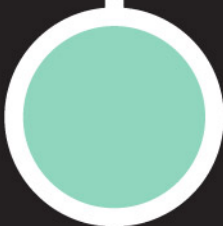




New Station **Initial Business Case**



HIGHWAY 27-WOODBINE

November 2018

Table of Contents

1.	Introduction	1
1.1	Background	1
1.2	Problem Statement.....	1
1.3	Report Scope and Purpose.....	1
Scenario A	No Replacement for Etobicoke North Station	4
2.1	Station Removal Context and Concept	4
2.2	Strategic Case	4
2.3	Financial and Economic Case.....	5
2.4	Deliverability and Operations Case	10
Scenario B	New Station at Highway 27-Woodbine	11
3.1	Station Context and Concept Plan.....	11
3.2	Strategic Case	15
3.3	Financial and Economic Case.....	27
3.4	Deliverability and Operations Case	32
Appendix A:	Financial and Economic Analysis Assumptions	35
Appendix B:	Ridership Inputs and Results Summary.....	36
Appendix C:	Future Service Considerations	37

1. Introduction

1.1 Background

Recent provincial planning and policy initiatives call for significant operational changes in GO rail services in the Greater Toronto and Hamilton Area (GTHA). The GO Expansion program will bring more train trips to every GO rail corridor, including increased weekday rush-hour and non-rush hour periods, evenings and weekends. Electric trains will run every 15 minutes or better, all day and in both directions, within the most heavily travelled sections of the network.

To address considerations emerging from the GO Expansion program, the City of Toronto's SmartTrack plan and other transit initiatives, Metrolinx initiated an examination of potential new station locations across the seven existing GO rail corridors. New stations should improve access to the GO rail network and meet strategic, financial (affordability), economic, and operational and deliverability objectives without significantly compromising the regional service objectives of GO and its base of users.

An initial identification of over 120 potential station sites was narrowed to 56 through a high-level evaluation of transport connectivity, planning and land use and technical feasibility. The 56 potential locations were then evaluated against 38 criteria and nine key criteria, yielding 24 sites on corridors that would be suitable for major infrastructure investment as part of the GO Expansion program, to be evaluated in more detail using an Initial Business Case (IBC).

1.2 Problem Statement

To maximize the benefits of the GO Expansion program, new stations are proposed on the rail network to improve access to/ egress from the GO rail network and generate new ridership. Stations should meet strategic, affordability, economic, and deliverability objectives without significantly compromising the regional service objectives of GO and its base of users on opening day.

In addition, the Highway 401 Rail Tunnel expansion project to support the GO Expansion program will require the closure of the existing Etobicoke North GO station, as new tracks will compromise the platforms at Etobicoke North station. The timing of the station closure is not yet confirmed and will be determined as part of the broader corridor expansion works.

1.3 Report Scope and Purpose

The scope of this IBC report is to examine the effectiveness of: 1) closing Etobicoke North Station without replacement (Scenario A) or 2) a proposed new station near Highway 27 and the Kitchener corridor at Woodbine Race Track (Scenario B). In June 2016, the Metrolinx Board directed staff to complete the IBC analysis for a Highway 27-Woodbine station. This report provides an initial overview of the impact on local objectives (the Strategic Case), the financial and economic performance of the scenarios (the Financial and Economic Cases), and deliverability and operational considerations (the Deliverability and Operations Case) of both scenarios.

Metrolinx also investigated 50 Resources Road (east of Islington Avenue and south of Highway 401) as a potential replacement for Etobicoke North station. However, early in the assessment of this potential location, several issues were identified:

- There is a restrictive covenant on title which currently prevents the use of the land as a passenger rail station;

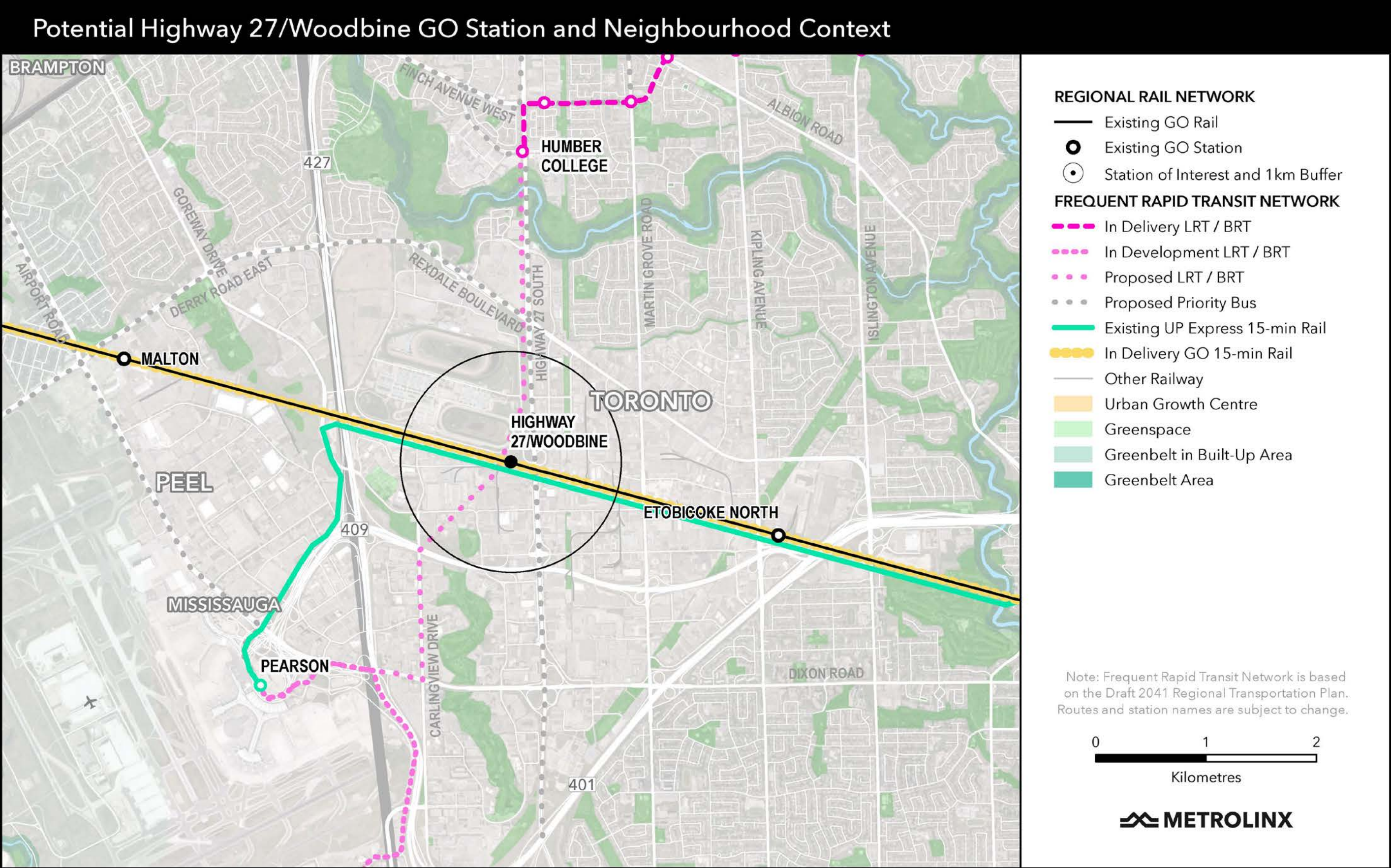
- The surrounding area has limited potential for transit-oriented development. Aside from some parcels that contain low intensity employment and commercial uses, the surrounding area is characterized by stable, low-rise residential areas and the Weston Golf and Country Club. The Humber River, which runs east of the site, would present an additional constraint to development;
- The site offers no connections to higher order transit; and
- Highway 401 presents a barrier to connectivity for potential users arriving to the station by foot or by bicycle.

The quantitative analysis conducted as part of this IBC has assumed that the station is only served by Kitchener corridor GO trains. The project team identified several parallel transit service and infrastructure options that could potentially impact the preferred station concept and performance in the business case evaluation, including:

1. Operation of Highway 27-Woodbine as an additional UP Express stop;
2. Extension of the Finch West LRT from Humber College to Pearson International Airport;
3. Construction of additional tracks on the Kitchener corridor for a freight bypass;
4. Construction of a new passenger rail bypass through an alternate airport hub;
5. Implementation of high speed rail on the Kitchener corridor; and
6. Operation of Highway 27-Woodbine as a terminus station for evening/weekend event trains.

The potential impacts of these options were considered at a high-level and are documented in **Appendix C**.

Figure 1-1: Highway 27-Woodbine station in the wider rapid transit network context



Scenario A No Replacement for Etobicoke North Station

2.1 Station Removal Context and Concept

Etobicoke North station is approximately 6 km from Malton GO station to the west and 4 km from Weston GO station to the east. It is also adjacent to a rail tunnel that carries the Kitchener Corridor under Highway 401/409. To help increase capacity on this corridor, infrastructure upgrades are required: Construction of a second tunnel under Highway 401/409 to accommodate two additional tracks, future signaling and communications infrastructure; and replacing footings of retaining walls that support the ramp from eastbound Highway 409 to eastbound Highway 401. These improvements will require the closure of Etobicoke North GO station as the new track alignment will displace the station platform, and site conditions cannot accommodate an alternate configuration. No feasible alternative configuration for Etobicoke North GO has been identified. The corridor is constrained by grades to the north, a bridge over Kipling Avenue and MTO property to the south. The timing of the station closure is not yet confirmed and will be determined as part of the broader corridor expansion works.

2.2 Strategic Case

According to the GO Rail Station Access Plan, in 2016 625 daily riders used the current Etobicoke North station as a home station. The majority of customers arrive from between 5 and 10 km away, with approximately 71% driving and parking, and 12% being dropped off. With adequate improvements to station access facilities, adjacent stations could support these users, with some inconvenience. Seven percent of customers currently access the station by local transit, particularly the route 45 Kipling buses. A transit journey to an alternate station would be significantly less convenient for these users.

Table 2-1: Strategic Case Summary Results

Strategic Case Summary	Etobicoke North (decommissioned)
Policy Alignment	Decommissioning stations is generally not supported by regional or local policy. The station continues to be listed in municipal planning documents.
Development Potential and Intensification	Presence of the GO station has not supported density in the area or station-related development. The area is designated Employment and there is currently limited development activity in the area.
Real Estate Market Demand	Limited current and future market demand.
Natural Environment	No significant environmental considerations within 800 m.
Operational System	Approximately 6 km from Malton GO station to the west and 4 km from Weston GO station to the east.
Connectivity and Ridership Drivers	The immediate station area has few ridership drivers. Connectivity to the GO network would be reduced, and access would be curtailed for users connecting via the TTC Route 45 Kipling buses.
Station Access	Removal of the station would reduce access to the network. Adjacent stations both have high utilization of parking and access infrastructure and limited capacity for expansion to serve displaced Etobicoke North users.
Social Inclusivity and Accessibility	Removal of the station would reduce access to surrounding employment areas and transit passengers connecting from residential areas to the north and south.

