2. Station-Specific Requirements

This section provides station-specific requirements to improve access to all existing and in-delivery stations across the GO Rail network. It includes:

- An overview of the requirements and how they are applied (2.1);
- A series of station-specific requirement tables to guide station access improvements (2.2);
- The methodology used to develop the requirements (2.3); and
- Procedures for amending the station-specific requirements in this document (2.4).

2.1 Application of Station-Specific Requirements

Station-specific requirements are provided to guide station access improvements to 2041 (with delivery subject to available funding and other considerations).

The station-specific requirements consist of improvements on GO station lands, generally under Metrolinx's responsibility to implement independently, in partnership with third parties and through Transit-Oriented Communities agreements and other opportunities in collaboration with the Ministry of Infrastructure as part of station planning, design, construction, operations, and redevelopment. These are identified in Section "2.2 Station-Specific Requirement Tables".

The improvements around GO stations on municipal or private lands are generally the responsibility of local municipalities and developers to implement through integrated planning, infrastructure and service delivery, redevelopment, and operations. These have been identified as off-site opportunities through Municipal Technical Advisory Committee workshops, reviews of municipal plans and strategies by Metrolinx staff, and outreach to municipal service providers (MSPs). These are documented in Supplement B.

The station-specific requirements and off-site opportunities are intended to inform:

- Metrolinx-led station improvements;
- Ontario-led Transit-Oriented Community projects and other opportunities;
- Municipal capital plans and service planning;
- Municipal planning studies; and
- Municipal reviews of station-adjacent development proposals.

2.2 Station-Specific Requirement Tables

Table of Contents by GO Rail Corridor

Table of Contents by Municipality

Region of York

Simcoe County

How to Read the Tables

The first page provides context related to station classifications, existing and projected ridership, as well as a summary of station access requirements.

Station context

Municipality and location of the station along its GO Rail corridor.

Station classification adopted by Metrolinx

These typologies are used by various groups within Metrolinx and inform minimum requirements to support customers based on ridership and local context. Refer to Section 2.3.5.

Current and forecasted daily ridership change

- **Daily Riders' Home Station:** Ridership expected to access the station.
- **Daily Riders' Destination Station:** Ridership expected to egress at the station.
- **Daily Total Footfall:** Total ridership (access and egress, all day) expected for the station, indicating overall ridership change.

Current and forecasted mode share (all day)

- **Access Mode Share (2019):** Based on the 2019 GO Rail Passenger Survey. A grey chart appears for stations that were not open in 2019.
- **Target Access Mode Share (2041):** Represents the mode share split that the station is expected to achieve based on the Station Access Model if supported by targeted station access investment.

Access ridership per mode

This chart presents total daily access demand for 2041 (Daily Rider's Home Destination). This data, along with context-specific aspects, informed the station access requirements for 2041.

Summary of station access infrastructure

This table provides a summary of quantities for key station access facilities. This should be read with specific requirements on subsequent pages for context.

- **Current (2021):** Existing and in-delivery facilities (as of December 2021).
- **Requirements (2041):** Lists infrastructure needs to support the 2041 projected ridership demand. These requirements are intended as part of a 20-year vision to support the estimated growth and can be built in phases. For off-site (not on Metrolinx owned lands) requirements, please see "Supplement A: Off-Site Opportunities".

How to Read the Tables (continued)

Subsequent pages provide further detail on station access requirements, including context for implementation (e.g., interdependencies, preferred location, concurrent projects, and other opportunities).

On-site access improvements

Provides context to the summary of station requirements, and identifies additional qualitative improvements (e.g., addressing on-site connectivity gaps, minimizing circulation conflicts, and context-specific requirements).

Station Name

Station Access Mode	ID	Required Improvements
Walking		
Local Transit		
Cycling		
Pick-up/ Drop-off		
Carpool Passengers		
Drive & Park		

2.3 Methodology to Develop the Station-Specific Requirements

The station-specific requirements in GO Rail Station Access are based on work undertaken by provincial and municipal governments, including:

- The provincial Growth Plan for the Greater Golden Horseshoe and Metrolinx's 2041 Regional Transportation Plan;
- Regional and municipal plans and studies; and
- The Greater Golden Horseshoe Model (GGHM), and the Station Access Model.

