SB Off-Ramp (Rutherford)	2	1400	2800	704	0	395	0	0.25	0.00	0.14	0.00			
	Overall			2800	704	0	395	0	0.25	0.00	0.14	0.00			
	Excess Link Capacities				2096	2800	2405	2800							
E3. North of Rutherford Road (East of Highway 400)															
14	Sweetriver Blvd	1	500	500	403	172	270	403	0.81	0.34	0.54	0.81			
15	Julliard Drive	1	500	500	141	138	119	166	0.28	0.28	0.24	0.33			
16	Jane Street	2	900	1800	1427	375	603	1689	0.79	0.21	0.34	0.94			
	Overall			2800	1971	685	992	2258	0.70	0.24	0.35	0.81			
	Excess Link Capacities				829	2115	1808	542							
F1. South of Rutherford Road (West of Highway 400)															
17	Weston Road	2	900	2200	1389	719	820	1972	0.63	0.33	0.37	0.90			
107	Westcreek Drive														
108	Vellore Woods Boulevard	1	500	500	50	77	7	479	0.10	0.15	0.01	0.96			
	Overall			2700	1439	796	827	2451	0.53	0.29	0.31	0.91			
	Excess Link Capacities				1261	1904	1873	249							
F2. South of Rutherford Road (Highway 400 Ramps)															
18	Highway 400 SB On-Ramp (Rutherford EB)	1	1400	1400	1017	0	351	0	0.73	0.00	0.25	0.00			
19	Highway 400 SB On-Ramp (Rutherford WB)	1	1400	1400	0	754	0	503	0.00	0.54	0.00	0.36			
20	Highway 400 NB Off-Ramp (Rutherford)	2	1400	2800	0	629	0	1309	0.00	0.22	0.00	0.47			
	Overall			5600	1017	1383	351	1812	0.18	0.25	0.06	0.32			
	Excess Link Capacities				4583	4217	5249	3788							
F3. South of Rutherford Road (East of Highway 400)															
21	Sweetriver Blvd	2	500	1000	146	73	274	530	0.15	0.07	0.27	0.53			
22	Julliard Drive	2	500	1000	57	25	181	274	0.06	0.03	0.18	0.27			
23	Jane Street	3	900	2700	1793	504	737	1938	0.66	0.19	0.27	0.72			
109	NE Parcel Access Road A														
	Overall			4700	1996	602	1192	2742	0.42	0.13	0.25	0.58			
	Excess Link Capacities				2704	4098	3508	1958							
G. North of Bass Pro Mills Drive															
24	Weston Road	2	900	2200	1688	659	824	2231	0.77	0.30	0.37	1.01			
110	Westcreek Drive	1	500	500	10	0	1	75	0.02	0.00	0.00	0.15			
111	Vellore Woods Boulevard	1	500	500	28	78	5	329	0.06	0.16	0.01	0.66			
112	Creditview Road	1	500	500	14	187	2	986	0.03	0.37	0.00	1.97			
25	Fishermen's Way	2	400	800	49	114	549	293	0.06	0.14	0.69	0.37			
26	Edgeley Boulevard	2	600	1200	414	222	641	736	0.35	0.19	0.53	0.61			
113	Romina Drive	1	500	500	18	33	151	55	0.04	0.07	0.30	0.11			
27	Jane Street	2	900	1800	1647	474	655	1744	0.92	0.26	0.36	0.97			
	Overall			8000	3868	1767	2828	6449	0.48	0.22	0.35	0.81			
	Excess Link Capacities				4132	6233	5172	1551							
H. South of Bass Pro Mills Drive															
28	Weston Road	2	900	2200	1562	692	879	1528	0.71	0.31	0.40	0.69			
114	Westcreek Drive	1	500	500	21	34	25	101	0.04	0.07	0.05	0.20			
115	Creditview Road	1	500	500	23	42	25	105	0.05	0.08	0.05	0.21			
29	Highway 400 SB On-Ramp (Bass Pro Mills)	1	1400	1400	187	0	911	0	0.13	0.00	0.65	0.00			
30	Highway 400 NB Off-Ramp (Bass Pro Mills)	2	1400	2800	0	723	0	764	0.00	0.26	0.00	0.27			
31	Edgeley Boulevard	2	600	1200	656	129	234	822	0.55	0.11	0.20	0.69			
32	Romina Drive	1	500	500	183	47	90	286	0.37	0.09	0.18	0.57			
33	Jane Street	2	900	1800	1619	415	617	1765	0.90	0.23	0.34	0.98			
	Overall			10900	4251	2082	2781	5371	0.39	0.19	0.26	0.49			
	Excess Link Capacities				6649	8818	8119	5529							

APPENDIX C
Intersection Capacity Analysis
2021 Background Conditions

Lanes, Volumes, Timings
1: Weston Road & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Volume (vph)	58	952	300	68	522	163	153	398	167	278	1020	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	110.0		50.0	60.0		0.0	120.0		65.0	70.0		95.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.97	1.00		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3689	1538	1719	3551	1524	1517	3406	1553	1736	3471	1482
Flt Permitted	0.471			0.155			0.152			0.451		
Satd. Flow (perm)	888	3689	1505	280	3551	1481	242	3406	1522	820	3471	1457
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			181			163			167			94
Link Speed (k/h)		70			70			70			60	
Link Distance (m)		216.7			167.8			341.7			238.6	
Travel Time (s)		11.1			8.6			17.6			14.3	
Confl. Peds. (#/hr)	13		8	8		13	4		7	7		4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	5%	5%	7%	6%	19%	6%	4%	4%	4%	9%
Adj. Flow (vph)	58	952	300	68	522	163	153	398	167	278	1020	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	952	300	68	522	163	153	398	167	278	1020	43
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	2	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	40.0	40.0	40.0	7.0	40.0	40.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	47.0	47.0	47.0	11.0	47.0	47.0	11.0	43.0	43.0	11.0	43.0	43.0
Total Split (s)	56.0	56.0	56.0	11.0	67.0	67.0	11.0	52.0	52.0	21.0	62.0	62.0
Total Split (%)	40.0%	40.0%	40.0%	7.9%	47.9%	47.9%	7.9%	37.1%	37.1%	15.0%	44.3%	44.3%
Maximum Green (s)	49.0	49.0	49.0	7.0	60.0	60.0	7.0	45.0	45.0	17.0	55.0	55.0
Yellow Time (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	-3.0	0.0	-3.0	0.0	0.0	-3.0	0.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	7.0	4.0	7.0	1.0	7.0	7.0	1.0	7.0	7.0	1.0	4.0	7.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max	Max	None	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	27.0	27.0	27.0		27.0	27.0		29.0	29.0		29.0	29.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0		0	0
Act Effct Green (s)	51.2	54.2	51.2	66.0	60.0	60.0	62.4	46.4	46.4	72.0	58.0	55.0
Actuated g/C Ratio	0.37	0.39	0.37	0.47	0.43	0.43	0.45	0.33	0.33	0.51	0.41	0.39
v/c Ratio	0.18	0.67	0.45	0.29	0.34	0.22	0.77	0.35	0.27	0.51	0.71	0.07
Control Delay	33.5	38.9	15.7	23.8	27.6	4.2	50.5	36.9	5.9	23.4	37.4	0.2

Lanes, Volumes, Timings

1: Weston Road & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	38.9	15.7	23.8	27.6	4.2	50.5	36.9	5.9	23.4	37.4	0.2
LOS	C	D	B	C	C	A	D	D	A	C	D	A
Approach Delay	33.3			22.2			32.6			33.3		
Approach LOS	C			C			C			C		
Queue Length 50th (m)	11.7	116.9	25.0	10.7	50.3	0.0	23.5	46.8	0.0	45.6	128.4	0.0
Queue Length 95th (m)	26.7	163.9	67.1	22.5	73.3	18.8	#68.5	70.3	23.4	75.7	181.6	0.7
Internal Link Dist (m)	192.7			143.8			317.7			214.6		
Turn Bay Length (m)	110.0	50.0		60.0	120.0		65.0	70.0	95.0			
Base Capacity (vph)	324	1428	665	234	1521	727	198	1127	615	552	1437	629
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.67	0.45	0.29	0.34	0.22	0.77	0.35	0.27	0.50	0.71	0.07

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 115

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.77

Intersection Signal Delay: 31.2

Intersection LOS: C

Intersection Capacity Utilization 116.9%

ICU Level of Service H

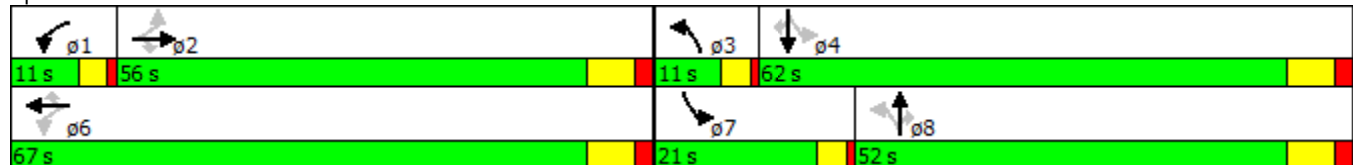
Analysis Period (min) 60

* User Entered Value

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Weston Road & Rutherford Road



Lanes, Volumes, Timings
1: Weston Road & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Volume (vph)	58	952	300	68	522	163	153	398	167	278	1020	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	110.0		50.0	60.0		0.0	120.0		65.0	70.0		95.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98	1.00		0.97	1.00		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3689	1538	1719	3551	1524	2943	3406	1553	1736	3471	1482
Flt Permitted	0.471			0.144			0.950			0.480		
Satd. Flow (perm)	888	3689	1505	260	3551	1481	2937	3406	1522	873	3471	1457
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			177			163			167			94
Link Speed (k/h)		70			70			70			60	
Link Distance (m)		216.7			167.8			341.7			238.6	
Travel Time (s)		11.1			8.6			17.6			14.3	
Confl. Peds. (#/hr)	13		8	8		13	4		7	7		4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	5%	5%	7%	6%	19%	6%	4%	4%	4%	9%
Adj. Flow (vph)	58	952	300	68	522	163	153	398	167	278	1020	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	952	300	68	522	163	153	398	167	278	1020	43
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6			8	4		4
Detector Phase	2	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	40.0	40.0	40.0	7.0	40.0	40.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	47.0	47.0	47.0	11.0	47.0	47.0	14.0	43.0	43.0	11.0	43.0	43.0
Total Split (s)	54.0	54.0	54.0	11.0	65.0	65.0	17.0	59.0	59.0	16.0	58.0	58.0
Total Split (%)	38.6%	38.6%	38.6%	7.9%	46.4%	46.4%	12.1%	42.1%	42.1%	11.4%	41.4%	41.4%
Maximum Green (s)	47.0	47.0	47.0	7.0	58.0	58.0	10.0	52.0	52.0	12.0	51.0	51.0
Yellow Time (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	-3.0	0.0	-3.0	0.0	0.0	-3.0	0.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	7.0	4.0	7.0	1.0	7.0	7.0	4.0	7.0	7.0	1.0	4.0	7.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max	Max	None	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	27.0	27.0	27.0		27.0	27.0		29.0	29.0		29.0	29.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0		0	0
Act Effct Green (s)	49.2	52.2	49.2	64.0	58.0	58.0	12.8	52.0	52.0	72.2	54.2	51.2
Actuated g/C Ratio	0.35	0.37	0.35	0.46	0.41	0.41	0.09	0.37	0.37	0.52	0.39	0.37
v/c Ratio	0.19	0.69	0.47	0.30	0.35	0.23	0.57	0.31	0.25	0.51	0.76	0.07
Control Delay	35.0	41.0	17.0	25.3	29.0	4.4	70.1	32.2	5.0	22.5	41.8	0.2

Lanes, Volumes, Timings
1: Weston Road & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.0	41.0	17.0	25.3	29.0	4.4	70.1	32.2	5.0	22.5	41.8	0.2
LOS	C	D	B	C	C	A	E	C	A	C	D	A
Approach Delay	35.2			23.4			34.0			36.5		
Approach LOS	D			C			C			D		
Queue Length 50th (m)	12.0	119.8	26.7	11.0	51.7	0.0	22.3	43.2	0.0	44.2	135.1	0.0
Queue Length 95th (m)	27.4	167.8	69.9	23.2	75.4	19.3	38.8	64.7	21.3	73.3	191.2	0.7
Internal Link Dist (m)	192.7			143.8			317.7			214.6		
Turn Bay Length (m)	110.0	50.0		60.0	120.0		65.0	70.0	95.0			
Base Capacity (vph)	312	1375	643	223	1471	709	273	1265	670	542	1344	592
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.69	0.47	0.30	0.35	0.23	0.56	0.31	0.25	0.51	0.76	0.07

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 115

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.76

Intersection Signal Delay: 33.2

Intersection LOS: C

Intersection Capacity Utilization 116.9%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 1: Weston Road & Rutherford Road

 ø1	 ø2	 ø3	 ø4
11 s	54 s	17 s	58 s
 ø6	 ø7	 ø8	
65 s	16 s	59 s	

Lanes, Volumes, Timings

4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 				
Volume (vph)	5	964	0	0	1412	6	180	15	434	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	0.0		160.0	160.0		300.0	0.0		0.0
Storage Lanes	1		0	0		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.91	0.86	0.91	1.00	1.00	1.00
Ped Bike Factor						0.98						
Frt						0.850		0.878	0.850			0.850
Flt Protected	0.950						0.950	0.994		0.950		
Satd. Flow (prot)	1805	3619	0	0	3551	1615	1535	2655	1361	1805	0	1615
Flt Permitted	0.156						0.950	0.994		0.950		
Satd. Flow (perm)	296	3619	0	0	3551	1581	1535	2655	1361	1805	0	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						84		183	183			86
Link Speed (k/h)		70			70			40			40	
Link Distance (m)		436.0			304.4			463.2			235.3	
Travel Time (s)		22.4			15.7			41.7			21.2	
Confl. Peds. (#/hr)	7		2	2		7						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	5%	0%	0%	7%	0%	7%	0%	8%	0%	0%	0%
Adj. Flow (vph)	5	964	0	0	1412	6	180	15	434	1	0	3
Shared Lane Traffic (%)							19%		50%			
Lane Group Flow (vph)	5	964	0	0	1412	6	146	266	217	1	0	3
Turn Type	Perm	NA			NA	Perm	Split	NA	Perm	Prot		custom
Protected Phases		2			6		4	4		3		3
Permitted Phases	2					6			4			
Detector Phase	2	2			6	6	4	4	4	3		3
Switch Phase												
Minimum Initial (s)	20.0	20.0			20.0	20.0	10.0	10.0	10.0	7.0		7.0
Minimum Split (s)	39.1	39.1			39.1	39.1	42.9	42.9	42.9	13.9		13.9
Total Split (s)	82.0	82.0			82.0	82.0	44.0	44.0	44.0	14.0		14.0
Total Split (%)	58.6%	58.6%			58.6%	58.6%	31.4%	31.4%	31.4%	10.0%		10.0%
Maximum Green (s)	74.9	74.9			74.9	74.9	37.1	37.1	37.1	7.1		7.1
Yellow Time (s)	5.0	5.0			5.0	5.0	4.1	4.1	4.1	4.1		4.1
All-Red Time (s)	2.1	2.1			2.1	2.1	2.8	2.8	2.8	2.8		2.8
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.1	7.1			7.1	7.1	6.9	6.9	6.9	6.9		6.9
Lead/Lag							Lead	Lead	Lead	Lag		Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max			Max	Max	None	None	None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	25.0	25.0			25.0	25.0	29.0	29.0	29.0			
Pedestrian Calls (#/hr)	0	0			0	0	0	0	0			
Act Effct Green (s)	75.5	75.5			75.5	75.5	16.0	16.0	16.0	7.1		7.1
Actuated g/C Ratio	0.70	0.70			0.70	0.70	0.15	0.15	0.15	0.07		0.07
v/c Ratio	0.02	0.38			0.57	0.01	0.64	0.48	0.61	0.01		0.02
Control Delay	8.8	8.5			10.8	0.0	57.7	17.0	17.6	54.0		0.0

Lanes, Volumes, Timings

4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.8	8.5			10.8	0.0	57.7	17.0	17.6	54.0		0.0
LOS	A	A			B	A	E	B	B	D		A
Approach Delay		8.5			10.8			26.7				
Approach LOS		A			B			C				
Queue Length 50th (m)	0.3	33.8			60.3	0.0	32.6	9.1	7.0	0.2		0.0
Queue Length 95th (m)	2.8	98.7			179.6	0.0	70.9	31.5	47.6	2.6		0.0
Internal Link Dist (m)		412.0			280.4			439.2			211.3	
Turn Bay Length (m)	150.0					160.0	160.0		300.0			
Base Capacity (vph)	206	2530			2482	1130	531	1038	590	119		187
Starvation Cap Reductn	0	0			0	0	0	0	0	0		0
Spillback Cap Reductn	0	0			0	0	0	0	0	0		0
Storage Cap Reductn	0	0			0	0	0	0	0	0		0
Reduced v/c Ratio	0.02	0.38			0.57	0.01	0.27	0.26	0.37	0.01		0.02

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 108

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.64

Intersection Signal Delay: 13.4

Intersection LOS: B

Intersection Capacity Utilization 70.6%

ICU Level of Service C

Analysis Period (min) 60

* User Entered Value

Splits and Phases: 4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

														
ø2	ø4	ø3	ø6											
82 s	44 s	14 s	82 s											

Lanes, Volumes, Timings
7: Jane Street & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 			  			 	
Volume (vph)	111	1019	169	499	940	33	72	231	201	65	1125	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		55.0	160.0		80.0	80.0		70.0	120.0		120.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00					0.99			0.99	1.00		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	3551	1538	3505	3551	1242	1504	4631	1417	1770	3505	1568
Flt Permitted	0.950			0.950			0.083			0.602		
Satd. Flow (perm)	1686	3551	1538	3505	3551	1226	131	4631	1398	1120	3505	1545
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			140			101			201			237
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		268.0			249.5			177.7			251.7	
Travel Time (s)		13.8			12.8			9.1			12.9	
Confl. Peds. (#/hr)	1					1	2		1	1		2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	7%	5%	3%	7%	30%	20%	12%	14%	2%	3%	3%
Adj. Flow (vph)	111	1019	169	499	940	33	72	231	201	65	1125	237
Shared Lane Traffic (%)												
Lane Group Flow (vph)	111	1019	169	499	940	33	72	231	201	65	1125	237
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	12.0	23.0	23.0	12.0	38.0	38.0	11.0	39.0	39.0	11.0	39.0	39.0
Total Split (s)	14.0	47.0	47.0	23.0	56.0	56.0	11.0	59.0	59.0	11.0	59.0	59.0
Total Split (%)	10.0%	33.6%	33.6%	16.4%	40.0%	40.0%	7.9%	42.1%	42.1%	7.9%	42.1%	42.1%
Maximum Green (s)	9.0	40.0	40.0	18.0	49.0	49.0	7.0	52.0	52.0	7.0	52.0	52.0
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	0.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	2.0	4.0	7.0	2.0	4.0	7.0	1.0	7.0	7.0	1.0	4.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	Max	Max	None	Max	Max
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)				24.0	24.0			25.0	25.0		25.0	25.0
Pedestrian Calls (#/hr)				0	0			0	0		0	0
Act Effct Green (s)	12.0	43.0	40.0	21.0	52.1	49.1	65.9	52.1	52.1	65.9	55.1	52.1
Actuated g/C Ratio	0.09	0.31	0.29	0.15	0.38	0.36	0.48	0.38	0.38	0.48	0.40	0.38
v/c Ratio	0.76	0.92	0.31	0.93	0.70	0.07	0.44	0.13	0.31	0.11	0.80	0.32
Control Delay	98.2	62.8	10.8	94.5	40.2	0.2	28.1	28.9	5.1	19.4	42.6	4.7

Lanes, Volumes, Timings

7: Jane Street & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	98.2	62.8	10.8	94.5	40.2	0.2	28.1	28.9	5.1	19.4	42.6	4.7
LOS	F	E	B	F	D	A	C	C	A	B	D	A
Approach Delay	59.0			57.7			19.3			35.3		
Approach LOS	E			E			B			D		
Queue Length 50th (m)	32.2	144.5	6.2	73.0	116.5	0.0	10.9	16.2	0.0	9.8	153.1	0.0
Queue Length 95th (m)	#76.6	#223.6	32.6	#127.6	164.3	0.0	24.9	25.8	24.5	20.6	#228.0	26.5
Internal Link Dist (m)	244.0			225.5			153.7			227.7		
Turn Bay Length (m)	150.0			55.0	160.0			80.0	80.0	70.0	120.0	120.0
Base Capacity (vph)	146	1109	546	534	1341	501	162	1749	653	583	1400	730
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.92	0.31	0.93	0.70	0.07	0.44	0.13	0.31	0.11	0.80	0.32

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 137.8

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 47.1

Intersection LOS: D

Intersection Capacity Utilization 92.7%

ICU Level of Service F

Analysis Period (min) 60

* User Entered Value

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 7: Jane Street & Rutherford Road

			
23 s	47 s	11 s	59 s
			
14 s	56 s	11 s	59 s

Lanes, Volumes, Timings

10: Hwy 400 NB Off Ramp/Fishermen's Way & Bass Pro Mills Drive

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	396	0	0	335	3	58	89	576	0	0	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	0.0		0.0	120.0		200.0	0.0		0.0
Storage Lanes	0		0	0		0	1		1	0		2
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	0.88
Fr't					0.999				0.850			0.850
Flt Protected		0.997					0.950					
Satd. Flow (prot)	0	3599	0	0	2930	0	1805	3374	1553	0	0	2733
Flt Permitted		0.910					0.950					
Satd. Flow (perm)	0	3285	0	0	2930	0	1805	3374	1553	0	0	2733
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					2				535			
Link Speed (k/h)		50			50			60			40	
Link Distance (m)		323.2			396.5			263.1			166.8	
Travel Time (s)		23.3			28.5			15.8			15.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	23%	33%	0%	7%	4%	0%	0%	4%
Adj. Flow (vph)	22	396	0	0	335	3	58	89	576	0	0	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	418	0	0	338	0	58	89	576	0	0	48
Turn Type	Perm	NA			NA		Perm	NA	Perm			custom
Protected Phases		2			6			8				
Permitted Phases	2						8		8			4
Detector Phase	2	2			6		8	8	8			4
Switch Phase												
Minimum Initial (s)	4.0	4.0			10.0		10.0	10.0	10.0			10.0
Minimum Split (s)	28.0	28.0			28.0		32.5	32.5	32.5			22.1
Total Split (s)	107.0	107.0			107.0		33.0	33.0	33.0			33.0
Total Split (%)	76.4%	76.4%			76.4%		23.6%	23.6%	23.6%			23.6%
Maximum Green (s)	100.0	100.0			100.0		26.5	26.5	26.5			26.9
Yellow Time (s)	4.1	4.1			4.1		4.5	4.5	4.5			4.1
All-Red Time (s)	2.9	2.9			2.9		2.0	2.0	2.0			2.0
Lost Time Adjust (s)		0.0			-3.0		-3.0	0.0	0.0			0.0
Total Lost Time (s)		7.0			4.0		3.5	6.5	6.5			6.1
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	None			None		Max	Max	Max			Max
Walk Time (s)	10.0	10.0			10.0		15.0	15.0	15.0			
Flash Dont Walk (s)	7.0	7.0			7.0		5.0	5.0	5.0			
Pedestrian Calls (#/hr)	0	0			0		0	0	0			
Act Effct Green (s)		11.7			14.7		29.5	26.5	26.5			26.9
Actuated g/C Ratio		0.23			0.28		0.57	0.51	0.51			0.52
v/c Ratio		0.56			0.41		0.06	0.05	0.55			0.03
Control Delay		21.0			16.5		5.6	6.9	3.5			6.6
Queue Delay		0.0			0.0		0.0	0.0	0.0			0.0
Total Delay		21.0			16.5		5.6	6.9	3.5			6.6

Lanes, Volumes, Timings

10: Hwy 400 NB Off Ramp/Fishermen's Way & Bass Pro Mills Drive

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		C			B		A	A	A			A
Approach Delay		21.0			16.5			4.1				
Approach LOS		C			B			A				
Queue Length 50th (m)		19.0			13.7		2.2	2.0	1.8			1.1
Queue Length 95th (m)		34.8			26.3		7.2	5.7	24.5			3.9
Internal Link Dist (m)		299.2			372.5			239.1			142.8	
Turn Bay Length (m)							120.0		200.0			
Base Capacity (vph)		3285			2930		1029	1729	1056			1421
Starvation Cap Reductn		0			0		0	0	0			0
Spillback Cap Reductn		0			0		0	0	0			0
Storage Cap Reductn		0			0		0	0	0			0
Reduced v/c Ratio		0.13			0.12		0.06	0.05	0.55			0.03

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 51.7

Natural Cycle: 65

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 11.5

Intersection LOS: B

Intersection Capacity Utilization 58.5%

ICU Level of Service B

Analysis Period (min) 60

Splits and Phases: 10: Hwy 400 NB Off Ramp/Fishermen's Way & Bass Pro Mills Drive

 ø2	 ø4
107 s	33 s
 ø6	 ø8
107 s	33 s

Lanes, Volumes, Timings
12: Jane Street & Bass Pro Mills Drive/Locke Street

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	147	39	176	37	2	18	55	309	51	73	1406	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	0.0		0.0	55.0		45.0	60.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor									0.99	1.00		
Frt		0.877			0.865				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1203	3166	0	1583	1332	0	1128	3374	1442	1719	3539	1615
Flt Permitted	0.744			0.603			0.131			0.564		
Satd. Flow (perm)	942	3166	0	1005	1332	0	156	3374	1423	1020	3539	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		111			18				51			142
Link Speed (k/h)		50			50			70			70	
Link Distance (m)		112.2			112.0			287.0			213.0	
Travel Time (s)		8.1			8.1			14.8			11.0	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	50%	0%	0%	14%	0%	26%	60%	7%	12%	5%	2%	0%
Adj. Flow (vph)	147	39	176	37	2	18	55	309	51	73	1406	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	147	215	0	37	20	0	55	309	51	73	1406	168
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		5	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		4.0	32.0	32.0	32.0	32.0	32.0
Minimum Split (s)	40.0	40.0		40.0	40.0		8.0	39.0	39.0	39.0	39.0	39.0
Total Split (s)	40.0	40.0		40.0	40.0		9.0	90.0	90.0	81.0	81.0	81.0
Total Split (%)	30.8%	30.8%		30.8%	30.8%		6.9%	69.2%	69.2%	62.3%	62.3%	62.3%
Maximum Green (s)	34.0	34.0		34.0	34.0		5.0	83.0	83.0	74.0	74.0	74.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-3.0	0.0		0.0	0.0		-3.0	0.0	0.0	0.0	-3.0	0.0
Total Lost Time (s)	3.0	6.0		6.0	6.0		1.0	7.0	7.0	7.0	4.0	7.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	27.0	27.0		27.0	27.0			25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)	0	0		0	0			0	0	0	0	0
Act Effct Green (s)	25.6	22.6		22.6	22.6		89.4	83.3	83.3	76.3	79.3	76.3
Actuated g/C Ratio	0.22	0.19		0.19	0.19		0.75	0.70	0.70	0.64	0.67	0.64
v/c Ratio	0.73	0.31		0.19	0.07		0.30	0.13	0.05	0.11	0.60	0.15
Control Delay	66.0	20.0		41.6	16.9		9.7	6.9	2.3	11.3	14.0	3.1

Lanes, Volumes, Timings

12: Jane Street & Bass Pro Mills Drive/Locke Street

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.0	20.0		41.6	16.9		9.7	6.9	2.3	11.3	14.0	3.1
LOS	E	C		D	B		A	A	A	B	B	A
Approach Delay		38.7			32.9			6.7			12.8	
Approach LOS		D			C			A			B	
Queue Length 50th (m)	33.7	11.3		7.7	0.4		3.1	11.8	0.0	6.8	98.1	2.3
Queue Length 95th (m)	66.5	26.4		19.8	8.5		10.4	25.6	5.9	19.1	186.5	16.8
Internal Link Dist (m)		88.2			88.0			263.0			189.0	
Turn Bay Length (m)	50.0						55.0		45.0	60.0		70.0
Base Capacity (vph)	294	987		288	394		182	2363	1011	653	2358	1086
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.22		0.13	0.05		0.30	0.13	0.05	0.11	0.60	0.15

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 119

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 16.0

Intersection LOS: B

Intersection Capacity Utilization 90.7%

ICU Level of Service E

Analysis Period (min) 60

Splits and Phases: 12: Jane Street & Bass Pro Mills Drive/Locke Street

								
90 s			40 s			40 s		
								
9 s	81 s		40 s			40 s		

HCM Unsignalized Intersection Capacity Analysis

52: Weston Road & Bass Pro Mills Drive

2/4/2014

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Volume (veh/h)	149	90	568	123	275	1412		
Sign Control	Stop		Free			Free		
Grade	0%		0%			0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly flow rate (vph)	149	90	568	123	275	1412		
Pedestrians								
Lane Width (m)								
Walking Speed (m/s)								
Percent Blockage								
Right turn flare (veh)								
Median type	None				None			
Median storage veh								
Upstream signal (m)					236			
pX, platoon unblocked	0.81							
vC, conflicting volume	1824	284				691		
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	1551	284				691		
tC, single (s)	6.8	6.9				4.1		
tC, 2 stage (s)								
tF (s)	3.5	3.3				2.2		
p0 queue free %	0	87				69		
cM capacity (veh/h)	59	713				900		
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	149	90	284	284	123	275	706	706
Volume Left	149	0	0	0	0	275	0	0
Volume Right	0	90	0	0	123	0	0	0
cSH	59	713	1700	1700	1700	900	1700	1700
Volume to Capacity	2.53	0.13	0.17	0.17	0.07	0.31	0.42	0.42
Queue Length 95th (m)	396.9	3.5	0.0	0.0	0.0	10.5	0.0	0.0
Control Delay (s)	2926.0	10.8	0.0	0.0	0.0	10.8	0.0	0.0
Lane LOS	F	B				B		
Approach Delay (s)	1828.2	0.0		1.8				
Approach LOS	F							
Intersection Summary								
Average Delay			168.1					
Intersection Capacity Utilization			54.0%	ICU Level of Service			A	
Analysis Period (min)			60					

Lanes, Volumes, Timings
52: Weston Road & Bass Pro Mills Drive

2/4/2014

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	149	90	568	123	275	1412
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		50.0	50.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.433	
Satd. Flow (perm)	1770	1583	3539	1583	807	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		90		123		
Link Speed (k/h)	50		70			70
Link Distance (m)	160.1		280.7			236.0
Travel Time (s)	11.5		14.4			12.1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	149	90	568	123	275	1412
Shared Lane Traffic (%)						
Lane Group Flow (vph)	149	90	568	123	275	1412
Turn Type	NA	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	23.0	23.0	23.0	23.0	23.0	23.0
Total Split (s)	30.0	30.0	100.0	100.0	100.0	100.0
Total Split (%)	23.1%	23.1%	76.9%	76.9%	76.9%	76.9%
Maximum Green (s)	23.0	23.0	93.0	93.0	93.0	93.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0	-3.0	0.0	-3.0	-3.0
Total Lost Time (s)	4.0	4.0	4.0	7.0	4.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	Max
Walk Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0
Act Effct Green (s)	18.6	18.6	96.7	93.7	96.7	96.7
Actuated g/C Ratio	0.15	0.15	0.78	0.76	0.78	0.78
v/c Ratio	0.56	0.29	0.20	0.10	0.43	0.51
Control Delay	56.8	11.2	3.9	1.0	7.5	5.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.4
Total Delay	56.8	11.2	3.9	1.0	7.5	6.3
LOS	E	B	A	A	A	A

Lanes, Volumes, Timings

52: Weston Road & Bass Pro Mills Drive

2/4/2014



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	39.6		3.4			6.5
Approach LOS	D		A			A
Queue Length 50th (m)	35.4	0.0	16.2	0.0	19.0	56.4
Queue Length 95th (m)	64.9	18.8	31.2	6.8	52.2	107.4
Internal Link Dist (m)	136.1		256.7			212.0
Turn Bay Length (m)				50.0	50.0	
Base Capacity (vph)	373	405	2775	1232	633	2775
Starvation Cap Reductn	0	0	0	0	0	708
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.22	0.20	0.10	0.43	0.68

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 123.3

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 8.7

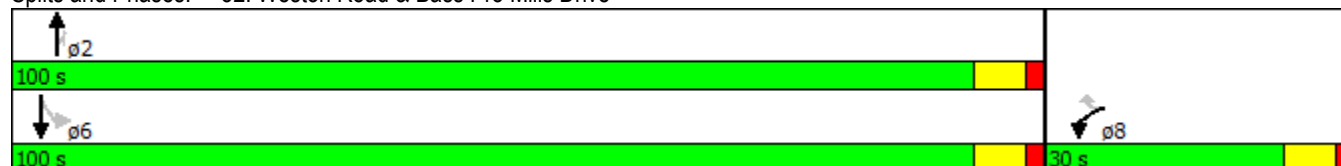
Intersection LOS: A

Intersection Capacity Utilization 54.0%

ICU Level of Service A

Analysis Period (min) 60

Splits and Phases: 52: Weston Road & Bass Pro Mills Drive



Lanes, Volumes, Timings
1: Weston Road & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	168	751	140	138	1119	363	721	1187	64	152	542	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	110.0		50.0	60.0		0.0	120.0		65.0	70.0		95.0
Storage Lanes	1		1	1		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.97	1.00		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3689	1538	1719	3551	1524	1517	3406	1553	1736	3471	1482
Flt Permitted	0.093			0.190			0.270			0.196		
Satd. Flow (perm)	177	3689	1505	343	3551	1481	430	3406	1522	358	3471	1457
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			125			145			94			125
Link Speed (k/h)		70			70			70			60	
Link Distance (m)		216.7			167.8			341.7			238.6	
Travel Time (s)		11.1			8.6			17.6			14.3	
Confl. Peds. (#/hr)	13		8	8		13	4		7	7		4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	5%	5%	7%	6%	19%	6%	4%	4%	4%	9%
Adj. Flow (vph)	168	751	140	138	1119	363	721	1187	64	152	542	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	751	140	138	1119	363	721	1187	64	152	542	99
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	40.0	40.0	7.0	40.0	40.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	11.0	47.0	47.0	11.0	47.0	47.0	11.0	43.0	43.0	11.0	43.0	43.0
Total Split (s)	11.0	47.0	47.0	11.0	47.0	47.0	39.0	71.0	71.0	11.0	43.0	43.0
Total Split (%)	7.9%	33.6%	33.6%	7.9%	33.6%	33.6%	27.9%	50.7%	50.7%	7.9%	30.7%	30.7%
Maximum Green (s)	7.0	40.0	40.0	7.0	40.0	40.0	35.0	64.0	64.0	7.0	36.0	36.0
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	1.0	4.0	7.0	1.0	4.0	7.0	1.0	4.0	7.0	1.0	4.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		29.0	29.0		29.0	29.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	56.0	43.0	40.0	56.0	43.0	40.0	81.0	67.0	64.0	52.0	39.0	36.0
Actuated g/C Ratio	0.40	0.31	0.29	0.40	0.31	0.29	0.58	0.48	0.46	0.37	0.28	0.26
v/c Ratio	0.90	0.66	0.27	0.59	1.03	0.69	1.33	0.73	0.09	0.66	0.56	0.21
Control Delay	94.8	45.6	9.5	38.2	131.4	34.1	629.5	32.5	1.7	35.5	45.9	4.2

Lanes, Volumes, Timings

1: Weston Road & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.8	45.6	9.5	38.2	131.4	34.1	629.5	32.5	1.7	35.5	45.9	4.2
LOS	F	D	A	D	F	C	F	C	A	D	D	A
Approach Delay	48.7			101.7			249.8			38.7		
Approach LOS	D			F			F			D		
Queue Length 50th (m)	31.7	95.3	3.2	25.7	~173.4	57.8	~232.0	142.7	0.0	19.6	71.3	0.0
Queue Length 95th (m)	#93.0	135.0	26.4	#47.0	#257.8	118.8	#369.4	203.6	5.9	#50.2	103.7	12.9
Internal Link Dist (m)	192.7			143.8			317.7			214.6		
Turn Bay Length (m)	110.0	50.0		60.0	120.0		65.0	70.0	95.0			
Base Capacity (vph)	187	1133	519	235	1090	526	543	1630	746	231	966	467
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.66	0.27	0.59	1.03	0.69	1.33	0.73	0.09	0.66	0.56	0.21

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 145

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.33

Intersection Signal Delay: 135.8

Intersection LOS: F

Intersection Capacity Utilization 125.9%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Weston Road & Rutherford Road

			
11 s	47 s	39 s	43 s
			
11 s	47 s	11 s	71 s

Lanes, Volumes, Timings
1: Weston Road & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Volume (vph)	168	751	140	138	1119	363	721	1187	64	152	542	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	110.0		50.0	60.0		0.0	120.0		65.0	70.0		95.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.97	1.00		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3689	1538	1719	3551	1524	2943	3406	1553	1736	3471	1482
Flt Permitted	0.091			0.196			0.950			0.179		
Satd. Flow (perm)	173	3689	1505	354	3551	1481	2932	3406	1522	327	3471	1457
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			148			163			94			148
Link Speed (k/h)		70			70			70			60	
Link Distance (m)		216.7			167.8			341.7			238.6	
Travel Time (s)		11.1			8.6			17.6			14.3	
Confl. Peds. (#/hr)	13		8	8		13	4		7	7		4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	5%	5%	7%	6%	19%	6%	4%	4%	4%	9%
Adj. Flow (vph)	168	751	140	138	1119	363	721	1187	64	152	542	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	751	140	138	1119	363	721	1187	64	152	542	99
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6			8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	35.0	35.0	7.0	35.0	35.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	11.0	42.0	42.0	11.0	42.0	42.0	14.0	43.0	43.0	11.0	43.0	43.0
Total Split (s)	11.0	48.0	48.0	11.0	48.0	48.0	38.0	69.0	69.0	12.0	43.0	43.0
Total Split (%)	7.9%	34.3%	34.3%	7.9%	34.3%	34.3%	27.1%	49.3%	49.3%	8.6%	30.7%	30.7%
Maximum Green (s)	7.0	41.0	41.0	7.0	41.0	41.0	31.0	62.0	62.0	8.0	36.0	36.0
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	1.0	4.0	7.0	1.0	4.0	7.0	4.0	4.0	7.0	1.0	4.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		29.0	29.0		29.0	29.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	57.0	44.0	41.0	57.0	44.0	41.0	34.0	65.2	62.2	52.8	39.0	36.0
Actuated g/C Ratio	0.41	0.31	0.29	0.41	0.31	0.29	0.24	0.47	0.44	0.38	0.28	0.26
v/c Ratio	0.90	0.65	0.26	0.57	1.00	0.66	1.01	0.75	0.09	0.66	0.56	0.20
Control Delay	94.6	44.5	6.0	36.6	104.0	30.0	129.2	34.5	1.8	36.1	45.9	2.2

Lanes, Volumes, Timings

1: Weston Road & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	94.6	44.5	6.0	36.6	104.0	30.0	129.2	34.5	1.8	36.1	45.9	2.2
LOS	F	D	A	D	F	C	F	C	A	D	D	A
Approach Delay	47.4			81.7			68.1			38.5		
Approach LOS	D			F			E			D		
Queue Length 50th (m)	31.3	94.3	0.0	25.3	~164.1	52.0	~110.6	147.1	0.0	20.0	71.3	0.0
Queue Length 95th (m)	#93.1	133.5	20.1	46.2	#253.9	111.3	#183.1	209.8	6.1	#52.1	103.7	7.6
Internal Link Dist (m)	192.7			143.8			317.7			214.6		
Turn Bay Length (m)	110.0	50.0		60.0	120.0		65.0	70.0	95.0			
Base Capacity (vph)	187	1159	545	241	1116	548	714	1585	728	234	966	484
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.65	0.26	0.57	1.00	0.66	1.01	0.75	0.09	0.65	0.56	0.20

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 130

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.01

Intersection Signal Delay: 63.8

Intersection LOS: E

Intersection Capacity Utilization 104.1%

ICU Level of Service G

Analysis Period (min) 60

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Weston Road & Rutherford Road

			
11 s	48 s	38 s	43 s
			
11 s	48 s	12 s	69 s

Lanes, Volumes, Timings

4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	858	0	0	1619	33	614	180	515	78	0	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	0.0		160.0	160.0		300.0	0.0		0.0
Storage Lanes	1		0	0		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.91	0.86	0.91	1.00	1.00	1.00
Ped Bike Factor						0.98						
Frt						0.850		0.953	0.850			0.850
Flt Protected	0.950						0.950	0.980		0.950		
Satd. Flow (prot)	1805	3619	0	0	3551	1615	1535	2895	1361	1805	0	1615
Flt Permitted	0.066						0.950	0.980		0.950		
Satd. Flow (perm)	125	3619	0	0	3551	1581	1535	2895	1361	1805	0	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						84		42	163			86
Link Speed (k/h)		70			70			40			40	
Link Distance (m)		436.0			304.4			463.2			235.3	
Travel Time (s)		22.4			15.7			41.7			21.2	
Confl. Peds. (#/hr)	7		2	2		7						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	5%	0%	0%	7%	0%	7%	0%	8%	0%	0%	0%
Adj. Flow (vph)	43	858	0	0	1619	33	614	180	515	78	0	192
Shared Lane Traffic (%)							45%		41%			
Lane Group Flow (vph)	43	858	0	0	1619	33	338	667	304	78	0	192
Turn Type	Perm	NA			NA	Perm	Split	NA	Perm	Prot		custom
Protected Phases		2			6		4	4		3		3
Permitted Phases	2					6			4			
Detector Phase	2	2			6	6	4	4	4	3		3
Switch Phase												
Minimum Initial (s)	20.0	20.0			20.0	20.0	10.0	10.0	10.0	7.0		7.0
Minimum Split (s)	39.1	39.1			39.1	39.1	42.9	42.9	42.9	13.9		13.9
Total Split (s)	82.0	82.0			82.0	82.0	42.0	42.0	42.0	16.0		16.0
Total Split (%)	58.6%	58.6%			58.6%	58.6%	30.0%	30.0%	30.0%	11.4%		11.4%
Maximum Green (s)	74.9	74.9			74.9	74.9	35.1	35.1	35.1	9.1		9.1
Yellow Time (s)	5.0	5.0			5.0	5.0	4.1	4.1	4.1	4.1		4.1
All-Red Time (s)	2.1	2.1			2.1	2.1	2.8	2.8	2.8	2.8		2.8
Lost Time Adjust (s)	0.0	-3.0			-3.0	0.0	-3.0	-3.0	-3.0	-3.0		-3.0
Total Lost Time (s)	7.1	4.1			4.1	7.1	3.9	3.9	3.9	3.9		3.9
Lead/Lag							Lead	Lead	Lead	Lag		Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max			Max	Max	None	None	None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	25.0	25.0			25.0	25.0	29.0	29.0	29.0			
Pedestrian Calls (#/hr)	0	0			0	0	0	0	0			
Act Effct Green (s)	74.9	77.9			77.9	74.9	36.6	36.6	36.6	12.1		12.1
Actuated g/C Ratio	0.54	0.56			0.56	0.54	0.26	0.26	0.26	0.09		0.09
v/c Ratio	0.64	0.42			0.81	0.04	0.83	0.84	0.63	0.49		0.88
Control Delay	75.4	18.4			28.9	0.1	69.6	56.6	26.8	72.6		81.9

Lanes, Volumes, Timings

4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0			0.4	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	75.4	18.4			29.4	0.1	69.6	56.6	26.8	72.6		81.9
LOS	E	B			C	A	E	E	C	E		F
Approach Delay		21.1			28.8			53.0				
Approach LOS		C			C			D				
Queue Length 50th (m)	8.6	70.1			185.5	0.0	101.5	100.1	39.4	22.1		31.3
Queue Length 95th (m)	#39.0	98.7			271.2	0.0	#187.4	#160.9	96.4	45.0		#96.6
Internal Link Dist (m)		412.0			280.4			439.2			211.3	
Turn Bay Length (m)	150.0					160.0	160.0		300.0			
Base Capacity (vph)	67	2035			1997	893	422	826	492	158		219
Starvation Cap Reductn	0	0			91	0	0	0	0	0		0
Spillback Cap Reductn	0	0			0	0	0	0	0	0		0
Storage Cap Reductn	0	0			0	0	0	0	0	0		0
Reduced v/c Ratio	0.64	0.42			0.85	0.04	0.80	0.81	0.62	0.49		0.88

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 138.5

Natural Cycle: 110

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 38.1

Intersection LOS: D

Intersection Capacity Utilization 85.6%

ICU Level of Service E

Analysis Period (min) 60

* User Entered Value

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

 ø2	 ø4	 ø3
82 s	42 s	16 s
 ø6		
82 s		

Lanes, Volumes, Timings
7: Jane Street & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 			  			 	
Volume (vph)	218	1124	66	266	1186	60	96	1411	431	40	405	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		55.0	160.0		80.0	80.0		70.0	120.0		120.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Ped Bike Factor						0.99	1.00		0.99	1.00		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	3551	1538	3505	3551	1242	1504	4631	1417	1770	3505	1568
Flt Permitted	0.073			0.950			0.453			0.090		
Satd. Flow (perm)	130	3551	1538	3505	3551	1226	716	4631	1398	168	3505	1545
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			70			70			226			158
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		268.0			249.5			177.7			251.7	
Travel Time (s)		13.8			12.8			9.1			12.9	
Confl. Peds. (#/hr)	1					1	2		1	1		2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	7%	5%	3%	7%	30%	20%	12%	14%	2%	3%	3%
Adj. Flow (vph)	218	1124	66	266	1186	60	96	1411	431	40	405	158
Shared Lane Traffic (%)												
Lane Group Flow (vph)	218	1124	66	266	1186	60	96	1411	431	40	405	158
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2		2			6	8		8	4		4
Detector Phase	5	2	2	1	6	6	8	8	8	4	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0
Minimum Split (s)	12.0	23.0	23.0	12.0	38.0	38.0	39.0	39.0	39.0	39.0	39.0	39.0
Total Split (s)	18.0	59.0	59.0	17.0	58.0	58.0	64.0	64.0	64.0	64.0	64.0	64.0
Total Split (%)	12.9%	42.1%	42.1%	12.1%	41.4%	41.4%	45.7%	45.7%	45.7%	45.7%	45.7%	45.7%
Maximum Green (s)	13.0	52.0	52.0	12.0	51.0	51.0	57.0	57.0	57.0	57.0	57.0	57.0
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	0.0	-3.0	0.0	0.0	-3.0	0.0
Total Lost Time (s)	2.0	4.0	7.0	2.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)					7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)					24.0	24.0	25.0	25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)					0	0	0	0	0	0	0	0
Act Effct Green (s)	73.0	55.1	52.1	14.8	54.0	51.0	57.0	60.0	57.0	57.0	60.0	57.0
Actuated g/C Ratio	0.52	0.39	0.37	0.11	0.39	0.36	0.41	0.43	0.41	0.41	0.43	0.41
v/c Ratio	0.89	0.80	0.11	0.72	0.87	0.12	0.33	0.71	0.61	0.59	0.27	0.22
Control Delay	85.0	43.3	6.1	72.9	48.2	5.5	32.5	35.3	18.9	74.2	26.4	4.5

Lanes, Volumes, Timings

7: Jane Street & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	85.0	43.3	6.1	72.9	48.2	5.5	32.5	35.3	18.9	74.2	26.4	4.5
LOS	F	D	A	E	D	A	C	D	B	E	C	A
Approach Delay	48.0			50.9			31.5			23.8		
Approach LOS	D			D			C			C		
Queue Length 50th (m)	46.7	144.3	0.0	38.0	158.3	0.0	19.0	122.2	46.4	9.0	39.6	0.0
Queue Length 95th (m)	#116.3	#206.2	12.2	#64.7	#238.3	10.6	40.5	165.5	108.7	#35.6	59.2	19.3
Internal Link Dist (m)	244.0			225.5			153.7			227.7		
Turn Bay Length (m)	150.0			55.0	160.0			80.0	80.0	70.0	120.0	120.0
Base Capacity (vph)	245	1398	616	375	1370	491	291	1985	703	68	1503	722
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.89	0.80	0.11	0.71	0.87	0.12	0.33	0.71	0.61	0.59	0.27	0.22

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 139.9

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 40.3

Intersection LOS: D

Intersection Capacity Utilization 100.5%

ICU Level of Service G

Analysis Period (min) 60

* User Entered Value

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 7: Jane Street & Rutherford Road

 p1	 p2	 p4
17 s	59 s	64 s
 p5	 p6	 p8
18 s	58 s	64 s

Lanes, Volumes, Timings

10: Hwy 400 NB Off Ramp/Fishermen's Way & Bass Pro Mills Drive

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑		↑	↑↑	↑			↑↑
Volume (vph)	22	155	0	0	1296	45	314	226	224	0	0	549
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	0.0		0.0	120.0		200.0	0.0		0.0
Storage Lanes	0		0	0		0	1		1	0		2
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	0.88
Frt					0.995				0.850			0.850
Flt Protected		0.994					0.950					
Satd. Flow (prot)	0	3588	0	0	2912	0	1805	3374	1553	0	0	2733
Flt Permitted		0.778					0.950					
Satd. Flow (perm)	0	2809	0	0	2912	0	1805	3374	1553	0	0	2733
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					7				224			
Link Speed (k/h)		50			50			60			40	
Link Distance (m)		323.2			396.5			263.1			166.8	
Travel Time (s)		23.3			28.5			15.8			15.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	23%	33%	0%	7%	4%	0%	0%	4%
Adj. Flow (vph)	22	155	0	0	1296	45	314	226	224	0	0	549
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	177	0	0	1341	0	314	226	224	0	0	549
Turn Type	Perm	NA			NA		Perm	NA	Perm			custom
Protected Phases		2			6			8				
Permitted Phases	2						8		8			4
Detector Phase	2	2			6		8	8	8			4
Switch Phase												
Minimum Initial (s)	4.0	4.0			10.0		10.0	10.0	10.0			10.0
Minimum Split (s)	23.0	23.0			28.0		32.5	32.5	32.5			22.1
Total Split (s)	107.0	107.0			107.0		33.0	33.0	33.0			33.0
Total Split (%)	76.4%	76.4%			76.4%		23.6%	23.6%	23.6%			23.6%
Maximum Green (s)	100.0	100.0			100.0		26.5	26.5	26.5			26.9
Yellow Time (s)	4.1	4.1			4.1		4.5	4.5	4.5			4.1
All-Red Time (s)	2.9	2.9			2.9		2.0	2.0	2.0			2.0
Lost Time Adjust (s)		0.0			-3.0		-3.0	-3.0	0.0			-3.0
Total Lost Time (s)		7.0			4.0		3.5	3.5	6.5			3.1
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	None			None		Max	Max	Max			Max
Walk Time (s)	5.0	5.0			10.0		15.0	15.0	15.0			
Flash Dont Walk (s)	11.0	11.0			7.0		5.0	5.0	5.0			
Pedestrian Calls (#/hr)	0	0			0		0	0	0			
Act Effct Green (s)		45.5			48.6		29.8	29.8	26.8			30.3
Actuated g/C Ratio		0.53			0.57		0.35	0.35	0.31			0.35
v/c Ratio		0.12			0.81		0.50	0.19	0.35			0.57
Control Delay		9.8			19.5		27.9	22.3	5.7			27.4
Queue Delay		0.0			0.0		0.0	0.0	0.0			0.0
Total Delay		9.8			19.5		27.9	22.3	5.7			27.4

Lanes, Volumes, Timings

10: Hwy 400 NB Off Ramp/Fishermen's Way & Bass Pro Mills Drive

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		A			B		C	C	A			C
Approach Delay		9.8			19.5			19.7				
Approach LOS		A			B			B				
Queue Length 50th (m)		7.5			89.6		42.3	14.2	0.0			43.0
Queue Length 95th (m)		13.7			147.6		96.8	32.0	25.3			89.2
Internal Link Dist (m)		299.2			372.5			239.1			142.8	
Turn Bay Length (m)							120.0		200.0			
Base Capacity (vph)		2806			2912		626	1171	638			961
Starvation Cap Reductn		0			0		0	0	0			0
Spillback Cap Reductn		0			0		0	0	0			0
Storage Cap Reductn		0			0		0	0	0			0
Reduced v/c Ratio		0.06			0.46		0.50	0.19	0.35			0.57

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 86

Natural Cycle: 75

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 20.5

Intersection LOS: C

Intersection Capacity Utilization 83.9%

ICU Level of Service E

Analysis Period (min) 60

Splits and Phases: 10: Hwy 400 NB Off Ramp/Fishermen's Way & Bass Pro Mills Drive

					
107 s			33 s		
					
107 s			33 s		

Lanes, Volumes, Timings
12: Jane Street & Bass Pro Mills Drive/Locke Street

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	95	4	23	65	3	48	146	1601	18	20	529	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	0.0		0.0	55.0		45.0	60.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor									0.99	1.00		
Frt		0.872			0.859				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1203	3148	0	1583	1311	0	1128	3374	1442	1719	3539	1615
Flt Permitted	0.724			0.739			0.433			0.139		
Satd. Flow (perm)	917	3148	0	1232	1311	0	514	3374	1423	252	3539	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		400			42				25			106
Link Speed (k/h)		50			50			70			70	
Link Distance (m)		112.2			112.0			287.0			213.0	
Travel Time (s)		8.1			8.1			14.8			11.0	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	50%	0%	0%	14%	0%	26%	60%	7%	12%	5%	2%	0%
Adj. Flow (vph)	95	4	23	65	3	48	146	1601	18	20	529	106
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	27	0	65	51	0	146	1601	18	20	529	106
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		5	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		4.0	32.0	32.0	32.0	32.0	32.0
Minimum Split (s)	40.0	40.0		40.0	40.0		10.5	39.0	39.0	39.0	39.0	39.0
Total Split (s)	40.0	40.0		40.0	40.0		11.2	90.0	90.0	78.8	78.8	78.8
Total Split (%)	30.8%	30.8%		30.8%	30.8%		8.6%	69.2%	69.2%	60.6%	60.6%	60.6%
Maximum Green (s)	34.0	34.0		34.0	34.0		7.2	83.0	83.0	71.8	71.8	71.8
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-3.0	0.0		0.0	0.0		-3.0	-3.0	0.0	0.0	-3.0	0.0
Total Lost Time (s)	3.0	6.0		6.0	6.0		1.0	4.0	7.0	7.0	4.0	7.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	27.0	27.0		27.0	27.0			25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)	0	0		0	0			0	0	0	0	0
Act Effct Green (s)	19.6	16.6		16.6	16.6		90.4	87.4	84.4	73.4	76.4	73.4
Actuated g/C Ratio	0.17	0.15		0.15	0.15		0.79	0.77	0.74	0.64	0.67	0.64
v/c Ratio	0.61	0.03		0.36	0.22		0.32	0.62	0.02	0.12	0.22	0.10
Control Delay	60.2	0.1		48.5	17.9		5.4	8.0	1.7	12.2	8.2	2.1

Lanes, Volumes, Timings

12: Jane Street & Bass Pro Mills Drive/Locke Street

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.2	0.1		48.5	17.9		5.4	8.0	1.7	12.2	8.2	2.1
LOS	E	A		D	B		A	A	A	B	A	A
Approach Delay		46.9			35.1			7.7			7.4	
Approach LOS		D			D			A			A	
Queue Length 50th (m)	20.5	0.0		13.7	1.8		6.4	71.4	0.0	1.7	22.7	0.0
Queue Length 95th (m)	43.9	0.0		30.9	15.5		19.4	161.8	2.3	7.7	44.3	9.5
Internal Link Dist (m)		88.2			88.0			263.0			189.0	
Turn Bay Length (m)	50.0						55.0		45.0	60.0		70.0
Base Capacity (vph)	297	1221		368	421		462	2585	1059	162	2371	1077
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.02		0.18	0.12		0.32	0.62	0.02	0.12	0.22	0.10

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 114

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 10.6

Intersection LOS: B

Intersection Capacity Utilization 94.5%

ICU Level of Service F

Analysis Period (min) 60

Splits and Phases: 12: Jane Street & Bass Pro Mills Drive/Locke Street

								
90 s			40 s					
								
11.2 s	78.8 s					40 s		

HCM Unsignalized Intersection Capacity Analysis

52: Weston Road & Bass Pro Mills Drive

2/4/2014

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Volume (veh/h)	140	772	1459	69	85	738		
Sign Control	Stop		Free			Free		
Grade	0%		0%			0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Hourly flow rate (vph)	140	772	1459	69	85	738		
Pedestrians								
Lane Width (m)								
Walking Speed (m/s)								
Percent Blockage								
Right turn flare (veh)								
Median type			None			None		
Median storage (veh)								
Upstream signal (m)						236		
pX, platoon unblocked	0.95							
vC, conflicting volume	1998	730			1528			
vC1, stage 1 conf vol								
vC2, stage 2 conf vol								
vCu, unblocked vol	1944	730			1528			
tC, single (s)	6.8	6.9			4.1			
tC, 2 stage (s)								
tF (s)	3.5	3.3			2.2			
p0 queue free %	0	0			80			
cM capacity (veh/h)	43	365			432			
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	140	772	730	730	69	85	369	369
Volume Left	140	0	0	0	0	85	0	0
Volume Right	0	772	0	0	69	0	0	0
cSH	43	365	1700	1700	1700	432	1700	1700
Volume to Capacity	3.23	2.11	0.43	0.43	0.04	0.20	0.22	0.22
Queue Length 95th (m)	Err	1672.2	0.0	0.0	0.0	5.9	0.0	0.0
Control Delay (s)	Err	2040.1	0.0	0.0	0.0	15.4	0.0	0.0
Lane LOS	F	F				C		
Approach Delay (s)	3261.9		0.0			1.6		
Approach LOS	F							
Intersection Summary								
Average Delay			912.1					
Intersection Capacity Utilization			94.8%		ICU Level of Service		F	
Analysis Period (min)			60					