Traffic zone level forecasts indicate that approximately 1,400 residents and 2,700 jobs will be located within 800 m of the station site in 2031. This equates to a projected population-and-job density of 20 people and jobs per hectare (P+J/ha), which is not considered transit-supportive according to Metrolinx's density guidelines for express rail stations (150–300 P+J/ha)¹. Current development activity within 800 m of the station site is limited.

The majority of land surrounding Etobicoke North GO is designated as Employment Area. The conversion of Employment Areas to other uses is permitted only through Municipal Comprehensive Review. Applications to convert Employment Areas are reviewed both individually and in aggregate, taking into account population forecasts, employment forecasts, and compatibility with other uses in the area, among other considerations. Municipal Comprehensive Reviews are required by the Province every five years, thus the City of Toronto's next review must be in force by July 1, 2022.

Decommissioning of Etobicoke North GO is unlikely to facilitate new development as lands for the station and platforms would be absorbed by new tracks and infrastructure and parking areas are contained within a hydro corridor, where permitted uses are typically limited to parking, and storage.

2.2.1 Stakeholders

There are a range of stakeholders that might or will be affected by the decommissioning of a station at Etobicoke North. These include:

- **Metrolinx Operations and Capital Projects Group**
- **Municipalities:** City of Toronto
- **Elected officials:** Toronto City Councillor (Ward 2 Etobicoke North); Member of Provincial Parliament; Member of Parliament
- **Transit agencies:** Toronto Transit Commission
- **Owners, developers, and residents of adjacent properties**
- **Travelers** (transit, road, and active transportation users)

2.3 Financial and Economic Case

2.3.1 Analysis Approach

The Financial and Economic Case for a new station, relocation, or closure depends on forecasts of how travellers will respond to the change in the transportation network. Individuals who use a new or relocated station can benefit by saving time relative to their previous travel option – travelling farther to another GO station, or using a different transport mode such as subway, bus, or automobile. A station closure or relocation can also impact some GO riders with longer travel times, if riders now need to use another station that is less convenient for their journey. Changes to stations also impact upstream riders, who may experience longer travel times when a stop is added along the way to their destination. Changes to automobile usage, roadway congestion, and environmental outcomes can also occur as individuals reconsider their mode choice decisions when the change in station options occurs (e.g. commuters that live or work in close proximity to a new station may now choose to use GO instead of their car).

The IBC for Highway 27-Woodbine uses a modelling and analysis approach that is consistent with the 12 new station Preliminary Design Business Cases (PDBC's) that were issued in March 2018². The Highway 27-Woodbine

¹ *Transit-supportive density of an "Express Rail" mobility hub, Metrolinx Mobility Hub Guidelines for the Greater Toronto and Hamilton Area, Metrolinx, September 2011*

² *See Technical Report: GO Expansion RER New Stations Business Case Analysis (Attachment A) for details.*

business case analysis measures and captures the same types of travel time and automobile usage benefits and impacts and applies the same modelling and analysis methods. The analysis also shares the same travel demand modelling approach that utilizes the Greater Golden Horseshoe travel demand model to forecast ridership and transportation user benefits. Consistent with the PDBC's, the business case for Highway 27-Woodbine assumes that the new station is built for level boarding from the outset and that fare integration is in place between GO and TTC (i.e. no difference in cost to take TTC, GO, or both). The analysis also makes use of municipally-derived forecasts of population and employment for 2031, most notably utilizing the same citywide traffic zone level forecasts provided by the City of Toronto.

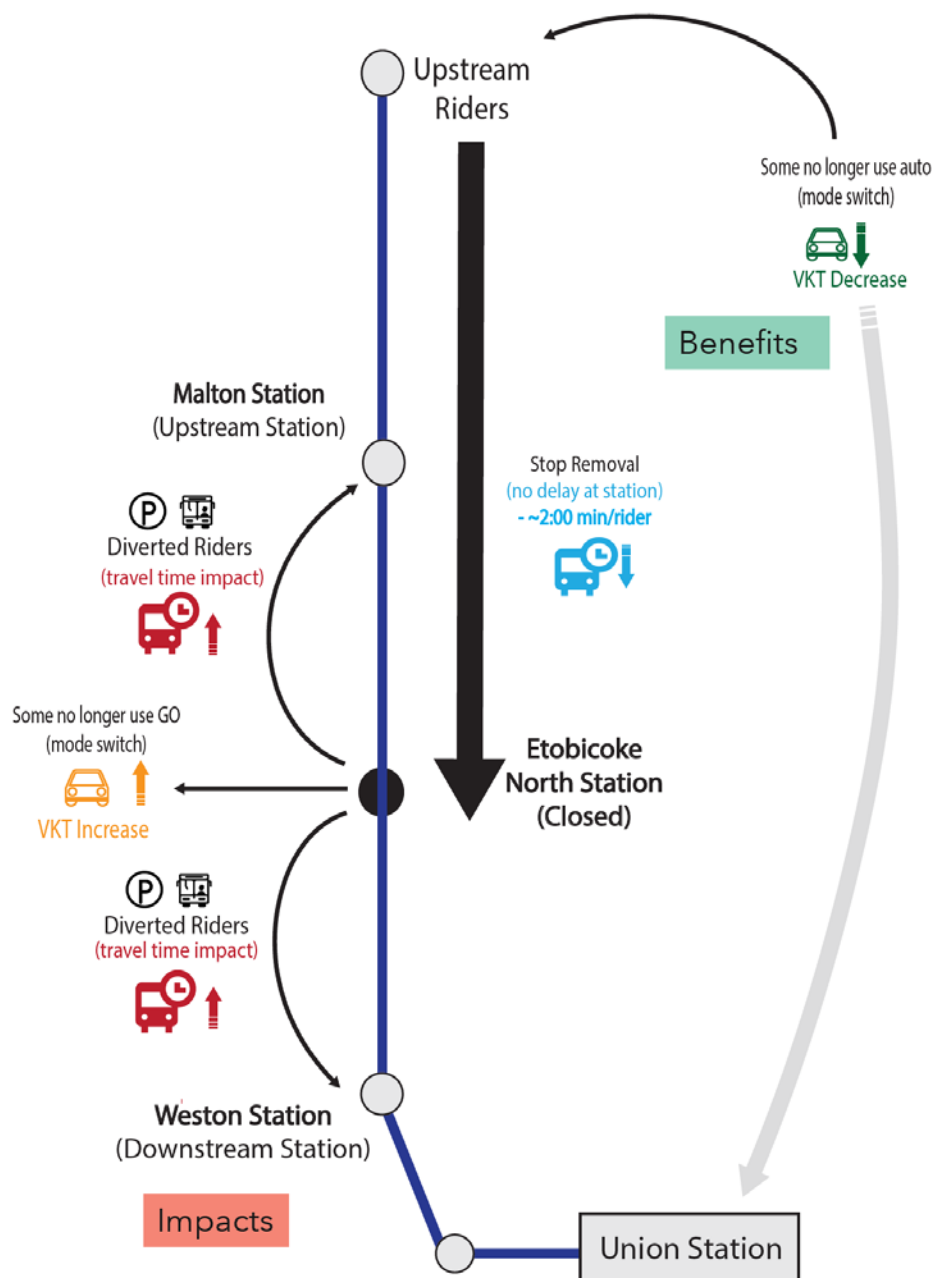
The following sections summarize the key benefits and impacts that are quantified in the analysis, the results of the Financial and Economic Case, and discuss the key travel markets that are impacted by the Etobicoke North station closure scenario. Please refer to the *GO Expansion New Stations Modelling Backgrounder (April 2018)*³ for a more detailed discussion of the overall modelling approach, inputs, assumptions, and tools that were used to support the analysis.

2.3.2 Scenario Benefits and Impacts

Highway 27-Woodbine station is different from the other stations that were analyzed in the 12 PDBC's issued in March 2018 since one of the options is a *closure* of the existing Etobicoke North station. The station closure saves time for upstream riders since they are no longer stopping at Etobicoke North; Kitchener corridor trains that would have previously stopped at Etobicoke North would now travel through without stopping. However, the station closure impacts GO riders that would have previously used Etobicoke North station and now must use an alternate station such as Malton or Weston. As part of the closure scenario, 700 additional parking spaces have been assumed to be added to Malton station to replace the lost parking at Etobicoke North station. As visually summarized by Figure 2-1, examining travel time savings, delays, and modal shifts is the focal point of the technical analysis that supports the Financial and Economic case for the closure of a station.

³ <http://www.metrolinx.com/en/regionalplanning/newstations/2018-04-13%20Stations%20Technical%20BackgrounderFINAL.pdf>

Figure 2-1: Station Closure Benefit and Impact Analysis



2.3.3 Results Summary and Sensitivity Analysis

The economic analysis monetizes the forecast transportation user benefits and impacts and environmental outcomes associated with the Etobicoke North station closure over a 60-year analysis lifecycle. Please refer to **Appendix A** for an overview of the key financial and economic analysis model input assumptions used in the analysis. These assumptions have been updated for consistency with analysis parameters in the upcoming Version 1.0 release of the Metrolinx Business Case Guidance⁴. This includes generating a range of benefits

⁴ The Draft Business Case Guidance (March 2018) is accessible here:
http://www.metrolinx.com/en/regionalplanning/projectevaluation/benefitscases/benefits_case_analyses.aspx

through sensitivity testing using different Value of Time Growth rate assumptions (0%/year and 0.75%/year respectively).

Table 2-2, below, summarizes the key metrics that quantify the overall economic performance of Scenario A: No Station Replacement. **Appendix B** provides a summary of the key inputs to the IBC analysis, including modelled GO service levels and station area land use.

The high level cost estimate combines capital costs (excluding property) and operating costs over the 60 year analysis lifecycle. See 2.3.3.3 for more details.

Table 2-2: Economic Analysis Summary Results (Millions of 2017 \$, Present Value)

Scenario A: No Station Replacement		
2031 Etobicoke North Ridership (Daily boardings + alightings)	7,100	
2031 Change in GO Ridership (Daily boardings + alightings)	-2,600	
Benefits Compared to Cost	Benefits are Positive and Exceed Costs	
Benefit Cost Ratio (BCR)	n/a ^[1]	
Total Benefits (60yr lifecycle)	\$70 M to \$90 M	
	0% Value of Time Growth	0.75% Value of Time Growth
Travel Time Savings	\$74 M	\$92 M
Existing GO Riders	\$60 M	\$78 M
New GO Riders	\$14 M	\$14 M
Vehicle Operating Cost Savings	-\$1 M	-\$1 M
Decongestion on Road Network	-\$2 M	-\$2 M
Safety Impacts	-\$0.3 M	-\$0.3 M
Environmental Impacts	-\$0.1 M	-\$0.1 M
Total Costs	-\$15 M to -\$10 M	
Capital Costs	\$12 M to \$15 M	
Operating Costs	-\$25 M	

^[1] The savings in operating costs from the station closure results in an overall savings in cost. A BCR is produced to compare benefits to the incremental cost of a given project or program.