This section provides further details on key components of the process (see Figure 13):

- Step 1: Inputs;
- Step 2: Station Access Model; and
- Step 3: Station access requirements.

2.3.1 Step 1: Inputs

The inputs used in GO Rail Station Access are based on two major components:

- **Customer inputs** that inform travel patterns, historical trends, and population growth;
- **Service inputs**, including but not limited to: existing parking and PUDO supply at stations, transit service plans, and other mode-specific inputs.

Customer inputs

The current ridership used in this document is based on customer inputs extracted from the 2019 GO Rail Passenger Survey. The survey is part of Metrolinx's ongoing efforts to monitor ridership, market trends, and commuter travel behaviour.

The future 2041 forecast uses ridership outputs from the GGHM (adjusted for the impact of the COVID-19 pandemic, resulting in an increased tendency to work from home) as an input to the Station Access Model.
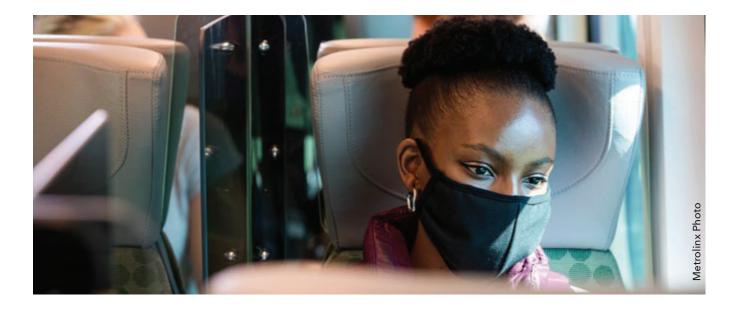
The ridership reported by the GGHM refers to the number of people accessing their home stations (the station where people start their GO Rail round trip) and alighting at destination stations (the station where people end the first part of their GO Rail round trip).

GGHM inputs and assumptions include:

- Land Use

  - The land use scenario reflects GGH-wide population and employment targets for the 2041 horizon as set out in the Growth Plan but allocates land use based on market trends. This is the standard land use forecast that Metrolinx applies for

The GGHM is Ontario's multimodal Regional Travel Demand Model used by both the Ontario Ministry of Transportation (MTO) and Metrolinx to forecast future transportation demand. The model network covers the Greater Golden Horseshoe (GGH), including the Greater Toronto and Hamilton Area (GTHA) and beyond, including the Niagara Peninsula through Waterloo Region, Barrie and Simcoe Region, and Peterborough and Northumberland Region in the east.

The GGHM forecasts the choices that individual travellers will make, including where to travel, what mode to use, and when to travel, using baseline population and employment forecasts. It represents a full 24-hour weekday period, enabling integrated peak and off-peak modelling and analysis, and assumes that parking at stations is not constrained.

business cases and planning studies.

- Transit Network

  - The forecasted 2041 GO Rail ridership builds on the GO Expansion Full Business Case (FBC), assuming the same rail network.

  - Modelled rail services do not include off-peak rail service on the Milton and Richmond Hill corridors. The lack of all-day service may result in lower ridership growth or net decreases at stations on each corridor, and underutilization of certain facilities as travellers relocate to stations on adjacent corridors with all-day services.

  - Municipal transit networks that connect to GO stations were updated based on the information received from the municipal transit service providers and includes both local transit and GO Bus.

  - The forecast scenario assumes full regional transit fare integration in the future with free transfers between GO Rail services and all municipal transit service providers, as well as among all municipal transit service providers.

Post-Model **COVID-19 adjustments** accounted for the following factors:

- The baseline ridership forecast ("business as usual") generated by the GGHM is based on land use growth and service expansion that is consistent with current plans, assuming pre-COVID-19 travel patterns and behaviours.

- To reflect the expected increase and tendency to telework (i.e., reduced trips) after the COVID-19 pandemic, station-specific ridership reduction factors were estimated based on available survey data[1] and existing ridership trends. These COVID-19 adjusted ridership outputs from the GGHM are used as an input to the Station Access Model.

- The approach assumes that the growth rate will not be impacted by increased teleworking during the post-pandemic transformation; however, the magnitude of ridership will be impacted by the increase in teleworking. The station-specific growth factors have been developed using growth rates from the GO Expansion Full Business Case Model.

