Ontario

407 TRANSITWAY

From East of Highway 400 to Kennedy Road

Environmental Project Report

Section 1: Introduction

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1. INTRODUCTION

Provincial and municipal land use plans have identified the importance of transit infrastructure to support the development of land use patterns that promote long term economic prosperity by providing for an efficient, cost effective, reliable transportation system that is integrated with adjacent systems and those other jurisdictions and is appropriate to address expected growth.

Due to the rapid rate of development in the Highway 407 corridor between the City of Mississauga and the Town of Markham, the MTO recognized the need to review the protection of land for transit in the corridor. This would ensure the opportunity to provide a self-contained, high-speed east-west transit service along the corridor with relatively little impact and costs. Subsequently, a study conducted by MTO concluded that a ROW for a separate fully grade separated transitway should be protected in the Highway 407 corridor.

The primary objective of the 407 Transitway is to foster and support sustainable travel behaviour and a more compact urban structure in the GTA. In this regard, the 407 Transitway is an integral element of the Growth Plan with the following attributes:

- In its final form, the 407 Transitway would transform the existing predominantly Toronto centered radial system of high-order regional transit facilities into a network configuration, thereby expanding travel choices as well as reinforcing the utilization of the existing system; and,
- It reinforces the emergence and development of mixed use UGCs in the vicinity of the Highway 407 corridor, mostly comprised of office, retail and institutional elements.

A primary focus is to enable transit centre opportunities through the provision of transit areas where the possibility to transfer to other transit facilities is facilitated.

The specific objectives of this study are to design the 407 Transitway, maintenance facilities and stations to accommodate an initial bus service with provision for future conversion to LRT, including local bus access to and egress from the stations, platforms, access to/from the adjacent arterial road, parking, PPUDO, buildings, shelters and other miscellaneous amenities.

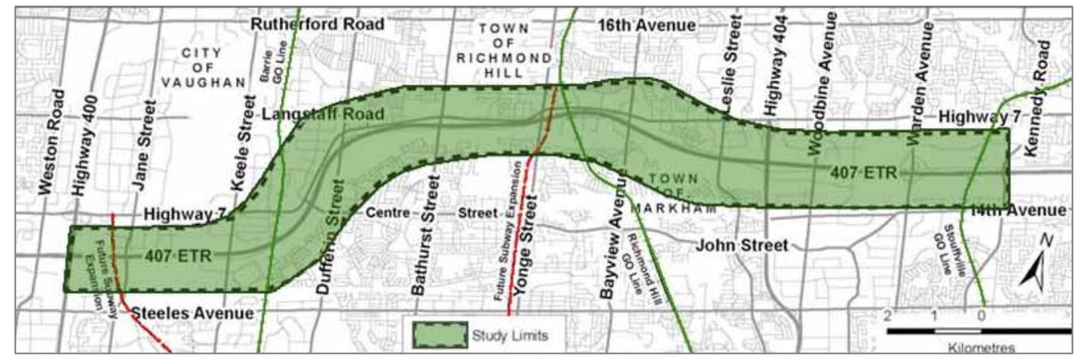
1.1 Study Process

A Planning, Preliminary Design and EA Study was initiated by MTO for the 407 Transitway from east of Highway 400 to Kennedy Road, a distance of 23 km. This project was initiated as a Group "A" project following MTO's *Class Environmental Assessment for Provincial Transportation Facilities (MTO 2000).* Later, a decision was made to transition the EA process to the TPAP following the *Transit Projects and Greater Toronto Transportation Authority Undertakings Regulation, Ontario Regulation 231/08, June 2008*. As a result, this EPR documents the TPAP for the 407 Transitway.

The study area is located within the City of Vaughan, Town of Richmond Hill and Town of Markham in York Region. The study area is also located within the province's Parkway Belt West Plan, which is a multi-purpose corridor from Burlington to Oshawa providing ROW for freeways, regional transit, electric power transmission lines, utilities and public open space.

This project involves constructing a separately dedicated running way for transit vehicles, a maintenance and storage yard, and seven stations within the project limits: Jane Station, GO Barrie (Concord) Station, Bathurst Station, Yonge Station, Leslie Station, Woodbine/Rodick Station and Kennedy Station. Subject to the outcome of the TPAP, the 407 Transitway will be implemented initially as a BRT with the opportunity to convert to LRT in the future. The project limits are presented in **Figure 1-1**.

