

Attachment 2 - Woodbridge GO Station Land Use Study and Appendices

City of Vaughan

Woodbridge GO Station Land Use Study Report and Conceptual Station Plans

Issue – 2024-07-15



Our project number: P0075-00



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Woodbridge GO Station Land Use Study
Report and Conceptual Station Plans

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Summary

From its colonial settlement in the late 1830s, Woodbridge is one of the historic villages that form the modern-day City of Vaughan. The thriving village attracted the attention of the railways, and in 1870, the Toronto, Grey & Bruce Railway built the first railway line through Woodbridge. Although the connection between Woodbridge and the railway has changed much since 1882, the railway remains as a defining element of the community today. The railway is now owned by Canadian Pacific Kansas City (CPKC), and is an integral part of its transcontinental network, connecting Woodbridge with Western Canada and Toronto.

Background information

In a sense, the Woodbridge GO Station Land Use Study has come full circle with Woodbridge's history and the evolution of the railway. The origin of this study dates to 16 May 2023, when Vaughan Council approved *Interim Control By-law 060-2023* (ICBL) within the vicinity of the Kipling Avenue Corridor Secondary Plan area. The ICBL halted development within the by-law area for a period of up to one year to allow for the review of the *City of Vaughan Official Plan 2010* land use designations and to select a desirable location for a Woodbridge GO Station. The purpose of this study is to:

- Assess the feasibility of adding a GO Transit passenger rail station in Woodbridge.
- Identify a preferred station location as part of the potential Caledon-Vaughan GO Line.
- Review the Official Plan land use designations within the study area and prepare amendments to protect for a future station and optimize the land uses in the area, if necessary.

The City's planning policy framework is inconsistent on the potential Woodbridge GO Station. Schedule 10 of the Vaughan Official Plan shows a proposed GO station northwest of the Kipling Avenue crossing with the CPKC MacTier Subdivision railway. However, this designation does not appear in the Kipling Avenue Corridor Secondary Plan.

Although Metrolinx has concluded that the Caledon-Vaughan GO Line is feasible and included it in previous plans, it views the Line as a long-term project. The *2041 Regional Transportation Plan* (2041 RTP) places the Line in its projects beyond 2041 list, pushing the project beyond the current planning horizon.

Station facilities and creating the list of locations

To assess the feasibility of adding the proposed Woodbridge GO Station, we researched GO Transit’s technical design standards and requirements to identify the facilities typically provided at a GO station. Broadly, we found that the complement of station facilities would include a 315 m long platform, 250 vehicular parking spaces, 48 spaces for a passenger pick-up and drop-off facility, 76 bicycle parking spaces, and a network of walkways to connect the facilities together with the neighbourhood. In addition, the proposed station would need to account for the doubling of the single track CPKC MacTier Subdivision from Bolton and through the study area, to provide enough capacity for existing freight train and new passenger train movements.

We then identified potential station locations within the study area that appeared able to accommodate the facilities needed for a potential Woodbridge GO Station. To create the list of sites, several criteria were established:

- The station sites should be in or adjacent to the *Interim Control By-law 060-2023* area.
- Sites must have a frontage along the MacTier Subdivision to provide a platform area for passengers to board and alight trains safely.
- Sites should have a large area to accommodate the required GO Transit station facilities.
- Avoid, as best as possible, the need to redevelop and/or create new and undesirable effects for adjacent residential areas.
- Avoid spanning across the MacTier Subdivision, to minimize the occurrence and risk of passengers needing to cross the railway at-grade to access various components of the station, and to minimize the need for and accessibility challenges associated with grade-separated walkways.

Using these criteria, we identified four potential station locations for study:

1. The Woodbridge Foam Corporation lands (with an approximate area of 7.6 ha)
2. Lands west of Kipling and north of the railway (~2.5 ha)
3. The Woodbridge Fair lands (~8.0 ha)
4. Lands east of Kipling and south of the railway (~1.8 ha)

We reviewed the four potential station locations and prepared a strengths, weaknesses, opportunities, and challenges (SWOC) analysis to evaluate the feasibility of each location to accommodate the station access facilities. As background, a SWOC analysis is a situational

assessment that aids decision-making by creating a snapshot of the positives and negatives of options being considered.

Engagement and consultation

With the list of station locations in hand, we engaged and consulted with a diverse group of stakeholders, rightsholders, and the public to raise awareness of this study and to hear the feedback on this study's research and recommendations. This consultation program included:

- A study project website that provided information on this study's goals, background information, instructions on how to get involved with this study, a frequently asked questions section, and the study deliverables. As this study progressed, additional details on the public open house, survey, and the statutory public meeting were added.
- Meetings with the Technical Advisory Committee, selected landowners, and the public (via the public open house and the statutory public meeting).
- An online survey that was open for two weeks and received over 200 responses from Vaughan residents.
- Meetings with representatives from the Six Nations of the Grand River and the Mississaugas of Scugog Island.

Identifying the preferred station location

From our technical research and the SWOC analyses, we shortlisted the potential station locations from four to two. As noted in the SWOC analyses, Sites 3 (the Woodbridge Fair lands) and 4 (lands east of Kipling and south of the railway) cannot accommodate a full 315 m platform. In both cases, the platform length is limited due to the William Street rail bridge to the southeast of the Kipling Avenue railway crossing. To provide a full 315 m platform, challenging (and expensive) engineering works would be required, involving a significant rebuilding and/or a full reconstruction of the rail bridge and stabilization works to regrade the adjacent embankments. Without these engineering works, Site 3 is limited to a maximum platform length of 220 m, and Site 4 is limited to a length of 210 m. As a result, we determined that Sites 3 and 4 are not suitable as potential station locations.

Of the remaining two locations, Site 1 (the Woodbridge Foam Corporation lands) was selected as the preferred site for a potential Woodbridge GO Station for several reasons:

- Site 2 is smaller than Site 1, with the former having geometric constraints on where and how station access facilities could be located.

- A new residential development is proposed on Site 2, which may not be compatible in its current proposed form with the co-location of required station access facilities. No redevelopment is currently proposed for Site 1.
- Site 2 contains a heritage house, which may make the layout and providing station access facilities more difficult. No heritage properties are known to exist on Site 1;
- The northern part of Site 1 is designated in the Secondary Plan for mid-rise residential, which would be more transit supportive than Site 2, which is designated for low-rise mixed use.
- The longer-term development timeline of Site 1, given that current industry will remain active into the near future, is more aligned with the prospects of the proposed Caledon-Vaughan GO Line and proposed stations, not expected until post-2041.

Proving the feasibility of the station through conceptual design

Regarding the siting, configuration, and design of the station and the surrounding area, several objectives and principles guided this process, ensuring that the potential station could be included in the existing and planned contexts in a sensitive and compatible way. We aimed to:

- Celebrate and protect connections to and from the ravine.
- Create an integrated neighbourhood asset with a new public right-of-way.
- Ensure coherent, comfortable, safe, and direct station facilities for all modes of travel.
- Provide new open space and future development opportunities.

Two station site plans were developed as a proof of concept to assess the optimal configuration of the station facilities (which include an additional track, platform, station building, station plaza, pedestrian and cyclist circulation space, bike parking, and passenger pick-up and drop-off (PUDO) area) on-site. Both plans were drawn to demonstrate that the station access facilities could be accommodated on Site 1 and to achieve the noted objectives, while creating flexibility to envision the site’s evolution over a longer period (and hence two options). Both plans also include space for potential residential development, in accordance with the vision of the Secondary Plan. It should be noted that these plans have been prepared as proofs of concept and are not intended to prescribe the future design of this site.

The first plan, Option 1a (as shown in Figure 21), illustrates that all the station requirements and space for 250 surface parking spaces can be accommodated on the site. These parking spaces are located at a convenient distance to the station facilities and can include accessible parking spots. This option demonstrates that Site 1 can feasibly accommodate the traditional GO station layout, with station access facilities that help people take GO Transit via a broader, regional-scale park-and-ride model.

The second plan, Option 1b (as shown in Figure 22), is an alternative proof and vision of Option 1a. It explores the replacement of the Option 1a surface parking lot with another potential development site. Access to this new potential development site will be via the new public ROW. This option demonstrates that Site 1 can provide the City and Metrolinx with an alternative where station access facilities help people take GO Transit via a local-scale, walking- and cycling-first model. By replacing the surface parking lot with potential development, vehicular traffic may be reduced in the area while increasing the number of potential transit riders within the station catchment area.

Protecting for the station

It is important to ensure that the City's planning policies identify and protect for a proposed Woodbridge GO Station at the preferred location, as determined through this study. While the timing and details of the proposed Caledon-Vaughan GO Line are, at best, a long term (beyond 2041) prospect, it is appropriate and prudent to ensure that the City is prepared to act when the time comes.

To protect for Woodbridge GO Station, we have prepared a draft official plan amendment (OPA) that adds to the Kipling Avenue Corridor Secondary Plan the location of, and policy guidance for, the proposed station. At a minimum, showing the proposed line and station will harmonize the Secondary Plan with the Official Plan, which has long identified the line and station as part of the City's long-term transit vision. The draft OPA adds this consistency and includes strategic guidance for making the proposed line and station an important part of Woodbridge and integral to the long-term residential redevelopment of the Rainbow Creek Neighbourhood North precinct. The OPA adds to the land use map a symbol to conceptually show a "Proposed GO Station" on lands west of the CPKC MacTier Subdivision, currently the site of Woodbridge Foam Corporation, and labels the railway as a "Proposed Commuter Rail Line". This is consistent with Schedule 10 (Major Transit Network) of the Official Plan.

Nothing in the draft OPA will prohibit the continuation of current land uses. It is expected that the existing industrial uses within the Rainbow Creek Neighbourhood North precinct, the Mid-Rise Residential designation notwithstanding, will continue to operate into the near future. However, should current industrial uses cease, then the redevelopment of the lands will be guided by policies that envision a new residential neighbourhood with a GO station that is accessed primarily by walking, cycling, transit use, and by PUDO.

1 Study origin and purpose

From its colonial settlement in the late 1830s, Woodbridge is one of the historic villages that form the modern-day City of Vaughan. The settlers of the time found a natural landscape defined by the Humber River, which provided the power needed to operate a growing industrial base of flour and textile mills, and forests, which provided raw materials for sawmills. By the 1860s, Woodbridge was the home of the Abell Agricultural Works, a factory that produced steam-powered agricultural machinery. The thriving village attracted the attention of the railways, and in 1870, the Toronto, Grey & Bruce Railway built the first railway line through Woodbridge. The new railway brought passengers and freight to Woodbridge Station, supporting the growth and incorporation of Woodbridge as a municipality in 1882.

Although the connection between Woodbridge and the railway has changed much since 1882, the railway remains as a defining element of the community today. The railway is now owned by Canadian Pacific Kansas City, and is an integral part of its transcontinental network, moving freight from Western Canada to Toronto via Woodbridge. Railways in general, in the Toronto region, have also changed from their historic purpose of moving freight across the region to being the arteries of the GO Transit regional passenger rail network.

In a sense, this study, the Woodbridge GO Station Land Use Study, has come full circle with Woodbridge's history, the historic Woodbridge Station, and the evolution of the railway. The origin of this study dates to 16 May 2023, when Vaughan Council approved *Interim Control By-law 060-2023* (ICBL) within the vicinity of the Kipling Avenue Corridor Secondary Plan area. The ICBL halted development within the by-law area for a period of up to one year to allow for this study to be undertaken. The purpose of this study is to:

- Assess the feasibility of adding a GO Transit passenger rail station in Woodbridge.
- Identify a preferred station location as part of the Caledon-Vaughan GO Line.
- Review the Official Plan land use designations within the study area and prepare amendments to protect for a station and optimize the land uses in the area, if necessary.

1.1 Previous version of this report

On 17 April 2024, we publicly shared a version of this report that was marked as "Draft for public review". At the time of publication, the engagement and consultation program for the Woodbridge GO Station Land Use Study was still active with:

- An online survey, which closed on 18 April 2024.

- A scheduled meeting with representatives of the Mississaugas of Scugog Island on 25 April 2024.
- A statutory public meeting on 7 May 2024.

The analyses and findings in the draft-for-public-review report were therefore shared on a draft and interim basis, pending the completion of the engagement and consultation program. The feedback we received to date, which included what was shared at the Technical Advisory Committee meeting, meetings with selected landowners, the public open house, and a meeting with representatives of the Six Nation of the Grand River, was reflected in the draft-for-public-review report and was considered in identifying a preferred location for the proposed Woodbridge GO Station.

The early issuance of this draft-for-public-review report was prompted by our need to:

- Comply with the required public notice requirements leading up to the 7 May 2024 statutory public meeting, as required by the *Planning Act*; and
- Provide Vaughan Council with an opportunity to meet and decide whether *Interim Control By-law 060-2023* should expire on 16 May 2024, or if there is a need to extend it for up to one additional year.

Public comments received after the public release of the draft-for-public-review report, including those shared at the statutory public meeting, were reflected in the issue version of this report. Vaughan Council will consider this version and its appended materials (including a draft official plan amendment) on 25 June 2024.

2 Background information

To familiarize ourselves with the study area, the proposed passenger rail service, and the Woodbridge neighbourhood, City staff and Hertel Planning reviewed the relevant planning policy framework, the history of the railway, and previous planning studies on the feasibility of starting a new GO Transit line on the railway.

2.1 Planning policy framework

Interim Control By-law 060-2023

On 16 May 2023, the City of Vaughan enacted *Interim Control By-law 060-2023* (ICBL) in the vicinity of the Kipling Avenue Corridor Secondary Plan area to allow for the review of the Vaughan Official Plan land use designations and to assess the feasibility and location of a potential Woodbridge GO Station within the study area. To do so, the ICBL temporarily prohibits:

- The use of any land, building, or structure other than those lawfully existing on the date of passage for one year.
- The construction, alteration, or expansion of any building or structure except those with a building permit on or before the date of passage.

The ICBL expires one year from the date of passage (that is, 16 May 2024), but the *Planning Act* permits an extension for up to one additional year. The ICBL area, which is roughly 22 ha, is shown in Figure 1.



Figure 1: *Interim Control By-law 060-2023* boundary superimposed on an aerial photo of the Woodbridge study area

2022 York Region Official Plan

The *2022 York Region Official Plan* is the primary land use plan for The Regional Municipality of York (commonly referred to as York Region). The Plan sets the direction for growth and development across York Region’s nine local municipalities, including the City of Vaughan.

Section 6.3 of the Plan, which focuses on moving people and goods, states that the Region’s objective is to provide transit service that is convenient and accessible to all residents and workers of York Region. To achieve this objective, Policy 6.3.19 of the Plan states that it is the policy of York Region Council:

To support the Transit Network shown on Map 10 by securing the lands in accordance with policy 6.3.18 of the Plan, for facilities such as:

- a. Transit stations including intermodal terminals, mobility hubs, subway, bus and light rail stations and related passenger drop-off and commuter parking lots;
- b. Related surface and sub-surface transit infrastructure, including vent shafts, transformer stations, turning loops, transit stations, emergency exits, transit operation and maintenance facilities, passenger standing pads and passenger pick-up and drop-off areas, electrical and electronic infrastructure and passenger safety facilities; and,
- c. Active transportation facilities to support users including pedestrians and cyclists.

Figure 2 shows an excerpt from Map 10 (Rapid Transit Network) of the Plan, with our study area bounded in red. Of note, Map 10 identifies a GO Rail Corridor through Woodbridge, but no stations are identified or proposed within the study area, with the nearest GO Rail Stations identified near Rutherford Road and Highway 27 to the north, and Islington Avenue and Steeles Avenue West to the south.

The *2010 York Region Official Plan*, however, identified a station within the study area, as shown in Figure 3. Upon revising the Plan in 2022, York Region removed the proposed station to be consistent with Metrolinx’s *2041 Regional Transportation Plan*.

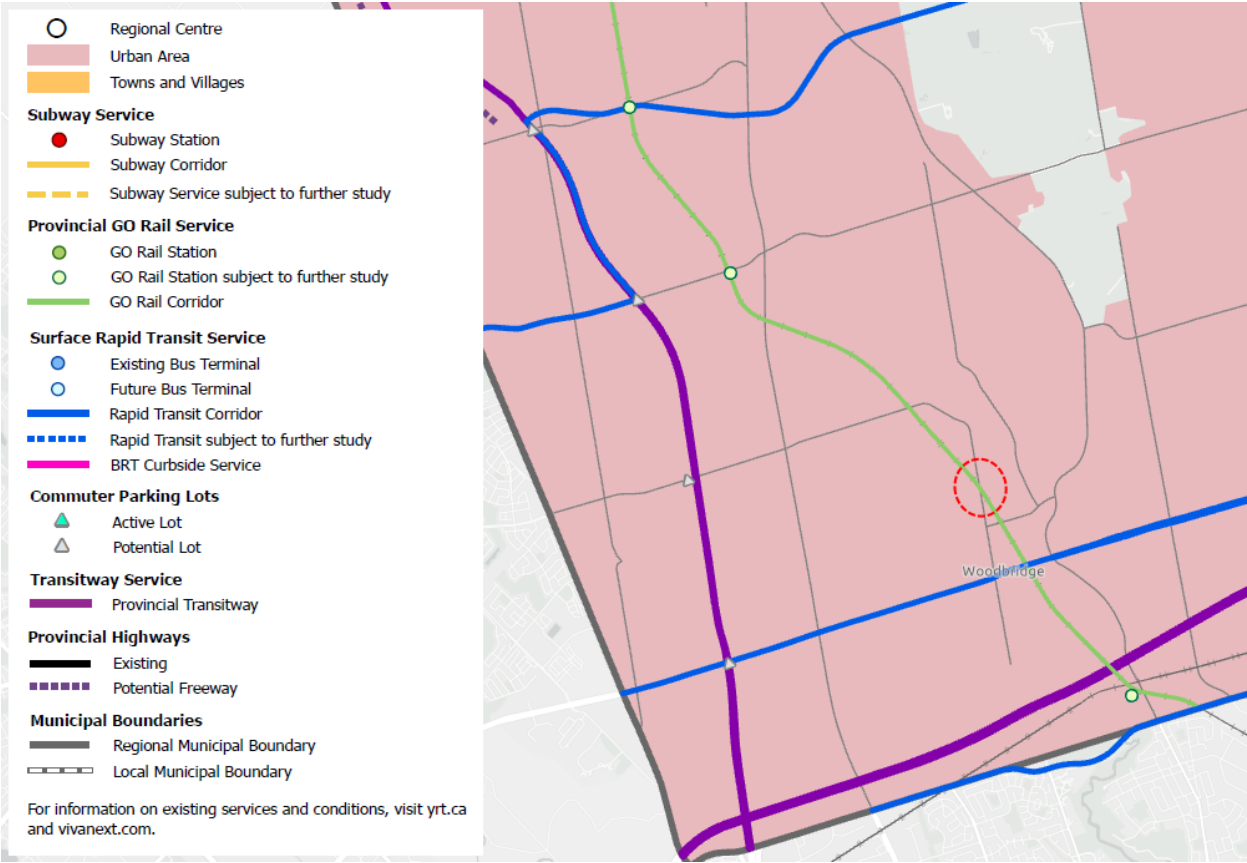


Figure 2: Excerpt from Map 10 (Rapid Transit Network) of the 2022 York Region Official Plan showing no proposed station within the study area, circled in red

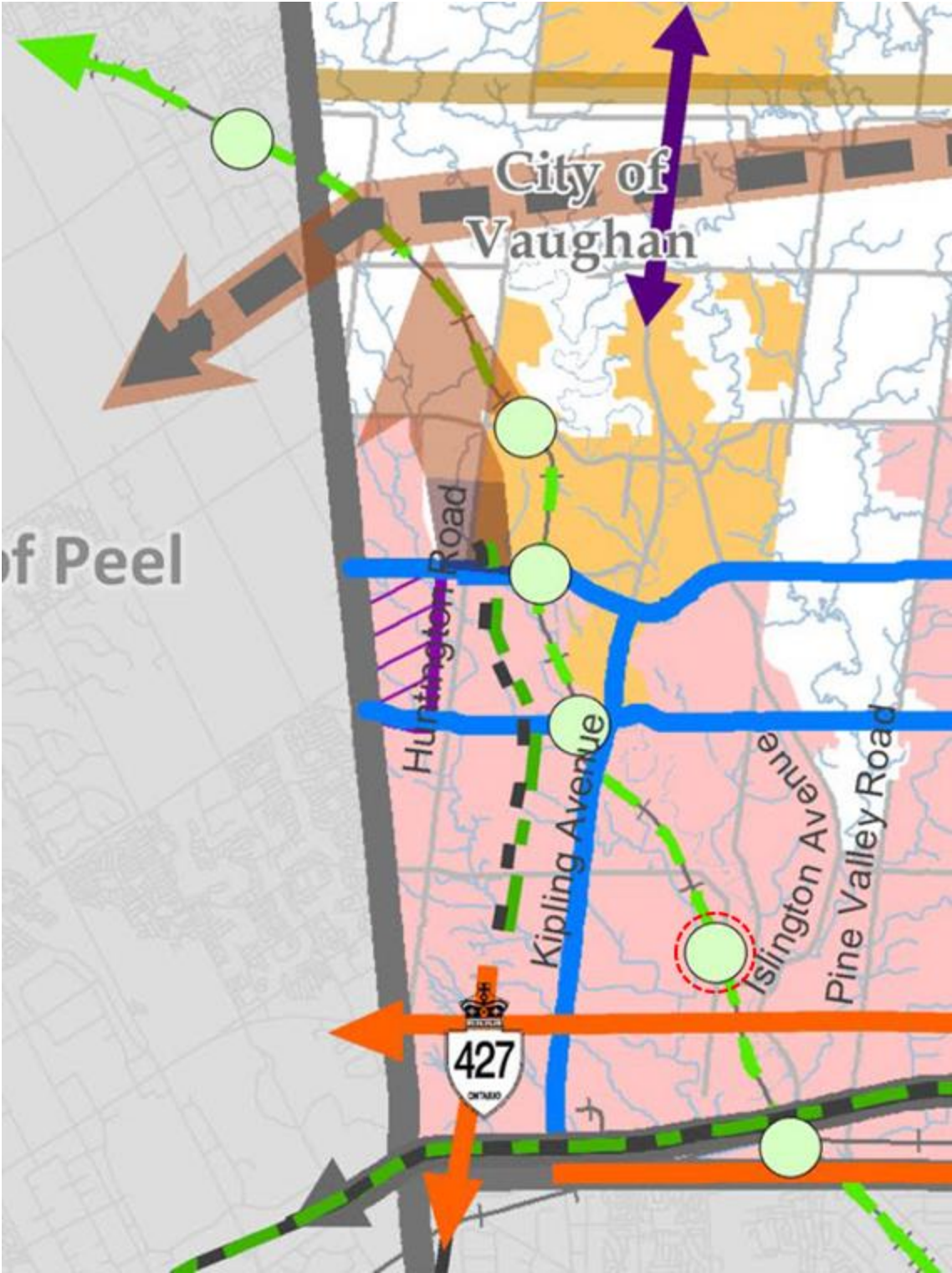


Figure 3: Excerpt from Map 11 (Transit Network) of the 2010 York Region Official Plan showing the proposed GO station in the study area, circled in red

City of Vaughan Official Plan 2010

The *City of Vaughan Official Plan 2010* is the primary land use plan for the City of Vaughan.

Section 4.1 of the Plan calls for a transformation in how people move around Vaughan, noting that land use and transportation are inextricably linked, and that a sustainable transportation network is critical to supporting the City’s approach to growth and development. To achieve this transformation, Policy 4.1.1.7 states that it is the policy of City Council:

To implement the long-term transportation and transit networks, as identified on Schedule 9 and Schedule 10 respectively, in coordination with the appropriate agencies and adjacent municipalities and secure land for such purposes through the development approval process. Transportation corridors shall be protected from development that could preclude or negatively affect the use of the corridor(s) for the purpose(s) for which they are identified.

Focusing on the study area:

- Figure 4 shows an excerpt from Schedule 9 (Future Transportation Network) of the Plan, identifying a proposed grade separation at the Kipling Avenue railway crossing.
- Figure 5 shows an excerpt from Schedule 10 (Major Transit Network) of the Plan, identifying a proposed commuter rail line and a proposed GO station northwest of the Kipling Avenue railway crossing.

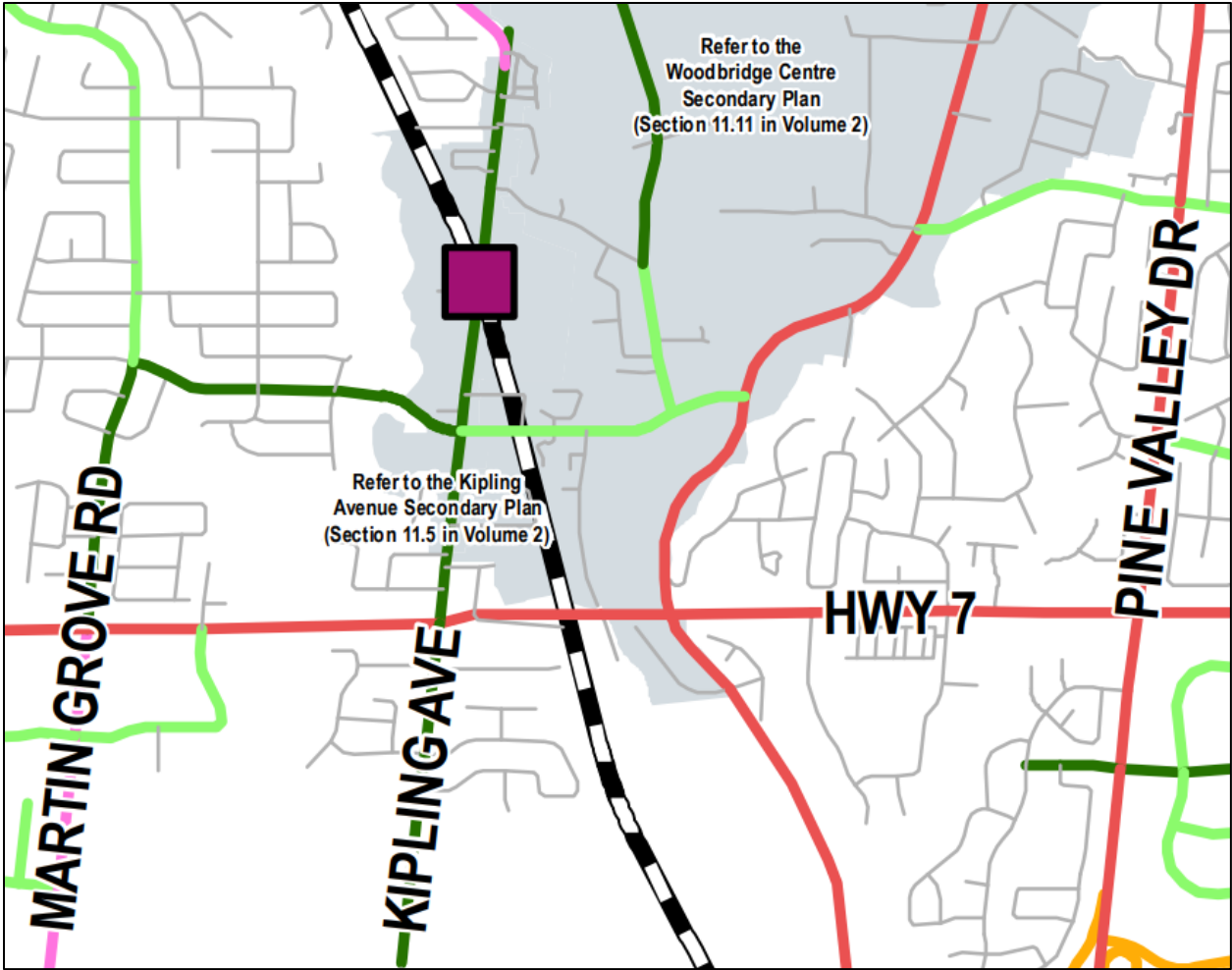


Figure 4: Excerpt from Schedule 9 (Future Transportation Network) of the City of Vaughan Official Plan 2010 showing a proposed grade separation at the Kipling Avenue railway crossing

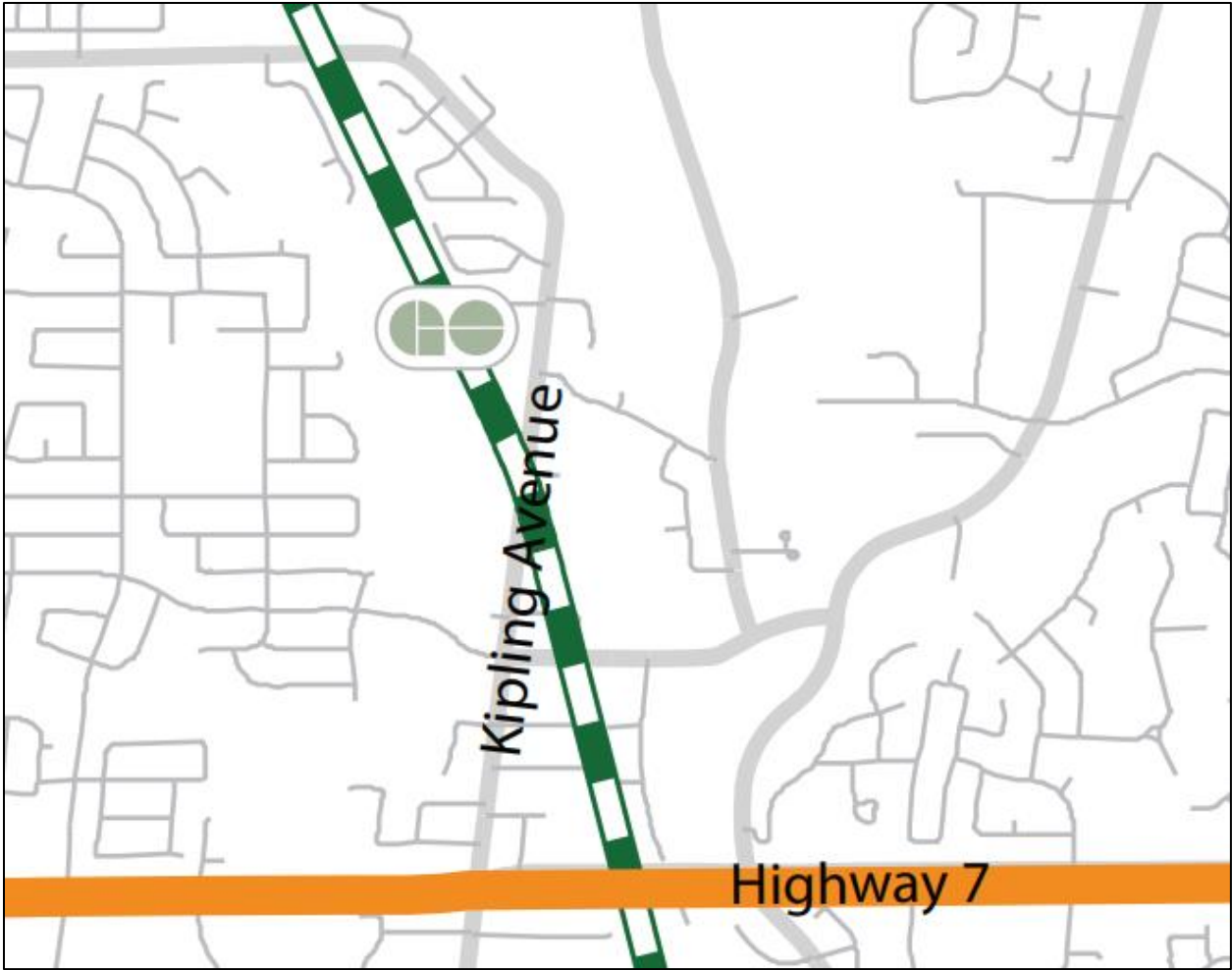


Figure 5: Excerpt from Schedule 10 (Major Transit Network) of the *City of Vaughan Official Plan 2010* showing a proposed commuter rail line and a proposed GO station northwest of the Kipling Avenue railway crossing

Of relevance to this study and the Woodbridge neighbourhood, Policy 4.2.2.11 of the Plan states that it is the policy of City Council:

To encourage the implementation of new GO train stations in Vaughan, and expanded service along the proposed Bolton and the existing Barrie GO railway corridor as shown in Schedule 10.

The Plan includes additional policies specific to GO railway corridors, stations, and supportive land use and development, as shown in Table 1.

Table 1: Selected *City of Vaughan Official Plan 2010* policies on GO station area development and railway crossings

Policy	It is the policy of Council:
4.2.2.12	To plan areas surrounding GO stations for higher density development and a mix of uses to take advantage of regional transportation infrastructure.
4.4.1.3	To maximize utilization of GO rail corridors by: <ul style="list-style-type: none"> a. directing higher density growth to areas surrounding GO stations; b. requiring mixed-use development in areas surrounding new GO stations; c. encouraging redevelopment of GO station parking lots with mixed-use development; and d. minimizing the footprint of commuter parking by supporting shared parking, parking structures and effective transit service and connections to GO stations.
4.4.1.6	To require grade separations between the street and rail systems as needed at arterial and collector street/rail junctions without amendment to this Plan.