- As the impact of teleworking and ridership recovery is expected to be volatile for the short and medium term, Metrolinx will monitor ridership trends and adjust the forecast as needed.

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1 Canadian Survey on Business Conditions (Statistics Canada, 2020), Census Employment Data (Statistics Canada, 2016), Transportation Tomorrow Survey (University of Toronto, 2016), and Survey of Downtown Workers (Toronto Region Board of Trade, 2020)

Service inputs

In addition to customer inputs, the Station Access Model incorporates context-specific information to generate future mode shares and final ridership forecasts. These inputs and assumptions are defined at the station and zone-level (based on distance from the station), including:

- 2017 & 2019 GO Rail Passenger survey
- Initial parking and PUDO quantities
- Travel and waiting time per mode
- Access cost per mode
- Walk score and bike score

2.3.2 Step 2: Station Access Model

Station Access Model Outcomes

The Station Access Model generates daily home and destination riders for each station. Forecasts are provided for a.m. peak period (06:00-09:00) and off-peak period (09:00- 16:00) based on when riders are assumed to start the first part of their GO Rail round trip, resulting in the following outputs:

- 2041 ridership (AM and off-peak)
- 2041 mode shares
- Initial quantity of bike parking, PUDO, and vehicular parking spaces

Ridership and mode shares presented in the station-specific requirement tables (Section 2.2) are a blend of the AM and off-peak results to present an all-day average.

The Station Access modelling process is an iterative exercise and a number of model runs were undertaken to arrive at an optimized scenario related to ridership, mode share and initial station access facility requirements.

Limitations of the Model

Feedback between Stations: The Station Access Model does not allow for feedback between stations on ridership and mode share. As such, the model does not account for the potential of riders at one station who choose

to use an alternate station if their preferred access mode is not available at their home station (typically due to the absence of available parking options). This limitation may result in under- or over-estimation of the demand at specific stations that are close enough to allow for home station diversion depending on the availability of facilities. The impact at the system level, however, is not anticipated to be significant.

Demographic Data: As the Station Access Model relies on 2016 Transportation Tomorrow Survey (TTS) data based on existing conditions, people, and behaviours, it does not forecast demographic changes in communities over time. As a result, station-specific requirements for 2041 are based on existing demographics that may not be the same in 2041. Since demographics affect mode choice, there is potential for a mismatch in the mode share targets and associated facility requirements over time. This limitation will be considered and corrected as part of the scheduled 5-year updates to this document, which will incorporate updated TTS data that captures demographic change and its influence on travel behaviour.

2.3.3 Step 3: Station Access Requirements

The initial quantities for station access infrastructure (bike parking, PUDO, vehicular parking) provided by the Station Access Model outputs are reviewed with a context-specific lens, accounting for the following aspects:

- Station-specific context:
  - Customer satisfaction (CSAT scroes)
  - Existing supply
  - Parking utilization (pre-pandemic)
  - Higher order transit
  - GO Expansion plan and extensions
  - GO Bus plans
  - Land values

- External plans:
  - Municipal plans

- Municipal service providers plans
- Local policies
- External stakeholder engagement

Station specific context, external plans, and modelling results were used to establish the final station access infrastructure requirements considering the following for each mode:

- **Walking:** multi-use paths and sidewalks are identified through engagement with local municipalities, review of local plans, and connection gaps that need to be addressed;

- **Local transit:** GO Bus and local municipal service providers provide bus bay and layover requirements to facilitate the

anticipated future service levels;

- **Cycling:** modelled bike demand is multiplied by a daily turnover rate of 1.2 and split between covered and secure bike parking;

- **Pick-up/Drop-off:** modelled PUDO demand is used to generate the number of waiting and loading spaces. Post-model adjustments are made based on the proposed PUDO configuration;

- **Drive-and-park:** modelled parking demand confirms the established station parking requirement.