Figure 1-1: Key Plan of the Study Area

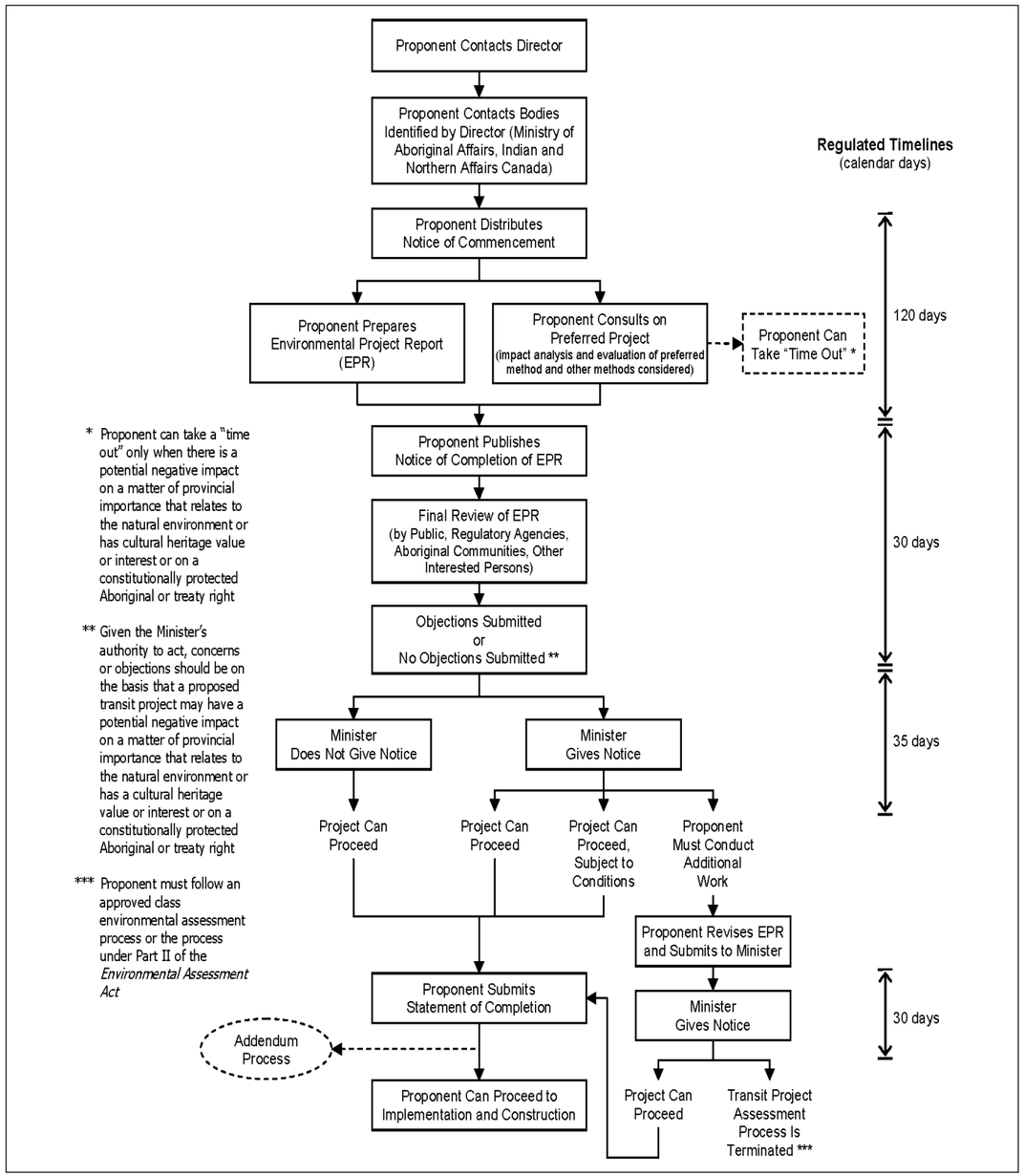


1.2 Transit Project Assessment Process (TPAP) (2008)

The 407 Transitway study is being carried out under the new TPAP. The new process was approved by the Government of Ontario in June 2008, based on the new regulation named *Transit Projects and Greater Toronto Transportation Authority Undertakings, Ontario Regulation 231/08* (Transit Projects Regulation) for undertaking transit-related projects in the GTA. The Transit Project Regulation provides a framework for an accelerated, focused assessment and consultation process for completing the assessment of potential environmental impacts of a transit project, so that decision-making can be completed within six months.

A Guide for the study process was released by the Ministry of the Environment (MOE) in March 2009 to highlight the key features of the new process. A summary of this new process is provided in the following section and an outline of the TPAP is provided in **Figure 1-2.**

Figure 1-2: Transit Project Assessment Process



Source: Ontario's Transit Project Assessment Process Guide (March 2009)

The steps in the TPAP mirror elements of what is currently required in the EA process, including public consultation, assessment of potential effects of a proposed transit project, mitigation measures and documentation.

One of the major differences between an EA process and the new TPAP is that, under the new process, qualified transit projects are exempted from Part II of the *Environmental Assessment Act*. Following a 30-day review period for the EPR prepared according to the TPAP, the MOE has 35 days to issue a notice to proceed with the project, require the proponent to take further steps or allow the project to proceed with conditions.