Without fare integration between GO and TTC, the reduction in daily GO trips (boardings and alightings) is forecast to be about 900 in 2031 and total benefits are forecast to be in the range of \$70 M - \$100 M (2017\$, Present Value) over the 60 year lifecycle. Under the station replacement scenario, fare integration attracts 2.5 times more impacted riders to Etobicoke North station. Upstream ridership, on the other hand, is similar with and without fare integration since Etobicoke North station is the westernmost station in Toronto on the Kitchener corridor.

2.3.3.1 Travel Time Savings and Ridership

GO riders that travel through on Kitchener corridor trains that stop at Etobicoke North station would have a faster trip if it were closed. Riders would save approximately 2 minutes when accounting for the time to slow down, stop

at the station, and get back up to speed⁵. Riders that would have boarded or alighted at Etobicoke North station, on the other hand, would experience longer travel times since they would need to divert to another station. Malton and Weston, which are the next closest stations on the Kitchener corridor, are located about 8km to the west and 6km to the east via the road network respectively.

As discussed in Section 2.3.2, the station closure scenario assumes that 700 spaces would be added at Malton station to accommodate Park-and-Ride users that previously used Etobicoke North. According to the 2017 GO Passenger Survey, approximately 80% of existing Etobicoke North users arrived in a car that parked at the station. Malton station is expected to provide comparable auto access times for many Etobicoke North Park-and-Ride users; data from the 2015 GO Passenger Survey data indicates that Malton station is already the closer access station for over 50% of riders that currently use Etobicoke North. Transit and walk access or egress users, however, are more significantly impacted by the station closure. Overall, it is estimated that former Etobicoke North station users would be delayed by about 5 minutes on average due to the station closure by having to go to an adjacent station.

On balance, the travel time benefits to upstream riders are forecast to be greater than the travel time delays for Etobicoke North station users. This is primarily because upstream riders on GO's Kitchener corridor local trains outnumber Etobicoke North station users by between 3-4 times.

2.3.3.2 New GO Riders and Automobile Usage Reductions

The station closure is forecast to lead to a net reduction of approximately 2,600 daily trips on the GO network in 2031, which is about 40% of the forecasted ridership at Etobicoke North station. Although Malton station is a feasible alternative access station for many Etobicoke North riders, it is an inconvenient backtrack for riders that are located to the east of the existing station between Highway 27 and Weston. The closure also significantly impacts riders that would have walked to the station from surrounding areas or used TTC bus Route 45 along Kipling Avenue to access the station. Route 45 provides a connection to feasible alternatives to Etobicoke North station since it continues 9km to the south of the station where it terminates at Kipling station on the TTC subway's Line 2 and GO's Milton corridor. The net reduction to GO ridership resulting from the closure, including the modal shifts of former Etobicoke North riders and new upstream riders, is forecast to translate about a \$50M (2017\$, Present Value) decrease in GO fare revenue over the 60 year analysis lifecycle.

The closure of the station is anticipated to cause a small net decrease in personal automobile use, when considering riders that no longer use GO, new upstream GO riders, and Park-and-Ride access changes. Overall, the economic impact of the change in automobile usage is minimal in comparison to the travel time savings and impacts of the closure.

2.3.3.3 Project Costs

The closure of Etobicoke North station is forecast to result in a net savings of approximately \$10M - \$15M (\$2017, present value) in capital and operations costs over the 60 year analysis lifecycle. The operations cost savings is a result of no longer having to operate Etobicoke North station and stopping trains there. The cost estimate accounts for increased parking operations costs at Malton and savings at Etobicoke North for direct station operating and maintenance costs (such as elevator maintenance, platform snow removal, etc.), station attendants, reduced labour on trains from faster run times, less energy required for train acceleration, and reduced wear on train brakes. The net savings also includes the capital cost of expanding the parking at Malton station to accommodate 700 additional parking spaces.

Over the 60 year lifecycle, the estimated savings in capital and operations costs is forecast to be less than the \$50M (2017\$, Present Value) decrease in GO revenue discussed in Section 2.3.3.2 above.

⁵ Riders on Kitchener corridor express trains that do not stop at Etobicoke North station would not benefit or be impacted.

2.4 Deliverability and Operations Case

A new tunnel currently under construction will allow for the twinning of Kitchener Corridor tracks to provide new levels of service and future opportunities for additional rail services. This analysis assumes that with the closure of Etobicoke North station, no trains on the Kitchener line would stop between Malton and Weston GO stations, and that the overall GO service concept would otherwise be unaffected.

Table 2-3: Deliverability and Operations Case Summary Results

Deliverability and Operations Case Summary	Etobicoke North (decommissioned)
Constructability	Compatible track alignment/grade, with available land. Track shifts required to accommodate platform, reconfiguration of Wice controls, signals, and crossovers.
Room for Growth	Not applicable
Environmental Impacts	Not applicable
Approvals/Permits Required	Typical permits required for demolition and decommissioning
Operating Impacts	Removal of station platforms would allow for new tracks

The Kitchener corridor is heavily utilized, with GO Rail, UP Express, VIA Rail, and freight rail operations on the corridor. In addition, the Province is investigating the introduction of a high speed rail (HSR) service on the Kitchener corridor. The Wice junction signal and track control location is located immediately west of the Highway 27-Woodbine station site. The control location facilitates connections between the Kitchener corridor and the UP Express spur line to Pearson International Airport. In addition, a “slow outside, fast inside” operating pattern is currently being considered for the Kitchener corridor, which would accommodate “fast” services such as express GO trains, UP Express, VIA rail and potentially HSR within the centre main tracks, while the outer main tracks would accommodate local GO train service. The control location would facilitate crossover movements for the “fast” trains to reach the centre tracks. Trains may be impacted by UP services diverging to the spur at the Wice control location regardless of whether a station stop is implemented at Highway 27-Woodbine.

Closing Etobicoke North would mitigate the risk of losing access to parking facilities, which are on leased Hydro One lands. These are subject to regular renewal negotiations and ongoing leasing costs. Closure would also improve the flexibility of track construction, by allowing more flexibility for staging, and eliminate the need to construct a temporary platform or other operational challenges involved in operating service within a construction area.

Scenario B New Station at Highway 27-Woodbine

3.1 Station Context and Concept Plan

3.1.1 Station Location

Highway 27-Woodbine station would be located west of Highway 27, approximately 2km north of Dixon Road. Immediately surrounding the station are employment uses to the south and east, and the grounds of Woodbine Racetrack to the north and west. The station site is located in the Rexdale neighbourhood, at one time Toronto's largest *Employment District*, with a substantial concentration of office, manufacturing, and service jobs. Since 2006, total employment in Rexdale has declined by 19.3%; however, it remains a significant employment area. The area is characterized by low-rise industrial buildings and warehouses with large floorplates.

3.1.2 Current Land Uses in Area

The site's surroundings are characterized as follows:

- To the north: North of the station site is Woodbine Racetrack, a city-wide destination. The 680-acre grounds include race tracks, stables, open space, surface parking lots, the grandstand, and dining and gaming facilities. North of Woodbine Racetrack is Woodbine Mall, a regional shopping centre combined with an indoor amusement park. Humber College, University of Guelph at Humber, and Etobicoke General Hospital are located 3.3 km north of the station site. Immediately north of the potential station site is the practice track at Woodbine Racetrack. The nearest residential area, West Humber Estates, is approximately 1.9 km northeast.
- To the east: Highway 27 is immediately east of the station site. The area east of Highway 27 is a mix of employment uses, including distribution centres, warehousing, and packaging facilities. The built form is characterized by one- to three- storey buildings with large floorplates. Along Highway 27 and Rexdale Boulevard, and farther to the east, there are a variety of commercial uses, including car dealerships, large format retail stores, and banquet halls. There are also numerous places of worship, both in purpose-built facilities along Highway 27 and in converted warehouses.
- To the south: The area south of the station is likewise characterized by low-density employment uses, including a variety of manufacturing, warehousing, and distribution centres. Secondary uses include places of worship, banquet halls, and small retail/services serving the employment area. To the southwest is Mimico Creek, which flows southeast under Highway 409 and through Royal Woodbine Golf Course. Immediately south of the station site is a glass and mirror manufacturing facility.
- To the west: Lands west of the station site contain mixed employment uses, bounded by Highway 427 and the railway. Farther afield, to the southwest, is Pearson International Airport and a mix of hotels, parking lots, offices, and warehousing. Immediately west of the station site is an asphalt production facility.

3.1.3 Surrounding Transportation Infrastructure

The Highway 27-Woodbine station would be situated west of Highway 27 and north of the Kitchener rail corridor. This segment of Highway 27 consists of four travel lanes (two in each direction) with slip lanes providing access to Grandstand Entrance Road. Grandstand Entrance Road is a four lane (two in each direction) ring road around the Woodbine Racetrack property, and is the primary access to the existing racetrack facilities.

The Kitchener corridor (Weston Subdivision) has three main tracks, as well as two freight service tracks to serve GO Transit, UP Express, VIA Rail and CN operations. There are plans, as part of the GO Expansion program, to

add a fourth main track in the future. West of the Highway 27-Woodbine site is the Wice control location, a series of switches and signals that allow for crossover movements between tracks and provide a connection to the UP Express spur line to the Pearson International Airport (Pearson Subdivision).

3.1.4 Concept Plan Rationale

The concept envisioned for a station at Highway 27-Woodbine plan reflects a more urban GO station format while responding to existing patterns of land use and access requirements. Given the low densities of the surrounding area and the predominantly industrial land uses, it has been assumed that the majority of station users will arrive either by car or by transfers from other public transit routes. In the short-term, surface parking is provided in order to build ridership at the station. However, the plan also supports an urban street and block pattern intended to facilitate new uses and higher density over time.

There are two station entrances. The western station entrance is situated adjacent to and visible from the main surface parking lot. The eastern station access serves the bus loop and the pick-up and drop-off facility (PUDO), and has clear sight lines of both. The station facilities provide access to the two platforms via pedestrian tunnels.

The main surface parking lot contains approximately 430 parking stalls with an additional lot along Highway 27, accommodating another 360 vehicles. A station at Highway 27-Woodbine would also serve as an alternate destination for many of the existing drive and park users occupying Etobicoke North's 687 stalls. Considerations for additional parking should be made as the site concept evolves.

Immediately east of the surface parking lot is a PUDO for 45 vehicles and a bus loop that accommodates four buses. The bus loop would likely be served by TTC route #191, which runs along Highway 27 between Kipling subway station and Humber College, as well as GO Transit's Route 38A buses, which currently serves the Etobicoke North GO station. The concept plan also indicates a potential future station entrance providing access directly from Highway 27. This would allow for a connection to the Finch West LRT, if it were extended south along Highway 27 from its currently planned terminus at Humber College.

The station concept anticipates the following improvements as part of the initial station build out: widening of the rail bridge to accommodate additional tracks; a new retaining wall on the north side of the rail line east of Highway 27; and improvements to the Grandstand Entrance Road bridge over Highway 27, including sidewalks.