Kipling Avenue Corridor Secondary Plan

Forming section 11.5 of the *City of Vaughan Official Plan 2010*, the Kipling Avenue Corridor Secondary Plan details the development principles and objectives for the precincts within the Plan area. With reference to the study area, the Plan identifies four relevant precinct areas:

- Kipling Avenue North/South (Precinct 2), focusing on the lands fronting onto Kipling Avenue.
- Rainbow Creek Neighbourhood North (Precinct 4), for the northern portion of the Woodbridge Foam Corporation lands west of the railway accessed from Kipling Avenue by the proposed Rainbow Creek Road (which currently exists as a private driveway).
- Rainbow Creek Neighbourhood South (Precinct 5), for the southern portion of the Woodbridge Foam Corporation lands west of the railway accessed from Kipling Avenue by Porter Avenue West and the proposed Industry Avenue.
- Fairground (Precinct 6), for the Woodbridge Fair lands.

The four precinct areas are shown in relation to the study area boundary in Figure 6.

Map 11.5.B
Precincts and Gateways

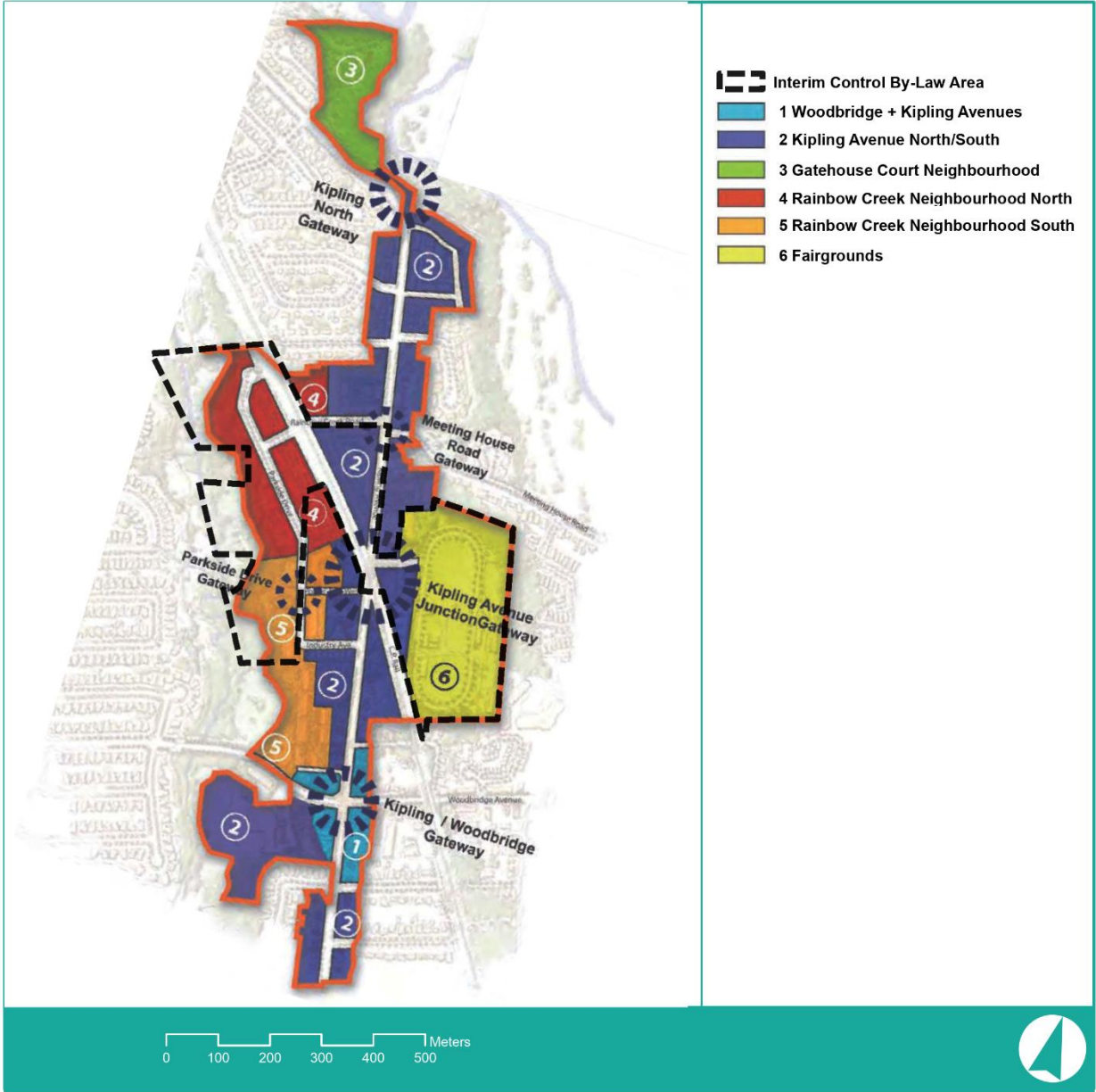


Figure 6: Modified Map 11.5.B of the Kipling Avenue Corridor Secondary Plan with the study area boundary superimposed

Of note, the Kipling Avenue Corridor Secondary Plan does not include the areas commonly known as the historic Woodbridge Village area, primarily along Woodbridge Avenue between Kipling and Islington Avenues. This area is covered by the separate Woodbridge Centre Secondary Plan.

Figure 7 shows Map 11.5.A (Kipling Avenue - Land Use) of the Plan, identifying the proposed land uses for the study area. Of note, no GO rail services or stations are proposed within the Plan area.

Map 11.5.A
Kipling Avenue - Land Use

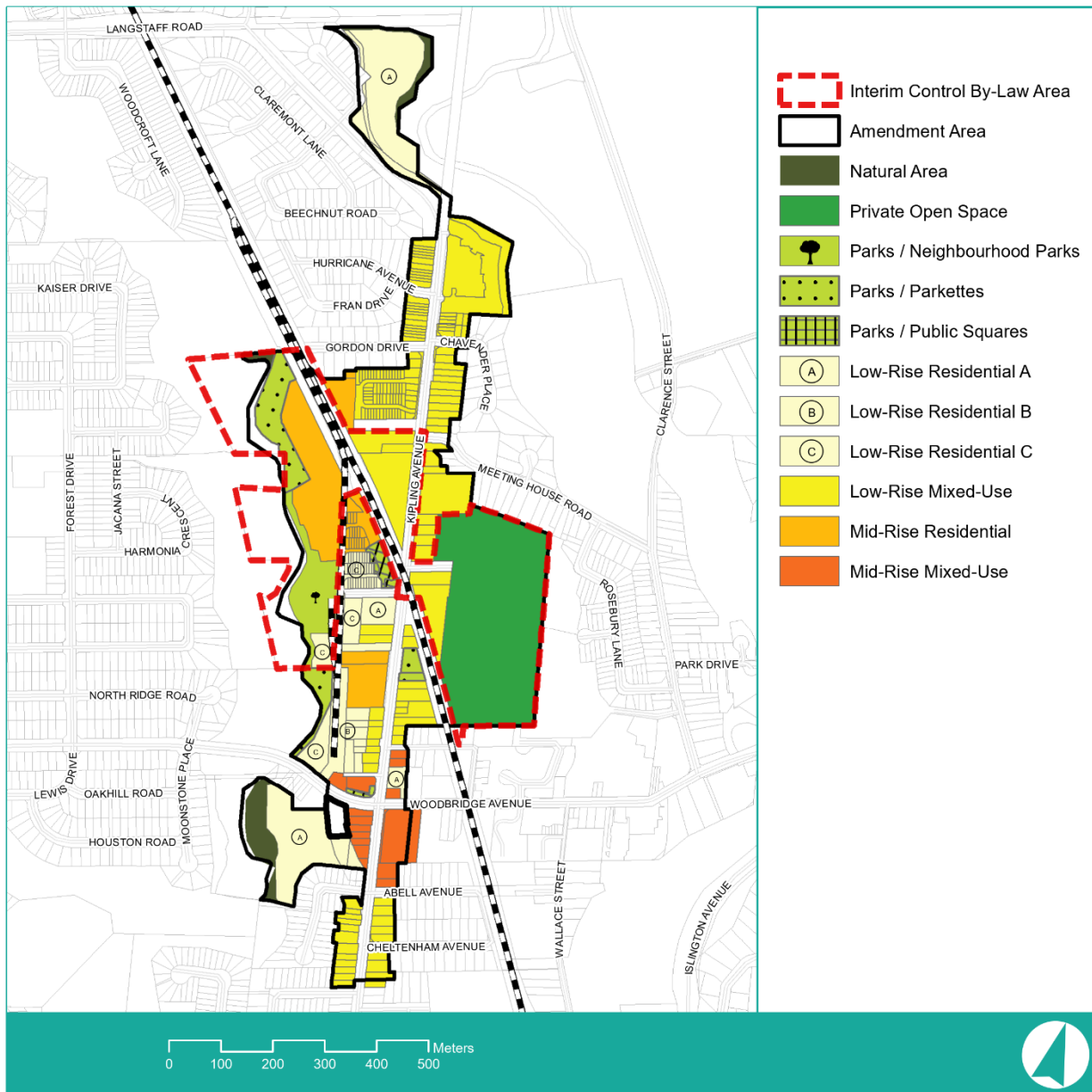


Figure 7: Modified Map 11.5.A of the Kipling Avenue Corridor Secondary Plan with the study area boundary superimposed, showing no proposed passenger rail service or stations in the Plan area

2.2 The railway line and potential passenger service

CPKC MacTier Subdivision

In 1870, the Toronto, Grey & Bruce Railway built the first railway line through Woodbridge. This original line was located west of what is now Kipling Avenue, with a passenger station and a crossing at Woodbridge Avenue. This railway was acquired by the Canadian Pacific Railway (CP) in 1883, and by 1908, CP realigned and regraded the railway through Woodbridge, moving the crossing to Kipling Avenue, roughly equidistant between Langstaff Road to the north and Highway 7 to the south (as shown in Figure 8). A new passenger station was constructed west of the Kipling Avenue railway crossing (as shown in Figure 9), which closed in the 1960s and was demolished in 1971. Of note, this passenger station was located within the current study area.



Figure 8: Kipling Avenue at the CPKC MacTier Subdivision crossing looking north



Figure 9: Woodbridge Station, looking north from the Kipling Avenue crossing, circa 1900. (Source: City of Vaughan.)

Now known as the MacTier Subdivision, the railway is owned by Canadian Pacific Kansas City (CPKC, the successor of the Canadian Pacific Railway). The MacTier Subdivision is part of the only all-Canadian transcontinental connection in the CPKC railway network. The Subdivision spans between:

- MacTier, Ontario, in what is commonly referred to as Ontario’s cottage country, connecting north to Winnipeg and points beyond; and
- The West Toronto Diamond, in Toronto’s Junction neighbourhood, connecting west to Windsor and east to Montreal and points beyond.

The Subdivision is exclusively used for freight rail service and operates on a single-track through Woodbridge. Figure 10 shows the path of the CPKC MacTier Subdivision from Toronto to Bolton.

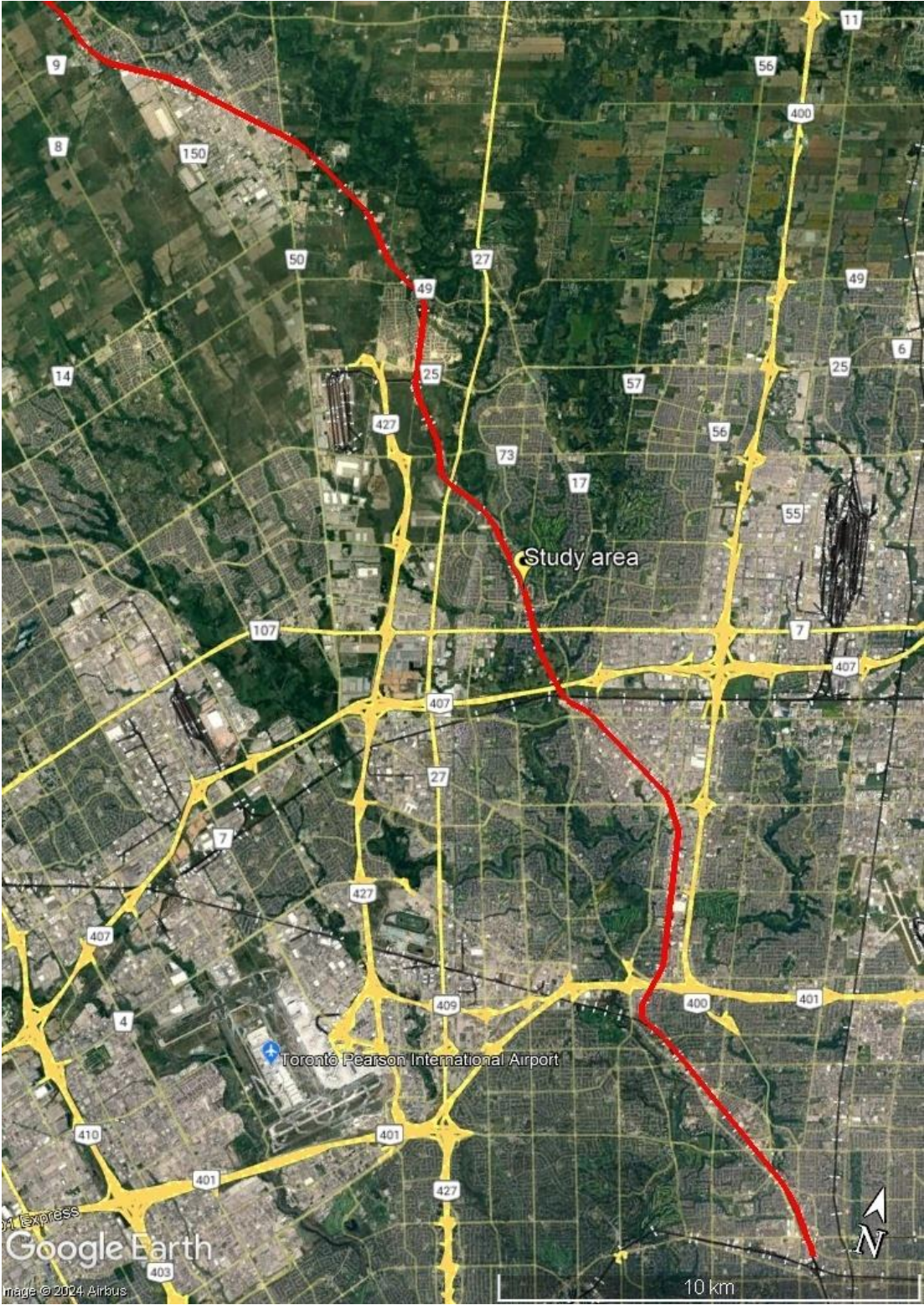


Figure 10: The CPKC MacTier Subdivision, from Toronto through Bolton, shown in red

The potential Caledon-Vaughan GO Line

GO Transit, the regional rail network for Ontario's Greater Golden Horseshoe region, has long considered providing passenger rail service on the CPKC MacTier Subdivision. This potential service, the Caledon-Vaughan GO Line (also referred to as the Bolton Line), could run from Toronto to the Bolton community, located along the eastern edge of Caledon.

MoveOntario 2020 and the Metrolinx Regional Transportation Plans

The Caledon-Vaughan GO Line, connecting Bolton with Toronto Union Station, was identified in 2007 by the Government of Ontario in its MoveOntario 2020 plan. MoveOntario 2020 proposed to fund 52 rapid transit projects in the Greater Toronto and Hamilton Area.

Responsibility for the planning and implementation of the MoveOntario 2020 projects was given to Metrolinx, formerly the Greater Toronto Transportation Authority. In 2008, Metrolinx included the projects in *The Big Move*, its long-term strategic plan for an integrated, multimodal, regional transportation system. *The Big Move* identified the Bolton regional rail line for implementation within the first 15 years (to 2023), as shown in Figure 11.

In 2018, Metrolinx released its updated *2041 Regional Transportation Plan*, so named because it moved forward the planning horizon from 2023 (from the previous 15-Year Plan) to 2041. Of note, the *2041 Regional Transportation Plan* moves the Bolton Rail Service to its projects beyond 2041 list, pushing the project beyond the current planning horizon.

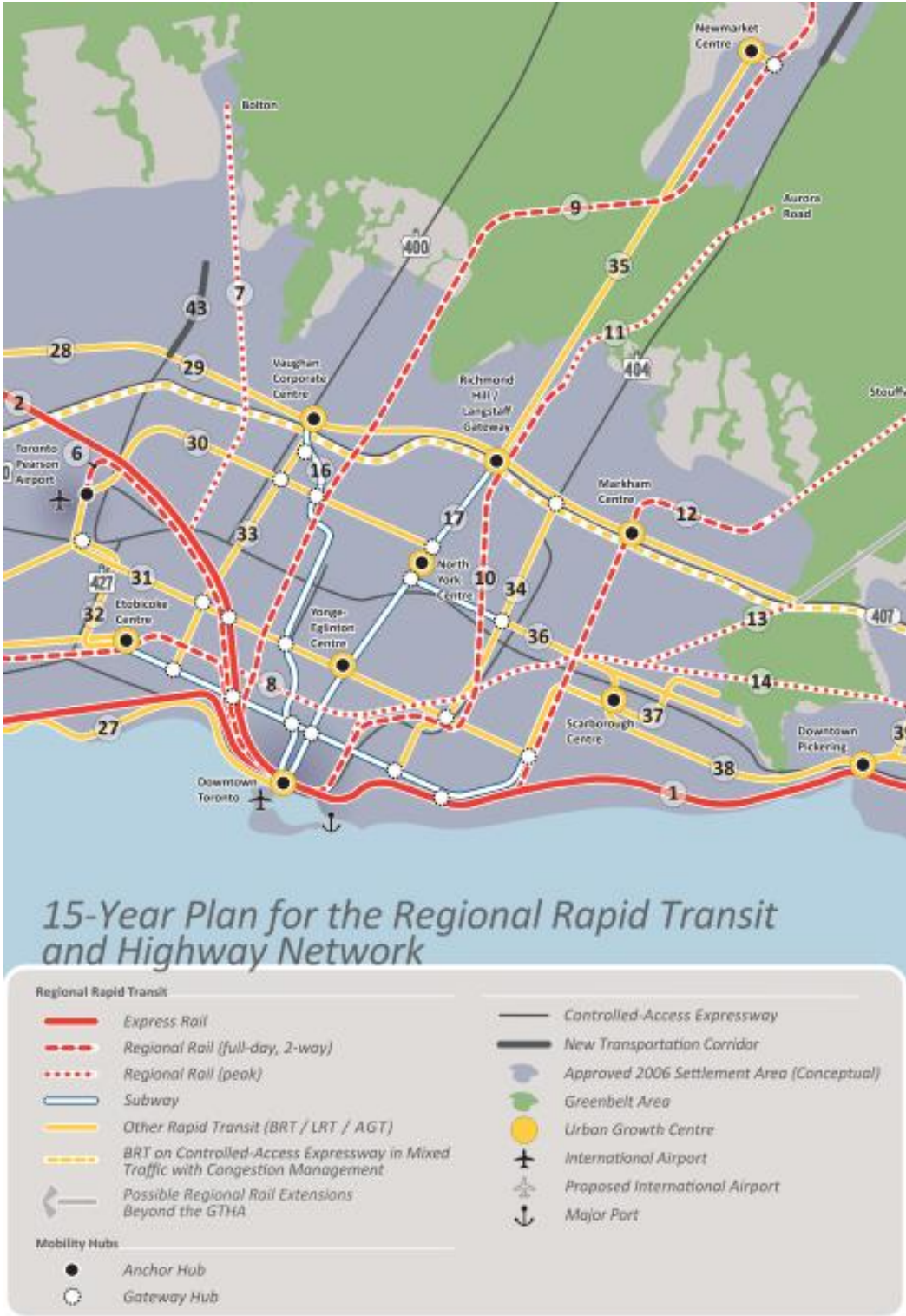


Figure 11: Excerpt from *The Big Move* showing the Caledon-Vaughan Line (identified as project 7) in the 15-Year Plan

Bolton Commuter Rail Service Feasibility Study

In November 2010, Metrolinx released the *Bolton Commuter Rail Service Feasibility Study*. The report details the Study's scope of work:

The initiation of this feasibility study has been identified as the first step in a four-step process required to investigate feasible routing options for the implementation of an all-day rail service between Bolton and Toronto. The study examined the rail and non-rail infrastructure requirements, ridership forecasts, operational scenarios, train service options, conceptual station site layouts and rolling stock and property requirements for each routing option. During the investigation process, environmental issues with potential to impact the Environmental Assessment stage of the project were documented.

Four service implementation options were examined in the Study:

1. Direct rail service between Bolton and Toronto Union Station via the:
 - a. CPKC MacTier Subdivision;
 - b. Metrolinx Weston Subdivision (shared with the Kitchener Line and the Union Pearson Express); and
 - c. Union Station Rail Corridor.
2. Shuttle rail service between Bolton and Weston Station or the proposed Mount Dennis Station via the CPKC MacTier Subdivision.
3. Direct rail service between Bolton and a recommissioned North Toronto Station (near Yonge Street and Scrivener Square in Toronto) via the CPKC MacTier and North Toronto Subdivisions.
4. Direct rail service between Bolton and Toronto Union Station via the:
 - a. CPKC MacTier Subdivision;
 - b. Canadian National Railways (CN) Halton and York Subdivisions (north of and parallel to Steeles Avenue West);
 - c. Metrolinx Newmarket Subdivision (shared with the Barrie Line);
 - d. Metrolinx Weston Subdivision (shared with the Barrie and Kitchener Lines and the Union-Pearson Express); and
 - e. Union Station Rail Corridor.

The Study concluded that service options 1 and 4 are viable alternatives, attracting the most riders with similar travel times. Service option 4, however, was identified as the preferred option, with the caveats that CN's review and approval is required for use of its Halton and York Subdivisions, and that an assessment of the Metrolinx Weston Subdivision confirms that there is sufficient capacity for the additional Caledon-Vaughan Line trains. Figure 12 shows the Option 4 preferred route through York Region, as presented to York Region Council in 2011.

The Study also examined the need for grade separations at railway crossings along the MacTier Subdivision. The Study notes that:

- For the Kipling Avenue railway crossing, a grade separation is warranted but that the adjacent residential land use and local classification of this road may not support the addition of a grade separation.
- For the Woodbridge Foam private crossing, a grade separation is not warranted.

Hertel Planning notes that the Study predates the extensive improvements made to both the:

- Metrolinx Weston Subdivision, which includes significant grade changes and a new grade separation of the West Toronto Diamond, which may make an interconnection to the parallel CPKC MacTier Subdivision difficult to build.
- Metrolinx Newmarket Subdivision, which includes significant grade changes and a new grade separation of the Davenport Diamond, which may change the carrying capacity of the railway.

Hertel Planning's professional opinion is that, together, these improvements have changed the operating conditions sufficiently that an updated (and separate) study should be completed to verify the findings of the 2010 Study.

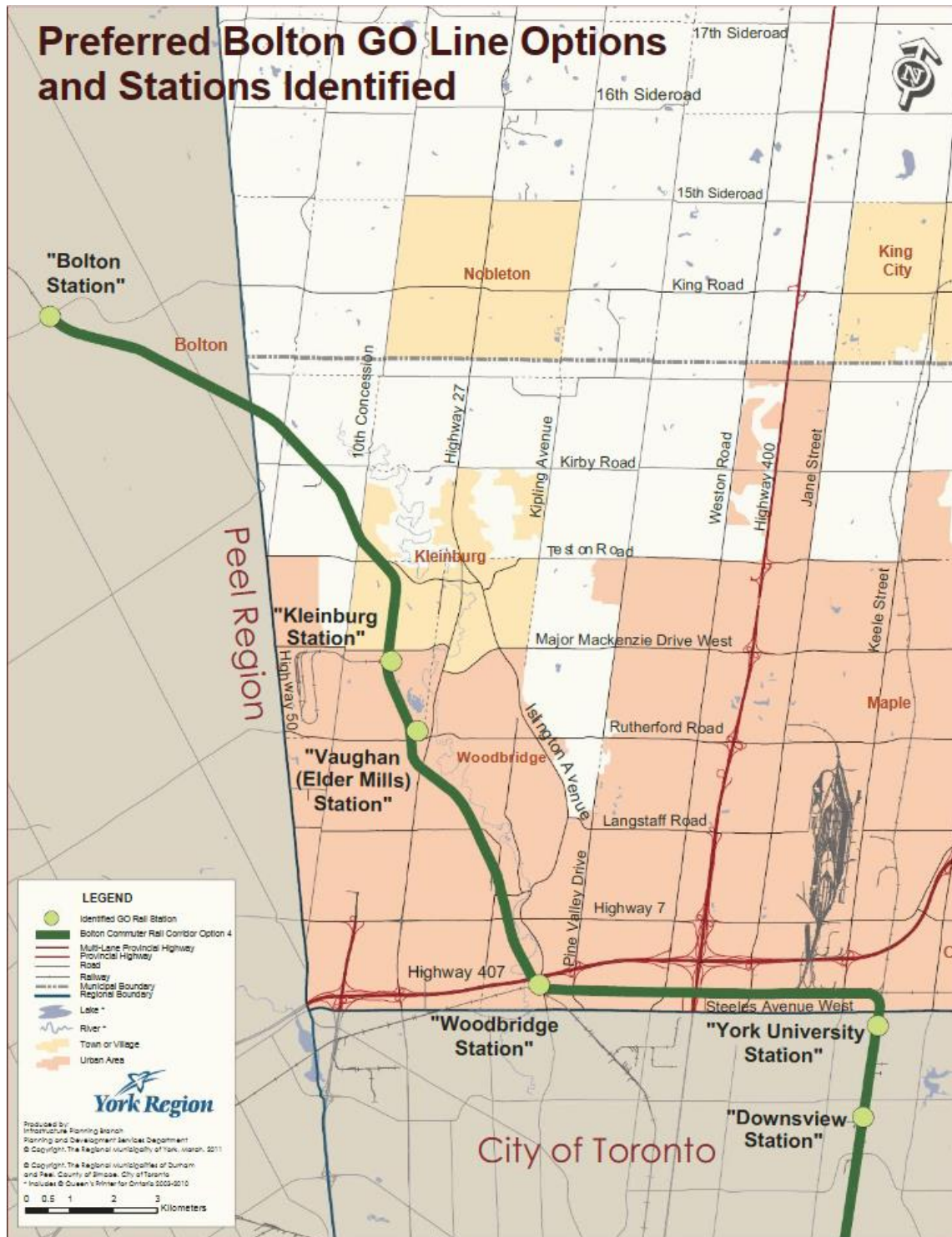


Figure 12: The preferred Bolton GO Line, as identified in the *Bolton Commuter Rail Service Feasibility Study* (Source: York Region, "Bolton Commuter Rail Service Feasibility Study" (Report to the Planning and Economic Development Committee), 19 May 2011.)

2.3 Local transit service

Historically, local transit service in Woodbridge was provided by York Region Transit (YRT) via its 10 Woodbridge local bus route, which originally connected Woodbridge with York University, and then with Vaughan Metropolitan Centre Station when the Line 1 (Yonge-University) Subway extension opened in December 2017. Service on 10 Woodbridge was suspended in April 2020 due to the COVID-19 pandemic.

When this study started in January 2024, there was no local transit service within Woodbridge. To travel by transit, travellers had to go:

- South to Highway 7 to access the YRT 77 Highway 7 local service and the YRT Viva Orange and Brampton Transit Züm rapid services.
- West to Martin Grove Road to access the YRT 7 Martin Grove local service.
- East to Islington Avenue to access the YRT 13 Islington local service.

YRT reinstated a rerouted 10 Woodbridge service on 28 April 2024, which travels along Kipling and Woodbridge Avenues, in and adjacent to the study area, during weekday rush hours. Figure 13 shows the new route for the 10 Woodbridge service.

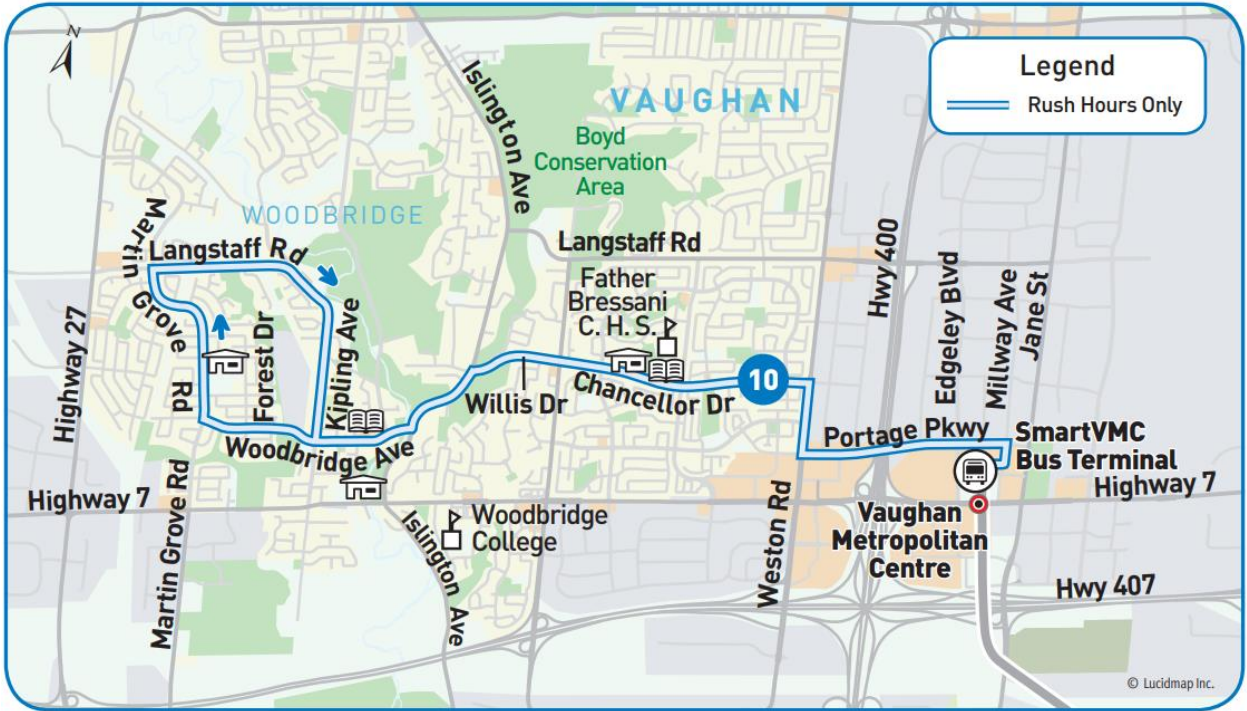


Figure 13: Route map for York Region Transit's 10 Woodbridge local bus service

3 Identifying the station facilities and location

To protect for the potential Woodbridge GO Station, Arup researched GO Transit’s technical design standards and requirements to identify the facilities typically provided at a GO station. With the facilities known, City staff, Hertel Planning, and Arup identified potential station locations within the Study area that appeared able to accommodate the facilities needed for a potential Woodbridge GO Station.

For more details, Arup’s engineering considerations report is appended to this report in Appendix A.

3.1 Station facility requirements benchmarks

To identify the station facility requirements for a potential Woodbridge GO Station, Arup reviewed three Metrolinx planning and design documents to establish benchmarks for comparison:

- *Bolton Commuter Rail Service Feasibility Study (2010)*
- *GO Design Requirements Manual (DRM, 2023)*
- *GO Rail Station Access*

Bolton Commuter Rail Service Feasibility Study

The Feasibility Study provided a proposed site plan for a potential station at Highway 407 and Islington Avenue, which was considered an interchange station for a future transitway on Highway 407. Table 2 summarizes the proposed station facilities for the Highway 407 and Islington Avenue station.

Table 2: Proposed station access facilities as identified in the Feasibility Study for a potential Highway 407 and Islington Avenue station

Station access facility component	Configuration
Platform dimensions	175 m (length) by 3.6 m (width)
Building footprint	300 m ²
Bus facilities	Bus loop with four bus bays
Pick-up and drop-off (PUDO) facilities	Ferry style for 35 vehicles
Vehicular facilities	500 parking spaces, two signalized intersections for station access

GO Design Requirements Manual

The primary features required by the DRM for all future stations are presented in Table 3. All other facilities are usually dependent on the site constraints and a further review of *GO Rail Station Access* is required in future stages of design.