Other major features of the TPAP include:

- The proponent - in this case MTO – does not have to rationalize the need for transit or study planning alternatives (only alternative designs or plans for delivering the service) since the need for transit and the benefits to communities, the environment and the economy are clear;
- Only issues concerning matters of provincial importance and aboriginal or treaty rights will be considered by the Minister through the objection process; and,
- There is a six-month time limit on the process, as shown by the process chart in **Figure 1-2**. The timeline includes 120 days for consultation on positive or negative environmental impacts and the preparation of an EPR; a 30-day public and agency comment period and 35 days for MOE to respond to any public requests for a review of the project.

The Transit Projects Regulation provides a process for the proponent to have an option of taking a "time out" before continuing with the TPAP, if required. The time out provision can be used only when issues arise with a potential negative impact either on a matter of provincial importance (i.e. natural environment or cultural heritage value) or on a constitutionally protected aboriginal or treaty right. The Transit Projects Regulation also includes an addendum process for proponents to make changes to a transit project after the Statement of Completion for the transit project is submitted.

In general, the key steps in the TPAP, as recommended by the guidelines, are:

- Contact the Director of the EA and Approvals Branch for a list of bodies to contact and contact these bodies to help identify aboriginal communities that may be interested in the transit project e.g. Ministry of Aboriginal Affairs and Indian and Northern Affairs Canada;
- Distribute Notice of Commencement. The Notice is to be distributed after proponent has determined the transit project with which it wants to proceed;
- Take up to 120 days to consult with interested persons, including regulatory agencies and aboriginal communities and document the process;
- Includes a "time out" provision with respect to potential negative impacts on a matter of provincial importance or on constitutionally protected aboriginal or treaty rights;
- Publish a Notice of Completion of the EPR. The Notice will be published within 120 days of the Notice of Commencement;
- Provide 30 days for the public, regulatory agencies, aboriginal communities and other interested persons to review the EPR. Objections may be submitted to the Minister during this period; and,
- Following the end of the 30-day review period, the MOE has 35 days to act.

1.2.1 Environmental Project Report (EPR)

Documentation of the TPAP is to be submitted to the MOE within 120 days of distributing the Notice of Commencement. The document, known as the EPR, documents the TPAP, including the conclusions reached, the consultation record and results of consultation, the impacts, the associated mitigation measures, and the future commitments including further studies and municipal, provincial and federal approvals and permits for the transit project.

According to the interim guidelines, the Ministry expects that the EPR will be adjusted throughout the 120 day period to reflect input from aboriginal communities, adjacent property owners, regulatory agencies and other interested persons.

This report provides a comprehensive summary of each step in the assessment study, including the assessment of design alternatives, and an assessment of any impacts and ways that such impacts can be mitigated.

1.2.2 Transit Project Assessment Approval Process

If a person including members of the public, regulatory agencies and aboriginal communities has concerns about this transit project, objections can be submitted to the MOE within 30 days of the Notice of Completion being distributed. Proponents will be given an opportunity to comment on the concerns raised in an objection before the Minister acts. After the 30-day review period has ended, the Minister has 35 days within which certain authority may be exercised. A proponent may not proceed with the transit project before the end of the 35-day period unless the Minister gives a notice allowing the proponent to proceed. Objections received after the 30-day review period will not be considered by the Minister.

Whether there is an objection or not, if the Minister acts within the 35-day period, one of three notices may be issued to the proponent:

- A notice to proceed with the transit project as planned in its EPR;
- A notice that requires the proponent to take further steps, which may include further study or consultation; or,
- A notice allowing the proponent to proceed with the transit project subject to conditions.

If the Minister does not act within the 35-day period, the transit project may proceed as planned. The Minister may also terminate the proponent's TPAP and require that either an individual EA or a class EA process be followed.

If, within 30 days after receiving the Revised EPR the Minister is of the opinion that it still does not appropriately address negative impacts on a matter of provincial importance or on a constitutionally protected Aboriginal or treaty right, the Minister can terminate the TPAP and require the proponent to comply with Part II of the *Environmental Assessment Act* or to comply with an approved Class EA before proceeding with the transit project.

1.2.3 407 Transitway Preliminary Planning

Preliminary planning activities to define the 407 Transitway project details were initiated before the "Notice of Study Commencement of the Transit Project Assessment Process" was issued to define the project in detail. Initially, the project was to be assessed under the MTO Class EA process. This required development and evaluation of alternative transportation solutions to a rapid transit undertaking (i.e. "Alternatives To" the undertaking).

The alternatives to the undertaking identified and evaluated are summarized below in **Table 1-1**.