Figure 3-1: Highway 27-Woodbine Station Context Map



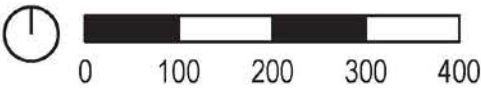
**Hwy 27 - Woodbine
Station**
Initial Business Case Report
Site Option

Legend

- Potential Station Location
- Kitchener Line

Points of Interest

- Parks
- Places of Worship
- Sports/Leisure Institutions



July 2017

3.2 Strategic Case

3.2.1 Strategic Case Summary

The Strategic Case for Highway 27-Woodbine indicates that the station would generally support local, regional, land-use, and transportation policies. While current densities are below the recommended minimum established by the growth plan, a new station at this location would increase access to employment opportunities at a major Employment Area, while also enhancing transit access to Woodbine Racetrack – a major sporting/entertainment destination. The Woodbine Racetrack site has significant development potential in the long-term, with active proposals, which would further support a station at this location. The station would also facilitate more convenient connection to Humber College for users of the Kitchener corridor and the broader GO network which may result in additional ridership.

Table 3-2: Strategic Case Summary Results

Strategic Case Summary	<i>Highway 27-Woodbine</i>
Policy Alignment	Generally supported by provincial, regional, local policy
Development Potential and Intensification	Current densities do not meet density targets established in Growth Plan. These targets are not a pre-requisite for the implementation of a station, but rather the density target once a station is in operation. There is currently limited development activity in the area; however, the Woodbine Racetrack site and “soft sites” in the area hold potential for significant future development.
Real Estate Market Demand	Limited current and future market demand in the immediate vicinity; Active proposals for major development across the Woodbine Racetrack site
Natural Environment	Within 800 m of sensitive environmental feature (Mimico Creek Watershed)
Operational System	Within 3.3 km Malton GO to the west and 6.7km from Weston to the east.
Connectivity and Ridership Drivers	Good potential connectivity to local transit, and interchange with future higher-order transit at or near the site (Finch LRT, UP Express)
Station Access	Supports access by automobile, PUDO, local transit
Social Inclusivity and Accessibility	Station would improve access to employment opportunities and a major sporting/entertainment destination

3.2.1 Rationale for a New Station

3.2.2.1 Drivers for Change and Opportunities

Internal and external drivers for change specifically related to a new station at Highway 27-Woodbine include:

- A “slow outside, fast inside” operating pattern has been proposed for the Kitchener corridor. Operational planning identified a potential need for the orderly flow of trains at/near the Wice control location, near the Highway 27-Woodbine site, in order to move trains onto the proper tracks.
- The Highway 27-Woodbine station site has the potential to connect to several existing and proposed rapid transit services, including the UP Express and a potential future Finch West LRT extension.

- The areas south and east of the station are designated as an *Employment Area* with significant clusters of manufacturing, office, and service employment. Surrounding area is underutilized and could accommodate future intensification.
- A redevelopment of the Woodbine Racetrack property has been proposed, which would include new retail, office, hotel and entertainment venues.

3.2.2.2 Constraints and Interdependencies

The strategic, economic, financial, and operational performance of the Highway 27-Woodbine station is affected by a number of constraints and interdependencies with other initiatives, including:

- **Integration with local transit:** The modelling suggests a significant portion of the ridership is generated by trips between the station and Humber College via TTC bus route 191. To fully realize station benefits, discussions with TTC and other local transit providers are required to ensure a seamless on-site transfer, as well as fare and service integration.
- **Woodbine Racetrack redevelopment:** The redevelopment of the Woodbine Racetrack site has the potential to generate new ridership, especially if the property owner provides an integrated shuttle service between the Highway 27-Woodbine station and the main Woodbine Racetrack facilities.
- **UP Express:** The UP Express service operates on the Kitchener Corridor between Union Station and Wice. Further consideration of an UP Express stop at Highway 27-Woodbine is required. It could increase connectivity to the airport for the local community, as well as Kitchener line riders from the west, but may impact the service patterns and timing.
- **Other transit initiatives:** There are several considerations being investigated to improve transit service along the Kitchener corridor and within the airport employment zone. These include:
 - Extension of the Finch West LRT from Humber College to Pearson International Airport
 - Pearson Regional Transit Centre proposed by the Greater Toronto Airports Authority (GTAA)
 - Construction of a new passenger rail corridor south of the Kitchener line in order to provide a direct rail connection to Pearson International Airport.
 - High speed rail service from Toronto to London, via the Kitchener corridor

Development of the Highway 27-Woodbine station will need to be coordinated with these studies as decisions are made in order to maximize connectivity between services, consider additional infrastructure, and determine the impact on the overall station business case.

3.2.2.3 Stakeholders

There are a range of stakeholders that might or will be affected by the development of a new station at Highway 27-Woodbine. These include:

- **Metrolinx Operations and Capital Projects Group**
- **Municipalities:** City of Toronto
- **Elected officials:** Toronto City Councillor (Ward 2 Etobicoke North); Member of Provincial Parliament; Member of Parliament
- **Transit agencies:** Toronto Transit Commission, MiWay
- **Greater Toronto Airports Authority**
- **Owners, developers, and residents of adjacent properties** including Woodbine Entertainment Group
- **Travelers** (transit, road, and active transportation users)

3.2.3 Policy, Land Use and Development

The following criteria examine how the new station conforms to provincial, regional, and local planning policy for land use and transportation. This section also discusses the station's fit or potential impact to the surrounding neighbourhoods and potential future development.

3.2.3.1 Policy Alignment

Policy Hierarchy	Specific Policy	Overview and Conformity
Provincial Land-Use and Transportation Policy	<i>Provincial Policy Statement</i>	A new station in this location would support transportation policies in the <i>Provincial Policy Statement</i> by improving access to the transportation network and supporting connectivity across the region.
	<i>Growth Plan for the Greater Golden Horseshoe, 2017</i>	<p>A new station at Highway 27-Woodbine would support strategies and goals outlined in the <i>Growth Plan for the Greater Golden Horseshoe, 2017</i> (the <i>Growth Plan</i>), as it would enhance transit access for residents and workers in the area, and improve transit service in an area where future growth and intensification is anticipated.</p> <p>Section 2.2 of the Growth Plan includes policies for where and how to grow, and sets minimum density targets to be achieved by 2031. The 2017 Growth Plan introduced the concept of <i>major transit station areas</i>, which generally correspond to the area within 500 m of a transit station. As a GO station on a <i>priority transit corridor</i>, the Highway 27-Woodbine station area would have a target density of 150 people and jobs combined per hectare.</p> <p>Section 2.2.5 includes policy direction to support the economic competitiveness of the Greater Golden Horseshoe. This includes making more efficient use of existing <i>Employment Areas</i> and vacant and underutilized employment lands by increasing employment densities through a built form that is more transit-supportive (Policy 2.2.5a). Policy 2.2.5c directs municipalities to improve transit connections to areas with high employment densities.</p> <p>More generally, in Section 3.2 the Growth Plan calls for a regional transportation system that offers a balance of transportation choices, reducing car-dependency and promoting active modes of transportation and transit.</p>

(table continued on next page)

Policy Hierarchy	Specific Policy	Overview and Conformity
Provincial Land-Use and Transportation Policy	<i>2041 Regional Transportation Plan</i>	<p>In March of 2018, Metrolinx's Board of Directors approved the 2041 Regional Transportation Plan. The plan establishes a vision for the Greater Toronto and Hamilton Area as a region that is well served by a transportation system that is firmly aligned with land use and which supports a high quality of life in healthy and complete communities. In addition to completing current transit projects that are in delivery and in development, the plan seeks to connect more of the GTHA with rapid transit through additional LRT, BRT and subway projects, as well as an expansion to the GO rail network.</p> <p>A station at Highway 27-Woodbine would support the goal of making rapid transit more accessible to residents of the GTHA.</p>
Regional/Local Land-Use and Transportation Policy	City of Toronto <i>Official Plan</i>	<p>In Toronto's Official Plan, the station would be situated within an <i>Employment Area</i>, as indicated in <i>Map 2 - Urban Structure</i>. <i>Employment Areas</i> carry the broad objective of retaining and intensifying jobs. As such, business needs take priority in city-building decisions, including preventing the encroachment of non-employment uses.</p> <p>The <i>Official Plan</i> also recognizes the important role transit plays in supporting <i>Employment Areas</i>, by providing better access to employment opportunities for workers, and expanding the labour pool for employers.</p> <p><i>Official Plan Amendment 231</i> (2014) contains new policies and designations for <i>Employment Areas</i>. The OPA recognizes the finite nature of employment land and sets policies for their preservation and enhancement. <i>Employment Areas</i> are designated as <i>Core Employment</i> or <i>General Employment</i>. <i>Core Employment Areas</i>, which include the area surrounding the station site, are located within the interior of <i>Employment Areas</i>, and are to be protected from non-employment uses. Investment in transit service is identified as one measure to enhance <i>Employment Areas</i>. OPA 231 was appealed at the OMB; the hearing is currently ongoing.</p> <p>The proposed station is also within 800 m of land designated as <i>Natural Area</i>. The <i>Official Plan</i> intends for these areas to be maintained in a natural state, while allowing for compatible uses when no reasonable alternative is available.</p> <p>Regarding transportation, <i>Official Plan Map 4 - Higher Order Transit Corridors</i> - identifies existing and future subway and light rail infrastructure. A new GO station at Highway 27 with <i>Transit Corridor</i> connection to Pearson International Airport is identified as expansion elements. <i>Map 5 - Surface Transit Priority Network</i> includes Highway 27 as a <i>Transit Priority Segment</i>, which makes it eligible for priority measures such as dedicated lane and prioritization at signalized intersections.</p>

(table continued on next page)

Policy Hierarchy	Specific Policy	Overview and Conformity
	City of Toronto Site & Area Specific Policies	<p>The area around the station site is subject to two Site & Area Specific Policies (SASP).</p> <p>SASP #29 - <i>Lester B. Pearson International Airport Operating Area</i> (2002), which generally follows Transport Canada's 30 NEF/NEP Composite Noise Contours, limits residential and other sensitive uses while making provisions for continued use as a racetrack.</p> <p>SASP #296 - <i>Woodbine Racetrack</i>, which was enacted in 2007, allows for the development of the grounds in a manner that sustains the racetrack function and does not preclude transit improvements, including a GO station along the CNR line abutting the southern limit of the site. The SASP establishes an overall planning framework for the site, which emerged through the development of the Woodbine Live! development concept. The framework includes the proximate location of future public streets and the general location of stand-alone retail and commercial/entertainment. Residential development is situated in the northwest portion of the site, in accordance with the provisions of SASP #29 in regards to noise.</p>
Additional policy considerations	<p>Federal Government <i>Toronto Pearson International Airport Zoning Regulations</i> SOR/99-123</p> <p>Provincial Government <i>O. Reg. 688/9</i></p> <p>City of Toronto <i>Zoning By-law</i> 864-2007</p>	<p>As the station area is within SASP #29 (the <i>Airport Operating Area</i>) it is subject to the development standards and use restrictions set out in <i>Toronto Pearson International Airport Zoning Plan No. 21-005 94-138</i>. The station area is generally part of the airport area's <i>Outer Surface</i> and thus subject to a vertical cap on development terminating 45 m above the <i>Airport Reference Point</i>. This restriction is in place to prevent conflicts with the paths of plane traffic to/from the airport area. In 2007, Toronto City Council approved an Official Plan Amendment and Zoning By-law Amendment for the subject lands known as the WoodbineLive! proposal. These lands are located to north of the proposed station area and permit a commercial district integrated with entertainment and retail uses.</p>

3.2.3.2 Development Potential and Intensification

Traffic zone level forecasts indicate that approximately 140 residents and 4,000 jobs will be located within 800 m of the station site in 2031. This equates to a projected population-and-job density of 20 people and jobs per hectare (P+J/ha), which is not considered transit-supportive according to Metrolinx's density guidelines for express rail stations (150-300 P+J/ha)⁶. As a GO station on a *transit priority corridor*, the Highway 27-Woodbine station area would have a density target of 150 P+J/ha by 2031, a density target established by the 2017 Growth Plan. However, Growth Plan density targets are not intended to represent a prerequisite for the development of a new station; rather, these targets would apply to a station area once a station is in operation. In other words, the decision to build a new station or not should not be solely based on existing density of people and jobs, but on the station area's capacity to intensify over time, considering surrounding land uses and market trends.