Table 3: Proposed station access facilities as identified by the *GO Design Requirements Manual* for all stations

Section number	Section text
5.2.26.8.1	<p>Rail platform</p> <p>Rail platforms used by GO Transit are minimum 315 m long.</p>
3.3.2.1.2	<p>Pick-up and drop-off (PUDO) facilities</p> <p>Criteria for Application of Ferry Style Configuration:</p> <p>a) The Station Categorization, reported in <i>GO Rail Station Access</i> should meet the “Base” “Medium”, or “Interchange” (“Base” to “Medium”) threshold categories;</p>
3.3.2.2.2	<p>PUDO facilities</p> <p>Criteria for Application of High Ridership Configuration:</p> <p>a) The Station Categorization, reported in <i>GO Rail Station Access</i> should meet the “Medium”, “High”, or “Interchange” (“Medium” or “High”) threshold categories;</p> <p>b) Station shall have Two-Way, All-Day service frequency, or be planned for service expansion.</p>
3.3.2.3.1	<p>PUDO facilities</p> <p>The Strip Configuration is designed to allow for a PUDO Facility on constrained station sites when land availability is a significant concern.</p>
3.3.2.4.1	<p>PUDO facilities</p> <p>The Urban Configuration is designed for station sites where there are minimal, or no station lands available.</p>
3.4.12	<p>Carpool to GO parking</p> <p>Carpool to GO parking shall be up to 2% of total parking spaces in proximity to barrier free parking.</p>

GO Rail Station Access

GO Rail Station Access can provide direction on the proposed Woodbridge GO Station’s infrastructure requirements by reviewing stations with similar ridership and typologies. *GO Rail Station Access* is guided by the hierarchy of access, which presents a prioritization of travel modes intended to support a mode shift to sustainable alternatives. *GO Rail Station Access* provides station specific access requirements for all existing and in-delivery stations. The various physical station elements are informed by a combination of factors, particularly, the ridership and the intended mode share.

Station specific access requirements for existing GO stations were gathered for comparison purposes. The first section presents stations with similar current footfalls and the second section presents stations with similar 2041 projected footfalls (defined as total daily boardings and alightings). The third section summarizes comparable GO stations based on mode share.

Facilities provided at existing GO stations with similar existing footfalls

The projected 2031 daily total footfalls (that is, the total daily boardings and alightings) at Woodbridge GO Station, about 2 500 per day, are like current daily footfalls at Kipling, Centennial, Malton, Milliken, Guildwood, Scarborough, and Dixie GO Stations. These stations’ current access facilities are shown in Table 4.

All stations, except for Kipling, had zero-to-two bus bays and a significant amount of parking (500-900 spaces). Kipling Station, which has a high local transit and low drive and park mode share, has 14 bus bays and no parking spaces. Kipling station also has higher PUDO usage than most of the other stations. This is due to Kipling Station being the TTC Line 2 subway terminus and a western gateway to Toronto, which is unlikely to match the profile of operations at the proposed Woodbridge GO Station. Most stations have less than 100 bike parking spaces, except for Guildwood Station which has over 200 bike parking spaces.

Table 4: Summary of station access facilities provided at GO stations with similar daily footfalls

GO station	Station type	Daily footfalls	Bus bays	Bike parking spaces	PUDO spaces	Vehicular parking spaces
Kipling	Interchange (medium)	2 450	14	90 (24 lockers, 42 covered)	66	0
Centennial	Base	2 175	0	64 (56 covered)	35	451
Malton	Medium	2 575	1	64 (32 covered)	29	698
Milliken	Medium	2 250	0	32 (32 covered)	36	665
Guildwood	Medium	2 875	0	216 (216 covered)	56	903
Scarborough	Medium	2 550	0	70 (24 secure, 32 covered)	34	628
Dixie	Base	2 350	2	32 (32 covered)	42	933
Range			0-14	32-216	29-66	0-933

Facilities proposed at GO stations with similar future footfalls

GO Rail Station Access, as noted above, also provides station-specific access requirements to better align with target access mode shares. The projected 2031 daily footfalls at Woodbridge GO Station were compared to the projected 2041 daily footfalls and these aligned with Dixie, Guelph, Hamilton, Newmarket, and Caledonia GO Stations. Likely station access facilities for 2041 are shown in Table 5.

Hamilton, Guelph, and Dixie GO Stations follow the formula of providing either more bus infrastructure or more parking spaces. For example, Hamilton, the more urban GO station, provides more bus facilities and Dixie, a more suburban GO station, provides more parking. The other two stations have no bus infrastructure and little parking (0-250 spaces). Most stations have less than 100 bike parking spaces, except for Hamilton station which has over 175 bike parking spaces.

Table 5: Summary of station access facilities to be required at GO stations with similar projected daily footfalls

GO station	Station type	Footfalls	Bus bays (2041)	Bike parking spaces (2041)	PUDO spaces (2041)	Vehicular parking spaces (2041)
Dixie	Base	2 200	3	80 (32 secure and 48 covered)	33	733-933
Guelph	Interchange (base)	2 250	22	88 (32 secure and 64 covered)	48	70
Hamilton	Interchange (base)	2 075	15	176 (64 secure and 112 covered)	12	49
Newmarket	Interchange	2 975	0	96 (96 covered)	6	260
Caledonia	Interchange	2 300	0	64 (64 covered)	1-5	0
Range			0-22	64-176	1-48	0-933

Facilities provided at stations with similar target access mode shares

Mode share (that is, the percentage of total trips made using different modes of travel, like walking, cycling, or transit use) is another factor influencing station access facilities. The expected mode share of the proposed Woodbridge GO Station can be informed by target access mode shares for existing GO stations in similar contexts. These have been summarized for Georgetown (Table 6), Markham (Table 7), Mount Joy (Table 8), and Newmarket (Table 9) GO Stations.

Table 6: 2041 target access mode share and station access facility requirements by mode for Georgetown GO Station

Travel mode	Target access mode share (2041)	Station access facilities requirement (2041)
Local transit	5%	2 bus bays
Bike	1%	64 spaces (64 covered)
PUDO	14%	28 spaces
Drive & park	65%	850 total spaces
Carpool	5%	Up to 17% of total spaces for carpool/reserved parking

Table 7: 2041 target access mode share and station access facility requirements by mode for Markham GO Station

Travel mode	Target access mode share (2041)	Station access facilities requirement (2041)
Local transit	25%	1 bus bay (off site)
Bike	6%	136 spaces (48 secure, 88 covered)
PUDO	23%	35 spaces
Drive & park	15%	336-416 total spaces
Carpool	5%	Up to 22% of total spaces for carpool/reserved parking

Table 8: 2041 target access mode share and station access facility requirements by mode for Mount Joy GO Station

Travel mode	Target access mode share (2041)	Station access facilities requirement (2041)
Local transit	23%	4 bus bays
Bike	5%	192 spaces (64 secure, 128 covered)
PUDO	17%	80 spaces
Drive & park	24%	1 180-1 333 total spaces
Carpool	3%	Up to 31% of total spaces for carpool/reserved parking

Table 9: 2041 target access mode share and station access facility requirements by mode for Newmarket GO Station

Travel mode	Target access mode share (2041)	Station access facilities requirement (2041)
Local transit	20%	None
Bike	5%	96 spaces (96 covered)
PUDO	12%	6 spaces
Drive & park	35%	260 total spaces
Carpool	2%	Up to 37% of total spaces for carpool/reserved parking

3.2 Likely facilities for Woodbridge GO Station

Based on the site characteristics and mode share of a medium suburban GO station, with little existing transit and no direct connection to other rapid lines, the potential Woodbridge GO Station should require the station access facilities outlined below in Table 10.

Table 10: Likely station access facilities for Woodbridge GO Station

Station access facility	Quantity
Bus facilities	0 (on-street only)
Bike parking spaces	176 (64 secure, 112 covered)
PUDO spaces	48 ferry-style (note 1)
Vehicular parking spaces	250 (note 2)

Notes:

1. Per the DRM, the configuration can be ferry style (that is, looped or semi-circular) for medium stations, but strip or urban style configurations can be implemented if there are land constraints.
2. Per the DRM, up to 2% of the vehicular parking spaces shall be allocated to carpool-to-GO parking in proximity to barrier-free parking.

Based on these facilities, in a rectangular site, this will require a site area of about 14 465 m², which is based on the assumptions provided in Table 11.

Table 11: Site area assumptions and estimates for Woodbridge GO Station

Station access facility type	Assumption	Area (m ²)
Platform	315 m length by 4.9 m width	1 540
Parking spaces	45 m ² per space	11 250
PUDO	6.5 m length by 2.5 m width	780
Walking routes and access	5% of parking spaces	565
Bicycle parking spaces	30 m ² per 16 bikes	330
Total		14 465 (~1.45 ha)

3.3 Doubling the single track CPKC MacTier Subdivision

Arup also examined whether the CPKC MacTier Subdivision, which is currently a single-track railway in the Woodbridge area, would need an additional track to be built to accommodate GO Transit train service.

If Metrolinx implements the Caledon-Vaughan GO Line service on the CPKC MacTier Subdivision, corridor expansion through additional track installation will be required. In similar examples, such as on the Kitchener and Lakeshore West Lines, the host railway, Canadian National Railway, had required that freight capacity be maintained, and that new capacity would need to be created for future GO service. In the Feasibility Study, consultation with CPKC concluded that doubling was to be proposed to run from Bolton and through the study area. It is therefore likely that Metrolinx would be required by CPKC to install an additional track for GO service in the vicinity of the station. The rail bridge over Langstaff Road has room for expansion only on the west side of the tracks. Based on this constraint, doubling would be implemented on the south (west) side of the existing tracks.

3.4 Potential station locations

To identify potential station locations, City staff and Hertel Planning examined the study area and its surroundings. In the process, several selection criteria were established:

- The station sites should be in or adjacent to the *Interim Control By-law 060-2023* area.
- Sites must have a frontage along the MacTier Subdivision to provide a platform area for passengers to board and alight trains safely.
- Sites should have a large area to accommodate the required GO Transit station facilities.
- Avoid, as best as possible, the need to redevelop and/or create new and undesirable effects for adjacent residential areas.

- Avoid spanning across the MacTier Subdivision, to minimize the occurrence and risk of passengers needing to cross the railway at-grade to access various components of the station, and to minimize the need for and accessibility challenges associated with grade-separated walkways.

Using these criteria, we identified four potential station locations for study:

1. The Woodbridge Foam Corporation lands (with an approximate area of 7.6 ha).
2. Lands west of Kipling and north of the railway (~2.5 ha).
3. The Woodbridge Fair lands (~8.0 ha).
4. Lands east of Kipling and south of the railway (~1.8 ha).

Figure 14 shows the four potential station areas and the ICBL boundary marked on an aerial photo of the broader study area.

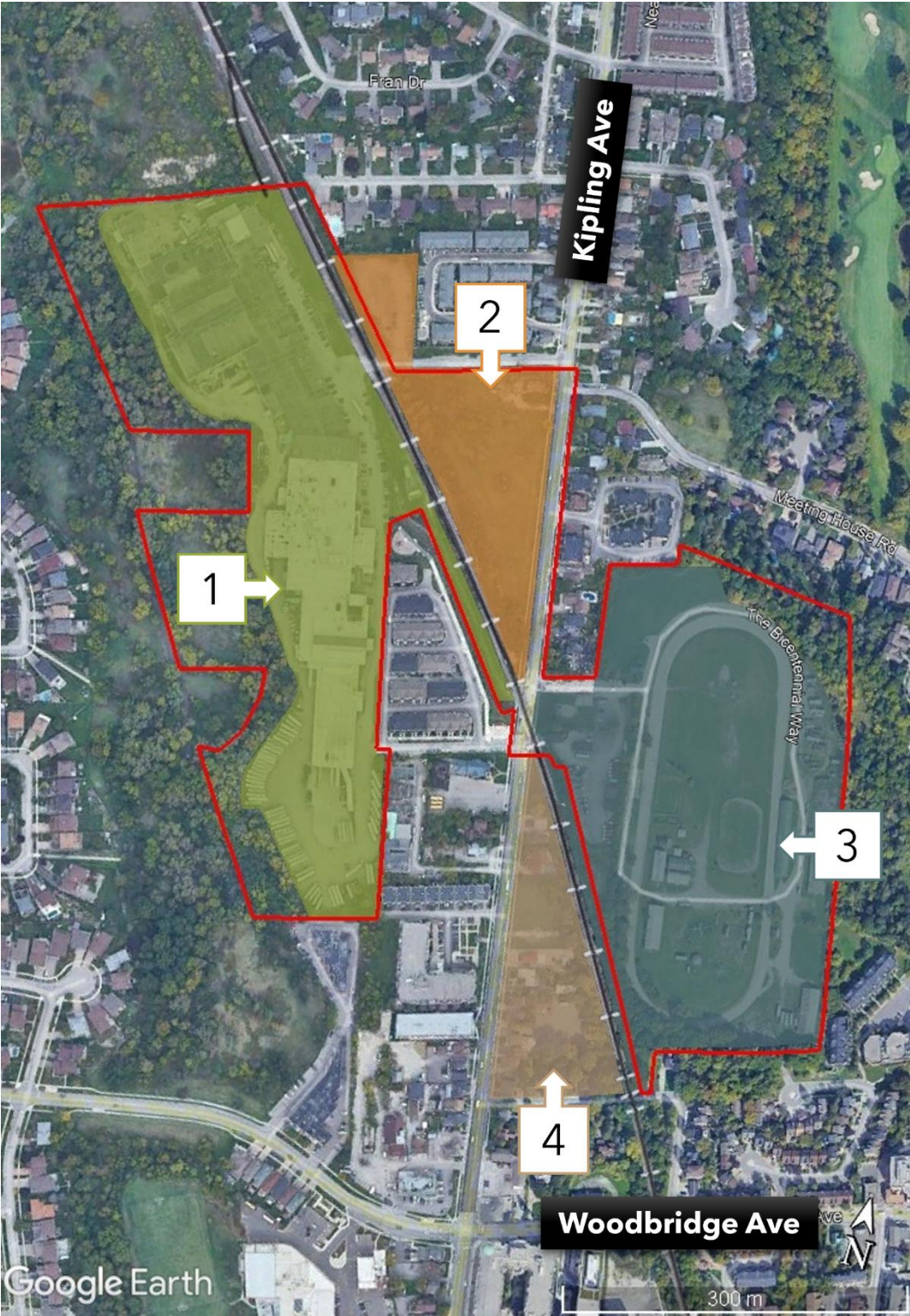


Figure 14: The four potential station locations centred around the Kipling Avenue railway crossing with the ICBL boundary in red

3.5 Strengths, weaknesses, opportunities, and challenges analyses

Arup reviewed the four potential station locations and prepared a strengths, weaknesses, opportunities, and challenges (SWOC) analysis to evaluate the feasibility of each location to accommodate the station access facilities.

As background, a SWOC analysis is a situational assessment that aids decision-making by creating a snapshot of the positives and negatives of options being considered. SWOC analyses examine both the internal factors of an option, that is, the innate characteristics of the option itself, and the external factors too, or the environmental elements that affect the option but are not a part of the option itself. These factors are then sorted as strengths or weaknesses, for internal factors, or opportunities or challenges, for external factors.

Table 12 shows the SWOC analysis for all four options. The next four sections show the SWOC analyses that are unique to Sites 1, 2, 3, and 4, respectively.

Table 12: Strengths, weaknesses, opportunities, and challenges analysis for all potential station locations

	Helpful	Harmful
Internal factors (characteristics)	<p>Strengths</p> <ul style="list-style-type: none"> • The Secondary Plan designates some density in the area; there is likely to be increased demand for transit, so uptake may be high • Given the urban context of the potential station locations, it is assumed that water, wastewater, storm drainage, power, gas, and telecommunications services exist within the Kipling right-of-way 	<p>Weaknesses</p> <ul style="list-style-type: none"> • The at-grade railway crossing at Kipling Avenue has high daily bi-direction road traffic volumes and train frequencies, as identified in the Feasibility Study • Noise and vibration mitigation is needed for nearby residential uses • Grading is required on all sites
External factors (environmental elements)	<p>Opportunities</p> <ul style="list-style-type: none"> • All potential station locations offer access to higher order transit for Woodbridge • The Secondary Plan envisions the redevelopment of the Woodbridge Foam industrial use 	<p>Challenges</p> <ul style="list-style-type: none"> • The railway is curved, creating horizontal track alignment challenges. • Proximity to Toronto and Region Conservation Authority protection areas means that mitigations will need to be incorporated into all options

Site 1 (the Woodbridge Foam Corporation lands)

Site 1 is on lands currently used by Woodbridge Foam Corporation, west of Kipling Avenue and south of the CPKC MacTier Subdivision. The site has access from the south via Porter Avenue West. Platform access would be constrained by the doubling of the single track and mobile cell tower infrastructure. The approximate site area is roughly 7.6 ha and supports a potential platform length of 315 m (with a realignment of the Woodbridge Foam Corporation private access railway crossing). The SWOC analysis is summarized in Table 13.

Table 13: Strengths, weaknesses, opportunities, and challenges analysis for Site 1 (Woodbridge Foam)

	Helpful	Harmful
Internal factors (characteristics)	Strengths <ul style="list-style-type: none"> Large site area should accommodate station facilities (subject to further site planning) 	Weaknesses <ul style="list-style-type: none"> No frontage onto Kipling Avenue affects active transportation access, may create safety and security issues due to isolation Only public access via Porter Avenue West
External factors (environmental elements)	Opportunities <ul style="list-style-type: none"> Secondary Plan envisions, in the long-term, the Woodbridge Foam site changing from industrial to residential Potential walking and cycling connection to Harmonia and Dunstan Crescents (with new ravine crossings) 	Challenges <ul style="list-style-type: none"> Site currently used by Woodbridge Foam Corporation Platform length of 315 m would require the realignment of the Woodbridge Foam private access crossing Communications tower south of the railway may affect station placement

Site 2 (lands west of Kipling and north of the railway)

Site 2 is on a mostly vacant site, aside from the one heritage building, located west of Kipling Avenue and north of the CPKC MacTier Subdivision. This site has a frontage along Kipling Avenue. Site 2 also includes the parking/truck turning area to the north of the private road. The approximate site area is roughly 2.5 ha and a potential platform length of 315 m can be accommodated if the Woodbridge Foam Corporation private access railway crossing is relocated. The SWOC analysis is summarized in Table 14.

Table 14: Strengths, weaknesses, opportunities, and challenges analysis for Site 2 (west of Kipling, north of railway)

	Helpful	Harmful
Internal factors (characteristics)	Strengths <ul style="list-style-type: none"> • Site area should accommodate station facilities (subject to further site planning) • Frontage onto Kipling Avenue promotes active transportation access and visibility from street 	Weaknesses <ul style="list-style-type: none"> • Triangular shape is less efficient for the provision of GO station facilities
External factors (environmental elements)	Opportunities <ul style="list-style-type: none"> • Markham GO Station is a useful precedent because of its similar triangular shape and built context 	Challenges <ul style="list-style-type: none"> • Platform length of 315 m would require the realignment of the Woodbridge Foam private access crossing • Development application in process for the vacant lands along Kipling Avenue • Existing heritage building on site

Site 3 (the Woodbridge Fair lands)

Site 3 is on the Woodbridge Fair lands, located east of Kipling Avenue and north of the CPKC MacTier Subdivision. This site is connected to Kipling Avenue by Porter Avenue and has minimal frontage onto Kipling Avenue. The approximate site area is 8.0 ha and supports a potential platform length of 220 m (that is, the distance between Kipling Avenue and the William Street rail bridge). The SWOC analysis is summarized in Table 15.

Table 15: Strengths, weaknesses, opportunities, and challenges analysis for Site 3 (Woodbridge Fair)

	Helpful	Harmful
Internal factors (characteristics)	Strengths <ul style="list-style-type: none"> Large site area should accommodate station facilities (subject to further site planning) 	Weaknesses <ul style="list-style-type: none"> Limited frontage onto Kipling Avenue affects active transportation access, may create safety and security issues due to isolation
External factors (environmental elements)	Opportunities <ul style="list-style-type: none"> Potential walking and cycling connection to Woodbridge Village 	Challenges <ul style="list-style-type: none"> Site currently used by Woodbridge Fair Platform length limited to 220 m due to grade separation at William Street

Site 4 (lands east of Kipling and south of the railway)

Site 4 is bound by the CPKC MacTier Subdivision to the north and east, William Street to the south, and Kipling Avenue to the west. The railway is elevated by an embankment on this site as the terrain slopes toward the Humber River and the railway bridges over William Street in the southeasterly direction. The approximate site area is 1.8 ha and supports a potential platform length of 210 m (that is, the distance between Kipling Avenue and the William Street rail bridge). The SWOC analysis is summarised in Table 16.

Table 16: Strengths, weaknesses, opportunities, and challenges analysis for Site 4 (east of Kipling, south of railway)

	Helpful	Harmful
Internal factors (characteristics)	Strengths <ul style="list-style-type: none"> • Frontage onto Kipling Avenue promotes active transportation access and visibility from street 	Weaknesses <ul style="list-style-type: none"> • Small site area and narrow triangular shape makes it unlikely to be suitable for most station facilities
External factors (environmental elements)	Opportunities <ul style="list-style-type: none"> • Markham GO Station is a useful precedent because of its similar triangular shape and built context 	Challenges <ul style="list-style-type: none"> • Site currently used by 13 single-detached residential dwellings • Platform length limited to 210 m due to grade separation at William Street • Rail grade flat while the ground slopes down to the southeast

SWOC analysis summary

The SWOC analyses of the four potential station locations indicate that Sites 1 and 2 are the best suited for a GO station. Our findings are that:

- Site 1 has a cell tower that may constrain the location of station facilities if the railway is to be doubled from its current single-track layout. However, this cell tower could be relocated to a more suitable location to accommodate the GO station.
- Site 1 has issues with visibility to passing vehicles and pedestrians. It also would be disconnected from Kipling Avenue for transit access which may require any future transit service to divert into the GO station, as opposed to curbside bus stops on Kipling Avenue. Site 1 may therefore require a bus loop facility but based on the potential ridership from the Feasibility Study and the DRM and *GO Rail Station Access*, the potential Woodbridge GO Station would not require such dedicated facilities. There is potential, however, for providing an access to Kipling Avenue from the Porter Avenue Parkette as the southern end of the platform would be near to Kipling Avenue.
- Site 1 is a large site with the fewest geometric constraints and therefore offers the most flexibility for placement of GO station facilities.
- Site 2 fronts onto Kipling Avenue and is large enough to provide the station access facilities. The Kipling Avenue frontage would allow for direct integration with active transportation facilities.
- Site 2's triangular shape is a weakness, creating geometric constraints for the placement of GO station facilities.
- Both Sites 1 and 2 depend on the Woodbridge Foam Corporation private access across the tracks. Maintaining this crossing would require the private access to be shifted north for both sites.
- Sites 3 and 4 have issues with the grade separation at the William Street rail bridge that limits the potential platform length below GO standards. Furthermore, the shape of Site 4 makes efficient placement of the GO station facilities unlikely.

4 Engagement and consultation

Working closely with the City of Vaughan's policy planning and communications teams, Hertel Planning and LURA Consulting completed a stakeholder, rightsholder, and public engagement and consultation program. The aim of this program was to raise awareness of this study and to hear from a diverse group of stakeholders, rightsholders, and the public on this study's research and recommendations.

4.1 Correspondence with Metrolinx

On 7 February 2024, City staff sent a letter to Metrolinx's Stations Planning team to apprise them of the Woodbridge GO Station Land Use Study and to seek feedback on Metrolinx's preferred involvement in this study. The letter included an overview of the project background, study area, study goals, and consultation program.

On 5 March 2024, Metrolinx replied in a letter to the City's Policy Planning and Special Programs team thanking the City for undertaking this study, but also noting that:

Because the location is not served by Metrolinx/GO Transit and because we have no ownership of the corridor, we do not have the distinct jurisdiction or mandate to comment or formally support the study.

Metrolinx added that it was undertaking an update to its *2041 Regional Transportation Plan*, which includes an analysis of the proposed Caledon-Vaughan GO Line's performance against 2051 land use scenarios. Metrolinx also shared resources for station planning, including:

- Initial business cases for other stations in the Greater Golden Horseshoe;
- *GO Rail Station Access*; and
- *The GO Design Requirements Manual*.

4.2 Study website

On 16 February 2024, City staff created a project website for this study (at vaughan.ca/WoodbridgeGO). The initial website provided information on this study's goals, background information, instructions on how to get involved with this study, a frequently asked questions section, and the study deliverables. As this study progressed, additional details on the public open house, survey, project deliverables, and the statutory public meeting were added. The study and the website were publicized via social media by both the City and Hertel Planning and later during the meetings with selected landowners and during the public open house.

4.3 Technical Advisory Committee meeting

On 7 March 2024, City staff and Hertel Planning held a virtual Technical Advisory Committee meeting. The aim of this meeting was to present the study purpose, background, the findings to date, and to hear from stakeholders from other City departments and teams and external planning-related agencies. Table 17 notes the City teams and external agencies that participated in the meeting.

Briefly, Committee participants asked questions and shared their thoughts on:

- The four potential station locations, including their preferences for a preferred site.
- Land use compatibility issues affecting neighbours adjacent to the four potential station locations.
- Effects on the continued operation of the Woodbridge Foam Corporation and the Woodbridge Fair.
- Pedestrian and vehicular traffic, parking, and site access issues resulting from a new station.
- Effects on natural heritage and regulated floodplain areas adjacent to the study area.
- Development density changes resulting from a new station.
- Whether a grade separation of the Kipling Avenue railway crossing is required.

Table 17: City departments and external agencies that participated in the Technical Advisory Group meeting

Stakeholder group	Participating departments and agencies
City of Vaughan	<ul style="list-style-type: none"> • Building Standards • Development Engineering • Development Planning • Economic Development • Financial Planning and Development Finance • Fire and Rescue Service • Infrastructure Planning and Corporate Asset Management • Legal Services • Parks, Forestry and Horticulture Operations • Parks Infrastructure Planning and Development • Policy Planning and Special Programs • Real Estate • Recreation Services • Transportation and Fleet Management Services • Vaughan Public Libraries
External	<ul style="list-style-type: none"> • The Regional Municipality of York • Toronto and Region Conservation Authority • York Region District School Board • York Regional Police

4.4 Meetings with selected landowners

In March 2024, City staff and Hertel Planning held three virtual meetings with selected landowners. The aim of these meetings was to present the findings to date, as shared with the Technical Advisory Committee, and to hear the concerns raised by representatives for three of the four potential station locations studied. Table 18 provides an overview of the three meetings.

Table 18: Overview of the three landowners group meetings

Meeting date	Address points	Potential station location reference
19 March 2024	8094 and 8214 Kipling Avenue	Site 1 (the Woodbridge Foam Corporation lands)
21 March 2024	8158, 8196, and 8204 Kipling Avenue	Site 2 (lands west of Kipling and north of the railway)
26 March 2024	100 Porter Avenue	Site 3 (the Woodbridge Fair lands)

Briefly, the meeting participants asked questions and shared their thoughts on:

- The four potential station locations, including their preferences for a preferred site.
- Land use compatibility and redevelopment issues affecting their properties and neighbours adjacent to the four potential station locations.
- Effects on the continued operation of the Woodbridge Foam Corporation and the Woodbridge Fair.
- Development density changes resulting from a new station.

4.5 Public open house

On 4 April 2024, City staff, Hertel Planning, and LURA Consulting held a virtual public open house. The aim of this meeting was to present the findings to date and to hear from the public and elected officials from the City. Participants expressed both support and opposition to a potential Woodbridge GO Station.

For more details, LURA Consulting's engagement and consultation report is appended to this report in Appendix B.

Site selection

Most of the feedback on the four sites being considered focused on Site 1 (the Woodbridge Foam Corporation lands) and Site 3 (the Woodbridge Fair lands). Participants were concerned about how the Woodbridge Foam Corporation would be affected if Site 1 was identified as the preferred station location. Similarly, some participants worried about the loss of the Fair's heritage and historic value if Site 3 was preferred. There were a few questions on whether station construction would require the expropriation and either relocation or demolition of existing properties. Several participants expressed support for Sites 1 and 3, despite potential impacts to the Foam factory and Fair, respectively.

Some attendees proposed various sites to consider outside the study area along both the Canadian Pacific Kansas City (CPKC) MacTier Subdivision and the nearby Canadian National Railways (CN) Halton Subdivision and asked whether such other sites are currently being investigated by the project team.

Attendees also asked questions about land areas and parking requirements for a potential Woodbridge GO Station, including whether a dedicated parking structure would be needed.

Some participants in the open house expressed confusion over, and asked questions about, why Site 4 (east of Kipling Avenue and south of the railway) was not included in the ICBL as the other three sites were.

A participant wished to know whether an environmental assessment would be conducted for the eventual site should one be selected and approved, and another raised a concern about noise impacts to adjoining properties.

Traffic and transit impacts

Participants commented on existing challenges with traffic congestion in Woodbridge and specifically along Kipling Avenue, expressing concern that a new station and new residential developments surrounding it would exacerbate these issues. Questions were received about the possibility of grade-separation of the CPKC MacTier Subdivision track from Kipling Avenue and other nearby roads.

In addition, participants noted a current lack of transit in the study area in comparison to better-served Highway 7. While a potential GO station would be a major improvement to Woodbridge's overall transit network, they questioned the overall connectivity without sufficient local bus service to the station or along Kipling Avenue.

New development

A question was raised about whether the Interim Control By-law (ICBL) would prevent the Woodbridge Foam Corporation from obtaining planning approvals for changes to its property, and what rezoning implications a potential Woodbridge GO Station would entail, both for the station site itself and for surrounding parcels designated for residential intensification. An attendee also inquired about the possibility of halting all new development in the study area until after a potential station is completed.

Metrolinx and CPKC involvement and role in study

Many participants asked whether Metrolinx and CPKC are actively involved in the land use study and if so, desired to know what input they have provided to the City about site selection or the possibility of future passenger service.

Features of potential commuter rail service

A few questions were received about whether commuter rail service would require twinning of the existing single track and the type of motive power (diesel or electric) that would be used.

Construction timelines

Participants wished to know how long construction would take and how soon commuter rail service could begin if a site were selected and approved for a potential Woodbridge GO Station.

Availability of open house presentation and public disclosure of preferred site

Some attendees asked about whether the open house presentation would be posted on the project website and whether the preferred site would be disclosed to the public upon completion of the study. They also asked who would be responsible for deciding on a preferred site.

4.6 Survey

Immediately following the public open house, City staff, Hertel Planning, and LURA Consulting opened an online survey to hear from the public on the findings to date. The survey was open from 4-18 April 2024 and was advertised during the public open house and on the City's project website.

The survey data was reviewed by LURA Consulting, who prepared an overview of the prominent points of feedback. For more details, LURA Consulting's engagement and consultation report is appended to this report in Appendix B.

4.6.1 Site selection

Respondents provided a ranked preference for the station sites, from most popular to least:

1. Site 1 (the Woodbridge Foam Corporation lands)
2. Another site elsewhere in Woodbridge
3. Site 2 (west of Kipling Avenue and north of the railway)
4. Site 3 (the Woodbridge Fair lands)
5. Site 4 (east of Kipling Avenue and south of the railway)

No single site surpassed another by a significant margin, indicating a diverse distribution of opinions. Of note, Site 1, the most popular, was chosen by 33% of respondents. Figure 15 charts the respondents' preferred site for the potential Woodbridge GO Station.