Table 1-1: Alternatives to the Undertaking Evaluated

Do Nothing –	A base case scenario, which assumes existing transit services, such as GO Transit buses on the 407 ETR are operating and committed improvements have been implemented (e.g. York Region Transit/ Viva Bus Rapid Transit (YRT/Viva), MoveOntario 2020)
Additional Transit Improvements	Operational Improvements – increase frequency of service, number and capacity of vehicles, origins/destinations served, etc.
	Operational and Infrastructure Improvements – improve existing running ways, stations, maintenance and storage facilities (e.g. GO Transit, YRT/Viva, TTC, etc.)
New Transit Facility -Construct New Transit System along 407 Corridor	High speed transit system that is fully grade-separated (Alternative C1)
	Transit facility that is partially grade-separated and includes at-grade and mixed operations
Transit Infrastructure Addition	High speed transit facility that is generally grade-separated (e.g. Finch Hydro Corridor, Steeles Avenue, CN York Subdivision, Highway 7, Major Mackenzie Drive)
	Transit facility that is partially grade-separated and includes at-grade and mixed operations (e.g. Finch Hydro corridor, Steeles Avenue, CN York Subdivision, Highway 7, Major Mackenzie Drive)
Operational Improvements to Roads and Highways	Operational Improvements (e.g. channelization, signal optimization)
	Operational and Infrastructure Improvements (e.g. road widening, including High Occupancy Vehicle (HOV) lanes)
Infrastructure Addition to Roads and Highways	New east-west arterial road (six-lane facility)
Manage Transportation Demand – reduce, shift or eliminate the transportation demand for new / improved transit system	Increase utilization of existing facilities (e.g. spread the peak hour, HOV, lanes, car pooling facilities, taxi pooling, parking strategies)
	Manage growth – (i.e. control development and growth to restrict increase in traffic both within and outside the corridor)

The evaluation of the above alternatives concluded that a new high-speed, fully grade-separated transit facility along the Highway 407 Corridor (Alternative C1) was the most responsive to the project objectives and evaluation criteria.

A 407 Transitway was selected as the technically preferred "alternative to" because it:

- enhances east-west cross-regional mobility for trips longer than 5-10 kilometres;
- offers a faster, safer and more efficient way of moving people;

- maximizes utilization of the protected Highway 407 Corridor;
- can be integrated well with the regional transportation network;
- is able to increase capacity to meet additional travel demand;
- will provide improved accessibility to existing and planned UGCs;
- has high potential to reduce congestion growth and thus enhance community access and quality of life;
- has the potential to significantly reduce single-occupancy vehicle use; and,
- minimizes adverse effects on the social and natural environments.

Detailed documentation of the evaluation process and findings is contained in the MTO Functional Planning Report dated November 2010 and available from the MTO.

Subsequently, following the Ministry's decision to follow the TPAP process, the remaining study activities undertaken included:

- contacting the MOE to obtain initial input to this study;
- undertaking feasibility studies and analyses of alternative methods (designs) for implementing the project;
- preparing a consultation plan to obtain public input;
- initiating pre-notification and pre-consultation activities with municipal authorities, aboriginal communities, adjacent property owners, general public and regulatory agencies (for example, the TRCA and the TRG, which is composed of various external agencies providing technical expertise to MTO;
- identifying potential federal EA and other federal regulatory requirements;
- defining the project details; and,
- conducting various studies to identify the existing natural environment, social environment conditions, traffic volumes, transit ridership, alignment and station locations, any associated road improvements, potential environmental impacts and mitigation measures.

1.3 Study Background

1.3.1 Policy Context

Outlined below are the most relevant and more recent transportation policies documented in plans and publications by the various levels of government with influence on the planning solution for the 407 Transitway.

1.3.1.1 Provincial Policy Statement

Ontario's *Provincial Policy Statement (2005)* promotes the efficient use of existing and planned infrastructure and connectivity within and among transportation systems and modes which cross jurisdictional boundaries. In addition, it states that "the land use pattern, density and mix of uses should be promoted that minimize the length and number of vehicle trips and support the development of viable choices for public transit and other alternative transportation modes, including commuter rail and bus. "

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

The Growth Plan under the *Places to Grow Act* is a framework for implementing the Government of Ontario's vision for better managing growth in this region. The plan identifies the Highway 407 Corridor as one of the major candidates for improved high-order transit. The three UGCs located along the central Highway 407 Corridor, Markham Centre, Richmond Hill-Langstaff Gateway and Vaughan Corporate Centre, are also identified here. Moreover, revitalization of these centres is identified as a major policy for accommodating additional people and jobs and promoting them as regional focal points.

The level of success achieved by the 407 Transitway will be immensely impacted by the degree of realization of the land use policies outlined in the Growth Plan. Achievement of the proposed high-density and mixed-used development in the Highway 407 Corridor would foster the required transit demand to support high-order transit. Conversely, given the mutual relationship between land use and transportation, the Growth Plan development objectives themselves will be supported by the presence of an effective transportation system including the 407 Transitway.