Lanes, Volumes, Timings
52: Weston Road & Bass Pro Mills Drive

2/4/2014

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	140	772	1459	69	85	738
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		50.0	50.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.066	
Satd. Flow (perm)	1770	1583	3539	1583	123	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		13		32		
Link Speed (k/h)	50		50			70
Link Distance (m)	160.1		280.7			236.0
Travel Time (s)	11.5		20.2			12.1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	140	772	1459	69	85	738
Shared Lane Traffic (%)						
Lane Group Flow (vph)	140	772	1459	69	85	738
Turn Type	NA	pt+ov	NA	Perm	pm+pt	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases				2	6	
Detector Phase	8	8 1	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	23.0		23.0	23.0	11.0	23.0
Total Split (s)	56.0		63.0	63.0	11.0	74.0
Total Split (%)	43.1%		48.5%	48.5%	8.5%	56.9%
Maximum Green (s)	49.0		56.0	56.0	6.0	67.0
Yellow Time (s)	5.0		5.0	5.0	3.0	5.0
All-Red Time (s)	2.0		2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-3.0		-3.0	0.0	-3.0	-3.0
Total Lost Time (s)	4.0		4.0	7.0	2.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	Max		Max	Max	None	Max
Walk Time (s)	5.0		5.0	5.0		5.0
Flash Dont Walk (s)	11.0		11.0	11.0		11.0
Pedestrian Calls (#/hr)	0		0	0		0
Act Effct Green (s)	52.0	63.0	59.0	56.0	72.0	70.0
Actuated g/C Ratio	0.40	0.48	0.45	0.43	0.55	0.54
v/c Ratio	0.20	1.00	0.91	0.10	0.47	0.39
Control Delay	26.4	96.8	43.9	13.3	25.0	18.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	96.8	43.9	13.3	25.0	18.3
LOS	C	F	D	B	C	B

Lanes, Volumes, Timings
52: Weston Road & Bass Pro Mills Drive

2/4/2014

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	86.0		42.5			18.9
Approach LOS	F		D			B
Queue Length 50th (m)	24.3	200.6	188.8	5.7	10.3	58.8
Queue Length 95th (m)	44.9	#350.9	#291.0	17.7	27.5	84.7
Internal Link Dist (m)	136.1		256.7			212.0
Turn Bay Length (m)				50.0	50.0	
Base Capacity (vph)	708	773	1606	700	182	1905
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	1.00	0.91	0.10	0.47	0.39

Intersection Summary

Area Type:	Other
Cycle Length: 130	
Actuated Cycle Length: 130	
Natural Cycle: 90	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 48.7	Intersection LOS: D
Intersection Capacity Utilization 94.8%	ICU Level of Service F
Analysis Period (min) 60	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 52: Weston Road & Bass Pro Mills Drive

 ø1	 ø2	
11 s	63 s	
 ø6		 ø8
74 s		56 s

APPENDIX D
Screenline Analysis
2021 Total Conditions

SCREENLINE ANALYSIS
Vaughan Mills Centre Secondary Plan

2021												
Screenline Station	Locations	No. of Lanes per Direction	Capacity Per Lane	Total Capacity (vph)	2021 Total Link Volumes				v/c Ratios			
EAST-WEST SCREENLINES					AM		PM		AM		PM	
A. West of Weston Road					WB	EB	WB	EB	WB	EB	WB	EB
1	Rutherford Road	2	900	2200	813	1559	2261	1186	0.37	0.71	1.03	0.54
2	Astona Boulevard	1	500	500	112	509	437	166	0.22	1.02	0.87	0.33
Overall				2700	925	2068	2698	1352	0.34	0.77	1.00	0.50
Excess Link Capacities					1775	632	2	1348				
B. East of Weston Road												
3	Rutherford Road	2	900	2200	938	1565	1852	1078	0.43	0.71	0.84	0.49
101	West Area Access Road A	1	500	500	6	60	86	28	0.01	0.12	0.17	0.06
4	Bass Pro Mills Drive	2	700	1400	383	816	1381	412	0.27	0.58	0.99	0.29
Overall				4100	1327	2441	3319	1518	0.32	0.60	0.81	0.37
Excess Link Capacities					2773	1659	781	2582				
C. West of Jane Street												
5	Rutherford Road	2	900	2200	1472	1412	1573	1686	0.67	0.64	0.72	0.77
103	East Area Access Road B	1	500	500	12	10	28	31	0.02	0.02	0.06	0.06
6	Riverock Gate	2	500	1000	281	202	657	548	0.28	0.20	0.66	0.55
104	East Area Access Road C	1	500	500	12	10	28	31	0.02	0.02	0.06	0.06
105	East Area Access Road A	1	500	500	97	56	146	217	0.19	0.11	0.29	0.43
7	Bass Pro Mills Drive	2	700	1400	594	571	496	744	0.42	0.41	0.35	0.53
Overall				6100	2468	2261	2928	3257	0.40	0.37	0.48	0.53
Excess Link Capacities					3632	3839	3172	2843				
D. East of Jane Street												
8	Rutherford Road	2	900	2200	1685	1440	1640	1948	0.77	0.65	0.75	0.89
106	NE Parcel Access Road B	1	500	500	66	39	69	53	0.13	0.08	0.14	0.11
9	Riverock Gate	1	500	500	256	260	439	195	0.51	0.52	0.88	0.39
10	Locke Street	1	500	500	71	167	121	58	0.14	0.33	0.24	0.12
Overall				3700	2078	1906	2269	2254	0.56	0.52	0.61	0.61
Excess Link Capacities					1622	1794	1431	1446				

NORTH-SOUTH SCREENLINES					AM		PM		AM		PM	
					SB	NB	SB	NB	SB	NB	SB	NB
E1. North of Rutherford Road (West of Highway 400)												
11	Weston Road	2	900	2200	1357	630	812	1735	0.62	0.29	0.37	0.79
12	Vellore Woods Boulevard	1	500	500	591	176	274	568	1.18	0.35	0.55	1.14
	Overall	2700			1948	806	1086	2303	0.72	0.30	0.40	0.85
	Excess Link Capacities				752	1894	1614	397				
E2. North of Rutherford Road (Highway 400 Ramps)												
13	Highway 400 SB Off-Ramp (Rutherford)	2	1400	2800	907	0	578	0	0.32	0.00	0.21	0.00
	Overall	2800			907	0	578	0	0.32	0.00	0.21	0.00
	Excess Link Capacities				1893	2800	2222	2800				
E3. North of Rutherford Road (East of Highway 400)												
14	Sweetriver Blvd	1	500	500	407	175	273	408	0.81	0.35	0.55	0.82
15	Julliard Drive	1	500	500	145	141	122	171	0.29	0.28	0.24	0.34
16	Jane Street	2	900	1800	1647	470	741	1955	0.92	0.26	0.41	1.09
	Overall	2800			2199	786	1136	2534	0.79	0.28	0.41	0.91
	Excess Link Capacities				601	2014	1664	266				
F1. South of Rutherford Road (West of Highway 400)												
17	Weston Road	2	900	2200	1591	745	884	2108	0.72	0.34	0.40	0.96
107	Westcreek Drive	1	500	500	38	19	38	140	0.08	0.04	0.08	0.28
108	Vellore Woods Boulevard	2	500	1000	355	137	206	893	0.36	0.14	0.21	0.89
	Overall	3700			1984	901	1128	3141	0.54	0.24	0.30	0.85
	Excess Link Capacities				716	1799	1572	-441				
F2. South of Rutherford Road (Highway 400 Ramps)												
18	Highway 400 SB On-Ramp (Rutherford EB)	1	1400	1400	1048	0	474	0	0.75	0.00	0.34	0.00
19	Highway 400 SB On-Ramp (Rutherford WB)	1	1400	1400	898	0	632	0	0.64	0.00	0.45	0.00
20	Highway 400 NB Off-Ramp (Rutherford)	2	1400	2800	0	852	0	1580	0.00	0.30	0.00	0.56
	Overall	5600			1946	852	1106	1580	0.35	0.15	0.20	0.28
	Excess Link Capacities				3654	4748	4494	4020				
F3. South of Rutherford Road (East of Highway 400)												
21	Sweetriver Blvd	2	500	1000	312	226	605	811	0.31	0.23	0.61	0.81
22	Julliard Drive	2	500	1000	155	152	374	550	0.16	0.15	0.37	0.55
23	Jane Street	3	900	2700	2059	697	921	2330	0.76	0.26	0.34	0.86
109	NE Parcel Access Road A	1	500	500	115	34	160	42	0.23	0.07	0.32	0.08
	Overall	5200			2641	1109	2060	3733	0.51	0.21	0.40	0.72
	Excess Link Capacities				2059	3591	2640	967				
G. North of Bass Pro Mills Drive												
24	Weston Road	2	900	2200	1904	735	894	2326	0.87	0.33	0.41	1.06
110	Westcreek Drive	1	500	500	52	427	313	231	0.10	0.85	0.63	0.46
111	Vellore Woods Boulevard	1	500	500	38	275	85	408	0.08	0.55	0.17	0.82
112	Creditview Road	2	500	1000	62	919	363	1430	0.06	0.92	0.36	1.43
25	Fishermen's Way	2	400	800	177	351	725	707	0.22	0.44	0.91	0.88
26	Edgeley Boulevard	2	600	1200	627	310	956	847	0.52	0.26	0.80	0.71
113	Romina Drive	1	500	500	129	77	305	111	0.26	0.15	0.61	0.22
27	Jane Street	2	900	1800	2034	770	989	2200	1.13	0.43	0.55	1.22
	Overall	8500			5023	3864	4630	8260	0.59	0.45	0.54	0.97
	Excess Link Capacities				3477	4636	3870	240				
H. South of Bass Pro Mills Drive												
28	Weston Road	2	900	2200	1681	945	1225	1688	0.76	0.43	0.56	0.77
114	Westcreek Drive	1	500	500	37	92	96	135	0.07	0.18	0.19	0.27
115	Creditview Road	1	500	500	39	100	96	139	0.08	0.20	0.19	0.28
29	Highway 400 SB On-Ramp (Bass Pro Mills)	1	1400	1400	493	0	1200	0	0.35	0.00	0.86	0.00
30	Highway 400 NB Off-Ramp (Bass Pro Mills)	2	1400	2800	0	1212	0	1333	0.00	0.43	0.00	0.48
31	Edgeley Boulevard	2	600	1200	729	259	357	895	0.61	0.22	0.30	0.75
32	Romina Drive	1	500	500	197	172	106	310	0.39	0.34	0.21	0.62
33	Jane Street	2	900	1800	1781	636	1084	1984	0.99	0.35	0.60	1.10
	Overall	10900			4957	3416	4164	6484	0.45	0.31	0.38	0.59
	Excess Link Capacities				5943	7484	6736	4416				

APPENDIX E
Intersection Capacity Analysis
2021 Total Conditions

Lanes, Volumes, Timings
1: Weston Road & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Volume (vph)	58	1115	386	174	592	172	178	401	167	283	1031	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	110.0		50.0	60.0		0.0	120.0		65.0	70.0		95.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	0.99		0.98			0.97	1.00		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3689	1538	1719	3551	1524	2943	3406	1553	1736	3471	1482
Flt Permitted	0.441			0.103			0.950			0.432		
Satd. Flow (perm)	832	3689	1505	186	3551	1481	2937	3406	1522	786	3471	1457
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			180			172			167			94
Link Speed (k/h)		70			70			70			60	
Link Distance (m)		216.7			167.8			341.7			238.6	
Travel Time (s)		11.1			8.6			17.6			14.3	
Confl. Peds. (#/hr)	13		8	8		13	4		7	7		4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	5%	5%	7%	6%	19%	6%	4%	4%	4%	9%
Adj. Flow (vph)	58	1115	386	174	592	172	178	401	167	283	1031	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	58	1115	386	174	592	172	178	401	167	283	1031	43
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6			8	4		4
Detector Phase	2	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	40.0	40.0	40.0	7.0	40.0	40.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	47.0	47.0	47.0	11.0	47.0	47.0	11.0	43.0	43.0	11.0	43.0	43.0
Total Split (s)	59.0	59.0	59.0	15.0	74.0	74.0	11.0	47.0	47.0	19.0	55.0	55.0
Total Split (%)	42.1%	42.1%	42.1%	10.7%	52.9%	52.9%	7.9%	33.6%	33.6%	13.6%	39.3%	39.3%
Maximum Green (s)	52.0	52.0	52.0	11.0	67.0	67.0	7.0	40.0	40.0	15.0	48.0	48.0
Yellow Time (s)	5.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	-3.0	0.0	-3.0	0.0	0.0	-3.0	0.0	-3.0	-3.0	-3.0	0.0
Total Lost Time (s)	7.0	4.0	7.0	1.0	7.0	7.0	1.0	7.0	4.0	1.0	4.0	7.0
Lead/Lag	Lag	Lag	Lag	Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Max	Max	Max	None	Max	Max	None	Max	Max	None	Max	Max
Walk Time (s)	7.0	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)	27.0	27.0	27.0		27.0	27.0		29.0	29.0		29.0	29.0
Pedestrian Calls (#/hr)	0	0	0		0	0		0	0		0	0
Act Effct Green (s)	52.5	55.5	52.5	73.0	67.0	67.0	10.0	40.4	43.4	65.0	51.0	48.0
Actuated g/C Ratio	0.38	0.40	0.38	0.52	0.48	0.48	0.07	0.29	0.31	0.46	0.36	0.34
v/c Ratio	0.19	0.76	0.57	0.71	0.35	0.22	0.85	0.41	0.28	0.58	0.82	0.08
Control Delay	31.8	41.0	21.6	40.5	23.6	3.4	105.4	41.8	6.2	29.7	46.9	0.3

Lanes, Volumes, Timings

1: Weston Road & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.8	41.0	21.6	40.5	23.6	3.4	105.4	41.8	6.2	29.7	46.9	0.3
LOS	C	D	C	D	C	A	F	D	A	C	D	A
Approach Delay	35.9			23.0			49.0			41.8		
Approach LOS	D			C			D			D		
Queue Length 50th (m)	11.4	140.3	47.3	26.3	52.9	0.0	26.9	50.0	0.0	51.9	142.4	0.0
Queue Length 95th (m)	26.1	196.8	102.5	#72.0	76.3	17.5	#57.3	74.9	24.0	85.8	#212.2	0.8
Internal Link Dist (m)	192.7			143.8			317.7			214.6		
Turn Bay Length (m)	110.0	50.0		60.0	120.0		65.0	70.0	95.0			
Base Capacity (vph)	312	1461	676	250	1699	798	210	983	587	487	1264	561
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.76	0.57	0.70	0.35	0.22	0.85	0.41	0.28	0.58	0.82	0.08

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 115

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 37.1

Intersection LOS: D

Intersection Capacity Utilization 130.7%

ICU Level of Service H

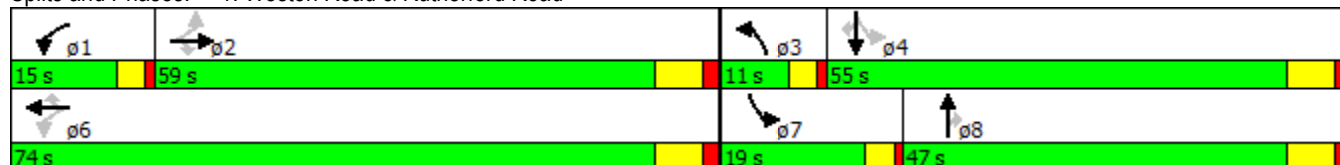
Analysis Period (min) 60

* User Entered Value

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Weston Road & Rutherford Road



Lanes, Volumes, Timings

2: Vellore Woods Boulevard & Rutherford Road

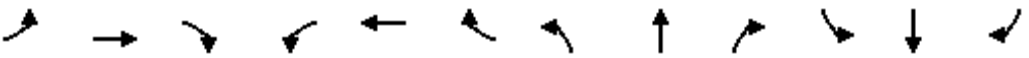
2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	1468	57	247	890	74	14	78	45	523	51	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	110.0		30.0	60.0		30.0	30.0		0.0	25.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.945			0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	3689	1615	1805	3519	1538	1805	1796	0	1787	1828	0
Flt Permitted	0.334			0.067			0.713			0.596		
Satd. Flow (perm)	604	3689	1615	127	3519	1538	1355	1796	0	1121	1828	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			94			62		19			14	
Link Speed (k/h)		70			70			40			40	
Link Distance (m)		226.7			277.3			216.4			196.0	
Travel Time (s)		11.7			14.3			19.5			17.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	3%	0%	0%	8%	5%	0%	0%	0%	1%	0%	0%
Adj. Flow (vph)	24	1468	57	247	890	74	14	78	45	523	51	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	1468	57	247	890	74	14	123	0	523	68	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	1	6	6	8	8		7	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0	35.0	4.0	35.0	35.0	10.0	10.0		7.0	10.0	
Minimum Split (s)	42.0	42.0	42.0	8.0	42.0	42.0	35.0	35.0		11.0	35.0	
Total Split (s)	62.0	62.0	62.0	19.0	81.0	81.0	37.0	37.0		22.0	59.0	
Total Split (%)	44.3%	44.3%	44.3%	13.6%	57.9%	57.9%	26.4%	26.4%		15.7%	42.1%	
Maximum Green (s)	55.0	55.0	55.0	15.0	74.0	74.0	30.0	30.0		18.0	52.0	
Yellow Time (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	0.0	-3.0	0.0	-3.0	0.0	0.0	0.0	0.0		-3.0	0.0	
Total Lost Time (s)	7.0	4.0	7.0	1.0	7.0	7.0	7.0	7.0		1.0	7.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max	Max	None	Max	Max	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0			7.0	
Flash Dont Walk (s)	25.0	25.0	25.0		25.0	25.0	21.0	21.0			21.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0			0	
Act Effect Green (s)	55.9	58.9	55.9	80.0	74.0	74.0	13.0	13.0		41.0	35.0	
Actuated g/C Ratio	0.45	0.48	0.45	0.65	0.60	0.60	0.11	0.11		0.33	0.28	
v/c Ratio	0.09	0.83	0.07	0.78	0.42	0.08	0.10	0.60		1.07	0.13	
Control Delay	21.8	33.7	1.2	49.8	14.1	3.8	50.6	57.0		212.4	26.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	21.8	33.7	1.2	49.8	14.1	3.8	50.6	57.0		212.4	26.6	

Lanes, Volumes, Timings

2: Vellore Woods Boulevard & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C	A	D	B	A	D	E		F	C	
Approach Delay		32.4			20.7			56.4			191.0	
Approach LOS		C			C			E			F	
Queue Length 50th (m)	3.4	158.1	0.0	42.3	56.1	1.2	3.3	25.5		~138.7	10.2	
Queue Length 95th (m)	11.2	#265.8	4.4	#107.6	90.8	9.8	11.3	52.7		#257.3	24.7	
Internal Link Dist (m)		202.7			253.3			192.4			172.0	
Turn Bay Length (m)	110.0		30.0	60.0		30.0	30.0			25.0		
Base Capacity (vph)	274	1766	785	328	2117	950	330	452		487	781	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.09	0.83	0.07	0.75	0.42	0.08	0.04	0.27		1.07	0.09	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 123

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.07

Intersection Signal Delay: 56.2

Intersection LOS: E

Intersection Capacity Utilization 116.5%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

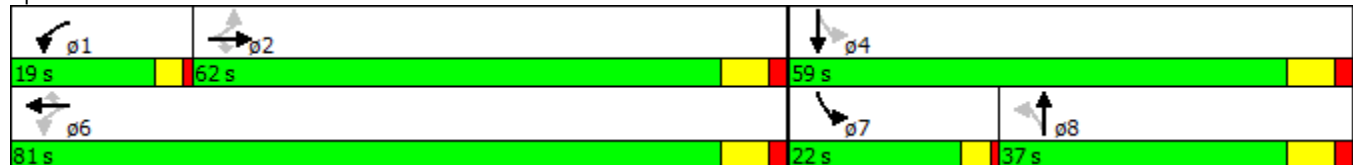
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Vellore Woods Boulevard & Rutherford Road



Lanes, Volumes, Timings

2: Vellore Woods Boulevard & Rutherford Road

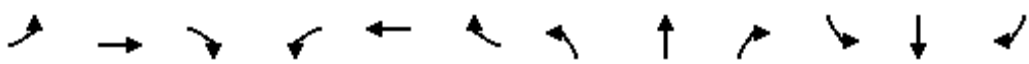
2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	1468	57	247	890	74	14	78	45	523	51	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	110.0		30.0	60.0		30.0	30.0		30.0	25.0		0.0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.962	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	3689	1615	1805	3519	1538	1805	1900	1615	1787	1828	0
Flt Permitted	0.334			0.067			0.713			0.652		
Satd. Flow (perm)	604	3689	1615	127	3519	1538	1355	1900	1615	1227	1828	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			94			62			94		14	
Link Speed (k/h)		70			70			40			40	
Link Distance (m)		226.7			277.3			216.4			196.0	
Travel Time (s)		11.7			14.3			19.5			17.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	3%	0%	0%	8%	5%	0%	0%	0%	1%	0%	0%
Adj. Flow (vph)	24	1468	57	247	890	74	14	78	45	523	51	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	1468	57	247	890	74	14	78	45	523	68	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	2	2	2	1	6	6	8	8	8	7	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0	35.0	4.0	35.0	35.0	10.0	10.0	10.0	7.0	10.0	
Minimum Split (s)	42.0	42.0	42.0	8.0	42.0	42.0	35.0	35.0	35.0	11.0	35.0	
Total Split (s)	62.0	62.0	62.0	15.0	77.0	77.0	35.0	35.0	35.0	28.0	63.0	
Total Split (%)	44.3%	44.3%	44.3%	10.7%	55.0%	55.0%	25.0%	25.0%	25.0%	20.0%	45.0%	
Maximum Green (s)	55.0	55.0	55.0	11.0	70.0	70.0	28.0	28.0	28.0	24.0	56.0	
Yellow Time (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)	0.0	-3.0	0.0	-3.0	0.0	0.0	0.0	0.0	0.0	-3.0	0.0	
Total Lost Time (s)	7.0	4.0	7.0	1.0	7.0	7.0	7.0	7.0	7.0	1.0	7.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max	Max	None	Max	Max	None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	25.0	25.0	25.0		25.0	25.0	21.0	21.0	21.0		21.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0		0	
Act Effect Green (s)	55.2	58.3	55.2	76.3	70.3	70.3	11.3	11.3	11.3	41.6	35.5	
Actuated g/C Ratio	0.46	0.49	0.46	0.64	0.59	0.59	0.09	0.09	0.09	0.35	0.30	
v/c Ratio	0.09	0.82	0.07	0.89	0.43	0.08	0.11	0.44	0.19	0.95	0.12	
Control Delay	21.5	32.3	1.3	75.6	15.4	4.3	53.1	60.9	1.8	78.3	24.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.5	32.3	1.3	75.6	15.4	4.3	53.1	60.9	1.8	78.3	24.6	

Lanes, Volumes, Timings

2: Vellore Woods Boulevard & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C	C	A	E	B	A	D	E	A	E	C	
Approach Delay		31.0			27.0			40.7			72.1	
Approach LOS		C			C			D			E	
Queue Length 50th (m)	3.4	158.1	0.0	44.9	61.4	1.3	3.3	19.2	0.0	118.4	9.7	
Queue Length 95th (m)	10.9	#260.0	4.3	#121.4	95.5	10.4	11.5	40.1	2.4	#233.5	23.5	
Internal Link Dist (m)		202.7			253.3			192.4			172.0	
Turn Bay Length (m)	110.0		30.0	60.0		30.0	30.0		30.0	25.0		
Base Capacity (vph)	278	1792	794	277	2063	927	317	445	450	551	864	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.09	0.82	0.07	0.89	0.43	0.08	0.04	0.18	0.10	0.95	0.08	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 119.9

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 37.0

Intersection LOS: D

Intersection Capacity Utilization 111.5%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Vellore Woods Boulevard & Rutherford Road

		
15 s	62 s	63 s
		
77 s	28 s	35 s

Lanes, Volumes, Timings

4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	1135	0	0	1777	6	307	15	530	1	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	0.0		160.0	160.0		300.0	0.0		0.0
Storage Lanes	1		0	0		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.91	0.86	0.91	1.00	1.00	1.00
Ped Bike Factor						0.98						
Frt						0.850		0.896	0.850			0.850
Flt Protected	0.950						0.950	0.987		0.950		
Satd. Flow (prot)	1805	3619	0	0	3551	1615	1535	2690	1361	1805	0	1615
Flt Permitted	0.076						0.950	0.987		0.950		
Satd. Flow (perm)	144	3619	0	0	3551	1581	1535	2690	1361	1805	0	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						84		161	161			86
Link Speed (k/h)		70			70			40			40	
Link Distance (m)		436.0			304.4			463.2			235.3	
Travel Time (s)		22.4			15.7			41.7			21.2	
Confl. Peds. (#/hr)	7		2	2		7						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	5%	0%	0%	7%	0%	7%	0%	8%	0%	0%	0%
Adj. Flow (vph)	5	1135	0	0	1777	6	307	15	530	1	0	3
Shared Lane Traffic (%)							33%		50%			
Lane Group Flow (vph)	5	1135	0	0	1777	6	206	381	265	1	0	3
Turn Type	Perm	NA			NA	Perm	Split	NA	Perm	Prot		custom
Protected Phases		2			6		4	4		3		3
Permitted Phases	2					6			4			
Detector Phase	2	2			6	6	4	4	4	3		3
Switch Phase												
Minimum Initial (s)	20.0	20.0			20.0	20.0	10.0	10.0	10.0	7.0		7.0
Minimum Split (s)	39.1	39.1			39.1	39.1	42.9	42.9	42.9	13.9		13.9
Total Split (s)	82.0	82.0			82.0	82.0	43.0	43.0	43.0	15.0		15.0
Total Split (%)	58.6%	58.6%			58.6%	58.6%	30.7%	30.7%	30.7%	10.7%		10.7%
Maximum Green (s)	74.9	74.9			74.9	74.9	36.1	36.1	36.1	8.1		8.1
Yellow Time (s)	5.0	5.0			5.0	5.0	4.1	4.1	4.1	4.1		4.1
All-Red Time (s)	2.1	2.1			2.1	2.1	2.8	2.8	2.8	2.8		2.8
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	7.1	7.1			7.1	7.1	6.9	6.9	6.9	6.9		6.9
Lead/Lag							Lead	Lead	Lead	Lag		Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max			Max	Max	None	None	None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	25.0	25.0			25.0	25.0	29.0	29.0	29.0			
Pedestrian Calls (#/hr)	0	0			0	0	0	0	0			
Act Effct Green (s)	75.7	75.7			75.7	75.7	21.5	21.5	21.5	7.1		7.1
Actuated g/C Ratio	0.67	0.67			0.67	0.67	0.19	0.19	0.19	0.06		0.06
v/c Ratio	0.05	0.47			0.75	0.01	0.71	0.60	0.68	0.01		0.02
Control Delay	12.8	11.8			17.7	0.0	58.4	27.7	26.9	57.0		0.3

Lanes, Volumes, Timings

4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0			0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.8	11.8			17.8	0.0	58.4	27.7	26.9	57.0		0.3
LOS	B	B			B	A	E	C	C	E		A
Approach Delay		11.8			17.7			34.9				
Approach LOS		B			B			C				
Queue Length 50th (m)	0.3	52.6			113.0	0.0	48.1	25.9	23.2	0.2		0.0
Queue Length 95th (m)	3.6	144.8			#342.2	0.0	98.2	58.8	77.5	2.5		0.0
Internal Link Dist (m)		412.0			280.4			439.2			211.3	
Turn Bay Length (m)	150.0					160.0	160.0		300.0			
Base Capacity (vph)	95	2410			2365	1081	492	972	546	129		196
Starvation Cap Reductn	0	0			56	0	0	0	0	0		0
Spillback Cap Reductn	0	0			0	0	0	0	0	0		0
Storage Cap Reductn	0	0			0	0	0	0	0	0		0
Reduced v/c Ratio	0.05	0.47			0.77	0.01	0.42	0.39	0.49	0.01		0.02

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 113.6

Natural Cycle: 120

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 19.8

Intersection LOS: B

Intersection Capacity Utilization 82.4%

ICU Level of Service E

Analysis Period (min) 60

* User Entered Value

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

 Ø2	 Ø4	 Ø3
82 s	43 s	15 s
 Ø6		
82 s		

Lanes, Volumes, Timings
5: Rutherford Road & Sweetriver Blvd

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	141	1286	220	39	1350	22	177	12	37	62	53	292
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		120.0	95.0		30.0	70.0		0.0	45.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	*1.00	0.97	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00		0.98	1.00		0.98		0.97		0.99		
Frt			0.850			0.850		0.887			0.873	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1626	3551	1524	1736	3585	1615	3303	3093	0	1671	3039	0
Flt Permitted	0.151			0.175			0.950			0.950		
Satd. Flow (perm)	258	3551	1494	319	3585	1590	3303	3093	0	1649	3039	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			220			86			37		125	
Link Speed (k/h)		70			70			40			40	
Link Distance (m)		304.4			290.7			178.4			183.8	
Travel Time (s)		15.7			15.0			16.1			16.5	
Confl. Peds. (#/hr)	3		6	6		3			8	8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	7%	6%	4%	6%	0%	6%	0%	0%	8%	2%	4%
Adj. Flow (vph)	141	1286	220	39	1350	22	177	12	37	62	53	292
Shared Lane Traffic (%)												
Lane Group Flow (vph)	141	1286	220	39	1350	22	177	49	0	62	345	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		4	4		8	8	
Permitted Phases	2		2	6		6						
Detector Phase	5	2	2	1	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	7.0	40.0	40.0	7.0	40.0	40.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	11.0	47.0	47.0	11.0	47.0	47.0	15.0	15.0		15.0	15.0	
Total Split (s)	11.0	88.0	88.0	11.0	88.0	88.0	15.0	15.0		26.0	26.0	
Total Split (%)	7.9%	62.9%	62.9%	7.9%	62.9%	62.9%	10.7%	10.7%		18.6%	18.6%	
Maximum Green (s)	7.0	81.0	81.0	7.0	81.0	81.0	10.0	10.0		21.0	21.0	
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-3.0	0.0	0.0	-3.0	0.0	0.0	-3.0	0.0		-3.0	0.0	
Total Lost Time (s)	1.0	7.0	7.0	1.0	7.0	7.0	2.0	5.0		2.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	
Walk Time (s)		7.0	7.0		7.0	7.0						
Flash Dont Walk (s)		26.0	26.0		26.0	26.0						
Pedestrian Calls (#/hr)		0	0		0	0						
Act Effct Green (s)	97.3	83.3	83.3	97.0	81.0	81.0	13.0	10.0		18.3	15.3	
Actuated g/C Ratio	0.72	0.62	0.62	0.72	0.60	0.60	0.10	0.07		0.14	0.11	
v/c Ratio	0.49	0.58	0.22	0.12	0.62	0.02	0.55	0.19		0.27	1.02dr	
Control Delay	11.9	17.6	2.1	6.5	19.1	0.0	66.0	26.6		54.7	48.1	

Lanes, Volumes, Timings

5: Rutherford Road & Sweetriver Blvd

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	11.9	17.6	2.1	6.5	19.1	0.0	66.0	26.6		54.7	48.1	
LOS	B	B	A	A	B	A	E	C		D	D	
Approach Delay		15.0			18.4			57.5			49.1	
Approach LOS		B			B			E			D	
Queue Length 50th (m)	10.4	106.2	0.0	2.7	114.1	0.0	24.7	1.6		15.7	31.8	
Queue Length 95th (m)	22.6	168.6	16.0	7.7	181.3	0.0	43.7	10.3		33.9	58.2	
Internal Link Dist (m)		280.4			266.7			154.4			159.8	
Turn Bay Length (m)	85.0		120.0	95.0		30.0	70.0			45.0		
Base Capacity (vph)	288	2201	1009	335	2161	992	319	264		298	580	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.49	0.58	0.22	0.12	0.62	0.02	0.55	0.19		0.21	0.59	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 134.4

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.75

Intersection Signal Delay: 22.7

Intersection LOS: C

Intersection Capacity Utilization 81.1%

ICU Level of Service D

Analysis Period (min) 60

* User Entered Value

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

Splits and Phases: 5: Rutherford Road & Sweetriver Blvd

			
11 s	38 s	15 s	26 s
			
11 s	38 s		

Lanes, Volumes, Timings
7: Jane Street & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 		 	 			  			 	
Volume (vph)	120	1123	169	592	1057	36	153	314	230	87	1298	262
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		55.0	160.0		80.0	80.0		70.0	120.0		120.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00					0.99			0.99	1.00		0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	3551	1538	3505	3551	1242	1504	4631	1417	1770	3505	1568
Flt Permitted	0.950			0.950			0.077			0.554		
Satd. Flow (perm)	1686	3551	1538	3505	3551	1226	122	4631	1398	1031	3505	1545
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			140			101			230			179
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		268.0			249.5			177.7			251.7	
Travel Time (s)		13.8			12.8			9.1			12.9	
Confl. Peds. (#/hr)	1					1	2		1	1		2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	7%	5%	3%	7%	30%	20%	12%	14%	2%	3%	3%
Adj. Flow (vph)	120	1123	169	592	1057	36	153	314	230	87	1298	262
Shared Lane Traffic (%)												
Lane Group Flow (vph)	120	1123	169	592	1057	36	153	314	230	87	1298	262
Turn Type	Prot	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6	8		8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	7.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	12.0	23.0	23.0	12.0	38.0	38.0	11.0	39.0	39.0	11.0	39.0	39.0
Total Split (s)	13.0	48.0	48.0	25.0	60.0	60.0	11.0	56.0	56.0	11.0	56.0	56.0
Total Split (%)	9.3%	34.3%	34.3%	17.9%	42.9%	42.9%	7.9%	40.0%	40.0%	7.9%	40.0%	40.0%
Maximum Green (s)	8.0	41.0	41.0	20.0	53.0	53.0	7.0	49.0	49.0	7.0	49.0	49.0
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	0.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	2.0	4.0	7.0	2.0	4.0	7.0	1.0	7.0	7.0	1.0	4.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	Max	Max	None	Max	Max
Walk Time (s)				7.0	7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)				24.0	24.0			25.0	25.0		25.0	25.0
Pedestrian Calls (#/hr)				0	0			0	0		0	0
Act Effct Green (s)	11.0	44.0	41.0	23.0	56.0	53.0	65.0	49.0	49.0	65.0	52.0	49.0
Actuated g/C Ratio	0.08	0.31	0.29	0.16	0.40	0.38	0.46	0.35	0.35	0.46	0.37	0.35
v/c Ratio	0.91	1.01	0.31	1.03	0.74	0.07	0.99	0.19	0.36	0.16	1.00	0.40
Control Delay	151.8	107.5	10.6	163.7	39.9	0.2	165.7	32.1	5.4	21.5	91.5	12.8

Lanes, Volumes, Timings

7: Jane Street & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	151.8	107.5	10.6	163.7	39.9	0.2	165.7	32.1	5.4	21.5	91.5	12.8
LOS	F	F	B	F	D	A	F	C	A	C	F	B
Approach Delay	99.6			82.6			52.6			75.3		
Approach LOS	F			F			D			E		
Queue Length 50th (m)	35.3	~165.8	6.1	~91.9	130.5	0.0	30.3	23.3	0.0	13.8	197.7	16.6
Queue Length 95th (m)	#87.5	#255.4	32.3	#153.3	183.9	0.0	#93.8	35.4	28.2	27.5	#301.7	52.3
Internal Link Dist (m)	244.0			225.5			153.7			227.7		
Turn Bay Length (m)	150.0			55.0	160.0			80.0	80.0	70.0	120.0	120.0
Base Capacity (vph)	132	1116	549	575	1420	526	155	1620	638	531	1301	657
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.91	1.01	0.31	1.03	0.74	0.07	0.99	0.19	0.36	0.16	1.00	0.40

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 130

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 81.0

Intersection LOS: F

Intersection Capacity Utilization 105.6%

ICU Level of Service G

Analysis Period (min) 60

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 7: Jane Street & Rutherford Road

			
25 s	48 s	11 s	56 s
			
13 s	60 s	11 s	56 s

Lanes, Volumes, Timings
8: Jane Street & Riverock Gate

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	94	49	59	173	19	64	89	523	95	116	1814	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	60.0		80.0	95.0		0.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00	0.99		0.99	0.99				0.99	1.00		0.99
Frt		0.918			0.884				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1492	3111	0	1504	1367	0	1467	3312	1615	1736	3539	1509
Flt Permitted	0.703			0.684			0.057			0.458		
Satd. Flow (perm)	1101	3111	0	1077	1367	0	88	3312	1594	836	3539	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		59			64				95			146
Link Speed (k/h)		40			40			70			70	
Link Distance (m)		109.4			117.8			114.6			193.0	
Travel Time (s)		9.8			10.6			5.9			9.9	
Confl. Peds. (#/hr)	2		4	4		2	2		1	1		2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	21%	0%	10%	20%	6%	26%	23%	9%	0%	4%	2%	7%
Adj. Flow (vph)	94	49	59	173	19	64	89	523	95	116	1814	173
Shared Lane Traffic (%)												
Lane Group Flow (vph)	94	108	0	173	83	0	89	523	95	116	1814	173
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		5	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	32.0	32.0	32.0	32.0	32.0
Minimum Split (s)	30.0	30.0		30.0	30.0		11.0	39.0	39.0	39.0	39.0	39.0
Total Split (s)	31.0	31.0		31.0	31.0		11.0	99.0	99.0	88.0	88.0	88.0
Total Split (%)	23.8%	23.8%		23.8%	23.8%		8.5%	76.2%	76.2%	67.7%	67.7%	67.7%
Maximum Green (s)	25.0	25.0		25.0	25.0		7.0	92.0	92.0	81.0	81.0	81.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		-3.0	0.0	0.0	0.0	-3.0	0.0
Total Lost Time (s)	6.0	6.0		6.0	6.0		1.0	7.0	7.0	7.0	4.0	7.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max	Max	Max	Max	Max
Walk Time (s)	3.0	3.0		3.0	3.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	21.0	21.0		21.0	21.0			25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)	0	0		0	0			0	0	0	0	0
Act Effct Green (s)	23.1	23.1		23.1	23.1		98.0	92.0	92.0	81.0	84.0	81.0
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.77	0.72	0.72	0.63	0.66	0.63
v/c Ratio	0.47	0.18		0.89	0.28		0.51	0.22	0.08	0.22	0.78	0.17
Control Delay	55.9	22.2		110.8	17.7		26.3	6.5	1.3	11.8	19.1	2.7

Lanes, Volumes, Timings

8: Jane Street & Riverrock Gate

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.9	22.2		110.8	17.7		26.3	6.5	1.3	11.8	19.1	2.7
LOS	E	C		F	B		C	A	A	B	B	A
Approach Delay		37.9			80.6			8.3			17.3	
Approach LOS		D			F			A			B	
Queue Length 50th (m)	22.6	5.7		45.4	4.2		5.7	23.2	0.0	12.9	174.1	2.6
Queue Length 95th (m)	46.7	16.8		#102.8	23.5		29.6	34.5	6.3	26.6	266.9	14.9
Internal Link Dist (m)		85.4			93.8			90.6			169.0	
Turn Bay Length (m)				30.0			60.0		80.0	95.0		
Base Capacity (vph)	214	654		210	318		175	2379	1171	528	2321	995
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.44	0.17		0.82	0.26		0.51	0.22	0.08	0.22	0.78	0.17

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 128.1

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 21.6

Intersection LOS: C

Intersection Capacity Utilization 86.5%

ICU Level of Service E

Analysis Period (min) 60

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 8: Jane Street & Riverrock Gate

					
99 s			31 s		
					
11 s	88 s		31 s		

Lanes, Volumes, Timings

10: Hwy 400 NB Off Ramp/Fishermen's Way & Bass Pro Mills Drive

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	92	574	0	0	1076	6	336	253	623	0	0	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	0.0		0.0	120.0		200.0	0.0		0.0
Storage Lanes	0		0	0		0	1		1	0		2
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	0.95	0.95	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	0.88
Fr _t					0.999				0.850			0.850
Fl _t Protected		0.993					0.950					
Satd. Flow (prot)	0	3585	0	0	2931	0	1805	3374	1553	0	0	2733
Fl _t Permitted		0.560					0.950					
Satd. Flow (perm)	0	2022	0	0	2931	0	1805	3374	1553	0	0	2733
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					1				275			
Link Speed (k/h)		50			50			60			40	
Link Distance (m)		323.2			396.5			263.1			166.8	
Travel Time (s)		23.3			28.5			15.8			15.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	23%	33%	0%	7%	4%	0%	0%	4%
Adj. Flow (vph)	92	574	0	0	1076	6	336	253	623	0	0	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	666	0	0	1082	0	336	253	623	0	0	176
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			custom
Protected Phases	5	2			6			8				
Permitted Phases	2						8		8			4
Detector Phase	5	2			6		8	8	8			4
Switch Phase												
Minimum Initial (s)	4.0	4.0			10.0		10.0	10.0	10.0			10.0
Minimum Split (s)	8.6	28.0			27.1		32.5	32.5	32.5			22.1
Total Split (s)	8.6	84.0			75.4		56.0	56.0	56.0			56.0
Total Split (%)	6.1%	60.0%			53.9%		40.0%	40.0%	40.0%			40.0%
Maximum Green (s)	4.6	77.0			69.3		49.5	49.5	49.5			49.9
Yellow Time (s)	3.0	4.1			4.1		4.5	4.5	4.5			4.1
All-Red Time (s)	1.0	2.9			2.0		2.0	2.0	2.0			2.0
Lost Time Adjust (s)		0.0			-3.0		-3.0	0.0	0.0			0.0
Total Lost Time (s)		7.0			3.1		3.5	6.5	6.5			6.1
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	None			Max		Max	Max	Max			Max
Walk Time (s)		10.0			10.0		15.0	15.0	15.0			
Flash Dont Walk (s)		7.0			7.0		5.0	5.0	5.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)		68.4			72.3		52.5	49.5	49.5			49.9
Actuated g/C Ratio		0.52			0.55		0.40	0.38	0.38			0.38
v/c Ratio		0.63			0.67		0.47	0.20	0.82			0.17
Control Delay		26.0			23.7		31.8	28.1	31.4			27.6
Queue Delay		0.0			0.0		0.0	0.0	0.0			0.0
Total Delay		26.0			23.7		31.8	28.1	31.4			27.6

Lanes, Volumes, Timings

10: Hwy 400 NB Off Ramp/Fishermen's Way & Bass Pro Mills Drive

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS		C			C		C	C	C			C
Approach Delay		26.0			23.7			30.8				
Approach LOS		C			C			C				
Queue Length 50th (m)		66.2			106.4		66.9	24.2	91.9			17.9
Queue Length 95th (m)		105.6			158.5		110.3	39.1	#211.1			30.9
Internal Link Dist (m)		299.2			372.5			239.1			142.8	
Turn Bay Length (m)							120.0		200.0			
Base Capacity (vph)		1184			1613		721	1271	756			1037
Starvation Cap Reductn		0			0		0	0	0			0
Spillback Cap Reductn		0			0		0	0	0			0
Storage Cap Reductn		0			0		0	0	0			0
Reduced v/c Ratio		0.56			0.67		0.47	0.20	0.82			0.17

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 131.4

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 27.1

Intersection LOS: C

Intersection Capacity Utilization 79.6%

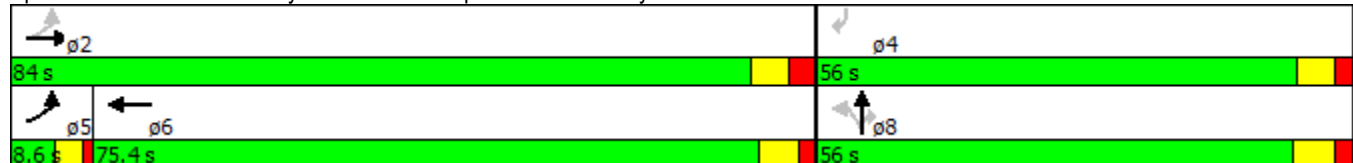
ICU Level of Service D

Analysis Period (min) 60

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 10: Hwy 400 NB Off Ramp/Fishermen's Way & Bass Pro Mills Drive



Lanes, Volumes, Timings

11: Edgeley Boulevard & Bass Pro Mills Drive

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	188	699	309	16	782	18	128	104	27	55	404	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		60.0	60.0		0.0	60.0		0.0	60.0		60.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	1.00		0.98	1.00	1.00		1.00	1.00		0.99		0.99
Frt			0.850		0.997			0.969				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	3343	1599	1805	2758	0	1444	3082	0	1687	1863	1404
Flt Permitted	0.265			0.386			0.113			0.669		
Satd. Flow (perm)	479	3343	1564	733	2758	0	172	3082	0	1176	1863	1384
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			309		2			24				119
Link Speed (k/h)		50			50			40			40	
Link Distance (m)		396.5			255.6			173.9			157.1	
Travel Time (s)		28.5			18.4			15.7			14.1	
Confl. Peds. (#/hr)	2		1	1		2	2		9	9		2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	8%	1%	0%	30%	50%	25%	15%	5%	7%	2%	15%
Adj. Flow (vph)	188	699	309	16	782	18	128	104	27	55	404	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	188	699	309	16	800	0	128	131	0	55	404	168
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		3	8			4	
Permitted Phases	2		2	6			8			4		4
Detector Phase	5	2	2	6	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	41.0	41.0	41.0	41.0		8.0	38.0		38.0	38.0	38.0
Total Split (s)	14.0	89.0	89.0	75.0	75.0		12.0	51.0		39.0	39.0	39.0
Total Split (%)	10.0%	63.6%	63.6%	53.6%	53.6%		8.6%	36.4%		27.9%	27.9%	27.9%
Maximum Green (s)	10.0	82.0	82.0	68.0	68.0		8.0	45.0		33.0	33.0	33.0
Yellow Time (s)	3.0	5.0	5.0	5.0	5.0		3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	2.0	2.0		1.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-3.0	0.0	0.0	0.0	-3.0		-3.0	0.0		0.0	-3.0	0.0
Total Lost Time (s)	1.0	7.0	7.0	7.0	4.0		1.0	6.0		6.0	3.0	6.0
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max		None	None		None	None	None
Walk Time (s)		7.0	7.0	7.0	7.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		27.0	27.0	27.0	27.0			25.0		25.0	25.0	25.0
Pedestrian Calls (#/hr)		0	0	0	0			0		0	0	0
Act Effct Green (s)	88.0	82.0	82.0	68.4	71.4		48.3	43.3		31.3	34.3	31.3
Actuated g/C Ratio	0.64	0.59	0.59	0.49	0.52		0.35	0.31		0.23	0.25	0.23
v/c Ratio	0.45	0.35	0.29	0.04	0.56		0.80	0.13		0.21	0.88	0.41
Control Delay	14.2	15.3	2.1	19.5	25.0		73.4	27.9		45.5	74.9	18.0

Lanes, Volumes, Timings

11: Edgeley Boulevard & Bass Pro Mills Drive

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	14.2	15.3	2.1	19.5	25.0		73.4	27.9		45.5	74.9	18.0
LOS	B	B	A	B	C		E	C		D	E	B
Approach Delay		11.7			24.9			50.4			57.1	
Approach LOS		B			C			D			E	
Queue Length 50th (m)	21.6	53.7	0.0	2.4	82.8		26.2	11.5		13.0	112.4	11.4
Queue Length 95th (m)	37.5	77.3	18.7	7.7	122.0		#71.1	22.5		29.2	#201.0	42.0
Internal Link Dist (m)		372.5			231.6			149.9			133.1	
Turn Bay Length (m)	70.0		60.0	60.0			60.0			60.0		60.0
Base Capacity (vph)	421	1982	1053	362	1424		161	1019		280	485	421
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.45	0.35	0.29	0.04	0.56		0.80	0.13		0.20	0.83	0.40

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 138.3

Natural Cycle: 95

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 28.7

Intersection LOS: C

Intersection Capacity Utilization 80.8%

ICU Level of Service D

Analysis Period (min) 60

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 11: Edgeley Boulevard & Bass Pro Mills Drive

 p2	 p3	 p4
89 s	12 s	39 s
 p5	 p6	 p8
14 s	75 s	51 s

Lanes, Volumes, Timings
12: Jane Street & Bass Pro Mills Drive/Locke Street

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	289	43	239	37	16	18	122	463	51	73	1505	456
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	0.0		0.0	55.0		45.0	60.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor									0.99	1.00		
Frt		0.873			0.921				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1203	3152	0	1583	1538	0	1128	3374	1442	1719	3539	1615
Flt Permitted	0.735			0.544			0.059			0.486		
Satd. Flow (perm)	931	3152	0	907	1538	0	70	3374	1423	879	3539	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		164			18				51			311
Link Speed (k/h)		50			50			70			70	
Link Distance (m)		112.2			112.0			287.0			213.0	
Travel Time (s)		8.1			8.1			14.8			11.0	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	50%	0%	0%	14%	0%	26%	60%	7%	12%	5%	2%	0%
Adj. Flow (vph)	289	43	239	37	16	18	122	463	51	73	1505	456
Shared Lane Traffic (%)												
Lane Group Flow (vph)	289	282	0	37	34	0	122	463	51	73	1505	456
Turn Type	Perm	NA		Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	4	4		8	8		5	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		4.0	32.0	32.0	32.0	32.0	32.0
Minimum Split (s)	40.0	40.0		40.0	40.0		8.0	39.0	39.0	39.0	39.0	39.0
Total Split (s)	44.0	44.0		44.0	44.0		14.0	86.0	86.0	72.0	72.0	72.0
Total Split (%)	33.8%	33.8%		33.8%	33.8%		10.8%	66.2%	66.2%	55.4%	55.4%	55.4%
Maximum Green (s)	38.0	38.0		38.0	38.0		10.0	79.0	79.0	65.0	65.0	65.0
Yellow Time (s)	4.0	4.0		4.0	4.0		3.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0		2.0	2.0		1.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-3.0	0.0		0.0	0.0		-3.0	0.0	0.0	0.0	-3.0	0.0
Total Lost Time (s)	3.0	6.0		6.0	6.0		1.0	7.0	7.0	7.0	4.0	7.0
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max	Max	Max	Max	Max
Walk Time (s)	7.0	7.0		7.0	7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	27.0	27.0		27.0	27.0			25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)	0	0		0	0			0	0	0	0	0
Act Effct Green (s)	41.0	38.0		38.0	38.0		85.0	79.0	79.0	65.3	68.3	65.3
Actuated g/C Ratio	0.32	0.29		0.29	0.29		0.65	0.61	0.61	0.50	0.53	0.50
v/c Ratio	0.99	0.27		0.14	0.07		0.82	0.23	0.06	0.17	0.81	0.47
Control Delay	137.5	15.1		35.8	20.0		80.0	11.9	2.9	19.0	30.1	7.9

Lanes, Volumes, Timings

12: Jane Street & Bass Pro Mills Drive/Locke Street

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	137.5	15.1		35.8	20.0		80.0	11.9	2.9	19.0	30.1	7.9
LOS	F	B		D	B		E	B	A	B	C	A
Approach Delay		77.1			28.3			24.3			24.7	
Approach LOS		E			C			C			C	
Queue Length 50th (m)	77.3	12.3		7.4	3.1		21.2	28.3	0.0	10.4	171.5	20.9
Queue Length 95th (m)	#162.0	29.2		19.1	13.2		#69.1	42.3	6.5	23.1	251.6	65.0
Internal Link Dist (m)		88.2			88.0			263.0			189.0	
Turn Bay Length (m)	50.0						55.0		45.0	60.0		70.0
Base Capacity (vph)	293	1037		265	462		151	2050	884	441	1858	966
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.27		0.14	0.07		0.81	0.23	0.06	0.17	0.81	0.47

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 33.7

Intersection LOS: C

Intersection Capacity Utilization 97.7%

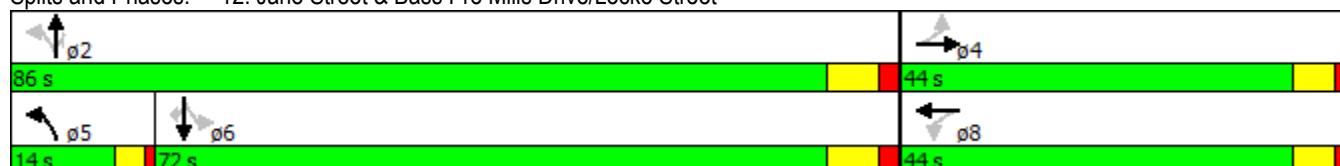
ICU Level of Service F

Analysis Period (min) 60

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 12: Jane Street & Bass Pro Mills Drive/Locke Street



Lanes, Volumes, Timings
52: Weston Road & Bass Pro Mills Drive

2/4/2014

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	268	115	620	325	491	1413
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		50.0	50.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Flt Permitted	0.950				0.382	
Satd. Flow (perm)	1770	1583	3539	1583	712	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		115		325		
Link Speed (k/h)	50		70			70
Link Distance (m)	160.1		280.7			236.0
Travel Time (s)	11.5		14.4			12.1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	268	115	620	325	491	1413
Shared Lane Traffic (%)						
Lane Group Flow (vph)	268	115	620	325	491	1413
Turn Type	NA	Perm	NA	Perm	pm+pt	NA
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Detector Phase	8	8	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	36.0	36.0	36.0	36.0	8.0	36.0
Total Split (s)	36.0	36.0	76.0	76.0	18.0	94.0
Total Split (%)	27.7%	27.7%	58.5%	58.5%	13.8%	72.3%
Maximum Green (s)	29.0	29.0	69.0	69.0	14.0	87.0
Yellow Time (s)	5.0	5.0	5.0	5.0	3.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	1.0	2.0
Lost Time Adjust (s)	-3.0	0.0	0.0	0.0	-3.0	-3.0
Total Lost Time (s)	4.0	7.0	7.0	7.0	1.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	None	Max
Walk Time (s)	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	22.0	22.0	22.0	22.0		22.0
Pedestrian Calls (#/hr)	0	0	0	0		0
Act Effct Green (s)	26.2	23.2	69.7	69.7	93.1	90.1
Actuated g/C Ratio	0.21	0.19	0.56	0.56	0.75	0.72
v/c Ratio	0.72	0.30	0.31	0.32	0.73	0.55
Control Delay	57.9	9.3	15.8	2.4	13.6	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.4
Total Delay	57.9	9.3	15.8	2.4	13.6	9.8
LOS	E	A	B	A	B	A

Lanes, Volumes, Timings
52: Weston Road & Bass Pro Mills Drive

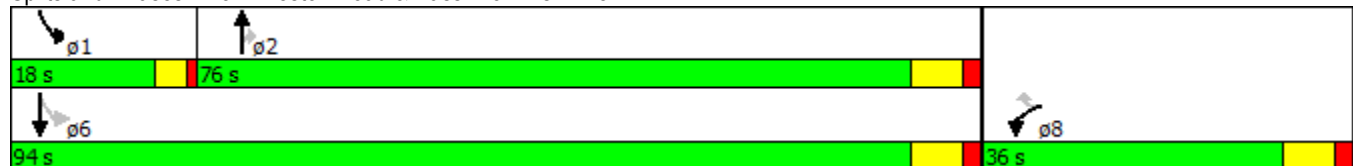
2/4/2014

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	43.3		11.2			10.8
Approach LOS	D		B			B
Queue Length 50th (m)	64.5	0.0	43.8	0.0	39.1	79.5
Queue Length 95th (m)	109.1	20.9	70.4	21.2	#90.6	135.8
Internal Link Dist (m)	136.1		256.7			212.0
Turn Bay Length (m)				50.0	50.0	
Base Capacity (vph)	456	457	1985	1030	678	2566
Starvation Cap Reductn	0	0	0	0	0	599
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.25	0.31	0.32	0.72	0.72

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 124.3
Natural Cycle: 80
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 14.7
Intersection LOS: B
Intersection Capacity Utilization 71.7%
ICU Level of Service C
Analysis Period (min) 60
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 52: Weston Road & Bass Pro Mills Drive



Lanes, Volumes, Timings
1: Weston Road & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	168	842	176	167	1313	372	849	1196	64	172	541	99
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	110.0		50.0	60.0		0.0	120.0		65.0	70.0		95.0
Storage Lanes	1		1	1		1	2		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.97	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor			0.98	1.00		0.97	1.00		0.98	1.00		0.98
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1805	3689	1538	1719	3551	1524	2943	3406	1553	1736	3471	1482
Flt Permitted	0.085			0.168			0.950			0.137		
Satd. Flow (perm)	162	3689	1505	303	3551	1481	2932	3406	1522	250	3471	1457
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			125			172			94			125
Link Speed (k/h)		70			70			70			60	
Link Distance (m)		216.7			167.8			341.7			238.6	
Travel Time (s)		11.1			8.6			17.6			14.3	
Confl. Peds. (#/hr)	13		8	8		13	4		7	7		4
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	3%	5%	5%	7%	6%	19%	6%	4%	4%	4%	9%
Adj. Flow (vph)	168	842	176	167	1313	372	849	1196	64	172	541	99
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	842	176	167	1313	372	849	1196	64	172	541	99
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6			8	4		4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	40.0	40.0	7.0	40.0	40.0	7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	11.0	47.0	47.0	11.0	47.0	47.0	11.0	43.0	43.0	11.0	43.0	43.0
Total Split (s)	11.0	51.0	51.0	11.0	51.0	51.0	35.0	65.0	65.0	13.0	43.0	43.0
Total Split (%)	7.9%	36.4%	36.4%	7.9%	36.4%	36.4%	25.0%	46.4%	46.4%	9.3%	30.7%	30.7%
Maximum Green (s)	7.0	44.0	44.0	7.0	44.0	44.0	31.0	58.0	58.0	9.0	36.0	36.0
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0	0.0
Total Lost Time (s)	1.0	4.0	7.0	1.0	4.0	7.0	1.0	4.0	7.0	1.0	4.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	None	Max	Max	None	Max	Max
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		27.0	27.0		27.0	27.0		29.0	29.0		29.0	29.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	60.0	47.0	44.0	60.0	47.0	44.0	34.0	61.1	58.1	53.9	39.0	36.0
Actuated g/C Ratio	0.43	0.34	0.31	0.43	0.34	0.31	0.24	0.44	0.42	0.38	0.28	0.26
v/c Ratio	0.90	0.68	0.32	0.72	1.10	0.64	1.19	0.81	0.09	0.77	0.56	0.21
Control Delay	96.8	43.5	13.2	46.1	241.1	27.1	400.9	39.7	1.9	54.2	45.8	4.2

