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The Gooderham Group

NIAGARA REGION

Niagara Transit Service Delivery and Governance Strategy

Final Report

January 2017

16-3664

Executive Summary

Introduction

Since January 2016 the Inter-municipal Transit Working Group has been developing options for an integrated transit system that works for all of Niagara. The Inter-municipal Transit Working Group is led by the Mayors and CAOs from St. Catharines, Niagara Falls and Welland with the support from the Niagara Regional Chair, Niagara Region CAO and technical staff.

Dillon Consulting Limited, in association with McNeil Management Services and the Gooderham Group, was retained to assess the existing inter-municipal transit service in Niagara Region and develop potential options for future delivery of inter-municipal transit services for consideration by the Niagara IMT Working Group. This included an assessment of options for service delivery, governance, fare integration, fare payment technology and trip planning.

This report presents a service delivery strategy with recommendations for:

- The elimination of duplicate services servicing post-secondary institutions and the expansion of off-peak services on key inter-municipal corridors;
- Better integration with other municipal transit systems;
- New Niagara-West inter-municipal transit link; and
- New dynamic transit services for low-demand areas.

The report also recommends that a Consolidated Transit service delivery and governance structure is implemented, integrating the planning and delivery of local and inter-municipal transit services in St. Catharines, Niagara Falls and Welland into one large consolidated system. Integrated planning and operations would take place through a consolidated governing body, board or commission ***(from here on out termed "consolidated governing body")*** while final decisions on local transit interests would continue to be made by each local council for transit services within their own jurisdiction. This maintains the control of local councils to set their own budgets and focus on local priorities while still benefiting from integrated aspects of consolidation.

The Region would continue to be involved in funding and decision-making and supporting inter-municipal connections within and outside of the Consolidated Transit Service Area. For this to occur, a triple majority vote would need to be achieved priority to the expiration of the inter-municipal pilot program in May 2017 outlining the Region's role in the planning and funding of inter-municipal transit services.

Local transit services outside of St. Catharines, Niagara Falls and Welland (e.g. Port Colborne and Pelham) would continue to be planned and delivered by local municipalities. They would connect to the Consolidated Transit Model through representation on the governing body and would contribute in the planning of seamless inter-municipal services throughout the region (e.g. set policies on fare integration). The Region would also continue to provide partial funding for various capital purchases that would create a more seamless network (e.g. a common smart card and dynamic transit app) and the implementation and operation of inter-municipal link routes connecting local transit services in the region.

The Need for Inter-municipal Transit (IMT)

Inter-municipal transit has a number of benefits to the region, each local municipality and its residents. Notably, the introduction, improvement and expansion of inter-municipal transit:

- Provides cross-boundary mobility to education, employment and medical and other services;
- Supports transit ridership to future GO Train service in Niagara (reducing local congestion near GO stations);
- Facilitates economic development by businesses that are seeking a connected workforce;
- Contributes to a high quality of life for Niagara residents; and
- Supports sustainable community development.

Service Delivery

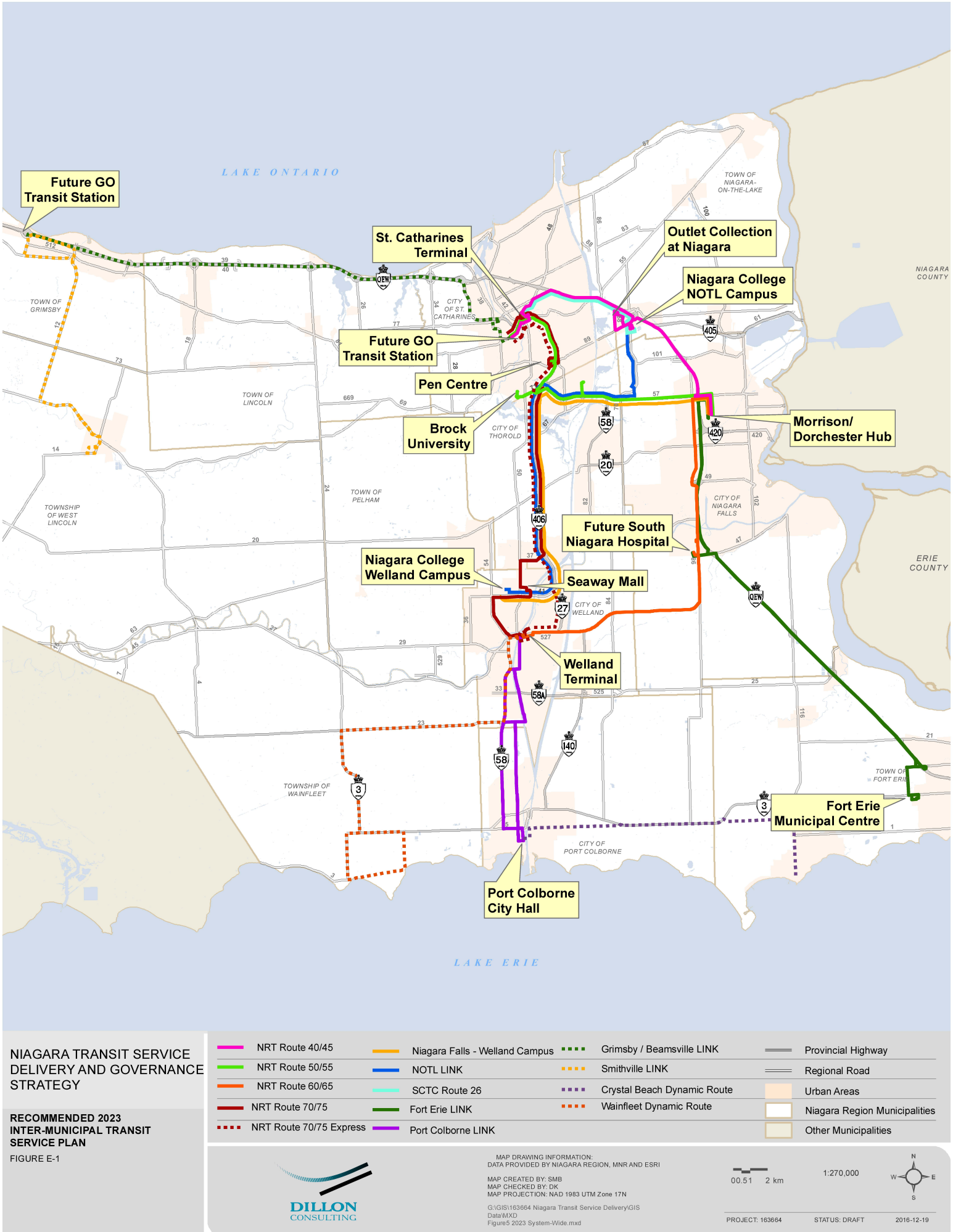
A seven-year Inter-municipal Transit Plan was developed based on the recommended Consolidated Transit Model being in place. The plan is based on a strategy to optimize existing inter-municipal transit services and improve service levels by reducing duplication between existing Niagara Region Transit and U-Pass funded post-secondary services within the Consolidated Transit Service Area. The optimization of these routes results in the ability to increase peak period service frequency (every 30 minutes), extend evening service and introduce Sunday service on a number of routes without a significant increase in revenue service hours. Improvements are also recommended to better connect to the new GO Train stations and enhance service levels on routes connecting to Port Colborne and Fort Erie.

A number of inter-municipal service extensions were also recommended. Service extensions include connections to growing municipalities using fixed-route services (West Lincoln), integration with existing GO Bus services (Grimsby/Lincoln) as well as the use of Dynamic Transit service concepts in low demand areas (including two pilot projects in Wainfleet and Crystal Beach). Improved connections between local services and inter-municipal services are also recommended, including fare integration with Pelham Transit, expanding the Dynamic Transit service concept to Niagara-on-the-Lake and service integration with WEGO. **Figure E-1** illustrates the entire recommended inter-municipal transit network in Niagara Region by 2023.

An inter-municipal fare strategy was developed that includes recommendations for an integrated fare structure, fare payment technology and a methodology for fare sharing. To facilitate seamless travel throughout Niagara Region, a regionally-integrated trip planning platform is highly desirable. This will help customers navigate the multiple transit networks, display relevant schedules and connections, and show the most efficient routes between origins and destinations. It is recommended that each transit system in the region sign a formal letter of intent to participate in the TripLinx platform, a one-stop trip planner and information resource that provides information on all Greater Toronto Hamilton Area (GTHA) transit systems. Each system should also explore feeding data into TransitApp. This will provide three options for customers to comprehensively plan inter-municipal transit trips.

Governance

A key objective of this study is to assess the Status Quo service delivery and governance structure and determine whether this model is the most appropriate to deliver on the mobility needs and aspirations of residents based on the five guiding principles identified by the Niagara IMT Working Group.



NIAGARA TRANSIT SERVICE DELIVERY AND GOVERNANCE STRATEGY

RECOMMENDED 2023 INTER-MUNICIPAL TRANSIT SERVICE PLAN

FIGURE E-1

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY NIAGARA REGION, MNR AND ESRI

MAP CREATED BY: SMB
MAP CHECKED BY: DK
MAP PROJECTION: NAD 1983 UTM Zone 17N

G:\GIS\163664 Niagara Transit Service Delivery\GIS Data\MXD
Figure5 2023 System-Wide.mxd

0 0.5 1 2 km

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PROJECT: 163664 STATUS: DRAFT 2016-12-19

Niagara Region was originally established as a regional municipality without any jurisdiction over transit. Once the pilot program has expired, the Region would need to pass a by-law to upload all or part of the 'lower-tier' municipal jurisdiction to establish, operate and maintain[1] a public transit system to the 'upper-tier' municipality, conditional upon obtaining a triple majority vote. This triple majority vote is required even if the Region stays involved at the current 'Status Quo' service delivery model where the Region provides funding and supports decision-making of inter-municipal transit services. With this in mind, three service delivery and governance models were assessed that involve the Region's continued involvement in conventional transit.

1. **Status Quo Model:** Local transit continues to be funded by each municipality while inter-municipal transit services are funded by the Region or through a direct agreement with a post-secondary institution as part of the U-Pass initiative. The Status Quo is enhanced to meet basic planned and recommended operating requirements (e.g. new mechanic in Welland, need for new service planning staff in St. Catharines, etc.) as well as planned service improvements in each municipality (e.g. new cross-town route in St. Catharines, transition to 30 minute peak period headways in Niagara Falls).

2. **Consolidated Transit Model:** The St. Catharines, Niagara Falls and Welland Transit systems combine their services into one large Consolidated Transit system, providing integrated planning and delivery of local and inter-municipal services through a consolidated governing body. Decision-making on local transit services would continue to be made by each local council for transit services within their own jurisdiction. This maintains the control of local councils to set their own budgets and focus on local priorities while still benefiting from integrated aspects of consolidation. The Region continues to be involved in funding and decision-making and supporting inter-municipal connections within and outside of the Consolidated Transit Service Area. Local transit services outside of St. Catharines, Niagara Falls and Welland would continue to be planned and delivered by local municipalities. They would connect to the Consolidated Transit Model through representation on the governing body and would contribute in the planning of seamless inter-municipal services throughout the region.

3. **Regional Transit Model:** The Region plans, funds and delivers all local and inter-municipal transit, with the amalgamation of the multiple local municipal transit systems throughout Niagara. Transit is planned and delivered for the entire region by one body, providing opportunities for service integration and the development of a seamless network.

The three models were reviewed and evaluated using a business-case approach. Based on the evaluation of the three service delivery and governance models, the Consolidated Transit Model is recommended.

The Consolidated Transit Model strikes a balance between local and inter-municipal transit needs. Approximately 80 percent of existing transit trips in Niagara Region are local in nature and the recommended model allows for a greater focus on local needs than the Regional Transit Model.

[1] For the purposes of this discussion, the term 'establish' means the creation of a transit system; the term 'operate' includes any act necessary for the managing of the transit service or the operation of a transit vehicle; and the term 'maintain' includes the ongoing function of keeping the transit system active.

Continued involvement by the Region within this new corporation will provide needed funding and decision-making input to ensure inter-municipal connectivity objectives continue to be met.

It is recommended that the Region establish a special funding arrangement with adjacent municipalities outside the Consolidated Transit Service Area to assist in establishing inter-municipal transit links. This type of arrangement could include the Region funding 100 percent of fleet capital costs and 60 percent of the operating cost of inter-municipal services, subject to Council approved service guidelines being met and the service being integrated with services in the Consolidated Transit Service Area. It is also recommended that a Technical Advisory Committee is formed which includes representation from these adjacent municipalities (including representation on the consolidated governing body). This will allow the interests of all municipalities in the region to be considered in the decision-making process.

Transit Investment Plan

The Inter-municipal transit investment plan outlines the short and medium-term steps necessary to move to the Consolidated Transit Model and implement the recommended inter-municipal transit service plan, fare strategy and integrated transit trip planner strategy.

The Consolidated Transit Model will improve inter-municipal transit service through better connectivity, increased frequency and the overall enhancement of the customer experience. To achieve these enhancements there will be an increased annual operating cost.

The existing (2015[2]) net operating costs (operating cost minus revenue) for all transit systems in Niagara Region is approximately $18,477,000 (includes St. Catharines Transit, Niagara Falls Transit, Welland Transit, Niagara Region Transit, Fort Erie Transit, Port Colborne Transit and Niagara-on-the-Lake Transit).

Table E-2 below illustrates the relative increase in annual net operating costs, moving from the existing (2015) Status Quo Model to three alternative models:

- Maintain the Status Quo Model, but with various approved and planned service level improvements, staffing increases and facility expansion (2018 operating year);
- Implement the Consolidated Transit Model (2018 operating year), building on the above noted improvements in the Status Quo Model;
- Implement the Regional Transit Model (2018 operating year), building on the above noted improvements in the Status Quo Model.

It is important to note that simply staying with the Status Quo Model will see an increase in the average hourly operating cost and net operating costs over the next few years. The hourly operating cost for each transit system was estimated to increase by 2 percent per year to account for the cost of inflation. In addition to this, other improvements to a number of transit systems were in the calculation of the hourly operating cost, including the addition of maintenance staff (e.g. the new mechanic in Welland), the need for additional supervisors and planning staff in Welland and St. Catharines, and increased operating costs which come with the planned expansion of the transit garage in St. Catharines. These improvements were already identified as a need by staff and/or local councils outside of any recommendations in this study.

[2] Note: At the time of writing this report, complete annual data for all the systems identified was not available for 2016.

In addition to this, service hours for each system are planned to grow. St. Catharines Transit will implement a new crosstown route; Niagara Falls Transit is phasing in the introduction 30 minute peak period service on all its routes , Welland Transit is introducing Sunday service and the Region recently introduced Route 40/45 and (through the recommendations in the report) will implement additional extensions of inter-municipal services. In addition to this, Pelham Transit system was recently introduced and Grimsby, West Lincoln and Lincoln are all considering the implementation of local transit services.

The growth in the hourly operating cost and increase in service hours was estimated to see an increase in net operating cost from all local and inter-municipal transit systems in the Region from $18,477,000 in 2015 to approximately $24,421,900 by 2018. This represents a 34 percent increase in net operating costs across all systems in the region.

The cost of moving to the Consolidated Transit Model was calculated and compared against this 'enhanced' Status Quo Model (using 2018 rates) and the Regional Transit Model. The comparison assumed that the service hours remained constant across for all three models.

The change in cost between the three models is due primarily to a change in hourly operating rates as a result of different governance structures. In the Consolidated Transit Model, the largest increase in cost is the need to standardize wages for transit operators and maintenance staff between all three systems. In the Regional Transit Model, this occurs for all transit systems (including smaller systems in Niagara-on-the-Lake, Port Colborne, Fort Erie, Pelham and future systems in Grimsby, Lincoln and Grimsby that typically have much lower rates).

Table E-2: Anticipated Operating Net Cost Increases with Consolidation

Municipality	Net Operating Costs			
	Status Quo Model (2015 rate)*	**Status Quo Model (2018 rate)**	**Consolidated Transit Model *(2018 rate)***	**Regional Transit Model *(2018 rate)***
Niagara Region	$2,216,000	$3,076,300**	$3,138,400**	$3,143,600**
St. Catharines	$8,831,800	$10,736,400	$10,783,800	$10,913,900
Niagara Falls	$4,409,700	$5,860,200	$5,861,500	$5,869,900
Welland	$1,986,200	$2,534,700	$2,678,600	$2,679,800
Outer Municipalities	$1,033,000	$2,214,300**	$2,214,300**	$2,536,600**
Total	**$18,476,700**	**$24,421,900**	**$24,676,600**	**$25,143,800**

***Note: Net operating cost estimates are based on a high-level estimate and will need to be further refined in the next phase of the move to the Consolidated Transit Model.**

**** Note: For this high-level analysis, the Region's share of rural inter-municipal link routes that connect to outer municipalities was fully allocated to the 'Outer Municipalities' row in the table. A more detailed allotment of net operating costs based on the proposed funding model is included in Table E-3.**

Based on this calculation, the move to the Consolidated Transit Model will see approximately $255,000 increase in net operating costs from the 2018 Status Quo Model, shared between all four service

providers[3]. This only represents a 1 percent increase over the Status Quo Model (2018 rate). In contrast, moving to a Regional Transit Model would likely see a $722,000 increase in annual net operating costs from the 2018 Status Quo Model. This represents a 3 percent increase in net operating costs from the 2018 Status Quo Model.

The largest increase in cost when moving from the Status Quo Model (2018) to the Consolidated Transit Model will happen in Welland, as it currently has the lowest operating rate. How this cost increase is distributed between all four municipalities would still need to be determined during the implementation phase. It is important to note that this cost increase of moving to the Consolidated Transit Model could also be off-set over time by increases in ridership and revenue, as the move towards consolidation will increase the ability of each municipality to create a more integrated transit network.

A financial plan for the recommended inter-municipal transit service strategy was also developed. Forecasted net operating costs (minus revenue) distributed to each municipality is illustrated in **Table E-3**. The increase in net operating costs is due both to service expansion recommendations and an increase in the average hourly operating cost on an annual basis (a 2 percent annual increase due to inflation was assumed). The financial plan does not account for any growth in the average fare. As a next step, a more detailed fare strategy should be conducted to determine potential modifications to the fare structure. This may help lower the overall municipal investment noted below.

Table E-3: Inter-municipal Transit Net Operating Costs (Municipal Investment) by Municipality

Municipality	2016/2017*	2019	2023
Niagara Region (*Inter-municipal and share of rural link routes)*	$2,972,120	$3,848,460	$5,091,520
Port Colborne *(share of Port Colborne Link and Crystal Beach Dynamic Link)*	$69,040	$96,760	$129,840
Fort Erie *(share of Fort Erie Link and Crystal Beach Dynamic service)*	$75,640	$102,280	$131,920
Grimsby *(share of Grimsby/Beamsville Link)*	-	$50,240	$89,900
Lincoln *(share of Grimsby/Beamsville Link)*	-	$50,240	$89,900
West Lincoln *(share of Smithville Link)*	-	$69,760	$73,680
Wainfleet *(share of Wainfleet Dynamic Link)*	-	$64,560	$70,240
TOTAL	**$3,116,800**	**$4,282,300**	**$5,677,000**

***Note: Net Operating Cost based on service in place as of September 2016 (annualized over a one year period)**

In addition to this municipal investment, between $440,000 and $1,800,000 annually is required to operate a smart card system (depending on the smart card alternative selected). This will be split between the municipalities using the smart card technology within and outside of the Consolidated Transit Service Area based on vehicle ownership/use.

[3] Note: This is based on a high-level analysis and would require a more detailed assessment of operating costs of each system to confirm the average rate increase under the Consolidated Transit Model.

Capital costs for the short-term (years 1-3) period is estimated to be in the range of $9,262,000 to $15,900,000 to fund inter-municipal transit fleet expansion, expansion of maintenance facilities in St. Catharines and Welland (primarily due to local transit needs) and implementation of a smart card system. Capital costs for the medium-term (years 4-7) is estimated to be in the range of $1,220,000 to $1,250,000 to fund further inter-municipal transit fleet expansion and the development of a mobile app for Dynamic Transit. **Table E-4** illustrates the cost distribution by municipality.

In addition to property taxes, dedicated funds flowing from upper levels of government can help support the above noted capital costs. The Federal Public Transit Infrastructure Fund will fund 50 percent of eligible capital projects, rehabilitation of transit systems and planning studies for future transit expansion. Development charges can contribute to help fund the capital cost of additional transit services required as a result of population and employment growth.

Table E-4: Inter-municipal Capital Cost Requirements

Expense	Total Cost (phasing)			Cost Distribution by Municipality			
	Year 1-3	Year 4-7	Total	Niagara Region	St. Catharines	Niagara Falls	Welland
Fleet Expansion (40 ft vehicles)*	$1,800,000 - $3,600,000	$1,200,000	$3,000,000 - $4,800,000	$3,000,000 - $4,800,000	-	-	-
Fleet Expansion (cutaway)	$300,000	-	$300,000	$300,000	-	-	-
Smart card system	$3,162,000 - $7,000,000	-	$3,162,000 - $7,000,000	$442,000 - $980,000	$1,581,000 - $3,500,000	$717,000 – $1,590,000	$443,000 - $980,000
Dynamic Transit Mobile App	-	$20,000 - $50,000	$20,000 - $50,000	$20,000 - $50,000	-	-	-
St. Catharines Transit Maintenance Facility Expansion	$2,500,000	-	$2,500,000	-	$2,500,000	-	-
Welland Transit Maintenance Facility Expansion	$1,500,000 - $2,500,000	-	$1,500,000 - $2,500,000	-	-	-	$1,500,000 - $2,500,000
TOTAL	**$9,262,000 – $15,900,000**	**$1,220,000 - $1,250,000**	**$10,482,000 – $17,150,000**	**$3,763,000 - $6,130,000**	**$4,081,000 - $6,000,000**	**$717,000 - $1,590,000**	**$1,943,000 - $3,480,000**

*** Fleet cost includes existing buses required for Route 40/45 and the extra spare bus required for Welland Transit**

Next Steps

The move towards the Consolidated Transit Model and implementation of the inter-municipal transit service strategy will require a number of steps. Senior staff need to be intimately involved in the various steps to bring the Consolidated Service Model together. Many of the actions required can occur simultaneously or can be done incrementally depending upon staff resources and funding availability. Some of the major elements of the next steps to consolidate transit services within the major urban areas of Niagara will include the following:

1. **Approve Consolidated Transit Model**

   The move to a Consolidated Transit Model will first require an agreement and commitment by all municipalities involved to work together and implement this strategic direction. This can be achieved through an approval from each Council of the recommended strategy contained in this report or a signed Memorandum of Understanding between all municipalities that wish to move forward with the Consolidated Transit Model and further develop the implementation plan.

2. **Reach Triple Majority for Region's Involvement in Transit**

   Once a decision has been made to implement the Consolidated Transit Model, the Region's role in the planning and funding of transit services will need to be defined and approved through a triple majority vote. This should occur before the expiry of the inter-municipal transit pilot program in May 2017.

3. **Consolidated Transit Model Implementation Plan**

   There are a number of steps that are still required to implement the Consolidated Transit Model once triple majority is achieved confirming the Region's future involvement in transit services. It is anticipated that it will take approximately one year to work through the various implementation details. The following actions are required to implement the model:

   - **Phase 1 (1-3 month period):** Confirm legal requirements, cost distribution, revenue sharing and decision-making process and investigate the role of specialized transit services in the Consolidated Transit Model.
   - **Phase 2 (4-9 month period):** Confirm organizational structure including staffing, representation on the governing body and negotiation with unions. At this stage, the communications and marketing study should also be initiated to develop a common brand for all transit.
   - **Phase 3 (10-12 month period):** Implement the strategy. This includes rebranding of buses and stops, developing a common fare structure, conducting a business plan (based on a common vision) and adopting the common service guidelines.

4. **Implement Inter-municipal Transit Service Strategy**

   The implementation of the inter-municipal transit service strategy can occur independently of the Consolidated Transit Model. However, it is recommended that this does not take place until the detailed structure of the Consolidated Transit governing body is known. This will help create a more seamless system, identify any local modifications to support the new inter-municipal structure, and create more buy-in for customer service improvements that support a seamless traveller experience (e.g. a common smart card system).

There would be a one-time cost associated with implementing the new consolidated transit system. This includes various follow-up studies (specialized transit study, marketing and branding strategy, legal fees, development charges study, etc.) that would be completed in 2017 and 2018 at a cost of approximately $450,000 to $740,000. This cost could be reduced depending on the availability of staff resources to complete a number of these tasks or the availability of federal or provincial grants. In addition to this, there will be some one-time implementation costs including communications, bus restriping, bus stop replacement (with new brand), website development, new map and schedule production, etc. This would likely be budgeted for 2018 and cost approximately $700,000. These implementation costs would need to be distributed to each participating municipality based on an agreed to formula.

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A. INTRODUCTION

1.0 Introduction

1.1 History and Study Purpose

Inter-municipal transit services have been in place in Niagara Region since the 1990s with the introduction of the Brock University U-Pass. In 2007, a similar U-Pass agreement was approved by the Niagara College Administrative Council. Both U-Pass agreements resulted in the delivery of well utilized inter-municipal post-secondary link connections between St. Catharines, Niagara Falls, Welland, Fort Erie and Port Colborne, providing post-secondary students with improved mobility within the region.

In September 2011, Niagara Region, the St. Catharines Transit Commission, the City of Niagara Falls, and the City of Welland entered into a Pilot Project Agreement to formalize the provision of inter-municipal transit. The agreement was in effect from September 2011 until September 2014 and has since been extended to May 2017. The service includes express routes connecting the communities of St. Catharines, Thorold, Niagara Falls, Welland, Niagara-on-the-Lake, Port Colborne and Fort Erie.

In 2014, an inter-municipal concept plan was developed to identify future growth of the system, including linkages to other municipalities within the region. While the Niagara Region Transit (NRT) pilot project has not reached the levels of ridership or revenue recovery initially projected, there has been steady year-to-year growth in both areas and public opinion surveys completed have supported the continued operation of inter-municipal transit.

The existing pilot will expire in May 2017 and a decision needs to be made regarding the structure and delivery of inter-municipal transit services, including how inter-municipal transit is integrated with local transit within the region.

Dillon Consulting Limited, in association with McNeil Management Services and the Gooderham Group was retained to assess the existing inter-municipal transit service in Niagara Region and develop potential options for future governance of transit and delivery of inter-municipal transit services for consideration by the Niagara Inter-Municipal Transit Working Group.

The study addresses two major components:

1. The service delivery and governance model for transit in the region (and how individual transit systems in the region should be organized to deliver on a vision of a seamless, integrated and customer driven service)
2. Recommendations to improve inter-municipal transit services, including the structure of routes, services, fare integration and payment technology and trip planning.

1.2 The Business Case for Inter-municipal Transit

With the inter-municipal transit program set to expire in May 2017, there has been some general consensus among residents, stakeholders, employers and political representatives about the importance of inter-municipal transit.

Inter-municipal transit has a number of benefits to residents of the region. Notably it:

- provides cross-boundary mobility (connecting residents that may not have access to an automobile to places of work, school and health services within Niagara Region);

- supports transit ridership to future GO Train service to Niagara. For many customers the daily commute does not end at a GO Train station. Integrated public transit solutions are an important part of a multi-modal transportation system that will support daily GO Train service in Niagara;
- facilitates economic development and investment (addressing unemployment issues in the region by providing access to jobs in adjacent municipalities). Investment attraction favours region's which have available land and building inventory, have incentive programs and are well connected with the infrastructure and services required to motivate and attract a desirable workforce. Inter-municipal transit can be a powerful economic-development engine helping to transform the region by attracting people to live and conduct business here. A number of competitive regions already have integrated transit systems and continually invest more in public transit;
- contributes to a high quality of life for Niagara residents (including potential reduction of household income spent on the purchase and operation of automobiles); and
- supports sustainable community development (by providing a sustainable travel option for residents).

Two broader messages must be clearly communicated when it comes to the discussion of inter-municipal transit:

1. **Inter-municipal transit is not just a regional issue**: The benefits of inter-municipal transit identified above have an impact on the economic health of each local municipality and the quality of life of its residents. The success of inter-municipal transit is dependent on local support, the ability to create a seamless service with local transit that takes into account the entire trip taken by the customer. While the Region and each local municipality/transit operator have done an effective job working towards improved coordination and integration, there is more that can be done to improve connectivity in the region to achieve the benefits noted above. For this reason, this study not only addresses how inter-municipal transit services are designed, but how overall service delivery and governance model of transit as a whole, and how to best structure the delivery of transit to achieve these broader benefits.

2. **While the benefits of inter-municipal transit are not always quantifiable, they must be balanced with the cost of providing the service:** The cost of operating transit is easy to measure. Capital and operating costs are approved each year in municipal budgets and are measured against a productivity standard. The report recommends a change to the service delivery and governance structure of both local and inter-municipal transit, along with changes to the inter-municipal transit network design. While the cost impacts of these recommended improvements are very visible, the benefits are not as quantifiable. Decisions made about the inter-municipal transit must consider how improved mobility will impact access to employment, education, health and services, reduced localized congestion (particularly around the new GO Stations), the ability to attract economic development and support a growing population. These are benefits that not only impact the Region, but each local municipality.

The business case for continuing and enhancing the role of inter-municipal transit must take these two key messages into consideration.

1.3 Key Guiding Principles

A key driver in the study was the adherence to a set of guiding principles adopted by the Niagara Inter-Municipal Transit (IMT) Working Group prior to the initiation of this study. The guiding principles indicate ***that an effective inter-municipal transit system will be***:

1. **Customer Driven**
   - Continuously improve the rider experience, including improvements throughout the pilot phase
   - Understand customers, particularly those who rely on transit the most
   - Provide seamless connections and routes based on demand
   - Take people to work, school, healthcare, shopping and recreation as efficiently as possible
   - Respect established local service levels and routes
   - Maintain and improve transit to Niagara College and Brock University users

2. **Unconventional Solutions**
   - Investigate leading-edge technologies and delivery systems that establish Niagara as an innovator in the transit field
   - Explore partnerships with other providers (e.g. GO Transit) where service delivery gaps exist

3. **Integrated**
   - Be seamless with other modes of transportation and evolve according to overall transportation plans across Niagara (e.g. Transportation Master Plan and local Master Transit plans)
   - Integrated with and support daily GO train service
   - Connect municipalities at hubs that are most appropriate for customers and the community
   - Evolve according to long-term transportation planning, growth planning, and economic development opportunities
   - Promote interconnectivity with systems that connect Niagara with the GTHA (e.g. GO Transit, Hamilton Street Railway)

4. **Economically Responsible**
   - Recognize inter-municipal transit is a public service funded through property taxes, grants, and partial cost recovery through user-fees
   - Balance financial costs with potential ridership and benefits
   - Build on past transit investments by enhancing, not duplicating, existing services
   - Explore alternative modes of delivery, particularly in small communities and rural areas

5. **Fair**
   - Respect existing investments made by communities with public transit and existing service levels
   - Provide a basic level of services that can be accessed by as many Niagara residents as possible
   - Balance respect for taxpayers with the ability of transit riders to pay fares
   - Respect existing transit collective agreements.

These guiding principles were used throughout the study to develop and evaluate options for transit governance, service delivery and customer service.

1.4 Community Engagement Process

Community engagement formed a significant component of the study to both get a better understanding of key concerns of the existing inter-municipal transit system and opportunities to improve inter-municipal travel within the region. Key engagement touch points included:

1. **Regular Discussions with the Niagara Transit Managers Group and the Niagara IMT Working Group**

   The consulting team met regularly with the Niagara IMT Working Group (representing the Mayors and CAOs from St. Catharines, Niagara Falls and Welland) as well as the Transit Managers Group (representing the transit managers from St. Catharines Transit, Niagara Falls Transit and Welland Transit). The purpose of these meetings was to understand key issues and opportunities and receive guidance based on the key guiding principles of the study noted above. The commitment of these two groups to improve inter-municipal transit within Niagara Region was essential to the success of this study.

2. **Stakeholder Focus Groups and Interviews**

   Several focus group meetings and interviews were held with a number of key stakeholders that have an interest in inter-municipal transit services. Members of the Dillon team met with:

   - business representatives in Niagara Region;
   - the student unions from Niagara College and Brock University;
   - members from the transit union representing St. Catharines Transit, Welland Transit and Niagara Falls Transit;
   - stakeholders representing various social and health agencies in Niagara Region
   - representatives from smaller municipalities that provide transit service (Thorold, Port Colborne, Fort Erie, Niagara-on-the-Lake) as well as the Niagara Parks Commission (WEGO operating partner); and
   - representatives from smaller municipalities in Niagara that currently do not have transit service (Grimsby, Lincoln and West Lincoln).

   The focus groups and interviews provided guidance on concerns over the existing service sand priorities for service improvement. Representatives from the transit unions were also provided an opportunity to comment on a number of the preliminary directions in the report. It should be noted that continued consultation with a number of groups mentioned above will be important if the service design and governance strategy is approved by each Council.

3. **Interim Presentation to Councils**

   Preliminary directions identified from this study on both the inter-municipal transit service plan as well as the overall service delivery and governance of transit services was presented to the following:

   - St. Catharines Transit Commission: October 20th, 2016;
   - City of St. Catharines Council: October 24th, 2016;
   - City of Niagara Falls Council: October 25th, 2016;

- City of Welland Council: November 1st, 2016; and
- Niagara Region Public Works Committee: November 8th, 2016.