⁶ *Transit-supportive density of an "Express Rail" mobility hub*, Metrolinx Mobility Hub Guidelines for the Greater Toronto and Hamilton Area, Metrolinx, September 2011

Current development activity within 800 m of the station site is limited. A review of development applications and building permits for new buildings and additions over the past five years revealed three developments with a total of 14,436 sq. m of non-residential gross floor area (GFA). Given the current zoning provisions – primarily *Industrial* and *Heavy Industrial*, no residential units were proposed. At the time of writing there was one active development application: an application for site plan approval for a place of worship on Vice Regent Boulevard.

The Woodbine Racetrack site has been the subject of three substantial proposals over the past decade. Most recently, in 2015, Toronto City Council approved plans for a major casino, which would include a 15,300 sq. m concert venue. Two rezoning applications and a plan of subdivision were submitted by the owner (Woodbine Entertainment Group) in May of 2017 to facilitate the mixed-use redevelopment of the portion of the site north of the Grandstand building. The first phases of this redevelopment would include approximately 201,000 sq. m of gaming, retail, office, hotel and convention uses, while maintaining the site's horse-racing uses. The draft plan of subdivision indicated intention to develop residential uses along the site's west edge, which would be the subject of further municipal approvals. The portion of the property adjacent to the potential station is not currently identified for redevelopment in the short- or medium-term.

There are more than 98.36 ha of land within 800 m with the potential for redevelopment over time. The Woodbine Racetrack site is not included in this figure due to the limited development potential in the southeast portion of the site over the short- and medium-terms.

Figure 3-5 shows identified soft sites within 800 m of the station site. Each soft site has been categorized by its land use designation in Toronto's *Official Plan*, resulting in the following table of lands with potential to redevelop over time:

Land use designation	Total area of soft sites within 800 m
Regeneration Areas	0.00 ha
Employment Areas	98.36 ha
Mixed Use Areas	0.00 ha
Residential Areas	0.00 ha

Appropriate floor space index precedents, including built and proposed developments, have been used to determine potential GFA yields for these soft sites over time:

Type of use	Total area of soft sites within 800 m
Office/Employment	574,641 sq. m
Retail/Commercial	0 sq. m
Residential	0 sq. m

If all of the building space within these development applications and all of the development potential within these soft sites were to be realized, the station's catchment area would be expected to increase by 8,300 jobs.

Figure 3-4: Existing Land Use



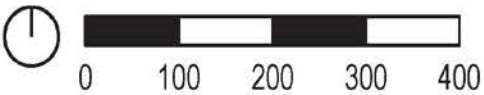
**Hwy 27 - Woodbine
Station**
Initial Business Case Report
Site Context

Legend

- Potential Station Location
- Kitchener Line
- TTC Bus Route
- MiWay Bus Route

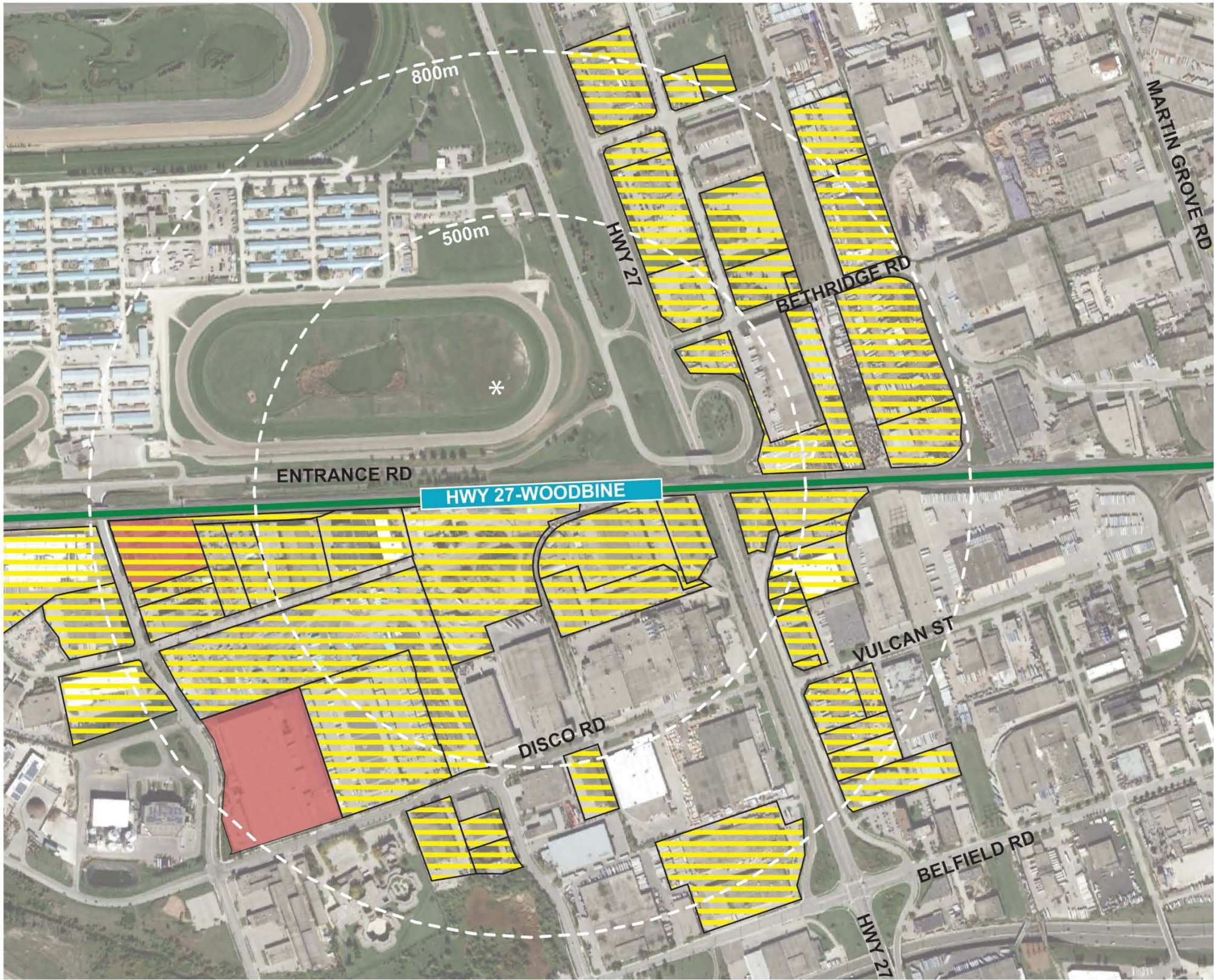
Official Plan Land Use Designations

- Parks
- Employment Areas
- Hydro Corridor



July 2017

Figure 3-5: Current Development Applications and Potential Soft Sites

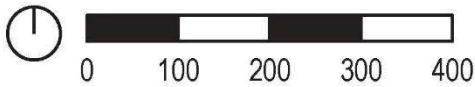


**Hwy 27 - Woodbine
Station**

Initial Business Case Report
Soft Sites and Potential Future
Development

Legend

- Potential Station Location
- Kitchener Line
- Development Activity
 - Under construction/complete within the last 5 years
 - Area of possible change



July 2017

3.2.3.3 Real Estate Market Demand

Relationship to Current Market Demand

The airport office submarket has approximately 12.1 million sq. m of office inventory, with only modest levels of absorption over the past five years. Moreover, Class A office space vacancy is high at 14% (relative to an overall GTA average of 8%). The high vacancy rate is partly a result of office demand shifting from suburban markets to the Downtown Toronto market.

The station itself is not well-situated relative to current **office employment market demand**. Only 9,200 sq. m of major office space exists within the catchment area. Moreover, the area is zoned for heavy industrial uses and as a result, no new office completions have taken place over the past five years.

The station is very well-situated relative to current **industrial market demand**. The catchment area contains 475,000 sq. m of inventory. Even though no new supply has been added in the last five years within the catchment area, some development has taken place in proximity to it (10,000 sq. m). Moreover, the catchment area enjoys good access to the airport as well as Highways 427 and 401, which are important industrial site-selection attributes.

The station is not well-situated relative to current **retail market demand**. This is demonstrated by the fact that there is no significant retail shopping centre space within the catchment area, and that no new retail shopping centre space has been developed over the past five years.

The station is similarly not well situated to current **residential condominium demand**. The broader Etobicoke North submarket has experienced a modest level of sales over the last five years (60 units per annum). Moreover, there are only two active marketing projects within this broad market. There are no units proposed within the catchment area itself. Lanterra Developments is proposing a 2,000-unit project at the intersection of Eglinton Avenue and Royal York Road which may provide significant competition to any projects within the catchment area and the broader Etobicoke North submarket.

Relationship to Future Market Demand

There is approximately 575,000 sq. m of employment development potential in properties identified as “soft sites” within the catchment area. This development potential will likely be in the form of industrial uses due to the nature of existing land use designations as well as the relative strength of the industrial market within the catchment area.

The station is not currently well-situated relative to likely future retail and residential demand. There is no development potential on any existing soft sites due to existing land use designations and *Site and Area Specific Policies*. Moreover, the existing inventory for these uses is limited making the catchment area less desirable from a site selection perspective.

There is a proposal for significant redevelopment of the Woodbine Racetrack property; however, the proposal maintains the existing practice track and racing support facilities in the southeast portion of the site. The majority of the redevelopment is planned to occur to the north, outside of the 800m station catchment area.

3.2.3.4 Natural Environment

The station site is within 800 m of Toronto’s *Natural Heritage System*, specifically the Mimico Creek Watershed, which is also a Toronto and Region Conservation Authority (TRCA) *Regulated Area*. As per *Ontario Regulation 166/06*, development of and interference with regulated wetlands, shorelines, watercourses, and areas subject to flooding may be restricted. The site is not near any Areas of Natural and Scientific Interest.

3.2.4 Network, Connectivity, and Accessibility

The following criteria examine how the new station could connect and interact with existing and planned transit and active transportation networks and surrounding land uses. They also describe the general ridership potential for the new station.