Lanes, Volumes, Timings

1: Weston Road & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.8	43.5	13.2	46.1	241.1	27.1	400.9	39.7	1.9	54.2	45.8	4.2
LOS	F	D	B	D	F	C	F	D	A	D	D	A
Approach Delay		46.5			180.5			184.0			42.5	
Approach LOS		D			F			F			D	
Queue Length 50th (m)	31.2	105.6	10.6	30.0	~216.7	50.4	~153.2	157.4	0.0	25.7	71.2	0.0
Queue Length 95th (m)	#93.2	148.3	38.0	#62.7	#308.0	109.3	#228.9	224.5	6.4	#79.4	103.6	12.9
Internal Link Dist (m)		192.7			143.8			317.7			214.6	
Turn Bay Length (m)	110.0		50.0	60.0			120.0		65.0	70.0		95.0
Base Capacity (vph)	186	1238	558	231	1192	583	714	1485	686	223	966	467
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.68	0.32	0.72	1.10	0.64	1.19	0.81	0.09	0.77	0.56	0.21

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 145

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.19

Intersection Signal Delay: 136.3

Intersection LOS: F

Intersection Capacity Utilization 113.2%

ICU Level of Service H

Analysis Period (min) 60

* User Entered Value

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1: Weston Road & Rutherford Road

			
11 s	51 s	35 s	43 s
			
11 s	51 s	13 s	65 s

Lanes, Volumes, Timings

2: Vellore Woods Boulevard & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	1079	40	158	1583	192	298	330	265	250	8	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	110.0		30.0	60.0		30.0	30.0		0.0	25.0		0.0
Storage Lanes	1		1	1		1	1		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850		0.933			0.900	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	3689	1615	1805	3519	1538	1805	1773	0	1787	1710	0
Flt Permitted	0.071			0.127			0.742			0.111		
Satd. Flow (perm)	128	3689	1615	241	3519	1538	1410	1773	0	209	1710	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			94			62		32			9	
Link Speed (k/h)		70			70			40			40	
Link Distance (m)		226.7			277.3			216.4			196.0	
Travel Time (s)		11.7			14.3			19.5			17.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	3%	0%	0%	8%	5%	0%	0%	0%	1%	0%	0%
Adj. Flow (vph)	46	1079	40	158	1583	192	298	330	265	250	8	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	1079	40	158	1583	192	298	595	0	250	24	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2		2	6		6	8			4		
Detector Phase	2	2	2	1	6	6	8	8		7	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0	35.0	4.0	35.0	35.0	10.0	10.0		4.0	10.0	
Minimum Split (s)	42.0	42.0	42.0	8.0	42.0	42.0	35.0	35.0		8.0	35.0	
Total Split (s)	60.0	60.0	60.0	8.0	68.0	68.0	58.0	58.0		14.0	72.0	
Total Split (%)	42.9%	42.9%	42.9%	5.7%	48.6%	48.6%	41.4%	41.4%		10.0%	51.4%	
Maximum Green (s)	53.0	53.0	53.0	4.0	61.0	61.0	51.0	51.0		10.0	65.0	
Yellow Time (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0		3.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0		1.0	2.0	
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	0.0	0.0		-3.0	0.0	
Total Lost Time (s)	4.0	4.0	7.0	1.0	4.0	7.0	7.0	7.0		1.0	7.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	Max	Max	Max	None	Max	Max	None	None		None	None	
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0			7.0	
Flash Dont Walk (s)	25.0	25.0	25.0		25.0	25.0	21.0	21.0			21.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0			0	
Act Effect Green (s)	56.1	56.1	53.1	67.1	64.1	61.1	46.9	46.9		66.9	60.9	
Actuated g/C Ratio	0.41	0.41	0.39	0.49	0.47	0.45	0.34	0.34		0.49	0.45	
v/c Ratio	0.87	0.71	0.06	0.79	0.95	0.26	0.61	0.94		0.99	0.03	
Control Delay	189.2	37.1	0.1	55.8	54.0	17.4	43.2	75.8		130.0	14.8	
Queue Delay	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0		0.0	0.0	
Total Delay	189.2	37.1	0.1	55.8	54.6	17.4	43.2	75.8		130.0	14.8	

Lanes, Volumes, Timings

2: Vellore Woods Boulevard & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	F	D	A	E	D	B	D	E		F	B	
Approach Delay		41.8			51.0			64.9			119.9	
Approach LOS		D			D			E			F	
Queue Length 50th (m)	12.4	132.2	0.0	25.8	224.0	23.2	69.7	155.7		46.8	2.3	
Queue Length 95th (m)	#46.8	185.3	0.0	#69.1	#335.8	48.9	118.8	#275.9		#128.9	8.9	
Internal Link Dist (m)		202.7			253.3			192.4			172.0	
Turn Bay Length (m)	110.0		30.0	60.0		30.0	30.0			25.0		
Base Capacity (vph)	53	1521	687	199	1658	725	529	686		253	823	
Starvation Cap Reductn	0	0	0	0	8	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.87	0.71	0.06	0.79	0.96	0.26	0.56	0.87		0.99	0.03	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 136

Natural Cycle: 95

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 55.8

Intersection LOS: E

Intersection Capacity Utilization 136.2%

ICU Level of Service H

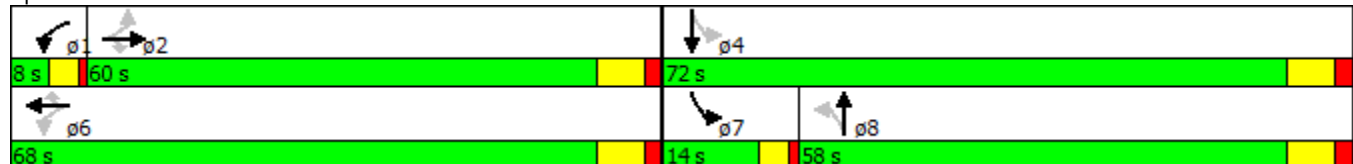
Analysis Period (min) 60

* User Entered Value

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Vellore Woods Boulevard & Rutherford Road



Lanes, Volumes, Timings

2: Vellore Woods Boulevard & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	46	1079	40	158	1583	192	298	330	265	250	8	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	110.0		30.0	60.0		30.0	30.0		30.0	25.0		0.0
Storage Lanes	1		1	1		1	1		1	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850			0.850			0.850		0.900	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	3689	1615	1805	3519	1538	1805	1900	1615	1787	1710	0
Flt Permitted	0.097			0.173			0.742			0.293		
Satd. Flow (perm)	176	3689	1615	329	3519	1538	1410	1900	1615	551	1710	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			94			65			132		16	
Link Speed (k/h)		70			70			40			40	
Link Distance (m)		226.7			277.3			216.4			196.0	
Travel Time (s)		11.7			14.3			19.5			17.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	3%	0%	0%	8%	5%	0%	0%	0%	1%	0%	0%
Adj. Flow (vph)	46	1079	40	158	1583	192	298	330	265	250	8	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	1079	40	158	1583	192	298	330	265	250	24	0
Turn Type	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	pm+pt	NA	
Protected Phases		2		1	6			8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Detector Phase	2	2	2	1	6	6	8	8	8	7	4	
Switch Phase												
Minimum Initial (s)	35.0	35.0	35.0	7.0	35.0	35.0	10.0	10.0	10.0	7.0	10.0	
Minimum Split (s)	42.0	42.0	42.0	11.0	42.0	42.0	35.0	35.0	35.0	11.0	35.0	
Total Split (s)	72.0	72.0	72.0	11.0	83.0	83.0	43.0	43.0	43.0	14.0	57.0	
Total Split (%)	51.4%	51.4%	51.4%	7.9%	59.3%	59.3%	30.7%	30.7%	30.7%	10.0%	40.7%	
Maximum Green (s)	65.0	65.0	65.0	7.0	76.0	76.0	36.0	36.0	36.0	10.0	50.0	
Yellow Time (s)	5.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	0.0	0.0	0.0	-3.0	0.0	
Total Lost Time (s)	4.0	4.0	7.0	1.0	4.0	7.0	7.0	7.0	7.0	1.0	7.0	
Lead/Lag	Lag	Lag	Lag	Lead			Lag	Lag	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes	Yes			Yes	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Recall Mode	Max	Max	Max	None	Max	Max	None	None	None	None	None	
Walk Time (s)	7.0	7.0	7.0		7.0	7.0	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	25.0	25.0	25.0		25.0	25.0	21.0	21.0	21.0		21.0	
Pedestrian Calls (#/hr)	0	0	0		0	0	0	0	0		0	
Act Effect Green (s)	68.1	68.1	65.1	82.1	79.1	76.1	32.3	32.3	32.3	52.3	46.3	
Actuated g/C Ratio	0.50	0.50	0.48	0.60	0.58	0.56	0.24	0.24	0.24	0.38	0.34	
v/c Ratio	0.53	0.59	0.05	0.52	0.78	0.22	0.89	0.73	0.55	0.76	0.04	
Control Delay	52.6	26.3	0.1	18.9	26.0	11.1	88.8	59.1	26.6	48.4	16.0	
Queue Delay	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	52.6	26.3	0.1	18.9	26.9	11.1	88.8	59.1	26.6	48.4	16.0	

Lanes, Volumes, Timings

2: Vellore Woods Boulevard & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	C	A	B	C	B	F	E	C	D	B	
Approach Delay		26.5			24.7			59.4			45.6	
Approach LOS		C			C			E			D	
Queue Length 50th (m)	9.1	111.9	0.0	20.0	176.0	17.9	82.3	87.0	32.5	50.4	1.5	
Queue Length 95th (m)	#36.4	156.8	0.0	35.6	257.1	38.1	#157.7	140.7	75.7	#101.4	9.4	
Internal Link Dist (m)		202.7			253.3			192.4			172.0	
Turn Bay Length (m)	110.0		30.0	60.0		30.0	30.0		30.0	25.0		
Base Capacity (vph)	87	1841	819	306	2040	886	372	502	524	329	637	
Starvation Cap Reductn	0	0	0	0	206	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.53	0.59	0.05	0.52	0.86	0.22	0.80	0.66	0.51	0.76	0.04	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 136.4

Natural Cycle: 100

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 33.8

Intersection LOS: C

Intersection Capacity Utilization 120.0%

ICU Level of Service H

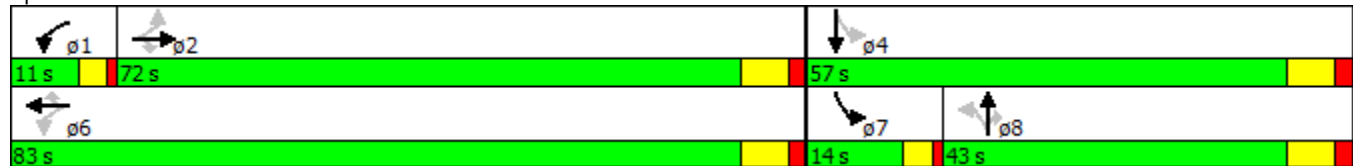
Analysis Period (min) 60

* User Entered Value

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 2: Vellore Woods Boulevard & Rutherford Road



Lanes, Volumes, Timings

4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	43	1156	0	0	1972	33	682	180	718	78	0	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		0.0	0.0		160.0	160.0		300.0	0.0		0.0
Storage Lanes	1		0	0		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	1.00	0.91	0.86	0.91	1.00	1.00	1.00
Ped Bike Factor						0.98						
Frt						0.850		0.934	0.850			0.850
Flt Protected	0.950						0.950	0.984		0.950		
Satd. Flow (prot)	1805	3619	0	0	3551	1615	1535	2837	1361	1805	0	1615
Flt Permitted	0.053						0.950	0.984		0.950		
Satd. Flow (perm)	101	3619	0	0	3551	1581	1535	2837	1361	1805	0	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						84		87	87			86
Link Speed (k/h)		70			70			40			40	
Link Distance (m)		436.0			304.4			463.2			235.3	
Travel Time (s)		22.4			15.7			41.7			21.2	
Confl. Peds. (#/hr)	7		2	2		7						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	5%	0%	0%	7%	0%	7%	0%	8%	0%	0%	0%
Adj. Flow (vph)	43	1156	0	0	1972	33	682	180	718	78	0	192
Shared Lane Traffic (%)							39%		49%			
Lane Group Flow (vph)	43	1156	0	0	1972	33	416	798	366	78	0	192
Turn Type	Perm	NA			NA	Perm	Split	NA	Perm	Prot		custom
Protected Phases		2			6		4	4		3		
Permitted Phases	2					6			4			3
Detector Phase	2	2			6	6	4	4	4	3		3
Switch Phase												
Minimum Initial (s)	20.0	20.0			20.0	20.0	10.0	10.0	10.0	7.0		7.0
Minimum Split (s)	39.1	39.1			39.1	39.1	42.9	42.9	42.9	13.9		13.9
Total Split (s)	83.0	83.0			83.0	83.0	43.0	43.0	43.0	14.0		14.0
Total Split (%)	59.3%	59.3%			59.3%	59.3%	30.7%	30.7%	30.7%	10.0%		10.0%
Maximum Green (s)	75.9	75.9			75.9	75.9	36.1	36.1	36.1	7.1		7.1
Yellow Time (s)	5.0	5.0			5.0	5.0	4.1	4.1	4.1	4.1		4.1
All-Red Time (s)	2.1	2.1			2.1	2.1	2.8	2.8	2.8	2.8		2.8
Lost Time Adjust (s)	0.0	-3.0			-3.0	0.0	-3.0	-3.0	-3.0	-3.0		-3.0
Total Lost Time (s)	7.1	4.1			4.1	7.1	3.9	3.9	3.9	3.9		3.9
Lead/Lag							Lead	Lead	Lead	Lag		Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes		Yes
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max			Max	Max	None	None	None	None		None
Walk Time (s)	7.0	7.0			7.0	7.0	7.0	7.0	7.0			
Flash Dont Walk (s)	25.0	25.0			25.0	25.0	29.0	29.0	29.0			
Pedestrian Calls (#/hr)	0	0			0	0	0	0	0			
Act Effct Green (s)	75.9	78.9			78.9	75.9	39.1	39.1	39.1	10.1		10.1
Actuated g/C Ratio	0.54	0.56			0.56	0.54	0.28	0.28	0.28	0.07		0.07
v/c Ratio	0.80	0.57			0.99	0.04	0.97	0.93	0.83	0.60		0.98
Control Delay	135.9	21.0			59.1	0.1	113.9	68.3	54.8	83.8		145.2

Lanes, Volumes, Timings

4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0			47.0	0.0	0.0	0.0	0.0	0.0		0.0
Total Delay	135.9	21.0			106.1	0.1	113.9	68.3	54.8	83.8		145.2
LOS	F	C			F	A	F	E	D	F		F
Approach Delay		25.1			104.3			77.2				
Approach LOS		C			F			E				
Queue Length 50th (m)	9.7	104.0			271.8	0.0	132.3	120.3	86.7	22.5		31.8
Queue Length 95th (m)	#42.7	146.5			#405.5	0.0	#246.9	#202.7	#181.7	#52.6		#103.1
Internal Link Dist (m)		412.0			280.4			439.2			211.3	
Turn Bay Length (m)	150.0					160.0	160.0		300.0			
Base Capacity (vph)	54	2039			2001	895	428	855	442	130		196
Starvation Cap Reductn	0	0			83	0	0	0	0	0		0
Spillback Cap Reductn	0	0			0	0	0	0	0	0		0
Storage Cap Reductn	0	0			0	0	0	0	0	0		0
Reduced v/c Ratio	0.80	0.57			1.03	0.04	0.97	0.93	0.83	0.60		0.98

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 140

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 78.3

Intersection LOS: E

Intersection Capacity Utilization 98.1%

ICU Level of Service F

Analysis Period (min) 60

* User Entered Value

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 4: Hwy 400 NB Off Ramp/Wonderland Drive & Rutherford Road

 83 s	 43 s	 14 s
 83 s		

Lanes, Volumes, Timings
5: Rutherford Road & Sweetriver Blvd

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Volume (vph)	209	1276	456	87	1423	35	456	164	191	58	62	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	85.0		120.0	95.0		30.0	70.0		0.0	45.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	1.00	*1.00	*1.00	0.97	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.98	1.00		0.98		0.99		0.98		
Frt			0.850			0.850		0.919			0.893	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1626	3551	1524	1736	3585	1615	3303	3273	0	1671	3117	0
Flt Permitted	0.122			0.157			0.950			0.950		
Satd. Flow (perm)	209	3551	1494	287	3585	1590	3303	3273	0	1645	3117	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			456			86		178			108	
Link Speed (k/h)		70			70			40			40	
Link Distance (m)		304.4			290.7			178.4			183.8	
Travel Time (s)		15.7			15.0			16.1			16.5	
Confl. Peds. (#/hr)	3		6	6		3			8	8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	7%	6%	4%	6%	0%	6%	0%	0%	8%	2%	4%
Adj. Flow (vph)	209	1276	456	87	1423	35	456	164	191	58	62	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	209	1276	456	87	1423	35	456	355	0	58	215	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Split	NA		Split	NA	
Protected Phases	5	2		1	6		4	4		8	8	
Permitted Phases	2		2	6		6						
Detector Phase	5	2	2	1	6	6	4	4		8	8	
Switch Phase												
Minimum Initial (s)	7.0	40.0	40.0	7.0	40.0	40.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	11.0	47.0	47.0	11.0	47.0	47.0	15.0	15.0		15.0	15.0	
Total Split (s)	11.0	87.0	87.0	11.0	87.0	87.0	27.0	27.0		15.0	15.0	
Total Split (%)	7.9%	62.1%	62.1%	7.9%	62.1%	62.1%	19.3%	19.3%		10.7%	10.7%	
Maximum Green (s)	7.0	80.0	80.0	7.0	80.0	80.0	22.0	22.0		10.0	10.0	
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	2.0	2.0	1.0	2.0	2.0	2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	-3.0	-3.0		-3.0	-3.0	
Total Lost Time (s)	1.0	4.0	7.0	1.0	4.0	7.0	2.0	2.0		2.0	2.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode	None	Max	Max	None	Max	Max	None	None		None	None	
Walk Time (s)		7.0	7.0		7.0	7.0						
Flash Dont Walk (s)		26.0	26.0		26.0	26.0						
Pedestrian Calls (#/hr)		0	0		0	0						
Act Effct Green (s)	96.0	83.0	80.0	96.0	83.0	80.0	24.3	24.3		13.0	13.0	
Actuated g/C Ratio	0.69	0.60	0.57	0.69	0.60	0.57	0.17	0.17		0.09	0.09	
v/c Ratio	0.85	0.60	0.43	0.29	0.67	0.04	0.79	0.50		0.37	0.55	
Control Delay	52.1	19.4	2.6	9.4	20.9	0.1	67.1	27.8		67.2	35.8	

Lanes, Volumes, Timings
5: Rutherford Road & Sweetriver Blvd

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0		0.0	0.0	
Total Delay	52.1	19.4	2.6	9.4	21.3	0.1	67.1	27.8		67.2	35.8	
LOS	D	B	A	A	C	A	E	C		E	D	
Approach Delay		18.9			20.1			49.9			42.4	
Approach LOS		B			C			D			D	
Queue Length 50th (m)	20.2	112.9	0.0	7.5	133.8	0.0	66.0	23.8		16.2	15.6	
Queue Length 95th (m)	#62.9	160.3	26.8	15.0	191.3	0.0	#105.7	49.0		35.4	35.4	
Internal Link Dist (m)		280.4			266.7			154.4			159.8	
Turn Bay Length (m)	85.0		120.0	95.0		30.0	70.0			45.0		
Base Capacity (vph)	245	2116	1052	302	2137	950	592	733		156	388	
Starvation Cap Reductn	0	0	0	0	248	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.85	0.60	0.43	0.29	0.75	0.04	0.77	0.48		0.37	0.55	

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 139.3

Natural Cycle: 90

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 26.2

Intersection LOS: C

Intersection Capacity Utilization 85.6%

ICU Level of Service E

Analysis Period (min) 60

* User Entered Value

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 5: Rutherford Road & Sweetriver Blvd

			
11 s	37 s	27 s	15 s
			
11 s	37 s		

Lanes, Volumes, Timings
7: Jane Street & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	268	1352	66	344	1233	63	175	1624	531	65	511	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	150.0		55.0	160.0		80.0	80.0		70.0	120.0		120.0
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	*1.00	1.00	*1.00	*1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Ped Bike Factor						0.99	1.00		0.99			0.99
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1687	3551	1538	3505	3551	1242	1504	4631	1417	1770	3505	1568
Flt Permitted	0.075			0.950			0.461			0.075		
Satd. Flow (perm)	133	3551	1538	3505	3551	1226	729	4631	1398	140	3505	1545
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			101			101			249			165
Link Speed (k/h)		70			70			70			70	
Link Distance (m)		268.0			249.5			177.7			251.7	
Travel Time (s)		13.8			12.8			9.1			12.9	
Confl. Peds. (#/hr)	1					1	2		1	1		2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	7%	7%	5%	3%	7%	30%	20%	12%	14%	2%	3%	3%
Adj. Flow (vph)	268	1352	66	344	1233	63	175	1624	531	65	511	165
Shared Lane Traffic (%)												
Lane Group Flow (vph)	268	1352	66	344	1233	63	175	1624	531	65	511	165
Turn Type	pm+pt	NA	Perm	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2		2			6	8		8	4		4
Detector Phase	5	2	2	1	6	6	8	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	7.0	15.0	15.0	7.0	15.0	15.0	15.0	15.0	15.0	7.0	15.0	15.0
Minimum Split (s)	12.0	22.0	22.0	12.0	38.0	38.0	39.0	39.0	39.0	11.0	39.0	39.0
Total Split (s)	20.0	58.0	58.0	17.0	55.0	55.0	54.0	54.0	54.0	11.0	65.0	65.0
Total Split (%)	14.3%	41.4%	41.4%	12.1%	39.3%	39.3%	38.6%	38.6%	38.6%	7.9%	46.4%	46.4%
Maximum Green (s)	15.0	51.0	51.0	12.0	48.0	48.0	47.0	47.0	47.0	7.0	58.0	58.0
Yellow Time (s)	3.0	5.0	5.0	3.0	5.0	5.0	5.0	5.0	5.0	3.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0	0.0	-3.0	-3.0	0.0	0.0	-3.0	0.0	-2.0	-3.0	0.0
Total Lost Time (s)	2.0	4.0	7.0	2.0	4.0	7.0	7.0	4.0	7.0	2.0	4.0	7.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead		
Lead-Lag Optimize?										Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	Max	Max	None	Max	Max	Max	Max	Max	None	Max	Max
Walk Time (s)					7.0	7.0	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)					24.0	24.0	25.0	25.0	25.0		25.0	25.0
Pedestrian Calls (#/hr)					0	0	0	0	0		0	0
Act Effct Green (s)	73.0	54.0	51.0	15.0	51.0	48.0	49.2	52.2	49.2	63.0	61.0	58.0
Actuated g/C Ratio	0.52	0.39	0.36	0.11	0.36	0.34	0.35	0.37	0.35	0.45	0.44	0.41
v/c Ratio	1.00	0.99	0.11	0.92	0.95	0.13	0.68	0.94	0.81	0.39	0.33	0.22
Control Delay	146.4	81.0	1.9	103.2	65.9	1.9	56.4	57.5	34.0	29.1	26.9	4.3

Lanes, Volumes, Timings

7: Jane Street & Rutherford Road

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	146.4	81.0	1.9	103.2	65.9	1.9	56.4	57.5	34.0	29.1	26.9	4.3
LOS	F	F	A	F	E	A	E	E	C	C	C	A
Approach Delay	88.3			71.3			52.1			22.0		
Approach LOS	F			E			D			C		
Queue Length 50th (m)	62.8	194.0	0.0	50.5	174.2	0.0	44.5	171.1	82.6	10.7	51.0	0.0
Queue Length 95th (m)	#148.5	#294.5	6.2	#94.1	#265.8	5.5	#98.3	#250.9	#194.6	22.5	74.7	19.4
Internal Link Dist (m)	244.0			225.5			153.7			227.7		
Turn Bay Length (m)	150.0			55.0	160.0			80.0	80.0	70.0	120.0	120.0
Base Capacity (vph)	269	1369	624	375	1293	486	256	1726	652	167	1527	736
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.00	0.99	0.11	0.92	0.95	0.13	0.68	0.94	0.81	0.39	0.33	0.22

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 110

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 63.1

Intersection LOS: E

Intersection Capacity Utilization 103.9%

ICU Level of Service G

Analysis Period (min) 60

* User Entered Value

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 7: Jane Street & Rutherford Road

		
ø1	ø2	ø4
17 s	58 s	65 s
		
ø5	ø6	ø7
20 s	55 s	11 s
		
		ø8
		54 s

Lanes, Volumes, Timings
8: Jane Street & Riverock Gate

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	395	42	111	180	120	139	298	1793	131	22	673	239
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0		0.0	30.0		0.0	60.0		80.0	95.0		0.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor	1.00	0.99		0.99	0.99		1.00		0.99			0.99
Frt		0.891			0.919				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1492	2959	0	1504	1484	0	1467	3312	1615	1736	3539	1509
Flt Permitted	0.285			0.655			0.306			0.070		
Satd. Flow (perm)	447	2959	0	1032	1484	0	472	3312	1594	128	3539	1488
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		111			38				89			239
Link Speed (k/h)		40			40			70			70	
Link Distance (m)		109.4			117.8			114.6			193.0	
Travel Time (s)		9.8			10.6			5.9			9.9	
Confl. Peds. (#/hr)	2		4	4		2	2		1	1		2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	21%	0%	10%	20%	6%	26%	23%	9%	0%	4%	2%	7%
Adj. Flow (vph)	395	42	111	180	120	139	298	1793	131	22	673	239
Shared Lane Traffic (%)												
Lane Group Flow (vph)	395	153	0	180	259	0	298	1793	131	22	673	239
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		8	8		5	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	4.0	10.0		10.0	10.0		7.0	32.0	32.0	32.0	32.0	32.0
Minimum Split (s)	8.0	30.0		30.0	30.0		11.0	39.0	39.0	39.0	39.0	39.0
Total Split (s)	23.0	55.0		32.0	32.0		11.0	75.0	75.0	64.0	64.0	64.0
Total Split (%)	17.7%	42.3%		24.6%	24.6%		8.5%	57.7%	57.7%	49.2%	49.2%	49.2%
Maximum Green (s)	19.0	49.0		26.0	26.0		7.0	68.0	68.0	57.0	57.0	57.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	2.0		2.0	2.0		1.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-3.0	0.0		0.0	-3.0		-3.0	-3.0	0.0	0.0	-3.0	0.0
Total Lost Time (s)	1.0	6.0		6.0	3.0		1.0	4.0	7.0	7.0	4.0	7.0
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max	Max	Max	Max	Max
Walk Time (s)		3.0		3.0	3.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		21.0		21.0	21.0			25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)		0		0	0			0	0	0	0	0
Act Effct Green (s)	52.6	47.6		24.5	27.6		74.0	71.0	68.0	57.0	60.0	57.0
Actuated g/C Ratio	0.41	0.37		0.19	0.21		0.58	0.55	0.53	0.44	0.47	0.44
v/c Ratio	1.09	0.13		0.91	0.75		0.85	0.98	0.15	0.39	0.41	0.30
Control Delay	246.3	8.8		119.8	55.4		47.1	56.4	6.2	50.2	23.8	3.7

Lanes, Volumes, Timings
8: Jane Street & Riverrock Gate

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	246.3	8.8		119.8	55.4		47.1	56.4	6.2	50.2	23.8	3.7
LOS	F	A		F	E		D	E	A	D	C	A
Approach Delay		180.0			81.8			52.2			19.2	
Approach LOS		F			F			D			B	
Queue Length 50th (m)	~88.0	3.7		47.5	55.9		41.6	242.5	5.4	4.0	62.2	0.0
Queue Length 95th (m)	#186.1	13.7		#108.0	#113.8		#109.3	#370.2	19.3	#19.6	90.1	22.4
Internal Link Dist (m)		85.4			93.8			90.6			169.0	
Turn Bay Length (m)				30.0			60.0		80.0	95.0		
Base Capacity (vph)	361	1196		208	364		349	1829	885	57	1652	792
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.09	0.13		0.87	0.71		0.85	0.98	0.15	0.39	0.41	0.30

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 128.6

Natural Cycle: 130

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 64.8

Intersection LOS: E

Intersection Capacity Utilization 126.7%

ICU Level of Service H

Analysis Period (min) 60

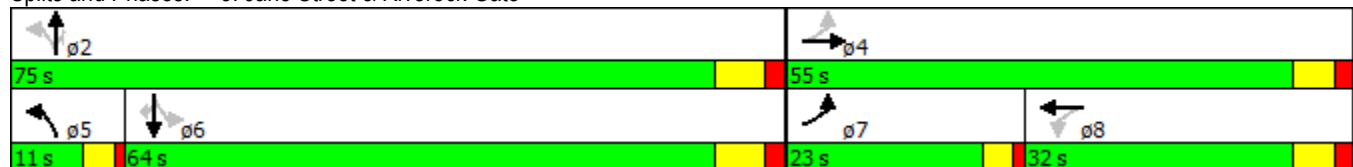
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

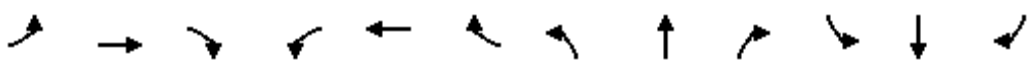
Splits and Phases: 8: Jane Street & Riverrock Gate



Lanes, Volumes, Timings

10: Hwy 400 NB Off Ramp/Fishermen's Way & Bass Pro Mills Drive

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	95	679	0	0	1787	49	456	563	314	0	0	725
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	30.0		0.0	0.0		0.0	120.0		200.0	0.0		0.0
Storage Lanes	1		0	0		0	1		1	0		2
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	0.88
Frt					0.996				0.850			0.850
Flt Protected	0.950						0.950					
Satd. Flow (prot)	1805	1900	0	0	2917	0	1805	3374	1553	0	0	2733
Flt Permitted	0.046						0.950					
Satd. Flow (perm)	87	1900	0	0	2917	0	1805	3374	1553	0	0	2733
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)					4				293			
Link Speed (k/h)		50			50			60			40	
Link Distance (m)		323.2			396.5			263.1			166.8	
Travel Time (s)		23.3			28.5			15.8			15.0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	0%	0%	0%	23%	33%	0%	7%	4%	0%	0%	4%
Adj. Flow (vph)	95	679	0	0	1787	49	456	563	314	0	0	725
Shared Lane Traffic (%)												
Lane Group Flow (vph)	95	679	0	0	1836	0	456	563	314	0	0	725
Turn Type	pm+pt	NA			NA		Perm	NA	Perm			custom
Protected Phases	5	2			6			8				
Permitted Phases	2						8		8			4
Detector Phase	5	2			6		8	8	8			4
Switch Phase												
Minimum Initial (s)	4.0	4.0			10.0		10.0	10.0	10.0			10.0
Minimum Split (s)	8.0	23.0			28.0		32.5	32.5	32.5			22.1
Total Split (s)	8.0	101.0			93.0		39.0	39.0	39.0			39.0
Total Split (%)	5.7%	72.1%			66.4%		27.9%	27.9%	27.9%			27.9%
Maximum Green (s)	4.0	94.0			86.0		32.5	32.5	32.5			32.9
Yellow Time (s)	3.0	4.1			4.1		4.5	4.5	4.5			4.1
All-Red Time (s)	1.0	2.9			2.9		2.0	2.0	2.0			2.0
Lost Time Adjust (s)	-3.0	0.0			-3.0		-3.0	-3.0	0.0			-3.0
Total Lost Time (s)	1.0	7.0			4.0		3.5	3.5	6.5			3.1
Lead/Lag	Lead				Lag							
Lead-Lag Optimize?	Yes				Yes							
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0	3.0			3.0
Recall Mode	None	None			None		Max	Max	Max			Max
Walk Time (s)		5.0			10.0		15.0	15.0	15.0			
Flash Dont Walk (s)		11.0			7.0		5.0	5.0	5.0			
Pedestrian Calls (#/hr)		0			0		0	0	0			
Act Effct Green (s)	100.0	94.0			89.0		35.5	35.5	32.5			35.9
Actuated g/C Ratio	0.71	0.67			0.64		0.25	0.25	0.23			0.26
v/c Ratio	0.64	0.53			0.99		1.00	0.66	0.54			1.04
Control Delay	41.4	13.7			58.6		134.0	51.2	10.0			158.7
Queue Delay	0.0	0.0			0.0		0.0	0.0	0.0			0.0
Total Delay	41.4	13.7			58.6		134.0	51.2	10.0			158.7

Lanes, Volumes, Timings

10: Hwy 400 NB Off Ramp/Fishermen's Way & Bass Pro Mills Drive

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D	B			E		F	D	B			F
Approach Delay		17.1			58.6			69.8				
Approach LOS		B			E			E				
Queue Length 50th (m)	9.3	93.9			260.3		133.6	77.8	4.8			~128.6
Queue Length 95th (m)	#43.9	150.8			#403.9		#245.0	113.2	48.7			#206.0
Internal Link Dist (m)		299.2			372.5			239.1			142.8	
Turn Bay Length (m)	30.0						120.0		200.0			
Base Capacity (vph)	148	1275			1855		457	855	585			700
Starvation Cap Reductn	0	0			0		0	0	0			0
Spillback Cap Reductn	0	0			0		0	0	0			0
Storage Cap Reductn	0	0			0		0	0	0			0
Reduced v/c Ratio	0.64	0.53			0.99		1.00	0.66	0.54			1.04

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 140

Natural Cycle: 140

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 70.4

Intersection LOS: E

Intersection Capacity Utilization 111.6%

ICU Level of Service H

Analysis Period (min) 60

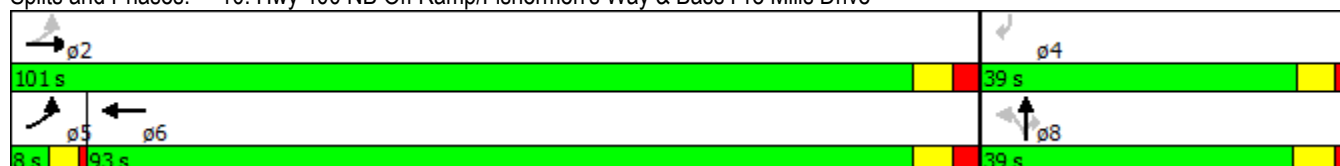
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 10: Hwy 400 NB Off Ramp/Fishermen's Way & Bass Pro Mills Drive



Lanes, Volumes, Timings

11: Edgeley Boulevard & Bass Pro Mills Drive

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	210	737	53	19	861	104	338	533	24	71	285	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	70.0		60.0	60.0		0.0	60.0		0.0	60.0		60.0
Storage Lanes	1		1	1		0	1		0	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00
Ped Bike Factor	1.00		0.99	1.00	1.00		1.00	1.00		0.99		0.99
Frt			0.850		0.984			0.994				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1719	3343	1599	1805	2684	0	1444	3129	0	1687	3539	1404
Flt Permitted	0.158			0.347			0.540			0.434		
Satd. Flow (perm)	286	3343	1578	659	2684	0	819	3129	0	767	3539	1384
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			55		11			4				190
Link Speed (k/h)		50			50			40			40	
Link Distance (m)		396.5			255.6			173.9			157.1	
Travel Time (s)		28.5			18.4			15.7			14.1	
Confl. Peds. (#/hr)	2		1	1		2	2		9	9		2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	8%	1%	0%	30%	50%	25%	15%	5%	7%	2%	15%
Adj. Flow (vph)	210	737	53	19	861	104	338	533	24	71	285	600
Shared Lane Traffic (%)												
Lane Group Flow (vph)	210	737	53	19	965	0	338	557	0	71	285	600
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2			6		3	8			4	
Permitted Phases	2		2	6			8			4		4
Detector Phase	5	2	2	6	6		3	8		4	4	4
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Minimum Split (s)	8.0	41.0	41.0	41.0	41.0		8.0	38.0		38.0	38.0	38.0
Total Split (s)	11.0	74.0	74.0	63.0	63.0		11.0	66.0		55.0	55.0	55.0
Total Split (%)	7.9%	52.9%	52.9%	45.0%	45.0%		7.9%	47.1%		39.3%	39.3%	39.3%
Maximum Green (s)	7.0	67.0	67.0	56.0	56.0		7.0	60.0		49.0	49.0	49.0
Yellow Time (s)	3.0	5.0	5.0	5.0	5.0		3.0	4.0		4.0	4.0	4.0
All-Red Time (s)	1.0	2.0	2.0	2.0	2.0		1.0	2.0		2.0	2.0	2.0
Lost Time Adjust (s)	-3.0	-3.0	0.0	0.0	-3.0		-3.0	-3.0		0.0	0.0	-3.0
Total Lost Time (s)	1.0	4.0	7.0	7.0	4.0		1.0	3.0		6.0	6.0	3.0
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	Max	Max	Max	Max		None	None		None	None	None
Walk Time (s)		7.0	7.0	7.0	7.0			7.0		7.0	7.0	7.0
Flash Dont Walk (s)		27.0	27.0	27.0	27.0			25.0		25.0	25.0	25.0
Pedestrian Calls (#/hr)		0	0	0	0			0		0	0	0
Act Effct Green (s)	73.0	70.0	67.0	56.0	59.0		63.1	61.1		47.0	47.0	50.0
Actuated g/C Ratio	0.53	0.51	0.49	0.41	0.43		0.46	0.44		0.34	0.34	0.36
v/c Ratio	0.82	0.43	0.07	0.07	0.84		0.81	0.40		0.27	0.24	0.96
Control Delay	51.2	22.8	4.8	27.1	43.6		47.9	26.9		36.3	33.1	75.2

Lanes, Volumes, Timings

11: Edgeley Boulevard & Bass Pro Mills Drive

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	51.2	22.8	4.8	27.1	43.6		47.9	26.9		36.3	33.1	75.2
LOS	D	C	A	C	D		D	C		D	C	E
Approach Delay		27.8			43.2			34.8			59.7	
Approach LOS		C			D			C			E	
Queue Length 50th (m)	32.5	70.7	0.0	3.4	130.5		67.7	55.8		14.8	30.8	127.4
Queue Length 95th (m)	#83.5	101.3	9.1	10.4	#207.8		#142.9	82.0		32.6	48.1	#259.0
Internal Link Dist (m)		372.5			231.6			149.9			133.1	
Turn Bay Length (m)	70.0		60.0	60.0			60.0			60.0		60.0
Base Capacity (vph)	255	1695	794	267	1153		418	1430		272	1256	639
Starvation Cap Reductn	0	0	0	0	0		0	0		0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0		0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0		0	0	0
Reduced v/c Ratio	0.82	0.43	0.07	0.07	0.84		0.81	0.39		0.26	0.23	0.94

Intersection Summary

Area Type: Other

Cycle Length: 140

Actuated Cycle Length: 138.1

Natural Cycle: 95

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 41.4

Intersection LOS: D

Intersection Capacity Utilization 94.4%

ICU Level of Service F

Analysis Period (min) 60

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 11: Edgeley Boulevard & Bass Pro Mills Drive

					
ø2			ø3		ø4
74 s			11 s		55 s
					
ø5		ø6	ø8		
11 s		63 s	66 s		

Lanes, Volumes, Timings
12: Jane Street & Bass Pro Mills Drive/Locke Street

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	406	20	318	65	8	48	220	1746	18	20	701	268
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	50.0		0.0	0.0		0.0	55.0		45.0	60.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	7.5			7.5			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Ped Bike Factor									0.99			
Frt		0.859			0.871				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1203	3101	0	1583	1353	0	1128	3374	1442	1719	3539	1615
Flt Permitted	0.672			0.548			0.294			0.086		
Satd. Flow (perm)	851	3101	0	913	1353	0	349	3374	1423	156	3539	1615
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		256			48				59			268
Link Speed (k/h)		50			50			70			70	
Link Distance (m)		112.2			112.0			287.0			213.0	
Travel Time (s)		8.1			8.1			14.8			11.0	
Confl. Peds. (#/hr)									1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	50%	0%	0%	14%	0%	26%	60%	7%	12%	5%	2%	0%
Adj. Flow (vph)	406	20	318	65	8	48	220	1746	18	20	701	268
Shared Lane Traffic (%)												
Lane Group Flow (vph)	406	338	0	65	56	0	220	1746	18	20	701	268
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8			2		2	6		6
Detector Phase	7	4		8	8		5	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		4.0	32.0	32.0	32.0	32.0	32.0
Minimum Split (s)	11.0	40.0		40.0	40.0		10.5	39.0	39.0	39.0	39.0	39.0
Total Split (s)	24.0	64.0		40.0	40.0		13.0	66.0	66.0	53.0	53.0	53.0
Total Split (%)	18.5%	49.2%		30.8%	30.8%		10.0%	50.8%	50.8%	40.8%	40.8%	40.8%
Maximum Green (s)	20.0	58.0		34.0	34.0		9.0	59.0	59.0	46.0	46.0	46.0
Yellow Time (s)	3.0	4.0		4.0	4.0		3.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	2.0		2.0	2.0		1.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-3.0	0.0		0.0	0.0		-3.0	-3.0	0.0	0.0	-3.0	0.0
Total Lost Time (s)	1.0	6.0		6.0	6.0		1.0	4.0	7.0	7.0	4.0	7.0
Lead/Lag	Lead			Lag	Lag		Lead			Lag	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes		Yes			Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Max	Max	Max	Max	Max
Walk Time (s)		7.0		7.0	7.0			7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)		27.0		27.0	27.0			25.0	25.0	25.0	25.0	25.0
Pedestrian Calls (#/hr)		0		0	0			0	0	0	0	0
Act Effct Green (s)	38.6	33.6		13.2	13.2		65.5	62.4	59.4	46.3	49.3	46.3
Actuated g/C Ratio	0.36	0.32		0.12	0.12		0.62	0.59	0.56	0.44	0.46	0.44
v/c Ratio	1.05	0.29		0.58	0.27		0.72	0.88	0.02	0.29	0.43	0.31
Control Delay	183.0	7.4		66.9	18.3		29.5	27.4	0.1	37.6	21.2	3.7

Lanes, Volumes, Timings

12: Jane Street & Bass Pro Mills Drive/Locke Street

2/4/2014

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	183.0	7.4		66.9	18.3		29.5	27.4	0.1	37.6	21.2	3.7
LOS	F	A		E	B		C	C	A	D	C	A
Approach Delay		103.2			44.4			27.4			16.8	
Approach LOS		F			D			C			B	
Queue Length 50th (m)	~85.4	6.5		14.0	1.6		22.6	170.4	0.0	2.9	54.4	0.0
Queue Length 95th (m)	#187.0	21.1		32.8	16.3		#77.3	#319.0	0.0	14.1	91.0	23.7
Internal Link Dist (m)		88.2			88.0			263.0			189.0	
Turn Bay Length (m)	50.0						55.0		45.0	60.0		70.0
Base Capacity (vph)	386	1822		294	469		304	1985	823	68	1645	856
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.19		0.22	0.12		0.72	0.88	0.02	0.29	0.43	0.31

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 106.1

Natural Cycle: 115

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.05

Intersection Signal Delay: 39.9

Intersection LOS: D

Intersection Capacity Utilization 120.8%

ICU Level of Service H

Analysis Period (min) 60

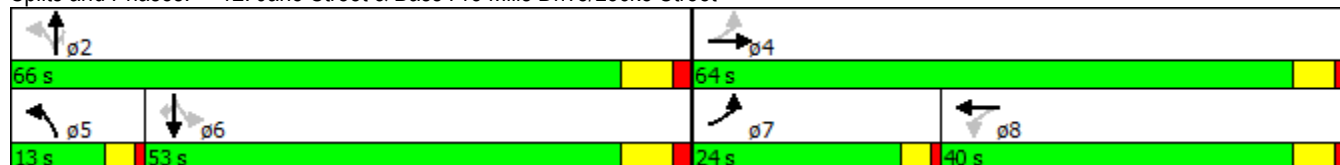
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 12: Jane Street & Bass Pro Mills Drive/Locke Street



Lanes, Volumes, Timings
52: Weston Road & Bass Pro Mills Drive

2/4/2014

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			
Volume (vph)	512	869	1457	231	181	713
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (m)	0.0	0.0		50.0	50.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	7.5				7.5	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Fr _t		0.850		0.850		
Fl _t Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	3539	1583	1770	3539
Fl _t Permitted	0.950				0.066	
Satd. Flow (perm)	1770	1583	3539	1583	123	3539
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		15		108		
Link Speed (k/h)	50		70			70
Link Distance (m)	160.1		280.7			236.0
Travel Time (s)	11.5		14.4			12.1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	512	869	1457	231	181	713
Shared Lane Traffic (%)						
Lane Group Flow (vph)	512	869	1457	231	181	713
Turn Type	NA	pt+ov	NA	Perm	pm+pt	NA
Protected Phases	8	8 1	2		1	6
Permitted Phases				2	6	
Detector Phase	8	8 1	2	2	1	6
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	4.0
Minimum Split (s)	32.0		36.0	36.0	8.0	36.0
Total Split (s)	54.0		64.0	64.0	12.0	76.0
Total Split (%)	41.5%		49.2%	49.2%	9.2%	58.5%
Maximum Green (s)	47.0		57.0	57.0	8.0	69.0
Yellow Time (s)	5.0		5.0	5.0	3.0	5.0
All-Red Time (s)	2.0		2.0	2.0	1.0	2.0
Lost Time Adjust (s)	-3.0		-3.0	0.0	-3.0	-3.0
Total Lost Time (s)	4.0		4.0	7.0	1.0	4.0
Lead/Lag			Lag	Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	Yes	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		Max	Max	None	Max
Walk Time (s)	7.0		7.0	7.0		7.0
Flash Dont Walk (s)	18.0		22.0	22.0		22.0
Pedestrian Calls (#/hr)	0		0	0		0
Act Effct Green (s)	50.0	62.0	60.0	57.0	75.0	72.0
Actuated g/C Ratio	0.38	0.48	0.46	0.44	0.58	0.55
v/c Ratio	0.75	1.14	0.89	0.31	0.86	0.36
Control Delay	43.4	302.8	41.2	13.3	75.0	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.4	302.8	41.2	13.3	75.0	16.9
LOS	D	F	D	B	E	B

Lanes, Volumes, Timings

52: Weston Road & Bass Pro Mills Drive

2/4/2014



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Approach Delay	206.6		37.4			28.6
Approach LOS	F		D			C
Queue Length 50th (m)	118.5	~271.8	185.4	19.9	31.2	54.3
Queue Length 95th (m)	#206.0	#416.9	#286.1	47.4	#90.7	78.3
Internal Link Dist (m)	136.1		256.7			212.0
Turn Bay Length (m)				50.0	50.0	
Base Capacity (vph)	680	762	1633	754	210	1960
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.75	1.14	0.89	0.31	0.86	0.36

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Natural Cycle: 140

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 1.14

Intersection Signal Delay: 94.4

Intersection LOS: F

Intersection Capacity Utilization 100.8%

ICU Level of Service G

Analysis Period (min) 60

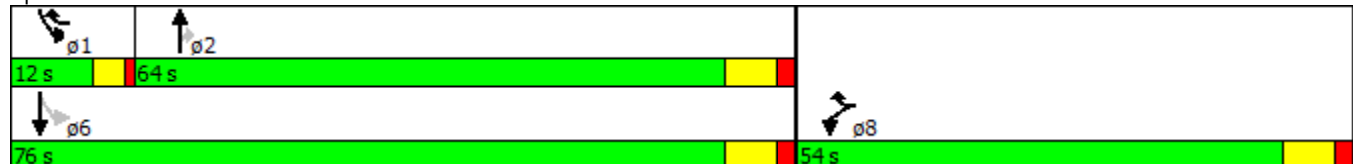
~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 52: Weston Road & Bass Pro Mills Drive



APPENDIX F
Screenline Analysis
2031 Total Conditions

SCREENLINE ANALYSIS
Vaughan Mills Centre Secondary Plan

2031												
Screenline Station	Locations	No. of Lanes per Direction	Capacity Per Lane	Total Capacity (vph)	2031 Total Link Volumes				v/c Ratios			
EAST-WEST SCREENLINES					AM		PM		AM		PM	
A. West of Weston Road					WB	EB	WB	EB	WB	EB	WB	EB
1	Rutherford Road	2	900	2200	854	1749	2473	1256	0.39	0.79	1.12	0.57
2	Astona Boulevard	1	500	500	113	516	445	167	0.23	1.03	0.89	0.33
Overall				2700	967	2265	2918	1423	0.36	0.84	1.08	0.53
Excess Link Capacities					1733	435	-218	1277				
B. East of Weston Road												
3	Rutherford Road	2	900	2200	1079	1692	2024	1146	0.49	0.77	0.92	0.52
101	West Area Access Road A	1	500	500	12	119	172	57	0.02	0.24	0.34	0.11
4	Bass Pro Mills Drive	2	700	1400	403	1087	1601	518	0.29	0.78	1.14	0.37
Overall				4100	1494	2898	3797	1721	0.36	0.71	0.93	0.42
Excess Link Capacities					2606	1202	303	2379				
C. West of Jane Street												
5	Rutherford Road	2	900	2200	1607	1469	1650	1838	0.73	0.67	0.75	0.84
103	East Area Access Road B	1	500	500	11	10	28	31	0.02	0.02	0.06	0.06
6	Riverock Gate	2	500	1000	281	205	664	551	0.28	0.21	0.66	0.55
104	East Area Access Road C	1	500	500	11	10	28	31	0.02	0.02	0.06	0.06
105	East Area Access Road A	1	500	500	96	55	146	217	0.19	0.11	0.29	0.43
7	Bass Pro Mills Drive	2	700	1400	955	613	582	1119	0.68	0.44	0.42	0.80
Overall				6100	2961	2362	3098	3787	0.49	0.39	0.51	0.62
Excess Link Capacities					3139	3738	3002	2313				
D. East of Jane Street												
8	Rutherford Road	2	900	2200	1859	1500	1734	2122	0.85	0.68	0.79	0.96
106	NE Parcel Access Road B	1	500	500	59	35	61	46	0.12	0.07	0.12	0.09
9	Riverock Gate	1	500	500	235	253	423	183	0.47	0.51	0.85	0.37
10	Locke Street	1	500	500	81	169	124	67	0.16	0.34	0.25	0.13
Overall				3700	2234	1957	2342	2418	0.60	0.53	0.63	0.65
Excess Link Capacities					1466	1743	1358	1282				

NORTH-SOUTH SCREENLINES								AM		PM		AM		PM	
								SB	NB	SB	NB	SB	NB	SB	NB
E1. North of Rutherford Road (West of Highway 400)															
11	Weston Road	2	900	2200	1417	652	845	1803	0.64	0.30	0.38	0.82			
12	Vellore Woods Boulevard	1	500	500	595	180	275	586	1.19	0.36	0.55	1.17			
	Overall			2700	2012	832	1120	2389	0.75	0.31	0.41	0.88			
	Excess Link Capacities				688	1868	1580	311							
E2. North of Rutherford Road (Highway 400 Ramps)															
13	Highway 400 SB Off-Ramp (Rutherford)	2	1400	2800	1020	0	620	0	0.36	0.00	0.22	0.00			
	Overall			2800	1020	0	620	0	0.36	0.00	0.22	0.00			
	Excess Link Capacities				1780	2800	2180	2800							
E3. North of Rutherford Road (East of Highway 400)															
14	Sweetriver Blvd	1	500	500	411	176	277	419	0.82	0.35	0.55	0.84			
15	Julliard Drive	1	500	500	147	142	123	176	0.29	0.28	0.25	0.35			
16	Jane Street	2	900	1800	1826	495	793	2154	1.01	0.28	0.44	1.20			
	Overall			2800	2384	813	1193	2749	0.85	0.29	0.43	0.98			
	Excess Link Capacities				416	1987	1607	51							
F1. South of Rutherford Road (West of Highway 400)															
17	Weston Road	2	900	2200	1820	773	948	2245	0.83	0.35	0.43	1.02			
107	Westcreek Drive	1	500	500	76	38	76	279	0.15	0.08	0.15	0.56			
108	Vellore Woods Boulevard	2	500	1000	663	196	407	1323	0.66	0.20	0.41	1.32			
	Overall			3700	2559	1007	1431	3847	0.69	0.27	0.39	1.04			
	Excess Link Capacities				141	1693	1269	-1147							
F2. South of Rutherford Road (Highway 400 Ramps)															
18	Highway 400 SB On-Ramp (Rutherford EB)	1	1400	1400	1079	0	596	0	0.77	0.00	0.43	0.00			
19	Highway 400 SB On-Ramp (Rutherford WB)	1	1400	1400	893	0	629	0	0.64	0.00	0.45	0.00			
20	Highway 400 NB Off-Ramp (Rutherford)	2	1400	2800	0	977	0	1653	0.00	0.35	0.00	0.59			
	Overall			5600	1972	977	1225	1653	0.35	0.17	0.22	0.30			
	Excess Link Capacities				3628	4623	4375	3947							
F3. South of Rutherford Road (East of Highway 400)															
21	Sweetriver Blvd	2	500	1000	314	226	608	820	0.31	0.23	0.61	0.82			
22	Julliard Drive	2	500	1000	156	153	374	551	0.16	0.15	0.37	0.55			
23	Jane Street	3	900	2700	2272	720	983	2544	0.84	0.27	0.36	0.94			
109	NE Parcel Access Road A	1	500	500	103	30	141	37	0.21	0.06	0.28	0.07			
	Overall			5200	2845	1129	2106	3952	0.55	0.22	0.41	0.76			
	Excess Link Capacities				1855	3571	2594	748							
G. North of Bass Pro Mills Drive															
24	Weston Road	2	900	2200	2161	817	975	2429	0.98	0.37	0.44	1.10			
110	Westcreek Drive	1	500	500	92	854	627	392	0.18	1.71	1.25	0.78			
111	Vellore Woods Boulevard	1	500	500	48	473	166	487	0.10	0.95	0.33	0.97			
112	Creditview Road	2	500	1000	109	1335	726	1585	0.11	1.34	0.73	1.59			
25	Fishermen's Way	2	400	800	176	355	724	717	0.22	0.44	0.91	0.90			
26	Edgeley Boulevard	2	600	1200	644	314	965	873	0.54	0.26	0.80	0.73			
113	Romina Drive	1	500	500	129	77	305	111	0.26	0.15	0.61	0.22			
27	Jane Street	2	900	1800	2242	793	1040	2415	1.25	0.44	0.58	1.34			
	Overall			8500	5601	5018	5528	9009	0.66	0.59	0.65	1.06			
	Excess Link Capacities				2899	3482	2972	-509							
H. South of Bass Pro Mills Drive															
28	Weston Road	2	900	2200	1771	1111	1430	1801	0.80	0.50	0.65	0.82			
114	Westcreek Drive	1	500	500	46	123	160	146	0.09	0.25	0.32	0.29			
115	Creditview Road	1	500	500	48	131	160	150	0.10	0.26	0.32	0.30			
29	Highway 400 SB On-Ramp (Bass Pro Mills)	1	1400	1400	482	0	1193	0	0.34	0.00	0.85	0.00			
30	Highway 400 NB Off-Ramp (Bass Pro Mills)	2	1400	2800	0	1489	0	1477	0.00	0.53	0.00	0.53			
31	Edgeley Boulevard	2	600	1200	748	307	376	938	0.62	0.26	0.31	0.78			
32	Romina Drive	1	500	500	196	185	106	316	0.39	0.37	0.21	0.63			
33	Jane Street	2	900	1800	1876	857	1335	2116	1.04	0.48	0.74	1.18			
	Overall			10900	5167	4203	4760	6944	0.47	0.39	0.44	0.64			
	Excess Link Capacities				5733	6697	6140	3956							

THE CITY OF VAUGHAN

BY-LAW

BY-LAW NUMBER 038-2014

A By-law to adopt Amendment Number 2 to the Vaughan Official Plan 2010 for the Vaughan Planning Area.

NOW THEREFORE the Council of the Corporation of the City of Vaughan ENACTS AS FOLLOWS:

1. THAT the attached Amendment Number 2 to the Vaughan Official Plan 2010 of the Vaughan Planning Area, consisting of the attached text and Schedule “1” is hereby adopted.
2. AND THAT the City Clerk is hereby authorized and directed to make application to the Regional Municipality of York for approval of the aforementioned Amendment Number 2 to the Vaughan Official Plan 2010 of the Vaughan Planning Area.
3. AND THAT this By-law shall come into force and take effect on the day of the final passing thereof.

Enacted by City of Vaughan Council this 18th day of March, 2014.

Hon. Maurizio Bevilacqua, Mayor

Jeffrey A. Abrams, City Clerk

AMENDMENT NUMBER 2
TO THE VAUGHAN OFFICIAL PLAN 2010
FOR THE VAUGHAN PLANNING AREA

The following text and Schedule "1" constitute Amendment Number 2 to the Official Plan of the Vaughan Planning Area.

Also attached hereto but not constituting part of the Amendment is Appendix "I".

Authorized by Item No. 5 of Report No. 10
of the Committee of the Whole
Adopted by Vaughan City Council on
March 18, 2014

I PURPOSE

The purpose of this amendment to the Vaughan Official Plan 2010 (VOP 2010) is to guide the growth and development of the subject lands to the year 2031, through the adoption of a comprehensive Secondary Plan (“The Vaughan Mills Centre Secondary Plan”). The VMCSPP provides site specific land use designations and policies addressing such matters as land use distribution, densities, building heights, development standards and urban design, transportation, public services and infrastructure phasing. This will facilitate the development of a mixed-use Primary Centre and an Employment Area focusing on prestige uses.

II LOCATION

The lands subject to this Amendment (hereinafter referred to “Subject Lands”) are bounded on the north by Rutherford Road, on the west by Weston Road, on the south by Bass Pro Mills Drive, on the east by Jane Street and including the lands at the southeast corner of Rutherford Road and Jane Street as shown on Schedule 1 hereto as Schedule A: Plan Area. The subject lands are divided by Highway 400. The area to the east constitutes the mixed-use “Primary Centre”; and the area to the west forms the “Employment Area”.

III BASIS

The decision to amend the Official Plan is based on the following considerations:

1. On September 7, 2010 Vaughan Council adopted the Vaughan Official Plan 2010. Volume 1 of VOP 2010 identifies the subject lands as a “Required Secondary Plan Area” on Schedule 14-A. This is in response to Policy 10.1.1 which states

“Certain areas of the City which are expected to undergo significant changes may require a more detailed planning framework. Council may pass Secondary Plans to be included in Volume 2 of the Official Plan, to provide additional structure for the development of New Community Areas, Employment Areas or Intensification Areas, to provide a framework for an appropriate street and block pattern, adequate municipal servicing and infrastructure to determine the appropriate mix, location and intensity of certain uses.”