Each of the presentations was followed-up with an opportunity for members of Council and the St. Catharines Transit Commission to provide comments and ask clarifying questions. A preliminary summary report was distributed to provide more clarity on the preliminary recommendations.

In addition to these presentations, representatives from Niagara Region and the Niagara IMT Working Group held meetings with representatives from other municipalities in Niagara Region to discuss the preliminary recommendations.

4. Public Information Centres

Four public information centres (PICs) were held across the region to present the preliminary findings to the public and seek their feedback. Events were held on the following dates:

- PIC 1 held in St. Catharines on November 16th, 2016;
- PIC 2 held in Welland on November 23rd, 2016;
- PIC 3 held in Lincoln on November 29th, 2016; and
- PIC 4 held in Niagara Falls November 30th, 2016.

In total, over 100 members of the public, municipal representatives and staff were in attendance at all four public information centres. Each PIC provided an opportunity for members of the public to view consultation boards that displayed preliminary recommendations, engage directly with the consulting team, and listen to a presentation on the study, including preliminary directions. A paper survey was provided to attendees to allow them to provide further comments.

5. Survey

An online survey was also developed that mirrored the paper survey handed out at each of the public information centers. The online survey was hosted on the Niagara Region's website and advertised through various traditional media and social media channels to get a broader representation from the public. The website included a summary of the key recommendations as well as a link to a short video describing the study and preliminary recommendations as well as a link to the online survey. The following summarizes the significant activity that was achieved based on marketing efforts from the Region:

Website

- 3,723 page views on the Niagara Region Transit page - November 1 – December 2, 2016);
- Over 2 minutes spent on the webpage.

YouTube

- 785 views of a short video created to promote the study.

Facebook

- 25,912 people saw our organic posts;
- 85,743 people saw the ad.

Twitter

- 8,541 impressions;
- 101 engagements.

A total of 771 online and paper survey responses were received representing residents from all municipalities in the region as well as both transit users (54.2%) and non-users (45.8%). The majority of respondents (36.4%) identified St. Catharines as their primary residence, followed by Niagara Falls (16.3%), Welland (15.2%). Respondents outside the top three municipalities accounted for 32 percent of all responses.

Respondents were asked about their views of both the recommended transit service strategy as well and the service delivery and governance structure.

When presented with specific proposals for service modifications/improvements, the majority (76.8%) of respondents indicated they were either supportive or very supportive of the proposals presented, while 11.8 percent indicated they neither supportive nor opposed, and 10.9 percent indicated they were opposed or very opposed to the proposals.

Of those who supported the proposals to some degree, most (23.8%) indicated they did so because the proposals would make it easier to access to jobs and services. Other popular reasons included the potential to increase connections between communities (13.8%), the proposals making it easier to get from A to B (13.3%), and the potential for increased service frequency and/or longer hours of operation (12.6%). Of those who did not support the proposals, most indicated this was because they felt the proposals would be too costly (27.5%) or because the proposals did not address the needs of their community (26.1%).

When asked if the recommended service delivery and governance structure would best meet the needs of their local community, two-thirds (66.3%) of respondents indicated they agreed in varying degrees, while 20.4 percent indicated they disagreed to some degree, and 13.2% of respondents indicated they neither agreed nor disagreed.

When asked why they felt this way about the recommended service delivery and governance model, of the respondents who indicated they agreed to some degree, most (50.8%) indicated that better integration among transit systems would mean easier travel, while 31.8 percent indicated their reasoning was based on the possibility of more efficient operations and gains from economies of scale that could be had through integration. Of those who disagreed to some degree, most (23.0%) respondents indicated they preferred implementation of integrated transit at the regional level, while many (15.8%) indicated the proposal did not meet the needs of their community. Approximately 12.2 percent of those who disagreed indicated they were concerned about increased costs that could result, while 10.1 percent indicated there was no need to pursue integration in the first place.

Comments received from the Public Information Centre, the online survey and the Interim Council presentations were used to refine the study recommendations as presented in this report.

B. BACKGROUND

2.0 Current State

Niagara Region is located just outside of the Greater Toronto Area between the City of Hamilton and the City of Buffalo, U.S.A. It is bordered by Lake Ontario to the north, the Niagara River to the east, Lake Erie to the south, and Haldimand County and Hamilton to the west. Niagara Region is made up of twelve local municipalities:

- Town of Grimsby;
- Town of Lincoln;
- City of St. Catharines;
- Town of Niagara-on-the-Lake;
- Township of West Lincoln;
- Town of Pelham;
- City of Thorold;
- City of Niagara Falls;
- City of Welland;
- Township of Wainfleet;
- City of Port Colborne; and
- Town of Fort Erie.

According to the 2011 Census, the Niagara Region has a population of approximately 431,000. Much of the populous is clustered in urban centres along the Queen Elizabeth Way (QEW) and major waterways, with large rural and agricultural areas filling in the remaining area. By 2041, the population is expected to grow to 610,000[4].

The regional economy is primarily based on industrial manufacturing, agriculture, and tourism. Notable attractions include a number of vineyards and wineries, scenic conservation areas and Niagara Falls. These industries and attractions are strongly dependent on the Region's transportation infrastructure, including canals, railways, and an extensive network of highways. They are also supported by the region's local and inter-municipal transit systems. Niagara Region is serviced by more than 13 different local or inter-municipal transit service providers that operate within or connect to the region. In addition to this, the Town of Grimsby has initiated a Transit Feasibility Study and is exploring the potential implementation of a local transit service within the Town.

Table 1 illustrates the transit services available within each municipality, including the municipalities they connect to.

[4] Source: Municipal Comprehensive Review

Table 1: Existing Transit Service Overview in the Niagara Region

Municipality	Population (2011)	Local Transit Service	Inter-Municipal Transit Connections	Direct Transit Connections to adjacent municipalities
Fort Erie	29,960	Fort Erie Transit	• NRT Fort Erie Link • Greyhound • Coach Canada (Megabus)	Niagara Falls St. Catharines Hamilton and GTA
Grimsby	25,325	N/A	• Greyhound Bus • Coach Canada (Megabus) • VIA Rail • GO Transit (Bus)	Hamilton and GTA Niagara Falls Fort Erie St. Catharines
Lincoln	22,487	N/A	• Coach Canada (Megabus)	St. Catharines Grimsby Hamilton and GTA
Niagara Falls	82,997	Niagara Falls Transit WEGO	• WEGO (Orange Line) • NRT Route 40/45 • NRT Route 40/45A • NRT Route 50/55 • NRT Route 60/65 • NRT Fort Erie Link • Niagara Falls to NC Welland Campus Shuttle • Greyhound Bus • Coach Canada (Megabus) • VIA Rail • GO Transit (Bus and Train*)	Hamilton and GTA Fort Erie St. Catharines Welland Thorold Niagara-on-the-Lake
Niagara-on-the-Lake	15,400	Niagara-on-the-Lake Transit	• NRT Route 40/45 • NRT Route 40/45A • Welland Campus to NOTL Campus Shuttle • St. Catharines Transit Commission Route 26 • WEGO (Orange Line)	Niagara Falls Thorold St. Catharines Welland
Pelham	16,598	Pelham Transit Bus Pilot	• Pelham Transit Bus Pilot	Welland
Port Colborne	18,424	Welland Transit	• Coach Canada (Megabus) • NRT Port Colborne Link	Welland
St. Catharines	131,400	St. Catharines Transit	• NRT Route 40/45 • NRT Route 50/55 • NRT Route 70/75 • St. Catharines Transit Route 26 • VIA Rail • GO Transit (Bus and Train*) • Greyhound • Coach Canada (Megabus)	Hamilton and GTA Niagara Falls Welland Thorold Niagara-on-the-Lake

Municipality	Population (2011)	Local Transit Service	Inter-Municipal Transit Connections	Direct Transit Connections to adjacent municipalities
Thorold	17,931	St. Catharines Transit	• NRT Route 50/55 • NRT Route 70/75 • Brock Link • Several St. Catharines Transit Commission routes	St. Catharines Niagara Falls Niagara-on-the-Lake Welland
Wainfleet	6,356	N/A	• None	None
Welland	50,631	Welland Transit	• NRT Route 60/65 • NRT Route 70/75 • NRT Port Colborne Link • Brock Link • Welland Campus to NOTL Campus Shuttle • Niagara Falls to NC Welland Campus Shuttle • St. Catharines to Welland Campus Shuttle (Route 27) • Coach Canada (Megabus)	Hamilton and GTA Port Colborne St. Catharines Niagara Falls Pelham Niagara-on-the-Lake
West Lincoln	13,837	N/A	• None	None

***GO Trains run between Burlington and Niagara Falls on weekends during summer months only.**
****Niagara Specialized Transit provides service to/between all municipalities in the Niagara Region and to Hamilton for medical purposes only. Riders must be travelling between municipalities and meet all other eligibility requirements.**

2.1 Existing Transit Services

An inventory of existing transportation service providers was conducted to identify the extent of service currently being provided within Niagara Region.

2.1.1 Inter-municipal Transit Service Providers

There are six inter-municipal transit service providers that provide mobility within the region:

1. Niagara Region Transit
2. Niagara Specialized Transit
3. GO Transit
4. VIA Rail
5. Greyhound
6. Coach Canada (Megabus)

A brief summary of each is provided below. In addition to the above service providers, Brock University and Niagara College use funding from their U-Pass agreements to contract St. Catharines Transit, Niagara Falls Transit and Welland Transit to provide inter-municipal transit service for students. These services are also discussed in more detail below.

2.1.1.1 Niagara Region Transit

Service Design

Niagara Region Transit is a relatively new transit service that is being piloted through a partnership agreement between the Niagara Region, St. Catharines Transit Commission, City of Niagara Falls and City of Welland since 2011.

The transit terminals at St. Catharines, Niagara Falls, and Welland are served by four two-way bus routes every hour between 7:00am and 9:00pm, Monday through Saturday. In addition, the service gaps for the feeder routes to Port Colborne and Fort Erie are partially funded by Niagara Region Transit. In Port Colborne, the Region funds three additional weekday round trips, plus Saturday service. This was added to the three weekday Port Colborne Link trips that are funded by the City of Port Colborne. In Fort Erie, the Region funds additional trips for the Fort Erie Link service during the summer when existing student services are no longer funded by Fort Erie and on Saturdays (to make the service year round from Monday to Saturday).

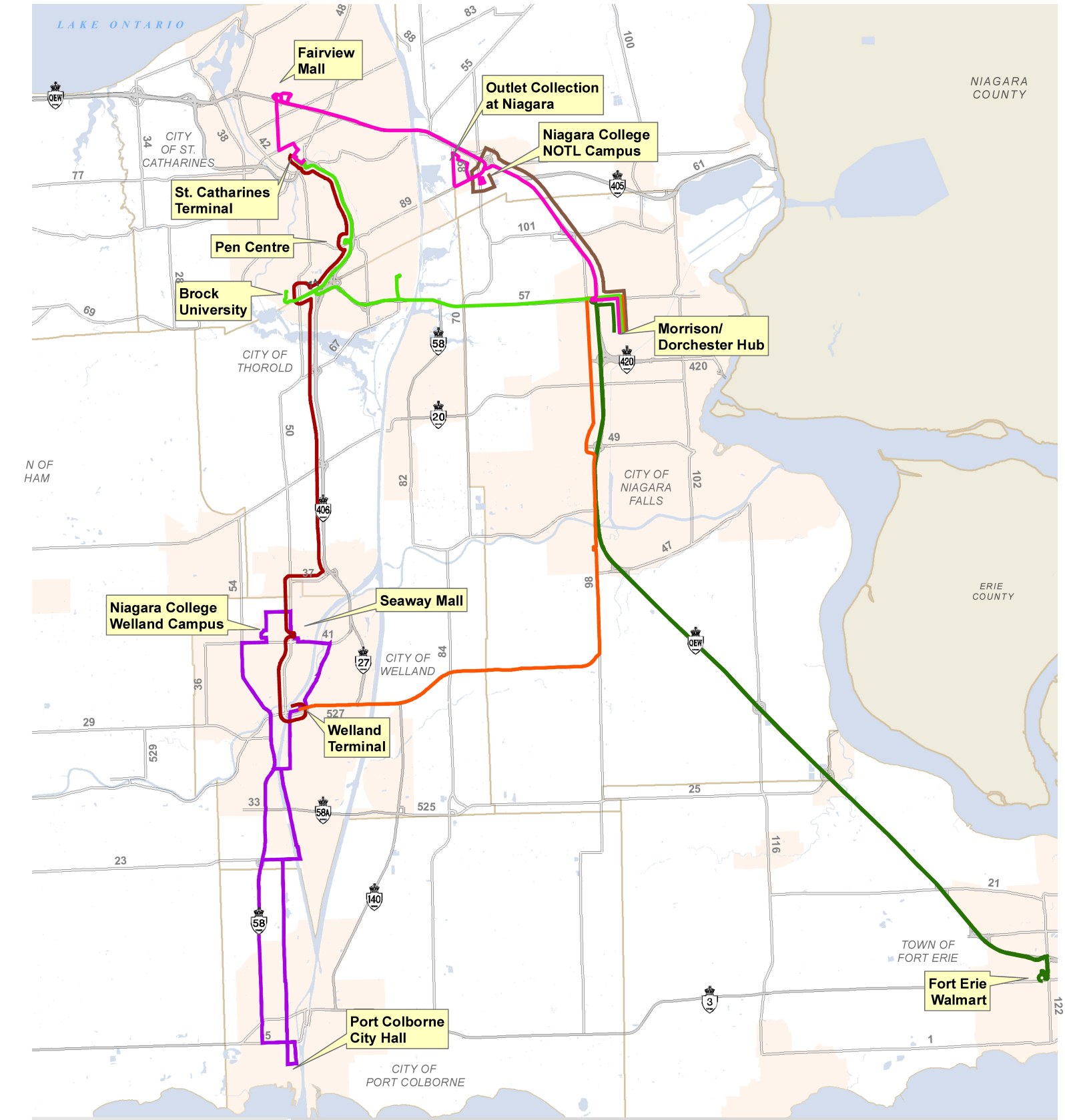
The existing route structure is shown in **Figure 1** and the existing schedule is included in **Table 2**.

Table 2: Niagara Region Transit Route Schedules and Service Hours (Monday to Saturday)

Route	Headway (minutes)	Start	End
Route 40 – Niagara Falls to St. Catharines	60	8:00am	9:49pm
Route 45 – St. Catharines to Niagara Falls	60	7:55am	9:44pm
Route 50 – Niagara Falls to St. Catharines	60	7:05am	10:48pm*
Route 55 – St. Catharines to Niagara Falls	60	7:10am	10:57pm*
Route 60 – Niagara Falls to Welland	60	7:00am	8:45pm
Route 65 – Welland to Niagara Falls	60	7:00am	8:45pm
Route 70 – St. Catharines to Welland	60	7:05am	8:45pm
Route 75 – Welland to St. Catharines	60	7:10am	8:50pm
Port Colborne Link	6 trips per day	7:15am	7:25pm
Fort Erie Link	7 trips per day	6:25am	7:10pm

***Note: The last trips on Route 50/55 only operate Monday to Thursday. On Friday and Saturday, Route 50 ends at 8:48pm and Route 55 ends at 8:57pm**

Route 40/45 was recently added in September 2016, providing a direct connection between Niagara Falls, Niagara-on-the-Lake and St. Catharines. As a supplement to Route 45/45, Route 40/45A was also added providing peak period service between Niagara Falls and Niagara College Glendale Campus during the school term. These new routes have replaced two post-secondary routes funded by Niagara College and Brock University and also resulted in a modification to Route 50/55 (providing a more direct connection between Niagara Falls, Brock University and St. Catharines. This is discussed in more detail in **Section 14.1** of this report.



NIAGARA TRANSIT SERVICE DELIVERY AND GOVERANCE STRATEGY

2016 NIAGARA REGION TRANSIT ROUTE STRUCTURE

FIGURE 1

- NRT Route 40/45
- NRT Route 40A/45A
- NRT Route 50/55
- NRT Route 60/65
- NRT Route 70/75
- Fort Erie LINK
- Port Colborne LINK
- Provincial Highway
- Regional Road
- Urban Areas
- Niagara Region Municipalities
- Other Municipalities

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY NIAGARA REGION, MNR AND ESRI

MAP CREATED BY: SMB
MAP CHECKED BY: DK
MAP PROJECTION: NAD 1983 UTM Zone 17N

G:\GIS\163664 Niagara Transit Service Delivery\GIS Data\MXD
Figure1 Existing Transit Network.mxd

0 0.5 1 2 km

1:170,000

N W E S

PROJECT: 163664 STATUS: DRAFT 2016-12-19

Governance Structure and Operating Model

Niagara Region Transit is provided by Niagara Region for services that cross municipal boundaries within the region. Overall coordination and funding of the service is managed by staff at the Region, with operations, maintenance and storage of vehicles contracted out to three separate transit providers. The operation of Route 40/45 and Route 50/55 are shared between the St. Catharines Transit Commission and Niagara Falls Transit. Similarly, the operation of Route 60/65 is shared between Welland Transit and Niagara Falls Transit, and Route 70/75 is shared between Welland Transit and St. Catharines Transit Commission.

Operating Statistics and Performance Measures

Table 3 includes a summary of annual ridership, expenses and revenues, and performance indicators.

Table 3: Niagara Region Transit Assets, Expenses and Performance Indicators (2015)

	Summary*
Revenue and Expenses	
Annual Service Hours	29,042
Annual Ridership	191,120
Revenue	$603,745
Total Direct Operating Expenses	$2,682,959
Performance Indicators	
Service Utilization (Pass./Capita)	0.58
Service Utilization (Pass/Rev. Veh. Hr.)	6.54
Service Hours per Capita	0.09
R/C Ratio	22%
Cost Effectiveness (Dir. Oper. Exp./Reg. Serv. Pass)	$14.45
Cost Efficiency (Oper. Exp./Tot. Veh. Hr.)	$94.49
Municipal Investment per Capita	$6.70

Note: Does not include Route 40/45 which was implemented in September 2016
***Note: At the time of writing this report, 2016 annualized data was not available**

2.1.1.2 Niagara Specialized Transit

Service Design

Niagara Specialized Transit provides curb-to-curb service for Niagara Region residents making medical, employment, or education related trips. Service is provided Monday to Friday, 7:00am to 10:00pm and Saturday 8:00am to 4:00pm. This service is not provided on Sundays or holidays. Trips must be booked at least two days in advance. To be eligible, prospective riders must be travelling between municipalities and be unable to board inter-municipal conventional buses or walk 175m. On January 1, 2017, the Accessibility for Ontarians with Disabilities Act (AODA) required that fare parity be implemented between Niagara Specialized Transit and Niagara Region Transit (as well as a number of other modifications to the service). Therefore, the fare for using the service is the same as the IMT service for conventional transit.

Governance Structure and Operating Model

The service is funded by Niagara Region and operated by a private operator (The BTS Network Inc., as of December 1st, 2015). Vehicles are owned and maintained by the private operator.

Operating Statistics and Performance Measures

Table 4 includes a summary of annual ridership, expenses and revenues, and performance indicators.

Table 4: Niagara Specialized Transit Assets, Expenses and Performance Indicators (2015)

	Summary*
Revenue and Expenses	
Annual Service Hours	13,440
Annual Ridership	13,611
Revenue	$100,249
Total Direct Operating Expenses	$799,809
Performance Indicators	
Service Utilization (Pass./Capita)	0.04
Service Utilization (Pass/Rev. Veh. Hr.)	1.01
Service Hours per Capita	0.031
R/C Ratio	13%
Cost Effectiveness (Dir. Oper. Exp./Reg. Serv. Pass)	$58.76
Cost Efficiency (Oper. Exp./Tot. Veh. Hr.)	$59.51
Municipal Investment per Capita	$0.85

***Note: At the time of writing this report, 2016 annualized data was not available**

2.1.1.3 GO Transit

Regular GO Transit service is provided by GO Buses between Hamilton and Niagara Falls. The GO Bus stops in Burlington (with a connection to the GO Train), Stoney Creek, Grimsby, St. Catharines and Niagara Falls. Regular GO Bus service runs every 30-40 minutes, Monday to Saturday between approximately 5:00am and 1:00am, and every 60 minutes on Sundays between 5:30am and 1:00am.

During summer months, GO Transit offers an additional GO Train service on weekends that extends from Hamilton to Niagara Falls, with one stop in St. Catharines. In 2016, this extended train service was offered from June 24th to September 5th and selected holiday weekends. Weekday summer service GO Trains operate approximately three times per day in each direction, once in the morning and twice in the afternoon/evening[5].

Similarly, GO Transit offers a seasonal shuttle service between St. Catharines and Niagara-on-the-Lake. Based on the current schedule, the shuttle will operate approximately 3-4 times per day in each direction.

[5] Source: http://www.gotransit.com/timetables/en/schedules/schedules_window.aspx?tableid=12&dir=E&date=2016-05-21&parentid=1

GO Transit fare costs are dependent on distance travelled and mode choice. Children and senior fares are half of the regular fare. Reduced fares are also available for groups or PRESTO card users.

2.1.1.4 VIA Rail

VIA Rail and Amtrak currently operate a joint train service in Niagara Region called the Maple Leaf, which runs from Toronto to Niagara Falls and into the United States. This service has stops in Toronto, Oakville, Aldershot (Burlington), Grimsby, St. Catharines, and Niagara Falls, before continuing on to New York City via Niagara Falls, NY and Buffalo.

2.1.1.5 Intercity Bus Providers

There are two Intercity Bus providers that operate in Niagara Region.

Greyhound provides service along the QEW corridor between Fort Erie and Hamilton. Hours of operation vary by station and day of week, but generally start between 6:00am and 10:00am and end between 5:00pm and 10:00pm.

Coach Canada (Megabus) also stops along the QEW corridor, but also provides service to Welland and Port Colborne. **Table 5** below illustrates the stops provided by each service provider.

Table 5: Intercity Bus Stops within Niagara Region

Stops	Greyhound	Coach Canada (Megabus)
Fort Erie (21 Princess Street)	✓	✓
Port Colborne – King Street and Clarence Street		✓
Welland – 160 East Main Street		✓
Niagara Falls Terminal (4555 Erie Avenue)	✓	✓
St. Catharines Terminal (70 Carlisle Street)	✓	✓
St. Catharines (Brock University)		✓
Grimsby (Main Street)	✓	✓

2.1.1.6 Brock University Services

Brock University Student Union (BUSU) contracts out a number of services for its students, funding them through the U-Pass agreement. This includes the following services:

1. Welland Transit operates a Brock Link service between Brock University and Niagara College (Welland Campus). The link service is only offered in the fall and winter school terms and the cost is shared with Niagara College.
2. St. Catharines Transit operates local services between St. Catharines and Brock University. Routes 4, 16, 116, 21, and 122 connect to Brock University and operate year round. Routes 23, 28, 124, 29, 30, 31, 128, and the Brock Bullet are only offered in the fall and winter school terms and primarily operate Monday to Friday.

2.1.1.7 Niagara College Services

The Niagara College U-Pass agreement allows Niagara College students to use Niagara Region Transit, Welland Transit, Niagara Falls Transit, the St. Catharines Transit Commission, Port Colborne Transit, Fort Erie Transit, Pelham Transit, Niagara-on-the-Lake Transit, and the Niagara Falls Campus Shuttle. Specific inter-municipal services include:

- Welland Transit provides a service called the Brock Link, which runs between Brock University and Niagara College Welland campus. The cost is shared with Brock University (see above).
- Welland Transit provides regular service between the Niagara College Welland Campus and the NOTL campus (NOTL Link).
- The St. Catharines Transit Commission offers five inter-municipal connections for Niagara College students:
    - Route 26 operates between the St. Catharines downtown terminal and Niagara-on-the-Lake Glendale Campus.
    - Route 27 operates between the downtown terminal and Niagara College Welland Campus.
- Niagara Falls Transit operates an inter-municipal service for Niagara College students between the Morrison/Dorchester Hub and the Welland campus, which operates Monday to Friday during the school year.

2.1.2 Local Transit Services

Local transit services in the Niagara Region include:

1. St. Catharines Transit Commission (also servicing Thorold)
2. Niagara Falls Transit
3. Welland Transit
4. Fort Erie Transit
5. Niagara-on-the-Lake Transit
6. Port Colborne Transit
7. Pelham Transit (new pilot project through Ontario Community Transportation Fund)

2.1.2.1 St. Catharines Transit

Service Design

St. Catharines Transit Commission (SCTC) operates two route structures depending on the time of day or day of week. The weekday daytime route structure utilizes 29 routes/shuttles (see **Figure 2**). The evening-weekend-holiday provides a reduced service coverage with 16 routes (see **Figure 3**). The majority of these routes radiate from the downtown terminal. Some exceptions to this are Route 14, Route 114, Thorold based routes (i.e. Routes 20, 21, 22, 120), and some of the Brock University routes/shuttles. Both route structures utilize a modified-grid structure pattern in the northwest corner of the city, with a stronger emphasis on direct, two-way service.

SCTC also has operates routes from the Downtown Terminal to Niagara College NOTL Glendale Campus (Route 26) and Niagara College Welland Campus (Route 27). These routes only operate on weekdays and their schedule changes during the summer. Route 26 runs every 15 minutes during the afternoon peak, every 60 minutes during the evening, and every 30 minutes during the rest of the day. Route 27

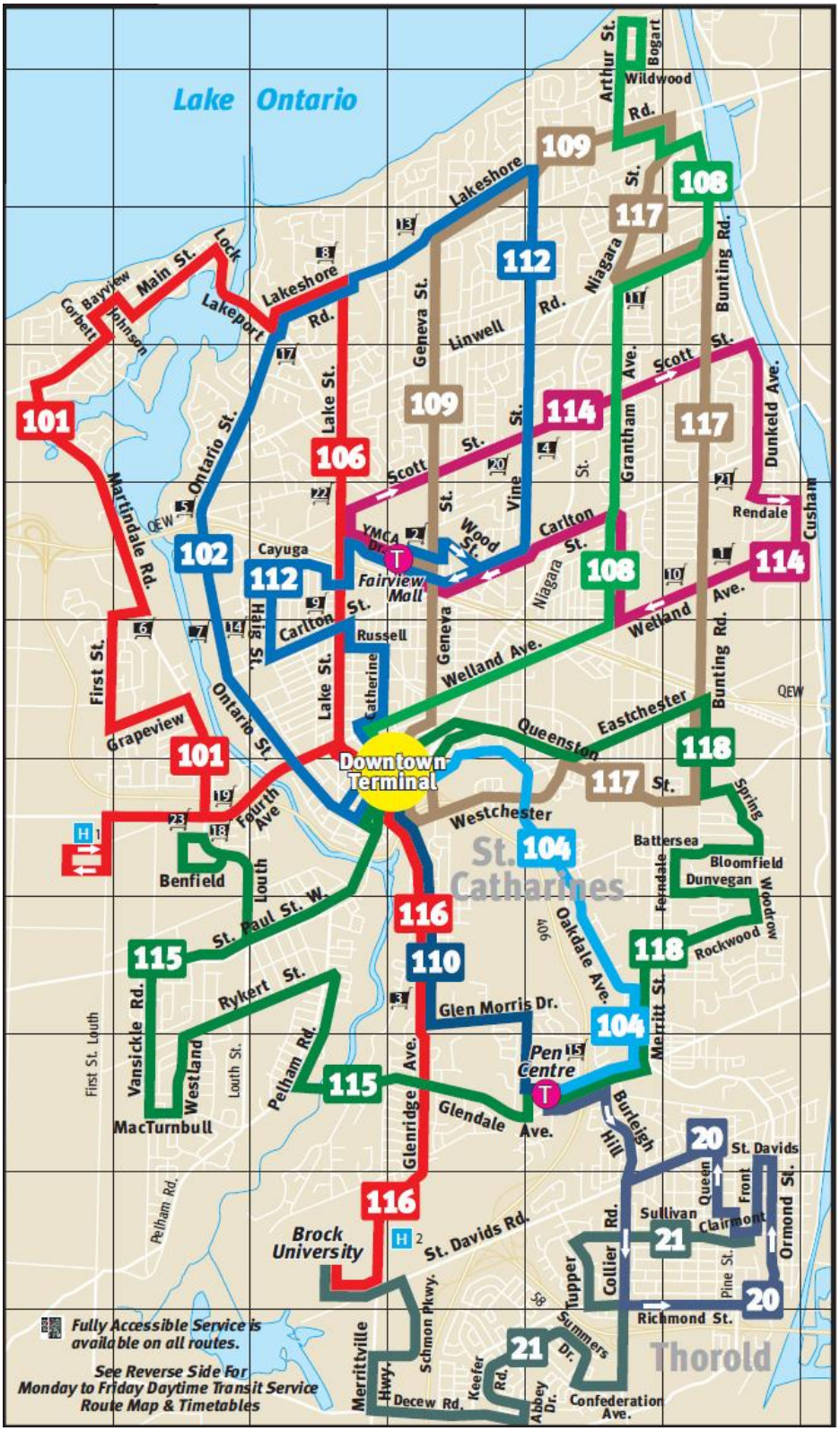
has two morning runs and two afternoon runs. In addition to conventional routes, SCTC also operates a Transcab service to Port Weller East. Headways for each of the routes by time of day are illustrated in **Table 6**.

Table 6: St. Catharines Transit Headways by Route

Weekday Daytime and Brock University Shuttles	Headway (minutes)	Evening-Weekend-Holiday	Headway (minutes)
Route 1: Hospital – Port Dalhousie	30	Route 101: Hospital – Port Dalhousie	30 - 60
Route 2: Ontario Lakeshore	30	Route 102: Ontario Street	30 - 60
Route 3: Pelham Road	30	Route 104: Oakdale – Pen Centre	30 - 60
Route 4: Oakdale-Pen-Brock	30	Route 106: Lake Street	30 - 60
Route 5: Haig – Linwell	30	Route 108: Grantham – Port Weller	30 - 60
Route 6: Lake Street	30	Route 109: Geneva Street	30 - 60
Route 7: Niagara Street	30	Route 110: Glenridge – Pen Centre	30 - 60
Route 8: Grantham – Lakeshore	30	Route 112: Vine Street	30 - 60
Route 9: Geneva Street	30	Route 114: Scott Street	30 - 45
Route 10: Glenridge – Pen Centre	30	Route 115: West St. Catharines	30 - 60
Route 11: Hartzel Road	30	Route 116: Brock – Glenridge	30
Route 12: Vine Street	30	Route 117: Bunting – Lakeshore	30 - 60
Route 14: Scott Street	30-45	Route 118: Secord Woods	30 - 60
Route 15: West St. Catharines	30	Route 120: Eve – Thorold – Pen Centre	30 - 60
Route 16: Brock – Glenridge	15	Route 122: Brock – Pen Centre – Shuttle	30
Route 17: Bunting – Linwell	30	Route 21: Eve – Confederation – Brock	60
Route 18: Secord Woods	30		
Route 20: Thorold – Pen Centre	30		
Route 21: Confederation – Brock	60		
Route 22: Thorold South	60		
Route 23: West – Brock – Commuter	30		
Route 25: Brock Bullet	15-30		
Route 28: Brock – Towpath – Shuttle	30		
Route 29: Brock – Keefer – Shuttle	30		
Route 30: Brock – Sullivan – Shuttle	30		
Route 31: Brock – Winterberry – Shuttle	30		
Route 35: Brock – Pen Centre – Shuttle	30		
Route 36: Glendale – Brock – Shuttle	30		
Route 128: Brock – Towpath – Rockwood – Shuttle	60		
Route 216 Glenridge – Walker Campus			

Figure 2: Existing St. Catharines Weekday Daytime Route Structure (2016)

Figure 3: Existing St. Catharines Evening-Weekend-Holiday Route Structure (2016)



Governance Structure and Operating Model

St. Catharines Transit is a commission structure which reports to the City of St. Catharines. Vehicles are owned, operated and maintained by the Commission.

Operating Statistics and Performance Measures

Table 7 includes a summary of annual ridership, expenses and revenues, and performance indicators.

Table 7: St. Catharines Transit Performance Indicators (2015)

	Summary*
Revenue and Expenses	
Revenue Vehicle Hours	168,704
Annual Ridership	5,489,764
Revenue	$11,046,660
Total Direct Operating Expenses	$19,045,820
Performance Indicators	
Service Utilization (Pass./Capita)	36.76
Service Utilization (Pass/Rev. Veh. Hr.)	32.54
Service Hours per Capita	1.13
R/C Ratio	53%
Cost Effectiveness (Dir. Oper. Exp./Reg. Serv. Pass)	$3.47
Cost Efficiency (Oper. Exp./Tot. Veh. Hr.)	$108.35
Municipal Investment per Capita	$59.14

***Note: At the time of writing this report, 2016 annualized data was not available**

Of the total revenue, $3,675,000 is provided by Brock University and $775,000 is provided by Niagara College through their respective U-Pass agreements. Of the amount provided by Niagara College, $515,000 is for providing service to the Glendale Campus (Route 26), $115,000 is for providing service to the Welland Campus (Route 27), and $110,000 is to allow U-Pass privileges on other SCTC routes.