3.2.4.1 Operational System

The proposed Highway 27-Woodbine Station would be located approximately 3.3 km from the existing Malton GO station to the west, approximately 6.7 km east of Weston GO station and 20 km from Union Station.

3.2.4.2 Connectivity and Ridership Drivers

Transit

There are numerous TTC bus routes which operate in the vicinity of the station location, serving the surrounding industrial area and Woodbine Racetrack. The 37A Islington bus route provides local service between Islington Station and Woodbine Racetrack. The 45B Kipling bus provides limited service between Kipling Station and the Atwell Drive industrial area via Belfield Road, with a stop at Highway 27, approximately 800 m south of the station location. The 112C West Mall bus also provides service to the Atwell Drive industrial area, with a stop approximately 800 m south of the station location at Belfield Road and Brockport Drive.

Metrolinx also operates a limited Bolton/Malton/North York GO bus route in the vicinity of the station area. This route, which includes stops at York Mills Bus Terminal, Yorkdale Bus Terminal, Etobicoke North GO station, and Malton GO station, operates along Highway 27 with a stop at Humber College Boulevard, approximately 2.9 km north of the station location.

The City of Mississauga operates the MiWay 11 Westwood bus route between Islington TTC station and Westwood Mall, with stops along Highway 27 both north and south of the station site. The 11B Westwood-Nashua bus provides additional rush hour service along a similar route.

Consideration for future connections on this site may also include UP Express, a Finch West LRT extension, and proposed high speed rail along the Kitchener corridor.

Destinations

There are six local destinations within 800 m of the station site. In addition, the station would serve one destination of city-wide significance - Woodbine Racetrack. A full list of destinations follows:

- Sports & Entertainment
 1. Woodbine Racetrack & OLG Slots
- Community/Park
 1. Mimico Valley North Park
 2. Atwell Drive Parklands
- Place of Worship
 1. Kingdom Hall of Jehovah's Witness
 2. Islington Evangelical Centre
 3. Perth Avenue Seventh Day Adventists
 4. Zion Gospel Assembly

In addition, Humber College and University of Guelph-Humber are major drivers beyond the 800 m station area.

Active Transportation

There are only minor examples of cycling network infrastructure in the immediate area, and given the nature of development along the Highway 27 corridor in the vicinity of the station, there are few opportunities to introduce additional active transportation links. Most streets in the area do, however, have sidewalks.

3.2.4.3 Station Access

The station's conceptual design supports access by car, local transit, and PUDO. While Highway 27 and most streets nearby have sidewalks, there are few residential neighbourhoods in the area; the nearest - West Humber Estates - is approximately 1.9 km to the north. The station concept includes PUDO for 45 vehicles, and approximately 790 surface parking spaces.

3.2.4.4 Social Impacts

Disadvantaged Residents Served

There are several *Neighbourhood Improvement Areas (NIA)* in northwest Toronto. The nearest NIA - Mount Olive-Silverstone-Jamestown - is approximately 3.3 km away. A new station at Highway 27-Woodbine has the potential to provide increased transit access to employment opportunities from the NIAs in northwest Toronto and the broader city.

Figure 3-6: Existing, Planned and Suggested Transit Network



Hwy 27 - Woodbine
Station
Transit Map (Existing/Planned)

- Legend
- Kitchener Line
 - TTC Bus Route
 - MiWay Bus Route
 - GO Transit Route



Jan 2018

3.3 Financial and Economic Case

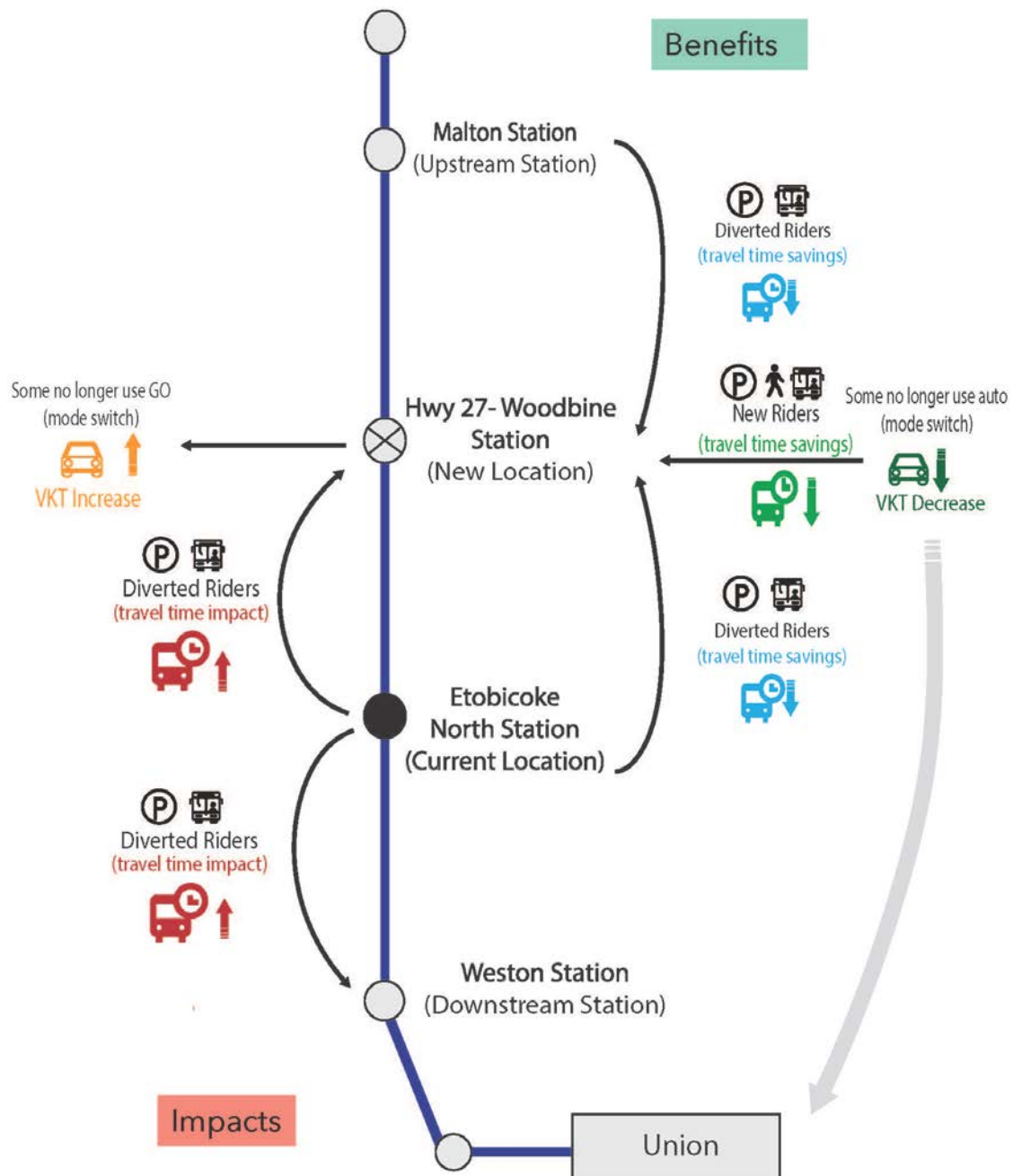
3.3.1 Analysis Approach

The following sections summarize the key benefits and impacts that are quantified in the analysis, the results of the Financial and Economic Case, and discuss the key travel markets that are impacted by the relocation of Etobicoke North station in Scenario B Replacement Station at Highway 27 - Woodbine. Please refer to Section 2.3.1 for more details on the overall IBC analysis approach for Highway 27-Woodbine and how it is related to the 12 new station Preliminary Design Business Cases (PDBC's) that were issued in March 2018.

3.3.2 Scenario Benefits and Impacts

Highway 27-Woodbine station is different from the other stations that were analyzed in the 12 PDBC's since it is a *replacement* for the existing Etobicoke North station. This means that the new station does not delay upstream riders that travel through the station; Kitchener corridor trains that would have previously stopped at Etobicoke North would now stop at Highway 27-Woodbine and the modelling has assumed that express trains from Kitchener and Pearson Airport (Union Pearson Express) would not stop at either station location. However, the station relocation does impact GO riders that would prefer to use the original Etobicoke North station location, which may be in closer proximity to their origin or destination or connecting transit. As visually summarized by Figure 3-7, examining travel time savings, delays, and modal shifts is the focal point of the technical analysis that supports the Financial and Economic case for a station relocation.

Figure 3-7: Station Relocation Benefit and Impact Analysis



3.3.3 Results Summary and Sensitivity Analysis

The economic analysis monetizes the forecast transportation user benefits and impacts and environmental outcomes associated with the station relocation over a 60-year analysis lifecycle. Once monetized and discounted, the economic impacts are compared to the station's capital and operating costs in order to assess the performance of the proposed station investment. Please refer to **Appendix A** for an overview of the key financial and economic analysis model input assumptions used in the analysis. These assumptions have been updated for consistency with analysis parameters in the upcoming Version 1.0 release of the Metrolinx Business Case Guidance⁷. This includes generating a range of benefits through sensitivity testing using different Value of Time Growth rate assumptions (0%/year and 0.75%/year respectively).

Table 3-2, below, summarizes the key metrics that quantify the overall economic performance of the Highway 27-Woodbine replacement station. **Appendix B** provides a summary of the key inputs to the IBC analysis, including modelled GO service levels and station area land use. Appendix B also provides a more detailed breakdown of the forecast ridership, including new GO riders, boardings, and alightings.

The high level cost estimate combines capital costs (excluding property) and operating costs over the 60 year analysis lifecycle. The estimated range reflects the maturity and level of design at the IBC stage of analysis. See 3.3.3.3 for more details.

Table 3-2: Economic Analysis Summary Results (Millions of 2017 \$, Present Value)

Scenario B: Replacement Station at Highway 27-Woodbine		
2031 Ridership (AM Peak Period) boardings + alightings	3,800	
2031 Ridership (Daily) boardings + alightings	14,700	
Benefits Compared to Cost	Benefits are Positive and Exceed Costs	
Benefit Cost Ratio (BCR)	2.1 to 3.3	
Total Benefits (60yr lifecycle)	\$250 M to \$310 M	
	0% Value of Time Growth	0.75% Value of Time Growth
Travel Time Savings	\$245 M	\$308 M
Existing GO Riders	\$53 M	\$69 M
New GO Riders	\$192 M	\$239 M
Vehicle Operating Cost Savings	\$0.3 M	\$0.3 M
Decongestion on Road Network	\$0.4 M	\$0.5 M
Safety Impacts	\$0.1 M	\$0.1 M
Environmental Impacts	\$0.03 M	\$0.03 M
Total Costs	\$95 M to \$120M	
Capital Costs	\$92 M to \$117 M	
Operating Costs	\$3 M ¹	

¹ Operating costs shown are incremental to the operating costs for Etobicoke North Station. See Section 3.3.3.3

⁷ The Draft Business Case Guidance (March 2018) is accessible here:
http://www.metrolinx.com/en/regionalplanning/projectevaluation/benefitscases/benefits_case_analyses.aspx

Without fare integration between GO and TTC, 5,200 daily trips (boardings + alightings) are forecast to use Highway 27 - Woodbine station in 2031. Total benefits are forecast to be in the range of \$60 M - \$70 M (2017\$, Present Value) over the 60 year analysis lifecycle. This translates to a benefit cost ratio between 0.5 and 0.8.