The eastern portion of the subject lands are identified as an Intensification Area (Primary Centre) and the westerly portion is identified as part of an Employment Area on Schedule 1 “Urban Structure” to VOP 2010.

2. Policy 10.1.1.3. of VOP 2010 provides that the Secondary Plans will address, but are not limited to, the following aspects:
 - a. overall capacity for *development*, including projections for residential units and/or jobs;
 - b. street and block patterns;
 - c. land-use designations, building heights and densities;
 - d. built-form, urban design and public realm policies;

- e. parks and open space requirements;
- f. housing mix and strategies, including, where appropriate, opportunities for *affordable* housing;
- g. employment mix and strategies, including, where appropriate, the provision of *retail* uses;
- h. the transportation network, including provisions for transit, walking and cycling within the Secondary Plan area and connections to City-wide networks;
- i. servicing requirements for the Secondary Plan area;
- j. protection and enhancement of the Natural Heritage Network, including any environmental reporting as required through Section 3.3.4 of the Plan;
- k. cultural heritage features of the area, including built heritage and potential *archaeological resources*;
- l. provision of community services, including *schools*, libraries and community centres;
- m. consideration of human service needs, including educational, social, health, arts, culture and recreation facilities;
- n. sustainable *development* requirements consistent with subsection 9.1.3 of the Plan;
- o. phasing of *development*; and,
- p. evaluation of opportunities for coordination with environmental assessment processes for roads and infrastructure that are subject to the Environmental Assessment Act.

3. The Vaughan Mills Centre Secondary Plan has been prepared to address these criteria in the context of the overall policy framework established by VOP 2010. It provides a detailed policy regime and supporting basis which is set out in the following sections of the Plan:

PART A:

Outlines the background, context, purpose and process by which the Plan was created, the broad municipal goals, the planning process, the public consultation events that occurred throughout the study, and existing conditions, challenges and opportunities.

PART B:

Defines the policies and urban design provisions of the Secondary Plan. It also describes the vision and principles that structure the policies that guide how change and development are to be managed and should take place. The land use policies guide the physical framework for development related to use, location and development density, and also provides guidance on public infrastructure.

The land use provisions, and built form, transportation, open space, sustainability, and servicing policies, which form part of the Secondary Plan, establish specific direction for the enhancement and improvement of built form, the public realm, and mobility to ensure contextual fit, a safe and accessible environment, and enhanced quality of place.

PART C:

Outlines an implementation process that includes how development will be monitored and reviewed. It includes policies and requirements for development approvals, land dedication, and development thresholds and progression, and provides recommendations to guide servicing and infrastructure improvements.

IV DETAILS OF THE AMENDMENT AND POLICIES RELATIVE THERETO

The Vaughan Official Plan 2010 is hereby amended by:

1. Deleting Section 12.6 “Vaughan Mills Mall” of Volume 2 of VOP 2010, and renumbering the remaining policies accordingly.

2. Adding the Section 11.7 “Vaughan Mills Centre Secondary Plan” to Volume 2 of VOP 2010, attached hereto as Schedule 1.

3. Amending Schedule 14-A of Volume 1 to VOP 2010 to identify the Subject Lands, being the Vaughan Mills Centre as Section 11.7, under the category “Secondary Plan Areas – Chapter 11” and deleting it from the category “Required Secondary Plan Areas” .

4. Amending Schedule 13 Land Use of Volume 1 of VOP 2010 to identify the Subject Lands as “Lands Subject to Approved Area Specific Secondary Plan”.

V IMPLEMENTATION

It is intended that the policies of the Official Plan of the Vaughan Planning Area pertaining to the subject lands will be implemented by way of an amendment to the City of Vaughan Comprehensive Zoning By-law 1-88, Draft Plan of Subdivision approval, Site Plan and/or any such measure prescribed by VOP 2010.

VI INTERPRETATION

The provisions of the Official Plan of the Vaughan Planning Area as amended from time to time regarding the interpretation of that Plan shall apply with respect to this Amendment.

APPENDIX I

The lands to the Amendment (hereinafter referred to as the “Subject Lands”) are bounded to the north by Rutherford Road, on the west by Weston Road, on the south by Bass Pro Mills Drive, on the east by Jane Street; and including the lands at the southwest corner of Rutherford Road and Jane Street as shown on Schedule 1 hereto as Schedule A: Plan Area. The subject lands are divided by Highway 400. The area to the east constitutes the mixed-use “Primary Centre”; and the area to the west forms the “Employment Area”.

On March 18, 2014, Council considered a report and the following recommendation from the Commissioner of Planning with respect to the Vaughan Mills Centre Secondary Plan, File 26.1:

1. The “Track Changes” version of the draft Vaughan Mills Centre Secondary Plan (February 2014), forming Attachment 3 to this report, reflecting the modifications set out in the section of the report entitled “Issues Resulting in Substantive Changes to the Plan and in Attachment 2 “Response Table for Agency and Public Comments”, BE APPROVED and be forwarded to Council for adoption, subject to any further direction resulting from this meeting and final staff review;
2. The “Transportation Assessment - Vaughan Mills Centre Secondary Plan Area” (February 2014), MMM Group Ltd. forming Attachment 8, BE RECEIVED;
3. The adopted Secondary Plan be forwarded to York Region for approval as an insertion into Volume 2 of the Vaughan Official Plan 2010, being the incorporation of a new Section 11.11 “Vaughan Mills Centre” as one of the “Secondary Plan Areas” identified on Schedule 14-A to Volume 1 of VOP 2010;
4. The adopted Vaughan Mills Centre Secondary Plan form the basis for the City’s position at the Ontario Municipal Board in respect of the appeals within the Secondary Plan Area, in regard to, among other things, such matters as land use, development density and phasing, building height, transportation, urban design, parkland amount and distribution, open space areas/stormwater management and servicing;
5. York Region be requested to initiate a review of its Transportation Master Plan in 2014 to assess, among other things, the priority and timing of various transit and road network improvements and new initiatives required to address local development. Such review, in consultation with Local Municipalities, should provide advice to Metrolinx about project prioritization and timing under the “Big Move” Plan. In regard to the Jane Street and Weston Road corridors, the following matters should be investigated as priority matters:
 - a) Advancing the implementation of rapid transit on Jane Street;
 - b) The implementation of Quick Start/Rapid Transit Service on Jane Street;
 - c) The upgrading of transit service on Weston Road;
 - d) The potential role of a transit hub serving the Secondary Plan area in support of existing and proposed development.

At the February 25, 2014 Committee of the Whole meeting, staff were directed to revise the following in the Secondary Plan:

That Vaughan Mills Centre Secondary Plan be further modified by deleting the sixth bullet point “The necessary transportation facilities;” in Policy 10.3 of Part C, Section 1.0 Plan Implementation and substituting the following: “The necessary transportation facilities, including road network improvements and infrastructure, transit improvements or the approved funding to provide such

improvements by the responsible transit authority, to the satisfaction of the City, as identified in Table 2: “Transportation Network Improvements” or as provided for in any update to the Provincial, York Region or City policy or master plan”.

At the March 18, 2014, Council Meeting, Council approved the above-noted recommendation.

11.7 Vaughan Mills Centre Secondary Plan

11.7.1 General

- 11.7.1.1. The following policies, including Part A, Part B, Part C and Schedules "A" - "I", being Official Plan Amendment No. 2 to the Vaughan Official Plan 2010, constitute the policies of the Vaughan Mills Centre Secondary Plan, as identified on Schedule 14-A.



VAUGHAN MILLS CENTRE SECONDARY PLAN

Prepared by DIALOG and MMM Group
Distributed February 14, 2014

DIALOG®

Prepare for:

The City of Vaughan

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PREFACE //

DIALOG as project lead, and The MMM Group for transportation, servicing, and economic development were retained by the City of Vaughan to develop the *Vaughan Mills Centre Secondary Plan Study*. The project included three phases beginning with a background policy and existing conditions review and an opportunities and constraints analysis; phase two provided an opportunity to create development concepts, for the purposes of evaluation and identification of a preferred development option; and phase three included the preparation of the Draft and Final Secondary Plan.

The purpose of the *Vaughan Mills Centre Secondary Plan Study* is to develop appropriate land use and urban design policies and designations for the *Vaughan Mills Centre Secondary Plan* area for a planning horizon extending out to 2031.

CONTENTS //

PART A: Introduction to the Plan

1.0 Vaughan Mills Center in a Changing City

- 1.1 Purpose and Objectives of the Plan
- 1.2 How to Read the Plan
- 1.3 Organization of the Plan

2.0 Directing Change in Vaughan Mills Centre

- 2.1 Study Area
- 2.2 The Study Process
- 2.3 Community Consultation
- 2.4 The Planning Context
- 2.5 Vaughan Mills Centre Today - Existing Conditions and Opportunities

PART B: The Secondary Plan: Creating a Vibrant Urban Centre

1.0 The Vision & Guiding Principles

- 1.1 The Vision Statement
- 1.2 The Vision
- 1.3 Guiding Principles
- 1.4 Character Areas

2.0 Big Moves

- 2.1 The Big Moves

3.0 Development Character, Land Use, and Built Form

- 3.1 Development Framework
- 3.2 Growth
- 3.3 Density
- 3.4 Land Use Framework
- 3.5 General Land Use Policies
- 3.6 Vaughan Mills Primary Centre
- 3.7 Vaughan Mills Centre Business District
- 3.8 Built form
- 3.9 Parking and Servicing Facilities

4.0 The Transportation Framework

- 4.1 The Transportation Framework
- 4.2 Future Street Network
- 4.3 Crosswalks
- 4.4 Transportation Demand Management
- 4.5 Parking and Loading
- 4.6 Right-of-Way Design
- 4.7 Enhanced Streetscapes
- 4.8 Public Transit

5.0 The Open Space Framework

- 5.1 General Policies
- 5.2 Parkland Dedication
- 5.3 Open Space Typologies
- 5.4 Green Infrastructure and the Black Creek Corridor
- 5.5 Natural Heritage

6.0 Community Facilities

- 6.1 General Policies
- 6.2 Schools
- 6.3 Daycare Facilities
- 6.4 Libraries
- 6.5 Other Facilities

7.0 Sustainable Site Design and Integrated Infrastructure

- 7.1 General Policies
- 7.2 Energy Efficiency
- 7.3 Water, Stormwater and Wastewater Systems

PART C: Making it Happen

- 1.0 Introduction
- 2.0 Application
- 3.0 Status of Uses Permitted Under Previous Official Plans
- 4.0 Interpretation
- 5.0 Infrastructure
- 6.0 Development Approvals
- 7.0 Development Progression
- 8.0 Land Owners and Developers Agreements
- 9.0 Section 37 Provisions
- 10.0 Zoning By-law
- 11.0 Legal Nonconforming Uses
- 12.0 Consents
- 13.0 Site Plan and Design Review
- 14.0 Plans of Subdivision
- 15.0 Community Improvement

- 16.0 Plan Monitoring

- 17.0 Public Works and Financial Management

LIST OF SCHEDULES

Schedule A: Plan Area

Schedule B: Height and Density

Schedule C: Land Use Designation

Schedule D: Ground Floor Frontage Types

Schedule E: Open Space Network

Schedule F: Transportation Network

Schedule G: Transit Network

Schedule H: Active Transportation Network

Schedule I: Development Blocks

APPENDICES

Appendix A: Street Cross-Sections

Appendix B: Built Form Guidelines

PART A INTRODUCTION TO THE PLAN

Sections

- 1.0 Vaughan Mills Center in a Changing City
- 2.0 Directing Change in Vaughan MillsCentre

PART A
Section...

1.0

>> VAUGHAN MILLS CENTRE IN A CHANGING CITY

1.0 Introduction

The *Vaughan Mills Centre Secondary Plan* reflects a new direction in city building and land use development for the area. The Plan moves towards the goal of creating a healthy and unique complete community environment that provides a mix of uses, promotes diversity, encourages walkability and accessibility, and builds community identity.



1.1 Purpose and Objectives of the Plan

1.1.1 Purpose

The *Vaughan Mills Centre Secondary Plan Study* (the Study) was initiated by the City of Vaughan in May 2012. The purpose of the Study is to identify a comprehensive vision, identify any gaps in the overall policy framework for the area, and to establish a current land use and urban design policy framework to appropriately guide future development within the subject lands. A specific focus of the Study is to seek conformity of planning policy with current provincial, regional, and city policy, as well as policies under the Toronto Region and Conservation Authority (TRCA) and other relevant authorities.

The Study is one of several focused area studies, together with the Vaughan Metropolitan Centre and other studies, included in the overall Official Plan review. The *Vaughan Mills Centre Secondary Plan Study* is consistent with, and is prepared with the intention, of establishing a document, that will be used to inform the new Volume 2 City of Vaughan Official Plan.

1.1.2 Goals and Objectives

It is the intent of the *Vaughan Mills Secondary Plan* to:

- Identify and address the opportunities and constraints imposed by the current situation and emerging influences, including but not limited to: The current policy framework (Provincial, Regional and City); existing land uses; transportation including street network capacity and transit availability and phasing; opportunities to develop a Transit Hub; barriers to connectivity, the economics influencing the evolution of the current uses; retail viability and structure; streetscaping and urban design; servicing; environmental sustainability; natural heritage features and natural hazards; current stormwater management targets and guidelines; integrating existing and proposed infrastructure; social and economic sustainability; and the refinement and integration of current development applications.
- Evaluate the Study Area's future potential, to a 2031 horizon, in order to:
 - » Refine its role in the city's urban structure;
 - » Explore and refine its role in the city's economy and as provider of employment;
 - » Explore and refine the optimal mix of land uses, built form, affordable housing, public realm, densities and their distribution with the goal of creating a complete community;
 - » Consider and address issues pertaining to the functional, aesthetic, and land use integration of/and connectivity between the western and eastern areas of the Study Area and to adjacent lands;
 - » Determine requirements for social and recreational amenities, parks, open space, and facilities; and
 - » Establish environmentally sustainable measures pertaining to the provision of ecological and social services and the creation

of a complete community.

- Develop with community input, a long-term vision and development framework for the Study Area as a basis for creating, testing, recommending, and implementing Secondary Plan policies and guidelines;
- Establish in the policy framework transitional measures to support the evolution of the Secondary Plan Area from its current state to the planned vision;
- Identify any infrastructure improvements to support population and jobs as well as opportunities for integration between existing and new infrastructure to implement the Secondary Plan;
- Incorporate provisions for a Transit Hub; and
- Prepare Secondary Plan policies for inclusion in Volume 2 of the City's Official Plan.

1.2 How to Read the Plan

The City of Vaughan *Official Plan 2010* ("VOP 2010") provides general policies for the growth of Vaughan Mills Centre. This Secondary Plan document provides more detailed and strategic direction including guiding development principles, a vision, policy framework, land use, and built form policies, and tools for implementation, to be utilized by the municipality to guide land use and development decisions, investment, and community building initiatives in Vaughan Mills centre. This Plan will replace and modify/update existing OPAs for lands within the existing Secondary Plan area including the Vaughan Mills Mall area specific policies in Section 12.6 of Volume 2 (VOP 2010) and constitutes the Official Plan for Vaughan Mills Centre.

The Secondary Plan responds to a distinctive context and the needs of future residents of the Vaughan Mills Centre Study Area. The Plan addresses key challenges and opportunities to ensure that future change can be

effectively managed to positively contribute to the quality, beauty, and vitality of Vaughan Mills Centre. The Secondary Plan is consistent with the intent of the provisions of the *VOP 2010*, and provides more detailed land use, public realm, and development parameters that respond to the changing characteristics of the area and community aspirations. In doing so, the Secondary Plan provides greater certainty and clarity about the future of Vaughan Mills Centre.

More specifically, the Secondary Plan:

- Creates a detailed policy framework to guide land use and development decisions in a manner that is compatible with the local context and respectful of the broad aspirations of the community;
- Builds on existing assets and opportunities within Vaughan Mills Centre;
- Responds to unique circumstances and realities facing Vaughan Mills Centre;
- Creates opportunities to increase the diversity of housing types attractive to seniors and families wishing to downsize, and for a wide range of family types;
- Establishes specific urban design and sustainability guidelines that will inform the design details of site specific development applications; and;
- Describes opportunities for open space, community facilities, and infrastructure improvements.

1.3 Organization of the Plan

This Plan includes interrelated components: the Policies, Schedules and Figures, and Appendices that must be considered together.

1.3.1 Document Structure

This Plan document is structured in three “parts” and is further divided into “sections.”

PART A // INTRODUCTION TO THE PLAN:

This part outlines the background context, purpose, and process by which the plan was created, the broad municipal goals, the planning process, the public consultation events that occurred throughout the study, and existing conditions, challenges, and opportunities.

PART B // THE SECONDARY PLAN - DIRECTING CHANGE IN VAUGHAN MILLS CENTRE:

This part defines the policies and urban design provisions of the Secondary Plan. It also describes the vision and principles that structure the policies to guide how change and development is managed and should take place. The land use policies guide the physical framework for development related to use, location, and development density, and also provides guidance for public infrastructure.

The land use provisions, and built form, transportation, open space, sustainability, and servicing policies, which form part of the Secondary Plan, establish specific direction for the enhancement and improvement of built form, the public realm, and mobility to ensure a contextual fit, a safe and accessible environment, and an enhanced quality of place.

PART C // IMPLEMENTING THE PLAN - HOW TO MAKE IT HAPPEN:

This part outlines an implementation process that includes how development will be monitored and reviewed. It includes policies and requirements for development approvals, land dedication, and development thresholds and progression, and provides recommendations to guide servicing and infrastructure improvements.

PART A
Section...

2.0

» DIRECTING CHANGE IN VAUGHAN MILLS CENTRE



2.1 Study Area

2.1.1 Location

The *Vaughan Mills Centre Secondary Plan Study Area* (the Study Area) is bordered on the north by Rutherford Road; on the west by Weston Road; on the south by Bass Pro Mills Drive; and on the east by Jane Street. It also includes the parcels immediately fronting along the east side of Jane Street between Rutherford Road and River Rock Gate. The site has a total area of 146.4 ha. +/- (361.76 acres) excluding the Highway 400 right of way which bisects the site, and the Rutherford Road interchange.

2.1.2 Context

Abutting the Study Area are residential neighbourhoods to the north and west, and employment lands to the south and east. It will be important for all new development to be sensitive to abutting land use types, and built form context to ensure an appropriate transition across the Study Area boundary.

There are also two major water tributaries near the Study Area. Black Creek runs along the south and west sides and the West Don River Valley along the north and east sides. Redevelopment and development around these green corridors create opportunities for recreation, stormwater management, and environmental enhancements. Other features include a stormwater management pond on the north-east corner of Weston and Rutherford Road, and a small stormwater management facility near the Bass Pro Mills Drive/ Highway 400 interchange.

Notable is the Study Area's location along the Highway 400 corridor. The Highway 400 corridor is one of the city's prominent economic drivers and accommodates a wide range of commerce, including employment, office, retail, and tourist oriented uses, as well as several residential neighbourhoods. The city's new mixed-use downtown, the Vaughan Metropolitan Centre, anchors

the corridor at its south end at Highway 7. Also located adjacent to Highway 400, will be the city's new Mackenzie Health Hospital at Major Mackenzie Drive and the newest Employment Area (the 'Vaughan-400 North Employment Area), which extends from Teston Road to the King-Vaughan Town Line.

The Study Area occupies a strategic position along Highway 400, and within the city as a whole. Some of its attributes include:

- Proximity to the geographic centre of the city;
- It is located 3 km to the west of the Rutherford Station on the Barrie GO Rail Line, which is ultimately planned to provide 2-way, all day service to Downtown Toronto;
- Good access to 400-series Highways, with a full-movement interchange to Highway 400 at Rutherford Road; and a partial interchange at Bass Pro Mills Drive with northbound off and southbound on ramps. It is located 5 km north of the Highway 407 interchange providing east-west highway connectivity to the GTA and beyond;
- It is 3 km north of the Vaughan Metropolitan Centre, the city's planned downtown, which is also the terminus of the Spadina Subway Extension, Avenue 7, and bus rapid transit that is scheduled to open in 2016;
- It is 1 km south of Canada's Wonderland, a major tourist attraction in the Greater Toronto Area; and 2 km south of the site of the city's new Mackenzie Health Hospital, which is currently in planning stages;
- Rutherford Road is a major east-west arterial corridor in Vaughan and South York Region, and is part of the Regional Transit Priority Network. Similarly, Weston Road, is also part of the Transit Priority Network;
- Jane Street is defined as a Regional Rapid Transit



FIGURE 1: VAUGHAN MILLS CENTRE SECONDARY PLAN STUDY AREA



Corridor, which can accommodate, in the longer term, Bus Rapid Transit/LRT service between the subway terminus at the Vaughan Metropolitan Centre to Major Mackenzie Drive and the new hospital;

- The Study Area includes the Vaughan Mills Mall, a super-regional scale shopping centre that attracts consumers from the GTA market and beyond; and
- Includes readily serviceable employment lands on both sides of Highway 400.

2.2 The Study Process

The Secondary Plan process was completed in three phases and began in May 2012. Throughout the entire process, meetings were held with the Technical Advisory Committee (TAC), The Committee of the Whole (COW), key stakeholders, and the public at large.

Phase 1: Background Review included initial meetings with the client; site reconnaissance, and a Community Kick-off event and workshop to assess existing conditions, opportunities and challenges, as well as the vision, aspirations, and issues identified by stakeholders. Following the event, the Phase 1 Engagement Summary Report (November 2012) was prepared to provide a summary overview of the work completed to date.

Phase 2: Draft Concept Plans entailed the development of the Vaughan Mills Centre Concept Plan; the development of draft policies, implementation, and a public open house to develop draft concept plans and policies.

Phase 3: Final Plans included finalizing the Secondary Plan and related policies.



2.3 Community Consultation

The community consultation process involved ongoing engagement with key stakeholders including residents, property owners, developers, related agencies, Council, and municipal staff. The goal of the consultation process was geared toward keeping stakeholders well informed and involved throughout the process. The consultation process was structured to ensure that participant ideas and concerns were considered and addressed, to mitigate differing community sentiments, and to achieve solutions that meet the goals and expectations of the community for Vaughan Mills Centre.

Key components of the community consultation process included:

- **Stakeholder Interviews** were conducted in June 2012 with representatives of the community.
- **Forum 1: Kick-Off and Visioning Workshop** was held on September 11, 2012 to kick-off the project with over 100 members of the community. The event provided the opportunity to share information with the community and provide a forum for brainstorming ideas towards developing a vision, guiding principles, and strategic moves to inform the development of the Secondary Plan. The event opened with an introduction to the process, a presentation on best practices and a 'fresh eyes' opportunities and constraints analysis. Following the presentations, participants gathered into groups to participate in a workshop to brainstorm a Vision, Guiding Principles, and key "Big Moves". Following the workshop, participants engaged in a design charrette to conceptualize and illustrate their ideas on paper. Following the workshop and design charrette, each group reported their outcomes to the larger group. To conclude with the event, the community was provided the opportunity to ask questions and provide comments regarding the Secondary Plan.

VAUGHAN MILLS CENTRE SECONDARY PLAN STUDY | WORK PROGRAM

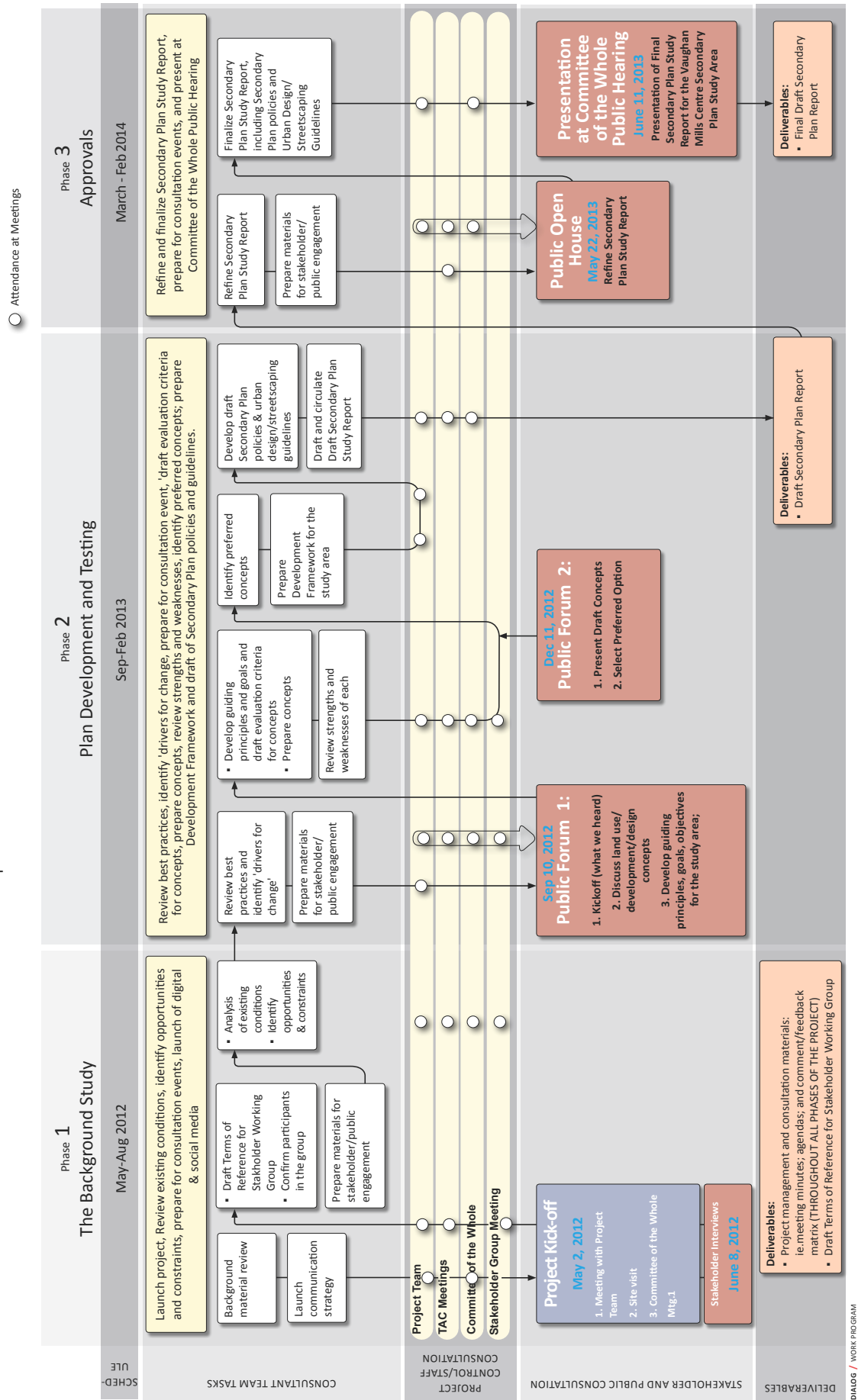


FIGURE 2: VAUGHAN MILLS CENTRE SECONDARY PLAN STUDY WORK PROGRAM

- **Forum 2: Development Concepts Workshop** was held on December 11, 2012 with over 40 members of the community to present draft development concepts for the Vaughan Mills Centre Study Area, outlining land use, open space, movement, and built form frameworks. This event provided an overview of emerging development concepts and included a facilitated discussion with the community. Comments received during this event were used in preparing the *Vaughan Mills Centre Secondary Plan*.
- **The Committee of the Whole Working Session** was held on January 22, 2013 to present a project update and emerging development concepts.
- **Forum 3: Draft Secondary Plan Public Open House** was held on May 22, 2013 to present the Draft Secondary Plan policies and Plan components to the community for review and feedback.
- The **Committee of the Whole Public Hearing** was held on June 11, 2013.
- The **Committee of the Whole** was held on February 25, 2014.

2.3.1 Emerging Themes

Through the various stakeholder interviews, workshops, and public forums, a series of key themes emerged with respect to the community's desires for the Vaughan Mills Centre Plan Study Area.

- A vibrant, green, sustainable community;
- Compact development that promotes walkability and connectedness;
- An integrated community-oriented commercial development;
- Vibrant public spaces for social interaction, recreation, and gathering;
- A mix of housing choices, including affordable options;

- Mobility options including walking, cycling, and transit; and,
- Healthy development transition from existing neighbourhoods abutting the study area boundary.

2.4 The Planning Context

The Vaughan Mills Centre Secondary Plan area is currently governed by planning policy directions established by the Province of Ontario, York Region, and the City of Vaughan. The Province's *Places to Grow: Growth Plan for the Greater Golden Horseshoe*, *Greenbelt Plan*, and *Provincial Policy Statement (PPS)* provides the basis for future development plans in the area. Municipal Official Plans are required to conform to provincial plans and be consistent with the *PPS*.

The Secondary Plan sets specific policy tailored to Vaughan Mills Centre. The following section outlines, without limitation, some notable provisions of the existing policy framework.

2.4.1 Provincial Policy Statement (2005)

The *PPS*, enacted in March 2005, provides policy direction on matters of provincial interest related to land use planning and development. The *PPS* supports efficient use of land, resources, and infrastructure. It encourages development patterns that support strong, livable, and healthy communities by endorsing intensification as a means to accommodate growth and increase urban vitality. It promotes land use patterns, densities, and a mix of uses that minimize vehicular trips and facilitate viable choices for public transportation.

The Policy Statement provides direction for building strong communities by promoting efficient land use and development patterns. In particular, the Policy Statement supports densities and a mix of land uses, which efficiently use land, resources, infrastructure, and public service facilities, and indicates that

appropriate development standards should be promoted to facilitate intensification, redevelopment, and compact built form. The policy statement further establishes land use patterns, density, and a mix of uses and housing options towards minimizing the length and number of vehicle trips that supports the development of viable choices and plans for public transit and other alternative transportation modes. The *PPS* states that growth shall be focused within settlement areas, and away from significant or sensitive resources. It recognizes that the wise management of development may involve directing, promoting, or sustaining growth.

2.4.2 Places to Grow: Growth Plan for the Greater Golden Horseshoe

Places to Grow: Growth Plan for the Greater Golden Horseshoe (The Growth Plan) will have a significant impact on future land uses within the *Vaughan Mills Centre Secondary Plan* area as it requires the development of compact and transit supportive communities in both urban and rural contexts. *The Growth Plan* provides municipalities with a 25-year framework to 2031 to manage growth in urban areas, and to protect farmland and green spaces by curbing sprawl.

The Growth Plan provides policies to:

- Reduce automobile dependency through mixed-use, transit-supportive, and pedestrian friendly development;
- Efficiently use existing infrastructure, and directs growth at higher densities with a mix of uses;
- Create complete communities in both existing built-up areas, and new developments;
- Preserve designated employment areas for future economic growth;
- Provide convenient access to a greater range of transportation options;
- Provide for a range and mix of housing, including

affordable housing;

- A diverse and compatible mix of land uses and high quality public open spaces; and
- Conserve cultural heritage and archaeological resources as intensification occurs.

2.4.3 Region of York Official Plan (ROP)

The new *Region of York Official Plan* was approved by the Province in September, 2010, and a large majority approved by the Ontario Municipal Board in January 2013. *ROP 2010* reflects conformity with the 2005 *Provincial Policy Statement*, the *Greenbelt Plan* and the province's *Growth Plan*. An important policy initiative of the Plan is to promote city building, focusing on regional centres and corridors, and including innovation in urban design and green building. The overall intensification objective in the Plan is aligned with the *Provincial Places to Grow Plan*: a minimum of 40% residential intensification within the built-up area. More specifically, *ROP 2010* is one of the components in the *Region's Planning for Tomorrow* growth management initiative. The Plan integrates the York Region Master Plans for Pedestrian and Cycling, Transportation and Transit, and Water and Wastewater. *ROP 2010* designates the Study Area as an Urban Area on Map 1-Urban Structure.

Within the *ROP*, local municipalities are required to plan for the comprehensive and long-term growth of Regional Corridors as mixed-use areas in a comprehensive manner including their role and function as transportation, transit, and neighbourhood areas. Jane Street and Rutherford Road are identified as "Local Corridors" within *ROP 2010*. Local Corridors have the potential for intensive and mixed-use land development supported by public transit services. Local Corridors link Regional and Local Centres and may be identified as routes for transit services and facilities.

2.4.4 *Vaughan Tomorrow and the New VOP 2010*

Vaughan Tomorrow is the City's growth management strategy, which has entailed a number of studies, all of them informing the preparation of *VOP 2010* for the city, and guided by a vision developed through extensive consultations with the community. The Strategy is based on a vision for transforming the city. *VOP 2010* will direct future growth and development to specific and appropriate locations, including the Vaughan Mills Centre, and identified these locations as primary intensification areas.

VOP 2010 designates lands within the Study Area, located between Jane Street and Highway 400 as a Primary Centre. It also designates lands located between Weston Road and Highway 400, and lands east of Jane Street as Employment Areas. Primary Centres are intended to be areas characterized by a mix of land uses, higher density development, enhanced pedestrian activity and environment, and a high standard of urban design.

Jane Street and Rutherford Road have been identified as Primary Intensification Corridors based on future high order transit service planned along these roads.

Employment Areas are intended for the use of economic activities such as manufacturing, industrial, warehouse, and office uses, that support employment growth in the city and require separation from other uses in order to achieve their maximum potential.

Within the *VOP 2010* Vaughan Mills Centre is envisioned to evolve as a distinct place of major urban activity. Increased development intensification is directed towards higher order transit corridors around planned transit/subway stations and the existing regional shopping destination.

The *VOP 2010*, establishes an Urban Structure for the city (*VOP 2010 Schedule 1 Urban Structure*), which

identifies a development framework and hierarchy of Intensification Areas that range in height and intensity of use for guiding growth in Vaughan.

The Urban Structure hierarchy directs the most intense development towards a number of intensification areas including the Vaughan Metropolitan Centre, and to a lesser extent, Regional Intensification Corridors, Primary Intensification Corridors, and Primary and Local Centres throughout the city. The tallest buildings and most dense development is directed towards the Vaughan Metropolitan Centre (VMC) in particular to support the growth of Vaughan's downtown. The current *VOP 2010* and the Secondary Plan for the VMC establish maximum heights of 35 storeys and a maximum 6.0 floor space index (FSI) for the most dense and central area of the VMC.

2.4.5 *The City's Urban Structure:*

- Vaughan Metropolitan Centre is proposed to be the major focus for intensification for a wide range of residential, office, retail, cultural and civic uses, and will be the location of the tallest buildings and most intense concentration of development.
- Regional Intensification Corridors (e.g. Highway 7, Bathurst Street, Yonge Street) are proposed to be a major focus for intensification on lands adjacent to major transit routes, at densities and in a form supportive of the adjacent higher-order transit. The Regional Intensification Corridors link the Vaughan Metropolitan Centre with other intensification areas in Vaughan and across York Region.
- Primary Centres (e.g. Vaughan Mills Centre between Jane and Highway 400) are proposed as locations for intensification accommodated in the form of predominantly mixed-use high and mid-rise buildings, developed at an intensity supportive of transit.

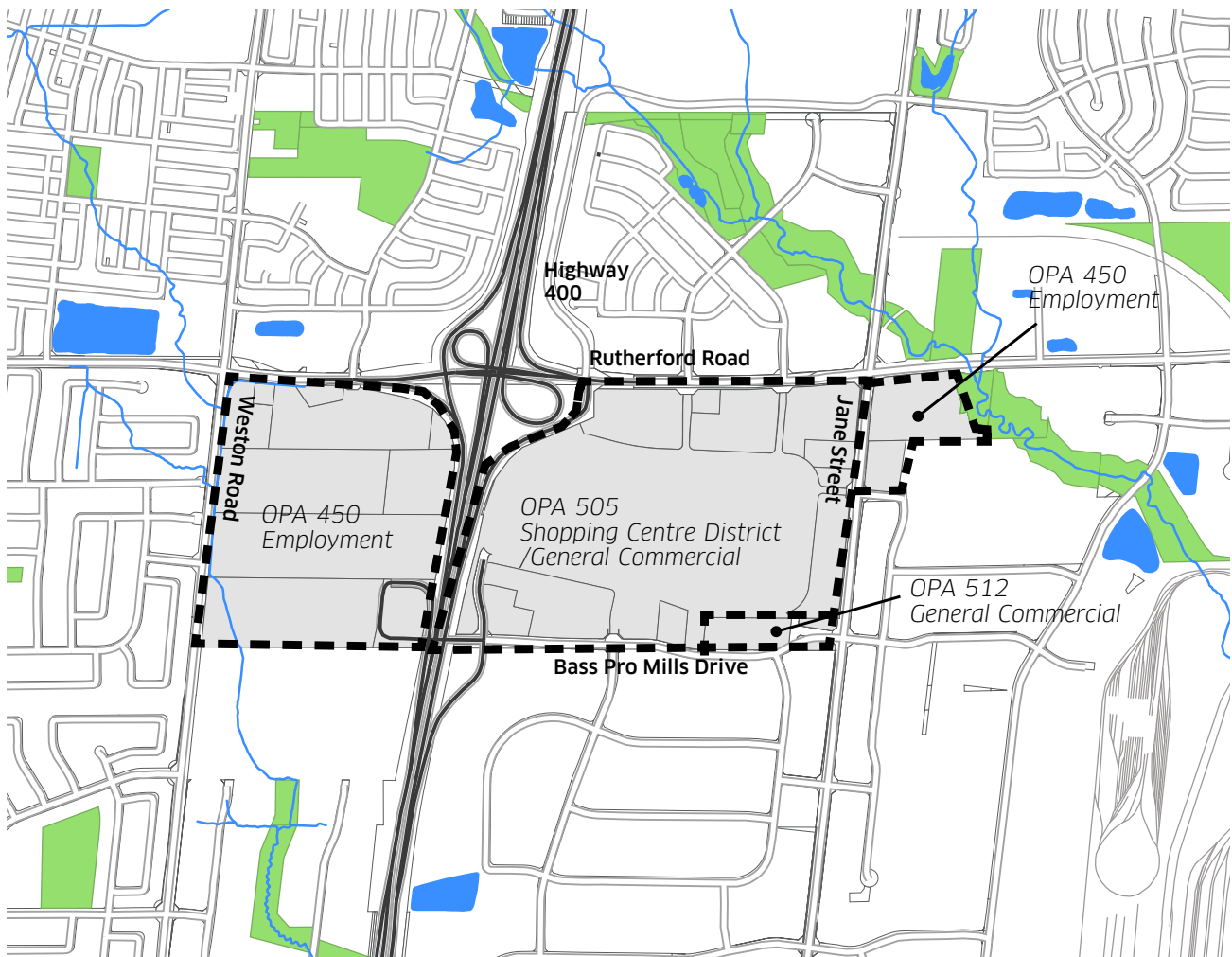


FIGURE 3: OPA 600 DESIGNATIONS AND RELATED OPAS

- Local Centres will provide the mixed-use focus for their respective communities in a manner that is compatible with the local context.
- Primary Intensification Corridors (e.g. Rutherford Road, and Jane Street) link together the various centres on transit supportive corridors and will be places to accommodate intensification in the form of mid-rise, and limited high-rise and low-rise buildings with a mix of uses.

2.4.5 Other Official Plan Amendments (OPA) for the Study Area

OPA 600 - the City of Vaughan Official Plan (2000)

The currently in-force City of Vaughan Official Plan OPA 600 was approved by Regional Council on June 29, 2002, amending OPA No.400 (the previous Growth Management and Land Use Plan). OPA 600 will be superseded by the adoption and approval of the new VOP 2010. OPA 450 is currently in effect for the employment lands located west of Highway 400 and lands east of Jane Street. OPA 600 designates areas within the Secondary Plan boundary between Highway 400 and Jane Street as the Vaughan District Commercial Centre. The lands west of Highway 400 (western area) and the lands east of Jane Street (eastern area) are designated Employment Area, as areas subject to the policies of OPA 450.

OPA 450 (1997)

OPA 450 designates the lands within the Study Area on the east side of Jane Street and west of Highway 400 as Prestige Employment and General Employment areas. Prestige Employment areas are generally directed along arterial and highway corridors to provide high visual exposure, good accessibility, and an attractive working environment. General Employment areas are located within the interior of Employment lands for uses that do not require high profile locations, and may need areas for outside storage for industrial operations.

OPA 505 (1998)

Currently, the Vaughan Mills Mall lands between Highway 400 and Jane Street north of Bass Pro Mills Drive are part of site-specific OPA 505, which has since been incorporated into the new VOP 2010. The amendment was approved in 1998 by the Ontario Municipal Board to bring the lands south of Rutherford Road within the *Vaughan Mills Centre Secondary Plan* area and to permit the use of the lands as a 'Mills' format shopping centre and related development. OPA 505 designates the Vaughan Mills Mall area as Vaughan Centre Shopping Centre District, and General Commercial, allowing for a 'Mills' format mall and related commercial uses, respectively. The maximum commercial floor area of all commercial uses located within the Vaughan Centre Secondary Plan, south of Rutherford Road, with the exception of offices, hotels, and accessory convention centres, is 160,000 sq.m (1,722,225 sq.ft). A maximum 10,000 sq.m (107,639 sq.ft) of office space with a maximum 5-storey height for offices is also permitted.

OPA 512 (1998)

OPA 512 incorporates lands located at the north-west corner of the intersection of Jane Street and Bass Pro Mills Drive, as shown on Figure 5 in the *Official Plan*, within the Vaughan Centre Secondary Plan Area, and redesignates those lands as General Commercial.

2.4.6 Green Directions Vaughan

Green Directions Vaughan is the City's community sustainability and environmental master plan. It establishes the principles of sustainability to be used in development and planning, to achieve a healthy natural environment, vibrant communities, and a strong economy. The document creates a series of sustainability action plans to guide the city's operational and regulatory functions, and acts as the city's first *Integrated Community Sustainability Plan*.



EXISTING SMALLER FORMAT RETAIL AT RUTHERFORD ROAD AND WESTON ROAD



BIRD'S EYE VIEW OF VAUGHAN MILLS MALL LOOKING SOUTH

The document is underpinned by a series of operational and regulatory recommendations, as well as long-term sustainability objectives with implications for the development of the *Vaughan Mills Centre Secondary Plan*, including:

- The potential for all new development to use district energy systems or other appropriate alternative energy forms;
- Ensuring the protection of remaining natural features, and opportunities for habitat restoration in headwater areas, along riparian corridors, and around wetlands;
- Ensuring that policies in the City's new *VOP 2010* protect all ecological features and functions as per current provincial and regional policies, and also includes considerations for locally significant natural features and functions;
- Redefine the maximum amount of impermeable area permitted on a development site. Work with developers to create alternative surfaces with the objective of increasing overall site permeability;
- Enable Vaughan to achieve increased intensification in development nodes and transit corridors;
- Develop sustainable development evaluation criteria;
- Ensure that a mix of housing types is provided in Vaughan and that affordability is a consideration in planning; and
- Continue to apply energy efficient building standard options for new developments in the city.

2.4.7 York Region Transportation Master Plan (2009)

The York Region Transportation Master Plan (Regional TMP) establishes a series of transit, roadway, and policy directions that support the Region's vision for a more sustainable transportation system, which will be required to cope with growth projected in York Region over the next 20 years. The 2009 Regional TMP update identifies a number of planned road improvements in or near the Study Area. These include:

- Improvements to Jane Street, Rutherford Road, and Weston Road to accommodate a proposed Rapid Transit Corridor along Jane Street, and a Transit Priority Network along Rutherford Road and Weston Roads, with dedicated transit and/or HOV lanes.

In addition to the proposed improvements in the Regional TMP, the Rutherford Road corridor is also planned for major improvements in several stages until 2020 under the Region's 10-Year Roads Construction Program that was approved in 2012. Currently, a Municipal Class Environmental Assessment (EA) is underway for the Rutherford Road corridor between Jane Street and Yonge Street.

2.5 Vaughan Mills Centre Today - Existing Conditions and Opportunities

A comprehensive planning framework requires examination of not only the Vaughan Mills Centre area, but also its relationship to adjacent neighbourhoods and its connection to the broader city. The Vaughan Mills Centre Study Area is approximately 146 hectares in size and can be generally described as comprising three areas defined by their urban structure and character, which includes the Western Area for lands west of Highway 400, the Central Area for the lands between Highway 400 and Jane Street, and a smaller Eastern Area for lands east of Jane Street.

2.5.1 Development Pattern and Neighbourhood Character

The Western Area

The Western Area includes 50.73 ha of land area between Highway 400 and Weston Road. The land is largely vacant except for some smaller retail establishments along the south side of Rutherford Road, including restaurants and a service station. The Black Creek tributary traverses through this area, exiting from the south and entering across Weston Road.

The area is flanked by the Weston Downs neighbourhood, which is a low density residential area to the west along Weston Road, the Vellore Corners Retail Plaza to the north of Rutherford Road, including a number of restaurants, a supermarket, smaller format retail stores, and Highway 400 to the east. There are no internal roads that service the site, however there is a road connection that links a partial interchange from Bass Pro Mills Drive across Highway 400 to a ramp. The partial interchange has been constructed, however, the final design and its connections with the employment lands to the west of Highway 400 has not yet been established.

The Central Area (Vaughan Mills Mall Lands and Related Parcels)

The Central Area contains the Vaughan Mills Mall area and surrounding parcels, and acts as the primary focus of Vaughan Mills Centre. The mall is centrally located and is served by a private ring road network that connects at multiple locations to Rutherford Road, Jane Street, and Bass Pro Mills Drive. The parcels between the mall and the perimeter arterial roads are partially developed, with a variety of office, retail, service station, and restaurant uses in a low-rise format. The site was developed over the last 10-years on the basis of a number of site specific Official Plan and Zoning By-law Amendments. The lands to the north of Vaughan Mills Mall include a mix of commercial-retail plazas abutting

low-rise residential neighbourhoods, and an auto-park to the north of Rutherford Road. A number of retail condominium units exist along the southern frontage of Rutherford Road between the internal ring road and Bass Pro Mills Drive. This area includes a waste disposal operation at Jane Street, a hotel, Leon's furniture store, and "the Village of Vaughan Mills", which is a 'lifestyle' format retail area with a number of household accessory-focused retail stores. South of the Study Area flanking Bass Pro Mills Drive are a number of 1-2 storey retail plazas, offices, and employment uses, representing the boundary of the Vaughan Enterprise Employment Area that runs south to Portage Parkway.

The Eastern Area

The lands along the southeast side of Jane Street from Rutherford Road to Riverrock Gate are currently vacant with an abutting woodlot and natural heritage corridor, forming part of the West Don River tributary system. Abutting lands to the south include the Magna International Stamping Plant and a number of 1-2 storey retail and employment operations. The lands north of Rutherford Road on the east side of Jane Street include a high-rise residential complex composed of three 16+ storey towers (a 4th is proposed), with a combined total of 901 units and approximately 1800 residents. To the south and east of the Study Area, CN Rail operates its MacMillan Classification Rail Yard, which comprises approximately 1100 acres of land as CN Rail's main Classification Yard for freight for North America.

Redevelopment Challenges and Opportunities

Just as the opportunities offered by redevelopment are tremendous, the challenges are also considerable. Vaughan Mills Centre is surrounded by established residential neighbourhoods and thriving industrial-employment areas that must be considered in managing the impacts of future redevelopment and intensification. The scope of redevelopment for Vaughan Mills Centre envisions a development format for Vaughan Mills Centre based on the creation of a complete, walkable,



EXISTING HIGH-RISE RESIDENTIAL BUILDINGS AT RUTHERFORD ROAD AND JANE STREET



and mixed-use community.

Future redevelopment must grapple with the challenges of relatively poor access through Vaughan Mills Centre to the city's road network, an existing road pattern that does not support intensification, the physical isolation of the Vaughan Mills Mall area from its surroundings, the impact of Highway 400 that bisects the area, and the existing land use typologies in the Study Area. These challenges underscore the need for a comprehensive planning framework for Vaughan Mills Centre. A comprehensive planning framework ensures that a full range of planning issues are addressed, that synergies between different public and private investments can be built upon, and that a sustainable approach to neighbourhood planning results in a community that balances a broad range of competing public objectives and private interests.

2.5.2 A Changing Context

In recent years, Vaughan Mills Centre has seen increasing development pressures for high-rise residential development in an area of the city historically characterized by low-rise typologies largely centered around Vaughan Mills Mall. With the *VOP 2010*, however, the City is providing further development opportunities to create new communities, and for a mix of land uses within intensification areas such as Vaughan Mills Centre.

A key City objective in increasing residential and employment density within Vaughan Mills Centre is for the creation of sustainable urban environments. From a city-building perspective, higher densities makes it easier to encourage active transportation and public transit use, which can have positive effects on the environment and physical health of the community. This is a key reason why the *Growth Plan for the Greater Golden Horseshoe*, the *Provincial Policy Statement*, and the *VOP 2010* promotes higher densities through intensification and compact development. Within

Vaughan Mills Centre there is a unique opportunity to create a mix of land uses in a more compact urban form that supports higher order transit in support of the creation of a lasting, complete community.

A key function of Vaughan Mills Centre is its role as a regional destination, employment hub, and commercial centre. Given that Vaughan Mills Centre serves a local and regional catchment area, and is a centre of economic activity for industry, there is a need to encourage residential uses and population densities that can support planned transit, expanded retail shopping, and employment/office uses. Shifting demographics will result in a need to provide opportunities for smaller, more compact housing forms for both the aging demographic, and for youth entering the housing market for the first time, to be located closer to jobs and amenities like transit, parks, shopping, and other community facilities. In the future, as the area grows, and new economic sectors and jobs emerge, the demand for housing and amenities within close walking distance to residential areas will also increase.

2.5.3 A Shifting Modal Split

The transportation infrastructure environment is changing as well. Regional street design is moving towards a context sensitive solutions approach that promotes and supports all modes of transportation including walking, cycling and transit. In addition, the Region is proposing new street cross-sections for some of the major transit corridors such as Rutherford Road and Jane Street. Key enhancements will support higher volumes of circulation, high occupancy vehicle lanes, higher-order transit, dedicated cycling lanes, and enhanced public boulevard facilities making it easier for both pedestrians and vehicles to move in and around Vaughan Mills Centre. These roadway enhancements are the initial stages for increasing the modal split towards supporting increased pedestrian movement, transit, and vehicular circulation.



VIEW OF THE NORTH ENTRANCE OF VAUGHAN MILLS MALL



VIEW OF THE VILLAGE AT VAUGHAN MILLS LIFESTYLE CENTRE

The current Vaughan Mills transit terminal provides a major transit opportunity for Vaughan Mills Centre. According to York Region's Transportation Master Plan (2009), the Vaughan Mills terminal is planned to become one of the key transit gateways in the area. In the future, the Spadina subway extension to the Vaughan Metropolitan Centre (VMC) at Jane Street and Highway 7 will provide future opportunities for new higher order transit connections between the VMC to the midtown area of the city and Vaughan Mills Centre. This will have positive impacts for future higher order transit such as subway and other rapid transit and pedestrian movement for the Study Area, and support the potential future development of a Transit/Mobility Hub around the intersection of Jane Street and Rutherford Road. Currently, there are a number of proposed developments which would support higher order transit at this location including the York Region government offices and a number of high-rise mixed-use developments which are helping to create a critical mass of institutional, residential, and community uses at the intersection.

2.5.4 Tourism and Commercial Node

The Vaughan Mills Centre Secondary Plan area is emerging as a major centre of activity in the city and region. The area already benefits from an advantageous location along Highway 400, its relative proximity to Pearson International Airport, and central location within the Greater Toronto Area (GTA). In addition, the area benefits from a draw of tourism activity generated from Paramount Canada's Wonderland and the Vaughan Mills Mall, making this area a major tourist and commercial destination in the region.

In addition, due mostly to the Vaughan Mills Mall activities, the Study Area sits at the upper spectrum of Vaughan's commercial hierarchy serving a dominant role over most retail in Vaughan, and in adjacent communities. Over the last 10 years, Vaughan Mills Centre has grown with the development of the Vaughan

Mills Mall and related commercial areas, but has not yet developed as the vibrant urban centre envisioned in the VOP 2010. A key component of the Vaughan Mills Centre area is its role as a regional destination, employment hub, and commercial centre. Given that Vaughan Mills Centre serves a local and regional catchment area and is a centre of economic activity in the GTA, there is a need to expand the mix of uses that can facilitate planned transit, expanded retail shopping, and employment/office uses in support of an emerging urban centre.

While much of Vaughan's retail hierarchy is focused towards enclosed shopping malls and auto-oriented big-box retail outlets, the community has expressed a desire for a more walkable convenience-based retail offering (grocery, daily amenity, restaurant, medical, and outdoor formats) for Vaughan Mills Centre. This retail format relies on a more local catchment area to be competitive, supporting opportunities to walk to amenity areas. The regional trend towards big-box retail uses, which demands high traffic volumes, large floor plates, expansive parking and circulation areas can be at odds with creating a more pedestrian-oriented retail environment.

2.5.5 Employment Centre

A large portion of the lands surrounding and within Vaughan Mills Centre are designated Employment. This existing employment base, and the development of future jobs in vacant lands, provides a unique condition and opportunity for the Study Area as it intensifies. In addition, over the years surrounding development has outpaced the development of the vacant employment lands within the Study Area towards a more residential and retail character. This existing land use condition provides challenges in dealing with issues of adjacency and for transitioning between development forms. In this regard, as Vaughan Mills Centre sits at the convergence of a number of different land uses, future development will need to provide appropriate solutions



EXISTING STORMWATER MANAGEMENT FACILITY NORTH-EAST OF RUTHERFORD/WESTON ROADS



EXISTING WOOD LOT SOUTH-EAST OF JANE STREET/RUTHERFORD ROAD

for dealing with issues of adjacency and separation between land uses that serve to reduce impacts on existing areas.

The employment areas located along the Highway 400 corridor provide excellent highway access and visual exposure, and an opportunity to create an unique employment area that integrates with, and reduces impacts on existing land uses. To the south and east of the Study Area, CN Rail operates its MacMillan Classification Rail Yard, which comprises approximately 1100 acres of land as CN Rail's main Classification Yard for freight for North America. Surrounding employment uses such as those in the warehouse sector, have taken advantage of proximity to the MacMillan Rail Yard and have helped to attract businesses and investment to the city over the years.

2.5.6 Open Space and Natural Heritage

Natural Heritage

Although the Vaughan Mills Centre area is completely within the built-up area of the city, it is part of a regional ecosystem that includes natural features such as the tributaries of the Humber River, the Black Creek Subwatershed, and the West Don River Valley. Both of these environmental features are designated as Core Features within the *VOP 2010*.

Maintaining, restoring and enhancing the health of natural features to improve ecological integrity on and off-site will be a major objective for the *Vaughan Mills Centre Secondary Plan*. Consideration for managing post-development water recharge to pre-development conditions will be necessary in order to maintain the function of the groundwater system and other natural features (e.g. streams, wetlands, and forests). Future development will need to consider natural features and functions, towards providing protection and extensive restoration measures to enhance and improve natural systems and their functions.

Open Space

With increased residential intensification planned for the Vaughan Mills Centre area, new parks and other community amenities will be required to serve a growing population.

Currently there are no parks that serve Vaughan Mills Centre. However, through the City's *Pedestrian and Bicycle Master Plan Study (2007)* and the revised Draft *Active Together Master Plan (2013)*, the City has recommend new cycling connections and parks requirements towards providing guidance for new facilities within Vaughan Mills Centre.

One of the objectives of the Secondary Plan will be to assess and recommend the open space needs for Vaughan Mills Centre in response to the recommendations brought forward in the updated *Active Together Master Plan (2008)* while taking into consideration the future demands that growth and intensification will have on the demand for new parks.

The Secondary Plan will recommend ways to:

- Integrate an open space framework throughout the Vaughan Mills Centre Study Area and with surrounding neighbourhoods;
- Create new amenities in concert with emerging development;
- Incorporate stormwater management features within the public realm; and
- Enhance and improve the health and function of natural environmental features.

PART B CREATING A VIBRANT URBAN CENTRE

Sections

- 1.0 The Vision, Character Areas, and Guiding Principles
- 2.0 Big Moves
- 3.0 Development Character, Land Use, and Built Form
- 4.0 Transportation Framework
- 5.0 Parks and Open Space Framework
- 6.0 Community Facilities
- 7.0 Sustainable Site Design and Integrated Infrastructure

PART B
Section...

1.0

» THE VISION & GUIDING PRINCIPLES



1.1 // The Vision Statement

Vaughan Mills Centre is Vaughan's 'midtown' urban centre for commerce, tourism, entertainment, and gathering. Designed for walking and anchored by its retail and employment base, Vaughan Mills Centre is a place to live, work, and play and is a regional destination. As one of the primary urban centres in the city, it is a gathering place with unique amenities and supported by great retail areas, entertainment, residential enclaves, bustling employment, and public spaces.

1.2 The Vision

The Vision and its Guiding Principles will shape the evolution of the Vaughan Mills Centre Study Area. A denser mix of uses is envisioned, including residential, office, and commercial uses in a more complete, sustainable, vibrant, and self-sufficient urban environment. The Vision is in keeping with the many aspirations, priorities, and objectives of the City and community.

The Vision for Vaughan Mills Centre is a beautiful and distinct new urban area of the city, structured along an enhanced public realm and a celebration of natural spaces that connects neighbourhoods throughout. The Vision reflects a desired "urban village" character, having a regular pattern of connected streets and blocks, focusing areas of intensification around unique and vibrant pedestrian oriented mixed-use corridors that provide neighbourhood amenity for Vaughan Mills Centre, and function as both local and regional destinations. These include creating gateways with new parks that are animated with mixed commercial/residential uses, and new community amenities that support a new residential community.

The urban village character is further enhanced with new mixed-use residential areas that offer a variety of mid-to-high density typologies, tenures and affordable housing options, and are served by ample private and public open spaces. Each mixed-use residential block is linked by connected open spaces that join a series of integrated neighbourhood parks and publicly accessible private amenity areas. Each block is within a five-minute walking radius from a public open space. All streets are tree-lined, pedestrian and bicycle friendly, with sidewalks that encourage walking and connect to existing and new development. In addition, a new multi-use path along Bass Pro Mills Drive connects into the rest of the pedestrian/cycling network. This network allows pedestrian/cyclists to travel safely through

Vaughan Mills Centre from Jane Street to Weston Road, and connects to significant open spaces such as a new greenway within the employment area to the west of Highway 400.

An enhanced internal ring road provides a new residential address and is designed with sidewalks and tree planting on both sides, with on-street parking, and dedicated cycling lanes to provide a diversity of mobility options throughout the Vaughan Mills Mall Area.