1.3.1.3 MoveOntario 2020

In 2007, the Province of Ontario announced MoveOntario 2020, a provincial plan to fund 52 transit projects in the GTHA over a 12-year period starting in 2008. Its primary goal is to create a modern rapid transit system that moves people and goods quickly and efficiently by improving the transit services of Southern Ontario's largest transit providers. The province identified Highway 407 as one of its priority corridors for new rapid transit initiatives in the GTHA.

1.3.1.4 The Big Move: Transforming Transportation in the Greater Toronto and Hamilton Area

On November 28, 2008, the Metrolinx Board of Directors adopted this Regional Transportation Plan (RTP). The Big Move recommends the construction of over 1,200 km of rapid transit – more than triple what exists now – so that over 80 per cent of residents in the region will live within two kilometres of rapid transit, with an emphasis on areas with large senior and low-income populations who rely on transit to get around daily.

Two of the nine priority actions presented in the RTP are: to develop a regional rapid transit network that operates seamlessly across the GTHA and, to create a system of connected mobility hubs at key intersections in the regional rapid transit network. These mobility hubs could provide travellers with access to the system, support high density development, and demonstrate excellence in customer service.

The RTP has identified the 407 Transitway from Pearson International Airport to Kennedy Road, as part of the 25-year plan, to be implemented between 2021 and 2031.

1.3.1.5 York Region Transportation Master Plan

The main purpose of this Plan, completed in 2002, is to define a long-term transportation vision and integrated road and transit network plan that would support growth in York Region to the year 2031. A number of policies and programs discussed in the Plan have strong focus on the Highway 407 Corridor as one of the major factors in

meeting the Region's future needs. The proposed transit network shows expected GO Transit improvements as well as York Region rapid transit facilities integrated with the GO Transit and TTC systems. Proposed future rapid transit facilities include BRT and/or LRT systems within the Highway 7/Highway 407 Corridor.

The three major activity centres along the Highway 407 Corridor, as identified in the province's Growth Plan, are recognized in the plan as strong focal points for concentrated TOD. Additionally, a system of gateways enhancing access to the existing and proposed transit network is introduced. Relevant examples of such gateways include the Vaughan Mills Mall, Jane Street South of Highway 407, Highway 407 East of Yonge Street (Langstaff), and Highway 407 West of Warden Avenue. Road network expansions including active transportation plans are also included.

1.3.2 Past Studies

This section presents a list of past studies conducted over the years in support for the 407 Transitway.

1.3.2.1 Background

In 1967, the Metropolitan Toronto and Region Transportation Study predicted that, with the prevailing growth trends, various urban areas in the Metropolitan Toronto region would eventually merge into a sprawling urban mass from Hamilton to Oshawa and north to Richmond Hill. To control growth in the region, the study contained a Parkway Belt as a key element, conceived as a multi-link linear corridor.

In summary, the Parkway Belt was a multi-purpose corridor to provide for the following linear facilities: freeways, regional transit, electric power transmission lines, utilities, and public open space. Subsequently, legislation was introduced to establish the Parkway Belt West Planning Area (between Dundas and Markham) to stabilize land use in the area until a development plan was approved. The Parkway Belt West Plan, which received Cabinet approval in July 1978, covers the area between Milton and Markham and contained the provincial Highway 407 and the Inter-Urban Transit corridor within the Southern Link (then the Highway 403 corridor).

A decade later in 1989, the Highway 407 Overview Study (Highway 48 to Highway 35/115) assessed the traffic demands in the GTA and surrounding municipalities. It concluded that there was a need to protect for a network including Highway 407 easterly from Markham Road to Highway 35/115 to address deficiencies in meeting east-west travel demands; two freeway links between Highway 401 and Highway 407 (located near the Oshawa-Clarington boundary and Pickering/Ajax/Whitby area; and, an east-west transit corridor as far east as the proposed Oshawa-Clarington link. The study also indicated an immediate need to locate and protect these transportation corridors due to the pressure for development in these areas and recommended that route location and EA studies be carried out.

Planning for development of a high-order transit facility in the Highway 407/Parkway Belt Corridor has continued intermittently over the past two decades. This section of the report summarizes this process by presenting a brief synopsis of the findings of each of the prior studies.

1.3.2.2 Protection for Transit in the Highway 407 Parkway Belt West Corridor (1989)

The objectives of this study were to determine the potential for a physical fit and the property protection requirements for the 407 Transitway, to identify costs associated with the protection, to minimize the impact on current designs and construction schedules, and to address the issue of possible joint corridor use with a proposed freight railway rationalization link at the west end of the project.

Regarding technology of the system, both subway and LRT-type vehicles were recommended, with subway being a strong candidate due to its compatibility with other subway lines in the area (i.e. TTC), and LRT having the advantage of being the cheaper alternative. The corridor adjacent to Highway 407 was recommended to provide for the majority of the property required for the 407 Transitway in order to minimize the impacts to both the hydro and utilities corridors. Descriptions of property to be protected and/or purchased and required steps for these actions were included. Furthermore, staging opportunities and the gradual introduction of a separate ROW for transit vehicles were also evaluated.