STEP 1: INPUTS

CUSTOMER INPUTS

2017 & 2019 GO RPS
Existing travel patterns and historical trends

GGH Model
2041 forecasted ridership

COVID-19 Outlook
Long-term impacts - Statistics Canada Employer Survey

SERVICE INPUTS

GO & Local Transit
Planned local transit network & frequency

Initial Draft Parking & PUDO Quantities

Additional Mode Specific Inputs
- Travel and waiting time
- Cost
- Customer behaviour
- Walk score, Bike score

STEP 2: STATION ACCESS MODEL

MODELLING PROCESS

Per station:
- 2041 mode-shares
- 2041 ridership (a.m. and off-peak)
- Bike parking, PUDO spaces, and vehicular parking numbers

MODEL OUTPUTS

1. Station Access Model outputs
2. Station specific-context
3. External Plans

REVIEW CONDITIONS

Iterative model runs to adjust and arrive at optimized scenario

STEP 3: RESULTS

STATION ACCESS REQUIREMENTS

Optimal on-site station access quantity requirements for each station to support the projected ridership for 2041:

- Number of cycle and vehicle parking, bus bays & layovers, and PUDO spaces

- Walking and cycling paths determined through the identification of connection gaps and municipal engagement

Figure 13 Station access requirements modelling process

2.3.4 Mode Share Targets: Current and Forecasted

Mode share targets for 2041 are included in this document. The targets are critical in order to establish objectives for levels of access by each mode and inform Metrolinx's decision-making on access programs and investments. Existing mode shares are derived from the 2017 and 2019 GO Rail Passenger Surveys for each mode.

Walking

Station-specific walking mode share targets for 2041 are based on Station Access Model analysis that evaluates the relative attractiveness of walking for current and future GO Rail customers. It accounts for:

- Forecasted growth in population in the surrounding station area,
- Expected quality of the local pedestrian environment around each GO station as it evolves over time through redevelopment, in accordance with provincial and municipal land use policy, and the station-specific approach to parking management identified in this document, and
- Connectivity enhancements to reduce travel time for pedestrians.

Local Transit

Station-specific transit mode share targets for 2041 are based on station access choice analysis that evaluates the relative attractiveness of transit for current and future GO Rail customers. It accounts for:

- Current and planned improvements to municipal transit service frequencies, travel times, and wait times,
- Forecasted growth in population in proximity to current transit stops, and
- Updated transit fares that coincide with transit fare system integration.

Cycling

Station-specific cycling mode share targets for 2041 are based on a station access choice analysis that evaluates the relative attractiveness of cycling for current and future GO Rail customers. It accounts for:

- Forecasted growth in population within cycling distance to the GO stations,
- The quality of the cycling environment around GO stations and cycling travel times, and
- Metrolinx's station-specific approach to parking management.

Pick-Up and Drop-Off

Station-specific passenger pick-up and drop-off (PUDO) mode share targets for 2041 are based on station access choice analysis that evaluates the relative attractiveness of PUDO for current and future GO Rail customers. It accounts for:

- Forecasted growth in population within driving distance to each GO station, and current and future road congestion around each GO station, and
- Road congestion and travel times, and the provision of PUDO facilities.

PUDO configurations need to be responsive to the frequency of trains as well as to the local station context. Standard configurations are provided in Metrolinx's GO Design Requirements Manual and include both waiting areas for cars and passenger loading areas at a curbside zone.

Drive-and-Park

Station-specific drive-and-park mode share targets for 2041 are based on station access choice analysis that evaluates the relative attractiveness of parking for current and future GO Rail customers. It accounts for:

- Forecasted growth in population around GO stations,
- Road congestion, travel times, and fuel costs, and
- The provision of parking spaces identified in this document.

2041 Daily Forecast: Average Daily Footfall (Boardings + Alightings)

Figure 14 Daily forecast: average daily footfall

*Etobicoke North GO will be decommissioned and is planned to be replaced by a future GO Station along the Kitchener corridor. As such, no station access recommendations were identified.

Legend

- ○ Very Low (2,000 or fewer)
- ○ Low (2,001–5,000)
- ○ Average (5,001–10,000)
- ○ High (10,001–20,000)
- ○ Very High (20,001 or more)

⬚ In-Delivery Station
New station names are draft, subject to change

2.3.5 Station Classification

This document presents five station classifications to inform Metrolinx, municipalities, and third parties the various priorities and guidelines for infrastructure at each station, as follows:

- **Station Access type:** categorization is based on predominant access mode and informs prioritization for station access requirements and implementation;
- **Parking typology:** provides policy direction on vehicular parking supply based on demand forecast and local context;
- **Station categorization framework:** informs non-access requirements based on ridership;
- **Station service model:** identifies level of customer support; and
- **Retail typology:** identifies opportunities for non-fare revenue initiatives.