The Vision supports a modal shift that accommodates transportation modes such as cycling and walking. This, in conjunction with a mix of land uses, housing diversity, connected streets and paths, supports a walkable, pedestrian-friendly environment, towards a healthier lifestyle.

The retention and enhancement of natural features celebrates the natural heritage character of the area. In addition, an overall emphasis placed on creating a unique environment with quality built form, animated commercial areas, and the expansion of the open space system strengthens the function of the Vaughan Mills Centre and surrounding land parcels.



1.3 Guiding Principles

Together with the Plan Vision, the following nine Guiding Principles provide direction and support for the overall development of a concept plan for the Vaughan Mills Secondary Plan area. The Guiding Principles and associated policies, represent the fundamental objectives that must be considered when making planning-related decisions within the Secondary Plan Area. The Guiding Principles have been derived through the public consultation process and site analysis, to ensure the successful evolution of the Vaughan Mills Centre area.

Principle 1

Create a Vibrant, Complete, Mixed-Use Urban Centre

The Vaughan Mills Centre Secondary Plan area should accommodate and encourage a mix of uses to support a vibrant, compact, complete community and urban hub.

Objectives:

- Establish a mix of land uses, including compatible residential, retail, office, institutional, and amenity uses that foster diversity, create a pedestrian-oriented environment, encourage social interaction, and a mix of demographics, while enabling residents to live, work, and play in the area;
- Provide opportunities for an urban form of gathering places, destinations, and amenities within close proximity to proposed residential areas;
- Provide uses to support a diverse demographic, including youth and seniors; ensure visitors and tourists have places to stay; provide citizens with interesting, unique commercial areas focused on pedestrians; and encourage both residents and visitors to spend time in vibrant public spaces; and
- Support the development of creative industries, green industries, and knowledge economy markets to diversify the range of economic and employment opportunities in Vaughan Mills Centre.



Principle 2

Foster a High Quality of Place, Design Excellence, and Sustainability

Development should contribute to creating a new identity, uniqueness, and quality of place for Vaughan Mills Centre.

Objectives:

- Develop an approach to urban design that provides a high quality pedestrian realm and built form environment, and creates inspiring and memorable places;
- Ensure development that is “human scaled” - welcoming, accessible, and appropriate to its context, and creates a comfortable pedestrian environment;
- All development will aim to enhance or benefit the city, and enhance Vaughan Mills Centre as a vibrant urban environment;
- Provide appropriate transition to surrounding neighbourhoods to the north and west, and to employment areas to the south and east; and
- All development should be conducted to the environmental standards of the City, Region, TRCA, and Province.



Principle 3

Provide a Diverse Range of Housing Options in Vaughan Mills Centre

The Secondary Plan should provide for a diverse range of housing options in high-rise, mid-rise, and lower-rise buildings, to support a variety of incomes, family types, and age groups that allows people to live in the Vaughan Mills Centre area through all stages of their lives.

Objectives:

- Encourage a diverse mix of housing typologies, tenures, and affordable housing opportunities within compact residential areas in order to provide options for people of all ages in more urban housing forms; and
- Allow for housing in mixed-use developments to ensure that the street is active and animated all days of the week, and all times of the day.



Principle 4

Enhance the Role of Vaughan Mills Centre as a 'Centre of Economic Activity, Jobs, and Commerce in the Region'

Create a unique employment and commercial environment that is vibrant, walkable, diverse, active, visible, and accessible, and that is based on a financially and socially viable commercial plan that is supportable in the local market.

Objectives:

- Create a commercial environment that will draw high visitor traffic, and that provides compelling reasons to visit;
- Create a commercial base that can respond to the ever-changing needs and preferences of its customer base and local residents, and that appeals to all demographics, from teenagers to young families and seniors;
- Create a commercial environment that is highly visible and accessible to all modes of transportation, transit supportive, and an active public realm and pedestrian environment; and
- Support the development of high quality employment uses designed to provide a lasting amenity for workers, businesses, and residents, integrated into the community with a high quality public realm, open spaces, streetscapes, landscaping, public parks, and community-focused retail and amenity uses.



Principle 5

A Walkable Urban Environment

The identity of Vaughan Mills Centre will be strengthened by its walkability and accessibility through the development of high quality, pedestrian-oriented streetscapes that are safe, welcoming, accessible, and create a distinct public realm environment.

Objectives:

- Design for pedestrians and cyclists as a priority, and ensure the design of paths and sidewalks to facilitate movement in all seasons;
- Provide well-linked and safe pedestrian connections through mews streets and linkages to amenities throughout Vaughan Mills Centre;
- Maintain efficient access for vehicles through Vaughan Mills Center while incorporating transit oriented design measures;
- Explore alternatives to large surface parking areas;
- Ensure streets are designed with appropriately scaled street lighting, street trees, landscaping, and generous sidewalks, with an emphasis on 'greening' Vaughan Mills Centre to distinguish and unify the character of the area;
- Provide centrally located amenities (retail and community facilities and gathering spaces) within a 5-10 minute walking distance to residential areas;
- Ensure new development includes adequate setbacks for sidewalks, walkways, and lanes;
- Improve pedestrian connectivity across Highway 400; and
- Use green infrastructure that blends with the proposed urban environment and provides necessary function.



Principle 6

Provide High Quality Open Spaces

Development in Vaughan Mills Centre should provide a balanced approach to built form, and high quality open spaces.

Objectives:

- Ensure that new development is adequately served by community amenities such as public parks and urban squares, recreational facilities, and other community amenities;
- Provide a defined network of open spaces, parks, and trails that are connected through a network of attractive pedestrian walkways, mid-block connections, and urban plazas;
- Enhance existing open space corridors (i.e. the Black Creek subwatershed and the West Don River valley), and ensure they are well connected with the overall pedestrian network;
- Design parks that reflect the scale and form of adjacent development, and serve as an amenity to the area by providing activities for a range of demographics; and
- Where possible, use existing heritage and stormwater management features as active/passive park space.
- Ensure orientation and massing of buildings adjacent to public spaces provide adequate access to skyview, sunlight, and appropriate pedestrian level wind conditions and micro-climates for public users.



Principle 7

Protect, Restore, and Enhance Natural and Cultural Heritage Resources

All new development will respect Vaughan's natural and cultural heritage assets and contribute to its natural heritage character.

Objectives:

- Conserve, restore, and enhance natural heritage areas such as the Black Creek Subwatershed and the West Don River Valley in the Study Area; and
- Ensure that new development will not have an adverse impact on the conservation of natural heritage features and increase the risk of downstream flooding.



Principle 8

Create a Multi-Modal Transportation Network

The design of the transportation network should support a range of users including pedestrians, cyclists, public transit, goods movement, and private vehicles.

Objectives:

- Support and encourage the development of a multi-modal transit/mobility hub at Vaughan Mills Centre that connects to other hubs and destinations, and supports the development of future rapid transit along Jane Street;
- Develop a well connected and fine grid street network;
- Create streets that are 'complete', and designed for a variety of abilities and modes of travel, and that provide safe and efficient movement for a diversity of users;
- Design streets and the public realm to ensure pedestrian safety and comfort as a priority;
- Provide a safe and well-connected pedestrian and cycling network that facilitates movement throughout the Study Area, as well as to surrounding areas;
- Ensure that pedestrian pathways, mews, and sidewalks are provided to ensure safe and comfortable pedestrian movement through the Vaughan Mills Mall parking area; and
- Explore safe, attractive, comfortable, and multi-modal crossing opportunities over Highway 400.



Principle 9

Sustainable and Resilient

The development and evolution of Vaughan Mills Centre should be socially, economically, and environmentally sustainable over the long-term, while making efficient use of existing infrastructure, energy, and other resources.

Objectives:

- Provide for a socially diverse community and ensure the efficient use of land through mixed-use development with a full range of housing types, tenures, and amenities to support a growing community;
- Support economic and employment growth through allowing a wide range of commercial, employment, and office activities to provide residents with the ability to walk or cycle to a range of activities;
- Ensure that Vaughan Mills Centre is accessible by transit, vehicles, pedestrians, and cyclists to permit a full range of mobility choices, and to support an efficient transportation system;
- Develop sites, buildings, and structures that reduce environmental impacts. Provide energy conservation improvements, and resource-efficient buildings throughout a building's full life-cycle; and
- Ensure environmental sustainability and resiliency of natural areas.

1.4 Character Areas

To provide a context and development outlook for different areas throughout the Vaughan Mills Centre Secondary Plan Area, character areas have been defined. Each area is defined by a dominant function, and urban quality intended to be achieved. The general approach to identifying character areas is shaped by the City's existing policies, the Guiding Principles and Big Moves of this Plan, and other character-specific considerations.

This section identifies the desired future character, function, and urban design outlook of the various areas within the Vaughan Mills Centre Secondary Plan.

Character Areas:

- Defines the various distinct areas of the Plan and provides an organizational structure for development towards achieving the Vision;
- Identifies the desired future character and function of the areas within the Plan, building on existing assets, structure, and future vision; and
- Creates a framework for development that serves to enhance the Vaughan Mills Centre area.

1.4.1 Jane Street Corridor

The Jane Street Corridor includes lands within the Jane Street and Rutherford Road intersection and lands fronting along the Jane Street Corridor between Locke Street and Rutherford Road. The Jane Street and Rutherford Road area plays an important role as a transportation node, as well as an employment and mixed-use commercial corridor in the city. The area is in transition and is part of a chain of major redevelopment currently planned such as the proposed Hospital redevelopment area to the north (Jane Street and Major Mackenzie Drive) and the Vaughan Metropolitan Centre to the south (Jane Street and Highway 7). This area provides an opportunity for intensification along with future higher-order transit in coordination with other planned development along Jane Street.

The overall vision for the area is towards achieving a higher density mixed use neighbourhood supported by high order transit that is all served by accessible open space and parks, pedestrian connections, community services, and an enhanced pedestrian realm.

The Jane Street Corridor is proposed to become a key destination and gateway within the emerging Vaughan Mills Centre. The Jane Street Corridor will be urban in nature, reflecting its function as a regional point of attraction and transit oriented development.

Defining characteristics include, without limitation:

- Supporting a gateway development character at the corner of Jane Street and Rutherford Road as a symbolic point of reference for the area;
- Orienting the tallest buildings towards the Jane Street and Rutherford Road intersection and transit nodes;
- A pedestrian-oriented and urban cross-section for Rutherford Road and Jane Street with a mixed-use retail/residential frontage with buildings set close to



HIGH DENSITY DEVELOPMENT FRAMING A PUBLIC PARK



HIGH QUALITY PEDESTRIAN REALM AND BUILT FORM ALONG AN ARTERIAL CORRIDOR

the street to create address;

- High quality streetscaping and pedestrian facilities;
- Providing mid-block connections and linkages to surrounding land uses and open spaces, with trail linkages to the West Don River Valley to the east;
- Creating internal public street networks for improved traffic flow and connectivity to develop the city grid;
- Providing publicly accessible open spaces that functions as a central feature for development ensuring that amenity spaces are well connected to the broader public realm network;
- Incorporating iconic elements, architectural features and public art that contributes to the character and identity of the community;
- Creating mixed-use frontages along Jane Street

to encourage animation of the street and neighbourhood vibrancy;

- Exploring typological variation in building design to increase visual interest by considering variation in tower shape, orientation, and façade design;
- Orienting and massing buildings to frame views and control privacy between properties;
- Structuring building massing to create a public realm interface that frames open spaces and provides a sense of enclosure and human scale for pedestrians;
- Providing pedestrian connections with existing and future transit facilities, retail, open space, and natural heritage areas; and
- Buffering from surrounding employment land uses.

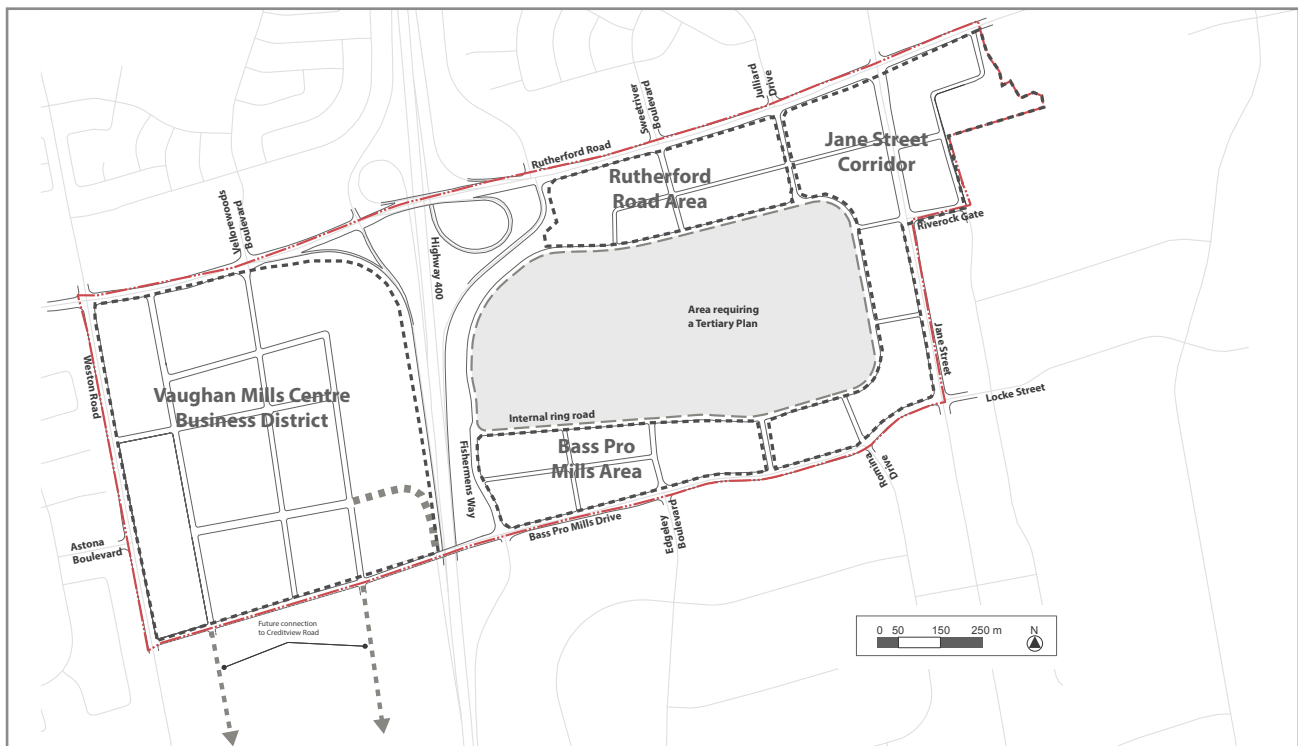


FIGURE 4: CHARACTER AREAS



MIXED USE COMMERCIAL STREET



MIXED USE COMMERCIAL DEVELOPMENT FRAMING A PUBLIC OPEN SPACE

1.4.2 Rutherford Road Area

The Rutherford Road Area includes the commercial blocks on the south side of Rutherford Road between the Jane Street character area and the Highway 400 interchange. The development outlook and vision for this area reflects the commercial mixed-use function and interface with Vaughan Mills Mall. This area is envisioned to transform from a predominantly single storey commercial plaza form with large surface parking areas into a vibrant commercial and mixed-use residential area that transitions down from the higher density areas along Jane Street. This area is proposed to include a variety of housing typologies from low-rise to high-rise, offering a range of housing to residents in the community.

The land use structure envisioned includes street level commercial frontages with residential served by community amenities and parks. The character proposed is defined by a fine grain of blocks, connected streets and pedestrian connections, with lower built form that frames open space and the public realm.

Defining characteristics include, without limitation:

- Encouraging a mixed-use retail frontage along Rutherford Road to enhance pedestrian activity along the street;
- Providing a fine grain of streets and blocks conducive to walking and transit to support an enhanced pedestrian setting;
- Aligning neighbourhood parks with development to make parkland accessible and centrally located to residents;
- Transitioning building heights down from Rutherford Road towards the Vaughan Mills Mall Area;
- Framing open spaces with mixed-use frontages;
- Providing pedestrian connections to Rutherford

Road, the Vaughan Mills Mall, and between blocks; and

- Structuring and enhancing east-west connections to ensure development blocks are woven together cohesively.

1.4.3 Bass Pro Mills Area

The Bass Pro Mills Area includes lands south of the internal ring road north of Bass Pro Mills Drive between Jane Street character area and the Highway 400 interchange. This area is envisioned to transition down from the higher densities along Jane Street. Development in this area is envisioned to provide a transition between the employment uses to the south and Vaughan Mills Mall to the north with a mixed use development format. The area is proposed to maintain the prevalent commercial use of the Bass Pro Mills Area but encourages some residential development to help distribute residential uses throughout Vaughan Mills Centre.

Defining characteristics include, without limitation:

- Providing additional street connections to further develop the street grid;
- Creating a system of neighbourhood parks and public squares to provide amenity uses for the future community in this area;
- Creating a comparatively wide streetscape along Bass Pro Mills Drive with cycling facilities, a multi-use path, and high quality landscaping to improve the pedestrian experience and connectivity between the existing residential areas west of Weston Road through to Jane Street;
- Encouraging modest residential intensification to benefit from surrounding employment and commercial land uses, future road connections, and public amenities envisioned for the area;



EXAMPLE OF A MULTIUSE USE PATHWAY WITHIN A LANDSCAPED BOULEVARD



EXAMPLE OF A HIGH QUALITY PEDESTRIAN-ORIENTED EMPLOYMENT AREA

- Creating north-south and east-west connections that aligns the area with the Vaughan Mills Mall area;
- Providing mixed-use retail and office frontages along Bass Pro Mills Drive to enhance pedestrian activity along the street;
- Encouraging pedestrian-oriented retail by providing direct pedestrian access from the street; and
- Encouraging pedestrian-scaled design through the use of building stepbacks, multiple entrances, mid-block connections, and a consistent street wall.

1.4.4 Vaughan Mills Centre Business District

The Vaughan Mills Centre Business District is envisioned to develop with a mix of prestige employment uses directing most of the office uses along the Highway 400 corridor. The Vaughan Mills Centre Business District is proposed to be a centre for innovation and design excellence that capitalizes on its location and visibility. A nexus of activity, this area is envisioned to function as a knowledge hub attracting businesses in 'green' and creative industries, technology, and research and development.

Defining characteristics include, without limitation:

- Creating a fine grain block and street pattern with opportunities for mid-block connections providing pedestrian access to Weston Road, and the Vaughan Mills Mall area;
- Providing an internal collector road network with new connections to surrounding arterial roads and the Highway 400 interchange;
- Transitioning heights from higher buildings adjacent to Highway 400, to low-rise buildings along Weston Road;
- Directing the Black Creek northwards and incorporating it into a naturalized open space feature, providing a multi-use amenity with cycling

and pedestrian paths to serve the employment area and surrounding neighbourhood;

- Creating a connected public realm through mid-block connections and linkages to open spaces, natural features, and the surrounding area;
- Structuring and concentrating retail at key intersections and areas of activity, as well as along primary arterial streets;
- Orienting buildings towards open spaces to reinforce a strong visual linkage within the landscape; and
- Maintaining, enhancing, and restoring the natural environment supporting sustainable development objectives.

PART B
Section...

2.0

» BIG MOVES



2.1 // The Big Moves

The 'Big Moves' for the Vaughan Mills Centre Secondary area, outlined below, form the basis for the Plan's policies, and implementation strategies. They are key design moves that support the Vision and Guiding Principles, and define the Concept Plan.



1. PEDESTRIAN-ORIENTED STREETS:

- Provide a green streetscape;
- Include intimately-scaled open spaces along the street, active at-grade uses, gathering spaces, safe and well-connected boulevards and pathways, and various landscape forms; and
- Use appropriately-scaled buildings.



2. STRONG CONNECTIONS:

- Create pedestrian and bicycle connections throughout and ensure that transit is connected appropriately to amenities and the public realm; and
- Develop trails/paths throughout Vaughan Mills Centre, with connections to surrounding natural heritage features and open space.



3. COMMUNITY GATHERING PLACE:

- Provide community gathering places as the central focus for the area; and
- Front gathering places with active frontages (retail/commercial) to create a vibrant street-level environment.



4. INTENSIFICATION

- Allow Vaughan Mills Mall to expand through a mix of retail/residential development. Future expansion of the shopping centre parking areas to be redeveloped as mixed-use development blocks supported by structured parking;
- Focus mid-rise development around the ring road and Bass Pro Mills Drive; and
- Locate taller buildings along Rutherford Road, Jane Street, and the Highway 400.



5. EMPLOYMENT DISTRICT:

- Create a unique employment district on the west side of Highway 400 that is vibrant, walkable, and active, while supporting a high quality urban environment for a range of office and other employment land uses; and
- Improve pedestrian connectivity to the future transit hub from the employment district.



6. JANE AND RUTHERFORD TRANSIT HUB GATEWAY:

- Recognize and develop the Rutherford Road and Jane Street intersection as a significant gateway node through unique architectural features, active at-grade uses, and consider introducing a significant gathering place;
- Support the development of a Transit Hub and the possible extension of the Spadina Subway from the Vaughan Metropolitan Centre to Vaughan Mills Centre; and
- Encourage the development and location of government and public uses close to existing and planned transit stops.



7. BLACK CREEK:

- Create a naturalized corridor west of Highway 400 for the Black Creek tributary in order to maintain and enhance its ecological function/ restoration, and hazard management; and
- To establish public common areas and active transportation pathways along the edges of the corridor to ensure interconnections, and promote stewardship of open space and natural features.



8. ENHANCED DESTINATION:

- Enhance Vaughan Mills Centre's existing role as a destination through the addition of other entertainment and cultural uses (theatre, performing arts, museum, recreation/sports etc.); and
- Improve connectivity with other tourist uses such as Canada's Wonderland and the Vaughan Metropolitan Centre.



9. OUTDOOR RETAIL FORMATS:

- Encourage the development of outdoor format retail uses, with direct pedestrian access from the street, and spill-over areas.

10. PEDESTRIAN AND BICYCLE CROSSING:

- Support a future pedestrian connection across Highway 400 that aligns with the internal ring road to link the employment district and surrounding community with future development areas east of Highway 400.

PART B
Section...

3.0

» DEVELOPMENT
FRAMEWORK,
LAND USE, AND
BUILT FORM



3.0 // Introduction

The policies in this section address land use for Vaughan Mills Centre and are intended to ensure all future planning and development is in keeping with the desired build out of the area. The policies established in this section build upon those in the *Vaughan Official Plan 2010 (VOP 2010)* and other applicable policies.

3.1 Development Framework

The Development Framework reflects a more complete mixed-use community structure with the inclusion of additional neighbourhood parks and open spaces, neighbourhood scale amenities, and new streets that connect these uses, while improving walkability and accessibility. The *Vaughan Mills Centre Secondary Plan* encourages the development of a compact, mixed-use community that is well-connected to the external street network. The Plan strives to accommodate growth through a mix of densities and is based on the premise that a well-serviced, well-connected, and well-designed community will encourage walking, cycling, and transit use as preferred transportation choices. The Plan encourages sustainability, the restoration of the natural landscape, and environmental best practices.

A background report has been prepared (*Transportation Assessment: Vaughan Mills Centre Secondary Plan*, MMM Group, February 2014), which identifies recommended transportation improvements in order to ensure sufficient transportation capacities are in place to support the development limits proposed in the Vaughan Mills Centre Secondary Plan Area.

3.2 Growth

The Vaughan Mills Centre Secondary Plan establishes a planning framework to direct growth in the Vaughan Mills Centre area and to guide and manage the change that it represents. The Vaughan Mills Centre area is an appropriate part of the City for intensification. The Jane Street and Rutherford Road transit corridors currently serve the area, and future opportunities exist for a Transit Hub around the Jane Street and Rutherford Road intersection. This area provides an ideal location to create synergies with the existing Vaughan Mills Mall Transit Terminal and the future potential extension of the subway. Improved transit infrastructure will provide new intensification opportunities for the City

of Vaughan.

The area includes large parcels of underutilized land, most of which are currently single use. This represents an opportunity to reconfigure land to achieve a strong network of infrastructure, and to develop a public realm that supports a mix of land uses, housing, built form, and intensification. Intensification provides an opportunity for investment, renewal, vibrancy, and improved public amenities in one of the City's priority areas.

The Highway 400 corridor is a major physical barrier. While providing good access to the Plan area, it poses some significant challenges. In addition, the high-level exposure from the highway to adjacent uses provides opportunities to create gateway design features such as additional building height permissions, and connectivity between neighbourhoods by promoting enhanced crossings over the Highway.

These local growth opportunities, coupled with an array of city-building objectives that can be achieved in the Vaughan Mills Centre area, underscore the need for a Secondary Plan. The *VOP 2010* identifies Vaughan Mills Centre as a Priority Area for intensification, and consequently, the Secondary Plan envisions intensification and reurbanization throughout all areas of Vaughan Mills Centre.

UNITS, POPULATION, AND JOB PROJECTIONS BY AREA

	Units	Population	Jobs
Jane Street Corridor	3,373	6,881	1,438
Bass Pro Mills Area and the Rutherford Road Area	930	1,897	1,879
Vaughan Mills Centre Business District	-	-	7,590
Vaughan Mills Mall Area	n/a	n/a	n/a
Total	4,303	8,778	10,907

The projected population and jobs associated with the Secondary Plan are related to the various development areas, as identified on Schedule A: Plan Area. In order to ensure development proceeds with adequate transportation, municipal services, and community facilities all development in Vaughan Mills Centre will be subject to the development progression policies as set out in Part C, Section 7.0 of this Plan.

The number of residential units, associated population, and jobs projected in the Secondary Plan reflects planning analysis, the City's development intensification and transportation hierarchy, and opportunities for growth within the City's urban structure.

The Secondary Plan distributes development to different parts of the Vaughan Mills Centre area. Land use and built form policies will further define the arrangement of height and density across the area.

The Secondary Plan is an opportunity to guide residential growth within the area east of Highway 400, along Rutherford Road and Jane Street in a desirable manner. Through development of a diverse range of housing, redevelopment provides an opportunity to incorporate affordable housing in an area of the city that currently offers only market housing.

Growth and new development in the Plan are leveraged to achieve public investment to strengthen the quality of life for future residents of the Vaughan Mills Centre area. A complete and liveable community requires public investment to proceed alongside growth and development. A projected 8,778 new residents, and development intensification can only be achieved if accompanied by a range of improvements to transportation, municipal servicing, community facilities, parks, and the public realm. Phasing of new development is a tool that the City will rely on to ensure

that growth in the Vaughan Mills Centre is concurrent with the development of amenities and public services required to support it.

3.3 Density

Refer to Schedule B: Height & Density

The approach to height and density in the *Vaughan Mills Secondary Plan* arranges residential density along major transit corridors (Jane Street and Rutherford Road) and in proximity to the future potential Transit Hub (Jane Street/Rutherford Road intersection). The built form is planned to frame the public realm and higher order roads and gateways, and establish a transition between different scales of development. Proposed heights and densities are highest in close proximity to transit and exposure to Highway 400, moderate along internal collector streets, and lowest near the stable neighbourhoods along Weston Road.

Density (D) is expressed as a ratio of floor space to site area, called Floor Space Index (FSI). The purpose of including FSI on the diagram is to arrange density across the Secondary Plan in a manner that is consistent with the area structure and character. The FSI shown for different areas is also consistent with the built form and land use framework of this Secondary Plan, and therefore lends support to important built-form principles as per Schedule B: Height and Density.

3.4 Land Use Framework

Refer to Schedule C: Land Use Designations

Major components of the land use framework for the Vaughan Mills Centre area encourage the development of multi-family residential, commercial, office and employment uses, and community facilities.

Key land use objectives of the *Vaughan Mills Secondary*

Plan are:

- To create a diverse and active mixed-use community that capitalizes on investment in future higher order transit;
- To accommodate new population growth over time, ensuring each development phase contributes to the overall vision of an urban centre;
- To ensure new development is sensitive to existing adjacent uses, particularly existing employment uses, existing residential neighbourhoods, and open spaces;
- To provide a comprehensive open space system both public and private that is connected to, and integrated with, other existing open spaces and networks;
- To develop the conditions for a highly walkable, pedestrian friendly environment that integrates with other transportation modes;
- To support the City's employment base; and
- To conserve and enhance natural heritage areas.

The land use policies and built form policies that follow are meant to be read in conjunction with one another. They identify more detailed development parameters for built form regarding height, density, massing, and open space in terms of size, use, and character and movement in terms of establishing a clear hierarchy, connectivity, and function of streets.

The land uses may be zoned on a site specific basis in the implementing Zoning Bylaw. The site-specific zoning may identify specific permitted requirements and regulations which may include minimum setback requirements; maximum building heights; separation distances between buildings, minimum landscaping, open space, and buffering requirements; on-site recreational and commercial uses; minimum parking, access, and loading requirements; and other matters deemed necessary by the City of Vaughan.

All development within the land use areas of this Plan are subject to Site Plan Control pursuant to Section 41 of the Planning Act and Section 10.1.2.20 of the VOP 2010. The Land Use Map, Schedule C: Land Use Designations, delineates land use designations for the *Vaughan Mills Centre Secondary Plan*.

3.5 General Land Use Policies

3.5.1

The land use designations on Schedule C: Land Use Designations establish the general patterns of development for the existing and future use of the *Vaughan Mills Centre Secondary Plan*. Policies for these designations are set out in this section.

The land use designations do the following:

- Define the various distinct areas of Vaughan Mills Centre and provide an organizational structure for development towards achieving a sensible and comprehensive Secondary Plan Vision;
- Identify the desired future character and function of the various distinct areas within the Plan, building on existing assets, structure, and land use; and
- Create a framework for future development that serves to enhance and create a vibrant urban centre, while at the same time, creating a structure that accommodates sustainable growth, and encourages investment toward achieving a long term vision.

3.5.2

The Vaughan Mills Centre area is intended to accommodate approximately 4,303 units and 8,778 people east of Highway 400 in order to accommodate a proportion of Vaughan's projected population growth to 2031. A minimum of 35% of new housing units shall be affordable as required by Policy 7.5.1.2 of VOP 2010.

The affordable housing shall comprise a range of housing forms and tenures and include intrinsically affordable units for low and moderate income households.

3.5.3

The Vaughan Mills Centre Secondary Plan area is intended to accommodate approximately 10,907 new jobs at full build out to 2031. Schedule C: Land Use Designations identifies areas in the Vaughan Mills Centre area where employment, office, commercial, and mixed-uses are permitted. Schedule D: Ground Floor Frontage Types identifies areas for street-related commercial or public uses, including retail stores, restaurants, places of entertainment, personal and business services, professional offices, and public institutions that shall be required or permitted on the ground floors of mixed-use buildings. Vaughan Mills Centre is envisioned as a mixed-use and pedestrian-oriented urban environment, therefore single-storey commercial and auto-oriented uses are discouraged.

3.5.4

Notwithstanding any of the policies of this section, previously approved and existing uses in Vaughan Mills Centre shall be permitted, subject to Policy 9.2 of the *VOP 2010*. Nevertheless, for any future redevelopment or expansion, the policies of this Plan shall prevail.

3.5.5

Through the policies of this Plan, the City shall seek to meet an overall density target of 193 people and jobs per hectare by 2031 in Vaughan Mills Centre. Notwithstanding the policies of this Plan, the City may revise the overall density targets without amendment to this Plan, but any revised target should be consistent with goals and objectives of this Plan.

3.5.6

Schedule B: Height and Density establishes the maximum and minimum densities (D) permitted in Vaughan Mills Centre, expressed as floor space index (FSI). With the exception of public safety services and community facilities, no development shall have a density lower or higher than the FSI range as of right. The FSI and developable area requirements of a parcel shall be defined and calculated as per Section 10 of the *VOP 2010*.

3.5.7

In addition to Part B Section 3.5.6 of this Plan, for lands east of Highway 400 the maximum density limits shall be according to the following:

- Where the maximum FSI shown is 4.0, any development in excess of a FSI of 3.5 shall be used for non-residential uses;
- Where the maximum FSI shown is 3.5, any development in excess of a FSI of 3.0 shall be used for non-residential uses; and
- Where the maximum FSI shown is 3.0, any development in excess of a FSI of 2.5 shall be used for non-residential uses.

3.5.8

The City may use the bonusing provisions under Section 37 of the Planning Act to secure a range of community benefits in Vaughan Mills Centre. In addition to the community benefits identified in Policy 10.1.2.9 of Volume 1 of the *VOP 2010* that may qualify for bonusing, the City shall determine the required community benefit at the time of the development application process.



EXAMPLES OF BUILDING TYPOLOGIES APPROPRIATE IN HIGH-RISE MIXED USE AREAS

3.5.9

All development on lands adjacent to the Highway 400 corridor shall be setback a minimum of 14 metres from the highway right-of-way.

3.5.10

Further to Policy 5.2.1.2 of the *VOP 2010*, the development of residential and other sensitive land uses shall have regard for potential noise and vibration impacts from industrial uses. Applications for residential development and other sensitive land uses within 1,000 metres of the MacMillan Rail Yard, and within 300 metres of an industrial use or Highway 400 shall include a noise and vibration study to the satisfaction of the City and in consultation with CN where deemed necessary by the City. The purpose of which would be to identify any measures to mitigate adverse impacts from the source of noise and vibration including as a minimum:

- Noise, vibration, and odour studies that include recommendations for materials and construction methods to be employed to meet the Ministry of the Environment guidelines;
- A provision in the Site Plan Agreement that requires an engineer to certify that the building plans implement the recommendations contained in the above stated mitigation reports before a building permit is issued; and
- The inclusion in the conditions of condominium approval of a condition requiring that the mitigation measures recommended by the required studies be implemented and certified, as well as a condition requiring the inclusion of a noise, vibration, odour warning clause in the applicable condominium documents.

In addition to the above provisions, Policy 9.2.2.10(d) and 9.2.2.11(e) of the *VOP 2010*, new development should refer to the Ministry of the Environment

Land Use Compatibility Guidelines, which provides recommendations to ensure that sensitive land uses are appropriately designed, buffered, and/or separated from each other.

3.5.11

In addition to the policies of this Plan for development along the Jane Street corridor, where future potential rapid transit is identified on Schedule G of this Plan, development adjacent to the rapid transit line and conceptual Transit Hub area shall have regard to the York Region Transit-Oriented Development Guidelines and the Provincial Transit-Supportive Land Use Guidelines, through the development approvals process.

3.5.12

In addition to the uses outlined in Section 9.2.1.9 of the *VOP 2010*, the following land uses shall be permitted in all designations within the *Vaughan Mills Centre Secondary Plan* area:

- Public Safety Services and Community Facilities; and,
- Renewable energy facilities and district energy systems.



EXAMPLES OF BUILDING TYPOLOGIES APPROPRIATE IN HIGH-RISE MIXED USE AREAS

3.6 Vaughan Mills Primary Centre

3.6.1 High-Rise Mixed-Use

3.6.1.1

The High-Rise Mixed-Use designation is intended to provide for the creation of a connected urban block structure adjacent to the main arterial corridors surrounding the Vaughan Mills Mall area including Jane Street and Rutherford Road, in a higher density and mixed-use development form that is pedestrian and transit oriented. The highest densities will be focused along the Jane Street and Rutherford Road intersection and along Jane Street to benefit from existing transit, and future high-order transit facilities anticipated for these areas.

3.6.1.2

In addition to the uses permitted in Section 9.2.2.6 of the *VOP 2010*, the following uses shall be permitted:

- Conference facilities, private education facility, places of entertainment, restaurants, financial institutions, art studios, and public parking.

3.6.1.3

Notwithstanding Policy 9.2.2.6(e) of the *VOP 2010*, areas within 500 metres of an existing or planned subway station may exceed 12,500 square metres of office space, provided that the total permitted FSI and building height, as shown in Schedule B: Height and Density of the Secondary Plan is not exceeded.

3.6.1.4

A mix of low, mid, and high-rise building typologies shall be permitted as identified in Part B, Section 3.8 of this Plan.

3.6.1.5

At-grade uses shall predominantly consist of retail uses including retail stores, restaurants, places of entertainment, personal and business services, professional offices, community facilities, and day care facilities. A minimum of 60% of the building frontage facing an arterial or collector street shall consist of at-grade retail uses as identified in Schedule D: Ground Floor Frontage Types.

3.6.1.6

Notwithstanding Policy 9.2.2.6 of the *VOP 2010*, office uses shall be permitted within the High-Rise Mixed-Use designation at a maximum gross floor area of 12,500 square metres, or the greater of the maximum permitted density for lots identified with a maximum FSI of 3.5 or 4.0.

3.6.1.7

Notwithstanding the foregoing, the lands located at the northwest corner of the future extension of Bass Pro Mills Drive to Jane Street, as shown on Schedule C: Land Use Designations shall be subject to the following policies:

- The lands shall be zoned with the Holding Symbol (H) in accordance with Section 36 of the Planning Act. A by-law to remove the Holding Symbol (H) shall not be enacted until such time as:
 - » Draft Plan of Subdivision 19T-98V10 has been registered and Bass Pro Mills Drive extension to Jane Street at Locke Street has been constructed and dedicated as a public right-of-way;
 - » A Site Plan Agreement for the development of the subject lands has been registered;
 - » The Owner shall have ceased all operations and demolished all buildings and structures; and
 - » The Owner shall have provided a Record



EXAMPLES OF BUILDING TYPOLOGIES APPROPRIATE IN MID-RISE MIXED USE AREAS

of Site Condition, based on the studies of a qualified environmental consultant and the completion of any necessary remediation work, which indicates that the entire site is free of environmental hazard and meets the Ministry of the Environment (MOE) Guidelines for Industrial and Commercial Uses. The record of site condition shall be acknowledged by MOE;

- Notwithstanding the above, a by-law to remove the Holding Symbol (H) from the portion of the lands located at the northwest corner of Jane Street and Bass Pro Mills Drive (opposite Locke Street), as defined in the implementing zoning by-law, may proceed in advance of the removal of the Holding Symbol. The by-law to remove the Holding Symbol (H) for this area shall not be enacted until such time as:
 - » The policies of section 3.6.1.7 above shall have been fulfilled;
 - » The Owner shall have ceased all operations and demolished all buildings and structures within the defined area; and
 - » A Site Plan Agreement or Site Plan Letter of Undertaking, whichever is in effect, has been registered for the lands within the defined area from which the Holding Symbol (H) is to be removed and Vaughan Council has concurrently approved a conceptual plan for the remaining portion of the subject lands which demonstrates that the remaining lands can be developed in a manner which is functional, compatible with adjacent development and visually attractive.

3.6.2 Mid-Rise Mixed-Use

3.6.2.1

The Mid-Rise Mixed-Use designation primarily corresponds to the lands bounded by Jane Street and Highway 400 south of Rutherford Road, and north of Bass Pro Mills Drive, as identified in Schedule C: Land Use Designations in this Plan.

3.6.2.2

In addition to the uses permitted in Section 9.2.2.4 of the *VOP 2010*, the following uses shall be permitted:

- Conference facilities, private education facility, places of entertainment, restaurants, financial institutions, art studios, and public parking.

3.6.2.3

A mix of Mid-Rise Mixed-Use building typologies shall be permitted as identified in Section 3.8 of this Plan.

3.6.3 Community Commercial Mixed-Use

3.6.3.1

The Community Commercial Mixed-Use designation primarily corresponds to the lands adjacent to Rutherford Road, Jane Street, and Bass Pro Mills Drive, as identified in Schedule C: Land Use Designations in this Plan. These areas are intended to provide commercial activity in a variety of building typologies that meets the commercial needs of residents and businesses, and provides jobs within proximity to residential areas.

3.6.3.2

The Community Commercial Mixed-Use designation permits all the uses under 9.2.2.8 of *VOP 2010*.

3.6.3.3



EXAMPLES OF BUILDING TYPOLOGIES APPROPRIATE IN LOW-RISE RESIDENTIAL AREAS AREAS

A mix of low and medium-rise building typologies shall be permitted as identified on Schedule B: Height and Density.

3.6.4 Low-Rise Residential

3.6.4.1

The Low-Rise Residential designation primarily corresponds to the lands internal to high density development blocks fronting on Rutherford Road as identified in Schedule C: Land Use Designations in this Plan. These areas are intended to provide a transitional low-rise built form and frontage condition along a future proposed local street and neighbourhood parks south of Rutherford Road.

3.6.4.2

The Low-Rise Residential designation permits all the uses under 9.2.2.1(c) of the VOP 2010.

3.6.4.3

In addition to the building types permitted under Section 9.2.2.1 of VOP 2010, low-rise building typologies shall be permitted as identified on Schedule B: Height and Density, including:

- Stacked Townhouses and Low-Rise Buildings

3.6.5 Lands within the Vaughan Mills Mall Area

3.6.5.1 Vaughan Mills Mall Area

- The maximum gross floor area related to the enclosed mall within Vaughan Mills Mall Area shall:
 - » Have a maximum commercial floor area (CFA) of 134,340.9 square metres; and
 - » Be permitted to contain a full range of commercial uses including retail, service commercial, entertainment, and restaurant uses subject to the limitations established herein.

- The commercial uses established within the Vaughan Mills Mall Area: Mall District shall be subject to the following polices:
 - » All uses shall be collectively permitted only within a fully enclosed shopping mall, except for limited outside display, storage and sales accessory to a permitted use, outdoor seating areas associated with restaurant uses and uses for the entertainment and recreation of mall patrons, subject to standards set out in the implementing zoning by-law;
 - » A maximum of 10%, not including the food court, of the commercial floor area (C.F.A.) of the mall shall be provided in commercial units having an area of 185 square metres C.F.A. or less;
 - » A minimum of eight (8) commercial units shall be provided which have a minimum commercial floor area of 1,850 square metres which cumulatively have a minimum area of 35% of the commercial floor area of the mall; and,
 - » Department stores and supermarkets shall not be permitted.
- This Plan does not anticipate the change in the form or function of the Vaughan Mills Shopping Centre over the life of this Plan. Any expansion or changes to its current use will be subject to the standard planning approvals process as set out VOP 2010 and will not require amendment to this Plan. However, if the current use, form or function as a shopping centre is anticipated to be redeveloped and changed from its current use to allow residential development, then the future redevelopment of the Vaughan Mills mall will require the approval of a Tertiary Plan by way of an amendment to his Plan. The requirements for the preparation of the Tertiary Plan are set out in Part C, Section 7.3.4 of this Plan.



EXAMPLES OF BUILDING TYPOLOGIES APPROPRIATE IN PRESTIGE OFFICE EMPLOYMENT AREAS

3.7 Vaughan Mills Centre Business District

3.7.1 General

The Vaughan Mills Centre Business District is situated along the Highway 400 corridor (the Western Area of the Vaughan Mills Centre Study Area) and serves as a midtown gateway in the city. The district is intended to function as an employment office district due to high exposure and access to Highway 400. The range and scale of uses are designed to be sensitive to the adjacency and compatibility with the surrounding residential neighbourhoods, and benefit from exposure to the Highway 400 corridor.

The Secondary Plan is designed to create a comprehensively planned and high quality business district with office and other prestige employment uses. This area will serve as one of the gateways in the city, and as such, is intended to reflect a focus towards the reinforcement of a strong sense of community, sustainability, and economic development.

The Secondary Plan for the Vaughan Mills Centre Business District is designed to provide flexibility in responding to the market, while ensuring a significant opportunity for business park employment, and prestige office uses. A focus towards technology, office, services, and other employment uses will be promoted within the District.

The Secondary Plan transportation framework outlined in more detail in Section 4.0 of this document encourages the development of a mobility system which will provide an efficient way for employees to travel between blocks, whether by automobile, transit, walking or cycling, and promote efficient goods movement and future effective and efficient transit service.

In the future, it is intended that the Vaughan Mills Centre

Business District will provide meaningful employment opportunities for residents in a variety of professional and market sectors, supported by a strong public realm and accessory retail amenities primarily focused around serving employment areas.

3.7.2 Prestige Office Employment

3.7.2.1

The Prestige Office Employment designation corresponds to areas located along major arterials, lands adjacent to Highway 400, and at key entrances to the Business District. These areas also act as the “interface” with the larger community, in particular the residential communities to the west. Therefore, their use and form should be of the highest quality and most compatible with the surrounding residential areas. Particular attention should be paid to architectural design, and the animation of Weston Road with active building frontages, high quality public realm, and sustainable site design.

Consistent with Policy 9.2.2.11 of the *VOP 2010*, Prestige Office Employment Areas shall be characterized by high quality buildings in an attractive pedestrian-friendly, connected, and transit-oriented working environment. A variety of lot sizes should be made available in areas designated as Prestige Employment to provide flexibility for attracting and accommodating a wide range of employment uses.

3.7.2.2

The following uses shall be permitted on lands within the Prestige Office Employment designation, subject to a development plan or site plan that illustrates how the policies of this Plan are complied with. Uses permitted in the Prestige Office Employment designation include:

- Office buildings;
- Research and development facilities;



EXAMPLES OF BUILDING TYPOLOGIES APPROPRIATE IN PRESTIGE EMPLOYMENT AREAS

- Commercial and technical schools;
- Hotels and convention centres;
- Ancillary uses;
- Day care centres not located adjacent to the Highway 400 corridor; and
- Accessory retail uses as permitted through Policy 9.2.2.11 (c) of the VOP 2010.

3.7.2.3

Notwithstanding 9.2.2.11 c.iii, the maximum gross floor area for a free standing office building shall not be greater than 12,500 square metres.

3.7.2.4

All uses within the Prestige Office designation shall be wholly enclosed within a building, and no outdoor storage are permitted.

3.7.2.5

A mix of low and medium-rise building typologies shall be permitted as identified on Schedule B: Height and Density.

3.7.3 Prestige Employment

3.7.3.1

The Prestige Employment designation permits all the uses under 9.2.2.11 of the VOP 2010 including the following uses:

- Research and development facilities

3.7.3.2

A mix of low and mid-rise building typologies shall be encouraged as identified on Schedule B: Height and Density.

3.7.4 Employment Commercial Mixed-Use

3.7.4.1

The Employment Commercial Mixed-Use designation includes an existing commercial area at the south-east corner of the Rutherford Road and Weston Road intersection. The commercial format envisioned at this juncture is intended to function as the primary commercial anchor for the Vaughan Mills Centre Business District area. Uses permitted are in accordance with Section 9.2.2.7 in VOP 2010. Surface parking lots shall be placed interior to the block, behind the building, satisfying the requirements of retailers for customers to have an awareness of parking availability and convenient access to retail uses.

3.7.4.2

The Employment Commercial Mixed-Use designation is applicable to lands along Rutherford Road within the Vaughan Mills Centre Business District, as identified on Schedule C: Land Use Designations. This designation is intended to encourage development of a concentration of ancillary uses to serve the surrounding employment areas.

Development within this designation is intended to be designed with a high quality public realm and urban built form. The intent is to contribute to the creation of an urban environment with a strong pedestrian orientation and attractive streetscapes in keeping with the high profile locations of this designation and proximity to existing residential neighbourhoods.

3.7.4.3

The Employment Commercial Mixed-Use designation permits the development of a range of uses including:

- Office uses up to a maximum 12,500 square metres;
- Hotel;



EXAMPLES OF BUILDING TYPOLOGIES APPROPRIATE IN EMPLOYMENT COMMERCIAL MIXED-USE AREAS

- Cultural and Entertainment Uses;
- Retail Uses; provided that no retail unit shall exceed a gross floor area of 3,500 square meters; and
- A minimum of 30% of the total gross floor area of all uses shall consist of uses other than retail uses.

3.8 Built Form

3.8.1 General

The built form policies of this Plan define the parameters for a desired future built environment in Vaughan Mills Centre. The intent is to ensure that new buildings reinforce a coherent, harmonious, and appealing urban environment, as well as contribute to the structure and enhancement of the Open Space and Transportation Frameworks of this Plan. In addition to the land use policies of this Plan, the built form policies provide more detailed direction for development. The policies and guidelines below are illustrated by the figures in Appendix B.

As outlined in Policy 9.2.3 of the VOP 2010, a wide variety of building typologies are permitted within Vaughan Mills Centre. This Secondary Plan builds on the policies of the VOP 2010 while providing additional direction in guiding built form. In addition to the permitted height and density parameters, as indicated on Schedule B: Height and Density, and Schedule D: Ground Floor Frontage Types, the following policies shall apply.

- A wide variety of buildings shall be permitted in Vaughan Mills Centre including Low-rise, Mid-rise, and High-rise buildings, in accordance with Schedule B: Height & Density, including:
 - » Low-rise buildings (2-4 storeys) including townhouses, apartments and office, employment, institutional and mixed-use buildings. Low-Rise buildings shall have a minimum height of 2 storeys, and a maximum of 4 storeys. Low-Rise buildings are appropriate for areas within the Vaughan Mills Primary Centre that do not front onto arterial streets (Jane Street, Rutherford Road, or Bass Pro Mills Drive). Low-rise buildings are generally located internal to the block fronting onto lower order streets, as identified on



PROVIDE TRANSITION IN HEIGHTS TO LOWER BUILDINGS



MAINTAIN A CONSISTENT STREET WALL

Schedule F: Transportation Framework.

- » Mid-rise buildings (generally 6-12 storeys), which may contain a mix of uses and built forms. Mid-rise buildings are permitted throughout Vaughan Mills Centre, and shall have a minimum height of 2 storeys in the employment area, 3 storeys in the areas east of Highway 400.
- » High-rise buildings (up to approximately 25 storeys), as identified on Schedule B: Height and Density.
- The maximum permitted height and density identifies a height and density range for each land use designation. The height in storeys shall not exceed the numbers following the letter H, as shown on Schedule B: Height and Density.
- The built form policies of this Plan define the desired future character and function of the built environment including height and massing, parking and movement, and landscaping in contributing to a pedestrian-oriented environment. The intent is to ensure that new buildings reinforce a coherent, harmonious and appealing urban environment, as well as contribute to the enhancement of the public realm according to the following built form criteria.

3.8.2 Massing and Setbacks

- The siting of buildings, in terms of their location within a property and the orientation of their facades are critical factors in defining comfortable and safe pedestrian environments along streets and public spaces. All building frontages must be oriented toward public streets and other public spaces in order to clearly define the public realm, create a consistent street wall, and to provide a safe and attractive street environment for pedestrians. Schedule D: Ground Floor Frontage Types, outlines the required setbacks for development throughout Vaughan Mills Centre.

- All new buildings along arterial roads (refer to Schedule F: Transportation Network) shall have a minimum height of 10.5 metres.
- The building envelope should allow for a maximum amount of sunlight and minimize wind onto the public realm and surrounding sidewalks through stepping back the building mass along upper floors, demonstrated through a pedestrian level wind study and sun/shadow analysis.
- High-rise buildings shall be designed with a pedestrian-scaled podium between three and six storeys in height and shall provide a minimum 3 metres setback from the podium along all frontages.
- The tower elements of high-rise buildings shall be designed with slender tower floorplates and should be designed to minimize shadow impacts and the loss of views and maintain privacy in appropriately spacing taller building elements. The distance between any portion of the high-rise building above twelve storeys and another tower shall be at least 30 metres.
- The floorplate, measured as the total area contained within the exterior face of a building excluding balconies, for portions of high-rise buildings above the twelfth storey for residential buildings shall generally be no greater than 750 sq.m to minimize shadow and skyview impacts. There are no restrictions on office tower floorplates.

3.8.3 Urban Edge

- Buildings shall be built to a consistent build-to line. Maximum and minimum setbacks and build-to lines shall be guided by Schedule D: Ground Floor Frontage Types and included in the Zoning By-law.
- Buildings should have a minimum 80% of the building frontage built to the setback line, with a maximum of 20% of the street wall permitted



ENCOURAGE AN ACTIVE GROUND FLOOR



PROVIDE FOR CAFE/RETAIL SPILL OVER

to setback an additional distance to provide deeper areas for lobby entrances, cafes, or other architectural elements.

- Buildings in general shall be designed to create mid-block connections and shall be massed and articulated to avoid creating excessively long continuous building facades. Buildings shall generally be not more than 80 metres long.
- Buildings shall be built along a consistent setback line, as identified on Schedule D: Ground Floor Frontage Types.

3.8.4 Ground Floor

- The use and animation of the ground level of buildings define the character and experience at street level. Creating a sense of pedestrianism that draws people along the street through a mix of animated and active uses encourages neighbourhood vitality, promotes walking, and creates porous and permeable buildings on all sides of the block.
- The façades of buildings facing public streets or open spaces should be varied in form and materials. Multiple entrances and active grade related uses area encouraged. Building mass should be consistent along the length of the street. The ground floor of all buildings with commercial and retail uses should be highly transparent with a minimum 70% of this frontage to be glazed and transparent.
- Buildings located on arterial streets, or any retail street as indicated on Schedule D: Ground Floor Frontage Types shall be designed with multiple access points focussed on creating a more animated and active mixed-use edge.
- All residential units located at grade must have a direct entrance from the street and have the characteristics of a front entrance.

- Architectural features and articulation are encouraged for all corner building locations including residential buildings to enhance the visual prominence and identity of the area and to provide gateway moments.
- All corner buildings should provide a double frontage addressing both streets, which include grade related active facades with high-quality architecture.
- Ground floor retail is permitted to front onto a publicly accessible private amenity space at the discretion and satisfaction of the City.
- Public accessible private courts and forecourts will require a permanent easement taken as a condition of development approval.
- Large residential lobby frontages, pick-up and drop-off areas and lay-bys should be located on local streets and/or laneways and generally shall not be located on arterial or collector streets.
- Where residential uses are permitted at grade, the design of the ground floor should allow for adequate transition between the private and public realm. A minimum set back of 3 metres is required beyond the sidewalk zone for awnings, front steps, walkways, or planters. In addition, internal courtyards are encouraged to provide additional transition between the public and private realm.
- Generally, entrances to retail establishments shall be flush with the sidewalk. In order to maintain a strong relationship to the street, the ground floor of buildings occupied by other uses should be raised no higher than 0.5 m above the ground level elevation.
- The floor to floor ceiling height of retail/commercial ground floor units shall be a minimum 4.5 metres.



PROVIDE OUTDOOR AMENITY SPACE THAT IS BARRIER FREE, INTEGRATED WITH THE PUBLIC REALM, AND ACCESSIBLE FROM THE STREET

3.8.5 Building Materials

- Buildings should be designed with high quality materials selected for their performance, durability, and energy efficiency. The use of Exterior Insulation Finish Systems (EIFS), as primary facade cladding, is strongly discouraged.
- Architectural features and materials should be used to emphasize entry areas and other special building areas, and to articulate large expanses of solid blank walls. Primary entrances should be oriented towards streets and emphasized through canopies, awnings, and other architectural elements.
- Buildings located at corners should be designed to emphasize prominence to locations through special design features, building articulation, public art, or open space areas.
- Rooftop mechanical equipment shall be integrated into the overall design and screened from view. Within the Mixed-Use High-Rise and Mixed-Use Low-Rise, and Prestige Office designations, all roof areas are required to incorporate green roofs, solar capture equipment and/or cool roof materials. To reduce the urban heat island effect, Mid-Rise buildings and High-Rise podiums particularly, when neighbouring buildings are high-rise, are strongly encouraged to incorporate green roofs incorporating amenity open space, and other features to enhance the views of those overlooking these spaces through incorporating amenity open space, and other features.

3.8.6 Landscaping and Private Amenity Space

- All development shall incorporate outdoor amenity space. In general, for all land use designations all portions of a lot not occupied by a building or structure or used for off-street parking or loading must be landscaped and maintained. Private amenity spaces associated with new development shall incorporate publicly accessible open space as part of the development project through mid-block connections, plazas, or pocket parks in order to provide connectivity between the private and public realms. For development located around the identified Transit Hub (as identified on Schedule G: Transit Network), publicly accessible pedestrian areas and connections shall be required and demonstrated through the development approval process to the satisfaction of the City.
- For any street or private amenity area, spill-over activities such as courtyards, forecourts, and other intimate spaces should be accessible to the public and animated with at grade uses.
- Landscaping and planting should be grouped to frame building elevations, add a visual interest to building facades, and accentuate building entrances and screen building services.
- Individual courtyards should be provided for at-grade residential units where appropriate to provide outdoor amenity space and enhance urban design quality of the streetscape.



FRONT OUTDOOR AMENITY SPACE/OPEN SPACE AREAS WITH ACTIVE USES



SCREEN SURFACE PARKING AREAS WITH LANDSCAPING

3.9 Parking and Servicing Facilities

3.9.1 General

Parking and servicing are necessary aspects of development, and should be directly linked to the areas where they are most effective and reduce impacts on the public realm. The minimum and maximum parking requirements for each land use designation will be set out in the implementing By-law. The following general policies apply to parking and servicing facilities:

- In general, all surface parking areas and servicing should be located interior to the block, and not adjacent to, or visible from the street or open space, except for the existing parking areas associated with the existing Vaughan Mills Mall.
- A significant amount of surface parking exists to serve the Vaughan Mills Mall site. Ultimately, these surface parking lots will become prime opportunities for intensification through the future development of structured parking and other uses. In the interim, existing surface parking lots should be enhanced to minimize their impact on the public realm and provide a more comfortable pedestrian environment.
- Wherever possible, parking and servicing for all development should be placed at the rear of buildings, and accessed by a rear or side yard lane.
- Where surface parking or service areas are exposed, a generous separation from the public realm should be provided, and designed to include enhanced landscaping along the streetscape, such as an additional row of trees, or buffered with landscaping or other mitigating design measures. Pedestrian areas and paths should be designed with high quality landscaping features and provided with adequate lighting for pedestrian safety and wayfinding. Off-street surface parking shall not be located between the front of the building and the street.
- Parking for residential and mixed-use development, including visitor parking, generally shall be located underground. Parking for public and commercial uses, including office and retail uses may be provided in above-grade or below-grade structures or facilities in the interior of development blocks.
- In general, all parking related to mixed-use high-rise and mid-rise buildings shall be provided within the building, or within a below grade parking facility. Any proposed surface parking areas related to high-rise or mid-rise buildings are seen as temporary, and therefore, all high-to-mid-rise buildings are required to accommodate a minimum amount of parking within the building structure. A phasing plan which shows how the surface parking is to be phased-out over time shall be provided.
- Shared private driveways or public lanes will provide vehicular and servicing access to development blocks. Shared private driveways or public lanes will be coordinated within the blocks to give access to multiple buildings. Shared private driveways or public lanes will be designed to meet technical standards of the City and enhance pedestrian safety through providing adequate lighting, connecting with a street at both ends, and providing sufficient landscaping to buffer the lane from outdoor amenity areas.
- All surface parking facilities shall be landscaped and provide for safe pedestrian circulation and movement. Trees and shrubs shall be planted throughout the parking area to intercept precipitation, reduce surface heating, enhance appearance and protect pedestrians from the elements. The use of native plants is preferred. Distinctive pavement and/or markings should be used to indicate pedestrian pathways and crossings. Further, it is encouraged that grading and landscaping materials for surface parking



DESIGN STRUCTURED PARKING TO BE INTEGRATED INTO THE DEVELOPMENT



lots be designed as part of the site's stormwater management system.