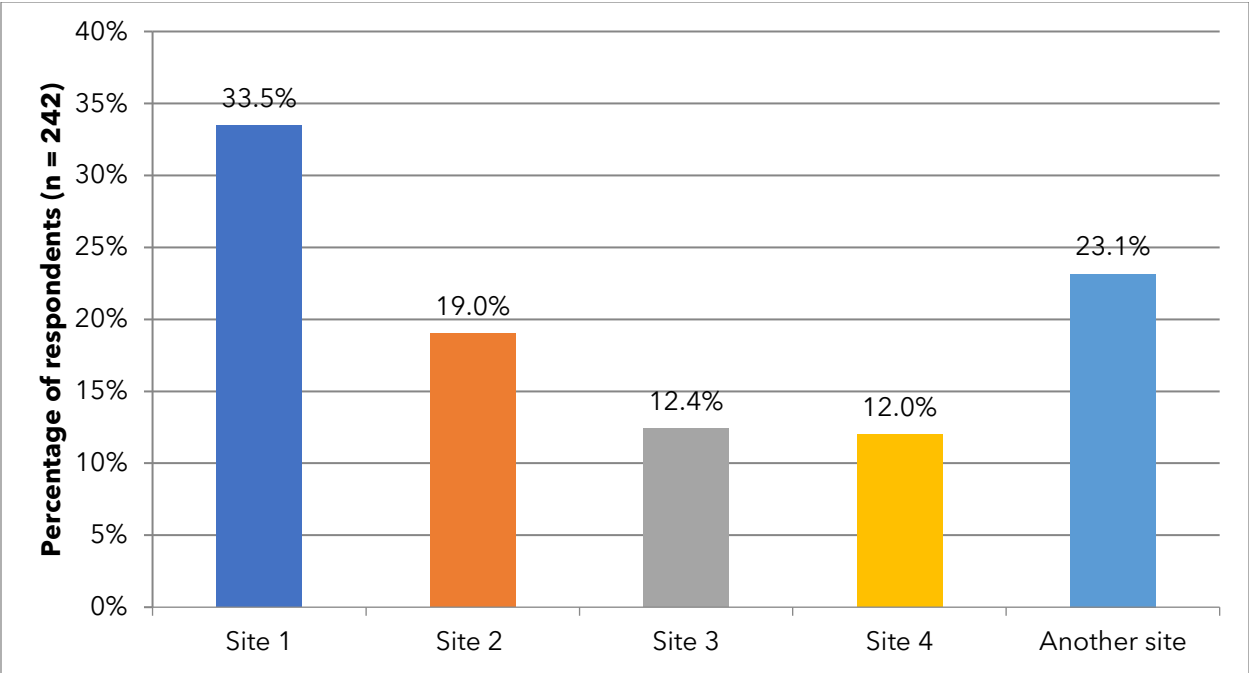


Figure 15: Survey respondents' preferred site for a potential Woodbridge GO Station

Site 1 (the Woodbridge Foam Corporation lands)

Strong support for this site among respondents can primarily be attributed to its large physical footprint that could accommodate a sizeable parking facility, and the desire among many for Woodbridge Foam to relocate due to its incompatibility with the surrounding residential area. Some respondents justified their preference for Site 1 with the perception that sites located directly on Kipling Avenue would experience more congestion and be crowded in by existing and future residential developments.

However, some respondents questioned the feasibility of Site 1 and whether Woodbridge Foam would want to relocate, expressing concern over the potential loss of local jobs that a relocation of Woodbridge Foam could entail and pointing out that the factory and its management are longstanding fixtures in the neighbourhood's business community and that a move would be highly disruptive to them. Some residents to the west of the ravine opposite Site 1 and the adjacent residential development on Porter Avenue West, specifically, expressed concerns about noise impacts.

Site 2 (lands west of Kipling and north of the railway)

Site 2 received widespread support among respondents as a preferred station location and was seen as less disruptive because, as vacant land, it would not displace or conflict with existing uses on the other three sites. Respondents also viewed the direct frontage onto Kipling Avenue positively from an access standpoint and noted that its smaller triangular

footprint (and by extension, fewer parking spaces) could help prevent congestion by reducing its attractiveness as a station with a regional-scale draw in contrast to Sites 1 and 3. In other words, respondents appreciated the more intimate and integrated community feel a station on the smaller Site 2 lands could represent without a large parking structure. On the other hand, some proposed combining Site 2 with Site 1 to create an exceptionally large station.

No negative feedback from respondents explicitly relating to Site 2 was recorded.

Site 3 (the Woodbridge Fair lands)

Considerable opposition was observed for Site 3 among survey respondents. Many noted the intangible heritage value of the Woodbridge Fair as a community institution and landmark, not wanting to displace it for a GO station. If maximizing space is a priority and a current use would need to be displaced for a station, Site 1 would be better because of the industrial nature of Woodbridge Foam, some said.

A few respondents, however, viewed the sizeable Fair lands as currently underutilized and an ideal place to construct a station, either offering many parking spaces from the start or providing ample room to expand in the future. Alternatively, it was suggested that Site 3 could serve exclusively as a parking facility while the main station and passenger pickup and drop-off area could be situated at Site 2, or the station and parking be constructed at Site 3 while available land at the other sites are used for residential development.

Site 4 (lands east of Kipling and south of the railway)

Site 4 received little specific feedback from the community. Like Site 2, respondents acknowledged the convenience (or conversely, congestion-inducing potential) of Site 4's Kipling Avenue frontage and its similar size but viewed it as less ideal than Site 2 due to the number of existing structures and property owners comprising Site 4.

Elsewhere in Vaughan

A significant proportion of respondents supported a new GO commuter rail station in Woodbridge in principle but opposed all four sites within the study area on grounds of poor existing local transit service, land constraints, the potential to alter the neighbourhood's character negatively and—the possible impact most cited—a risk of worsened traffic congestion along Kipling Avenue.

Respondents proposed several other places the project team could investigate as alternatives. Many highlighted the stretch of the CN Halton Subdivision rail line south of Highway 7 that is bounded by Highway 407 and Steeles Avenue West on the north and south and by Kipling Avenue and Islington Avenue on the east and west, explaining that it is spacious and would serve not only Woodbridge residents but also residents of northern Etobicoke, both of whom often travel south to Etobicoke North GO Station to board a train.

Many also proposed other sites along the CPKC MacTier Subdivision rail line that runs through the study area, such as the point where it intersects with Highway 7, citing the greater capacity of Highway 7 to facilitate easier station access by road and connections to local transit. Two other locations mentioned were on the MacTier Subdivision where it crosses Langstaff Road near the intersection of Kipling Avenue, and near Highway 27 and Rutherford Road.

No station at all

A small number of respondents expressed:

- Their complete opposition to the land use study itself.
- That a new GO commuter rail station was not needed at all.
- Worry about the disruption its construction and operation could cause to quality of life and heritage.
- That the planning exercise to determine the feasibility for one is not an effective use of public funds.

4.6.2 Station facilities, amenities, and aesthetic design

Over 60% of respondents requested that a potential Woodbridge GO Station contain (in descending order of popularity):

1. A passenger pick-up and drop-off (PUDO) area
2. Public washrooms
3. Free customer parking
4. Free bicycle parking
5. Heated shelters

Remaining facilities and amenities (including reserved bicycle, vehicle, and carpool parking) each received support from approximately 45% or fewer respondents.

Notably, the popularity of a PUDO surpassed that of free customer parking by about 10%, indicating that a site that accommodates fewer parking spaces, but a generous PUDO footprint would more closely reflect respondents’ anticipated usage for travelling to and from a potential Woodbridge GO Station.

When asked to elaborate on their choices or provide other ideas for the station, respondents desired sufficient protection from the elements, a multilevel parking garage (above or below

ground), a bus loop, electric vehicle charging facilities, public art, landscaping, a parkette or other green space, and quality pedestrian and transit connectivity to and from the station and to Highway 7 (including reinstating the 10 Woodbridge bus route, which York Region Transit (YRT) plans to do on 28 April 2024). Figure 16 charts respondents' preferences for station features or amenities.

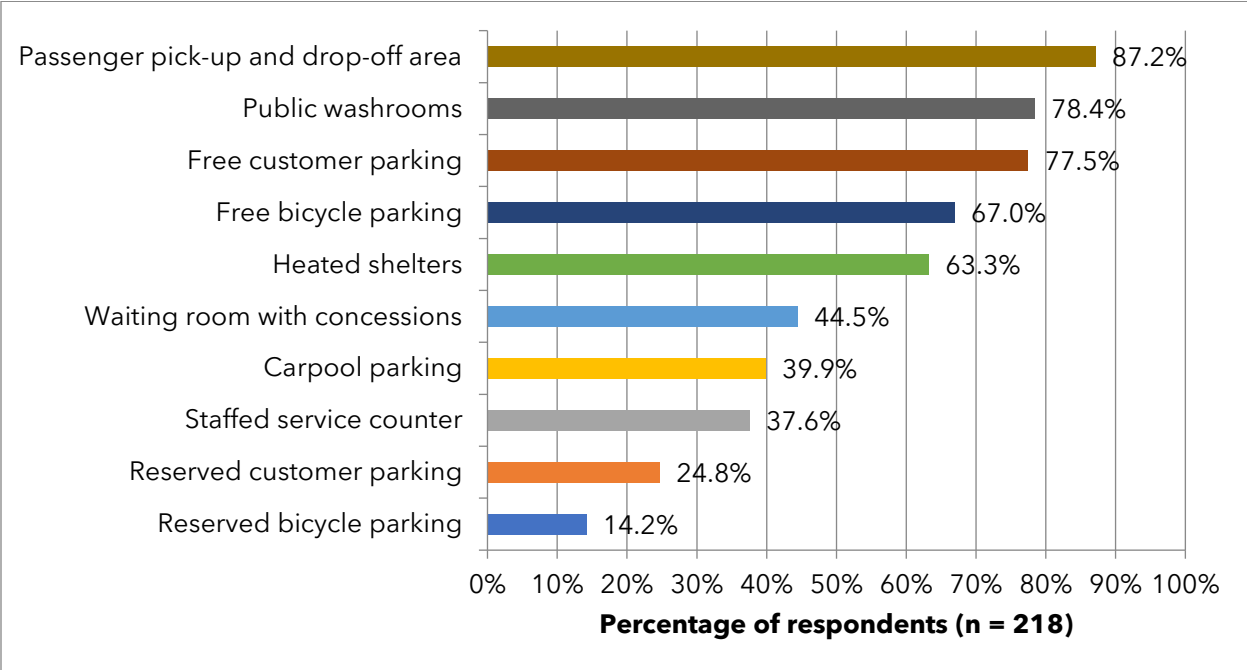


Figure 16: Survey respondents' preferences for station features or amenities

Note: the sum of the percentage of total responses exceeds 100% because respondents were permitted to choose more than one station feature or amenity.

Aesthetic design and sources of inspiration

Respondents who commented on their preferences for the station's architectural style overwhelmingly preferred a more traditional or heritage look that reflects the local vernacular style. Some called for a replica of the former Canadian Pacific Railway's Woodbridge station. One respondent desired a modern design, however.

When prompted for existing transit stations and facilities that could serve as inspiring precedents for a GO station in Woodbridge, respondents pointed to many transit station examples in York Region, including Rutherford, Maple, Aurora, Markham, and Milliken GO Stations, the Toronto Transit Commission's (TTC's) Highway 407 and Pioneer Village Stations, and YRT's Viva stations. Several GO stations in Peel Region and Etobicoke were mentioned too, including Streetsville, Malton, Etobicoke North, and Mimico. Internationally, one

participant suggested the Massachusetts Bay Transportation Authority’s Belmont commuter rail station as a small-scale community example.

Neighbourhood integration

Respondents urged the City to ensure that a future station in Woodbridge is integrated thoughtfully into the surrounding urban fabric in a way that is not only compatible with, but also contributes to, the area’s strong community feel. They highlighted Woodbridge’s historic residential architecture and accordingly requested that the profile and height of station buildings be more understated or low-rise. Also mentioned was a need for well-designed and accessible public spaces around the station that both maximizes connectivity for those walking to the station and encourages people to gather and meet at the station as a new focal point for Woodbridge. To that end, they supported the idea of retail or concessions at the station.

Other feedback

Some respondents remarked that a new Woodbridge GO Station would be a key component of Vaughan’s transportation system, but that the City needs to ensure that it functions well with, and does not cause undue stress on, other infrastructure (particularly the road network) and that any new density surrounding the station be introduced carefully. Respondents requested good pedestrian, cyclist, and transit connectivity, and perceived a need to widen roads leading to the station (including Kipling Avenue), referencing existing congestion levels that could worsen with a new station.

Another important observation was respondents’ keen interest in the construction process and desire for the station to be built quickly (among those who supported a station). They asked the City to be transparent about construction timelines and impacts, and to keep the community informed after the study is complete.

4.6.3 Demographic highlights

Respondents’ postal code

Two-thirds of the survey respondents who answered this question reported being part of the L4L Forward Sortation Area (FSA), which encompasses most of Woodbridge (bounded by Rutherford Road to the north, Highway 400 to the east, Steeles Avenue West to the south, and Highway 27 to the west). 60 respondents did not answer this question. Other FSAs reported included L0J (Kleinburg and Nashville), L3L (Woodbridge), L4H (Vellore and Sonoma Heights), L4J (Thornhill), L4K (Concord), L6A (Maple), and M2M (North York).

Age cohorts

The largest age cohort of respondents were between 35-44, followed by 25-34, 55-64, 18-24 and 45-54 (tie), and those 65 or older. 37 respondents either skipped this question or

indicated that they preferred not to provide an answer. Figure 17 charts the percentage of respondents by age cohort.

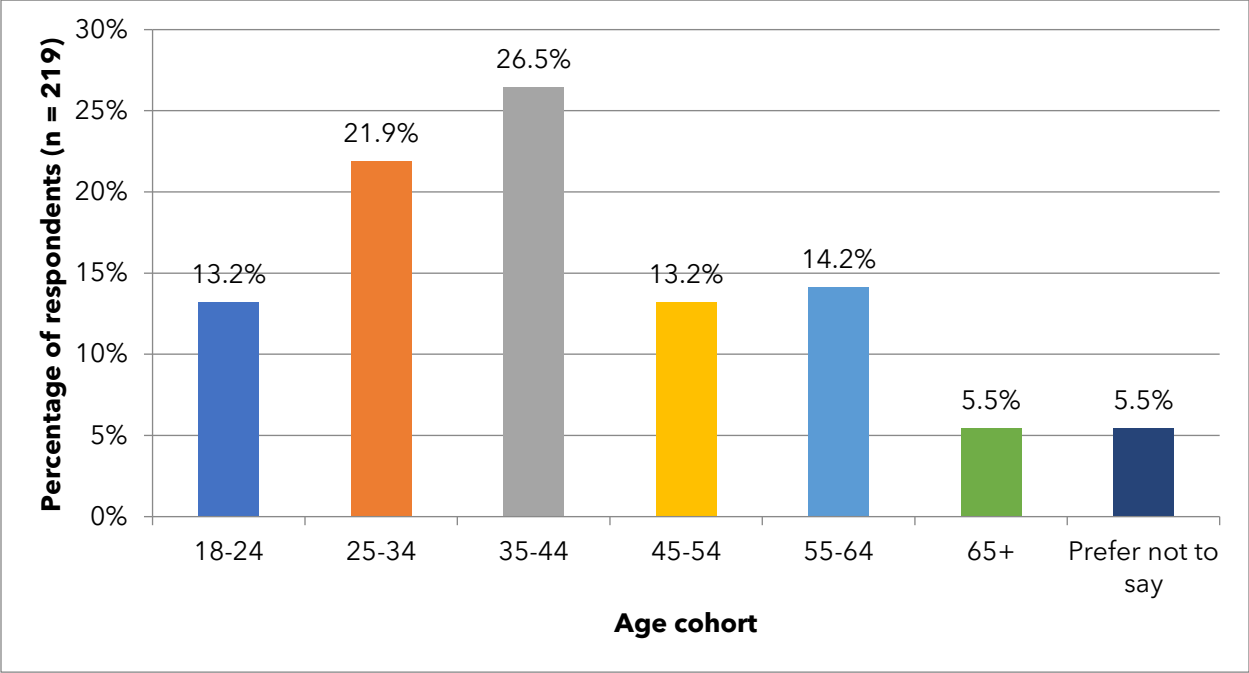


Figure 17: Percentage of respondents by age cohort

Gender identity or expression

More respondents identified as women (47%) than men (42%). Two respondents identified as non-binary, gender fluid, or gender non-conforming. One respondent identified as a transgender woman. 47 respondents either skipped this question or indicated that they preferred not to provide an answer. Table 19 shows the number and percentage of respondents by gender identity or expression.

Table 19: Survey respondents' gender identity or expression

Gender identity or expression	Responses	% of total responses
Woman	102	47.2
Man	90	41.7
Transgender woman	1	0.5
Transgender man	0	0.0
Non-binary, gender fluid, or gender non-conforming	2	0.9
Other	2	0.9
Prefer not to say	19	8.8
Total	216	100.0

Other characteristics

Almost three-in-ten respondents noted that either they or someone in their household was born outside of Canada. One-quarter have children under 18 in their household and 22% have older adults in their household. 12% of respondents identify as racialized individuals. 7% of respondents are Vaughan business owners and 10% either have a disability or noted someone in their household does. 5% are part of the 2SLGBTQ+ community, and 1% identify as Indigenous, First Nations, Métis, or Inuk. Table 20 shows the number and percentage of respondents that identified with a range of demographic characteristic statements.

Table 20: Demographic characteristics reports by survey respondents

Statement	Responses (note 1)	% of total responses (note 2)
I am Indigenous, First Nations, Métis, or Inuk (Inuit).	2	0.97
I identify as a racialized person.	24	11.65
I identify as 2SLGBTQ+.	11	5.34
I or someone in my household has a disability.	21	10.19
I or someone in my household was born outside of Canada.	57	27.67
I moved to Canada within the last five years.	9	4.37
English is not my first language.	15	7.28
French is my first language.	1	0.49
There are children (under 18) in my household.	46	22.33
There are older adults in my household.	46	22.33
I identify as belonging to an equity-deserving group (equity-deserving communities are groups who face unequal access to opportunities, resources, funding, and support or who experience systemic discrimination and oppression).	9	4.37
I am a business owner in Vaughan.	14	6.8
None of the above	36	17.48
Prefer not to answer	36	17.48

Note: there were 206 respondents. The total number of responses exceeds 206 and the sum of the percentage of total responses exceeds 100% because respondents were permitted to identify with more than one statement.

Preferred modes of travel

Respondents’ preferred modes of travel on both weekdays and weekends generally mirror one another, except for lower rates of walking and cycling and higher rates of transit use on weekdays (see Figure 18), and vice versa on weekends (see Figure 19). Driving in a private vehicle as a driver was reported as the most frequent travel mode by a wide margin but

slightly higher on weekends (81%) than weekdays (78%). Of particular significance, the second most popular mode was walking at 45% on weekdays and 48% on weekends.

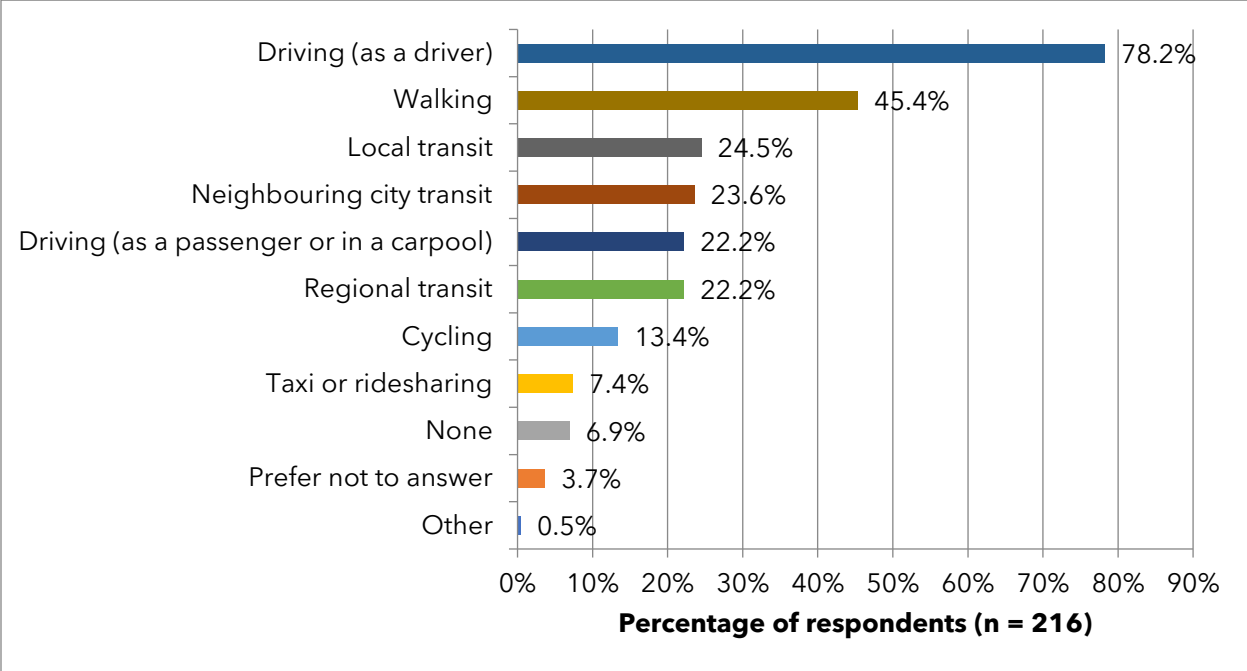


Figure 18: Survey respondents' preferred modes of travel (for a typical weekday)

Note: the sum of the percentage of total responses exceeds 100% because respondents were permitted to choose more than one preferred mode of travel.

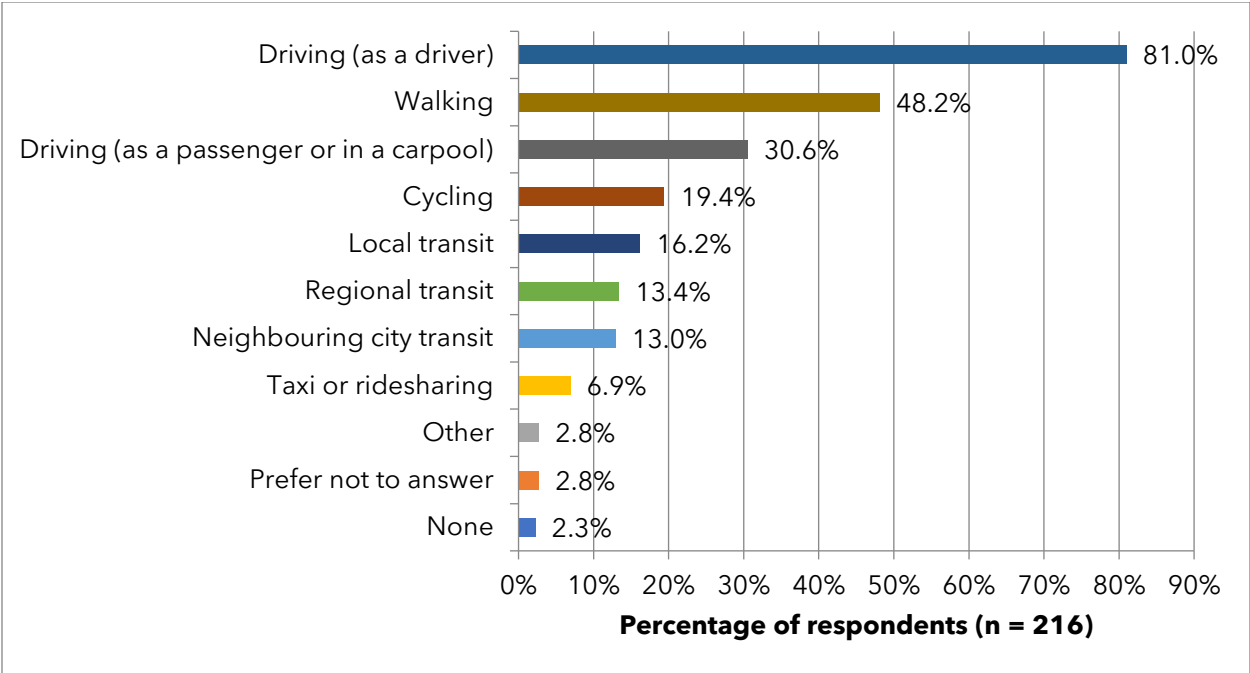


Figure 19: Survey respondents' preferred modes of travel (for a typical Saturday or Sunday)

Note: the sum of the percentage of total responses exceeds 100% because respondents were permitted to choose more than one preferred mode of travel.

4.7 First Nations consultation meetings

Recognizing the importance of meaningful collaboration and a commitment to fostering understanding, trust, and partnership in the journey towards reconciliation, the City sent letters to the First Nations communities whose traditional territories encompass the land upon which Vaughan is situated. The letters introduced the project, explained the intent, and offered an opportunity for further discussion and to receive feedback. Two First Nations communities, the Six Nations of the Grand River and the Mississaugas of Scugog Island, requested meetings to learn more about the project.

In April 2024, City staff, Hertel Planning, and LURA Consulting held two meetings with representatives from these two First Nations communities. The aim of these meetings was to present the findings to date, including those shared at the public open house, and to hear comments from the two represented First Nations communities. The meetings were held on:

- 15 April 2024 with the Six Nations of the Grand River; and
- 25 April 2024 with the Mississaugas of Scugog Island.

Briefly, the Six Nations of the Grand River meeting participants asked questions about and shared their thoughts on:

- The importance of taking an environment-first approach, consistent with the beliefs and responsibilities of land stewardship under the A Dish with One Spoon wampum covenant;
- Going beyond the minimum policy and regulatory requirements related to landforms, nature, and wildlife, including those for tree protection and replacement, and floodplain protection;
- Planning long-term, for at least seven generations; and
- Sites 2 and 4 are preferred since these are the smallest land areas, thereby having the least environmental impacts.

This was followed by the meeting with representatives of the Mississaugas of Scugog Island, who asked questions about shared their thoughts on:

- The possibility of Woodbridge GO Station being included within the Government of Ontario’s Transit Oriented Communities program;
- The timing of the station, including the preparation of further detailed studies;
- Opportunities to engage First Nations communities, including the Mississaugas of Scugog Island, in economic development initiatives such as construction contracts, in the spirit of truth and reconciliation; and
- The status of the City’s relationship agreements, and further work, with First Nations communities.

4.8 Statutory public meeting

On 7 May 2024, the City of Vaughan’s Committee of the Whole held a public meeting at which this study was considered. Hertel Planning, on behalf of City staff, provided a short presentation addressing some frequently asked questions that were heard through the engagement and consultation program to date. This presentation was followed by a question and deputations period, which included:

- A question from Ward 2 Councillor Adriano Volpentesta, who chaired this meeting, on whether Woodbridge GO Station’s post-2041 timing meant that there would be no changes to the neighbourhood for 10-15 years.

- A deputation from Ira Kagan, representing the owners of the Woodbridge Foam Corporation site, expressing concerns about:
 - The short-term effects of a change in the City’s planning policies to protect for a potential Woodbridge GO Station on the viability and continued operation of Woodbridge Foam Corporation on this site; and
 - The long-term ability for the landowners to redevelop the site given that a station plan and design is not currently certain.
- A comment from Mayor Steven Del Duca noting the City’s continued support for the ongoing operations of Woodbridge Foam Corporation in Vaughan.
- A deputation from Adam Layton, representing the owners of 8156, 8196, and 8204 Kipling Avenue, expressing his hopes that the development application received by the City for these lands could proceed in an expedited manner given that the preferred station site is not proposed on these lands.
- A deputation from Maria Verna, a Ward 2 resident and the president of the Village of Woodbridge Ratepayers’ Association, expressing concerns about the effect of the station on neighbourhood traffic levels and requesting additional consultation as station planning and design progresses.
- A deputation from Irene Ford, a Ward 3 resident, expressing concerns that:
 - This study, discussions on any potential relocations by Woodbridge Foam Corporation, and any potential redevelopment of the Woodbridge Foam Corporation site are premature, given that Metrolinx identifies the Caledon-Vaughan GO Line as a post-2041 project; and
 - That increased development densities may result from this study, which would be premature given that the GO line is a post-2041 project.

The public meeting ended when the motion for the Committee of the Whole to receive this study was carried.

5 Identifying the preferred location for Woodbridge GO Station

To recap, in section 3.4 of this Study, we identified four potential station locations for study:

1. The Woodbridge Foam Corporation lands (with an approximate area of 7.6 ha)
2. Lands west of Kipling and north of the railway (~2.5 ha)
3. The Woodbridge Fair lands (~8.0 ha)
4. Lands east of Kipling and south of the railway (~1.8 ha)

Using Arup’s technical research into the *Bolton Commuter Rail Service Feasibility Study*, the *GO Design Requirements Manual* (DRM) and the *GO Rail Station Access*, and the strengths, weaknesses, opportunities, and challenges (SWOC) analyses, we can shortlist the potential station locations and identify a preferred site.

5.1 Shortlisting from four potential station locations to two

Section 5.2.26.8.1 of the DRM states that “Rail platforms used by GO Transit are minimum 315 m long”, the length required for a typical GO Transit 12-car train with two locomotives to board and alight passengers safely. This platform length therefore serves as the absolute minimum that must be accommodated by a site.

As noted in the SWOC analyses, Sites 3 (the Woodbridge Fair lands) and 4 (lands east of Kipling and south of the railway) cannot accommodate a full 315 m platform. In both cases, the platform length is limited due to the William Street rail bridge to the southeast of the Kipling Avenue railway crossing. To provide a full 315 m platform:

- The bridge would require significant rebuilding and/or a full reconstruction, as the existing bridge would not have been designed to support the additional static load of a platform and its supports, nor the dynamic load of the weight and movement of passengers and their belongings.
- The elevated embankment north and south of the bridge would need to be regraded to provide the additional width for a platform, which would require significant stabilization works (in the form of a concrete retaining wall, due to the adjacent residential homes preventing the addition of widened sloped earthen berm supports).

Without these challenging (and expensive) engineering works, Site 3 is limited to a maximum platform length of 220 m, and Site 4 is limited to a length of 210 m. As a result, City staff and Hertel Planning agree that Sites 3 and 4 are not suitable as potential station locations.

5.2 Selecting the preferred station location

Drawing from the Feasibility Study's proposed station access facilities from a potential station at Highway 407 and Islington Avenue and the benchmarks set by *GO Rail Station Access* for stations with similar existing footfalls, forecasted future footfalls, and target mode shares, Arup estimated that the station access facilities would require roughly 1.45 ha of land. (Refer back to Table 10 for the likely station access facilities and Table 11 for the estimation of site areas).

Site 1 (the Woodbridge Foam Corporation lands)

Site 1 covers a land area of approximately 7.6 ha. If Site 1 was selected as the preferred station location, then the bulk of the station access facilities would be located on the northern end of 8094 Kipling Avenue, near the current Woodbridge Foam Corporation private access railway crossing. This crossing would need to be shifted north to accommodate a 315 m length platform.

The City has not received any development applications for these lands, which are envisioned by the City to become a compact and well-connected residential neighbourhood should the current industrial operations cease or relocate. Accordingly, the Kipling Avenue Corridor Secondary Plan contains detailed policy direction with respect to the long-term redevelopment of the Woodbridge Foam Corporation lands into the Rainbow Creek Neighbourhood North and South precincts, which feature a mix of low- and mid-rise residential uses, along with parks and natural areas.

If Site 1 was selected as the preferred station location, then the likely station access facilities would require 1.45 ha (19%) of the total site area of 7.6 ha. This would leave over 6 ha for new residential uses, parks, and natural areas.

Site 2 (lands west of Kipling and north of the railway)

Site 2 covers a land area of approximately 2.5 ha. If Site 2 was selected as the preferred station location, then the bulk of the station access facilities would be located on three parcels: 8158, 8196, and 8204 Kipling Avenue, with a combined area of roughly 1.46 ha (as shown in Figure 20). The remaining parcel, 8214 Kipling Avenue, would be used for the realigned Woodbridge Foam Corporation private access, with the railway crossing shifted north to accommodate a 315 m length platform.



Figure 20: Map showing the site area and perimeter for 8158, 8196, and 8204 Kipling Avenue (Source: YorkMaps.)

Currently, 8158 and 8196 Kipling Avenue are vacant land parcels, as is the rear of 8204 Kipling Avenue (behind the heritage house). The City of Vaughan, however, is currently processing a development application for all three parcels. The proposed development consists of a five-storey apartment building, townhouse dwelling units, and a commercial use housed in the existing heritage house at 8204 Kipling Avenue, which is proposed to be relocated to the south of the site.

If Site 2 was selected as the preferred station location, then the likely station access facilities would require 1.45 ha (or 99%) of the combined parcel area of 1.46 ha. This would mean that the proposed development would not be able to proceed in its current form, with any future development requiring an overbuild atop the station access facilities. It is also not apparent whether the likely station access facilities could be accommodated on the three parcels without additional site planning work, given that the station access facilities tend to be rectangular in nature but requiring placement on a triangular shaped site.

Selection of the preferred station location

To compare the two sites:

- Site 2 is smaller than Site 1, with the former having geometric constraints on where and how station access facilities could be located.
- A new residential development is proposed on Site 2, which may not be compatible in its current proposed form with the co-location of required station access facilities. No redevelopment is currently proposed for Site 1.
- Site 2 contains a heritage house, which may make the layout and providing station access facilities more difficult. No heritage properties are known to exist on Site 1.
- The northern part of Site 1 is designated in the Secondary Plan for mid-rise residential, which would be more transit supportive than Site 2, which is designated for low-rise mixed use.
- The longer-term development timeline of Site 1, given that current industry will remain active into the near future, is more aligned with the prospects of the proposed Caledon-Vaughan GO Line and proposed stations, not expected until post-2041.

Based on this comparison, City staff and Hertel Planning agree that Site 1 (the Woodbridge Foam Corporation lands) should be selected as the preferred site for a potential Woodbridge GO Station, and that conceptual design work should be completed to visualize the potential layout of the area, along with work on an official plan amendment to protect for the station within the City’s planning framework.