1.3.2.3 Need & Justification Study for the Projection of Highway 407/Parkway Belt West Transit Corridor (1992)

This report examined the urban structure, demand estimates, corridor location, operational requirements and alternatives to a 407 Transitway. The study concluded that a ROW for a fully grade separated transitway be protected in the Highway 407 corridor.

A number of transportation roles were identified for the 407 Transitway including service to longer-distance regional and interregional trips, service to shorter-distance trips between major activity centres in and adjacent to the corridor, network integration with radial GO Transit rail services and TTC rapid transit, and integration with the road network through the provision of park-and-ride and kiss-and-ride facilities.

The study recognized that the success of the 407 Transitway was seen as highly dependent on the realization of transit-supportive land use policies, including the fostering of activity nodes along the corridor.

Due to uncertainty about future land use in the corridor at the time and potential demand, the study suggested a staged development approach over time in order to reduce investment capital and associated risks. Initially, a bus system was recommended that would be capable of providing incremental levels of service, starting in mixed-traffic operations, moving on to High Occupancy Vehicle (HOV) lanes and, eventually, a separate ROW.

1.3.2.4 Highway 7/407 Transit Planning Strategy Study: A Cooperative Strategy for Transit in the 7/407 Corridor (1996)

This study aimed towards achieving a common vision regarding a high-order transit system for the Highway 7/407 corridor by identifying detailed objectives of the system and potential risks and uncertainties. Additionally, the study developed an action plan for the implementation of the system, including the identification of the roles and responsibilities of various stakeholders.

A number of objectives, similar to previous plans for the 407 Transitway, were adopted addressing ridership characteristics, property protection and connections to GO Transit and TTC transit nodes. Objectives included support for land use policies aimed at the development of major regional nodes, transforming Highway 7 into a pedestrian-friendly urban street that accommodates local transit, implementing high-order transit service in the Highway 407 Corridor for intermediate- to long-distance trips, providing linkages between Highway 7 and Highway 407, and providing connections to Pearson International Airport.

This study confirmed previous conclusions regarding the forecast growth rate and its consequences. Transit ridership forecast figures derived in this study were considered sufficient to warrant the implementation of rapid transit in the Highway 7/407 corridor. As part of the final recommendations, undertaking a property protection study was suggested to define the property envelope within the Highway 407 Corridor including stations and access/transfer linkages.

1.3.2.5 Highway 407/Transitway Markham Road Easterly to Highway 7 East of Brock Road: Environmental Assessment Report (1997)

The need for the planning of the 407 Transitway was recognized on the basis of the results of screenline analyses for 1998, 2011 and 2021. Some of the predicted major deficiencies for 2021 included extreme congestion of Markham Road between Highway 7 and Highway 407, increased traffic through communities and capacity deficiencies on the Highway 7 corridor, followed by the Highway 401 corridor. This confirmed the need for a balanced transportation plan comprised of road, transit and travel demand management strategies in order to deal with future transportation demands.

The study examined a number of planning alternatives that could be implemented to resolve the anticipated traffic problems. Final analysis indicated that an extension of Highway 407 and a transitway were needed to address identified immediate and long-term transportation problems. The report specified that the extension must go east as far as Highway 7 east of Brock Road (City of Pickering) in order to minimize traffic impacts on the local communities.

1.3.2.6 Highway 407 Transitway System Plan and Station Site Plan Study (1997)

The purpose of this study was to identify the location and extent of land to be protected for supporting facilities and amenities of the proposed 407 Transitway Eastern Section (from Highway 48 to Courtice Road). The study examined projected growth patterns and existing and proposed transportation networks while identifying required characteristics for station sites.

Potential station locations and constraints were identified on the basis of forecast ridership and travel patterns, environmental features and relationships to nodal developments. To assist in verifying the hierarchy of station functions, an analysis of travel times to major east-west transit corridors was conducted. Station infrastructure requirements were determined on the basis of the capability and flexibility to accommodate either bus-based transit services or LRT. The final output of this study was the Highway 407 East transit system, including detailed recommendations for appropriate station types, locations and site plans for various sections of the study area.

1.3.2.7 Transitway Corridor Protection Study, Highway 407/Parkway Belt West Corridor from Highway 403 to Markham Road (1998)

The purpose of this study was to define and protect the property required for transit in the Highway 407 corridor. Development activity and growth potential for population and employment, travel demand forecasting were assessed and outlined along with a review of planning policies within the corridor.

The study presented conceptual transit operations and potential implementation strategies which formed the basis for transitway design criteria for initial bus-based and future LRT technologies. Using the proposed criteria, transitway alignment alternatives were investigated leading to a recommended ROW alignment, including an amendment to the Parkway Belt West Plan to designate inter-urban transit in the corridor. The report documented the study process, ridership forecasts, findings of the review of the planning context and alignment recommendations with plates showing the property required for transitway alignment, stations, parking and associated uses.