2.1.2.2 Niagara Falls Transit and WEGO

Service Design

Niagara Falls Transit has two primary local route structures depending on the day and time: (1) Monday to Saturday daytime service; and (2) Monday to Saturday evenings, and all-day Sunday/Holiday service. All routes connect to at least one of Niagara Falls Transit's four terminals:

- Niagara Square (Niagara Square Shopping mall near Pin Oak Drive);
- Out-of-Town Bus Terminal (near Bridge Street and Erie Avenue);
- Morrison/Dorchester Hub (near Morrison Street and Dorchester Road);
- Main & Ferry (near Main Street and Ferry Street).

Monday to Saturday daytime service utilizes 14 local routes, ten of which operate on 60 minute headways (i.e. Routes 101, 102, 103, 106, 107, 108, 109, 112, 113, and 114) and four of which operate on 30 minute headways (i.e. Routes 104, 105, 110 and 111). These routes are shown in **Figure 4**. Depending on the route, daytime service begins between 5:45am and 7:15am and ends between 5:15pm and 7:15pm.

Monday to Saturday evening and all-day Sunday/Holiday services utilize eight local routes, as shown in **Figure 5**. Four of these routes operate on 60 minute headways (i.e. Routes 205, 209, 213, and 214) and four routes operate on 30 minute headways (i.e. Routes 203, 204, 206, and 210). Niagara Falls Transit is currently phasing in additional service to move to a 30 minute headway on all routes. This will involve the introduction of 7,272 additional hours of service in 2017, an additional 7,272 hours in 2018, and an additional 3,636 additional hours in 2019 to achieve improved peak period frequencies.

Depending on the route, evening service begins at 6:15pm to 7:00pm and ends at 10:28pm to 11:44pm. Similarly, Sunday and holiday service begins between 7:00am and 8:00am and ends between 6:44pm and 7:28pm (depending on the route). Evening service is not provided on Sundays and holidays.

Niagara Falls Transit also offers connections to TransCab, WEGO, and Niagara Region Transit.

TransCab is a supplementary service offered by Niagara Falls Transit by contracting out to a local taxi company to provide transit service to areas of the city not served by regular transit routes. Customers in a TransCab area or at a TransCab transfer point that require service must call Central Taxi prior to their trip and request a pick up. There are four TransCab service areas and five TransCab transfer points in the Niagara Falls Transit service area.

WEGO is a visitor transportation system that has been servicing the tourism core since 2012. It is owned by the City of Niagara Falls and is operated by the City (Red and Blue Lines) with an operating agreement with the Niagara Parks Commission (Green and Orange Line). It is not to be considered part of the service delivery governance review and will remain under the control of the City of Niagara Falls. However, to avoid duplication, integration with local transit (as it exists today) needs to be explored further. “

Figure 6 shows the current WEGO route structure, which is comprised of four routes. The routes primarily operate within Niagara Falls; however, the Orange line runs between Niagara Falls and Niagara-on-the-Lake. Buses operate on 12, 15, 20, 30, 40, or 60 minute headways depending on the route, time of day and time of year. Start and end times vary by route, day, and season. Increased service is provided during peak tourism times, such as in the summer months.

There may be the possibility of continuing integration of routes as utilized through Niagara Falls Transit and WEGO Red Line with usage financing as it exists today.

WEGO fare passes are accepted by Niagara Falls Transit; however, not all Niagara Falls Transit transfers are accepted by WEGO. Niagara Falls Transit 30-day passes can be used to board the WEGO Red and Blue lines. Cash fares and 10-ride Niagara Falls Transit passes are only transferable to the WEGO Red and Blue line.

Governance Structure and Operating Model

Niagara Falls Transit is a municipal department of the City of Niagara Falls. Bus services are owned, operated and maintained by the City, with the exception of TransCab services which are contracted out the a private taxi provider.

Figure 4: Existing Niagara Falls Transit Daytime Route Structure (2016)

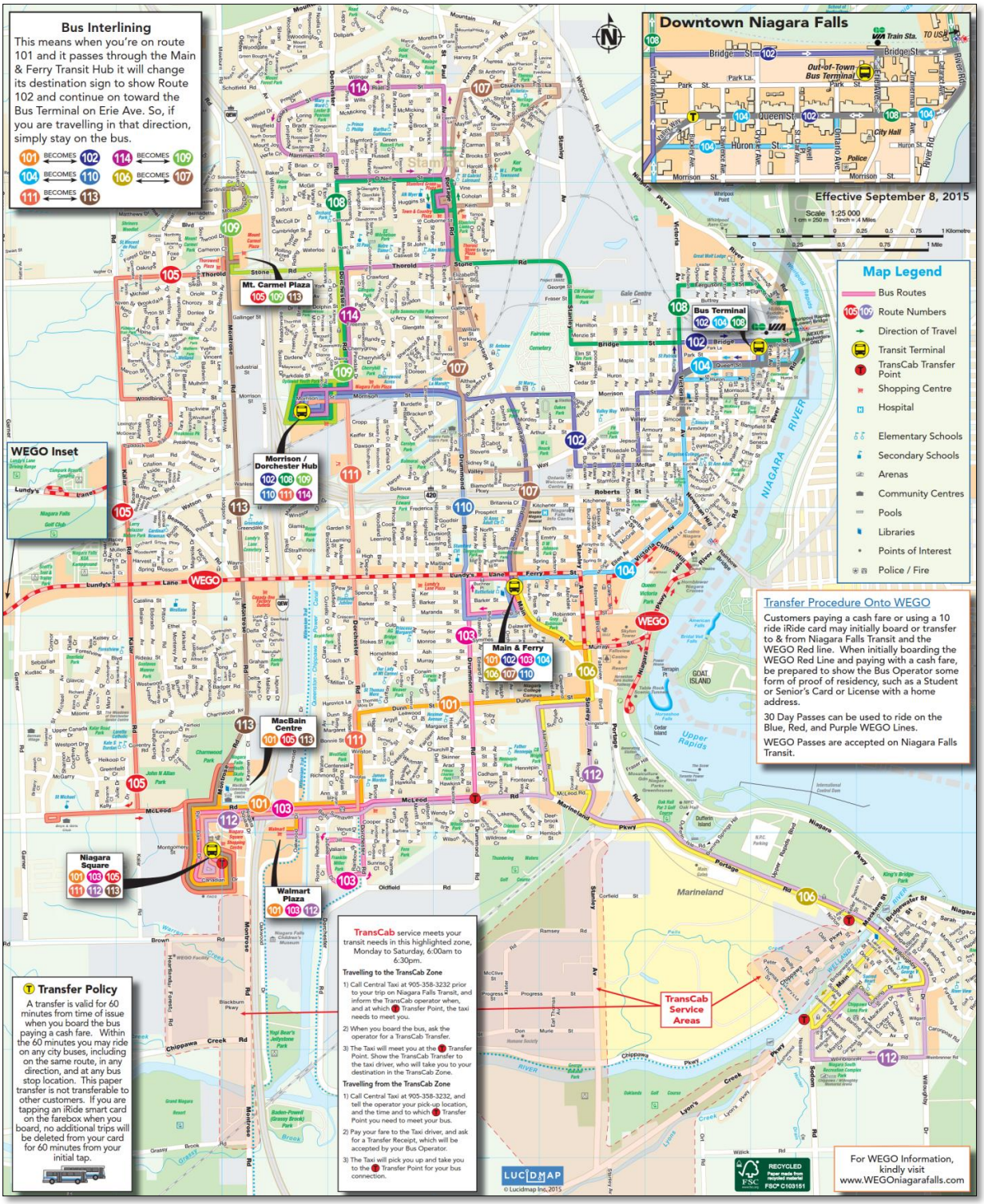


Figure 5: Existing Niagara Falls Transit Evening Route Structure (2016)

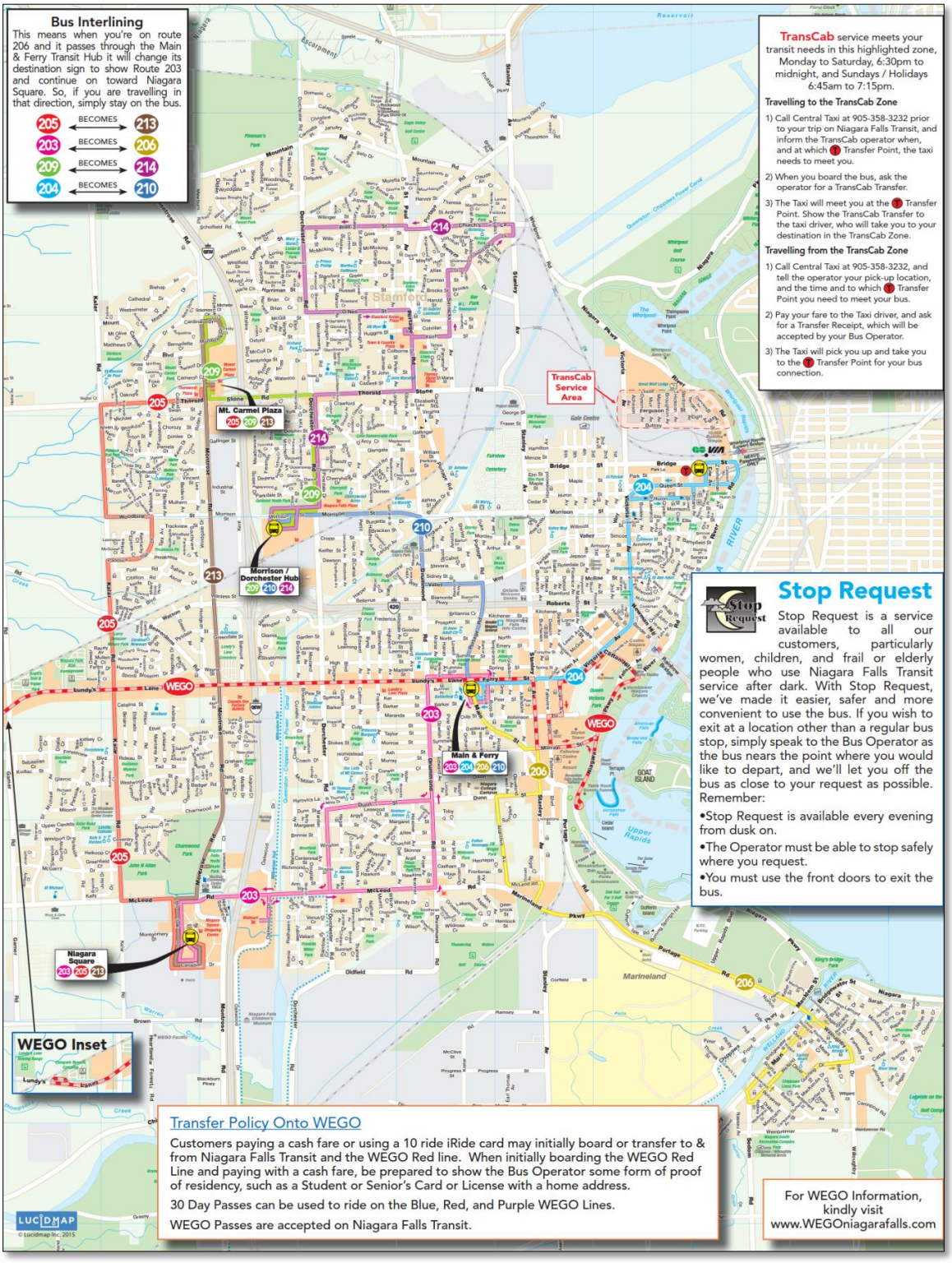


Figure 6: Existing WEGO Route Structure (2016)

Operating Statistics and Performance Measures

Table 8 includes a summary of annual ridership, expenses and revenues, and performance indicators.

Table 8: Niagara Falls Transit Performance Indicators (2015)

	Summary*
Revenue and Expenses	
Revenue Vehicle Hours	79,949
Annual Ridership	2,258,555
Revenue	$5,456,051
Total Direct Operating Expenses	$8,488,355
Performance Indicators	
Service Utilization (Pass./Capita)	28.23
Service Utilization (Pass/Rev. Veh. Hr.)	28.25
Service Hours per Capita	1.00
R/C Ratio	48%
Cost Effectiveness (Dir. Oper. Exp./Reg. Serv. Pass)	$3.76
Cost Efficiency (Oper. Exp./Tot. Veh. Hr.)	$113.88
Municipal Investment per Capita	$73.63

***Note: At the time of writing this report, 2016 annualized data was not available**

2.1.2.3 Welland Transit

Service Design

Welland Transit operates a radial system with eight base routes, all terminating at the downtown terminal every 30 minutes on weekdays and every 30-60 minutes on Saturdays. Sunday service is currently not provided, however, was recently approved by Council for service in 2017. Base routes generally operate from 7:15am until 6:45pm, Monday to Saturday. Evening service is provided by two community bus routes which run from 6:45pm to after 11:00pm every 30 minutes. The existing fixed route service is illustrated in **Figure 7.** The community bus routes are shown in **Figure 8.**

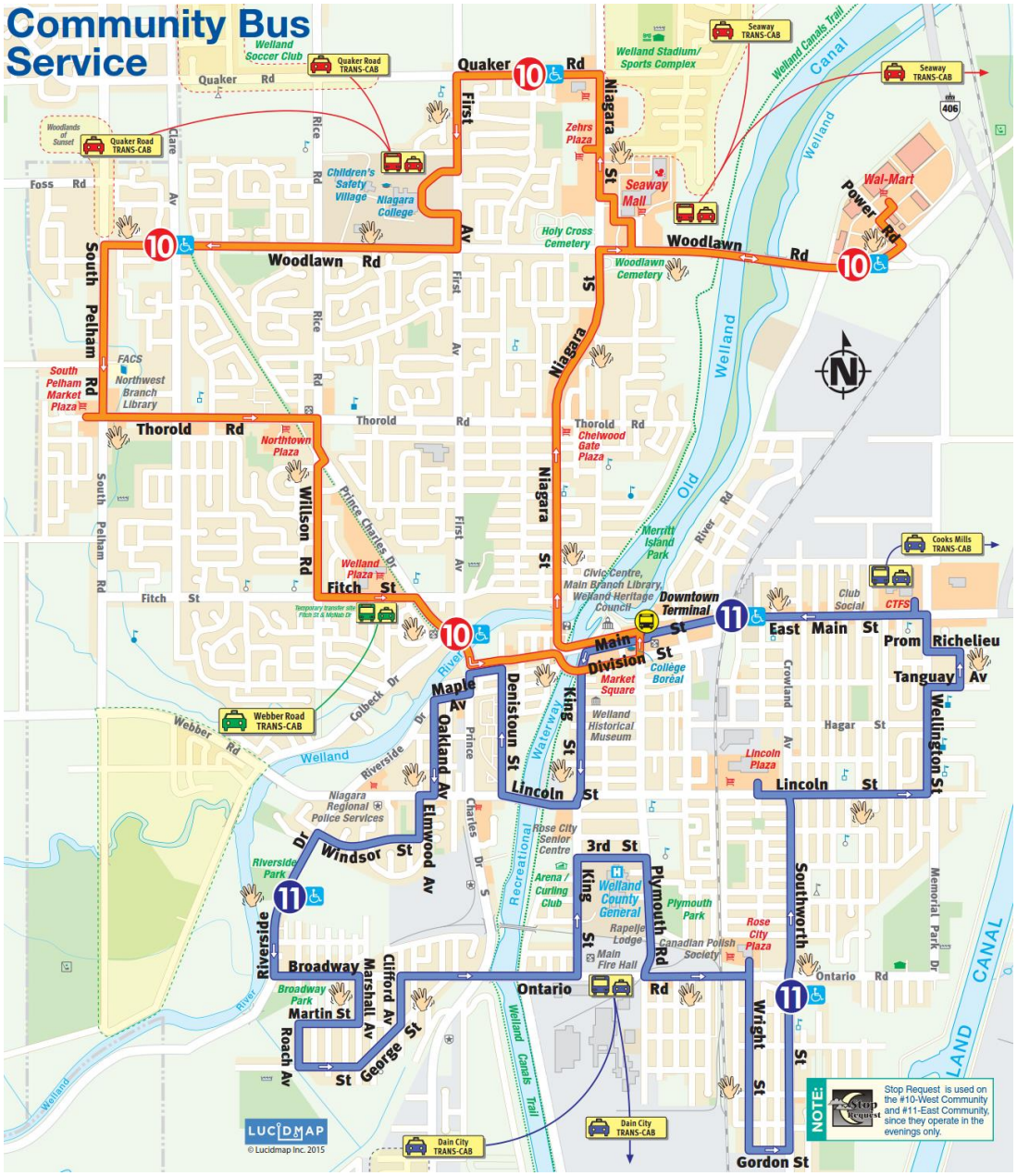
TransCab is a supplementary service offered by Welland Transit by contracting out to a local taxi company to provide transit service to areas of the city not served by regular transit routes. Customers in a TransCab area that require service must call 4500 Taxi at least one hour before their requested trip time. The passenger pays the transit fare (plus a premium $1.25 fare for door-side pick-up) to the taxi operator and is given a transfer when dropped off at a designated transfer point to board a fixed route bus. On the return trip, the passenger will inform the bus operator that they require a Trans-Cab service to complete their trip. TransCab is operated in five areas of the city: Webber Road, Quaker Road, Dain City, Cook Mills and Seaway.

Governance Structure and Operating Model

Welland Transit is a municipal department of the City of Welland. Bus services are owned, operated and maintained by the City, with the exception of TransCab services which are contracted out to a private taxi provider.

Figure 7: Existing Welland Base Route Structure (2016)

Figure 8: Existing Welland Community Bus Route Structure (2016)



Operating Statistics and Performance Measures

Table 9 includes a summary of annual ridership, expenses and revenues, and performance indicators.

Table 9: Welland Transit Performance Indicators (2015)

	Summary*
Revenue and Expenses	
Revenue Vehicle Hours	34,851
Annual Ridership	850,173
Revenue	$2,552,184
Total Direct Operating Expenses	$4,363,478
Performance Indicators	
Service Utilization (Pass./Capita)	17.71
Service Utilization (Pass/Rev. Veh. Hr.)	24.39
Service Hours per Capita	0.73
R/C Ratio	31%
Cost Effectiveness (Dir. Oper. Exp./Reg. Serv. Pass)	$5.13
Cost Efficiency (Oper. Exp./Tot. Veh. Hr.)	$87.34
Municipal Investment per Capita	$40.85

***Note: At the time of writing this report, 2016 annualized data was not available**

Of the total revenue, $660,000 is provided through U-Pass arrangements with Brock University and Niagara College.

2.1.2.4 Fort Erie Transit

Service Design

Fort Erie Transit operates one Local Route within the urban area of the municipality between Fort Erie North and Crystal Beach. Local transit service is available Monday through Saturday, between 6:30am and 7:30pm. The existing fixed route service is illustrated in **Figure 9**.

The route is designed to provide two-way service throughout the majority of the service area, with connections to a Niagara Region Transit service between Walmart (Stop 11) in Fort Erie and Target Plaza in Niagara Falls.

The route operates on 60 minute headway using two buses, except on selected portions of the route during the morning peak period (approximately 7:00am – 8:15am). During this time, one bus operates the regular route while a second bus operates a condensed version of the route between the Municipal Centre/YMCA (Stop 17) and Crystal Beach. This provides a 25 minute headway along the condensed route during the morning peak.

Governance Structure and Operating Model

Fort Erie Transit services are contracted to a private transit operator.

Figure 9: Existing Fort Erie Transit Route Structure (2016)

Operating Statistics and Performance Measures

Table 10 includes a summary of annual ridership, expenses and revenues, and performance indicators.

Table 10: Fort Erie Performance Indicators (2015)

	Summary*
Revenue and Expenses	
Revenue Vehicle Hours	8,749
Annual Ridership	47,558
Revenue	$38,557**
Total Direct Operating Expenses	$654,930
Performance Indicators	
Service Utilization (Pass./Capita)	2.24
Service Utilization (Pass/Rev. Veh. Hr.)	5.44
Service Hours per Capita	0.41
R/C Ratio	5%*
Cost Effectiveness (Dir. Oper. Exp./Reg. Serv. Pass)	$10.82
Cost Efficiency (Oper. Exp./Tot. Veh. Hr.)	$74.86
Municipal Investment per Capita	$23.67

***Note: At the time of writing this report, 2016 annualized data was not available**

****As reported in the CUTA 2015 Conventional Transit Fact Book. Revenue from inter-municipal fares, Niagara College Student Administrative Council and Brock University Student Union. The private contractor retains all fares on local Fort Erie Service.**

2.1.2.5 Niagara-on-the-Lake Transit

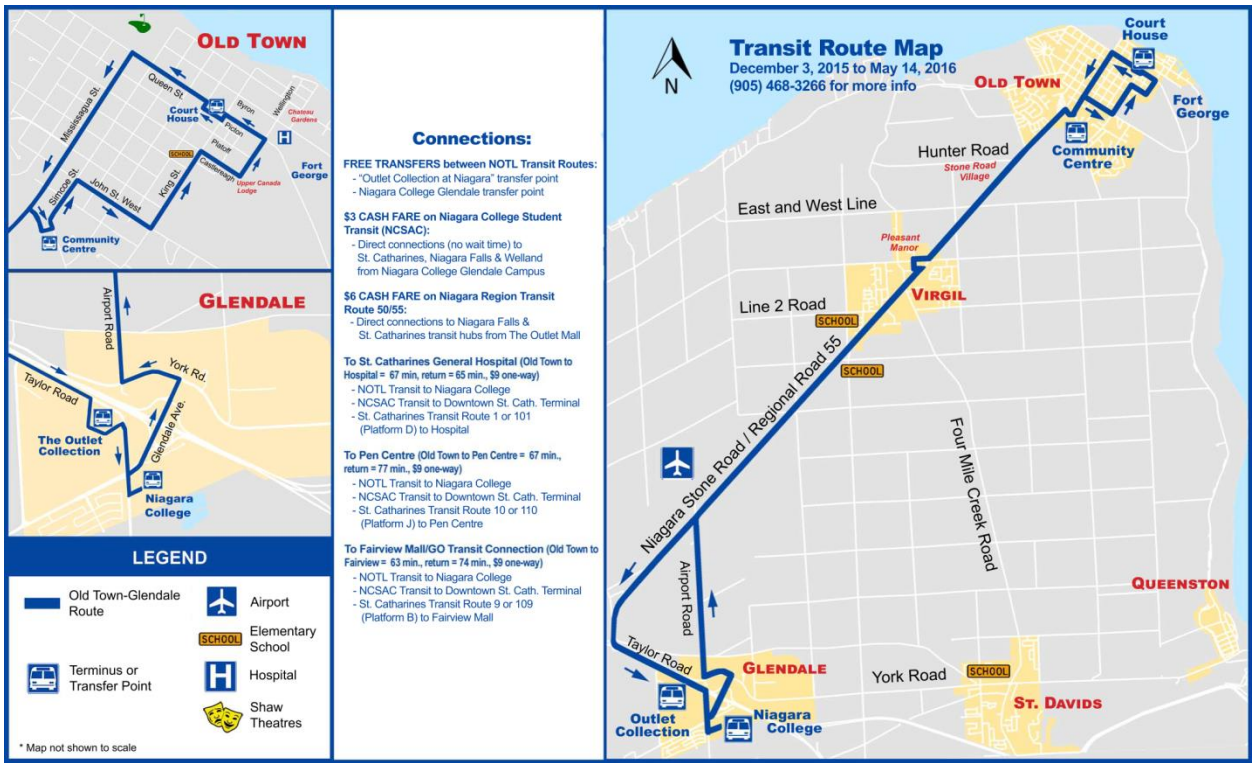
Service Design

Niagara-on-the-Lake (NOTL) Transit operates one route that runs from the court house and community centre in Old Town to the Outlet Collection Mall and Niagara College in Glendale (**Figure 10**). The first run starts at approximately 7:45am from the community centre in Old Town and the last run ends at approximately 6:45am at the court house in Old Town. Buses run every 60 minutes between those times from Monday to Saturday (except holidays).[6]

Governance Structure and Operating Model

NOTL Transit services are contracted to a private transit operator.

Figure 10: Existing Niagara-on-the-Lake Transit Route Structure (2016)



Operating Statistics and Performance Measures

Table 11 includes a summary of annual ridership, expenses and revenues, and performance indicators.

[6] Note: NOTL Transit has indicated that service changes will occur to this structure in early 2017. At the time of writing this report, these modifications were not known.

Table 11: Niagara-on-the-Lake Transit Performance Indicators (2015)

	Summary*
Revenue and Expenses	
Revenue Vehicle Hours	6,161
Annual Ridership	16,457
Revenue	$ 41,209**
Total Revenue (including passenger revenue)	$380,122***
Total Direct Operating Expenses	$557,344
Performance Indicators	
Service Utilization (Pass./Capita)	1.34
Service Utilization (Pass/Rev. Veh. Hr.)	2.67
Service Hours per Capita	0.50
R/C Ratio	68%
Cost Effectiveness (Dir. Oper. Exp./Reg. Serv. Pass)	$33.87
Cost Efficiency (Oper. Exp./Tot. Veh. Hr.)	$61.57
Municipal Investment per Capita	$3.65

***Note: At the time of writing this report, 2016 annualized data was not available**
****Includes a payment of $24,177 from Niagara College for U-Pass privileges**
*****Revenue from other sources includes $115,744 from tour bus fees and $112,200 from the municipal parking program (as reported in the 2015 CUTA Conventional Transit Fact Book).**

2.1.2.6 Port Colborne

Service Design

Port Colborne provides two types of services to its residents: Community Bus and Link service.

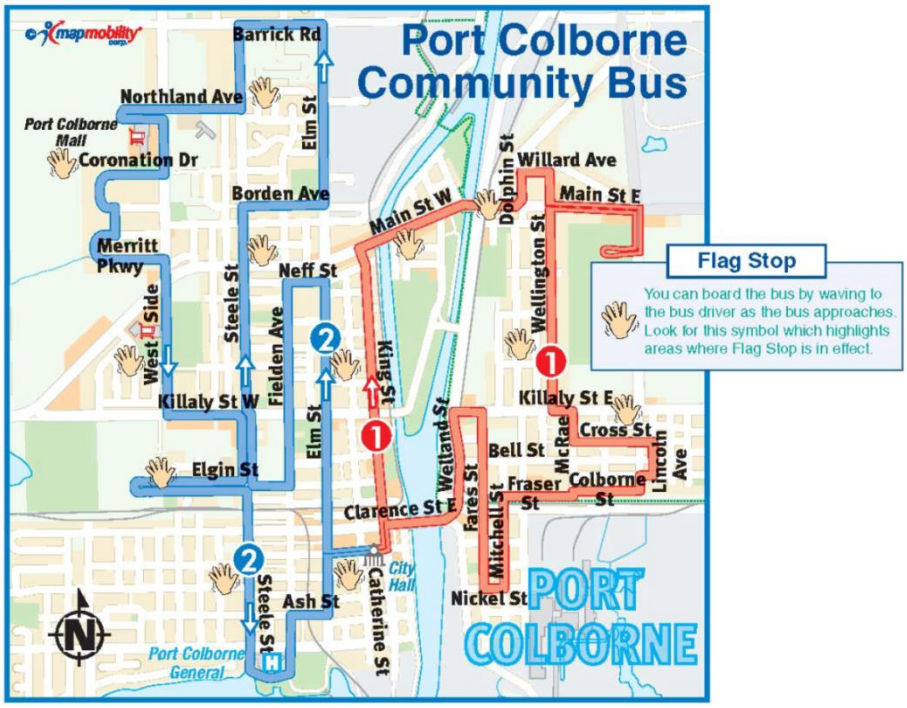
Two community bus routes (east and west) provide local service within Port Colborne. These are flag stop routes that operate Monday to Friday from 7:00am to 6:00pm. These routes are funded by the Town of Port Colborne under contract to Welland Transit (operate and maintain vehicles). The route structure is illustrated in **Figure 11**.

The Port Colborne Link service connects Port Colborne and Welland (operated by Welland Transit). It operates from Monday to Saturday and provides two runs during the AM, Midday and PM peak hour respectively.

Governance Structure and Operating Model

Port Colborne Transit services are contracted to Welland Transit. The cost of the Port Colborne Link service is paid for by the Town of Port Colborne (for three runs) and Niagara Region (for the additional three runs) and Saturday service.

Figure 11: Existing Port Colborne Community Bus Route Structure (2016)



Operating Statistics and Performance Measures

Table 12 includes a summary of annual ridership, expenses and revenues, and performance indicators.

Table 12: Port Colborne Performance Indicators (2015)

	Summary*
Revenue and Expenses	
Revenue Vehicle Hours	2,520
Annual Ridership	26,417
Revenue	$57,705
Total Direct Operating Expenses	$296,517
Performance Indicators	
Service Utilization (Pass./Capita)	1.42
Service Utilization (Pass/Rev. Veh. Hr.)	10.48
Service Hours per Capita	0.14
R/C Ratio	19%
Cost Effectiveness (Dir. Oper. Exp./Reg. Serv. Pass)	$11.22
Cost Efficiency (Oper. Exp./Tot. Veh. Hr.)	$78.51
Municipal Investment per Capita	$8.14

***Note: At the time of writing this report, 2016 annualized data was not available**

2.1.2.7 Pelham Bus Pilot

Service Design

In 2015, the Town of Pelham started a pilot transit service that connects the communities of Fenwick Ridgeville, and Fonthill with Welland Transit and Niagara Region Transit. **Figure 12** illustrates the existing route structure. The pilot service has four runs in each direction per day, Monday to Saturday:

- **AM Run:** Starts at Centennial Park in Fenwick at 7:43am and follows the morning/evening route.
- **Midday Run 1:** Starts at Metler Road and Balfour Street at 11:00am and follows the full route.
- **Midday Run 2:** Starts at Balfour Street and Canboro Road at 12:56pm and follows the full route.
- **PM Run:** Starts at Centennial Park in Fenwick at 5:24pm and follows the morning/evening route.

Pelham Transit also operates a specialized transit service as a part of this pilot. Services are not integrated with Welland Transit or Niagara Region Transit and passengers are required to pay an extra fare when they transfer between service providers.

Figure 12: Existing Pelham Bus Pilot Route Structure (2016)

2.2 Existing Transit Assets and Human Resources

The following section provides a summary of existing transit assets and human resources from each of the municipally funded transit services that operate within Niagara Region. These include transit

vehicles, bus storage and maintenance facilities, transit terminals/transfer points and human resources. It is important to understand the extent of assets utilized by each transit service provider as well as the human resource requirements to assess the potential for service integration and the ability to meeting future demand projections.

2.2.1 Transit Vehicles

There are currently a total of 123 transit vehicles used to provide transit services within and between the three urban municipalities of Niagara Region (St. Catharines, Niagara Falls and Welland). **Table 13** provides a breakdown of the type of vehicles used by each property, including the overall spare ratio.

Based on discussions with each transit operator, there are limited opportunities to increase the peak period service levels without the purchase of additional vehicles.

Niagara Region Transit services require eight peak period vehicles to operate as well as three spare vehicles (eleven in total). Currently, the Region only owns eight vehicles and is leasing one vehicle from Niagara Falls Transit and one vehicle from the St. Catharines Transit Commission to operate the new Route 40/45 service. Of the eight (8) vehicles owned by the Region, St. Catharines and Niagara Falls Transit are each provided two vehicles and one spare vehicle to operate the service. Welland Transit is only provided two vehicles to operate the service (no spares). In the event that one of the Welland operated Niagara Region Transit vehicles are out of service, Welland will use one of its own vehicles or request the use of the spare from St. Catharines Transit or Niagara Falls Transit. This is not an ideal situation. Discussions have been had about the purchase of a third spare vehicle for Welland Transit along with two additional vehicles for Route 40/45.

Fort Erie contracts out its service to Niagara Falls Transit, who owns and operates the vehicles. The local transit service is contracted out to a private operator, who owns the vehicles.

Port Colborne's transit service is operated by Welland Transit. One bus provides the inter-municipal service and one bus provides the local community bus service. This is included in the bus count below.

Niagara-on-the-Lake Transit is operated by a private contractor. Vehicles are owned by the private contractor.

Table 13: Existing Transit Vehicles in Niagara Region

	Niagara Region Transit	St. Catharines Transit	Niagara Falls Transit	Welland Transit
Total Vehicles	**8**	**70**	**27**	**18**
- 60ft Articulated Transit Bus	-	*6*		
- 40ft Transit Bus	*8*	*64*	*27*	*10*
- 28-35ft Transit Bus	-	-		*8*
Peak Vehicle Requirements	**8**	**55**	**18**	**15**
Spare Vehicles	**0**	**15**	**9**	**3**
Spare Ratio	**0%**	**21%**	**33%**	**17%**

Note: Two vehicles for Route 40/45 are being provided by St. Catharines Transit and Niagara Falls Transit. One spare vehicle for Route 70/75 is being provided by Welland Transit.

2.2.2 Transit Terminals

The existing terminals that utilize inter-municipal services are identified in **Table 14** below.