6 Proving the feasibility of Woodbridge GO Station through conceptual design

6.1 Objectives and principles

The potential Woodbridge GO Station brings numerous benefits and opportunities that help support a growing community in Woodbridge. Regarding the siting, configuration, and design of the station and the surrounding area, several objectives and principles guided this process, ensuring that the potential station could be included in the existing and planned contexts in a sensitive and compatible way.

Celebrating and protecting connections to and from the ravine

In our consultation with First Nations communities, we heard about the importance of putting the environment first. The protection of the natural environment should always be prioritized, so that it can be enjoyed by future generations.

The unique context surrounding the potential station area includes the Rainbow Creek ravine area to the west. According to Toronto and Region Conservation Authority (TRCA) data, this includes a range of rich forest cover and wetland areas. These forested lands and the existing lush tree canopy shall be protected and enhanced, contributing to or framing future park uses where possible. Detailed analysis and collaboration with TRCA in future phases of this study will highlight specific strategies for protecting and enhancing these environmentally sensitive areas surrounding the site.

On the design of the station, this context also provides an opportunity to celebrate and protect both visual and physical connections to the ravine, including connecting to the neighbourhoods beyond as per the Secondary Plan's Map 11.5.E (Open Space Framework).

The open space trails from the Secondary Plan connect the station site to the neighbourhoods to the west, through the Rainbow Creek area. The Secondary Plan also identifies future recreational opportunities within the TRCA lands, so it is critical that the future design of the station area integrate these physical and visual connections into the lush ravine area. Crosswalks, multi-use pathways, and lighting can help encourage and support the use of these connections.

The station lands have been conceptually designed to remain outside of the flood plain and forested TRCA areas, as well as buffering with additional park space along these sensitive edges. Per Policy 11.5.20.4 of the Secondary Plan, a minimum 10 m ecological buffer from the flood plain has been applied. In some areas, the buffer is greater than 10 m, to provide additional distance, buffer, and protection between development and sensitive lands.

Some trees along the rail corridor may be impacted and should be replaced generously within the new park or creek areas. This will require further study such as a detailed survey and tree inventory. If the project proceeds, the City should go beyond what is required for studying and mitigating potential environmental impacts and continue to engage meaningfully and collaboratively with the Woodbridge community and First Nations communities.

Creating an integrated neighbourhood asset with a new public right-of-way

The potential Woodbridge GO Station area will be an integrated, transit-oriented community, with the GO station as the neighbourhood anchor, connecting Woodbridge to the broader regional context via higher-order transit. To achieve this, the design of the station began with providing a new public right-of-way (ROW) that builds upon the Kipling Avenue Corridor Secondary Plan.

A new 20 m public ROW can link to the main artery of Kipling Avenue via extensions of Porter Avenue West and the existing Woodbridge Foam private access. Building off these existing connections will strengthen the station’s accessibility from the current street network. The design also protects for a potential extension of a roadway or laneway to the south and east back to Kipling Avenue, referred to as Industry Avenue per the Secondary Plan.

The public ROW has also been designed to provide a perimeter road, where it loops around the station facilities and all potential areas for future development. This creates a parkside setting, which aligns with the policies in the Secondary Plan for a new public roadway referred to as Parkside Drive. As Policy 11.5.3.12.a of the Secondary Plan mentions, Parkside Drive will “enable the creation of new frontage to both the Rainbow Creek Valley public open space system and to new development blocks”.

In other words, and as seen in the options, one side of the public ROW will include all the station facilities and future potential development, and the other will open the neighbourhood to the creek. This provides uninterrupted public access to potential parks and existing natural systems to the west.

Ensuring coherent, comfortable, safe, and direct access to station facilities for all modes of travel

The orientation, configuration, and location of the station facilities (station building, station plaza, platform, pick-up and drop-off area (PUDO), vehicular parking, and bike parking) will be compact and prioritize accessibility and wayfinding for all users regardless of how they arrive at the station. For example, people that get dropped off by car in the PUDO area can easily make their way to the station building and the platform with short and direct walking

distances. Residents that live in the surrounding neighbourhoods can also have safe, comfortable, and accessible paths to the station, whether they park in the surface parking lot (provided in Option 1a) or walk to the platform directly from Kipling Avenue.

Using existing pedestrian or cyclist connections (such as the connection along the east side of the townhouses north of Porter Avenue West) can provide additional access points as well.

Additionally, a new east-west active transportation connection can connect the station building/plaza to the new public ROW and the park and creek area beyond and help provide a clear and direct connection between the station area and the neighbourhoods to the west. This connection and plaza area, in detailed design phases, can include landscaping, lighting, seating, and tree canopy to create a comfortable place for pedestrians and cyclists. Bike parking, both secure and covered, will be provided in the station plaza, and integrated within the station building to support people cycling.

Providing new open space and future development opportunities

A rich open space and park network alongside potential residential development will support additional housing without losing the unique access to the creek and ravine. The potential land use of the station area supports both Mid-Rise Residential and Park uses, as set out in Map 11.5.A of the Secondary Plan. The design of the station supports this vision and balances both priorities, including areas for potential development as well as park space. The approximate boundary of the Park designation in the Secondary Plan, as proposed, was used in the development of the options (and seen in the drawings later in section 6.3). Any encroachment of station facilities into the park area was balanced out by providing park and open space within the residential area.

Both station design options provide appropriately sized development blocks that can support mid-rise development that should frame the public ROW and include any required public and/or private open spaces. As required in the Metrolinx's *Adjacent Development Guidelines – GO Transit Heavy Rail Corridors*, all development should be set back at least 30 m from the rail corridor.

The station facilities themselves (plaza, station building, and so on) should be protected for a wide range of community activity possibilities, as well as a new community asset and anchor within the broader neighbourhood. This will require future coordination with Metrolinx, as other GO stations provide retail amenities (such as a coffee shop at Burlington GO Station or a food truck at Guildwood GO Station).

6.2 Assumptions

The design of the station leverages opportunities to use the existing road network and infrastructure, and assumptions were made in the development of the station site plan

options (please note that the drawings are conceptual and not based on any technical surveys):

- The existing Woodbridge Foam private access connects the station area to Kipling Avenue as a new public ROW, with the existing at-grade crossing relocated approximately 75 m north to accommodate the required 315 m long platform.
- The existing sound and crash wall along the townhouse developments can remain in its existing location.
- The existing pedestrian pathway alongside the eastern edge of the townhouses can remain and connect to the station area, providing another access point to the station.
- The existing cell tower can be relocated, such as along the railway or integrated within new development or the station building (further study is required to identify a future location for the cell tower).
- A new second track and new platform, drawn according to best practices:
 - A second track drawn 4.5 m away from the existing track; and
 - A new 315 m platform starting approximately 1.65 m away from the new track centreline.

Looking to the future, the station will form part of a new block in the Rainbow Creek Neighbourhood, as set out in the Secondary Plan. As such, we assumed that:

- The new public ROW serving the station area and potential future development will be 20 m wide, per its Parkside Drive designation in the Secondary Plan.
- Sites for potential development are sized appropriately to accommodate mid-rise residential uses as defined in the Secondary Plan, with frontages along the new public ROW, potential underground parking, the framing of new open spaces, and setbacks in accordance with the Secondary Plan policies.
- Future roads can extend south, to provide expanded connectivity, such as new laneways as per the Secondary Plan.

Additionally, we referred to the *GO Design Requirements Manual (DRM)*, and the *Metrolinx Design Standards (DS-02 Universal Design Standard)* to make assumptions about the station access design. Both options include the station requirements as per Table 11:

- Barrier-free pedestrian circulation spaces (sidewalks) are assumed to be minimum 1.8 m wide.

- The PUDO facility is set up in a ferry configuration with a separate entry and exit from the surface parking access or potential development access.
- A station plaza and station building (600 m²) with integrated bike parking (176 spaces).
- In Option 1a where surface parking is included, spaces are drawn per the DRM, with access from the new public ROW.

6.3 Station site plan concepts

Two station site plans were developed as a proof of concept to assess the optimal configuration of the station facilities (which include an additional track, platform, station building, station plaza, pedestrian and cyclist circulation space, bike parking, and passenger pick-up and drop-off area) on-site. Both plans were drawn to demonstrate that the station access facilities could be accommodated on Site 1 and to achieve the noted objectives, while creating flexibility to envision the site's evolution over a longer period (and hence two options). Both plans also include space for potential residential development, in accordance with the vision of the Secondary Plan. It should be noted that these plans have been prepared as proofs of concept and are not intended to prescribe the future design of this site.

The first plan, Option 1a (as shown in Figure 21), illustrates that all the station requirements and space for 250 surface parking spaces can be accommodated on site. These parking spaces are located at a convenient distance to the station facilities and can include accessible parking spots. This option demonstrates that Site 1 can feasibly accommodate the traditional GO station layout, with station access facilities that help people take GO Transit via a broader, regional-scale park-and-ride model.

The second plan, Option 1b (as shown in Figure 22), is an alternative proof and vision of Option 1a. It explores the replacement of the Option 1a surface parking lot with another potential development site. Access to this new potential development site will be via the new public ROW. This option demonstrates that Site 1 can provide the City and Metrolinx with an alternative where station access facilities help people take GO Transit via a local-scale, walking- and cycling-first model. By replacing the surface parking lot with potential development, vehicular traffic may be reduced in the area while increasing the number of potential transit riders within the station catchment area.

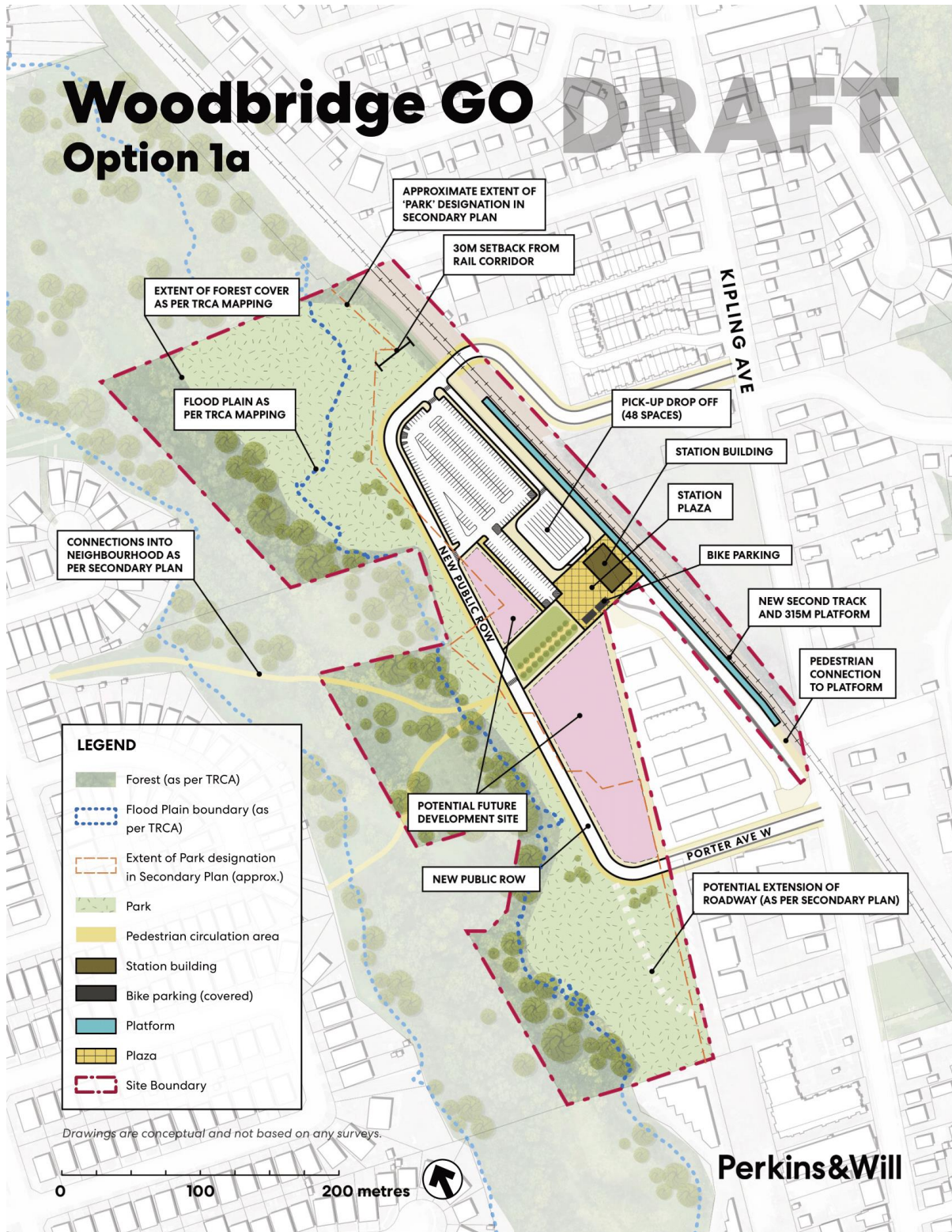


Figure 21: Option 1a conceptual plan for Site 1 and Woodbridge GO Station

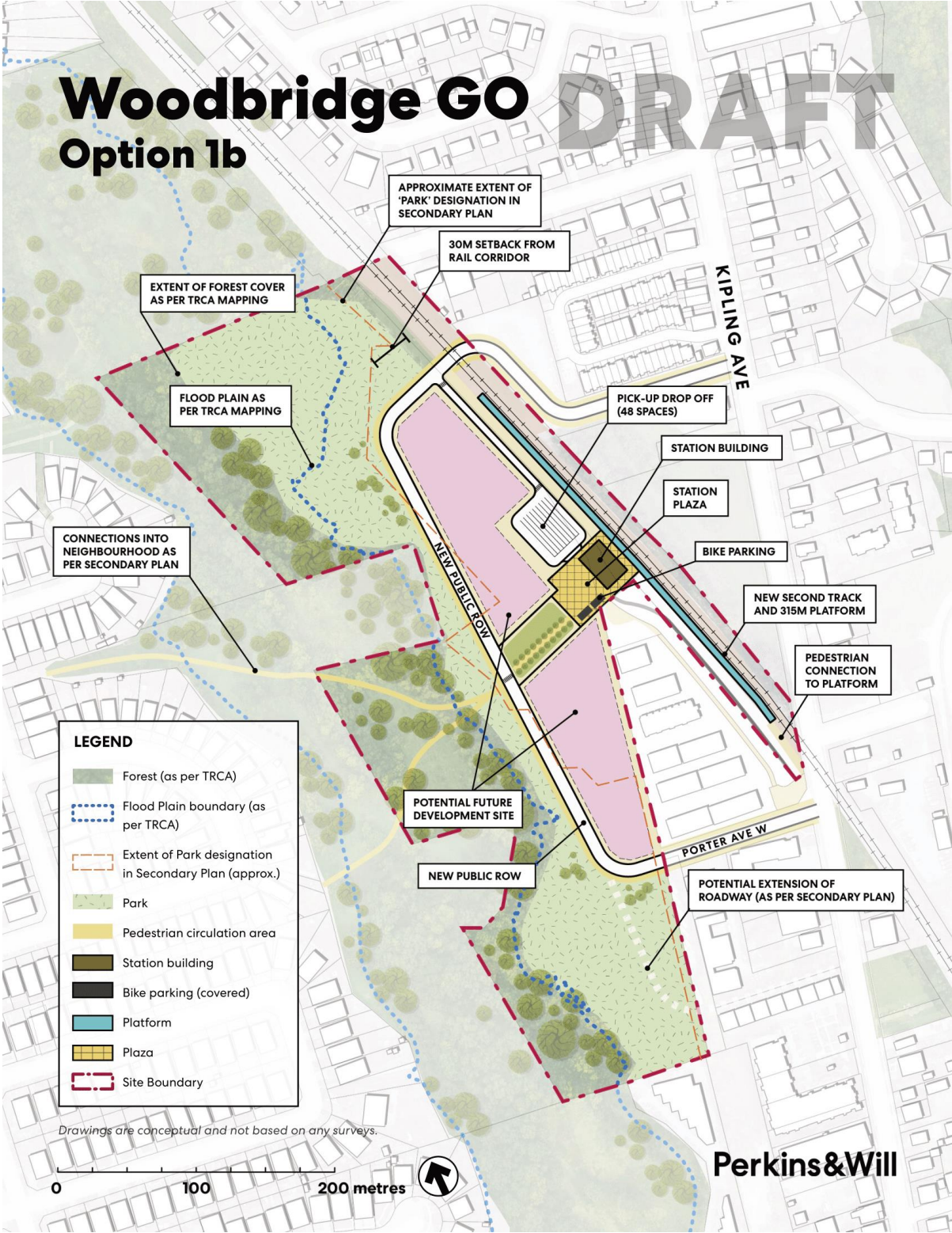


Figure 22: Option 1b conceptual plan for Site 1 and Woodbridge GO Station

7 Protecting for Woodbridge GO Station

It is important to ensure that the City's planning policies identify and protect for a proposed Woodbridge GO Station at the preferred location, as determined through this study. While the timing and details of the proposed Caledon-Vaughan GO Line are, at best, a long term (beyond 2041) prospect, it is appropriate and prudent to ensure that the City is prepared to act when the time comes. To this end, we have prepared a draft official plan amendment (OPA) that adds to the Kipling Avenue Corridor Secondary Plan the location of, and policy guidance for, the proposed station. The draft OPA is appended to this report in Appendix C.

7.1 Adding to the Kipling Avenue Corridor Secondary Plan

At a minimum, showing the proposed line and station will harmonize the Secondary Plan with the *City of Vaughan Official Plan 2010*, which has long identified the line and station as part of the City's long-term transit vision. The draft OPA adds this consistency and includes strategic guidance for making the proposed line and station an important part of Woodbridge and integral to the long-term residential redevelopment of, primarily, the Rainbow Creek Neighbourhood North precinct, and to a lesser degree, the Rainbow Creek Neighbourhood South precincts. The OPA adds to the land use map a symbol to conceptually show a "Proposed GO Station" on lands west of the CPKC MacTier Subdivision, currently the site of Woodbridge Foam Corporation, and labels the railway as a "Proposed Commuter Rail Line". This is consistent with Schedule 10 (Major Transit Network) of the Official Plan.

The policies proposed to be added to the Secondary Plan are in two specific sections:

- Transportation, to include the proposed line and station as part of the long-term transportation vision for the community, and to explain that the station is envisioned to be scaled to the neighbourhood and to walking and cycling, in contrast with a larger, regional-scale commuter station that relies on a large supply of parking.
- Rainbow Creek Neighbourhood North, to include policies to guide the planning and development of the future residential neighbourhood in a manner that considers how the proposed station will be accommodated and integrated.

7.2 Intent of the new land use schedule and policies

Nothing in the draft OPA will prohibit the continuation of current land uses. It is expected that the existing industrial uses within the Rainbow Creek Neighbourhood North precinct, the Mid-Rise Residential designation notwithstanding, will continue to operate into the near future. However, should current industrial uses cease, then the redevelopment of the lands will be guided by policies that envision a new residential neighbourhood with a GO station that is accessed primarily by walking, cycling, transit use, and by pick-up and drop-off.

8 Findings

The Woodbridge GO Station Land Use Study has come full circle with Woodbridge’s history and the evolution of the railway. *Interim Control By-law 060-2023*, the origin of this study, halted development within the by-law area for a period of up to one year to allow for this study to be undertaken. As a reminder, the purpose of this study is to:

- Assess the feasibility of adding a GO Transit passenger rail station in Woodbridge.
- Identify a preferred station location as part of the Caledon-Vaughan GO Line.
- Review the Official Plan land use designations within the study area and prepare amendments to protect for a station and optimize the land uses in the area, if necessary.

8.1 Identifying the station facilities

To identify the station facility requirements for a potential Woodbridge GO Station, Arup reviewed three Metrolinx planning and design documents to establish benchmarks for comparison:

- *Bolton Commuter Rail Service Feasibility Study (2010)*
- *GO Design Requirements Manual (DRM, 2023)*
- *GO Rail Station Access*

Based on the site characteristics and mode share of a medium suburban GO station, with little existing transit and no direct connection to other rapid lines, the potential Woodbridge GO Station should require the station access facilities outlined in Table 10.

Table 10 (duplicate): Likely station access facilities for Woodbridge GO Station

Station access facility	Quantity
Bus facilities	0 (on-street only)
Bike parking spaces	176 (64 secure, 112 covered)
Passenger pick-up and drop-off (PUDO) spaces	48 ferry-style (note 1)
Vehicular parking spaces	250 (note 2)

Based on these facilities, in a rectangular site, this will require a site area of about 14 465 m², which is based on the assumptions provided in Table 11.

Table 11 (duplicate): Site area assumptions and estimates for Woodbridge GO Station

Station access facility type	Assumption	Area (m ²)
Platform	315 m length by 4.9 m width	1 540
Parking spaces	45 m ² per space	11 250
PUDO	6.5 m length by 2.5 m width	780
Walking routes and access	5% of parking spaces	565
Bicycle parking spaces	30 m ² per 16 bikes	330
Total		14 465 (~1.45 ha)

Arup also examined whether corridor expansion through additional track installation would be required if the Caledon-Vaughan GO Line service is implemented. Arup concluded that it is likely that Metrolinx would be required by CPKC to install an additional track for GO service in the vicinity of the station. The rail bridge over Langstaff Road has room for expansion only on the west side of the tracks. Based on this constraint, doubling would be implemented on the south (west) side of the existing tracks.

8.2 Potential station locations and the selection of the preferred site

Using selection criteria established by City staff and Hertel Planning, we identified four potential station locations for study:

1. The Woodbridge Foam Corporation lands (with an approximate area of 7.6 ha)
2. Lands west of Kipling and north of the railway (~2.5 ha)
3. The Woodbridge Fair lands (~8.0 ha)
4. Lands east of Kipling and south of the railway (~1.8 ha)

Using Arup’s technical research into the *Bolton Commuter Rail Service Feasibility Study*, the *DRM*, and *GO Rail Station Access*, we prepared strengths, weaknesses, opportunities, and challenges (SWOC) analyses for each of the four potential station locations. The findings from the SWOC analyses were then used to shortlist the potential station locations and identify a preferred site.

As the first step of the selection process, the potential station locations were shortlisted from four potential station locations to two. As noted in the SWOC analyses, Sites 3 and 4 cannot accommodate a full 315 m platform. In both cases, the platform length is limited due to the William Street rail bridge to the southeast of the Kipling Avenue railway crossing. To provide a full 315 m platform, challenging (and financially prohibitive) engineering works would be required. Without these works, Site 3 is limited to a maximum platform length of 220 m, and

Site 4 is limited to a length of 210 m. As a result, City staff and Hertel Planning agree that Sites 3 and 4 are not suitable as potential station locations.

In the second step of the selection process, we compared the two remaining sites (Sites 1 and 2) and found that:

- Site 2 is smaller than Site 1, with the former having geometric constraints on where and how station access facilities could be located.
- A new residential development is proposed on Site 2, which may not be compatible in its current proposed form with the co-location of required station access facilities. No redevelopment is currently proposed for Site 1.
- Site 2 contains a heritage house, which may make the layout and providing station access facilities more difficult. No heritage properties are known to exist on Site 1.
- The northern part of Site 1 is designated in the Secondary Plan for mid-rise residential, which would be more transit supportive than Site 2, which is designated for low-rise mixed use.
- The longer-term development timeline of Site 1, given that current industry will remain active into the near future, is more aligned with the prospects of the proposed Caledon-Vaughan GO Line and proposed stations, not expected until post-2041.

Based on this comparison, City staff and Hertel Planning agree that Site 1 (the Woodbridge Foam Corporation lands) should be selected as the preferred site for a potential Woodbridge GO Station, and that conceptual design work should be completed to visualize the potential layout of the area, along with work on an official plan amendment to protect for the station within the City's planning framework.

8.3 Proving the feasibility of Woodbridge GO Station through conceptual design

The potential Woodbridge GO Station brings numerous benefits and opportunities that help support a growing community in Woodbridge. Regarding the siting, configuration, and design of the station and the surrounding area, several objectives and principles guided this process, ensuring that the potential station could be included in the existing and planned contexts in a sensitive and compatible way. These principles include:

- Celebrating and protecting connections to and from the ravine.
- Creating an integrated neighbourhood asset with a new public right-of-way.

- Ensuring coherent, comfortable, safe, and direct access to station facilities for all modes of travel.
- Providing new open space and future development opportunities.

Relying on a set of technical and design assumptions, two station site plans were developed as a proof of concept to test the optimal configuration of the station facilities (which include an additional track, platform, station building, station plaza, pedestrian and cyclist circulation space, bike parking, and passenger pick-up and drop-off area) on-site. Both plans were drawn to demonstrate that the station access facilities could be accommodated on Site 1 and to achieve the noted objectives, while creating flexibility to envision the site's evolution over a longer period (and hence two options). Both plans also include space for potential residential development, in accordance with the vision of the Secondary Plan. It should be noted that these plans have been prepared as proofs of concept and are not intended to prescribe the future design of this site.

The first plan, Option 1a (as shown in Figure 21), illustrates that all the station requirements and space for 250 surface parking spaces can be accommodated on the site. These parking spaces are located at a convenient distance to the station facilities and can include accessible parking spots. This option demonstrates that Site 1 can feasibly accommodate the traditional GO station layout, with station access facilities that help people take GO Transit via a broader, regional-scale park-and-ride model.

The second plan, Option 1b (as shown in Figure 22), is an alternative proof and vision of Option 1a. It explores the replacement of the Option 1a surface parking lot with another potential development site. Access to this new potential development site will be via the new public ROW. This option demonstrates that Site 1 can provide the City and Metrolinx with an alternative where station access facilities help people take GO Transit via a local-scale, walking- and cycling-first model. By replacing the surface parking lot with potential development, vehicular traffic may be reduced in the area while increasing the number of potential transit riders within the station catchment area.

8.4 Protecting for Woodbridge GO Station

It is important to ensure that the City's planning policies identify and protect for a proposed Woodbridge GO Station at the preferred location, as determined through this study. While the timing and details of the proposed Caledon-Vaughan GO Line are, at best, a long term (beyond 2041) prospect, it is appropriate and prudent to ensure that the City is prepared to act when the time comes.

To recap, and focusing on the study area, the *City of Vaughan Official Plan 2010* includes two schedules of relevance:

- Schedule 9 (Future Transportation Network) identifies a proposed grade separation at the Kipling Avenue railway crossing.
- Schedule 10 (Major Transit Network) identifies a proposed commute rail line and a proposed GO station northwest of the Kipling Avenue railway crossing.

In contrast, Map 11.5.A (Kipling Avenue - Land Use) of the Kipling Avenue Corridor Secondary Plan, identifies the proposed land uses for the study area, including future uses for the Woodbridge Foam Corporation lands, but does not identify any GO rail services or stations within the Plan area.

To protect for Woodbridge GO Station, we have prepared a draft official plan amendment (OPA) that adds to the Kipling Avenue Corridor Secondary Plan the location of, and policy guidance for, the proposed station. At a minimum, showing the proposed line and station will harmonize the Secondary Plan with the Official Plan, which has long identified the line and station as part of the City's long-term transit vision. The draft OPA adds this consistency and includes strategic guidance for making the proposed line and station an important part of Woodbridge and integral to the long-term residential redevelopment of the Rainbow Creek Neighbourhood North and Rainbow Creek Neighbourhood South precincts. The OPA adds to the land use map a symbol to conceptually show a "Proposed GO Station" on lands west of the CPKC MacTier Subdivision, currently the site of Woodbridge Foam Corporation, and labels the railway as a "Proposed Commuter Rail Line". This is consistent with Schedule 10 (Major Transit Network) of the Official Plan.

Nothing in the draft OPA will prohibit the continuation of current land uses. It is expected that the existing industrial uses within the Rainbow Creek Neighbourhood North precinct, the Mid-Rise Residential designation notwithstanding, will continue to operate into the near future. However, should current industrial uses cease, then the redevelopment of the lands will be guided by policies that envision a new residential neighbourhood with a GO station that is accessed primarily by walking, cycling, transit use, and by PUDO.

City of Vaughan

Woodbridge GO Station Land Use Study

Appendices to the Report and Conceptual Station Plans

Issue – 2024-08-22



Our project number: P0075-00



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Woodbridge GO Station Land Use Study
Appendices to the Report and Conceptual Station Plans

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Appendix A: Engineering Considerations Report

The *Woodbridge GO Station Land Use Study Engineering Considerations Report*, prepared by Arup, summarizes the engineering considerations for the proposed GO station near Kipling and Woodbridge Avenues in Vaughan. The report provides a brief background on the potential Caledon-Vaughan Line, transportation context of the study area, discussion of the potential station facilities, and concludes with an assessment of the four station location options.

Woodbridge GO Station Land Use Study
Appendices to the Report and Conceptual Station Plans

Hertel Planning

Woodbridge GO Station Land Use Study

Engineering considerations report

Reference:

Draft 2 | April 11, 2024



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This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 29429

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1. Introduction

The City of Vaughan (City) is assessing the feasibility of a possible GO Transit rail station on the potential Caledon-Vaughan Line near Kipling and Woodbridge Avenues. The study originated with Interim Control By-law 060-2023, which halts development within the vicinity of the Kipling Avenue Corridor Secondary Plan for a period of up to one year, effective 16 May 2023, and directs City staff to undertake this study.

The line and station have been conceptually shown in the City of Vaughan Official Plan 2010 (City of Vaughan OP). The City is now initiating conceptual planning and technical analyses to protect for a potential Woodbridge GO Station and to optimize the land uses in the area. Should these technical analyses demonstrate the feasibility of the station, the City intends to amend the City of Vaughan OP and secondary plan for the area.

Arup has been tasked to review and assess the feasibility of a Caledon-Vaughan Line GO Station within the study area, shown in Figure 1. Within the study area, four potential locations were considered and assessed.

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Figure 1: Study area (source: City of Vaughan)

1.1 Purpose of the report

This report summarizes the engineering considerations for the proposed GO station near Kipling and Woodbridge Avenues in Vaughan. The report provides a brief background on the potential Caledon-Vaughan Line, transportation context of the study area, discussion of the potential site facilities and finally concludes with an assessment of the four station location options.

The City would like to consider a GO station near Kipling Avenue in Woodbridge. While the City of Vaughan Official Plan shows a future station in this area, this location was not proposed in previous studies undertaken by the Province of Ontario's transit agency, Metrolinx. Hence, the City needs to understand the feasibility of this new station.

The assessment of these locations includes estimates of potential ridership and required facilities and an understanding of the site-specific opportunities and challenges.

The scope of this report does not include forecasting of the Caledon-Vaughan Line.

1.2 Methodology of this analysis

The following methodology was developed to provide the City of Vaughan and the project team with sufficient information to investigate the feasibility of a Woodbridge GO station within the proposed study area.

- Review previous information on the Caledon-Vaughan Line.
- Obtain an understanding of the previously forecast ridership.
- Review the GO Design Requirements Manual (DRM) for GO station facilities.
- Review current GO station facilities matching forecast ridership.
- Review future and proposed upgrades of GO station facilities matching forecast ridership.
- Synthesize a likely list of features for a potential future GO station within the Kipling Avenue study area.
- Conduct a strengths, weaknesses, opportunities, and challenges analysis on potential locations of the GO station at Kipling Avenue taking into consideration the synthesized GO station features.
- Review the potential locations for servicing constraints.

Please note that an independent analysis of the Caledon-Vaughan Line was not conducted.

1.3 Structure of the report

This report utilizes the available data from various sources to consider a potential GO station within the study area from an engineering perspective. The structure of this report is presented below:

1. Introduction

- This section introduces the purpose of the report and outlines the methodology of the analysis.

2. Background

- This section reviews all the background material reviewed as part of this study and pulls key information from these background materials that will be taken forward in the analysis.

3. Study area context

- This section pulls key information from a wide range of documents that inform the existing context, as well as the future conditions of the study area.

4. Identification of potential station facilities

- This section reviews the forecasted station ridership from the Bolton Commuter Rail Feasibility Study (Metrolinx, 2010) against the following sources:

- i) Provisions from the Feasibility Study;
- ii) The GO Design Requirements Manual which details some of the specific requirements for future GO stations; and
- iii) The GO Rail Station Access Plan which outlines the existing station facilities and proposed upgrades to station facilities.

- This section then provides a recommended facility typology and size.

5. Options assessment

- This section reviews four potential station locations within the study area.
- The analysis is completed using the lenses of strengths, weaknesses, opportunities, and challenges.

6. Summary

- This section summarises the report and conclusions drawn throughout on the engineering considerations of a Woodbridge GO station within the study area.