- The amount of landscaping should be proportionate to the overall parking lot size but one tree for every eight parking spaces is recommended.
- Pedestrian-scaled downcast lighting should be provided along pathways in order to enhance visibility and security, in keeping with Crime Prevention Through Environmental Design (CPTED) principles while mitigating light pollution.

3.9.2 Structured Parking

As intensification occurs within the Vaughan Mills Centre, a shortage in the supply of parking spaces may occur. To address this potential shortage, the following recommendations provide guidance for the introduction of structured parking as well as potential future locations for consideration.

- Structured parking should be developed with active uses on buildings facing the public realm to provide attractive facades, animate the streetscape, and enhance pedestrian safety;
- Vehicular access to the parking structure should be located at the rear or side of the building away from the primary frontage, where possible; and
- Pedestrian entrances for the parking structure should be located adjacent to the main building entrances, public streets, or other highly visible locations.

PART B
Section...

4.0

>> The Transportation Framework



4.0 // Introduction

The Transportation Framework provides a workable balance between vehicular traffic, cyclists, pedestrians, and sets the stage for future road and public transit opportunities. The Transportation Framework establishes a hierarchy of streets that creates a clear circulation pattern and street network for the Vaughan Mills Centre area. This section provides a description of the proposed transportation network and general design standards for typical street cross-sections. The street cross-sections demonstrate that right-of-ways are about much more than just vehicular movement, and have the potential to be beautiful, comfortable, safe and multi-functional urban places.

4.1 The Transportation Framework

Transportation Targets

4.1.1

The planning for Vaughan Mills Centre responds proactively to existing transportation and transit service in and around Vaughan Mills Centre. The Secondary Plan supports the City's and Region's intention for higher-order rapid transit along Jane Street in the form of VIVA Bus Rapid Transit, and the future potential for LRT, and/or the extension of the Spadina Subway to Vaughan Mills Centre, as well as enhanced arterial roadways through increased travel lanes, HOV lanes, transit priority services, and active transportation throughout. The land use and development framework articulates an opportunity for enhanced transit services at this location. The transportation and development policies, and recommendations in this Plan have been developed in coordination with a background report (*Transportation Assessment: Vaughan Mills Centre Secondary Plan*, MMM Group, February 2014).

The recommendations in the Transportation Assessment and this Plan supports the development of future higher-order transit, increased cycling, walking and carpooling as necessary strategies in order to increase non-auto oriented travel for Vaughan Mills Centre. Transit, transportation and infrastructure improvements are also recommended for the Vaughan Mills Centre area through this Plan. The following transportation targets are recommended given the proposed transportation improvements for the Vaughan Mills Centre area:

- 25% non auto modal split -2021 Plan Horizon
- 40% non auto modal split -2021-2031 Plan Horizon

These modal split targets are based on required improvements to transit, active transportation, and transportation demand management strategies proposed in this Plan including:

- Transit priority enhancements along Jane Street, Weston Road, and Rutherford Road including HOV lanes, cycling lanes, and transit priority lanes;
- Increased cycling facilities throughout the Plan area;
- Opportunities for additional car pooling at the Rutherford GO Station;
- Additional transportation demand management strategies; and
- Implementation of higher order rapid transit along Jane Street.

In addition to the general transportation improvements listed above, Part C, Section 7.3 and 7.4 of this Plan, identifies specific transportation improvements recommended in order to support the development thresholds proposed in this Plan.

4.1.2

The Transportation Framework for the Vaughan Mills Centre Secondary Plan area has been developed to provide and encourage an efficient and pedestrian-oriented movement system. The Transportation Framework proposes a variety of transportation modes to support the growth of Vaughan Mills Centre.

The Transportation Framework is based on a combination of transportation analysis, planning, and urban design focused on realizing the objectives of the Plan.

The following section describes the recommended character, function, and hierarchy of proposed and existing streets within Vaughan Mills Centre. The Transportation Network and related policies of this Plan have been developed to support the anticipated growth and facilitate the establishment of a mixed-use centre, increase connectivity, and reduce impacts from heavy traffic in the area to enhance the quality of the urban environment.

4.1.3

The intent of the Secondary Plan is to:

- Integrate transportation and land use decision making to support the development of Vaughan Mills Centre as a compact, transit-oriented, and complete community;
- Enhance the connectivity of the transportation network for both motorized and other active modes of transportation;
- Support the development of a future transit hub around the intersection of Jane Street and Rutherford Road in promoting higher order rapid transit and the potential subway extension, and encourage transit-oriented development policies to guide development around the a potential future Transit Hub, as identified on Schedule G: Transit Network;
- Utilize transportation demand management to influence travel patterns and reduce auto dependency; and
- Encourage active transportation by providing safe and barrier-free access, human-scaled built environments, pedestrian-oriented streetscapes and amenities, and a network of connected destinations.

4.1.4

Development in Vaughan Mills Centre shall incorporate an attractive public realm, part of which will include public and private streets, and their design and connectivity. This shall include, but not limited to, generous sidewalks, street furniture, and landscaping, and shall be designed for universal accessibility.

4.2 Future Street Network

4.2.1

The future streets hierarchy supports a vision that promotes a shift from the dependency of vehicular use to walking, cycling, and transit. The Vision recommends the type of development that supports this multi-modal shift to provide more mobility options for a diverse range of users and demographics. Other initiatives such as the *City's Active Together Master Plan* and *The City of Vaughan Transportation Master Plan*, *The York Region Transportation Master Plan*, also seek to establish a modal shift in order to create more opportunities for non auto-oriented travel, and enhanced pedestrian environment, and encourage healthier lifestyles.

The design of streets is intended to enhance the urban experience and nurture a culture of walking. Streets are the primary components of the public realm and supplement the open space network by providing pedestrian and green amenities. Streets also function as access routes and maintain a fine grain of permeability. Streetscapes strengthen the area character and identities, and reinforce visual and physical connections across Vaughan Mills Centre and to adjacent neighbourhoods.

The use of space within the public right of way should reflect the importance placed on its various users and modes of movement. The *Vaughan Mills Centre Secondary Plan* seeks to shift the culture of predominant vehicle use towards more non auto-oriented travel - active transportation, transit, walking and cycling. As a consequence, space given to sidewalks and bike lanes must be generous and consistent throughout, such that they create an ideal environment for active transportation, validate these users, and signal the importance of these forms of movement to drivers.

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EXAMPLE OF DESIGN IMPROVEMENTS TO THE STREETSCAPE OF A TYPICAL ARTERIAL STREET TO MAKE IT MORE PEDESTRIAN, TRANSIT, AND CYCLING FRIENDLY

4.2.2

Streetscape elements and materials should be of high quality, inclusive of paving, lighting, bollards, benches, waste receptacles, utility boxes, paving materials, tree grates, vending boxes, signage, wayfinding, and transit shelters, among others. These elements should be coordinated along streets to create a well-designed, cohesive and legible public realm consistent throughout Vaughan Mills Centre. Streetscape elements should be used sparingly, and consolidated wherever possible, in order to reduce clutter and create a clean, legible streetscape environment (see Part B, Section 4.6).

4.2.3

A network of public streets for pedestrians, cyclists, transit, cars and trucks is established throughout the Vaughan Mills Centre Area to create a coherent, interconnected, and viable framework for future incremental development. This street network is identified on Schedule F: Transportation Network, and outlines a hierarchy of streets. Minor modifications to the location and alignment of planned streets are permitted without amendment to this plan, provided the intersections in Schedule F that include a major or minor collector street or arterial street are maintained in their general location, to the satisfaction of the City and York Region.

4.2.4

The hierarchy of streets identified in Schedule F includes the following classifications and suggested right-of-way widths:

- Major Collector Streets (28-30m)
- Minor Collector Streets (23-26m)
- Local Streets (22 m)
- Public Lanes (min. 8m)

- Mews Streets (15m-17m)

The diagrams in Appendix A: Street Cross-Sections and the descriptions on the following pages represent prototypical conceptual design qualities for a selection of streetscape types. The following recommended right-of-way cross-sections are based on a more urban format similar to other recommended street cross-sections in the city, such as those used within the Vaughan Metropolitan Centre. The following provides recommendations for the allocation of space within the right-of-way, and the look and feel of each typology.

4.2.3 Regional Arterial Streets

4.2.3.1 General Guidelines

The surrounding arterial streets define the three major edges/transition areas within Vaughan Mills Centre. Currently dominated by fast moving traffic, as well as suburban character buildings and parking lots. In the future, Regional roads, including Jane Street, Rutherford Road and Weston Road, will be designed by the Region of York in consultation with the City of Vaughan. Right-of-way designs for these roadways will promote all modes of travel including walking, cycling and transit.

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EXAMPLE OF DESIGN IMPROVEMENTS TO THE STREETScape OF A TYPICAL COLLECTOR STREET TO MAKE IT MORE PEDESTRIAN, TRANSIT, AND CYCLING FRIENDLY

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4.2.4 Collector Streets

4.2.4.1 General Guidelines

Collector streets are designed to collect and distribute traffic and to provide a supportive role to Arterial Streets. Collector Streets may be served by local transit and should support active ground floor uses by allowing on-street parking and a generous public boulevard. This Plan proposes Collector streets have a design right-of-way of 23-30 metres, include 2-4 travel lanes, and provide access to abutting properties.

Collector streets facilitate the majority of vehicular and pedestrian circulation and movement, and also create a less intense development frontage, providing for a more pedestrian-oriented and walkable streetscape environment. These streets provide access to Vaughan Mills Centre from surrounding arterials and should be designed to accommodate on-street parking and future bicycle and transit circulation. Collector streets should also function to support a mix of uses including commercial/retail, residential, community facilities, civic buildings, and open space. In general, all new and existing collector streets should have continuous street tree planting to provide an attractive and comfortable pedestrian environment, and to contribute to the overall tree canopy. Features of these streets should include:

- Broad sidewalks with street trees on each side of the street;
- A 3-5 metre setback is proposed for new buildings;
- A palette of paving, lighting, banners, and furnishing that is distinctive to Vaughan Mills Centre;
- Permanent on-street parking and cycling lanes. This helps buffer pedestrians from traffic and enhances street level activity; and
- Left turn lanes should be minimized where feasible.

4.2.4.2 Bass Pro Mills Drive - Specific Guidelines

An important new recommended major collector street proposed in this Plan is the Bass Pro Mills Drive extension to Weston Road. Bass Pro Mills Drive is designated as a major collector street in the *VOP 2010*, and in this Plan. This street is envisioned to become a major “green street” and grand gesture, providing an important east-west connection uniting neighbourhoods from Weston Road to Jane Street. It will also provide a new street frontage needed to define development parcels within the Vaughan Mills Centre Business District. At such a point when the Bass Pro Mills Drive interchange across Highway 400 requires replacement or substantial improvements, the interchange should be designed to accommodate active forms of transportation.

A proposed street cross-section for Bass Pro Mills Drive includes an expanded public boulevard along the north edge of the street for enhanced landscaping and separation from the employment lands to the south. The boulevard is proposed to accommodate a multi-use path for non-vehicular modes of transportation (walking, cycling, wheelchair, etc.), a double row of trees, and sidewalks for enhanced pedestrian movement. The proposed multi-use path is planned to extend west over Highway 400 along Bass Pro Mills to connect with a proposed trail network on the western side of the Plan Area.

4.2.4.3 The Bass Pro Mills Multi-Use Path

This Plan recommends the creation of the Bass Pro Mills Drive Multi-Use Path, which is proposed as an enhanced boulevard that extends the length of the north side of Bass Pro Mills Drive from the proposed Jane Street intersection to Weston Road (See Appendix A: Street Cross-Sections, Section D). The Multi-Use path has three primary functions: a) to provide a green, attractive interface to create a more pedestrian friendly and urban environment; b) to create an attractive and usable green buffer for adjacent development planned

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EXAMPLE OF DESIGN IMPROVEMENTS TO THE STREETScape OF A TYPICAL LOCAL STREET TO MAKE IT MORE PEDESTRIAN, AND CYCLING FRIENDLY

to front the roadway; and c) to create a multi-use trail that links the east and west areas of Vaughan Mills Centre.

The Multi-use path is intended to incorporate the following design considerations:

- A treed urban multi-use trail with a double row of street trees on either side of the pedestrian sidewalk, with a generous central pathway that accommodates pedestrian, bicycle, and wheelchair movement in both directions;
- The pathway should have a paved surface with directional and lane markings;
- The character of the landscape should be treed but manicured (mowed grass) to provide high visibility and a feeling of comfort and safety for the path; and
- Pedestrian-scaled lighting in conjunction with street lighting, wayfinding signage, and seating should be provided as part of the streetscape furnishing.

4.2.4.4 The Ring Road - Specific Guidelines

The existing internal private ring road in the Vaughan Mills Mall Area is envisioned in this Plan to transition to a public mixed-use commercial street in the future (as shown on Schedule F: Transportation Network). Although not anticipated during the life of Vaughan Mills Mall, the timing for its transition will be determined through the Tertiary Plan process as described in this Plan.

This street provides the internal circulation and access through Vaughan Mills Centre. The design vision for this street is to transition from its role as a private mall serving ring road, to be a primary “high street” in Vaughan Mills Centre, and thus should be designed to provide an improved pedestrian environment through streetscape enhancements. The proposed right-of-way for this street in this Plan provides an opportunity to create an attractive urban and green pedestrian

environment and multi-modal route, supporting future mixed-use addresses.

4.2.5.5

The future evolution of the ring road will be addressed through the Tertiary Plan for the Vaughan Mills Mall Area or at a time of a municipal comprehensive review.

4.2.5.6 Other Collector Streets

The other collector streets within Vaughan Mills Centre will provide vehicular and enhanced pedestrian movement with a typical ROW of 23 or 26 metres for streets without and with dedicated cycling lanes, respectively.

4.2.5 Local Streets

4.2.5.1

A number of local streets are proposed for Vaughan Mills Centre in both the east-west and north-south directions. The proposed new local streets will be required to complete a permeable street and block network and ensure a functional overall transportation network.

Local streets are designed to provide access to abutting properties at low operating speeds. In this Plan, local streets have a designed right-of-way width of 22 metres unless otherwise approved by the City, and generally include two travel lanes. These streets function as neighbourhood streets, have narrower roadways, with on-street parking and connected sidewalks, discouraging heavy traffic flow and higher speeds. Local streets are meant to be pedestrian oriented in character, and provide an environment for pedestrians and cyclists as a priority. Local streets are envisioned to support a retail vibrancy, and serve to minimize driving distances within Vaughan Mills Centre. One future proposed local street within Vaughan Mills Centre is an east-west street



LOCAL STREET WITH ON-STREET PARKING AND HIGH QUALITY LANDSCAPING



TYPICAL LANE WITH ACTIVE AT-GRADE USES AND SIDEWALKS

that runs parallel with Rutherford Road, providing for a new active frontage and compact block structure for the future redevelopment of these commercial blocks, currently occupied by large surface parking areas.

4.2.5.2

Features of local streets should include:

- Sidewalks with a single row of street trees on each side of the street;
- A palette of paving, lighting, and furnishing that is distinctive to Vaughan Mills Centre;
- Crosswalks at all intersections, including decorative crosswalks in pedestrian priority areas such as around parks, community facilities, and pedestrian streets. Permanent on-street parking on one or both sides of the street. This helps buffer pedestrians from traffic, as well as creates enhanced street level activity; and

4.2.6 Lanes and Mews Streets

4.2.6.1

Lanes and mews streets are utilized to provide direct driveway ingress and egress where access from a street is inappropriate. A mews street also provides the most pedestrian-focused street type in the streets hierarchy. The design requirements for these streets should be of a high standard in terms of contributing to a high quality public realm environment. At a minimum, laneway design is required to address issues such as pavement width and the relationship to parking and service areas, but must also provide a safe environment for pedestrian circulation, and connections between development blocks.

Laneways should be located and designed to provide direct pedestrian access, connect parking facilities and services, and they should provide continuous pedestrian

connections to adjacent streets or open spaces. In general, laneways and mews streets contribute to the overall street network in providing a finer grain of connectivity as they provide linkages throughout the area and should be designed to be pedestrian friendly, accessible, visible, and safe for all users. Lanes are typically 8 metres, and mews streets have a designed right-of-way width of 15-17 metres.

4.2.7 New Streets and Connections

4.2.7.1

All streets providing access to, and circulation within the Vaughan Mills Centre Secondary Plan area shall be developed to reflect a block system that provides permeability and improved access and traffic movement. New streets shall be landscaped in a manner which is attractive, provides amenity, facilitates pedestrian and cycling movement, and provides on-street parking where indicated. Streets within the Secondary Plan Area shall be generally in accordance with proposed street cross-sections identified in Appendix A: Street Cross-Sections. Final turning radius and intersection requirements will be determined during the development application process. Any additional streets not already identified on this Plan will be subject to the approval and satisfaction of the City, without amendment to this Plan.

4.2.7.2

New public streets as identified in Schedule F: Transportation Network, or any other public street approved by the City, shall be identified in all approved plans within Vaughan Mills Centre and shall be conveyed to the municipality as a condition of approval of draft plans of subdivision and site plan applications, at no cost to the City. In addition, new streets proposed in the Vaughan Mills Mall Area of the Vaughan Mills Centre Secondary Plan will be subject to further review through

a Tertiary Plan at time when the area redevelops. In addition, Council shall be satisfied, in consultation with the Region of York and the Ministry of Transportation, that prior to development proceeding, satisfactory arrangements are in place to ensure the completion of the following road improvements. The nature and timing of these road improvements may be modified with the consent of the affected road authorities, and the City, without amendment to this plan:

4.2.7.3

Proposed new street connections and road improvements include:

1. East of Highway 400

- A major collector road connecting the Bass Pro Mills interchange with Jane Street opposite Locke Street. Intersection improvements, including turning lanes and traffic signals, will be required at this intersection.
- An east-west connection from Jane Street to the internal ring road, north of the proposed intersection of Bass Pro Mills Drive and Jane Street. Intersection improvements, including turning lanes and traffic signals, will be required at this intersection.
- The extension of Caldari Road north from Riverrock Gate to Rutherford Road.
- A new north-south local street connection between Bass Pro Mills Drive and the ring road west of Romina Drive.
- A new north-south and east-west internal local street network within the development block between Edgeley Boulevard and Fishermens Way.
- A new local street parallel to Rutherford Road to provide internal circulation for the existing development blocks adjacent to Rutherford Road. This will provide a more compact block structure for

future redevelopment, and enhanced pedestrian and vehicular circulation.

2. Streets proposed for the Vaughan Mills Mall Area

- The conversion of the portion of the ring road, identified on Schedule F: Transportation Network, connecting from Fishermens Way east to the intersection at Sweetriver Boulevard, to a local public street.
- The conversion of the portion of the ring road, identified on Schedule F: Transportation Network, connecting from Fishermens Way at Bass Pro Mills Drive to Sweetriver Boulevard, to a public collector street.
- A future collector street connecting Edgeley Boulevard to Rutherford Road at the existing Sweetriver Boulevard intersection, and a future collector street connecting Romina Drive to Rutherford Road at the existing Julliard Drive intersection.

These proposed future public street connections through the existing Vaughan Mills Mall property, are not anticipated during the life of the Mall, however, should the mall redevelop at some point in the future, then the extension of Edgeley Boulevard and Romina Drive to Rutherford Road, as public streets, and the transition of the ring road to a public right-of-way, amongst other road network improvements, will be examined through the Tertiary Plan process. In the interim, the City will secure public and transit access (if required) to the Mall's internal circulation system to allow traffic to flow from surrounding roads.

3. West of Highway 400 (Vaughan Mills Centre Business District)

- A revised ramp entrance to the existing partial interchange at Bass Pro Mills Drive via a new intersection at the proposed east-west collector

road and the proposed north-south collector parallel to Highway 400. This will provide south bound access for traffic originating on both the east and west side of Highway 400, and help to distribute southbound traffic away from boundary roads.

- The extension of Bass Pro Mills Drive to Weston Road. This roadway extension will provide an important connection between lands west and east of Highway 400 and will generally help to distribute east-west traffic in the area. Existing and future highway crossings should be pedestrian and bicycle friendly. The proposed Bass Pro Mills extension to Weston Road will help to mitigate through-traffic along Weston Road and Rutherford Road. Intersection improvements, including turning lanes and traffic signals, will be required at this intersection.

The proposed Bass Pro Mills Drive connections with Jane Street and Weston Road will also help to divert traffic from Rutherford and thus improve the level of service at the Weston Road/Rutherford Road intersection.

- A second connection to Weston Road from the internal street grid north of the proposed Weston Road/Bass Pro Mills Drive intersection is proposed.
- A new internal north-south collector street between the proposed Bass Pro Mills extension with Rutherford Road opposite the Vellore Woods Boulevard/Rutherford Road intersection.
- New internal north-south collector streets are proposed with a new connection at Rutherford Road parallel to Weston Road. Consideration will be given to connecting these streets with the existing Westcreek Drive and Creditview Road south of the Study Area. This internal street network will help to keep traffic internal to development blocks, and divert traffic away from Weston Road.

The long-term plan for these streets, additional

transportation improvements, and strategies beyond the Secondary Plan boundary will need to be planned and implemented over time. Further comprehensive transportation analysis will be required through the Tertiary Plan process for the Vaughan Mills Mall Area as identified on Schedule A.

4. Enhanced Connections across Highway 400

Connecting the areas east and west of Highway 400 for sustainable travel modes is an important goal, which is integral to moving this area beyond its current pattern of auto dominance. Pedestrian and bike facilities should be enhanced on the Rutherford Road and Bass Pro Mills Drive crossings as opportunities and/or funding permit. Cantilevering a wider pedestrian/cycling path is possible on both existing bridges crossing Highway 400. This should be completed on the north side of Bass Pro Mills Drive to continue the proposed multi-use path west to Weston Road. On Rutherford Road, given the presence of the Highway 400 ramps, a wider sidewalk can be created by cantilevering out from the bridge. Alternatively, when and if the bridge is reconstructed in future, a wider sidewalk can be built.

Finally, the potential for a new pedestrian bridge is a long-term option for enhanced connectivity mid-way between Rutherford Road and Bass Pro Mills Drive, as shown on Schedule H: Active Transportation Network.

4.2.7.4 Private Lanes

In addition to the public streets identified in Schedule: F: Transportation Network, private laneways and/ or private streets may be required to service development within a block. The need for laneways and private streets and their location, function, and character shall be determined during the development application process with the City.

Private lanes shall be designed according to the following design considerations:

- Lanes and service roads are utilized to provide direct driveway access where access from a roadway is inappropriate. The design requirements for these streets should be of a high standard in terms of contributing to a quality public realm environment. At a minimum, laneway design is required to address issues such as pavement width and the relationship to parking and service areas, but must also provide a safe environment for other uses such as pedestrian circulation and linkages;
- Laneways should be located at the rear of buildings only as means of accessing and connecting to parking facilities and services;
- Laneways should provide a continuous pedestrian connection to adjacent streets or open spaces; and
- In a commercial context, laneways and service roads should be organized to connect surface parking lots, and link to local roads to the satisfaction of the City.

4.3 Crosswalks

Crosswalks are delineated areas of the street that indicate where pedestrians are expected to cross and alert drivers to that possibility. In certain instances, crosswalks may have patterns, or be constructed from materials that further increase their visibility and add character to a particular area or neighbourhood.

Crosswalks serve two functions: the clear demarcation of a safe route for a pedestrian to cross; and as a traffic calming measure. Frequent crosswalks will help promote slower traffic speeds and cautious driving. All intersections in Vaughan Mills Centre should have crosswalks, with the following design objectives:

- When streets are renewed, surfaces such as stamped coloured asphalt could be incorporated as the new minimum crosswalk standard.
- Materials will need to be explored that are tolerant of snow plow equipment and winter weather

conditions;

- Crosswalks at special locations should incorporate higher quality treatments. These locations could include:
 - » Primary gateway connections (internal ring road intersections), which should have a unique treatment and wider crosswalk zones;
 - » Around proposed parks and at mid-block pedestrian connection locations; and
 - » At all intersections near the proposed Transit Hub area.
- Crosswalks should provide smoothly graded transitions including depressed curbs.

4.4 Transportation Demand Management

4.4.1

Transportation Demand Management (TDM) refers to a wide range of policies, programs, services, and products that influence how, why, when, and where people travel as a means of making travel more sustainable. With Vaughan Mills Centre, TDM should be used to make more efficient use of the transportation system, such as shifting travel from peak to off-peak periods, shifting from automobile to alternative means of transportation, and shifting from dispersed to closer destinations. It can also be used to alleviate seasonal congestion. The City recognizes the role of Transportation Demand Management in promoting more efficient use of transportation infrastructure, making the use of private vehicles more sustainable, and encouraging active transportation and transit. The existing Transportation Management Association should be enhanced to lead this initiative with the City as the area redevelops, seeking opportunities to continue to move towards a greater degree of sustainability in mobility.



EXAMPLE OF TRANSITION OF MATERIALS FOR CROSSWALKS AND PEDESTRIAN PATHWAYS



4.4.2

Pursuant to Policy 4.3.3.8 of the *VOP 2010*, the City shall require the preparation of a Transportation Demand Management Program for all site plan and draft plan of subdivision applications for office uses greater than 2,000 square metres or residential apartment or mixed-use buildings with greater than 50 residential units, to encourage the use of Transportation Demand Management strategies. The Transportation Demand Management Program should consider the policies identified in Section 4.3.3 of *VOP 2010* which promote more efficient use of existing road facilities, encourage car-pooling and car-sharing programs, promote transit use, cycling, and other approaches for reducing parking demand and the use of single-occupancy vehicle travel.

4.4.3

The City may permit reduced parking requirements for developments that demonstrate through their Transportation Demand Management Program and transportation impact and operations studies that a reduction in the parking requirement is appropriate. A reduction in parking may also be considered where mixed-use development is permitted and where there are higher development densities and good accessibility to rapid transit. Shared parking opportunities should be explicitly considered to minimize the supply of parking. Bicycle parking is encouraged in mixed-use buildings, residential apartment buildings, institutions and office buildings. Major office developments shall be encouraged to include change rooms, showers and lockers for commuter cyclists. Further to Policy 4.2.3.12 of the *VOP 2010*, the City shall encourage the coordination of central bicycle parking facilities for developments in the Vaughan Mills Centre Secondary Plan Area, which may include supporting amenities such as showers and changing facilities.

4.5 Parking and Loading

4.5.1

Further to Policy 4.3.2.2 of the *VOP 2010* and guided by the City Parking Standards, the City shall require as a condition of development that adequate parking and loading facilities be provided. Such parking may include on-street parking or the use of municipal parking facilities.

4.5.2

Further to Policy 4.3.2.3 of the *VOP 2010* the City may at its discretion, consider adopting a cash-in-lieu-of-parking by-law for the Vaughan Mills Centre area that would permit development applicants proposing office or retail uses to pay a fee in lieu of providing parking spaces as required by City policy. The funds collected should be dedicated to the creation of parking within the Secondary Plan area.

4.5.3

At the discretion of the City, surface parking lots shall be designed, in keeping with Part B, Section 3.9 of this Plan, and to reduce their visual and physical impact by:

- Locating parking lots in the interior of the lot;
- Screening the parking lot from the street and from adjacent development areas through the use of deep setbacks, low fences, walls, architectural elements, landscaping and/or other appropriate screening treatments. These features must contribute to the visual continuity and appeal of the public realm, ensuring that safety and security measures are maintained;
- Reducing the prominence of parking areas through the use of landscaped islands and pedestrian walkways; and



BOULEVARD WITH A CLEARLY IDENTIFIED PLANTING ZONE, PEDESTRIAN ZONE, DEDICATED CYCLING, AND TRAVEL LANES



- Providing joint access to parking lots, via a service lane, on adjoining properties, where feasible.

4.5.4

On-street parking is encouraged within the Vaughan Mills Centre area, especially within commercial areas, as it provides a safety buffer for pedestrian movement, and increases the opportunity to establish a healthy commercial presence.

4.5.5

Internal parking and servicing access to buildings should be discouraged along the main street frontages. Access should be provided from the side or rear of buildings through a public or private lane.

4.6 Right-of-Way Design

4.6.1 General

Further to Part B, Section 4.2 and the street cross-sections found in Appendix A of this Plan, this section provides guidance and recommendations for structuring and organizing elements within the right-of-way. The Vaughan Mills Centre Transportation Network, proposed Street Cross-Sections, and Open Space and Active Transportation Plan in this Plan provide a guide for the design and improvement of streets in Vaughan Mills Centre.

The street cross-sections found in Appendix A, which illustrate proposed streetscape conditions for the different street types illustrate the recommended placement of streetscape elements addressed in the following policies. Generally, all streets shall be built with a public boulevard on both sides that includes street trees, walking zones, landscaping, street furniture, and lighting.

4.6.2 The Public Boulevard

- The Public Boulevard should be urban in character with hard surfaced paving treatments to accommodate the movement of people, and provide for a variety of streetscape amenities;
- Sidewalks should be located on both sides of the street, and be universally accessible with curb cuts at the intersections and at any signalized mid-street crossings;
- Street trees should be planted in a below grade trench and not in planters, using sustainable methods to encourage longevity and viability;
- Street trees should be placed at a rhythm of 7-10 metres in spacing to create a continuous tree canopy;
- The burial of overhead utilities should be considered to allow for the healthy growth of street trees. Street tree locations should be coordinated with utilities to minimize root pruning during utility maintenance and to ensure optimum tree growth; and
- To reduce the perceived width of the street, parallel on-street parking spaces should be grouped within parking bump-outs (maximum 4 in a row) to provide additional public realm, tree planting, and furnishing space.

4.6.3 The Walking Zone

The pedestrian Walking Zone is the unobstructed area of the boulevard between the edge of the public right-of-way and the Planting and Furnishing Zone. The defined area must remain clear for the safe and comfortable movement of pedestrians. The Walking Zone should be a minimum of 2 metres wide. The Walking Zone shall be extended to the curb at all intersections and designated street crossing locations.



UNOBSTRUCTED PEDESTRIAN WALKING AREA



INTEGRATED LANDSCAPING AND RAINWATER CAPTURE WITHIN THE BOULEVARD

The design of the boulevard should consider special paving that clearly delineates the Walking Zone within the boulevard.

4.6.4 The Planting and Furnishing Zone

The Planting and Furnishing Zone plays an important role within the street cross-section. It functions as a physical buffer between the pedestrian Walking Zone and vehicular traffic, and provides a means of organizing street furnishings, street tree planting and landscaping, and maintenance.

Street furnishings refer to all fixtures, furniture, and amenities that are added to a streetscape to make it a comfortable, safe, and navigable environment that supports pedestrian and transit use. Street furnishings include, but are not limited to, seating, light standards, parking metres, bicycle racks, newspaper boxes, waste receptacles, transit shelters, and mail boxes.

- The Planting and Furnishing Zone should be a minimum 2.5m area adjacent to the curb edge. All street furniture located within the furnishing and planting zone within the boulevard shall not impede travel within the adjacent pedestrian walking zone.

4.6.5 Cycling

Places that thrive as cycling-friendly environments do so as a result of a concerted strategy designed to create a cycling culture over time. Facilitating safe and convenient cycling as a form of transportation in Vaughan Mills Centre is a key objective of this Plan. The combination of new cycling infrastructure such as bike lanes, bike facilities such as bike locks, a linked bike trail system, and ease of access within the Secondary Plan Area will encourage cycling as a key alternative to driving within the community.

Schedule H: Active Transportation Network identifies

the bicycle network for the Vaughan Mills Centre area. It is intended to link directly to the planned city-wide bicycle and pedestrian network. Cycling facilities are intended to be built as existing roads are improved and new roads are built.

The policies that relate to cycling are as follows:

- Designated streets in the Vaughan Mills Centre area shall be designed for the safety, comfort, and convenience of cyclists;
- Rutherford Road, Jane Street, Weston Road, Bass Pro Mills Drive and all other streets as indicated on Schedule H: Active Transportation Network, should include on-street cycling lanes. Street cross-sections found in Appendix A illustrate where cycling facilities should be accommodated within the right-of-way for each type of street;
- In addition to the cycling routes identified, major open spaces shall include multi-use recreational trails linked to the street network to enhance connectivity for cyclists; and
- Provide bike lock facilities within the Planting and Furnishing Zone.

4.6.6 Pedestrian-Scaled Lighting

- Pedestrian-scaled lighting should be provided for the purpose of creating a safe, comfortable, attractive, and welcoming public realm environment throughout Vaughan Mills Centre;
- Ensure street lighting does not conflict with street trees;
- Street lighting should be located at the midpoint between every second street tree, occurring at 14m intervals to coincide with a 7m street tree spacing;
- Additional lighting should be considered in areas with higher volumes of pedestrian activity,



INCORPORATE WAYFINDING FOR KEY DESTINATIONS



PROVIDE OPPORTUNITIES FOR PUBLIC ART

including key intersections, transit stops, open space areas, mid-block connections, and passageways; and

- Low voltage, low glare street and pedestrian scale lighting are recommended to provide a safe and comfortable environment for pedestrians and cyclists. Luminaries should be of such design that the light they produce is focused downwards so as to avoid light pollution and wasted energy.

4.6.7 Signage and Wayfinding

- Signage and Wayfinding orient users to ensure they are able to move with ease and confidence through an urban environment;
- All elements of the public realm and built environment have the potential to contribute to wayfinding. Wayfinding tools can include signage and mapping, streetscape elements, streetscape design, and building design such as gateway or landmark elements. All elements should work together to ensure that routes are easily understood and navigable for all users and destinations are clearly identified;
- Signage throughout the Vaughan Mills Centre area should be of high quality, reflective of the desired character of the area, and exhibit consistency of design and material selection that is part of an overall design strategy for the street and the area;
- Signs should be integrated into the design of building façades by placing them within architectural bays, articulated datum lines, including coordinated proportion, materials, and colour; and
- Signs must not obscure windows, cornices, or other architectural elements, and should not be obtrusive to pedestrians, and should complement the pedestrian scale of the street.

4.6.8 Public Art

Public art provides an opportunity to celebrate and showcase local arts and culture, establish a unique identity for an area or development, and contribute to enhancing the quality of the public realm in ways that conventional streetscape elements cannot.

- Public art should be considered at a variety of scales and in diverse contexts. This includes larger installations at visually strategic locations such as the terminus of view corridors, at gateways, on prominent corners, or in public open spaces. It also includes smaller or more unexpected installations such as along sidewalks, integrated with buildings, and in alternative public spaces such as parking lots and garages;
- Public art may include memorials, sculpture, water features, murals, lighting, or individual art installations, and may be combined with the building and landscape design. It may also include street furniture, utility boxes, and other elements not commonly displayed as art in a gallery setting; and
- The location and visual prominence of a public art piece should correspond to the scale of its site and must be determined in consultation with the community and the City.

4.6.9 Universal Accessibility

Universal accessibility is defined as the ease with which all individuals can safely access or move within buildings as well as within the public realm, and is a priority for the Vaughan Mills Centre area. Universal accessibility is an important design consideration for any urban environment that promotes creating accessible and welcoming interior and exterior pedestrian spaces.

The following key policies apply:



INTEGRATED TRANSIT WITH PUBLIC OPEN SPACE AND SURROUNDING DEVELOPMENT

- The design of new buildings and the public realm must comply with the Accessibility for Ontarians with Disabilities Act, in order to meet provincial accessibility standards; and
- A universal design checklist should be established by the City for all aspects of development, including buildings (interior and exterior), entrances and connections, parking structures, streets, open spaces, pathways, and trails. This will help to ensure that Vaughan Mills Centre evolves as an accessible and barrier free environment.

4.7 Enhanced Streetscapes

All streets identified on Schedule F: Transportation Network, as well as any additional streets approved by the City, are encouraged to be designed as “enhanced streetscapes”. Enhanced streetscapes are streets designed as high quality landscaped environments, that contribute to defining a unique and distinct character of place. They are an important wayfinding component of the open space network, and will act as key connectors to parks, open spaces, commercial areas, and other major roadways.

In addition to the policies of Part B, Section 4.6 of this Plan, Enhanced Streetscapes shall be designed according to the following design considerations:

- Provide enhanced landscape treatments such as a double row of trees where the right-of-way permits, attractive landscaping such as grasses and perennials in the boulevard, generous sidewalks, high quality street furnishing, amenities, signage, and safe and distinct crosswalks, and opportunities for public art. The character of these streets should contribute to creating a unique and distinct identity for Vaughan Mills Centre;
- Additional streetscape enhancement should be provided at key gateway intersections, the

commercial nodes, and pedestrian priority areas such as parks and urban squares; and

- On-street parking dedicated bike lanes should be provided on all identified streets.

4.8 Public Transit

The Vaughan Mills Centre area currently has good access to public transit along the existing arterial road network. Much of the area is accessible to York Region Transit service along Jane Street, Rutherford Road, and Weston Road, with bus services that connect to Vaughan Mills Mall and surrounding areas. Vaughan Mills Mall is serviced by an existing transit terminal. While the terminal primarily serves for trips to and from Vaughan Mills Mall, transit is envisioned to play a larger role in the future through promoting the development of a Transit Hub in Vaughan Mills Centre, and the future potential for higher order rapid transit along Jane Street.

The Plan envisions a multi-modal Transit Hub indicated by a suggested location and subway alignment as identified on Schedule G: Transit Network. The Transit Hub is envisioned to be designed and developed based on the *York Region Transit-Oriented Development Guidelines*, and *Provincial Transit-Supportive Land Use Guidelines*, and City policy through the development approvals process.

Transit throughout the Vaughan Mills Centre will consider the following:

- Future public transit facilities, including but not limited to right-of-ways, stations, station entrances, stops and utilities shall be integrated into the design of adjacent streets and open spaces and built form. Other facilities and infrastructure not required to be accommodated within the subway right-of-way, such as electrical sub-stations and service

buildings, shall be integrated within adjacent development as unobtrusively and attractively as possible;

- The pedestrian access and entrances to a potential future Transit Hub along the west side of Jane Street shall provide direct access to a public open space and direct access to the Vaughan Mills Mall. The Transit Hub/Station area entrance building shall be highly visible from adjacent sidewalks and Jane Street. The entrance building/facility shall be set back from the public right-of-way to create a public open space and accommodate high pedestrian volumes around the entrance;
- The envisioned Transit Hub location identified on Schedule G: Transit Network, is intended to also incorporate a future York Region Transit bus station and related facilities. York Region shall negotiate and secure appropriate land arrangements with the landowner and the City of Vaughan for such a purpose; and
- Prior to development in and around the future potential Transit Hub area, including development of transit facilities, a Transit Hub Block Plan and Urban Design Brief may be required to be prepared that satisfies the following, and any other conditions required by the City:
 - » analysis of pedestrian connections;
 - » open space;
 - » built form;
 - » integration with future planned transit; and
 - » connectivity with Vaughan Mills Mall.



PART B
Section...

5.0

» The Open Space Framework



5.0 // Introduction

The open space policies outlined in the following section are intended to ensure that a high quality public realm, open space, and protected environment is achieved for Vaughan Mills Centre. The policies define an open space framework that links outdoor spaces through the creation of new parks, green streets, greenway corridors, and multi-use paths to create a unique, beautiful, and healthy public realm environment. The open space framework also provides guidance and direction for future investment into new parks, trails, streetscapes, sidewalks, and green spaces.

5.1 General Policies

The policies of this section provide direction regarding the distribution and allocation of open space elements in Vaughan Mills Centre. The policies of the Secondary Plan regarding park typologies and required parkland are consistent with Policies 7.3.1 of the *VOP 2010*.

5.1.1

The delineation of open spaces shown on Schedule E: Open Space Network is approximate and adjustments to the boundaries will not require an amendment to this Secondary Plan provided the intent and policies of this Plan are maintained to the satisfaction of the City. The needs, extent, and location of parks within the Vaughan Mills Mall Area specifically will be confirmed through a Tertiary Planning Process as described in this Plan.

5.1.2

The form and design of publicly accessible open space shall do the following:

- Create a range of park types, urban squares, and gateways in Vaughan Mills Centre and their equitable distribution across the community to ensure access to a diversity of recreation opportunities within a ten minute walking radius to surrounding neighbourhoods;
- Facilitate beautiful, high quality, unique open spaces, as appropriate to meet the recreation needs of all ages and interests. Opportunities for art and innovative design should be considered for all open spaces;
- Provide pathways throughout public parks and greenways in a manner that are connected, accessible, well-linked, and facilitate movement throughout Vaughan Mills Centre;
- Identify and secure active transportation connections between new and existing open space

(as shown on Schedule H: Active Transportation Network), and new and existing neighbourhoods. This system will be implemented during the development approval process, and will be comprised of pedestrian trails, bike trails, and enhanced streetscapes. These connections should include pedestrian amenities such as generous sidewalks, lighting, waste receptacles, bike facilities, wayfinding signage, and places to sit;

- Protect and enhance natural heritage lands as important natural and managed landscapes and to protect public safety by directing development to locations outside of hazardous lands and sites.
- Create an Open Space Network that supports the *City of Vaughan Active Together Master Plan*; and
- Encourage the use of planned open spaces for cultural and community events.

5.1.3

The *Vaughan Mills Centre Secondary Plan's* Open Space Network is scaled to appropriately reflect proposed development densities, and reflect a more urban public space format.

5.2 Parkland Dedication

5.2.1

It is a goal of this plan to develop approximately of 7 hectares of parkland to serve new residents in Vaughan Mills Centre. The City shall monitor the use and demand for parkland as Vaughan Mills Centre develops and may adjust the target without amendment to this Plan. To meet or exceed the target, the City may require the dedication of additional parkland to that identified in Schedule E, in accordance with the Planning Act. The additional parkland may constitute additions to the parks in Schedule E or may take the form of a Neighbourhood park, Public Square or other usable,

accessible open space. Alternatively, or in addition, the City may seek to acquire parkland in areas adjacent to the Vaughan Mills Centre, accessible to residents.

5.2.2

Parkland shall be conveyed in accordance with *VOP 2010* policy 7.3.3.1-7.3.3.5, on the basis of 5% of the gross land area for residential areas and 2% for commercial and employment areas, or 1.0 hectare for each 300 dwelling units, or a combination thereof, whichever yields the most favourable supply of parkland at the City's discretion, as provided for in Section 42 of the Planning Act. Lands to be conveyed for parks purposes shall be located generally in accordance with Schedule E: Open Space Network.

5.2.3

Public parks and plazas shall be unencumbered by strata, underground parking, easements required for utility services, transformer boxes, Canada Post mail boxes, overland flow routes, or anything that would negatively impact the public use of the public park.

5.2.4

Notwithstanding Part B, Policy 5.2.3 of this Plan, the City may permit parking or utilities under a park or square, for a use adjacent to the open space, where the following have been demonstrated to the City's satisfaction:

- Due to extreme hydrogeological and/or geotechnical conditions, it is unreasonable to accommodate all of the required parking or utilities for the adjacent use under a building, private amenity space and/or local street;
- All of the required parking cannot be accommodated in an above- and/or below-ground structure without

compromising the vision, principles and objectives of this plan; and,

- The proposed underground parking will not materially or qualitatively compromise the intended purpose, function and character of the park or square.

Parking generally will not be appropriate under Neighbourhood Parks where trees are intended to grow to their full potential, and above-grade elements of underground parking would significantly compromise the design and programming of the park. Underground parking will generally be more appropriate under parks and Public Squares designed predominantly for intense daily use and/or civic events and where mature trees and a significant tree canopy are not envisioned.

Where underground parking is appropriate, a strata title agreement to the satisfaction of the City, describing such matters as access, maintenance, liability and monetary contributions, shall be required. Vehicular ramps and other accesses shall be located within adjacent buildings wherever possible. Structures within parks associated with below grade uses, such as pedestrian entrances/exits, emergency access, and vents, where required, shall be integrated into the design of the open space. The area occupied by such structures shall not count toward parkland dedication. In addition, encumbered parkland will not receive equal credit and any parkland credit shall be valued to the satisfaction of the City.

5.3 Open Space Typologies

The following section describes the Open Space Network hierarchy, identified on Schedule E: Open Space Network which includes Neighbourhood Parks, Public Squares, Greenways, and streetscapes as well as the character and function of proposed parks in accordance with the Vision for this Secondary Plan.



DESIGN PARKS WITH A MIX OF ACTIVE AND PASSIVE RECREATION



DEMONSTRATION RENDERING OF A NEIGHBOURHOOD PARK

5.3.1 Neighbourhood Parks

Neighbourhood Parks are intended to provide outdoor recreation and leisure opportunities at the neighbourhood level, and should be designed, programmed and furnished to meet day-to-day open space needs. These parks are the neighbourhood focal points, and should function as the place where residents converge and interact on a day-to-day basis.

Neighbourhood parks may include active and passive uses as identified in the *Active Together Master Plan Update 2013*, balancing the needs of the City as a whole and those of the local community. Land intended for Neighbourhood Parks shall be generally greater than 1 ha in size and should be rectangular in shape. Sites shall have flat topography (2% slope), be easily developed, and incorporate Low Impact Development strategies as per Policy 3.6.6.4 and 3.6.6.8 of VOP 2010. Sites shall provide connections to transit, automobile routes, pedestrian and bike paths, and shall be situated generally within a ten minute walking radius (800m) of residents to be served. The intended park site shall be situated in a location which is uninterrupted from the community by arterial roads or highways, rail lines, and major physical barriers such as valley lands, water bodies, or ravines. Extensive street frontage including visibility from adjacent homes to encourage passive surveillance shall be considered. Sites shall be unencumbered by any easements, utilities, or access routes.

Further to Policy 7.3.1.2(c) of VOP 2010, Neighbourhood Parks identified in Schedule E should have the following characteristics or features:

- Open, grassed areas for casual recreation
 - Shade trees and other plantings
 - A pavilion or shade structure
 - Lighted walking and cycling paths
 - Site furnishings including benches
 - Trash and recycling receptacles
 - Intimate hard surface areas for gathering
 - Public art
 - Outdoor recreation facilities that can be accommodated in the park and meet the needs of area residents, such as a mini soccer pitch, basketball court, skateboarding facility, tennis courts and/or skating rink
-
- Street frontage on at least three sides
 - Convenient pedestrian access points
 - An accessible playground
 - A splash pad, where warranted



PROVIDE SMALLER SCALE URBAN SQUARES AND PARKS WITH PLAY AREAS CLOSE TO RESIDENTIAL DEVELOPMENT

5.3.2 Public Squares

Further to the VOP 2010 Policy 7.3.1.2 (d), Public Squares are intensively used spaces that can accommodate a range of neighborhood oriented social activities. Public Squares may include seating, bicycle parking, contemporary playground structures, fountains/waterplay, and shall be accommodating of street related activities such as vendors, festivals, temporary markets, performance space, and art installations. Schedule E identifies the general locations for Public Squares. The precise location, size, shape and characteristics of Public Squares shall be determined to the satisfaction of the City during the review of development applications. Generally, a Public Square shall have a minimum area of 0.2 hectares and have at least 50% of its edges fronting a street or mews. Private amenity spaces shall not be considered Public Squares. Public Squares are generally rectangular in shape with extensive street frontage onto public roads. They shall have flat topography (2% slope), be easily developed, and incorporate Low Impact Development strategies as per Policy 3.6.6.4 and 3.6.6.8 of VOP 2010. Direct connections to transit, and links to pedestrian and bike paths are encouraged. Public Squares shall be situated within 5 minutes walk (500m) of the community to be served, in locations which are uninterrupted from intended community by arterial roads or highways, rail lines, and major physical barriers such as valley lands, water bodies, or ravines. Sites shall be unencumbered by any easements, utilities, or access routes.



DEMONSTRATION RENDERING OF A LINEAR GREENWAY WITH A MIX OF PASSIVE AND ACTIVE RECREATION SPACES

5.3.3 Greenway

5.3.3.1 General

The Greenway identified on Schedule E: Open Space Network, including the District Greenway, is intended to provide universally accessible open space amenities important linkages for pedestrians and cyclists, and may provide opportunities for recreational activities within the greenway corridor for the community in addition to public parks and urban squares. It builds on the *City of Vaughan Active Together Master Plan*, and the *Pedestrian and Cycling Master Plan*, in providing new open spaces and pedestrian connectivity.

In addition to the recommended multi-use paths in this Plan, the Greenway Public Open Space identified as a the District Greenway on Schedule E may be used for both passive and active park space depending on the size and function of the open space feature.

5.3.3.2 The District Greenway

The District Greenway is an approximately 50 metre wide open space corridor that runs adjacent to the proposed Black Creek Corridor identified on Schedule E: Open Space Network. This open space is intended to be the main park and green space linkage for the Vaughan Mills Centre Business District area and shall be recognized as dedicated park land. The park provides an open space focus for new development. The District Greenway is intended to provide important park space for the community and shall incorporate the following design components as a minimum:

- Incorporate a multi-use pathway;
- Provide opportunities for active and passive recreation;
- Provide opportunities for seating and heritage interpretation plaques or wayfinding signage to convey the historic evolution of the Black Creek as

well as topography and other features;

- Provide pedestrian-scaled lighting, where permitted, and multiple entrance and connections throughout the corridor to create a safe and attractive environment;
- Integrate with adjacent development parcels by providing enhanced landscaping around mid-block connections as identified on Schedule E: Open Space Network; and
- Incorporate stormwater features of a form and size to the satisfaction of the City of Vaughan.

5.4 Green Infrastructure and The Black Creek Corridor

Parks, urban squares, greenways, and natural heritage areas comprise Vaughan Mills Centre's green infrastructure and are important in supporting a healthy community and environment. Not only does green infrastructure provide opportunities for recreation and leisure, but also for environmental protection and management.

These areas and features are considered as comprising a connected open space and natural environmental areas with long term ecological value. The policies of this section of the Plan are intended to preserve, enhance, and restore the function and value of this system.

While the policies of this section provide direction regarding the natural heritage system, the policies of Part B, Section 7.0 Sustainable Site Design and Integrated Infrastructure addresses the stormwater management function of these areas. As such, the policies of this section are to be read in conjunction with those of Section 7.0 of this Plan.

5.4.1

The *Vaughan Mills Secondary Plan* proposes areas to be dedicated for Open Space in an effort to both provide an adequate amount of open space. In addition, the Plan



HIGH QUALITY PUBLIC BOULEVARD WITH A MULTI-USE PATH

encourages the rehabilitation and enhancement of the natural environment, and to prevent new development from occurring within areas that may introduce risk to life and property associated with flooding, erosion, and slope instability. In addition to the public open space policies discussed in Part B, Section 5.1 of this Plan, the following are recommended:

- That the proposed rainwater bioretention basins within the western area of the Study Area as identified on Schedule E: Open Space Network in this Plan, should be integrated into the District Greenway;
- Requirements for trees to be planted along all streets and within private lots;
- Green roofs and “living walls” on building exteriors are encouraged. Planting native species, conifers, large-canopied deciduous trees, edible fruit and nut-bearing tree species that attract beneficial insects and birds, and a diverse mix of species are priorities; and
- Maintaining, restoring, and enhancing portions of the Black Creek as identified on Schedule E: Open Space Network, in conjunction with the development of stormwater management facilities and landscaped corridors with native species. This will provide an opportunity for stream restoration and enhancement to a natural state.

5.4.2

Vaughan Mills Centre area is located adjacent to the West Don River Valley which is designated as a Core Natural Heritage Feature in the *VOP 2010*. In addition, the Black Creek Core Natural Heritage Feature traverses the western extent of the Secondary Plan area in a ditch along Weston Road. Further south of the Study Area the Creek follows a previously realigned and naturalized corridor in an existing industrial subdivision. It is an objective of this Plan to encourage and support



INCORPORATE PARKS AND TRAILS WITH NATURAL AREAS AND MUNICIPAL STORMWATER MANAGEMENT FACILITIES

development practices that protect, restore, and enhance surrounding ecosystems, and to illustrate environmental sustainability through:

- Integrating the Open Space network throughout Vaughan Mills Centre, and with the surrounding neighbourhoods;
- Create new amenities to support emerging uses;
- Incorporate green infrastructure for stormwater management in the public realm, and leverage these opportunities to enhance the ecological functions and aesthetic aspects of these features;
- Enhance and restore the overall health of the natural environmental and heritage features;
- Ensure new development recognizes, respects, and is compatible with the natural features and natural hazards identified in the Plan; and
- Ensuring all development adjacent to the Black Creek Corridor be consistent with the ecological and hazard management objectives and policies of Section 3.6.3 and 3.6.4 of *VOP 2010*, as amended;

5.4.3

The Black Creek Corridor identified on Schedule E: Open Space Network provides an opportunity to enhance and expand the Natural Heritage Network. The course of the Black Creek is expected to be slightly altered, and is anticipated to provide better access for the public. A background report has been prepared (*Stormwater Management Brief: Vaughan Mills Centre Secondary Plan: Stormwater Management Conceptual Strategy*, MMM Group, 2014), which provides stormwater management strategies and recommendations for the realignment the Black Creek.

All development adjacent to the Black Creek Corridor shall complement the natural heritage feature and provide views and pedestrian access to such features

by:

- Appropriately designing, locating and orienting abutting buildings and landscaped open space including buffer areas as necessary;
- Landscaping abutting areas in a manner that enhances the Natural Heritage Network;
- Locating streets to protect views and access; and
- Locating parks, trails, and other public facilities to connect to natural heritage features.

These connections should have natural cover in whole or in part, as appropriate. Where no natural cover currently exists, land owners are encouraged to restore cover.

5.4.4

Lands required for stormwater management facilities shall not be considered as parkland for the purposes of calculating the parkland dedication requirement.

5.5 Natural Heritage

It is the policy of this Plan to apply the environment policies of Chapter 3 of Volume 1 of the *VOP 2010* including protection of the Core Features of the Natural Heritage Network and the naturalization and improvement of Enhancement Areas. This includes the overall protection and enhancement of Vaughan's Natural Heritage Network in the Vaughan Mills Centre area by supporting biodiversity, protecting wildlife corridors, enhancing water quality in the West Don River Valley and the Humber River watershed and tributary system, and enhancing ecosystem functions.

5.5.1

The City shall work with the Toronto and Region Conservation Authority (TRCA) and landowners to enhance existing natural heritage and establish new

areas for active naturalization in conjunction with the development or improvement of stormwater management facilities.

5.5.2

The intent of this section of the Plan is to:

- Recognize environmental areas and features as important contributors to the quality of place in Vaughan Mills Centre and as invaluable to the long-term environmental health and sustainability of the community;
- Work toward the creation of a natural heritage system and an interconnected network of environmental features and areas linked by a series of connected natural spaces; and
- Respect and celebrate natural spaces and to enhance natural features through ecological restoration.

5.5.3

The City shall encourage the integration of the natural heritage and open space system with the active transportation network in Vaughan as shown on Schedule H: Active Transportation Network.

5.5.4

That the woodlot located within the lands at the south-east intersection of Jane Street and Rutherford Road along the southern boundary of the existing lot be protected in accordance with the City of Vaughan Natural Heritage Network Review currently underway. The boundaries of the woodlot and protected area will be determined and/or refined through the development approvals process, to the satisfaction of the City.



PART B
Section...

6.0

» Community Facilities



6.0 // Introduction

In addition to public open space, the City recognizes the need for community services such as schools, day care centres, libraries, and community centres, and other potential facilities such as museums, and cultural or arts centres, that support an accessible and complete community for Vaughan Mills Centre. Providing community services within close proximity to residential areas will be key to support the development of Vaughan Mills Centre as a vibrant urban centre of the city.

6.1 General Policies

6.1.1

As population increases, community facilities will be required and provided throughout Vaughan Mills Centre to support the needs of the emerging community. The City will monitor population growth through the planning horizon, in cooperation with related public agencies and school boards to determine and confirm appropriate locations as well as program requirements and facility needs as population demographic statistics and projections are confirmed in the future.

6.1.2

In order to address the community facility and servicing needs within Vaughan Mills Centre the City will work with relevant agencies for the timely provision of community services and facilities. The intent is to try and secure community services and facilities in such a way as to allow them to be phased into an area in coordination with approved future residential development and anticipated population growth. This will allow for residents to have access to community services as they emerge, and contribute to the resident's quality of life.

6.1.3

For all residential development within Vaughan Mills Centre, land owners proposing development shall prepare a Community Services and Facilities Study (CSF) to assist in the identification of current and anticipated levels of social infrastructure required to support the health, safety, and well-being of local residents. Accessible, high quality community services and facilities are essential to promote community interaction, engagement in community life, and opportunities for education and recreation.

The CSF Study shall include the following, and any other information required by the City at the time of the development application, including:

- elementary and secondary schools;
- public libraries;
- child care centres;
- community and recreation centres;
- social services; and
- community space.

The CSF Study will review social, economic, and demographic information in light of existing and projected supply and demand of community services and facilities. The CSF Study will provide a detailed inventory of all community services and facilities within a prescribed study area, to be defined in consultation with the City, as well as a review of available capacities within those services and facilities, in light of planned development in the area.

The CSF Study will be prepared by the applicant, their agent, or consultant. During pre-application consultation, City staff will work with the applicant and/or their consultant to determine the specific requirements and study area boundary of the CSF Study based on the nature of the proposed application and the context of the study area.

6.1.4

Schedule C: Land Use Designations identifies appropriate sites for potential community facilities. As plans for any such facilities are developed, the City shall seek to secure the necessary land or space within this area through an agreement with the relevant landowner.

6.1.5

The City may utilize the provisions of Section 37 of the Planning Act to secure additional community services or facilities beyond standard levels of service within Vaughan Mills Centre.

6.2 Schools

6.2.1

York Region District School Board has identified the need for an elementary school in the Vaughan Mills Centre Study area. The ultimate number of schools required will depend on the size, and make-up of the residential population in this Plan. A recommended school site is shown on Schedule C: Land Use Designations located on the southern end of the Secondary Plan Area. This location could be combined with a local recreation centre, day care facility, and other community uses.

6.2.2

The precise location, size, phasing, and number of future schools shall be determined in consultation with the School Boards prior to any planning approvals for development within the blocks surrounding an identified school site. Subject to the satisfaction of the City and the School Boards, the school sites identified may be relocated without amendment to this Plan. When the appropriate timing for the schools has been determined, the School Boards shall pursue acquisition of the land required and coordinate the design and construction of the school with surrounding development.