Table 14: Transit Terminals Capacity and Utilization

Terminal	Bus Bays	Peak Bus Requirements	Inter-municipal Bus Services	Potential for Expansion
St. Catharines / Thorold				
Fairview Mall	4	5	Route 40/45 1 (GO Bus)	At Capacity. Would need encroachment on Fairview Mall
St. Catharines Terminal	12	12	Route 40/45 Route 50/55 Route 70/75 SCTC Route 27 (NC Welland) SCTC Route 26 (NC NOTL) 3 Coaches (separate platforms)	At Capacity
Pen Centre	4	4	Route 50/55 Route 70/75	At Capacity
Brock University	8	7	Brock Link (Welland) Route 50/55 Coach Canada	2 more spots planned 2017
Thorold Towpath	2	3	Route 50/55	
Niagara Falls				
Morrison/ Dorchester Hub	6	6	Route 40/45 Route 40/45A Route 50/55 Route 60/65 Fort Erie Link NC Welland Shuttle	At Capacity
Niagara Square	4	3	Route 60/65	1 spare bay
Bridge Street Transit Terminal	5	3-4	VIA Rail GO Bus 3 Coaches (separate platforms)	Potential for additional buses
Main and Ferry	curb	n/a	none	
Welland				
Downtown Welland	12	11	Route 70/75 Route 60/65 Port Colborne Link	1 spare bay
Niagara College	4	3-4	Brock Link SCTC Route 27 (NC Welland) NC NOTL Link NC Welland Shuttle (from Niagara Falls) Port Colborne Link	Potential for additional buses
Seaway Mall	2	2	Route 70/75 Port Colborne Link	Buses are not timed to connect, so could accommodate additional vehicles.

There are four transit terminals located in St. Catharines that provide the opportunity to facilitate transfers between local transit services as well as inter-municipal transit services. Downtown St. Catharines is the major terminal and provides connections to all but two local St. Catharines Transit services as well as a number of inter-municipal services. Currently, there is no room to accommodate an expansion in the number of bus bays with an increase in service levels.

The Fairview Mall terminal is located off the QEW and provides access to a GO Bus stop. With the future expansion of GO Train service, it is likely that many buses would move to the new GO Train station.

Brock University is the other major terminal. The terminal has six bus bays and is at peak capacity, however, two additional bus bays are planned for 2017. It should be noted that this terminal is very congested as it also permits delivery vehicles and passenger drop-off/pick-up. As a result, buses stop at the terminal are typically held up for a longer period of time.

Niagara Falls has four terminals, with the main terminal for inter-municipal connections at the Morrison/Dorchester Hub. The terminal is at capacity with limited ability for expansion (unless the terminal was moved to a different location on the Mall property).

Welland has three terminals. The Downtown has the primary access to local transit services and includes connections to inter-municipal services. The terminal has the capacity to accommodate one additional peak period bus. Niagara College has four bus bays and accommodates four inter-municipal routes and two local routes. There is potential room for additional buses as not all buses are timed to meet at the terminal at the same time. The Seaway Mall has two bus bays to accommodate transferring passengers.

2.2.3 Transit Maintenance and Storage Facilities

Each of the three large local municipal transit providers (St. Catharines, Niagara Falls and Welland) has their own transit facility that is used for storage and maintenance of buses. **Table 15** below provides a summary of each facility, including the storage capacity and number of maintenance bays.

Niagara Region Transit does not own a maintenance facility. All eight vehicles are operated, maintained and stored by St. Catharines Transit (three vehicles), Welland Transit (two vehicles) and Niagara Falls Transit (three vehicles).

Welland Transit's existing transit facility is well over capacity. There is no room to accommodate all vehicles inside the facility, which results in several vehicles being stored outdoors. This occurs even with three buses that are stored in three maintenance bays and two in the wash rack. This is an issue, particularly during the winter and can lead to cold starts and extra time required to start operations.

The St. Catharines Transit facility is also operating at capacity. To fit all transit vehicles in the facility, vehicles are stored in the body shop and the maintenance bays, which create issues when doing bodywork. Funding has been identified within the capital budget to build a new body shop and paint booth. This will help resolve some current maintenance issues. There is no additional capacity to accommodate new peak period services. The property has the ability to accommodate a facility expansion of up to 12 vehicles and two additional hoists.

Niagara Falls has a new transit facility in place which can store 36 vehicles indoors and an additional 54 vehicles outdoors (each have electrical hookouts). The facility was built to be expandable if there was a need. The facility stores and maintains Niagara Falls Transit vehicles, WEGO vehicles Chair-A-Van specialized vehicles and GO Buses.

Fort Erie's Inter-municipal transit service requires two vehicles to operate. Niagara Falls stores and maintains the vehicles in its own transit maintenance facility. The local transit service is contracted out to a private operator. The two vehicles that are used to provide the local service are stored and maintained in a facility provided by the private contractor.

Port Colborne's transit service is operated by Welland Transit. One bus provides the inter-municipal service and one bus provides the local community bus service. Welland stores and maintains these vehicles in their transit maintenance facility.

Niagara-on-the-Lake Transit is operated by a private contractor. Vehicles are maintained in a facility provided by the private contractor.

Table 15: Existing Transit Maintenance Facilities in Niagara Region

	St. Catharines Transit	Niagara Falls Transit	Welland Transit
Indoor Vehicle Storage Capacity	66	36*	15
Total Storage Requirements	70**	42***	18****
Available Capacity / Shortfall	4	7	3
Number of Maintenance Bays	7	9	3
Maintenance Bay Requirements			3

***Note: 12 GO Bus, 16 WEGO, 8 NFT**
****Note: 6 vehicles are stored in hoists indoors**
*****Note: 17 Niagara Falls buses and 7 Chair-A-Van buses stored outside**
******Note: 5 vehicles stored in the maintenance bays and the wash rack**

Niagara Falls Transit's Phase-in Plan to have all routes to have 30 min peak hour service will require the following vehicle expansion

- 2017 – one new spare vehicle for Niagara Region Service and one new Bus totalling two new buses to be purchased
- 2018 – 5 New Buses to be purchased
- 2019 – 4 new buses to be purchased

Therefore, to complete this Phase-in Plan for Niagara Falls, a total of 11 new buses need to be purchased. This will limit the available capacity in the existing Niagara Falls maintenance facility. Expansion beyond 2019 has not yet been determined.

2.2.4 Human Resources

Table 16 provides a summary of staff at each of the three transit agencies within Niagara Region. Niagara Region Transit does not operate a service and therefore only has staffing to conduct long-range planning and administer the pilot programs with the local transit operators.

St. Catharines Transit has appropriate staffing levels to suit their current operations. The current staffing needs include an additional administration staff member to help conduct planning analysis, an additional maintenance worker and an inventory clerk. Niagara Falls Transit also has sufficient staffing levels of a system its size.

Welland Transit has limited staff and does not have the ability to undertake long-term planning. Welland recently hired a mechanic which brings its total to two. This is the minimum requirement for a fleet its size.

Table 16: Transit Staff – Niagara Transit Systems

Staffing	St. Catharines Transit	Niagara Falls Transit	Welland Transit
Transit Administration Staff			
- Management *(Director, Managers)*	5	3	1
- Administration *(book keeping, scheduler, general admin, customer service)*	5	5	2.5
- Supervisors *(on-road, maintenance)*	4	5	1
- Ticket/Pass sales	4		3
Bus Operators	115	85	35
Mechanics	12	9	2
Servicing / Cleaners	8	7	1
Body Shop	2		

2.3 Existing Fare Structure

Table 17 summarizes the fare structure of all local transit services providers in the Niagara Region. What is clear from the table below is the variability in fare types between each of the systems, including the policies around each fare.

Table 17: Niagara Region Local Transit Fare Structure Comparison

	Fort Erie Transit	Niagara Falls Transit	Niagara-on-the-Lake Transit	Pelham Transit	St. Catharines Transit	Welland Transit	Average
Cash Fare							
General (not specified)			$3.00	$3.00			$3.00
Adult	$2.50	$2.75			$3.00	$2.75	$2.75
Child (12 and under)*	$2.50	$1.50				$1.50	$1.83
Child (5 and under)**	$0.00	$0.00	$0.00		$0.00		$0.00
Student	$2.50	$2.50			$3.00	$2.75	$2.69
Student Age 6 to Grade 8					$2.50		$2.50
Senior (65+)	$2.50	$2.50			$3.00	$2.75	$2.69
Link Services Cash Fare							
Port Colborne						$3.50	$3.50
Brock University		$3.50				$3.50	$3.50
Niagara College - NOTL		$3.50			$6.00	$3.50	$4.33

	Fort Erie Transit	Niagara Falls Transit	Niagara-on-the-Lake Transit	Pelham Transit	St. Catharines Transit	Welland Transit	Average
Niagara College - Welland					$6.00		$6.00
Fort Erie		$3.50					$3.50
Niagara Falls	$3.50						$3.50
Niagara-on-the-Lake (13+)							$7.00
Niagara-on-the-Lake (12 and under)							$5.00
Transfer		$1.00				$1.00	$1.00
Econo Pass							
General (not specified) (11 rides)				$2.73			$2.73
Adult/Post-Secondary Student (10 rides)	$2.10	$2.50				$2.40	$2.33
Adult/Post-Secondary Student (5 rides)	$2.25						$2.25
Student (10 rides)	$2.10	$2.25				$2.10	$2.15
Student (5 rides)	$2.25						$2.25
Senior (10 rides)	$2.10	$2.25				$1.90	$2.08
Senior (5 rides)	$2.25						$2.25
Link Services (10 rides)						$3.20	$3.20
Trans-Cab (10 rides)						$1.25	$1.25
Monthly Pass (or 30 day pass)							
General (not specified)	$80.00						$80.00
Adult/Post-Secondary Student		$75.00			$92.00	$69.00	$78.67
Student		$58.00			$62.00	$59.00	$59.67
Senior		$58.00			$57.00	$52.00	$55.67
Semester Pass							
Post-Secondary (Summer)					$294		$294
High School		$216					$216
Day Pass							
Day Pass		$7.00					$7.00
Weekend One Day All Day Family Pass					$7.00		$7.00
24 Hour Pass (13+)							$7.50
24 Hour Pass (12 and under)							$4.50
48 Hour Pass (13+)							$12.00
48 Hour Pass (12 and under)							$8.00

***Note: Welland charges $1.50 cash fare for unaccompanied children 12 and under and free for accompanied children. There is no difference in the policy for the other systems.**

****Note: Fort Erie fare policy for children travelling free is 4 years and under (other systems are 5 and under).**

Table 18 illustrates the fare structure for Niagara Region Transit. Niagara Region Transit charges a flat fare for travel across the region. Concessions are provided for frequency of use and by age category.

Table 18: Niagara Region Transit (NRT) Fare Structure

Cash Fare	
Adult	$6.00
Child (5 and under)	Free
Student (Elementary/High school)	$5.00
Post-secondary Student (Brock & Niagara College) with U-Pass	Free
Senior (65+)	$5.00
Exceptions	
Niagara Falls/Fort Erie	$3.50
Port Colborne/Welland	$3.50
Econo Pass	
Adult (10 rides)	$4.50
Student (Elementary/High school) (10 rides)	$4.00
Senior (65+) (10 rides)	$4.00
Monthly Pass	
Adult	$160.00
Student (Elementary/High school)	$130.00
Senior (65+)	$130.00
Eligible Transfers	
Niagara Region Transit	Yes
Niagara Falls Transit	Yes
St. Catharines Transit	Yes
Welland Transit	Yes
Fort Erie Transit	No
Niagara-on-the-Lake Transit	No
TransCab	No
Student-chartered buses	No

2.3.1 Niagara Region Transit Fare Distribution

The 'Pay-As-You-Go' cash fare for the Niagara Regional service is $6.00 one-way. This allows riders to transfer to or from local services on both ends of the trip. The revenue is shared between the Region and the local municipalities in the following manner:

1. If there are no transfers to a local system, the Region keeps the entire fare.
2. If there is one transfer to a local transit system, the Region keeps a $4.00 fare and the local transit system that issued or accepted the transfer receives $2.00.

3. If there is a local transit transfer at both ends of the trip, the Region keeps $2.00 and each local transit system receiving or issuing a transfer receives $2.00. Due to limitations in tracking transfers, this is currently limited to one transfer of payment.

Niagara Region Passes that are accepted for unlimited travel on Niagara Region Transit, St. Catharines Transit, Welland Transit and Niagara Falls Transit are sold by the customer service offices of each transit service. The revenue received from the sale of these passes is allocated to the service providers according to the following formula, regardless how and where the passes are actually used:

- 2% commission paid to the selling service provider;
- 53% paid to Niagara Region Transit;
- 15% paid to St. Catharines Transit;
- 15% to Welland Transit; and
- 15% to Niagara Falls Transit.

Niagara Region is currently considering the implementation of an Affordable Transit Pass program, which would provide a lower cost monthly inter-municipal transit pass for assisted income or low income residents. This document has been deferred for further review and should form part of a more comprehensive detailed fare strategy.

2.3.2 U-Pass Agreements

U-Pass programs are in place for both Brock University and Niagara College.

Niagara College U-Passes are accepted by Welland Transit, Niagara Falls Transit, St. Catharines Transit, Niagara Region Transit, Port Colborne Transit, Fort Erie Transit, Niagara-on-the-Lake Transit, and the Niagara Falls Campus Shuttle. The cost of the U-Pass is included in the tuition for full-time students, but can be purchased by other students (e.g. part-time) for $189. The U-Pass is valid from September to April each year. Niagara College also has a summer U-Pass. It costs $84.50 and only applies to students enrolled full-time in summer courses and students completing summer co-op terms, apprenticeships, or internships. There are 10,000 students at Niagara College, of which 7,000 pick up the U-Pass.

The U-Pass agreement for Brock University is accepted on Niagara Region Transit (as of September 2016), and all local routes provided by St. Catharines Transit, Niagara Falls Transit and Welland Transit. The U-Pass in not accepted by the local transit system in NOTL, Pelham, Port Colborne and Fort Erie.

The cost of the U-Pass is $195 and is valid from September to April each year. The University does not offer U-passes to part-time students (less than 1.5 credits), exchange students or during the summer. Of the approximately 16,000 eligible Brock students, approximately 13,000 pick up the U-Pass.

U-Pass funding from both post-secondary institutions goes toward the purchase of targeted local and inter-municipal services. A certain portion of U-Pass revenue is also paid to local systems to provide students with access to local services. In Niagara Falls, the Brock University Study Union pay $0.40 a ride for each Brock U-Pass holder to use the system (September to December 2016). This is increasing to $0.50 per ride in January 2017.

2.4 Existing Farebox Technology

The fare payment technologies currently implemented on the Niagara Region transit fleets are shown in the following table. As illustrated, there is a wide variety of fare boxes depending on the transit system.

Table 19: Current Fare Payment Technology

Service Provider	Operator	# Buses	On-bus Fare Collection
St. Catharines (SCTC)	SCTC	73	SPX Genfare Odyssey electronic validating fareboxes c/w magnetic ticket/transfer encoder/reader and magnetic swipe reader
Welland (WT)	WT	22	Non-registering drop fareboxes – visual validation & manual paper transfers
Niagara Falls (NFT)	NFT	27	Fare Logistics electronic validating fareboxes c/w smart card reader/encoder and bar code paper printer/reader
Niagara Region (NRT)	SCTC	4*	Fare Logistics electronic validating fareboxes c/w smart card reader/encoder and bar code paper printer/reader – passes visually validated & manually logged on farebox
Niagara Region (NRT)	WT	3*	Fare Logistics electronic validating fareboxes c/w smart card reader/encoder and bar code paper printer/reader– passes visually validated & manually logged on paper
Niagara Region (NRT)	NFT	4*	Fare Logistics electronic validating fareboxes c/w smart card reader/encoder and bar code paper printer/reader– passes visually validated & manually logged on farebox
Port Colborne Inter-municipal	WT	1	Non-registering drop fareboxes – visual validation & manual paper transfers
Port Colborne Local	WT	1	Non-registering drop fareboxes – visual validation & manual paper transfers
Fort Erie Local	Can-ar	2	Not automated
Fort Erie Inter-municipal	NFT	1	Fare Logistics electronic validating fareboxes c/w smart card reader/encoder and bar code paper printer/reader
NOTL Transit (NOTLT)	NOTLT	4	Not automated
Pelham Transit (PT)	PT	1	Not automated
WEGO	NFT	16	Fare Logistics electronic validating fareboxes c/w smart card reader/encoder and bar code paper printer/reader
WEGO	Niagara Parks Commission	11	Fare Logistics electronic validator c/w smart card reader/encoder

Note:

- **Brock University student U-Passes are visually validated and manually logged by NRT, NFT and WT, and swiped and electronically logged on SCTC**
- **Niagara College student U-Passes carry a smart card chip that enable NRT and NFT to validate electronically; whereas SCT and WT validate visually and log manually**
- **NFT smart card media can carry 10-ride and 30-day e-passes**
- ***St. Catharines Transit and Niagara Falls Transit currently using their own vehicles to operate Route 40/45. For this NRT route, the on-bus fare collection system for each local operator applies. Welland Transit is also currently using its own bus as a spare for NRT service (which has a non-registering drop farebox)**

2.5 Existing Trip Planning Capabilities

Online trip planning tools allow customers to get directions on the use of transit when planning a trip from their point of origin to their point of destination. The most common trip planner used is "Google Trip Planner". By entering in your start and end points, Google will provide the customer detailed directions of how to get there, including the walk to transit stop, location of boarding, any required transfers, location of alighting and directions to walk from the bus stop to the final destination.

The de facto standard for trip planning is the General Transit Feed Specification (GTFS). This is the standard required to upload information into the trip planning function used by Google Trip Planner as well as other off-the shelf tools such as Metrolinx's trip GTHA trip planner, "TripLinx". GTFS is a simple format that specifies bus stops, route profiles, sequence of stops, and schedules.

At the time of writing this report, the following systems in Niagara Region provide GTFS access to trip planning tools such as Google.

- Niagara Region Transit;
- St. Catharines Transit;
- Welland Transit;
- Niagara Falls Transit;
- WEGO;
- Niagara-on-the-Lake Transit;
- Pelham Transit;
- Port Colborne Transit; and
- Fort Erie (only local trips).

Recognizing this as an issue for customers to able the seamlessly plan inter-municipal trips, the Region has recently been in contact with all transit systems within the region to gather up-to-date information for the Google Transit Planner.

In addition to the Google Trip Planner, some of the transit systems make data available to third-party applications. For example, St. Catharines Transit Commission uses Transit App, which has been downloaded over 20,000 times. During the school year, this app receives approximately 250,000 unique views weekly.

3.0 Peer Review

A comparison of transit services in Niagara Region with a peer group (municipalities of similar size with comparable transit systems) was conducted. For the purposes of comparison, operating statistics collected from the 2014 Canadian Urban Transit Association Canadian Transit Fact Book for both Niagara Region Transit and also all Niagara transit systems (the accumulation of all local and inter-municipal transit systems that operate within Niagara Region).[7] The later was completed to provide a fair comparison with other regional transit agencies which provide both local and inter-municipal services.

The peer transit systems that were used as a benchmark include York Region Transit, Grand River Transit, Durham Region Transit, Hamilton Street Railway, BC Transit (Victoria) and Halifax Transit. **Tables 20** through **22** outline key performance measures for the peer group.

The information presented yields some general conclusions regarding amount of service, transit utilization, and financial performance. Each municipality is unique and there are many factors which account for the differences noted below.

3.1 Amount of Service

Table 20 provides a review of system characteristics in the peer group, including service hours and frequency. The amount of service provided is measured by service hours per capita.

Niagara Region has one of the smallest populations in its peer group however services one of the largest areas (outside of York Region Transit and Victoria Transit). Generally, transit systems within the region have the shortest hours of service on both weekdays and Saturdays. This is reflected in the number of service hours per capita, which is second lowest to Durham Region Transit in the peer group average. Many of the other systems with higher service hours have developed more aggressive transit mode share targets and have focused on investment strategies to reduce automobile vehicle travel and improve mobility options.

The amount of service metrics listed for Niagara Region Transit is not directly comparable to the peer systems. Because Niagara Region Transit only provides inter-municipal services without any local links, it serves a different role in Niagara Region's transportation needs as compared to other peer systems, which serve both local and regional travel needs. As a result, the aggregated Niagara Region data (consisting of the combined totals of Niagara Region Transit, St. Catharines Transit, Niagara Falls Transit, Welland Transit, Fort Erie Transit, Port Colborne Transit, and Niagara-on-the-Lake Transit) provides a more meaningful comparison to the peer group data. Niagara Region Transit data has nonetheless been included in the peer group comparison tables in order to provide a full snapshot of transit service within Niagara Region.

[7] Note: At the time of writing this report, only 2014 data from all peer systems was available.

Table 20: 2014 Peer Group – Amount of Service (Conventional Systems)

Transit System	Service Area (km2)	Service Area Population	Hours of Service (average)	Revenue Vehicle Hours	Revenue Vehicle Hours/ Capita
Niagara Region*	568.9	327,358	Weekday - 14.9 Saturday - 12.9 Sunday - 4.8	315,288	0.96
Niagara Region Transit	554.5	317,800	Weekday - 14 Saturday - 14 Sunday - 0	29,232	0.09
York Region Transit	1776.0	1,002,824	Weekday - 23.5 Saturday - 22.5 Sunday - 21.5	1,229,416	1.23
Durham Region Transit	405.9	550,401	Weekday - 19 Saturday - 17 Sunday - 15	510,018	0.93
Grand River Transit (Waterloo Region)	217.0	434,437	Weekday -18.5 Saturday - 18 Sunday - 16.5	669,408	1.54
Hamilton Street Railway	235.0	490,000	Weekday - 21 Saturday - 21 Sunday - 19	729,302	1.49
Victoria Transit	614.0	307,926	Weekday - 20 Saturday - 20 Sunday - 17.5	805,631	2.62
Halifax Transit	250.0	308,084	Weekday - 18 Saturday - 17 Sunday - 17	778,561	2.53
Peer Group Average	**577.7**	**467,354**	**Weekday - 19.1 Saturday - 18.5 Sunday - 15.2**	**633,357**	**1.36**

***Combined total of Niagara Region Transit, St. Catharines Transit, Niagara Falls Transit, Welland Transit, Fort Erie Transit, Port Colborne Transit, and Niagara-on-the-Lake Transit**

3.2 Service Utilization

Service utilization is a measure of the overall effectiveness of the transit service. It is measured based on revenue passengers per revenue vehicle hour (effectiveness of service) and revenue passengers per capita (market penetration).

As illustrated in **Table 21**, Niagara Region transit systems generate the lowest ridership in the peer group, followed by Durham Region Transit. Both systems provide the lowest amount of service per capita.

The productivity of service for all Niagara Region transit systems is above the peer group average. The services with higher productivity are typically those in more urban regions (e.g. Waterloo Region,

Hamilton, Victoria), with higher densities. Systems with lower productivity typically include areas where there is a mandate to also provide service to the rural areas of a Region (e.g. Durham Region) or systems experiencing significant expansion (e.g. York Region). Niagara Region Transit has the lowest productivity of the peer group. Part of this is due to the large rural areas that Regional routes must travel through. The other reason is the fact that inter-municipal post-secondary student transit services are not provided by the Region, taking away a significant market from the Niagara Region Transit service.

Regular service passengers per capita also falls below the peer group average for the accumulation of Niagara transit systems, however, is fairly reflective of Greater Toronto Hamilton Area systems.

Table 21: 2014 Peer Group -Service Utilization (Conventional Systems)

Transit System	Regular Service Passenger Trips	Regular Service Passengers/ Revenue Vehicle Hour	Regular Service Passengers/Capita
Niagara Region*	9,042,425	28.68	27.62
Niagara Region Transit	171,197	5.86	0.54
York Region Transit	22,445,497	18.26	22.38
Durham Region Transit	10,791,405	21.16	19.61
Grand River Transit (Waterloo Region)	21,596,989	32.26	49.71
Hamilton Street Railway	22,250,052	30.51	45.41
Victoria Transit	25,228,556	31.32	81.93
Halifax Transit	19,315,555	24.81	62.70
Peer Group Average	**16,355,210**	**27.28**	**35.00**

***Combined total of Niagara Region Transit, St. Catharines Transit, Niagara Falls Transit, Welland Transit, Fort Erie Transit, Port Colborne Transit, Niagara-on-the-Lake Transit**

3.3 Financial Performance

Table 22 provides insight on average fare, municipal operating contribution per capita and Revenue to Cost (R/C) ratio for transit systems in the region.

A combined average fare for all systems was calculated for the region taking into account both local and inter-municipal trips. The Region's average fare is slightly lower than the peer group average.

Overall municipal operating contribution per capita in the combined Niagara Transit systems is the lowest in the peer group. This is reflective of the lower investment in service hours and likely a lower hourly operating cost than a number of systems.

The Revenue/Cost ratio for all Niagara Region systems is the highest in the peer group, suggesting a healthy financial performance. This is likely due to the U-Pass revenue available to fund a number of inter-municipal and local transit services. Niagara Region Transit's R/C ratio is the lowest in the system. The reason for this is identified above and is due to the low ridership, lack of student trips (which primarily use the contracted Link services provided by each local municipality) and the long distances crossing rural areas.

Table 22: 2014 Peer Group - Financial Performance

Transit System	Adult Cash Fare	Average Fare	Municipal Operating Investment/Capita	Revenue/Cost Ratio
Niagara Region*	$2.50 - $6.00	$1.49	$55.85	48%
Niagara Region Transit	$6.00	$3.37	$6.61	22%
York Region Transit	$4.00	$2.87	$91.36	40%
Durham Region Transit	$3.25	$2.10	$78.01	35%
Grand River Transit (Waterloo Region)	$3.00	$1.38	$87.23	39%
Hamilton Street Railway	$2.55	$1.65	$73.81	47%
Victoria Transit	$2.50	$1.45	$76.58	42%
Halifax Transit	$2.50	$1.72	$247.21	37%
Peer Group Average	**$2.94**	**$1.81**	**$87.93**	**41%**

***Combined total of Niagara Region Transit, St. Catharines Transit, Niagara Falls Transit, Welland Transit, Fort Erie Transit, Port Colborne Transit, Niagara-on-the-Lake Transit**

4.0 Transit Needs Over the Next 3 to 7 Years

The following section of the report identifies the future needs over the next 3 to 7 years that will need to be understood when developing a service strategy and governance structure for the delivery of inter-municipal transit services in the region. This includes the need to accommodate future population and employment growth, link to new mobility services and address future demand for inter-municipal services.

4.1 Population and Employment Growth

Niagara Region is currently undertaking a four-phase Municipal Comprehensive Review. The review is intended to help the Niagara Region plan for growth over the next 25 years. Phase One (Background Review) and Phase Two (Technical Analysis, Issues, and Opportunities) are complete and Phase 3 (Options for Growth) and Phase 4 (Preferred Growth Option) are currently underway.

Initial projections identify that the region is growing at a slow to moderate pace and the demand for new housing is growing faster than its population. This indicates that the average age of the population is increasing. Some of the factors that have contributed to this pattern are the decline in manufacturing and loss of young adults seeking education and employment.

It is expected that the region will grow from 450,200 people and 164,000 jobs in 2016 to 610,000 people and 266,700 jobs in 2041 – an increase of 159,700 people and 102,800 jobs.
Table 23 illustrates the forecasted population growth by municipality.

Table 23: Projected Population Growth by Municipality (2016 to 2041)

Municipality	2016 Population	Growth			2041 Population
		2016-2021	2021-2026	2026-2041	
Fort Erie	31,000	1,400	2,200	9,100	43,700
Grimsby	27,600	1,800	1,900	5,900	37,200
Lincoln	23,900	1,300	1,300	5,200	31,700
Niagara-on-the-Lake	18,000	2,300	2,400	6,800	29,500
Niagara Falls	87,700	4,600	6,600	23,200	122,100
Pelham	17,200	700	1,500	5,800	25,200
Port Colborne	18,500	100	600	2,600	21,800
St. Catharines	133,800	3,100	5,600	24,700	167,200
Thorold	18,800	800	1,400	6,600	27,600
Wainfleet	6,500	200	400	1,300	8,400
Welland	52,500	1,600	2,500	9,400	66,000
West Lincoln	14,700	1,300	2,800	10,800	29,600
Niagara Region	**450,200**	**19,200**	**29,200**	**111,400**	**610,000**

Within the next 10 years, Niagara Region is projected to grow by 48,400 residents. The majority of this growth will occur in Niagara Falls (11,200) and St. Catharines (8,700). Port Colborne, Wainfleet and Pelham are projected to grow minimally over the next 10 years. The remaining municipalities will grow by 3,600 to 4,100 residents each.

Table 24 illustrates the forecasted employment growth by municipality.

Table 24: Projected Employment Growth by Municipality (2016 to 2041)

Municipality	2016 Employment	Growth			2041 Employment
		2016-2021	2021-2026	2026-2041	
Fort Erie	9,900	300	300	1,800	14,300
Grimsby	8,400	900	500	3,500	14,300
Lincoln	8,800	700	500	2,800	15,200
Niagara-on-the-Lake	9,700	1,200	900	5,200	20,400
Niagara Falls	36,500	2,300	1,800	11,300	60,200
Pelham	3,400	200	200	1,300	6,300
Port Colborne	4,500	100	100	600	6,800
St. Catharines	53,000	2,200	1,800	12,700	79,300
Thorold	5,800	300	300	1,800	10,400
Wainfleet	1,600	200	200	800	3,500
Welland	18,800	500	400	2,400	26,300
West Lincoln	3,600	600	600	3,200	9,700
Niagara Region	**164,000**	**9,500**	**7,600**	**47,400**	**266,700**

Within the next 10 years, jobs in Niagara Region are projected to grow by 17,100. The majority of this growth will occur in Niagara Falls (4,100), St. Catharines (4,000) and Niagara-on-the-Lake (2,100).

4.2 Strategic Planning Policy

The Regional Official Plan is Niagara Region's strategic planning policy and provides context on the mobility goals of the region. The key transportation policies stated in the Regional Official Plan include:

- Supporting multi-modal transportation where feasible, including active transportation, public transit, and goods movement.
- Adopting a context sensitive approach to planning transportation systems to align with community values and physical constraints.
- Using transportation improvements to promote intensification, safety, and liveability of an area.
- Investigating the need for a mid-peninsula corridor to promote development in southern parts of Niagara without eliminating a lot of agricultural area.
- Requiring large industrial and commercial developments to include access to sustainable transportation modes as one of the factors that influences site selection.
- Developing policies to promote walkable communities.

Public transit plays an integral role in adhering to these policies.

4.3 Niagara Region Transportation Master Plan

Niagara Region is currently undertaking a comprehensive Transportation Master Plan (TMP). The project has four stages that span from the Fall of 2015 to the Winter of 2017. They include establishing a vision and context for the region (Stage 1), identifying opportunities for integrating transportation and land use, connecting the region, promoting active transportation, improving goods movement and the economy, and promoting healthy communities (Stage 2), developing supporting strategies (Stage 3), and preparing the TMP (Stage 4). The purpose of the plan is to help ensure that Niagara's current and future transportation needs are met and that the plan promotes the development of a transportation system that complements the vision for the region.

It is expected that transit mode share targets will be identified as part of this plan. These mode share targets will help inform the level of service required to meet broader mobility goals identified under this strategic planning target.

Phase 1 of the project was completed in April 2016 and established the vision and goals of the TMP in the Context, Vision and Directions Report. The vision is:

> *"In 2041, the Niagara Region will be supported by a transportation network that will help establish Niagara as a leader in: building, preserving and enhancing liveable communities; economic development; tourism; sustainable transportation practices and the emerging shared economy."*

Table 25 lists the seven goals and some of the transit-related objectives stated in the Context, Vision, and Directions Report that will be used to help achieve this vision.

Table 25: Niagara Region Transportation Master Plan Goals and Transit-related Objectives

Goal	Transit-related Objective
Goal 1: Integrate transportation and land use	• Transit oriented development is planned within transit nodes and corridors.
Goal 2: Support economic development	• Transit provides good access to employment areas. • The tourism industry is well connected through a network of regional roads, transit, active transportation trails and emerging technologies.
Goal 3: Enhance multi-modal connectivity	• Seamless connectivity exists at hubs of movement, including railway facilities, port facilities, Niagara's airports, and the international bridges. • The rail network is expanded to provide improved GO Transit service. • An integrated Region-wide fare system, route structure and coordinated schedule meet user needs. • Reliable and real-time information is available for people to plan their trips and to stay informed of service conditions.
Goal 4: Improve options for sustainable modes of transportation	• The transportation network achieves greenhouse gas emission reductions that support Provincial reduction targets.

Goal	Transit-related Objective
Goal 5: Maintain and improve the efficiency of the goods movement network	
Goal 6: Promote the development of healthy communities	• Regional transportation plans are coordinated with local municipal plans to provide transportation options for residents of all ages and abilities. • The design of transportation infrastructure and the regional transit fleet provides accessible services for all users, including children, seniors and people with disabilities.
Goal 7: Develop a realistic yet innovative blueprint for implementation	• Niagara Region is a leader in the adoption of new technology, and will coordinate services with the private sector, to provide choice and efficient transportation options and to promote seamless integration and the shared economy. • Development and prioritization of investments is transparent, evidence based and achieves greatest net benefit.