3.3.3.1 Travel Time Savings and Ridership

Since Highway 27-Woodbine station is a replacement for the existing Etobicoke North station, no net impacts are anticipated for upstream GO users that travel through the station. A similar delay is expected to be experienced by Kitchener corridor riders if their train stops at Highway 27-Woodbine or the existing Etobicoke North location. In the case of a station relocation on the same line, impacts are limited to riders that would prefer to use the original Etobicoke North station. The shift in station location 2km to the west on the Kitchener line primarily impacts riders that would have accessed Etobicoke North station via TTC bus Route 45 along Kipling Ave. Park-and-Ride users, on the other hand, are forecast to be minimally impacted by the shift since both station sites are located on major north-south arterials (Highway 27 and Kipling Avenue respectively) with similar opportunities for access to the 400 series highway network. Park-and-ride users are primarily drawn from a catchment area that is bounded by Highway 427 in the west, Islington Avenue in the east, Eglinton Avenue to the south, and Woodbridge in the north. On balance, the analysis suggests that delay impacts will be small relative to the travel time savings benefits.

Alightings are forecast to be significant at Highway 27-Woodbine station, accounting for almost 70% of the riders that use the station in the 2031 AM peak period. Furthermore, approximately 75% of the AM peak period alightings at the station are forecast to be destined for Humber College which is located only 3.5km to the north of the station along Highway 27. The new station attracts outbound transit users from downtown Toronto that would have otherwise used the Line 1 Spadina Subway and the Finch LRT to go to Humber College and inbound transit users from Brampton and areas to the west that would have otherwise alighted at Bramalea GO and transferred to Brampton Zumbus buses along Steeles Ave (Route 11) that connect to Humber College. Shifting to boarding riders, over 50% of AM peak period station boardings are forecast to walk or take transit to access the station, while the remainder use park and ride.

Overall, the modelling exercise suggests that a reliable transit connection between Highway 27-Woodbine station and Humber College is an important part of achieving forecasted ridership at this station. A future extension of the Finch LRT to the south could also play a role. In the modelling supporting this IBC, it has been assumed that the new station includes a connection to TTC bus Route 191, which currently operates as an express bus on Highway 27 between Kipling GO Station to the south and Humber College to the north. Although not directly modelled in the IBC, a shuttle-based connection to Casino Woodbine would also be important to supporting station use by employees and patrons of this major entertainment destination. Access to the Woodbine site is particularly important to supporting weekday off-peak and contra-peak ridership and weekend ridership at the new station.

3.3.3.2 New GO Riders and Automobile Usage Reductions

Overall, approximately 6,000 new daily trips (ons and offs) are forecast to be attracted to the GO network as a result of moving service from Etobicoke North station to the Highway 27-Woodbine site. This increase is predominantly driven by the improved connectivity to Humber College that is offered by Highway 27-Woodbine station. Trips to and from the Casino Woodbine site also play a key role in attracting additional trips to the GO network; furthermore, proposed development at the Woodbine site can be anticipated to further support future ridership beyond the levels forecast in this IBC. When considering net new riders to GO, including the modal shifts of former Etobicoke North riders, this increase in GO ridership could translate to over \$90M (2017\$, Present Value) in additional GO fare revenue over the 60 year analysis lifecycle.

The shift in station location is anticipated to contribute to a modest decrease in personal automobile use which results in auto network decongestion, reduced auto operating costs, and environmental benefits. However, the impact is limited in comparison to the time savings benefits that are forecast for the station. This is primarily due

to the following factors: 1) Park-and-Ride users are offered a similar level of service at both Highway 27-Woodbine and Etobicoke North, providing little overall incentive for change to behaviour in this user market; 2) Highway 27-Woodbine station attracts alighting riders that would otherwise use the TTC or another GO station to access Humber College. The shift in station location provides benefits to transit users but is not expected to significantly change automobile usage levels.

3.3.3.3 Project Costs

Based on the Highway 27-Woodbine station concept plan, Metrolinx has developed a high-level cost estimate range for this station. These indicative estimates are based on unit-pricing and contingencies for major station components and materials (e.g. number of platforms or surface areas to be paved with new asphalt). As part of future work, station designs will be further refined and transitioned from a unit cost analysis to a more elemental cost analysis based on specific requirements and assumptions, and higher degree of cost certainty.

Operating costs take into account direct station operating and maintenance costs (such as elevator maintenance, platform snow removal, etc.), station attendants, additional labour on trains resulting from longer run times, additional energy required for train acceleration, and additional wear on train brakes. These costs represent the bulk of new costs that would be attributed to a new station. Further costs related to wear and tear on the trains resulting from increased ridership are not anticipated to be significant.

As a replacement station, only the incremental change in operating cost between the new Highway 27-Woodbine and the existing Etobicoke North station is considered. The full capital cost, on the other hand, is accounted for in the analysis.

3.4 Deliverability and Operations Case

3.4.1 Deliverability and Operations Case Summary

The Deliverability and Operations Case provides evidence of the ease of constructing the station, operating service through the station, and the further steps required before a station can be implemented. This case also outlines the project risks known at this stage, such as disruption during construction and potential operating changes that affect the performance of the station. This IBC assumes that all local service trains on the Kitchener line will stop at the new station, and that the overall GO service concept would otherwise be unaffected by the new station.

Table 3-3: Deliverability and Operations Case Summary Results

Deliverability and Operations Case Summary	Highway 27-Woodbine
Constructability	Compatible track alignment/grade, with available land. Track shifts required to accommodate platform, reconfiguration of Wice controls, signals, and crossovers.
Room for Growth	Considerable room for station growth, although street-level amenities are constrained
Environmental Impacts	Typical impacts expected, but sensitive developments in the vicinity of the proposed works appear to be limited.
Approvals/Permits Required	TPAP and typical permits required
Operating Impacts	Station could support implementation of a local-express operating scenario, with trains stopping at Highway 27-Woodbine to allow crossover movements at the Wice control location

3.4.2 Deliverability and Operations Criteria

3.4.2.1 Constructability

The proposed Highway 27-Woodbine GO station would be constructed largely within the existing GO Kitchener line, with associated station facilities extending to the north of the rail corridor. The IBC concept assumes that two island passenger platforms would be constructed between the existing main tracks, with elevators/stairs connecting to supporting station access facilities such as parking, PUDO, and transit connections. The south freight service track and the southernmost mainline track would remain in their current alignments, while the remaining tracks would be realigned towards the north to accommodate the station platforms. Track realignments are anticipated to begin immediately east of the signal bridge at the east end of the Wice control location to avoid signal impacts. The total length of the realigned track is estimated to be approximately 3,820m. The realignments would also require a widening of the existing Highway 27 rail-over-road grade separation by approximately 8 m.

Due to the track realignments, acquisition of property is required on the north side of the corridor in the vicinity of the station. The total required area is 4,830 sq. m.

Only the south freight service track and southernmost mainline tracks are expected to remain in their existing alignments throughout the duration of the construction project. The other four tracks will experience temporary closures and disruptions as they are realigned to their final position. In addition, works to widen the existing Highway 27 bridge structure are also expected to require temporary track closures. Staging of the works, as well as temporary works such as track diversions and crossovers, will be required to ensure that service is maintained throughout the construction period.

In terms of potential for future expansion, the station site offers a moderate footprint for growth of the station in the future. Properties to the north (along the west side of Highway 27) would have to be acquired to accommodate an expansion of surface parking, or a new parking structure would have to be constructed on one of the parcels currently planned for surface parking in order to expand the passenger capacity of the station itself.

3.4.2.2 Environmental Impacts

The major environmental impacts that would be expected to arise as part of the construction and operation of the Highway 27-Woodbine station include:

- Noise and vibration impacts due to construction, and rail operations;
- Air quality impacts due to dust during construction, as well as vehicle emissions;
- Traffic impacts during construction, as well as increased traffic to the station site during operations; and
- Excavation of contaminated soil during construction.

Impacts are generally more pronounced in areas where there are sensitive receptors such as residential or institutional areas, natural areas, or areas with heritage resources present. In the case of Highway 27-Woodbine, there are no known sensitive sites expected to be affected. The proposed Highway 27-Woodbine GO station would be located in a heavily urbanized area, and the potential for impacts to significant natural environment features associated with the station is minimal. In addition, there is already a high volume of rail activity in the station area and as such, the incremental impacts of a new station would be less than on an entirely new corridor.

Environmental impacts associated with the new station should be further evaluated through more detailed study and consultation with the appropriate agencies. Regulatory processes are in place to ensure these impacts are addressed. There are numerous mitigation measures available for addressing impacts; including noise walls, silt fences, dust suppression, and environmental monitoring. The nature of impacts varies with the type of infrastructure and nearby receptors.

3.4.2.3 Approvals/Permits Required

Transit Project Assessment Process (TPAP)

The proposed station would require a provincial environmental approval. *Ontario Regulation 231/08 (Transit Projects and Metrolinx Undertakings)* exempts proponents of all public transit projects from the requirements under Part II of the *Ontario Environmental Assessment Act, 1990 (EAA)*, and establishes a process that applicable projects must follow in order to be exempt. *Ontario Regulation 231/08* outlines a six-month "Transit Project Assessment Process" (TPAP), which a proponent must follow for certain classes of transit projects including the development of new stations within or adjacent to residential land uses (i.e., this project). The TPAP provides a framework for a focused consultation process so that an assessment of a project's potential environmental impacts can be completed within six months.

Other approvals required

In order to implement the station, Metrolinx may need to secure additional permits and approvals. The following list of permits and approvals reflects those typical of this type of project in the City of Toronto:

- Planning review (such as Site Plan Approval or equivalencies) for above-grade structures and facilities (through the City of Toronto)
- Building permits for the passenger services building, elevator/stair accesses, and pedestrian tunnels
- Permit(s) to Take Water (from the Ministry of the Environment), for locations where dewatering exceeds 50,000 litres per day
- Stormwater management, in accordance with City of Toronto, Toronto and Region Conservation Authority (TRCA), and Ministry of the Environment requirements

- Sewer discharge approvals, in accordance with City of Toronto and TRCA requirements
- Environmental Compliance Approvals for Air Quality and Noise in accordance with the *Environmental Protection Act* (through the MOE)
- Permits for construction within existing road allowances (through the City of Toronto)
- Applicable Ontario Energy Board approvals for utility relocations
- City of Toronto Bylaws (including Ravine, Natural Feature Protection, Private Tree, Street Tree, and Parks) are to be complied with, as applicable. Metrolinx must obtain all necessary permits from the City of Toronto for tree protection/removal upon confirmation of the impacts to applicable trees.

The specific requirements for the above-noted permits and approvals would be identified throughout the TPAP phase of the project.