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2. Background

This section provides a brief overview of the documents reviewed regarding the proposed Caledon-Vaughan Line. The documents, which include mention of the proposed Woodbridge GO Station and nearby road crossings, include the following:

- MoveOntario 2020 Transportation Plan (MTO, 2007) (MoveOntario 2020)
- The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area (Metrolinx, 2008) (The Big Move)
- Bolton Commuter Rail Feasibility Study (Metrolinx, 2010) (Feasibility Study)
- York Region Official Plan (York Region, 2010) (2010 York Region OP)
- City of Vaughan Official Plan (City of Vaughan, 2010) (2010 City of Vaughan OP)
- 2041 Regional Transportation Plan (Metrolinx, 2018)
- Connecting the Greater Golden Horseshoe: A Transportation Plan for the Greater Golden Horseshoe (MTO, 2022) (Connecting the Greater Golden Horseshoe)
- York Region Official Plan (York Region, 2022) (2022 York Region OP)
- York Region Transportation Master Plan (York Region, 2022)
- City of Vaughan Transportation Master Plan (City of Vaughan, 2023)
- Letter from Metrolinx to the City of Vaughan, dated March 5, 2024

The documents reviewed are summarized in this section and Section 3 of this report for site context.

2.1 History of the Caledon-Vaughan Line

For nearly two decades, various transport and land-use plans have identified the potential for rail service between Bolton in Peel Region and Union Station in Toronto. The eventual timeframe for the line, referred to as the Caledon-Vaughan Line, remains unclear.

In 2007, the provincial MoveOntario 2020 transportation plan identified a GO Transit rail line from Union Station to Bolton to be constructed by 2020. Subsequently, Metrolinx's 2008 Regional Transportation Plan, The Big Move, identified a regional rail corridor from Bolton to Union Station in the 15-year plan, as shown in Figure 2.



Figure 2: 15-year plan for the regional rapid transit and highway network (source: The Big Move, 2008)

In 2010, Metrolinx published the Bolton Commuter Rail Feasibility Study, which reviewed the technical requirements for implementing a commuter rail service between Bolton and Union Station. The study found the rail service to be feasible; however, the rail expansion would not be contemplated within a 10-year timeframe. In 2018, the timeline got pushed further in the updated Metrolinx 2041 Regional Transportation Plan, where the Caledon-Vaughan Line was listed as a project beyond the 2041 horizon.

In 2022, the Ontario Ministry of Transportation's Regional Transportation Plan, Connecting the Greater Golden Horseshoe, identified a passenger rail service to Bolton to be advanced with a business case and stated to continue to protect for potential future rail service opportunities. The plan provides no timeline commitments.

Both York Region and the City of Vaughan included a proposed Caledon-Vaughan Line in their transportation master plans: York in its 2022 plan and Vaughan in its 2023 plan. The proposed Caledon-Vaughan Line was also identified in the 2010 City of Vaughan OP and the 2022 York Region OP.

Metrolinx responded to the City of Vaughan with a letter stating that they do not have ownership of the rail corridor and therefore cannot comment or support the study. They also stated that they are working with MTO on an update to the 2041 Regional Transportation Plan which will expand the plan to 2051 and bring it into conformity with the MTO Regional Transportation Plan.

2.2 History of Woodbridge GO Station

Although provincial and Metrolinx plans do not specify potential station locations for the Caledon-Vaughan Line, the Feasibility Study identified potential stations. Within the Woodbridge area, the station facility location assessment deemed the location south of Highway 407 and west of Islington Avenue, referred to as Highway 407/Islington, to be feasible.

The Feasibility Study notes the following station facilities should be provided at the station location: parking, taxi stand, Kiss 'n' Ride facilities, pedestrian facilities, bus loop, overhead canopy, bicycle storage, station building, ticket vending machine, public washrooms, station to platform accessibility, and accessible platforms. However, the report's basis for establishing the required facilities and sizing is unclear.

The York Region and City of Vaughan transportation master plans follow the outcomes from the Feasibility Study, depicting a proposed station location at Highway 407/Islington and noting that further study is needed. The proposed station is reflected in the 2010 City of Vaughan OP but did not appear in the 2022 York Region OP. However, it had previously appeared in the 2010 York Region OP.

2.3 Ridership demand forecasts

This study relies on the Feasibility Study ridership projections at Highway 407/Islington station to estimate potential ridership and station requirements for the proposed Woodbridge GO

Station located within the study area. The Feasibility Study’s forecasted ridership demand for the Caledon-Vaughan Line are summarized in Table 1.

Table 1: Caledon Vaughan Line ridership demand forecast (source: Feasibility Study)

Scenario	Ridership
Peak 2015 (am & pm)¹	4,974
Off-peak 2015 ²	1,343
Full day 2015	6,318

2.4 Rail and road crossings

The Feasibility Study examined the train and road traffic exposure levels at crossings to ascertain if a grade separation is required at certain rail and road crossings. Additional space requirements would need to be considered if a grade separation is required at a crossing.

There are two rail crossings within the study area, one at Kipling Avenue and the other a private road in front of the Woodbridge Foam Corporation. The Feasibility Study identified the Kipling Avenue crossing to have high exposure index and potentially warranting a grade separation. However, the Feasibility Study also notes that the surrounding residential land use and local classification of Kipling Avenue may not support grade separation. The Feasibility Study identified the crossing in front of the Woodbridge Foam Corporation to have an exposure index below the level to warrant a grade separation.

¹ In the feasibility report, Table 7.25 reports 2015 numbers, however, the column header is labelled as 2031.

² In the feasibility report, Table 7.25 reports 2015 numbers, however, the column header is labelled as 2031.

3. Study area context

3.1 Existing conditions

The study area stretches across the Canadian Pacific Kansas City (CPKC) rail line, extending east to the Woodbridge Fair grounds and west to the Woodbridge Foam Corporation site. Kipling Avenue within the study area is characterized by low-rise residential with some mid-rise residential and commercial uses. The CPKC rail line intersects Kipling Avenue, north of Porter Avenue West and south of Porter Avenue. To the south of the study area is Woodbridge Avenue, which is the heart of Woodbridge Village with a mix of businesses and residential uses. There are two natural features that cordon off the study area, the Humber River flows to the east and wraps north of the study area and Robinson Creek flows on the west flank of the study area.

The employed residents near the proposed Woodbridge GO Station, within the area bound by Langstaff Road to the north, Highway 7 to the south, Highway 27 to the west, and the river to the east, commute to work by car (94%), transit (6%), and cycling and walking (1%) (Transportation Tomorrow Survey, 2016). The large proportion of residents driving to work is an opportunity for encouraging mode shift through the provision of a GO station.

There were four potential Woodbridge GO station site locations, as shown in Figure 3, that were considered within the study area.

- Location 1: On the west side of the rail line, past Kipling Avenue. This location is currently occupied by the Woodbridge Foam Corporation, which is one of the major industrial facilities in the area.
- Location 2: On the north side, sandwiched between the CPKC rail line and Kipling Avenue. Aside from a heritage building, the lot is largely vacant. Location 2 is not completely within the study area boundary. However, for simplicity, it is noted as 'within the study area' throughout the report.
- Location 3: Southeast of the Kipling Avenue and the CPKC rail line intersection. The site is mostly an open field as it is currently occupied by the Woodbridge Fair grounds.
- Location 4: On the south side, sandwiched between the CPKC rail line and Kipling Avenue. There are currently some residential units. Location 4 is located adjacent to the study area. However, for simplicity, it is noted as 'within the study area' throughout the report.



Figure 3: Potential station locations (source: Hertel Planning)

3.2 Local transit connections

Seamless connections between GO stations and local transit can help influence transit mode share. Transit in the study area is within York Region’s purview, and hence, changes to the network are dependent on York Region. Understanding the proposed future transit connections can help plan for the station access facilities required for transit on the site location.

The 2024 York Region Transit System Map shows no bus routes or stops within the study area. However, Mobility On-Request Woodbridge is available through York Region Transit along Kipling Avenue. Farther south, there is a bus stop at Kipling Avenue and Highway 7 which is currently served by Route 77, Viva Orange (York Region Transit’s bus rapid transit service), and 501 Züm buses (Brampton Transit’s bus rapid transit service).

Transit service surrounding the study area, including along Highway 7, is proposed to expand. Currently, the Highway 7 Rapidway for buses exists to Wigwoss Drive-Helen Street, a few blocks east of Kipling Avenue. The York Region and City of Vaughan Transportation Master Plans (TMP) have identified Highway 7 as a future rapid transit corridor. Additionally, the long-term transit plan in the York Region TMP identifies a transitway alongside Highway 407 and Highway 427.

3.3 Local active transportation connections

Active transportation connections are a crucial link to GO stations. Pedestrian sidewalks with landscaping buffers are available on both sides of Kipling Avenue, as shown in Figure 4. Currently, there is no cycling infrastructure within the study area. The nearest cycling designated streets are Meeting House Road, Clarence Street, and Woodbridge Avenue, which are identified as shared roadways. A road improvement and streetscaping project was recently completed along a stretch of Woodbridge Avenue near the study area, which included sharrows and various enhancements to encourage walking and cycling.



Figure 4: Sidewalk infrastructure on both sides of Kipling Avenue (source: Google Maps)

The City of Vaughan TMP provides a plan for the cycling network in the area, as shown in Figure 5. Kipling Avenue and Woodbridge Avenue are identified as planned local cycling routes. Regional cycling routes are planned along Highway 7 and Highway 27. Meeting House Road, north of the study area, is proposed to link to sections of the future recreational multi-use Vaughan Super Trail.

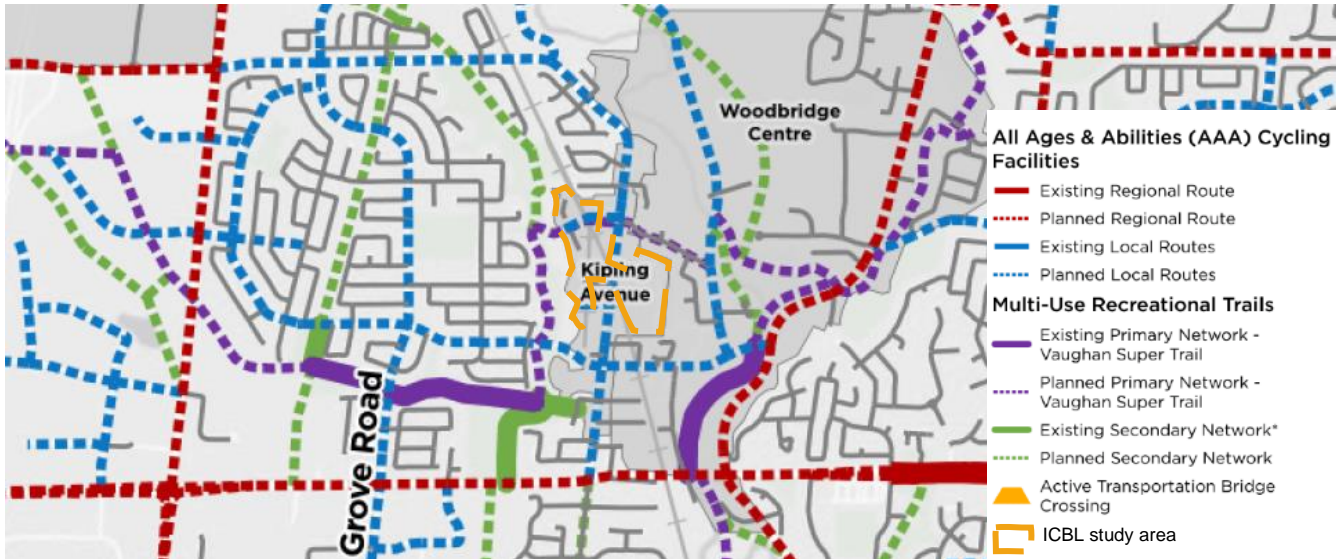


Figure 5: Snapshot of 2051 Active Transportation Network, City of Vaughan TMP (2022)

3.4 Local road network and vehicle access

There is a robust street network within and surrounding the study area. Kipling Avenue is the main north-south road which traverses the study area with a two-lane urban section and 40 km/h speed limit. Porter Avenue and Porter Avenue West flank the intersection of Kipling Avenue and CPKC rail line. Woodbridge Avenue is a main east-west road, south of the study area, with a two-lane urban cross section and 40 km/h speed limit. Meeting House Road is the closest road to the north of the study area: it starts at Kipling Avenue and continues east with a two-lane urban cross-section and 30 km/h speed limit near Kipling Avenue.

The closest signalized intersection is Kipling Avenue and Woodbridge Avenue. Kipling Avenue has a through-left and through-right lane in the northbound and southbound direction. Eastbound on Woodbridge Avenue has a left-turn, through lane, and right-turn lane and the westbound direction has a left-turn and a through-right lane.

There is a private road that crosses the rail line to access the Woodbridge Foam Corporation towards the north side of the study area. The private road is not a designated route for chemical deliveries. For chemical deliveries, Woodbridge Foam Corporation is accessed through Porter Avenue West, which does not cross the rail line.

The overall street network is expected to remain largely the same in the future. Kipling Avenue and Woodbridge Avenue are designated as minor collector roads by the 2051 street classification. Two roads that off-shoot west of Kipling Avenue—one to the north and one to the south of the CPKC rail intersection—are to be upgraded to minor collector roads and connected by a proposed local road.



Figure 6: Snapshot of 2051 Street Classification, City of Vaughan TMP (2023) (legend items not to scale)

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3.5 Traffic volumes

Traffic counts for Kipling Avenue and Woodbridge Avenue were conducted in 2021 for the traffic impact study for a development application at 239-245 and 251 Woodbridge Avenue. The numbers presented in Figure 7 were collected in 2021 and may be impacted by COVID-19 restrictions. Traffic counts for Kipling Avenue intersecting with Meeting House Road and Porter Avenue were conducted in 2014 for the traffic impact study for the development application at 8158, 8196, and 8204 Kipling Avenue. See Figure 7, Figure 8, and Figure 9 for morning and evening traffic counts at intersections in the study area. These traffic counts are typical for the residential roads in this study area.

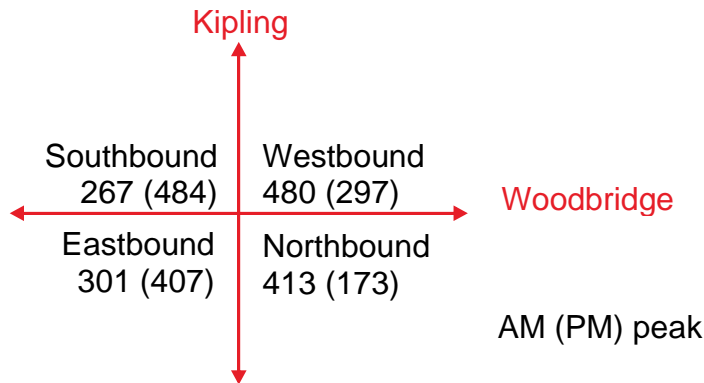


Figure 7: 2021 Kipling Avenue and Woodbridge Avenue intersection traffic counts (source: 239-245 and 251 Woodbridge Avenue development application)

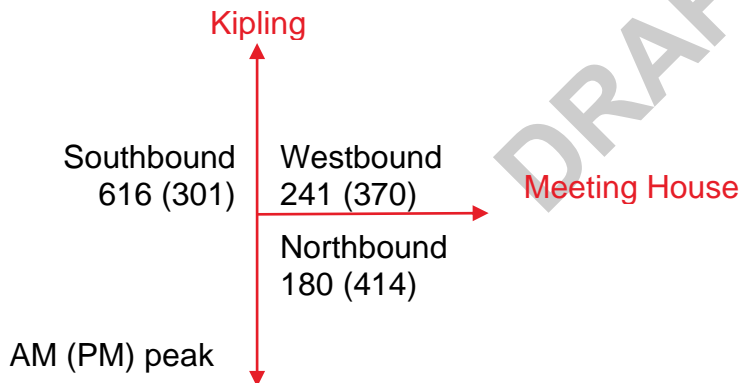


Figure 8: 2014 Kipling Avenue and Meeting House Road intersection traffic counts (source: 8158, 8196, and 8204 Kipling Avenue development application)

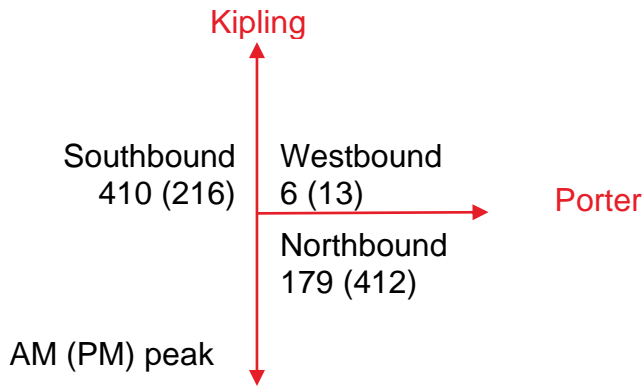


Figure 9: 2014 Kipling Avenue and Porter Avenue intersection traffic counts (source: 8158, 8196, and 8204 Kipling Avenue development application)

3.6 Freight traffic

The proposed Woodbridge GO Station would be located along the CPKC MacTier Subdivision. Currently, the line is used for freight operations and classified as a principal main line with a maximum speed of 80km/h (50 mph). In 2016, CPKC provided rail traffic volumes for a development application at 8158, 8196 and 8204 Kipling Avenue, shown in Table 2.

Table 2: Rail volumes along the Mactier subdivision at the Rutherford Road grade crossing (source: development application for 8158, 8196 & 8204 Kipling Avenue)

Location	Number of freight trains 0700 to 2300	Number of freight trains 2300 to 0700	Average number of cars per freight train	Maximum cars per freight train	Number of Locomotives per freight train
CPKC Rail corridor located at mile 14.13	9	7	60	189	2 (4 maximum)

If Caledon-Vaughan Line rail service is implemented by Metrolinx on the CPKC MacTier Subdivision, corridor expansion, through additional track installation will be likely required. In other analogous situations, such as on the Kitchener and Lakeshore West Lines, the host railway, Canadian National Railway (CN) had required that freight capacity to be maintained and that new capacity would need to be created for future GO service. In the Feasibility Study, consultation with CPKC concluded that doubletracking was to be proposed to run from Bolton and through the study area. Hence, it is likely that Metrolinx would be required by CPKC to install additional track for GO service in the vicinity of the station. The rail bridge over Langstaff Road has room for expansion on the west side of the tracks. Based on this constraint, double tracking would likely be implemented on the south (west) side of the existing tracks.

3.7 Servicing and civil considerations

The Woodbridge GO Station would need to be serviced with wet and dry utilities. Given the urban context of the station locations under consideration, it is assumed these services exist within the Kipling right-of-way (ROW) for water, wastewater, storm drainage, power, gas and telecommunications; therefore, the connections necessary to support operation of the station are likely feasible. The following services are anticipated to be required:

- Water to meet domestic and fire protection demands;
- Wastewater for domestic wastewater demands;
- Storm drainage to collect storm runoff;
- Medium/low voltage power for facility power, site lighting, etc.;
- Gas for heat (depending on the mechanical strategy for the building); and
- Telecommunications to connect the station to existing data and communication networks.

The capacity of any of the services identified above are unknown and should be verified based on hydraulic modelling and/or correspondence with asset and third-party utility owners. The requirements for the development of a servicing strategy are established by the City of Vaughan, York Region, and the Ministry of Environment, Climate and Parks (MECP).

The development of a station on the lands will lead to an increase in impervious surfaces. Re-grading will be necessary to support the development of the station and platform, pick-up and drop-off (PUDO) areas, parking, and barrier free access throughout the facility, modifying the existing drainage patterns. The changes to land cover and topography will require the development of a stormwater management strategy to mitigate the impacts of urbanization. The strategy will need to address quantity and quality control, water balance, flood protection, and erosion and sediment control. This is likely to include the following infrastructure:

- Provisions for low impact development / green infrastructure best management practices;
- Below ground drainage system (minor network);
- Below ground detention system;
- Development of a continuous overland flow route through grading; and
- Furnishing a manufactured treatment device;

A combination of the above components will be required to meet the design criteria applicable to the site.

The requirements for the development of a stormwater management strategy are established by the City of Vaughan, the Toronto and Region Conservation Authority (TRCA) and the MECP. It should be noted that the site is adjacent to, and partially impacted by, regulation limits identified by the TRCA for Robinson Creek and the main branch of the Humber River, as seen in Figure 10. These areas are regulated due to a combination of natural hazards typically including riverine flooding and potential erosion hazards from valley slopes. These areas will influence the extent of site activities and place restrictions on the developable area, in addition to informing the design requirements for the stormwater management strategy.

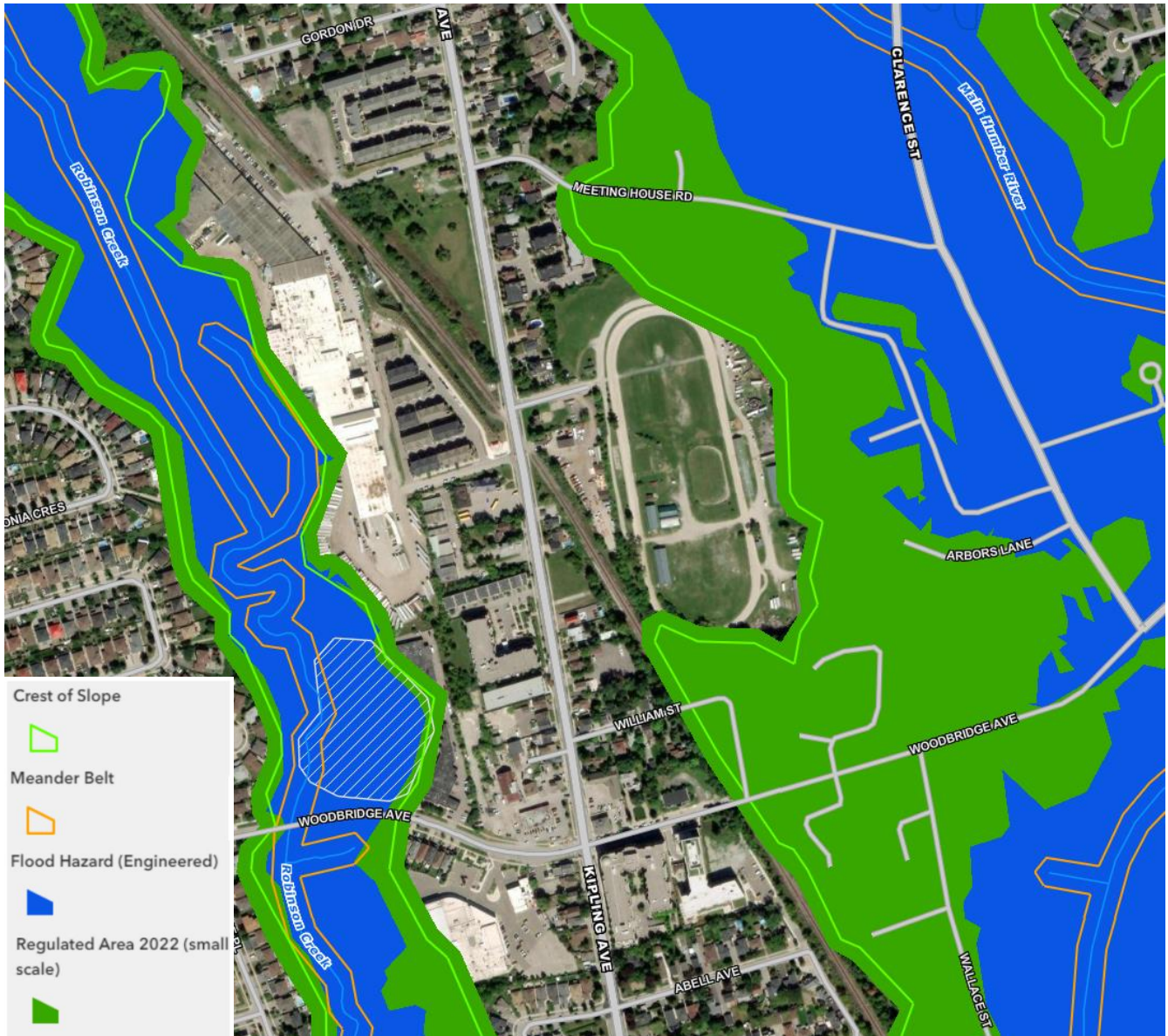


Figure 10: TRCA regulation limits around the study area (source: TRCA)

Green infrastructure and low impact development (LID) best management practices (BMPs) are recommended to be implemented at the site and prioritized over traditional grey infrastructure systems as they can be utilized to meet multiple stormwater criteria and provide significant co-benefits. Through capture, filtration, and retention the LID BMPs will promote water balance, improve water quality, and provide benefits for quantity control in reducing runoff rates and volumes. Furthermore, the BMPs will create additional habitat, improve local air quality, can reduce energy demands, and mitigate urban heat island effects.

A screening process should be undertaken to identify and select which LID BMPs are suitable for implementation at the site given the existing constraints. Considerations typically include:

- Proposed topography;
- Land cover and total imperviousness;

- Geotechnical and hydrogeological considerations such as groundwater levels, infiltration capacity, and hydraulic conductivity;
- Proximity to existing and proposed structures, hazardous landforms, and regulated areas;
- Connectivity to the existing drainage system within Kipling Avenue;
- Potential to achieve stormwater management criteria;
- Operations and maintenance requirements; and
- Life cycle costs.

Consideration should be given to the development of ‘treatment trains’, applying multiple LID BMPs in series to achieve water quality and water balance targets. It is recommended that source control measures are prioritized to manage precipitation where it lands first, and then consider conveyance measures and finally end-of-pipe practices.

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4. Identification of potential station facilities

Following the review of the existing documentation on the potential station and study area, the project team contemplated the station elements to be provided within the four station location options. This section will review station facilities against the Feasibility Study's Highway 407/Islington facilities, outline the design elements of the station based on the GO Design Requirements Manual (Metrolinx, 2023) (GO DRM) and GO Rail Station Access Plan (Metrolinx, 2021) (GO RSAP).

4.1 Highway 407/Islington site

The Feasibility Study provided a proposed site plan for the Highway 407/Islington site, which was considered an interchange station for a future rapid transitway on Highway 407. The site plan indicated a bus loop, Kiss 'n' Ride facilities, and vehicular parking, presented in Table 3.

Table 3: Proposed station access facilities in the Feasibility Study

Station access facility component	Configuration
Platform size	175 m length, 3.6 m width
Building footprint	300m ²
Bus facilities	Bus loop with four bus bays
PUDO facilities	Ferry style for 35 cars
Vehicular facilities	500 parking spaces, two signalised intersections for station access

4.2 GO Design Requirements Manual

The key features required for all future stations by the GO DRM are presented in Table 4. All other facilities are usually dependent on-site constraints and further review of the GO RSAP is required in future stages of design.

Table 4: Proposed station access facilities for all stations from GO DRM

Facility	Requirements from GO DRM
Rail platform	5.2.26.8.1 Rail platforms used by GO Transit are minimum 315 m long.
PUDO Facilities	<p>3.3.2.1.2 Criteria for Application of Ferry Style Configuration: a) The Station Categorization, reported in the GO Rail Station Access Plan should meet the “Base” “Medium”, or “Interchange” (“Base” to “Medium”) threshold categories;</p> <p>3.3.2.2.2 Criteria for Application of High Ridership Configuration: a) The Station Categorization, reported in the GO Rail Station Access Plan should meet the “Medium”, “High”, or “Interchange” (“Medium” or “High”) threshold categories; b) Station shall have Two-Way, All-Day service frequency, or be planned for service expansion.</p> <p>3.3.2.3.1 The Strip Configuration is designed to allow for a PUDO Facility on constrained station sites when land availability is a significant concern.</p> <p>3.3.2.4.1 The Urban Configuration is designed for station sites where there are minimal, or no station lands available.</p>
Carpool to GO parking	3.4.12 Carpool to GO parking shall be up to 2% of total parking spaces in proximity to barrier free parking.

4.3 GO Rail Station Access Plan

The GO RSAP can provide direction on the proposed Woodbridge GO Station’s infrastructure requirements by reviewing stations with similar ridership and typologies. The GO RSAP is guided by the hierarchy of access which presents a prioritization of travel modes intended to support a mode shift to sustainable alternatives. The GO RSAP provides station specific access requirements for all existing and in-delivery stations. The various physical station elements are informed by a combination of factors, particularly, the ridership and the intended mode share.

Station specific access requirements for existing GO stations were gathered for comparison purposes. The first section presents stations with similar current footfalls and the second section presents stations with similar 2041 projected footfalls³. The third section summarizes comparable GO stations based on mode share.

4.3.1 Facilities provided at existing GO stations with similar existing footfalls

The projected 2031 daily total footfalls at Woodbridge GO Station, about 2,500 per day, are similar to current daily footfalls at Kipling, Centennial, Malton, Milliken, Guildwood, Scarborough, and Dixie GO Stations. These stations’ current access facilities are shown in Table 5.

³ Daily total footfalls are total daily boardings and alightings.

All stations, except for Kipling, had zero to two bus bays and a significant amount of parking (500-900 spaces). Kipling Station, which has a high local transit and low drive and park mode share, has 14 bus bays and no parking spaces. Kipling station also has higher PUDO usage than most of the other stations. This is due to Kipling Station being the TTC Line 2 subway terminus and a western gateway to Toronto, which is unlikely to match the profile of operations at the proposed Woodbridge GO Station. Most stations have less than 100 bike parking spaces, except for Guildwood Station which has over 200 bike parking spaces.

Table 5: Summary of station access facilities provided currently at GO stations with similar daily footfalls (source: GO RSAP)

GO Station	Station type	Daily footfalls	Bus facilities	Bike parking spaces	PUDO spaces	Vehicular parking spaces
Kipling	Interchange (medium)	2,450	14 bus bays	90 (24 lockers and 42 covered)	66	0
Centennial	Base	2,175	0 bus bays	64 (56 covered)	35	451
Malton	Medium	2,575	1 bus bays	64 (32 covered)	29	698
Milliken	Medium	2,250	0 bus bays	32 (32 covered)	36	665
Guildwood	Medium	2,875	0 bus bays	216 (216 covered)	56	903
Scarborough	Medium	2,550	0 bus bays	70 (24 secure and 32 covered)	34	628
Dixie	Base	2,350	2 bus bays	32 (32 covered)	42	933
Facilities summary range:	Base - Medium	2,175 – 2,875	0 – 14 bus bays	32 – 216 spaces	29 – 66	0 – 933

4.3.2 Facilities proposed at GO stations with similar future footfalls

The GO RSAP, as noted above, also provides station specific access requirements to better align with target mode shares. The projected 2031 daily footfalls at Woodbridge GO Station were compared to the projected 2041 daily footfalls and these aligned with Dixie, Guelph,

Hamilton, Newmarket, and Caledonia GO Stations. Target station access facilities for 2041 are shown in Table 6.

Hamilton, Guelph, and Dixie GO Stations follow the formula of providing either more bus infrastructure or more parking spaces. For example, Hamilton, the more urban GO station, provides more bus facilities and Dixie, a more suburban GO station, provides more parking. The other two stations have no bus infrastructure and little parking (0-250 spaces). Most stations have less than 100 bike parking spaces, except for Hamilton station which has over 175 bike parking spaces.

Table 6: Summary of station access facilities to be required at GO stations with similar projected daily footfalls (source: GO RSAP)

GO Station	Station type	Footfalls	2041 Bus facilities	2041 Bike parking spaces	2041 PUDO spaces	2041 Vehicular parking spaces
Dixie	Base	2,200	3 bus bays	80 (32 secure and 48 covered)	33	733 – 933
Guelph	Interchange (base)	2,250	22 bus bays	88 (32 secure and 64 covered)	48	70
Hamilton	Interchange (base)	2,075	15 bus bays 5 layovers	176 (64 secure and 112 covered)	12	49
Newmarket	Interchange	2,975	0 bus bays	96 (96 covered)	6	260
Caledonia	Interchange	2,300	0 bus bays	64 (64 covered)	1-5	0
Facilities summary range:	Base - Interchange	2,075 – 2,975	0 – 22 bus bays 0 – 5 layovers	64 – 176	1 – 48	0 – 933

4.3.3 Facilities provided at stations with similar target mode shares

Mode share is another factor influencing station access facilities. The expected mode share of the proposed Woodbridge GO Station can be informed by target mode shares for existing GO stations in similar contexts. These have been summarized in Table 7 for Georgetown, Newmarket, Mount Joy, and Markham GO Stations.

Table 7: Target mode share of similar context stations (source: GO RSAP)

GO Station		Local Transit	Bike	PUDO	Drive & Park + Carpool
Markham (medium)	2041 Target Access	25%	6%	23%	15% + 5%
	2041 Required Facilities	1 bus bay (off-site)	136 bike parking spaces (48 secure and 88 covered)	35 spaces	336 - 416 total spaces Up to 22% carpool/reserved parking
Newmarket (interchange)	2041 Target Access	20%	5%	12%	35% + 2%
	2041 Required Facilities	0 bus bays	96 bike parking spaces (96 covered)	6 spaces	260 total spaces Up to 37% carpool/reserved parking
Mount Joy (medium)	2041 Target Access	23%	5%	17%	24% + 3%
	2041 Required Facilities	4 bus bays	192 bike spaces (64 secure and 128 covered)	80 spaces	1,180 – 1,333 spaces Up to 31% carpool/reserved parking
Georgetown (base)	2041 Target Access	5%	1%	14%	65% + 5%
	2041 Required Facilities	2 bus bays	64 bike parking spaces (64 covered)	28 spaces	850 total spaces Up to 17% carpool/reserved parking

4.4 Likely target facilities for Woodbridge GO

Based on the site characteristics and mode share of a suburban GO station, with little existing transit and no direct connection to other rapid lines, the Woodbridge GO Station should target the facilities outlined below in Table 8.