4.4 Input from Key Stakeholders

In order to better understand the needs of residents, students, businesses, transit operators and other key stakeholders in Niagara Region, Dillon conducted a series of stakeholder meetings. The purpose of these meetings was to gain a better appreciation of the needs of inter-municipal transit customers by understanding how it is currently used and what it needs to become in order to leverage it to best serve varying transportation needs in the region. The following groups were consulted:

Group	Stakeholder	Key Issues
Student Unions	• Brock University Student Union • Niagara College Student Administrative Council	• Later evening service • Enhanced summer service • Sunday service • User affordability • System integration • Improved connections
Business Community	• Fallsview Casino • Sitel • One Touch Direct • Minacs • Convergys • Niagara Parks Commission • Welland Business Improvement Association • City of St. Catharines • City of Niagara Falls	• Later evening service • Enhanced summer service • Sunday and Holiday service • Fare integration • Improved connections • Integrated branding
Social Service Organizations	• Niagara Poverty Reduction Network Transit Work Group • Niagara Health System • Legal Office representing persons with disabilities	• Evening Service • Reduction in travel time • Better access to new Hospital from Fort Erie and Port Colborne

Group	Stakeholder	Key Issues
Transit Union and driver representatives	• Welland Transit (ATU Local 1633) • St. Catharines Transit (ATU Local 846) • Niagara Falls Transit (ATU Local 1582)	• Need for more point-to-point service • Potential to reroute 60/65 to the tourist area in Niagara Falls (major employment)
Municipalities with Existing Transit Service	• Town of Fort Erie • Town of Niagara-on-the-Lake • City of Port Colborne • Town of Pelham • City of Thorold	• Better communication with St. Catharines, Niagara Falls and Welland Transit • Improved connections • Leveraging GO Transit connections • System affordability
Municipalities without Existing Transit Service	• Town of Grimsby • Township of West Lincoln • Town of Lincoln	• System affordability • Leveraging GO Transit connections • Hamilton linkages

Throughout the stakeholder engagement sessions, several common themes were emphasized. The majority of the organizations consulted emphasized the importance of a robust, integrated, and customer-friendly transit system in Niagara Region. Since there was a lot of overlap in the feedback received, common themes have been grouped together.

Extended Service Hours

Niagara is not simply a 9 to 5 region. Due to the high student population and the prevalence of service industry and manufacturing jobs, travel demand throughout the region remains strong outside of peak hours. It is clear that the current inter-municipal services, which have their last trips scheduled at 8:00pm, do not adequately serve the needs of workers.

The business community, social service agencies and student groups, in particular, expressed strong desires to have evening service hours extended. Shift times at major employers often stretch late into the evenings, when no service is currently provided. Similarly, due to varying class schedules and employment requirements, the student associations were also very insistent on the importance of late night services. The lack of inter-municipal service on Sundays and holidays was noted as a significant deterrent to employment and in attracting and retaining students and other residents to the region.

Better Connections and Integration

Throughout the stakeholder engagement sessions, there was a strong emphasis on regional connectivity and integration. Because of the unique nature of Niagara Region, with multiple population centres located in relatively close proximity to each other, there is significant cross-boundary travel for school, work, shopping and leisure. In some cases, these trips can be served by a single transit operator, but in most cases, one or multiple transfers are required. Passengers using multiple transit systems should experience an integrated network of systems, with one equitable fare, well-timed connections, and convenient transfer locations.

In addition to the connection between inter-municipal services and local services, the stakeholders emphasized the importance of leveraging connections to GO Transit services. Today, GO Transit serves three locations by bus in Niagara Region, with only one Niagara Region Transit Route (Route 40/45)

connecting to the GO Transit system. In the future, when GO Train service is introduced to the region, the increasing number of inter-regional passengers should be better served by integrated and efficient inter-municipal connections.

Connections to Hamilton Street Railway, the public transit operator in Hamilton, were also emphasized as being important, especially for the westernmost municipalities in the region, the Town of Grimsby and the Township of West Lincoln. Due to the significant amount of employment synergies existing between Niagara Region and Hamilton, a hassle-free transit link between the two is essential.

Fair Cost

The stakeholders consulted with provided valuable insight regarding cost from two perspectives; both the user's and the operator's. In order to provide a system that is user-friendly but is not an unreasonable drain on municipal resources, both perspectives must be considered.

The groups representing the users emphasized the need to keep costs fair and reasonable. Particularly, widespread fare integration, that would not unduly punish passengers for crossing municipal boundaries, was noted as an important consideration moving forward. For Niagara to truly achieve its full potential, transit users should not be deterred to travel to work, school, or shopping across the region for reasons of cost. The student groups, who represent a significant source of both passengers and revenue for the transit agencies, noted that students are willing to pay for transit service, but the regular annual increases levied should be accompanied by notable improvements in service.

The municipalities that currently operate service, whether on their own or contracted to Niagara Falls, Welland or St. Catharines Transit, emphasized the importance of cost sharing with the region and support from other levels of government.

4.5 Proposed Inter-municipal Transit Connections

4.5.1 Updates to the 2014 Concept Plan

Niagara Region completed a costing and financial plan for the inter-municipal transit future connections. The purpose of the study was to provide Regional Council with an order of magnitude estimate of the operating and capital costs required to provide an integrated inter-municipal transit system over the next 10-years and to begin to understand how a basic level of service may evolve over time. The basis of this document was an inter-municipal transit service network connecting each municipality within Niagara Region.

As public transit is within the jurisdiction of local area municipalities, Niagara Region's role in this exercise was to provide preparatory steps and funding placeholders in the form of a pilot project. Any advances to this role require a redefinition of the Region's involvement that would need to be supported by local area municipalities.

This concept plan formed the basis for future route and service level recommendations identified in this study.

One of the initial route modifications identified in the Concept Plan was implemented in September 2016. Route 50/55 from Niagara Falls to St. Catharines was modified to better service Brock University and replace the duplication which occurs with the post-secondary funded Brock Rapid. In its place, a more integrated service strategy was implemented.

Route 50/55 was modified to no longer travel north on Taylor Road to access the NOTL Outlet Mall. Instead, it provides direct service to Brock University before continuing north in St. Catharines to the St. Catharines Terminal.

Route 40/45, also implemented in September 2016, was designed to use the QEW to provide access between Niagara Falls and St. Catharines, with stops at the NOTL Glendale Campus, the NOTL Outlet Mall, and Fairview Mall.

4.5.2 GO Train Expansion

As a result of the Region's ongoing advocacy to the Province for GO Train service, the 2016 provincial budget included a clear commitment by the Province to bring GO Train service to the region. To support the introduction of two-way, all-day GO Train service between Niagara Falls and Hamilton's West Harbour, Niagara Region is undertaking a **GO Hub and Transit Stations Study** for three confirmed future GO Transit stations, and one potential station located in the municipalities of:

- Grimsby (east of Casablanca Boulevard);
- Lincoln (planned but not confirmed station in Beamsville at Ontario Street);
- St. Catharines (St. Catharines VIA Station); and
- Niagara Falls (Bridge Street, Victoria Avenue and Queens Street).

A recent announcement by the province indicated that GO Train service will be in place to Grimsby by 2021 and to St. Catharines and Niagara Falls by 2023. No timing for the Beamsville station has been announced and it is anticipated that this will be built in beyond 2023.

As a result, for the purposes of this study, GO Train service to Grimsby, St. Catharines and Niagara Falls was assumed to be in place within the seven year time horizon.

4.5.3 Hamilton Street Railway (HSR)

HSR will undergo a significant change with the introduction of two light rail transit (LRT) corridors. The proposed LRT network is based on two routes – the A –Line, which runs north-south along James Street from Waterfront to King Street; and the B-Line which runs east-west along King Street from McMaster to Cochrane Road. This new service will connect at West Harbour with the GO line extension to the new Centennial GO Station and to the GO station at Hunter Street via a pedestrian walkway. Construction of the LRT is expected to start in 2019. With the implementation of these two lines, HSR will transition from a radial route design to a high frequency grid system based around six major activity centres and the LRT network.

4.6 Projected Transit Demand

Potential inter-municipal travel demand between municipalities in the region was calculated over the three and seven year time horizons using origin/destination data from the Transportation Tomorrow Survey, and factored up based on population and employment growth forecasts from the Niagara Region's Municipal Comprehensive Plan. Transit mode share assumptions were developed between each origin/destination pair to determine potential transit demand.

Table 26 illustrates the daily inter-municipal transit (excluding GO Transit) mode share assumptions used between each inter-municipal link for the existing, three and seven year time horizons, respectively. It was assumed that 10 percent of passengers originating from/destined to municipalities not directly

connected to the GO Transit network would use inter-municipal transit before connecting to/from outside of Niagara Region, including Hamilton and the Greater Toronto Area on the GO Transit network.[8] The remaining 90 percent of long distance ridership was assumed to drive or carpool to a GO station/stop before continuing its inter-regional trips on GO Transit. As a result, these passengers are not represented in **Table 26**.

Existing mode shares (2016) were calculated using daily inter-municipal transit ridership for both Niagara Region Transit and post-secondary contracted services to determine ridership between each municipal link (e.g. between Welland and Niagara Falls). Where inter-municipal services do not exist (e.g. between Grimsby and West Lincoln), mode share assumptions were made based on the existing mode share of other inter-municipal links within Niagara Region and/or comparable communities in the Greater Toronto and Hamilton Area (e.g. the transit mode share between Grimsby and St. Catharines was assumed to be similar to the existing mode share between Fort Erie and Niagara Falls).

Growth in transit mode share was calculated based on a more detailed review of key factors that may influence transit ridership. For example, the introduction of GO Train service within a seven year time frame is expected to increase inter-municipal transit ridership between Welland and St. Catharines). Areas where new employment generators or intensification areas are projected to occur were also taken into consideration.

Based on the above mode share analysis, the transit mode share factors were applied to the overall number of person trips between each municipality to estimate total inter-municipal transit trips. A combination of Transportation Tomorrow Survey (TTS) data and existing inter-municipal transit ridership data was used to convert daily demand to period of the day and day of week (e.g. weekday versus Saturday/Sunday demand).

Figure 13 illustrates the 2023 peak hour inter-municipal demand between each municipality within the region and to the GTHA during the weekday PM Peak period, weekday Midday period and Saturday period. This was calculated by assigning trips onto various transit corridors connecting each municipality in the region.

Figure 14 illustrates the potential peak hour bus requirements to accommodate the demand during each of those periods. This was calculated by taking the segment demand and dividing by a policy-based capacity of a bus (40 persons). Where the vehicle demand suggested less than 0.1 buses per hour, it was assumed that the corridor could not support a conventional fixed route service.

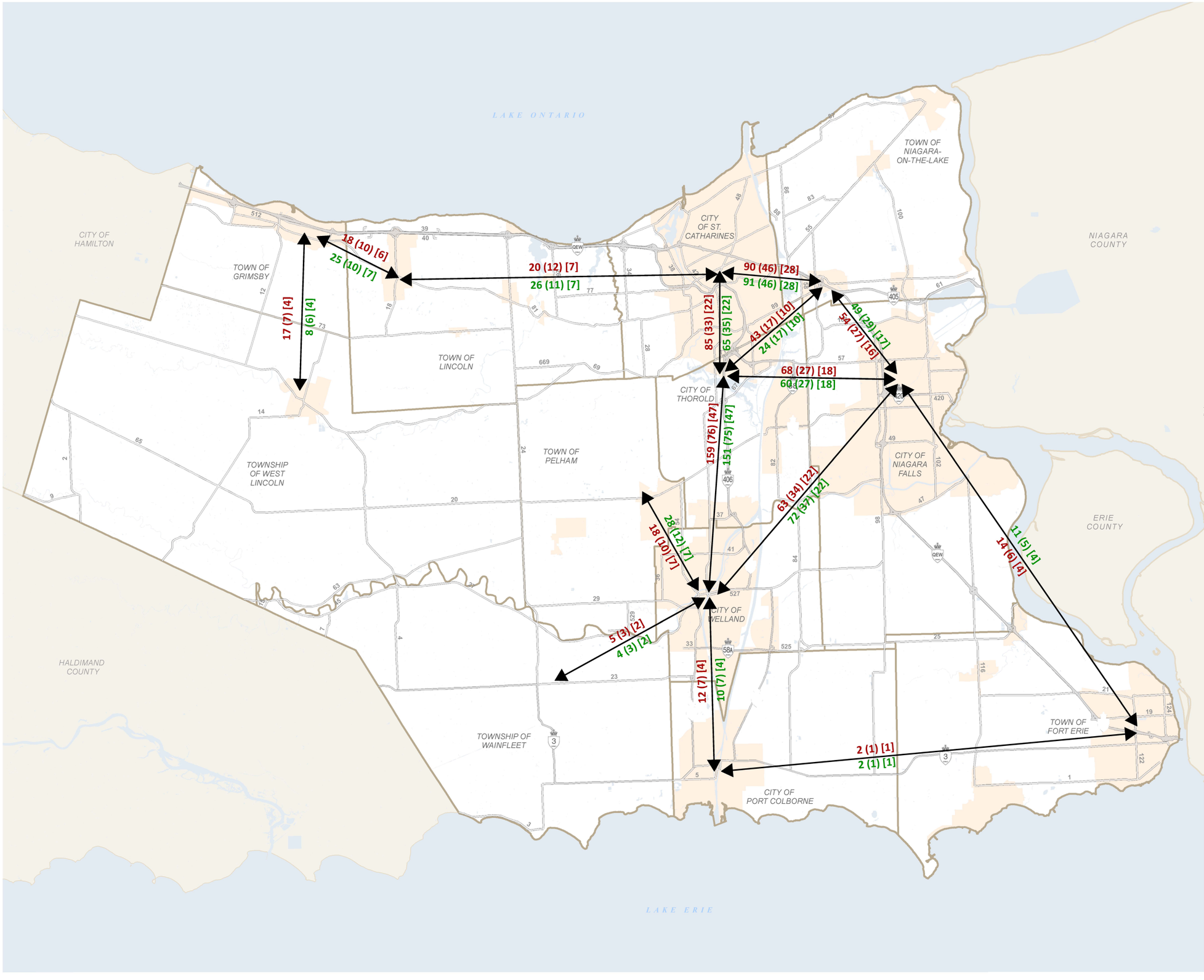
It should be noted that the QEW corridor only includes trips using inter-municipal transit services that both originate and terminate within Niagara Region. In reality, the corridor will see significantly higher passenger volumes connecting Niagara Region municipalities with Hamilton and the Greater Toronto Area. However, this demand will be accommodated by GO Bus and GO Train service, and as a result, it has not been considered in the determination of the peak hour inter-municipal transit bus requirements.

[8] Note: Based on experience elsewhere in the GTHA of transit systems connecting to GO Train stations

Table 26: Mode Share for Inter-municipal Transit Trips by Time Horizon

Origin	Year	Mode Share													
		Grimsby	Lincoln	Pelham	Niagara-on-the-Lake	St. Catharines	Thorold	Niagara Falls	Welland	Port Colborne	Fort Erie	West Lincoln	Wainfleet	GTA WEST	Hamilton
Grimsby	2016		0.5%	0.5%	0.5%	1.0%	1.0%	1.0%	1.0%	0.5%	0.5%	0.5%	0.5%	*	*
	2019		0.5%	0.5%	0.5%	1.0%	1.0%	1.0%	1.0%	0.5%	0.5%	0.5%	0.5%	*	*
	2023		0.5%	0.5%	0.5%	1.5%	1.0%	1.0%	1.0%	0.5%	0.5%	0.5%	0.5%	*	*
Lincoln	2016	0.5%		0.5%	0.5%	1.0%	1.0%	1.0%	1.0%	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%
	2019	0.5%		0.5%	0.5%	1.0%	1.0%	1.0%	1.0%	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%
	2023	0.5%		0.5%	0.5%	1.0%	1.0%	1.0%	1.0%	0.5%	0.5%	0.5%	0.5%	1.1%	1.1%
Pelham	2016	0.5%	0.5%		0.5%	1.0%	1.0%	1.0%	1.0%	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%
	2019	0.5%	0.5%		0.5%	1.0%	1.0%	1.0%	1.0%	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%
	2023	0.5%	0.5%		0.5%	1.0%	1.0%	1.0%	1.0%	0.5%	0.5%	0.5%	0.5%	1.1%	1.1%
NOTL	2016	0.5%	0.5%	0.5%		4.6%	1.0%	4.4%	24%	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%
	2019	0.5%	0.5%	0.5%		4.6%	1.0%	4.4%	24%	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%
	2023	0.5%	0.5%	0.5%		4.6%	1.0%	4.4%	24%	0.5%	0.5%	0.5%	0.5%	1.1%	1.1%
St. Catharines	2016	1.0%	1.0%	1.0%	4.7%		1.0%	0.8%	2.8%	1.0%	1.0%	1.0%	1.0%	*	*
	2019	1.0%	1.0%	1.0%	4.7%		1.0%	0.8%	2.8%	1.0%	1.0%	1.0%	1.0%	*	*
	2023	1.0%	1.0%	1.0%	4.7%		1.0%	0.8%	2.8%	1.0%	1.0%	1.0%	1.0%	*	*
Thorold	2016	1.0%	1.0%	1.0%	1.0%	1.0%		11%	25%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
	2019	1.0%	1.0%	1.0%	1.0%	1.0%		11%	25%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%
	2023	1.0%	1.0%	1.0%	1.0%	1.0%		11%	25%	1.0%	1.0%	1.0%	1.0%	1.1%	1.1%
Niagara Falls	2016	1.0%	1.0%	1.0%	4.7%	0.9%	11%		7.4%	1.0%	0.5%	1.0%	1.0%	*	*
	2019	1.0%	1.0%	1.0%	4.7%	0.9%	11%		7.4%	1.0%	0.5%	1.0%	1.0%	*	*
	2023	1.0%	1.0%	1.0%	4.7%	0.9%	11%		7.4%	1.0%	0.5%	1.0%	1.0%	*	*
Welland	2016	1.0%	1.0%	1.0%	23%	2.9%	26%	7.4%		0.9%	1.0%	1.0%	1.0%	1.0%	1.0%
	2019	1.0%	1.0%	1.0%	23%	2.9%	26%	7.4%		0.9%	1.0%	1.0%	1.0%	1.0%	1.0%
	2023	1.0%	1.0%	1.0%	23%	2.9%	26%	7.4%		0.9%	1.0%	1.0%	1.0%	1.1%	1.1%
Port Colborne	2016	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%	1.0%	0.9%		0.5%	0.5%	0.5%	1.1%	1.0%
	2019	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%	1.0%	0.9%		0.5%	0.5%	0.5%	1.1%	1.0%
	2023	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%	1.0%	0.9%		0.5%	0.5%	0.5%	1.2%	1.1%
Fort Erie	2016	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%	0.5%	1.0%	0.5%		0.5%	0.5%	1.0%	1.0%
	2019	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%	0.5%	1.0%	0.5%		0.5%	0.5%	1.0%	1.0%
	2023	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%	0.5%	1.0%	0.5%		0.5%	0.5%	1.1%	1.1%
West Lincoln	2016	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%	1.0%	1.0%	0.5%	0.5%		0.5%	1.0%	1.0%
	2019	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%	1.0%	1.0%	0.5%	0.5%		0.5%	1.0%	1.0%
	2023	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%	1.0%	1.0%	0.5%	0.5%		1.1%	1.1%	1.1%
Wainfleet	2016	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%	1.0%	1.0%	0.5%	0.5%	0.5%		1.0%	1.0%
	2019	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%	1.0%	1.0%	0.5%	0.5%	0.5%		1.0%	1.0%
	2023	0.5%	0.5%	0.5%	0.5%	1.0%	1.0%	1.0%	1.0%	0.5%	0.5%	0.5%		1.1%	1.1%
GTA West	2016	*	1.0%	1.0%	1.0%	*	1.0%	*	1.0%	1.0%	1.0%	1.0%	1.0%		
	2019	*	1.0%	1.0%	1.0%	*	1.0%	*	1.0%	1.0%	1.0%	1.0%	1.0%		
	2023	*	1.1%	1.1%	1.1%	*	1.1%	*	1.1%	1.1%	1.1%	1.1%	1.1%		
Hamilton	2016	*	1.0%	1.0%	1.0%	*	1.0%	*	1.0%	1.0%	1.0%	1.0%	1.0%		
	2019	*	1.0%	1.0%	1.0%	*	1.0%	*	1.0%	1.0%	1.0%	1.0%	1.0%		
	2023	*	1.1%	1.1%	1.1%	*	1.1%	*	1.1%	1.1%	1.1%	1.1%	1.1%		

***Niagara Falls, St. Catharines, and Grimsby all have direct GO Transit links to Hamilton and the Greater Toronto area. As a result, no passengers having these O-D pairings use inter-municipal transit on these links. The mode shares reported only represent passengers using inter-municipal links, and exclude those who have been assumed to drive or carpool to a GO Transit station/stop.**



NIAGARA REGION

NIAGARA TRANSIT SERVICE DELIV ERY AND GOVERNANCE STRATEGY

Forecasted 2023 Inter-Municipal Transit Passenger Demand

FIGURE 13

- PROVINCIAL HIGHWAY
- REGIONAL ROAD
- URBAN AREAS
- NIAGARA REGION MUNICIPALITIES
- OTHER MUNICIPALITIES

PM Peak (Midday) [Saturday] : Southbound or Westbound

PM Peak (Midday) [Saturday] : Northbound or Eastbound

0 1 2 4 km

SCALE 1:220,000

MAP DRAWING INFORMATION:
DATA PROVIDED BY NIAGARA REGION, MNR AND ESRI

MAP CREATED BY: DK
MAP CHECKED BY: PK
MAP PROJECTION: NAD 1983 UTM Zone 17N

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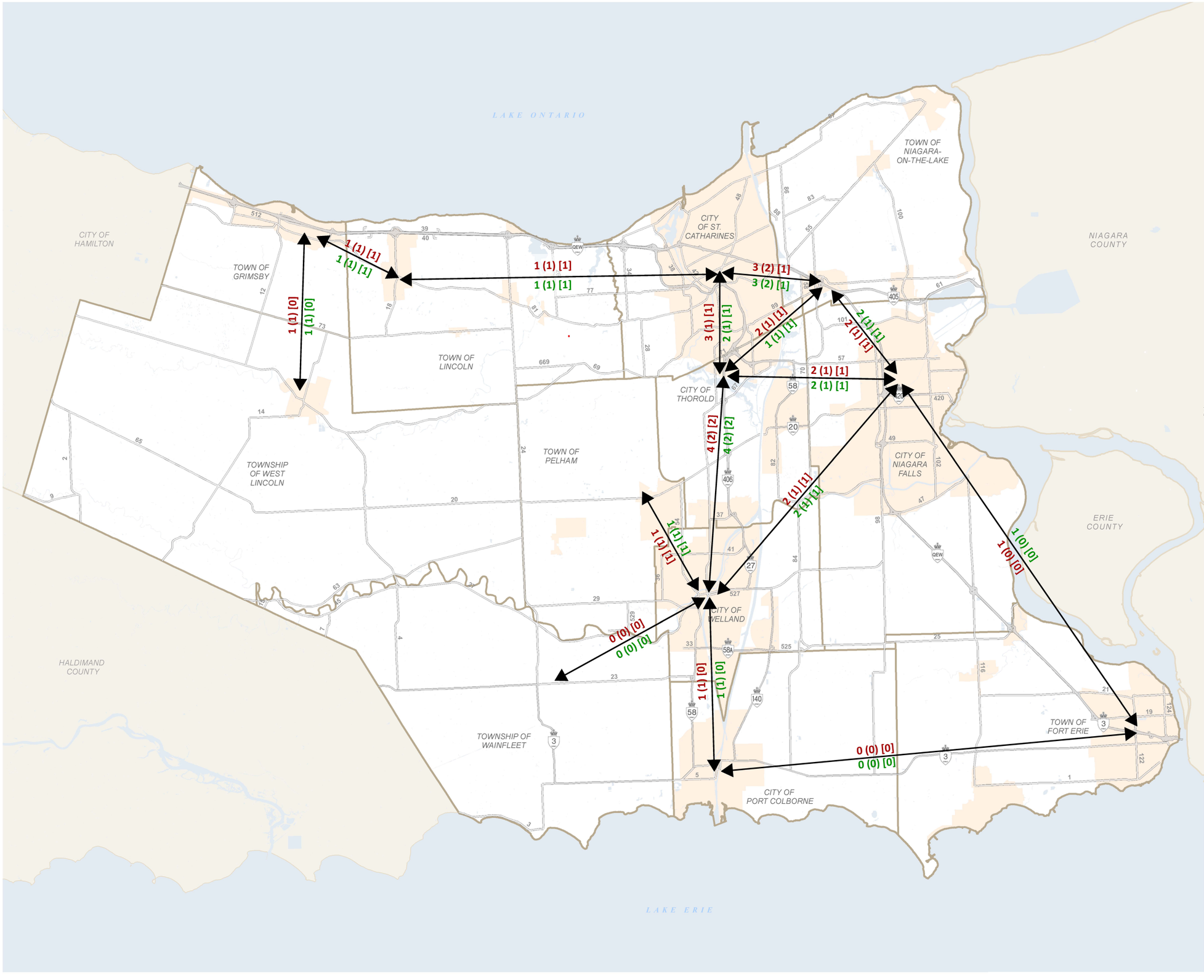
Niagara Region Base Map.mxd

DILLON CONSULTING

PROJECT: 163664

STATUS: DRAFT

6/16/2016



NIAGARA REGION

NIAGARA TRANSIT SERVICE DELIVERY AND GOVERNANCE STRATEGY

Forecasted 2023 Inter-municipal Transit Peak Bus Requeirements

FIGURE 14

- PROVINCIAL HIGHWAY
- REGIONAL ROAD
- URBAN AREAS
- NIAGARA REGION MUNICIPALITIES
- OTHER MUNICIPALITIES

PM Peak (Midday) [Saturday] : Southbound or Westbound

PM Peak (Midday) [Saturday] : Northbound or Eastbound

0 1 2 4 km

SCALE 1:220,000

MAP DRAWING INFORMATION:
DATA PROVIDED BY NIAGARA REGION, MNR AND ESRI

MAP CREATED BY: DK
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Niagara Region Base Map.mxd

DILLON CONSULTING

PROJECT: 163664

STATUS: DRAFT

6/16/2016

5.0 Capability of the Current Systems to Accommodate Demand

The demand analysis conducted in **Section 4.0** identifies a planning-level headway for each corridor based on the demand forecasts conducted for the 3 and 7-year time horizon. **Table 27** compares the projected PM peak period demand and peak hour bus requirements for each link in the corridor with the existing service levels. The last column indicates whether there is capacity to accommodate the projected demand (based on existing service levels), or whether there is a deficiency (lack of capacity to meet projected demands) that will need to be addressed.

Existing services include Niagara Region Transit routes, post-secondary links and GO Bus services.

Table 27: Capacity of Current Systems to Accommodate 2019 / 2023 Demand

Link	2019 / 2023 PM Peak Period / Direction Demand	2019 / 2023 Required Vehicles per Hour	Existing Service (combined headway)	Surplus / Deficiency
Grimsby - Lincoln	44 / 50	1 / 1	GO Bus (60 min)	Deficiency (2019)*
Lincoln - St. Catharines	46 / 51	1 / 1	GO Bus (60 min)	Deficiency (2019)*
St. Catharines - NOTL	174 / 181	3 / 3	SCTC Route 26 (15 min)	Sufficient
NOTL - Niagara Falls	103 / 108	2 / 2	NF – NC Glendale (30 min)	Sufficient
Niagara Falls - Fort Erie	27 / 28	1 / 1	Fort Erie Link (60 min)	Sufficient
Thorold - NOTL	81 / 85	2 / 2	NC Welland – NC Glendale (60 min)	Sufficient (2019) Deficiency (2023)
St. Catharines / Thorold - Welland	305 / 317	4 / 4	Route 70/75 (60 min) Brock Link (60 min) SCTC Route 27 (60 min)	Deficiency (2019)
Welland - Niagara Falls	137 / 143	2 / 2	Route 60/65 (60 min) NF – Welland Shuttle (60 min)	Sufficient
Niagara Falls - Thorold / St. Catharines	130 / 135	2 / 2	Route 50/55 (60 min) Brock Rapid (40 min)	Sufficient
West Lincoln - Grimsby	30 / 34	1 / 1	None	Deficiency (2019)
Wainfleet - Welland	10 / 10	0 / 0	None	Not Required
Pelham - Welland	53 / 55	1 / 1	Pelham bus (60 min)	Sufficient
Port Colborne - Welland	23 / 24	1 / 1	Port Colborne Link (60 min)	Sufficient
Port Colborne - Fort Erie	3 / 3	0 / 0	None	Not Required

***Note: The demand identified does not include trips to/from the GTHA, which will increase the capacity required to accommodate demand.**

Based on the above analysis, the following conclusions can be drawn:

Surplus Capacity / Insufficient Demand:

Many of the rural links that provide transit service today have surplus capacity based on the existing and projected level of demand. The population and employment growth in a number of these areas over the next seven years will not generate a sufficient increase in demand to justify service expansion. For rural areas without service (e.g. Wainfleet), the limited low demand may not justify a service at all. Low demand solutions such as Dynamic Transit should be suggested in these corridors.

Deficient Capacity:

The primary potential for growth in demand is on the QEW corridor between Niagara Falls and the Greater Toronto and Hamilton Area. Most of this growing demand will be accommodated by trips using the GO Bus or GO Train (expected within the 2023 horizon). This will likely increase the level of GO Transit services (moving to a GO Train between 2021 and 2023). Inter-municipal service for trips within Niagara Region on this corridor is lower and can be accommodated using one to two vehicles per hour. Service Integration opportunities with GO Transit should be explored to accommodate inter-municipal trips between Grimsby, Lincoln, St. Catharines, Niagara-on-the-Lake and Niagara Falls.

The highest demand between the three urban municipalities is between St. Catharines/Thorold and Welland. Much of this demand is driven by students accessing both the Niagara College Welland Campus and Brock University in Thorold. While existing services levels are high, they are not integrated, resulting in certain parallel transit services operating above capacity which others have excess capacity. An integrated model is the best means to accommodate this increase with minimal investment of service hours and fleet.

To meet the above demand, the following increases will need to be made:

Vehicles:

Niagara Region Transit currently provides eight vehicles used for a peak period service requirement of nine vehicles. The implementation of Route 40/45 and 40/45A in September 2016 is currently using three buses leased from Niagara Falls Transit and St. Catharines Transit. Welland Transit is also using its own vehicle as a spare and an additional NRT vehicle has been ordered. This will increase the NRT vehicle requirement to 12 to 13 vehicles (including spares). The demand analysis and service guidelines suggest that each NRT route operate at a 30 minute peak headway. This would double the number of buses required (from 11 to 16 plus additional spares).

Expansion of service between West Lincoln and Grimsby will require an additional bus (plus a spare), although a small cutaway vehicle would likely be sufficient. Overall, the number of vehicles required to operate the service should increase from 11-12 to 21-23 (including spares). This assumes that Welland Transit and Niagara Falls Transit continue to provide the vehicles for the Port Colborne and Fort Erie service.

There is an opportunity to improve service without a significant increase in vehicles. This would require better integration with post-secondary services in an effort to reduce duplication and better utilize existing resources. This is discussed in **Section 14.1.**

Maintenance Facility:

The system expansion will require an increase in storage space within one to all of the existing local transit maintenance facilities. Welland Transit's existing garage is currently at capacity and has limited ability to store additional vehicles. The transit facility at St. Catharines or Niagara Falls would need to be expanded to provide space for indoor storage and maintenance. Additional mechanics may also be required with a growth in the fleet (depending on how the new bus operations are distributed between the three local operators.

C. SERVICE DELIVERY AND GOVERNANCE

6.0 Assessing the Region's Future Involvement in Inter-Municipal Transit

A key objective of this study was to assess the existing service delivery and governance structure and determine whether the existing 'Status Quo' service delivery model is the most appropriate to deliver on the mobility needs and aspirations of residents based on the five guiding principles identified by the Niagara IMT Working Group. These are reiterated here for clarity and to provide context to the business case. The guiding principles indicate that an effective inter-municipal transit system will be:

- Customer Driven;
- Have the ability to deliver Unconventional Solutions;
- Integrated;
- Economically Responsible; and
- Fair.

Niagara Region was originally established as a regional municipality without any jurisdiction over transit. In recent years, Niagara was extended the jurisdiction (through triple majority vote) to provide cross-border specialized transit services for individuals with disabilities, as the jurisdictions of existing transit systems would not facilitate services beyond the parent municipality's boundaries. This was unanimously endorsed by the Regional Council.

As noted above, Niagara Region, the St. Catharines Transit Commission, the City of Niagara Falls, and the City of Welland entered into a Pilot Project Agreement to formalize the provision of inter-municipal transit. The agreement was in effect from September 2011 until September 2014 and has since been extended to May 2017. Currently, the Region contributes approximately $2.5 million annually in its operating budget to conventional inter-municipal Transit services. The service includes express routes connecting the communities of St. Catharines, Thorold, Niagara Falls, Welland, Niagara-on-the-Lake, Port Colborne and Fort Erie.

With this pilot project set to expire in May 2017, a decision needs to be made about Niagara Region's future involvement in establishing, operating and maintaining public transit services in the region.

Independent legal counsel was sought to determine the authority of Niagara Region to establish, operate and maintain[9] a public transit system within the region beyond the extent of the pilot project. A summary of this review is contained in **Appendix A**.