These typologies are presented in the station-specific requirement tables as a resource to enhance the understanding of a station's context and needs for the future.

Station Access Type

Also referred to as station access typology, is based on the 2041 projected mode share and will be used to prioritize the implementation of new infrastructure required at each station.

The Station Access Typologies (see Table 1) are:

- **Active Priority:** stations where walking and cycling will be the predominant mode
- **Transit Priority:** stations expected to have local transit as main access mode, therefore, transit infrastructure is required
- **Mixed Modal:** stations where drive and park will be the predominant mode alongside other modes
- **Interchange:** stations with higher-order transit transfers

Further details on the station access types are presented in Supplement C.

Station Access Typology	Active Priority Stations	Transit Priority Stations	Mixed Modal Stations
Mode share	More than 28% walk/bike	More than 25% transit Less than 29% walk/bike	More than 40% drive-and-park
Overlay	Interchange Stations: Any station that connects with higher-order transit (subway or light rail) services		

Table 1 Station access typology

Future Station Access Typology

Figure 15 Future station access typology

*Etobicoke North GO will be decommissioned and is planned to be replaced by a future GO Station along the Kitchener corridor. As such, no station access recommendations were identified.

Legend
- Transit Priority
- Mixed Modal
- Active Priority
- ○ Interchange
- In-Delivery Station

New station names are draft, subject to change

Parking Typology

These categories indicate the policy objective for the parking supply at each station to 2041.

The parking typologies are:

- **Grow**: Stations where more parking is likely required to meet GO Expansion ridership projections.
- **Maintain**: Stations where 2041 parking requirements will remain the same as existing supply.
- **Manage**: Stations where 2041 parking will be reduced relative to existing supply.

Station Categorization Framework Level

Metrolinx's Station Categorization Framework (SCF) is used to identify non-station access-related "site neutral" requirements (e.g., communications, fare payment, waiting areas, retail, washrooms, platforms, and canopies) based on forecasted daily ridership rather than station-specific site conditions.

The SCF levels are:

- **Base:** Less than 4,000 daily riders.
- **Medium:** 4,000-20,000 daily riders.
- **High:** More than 20,000 daily riders.
- **Interchange:** A GO station with direct subway/LRT connection or more than ten bus bays.

SCF site neutral requirements and levels are not determined by this document but are reported in station-specific tables (Section 2.2) for ease of reference.

Metrolinx Photo

Station Service Model

Metrolinx's Station Service Model is used to identify the level of service provided to customers at individual GO stations (i.e., ticketing and staff support).

Station Service Models are:

- **A - Full Service Model:** Roaming station ambassadors, with service counter and virtual assistance.
- **B - Limited Service Model:** Roaming station ambassadors and virtual assistance.
- **C - Self Service Model:** Virtual assistance.

Station Service Models are not determined by this document but are reported in station-specific tables (Section 2.2) for ease of reference.

Retail Typology

Metrolinx retail typology reflects station characteristics that are not part of the decision-making process for providing retail services at GO Rail stations. These typologies are assessed through quantitative benchmarks such as demographics, ridership, and specific site conditions.

The Retail Types and characteristics are:

- **Power Centre Station**: Multiple modes, high ridership, and residential density with many easy access options.
- **Community Centre Station:** Variable ridership and lower residential density with many easy access options.
- **Urban Centre Station (TOC):** High ridership density and active transportation access.
- **Access Station:** Low ridership, residential density, and many access options.

Retail Types are not determined by this document but are reported in station-specific tables for ease of reference (see Section 2.2).

2.4 Procedures for Amending Station-Specific Access Requirements

Metrolinx will consider proposed amendments to mode share targets and access facility requirements as a station's context evolves over time.

Amendments to some requirements may be proposed by any party that is actively pursuing redevelopment or upgrades to an existing station and will be evaluated by Metrolinx using a benefits management framework. The primary goal should be to maintain station access capacity across modes to accommodate forecasted ridership growth and support the GO Expansion program.

If an amendment could reduce station access capacity and thereby cause a decline in forecasted ridership, Metrolinx may require a business case to evaluate whether the overall project benefits are positive despite the ridership impact (see Supplement D).

Metrolinx Photo