Table 8: Likely target station access facilities

Station access facility	Quantity
Station type	Medium
Bus facilities	0 (on-street only)
Bike parking spaces	176 (64 secure and 112 covered)
PUDO spaces	48 ferry style ⁴
Vehicular parking spaces	250 ⁵

Based on these target facilities, in a rectangular site, this will likely require a site area of about 14,465 m² which is based on the assumptions provided in Table 9.

Table 9: Site area assumptions

Facility type	Assumption	Likely area
Platform	315 x 4.9 m	1,540 m ²
Parking spaces	45 m ² per space	11,250 m ²
PUDO	2.5 x 6.5 m per vehicle	780 m ²
Walking routes and access	5% of parking space	565 m ²
Bicycle parking spaces	30 m ² per 16 bikes	330 m ²
Total		14,465 m ²

⁴ As per GO DRM, the configuration can be ferry style for “medium” stations, however, strip or urban style configuration can be implemented if there are land constraints.

⁵ As per the GO DRM, up to 2% spaces shall be allocated to Carpool to GO parking in proximity to barrier free parking.

5. Options assessment

This section provides a strengths, weaknesses, opportunities, and challenges (SWOC) assessment for the four options, shown again in Figure 11, focused on safety, accessibility and conformance with Metrolinx standards and the GO station facilities proposed in Section 4.4.

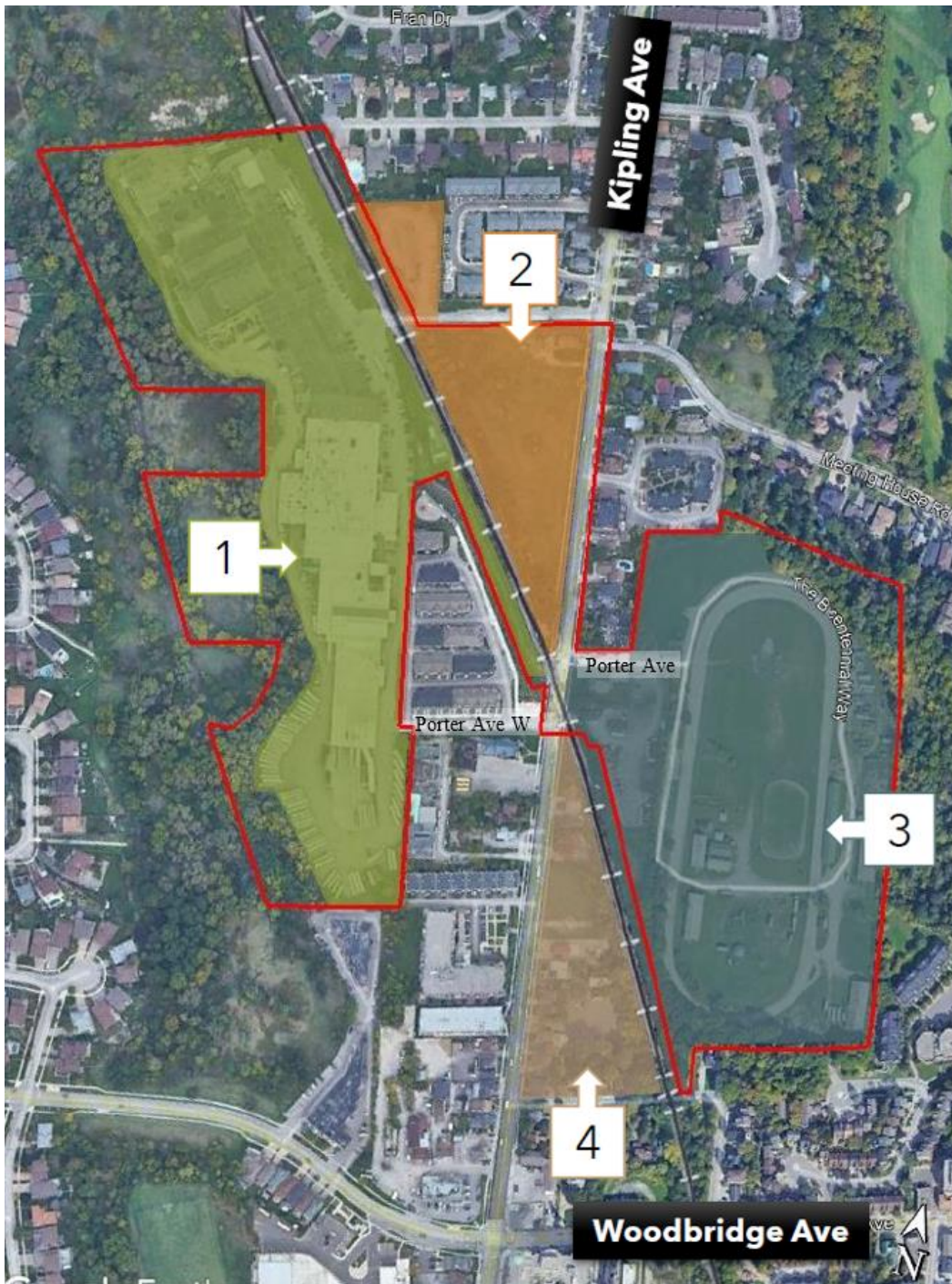


Figure 11: Potential station locations (source: Hertel Planning)

5.1 SWOC assessment

Table 10 provides the SWOC that apply to all four options. The next four sections provide SWOC assessments unique to Options 1, 2, 3, and 4, respectively.

Table 10: SWOC review of all options for the GO station

Strengths	Weaknesses
<ul style="list-style-type: none"> • Secondary plan has dictated some density in the area, there is likely to be increased demand for transit, so uptake may be high. • Given the urban context of the locations under consideration, it is assumed these services exist within the Kipling ROW for water, wastewater, storm drainage, power, gas, and telecommunications. 	<ul style="list-style-type: none"> • Grade crossing at Kipling Avenue has a high exposure index identified in the Feasibility Study. • Noise and vibration mitigation needed for nearby residential. • Grading is required on all sites.
Opportunities	Challenges
<ul style="list-style-type: none"> • Station location offers access to higher order transit for neighbourhood of Woodbridge. 	<ul style="list-style-type: none"> • Horizontal track alignment, track is on a curve. • Secondary plan envisions the redevelopment of the industrial use. • Proximity to TRCA protection areas means that mitigations will need to be incorporated into all options.

5.1.1 SWOC Assessment: Option 1

Option 1 is on the site of Woodbridge Foam Corporation, south of the track and west of Kipling Avenue. The site has access from the south through Porter Avenue West. Platform access would be constrained by the doubletracking and mobile cell tower infrastructure. The approximate site area is 62,000 m² and a potential platform length of 315 m (with a realignment of the crossing at the north Woodbridge Foam Corporation access). The SWOC is summarized in Table 11.

Table 11: SWOC review of Option 1 for a GO station

Strengths	Weaknesses
<ul style="list-style-type: none"> • Site has a large area; most GO station features likely to be able to be placed on site. 	<ul style="list-style-type: none"> • No road frontage with Kipling Avenue impacts transit and active travel accessibility. • Access from Kipling Avenue limited to Porter Avenue West. • Station removed from passing vehicles and Kipling Ave., this could present a safety and security issue, with no visibility on the station elements such as car and bicycle parking.
Opportunities	Challenges
<ul style="list-style-type: none"> • Site area large enough to have dedicated bus facilities and more parking (if required). • Grade crossing for the north Woodbridge Foam Corporation access could be removed. • Mobile cell tower could be relocated. • Site could offer direct access to the proposed Vaughan Super Trail to the west • A new station access could be provided near the Porter Avenue Parkette 	<ul style="list-style-type: none"> • Platform length less than 315 m if Woodbridge Foam Corporation crossing is maintained as is. • Site is currently occupied by Woodbridge Foam Corporation and currently has a mobile cell tower located to the south of the tracks that may impact the doubletracking required and station construction. • No frontages to Kipling Avenue making the station disassociated with Kipling Avenue and potential active transportation links to the nearby town centre. • Woodbridge Foam Corporation site may have environmental site issues that would need to be addressed.

5.1.2 SWOC Assessment: Option 2

Option 2 is on a mostly vacant site, aside from the one heritage building, located north of the track and west of Kipling Avenue. This site has access to Kipling Avenue. Option 2 also includes the parking/truck turning area to the north of the private road. The approximate site area is 22,000 m² and a potential platform length of 315 m if the crossing at north Woodbridge Foam Corporation access is relocated. The SWOC is summarized in Table 12.

Table 12: SWOC review of Option 2 for a GO station

Strengths	Weaknesses
<ul style="list-style-type: none"> • Site area likely to be sufficient for most GO station features. • Access from Kipling Avenue with frontage all along the street. • Site allows for station visibility and good access from active travel modes and curbside transit. 	<ul style="list-style-type: none"> • Triangular shape is less efficient for the provision of all the GO station facilities. • Platform length less than 315 m if Woodbridge Foam Corporation crossing for truck access is maintained as is.
Opportunities	Challenges
<ul style="list-style-type: none"> • Kipling Avenue frontage which could allow for active travel links and upgrades to Kipling Avenue. • Grade crossing for the north Woodbridge Foam Corporation access could be removed or moved 80 m further north to allow full length platform. 	<ul style="list-style-type: none"> • There is an existing heritage building on site. • If the Woodbridge Foam Corporation crossing is moved, it would result in a dog-leg routing of the private access about 80 m north of the existing crossing.

5.1.3 SWOC Assessment: Option 3

Option 3 is on the Woodbridge Fair grounds, located to the north of the track and east of Kipling Avenue. This site is connected to Kipling Avenue by Porter Avenue and has minimal frontage to Kipling Avenue. The approximate site area is 72,000 m² and supports a potential platform length of 220 m (distance between Kipling Avenue and the William Street rail bridge). The SWOC is summarized in Table 13.

Table 13: SWOC review of Option 3 for a GO station

Strengths	Weaknesses
<ul style="list-style-type: none"> • Site area is large and can accommodate most GO station features. 	<ul style="list-style-type: none"> • Station removed from passing vehicles, this could present a safety and security issue, with no visibility on the station elements such as car and bicycle parking. • Platform length less than 315 m. • Station has limited frontage on Kipling Avenue.
Opportunities	Challenges
<ul style="list-style-type: none"> • Potential active travel connection through Fairground Lane to Market Lane shopping centre. • Site area large enough to have dedicated bus facilities and more parking (if required). 	<ul style="list-style-type: none"> • Site currently occupied by Woodbridge Fairgrounds. • Site has limited frontage to Kipling Avenue. • Grade separation at the William Street rail bridge limits the length of platform to about 220 m.

5.1.4 SWOC Assessment: Option 4

Option 4 is bound by the track to the north, William Street to the south and Kipling Avenue to the east. The rail is elevated by an embankment on this site, as the terrain slopes toward the Humber River and the railway bridges over William Street in the southeasterly direction. The approximate site area is 16,000 m² and supports a potential platform length of 210m (distance between Kipling Avenue and the William Street rail bridge). The SWOC is summarised in Table 14.

Table 14: SWOC review of Option 4 for a GO station

Strengths	Weaknesses
<ul style="list-style-type: none"> • Access from Kipling Avenue with frontage all along the street. • Site allows for station visibility and good access from active travel modes and curbside transit access. 	<ul style="list-style-type: none"> • Site area the smallest reviewed and the least rectangular, which makes it unlikely to be able to accommodate all the GO station features. • Platform length less than 315 m. • Grade separation at William Street makes access from this street unlikely.
Opportunities	Challenges
<ul style="list-style-type: none"> • Kipling Avenue frontage which could allow for active travel links and upgrades to Kipling Avenue. 	<ul style="list-style-type: none"> • Site currently occupied with 13 single family homes. • Grade separation at William Street limits the length of platform to about 210m. • Rail grade relatively flat while the ground slopes down toward the southeast.

5.2 SWOC summary

The SWOC analysis of the four locations shows that Option 1 and Option 2 are the best suited for a GO station. The analysis has demonstrated the following key points:

- Option 3 and Option 4 have major issues with the grade separation at the William Street rail bridge that limits the potential platform length below GO standards. Furthermore, the shape of Option 4 makes efficient placement of the GO station facilities unlikely.
- Option 2 has good frontage with Kipling Avenue and is large enough to provide the GO station facilities. The Kipling Avenue frontage would allow for potential direct integration with active transportation facilities.
- The weakness of Option 2 is mainly due to the triangular shape and the Woodbridge Foam Corporation access across the tracks. Maintaining this crossing would result in it shifting north.
- Option 1 has a mobile cell tower that may constrain the GO station facilities based on the assumption of doubletracking of the rail line being needed. This could potentially limit the placement of the platform and station facilities. However, this cell tower could be relocated to a more suitable location for the GO station.

- Option 1 also has issues with visibility to passing vehicles and pedestrians. It also would be disconnected from Kipling Avenue for transit access which would require any future transit service to divert into the GO station, as opposed to curbside bus stops on Kipling Avenue. Option 1 may therefore require a bus loop style transit facility but based on the potential ridership from the Feasibility Study and the GO DRM and GO RSAP, the potential Woodbridge GO station would not require such dedicated facilities. There is a potential however for providing an access to Kipling Avenue from the Porter Avenue Parkette as the southern end of the platform would likely be near to Kipling Avenue.
- Option 1 is the largest site and therefore offers the most flexibility for placement of GO station facilities.

DRAFT

6. Summary

The City is assessing the feasibility of a possible GO Transit rail station on the potential Caledon-Vaughan Line near Kipling and Woodbridge Avenues. Arup has been tasked to review and assess the feasibility of a Caledon-Vaughan Line GO Station within the study area. Four potential locations were considered and assessed, which is shown in Figure 12.

This report has summarized the engineering considerations for the proposed GO station near Kipling and Woodbridge Avenues in Vaughan. The report provided a brief background on the potential Caledon-Vaughan Line, transportation context of the study area, discussion of the potential site facilities and finally concluded with an assessment of the four station location options.

The study area is located within a suburban environment with limited multimodal transportation options. Woodbridge Foam Corporation and Woodbridge Fair grounds are major land uses in the study area. Low-rise residential is the predominant urban form along Kipling Avenue, with some mid-rise residential and commercial uses interspersed. There is limited transit within the study area and no direct connections to the existing and planned rapid lines. The active transportation network is proposed to expand within the study area. Given the existing transportation conditions, a large proportion of residents drive to work. A provision of a GO station presents an opportunity for encouraging mode shift.

The assessment of these locations included estimates of potential ridership and required facilities and an understanding of the site-specific strengths, weaknesses, opportunities and challenges. Proposed station facilities and quantities were primarily informed by the GO DRM, GO RSAP stations with similar ridership and typologies, and the study area context. The likely target facilities for the Woodbridge GO station are 250 vehicular parking spaces, 48 ferry style PUDO spaces, 176 bike parking spaces, and no bus facilities other than on-street bus stops. Assuming a rectangular site, the target Woodbridge GO station facilities would likely require 14,465 m² site area.

Of the four potential location options evaluated using a SWOC framework, Option 1 and Option 2 are best suited for a GO station. Option 1 offers the most flexibility for placement of GO station facilities, however, the lack of connection to Kipling Avenue poses concerns of visibility and connectivity to other modes. Option 2 has good frontage on Kipling Avenue and is large enough to provide the GO station facilities. However, Option 2 would require shifting the Woodbridge Foam Corporation crossing north. Option 3 and Option 4 are less suited for a GO station due to the William Street rail bridge that would limit the platform length below GO standards.

Please note that an independent analysis of the Caledon-Vaughan Line was not conducted. It should also be noted that the scope of this report does not include forecasting of the Caledon-Vaughan Line.

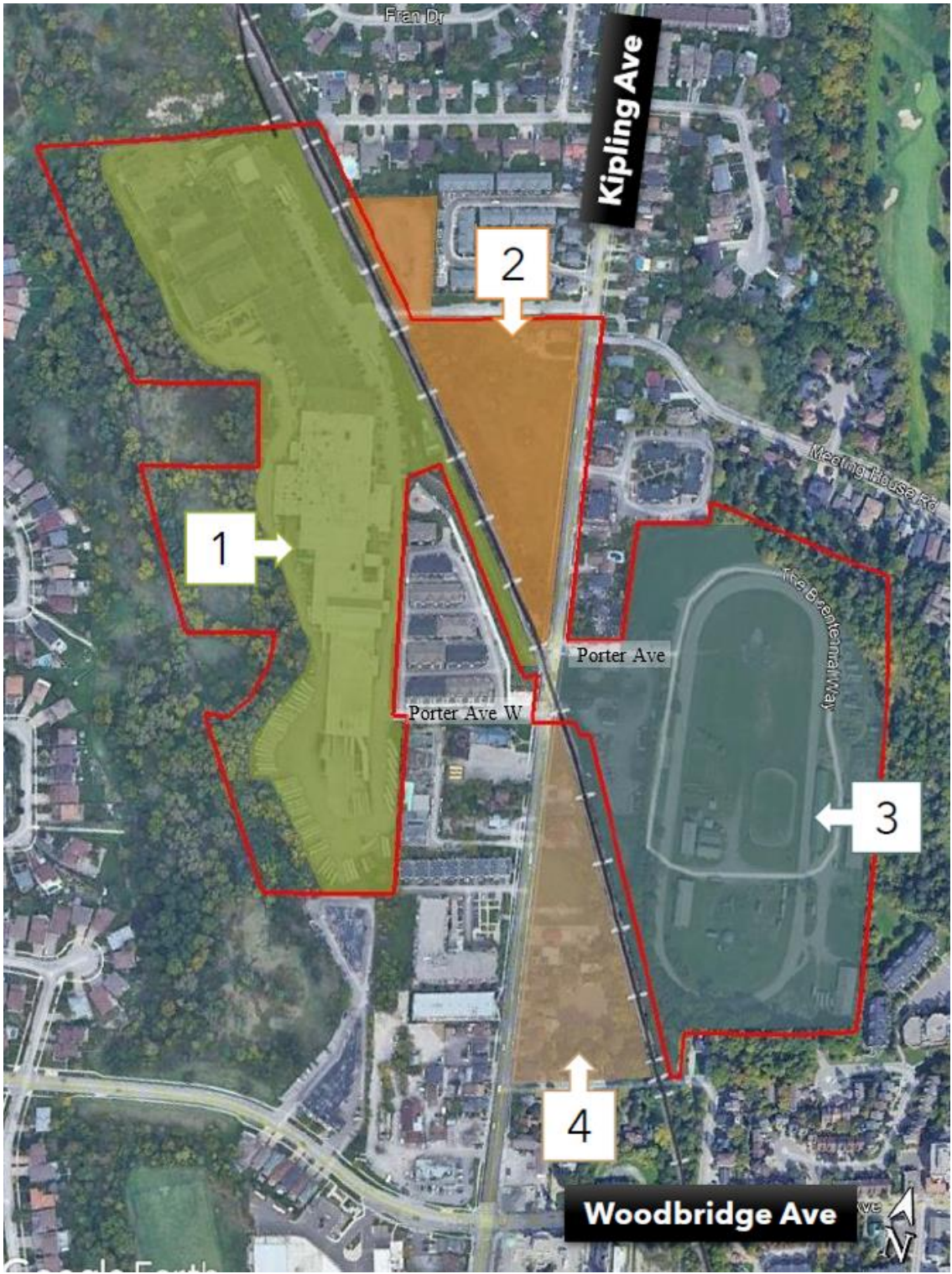


Figure 12: Study area and options considered (source: Hertel Planning)

Appendix B: Consultation Summary Report

The *Woodbridge GO Station Land Use Study Consultation Summary Report*, prepared by LURA Consulting, is a record of the engagement and consultation activities undertaken in support of this study, along with a summary of the feedback received at the public open house.

Woodbridge GO Station Land Use Study
Appendices to the Report and Conceptual Station Plans

Woodbridge GO Station Land Use Study Consultation Summary

*Prepared by LURA Consulting for the City of Vaughan and Hertel
Planning*

April 22, 2024

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Introduction

The City of Vaughan, together with Hertel Planning and LURA Consulting, are undertaking the Woodbridge GO Station Land Use Study. The study assesses the feasibility of adding a GO commuter rail station in Woodbridge as part of a potential Caledon-Vaughan Line on Canadian Pacific Kansas City's existing MacTier Subdivision, presently used exclusively by freight trains. The study will determine if a GO station can physically fit and function in the study area, and whether a GO station represents good planning in advancing provincial, Regional, and City infrastructure and development objectives.

The study area consists of 22 hectares of land in Vaughan's Ward 2, centred around the intersection of Kipling Avenue and the MacTier Subdivision. It currently encompasses the Woodbridge Fair grounds to the east of Kipling Avenue, employment lands and vacant lands to the west of Kipling Avenue, and the rail corridor from north to south.

In May 2023, Vaughan Council approved Interim Control By-Law (ICBL) 060-2023 in the vicinity of the Kipling Avenue Corridor Secondary Plan area and provided the direction to undertake the study. The ICBL temporarily paused development within the study area for a period of one year ending May 16, 2024, with the possibility to extend it by one additional year.

To date, LURA Consulting has provided strategic consultation advice and assisted with select engagement activities within the study's overall consultation process, specifically the online survey (open for responses from April 4-18, 2024), the virtual open house (April 4, 2024), and a meeting with Six Nations of the Grand River (April 15, 2024). This summary report presents feedback from these activities. It also lists consultation meetings hosted by Hertel Planning in March 2024.

Consultation Activities

This section provides a chronological overview of consultation activities conducted to date.

Technical Advisory Committee Meeting

The first Technical Advisory Committee (TAC) meeting was convened on March 7, 2024 and was attended by the following parties:

City of Vaughan

- Building Standards
- Development Engineering
- Development Planning
- Economic Development
- Financial Planning and Development Finance
- Fire and Rescue Service
- Infrastructure Planning and Corporate Asset Management
- Legal Services
- Parks, Forestry and Horticulture Operations
- Parks Infrastructure Planning and Development
- Policy Planning and Special Programs
- Real Estate
- Recreation Services
- Transportation and Fleet Management Services
- Vaughan Public Libraries

External agencies

- The Regional Municipality of York
- Toronto and Region Conservation Authority
- York Region District School Board
- York Regional Police

Meetings with Landowners

Individual meetings were held with representatives from the following properties:

- 8094 and 8214 Kipling Avenue (Woodbridge Foam Corporation) - March 19, 2024
- 8158, 8196, and 8204 Kipling Avenue - March 21, 2024
- 100 Porter Avenue (Woodbridge Fair) - March 26, 2024

Virtual Open House

The City of Vaughan (in collaboration with Hertel Planning, LURA Consulting, Arup, and Perkins&Will) hosted a virtual open house for members of the public from 7:00pm to 9:00pm on Thursday, April 4, 2024 on the Zoom Webinar platform with the option to call-in by telephone. It was advertised by the City of Vaughan through a public notice email blast, the project webpage, and social media channels.

The open house introduced the project team to the community and featured a presentation that explained the rationale for the study, relevant local history and surrounding land uses, sites under consideration for the potential GO station, and the planning processes and zoning mechanisms governing the study. A facilitated question and answer (Q&A) session followed the presentation, where attendees had the opportunity to verbally ask questions live and hear answers to questions they typed into the Zoom Q&A window.

117 unique participants were recorded in attendance; this figure does not include project team panelists. Both Vaughan Ward 2 Councillor Adriano Volpentesta and Regional Councillor Mario G. Racco attended the virtual open house. A recording and summary of the open house will be posted to the City's project webpage.

Online Survey

An online survey seeking feedback on the community's preferred site for the potential Woodbridge GO Station and desired features and amenities was developed and launched on April 4, 2024, with responses accepted through April 18, 2024. Respondents were also invited to suggest ideas that would contribute to a successful integration of a station in the neighbourhood and to list existing stations as inspiration. Finally, respondents optionally provided various demographic information to help the project team gauge the relative representation of various groups providing input into the study and to identify any unique needs or concerns of equity-deserving communities.

The survey received a total of 244 responses. It was hosted on the SurveyMonkey platform and was accessible via a link posted on the City of Vaughan project webpage (vaughan.ca/WoodbridgeGO).

Meetings with Indigenous Peoples

Project team members from the City of Vaughan, Hertel Planning, and LURA Consulting met with leaders from Six Nations of the Grand River on April 15, 2024 to share findings from the virtual open house, record Six Nations' comments and concerns, and answer questions.

Meeting participants discussed:

- The importance of taking an environment-first approach, consistent with the beliefs and responsibilities of land stewardship under the A Dish with One Spoon wampum covenant;

- Going beyond the minimum policy and regulatory requirements related to landforms, nature, and wildlife, including those for tree protection and replacement, and floodplain protection;
- Planning long-term, for at least seven generations; and
- Sites 2 and 4 are preferred since these are the smallest land areas, thereby having the least environmental impacts.

At the time of this writing, a meeting with the Mississaugas of Scugog Island is scheduled for April 25, 2024.

Summary of Virtual Open House Feedback

Public participants at the open house expressed both support and opposition to a potential Woodbridge GO Station. The sections below summarize attendees' questions, comments, and concerns on the following topics.

Station Site Selection

Most feedback on the four sites being considered as part of the land use study focused on Site 1 (the Woodbridge Foam Corporation lands) and Site 3 (the Woodbridge Fair lands). Participants were concerned about how the Woodbridge Foam Corporation would be affected if Site 1 (upon which their factory is situated) were deemed feasible and ultimately selected for a station. Similarly, some participants worried about the loss of the Fair's heritage and historic value if Site 3 were chosen. A few questions were received about whether station construction would require expropriation and either relocation or demolition of existing properties. Several participants expressed support for Sites 1 and 3, despite potential impacts to the foam factory and Fair, respectively.

Some attendees proposed various sites to consider outside the study area along both the CPKC MacTier Subdivision and the nearby CN Halton Subdivision, and asked whether such other sites are currently being investigated by the project team.

Attendees also asked questions about technical parcel size and parking requirements for a potential Woodbridge GO Station, including whether a dedicated parking structure would be needed.

Some participants in the open house expressed confusion over, and asked questions about, Site 4 (east of Kipling Avenue and south of the railway) not being included in the ICBL as the other three sites were.

A participant wished to know whether an Environmental Assessment would be carried out for the eventual site should one be selected and approved, and another raised a concern about noise impacts to adjoining properties.

Traffic and Transit Impacts

Attendees commented on existing challenges with traffic congestion in Woodbridge and specifically along Kipling Avenue, expressing concern that a new station and new residential developments surrounding it would exacerbate these issues. Questions were received about the possibility of grade-separation of the MacTier Subdivision track from Kipling Avenue and other nearby roads.

In addition, participants noted a current lack of transit in the study area in comparison to better-served Highway 7. While a potential GO station would be a major improvement to Woodbridge's overall transit network, they questioned overall connectivity without sufficient local bus service to the station or along Kipling Avenue.

New Development

A question was raised about whether the ICBL would prevent the Woodbridge Foam Corporation from obtaining building permits for changes to its property, and what rezoning implications a potential Woodbridge GO Station would entail, both for the station site itself and for surrounding parcels designated for residential intensification. An attendee also inquired about the possibility of halting all new development in the study area until after a potential station is completed.

Metrolinx and CPKC Involvement and Role in Study

Many participants asked whether Metrolinx and Canadian Pacific Kansas City are actively involved in the land use study and if so, desired to know what input they have provided to the City of Vaughan about site selection or the possibility of future passenger service.

Features of Potential Commuter Rail Service

A few questions were received about whether commuter rail service would require twinning of the existing single track and the type of rolling stock (diesel or electric) that would be used.

Construction Timelines

Participants wished to know how long construction would take and how soon commuter rail service could begin if a site were selected and approved for a potential Woodbridge GO Station.

Availability of Open House Presentation and Public Disclosure of Preferred Site

Some attendees asked about whether the open house presentation would be posted on the project website (vaughan.ca/WoodbridgeGO) and whether the preferred site would be disclosed to the public upon completion of the study. They also asked who would be responsible for deciding on a preferred site.

Survey Insights

Prominent points of feedback from the online survey are presented below and are organized thematically.

Station Site Selection

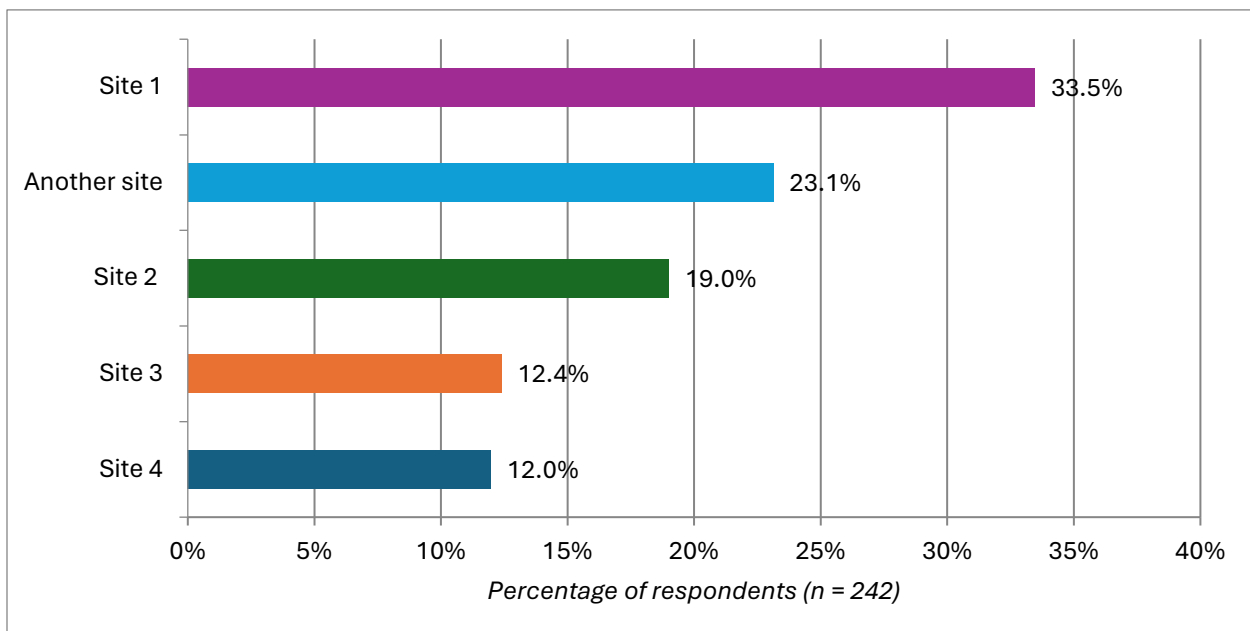


Figure 1: Survey respondents' preferred site for a potential Woodbridge GO Station

Survey respondents provided a ranked preference for the station sites, from most popular to least:

1. Site 1 (the Woodbridge Foam Corporation lands);
2. Another site elsewhere in Woodbridge;
3. Site 2 (west of Kipling Avenue and north of the railway);
4. Site 3 (the Woodbridge Fair lands); and
5. Site 4 (east of Kipling Avenue and south of the railway)

No single site surpassed another by a significant margin, indicating a diverse distribution of opinions: Site 1 (the most popular) was chosen by only 33% of respondents. However, a noticeable preference for Sites 1 and 2 emerges when considered in combination with the written comments provided by respondents.

Site 1 (The Woodbridge Foam Corporation Lands)

Strong support for this site among respondents can primarily be attributed to its large physical footprint that could accommodate a sizeable parking facility, and the desire among many for Woodbridge Foam to relocate due to its incompatibility with the surrounding residential area. Some respondents justified their preference for Site 1 with the perception that sites located directly on Kipling Avenue would experience more congestion and be crowded in by existing and future residential developments.

However, some respondents questioned the feasibility of Site 1 and whether Woodbridge Foam would want to relocate, expressing concern over the potential loss of local jobs a relocation of Woodbridge Foam could entail and pointing out that the factory and its management are longstanding fixtures in the neighbourhood's business community and that a move would be highly disruptive to them. Some residents to the west of the ravine opposite Site 1 and the adjacent residential development on Porter Avenue West, specifically, expressed concerns about noise impacts.