1.3.2.8 Transit Corridor Priorities and Phasing Technical Report: Making Progress in Removing Roadblocks (2001)

This study developed a tool for assessing and prioritizing transit opportunities in the GTHA. Short- and long-term transit alternatives in each of the GTA transit corridors were developed. Transit-supportive land use and travel convenience issues, ease of implementation, significant impacts and costs were also investigated. The study discussed transit opportunities for the Highway 407 corridor.

The study resulted in the development of the GTA and Hamilton Area Transit Plan, which builds on the strength of the existing transit system. The Plan identified the Highway 407 corridor and its north-south connecting links to be of high importance.

1.3.2.9 Inter-Regional Bus Rapid Transit Service Study (2002)

The objective of the study was to identify a feasible interregional BRT alignment and implementation strategy that would complement and support GO Transit's existing rail and bus network and be linked to the TTC rail network. Through examination of the Greater Toronto Transportation Authority's generic circumferential BRT Spine Line proposal, identification of feasible alignments, evaluation of TTC connecting links, assessment of infrastructure costs, and analysis of ridership forecasts, the study made final recommendations for the achievement of the most effective and efficient interregional BRT system.

1.3.2.10 Highway 7 Corridor & Vaughan North-South Link: Public Transit Improvements Environmental Assessment (2005)

This study examined the implementation of rapid transit in the Highway 7 corridor as an element of the York Rapid Transit Plan (YRTP). The study included the evaluation of several rapid transit alignment alternatives within York Region and the identification of a preferred alternative in a separate ROW in (for the most part) the median of Highway 7.

One of the objectives of this rapid transit project was to maximize inter-regional transit connectivity and provide connections to future gateways. The 407 Transitway was identified as a future inter-regional transit corridor and regarded as a positive attribute to the overall project.

1.3.2.11 407 West Transitway Corridor Protection Study (2005)

The purpose of this study was to examine the need and feasibility of redesigning and locating the transitway adjacent to Highway 407. The transitway was evaluated with the capability of implementing a busway or LRT technology. The study area was the Parkway Belt West Corridor from Highway 403/407 interchange in the City of Mississauga to the Freeman Interchange in the City of Burlington.

The study defined property required and to be protected for the Transitway including alignment, station locations, parking, access to municipal roads, SWM ponds, and vehicle operations and maintenance facilities. The conceptual design configuration for the 407 West Transitway was intended to facilitate planning for integration of local transit services with the Highway 407 inter-regional transit system. The study determined:

- potential peak direction/peak hour transit demand in 2031;
- the need to protect the 407 West corridor for an exclusive transitway; conceptual transit operations; and,
- potential implementation strategies.

These results formed the basis for transitway design criteria for BRT and LRT technologies. Using the proposed criteria, transitway alignment alternatives were investigated leading to a recommended ROW alignment. As a result of the recommended ROW future steps included an amendment to the Parkway Belt West Plan to designate inter-regional transit in the corridor and a future commitment to consult with the Ministry of Infrastructure (MOI) to ensure that transit facilities are protected within the Greenbelt Plan 2005.

1.3.2.12 Highway 407 Transitway Implementation Study (2006)

This study outlined a strategy for the staged implementation of the 407 Transitway. Criteria for the evaluation and identification of alternative segments for the transitway included:

- direct support of one or more of the Growth Plan UGCs along the corridor;
- potential transit ridership;
- connectivity with one or more GO Rail lines;
- connectivity with two or more 400-series corridors;
- opportunity for commuter parking/carpool lots;
- opportunity for connection with surface transit services; and,
- adequate length to be viable as a stand-alone entity.

Following detailed evaluation, the Highway 400 to GO Unionville (Kennedy Road) segment of the 407 Transitway was carried forward as the most suitable high priority segment. Other potential high-priority standalone stations identified along the Highway 407 corridor included Bronte Road, Trafalgar Road, Highway 10, Airport Road, Jane Street, Keele Street and Markham Road.

1.3.3 Related Transportation Plans/Studies/Project

1.3.3.1 York Rapid Transit Plan

The YRTP (2002) is a result of recommendations made by the York Region Transportation Master Plan (2002) identifying the need to expedite the development of a rapid transit network in the region. Four corridors were considered: Yonge Street, Highway 7, Vaughan North-South Link and Markham North-South Link.

Currently, this plan has resulted in the implementation of the first phase of the rapid transit service (YRT/Viva) with queue-jump and transit priority measures on the four corridors. Future plans involve implementation of the service in separate ROW and ultimately conversion to LRT if required. The effect of the close proximity of the parallel Highway 7 YRT/Viva services is of critical importance to the potential effectiveness of this project's 407 Transitway segment.