6.2.3

The size and configuration of each school site shall be consistent with the policies or requirements of the respective School Board.

6.3 Day Care Facilities

There will likely be a need for day care facilities in Vaughan Mills Centre in the near future. Day care facilities could be included as part of a recreation centre, elementary school, or mixed-use building. Considering the provision of an elementary school or recreation centre will not be built during the early phases of plan implementation, day care facilities should be provided in the early phases and integrated within residential

developments proposed in the short-term.

6.4 Libraries

5.4.1

According to the City's *Active Together Master Plan* Vaughan Mills Centre is generally outside of the catchment areas of the Vaughan Public Libraries: Current Facility Classification Model. The Maple Library is the closest and is approximately 5 km from Vaughan Mills Centre. Based with an anticipated population of approximately 8,778 new residents, there will be a need for additional library space in the area to facilitate this demand. Future library facility requirements will be determined in cooperation with the City and according to the *City of Vaughan Active Together Master Plan*. Opportunities will be sought to locate the library within walking distance and in areas accessible to transit.

6.4.2

A library can be located at one of several prominent sites adjacent to a proposed school site, park, or combined with a mixed-use development.

6.5 Other Facilities and Government Offices

To implement the facility requirements and objectives of the *City of Vaughan Active Together Master Plan*, the needs of additional services, such as a recreation facility, community centre, museum, or art gallery may be assessed by the City at a later date.

Institutional and Government offices will be encouraged to locate in areas that are in close proximity (within 250m) to planned and future transit stops.

PART B
Section...

7.0

» Sustainable Site Design and Integrated Infrastructure



7.0 // Introduction

In keeping with the objectives of this Secondary Plan, the City of Vaughan is committed to principles of sustainability and ‘building green’ in the development of Vaughan Mills Centre. The ‘building green’ strategy outlined in this section provides policies with respect to the implementation of this principle through all aspects of development in Vaughan Mills Centre as it relates to built form, and to the protection, conservation, restoration, and enhancement of air, water, and ecological features and functions, energy, and other environmental resources.

7.1 General Policies

7.1.1

The *Vaughan Mills Centre Secondary Plan* is based on a design concept that maximizes the potential for sustainable living and development through encouraging a mix of uses, a functional pattern of streets and blocks, with an inter-connected open space system, and opportunities for active transportation.

In addition to the general objectives discussed in this Plan, the City will actively encourage sustainable development and have regard for the goals and objectives of the *Green Directions Vaughan*, the City's *Community Sustainability and Environmental Master Plan* to:

- Reduce the consumption of energy, land, and other non-renewable resources;
- Minimize waste of materials, water, and other limited resources;
- Create livable, healthy, and productive environments; and
- Reduce greenhouse gases.

7.1.2

In addition to the objectives of the City's *Community Sustainability and Environmental Master Plan*, all development is encouraged to incorporate significant innovative initiatives to reflect the principle of sustainability as determined by the City through the following, without limitation:

- Implementing innovative efficient and effective methods of providing energy;
- Incorporating alternative energy options including the use of renewable energy sources and/or district energy systems;
- Minimizing energy needs for the development;

- Increase energy efficiency in building and site design;
- Incorporating opportunities for efficiencies through orientation and the use of passive solar energy;
- Incorporating the potential for future alternative uses and life cycle stages of building design;
- Incorporating measures to reduce heat island effects including installation of green roofs, increasing reflective materials, and landscaping;
- Providing an integrated infrastructure system that accounts for rainwater, wastewater, and sewage;
- Provide at grade rainwater management facilities that can accommodate on site rainfall, and naturally filter and detain water while providing aesthetic amenities;
- Maximize access to public open space for new and existing residents;
- Increase opportunities for residents to interact with nature and the local ecology; and
- Provide opportunities for on-site treatment of stormwater and integrating stormwater features into open spaces.

7.1.3

Support the objectives of *Green Directions Vaughan* for encouraging strategies to reduce energy use on a community basis by applying measures such as district energy systems and creating a centralized location for residential and commercial heating, cooling, and domestic hot water systems.

7.1.4

That the sustainable development policies of Section 9.1.3 of Volume 1 of the *VOP 2010* apply, as well as the Sustainability Performance Metrics, as approved by Council on December 10, 2013 and as may be amended from time to time, be used to determine the

contribution to sustainability of each application. The following additional green development approaches shall be considered:

- Requiring on-site and shared stormwater management approaches and infrastructure that contribute to and are integrated with the Natural Heritage Network, where appropriate;
- Minimizing stormwater runoff through on-site approaches including extensive landscaping and porous paving materials where appropriate;
- Implementing a treatment train approach and/or at-source controls to protect water quality; and
- On-site energy production, such as solar electricity, solar hot water and small scale wind energy.

7.2 Energy Efficiency

7.2.1

Energy represents a significant and rising cost of doing business and its use is related to greenhouse gas emissions and reduced air quality. In Vaughan Mills Centre the City shall support and encourage strategies to reduce energy use within individual sites and through sharing of heating and cooling loads between different operations, as they relate to the building process.

7.2.2 Energy Conservation

Vaughan Mills Centre will strive towards carbon neutrality for buildings and infrastructure to reduce its greenhouse gas emissions and increase its resilience. This will be accomplished primarily through on-site energy conservation and energy efficiency applications, renewable energy production, and shared/district energy systems.

Strategies may include:

- Energy Efficiency - all new buildings will be required to demonstrate improved energy efficiency strategies. This includes building design, efficient technologies, and behavioural change initiatives.
- District Energy - District energy production and sharing systems, which are considered feasible in this area, will also be explored.
- Waste Heat Recovery - Waste heat from commercial uses, sewers, and wastewater should be used to heat buildings and water.
- Renewable Energy Generation - Renewable energy generation and use should be maximized as much as possible in Vaughan Mills Centre. Renewable heat sources can include solar, thermal, and geo-exchange. Renewable energy generation can include biomass or biogas, combined heat and power, wind, active solar, and geothermal.

7.2.3 District Energy

The City encourages the development of a district energy system to service development in Vaughan Mills Centre. Where a system is defined, the City shall require new buildings to sign on to a district energy system from landowners proposing any major development to service public and private development. The City shall cooperate with landowners to determine whether it is economically feasible for land owners and the City.

7.2.3.1

If and when a district energy system is established in the Vaughan Mills Centre, public institutional uses shall utilize the system where possible. All private development shall be encouraged to utilize the district energy system. For public and private projects proceeding prior to construction of the system, development plans shall demonstrate how they may link into the system



INTEGRATE STORMWATER MANAGEMENT FACILITIES WITH PARKS AND OPEN SPACE



in the future, through submission of a District Energy Viability Study. The requirements of the District Energy Viability Study will be determined in consultation with the City through the development approvals process.

7.2.3.2

The location for a district energy plant could be integrated with new development on the east side Highway 400 within the Jane Street Corridor Area, Rutherford Road Area, Bass Pro Mills Area, or the Vaughan Mills Centre Business District Area either within the podium of a building, below grade, or as a stand-alone facility. The design of the facility shall be sensitive to and enhance its planned surroundings. The integration of the facility with another compatible use, such as a parking structure, shall be considered. In addition, a district energy plant is also encouraged within the Employment Area west of Highway 400.

7.2.4 Waste Heat Recovery

Evaluation of using waste heat from commercial uses, sewers, and wastewater shall be demonstrated in an energy modelling report or other appropriate information as deemed necessary to the satisfaction of the City.

7.2.5 Renewable Energy Generation

Renewable energy generation and use should be maximized as much as possible. Renewable heat sources can include solar, thermal, and geo-exchange. Renewable energy generation can include biomass or biogas, combined heat and power, wind, active solar, and geothermal.

7.2.6 Building Lighting Systems

Use natural lighting strategies and seasonal and/or user-controlled shading techniques to take advantage of sunlight while minimizing unwanted heat gain in

the summer. Minimize lighting energy demand by minimizing lighting, using high-efficiency luminaires and bulbs, and maximizing user control.

7.3 Water, Stormwater and Wastewater Systems

7.3.1

The intent of this section with respect to sustainable site design to encourage minimizing consumption of water, and to facilitate the reclamation and re-use of stormwater and treated wastewater.

The existing storm sewers within Vaughan Mills Centre area east of Highway 400 have been designed to service the current land use designations, which include large areas of impermeable services with high runoff coefficients. As such, redevelopment is not expected to require new storm sewers except on new streets. The recommended concept for stormwater management and the implementation of bioretention basins and the naturalization of the Black Creek are intended to transform stormwater management techniques into functional and attractive features towards an enhanced and naturalized landscape in Vaughan Mills Centre. A background report has been prepared (*Stormwater Management Brief: Vaughan Mills Centre Secondary Plan: Stormwater Management Conceptual Strategy*, MMM Group, 2014), which provides stormwater management strategies and recommendations for the realignment the Black Creek.

7.3.2 Stormwater

- Stormwater management measures, on-site landscaping, and streetscape elements shall be designed to minimize stormwater run-off and the impact on the downstream environment. These stormwater management strategies shall be guided by the provisions contained in the *City-Wide*



USE IMPERVIOUS MATERIALS, RAIN GARDENS, AND BIOSWALES TO HELP MANAGE STORMWATER AND GROUND WATER RECHARGE

Drainage/Stormwater Management Master Plan Class Environmental Assessment and designed and implemented to the satisfaction of the City and the TRCA. Refinements to the location and size of stormwater management ponds/facilities will be required to be supported by detailed designs and appropriate technical studies completed to the satisfaction of the TRCA, the City, and where provincial regulatory requirements are triggered, the Province of Ontario.

- Development in Vaughan Mills Centre is encouraged to incorporate “Low-Impact Development” measures which minimize runoff, reduce water pollution, and enhance groundwater. These measures may include porous pavements, bioretention basins, enhanced swales, green roofs and rain gardens among others.
- Shared at-grade stormwater management facilities are proposed in the employment district west of Highway 400, however all sites shall be developed with on-site stormwater management facilities to the satisfaction of the City. The size and design of each facility shall be confirmed during the plan of subdivision process and any changes to the stormwater facilities shown on Schedule E: Open Space Network shall not require an amendment to this plan, to the satisfaction and approval of the City, TRCA, and where provincial regulatory requirements are triggered, the Province of Ontario.
- Portions of Black Creek, as shown on Schedule E: Open Space Network, are proposed for realignment within a natural channel design in accordance with the TRCA and the City. The Creek is proposed to be realigned within a minimum 70 metre open space corridor that shall be restored to a natural state through the planting of native trees, shrubs and other foliage and designed to the satisfaction of the City and the TRCA. The design of the realigned section should be completed as part of the Block Plan process as set out in Section 10.1.1.14 of

Volume 1 of VOP 2010 or development approvals process and it should include confirmation of the required corridor width.

- Comprehensive stormwater management plans will be required for all development. Each site should “disconnect” from the municipal stormwater system to the greatest extent possible. This could be achieved through the extensive use of rain gardens, bioretention basins, stormwater detention ponds in new landscaping areas, permeable paving for all internal access roads and parking lots, and green roofs. The aim should be to maintain the pre-development annual runoff volume.
- To satisfy the City and demonstrate consistency with the Toronto and Region Conservation Authority (TRCA) Stormwater Management Criteria, innovative stormwater management approaches must be implemented and designed in accordance with the Ministry of Environment Stormwater Management Practices Planning and Design Manual and with reference to TRCA’s Low Impact Development Stormwater Management Planning and Design Guide (2010), as may be updated from time to time. For all development, a treatment train approach to stormwater must be considered consisting of source controls (for example, green roofs, permeable paving, improved urban tree canopy), conveyance controls (for example, bioswales and permeable pipes), and end of pipe treatment (for example, wetlands and ponds). Consideration of the suitable treatment train approach will be determined by local studies. Such studies should also include direction regarding the short and long term maintenance needs for the recommended source controls, conveyance controls, and/or end of pipe treatment.
- Development east of Highway 400 may continue to be serviced by the existing stormwater management ponds which currently collect and treat runoff from

this area. Stormwater management plans shall consider the conditions for which each pond was designed and demonstrate that the pond's design capacity is not exceeded, to the satisfaction of the City.

- Development west of Highway 400 may be partially serviced by the existing stormwater management pond located in this area. Stormwater management plans shall consider the conditions for which this pond was designed and demonstrate that the pond's design capacity is not exceeded. Shared at-grade stormwater management facilities may be provided to service the remaining area, to the satisfaction of the City.
- The design of all stormwater management facilities should consider incorporating these features into recreational trails and passive open space.
- As an organizing principle, plan surface runoff management elements into landscape design. Consider the following strategies:
 - » Direct roof runoff to infiltration basins;
 - » Capture roof runoff for irrigation;
 - » Develop green roofs; and/or
 - » Provide soakaway pits.
- Design parking and other paved areas to minimize the negative impacts on surface runoff volume and quality. Use an appropriate selection of strategies such as; installing oil-grit separators in high traffic areas, constructing parking lots using porous surfaces, and directing runoff to landscaped filter strips or enhanced swales
- Where catchment and runoff conveyance into a pipe is necessary, minimize the length of pipe required and endeavour to return runoff to the soil through exfiltration or other means.

7.3.3 Integrated water infrastructure systems

- Servicing infrastructure for water and wastewater shall be planned on a comprehensive basis and shall be guided by the recommendations contained in the *City-Wide Water/Wastewater Master Plan Class Environmental Assessment*. Phasing of development shall be coordinated with the phasing of municipal services.
- Prior to the approval of new urban development, with the exception on an interim basis for expansions to existing uses approved by the City, a Master Environment and Servicing Plan shall be prepared in accordance with Section 3.9.3 of Volume 1 of VOP 2010 in conjunction with any Block Plan requirement as per Section 10.1.1.14 of VOP 2010.
- Consider non-potable water sources, including treated wastewater from an on-site treatment plant or retained stormwater, for use where appropriate in industrial processes, wetland flow stabilization, and irrigation through:
 - » The provision of a storage and distribution for roof runoff and treated at-grade runoff to provide a non-potable water supply. Where roof runoff is to be maximize for on-site use, utilize roofing materials that do not yield contaminants into runoff.
 - » Designing water systems to use high quality clean and potable water only for drinking water and processes which require clean water sources (e.g., to prevent scaling or contamination), and to use lower quality water for other purposes (e.g., vehicle washing).

7.3.4 Water Efficiency

- Consider opportunities to recirculate water, including collected stormwater or high quality wastewater within industrial operations and between other employment uses.

PART C MAKING IT HAPPEN

Sections

- 1.0 General
- 2.0 Application
- 3.0 Status of Uses Permitted Under Previous Official Plans
- 4.0 Interpretation
- 5.0 Infrastructure
- 6.0 Development Approvals
- 7.0 Development Progression
- 8.0 Land Owners and Developers Agreements
- 9.0 Section 37 Provisions
- 10.0 Zoning By-law
- 11.0 Legal Nonconforming

Uses

- 12.0 Consents
- 13.0 Site Plan and Design Review
- 14.0 Plans of Subdivision
- 15.0 Community Improvement
- 16.0 Plan Monitoring
- 17.0 Public Works and Financial Management

PART C
Section...

1.0

» PLAN
IMPLEMENTATION



1.0 Introduction

This section outlines how progress will be monitored and reviewed, how the Plan will be administered and interpreted, and how plan implementation will be coordinated within the City. These policies are intended to be read in conjunction with the other policies of this Plan and those of Volume 1 of VOP 2010.

1.1 General

The implementation and interpretation of this Secondary Plan shall be in accordance with the provisions of the *VOP 2010* and the policies of this Plan. This Secondary Plan shall be implemented using some or all of the following, without limitation as provided for under the Planning Act, and Chapter 10 of VOP 2010:

- The approval of individual draft plans of subdivision/condominium, consents and part lot control exemptions;
- The enactment of zoning by-laws;
- The use of density and height bonusing provisions;
- The execution of Letters of Undertaking and/or registration of site plan agreements;
- The use of the Holding Symbol “H”;
- The dedication of parkland or cash-in-lieu of parkland;
- The use of powers and incentives enabled by a Community Improvement Plan;
- The use of development agreements registered on title; and
- The use of development thresholds which set development to servicing requirements as set out in Section 7.0, Part C of this Plan.

2.0 Application

2.1

The policies contained in this Plan shall apply to the lands shown in Figure 1: Study Area, as the *Vaughan Mills Centre Secondary Plan* area. Except as otherwise provided herein, the policies of this Plan shall supersede the policies of any other area or site specific Official Plan Amendment which is in force for the subject lands on the date of the approval of this Plan. Although this plan will not be in force until approved by York Region

Council, or the Ontario Municipal Board in the event of an appeal, City staff will use it to guide their review of development applications and other proposals for the Vaughan Mills Centre.

2.2

Lands identified as the Vaughan Mills Mall Area on Schedule A: Plan Area shall be subject to Section 3.6.5 in Part B, of this Plan.

3.0 Status of Uses Permitted Under Previous Official Plans

3.1

Existing land uses throughout the Vaughan Mills Centre are expected to continue to exist in the near term, and some may remain for the foreseeable future.

3.2

Expansions of previously approved uses shall be in accordance with policies of 10.2.1.4 of VOP 2010, except as otherwise provided for in this Plan.

4.0 Interpretation

4.1

This Secondary Plan is a statement of policy intended to guide the development of the *Vaughan Mills Centre Secondary Plan* area. A degree of flexibility in interpretation is permitted, provided the intent of the principles and policies of this Plan are maintained at the sole discretion of the City of Vaughan.

4.2

The Schedules A to I included in this Plan are general. Minor adjustments to the boundaries of designations are permitted, to the satisfaction of the City, without

amendment to the Plan, except where the designations are established by fixed boundaries, such as existing road right-of-ways, or where existing right-of-way adjustments and new minimum street right-of-ways are specifically stated as fixed in the policies of this Plan.

4.3

Where lists or examples of permitted uses are provided, they are intended to indicate the possible range and type of uses that are to be considered. Specific uses not listed but considered by the City to be similar to the listed uses and to conform to the general intent of the applicable land use designation may be recognized as a permitted use and recognized in the implementing zoning by-law.

4.4

That where policies of this Plan contain numerical standards, minor variations from those standards may be permitted without amendment to this Plan, with the exception of any variations to floor space index, height or environmental standards set out in Chapter 3 of *VOP 2010*, provided that such variations respond to unique conditions or context of a site, and are supported through a Planning Justification Report and/or Urban Design Brief to the satisfaction of the City.

5.0 Infrastructure

5.1

The City, at its discretion, may require lands for planned infrastructure improvements, or where lands have been identified as required for the construction of the road network, parkland, facility, or any other open space as indicated in this Plan, and where such lands are the subject of a development application, the dedication of such lands shall be required as a condition of approval of development on the site.

5.2

The City and the Region of York, in cooperation with the Ontario Ministry of Transportation, will complete Environmental Assessments for major new or improved streets in Vaughan Mills Centre that may be required in advance of development on affected lands, including the Bass Pro Mills Interchange.

5.3

The City, through the development approval process and consistent with the Planning Act, shall assist the Region of York in protecting and obtaining lands required for right-of-ways, street widening or other facilities for the provision of public transit services through the development approval process.

5.4

Where lands have been identified as required for the construction of the street network or for parkland, and where such lands are the subject of a development application, the dedication of such lands shall be required as a condition of development approval, in accordance with the Planning Act.

5.5

It is the City's intent to foster the planned and orderly development of the Vaughan Mills Centre Area. To that end, planned infrastructure improvements and the conveyance of parks, streets, and other facilities shall be implemented generally through the Draft Plan of Subdivision process, wherever possible, as set out in Section 10.1.2.30 of Volume 1 of the *VOP 2010*. In addition, the following shall also apply in the Vaughan Mills Centre area:

- The City, at its discretion, may directly purchase lands for planned infrastructure improvements; and
- Subject to the satisfaction of the City, if lands are not being conveyed to the City, a draft plan of

subdivision may not be required for a initial phase of development. The City may permit a portion of a street to be conveyed through the rezoning and/or site plan approval process. A development agreement may be required for services that extend off site or onto a municipal right-of-way.

5.6

To encourage and support the future development of the Vaughan Mills Centre, the City shall include planned transportation improvements in the capital works forecasts and any Development Charges By-law.. The City will urge other levels of government to proceed likewise in circumstances where the jurisdiction for a transportation network improvement is not with the City. The specific need and timing for these improvements will be determined based on the development thresholds set out in Part C, Section 7.0, of this plan.

5.7

The City will coordinate with the Region of York and other related transit and transportation agencies, including Metrolinx to initiate a study of the potential higher order transit improvements and the potential development of a Transit/Mobility Hub for Vaughan Mills Centre. The study will consider the potential extension of the Spadina Subway from the Vaughan Metropolitan Centre to the Vaughan Mills Centre Secondary Plan area ,and determine a preferred alternative. The study will include a strategy for implementing the recommended solution. In the interim, improved bus connections throughout the Secondary Plan area will be protected for.

6.1

To ensure that the development approval process is clearly understood by all involved, the City will require pre-consultation meeting(s) with municipal staff to identify the required studies, information, and materials required as part of the development review process.

6.2

To ensure development is coordinated with public infrastructure, phased appropriately, and fully conforms to this Plan, development applications, including Official Plan Amendment, Plan of Subdivision, Rezoning and Site Plan applications, for properties comprising a logical planning unit shall include a Development Concept Report. The extent of the logical planning unit shall be to the satisfaction of the City and may include parcels defined by elements of the public and private road network or be composed of individual, adjacent or functionally connected properties. The long-term solution for every phase of the development shall be described in the Development Concept Report. The Development Concept Report will be required in accordance with Policy 10.1.1.7 of *VOP 2010*, including the following:

- Phasing of development, from initial construction to ultimate completion;
- A traffic impact study and functional design for public and private streets and lanes, and connections to the external street network and including the identification of new public streets for dedication to the City through the Development approval process;
- Achievement of the transit-supportive and pedestrian-oriented uses;
- Height and massing of buildings;
- Distribution of land uses, lot sizes and densities;
- Relationship between streets and buildings, including how the proposed development and

6.0 Development Approvals

subsequent phases address any Secondary Plan policies respecting build-to lines;

- How the street-related retail uses are being provided in the current phase of the application;
- Integration of development with transit services;
- Pedestrian, bicycle, and vehicular circulation networks and integration with the City's Pedestrian and Bicycle Master Plan, as appropriate;
- Parks and open space system;
- Location, dimensions and character of publicly accessible private open spaces and pedestrian routes, showing their continuity and complementary relationship to adjacent public spaces, pedestrian routes and streets;
- Size and treatment of parking facilities and vehicular access points, including the potential for shared parking, parking ramps and loading facilities and access and identification of streetscape improvements and relationship to public sidewalks and pedestrian routes;
- Signage, streetscape amenity elements, lighting and site furnishings;
- Location, size and design of stormwater management facilities;
- Identification and design of streetscape and pedestrian route improvements for the entire subject property including the area from the building face to the curb, with respect to the provision of street trees, signage, street furniture, landscaping, street and pedestrian scale lighting;
- Location of street-related uses and principal pedestrian building entrances to street frontages, and how the role of the public street and pedestrian movement along the street are supported;
- Micro-climatic conditions, modifications or enhancements;
- Cultural heritage resources, and proposed measures

to conserve them;

- Proposed measures to remediate and restore significant natural features and conditions, and to address other environmental matters, consistent with the City's Environmental Management Guideline;
- Energy conservation and other proposed sustainability features of the development;
- A Community Services Study in accordance with Section 6.1 in Part B of this Plan;
- Analysis of the existing neighbouring uses and the potential need to buffer or separation from sensitive land uses;
- The public infrastructure and facilities required to serve the development, including water, sewer, stormwater management, roads, transit, community facilities, open spaces, streetscaping and their proposed phased construction;
- Engagement with utility providers to ensure that sufficient services are or will be in place to support the proposed growth and development; and
- Any other additional information identified as necessary by the City.

6.3

Building on the Development Concept Report, plans of subdivision and rezoning applications may also include the following, prepared to the City's satisfaction:

- Traffic impact study and pedestrian and bicycle circulation plan;
- Transportation Demand Management plan;
- Stormwater management plan;
- Master environment and servicing plan pursuant to Section 3.9.3 of Volume 1 VOP 2010;
- Noise and vibration study, where required by this plan;

- Archaeological survey; and
- Other studies as identified in Section 10.1.3 of Volume 1 of the *VOP 2010*, as determined and required by the City.

The City shall establish specific requirements for the above plans/studies with development proponents. The costs for these studies shall be the responsibility of the applicant. The City at its discretion may require a peer review of any study at the cost of the applicant.

6.4

Development should be planned comprehensively on the basis of a Development Concept Report. For Blocks with multiple owners, the Development Concept Report will coordinate development of neighbouring lands in a mutually complementary fashion. Non-participating lands in the Block shall be shown conceptually in the Development Concept Report and Phasing Plan.

7.0 Development Progression

7.1

Development in Vaughan Mills Centre will take place incrementally over time. Considering the variety of landowners, variation in market conditions and delivery of infrastructure and services, there are numerous ways in which development could proceed. Planning controls such as holding by-laws could be used to ensure that development occurs with an appropriate level of infrastructure and community facilities. The allocation of services will be confirmed through the execution of applicable subdivision, condominium, and site plan agreements.

7.2

Development progression may take place in the context of the provision of adequate infrastructure

and community facilities; capacity improvements for sanitary and water services; transportation improvements and enhanced transit to ensure sufficient transportation capacity exists or will be in place through committed improvements to serve development; and requirements for the delivery of community facilities shall be in accordance with the Vaughan Mills Centre Development Thresholds referred to in Part C, Section 7.3 of this Plan, and any other requirements deemed necessary by the City.

7.3 Development Thresholds

Development in Vaughan Mills Centre shall be correlated with the availability of services and facilities sufficient to ensure the timely and coordinated development of the Plan area. The level of development is set out in Part C, Section 7.3.1 below. Development beyond the limits prescribed in Sections 7.3 - 7.4 may be modified through a five year review, or where the City determines that additional development is appropriate due to improved transportation capacities or adjustments to planning policy in the future. The recommended development thresholds were developed in coordination with a background *Transportation Assessment, February 2014*, produced by the MMM Group. The Transportation Assessment recommends maximum development limits based on the necessary transportation improvements to ensure appropriate transportation capacities are in place to support development proposed in the Plan. Table 2: Transportation Network Improvements identifies the recommended transportation improvements in order to facilitate the orderly progression of development in Vaughan Mills Centre, as referenced in the Transportation Assessment.

Table 2: Transportation Network Improvements

Horizon	Development Level	Recommended Network Improvements to Accommodate the Proposed Development Level at the Stated Horizon
2021 Horizon	<i>Includes all of the Jane Street Corridor Area as shown in Schedule A of the Vaughan Mills Centre Secondary Plan (70% of all proposed development east of Highway 400)*</i> - Up to 3,371 residential units - Up to 16,304 m² retail uses - Up to 46,079 m² of office <i>Within the Vaughan Mills Centre Business District as shown in Schedule A of the Vaughan Mills Centre Secondary Plan (40% of all proposed development west of Highway 400)**</i> - Up to 101,600 m² of prestige employment uses - Up to 39,494 m² of office uses - Up to 30,715 m² of neighbourhood and medium format retail uses - Up to 14,520 m² of other uses including hotel, entertainment, and cultural uses	Road Network Improvements: (Jane Street Corridor Area) - Completion of Bass Pro Mills Drive extension to Jane Street. - Complete Caldari Road extension to Rutherford Road. - Implement a full-moves signalized access on Jane Street mid-block between Riverrock Gate and Bass Pro Mills Drive. - Provide an additional right-turn lane on southbound Fisherman's Way at Bass Pro Mills Drive. Road Network Improvements: (Vaughan Mills Centre Business District Area**) - Plan for a four-lane cross-section for Vellore Woods Boulevard south of Rutherford Road, and for Creditview Road north of Bass Pro Mills Drive. - Implement the internal road network as show in the Vaughan Mills Centre Secondary Plan, Schedule F. - Northbound dual left-turn lanes on Weston Road at Rutherford Road (dependent on effects of the improvements on Major Mackenzie Drive at Highway 27). - Provide an additional right-turn lane on Vellore Woods Boulevard at Rutherford Road. Other Transportation Improvements: - Implement a strong internal grid network as outlined in the Secondary Plan to enhance traffic connectivity across the site. - Viva Quick Start rapid bus service on Jane Street, from Rutherford Road to the planned Spadina Subway extension station at Highway 7. - Transit signal priority and queue jump lanes on Jane Street, Weston Road and Rutherford Road. - Enhancement of YRT bus service on Rutherford Road and to the YRT Vaughan Mills bus terminal. - Proactive and aggressive programs and initiatives to reinforce the need to create change in modal split behavior, to promote greater use of transit, to attract more riders and to achieve the assumed modal split. - Create an organized Passenger Pick-up and Drop-off (PPUDO) area adjacent to the Vaughan Mills transit terminal. - Collaborate with car share operators to introduce car-sharing. - Revise parking standards for developments to discourage single-occupancy vehicle use. - Consider use of shared parking, and preferred parking for hybrid and electric vehicles. - Implement intelligent parking information systems across the Vaughan Mills Centre area parking lots for more effective distribution of parking demands. - Implement transportation demand management strategies within the Vaughan Mills Centre area to discourage heavy car uses and encourage developing less auto-dependent travel behaviours. - Integrate comprehensive pedestrian and cycling route facilities and network to promote active transportation. - Promote self-contained neighbourhood living/working and recreation within the Vaughan Mills Centre area to help reduce traffic demands on the area's road network.

* Up to 80% of the proposed development east of Highway 400 could be accommodated if the full extension of Bass Pro Mills Drive to Weston Road is also completed by 2021.

** Development thresholds and transportation improvements will be confirmed through the Block Plan process as identified in Part C, Section 7.4.3 of this Plan for lands located in the Vaughan Mills Centre Business District Area (west of Highway 400). The Block Plan application will address the matters set out in Policies 10.1.1.15 of VOP 2010 and shall constitute a complete application to the satisfaction of the City of Vaughan.

Horizon	Development Level		Recommended Network Improvements to Accommodate the Proposed Development Level at the Stated Horizon
Full Build-out (Horizon 2031)	<i>Includes development within the Rutherford Road Area, and the Bass Pro Mills Area, as shown in Schedule A of the Vaughan Mills Centre Secondary Plan.</i> <i>Includes the remainder of development within the Vaughan Mills Business District as shown in Schedule A of the Vaughan Mills Centre Secondary Plan*</i>	- Up to 932 residential units - Up to 55,931 m² retail and other uses - Up to 31,500 m² of office - Up to 152,400 m² of prestige employment uses - Up to 59,241 m² of office uses - Up to 46,072 m² of neighbourhood and medium format retail uses - Up to 21,781 m² of other uses including hotel, entertainment, and cultural uses	Road Network Improvements: (West of Highway 400) - Extension of Bass Pro Mills Drive to Weston Road. - Install traffic signals at the intersection of Bass Pro Mills and Weston Road. Other Transportation Improvements: - Higher-order transit service on Jane Street, in the form of BRT or LRT, with its dedicated right-of-way connecting the Spadina Subway extension to Vaughan Mills Centre and up to Canada's Wonderland and the future Mackenzie Vaughan Hospital on Major Mackenzie Drive. - Enhancing priority transit service on Rutherford Road to Viva service; - Pedestrian and cyclist bridge crossing over Highway 400 midblock between Bass Pro Mills Drive and Rutherford Road to provide additional non-auto connection within the Secondary Plan. - Continue to promote sustainable transportation (transit, walking, cycling) and other transportation demand management programs and measures to encourage a greater shift in travel mode patterns to achieve the assumed modal split.

7.3.1 Jane Street Corridor

The Jane Street Corridor includes those lands identified on Schedule A. These areas are planned for additional transit and transportation improvements within the 2021 plan horizon. Based on sufficient transportation servicing capacities available to serve development, and in order to allow development to proceed in a coordinated, consistent, and logical manner, the following is anticipated in the Jane Street Corridor area within the 2021 plan horizon:

- Up to 3,371 residential units;
- Up to 16,304 m² retail uses;
- Up to 46,079 m² of office; and
- 4.3 ha of public parks.

7.3.2 Rutherford Road Area and the Bass Pro Mills Area

The Rutherford Road Area and the Bass Pro Mills Area includes the lands shown on Schedule A, generally including the remainder of lands east of Highway 400 within Vaughan Mills Centre, which includes largely developed commercial condominium buildings, and recently developed commercial, office, and hotel developments, and excluding Vaughan Mills Mall. Residential intensification in this area is anticipated to take place in coordination with the provision of additional transportation improvements including higher order transit anticipated to occur between the 2021 and 2031 planning horizon, or at a time when additional transportation capacity is available to serve development in these areas, to the satisfaction of the City. The following level of development is anticipated for the Rutherford Road Area and the Bass Pro Mills Area:

- Up to 932 residential units;
- Up to 55,931 m² retail and other uses;

- Up to 31,500 m² of office; and
- 2.5 ha of public parks
- 1.3 ha for a potential school site or park

7.3.3 Vaughan Mills Centre Business District

The Vaughan Mills Centre Business District includes lands west of Highway 400 within the Vaughan Mills Centre Secondary Plan area, and is planned to develop as a technology and office-focused prestige employment area. As shown in Table 2: Transportation Network Improvements, a breakdown of development thresholds with recommended transportation improvements for each horizon is provided. Development within this area will be subject to the Block Plan application process and will address the matters set out in Policies 10.1.1.15 of VOP 2010 and shall constitute a complete application to the satisfaction of the City of Vaughan. Development will only proceed where sufficient servicing and transportation capacity is available to support development. The following is anticipated within the Vaughan Mills Centre Business District within the 2021 horizon:

- Up to 101,600 m² of prestige employment uses;
- Up to 39,494 m² of office uses;
- Up to 30,715 m² of neighbourhood and medium format retail uses; and
- Up to 14,520 m² of other uses including hotel, entertainment, and cultural uses

The following is anticipated within the Vaughan Mills Centre Business District within the 2031 horizon:

- Up to 152,400 m² of prestige employment uses
- Up to 59,241 m² of office uses
- Up to 46,072 m² of neighbourhood and medium format retail uses
- Up to 21,781 m² of other uses including hotel,

entertainment, and cultural uses

7.3.4 Vaughan Mills Mall Area

This Plan does not anticipate the change in the form or function of the Vaughan Mills Mall over the life of this Plan. Any expansion or changes to its current use will be subject to the standard planning approvals process as set out *VOP 2010*. However, if the current use, form or function of the Vaughan Mills Mall is planned to be redeveloped and changed from its current use to allow residential development then redevelopment of the existing Vaughan Mills Mall beyond the level of development prescribed by Policy 3.6.5 in Part B of this Plan, shall require the approval of a Tertiary Plan, by way of an Official Plan Amendment. The Tertiary Plan application will address the matters set out in Policies 10.1.1.3 and 10.1.1.4 of *VOP 2010* and shall constitute a complete application to the satisfaction of the City. The following matters are considered to be a priority in the preparation of the Tertiary Plan:

- The provision of a coordinated and comprehensive system of internal urban scaled blocks and streets providing connectivity to the existing and planned external street network;
- The submission of a comprehensive transportation study and plan, prepared to the satisfaction of the City of Vaughan, the Region of York and any other transportation or transit authorities having jurisdiction. The study and plan will address, among other things, the proposed land uses and densities, the traffic impacts on critical link volumes and intersection operations, Transportation Demand Management measures and the necessary transit and road network measures required to support the planned level of development. The study will confirm the internal road network within the Tertiary Plan area and the connections to the external road network;
- The submission of a Social/Community Needs

Assessment which will include, among other things, to the satisfaction of the City of Vaughan, the provision of community services including parks, open spaces, schools, libraries and community centres and the provision of human services needs, including educational, social, health, arts and cultural services and facilities and other such facilities and services required to ensure the healthy functioning of the community. The plan will also provide a strategy for the timely delivery of such services; and

- An Urban Design/Architectural Plan, which builds on the policies of this Plan, to the satisfaction of the City, addressing built form and the public realm, including streetscapes, squares and parks and open space areas;

7.4 Key Transportation and Servicing Requirements

Key infrastructure and service requirements to facilitate development in accordance with this Plan, for the Jane Street Corridor Area, Rutherford Road Area, Bass Pro Mills Area, and the Vaughan Mills Centre Business District shall include, among other things: adequate municipal storm, sewer, and water services; a plan to realign and naturalize the Black Creek, and related stormwater management including determination of an appropriate corridor width consistent with the recommendations in this Plan; transportation improvements, streetscape enhancements, new street connections, and the acquisition and dedication of streets as identified in this Plan; the development and acquisition of identified parks; any elementary schools in accordance with respective School Boards, required community facilities in accordance with the Active Together Master Plan and any other community facility required by the City. Such infrastructure and service requirements will be secured through the required Development Concept Reports and the development approvals process.

In addition to the transportation requirements listed under Part B, Section 4.2.7.3, and Part C, Section 7.3 of this Plan, the implementation of the following transportation improvements and dedication of parks shall be required. The dedication and provision of the following services shall be to the satisfaction of the City and the Region of York with specific timing confirmed through the development approval process.

7.4.1

For development within the Jane Street Corridor:

Key benchmarks for the advancement of development within the Jane Street Corridor shall include, the completion of Bass Pro Mills Drive to Jane Street and the northerly extension of Caldari Road to Rutherford Road, amongst other road network improvements as identified in this Plan. Other recommended transportation improvements include higher order 'quick start' VIVA transit service along Jane Street and higher order priority transit service and other features (HOV lanes, transit priority signals, queue jump lanes) along Rutherford Road.

The following shall be required as a condition of development for the following blocks as shown on Schedule I.

Block 3

- A new local street parallel to Rutherford Road to provide internal circulation for the existing development blocks; and
- The dedication of parks as identified in this Plan.

Block 4

- The northerly extension of Caldari Road from Riverrock Gate to Rutherford Road and the implementation of a signalized intersection at Rutherford Road and Caldari Road;

- Implementation of other roads within the block area as identified in this Plan;
- The dedication of parks as identified in this Plan; and
- That the existing woodlot located along the southern boundary of the existing lot be protected in accordance with the City of Vaughan Natural Heritage Network Review currently underway. The boundaries of the woodlot and protected area will be determined and/or refined through the development approvals process, to the satisfaction of the City.

Block 5

- The northerly extension of Caldari Road from Riverrock Gate to the south boundary of Block 4;
- An east-west public street along the north boundary of the block between Jane Street and Caldari Road.

Block 7

- The provision of an east-west signalized public street between Jane Street and the internal Ring Road; and
- The dedication of parks as identified in this Plan.

Block 8

- A north-south local street connection between Bass Pro Mills Drive and the ring road west of Romina Drive;
- The extension of Romina Drive north to the internal Ring Road; and
- The dedication of parks as identified in this Plan.

Block 7 and 8

- Completion of Bass Pro Mills Drive extension to Jane Street. Intersection improvements will be required at this location.

7.4.2

For development within the Rutherford Road Area and the Bass Pro Mills Area:

Key benchmarks for the advancement of development within the Rutherford Road Area and the Bass Pro Mills Area shall include, among other things: the completion of Bass Pro Mills Drive from Jane Street to Weston Road; Higher order rapid transit along Jane Street; and transit priority service along Rutherford Road.

The following shall be required as a condition of development for the following blocks as shown on Schedule I.

Block 1 and 2

- A new local street parallel to Rutherford Road to provide internal circulation for the existing development blocks; and
- The dedication of parks as identified in this Plan;

Block 10

- A new north-south and east-west internal local street network within the development block between Edgeley Boulevard and Fishermens Way; and
- The dedication of parks as identified in this Plan.

7.4.3

For development within the Vaughan Mills Centre Business District:

Key benchmarks for the advancement of development within the Vaughan Mills Centre Business District shall include, among other things: the completion of Bass Pro Mills Drive from Jane Street to Weston Road; and a revised ramp entrance to the existing partial interchange at Bass Pro Mills Drive via a new intersection at the

proposed east-west and north-south collector parallel to Highway 400.

The following shall be required as a condition of development for the following blocks as shown on Schedule I.

Blocks 11-17

Development within the Vaughan Mills Centre Business District for Blocks 11-17 will require a Block Plan. The Block Plan application will address the matters set out in Policies 10.1.1.15 of VOP 2010 and shall constitute a complete application to the satisfaction of the City of Vaughan. In addition to the Block Plan requirements of VOP 2010, the following matters are considered to be a priority for development in the Vaughan Mills Centre Business District:

- The extension of Bass Pro Mills Road from the Highway 400 interchange to Weston Road;
- The design and realignment of the Black Creek as identified in this Plan;
- The dedication of parks and road connections as identified in this Plan;
- A new internal north-south collector street between the proposed Bass Pro Mills extension with Rutherford Road opposite the Vellore Woods Boulevard/Rutherford Road intersection;
- New internal north-south collector streets with a new connection at Rutherford Road parallel to Weston Road; and
- Roadway connections to Westcreek Drive and Creditview Road south of the Study Area.

7.5

To achieve the development thresholds and required infrastructure investments, as outlined in Part C, Section 7.3.1, of this Plan and elsewhere, the City shall ensure through the use of holding provisions of the Zoning By-law, that the progression of development in Vaughan Mills Centre occurs as described in this Plan results in the orderly development of Vaughan Mills Centre Secondary Plan and ensures the most efficient and economical use of existing and planned infrastructure.

7.6

In considering future amendments to this Plan to permit development beyond the levels set out in Part C, Section 7.3.1 of this Plan, the City will take into consideration the full range of infrastructure, facility and service needs required to ensure that the ultimate mix of land uses and densities is well supported and contributes to the creation of a complete community.

Key benchmarks for reviewing the potential for increasing the maximum densities proposed for the Vaughan Mills Centre Secondary Plan shall include, among other things: updated Region of York Population and Employment allocations; updated City and York Region Master Plans relating to the provision of infrastructure, facilities and services; transportation improvements originating with York Region, the City and the Province through Metrolinx including the completion of sufficient higher order rapid transit along Jane Street to support future development, and enhancements to Weston Road and Rutherford Road to accommodate additional transit, auto, and cycling capacity.

7.7

As a component of the Development Concept Report referenced in Section 6.2 in Part C, of this Plan,

development applications shall include a Phasing Plan that:

- Describes and illustrates how existing and proposed development can be incorporated while protecting for the ultimate vision for the site at full development potential;
- Considers existing neighbouring uses and the potential need to buffer or stage uses; and
- Identifies the public infrastructure and facilities required to serve the development, including water, sewer, stormwater management, streets, traffic, transit, utilities, parks, streetscaping and other community facilities and services, and their proposed phased construction.

Development associated with any of the Plan Areas as shown on Schedule A shall not be approved by the City until the required components of the area including, the community uses, retail and service commercial floorspace, public parks and required servicing and transportation infrastructure have been identified, secured and where necessary constructed. Phases are to be based upon the existence of, or commitment to provide and/or construct by way of agreement to the satisfaction to the City, the planned services and infrastructure.

Minor alterations to the development thresholds shall be permitted through agreements between the proponent of development and the City without amendment to this Secondary Plan, and shall ensure that the necessary servicing infrastructure and servicing capacity allocation for those uses are available, to the satisfaction of the City.

7.8

The following criteria shall be considered in the review of all development applications:

- The development contributes to, or can be appropriately integrated within, the logical sequencing of all required sewer, water, stormwater and transportation facilities;
- The development satisfies all requirements regarding the provision of parkland and other public facilities, including streetscaping and landscaping; and
- Traffic from the proposed development can be accommodated on the existing and planned street network.

8.0 Landowners and Developers Agreements: Block Plans and Development Concept Reports

8.1

Development will be coordinated through the preparation of block plans and development concept reports pursuant to the policies of Chapter 10, Volume 1, of VOP 2010. Development of the Vaughan Mills Centre Business District will proceed by way of the Block Plan approval process. Development Concept Reports will be required in accordance with Policy 10.1.1.7 of Volume 1, of VOP 2010.

8.2

Prior to approving implementing development applications in Vaughan Mills Centre, the City shall require that landowners enter into an agreement or agreements to coordinate development and equitably distribute the costs of shared infrastructure, including but not limited to streets and street improvements, water and wastewater services, parkland, stormwater management facilities, and land for schools and other community services. Alternatively, the City may implement other arrangements to address cost sharing.

8.2

Development agreements among landowners, the City and potentially other public agencies shall be required to ensure that the necessary approvals and the required contributions of funds, lands and commitments for services will be in place and operative prior to, or coincident with occupancy and use of land, without adverse impact on the City's financial capability. In some cases, front-ending agreements may be needed to advance the timing for required infrastructure and to address any acceleration in associated costs.

8.3

Where the bonusing of density and/or height in exchange for community benefits has been approved, an agreement will be required setting out the benefits to be provided and/or the financial contribution toward community benefits.

9.0 Section 37 Provisions

9.1

The City may pass a site-specific zoning by-law amendment to allow increases in building height and/or density, above that permitted in exchange for the provision of community benefits as identified in this Plan, as well as Section 10.1.2.9 of Volume 1 of the VOP 2010, or any other community benefit determined appropriate by the City.

9.2

Community benefits which are the subject of Section 37 provisions will be determined based on local community needs, intensification issues in the area, and the objectives of this Secondary Plan, with priority given to provision of community benefits in proximity to the proposed development.

10.0 Zoning By-Law

10.1

This Secondary Plan will be implemented by appropriate amendments to the City's Zoning By-law in accordance with the policies of this Secondary Plan, and the appropriate sections of the *VOP 2010*.

10.2

The Zoning By-Law will contain provisions to regulate use, building size, building height, location of buildings on property, density of development, and parking requirements. It may also include the following:

- Amendments and updates as necessary to bring the Zoning By-Law into conformity with the goals, policies, and schedules of this Secondary Plan. Such amendments and updates shall include the establishment of zones specifying permitted uses and development standards enabling the implementation of this Plan;
- Recognize that within each land use area, more than one zone may be established to ensure that the goals, policies, and schedules of this Plan are implemented; and
- Prior to the issuance of building permits for any development in Vaughan Mills Centre, the necessary external servicing improvements shall be completed and appropriate servicing allocations shall be allocated by the City and Region of York.

10.3

The City may, when enacting and implementing zoning bylaws, apply a Holding Symbol "H" in accordance with Sections 10.1.2.5, 10.1.2.6 and 10.1.2.7 of the *VOP 2010*, and in addition, specify the future uses of these lands that, at the present time, are considered premature or inappropriate for development until one

or more of the following have been provided, to the satisfaction of the City:

- A Development Concept Report has been submitted and finalized to the City's satisfaction;
- The number and location of access points to the site are inadequate to function safely and efficiently;
- Where development relies upon other matters occurring first, such as the consolidation of land ownership or completion of a development agreement, to ensure the orderly development of the project, and/or to secure funding and/or to equitably cost-share among benefiting landowners, for sewer, water, stormwater, roads, parks, community services and facilities, or outstanding application processing fees;
- The necessary sanitary wastewater, water and stormwater services;
- A plan to realign and naturalize the Black Creek, including determination of an appropriate corridor width, consistent with the recommendations in this Plan, for those lands west of Highway 400 identified as the Vaughan Mills Centre Business District;
- The necessary transportation facilities, including road network improvements and infrastructure, transportation demand management measures and the implementation of timely transit improvements or the approved funding to provide such improvements by the responsible transit authority, to the satisfaction of the City, as identified in Table 2: "Transportation Network Improvements" or as provided for in any update to any Provincial, York Region or City policy or master plan;
- The necessary community facilities and public infrastructure;
- Special design features as required;
- Certain studies, as required, regarding the timeliness

of the development, such as a market impact study;

- Approval of a Site Plan application; and
- The required agreements, as appropriate, are entered into.

11.0 Legal Non-conforming Uses

Legal non-conforming uses shall be subject to 10.1.2.16 – 10.1.2.19 of *VOP 2010*.

12.0 Consents

12.1

That a consent(s) to sever land may be considered, pursuant to Section 53 of the Planning Act, provided that a Plan of Subdivision is not deemed necessary by the City, and may only be permitted for the following purposes:

- The creation of new lots;
- Boundary adjustments to existing lots;
- The creation of easements over existing lots; and/or
- To convey additional lands to an adjacent lot, provided a lot smaller than that otherwise permitted by the Zoning By-law is not created.

12.2

That a lot(s) may be created only if there is enough net developable area on both the severed lot and the remainder lot to accommodate proposed uses, buildings and structures and accessory uses without encroachment on the Natural Heritage Network.

12.3

That the Committee of Adjustment in assessing each consent application is required to consider the matters

set out in Section 51(24) of the Planning Act. In addition to these matters, Council considers the following to apply:

- In the case of non-conformity of the approval with the Official Plan, no consent shall be granted;
- In cases where either or both of the subject or retained lands are not in conformity with the approved Zoning By-law, the applicant shall file a Zoning By-law amendment application prior to or concurrently with the consent application, or where the required zoning exceptions to facilitate the severance are minor in nature and maintain the intent of this Plan, a minor variance application. When considering such Zoning By-law Amendment or minor variance applications, Council or the Committee of Adjustment shall have regard for the consent policies of this Plan; and
- In cases where a Site Plan application is deemed necessary to assess a consent application, the City may defer the consent application until the related Site Plan has been approved by Council.

12.4

That in addition to matters under the Planning Act, the Committee of Adjustment, in determining whether a consent is to be granted, shall have regard for the following matters in consultation with the appropriate departments and agencies, and to the satisfaction of the City for the following:

- Compatibility of the proposed size, shape and use of the lot;
- Site Access;
- Servicing;
- Conservation; and
- Financial Implication

13.0 Site Plan and Design Review

13.1

The Vaughan Mills Centre Secondary Plan area is subject to site plan control.

13.2

At the City's discretion, all development in the Vaughan Mills Centre Secondary Plan area may be subject to review by the City's Design Review Panel prior to Council approval.

14.0 Plans of Subdivision

14.1

To secure the related infrastructure improvements and community facilities required, all new development in Vaughan Mills Centre that requires the conveyance of land for streets, parks and/ or other public facilities, as part of its initial development application process, generally shall proceed by way of the draft plan of subdivision process. The City shall implement the planned network of Collector and Local Streets through this process. Where the City and an applicant agree that a plan of subdivision is not required for an initial phase of development, the City may permit a portion of a street to be conveyed through the rezoning and/ or site plan approval process, subject to a development agreement satisfactory to the City. Further, the conveyance of public right-of-ways to the City, for the purpose of public walkways, may proceed through the rezoning or site plan process, if determined appropriate by the City.

14.2

Plan of subdivision applications shall include a Development Concept Report and Phasing Plan, as described in Part C, Section 6.2 and 7.3.4 of this Plan, and prepared to the City's satisfaction. The City shall approve only plans of subdivision/condominium that:

- conform with the policies and designations of this Secondary Plan;
- can be provided with adequate services and facilities as required by this Plan; and
- are not premature and are in the best interest of the municipality.

15.0 Community Improvement

15.1

Vaughan Mills Centre is identified as a Community Improvement Area under Section 28 of the Planning Act. Further, Vaughan Mills Centre may in whole or in part be further designated by by-law as a "Community Improvement Project Area", for which a detailed Community Improvement Plan will be prepared. The City will identify and delineate a "Community Improvement Project Area" in areas that display any or all of the following conditions identified in Policy 10.1.2.13 of *VOP 2010*:

- Inadequate municipal infrastructure, including piped services, streets and streetscapes, public parking facilities and/or stormwater management facilities;
- Inadequate community services such as social services, public recreational/cultural facilities, and public parks or open spaces;
- Building and/or property deterioration to the extent that it negatively affects the overall image of the area;
- Development at densities that are too low to support the planned transit facilities; and,

- Site contamination levels that require environmental site remediation prior to development.

15.2

Upon adoption of a Community Improvement Plan for Vaughan Mills Centre, the City may engage in the following activities:

- Acquire, hold, clear, grade or otherwise prepare land for community improvement activities;
- Construct, repair, rehabilitate or improve buildings on land acquired or held by it in conformity with the Community Improvement Plan;
- Sell, lease, or otherwise dispose of land and any buildings acquired or held by it in conformity with the Community Improvement Plan; and
- Make grants or loans to the registered owners or the assessed owners to pay for the whole or any part of the cost of developing or rehabilitating such lands and buildings in conformity with the Community Improvement Plan, and the policies of this Plan.

15.3

The strategy for the application of any financial or other incentives established by the Community Improvement Plan shall be tied to achieving the density targets, mix of uses, required infrastructure and public realm improvements identified in this plan.

16.0 Plan Monitoring

16.1

To ensure the continued use, relevance, and effectiveness of this Secondary Plan, it is important that the policies and schedules of this Plan are reviewed and updated on a regular basis as is required by the Ontario Planning

Act. The following policies regarding interpretation, amendments, and monitoring of the Secondary Plan will ensure that it remains a “living document” well into the future.

16.2

Review the Secondary Plan at least once every five years, or at an earlier time to be determined by the City, and evaluate the need to update the Plan as necessary, pursuant to Section 26 of the Planning Act. This review shall determine if:

- The goals, policies, and schedules of this Plan remain valid and realistic in view of changing development circumstances; and
- If the policies of this Plan are adequate to achieve the vision and goals of this Plan.

16.3

The City will monitor and track the number of amendments to the Secondary Plan that have been processed and any challenges faced in dealing with proposals to change the Plan as a means of determining its effectiveness and evaluating the need to update the Plan as necessary.

17.0 Public Works and Financial Management

17.1

Implementation of the principles, goals, and policies of this Secondary Plan may involve the financing of certain projects through development charges, such as the provision of piped water and sanitary sewers, the development of parks and playgrounds, the upgrading of roads, streetscape enhancements, and the establishment of an active transportation system, and other public facilities as deemed necessary by the City. No public work will be undertaken unless it conforms

to this Secondary Plan and meets the requirements of Section 24 of the Planning Act.

17.2

The City will establish a priority list of projects and estimated costs, where possible, associated with implementation of the Secondary Plan. The City will continue to utilize a municipal capital works program as a key means of implementing the Secondary Plan.

17.3

The City will seek to cover the cost of providing the additional facilities and services, or the extension of existing facilities and services associated with growth, are appropriately and equitably covered by development proponents and in conformity and compliance with this Secondary Plan and Zoning By-law.

17.4

The City will require that all necessary development agreements be executed prior to any development proceeding. Such agreements may include front-end, financial, development charges, and development agreements to provide the infrastructure and community services necessary to serve the new development.