3.4.2.4 Operating Impacts

The Kitchener corridor is heavily utilized, with GO Rail, UP Express, VIA Rail, and freight rail operations on the corridor. In addition, the Province is investigating the introduction of a high speed rail (HSR) service on the Kitchener corridor. The Wice control location is located immediately west of the Highway 27-Woodbine station site. The control location facilitates connections between the Kitchener corridor and the UP Express spur line to Pearson International Airport. In addition, a “slow outside, fast inside” operating pattern is currently being considered for the Kitchener corridor, which would accommodate “fast” services such as express GO trains, UP Express, VIA rail and potentially HSR within the centre main tracks, while the outer main tracks would accommodate local GO train service. The control location would facilitate crossover movements for the “fast” trains to reach the centre tracks. Trains may be impacted by UP services diverging to the spur at the Wice control location regardless of whether a station stop is implemented at Highway 27-Woodbine.

Appendix A: Financial and Economic Analysis Assumptions

Table A1: Model Input Assumptions

Model Input Assumptions	Metric	Notes
Project Evaluation Period (Years)	60	Analysis period ends in 2083
Year of Cost Estimates	2022	Per cost estimate
Annual inflation rate - General Price Level	2%	Metrolinx Business Case Guidance
Annual Inflation Rate - Construction Spending	3%	Per cost estimate
Ridership Daily Factor (from Peak Period)	2.8 - 3.85	Varies by station service level and context
Ridership Annualization Factor (days/year)	280	Annualizes weekday forecasts
Discount Rate, Nominal (%)	5.5%	Metrolinx Business Case Guidance
Construction Period (start and end dates)	2021-2023	Construction timeline
Discount Rate, Real (%)	3.5%	Metrolinx Business Case Guidance
Value of Time (\$/hr) (2017\$)	\$17.36	/w 0% Value of Time Growth Rate. Metrolinx Business Case Guidance
Value of Time Annual Growth Rate, Real (%/year)	0%	0.75% used as sensitivity test. See Metrolinx Business Case Guidance
Auto Operating Cost (\$/VKT) (2017\$)	\$0.09	Metrolinx Business Case Guidance
Auto Operating Cost Growth Rate, Real (%/year)	0%	See Metrolinx Business Case Guidance
Decongestion on Road Network (\$/VKT) (2017\$)	\$0.17 (peak) \$0.02 (off-peak)	/w 0% Value of Time Growth Rate. Metrolinx Business Case Guidance
Decongestion on Road Network Growth Rate, Real (%)	0%	0.75% used as sensitivity test. Metrolinx Business Case Guidance
Accident Reduction Benefit (\$/VKT) (2017\$)	\$0.1	Metrolinx Business Case Guidance
Accident Reduction Growth Rate (%/year)	-5.3%	Metrolinx Business Case Guidance
Greenhouse Gas Emission (GHG) Costs in CO ₂ e (\$/VKT) (2017\$)	\$0.01	Metrolinx Business Case Guidance
Greater Golden Horseshoe Model (GGHM) Forecast Year	2031	GGHM forecasts for 2031 AM peak period
Ridership annual growth rate - Kitchener (%)	2.9% to 2047	GGHM background growth rate

Appendix B: Ridership Inputs and Results Summary

Table B1: Modelled Service Levels: AM Peak Trains Serving the Station (Inbound to Union)

Description	Value	Unit
Frequency	6	Number of trains per hour
Headway	10	Minutes between trains
<i>Note: This is not a service plan. These service levels have been assumed for modelling purposes only. Express trains from Kitchener and Pearson Airport (Union Pearson Express) do not stop at Hwy 27 - Woodbine or Etobicoke North stations. The full service plan for GO Expansion will be defined by bidders as part of the DBFOM procurement process.</i>		

Table B2: Travel Time Impact of Station (with Level Boarding)

Description	Value	Unit
Travel Time Impact	1.5	Minutes
<i>Note: Effectively no net impact since Hwy 27-Woodbine is a replacement of Etobicoke North station. Both stations would be expected to have a similar travel time impact with level boarding.</i>		

Table B3: Station Area Land Use - 2031 Population and Employment within 800m

Description	Value	Unit
Population	140	People
Employment	4,000	Jobs
Density	20	People + Jobs / ha
<i>Note: Model assessment includes population and employment by traffic zone for the entire Greater Golden Horseshoe for 2031. Station area land use is shown to illustrate localized development levels assumed in the model.</i>		

Table B4: Ridership Breakdown - 2031 Daily Trips by New GO Riders

Description	Value	Unit
Daily Trips by New GO Riders	6,100	Trips (ons + offs)
Daily Trips by Net New GO Riders	3,600	Trips (ons + offs)
Total Daily Trips	14,700	Trips (ons + offs)
<i>Note: New GO Riders are defined as new station users that choose to switch to use GO when Hwy 27 - Woodbine station is in place. The remaining trips at the station are made by riders that would have otherwise used Etobicoke North or another GO station. In addition to the new GO riders that are attracted to each new station, Net New GO Riders also considers the riders that choose to no longer use the GO system due to the shift in station location.</i>		

Table B5: Ridership Breakdown - Boardings and Alightings

Description	Value	Unit
2031 AM Peak Period Boardings	1,200	Trips (ons)
2031 AM Peak Period Alightings	2,600	Trips (offs)
2031 Daily Trips	14,700	Trips (ons + offs)

Appendix C: Future Service Considerations

The quantitative analysis conducted as part of this IBC has assumed that the station is only served by Kitchener corridor GO trains. The analysis also only considered the existing and in-delivery regional rail and rapid transit projects identified in Map 3 of the 2041 Regional Transportation Plan. This is considered the “base-case” station concept.

There are, however, ongoing transit service and infrastructure initiatives under consideration by Metrolinx and others that could potentially impact the base-case station concept and performance in the business case evaluation, including:

1. UP Express Stop at Highway 27-Woodbine;
2. Finch West LRT Extension;
3. Additional freight tracks;
4. New passenger rail corridor to service Pearson International Airport;
5. Pearson Regional Transit Centre at an alternative location on the Kitchener line;
6. High speed rail service; and
7. Terminus station at Highway 27-Woodbine

These initiatives are in varying stages of consideration, and their potential impacts on the potential Highway 27-Woodbine station are unclear, so these options are discussed at a high level in the following sections. Many of the strategic elements of the IBC analysis between the base case and alternate scenarios such as the context of existing land uses and built form, as well as the surrounding transportation infrastructure, connectivity and accessibility. The scenarios considered below are compared against the base case scenario and location of station with GO service only.

C.1 UP Express Stop at Highway 27-Woodbine

The UP Express operates on the Kitchener corridor between Union Station and the Wice control location, where it diverges onto a separate spur track to Toronto Pearson International Airport. The base-case Highway 27-Woodbine station site is proposed to be located immediately east of the Wice control location, and can be designed to function as an UP Express stop, as well as a GO train stop.

Potential Benefits:

- Improved connectivity between Pearson International Airport and the west end of the Toronto-Waterloo Innovation Corridor, likely driving an increase in ridership;
- Travel time savings for air passengers from the west. Currently, riders would need to transfer at Weston GO station to board the UP Express, and then backtrack a distance of approximately 11km.

Potential Impacts:

- Travel time delays for existing users of the UP Express due to the additional stop;
- Requires construction of an additional island platform to serve UP Express trains (and associated rail infrastructure, including additional track work, switches, further expansion of the structure over Highway 27 beyond that indicated in the base-case, and additional property takings).

C.2 Finch West LRT Extension

The current plan for the Finch West LRT terminates at Humber College, approximately 3km north of the Highway 27-Woodbine station. The alignment for a future extension of the LRT to Pearson International Airport could include a stop at Highway 27-Woodbine, or a terminus at the GO station.

Potential Benefits:

- Improved connectivity and level of service to Woodbine Centre, and Humber College, expected to be a key driver of net new ridership to the Highway 27-Woodbine station
- Improved connectivity to Pearson International Airport;

Potential Challenges:

- Additional station infrastructure requirements, footprint, and associated capital costs to accommodate connections to the Finch West LRT platforms.
- Alignment of the LRT could impact site design or construction complexity, particularly if grade separations are required to extend the route onward to the airport.

C.3 Additional Freight Tracks

As part of ongoing negotiations with CN regarding a freight bypass on the Kitchener corridor, there may be additional freight tracks required in the vicinity of Highway 27-Woodbine station to mitigate the potential delays associated with the proposed station on freight rail services through the station area.

Potential Benefits:

- Reduced conflict with freight services may allow more flexibility in passenger service levels and routing

Potential Challenges:

- Increased cost and rail corridor width due to additional tracks, including impacts to existing rail-over-road bridges and signal bridges.

C.4 New Passenger Rail Corridor

There are ongoing investigations into the feasibility of constructing a new passenger rail corridor south of the existing Kitchener corridor, which would directly service Pearson International Airport. The work undertaken to date is preliminary, and a preferred alignment has not been identified.

Potential Benefits:

- No specific benefits to a Highway 27-Woodbine station were identified.

Potential Challenges:

- Additional station on a new corridor could divert ridership away from Highway 27-Woodbine station.

C.5 Pearson Regional Transit Centre

The GTAA has stated its intention to establish a regional transit centre in the vicinity of Pearson International Airport. The hub would connect existing and proposed rail, LRT, bus rapid transit, and local transit services with passenger terminals and the wider airport employment area. Metrolinx and GTAA are engaged in studying options for this hub.

Potential Benefits:

- The presence of a larger transit hub at the airport may strengthen the case for extending the Finch West LRT. A potential alignment along Highway 27 would facilitate a convenient connection to the proposed station, serving as an east-west interchange for both the key destinations to the north (Humber College, Woodbine Centre) and the airport. This could result in an increase in ridership on the GO rail service.

Potential Challenges:

- If a regional transit centre is created, local transit and regional rapid transit could bypass Highway 27-Woodbine in favour of connections at the transit centre, which may reduce potential ridership at this site.

C.6 High Speed Rail

The Government of Ontario has proposed constructing a high speed rail line along the Toronto-Windsor corridor. Between Toronto and Kitchener, the high speed rail service will generally operate on the Kitchener corridor with a stop near Pearson International Airport to facilitate connections. Alternative alignments include a diversion from the Kitchener corridor through the airport between Malton GO station and Highway 401.

Potential Benefits:

- If high speed rail stops at Highway 27-Woodbine either as an airport interchange or in-line stop, the improved connectivity to southwestern Ontario would likely increase ridership.

Potential Challenges:

- The high speed rail infrastructure may introduce potential premium on project costs for planned rail corridor infrastructure.
- Increased station access infrastructure (e.g. parking, platforms, etc.) would be required to accommodate an additional ridership, resulting in both increased cost and station footprint, if high speed rail stops at Highway 27-Woodbine

C.7 Terminus Station at Highway 27-Woodbine

A potential rail service concept along the Kitchener corridor could include “outer” services that operate express to Union past a particular station on the network to reduce travel time delay. This operating pattern is predicated on the opportunity to change trains for access to local “inner” station. If the Kitchener line adopts an inner/outer service concept, Highway 27-Woodbine could serve as the interchange for inner and outer services.

Potential Benefits:

- Greater operational flexibility;
- Additional ridership from event trains.

Potential Challenges:

- Increased cost and station footprint due to additional platforms and tracks;
- Increased cost and rail corridor impacts due to additional crossovers.