The Municipal Act does not provide the Region the authority to pass by-laws in relation to transit without properly uploading the service as required by the Act. The Region is permitted to provide funding to the transit system operated by the lower tier municipality based on the ability to issue grants under Section 107 of the Act. However, any involvement in the management of the transit system

[9] For the purposes of this discussion, the term 'establish' means the creation of a transit system; the term 'operate' includes any act necessary for the managing of the transit service or the operation of a transit vehicle; and the term 'maintain' includes the ongoing function of keeping the transit system active.

beyond funding could be considered operating and maintaining a public transit system which would not be permitted by the Act. Providing a grant without any conditions could make it challenging for the Region to meet their broader objectives.

Notwithstanding this, the Region has the opportunity to pass a by-law to upload all or part of the 'lower-tier' municipal jurisdiction to establish, operate and maintain a public transit system to the 'upper-tier' municipality. The authority to upload a lower-tier power to the upper tier is conditional upon obtaining a triple majority vote. This means that the introduction of any service delivery and governance model which includes public transit services where the Region is involved in establishing, operating or maintaining all or part of a public transit service must be supported by:

- The majority of the Councils of all lower tier municipalities, forming part of the Regional Council, must pass resolutions giving their consent to the transit by-law;
- The total number of electors in the lower tier municipalities that have passed resolutions supporting the transit by-law must form a majority of all of the electors within Niagara Region; and,
- The majority of all votes on Regional Council.

This triple majority vote is required even if the Region stays involved at the current 'Status Quo' service delivery model where the Region provides funding and supports decision-making of inter-municipal transit services. As discussed above, providing funding alone with no involvement in decision-making would not likely contravene the Act and would not require a triple majority vote.

The independent legal counsel sought for this study noted that 'any by-law that is passed by the upper-tier municipality to assume all or part of the lower-tier power must be very specific in what is being proposed and exactly what is being transferred to the Region'. This suggests a need to establish the Region's role in the future of public transit, including how transit services are structured in the region. This could involve everything from maintaining the Status Quo Model (under the existing pilot project) to transferring all lower-tier powers with regards to public transit to the Region to deliver an integrated local and inter-municipal public transit system (e.g. similar to the Regional models in York and Waterloo Regions).

To help scope out the role of the Region in the future of public transit services, the following section of this report explores three potential integrated service delivery and governance structures to be considered and recommends a structure that should form the basis of a transit by-law that would require a triple majority vote on the Region's future involvement in public transit.

7.0 Background on Governance of Transit

The choice of governance is closely related to the service delivery choice, but it is also closely dependent upon the financing model with which transit in the region proceeds. For example, if Niagara Region chooses to contribute limited, specific ad hoc funds towards transit services, the Region could govern this action with minimal involvement and engagement (Regional staff can occasionally monitor the performance of the transit agency, or request status reports on a quarterly or annual basis on the items funded). However, if the Region chooses to be fully engaged in sponsoring and supporting inter-municipal transit in the region, through Regional service guidelines, additional inter-municipal routes and support for a consolidated fare structure/smart card, a higher degree of governance engagement may be required.

Governance, by definition, is the establishment of policies, and continuous monitoring of the proper implementation of these policies by the members of a governing body of an organization. It includes the mechanisms required to balance the powers of the members (with the associated accountability) and their primary duty of enhancing the prosperity and vitality of the organization. The membership of a governing body can be established based upon funding arrangements and service areas. For example, if a complete service area operating model for the region were chosen, a broad range of Regional and municipal representation would be envisioned, with Region-wide policies for transit development and operations. For a more consolidated delivery, where regular service is limited to the existing urban area, representation could be through municipal representatives of the area, and/or a member of the Region, if funding contributions are received from Niagara Region into the new corporation.

Regardless of the specific model of governance chosen, there are a number of fundamentals of good governance of transit systems that should be adhered to:

- **Coordination**: the mandate is broad enough to facilitate an integrated transit system, allowing costs and benefits to be shared fairly;
- **Efficiency**: the structure permits strategic directions and priorities to be set, and services to be delivered cost-effectively;
- **Accountability**: decision-makers can be held responsible for their actions; decision-making should be understandable and transparent;
- **Responsiveness**: local community needs are given due consideration; and
- **Sufficient Funding**: the fiscal framework must enable reasonable delivery of the mandate, in order for it to be successful.

When establishing a governing body, it should:

- have a focused mandate, established by the over-arching government body with sufficient funding;
- facilitate effective and efficient service-delivery, by streamlining bureaucracy and eliminating duplication (coordination and efficiency); and
- help enhance public trust, public engagement and improve customer service (responsiveness and accountability).

In looking at governance, in the public realm, the establishment of a public agency usually requires the establishment of a Board or Commission. In many ways, the use of the words Board or Commission are inter-changeable in the public sector realm.

A Commission typically has no independent authority of its own. A Commission operates under the authority of another part of government, relying upon that body for funding and confirmation of strategic direction.

On the other hand, a Board is a group of people who have all of the powers to decide and control the working of a body. This includes policy, investment decisions and strategic directions. Within the private sector, the Board has significant powers. However, in the public realm, where an agency has been established with a Board, it relies upon a level of government for its strategic directions and funding. Therefore, it does not perform as an independent Board would be expected, but rather performs as a Commission. ***Given the similarities between the two, the term "governing body" shall be used throughout the report to refer to either a Board or a Commission structure.***

Regardless of the governance model adopted by the local municipalities and Region for public transit in Niagara, "a shared vision and values among those with decision-making authority matter more than the actual governance structure." (Ref*. Governance of Regional Transit Systems*, Anne Golden, PhD)

7.1 Greater Regional Urban Area Models

The governance of a regional transit system is influenced greatly by a combination of service needs and government aspirations. When reviewing other regional systems, their size, complexities and magnitude of the transit services illustrate the need for complex governance structures. Most large area transit/transportation agencies are created by the "government's" desire to solve congestion problems and influence land use planning decisions. Larger, complex regional systems are viewed as agencies that can deliver services across inter-municipal boundaries, where high degrees of road congestion occur. They are also, capable of, and given power to, influence the planning for managing areas of high urban growth and large capital project needs, like extensions of rapid transit systems.

For example, the Greater Urban Areas of Vancouver, Toronto and Montreal, have established Transportation Agencies responsible for planning and implementing (including funding) of regional transportation systems. These large Regional Transit Agencies of TransLink, Metrolinx and AMT were created by their parent Province to coordinate, consolidate and manage transportation services in large, dynamic and rapidly expanding regional urban areas.

TransLink: The mandate of TransLink is to plan, finance and deliver all transportation modes including transit, roads, transportation demand management and air emission reductions. They deliver the mandate by financing their subsidiary agencies, such as BC Rapid Transit Corporation, BC Ferries and selective highways. Their Funding source comes from fares/advertising (approximately 38%), property taxes (28%), fuel tax (27%), hydro levy (2%), Tolls (1%), Parking Tax (1%). TransLink was created by the Greater Vancouver Transportation Authority Act of 1998 by the Province of British Columbia. Their Board of Director's are both public and private sector citizens.

Metrolinx: Metrolinx's mandate is to improve the coordination and integration of all modes of transport in the Greater Toronto and Hamilton Area. They are responsible for GO Transit, Union Pearson (UP) Express and Presto, as well as the implementation of a number of Light Rail Transit and Bus Rapid Transit projects, deemed to be inter-regional in nature. They have developed, funded and implemented an integrated transportation plan (the Big Move). They are fully funded by the Province of Ontario,

although almost 75 percent of the annual operating costs are recovered by the fare box of GO Transit and UP Express. Metrolinx was created by the Greater Toronto Transportation Authority Act of 2006 and modified by the Greater Toronto and Hamilton Area Transit Implementation Act of 2009 by the Province of Ontario. The Metrolinx Board is comprised of provincially appointed citizens.

Agence Metropolitaine de Transporte (AMT): AMT has a mandate to plan and develop the metropolitan transit system of the Greater Montreal Area, which includes intersystem coordination, regional fares, and commuter train service. Transit services are provided by 14 municipal transit service providers. Operating funding comes from fares (28%), municipal taxes (10%), Province (15%) and gas and auto tax (47%). Capital funds come from receipt of 1 cent for every $100 in property value (Tax). Forty (40) percent of AMT's operating budget is directed back to local transit.

7.2 Regional Municipality Models

The consolidation of transit systems into one entity can also happen at a smaller scale. They are usually created by the desire to combine transit systems in a single contiguous urban area, where smaller municipalities provided the service, but the boundary, and travel desire lines crossed municipal boundaries.

On a regional scale, recent consolidation of transit services under a regional body can be found with Durham Region Transit, York Region Transit and Grand River Transit.

- The Regional Municipality of Durham enacted a by-law under the Municipal Affairs Act to transfer all lower-tier public transit operations. The by-law amalgamated transit services in Ajax/Pickering, Whitby, Oshawa, Clarington, Handi Transit and specialized services. The Durham Region Transit (DRT) Commission was established as a municipal services board, effective January 1, 2006. Members of the DRT Commission are elected members of Durham Regional Council.
- York Region Transit (YRT) is the consolidation of Richmond Hill Transit, Markham Transit, Vaughan Transit and Newmarket Transit. Discussions to create a regional transit system in York Region began in the 1980's but the triple majority support for the Bylaw did not occur until 2000. YRT reports to a Transit Committee made up of elected representatives of Regional Council.
- A Regional transit body was also created in Waterloo Region, when Kitchener Transit and Cambridge Transit were consolidated into Grand River Transit (GRT) in 2000. GRT is a Division within the Transportation and Environmental Services Department, and reports to Council through the Department's Commissioner.

All three examples were regional governments, which were responsible for managing transportation services in rapidly expanding population and employment growth areas. The Greater Toronto and Hamilton Area (GTHA) has been growing by approximately 100,000 new residents every year. Therefore, major traffic and transit congestion occurred in the urban areas of these Regions, and cross border trips were a very significant part of the areas travel patterns.

The creation of the three referenced regional transit systems occurred through the passage of a Regional By-law with consensus of all municipalities in their respective region. These larger transit agencies were created to provide a transit solution for a growing urban area, not necessarily to save direct transit operating costs. In actuality, the new organizations and service areas were greatly expanded to reflect the complications that arose due to the need to provide services in a large urban,

suburban and rural area. As a result of amalgamation, transit services were extended into municipalities where local transit services had traditionally not been available.

It is important to note through these examples that Regional Transit is not a cost savings measure, but rather a measure to improve service quality, enhance integration between growing systems and reduce inter-municipal congestion. While some efficiency can be gained through a regional model, the mandate to expand has historically led to higher costs.

8.0 Service Delivery and Governance Options for Niagara Region

The rationale and need for implementing a new integrated transit service delivery and governance model is somewhat different in Niagara Region than in the examples cited above. Within the context of transportation in Niagara Region, major road congestion does not regularly occur (with the exception of the QEW on summer weekends, or isolated areas around tourist activities). Likewise, population/ employment growth has not occurred at the same hectic pace as that of the GTHA. The Niagara Inter-Municipal Transit Working Group stated that inter-municipal transit is important to:

- Move people to work, school and health services;
- Support GO Train service in Niagara;
- Facilitate economic development;
- Contribute to a high quality of life for Niagara residents; and
- Support sustainable community development.

These comments were echoed in various stakeholder interviews conducted as part of the study. Therefore, there is a desire to look at inter-municipal transit service in recognition of a growing segment of inter-municipal trips within Niagara Region. The introduction of GO Train service to the region in the near future will also put greater pressure to reduce single-occupant vehicle trips to the GO stations by providing a more attractive and effective local and inter-municipal transit service connecting to each GO station in the region.

Approximately 80 percent of existing transit trips in Niagara are local in nature. Local transit services within the urban areas of St. Catharines/Thorold, Niagara Falls and Welland operate under the existing service delivery structure and may not benefit significantly from a new service delivery model that has a strong focus on inter-municipal trips. Therefore, the focus of a new service delivery and governance plan needs to have a high degree of respect for local trips within the major urban areas. However, growth in inter-municipal trips is also occurring. With continued growth in population in the outlying municipalities of the region, and the introduction of GO Train service beginning in 2021, this will change and there will be a higher need for inter-municipal service than there is today.

Some inter-municipal transit trips are accommodated by contracted services to the three large transit systems. Niagara Region, Fort Erie and Port Colborne provide some limited inter-municipal services. Brock University and Niagara College Student Unions fund contracted inter-municipal services to each campus through the U-Pass program. However, the approach to inter-municipal transit services has been relatively ad hoc and in reaction to pressing demands, which has resulted in a system that is not very cost-effective and operates at a poor level of service (e.g. hourly peak period inter-municipal trips with limited service during the late evenings and no service on Sundays).

The service plan presented in **Section 14.0** provides a strategy to better integrate post-secondary and inter-municipal services, integrate inter-municipal and local services, provide a common customer platform, including fare payment technology and trip planning software, and improve service levels. Under the existing Status Quo service delivery model, this plan will be difficult to implement as it requires agreement from different transit agencies that may have different objectives (e.g. Integration

of inter-municipal routes funded by the Region and post-secondary routes operated by each of the local transit systems is a challenge due to ridership reporting reconciliation and potential loss of Provincial Gas Tax revenue by the local transit operator).

To address these challenges, along with the need identified above, a number of service delivery and governance models were assessed. Each model identifies a structure that is best suited to operate both local and inter-municipal transit services within Niagara Region. Within each model, there are a number of variables and sub-options available, including level of involvement and funding commitment from the Region, and how the governance of each model is organized.

The three models assessed are:

1. **Maintain and Enhance the Status Quo Model:** Local transit continues to be funded by each municipality while inter-municipal transit services are funded by the Region or through a direct agreement with a post-secondary institution as part of the U-Pass initiative. Some coordination takes place between all funders and service providers, including fare integration. Under this model, the triple majority vote would be required for the Region to have continued involvement in establishing, operating and maintaining inter-municipal transit services that cross municipal boundaries within Niagara Region. Specific details of the role of lower-tier municipalities would need to be identified. This includes enhancements to staffing and facility requirements needed to maintain and enhance the existing level of service in each system (e.g. a new mechanic recently hired in Welland).

2. **Consolidated Transit Model:** The St. Catharines, Niagara Falls and Welland Transit systems combine their services into one large Consolidated Transit system, providing integrated planning and delivery of local and inter-municipal services through a consolidated governing body. Decision-making on local transit services would continue to be made by each local council for transit services within their own jurisdiction, recognizing that approximately 80 percent of transit trips within Niagara are local in nature. This maintains the control of local councils to set their own budgets and focus on local priorities while still benefiting from integrated aspects of consolidation. Through consolidation, common goals and objectives are developed for transit service delivery in a larger area, providing more opportunities for service integration and the development of a seamless network. Local municipalities with small local transit services outside of the Consolidated Transit Service Area continue provide their own service and can also contract directly with the new governing body for local and inter-municipal services as desired. They would connect to the Consolidated Transit Model through representation on the governing body and would contribute in the planning of seamless inter-municipal services throughout the region. The Region stays involved in this model by providing funding and decision-making for inter-municipal services. Under this model, the triple majority vote would be required for the Region to have continued involvement in establishing, operating and maintaining inter-municipal transit services that cross municipal boundaries within Niagara Region. The Region could also be established the power to plan and fund certain aspects of local service (e.g. provision of a region-wide smart card). Specific details of the extent of the Region's power would need to be formalized.

3. **Regional Transit Model:** The Region plans, funds and delivers all local and inter-municipal transit, with the absorption of the multiple local municipal transit systems throughout Niagara. Transit is planned and delivered for the entire region by one body, providing opportunities for service

integration and the development of a seamless network. In this model, there is minimal local municipal involvement, except through special service requests. Under this model, the triple majority vote would be required to transfer the full authority to establish, operate and maintain public transit services (both local and inter-municipal) from the lower-tier municipalities to the Region. Although not discussed as part of this study, this would also likely involve the transfer of local specialized transit services to the region. Under this model, lower-tier municipalities are no longer involved in the business of public transit (except as a stakeholder).

The three models were reviewed and evaluated using a business-case approach. The section below provides a more detailed description of each service delivery and governance model, including how it is organized, the impact on service quality, cost and funding. These are then evaluated based on defined criteria that closely align with the guiding principles identified by the Niagara IMT Working Group.

It should be noted that the WEGO system is a visitor transportation system that has been servicing the tourism core since 2012. It is owned by the City of Niagara Falls and is operated by the City (Red and Blue Lines) with an operating agreement with the Niagara Parks Commission (Green and Orange Line). It is not to be considered part of the Governance review and will remain under the control of the City of Niagara Falls. However, to avoid duplication, integration with local transit (as it exists today) needs to be explored further.

8.1 Option 1: Status Quo Model

Service Model Description:

The Status Quo Model retains the current arrangement of the three primary Local Transit systems (Niagara Falls Transit, St. Catharines Transit and Welland Transit) continuing to operate individual services within their appropriate municipality. They continue to retain their individual fare structures, back office administrative support and direct reports into their individual Council. Niagara Region Transit continues to fund some selective inter-municipal transit services. Smaller services in Fort Erie, Port Colborne, Niagara-on-the Lake and Pelham (as well as WEGO) continue to provide services in localized areas. New local services that may be implemented in the future (for example, a local service within Grimsby) will need to be funded by the representative local municipality. The operating rate in the model is increased to account for planned and recommended local improvements to maintain a good level of service in each system (e.g. new mechanic in Welland, need for a transit maintenance facility expansion in St. Catharines).

Organization:

The individual organizations that operate local transit are relatively small. St. Catharines and Niagara Falls have a Transit General Manager, Managers of Operations and Maintenance, and various field supervisory staff and administrative support. Welland Transit has a Transit Manager and various field supervisory staff (services outside of the three main transit systems typically have one person providing part-time transit coordination). Administrative services such as Legal, Human Resources, Finance and

Procurement are provided by the local municipality, and do not necessarily form part of the transit operating budget[10].

Trips Beyond Service Area:

Inter-municipal transit services continue to be paid by the various U-Pass programs, and separate contracts for services can continue to occur with other municipalities contracting to one of the three larger systems. Niagara Region provides funding for select inter-municipal transit routes through contracted services to the various local transit systems, at full cost recovery by the local transit agency.

Under the Status Quo Model, inter-municipal transit trips would continue to be partially provided and funded through a local municipality (e.g. Port Colborne Link), the Region (e.g. Route 70/75) or funded and planned through a post-secondary institution (e.g. Brock Link). While the Region may have a plan for the expansion of inter-municipal services, implementation can be difficult due to competing local interests, leading to situations of inefficiency and service duplication. In areas where two of the existing transit services meet, transfers from one system to another for the inter-municipal trip could be necessary even if a relatively large demand existed for through-service. Likewise, duplication of local services, post-secondary services and inter-municipal services would continue to be a challenge to overcome due to difficulties with existing fare-sharing models.

Future inter-municipal transit trips would either be funded by the Region, if the route was significant for the region, or funded by the adjacent municipality requesting the service.

Service to GO Transit:

Local bus routes could be directed to the various GO Train stations within Niagara Falls and St. Catharines. However, service to the Grimsby GO Station would be dependent upon the willingness of Grimsby to provide the service. Likewise, inter-municipal bus services would continue to be restricted to contracted services only (Post-Secondary routes or Niagara Region Transit routes). Existing Niagara Region Transit routes that terminate in downtown St. Catharines could be extended to the St. Catharines GO Train station with little difficulty. This would provide access to the GO Train from Welland, Port Colborne and Pelham (Route 70/75), Niagara Falls and Fort Erie (Route 50/55) and Niagara-on-the-Lake (Route 40/45).

Integration and Level of Service:

This service model makes it difficult to integrate local, inter-municipal and post-secondary funded services, reducing the cost-effectiveness of certain routes and therefore the level of service required. Customer service is also focused on local trip making, with no single source to plan and request information on a complete inter-municipal trip with local transit connections. Because local transit systems spread their operating and cost-recovery revenues across a broad scope of bus routes, less lucrative routes get partially subsidized by the broader service area. Under the Status Quo Model, other municipalities that may wish to contract transit services do not have the ability to share in the broader base of bus service routes. This makes it more difficult to implement new services to/from municipalities in Niagara which have a smaller population base.

[10] This is not applicable to St. Catharines Transit, which currently provides administrative services as described in-house.

Cost:

Hourly operating costs under the Status Quo Model would remain the same under the existing service level. However, if each municipality were to implement the various service improvements recommended in **Section 14.0** of this report, hourly operating costs for a number of systems would increase. These can be broken down into five components: Transit administration and management; facility maintenance; driver wages; fuel and vehicle maintenance.

Welland is in need of additional service planning and supervisory staff which will increase the hourly administrative cost[11]. St. Catharines Transit has also identified a need for an additional staff member to manage statistics. If an integrated smart card and Trip Planner are implemented, the need for additional staff is also warranted in both systems, particularly in Welland. This results in a 10.5 percent increase in transit administrative costs (from 2015) with the Status Quo Model continuing to remain in place.

The transit facilities in St. Catharines and Welland are also nearing capacity. With an increase in seven to ten inter-municipal transit vehicles as identified in the Inter-municipal Transit Service Plan (**Section 14.0**), there will be a need to store these vehicles in one of the three existing transit facilities in St. Catharines, Welland or Niagara Falls. St. Catharines has identified a facility expansion should be completed by 2018. Welland Transit has identified a need for a facility expansion, however, this has not been approved by Council. Facility cost increases would need to be incorporated into the overall hourly rate for these systems.

Under the Status Quo Model, hourly driver operating costs for each system would remain unchanged as there is no need to consolidate labour agreements into one organization. A 2 percent increase per year was included to account for inflation. Maintenance costs would go up slightly in Welland to reflect the recent hire of a new mechanic (assumed $80,000 per year including benefits); otherwise, there should be no change. Fuel costs would also not be impacted by staying with the Status Quo Model. A 2 percent per year increase was noted to account for inflation.

For comparative purposes, the average hourly operating cost of all existing and proposed local and inter-municipal services were calculated assuming the Status Quo Model where to remain in place. For existing systems, data was used from the 2015 CUTA Fact Book. Additional service hours and costs for the proposed expansion of the Niagara Falls Transit system (moving to 30 minute peak frequency on all routes by 2019), a new cross-town route in St. Catharines, as well as the approved addition of Sunday service to Welland Transit was taken into consideration. For new local systems in Grimsby, Lincoln and West Lincoln, assumptions were made on service hours and the hourly operating cost was assumed to be the average of Port Colborne and Fort Erie. For new inter-municipal connections to Grimsby and West Lincoln, the existing NRT rate was used. Based on these assumptions, the average hourly operating cost for all transit services in Niagara Region under the Status Quo Model is forecasted to increase by approximately 8.5 percent from $101.05 (2015 operating year) to $109.62 per service hour (assume 2018 operating year).

Funding:

Funding of existing and future transit services would occur in a similar manner as it does today, with no substantial increase in funding levels. It was broadly recognized through stakeholder engagement that

[11] Note: Additional supervisor in Welland was recently approved by local Council

transit funding in Niagara is at the subsistence level. The gross operating cost for transit services amongst the three larger systems is approximately $32 million a year (2015). The total operating costs are offset by approximately $15.5 million a year (2015) in fare box and U-Pass revenues. The Region contributes approximately $2.6 million per year (2015) with contracts to the IMT systems for inter-municipal transit.

Allocation of gas tax revenues from the Province to each municipality remains the same and may be slightly higher than other models since ridership for inter-municipal trips can be credited to each service provider that contributes to the trip (e.g. a trip from Welland to St. Catharines using two local services and one inter-municipal service has a trip credited to Welland, St. Catharines and Niagara Region). This may be off-set by poorer ridership growth potential in the Status Quo Model.

The Status Quo Model retains the current fare program where fare box revenues would remain with the transit system collecting them. Fare integration continues to occur between local and inter-municipal services, however, is not optimized without the implementation of a common smart card system as proposed in **Section 16.2**.

Implementation:

If the Region wishes to maintain funding support for some inter-municipal routes through contracts with the various local transit systems, a triple majority vote would be required. Because the funding has been ongoing for a few years, it is assumed that Council support at both the local and Regional level would be obtained to continue in this mode.

However, there is a public and provincial expectation that a more integrated service model is necessary to support future GO Train services, meet the needs of the growing population areas as their urban areas grow together, and to support the attraction of necessary jobs to Niagara. Therefore, retention of the Status Quo Model may be perceived by the public at large as being unacceptable, but it is retained as a base for comparison.

If there is no desire to consolidate services, the Status Quo Model could be retained. However, to meet the goals and objectives established by the Niagara Inter-Municipal Transit Working Group, it is recommended that:

- Additional funding be allocated to standardize and improve customer service;
- Smart card technology be introduced to standardize fare payment across all systems and improve service integration;
- The Region formally becomes active in supporting inter-municipal transit services through subsidizing inter-municipal services and assisting in reducing duplication of services such as call centre and procurement.

8.2 Option 2: Consolidated Transit Model

Service Model Description:

The Consolidated Transit Model brings the three largest transit systems (St. Catharines Transit, Niagara Falls Transit and Welland Transit) together within one corporation reporting into one governing body (Commission or Board). The new governing body would be responsible for integrated planning and delivery of public transit services within the Consolidated Transit Service Area. Each municipality would contract its transit service needs to the new transit corporation and pay for its fair share of the service. The governing body would develop Annual Service Plans based on common goals and objectives as well

as direction provided by each local council on their local and inter-municipal transit service needs. Decision-making on local transit services would continue to be made by each local council for transit services within their own jurisdiction. This maintains the control of local councils to set their own budgets and focus on local priorities while still benefiting from integrated aspects of consolidation.

The consolidated governing body would establish a new brand, fare structure, back office administrative support and provide direct reports into the Council's supporting the consolidated corporation. They would also be responsible for service planning within the Consolidated Transit Service Area, including all local and inter-municipal trips.

It is possible for two of the transit systems to "transfer" their assets and labour to one of the existing transit operators, so an existing organization remains to provide the broader service. However, from a governance perspective this could cause difficulties, as the "parent" governing body of the remaining transit system would be perceived as making the strategic policy decisions, and controlling the corporation. Therefore, for the purposes of this assessment, it has been assumed that the three transit systems and Niagara Region agree to create a new corporation, with the three local Councils and Regional Council providing direction to the consolidated governing body through both budget control and reporting relationship.

While the consolidated governing body would have a broader mandate that extends beyond the individual goals of one local municipality, a number of processes would also be in place related to budget approvals that protect local interests for local transit decisions. As identified above, the new governing body would have the ability to suggest modifications to local transit services through an Annual Service Plan process within each partnering municipality, subject to budget approval by the local municipality being directly impacted.

A common fare would be in place, using smart card technology. The fare structure is recommended to be comprised of a flat fare for service within one municipality, with a small premium for transit trips into another municipality (as recommended in **Section 16.1**). This occurs in other Regions, where a two Zone Fare System exists.

For transit routes which extend beyond the Consolidated Transit Service Area, local municipalities in the adjacent municipalities would request service either directly to the consolidated governing body, or to Niagara Region. It is recommended that the Region establish a special funding arrangement with the adjacent municipalities to assist in establishing inter-municipal transit services between the municipalities. This type of arrangement could include the Region funding 100 percent of fleet capital costs and 60 percent of the operating cost of inter-municipal services, subject to Council approved service guidelines being met and the service being integrated with services in the Consolidated Transit Service Area. This continued involvement from the Region for inter-municipal transit is important to connect growing municipalities to the larger urban centres and help promote job creation, access to education, health care and services, population growth and economic development, and youth retention in the community. While these are goals many smaller municipalities also have, most do not have the tax base to afford both a local and inter-municipal transit service for its residents.

To facilitate consultation between the consolidated governing body and the municipalities outside of the Consolidated Transit Service Area, it is suggested that a Technical Advisory Committee be established which includes representation from each municipality in the region that is not a part of the consolidated governing body to provide input to the new consolidated corporation on matters which may impact/improve services into their municipality or smaller local transit system (e.g. development of a common smart card or dynamic transit app). This should also include representation from one

member of the Technical Advisory Committee on the consolidated governing board (Board or Commission).

Small local transit systems in Fort Erie, Port Colborne, Niagara-on-the Lake and Pelham would continue to be funded and provided by the relative local municipality.

Connections and potential integration with the Consolidated Transit Model are achieved through agreements with the new governing body. New local municipal services that may be implemented in the future (for example, a local service within Grimsby) would be funded by the representative local municipality. This is similar to the Status Quo Model.

Organization:

A larger consolidated corporation also has larger expectations and deliverables. As well as a Transit General Manager, there is a need for several managers to oversee operations, maintenance, planning, finance and communications. As well, the larger system will require more centralized administration services. Either the services are contracted from the various local municipalities, or are provided in-house. Even with contracted services, there will be a need for an Administrations Manager, and possibly an in-house lawyer. This may simply be a transfer of certain resources from a municipality to the consolidated corporation.

For legal purposes, the transit assets which reside within each municipality could be leased to the new corporation for $2/year, or the asset can be completely divested to the new corporation at its present depreciated cost, or as a no-cost transfer (under the Consolidated Transit Model, existing investments paid by the area municipalities, although transferred to the new corporation, can be set up in a manner to remain under the control of the local municipality if the new corporation is disbanded in the future). In order to assess and implement inter-municipal services, additional assets and/or operating funds will likely be required.

The Region could also assist in establishing technology and inter-municipal administrative, operational and larger picture planning for transportation services within and beyond the Consolidated Transit Service Area, so there is a consistency of customer service and service delivery throughout Niagara.

The operations (driver reporting and bus maintenance) would continue to geographically occur in each of the three municipalities using existing bus maintenance facilities. The operations, management, administration and planning operation would be provided through one new corporation, reporting into the governing body (e.g. Board or Commission).

Trips Beyond Service Area:

Local transit services outside of the main urban area of St. Catharines/Thorold, Niagara Falls and Welland would continue to be provided by the local municipality they operate in, typically contracted out to a private contractor (e.g. NOTL Transit) or to the consolidated governing body (e.g. Port Colborne Transit or Thorold). The Region would continue to provide partial funding for inter-municipal routes which cross a municipal boundary outside the consolidated service or connecting to the Consolidated Transit Service Area. For routes that connect to the Consolidated Transit Service Area, it is recommended that certain fare and service integration policies are in place and service guidelines are met as a condition of funding.

Service to GO Transit:

Consolidated bus routes could be directed to the various GO Train stations. Within the Consolidated Transit Service Area, inter-municipal routes would be extended providing convenient connections for

residents in Welland and Niagara Falls to the St. Catharines GO Station. The benefit of the Consolidated Transit Model is that it allows for more integration between local and inter-municipal service, reducing some duplication of service to access GO Transit services. However, service within Grimsby would still be based upon the willingness of Grimsby to operate a local service into the GO Station. A future need for inter-municipal transit service from Beamsville to St. Catharines/Grimsby GO Station, or Smithville to the Grimsby GO station would likely have to be jointly provided by the Region and the local municipality, with financial assistance from the Region.

Integration and Level of Service:

The Consolidated Transit Model increases the opportunity to integrate inter-municipal, local and post-secondary services, therefore reducing duplication of services and allowing system resources to be more appropriately allocated. This occurs because transit services between the three municipalities are treated as one system as opposed to three separate systems. Approximately 98 percent of transit ridership within Niagara Region currently takes place within the Consolidated Transit Service Area; therefore, a focus on this area will benefit the majority of transit passengers.

From a customer's perspective, the use of a common trip planning tool, customer call centre and a smart card system are easier to implement. With a common smart card in place, better integration between local and inter-municipal services is also possible, where customers can take an inter-municipal route to make a local trip and only be required to pay a local fare. This increases the availability of services and allows for reallocation of local services where there is duplication with inter-municipal services. Connections to municipalities outside the Consolidated Transit Service Area can also be improved by encouraging local municipalities outside the consolidated network to contract out inter-municipal links to the consolidated transit system. This would include access to an integrated smart card system, use of the dynamic transit app and customer service contact centre.

Cost:

Hourly operating costs under the Consolidated Transit Model would be slightly higher than the Status Quo Model. This can be broken down into five components: Transit administration and management; facility maintenance; driver wages; fuel and vehicle maintenance.

Transit administrative costs would likely increase about 8.3 percent from current rates from 2015 operating rates. This is slightly less than the administrative rate increase that would be experienced under the Status Quo Model due to some efficiency gained through consolidation. While the number of management staff would likely decrease, there is an existing need for additional service planners, and supervisors (also included in the Status Quo Model). An increased emphasis on a common smart card, customer service call centre and trip planning will also increase the need for IT staff.

Facility costs would remain the same, until the expansion of a facility is required. All facilities are currently at capacity, with some availability for expansion of vehicle storage in Niagara Fall's new facility (however, this will be limited as Niagara Falls Transit phases in 30 minute peak services on all of its routes). Under the service delivery plan identified in **Section 14.0,** there is a need for seven to ten expansion vehicles to accommodate the level of service improvements. There is also a potential for efficiencies gained with the integration of inter-municipal and local services. This could reduce vehicle requirements and delay the need for new facilities.