1.3.3.2 GO 2020 Plan

GO Transit's vision is to be the preferred choice for interregional travel in the GGH. The *Metrolinx Regional Transportation Plan (2008)* and *GO2020 (2008))* refers to a strategic plan which commits to meeting the region's interregional transportation needs, consistent with the Growth Plan and Metrolinx's RTP. Together, GO 2020 and Metrolinx 's RTP provide the basis for GO Transit's 10-year capital program, three-year operating plan, and annual business plans and budgets. The Master Plan identifies increased service on the Barrie, Richmond Hill and Stouffville lines within York Region. This enhanced service would consist of up to five peak period trains combined with all day train-bus service. An extension of this is the possibility of offering all-day rail service on the three corridors. Grade separations have been completed on the Stouffville Line (Hagerman Diamond – completed in 2008) and Barrie Line (Snider Diamond – completed in 2007). The improvements to service and infrastructure of GO Rail lines and connectivity with the 407 Transitway have the potential to increase the effectiveness and efficiency of the inter-regional transit system in the province.

1.3.3.3 York Region Transit Five-Year Service Plan

The objective of the YRT Five-Year Service Plan (2001) was to significantly improve transit connections and the quality of transit service in order to attract new users to transit and increase the modal share of intra- and inter-regional travel.

The two general transit travel needs outlined were travel to and from major destinations within York Region and travel to and from the City of Toronto (including high-demand destinations like York University and Seneca College as well as connections with TTC and GO Transit). The most notable transit service deficiencies in York Region included infrequent service on grid routes (usually resulting in poor transfer connections), no off-peak service on several core routes, no continuous service on Highway 7, and a lack of integration between Yonge Street GO Transit bus services and local bus routes.

As one of the proposed strategies in dealing with current deficiencies, the plan indicated that the Highway 7/407 corridor along with the Yonge Street corridor should be designated as "super corridors". These would function as the two backbones of the regional route network and will have a high level of both local and limited-stop express

services (at least during peak periods). Other strategies included the diversion of routes where necessary to serve key destinations, providing connections to high-order transit services and designated transit focal points, using the freeway system during peak hours to provide fast express services where feasible, and providing a good level of service for all major north-south and east-west arterial corridors within the urbanized areas.

A region-wide transit fare plan and five-year capital and operating cost projections were also introduced and discussed as a part of the overall plan.

1.3.3.4 Spadina Subway Extension

The TTC, in partnership with York Region, has completed an Individual EA for the extension of the Spadina Subway northwards from its current terminal, Downsview Station at Sheppard Avenue West.

The extension of the existing Spadina Subway includes stations on Sheppard Avenue West at the GO Barrie rail line, the intersection of Keele Street and Finch Avenue West, the common area of the York University campus, the proposed inter-regional transit terminal at Steeles Avenue West, the proposed inter-regional transit terminal at Highway 407 and Jane Street (also a 407 Transitway station – Jane Station) and further north to the Vaughan Corporate Centre. The EA study and funding for this project has been approved. Construction commenced in 2010.

1.3.3.5 Yonge Subway Extension

York Region, in partnership with York Region Rapid Transit Corporation, the TTC and the City of Toronto has completed a TPAP for a proposed extension of the Yonge Subway. The extension of the Yonge Subway will begin from its current terminus at Finch Station in the City of Toronto to Highway 7 (Richmond Hill Centre (RHC)) in the Town of Richmond Hill.

The project will extend for 6.8km underground, and include six subway stations. The six stations are proposed at:

1. Cummer Avenue/Drewry Avenue;
2. Steeles Avenue;
3. Clark Avenue;
4. Royal Orchard Boulevard;
5. Langstaff Road/Longbridge Road; and,
6. Richmond Hill Centre.

Intermodal bus terminals are proposed for Steeles Station and RHC Station where a convenient integrated connection to the 407 Transitway would be protected.

1.3.3.6 High-Occupancy Vehicle Lane Policies

In May 2007, the Government of Ontario outlined a number of operating standards that are to be applied to the planning and operation of all 400-series highways. These include consideration for provisions of HOV lanes in the planning for any new highway corridors, construction of HOV lanes as new lines when feasible, etc. The Highway 407 Corridor is currently not included in the provincial near- or long-term plans for expansion of the HOV lane network, likely due to the fact that is privately owned. However, in the York Region Transportation Master Plan, Highway 407 is considered as a HOV freeway as part of the region's transit priority network. This plan is built on a number of previous studies conducted by York Region, most notably the 1995 HOV/Rapid Transit study. Both policies allow for/assume the operation of transit vehicles on these lanes; that is, they do not explicitly consider the existence of a grade-separated transitway and/or the operation of auto-only HOV lanes.

The potential impacts of such facilities on parallel and intersecting facilities should be considered and evaluated in forecasting ridership figures for the 407 Transitway. A study of previous HOV lane implementation and its impact on transit ridership and motorized vehicle trip rates is a good approach in evaluating these impacts.