Site 2 (Lands West of Kipling and North of the Railway)

Site 2 enjoyed widespread support among respondents and was seen less disruptive because, as vacant land, it would not threaten to displace or conflict with existing uses on the other three sites. They also viewed the direct frontage onto Kipling Avenue positively from an access standpoint and noted that its smaller triangular footprint (and by extension, fewer parking spaces) could actually help prevent congestion by reducing its attractiveness as a “megastation” in contrast to Sites 1 and 3. In other words, respondents appreciated the more intimate and integrated community feel a station on the smaller Site 2 lands could represent without a large parking structure. On the other hand, some proposed combining Site 2 with Site 1 to create an exceptionally large station. No negative feedback from respondents explicitly relating to Site 2 was recorded.

Site 3 (The Woodbridge Fair Lands)

Considerable opposition was observed for Site 3 among survey respondents. Many noted the intangible heritage value of the Woodbridge Fair as a community institution and landmark, not wanting to displace it for a GO station. If maximizing space is a priority and a current use would need to be displaced for a station, Site 1 would be better because of the industrial nature of Woodbridge Foam, some said.

A few respondents, however, viewed the sizeable Fair lands as currently underutilized and an ideal place to construct a station, either offering many parking spaces from the start or providing ample room to expand in the future. Alternatively, it was suggested that Site 3 could serve exclusively as a parking facility while the main station and passenger pickup and drop-off area could be situated at Site 2, or the station and parking be constructed at Site 3 while available land at the other sites are used for residential development.

Site 4 (Lands East of Kipling and South of the Railway)

Site 4 received little specific feedback from the community. Like Site 2, respondents acknowledged the convenience (or conversely, congestion-inducing potential) of Site 4's Kipling Avenue frontage and its similar size but viewed it as less ideal than Site 2 due to the number of existing structures and property owners comprising Site 4.

Elsewhere in Woodbridge

A significant proportion of respondents supported a new GO commuter rail station in Woodbridge in principle but opposed all four sites within the study area on grounds of poor existing local transit service, land constraints, the potential to negatively alter the neighbourhood's character and—the possible impact most commonly cited—a risk of worsened traffic congestion along Kipling Avenue.

Respondents proposed several other places the project team could investigate as alternatives. Many highlighted the stretch of the CN Halton Subdivision rail line south of Highway 7 that is bounded by Highway 407 and Steeles Avenue on the north and south and by Kipling Avenue and Islington Avenue on the east and west, explaining that it is spacious and would serve not only Woodbridge residents but also residents of northern Etobicoke, both of whom often travel south to Etobicoke North GO Station to board a train.

Many also proposed other sites along the CPKC MacTier Subdivision rail line that runs through the study area, such as the point where it intersects with Highway 7, citing the greater capacity of Highway 7 to facilitate easier station access by road and connections to local transit. Two other locations mentioned were on the MacTier Subdivision where it

crosses Langstaff Road near the intersection of Kipling Avenue and Vaughan Mills Road, where it crosses Highway 27 north of Langstaff Road, and where it crosses Rutherford Road.

No Station at All

A small number of respondents expressed their complete opposition to the land use study itself, not feeling the need for a new GO commuter rail station at all, worried about the disruption its construction and operation could cause to quality of life and heritage, or feeling that the planning exercise to determine the feasibility for one is not an effective use of public funds.

Station Features, Amenities, and Aesthetic Design

Features & Amenities

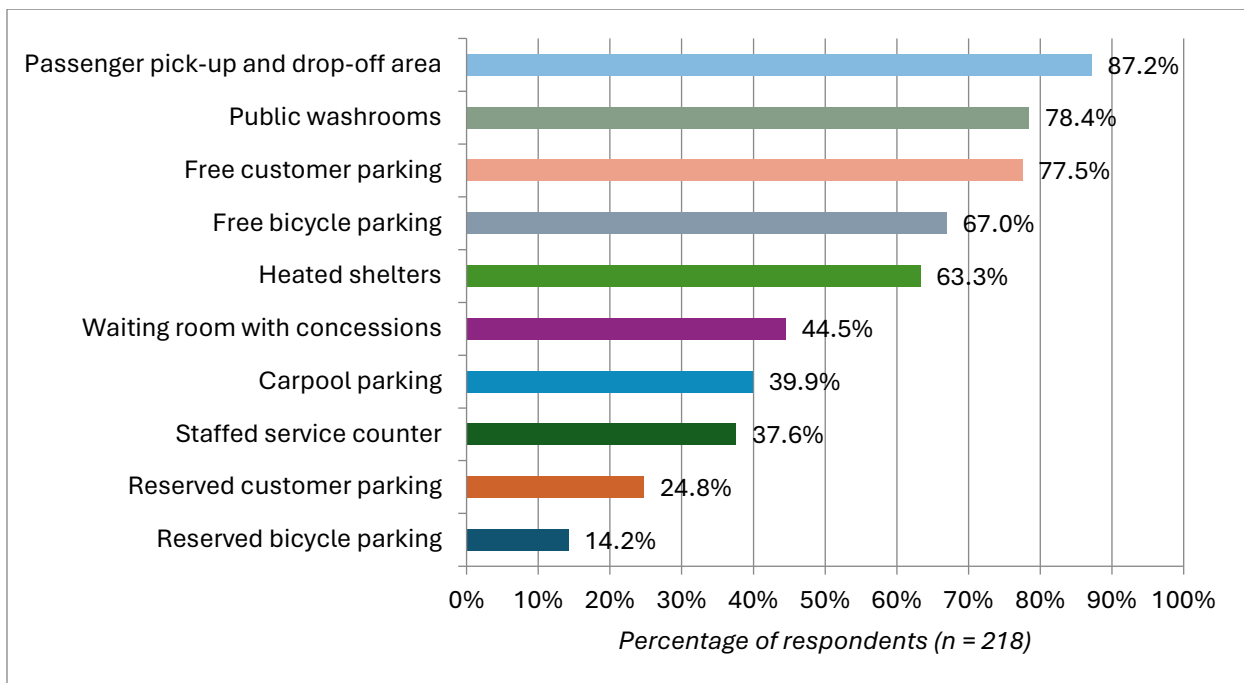


Figure 2: Survey respondents' preferences for station features or amenities

Over 60% of respondents requested that a future station contain (in descending order of popularity):

- A passenger pickup and drop-off (PPUDO) area;
- Public washrooms;
- Free customer parking;

- Free bicycle parking; and
- Heated shelters.

Remaining features and amenities (including reserved bicycle, vehicle, and carpool parking) each received support from approximately 45% or fewer respondents.

Notably, the popularity of a PPUDO surpassed that of free customer parking by about 10 percentage points, perhaps indicating that a site that accommodates fewer parking spaces but a generous PPUDO footprint would more closely reflect respondents' anticipated usage for travelling to and from a potential Woodbridge GO Station.

When asked to elaborate on their choices or provide other ideas for the station, respondents desired sufficient protection from the elements, a multilevel parking garage (above or below ground), a bus loop, electric vehicle charging facilities, public art, landscaping, a parkette or other green space, and quality pedestrian and transit connectivity to and from the station and to Highway 7 (including reinstating York Region Transit [YRT] bus line 10).

Aesthetic Design and Sources of Inspiration

Respondents who commented on their preferences for the station's architectural style overwhelmingly preferred a more traditional or heritage look that reflects the local vernacular style. Some called for a replica of the former Canadian Pacific Railway's Woodbridge train station. One respondent desired a modern design, however.

When prompted for existing transit stations and facilities that could serve as inspiring precedents for a GO station in Woodbridge, respondents pointed to many transit station examples in York Region, including Rutherford, Maple, Aurora, Markham, and Milliken GO Stations, the Toronto Transit Commission's (TTC's) Highway 407 and Pioneer Village Stations, and YRT/Viva stations. Several GO stations in Peel Region and Etobicoke were mentioned too, including Streetsville, Malton, Etobicoke North, and Mimico. Internationally, one participant suggested the Massachusetts Bay Transportation Authority's Belmont commuter rail station as a small-scale community example.

Neighbourhood Integration

Respondents urged the City of Vaughan to ensure that a future station in Woodbridge is integrated thoughtfully into the surrounding urban fabric in a way that is not only compatible with, but also contributes to, the area's strong community feel. They highlighted Woodbridge's historic residential architecture and accordingly requested that the profile and height of station buildings be more understated or low-rise. Also mentioned

was a need for well-designed and accessible public spaces around the station that both maximizes connectivity for those walking to the station and encourages people to gather and meet at the station as a new focal point for Woodbridge. To that end, they supported the idea of retail or concessions at the station.

Other Feedback

Some respondents remarked that a new Woodbridge GO Station would be a key component of Vaughan’s transportation system, but that the City needs to ensure that it functions well with and does not cause undue stress on other infrastructure (particularly the road network) and that any new density surrounding the station be introduced carefully. Respondents requested good pedestrian, cyclist, and transit connectivity, and perceived a need to widen roads leading to the station (including Kipling Avenue), referencing existing congestion levels that could worsen with a new station.

Another important observation was respondents’ keen interest in the construction process and desire for the station to be built quickly (among those who supported a station). They asked the City to be transparent about construction timelines and impacts, and to keep the community informed after the study is complete.

Demographic Highlights

Postal Code

Two-thirds of the survey respondents who answered this question reported being part of the L4L Forward Sortation Area (FSA), which encompasses most of Woodbridge. 60 respondents did not answer this question. Other FSAs reported included L0J, L3L, L4H, L4J, L4K, L6A, and M2M.

Age

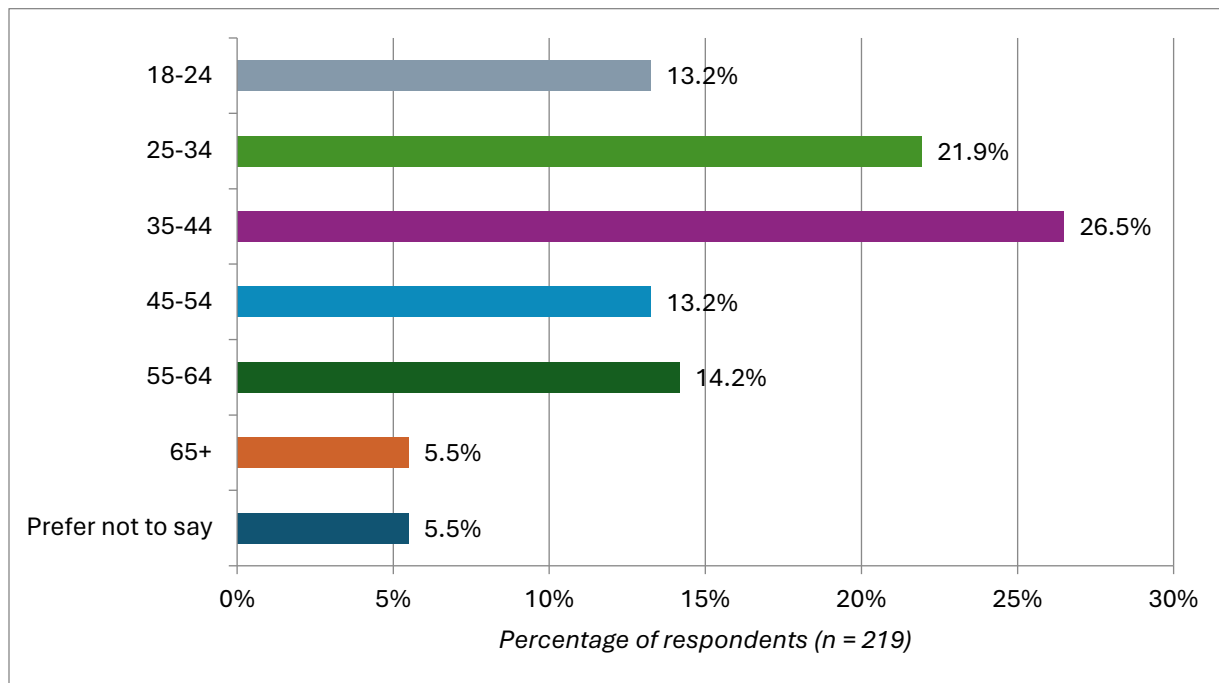


Figure 3: Survey respondents' ages

The largest proportion of survey respondents were between 35 and 44 years of age, followed by 25-34 year olds, 55-64 year olds, 18-24 year olds and 45-54 year olds (tie), and those 65 years of age or older. 37 respondents either skipped this question or indicated that they preferred not to provide an answer.

Gender Identity or Expression

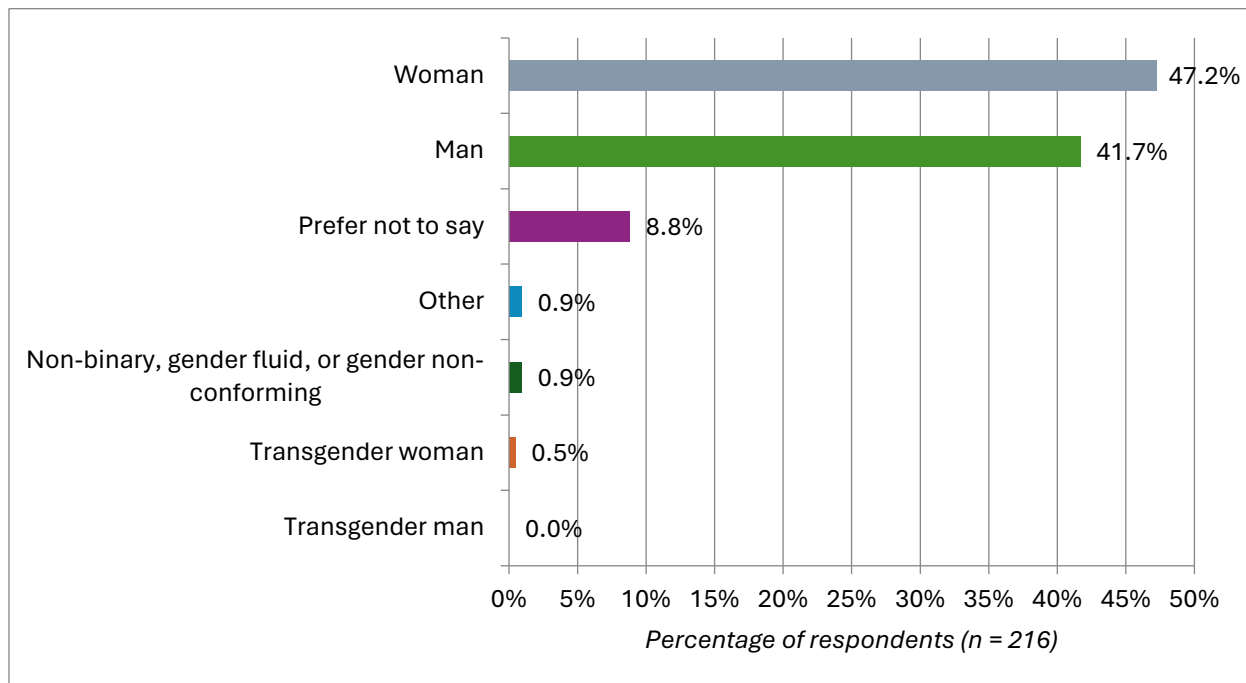


Figure 4: Survey respondents' gender identity or expression

More respondents identified as women (47%) than men (42%). Two respondents identified as non-binary, gender fluid, or gender non-conforming. One respondent identified as a transgender woman. 47 respondents either skipped this question or indicated that they preferred not to provide an answer.

Other Characteristics

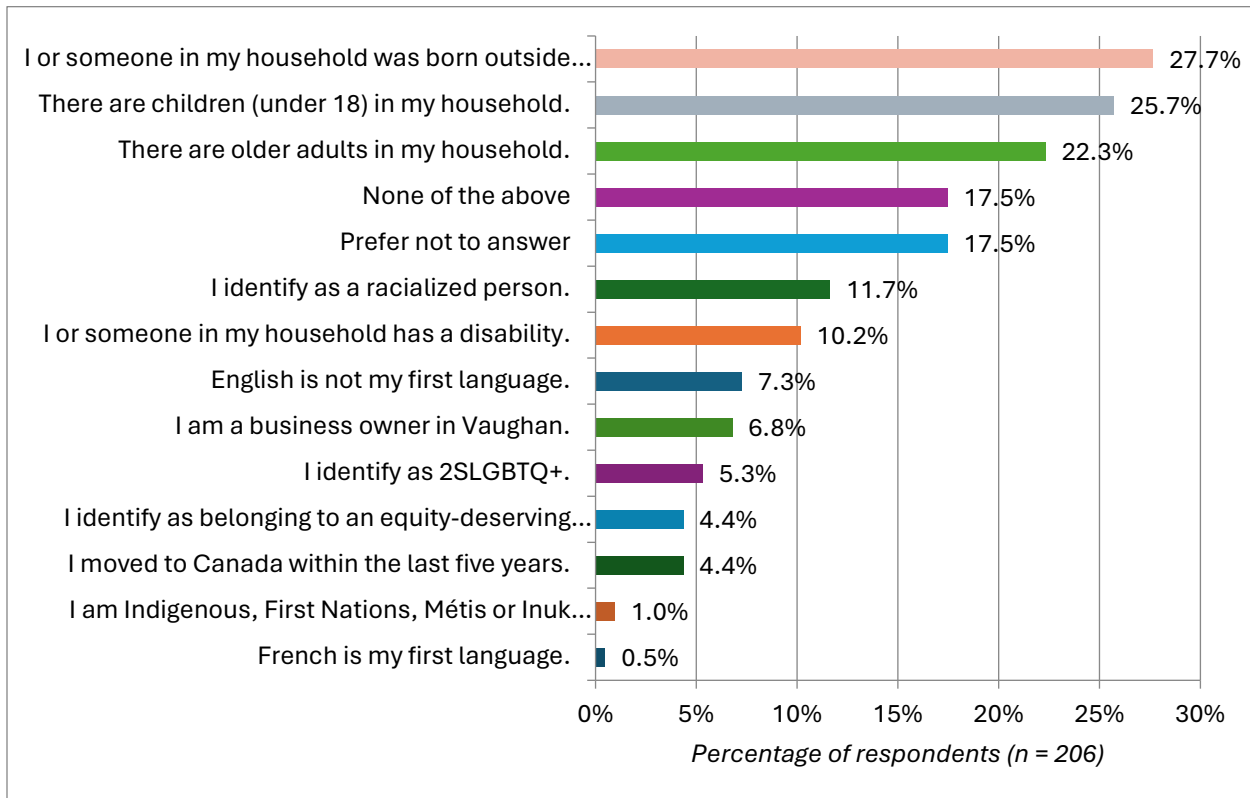


Figure 5: Other demographic characteristics reported by survey respondents

Almost three-in-ten respondents noted that either they or someone in their household was born outside of Canada. One-quarter have children under 18 in their household and 22% have older adults in their household. 12% of respondents identify as racialized individuals. 14 respondents are Vaughan business owners and 21 respondents either have a disability or noted someone in their household does. 11 respondents are part of the 2SLGBTQ+ community, and two are Indigenous, First Nations, Métis, or Inuk.

Preferred Modes of Travel

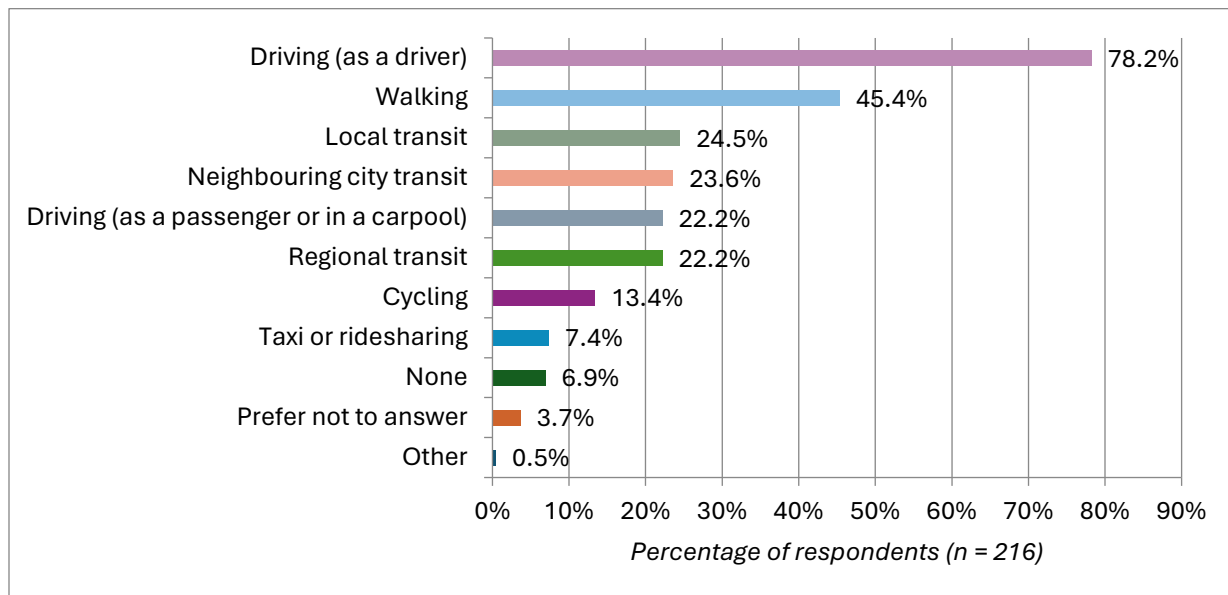


Figure 6: Survey respondents' preferred modes of travel (weekday)

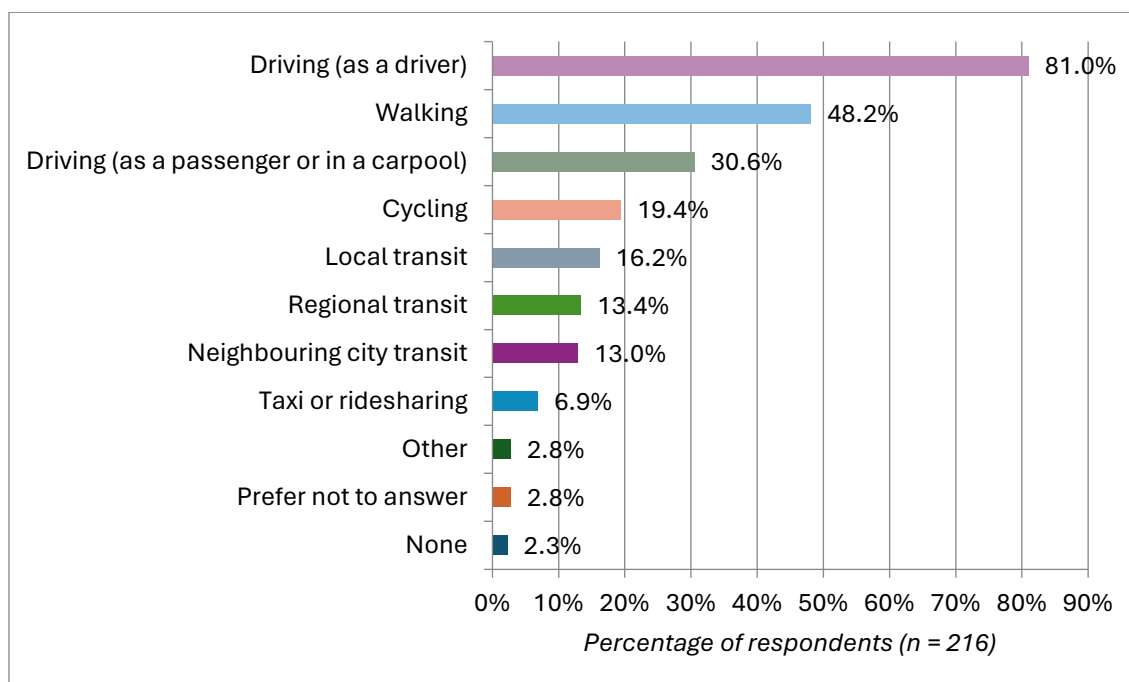


Figure 7: Survey respondents' preferred modes of travel (weekend)

Respondents' preferred modes of travel on both weekdays and weekends generally mirror one another, except for lower rates of active transportation and higher rates of transit use

on weekdays, and vice versa on weekends. Driving in a private vehicle as a driver was reported as the most frequent travel mode by a wide margin but slightly higher on weekends (81%) than weekdays (78%). Of particular significance, the second most popular mode was walking at 45% on weekdays and 48% on weekends.

Next Steps

As noted earlier in this report, a meeting with the Mississaugas of Scugog Island is currently scheduled for April 25, 2024 as part of consultation with Indigenous Peoples about the Woodbridge GO Station Land Use Study.

The completed land use study and the proposed official plan amendment reflecting the project team's recommended actions resulting from the study will be presented to Vaughan City Council at an upcoming statutory public meeting, presently scheduled for May 7, 2024. Members of the public will have the opportunity to submit or present deputations at this meeting.

Appendix C: Draft Official Plan Amendment

The Draft Official Plan Amendment text proposes to amend the Kipling Avenue Corridor Secondary Plan to include a conceptual location and related policies for a proposed Woodbridge GO Station.

Woodbridge GO Station Land Use Study
Appendices to the Report and Conceptual Station Plans

AMENDMENT NUMBER ##

**TO THE VAUGHAN OFFICIAL PLAN 2010
FOR THE VAUGHAN PLANNING AREA**

The following text and Schedule "1" constitute Amendment Number ## to the Official Plan of the
Vaughan Planning Area.

Authorized by Item No. ## of Report No. ##
of the _____, 2024 Committee of the Whole Meeting
Adopted by Vaughan City Council on _____, 2024

I PURPOSE

The purpose of this Amendment to Section 11.5, Kipling Avenue Corridor Secondary Plan, of the Vaughan Official Plan 2010 (“VOP 2010”), Volume 2, is to include a conceptual location and related policies for a future Woodbridge GO Station. The lands subject to this Amendment (“Subject Lands”) are designated in the City’s Urban Structure as “Local Centre” and “Railway” and are designated “Mid-Rise Residential” and “4 Rainbow Creek Neighbourhood North” in the Kipling Avenue Corridor Secondary Plan, within the VOP 2010 Volume 1 and Volume 2, respectively. The Amendment will protect lands for a future station, and guide land use planning and development in the interim, should the Caledon-Vaughan GO Line commuter rail service be introduced to this area. This is consistent with, and will add additional details to, the intent and direction of the in-force VOP 2010.

The Rainbow Creek Neighbourhood North is a precinct identified in the Secondary Plan as an area planned for future mid-rise residential development and complementary uses. The Secondary Plan also recognizes that this precinct is currently occupied, and will be in the foreseeable future, by lawfully existing and stable industrial uses which pre-date in-force planning policies for this area. Accordingly, nothing in this Amendment shall preclude or otherwise frustrate the continued operation of, including expansions to, the current industrial operations within this precinct.

II LOCATION

The Subject Lands are located in Woodbridge, west of Kipling Avenue where it intersects with the Canadian Pacific Kansas City (“CPKC”) MacTier Subdivision rail line, as identified in Schedule “1” of this Amendment.

III BASIS

The decision to amend Section 11.5, Kipling Avenue Corridor Secondary Plan, of the VOP 2010, Volume 2 to identify and protect for a future Woodbridge GO Station is based on the following considerations:

1. The VOP 2010, Volume 1, Schedule 10 - Major Transit Network, shows the CPKC MacTier Subdivision railway, which intersects with Kipling Avenue in Woodbridge, as “Proposed Commuter Line”. The Schedule also conceptually shows five “Proposed GO Station” locations along that railway including one in Woodbridge, west of Kipling Avenue.
2. Vaughan Council, on May 16, 2023, passed Interim Control By-Law 060-2023 (“ICBL”) for lands at, and adjacent to, the intersection of the CPKC MacTier Subdivision railway and Kipling Avenue, within the Kipling Avenue Corridor Secondary Plan area. The purpose of enacting the ICBL was to allow for a land use review of those lands to determine the feasibility of, and a preferred location for (if feasible), a potential future Woodbridge GO Station. The ICBL, which prohibits development and land uses other than those lawfully existing at the time of passage, lapsed on May 16, 2024.
3. The City of Vaughan is required to be consistent with, through the Official Plan, Zoning By-law and related guidelines, provincial and regional planning objectives and policies including the near- and long-term planning and implementation of the GO Transit Rail Network, and other facilities and services included within the Metrolinx Regional Transportation Plan.
4. The City of Vaughan initiated in January 2024 the Woodbridge GO Station Land Use Study (“the Study”), which includes the lands subject to the ICBL, to determine the feasibility of locating a GO station within the Study Area. The Study examined many factors including the ability to accommodate a station platform length of 315 metres and

other essential station elements identified in Metrolinx's *GO Design Requirements Manual* (DRM) and through precedents identified in *GO Rail Station Access*. The Study identified a station location, produced a conceptual station design and recommended policy amendments in order to protect for that station location.

5. The Study was completed in May 2024. It concluded that a future Woodbridge GO Station was feasible within the Study Area. The Study recommended that a future station be protected on lands located immediately west of the rail line, referred to in the Study as Site 1 (the Woodbridge Foam Corporation lands at 8214 Kipling Avenue). To implement the Study recommendations, policy and map additions to the Kipling Avenue Corridor Secondary Plan were also recommended.
6. The conclusions and recommendations of the Study were based on a review and analysis of:
 - Current conditions, including development patterns, land uses, street and rail corridor activity, and predominant design features;
 - Provincial, Regional, and City planning policies;
 - Approved and proposed development applications;
 - A desktop-level assessment of existing transportation conditions and facilities, including rail activities, and a technical analysis of the DRM standards and facilities for commuter rail stations;
 - A design exercise that considered and tested how essential station elements could fit within various sites, how connections could be made to the surrounding community including through extensions to current streets and the active transportation network, and how potential future development could be integrated or linked; and
 - Consultation with and feedback from a Technical Advisory Committee ("TAC") which included City departments and external agencies, landowners within the Study Area, First Nations communities, and the public through the following:
 - A virtual public open house held on April 4, 2024;
 - An online survey hosted on the project webpage between April 4 and April 18, 2024; and
 - A Statutory Public Meeting held on May 7, 2024.
7. Having held a Statutory Public Meeting on May 7, 2024, Vaughan Council approved an amendment to the VOP 2010 on _____, 2024 to provide for the adoption of the policy and schedule changes to the Kipling Avenue Corridor Secondary Plan.

IV DETAILS OF THE AMENDMENT AND POLICIES RELATIVE THERETO

Section 11.5, Kipling Avenue Corridor Secondary Plan, of the VOP 2010, Volume 2, is hereby amended by:

1. Adding a symbol to Map 11.5.A, Kipling Avenue – Land Use, as shown in Schedule "1" to this Amendment, to show the conceptual location of the proposed Woodbridge GO Station on the proposed Caledon-Vaughan GO Line commuter rail and making corresponding changes to the Map legend.
2. Inserting the following new sub-policy at the end of policy 11.5.2.4:
"e. Planned to evolve, through phased and coordinated redevelopment, to accommodate, and integrate with the proposed Woodbridge GO Station should commuter rail services be introduced on the CPKC MacTier Subdivision."
3. Inserting the following new policies immediately after policy 11.5.2.7 c., and renumbering current sub-policy d. to f.:

“d. Consideration for the proposed Woodbridge GO Station, shown on Map 11.5.A, Kipling Avenue – Land Use, including how proposed development will:

- i. Accommodate, and therefore not impede in the long-term, any required lands and structures as may be necessary for the detailed design, construction, and operation of the Station;
- ii. Allow access to and from the Station by pedestrians, cyclists, and vehicles, including public transit buses; and
- iii. Be integrated with the Station.

e. The policies of this section shall not preclude or otherwise frustrate the continued operation of, including expansions to, the current industrial properties within the Rainbow Creek Neighbourhood.

f. If the landowners of the conceptual location of the proposed Woodbridge GO Station propose to redevelop the current industrial properties to residential or mixed uses prior to the Government of Ontario (or an agency of it) providing sufficient detail respecting the detailed design or planning of the Station, then the City and the landowners shall consider Policy 11.5.2.7(d), but this policy shall not preclude or unduly delay the redevelopment of the properties.

4. Inserting the following new policy immediately after policy 11.5.27.15 and renumbering current policy 11.5.27.16 to 11.5.27.17:

“11.5.27.16 The CPKC MacTier Subdivision rail line, which crosses Kipling Avenue, has the potential for future GO Transit commuter rail service including a Woodbridge GO Station to be located on the west side of the rail corridor. It is envisioned that the Station will primarily serve the surrounding community, and provide safe and convenient access by walking, cycling, pick-up-and-drop-off, and local transit buses.”

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, Draft Plan of Subdivision approval, Draft Plan of Condominium approval, Part Lot Control By-law, and Site Plan approval, pursuant to the Planning Act, R.S.O. 1990, c.P.13, as amended.

VI INTERPRETATION

The interpretation of the provisions of the Official Plan of the Vaughan Planning Area as amended from time to time, shall apply with respect to this Amendment.

Schedule "1" to OPA XX

Map 11.5.A
Kipling Avenue - Land Use