Under the Consolidated Transit Model, all drivers of each of the transit system within the Consolidated Transit Service Area would function under one corporation. Past experience has demonstrated that benefits and wages could move to the highest and best rates existing between the three systems that

provide service (Welland, St. Catharines and Niagara Falls). The top 2016 salary (including benefits) of transit operators in each system was provided by St. Catharines Transit, Niagara Falls Transit and Welland Transit. Based on this comparison, there was a 9 percent difference between the highest wage and the lowest wage among the three systems, with Niagara Falls having the highest wage. For the purposes of this analysis, the hourly rate for Niagara Falls Transit was used for all services within the Consolidated Transit Service Area.

Mechanics and servicing staff from each of the consolidated area systems would also function under one corporation. This would typically mean that the maintenance wages would be negotiated to the highest wage between the three systems that provide service. Welland recently hired a mechanic and it was assumed the system would require at least one more to accommodate for the potential expansion of inter-municipal services to West Lincoln. There is some efficiency to be gained with a Consolidated Transit Model, including improved efficiencies with maintenance practices and parts storage. For the purposes of costing, two new maintenance positions were assumed ($80,000 each). The top full-time wages between the three systems were also compared. The difference between the highest wage and the lowest wage between the three systems was only 2 percent. An adjustment was made to the systems with a lower wage to match the highest wage (St. Catharines Transit).

St. Catharines Transit, Niagara Falls Transit and Welland Transit have attempted over the years to consolidate the purchase of fuel to achieve a lower rate. These attempts did not result in a lower fuel rate as there is little flexibility in fuel prices, even with the increased purchasing power of all three systems. Based on these previous attempts to coordinate fuel purchases, it is not expected that a lower rate will be achieved under the Consolidated Transit Model. However, with more flexibility with three transit facilities to store and maintain vehicles, the number of garage in-and-out hours may decline slightly. This may not be enough to reduce costs significantly. Therefore, for the purposes of this costing analysis, it was assumed that only a 2 percent increase in fuel to account for rising fuel prices was included in the hourly operating fuel rate.

For comparative purposes, the average hourly operating cost of all existing and proposed local and inter-municipal services were calculated assuming the Consolidated Transit Model was implemented. For existing systems, data was used from the 2015 CUTA Fact Book. Additional service hours and costs for the proposed expansion of the Niagara Falls Transit system (moving to 30 minute peak frequency on all routes by 2019), a new perimeter route in St. Catharines, as well as the approved addition of Sunday service to Welland Transit was taken into consideration. For new local systems in Grimsby, Lincoln and West Lincoln, assumptions were made on annual service hours and the hourly operating cost was assumed to be the average of Port Colborne and Fort Erie. For new inter-municipal connections to Grimsby and West Lincoln, the existing NRT rate was used. Based on these assumptions, the average hourly operating cost for all transit services in Niagara Region is forecasted to increase by approximately 9.5 percent from $101.05 (2015 operating year) to $110.60 (2018 operating year plus the modifications noted above as a result of the new Consolidated Transit Model). This represents a 1 percent increase over the Status Quo Model (also using the 2018 operating cost rates).

Funding:

Passenger revenues would make up the majority of funding for transit services. The optimization of post-secondary and inter-municipal transit routes in the urban area of Niagara has the highest potential for implementation under the Consolidated Transit Model and the Regional Transit Model.

Assuming the Consolidated Transit Model retains the current funding structure, services are provided based upon individual municipal tax base and ability of Region/U-Pass program and other local

municipalities which desire to link into the existing transit network to pay directly for contracted services. This would include funding by the Niagara Parks Commission for ongoing WEGO services.

Additional funding would be required for the extension of various municipal services between the municipalities within the Consolidated Transit Service Area. The end result would be overall improved transit services for the Consolidated Transit Service Area in Niagara. Funding support for the services could be based upon service miles or service hours within each municipality. Each municipality pays their portion of the operating cost. A suggested funding formula is based upon:

- The transit service miles within each of the municipalities divided by the total service miles/service hours of the new corporation multiplied by the total corporation operating cost.
- The operating subsidy from each municipality would be reduced by the revenue generated, based upon passenger boardings within each municipality.
- Alternatively, the operating costs and revenues could be pooled and an agreed upon proportional allocation from each funding municipality could be established to avoid the administrative burden of monitoring individual operating and revenues within each municipality.

The operating subsidy would be further reduced by applying the Provincial Gas Tax allocation. Under this model, one of the three municipalities would need to be the contact to the Ministry of Transportation Ontario (MTO) to collect Provincial Gas Tax funding. However, the funding would be based on the total population and ridership within the Consolidated Transit Service Area. The new consolidated governing body would undertake "normal" service planning needs related to ridership and new service (demand) areas, on an annual basis. Each municipality would also present service requests into the annual budget process. Once the annual budget was prepared, it would be submitted to each municipality for approval of the subsidy level required from them. If any municipality had concerns with the subsidy expectation, services would be reduced accordingly in that municipality, unless across-the-board administrative savings were available. External to the Consolidated Transit Service Area, inter-municipal services would be contracted directly to the requesting municipality at full cost recovery.

Under this scenario, the Region could stay involved from a funding aspect through a number of scenarios. However, this would require a triple majority vote to introduce inter-municipal transit service planning under the Region's mandate. The Region could provide the following services:

- Back office support: Providing cross-region services such as the Call Centre;
- Subsidizing inter-municipal transit service requests from adjacent area municipalities, outside of the Consolidated Transit Service Area of the three large transit systems (recommend a 100 percent Regional subsidy of fleet and 60 percent Regional operating subsidy level); and
- Supporting the establishment of small local transit systems or alternative delivery models by extending services provided in the Consolidated Transit Model (e.g. centralized customer service centre, IT support, vehicle procurement, development of a dynamic transit app, etc.).

Provincial Gas Tax funding may go down by 1 percent in the Consolidated Transit Model (approximately $80,000) since trips that cross municipal boundaries within the Consolidated Transit Service Area are now only counted as one trip (this could be counted for as many as three trips under the Status Quo Model if a passenger uses two local services along with the inter-municipal service). This is not expected to impact gas tax allocation since ridership growth that can be expected with a Consolidated Transit Model is likely to exceed this reduction.

Implementation:

As with the other models, implementation of a Consolidated Transit Model requires triple majority approval with the Region's involvement (as described above).

Existing public sector labour contracts would be transferred to the new governing body. This may be a challenge due to variances in labour rates, benefits and pensions, but it is not insurmountable as the variances are not great. Typically though, labour rates and benefits will likely shift to the highest common denominator. Labour stability during this transfer is critical in order to provide a high level of service to customers in the effected service areas, and to assure the Union that this consolidation will not impact current jobs. To be successful, the new "brand" needs to start with a positive public image.

The risk from the governance and funding perspective is the establishment of strategic policy direction for the new governing body by the Councils to which it reports. A shared vision and values among those with decision-making authority must be obtained and maintained.

The other risk is how to proceed with significant changes to the delivery of service if one of the three municipalities does not support it (from either a funding reason or a political reason). For example, if changing to a smart card system costs millions of dollars, one municipality may be reluctant to assume the higher debt level. A Consolidated Transit Model may have a greater ability to attract funding from senior levels of government because of the larger population served. This typically occurs with special grants or funding programs that go to large infrastructure projects (e.g. London is requesting funding from the Federal and Provincial governments for a new Bus Rapid Transit network). This could augment some of the concerns from a capital funding perspective for larger capital projects.

8.3 Option 3: Regional Transit Model

Service Model Description:

The Regional Transit Model would be a further extension of Option 2. Consolidation of the three large transit systems would occur under a Regional Governance framework, and the Region would also deal with services and requests for service outside of the St. Catharines, Thorold, Niagara Falls and Welland area. This is similar to what has occurred in York, Durham and Waterloo Regions.

The Regional Transit System brings the three local transit systems together, as well as the local services within Port Colborne, Niagara-on-the-Lake, Fort Erie and Pelham, into one "regional transit system". Expansion of transit service to other municipalities within the region would also be the responsibility of the Regional Transit System. This would require a triple majority vote.

Organization:

Similar to Option 2, the larger organization also has larger expectations and deliverables. As well as a Transit General Manager, there is a need for several managers to oversee operations, maintenance, planning, finance and communications. As well, the larger system will require more centralized administration services. As it is a regional system, these services could be provided by staff from the Region. Even if the services are provided by the Region, there will be a need for an Administrative Manager, and potentially an in-house lawyer.

For legal purposes, the transit assets which reside within each municipality would be divested to the new regional system at its present depreciated cost, or as a no-cost transfer.

Funding support for the services, as has occurred elsewhere in Ontario, could be provided through a Regional Tax Levy applied to cover the operating subsidy. This Levy could be applied Region-wide, or only for those areas getting direct transit service. The funding of public transit is completely removed from the local municipal tax rate. The operating subsidy and capital costs would be further reduced by applying the Provincial Gas Tax allocation, which would be applied for by the Region.

The operations (driver reporting and bus maintenance) would continue to occur in each of the three municipalities using the existing bus maintenance facilities. Local services in Fort Erie, Port Colborne, Niagara-on-the-Lake and Pelham would also likely report to one of these facilities, potentially necessitating a need to further expand one or more of the facilities.

The operations, management, administration and planning operation could be provided through one new agency (as in the Consolidated Transit Model) reporting into the Region, possibly through a Commission. It is also possible for the new system to report directly to Regional Council through a Department of the Region. A common fare would be in place, as well as common branding. Beyond the "normal" service planning needs related to ridership and new service (demand) areas, each municipality could present service requests into the Region. These requests would be assessed based upon the Regional Service Guidelines and budget available. New inter-municipal transit services would also be assessed based upon the Regional Service Guidelines.

As has happened in other Regional systems, requests for service to each local municipality within the Region would likely occur, as there is an expectation that services should be provided if they are being captured in the regional tax rate.

Trips Beyond Service Area:

Since the service area encompasses the entire Region, all routes (both local and inter-municipal) would be funded and provided by the Region.

Service to GO Transit:

Bus routes could be directed to the various GO Train stations. Inter-municipal routes would be extended providing convenient connections for residents in Pelham, Welland, Thorold, Niagara-on-the-Lake, Port Colborne and Niagara Falls to the St. Catharines GO Station, residents of Fort Erie to the Niagara Falls GO Station, and residents of West Lincoln and Lincoln to the Grimsby GO Station. The benefit of the Regional Transit Model is that it allows for more integration between local and inter-municipal service, reducing some duplication of service to access GO Transit services.

Integration and Level of Service:

Similar to the Consolidated Transit Model, the Regional Transit Model increases the opportunity to integrate inter-municipal, local and post-secondary services, therefore reducing duplication of services and allowing system resources to be more appropriately allocated. This 'benefit' is only slightly higher than in the Consolidated Transit Model since transit ridership in the consolidated service area accounts for approximately 98 percent of transit ridership within Niagara Region.

From a customer's perspective, the use of a common trip planning tool, dynamic transit app, customer call centre and a smart card system are easier to implement, and would include full benefit to local transit services within the smaller transit systems.

Cost:

Hourly operating costs under the Regional Transit Model would be slightly higher than the Consolidated Transit Model. These can be broken down into five components: transit administration and management; facility maintenance; driver wages; fuel and vehicle maintenance.

Transit administrative costs would likely increase about 14.1 percent over the existing 2015 rates. While the number of management staff would decrease, there would still be an existing need for additional service planners and supervisors (similar to the Status Quo and Consolidated Transit Models). An increased emphasis on a common smart card, customer service call centre and trip planning will also increase the need for IT staff.

In the Regional Transit Model, facility requirements would be slightly higher than in the Consolidated Transit Model. The difference in this model is that the Region would also be responsible for storing and maintaining vehicles used to provide local services in Fort Erie, Port Colborne, Niagara-on-the-Lake, Pelham, Grimsby, Lincoln and West Lincoln. While this would only increase the number of vehicles by 9-10, these would likely need to be stored in one of the three existing transit facilities (Welland, St. Catharines or Niagara Falls). This would increase the need to expand one or two of the three facilities (Welland and/or St. Catharines).

Under the Regional Transit Model, all drivers and mechanics from all of the transit services would function under one organization. Similar to the Consolidated Transit Model, the operator and mechanic wages would be negotiated to the highest wage between all systems. While the rate is not that much different between St. Catharines, Welland and Niagara Falls, some of the smaller systems have a significantly lower rate. Three additional maintenance staff were also assumed ($80,000 each); one in Welland (already approved), as well as two additional to accommodate for the Region taking on existing and new local and inter-municipal services outside of the main urban area). As with the Consolidated Transit Model, there are some efficiencies with a Regional Transit Model, including improved efficiencies with maintenance practices and parts storage.

As with the Consolidated Transit Model, it is not anticipated that the hourly operating fuel rate would decrease under the Regional Transit Model. While there is more flexibility with three transit facilities to store and maintain vehicles, there would be an increase in the number of garage in-and-out hours for transit vehicles in some of the smaller municipalities (e.g. West Lincoln) to be stored and maintained. For the purposes of this costing analysis, it was assumed that there would be no change in the hourly operating fuel rate.

For comparative purposes, the average hourly operating cost of all existing and proposed local and inter-municipal services were calculated assuming the Regional Transit Model was implemented. For existing systems, data was used from the 2015 CUTA Fact Book. Additional service hours and costs for the proposed expansion of the Niagara Falls Transit system (moving to 30 minute peak frequency on all routes by 2019), a new crosstown route in St. Catharines, as well as the approved addition of Sunday service to Welland Transit was taken into consideration. For new local systems in Grimsby, Lincoln and West Lincoln, assumptions were made on service hours and the hourly operating cost was assumed to be the average of Port Colborne and Fort Erie. For new inter-municipal connections to Grimsby and West Lincoln, the existing NRT rate was used.

Based on these assumptions, the average hourly operating cost for all transit services in Niagara Region is forecasted to increase by 11.2 percent from $101.05 (2015 operating year) to $112.39 (2018 operating year plus the modifications noted above as a result of the new Regional Transit Model).

Funding:

Passenger revenues would make up the majority of funding for transit services. The optimization of post-secondary and inter-municipal transit routes in the urban area of Niagara (as recommended in **Section 14.0**), has the highest potential for implementation under the Consolidated Transit Model and the Regional Transit Model.

Services are provided based upon Regional tax base and through the U-Pass program. This would include funding by the Niagara Parks Commission for ongoing WEGO services (which continues to be treated as a separate entity under this model). Typically, the funds used for operating and maintaining transit at the area municipal level would be transferred to the Region so there is no net increase to the taxpayer.

Additional funding would be required for the extension of various local municipal and inter-municipal services that currently do not have transit. The end result would be overall improved transit services for the entire Region.

The operating subsidy would be further reduced by applying the Provincial Gas Tax allocation. Under this model, the Region would receive the entire gas tax funding to be used for transit service investment. As with the Consolidated Transit Model, Provincial Gas Tax funding may go down by 1 percent in the Regional Transit Model (approximately $80,000) since trips that cross municipal boundaries within the consolidated service area are now only counted as one trip (this could be counted for as many as three trips under the Status Quo Model if a passenger uses two local services along with the inter-municipal service). This is not expected to impact gas tax allocation since ridership growth that can be expected with a Regional Transit Model is likely to exceed this reduction.

Implementation:

For the Region to introduce Regional Transit into its mandate, a triple majority vote is required.

The regional system does increase the ease of implementing many aspects of a seamless transit system throughout all of Niagara (including connections to GO Transit). It may also lead to an increase in regional investment per capita, since there will be more pressure to provide local and inter-municipal transit service to municipalities that may not justify the service (due to low population densities and large rural areas separating them with the urban areas of Niagara). As well, as it is Regional in nature, it will be difficult to deny unjustified services requested by some of the lower tier municipalities.

The Regional Transit System Model would be difficult to implement, as full support of St. Catharines, Niagara Falls, Welland and Regional Council would be required, as well as public acceptance of a larger Regional tax rate to fund the expanded Regional services.

Existing public sector labour contracts would be transferred to the regional transit system (including those contracted to a private sector operator). This may be a challenge due to variances in labour rates, benefits and pensions, but it is not insurmountable as the variances are not great. Labour stability during this transfer is critical in order to provide a high level of service to customers in the effected service areas, and to assure the Union that this will not impact current jobs.

9.0 Cost/Benefit Evaluation

The criteria for the evaluation of the three service delivery models described above can be based upon the objectives of the Guiding Principles defined by the Niagara Inter-Municipal Transit Working Group. These criteria are applied to the inter-municipal aspects of each service delivery model. The following criteria were used in assessing the cost and benefit of each service model.

1. **Customer Driven:** How effective is one service model over another in delivering a common, high-level customer experience? The customer experience is paramount to attracting new, choice ridership for both local and inter-municipal trips. Can the delivery model meet customer demands and provide efficient service to areas outside of the traditional transit service area within Niagara? Based on this definition, the following objectives where used to assess the cost and benefit of each service delivery model:

    a. Ability to continuously improve rider experience and understand customer needs
    b. Ability to create a culture of customer service among transit employees
    c. Provides service to areas outside of the traditional transit service area within Niagara
    d. Respects the importance of local services and responsiveness to local service requests
    e. Improves service to Post Secondary educations institutions

2. **Integrated:** How effective is one service delivery model over another in delivering an integrated transit system with less transfers, a standardized fare structure, reduced complexity of customer service in dealing with Call Centres, trip planning and fare systems (smart cards, etc.)? How effectively does one model support the GO Train service to Niagara, planned in the 2021 to 2023 timeframe? Based on this definition, the following objectives were used to assess the cost and benefit of each service delivery model:

    a. Delivers seamless inter-municipal and local transit system with less transfers to key destinations (work, school, healthcare and recreation)
    b. Provides an integrated and standardized fare structure, reduced complexity of customer service in dealing with Call Centres, trip planning and fare systems (smart cards, etc.)
    c. Supports the GO Train service to Niagara

3. **Economically Responsible:** What service delivery model sets priorities and delivers service more cost-effectively and responsively? Does one model reduce the likelihood of duplication of local services and inter-municipal services or between post-secondary services and inter-municipal services? Is it easier to provide unconventional transit solutions and technology for a more cost-effective solution under one service delivery model over another? Does one service delivery model provide advantages for allocating capital budgets from more senior levels of government? Based on this definition, the following objectives where used to assess the cost and benefit of each service delivery model:

    a. Delivers service more cost-effectively
    b. Reduces number of staff required to operate transit within the region

c. Reduces the likelihood of duplication of local services and inter-municipal services or between post-secondary services and inter-municipal services
d. Easier to provide unconventional transit solutions and technology for a more cost-effective solution
e. Provide advantages for accessing capital funding from more senior levels of government
f. Increase Provincial Gas Tax revenue collected

4. **Equitable:** Does one service delivery model provide a higher assurance in respecting existing local services for existing customers? Does one system facilitate expansion of services to existing, growing communities outside the traditional transit service area? Based on this definition, the following objectives where used to assess the cost and benefit of each service delivery model:

    a. Respects existing investments made by communities that now have transit services
    b. Able to easily facilitate expansion of services to existing, growing communities outside the traditional transit service area
    c. Respect collective labour agreements
    d. Ensures local municipalities have a say in local services and funding allocation

5. **Ease of Implementation:** Does one service delivery model respect the various transit labour collective agreements better than another? How easy will the transition be from one service delivery model to another? How easy it is to implement more integrated solutions that reduce duplication and provide consistency between the various municipalities? Based on this definition, the following objectives where used to assess the cost and benefit of each service delivery model:

    a. Agreement can be easily achieved on the structure of the Service Delivery Model
    b. Ease of transition from one service model to another
    c. Ongoing decision making looks at the big picture and is not hampered by local interests

Table 28 below provides a business case assessment of each of the service delivery models based on the evaluation noted above. Details of the business case assessment are included in **Appendix B**.

Table 28: Business Case Assessment of Service Delivery and Governance Models

Principle	Measure	Option 1: Status Quo	Option 2: Consolidated Transit	Option 3: Regional Transit
CUSTOMER DRIVEN	Ability to continuously improve rider experience and understand customer needs	MEDIUM	MEDIUM-HIGH	HIGH
	Ability to create a culture of customer service among transit employees	LOW-MEDIUM	HIGH	MEDIUM - HIGH
	Provides service to areas outside of the traditional transit service area within Niagara	LOW	MEDIUM	HIGH
	Respects the importance of local services and responsiveness to local service requests	HIGH	HIGH	MEDIUM
	Improves service to Post Secondary educations institutions	MEDIUM	MEDIUM-HIGH	HIGH
	SUMMARY	MEDIUM	MEDIUM-HIGH	HIGH
INTEGRATED: URBAN OR RURAL	Delivers seamless inter-municipal and local transit system with less transfers to key destinations (work, school, healthcare and recreation)	LOW	MEDIUM-HIGH	HIGH
	Provides an integrated and standardized fare structure, reduced complexity of customer service in dealing with Call Centres, trip planning and fare systems (smart cards, etc.)	LOW	MEDIUM-HIGH	HIGH
	Supports the GO Train service to Niagara	LOW	MEDIUM	HIGH
	SUMMARY	LOW	MEDIUM-HIGH	HIGH
ECONOMICALLY RESPONSIBLE	Operating Cost Implications	HIGH	MEDIUM	MEDIUM - LOW
	Reduces number of staff required to operate transit within the region	HIGH	MEDIUM	MEDIUM - LOW
	Reduces the likelihood of duplication of local services and inter-municipal services or between post-secondary services and inter-municipal services	LOW	HIGH	HIGH
	Easier to provide unconventional transit solutions and technology for a more cost-effective inter-municipal solutions	LOW	MEDIUM-HIGH	HIGH

Principle	Measure	Option 1: Status Quo	Option 2: Consolidated Transit	Option 3: Regional Transit
	Provide advantages for accessing capital funding from more senior levels of government	LOW	MEDIUM-HIGH	HIGH
	Increase Provincial Gas Tax revenue collected	MEDIUM-HIGH	HIGH	MEDIUM
	SUMMARY	MEDIUM	HIGH	MEDIUM-HIGH
EQUITABLE	Respects existing investments made by communities that now have transit services	HIGH	HIGH	MEDIUM
	Able to easily facilitate expansion of services to existing, growing communities outside the traditional transit service area	LOW	MEDIUM	HIGH
	Respect collective labour agreements	HIGH	MEDIUM	MEDIUM
	Ensures local municipalities have a say in local services and funding allocation	HIGH	HIGH	LOW
	SUMMARY	HIGH	HIGH	MEDIUM
EASE OF IMPLEMENT-ATION	Agreement can be easily achieved on the structure of the Service Delivery Model	HIGH	MEDIUM - HIGH	LOW
	Ease of transition from one service model to another	MEDIUM	HIGH	LOW
	Ongoing decision making looks at the big picture and is not hampered by local interests	LOW	MEDIUM	HIGH
	SUMMARY	MEDIUM	HIGH	MEDIUM
TOTAL		MEDIUM	HIGH	MEDIUM - HIGH

10.0 Business Case Summary

Based on the above assessment (as detailed in **Appendix B**), the following conclusions can be drawn for each service delivery and governance model:

1. **Customer Driven**

   The Consolidated Transit Model and the Regional Transit Model are both rated well for the Customer Driven principle. The Consolidated Transit Model would have a more consistent culture of customer service with drivers and customer call centre staff as all staff within the service area would be brought to one standard of customer service. Under the Regional Transit Model, the Call Centre would be aligned with the entire Region, more closely connecting with municipalities located outside the core urban area of St. Catharines/Thorold, Niagara Falls and Welland. The Consolidated Transit Model and the Status Quo Model rate the highest for respecting the importance of local services and responsiveness to local service requests. The Regional Transit Model would provide the most consistent customer charter for trips within all Niagara Region municipalities and would have a stronger mandate to extend services outside the traditional service area. The Regional Transit Model also has the strongest ability to provide improved transit access to post-secondary students that reside in some of the smaller municipalities.

2. **Integrated: Urban or Rural**

   The Regional Transit Model rates the highest for integration. There would be full integration between inter-municipal and local services. There would also be a consistent fare structure, single call centre and it would be easier to implement new technology such as a smart card system. Integration with all GO Transit stations and local/inter-municipal services would be more easily provided as part of the Regional Transit Model. The Consolidated Transit Model improves integration in the urban area, but not to the same extent in the rural area. It should be noted that transit system ridership in the Consolidated service area represents approximately 98 percent of existing transit ridership in the region, so there is limited difference between Regional and Consolidated integration. Rural Link Route integration in the Consolidated Transit Model could also be considered an improvement over the Status Quo Model with the ability to utilize (through contract) common customer service enhancements such as an integrated customer service call centre, integrated smart card system, etc.

3. **Economically Responsible**

   The Consolidated Transit Model rates the highest for the Economically Responsible principle. Local needs, inter-municipal needs and post-secondary needs are considered and planned together to reduce duplication of services with the Consolidated Transit Model and the Regional Transit Model resulting in a more efficient system. It is anticipated that a number of the route optimization recommendations noted in **Section 14.1** would not be realized under the Status Quo Model due to challenges with cost and revenue sharing under this model. Route optimization between inter-municipal and post-secondary services is expected to increase inter-municipal ridership, which may not materialize in the Status Quo Model.

Although the Consolidated Transit Model would require a marginal increase in staffing and operating costs compared to the Status-Quo Model to accommodate the new management structure and labour agreements, it would be less than the Regional Transit Model. The increase in hourly operating cost for the Consolidated Transit Model is anticipated to be approximately 1 percent higher than the Status Quo Model. For the Regional Transit Model, hourly operating costs go up by approximately 2 percent over the Status Quo Model. This preliminary cost was developed for comparison purposes between each model and accounts for all combined local and existing and planned inter-municipal transit services in the region (planned local route improvements are not accounted for).

4. **Equitable**

The Status Quo Model rates the highest for being equitable with the Consolidated Transit Model having a slightly lower rating than the Status Quo Model. With the Status Quo Model, services would remain in the local municipality where investments were made, labour agreements remain intact and local services would be provided as required by the local municipality. The Consolidated Transit Model would meet most of these objectives with the exception of the labour agreements where a new contract would need to be negotiated. The Consolidated Transit Model would improve the ability to facilitate expansion of services to existing and growing communities outside of the traditional service area. The Regional Transit Model would further increase the ability to provide this service.

5. **Ease of Implementation**

The Consolidated Transit Model rates the highest in terms of ease of implementation. While the Status Quo Model would be the easiest to implement (as limited changes are required to the structure), there is an expectation from the public and the Province that something needs to be done to create a more integrated transit network. Under the Consolidated Transit Model, transit stays within the control of the three constituent municipalities, which may make it easier to get a triple majority and agree to a new service delivery and governance model. Once the Consolidated Transit Model is created, it could be transitioned to a Regional Transit Model in the future if growth, funding and political acceptance develops (whereas it is difficult to move backwards from a Region Transit Model if a decision is made to accept this structure). The Consolidated Transit Model balances the ability to consider the big picture while still considering local interests. The Regional Transit Model provides the greatest ability to consider the big picture and strategic initiatives but is rated lower in the other objectives.

11.0 Recommended Service Delivery and Governance Model

11.1 Service Delivery Structure

Based on the evaluation of the three basic service delivery and governance models, it is recommended that the City of St. Catharines, City of Niagara Falls and City of Welland adopt the Consolidated Transit Model. As there is a need for improved inter-municipal services beyond the Consolidated Transit Service Area, it is recommended that the Region continue to be a funding partner and have representation within the governing body of the new corporation. Since it is recommended that the Region continue to be involved in funding transit, a triple majority vote from all Councils involved would be required (this is consistent with all three models).

Under this model, all three large transit systems would consolidate their services and provide a single, fully integrated system within the urban area of Niagara.

With the Region's involvement and financial support, inter-municipal transit routes would continue to be provided and would be extended into the outer lying municipalities of Niagara, ensuring alternative transportation services for individuals going to school, employment, medical or social activities both within and beyond the Consolidated Transit Service Area. Likewise, if a smaller municipality chose to initiate transit operations, it would be possible for the consolidated governing body to assist with various high level functions such as access to a centralized call centre, use of a dynamic transit mobile app, driver training and vehicle procurement.

To allow for input by all municipalities in Niagara into the various aspects of customer service and expanded service area, a Technical Advisory Committee should be established made up of political or senior staff representatives from municipalities located beyond the Consolidated Transit Service Area (e.g. Port Colborne, Grimsby, Pelham, etc.). This should also include the Niagara Parks Commission which represents the WEGO system. This committee could provide advice on further enhancements to service integration into the new consolidated governing body.

The Region may also consider initial funding support for new municipal transit services, beyond the Consolidated Transit Service Area. This would be undertaken as a means to support transit alternatives to the less dense population areas of the region, and to encourage environmental and socially sustainable transportation solutions to the broader community of the region. As smaller transit systems mature and expand, it would be possible for their operations to be consolidated within the Consolidated Transit Model. For example, as Port Colborne's transit service becomes a more important element of transportation service within its community, Port Colborne Council could consider requesting incorporation into the new consolidated corporation. Overtime, a broader service area could be incorporated as urbanization and growth occurs within Niagara Region.

11.2 Governance

As the initial Consolidated Transit Model would be accountable to the three Councils, as well as Regional Council for funding and strategic direction, it is suggested that a governing body (Commission or Board) be established with representation based upon some criteria with which all parties agree. There are a

number of potential frameworks that could be considered and should be assessed as part of the next steps required for implementation.

One potential framework would be to base the representation on the governing body based on the size of the existing local system or funding levels. The benefit of this model is that municipalities that contribute a higher level of funding have a greater influence on inter-municipal transit decisions that influence the majority of residents.

A second potential structure is to have equal representation on the governing body from all municipalities, regardless of the size or funding levels contributed to each existing transit system. This ensures that each municipality has an equal say in decisions that are made and does not allow one municipality to have greater decision-making authority over other smaller municipalities.

Under both options, a representative from this Technical Advisory Committee should also be elected to sit on the governing body to provide more formal input into inter-municipal transit decisions.

The representatives of the consolidated governing body could either be elected representatives of each of the municipalities, or private citizens appointed by each of the municipalities represented, or a combination of both. Elected representatives on the governing body may lose their Council seat, causing lack of continuity on the consolidated governing body, and losing a valuable asset from the governing body make-up. Therefore, appointments that go beyond election cycles are desirable. As well, an elected individual on the consolidated governing body may be conflicted with local issues (within their own Ward) in their decision-making process. It is also important for the consolidated governing body to have individuals with specific expertise in various areas (contracts, labour, IT, legal) to provide guidance and direction for the corporation. All of these skillsets may not be available through Council representation.

If a Consolidated Transit Model is carried forward, the next step would be for the Region and each of the local municipalities to review several governance structures and agree to an appropriate representation that is fair while representative of the funding provided towards transit.

11.3 Provincial Gas Tax Funding

In the Consolidated Transit Model, gas tax funding would be awarded based on the entire population and ridership of the consolidated system and allocated to the entire corporation (not any one municipality). One of the three municipalities would need to be the primary contact to MTO to collect Provincial Gas Tax funding on behalf of the new corporation. Provincial Gas Tax funding may go down by approximately 1-2 percent under this model since trips that cross municipal boundaries within the Consolidated Transit Service Area are now only counted as one trip (these may account for as many as three trips under the Status Quo Model if a passenger uses two local services along with the inter-municipal service). This is not expected to significantly impact gas tax allocation since ridership growth within the Consolidated Transit Model is likely to exceed this reduction.

11.4 Decision Making Process

The consolidated governing body would develop an Annual Service Plan within the limits of the approved annual budgets set by each Council that represents the Consolidated Transit Model. The plan would be brought forward to each Council for budget approval annually. While the model represents a

stronger need for integration and coordination, each Council would have the ability to influence local transit decisions made within their own municipality.

When establishing a decision-making process, consideration would need to be in place that protects for the goals of integration and coordination as well as the individual local needs and affordability concerns of each municipality. To this end, the model must have a decision-making process which ensures:

1. Individual municipalities can still maintain the right to reject (veto) recommendations brought forward by the consolidated governing body that pertain to service only within the local municipality (e.g. a local transit service improvement), independent of the other Councils that form part of the consolidated corporation.

2. Recommendations brought forward by the governing body that impact all municipalities representing the consolidated corporation (e.g. implementation of a common smart card) are adopted based on a majority vote from all Councils involved, and not hindered by one individual Council that does not support the decision.

There are a number of ways to protect local input and decisions under a Consolidated Transit Model. These are contractual in nature, and are also related to budget approvals. The new corporation needs to recognize the need to provide and revise local transit routes within the municipality, provided the local municipality agrees to pay for the cost of the local transit service as part of the budget approval for the Annual Service Plan for services provided.

In establishing a governing body for directing the consolidated local transit systems under one corporation, legal agreements would be necessary amongst the founding partners. In these agreements, it is essential to establish the purpose and principles that guide the new corporation and the need to protect local services, while ensuring the objectives of integration and coordination continue to be met. Suggested clauses include:

Purpose:

In order to provide a high quality and consistent level of customer service for transit customers within Niagara Region, the parties agree that there is a need and desire to consolidate transit services under one corporation to provide integrated and seamless services within and between the agreeing municipalities.

Principles:

1) In establishing the guiding principles for the corporation, the existing local service routes shall remain in place in each municipality unless the governing body can illustrate to the related local municipality through an Annual Service Plan process that a new service, or service adjustments, can provide equal or better service.
2) If the local municipality does not accept the modifications recommended in the Annual Service Plan of existing local transit services or other improvements that occur entirely within the local municipality in question, the consolidated governing body will maintain the existing transit structure and/or service level or revisit the plan based on recommendations made by the local Council.