LIST OF SCHEDULES

Schedule A: Plan Area

Schedule B: Height and Density

Schedule C: Land Use Designation

Schedule D: Ground Floor Frontage Types

Schedule E: Open Space Network

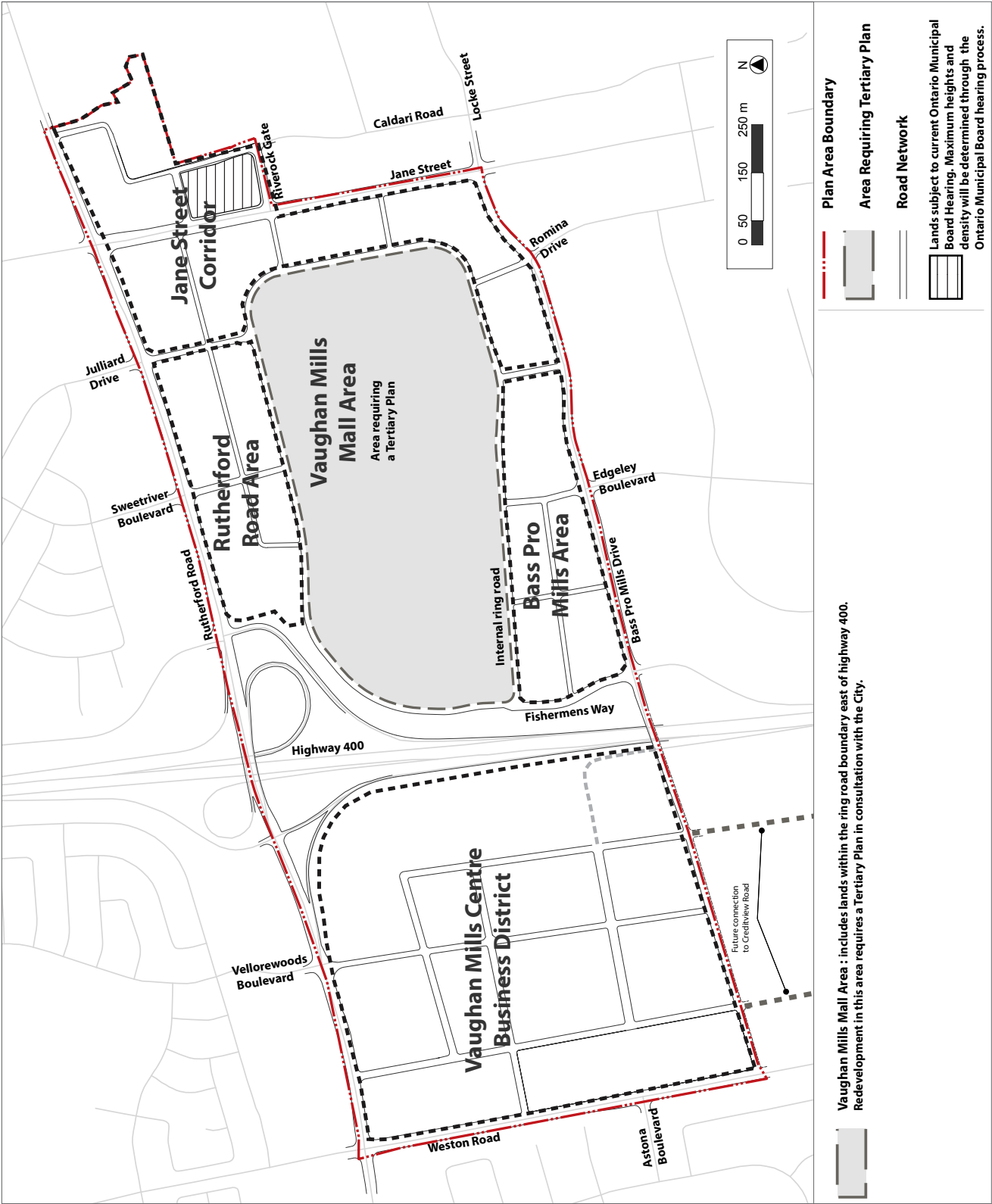
Schedule F: Transportation Network

Schedule G: Transit Network

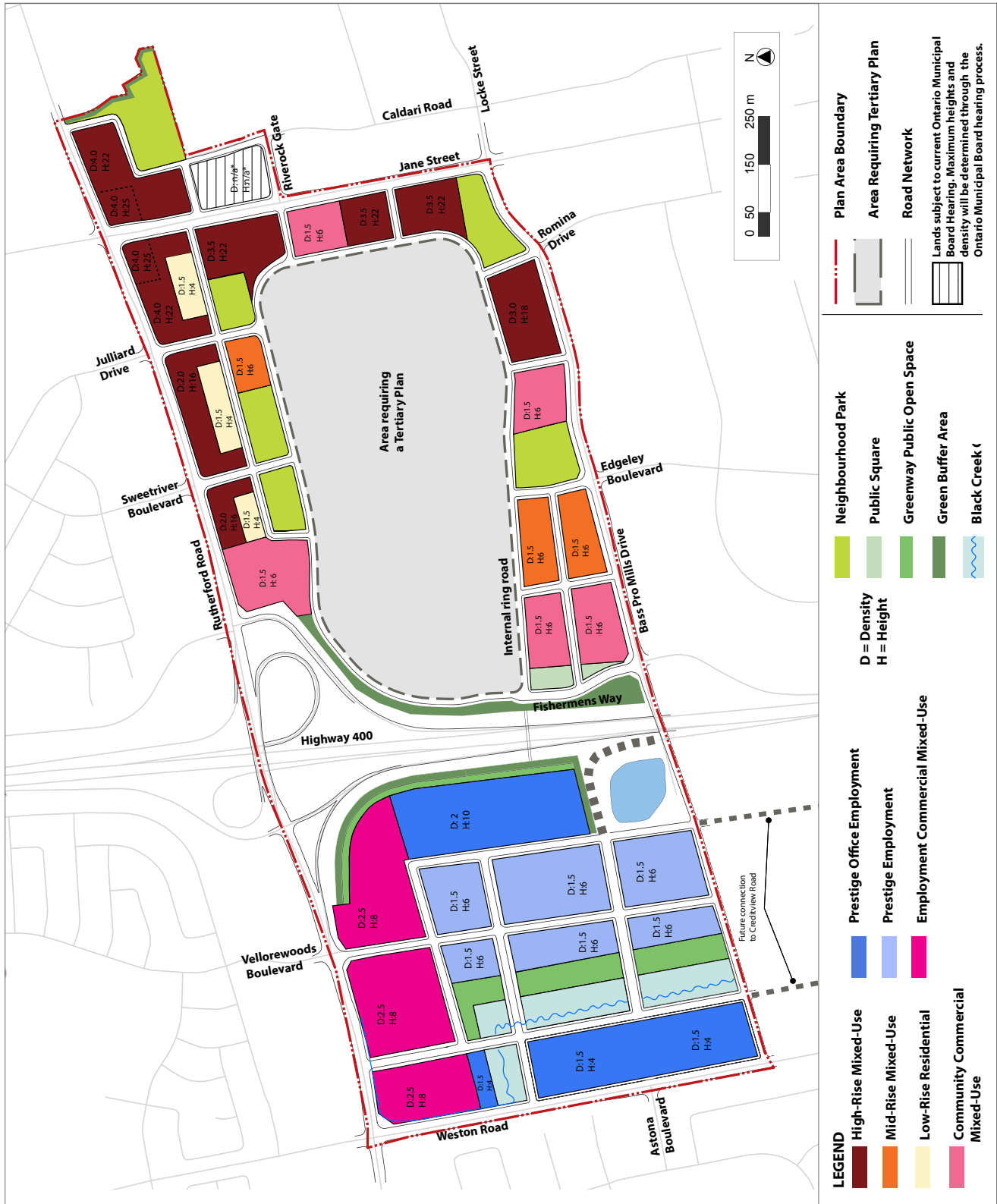
Schedule H: Active Transportation Network

Schedule I: Development Blocks

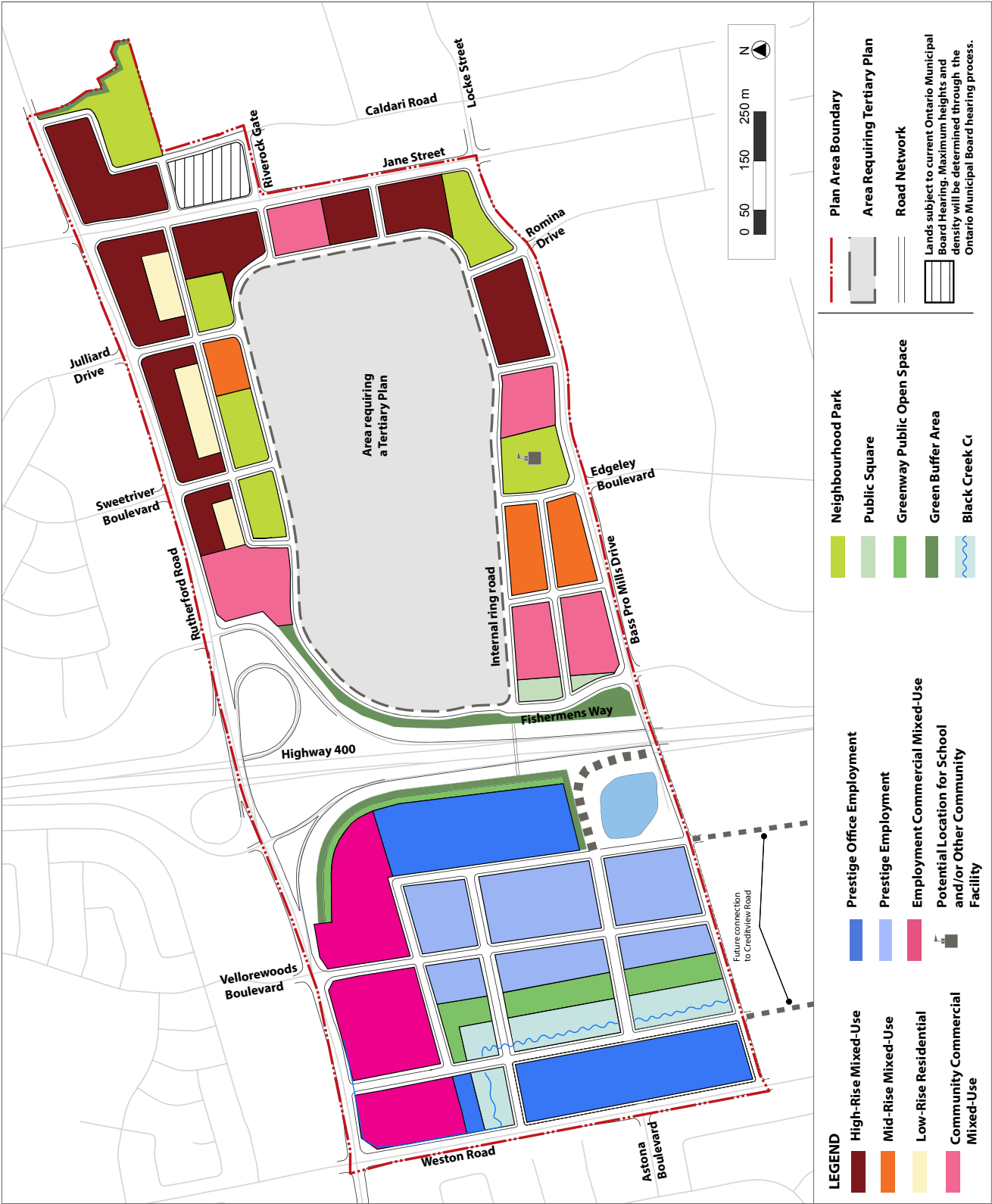
Schedule A: PLAN AREA



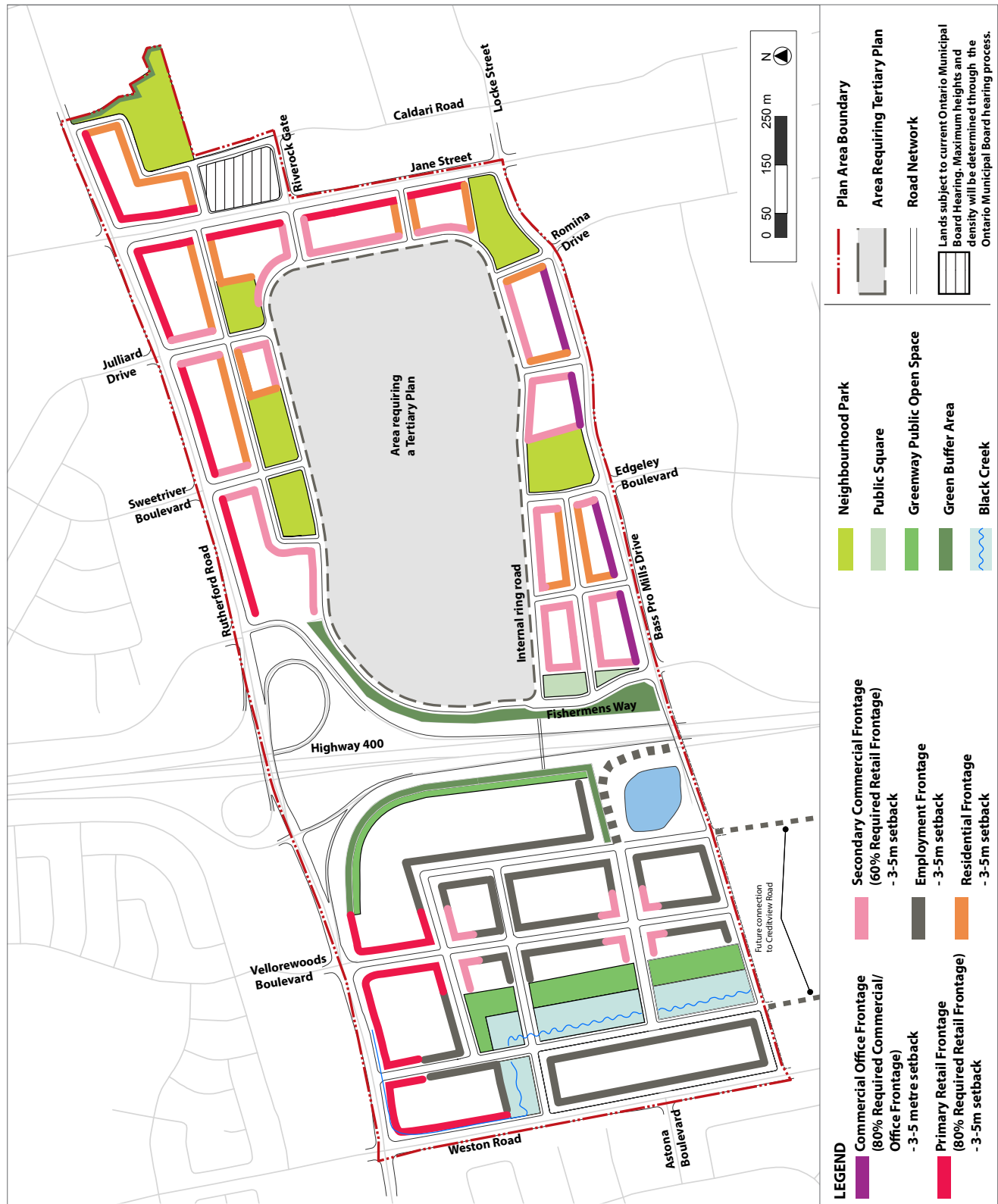
Schedule B: HEIGHT AND DENSITY



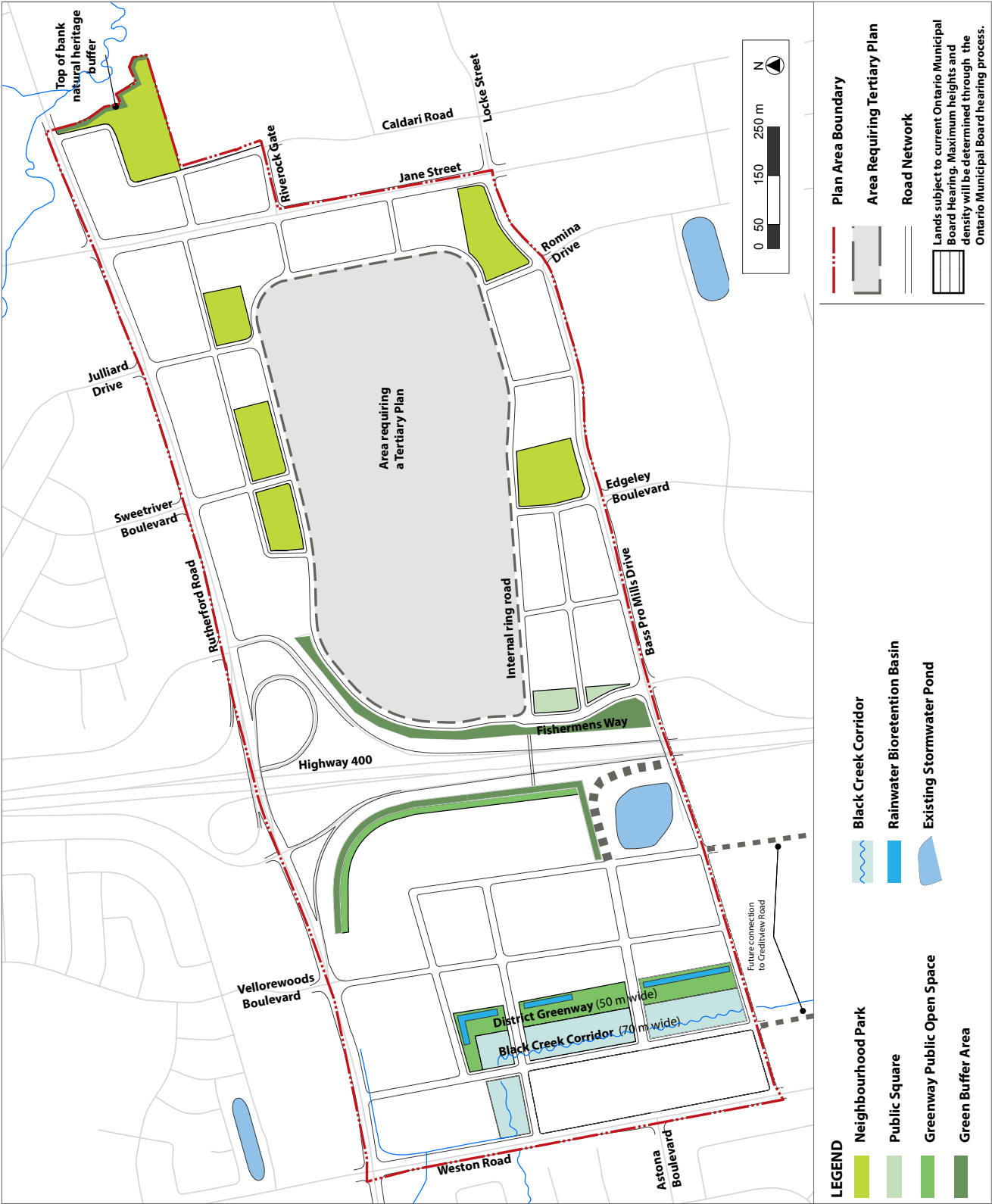
Schedule C: LAND USE DESIGNATION



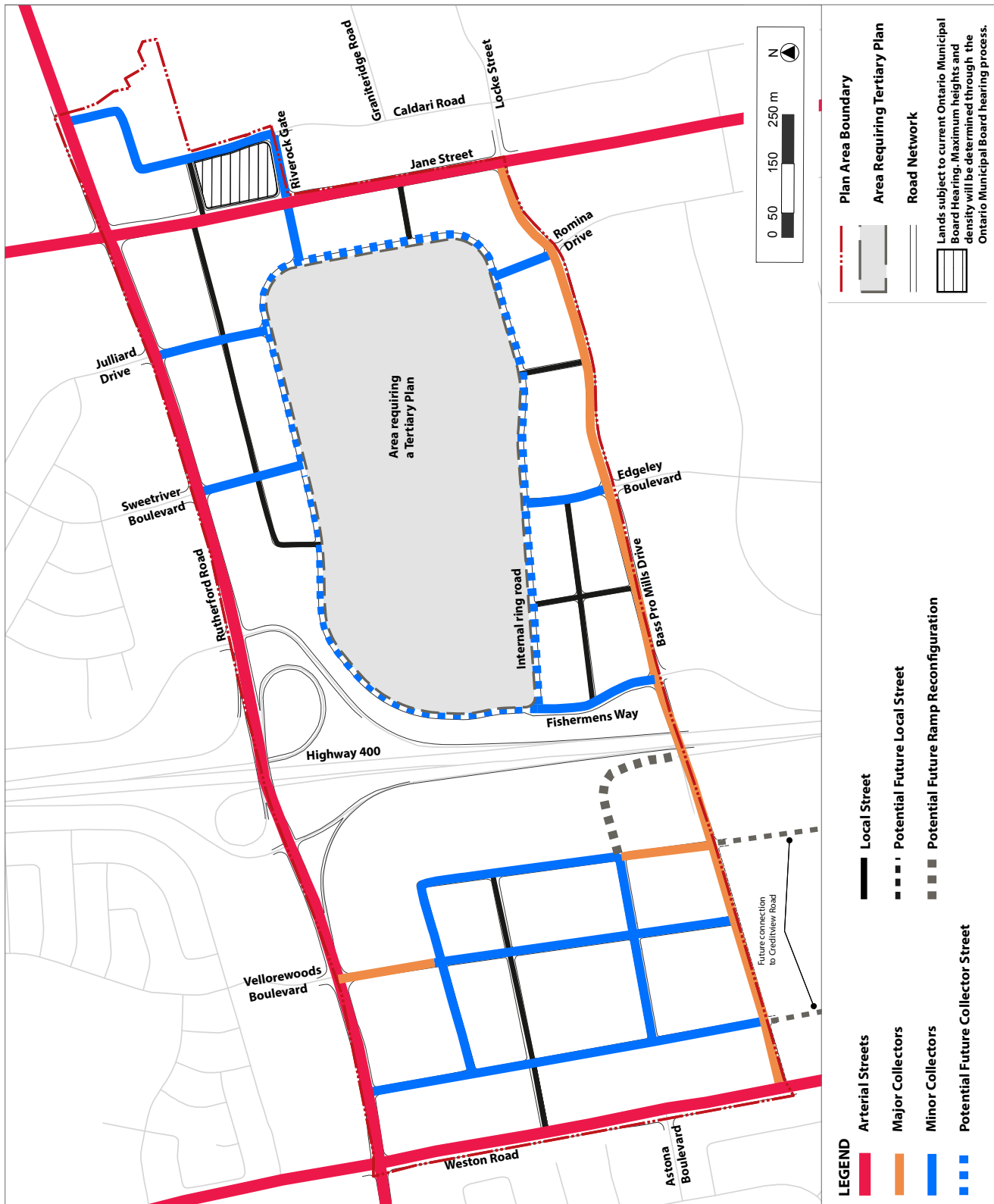
Schedule D: GROUND FLOOR FRONTAGE TYPES



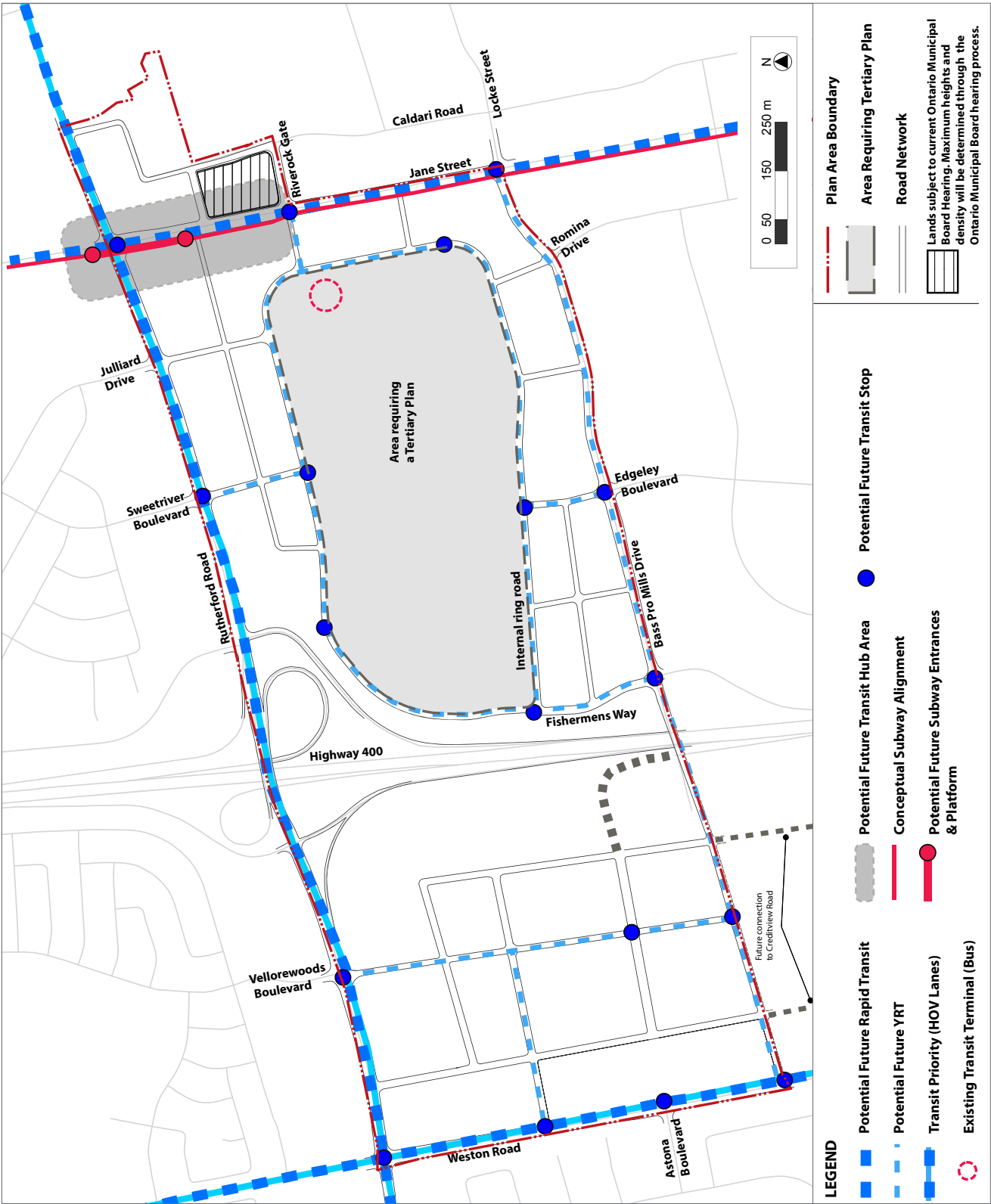
Schedule E: OPEN SPACE NETWORK



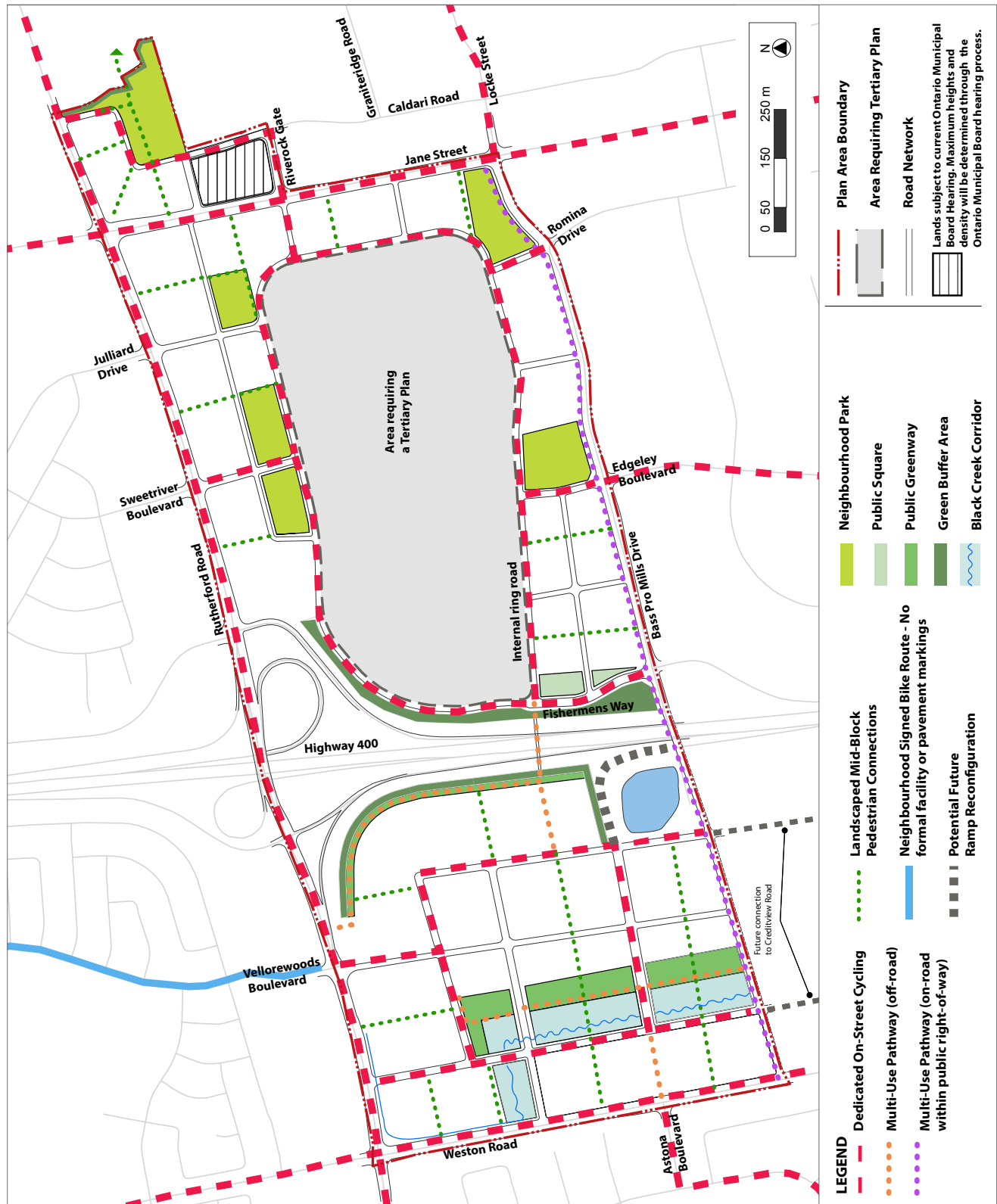
Schedule F: TRANSPORTATION NETWORK



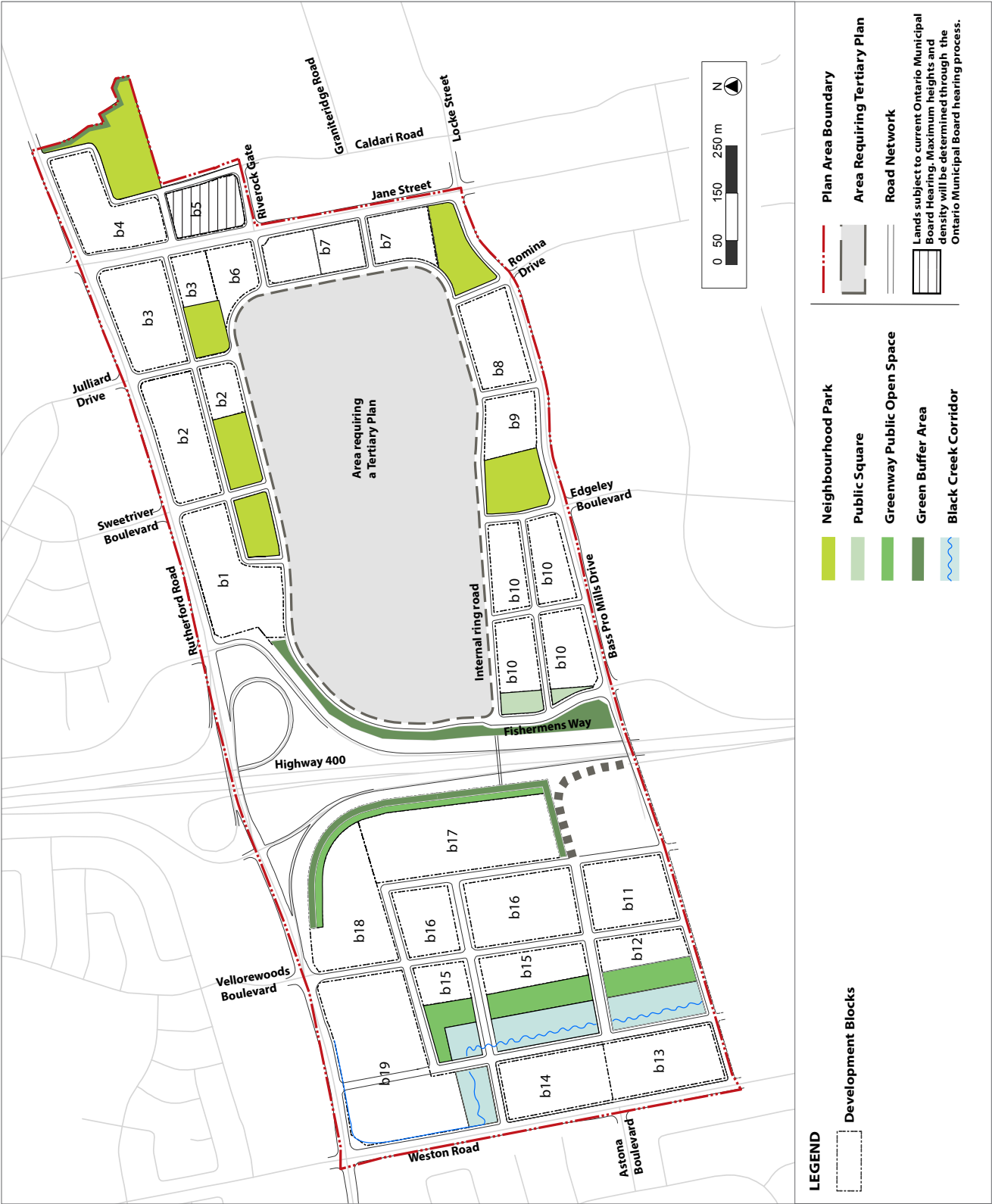
Schedule G: TRANSIT NETWORK



Schedule H: ACTIVE TRANSPORTATION NETWORK



Schedule I: DEVELOPMENT BLOCKS



APPENDIX A: STREET CROSS SECTIONS

- Section A: Jane Street (43 Metre R.O.W)
- Section B: Rutherford Road (43 Metre R.O.W)
- Section C: Weston Road (43 Metre R.O.W)
- Section D: Major Collector Special Condition (Bass Pro Mills 30 Metre R.O.W)
- Section E: Minor Collector With Dedicated Cycling Lanes (26 Metre R.O.W)
- Section F: Minor Collector without Cycling Lanes (23 Metre R.O.W)
- Section G: Local Street (22 metre R.O.W Typical)

(For illustration purposes only)

Section A: JANE STREET

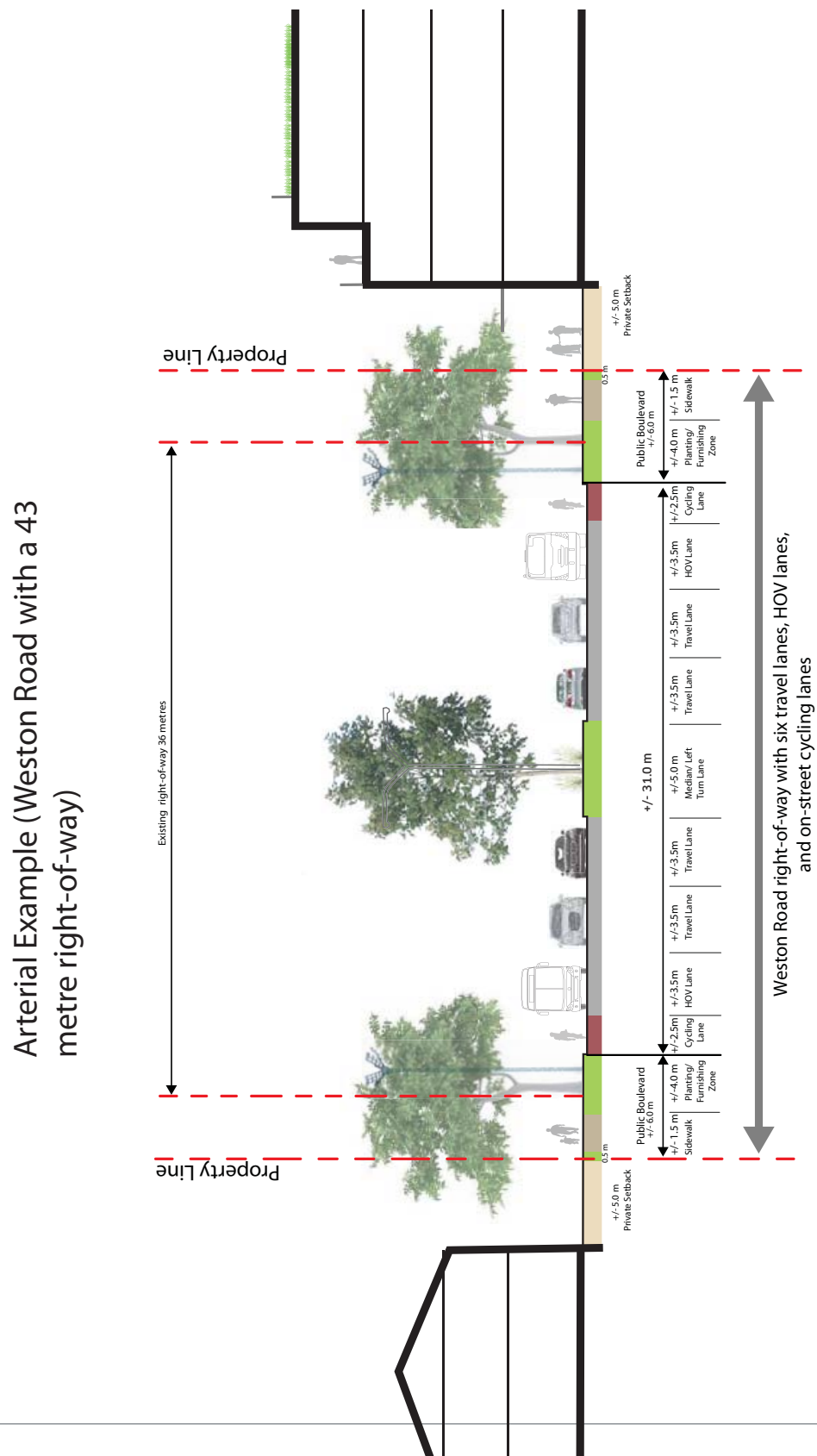
Arterial Example (Jane Street with a 45 metre right-of-way)



Section B: RUTHERFORD ROAD

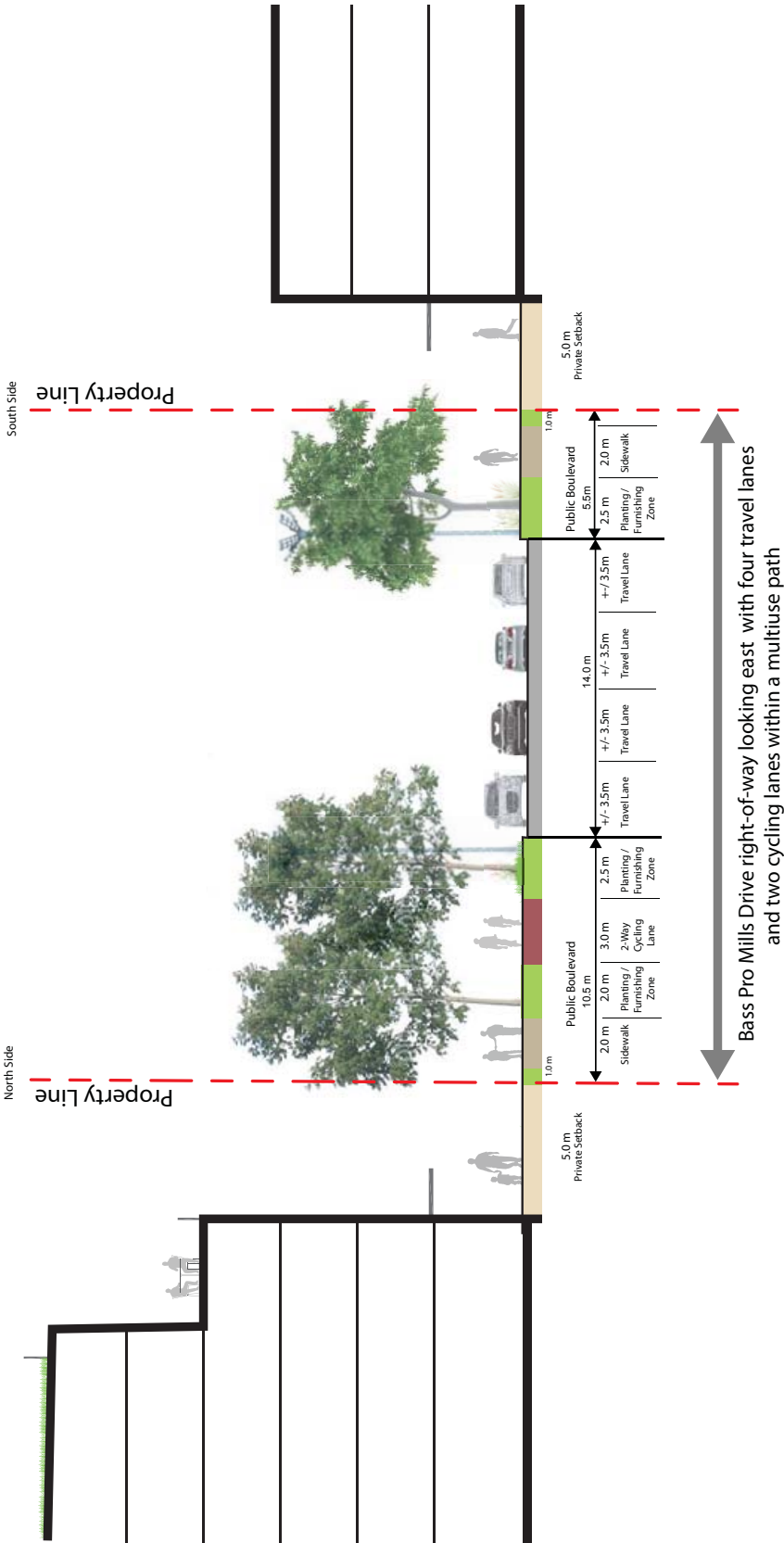


Section C: WESTON ROAD

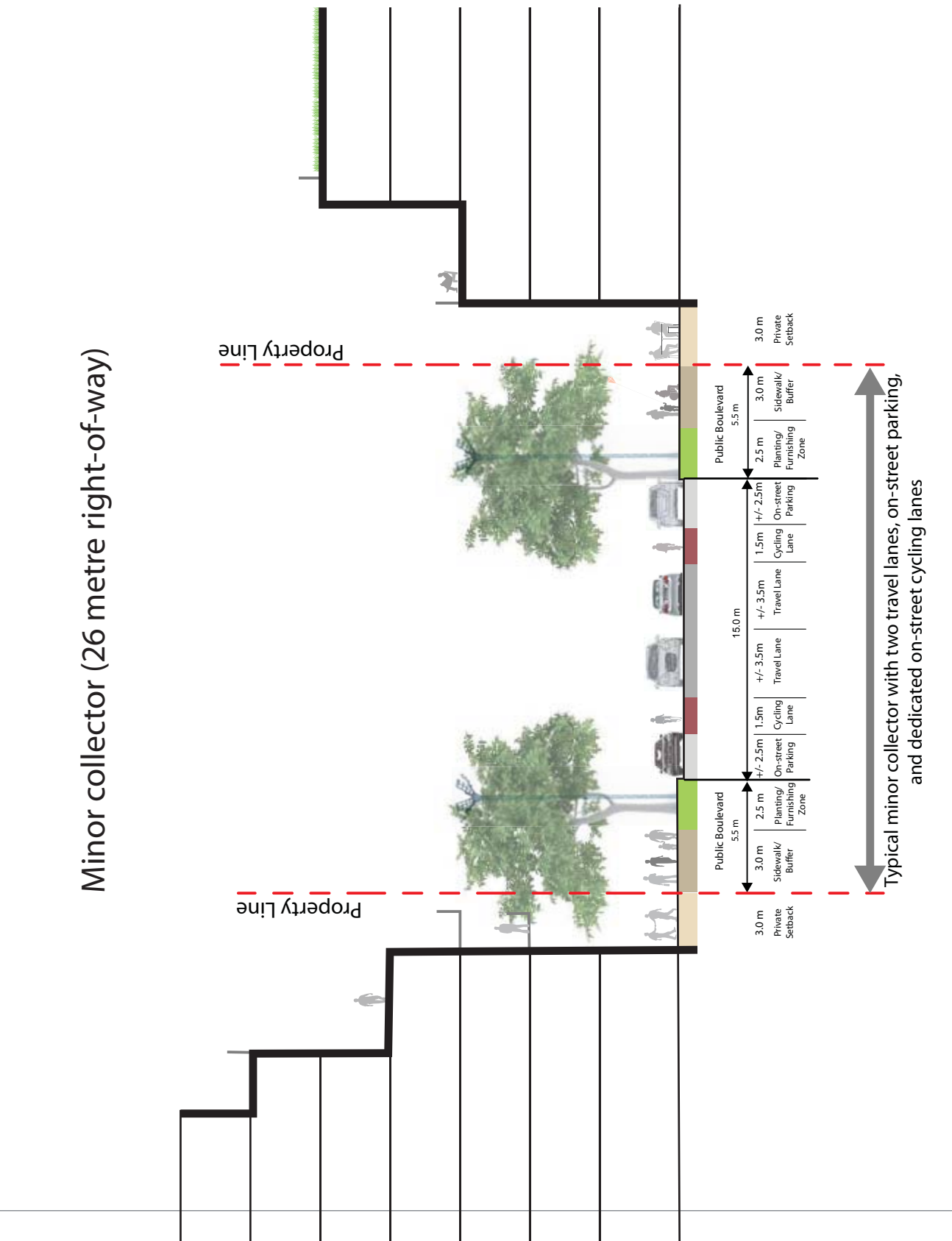


Section D: MAJOR COLLECTOR SPECIAL CONDITION (BASS PRO MILLS)

Major collector with multiuse path
(30 metre right-of-way)

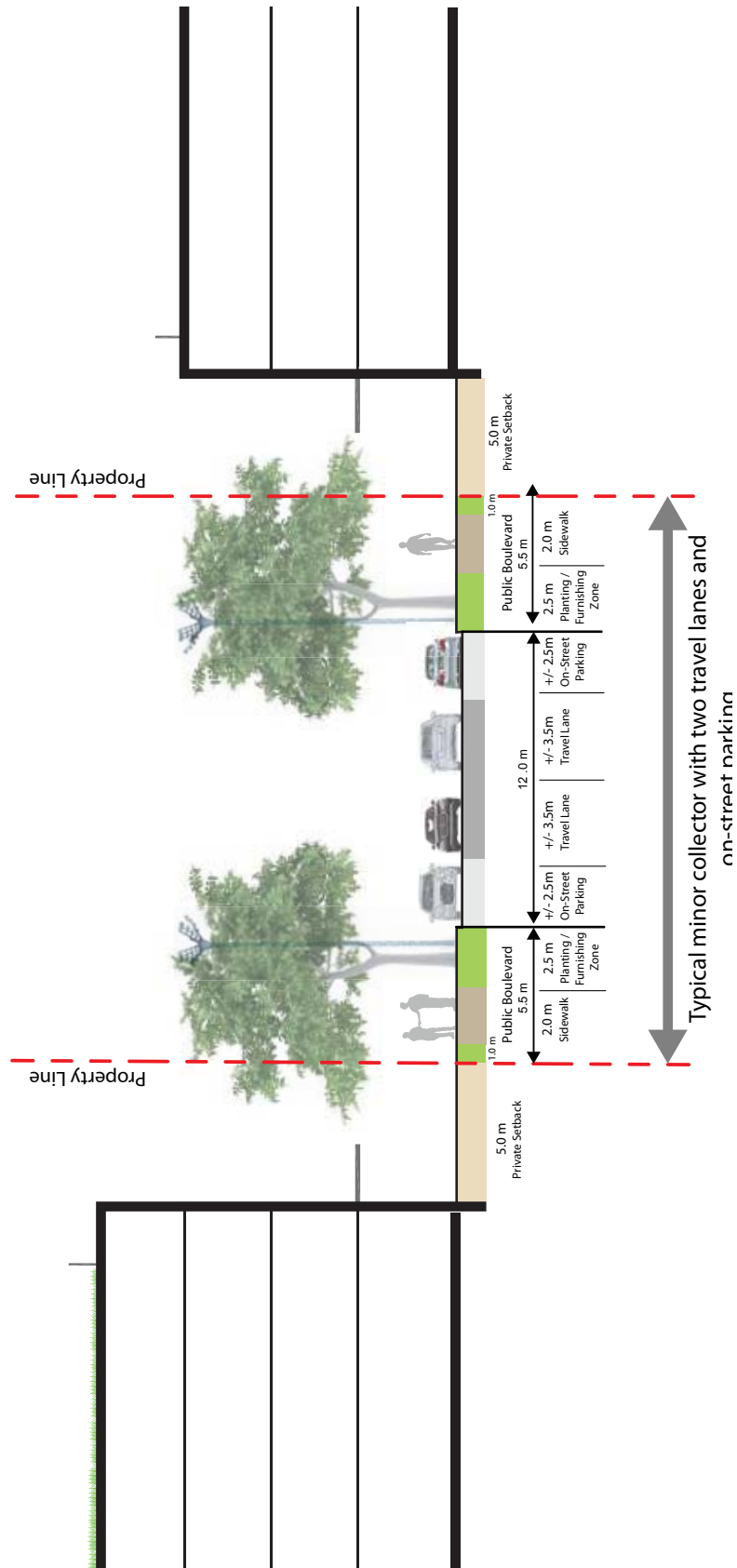


Section E: MINOR COLLECTOR WITH DEDICATED CYCLING LANES
(26 METRE RIGHT-OF-WAY)

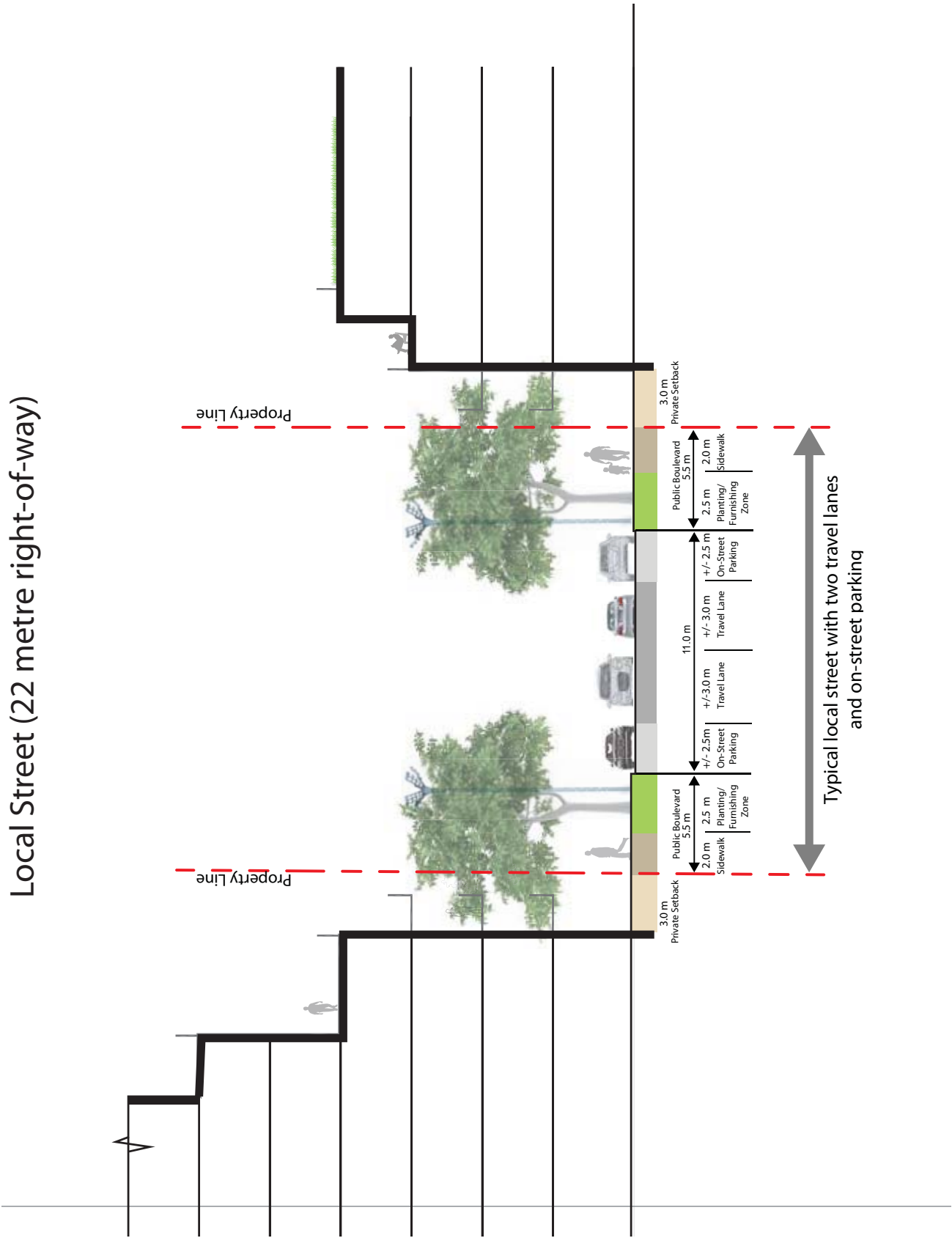


Section F: MINOR COLLECTOR WITHOUT CYCLING LANES (23 METRE RIGHT-OF-WAY)

Minor collector (23 metre right-of-way)

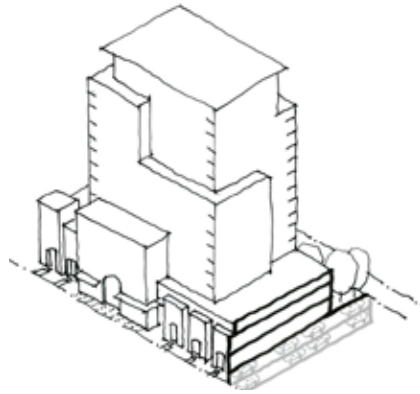


Section G: LOCAL STREET (22 METRE RIGHT-OF-WAY)



APPENDIX B: BUILT FORM GUIDELINES

FIGURE 5: HIGH-RISE BUILT FORM DIAGRAM

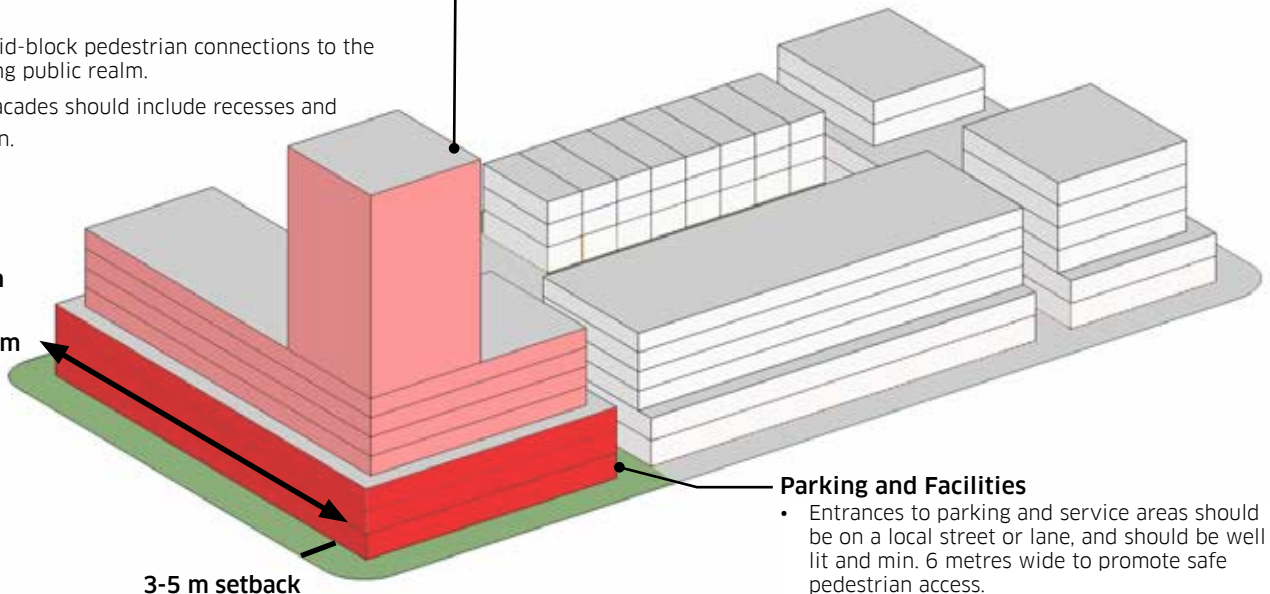


High-Rise Mixed-Use

- Generally, above 10 storeys.
- 30 metre separation distances between towers.
- Maximum residential tower floor plate 750 square metres.
- High-rise buildings consist of a 3-6 storey base building/podium. Towers will be setback a minimum of 3 metres from the podium edge.
- Ground floor to ceiling height should be a minimum 4.5 metres.
- Commercial uses required for portions of the ground floor.
- Provide mid-block pedestrian connections to the surrounding public realm.
- Building facades should include recesses and articulation.

Maximum
building
length 80m

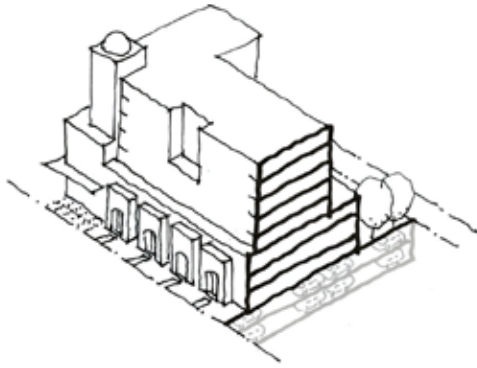
3-5 m setback



Parking and Facilities

- Entrances to parking and service areas should be on a local street or lane, and should be well lit and min. 6 metres wide to promote safe pedestrian access.
- Loading and servicing should be located interior to the block and enclosed within a building.
- Integrated structured parking generally shall be located in underground or above-grade structures, and integrates at-grade related uses.
- Screen parking, loading, and storage areas from public view using grade elevation combined with building massing and landscaping.
- Outdoor private amenity space shall be provided and integrated with the surrounding public realm.
- Provide common open space such as a courtyards, rooftop decks, or small urban squares for residents.

FIGURE 6: MID-RISE BUILT FORM DIAGRAM



Mid-Rise Mixed-Use

- Generally, between 6-10 storeys.
- Typically, street level units have separate individual entrances.
- Ground floor height should be a minimum 4.5 metres.
- Commercial uses required for portions of the ground floor.
- Provide a street wall (podium) at the street edge, with above grade step backs.
- Provide mid-block pedestrian connections to the surrounding public realm.

Parking and Facilities

- Entrances to parking and service areas should be on a local street or lane.
- Loading and servicing should be located interior to the block and enclosed within a building.
- Integrated structured parking generally shall be located in underground or above-grade structures.
- Outdoor private amenity space shall be provided and integrated with the surrounding public realm.
- Provide common open space such as a courtyards, rooftop decks, or small urban squares for residents.

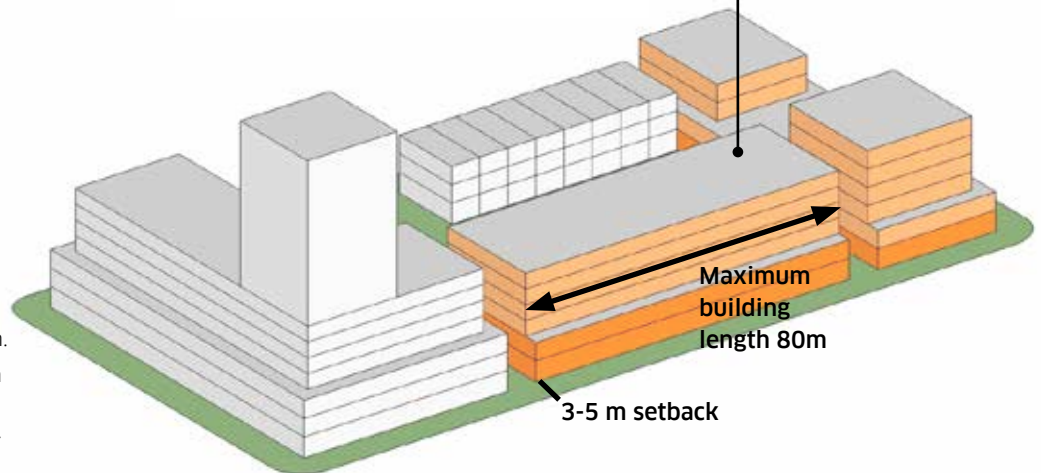
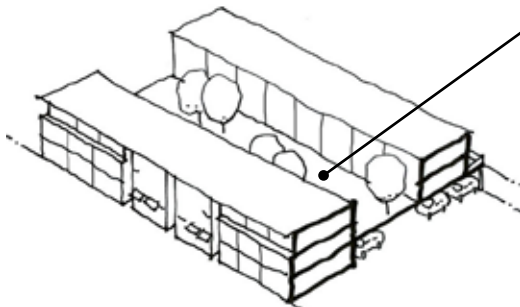


FIGURE 7: LOW-RISE BUILT FORM DIAGRAM



Parking and Facilities

- Amenity areas on deck above parking structure, where possible.
- Parking under deck, accessed by a lane, where possible.
- In general, all parking should be accessed from a rear lane.
- Active or residential uses at grade.
- Screen parking, loading and storage areas from public view using grade elevation combined with building massing and landscaping.

Low-Rise Residential/Mixed-Use

- Generally, 2-4 storeys.
- Residential units attached to their neighbours, below and to the side, within a single building.
- Private open space provided in the form of patios, balconies, or rooftops for individual units.
- Provide common open space such as a courtyard or rooftop deck for residents, except for very small projects.