3) Upon request of local Council, or based upon new demand for services, the governing body will assess the best way to provide new transit services to an area of a local municipality, and incorporate the new services into the Annual Service Plan for funding approval.
4) The Annual Service Plan will be presented to the Councils of the local municipalities for approval. If approval cannot be obtained from a local municipality, the Annual Service Plan will be adjusted to reflect the needs of the services with the objecting local municipalities.
5) The local municipalities will fund the corporation based upon a formula derived from overall operating costs divided by revenue miles within the municipality. In this way, the local municipality pays for existing and new services within its municipality, and controls/pays for the service level that it needs. Capital costs will be allocated using a similar formula.
6) The operating costs and/or capital costs of operating the corporation will be reduced by passenger fares, U-Pass funding, funding allocations from the Region, advertising and from funding provided by the Province or Federal governments (either directly to the governing body or indirectly through grants to individual municipalities in the corporation). Funding will be consolidated and redistributed to each participating municipality based on their share of operating and capital costs to determine the net cost that would need to be budgeted by each municipality and allocated to the corporation.

Through variations of these purpose and principles statements, the local municipalities retain control over the level and type of service that they need for their municipality. At the same time, the consolidated governing body can provide a consistent level and quality of service to the municipalities within the Consolidated Transit Service Area.

D. INTER-MUNICIPAL TRANSIT STRATEGY

12.0 Inter-municipal Transit Strategy

A key focus of this study was to develop an inter-municipal transit service strategy over the next seven years. The transit strategy is based on the assumption that a Consolidated Transit Model as recommended in **Part C** of this report is in place. This was a critical assumption as many of the service recommendations that include route optimization, integration and development of standardized and common approaches to customer service (e.g. a single customer call centre) are difficult to achieve under the Status Quo Model.

The Inter-municipal transit strategy includes:

1. A seven year service plan for existing and future inter-municipal transit services which address:
    a. Opportunities for route optimization (improve efficiencies and service levels);
    b. Service level improvements to meet growing demands;
    c. New inter-municipal service opportunities; and
    d. New dynamic transit services to address low demand areas.
2. An integrated fare strategy, including the use of a common smart card system; and
3. A common trip planning tool which will allow customers to plan and navigate themselves around each transit system in the region.

The inter-municipal Transit Strategy was designed to meet the guiding principles identified by the Niagara IMT Working Group of a service that is:

- Customer driven;
- Identifies unconventional solutions (leading-edge and innovative);
- Integrated and seamless;
- Economically responsible; and
- Fair.

13.0 Service Guidelines

13.1 Background

A stand-alone consolidated service guidelines document was produced which identifies both standards and performance measures that help move towards a more seamless system from the customer perspective, while recognizing the unique nature of each existing transit service within the region. The document was developed based on a Consolidated Transit Model being in place, but could also be used in the existing Status Quo Model or a potential future Regional Transit Model. The guidelines were developed as a framework to provide direction to the development of the inter-municipal transit strategy noted below. This section contains the highlights of the document, including the exact service guidelines themselves. For additional detail, the Service Guidelines document can be referenced.

Service guidelines provide for a consistent and fair evaluation of both existing and proposed services, and establish a framework for guiding decisions on how to best serve our customer's diverse travel needs within prevailing budgetary and resource limits. The guidelines are intended to provide a planning, design and decision-making framework for transit services that operate in Niagara Region, and are adaptable to any governance structure that may be in place.

Since demographics, customer expectations, and availability of transit resources change over time, service guidelines are evolutionary by nature. The Consolidated Transit System (as well as other local transit systems that choose to use this guideline) must be responsive to these changes in order to retain current customers and achieve and sustain ridership growth. Balancing customer expectations and budget constraints is a difficult challenge. Existing services must be monitored and modified continually to match service levels to demand and respond to opportunities for new or improved services. The dynamic nature of new population and employment growth in both urban and rural areas, as well as changing travel markets within the region requires constant review of new service strategies, service expansion, or service re-alignment options. Transit systems must be able to rationally evaluate service changes and make adjustments to service within the constraints of budget and equipment availability in order to provide the highest quality service in the most efficient manner possible, using established service guidelines as a tool.

These service guidelines should be reviewed and updated, as necessary, every five years in conjunction with any strategic service planning exercises conducted by the proposed consolidated governing body. This will ensure that established criteria are still relevant to the transit operating environment; customer needs and expectations, and reflect current transit industry trends.

It should be noted that the adoption of service guidelines below could impact passenger revenue, operating costs or capital costs. This level of analysis was for local services was not completed as part of this strategic plan and should be assessed in more detail moving forward.

13.2 Transit Service Area

The service guidelines document is applicable to public transit services provided within Niagara Region.

Service guidelines are established in three distinct transit services areas:

1. **Region-wide Transit Service Area:** The Region-wide Transit Service Area includes all participating municipalities in Niagara Region with local transit services in place. Guidelines established for the Region-wide Transit Service Area are focused on connecting residents between adjacent municipalities within the region.

2. **Urban Transit Service Area:** Urban Transit Service Areas are defined as the built up residential, retail, institutional and employment lands within urban areas of each local municipality with an established local transit service in place. Large greenfield space should not be included in the calculation of the Urban Transit Service Area. Urban Transit Service Areas should be established for the urban areas of St. Catharines, Niagara Falls, Welland, Thorold, Niagara-on-the-Lake, Fort Erie and Port Colborne, Lincoln (Beamsville), West Lincoln (Smithville) and Grimsby.

3. **Rural Transit Service Area:** Rural Transit Service Areas are defined as largely rural and greenfield areas with limited population and employment density (roughly under 10 residents and jobs per hectare). These areas typically have limited to no transit services in place. Where transit is provided, this typically takes the form of limited peak period fixed-route service or demand-responsive services (as defined below). Rural Transit Service Areas should be established for Wainfleet and Pelham and the rural areas of St. Catharines, Niagara Falls, Welland, Niagara-on-the-Lake, Fort Erie, Lincoln, West Lincoln, Grimsby and Port Colborne.

13.3 Route Classifications

Service guidelines are defined for the different route classifications that form the overall family of services. The following identify route definitions for transit services that operate within Niagara Region.

13.3.1 Inter-Municipal Express Routes

Inter-Municipal Express Routes provide a limited-stop direct connection between two or more urban municipalities within Niagara Region. Inter-Municipal Express Routes operate primarily on the provincial highway network or the arterial road network. Within local municipalities, Inter-Municipal Express Routes are designed to connect to major destinations and transfer points with local transit services and GO Transit services.

13.3.2 Rural Link Routes

Rural Link Routes provide a limited-stop direct connection between Rural Transit Service Areas or a smaller Urban Transit Service Area (e.g. Port Colborne) and an adjacent Urban Transit Service Area in St. Catharines/Thorold, Niagara Falls and Welland. Similar to Inter-Municipal Express Routes, Rural Link Routes operate primarily on the provincial highway network or the arterial road network. Rural Link Routes may include a short local feeder function with a Rural Transit Service Area. Due to decreased density in the areas they serve, Rural Link Routes are typically measured against a lower performance standard than Inter-Municipal Express Routes, and generally provide lower levels of service and more limited operating periods, depending on demand and performance.

13.3.3 Base Local Routes

Base Local Routes operate on corridors with higher ridership potential and thus provide a higher level of service, typically during longer operating periods. They are designed to reduce travel time by providing

direct two-way service along designated arterial corridors with minimal or no deviation, except at major transfer locations such as transit terminals and GO Stations, or major destinations such as post-secondary institutions and major shopping malls. Base Local Routes are provided within a single municipality, and only connect adjoining municipalities where there is contiguous development connecting each.

13.3.4 Local Feeder Routes

Local Feeder Routes operate on arterial, collector and local roads, providing a feeder or neighbourhood circulation function within a lower demand area. They are designed to maximize proximity to transit services first, which typically means routes are more circuitous and less direct than Base Local Routes. Local Feeder Routes are typically measured against a lower performance standard than the Base Local Routes, and generally provide lower levels of service and more limited operating periods, depending on demand and performance. Local Feeder Routes are provided within a single municipality, and only connect adjoining municipalities where there is contiguous development connecting each. Local Feeder Routes are generally put in place in low density areas that have a disconnected road network that cannot support the ridership performance targets of a Base Local Route.

13.3.5 Demand-Responsive Transit

Demand-Responsive Transit provides flexible routing and scheduling within a defined service area based on customer requests for trips. These typically use small/medium vehicles (including buses, taxis and vans) operating a shared-ride service between pick-up and drop-off locations according to customer needs. The service strategy is typically deployed for low-demand markets with greater accessibility needs (such as persons with disabilities) or in low demand periods and areas where a local transit services do not meet minimum productivity standards. The service strategy may also be applied to provide a higher and more convenient level of service to a targeted market.

13.4 Service Design Guidelines

13.4.1 System Proximity

Maximum walking distance to closest transit or demand-responsive stop in each Urban Transit Service Area should be:

1. 400 metres for 85% of residents and employees;
2. 250 metres to 85% of medium and high density residential and employment areas; and
3. 200 metres to major seniors' residences & activity centres.

Within Rural Transit Service Areas, this guideline only applies to municipalities with an Inter-municipal Express Route or Rural Link Route connection in place.

Maximum travel time within each Urban Transit Service Area to an Inter-Municipal Express Route or Rural Link Route bus stop should be:

1. Urban Transit Service Area - 15 minutes, 90 percent of the time (by walking or use of a Local Transit service).

2. Rural Transit Service Area – 15 minutes, 75 percent of the time (by walking, use of a Local Transit service or driving time to a park-and-ride lot).

13.4.2 Service Levels

Service levels define the frequency of service and the span of service for each route classification.

The span of service for each service type will determine the availability, flexibility and convenience of the service for transit customers. Minimum span of service targets are applicable to the Inter-municipal Express Services, Rural Link Routes, Base Local Routes and Local Feeder Routes.

Different frequency targets are identified for different service offerings and during different periods. This communicates to the customer the minimum level of service they can expect when taking transit within Niagara Region.

As a general guideline, clock-face headways should be used for any route operating with a scheduled headway greater than 10 minutes. Clock-face headways are an important marketing tool that allow schedule times to repeat each hour, making it easy for the customer to remember the bus schedule, and can also aid in improving connections. They are applied as a guideline only since the required frequency cannot always be achieved without incurring unwarranted additional running time/layover time and operating cost. **Table 29** shows minimum service frequency, by route type, while **Table 30** shows minimum span of service, also by route type.

Table 29: Minimum Service Frequency, by Route Type

Operating Period	Inter-Municipal Express Routes	Rural Link Routes	Base Local Routes	Local Feeder Routes
Weekday Peak	30	60	30	60
Weekday Base	60	N/A	30	60
Weekday Evening	60	N/A	30	60
Saturdays	60	N/A	30	60
Sunday / Holidays	60	N/A	30	Demand-Based

Table 30: Minimum Span of Service, by Route Type

Operating Period	Inter-Municipal Express Routes	Rural Link Routes	Base Local Routes	Local Feeder Routes
Weekday Peak	7:00 am to 9:00 am 3:00 pm to 6:00 pm	7:00 am to 9:00 am 3:00 pm to 6:00 pm	6:00 am to 9:00 am 3:00 pm to 6:00 pm	6:00 am to 9:00 am 3:00 pm to 6:00 pm
Weekday Base	9:00 am to 3:00 pm		9:00 am to 3:00 pm	9:00 am to 3:00 pm *(or demand-based)*
Weekday Evening	6:00 pm to 11:00 pm		6:00 pm to 11:00 pm	6:00 pm to 11:00 pm *(or demand-based)*
Saturdays	7:00 am to 11:00 pm		6:00 am to 11:00 pm	6:00 am to 7:00 pm *(or demand-based)*
Sunday / Holidays	9:00 am to 7:00 pm		8:00 am to 9:00 pm	Demand-Based

13.4.3 Service Integration

In order to promote improved passenger connections to the GO Transit service, the following guidelines apply:

1. Where possible, local transit, Inter-municipal Express Routes and Rural Link Routes that are designed to meet at GO Stations/terminals should be scheduled to arrive not less than five (5) minutes before scheduled bus/train departure times during the weekday morning peak and depart not less than five (5) minutes after scheduled train/bus arrival times during the weekday afternoon peak period.
2. When required due to known operational delays impacting GO Transit services, at the discretion of the transit operator, routes serving GO Train Stations/GO Bus stops may hold for an additional three (3) minutes past their scheduled departure time, if it is determined that the additional wait time will provide the train meet connection without significantly impacting schedule or connections on the balance of the route.

In order to promote improved passenger connections between Inter-municipal Express Routes/Rural Link Routes and local transit services, the following guidelines apply:

1. At least 90 percent of Inter-municipal Express Routes/Rural Link Route stops should have a connection to a local transit service or a park-and-ride lot.
2. At least 75 percent of Inter-municipal Express Routes/Rural Link Routes that are designed to meet at local transit terminals should be scheduled to provide direct and seamless service that minimizes the wait time of customers transferring to/from local transit services.
3. Direct and seamless is defined as a situation where a customer does not have to wait more than 10 minutes for a transfer between two on-time services.

13.4.4 Route Directness

Route Directness is a measure of how much a route deviates from the most direct road path between the major origins and destinations along a route. The measure indicates a desire to limit additional travel time and distance resulting from route deviations and indirect or circuitous route design. It is measured as the ratio of the length of the proposed route (with deviation) to the length of the route along the most direct road path. **Table 31** shows the route directness factor for different route types, and specifies whether one-way loops should permitted.

Table 31: Route Directness Factor by Route Type

Route Type	Route Directness Factor	One Way Loops
Inter-municipal Express Routes	1.0 to 1.25	No
Rural Link Routes	1.0 to 1.25	Yes
Base Local Routes	1.0 to 1.25	Yes (5 min maximum travel time on loop)
Local Feeder Routes	1.1 to 1.5	Yes (15 min maximum travel time on loop)

13.4.5 Transit Stops

The following service guideline for transit stop location and spacing is recommended:

1. Local Transit stops (including Demand-Responsive Services) should be placed no closer than 250 metres apart; and
2. Inter-municipal Express Routes / Rural Link Route stops should be designed to stop at transit terminals and primary destinations only. Where stops are provided on route, these should be minimal and placed no closer than 1,000 metres apart.

A number of transit services in Niagara Region have transitioned to 100 percent low-floor accessible bus fleets. Moving towards a fully accessible fleet should continue to be the target.

In order to achieve full system-wide accessibility, transit stops must also be accessible.
An accessible transit stop will have the following as a minimum:

- A hard surface for boarding and alighting; and
- A hard surface connection to the sidewalk and the closest intersection.

Many transit stops in Niagara Region are currently not accessible as per the above criteria. To move towards full accessibility, the following service guideline is recommended:

- Move towards 100% of all transit stops being fully accessible within the Urban Transit Service Area[12];
- Prioritize placement of new transit stops in areas that meet the above accessibility criteria in the Niagara Region Transit Service Area.

[12] *Note: It is recognized that numerous stops in Niagara Region do not currently meet this service guideline. Therefore, it is recommended that the guideline be expressed as 100 percent accessible, but that it be recognized that it may take until 2025 before the guideline can be fully met. This will also require a commitment from the public works departments in each municipality who has jurisdiction over the property on which a number of transit stops are located.*

The following service guidelines in regards to customer amenities at transit stops are recommended:

1. Achieve a minimum of 20 percent of all transit stops in each Urban Transit Service Area to include a shelter, bench and customer information based on the criteria noted below.
2. Within each Urban Transit Service Area within Niagara Region, priority for the implementation of bus stop amenities should be provided to:
    a. Transit terminals where two or more transit routes/services intersect (shelters, benches, customer information);
    b. Major on-street transfer points and stops served by two or more routes (shelters, benches, customer information);
    c. High-volume Base Route and Local Feeder Route stops with the top 20% of boardings in each Urban or Rural Transit Service Area (shelters, benches, customer information);
    d. Transit stops exposed to extreme weather such as exposure to wind, blowing snow, etc. (shelters); and
    e. Stops that attract a higher proportion of seniors or persons with disabilities (shelters, benches, customer information).
3. All other stops should, at minimum, be accessible and include adequate signage and lighting.

13.5 Service Performance Guidelines

Performance measures are used primarily to set desired and achievable goals for the performance of transit services in Niagara Region and permit evaluation and feedback on how well these goals are met. The following section provides guidance on overall performance of the system in terms of the effectiveness of the service provided and the customer experience. This includes specific criteria for measuring passenger comfort, service utilization, service reliability and guidelines for service expansion.

13.5.1 Passenger Comfort (Vehicle Load) Guidelines

Passenger Comfort sets a guideline of comfort for customers while on board transit vehicles. If the number of customers regularly riding during a service period exceeds the maximum capacity (noted in **Table 32**) more than 10 percent of time, the route/service should be reviewed. This guideline will be maintained by the use of corrective actions which can include adding trips to the schedule in the form of a frequency improvement or extras (trippers); and/or restructuring the service to distribute demand among several routes. **Table 32** summarizes the maximum number of passengers that correspond to the capacity thresholds for each vehicle used in Niagara Region.

Table 32: Passenger Comfort Guidelines

Route Type	Weekday Peak	All Other Periods
Inter-Municipal Express Routes	133%	100%
Rural Link Routes	133%	100%
Base Local Routes	150%	100%
Local Feeder Routes	150%	100%
Demand-Responsive Services	100%	100%

13.5.2 Service Reliability Guidelines

Service reliability is a significant service quality factor influencing ridership, customer satisfaction and the reputation of the transit system. The reliability of service, defined as operating according to published schedule times, is consistently ranked first in importance in customer satisfaction surveys.

A person using any transportation mode has an expectation that the service will be there according to the schedule and services that cannot meet their published schedules lose the loyalty of their customers. Consistently reliable arrival times also reduce waiting times for passengers at stops and such performance is critical during inclement weather. A high 'on time' performance will improve transit system credibility and build a positive image of the system.

The On-Time Performance Guideline for fixed-route services sets out a target for schedule adherence and transfer wait times. Fixed-route services include Inter-municipal Express Routes, Rural Link Routes, Base Local Routes and Local Feeder Routes. In order to maintain good schedule reliability, the following performance guideline should apply to all transit services within Niagara Region:

- Transit vehicles shall be no more than one (1) minute early and no more than five (5) minutes late arriving at published timing points, 90 percent of the time;
- At no time will a bus depart early from a published timing point; and
- Timed transit vehicle meets at major terminals, when scheduled, shall provide a minimum of five (5) minutes to allow customers to transfer between transit routes/services. This includes connections to GO Transit services.

The following on-time performance guideline for Demand Responsive Services is recommended:

- Demand-Responsive Services will arrive at the scheduled stop with +/- 10 minutes of the scheduled pick-up time, 95 percent of the time;
- Demand-Responsive Services will arrive at the scheduled stop with +/- 5 minutes of the scheduled pick-up time, 80 percent of the time;
- Connections between Demand-Responsive Services and fixed route transit services will be met 90 percent of the time; and
- On-time connection is defined as the connecting passenger having to wait less than 10 minutes to transfer between services.

13.5.3 Service Utilization Guidelines

Service Utilization is a measurement of the effectiveness of the application of the system's resources against established criteria. To establish thresholds for route performance requires an acknowledgement that various services, even within the same route/service classification, will vary in their performance, with some exhibiting superior performance and others exhibiting lower performance levels. To meet a variety of system objectives, top-performing routes and services must be allowed to support other lower performing routes and services, while continuing to ensure that:

- "Class Average" targets for each route/service classification meets system objectives; and
- "Route/Service Minimum" performance targets for each of the individual routes and services is established and met.

Route/service performance should be assessed on the basis of total boardings per revenue-vehicle-hour, since this statistic will appropriately credit those routes that perform a significant transfer role in the system. Different classes of routes have different performance expectations and ridership potential and the performance target values should be established separately for each route type, while ensuring that the overall average can be met. Higher threshold levels should be established for peak services, to reflect the higher demand for service. **Table 33** shows route performance guidelines, by route type.

Table 33: Route Performance Guidelines (boardings per revenue vehicle hour)

Route Type	Weekday Daytime (b/rvh)		Evenings and Weekends (b/rvh)	
	Class Avg.	Route Min	Class Avg.	Route Min
Inter-Municipal Express Routes	16	10	10	7
Rural Link Routes	9	5	8	5
Base Local Routes	35	15	24	10
Local Feeder Routes	24	10	18	8
Demand-Responsive Services	4	3	3	2

13.5.4 Service Expansion Guidelines

This guideline sets both a policy direction and performance targets that should be achieved when introducing a new transit service or extending a route into a new area. A new transit route may be required as residential areas are developed, to improve the transit system proximity or in response to growth in major commercial, institutional or employment areas.

Performance of new or extended services will be assessed at regular intervals after implementation to determine whether ridership is growing and whether minimum performance targets are expected to be met.

In order to consider introducing local transit services into new areas, two requirements must be met:

- The roadways on which the proposed route will operate on are in a condition to support regular transit operations. Proper infrastructure (curbs, sidewalks, street lighting, etc.) should be in place and construction activity should be at a level where construction equipment will not interfere with the safe operation of transit vehicles or impede on-time service delivery; and

- The occupancy of the neighbourhood must be substantial enough to generate ridership to support the efficient operation of public transit. Targets for the introduction of new services are outlined in **Table 34**.

Table 34: Population and Employment Thresholds for New Service

Area Type	Minimum Density Target within 450 metres of a Proposed Transit Route	
	Local Feeder or Base Local Route	Demand-Responsive Service
Residential Area	400 population within 400 metre radius of each kilometer of expanded service	1,600 population per demand-responsive vehicle (maximum 30 minute round trip time)
Employment Area	500 employees within 400 metre radius of each kilometer of expanded service	1,000 employees per demand-responsive vehicle (maximum 30 minute round trip time)
Mixed-Use Area	450 population/employment within 400 metre radius of each kilometer of expanded service	1,250 population/employment per demand-responsive vehicle (maximum 30 minute round trip time)

***Note: The population data used in this calculation should exclude those who are within 400 meters of an existing route.**

13.6 Fare Setting and Integration Guidelines

Setting appropriate and consistent fare policies is important to create a seamless system that will allow customers to travel easily between different municipalities within the Consolidated Transit service area and throughout the region without regard for the particular operator providing the service and to ensure that appropriate fares are set for the level of service being provided. The fare setting and integration principles are based on recognition of three types of trips that can be made within Niagara Region:

- Local trips – generally short-distance trips made within an urbanized area of the municipality;
- Inter-municipal trips – longer distance trips made between two or more municipalities within the region;
- Inter-regional trips – trips made using the GO Transit network or on private carriers to the Greater Toronto and Hamilton Area.

The following guidelines will apply to the development of a fare setting and integration strategy:

1. **Seamless Travel:** Customers should be able to pay for a trip with a single transaction when travelling from any point of origin to any point of destination within the region. Additional payment transactions should not need to be made during the trip while making a transfer between Local, Inter-municipal Express and Rural Link Route services. The fare payment system should determine the appropriate total fare to be charged based on the total journey taken.

2. **Continuity:** A customer should be charged an appropriate fare for the type of trip they are making, regardless of the type of service (route classification) they are using. The decision to use a type of service should be based on the availability of the service at the time the trip is required, not the difference in the fare being charged for each service classification. As an example, a customer making a local trip within a single municipality should be charged the same fare, whether they are using a Local Feeder Service or an Inter-municipal Express Route to make the trip. Inter-municipal fares between two municipalities within the region should also be similar to the GO Transit fare between the same two municipalities. This will allow customers to choose the first available travel option that best fits their needs and allow for further integration with GO Transit services.

3. **Connectivity:** Customers travelling within Niagara Region may need to use multiple service types to complete trips. To ensure a seamless and integrated experience for customers, the fare structure should not penalise passengers that require the use of multiple service types (e.g. Inter-municipal and local routes) on a single trip.

4. **Consistency:** The fare structure and fare price should be the same for each municipal service provider in the region and on each inter-municipal service when making the same type of trip.

5. **Setting Local Transit Service Fares:** A single flat fare should be charged to customers using transit entirely within a single Urban Transit Service Area or a single Rural Transit Service Area. Concessions can continue to be offered based on the demographic profile of the customer, purchase of multi-use fare media or for customers with affordability issues (typically through a social services department of a municipality). Higher fares may also be charged to customers where a higher level of service is being offered.

6. **Long-Distance Fare Setting:** Establishing a policy for Inter-municipal fares should be based on the principles of:
    a. **Value:** Higher fares are charged for longer distance trips, recognizing the higher value of the trip to the customer, the increased cost of providing longer distance services and the need to recover a high proportion of cost;
    b. **Simplicity:** Easily understood by customers the fare that will be paid when travelling between any municipality within the region;
    c. **Seamless:** Fares should incorporate the transfer cost of using local transit services to access inter-municipal services.

    Higher fares should potentially be charged when crossing municipal boundaries, particularly where the urban area of two municipalities are not contiguous.

7. **Value of Service:** The fare charged should promote value for the service and balance ridership growth with revenue potential to support cost recovery targets.

8. **Transfer Policies:** A common transfer policy should be established when transferring between routes and services within the region.

9. **Passenger Classifications:** Common passenger classifications and concession policies should be established by all municipal and inter-municipal service providers.

10. **U-Pass:** U-Pass holders should be permitted to use any transit service in the system that best meets their trip requirements.

13.7 Fare Payment and Technology Guidelines

The following essential fare payment system functionality inclusions will likely be required for a common and seamless smart card technology shared between transit systems in Niagara:

1. **Fare Reconciliation:** Include multiple service provider fare revenue reconciliation functionality, configured by use case driven business rules that would enable one Niagara Region wide fare card to be used by all passengers when travelling on every service provider in the region by enabling linked-ride transfer discounts to be tracked and reconciled automatically and electronically to the proper provider.

2. **Fare Structure:** Include the capability to configure and then easily re-configure any combination of a zonal fare structure, a fare-by-distance fare structure and a flat fare structure.

3. **Fare Products:** Accommodate multiple fare products including period and time passes, e-rides and e-purse fares.

4. **Fare Integration:** Accommodate the automated management of co-fare transfer discounts for Niagara passengers transferring to/from with GO Transit and Hamilton Street Railway who pay their GO and HSR fares with a PRESTO fare card.

5. **Back-End Integration:** Include readers that are EMV Level 1 certified to enable the eventual acceptance of financial institution EMV bank cards for on-bus fare payment.

6. **Mobile Payment:** Include the ability for passengers to pay their fare automatically using a ticket purchased with and displayed on a mobile smart phone.

7. **Integration:** Maintain the ability of local service providers to control their fares and most fare policies within their own service area. Common passenger classification definitions and transfer policies should be agreed Region-wide.

13.8 Fare Sharing Guidelines

Fare sharing between each municipality within and connecting to the consolidated transit service area will be important to establish.

When establishing fare sharing guidelines, the following should apply:

1. **Fares:** From a customer perspective, the payment of fares should be seamless when travelling between different municipalities.

2. **Transfers:**
    a. **Passenger Perspective:** Transfers between any inter-municipal and any municipal service for a continuous journey should either be free or should be provided at a consistent co-fare discount both within and connected to the consolidated service area.
    b. **Operator Perspective:** Municipalities within the consolidated service area and service providers connecting to the consolidated service area should be appropriately compensated for the journeys provided.

3. **Fare Allocation of Inter-municipal Services:** Depending on the established common transfer co-fare discount policy, customers may be required to pay an extra fare if they need to use a local transit connection to travel to/from an inter-municipal service to complete a continuous trip, from point of origin to point of destination. If this were to occur, fares generated from the inter-municipal trip should be shared with each municipality that is contributing to providing funding for the local transit service that was used to complete the trip.

4. **Local Trip using an Inter-Municipal /Rural Link Route Service:** Revenue generated from a local trip should be provided to the local service provider. If the local trip is made on an Inter-municipal Express Route or Rural Link Route, a small portion of the fare revenue should be credited to the Inter-municipal transit service provider. This later scenario requires a smart card or mobile fare payment technology to be in place which tracks passenger boardings and alightings.

13.9 Trip Planner Guidelines

To enable seamless travel within the region, an integrated trip planning service is necessary that allows customers to use a single portal to plan transit travel between any origin and destination within the region (including connections with GO Transit services). To achieve this, the following guidelines are recommended:

1. **Common Data Standard:** A common standard GTFS format of trip planning data files should be adopted by all transit operators in the region. This should include a common naming standard for route numbers/names, route destinations, and stop names to be established amongst the transit operators. While this will be a challenge (as a number of route numbers are shared by different operators), it is a goal that should be strived for under the new Consolidated Transit Model.

2. **Scheduling:** Under the Consolidated Transit Model, there should be consistency in the start dates of seasonal bookings each year. Municipal transit providers outside the consolidated transit service area should also strive to collaborate with the consolidated governing body to also align the start dates of seasonal bookings each year.

3. **Coordination:** The responsibility for the coordination of regular trip planner data updates amongst all transit services within the region should be assigned to an organizational unit within the consolidated governing body with the capacity to perform such work.

4. **Trip Planner Interface:** A common customer interface for trip planning should be provided on the municipal websites for consolidated governing body and all other local municipal transit agencies and GO Transit services that operate in the region.

5. **Mobile App:** A common mobile app for trip planning should be developed by the consolidated governing body and be provided to the public. The use of this app should be extended to other transit service providers in the region that are not a part of the consolidated governing body (potential for a fee).

6. **Open Data:** Trip planning data should be provided on an "open basis" to third party developers (e.g. through an API interface).

13.10 Customer Service Guidelines

Essential to the attraction and retention of sustainable levels of ridership is the provision of excellent customer service. The following features are important to provide a high quality "customer experience" to users. To achieve a high quality customer experience, the following guidelines are recommended:

1. **Web Presence:** A common website should be established and hosted by consolidated governing body that provides information on routes, schedules, and fares for all public transit services that operate within the region. Transit service providers outside the consolidated transit service areas should be invited to integrate their transit data onto this website (e.g. links to each transit operator's website). In particular, it is important that a common user interface be used on all websites for a common trip planner application.

2. **Call Wait Times:** All calls to a customer call centre should be answered within 30 seconds, 80 percent of the time.

3. **Call Centre Complaints:** The consolidated governing body should aim to reduce the ratio of call centre complaints, per 1,000 calls, calculated on an annual basis, by 5 percent for the call centre staff. This should be completed through the implementation of a customer service strategy.

4. **Complaint Resolution Process:** Acknowledgement of receipt of complaint should be made within two business days; report back to complainant should be made within 10 business days.

5. **Point of Sale Penetration:** Sale of transit fare media for all transit services in the consolidated transit service area should be available at municipal buildings that offer public service (e.g. libraries, utility bill payment centres, transit office) and major transit destinations (e.g. post-secondary institutions, shopping centres).

6. **Service Information:** Permanent changes to route network or schedule as well as temporary changes to the system (e.g. detours or significant service delays and cancellations) should be posted on the transit website, mobile app, social media page or service alert provided by each transit provider within the region. This provides the transit customer with one location to access any pertinent information about their trip.

13.11 Transit Fleet Guidelines

It is important for all municipally-owned or contracted transit fleet providing service within the Region adhere to important guidelines and standards. This should be completed to ensure a safe and comfortable environment for all customers. To achieve this, the following guidelines are recommended:

1. **Safety:** All municipally-contracted fleet operating within Niagara Region (e.g. contracts to taxi companies) should follow all guiding legislation in the areas of MTO Safety Inspections, Ontario Highway Traffic Act, Commercial Vehicle Operators Registration (CVOR), Occupational Health and Safety Act, National Safety Standard and the Federal Motor Vehicle Safety Standards. This should be completed to the same standard as municipally owned and operated services.

2. **Environmental:** All municipally-contracted transit fleet operating within Niagara Region should pass regular emission tests and adhere to Ontario's Drive Clean emission reduction program, in accordance with government requirements. This should be completed to the same standard as municipally-owned and operated services.

3. **Accessibility:** All new transit bus purchases should be fully accessible and meet the requirements of the Accessibility for Ontarians with Disabilities Act (AODA) legislation. Where demand responsive services are provided using non-transit vehicles (e.g. sedans or minivans) in an Urban or Rural Transit Area in the region, a requirement should be that at least 20 percent of vehicles providing the service are accessible and have the capability to accommodate persons with disabilities.

4. **Spare Ratio:** A minimum spare ratio of 20 percent of the peak period fleet should be provided within each transit service area within the region. Where a vehicle type is associated with a specific service classification (e.g. sedans and minivans delivering demand responsive services), a similar spare ratio should be considered).

14.0 Inter-municipal Transit Service Plan

To address a number of opportunities and challenges identified above, a seven year service plan was developed for existing and future inter-municipal transit services which address:

- Opportunities for route optimization (improve efficiencies and service levels);
- Service level improvements to meet growing demands;
- New inter-municipal service opportunities; and
- New dynamic transit services to address low demand areas.

Service modifications were designed to meet the service guidelines identified in **Section 13.0** of this report and based on the guiding principles identified by the IMT of a service that is:

- Customer driven;
- Identifies unconventional solutions (leading-edge and innovative);
- Integrated and seamless;
- Economically responsible; and
- Fair.

The following section of the report identifies various opportunities that were assessed and will form part of the development of transit service delivery options over the next seven years. It should be noted that the many of the recommendations noted below assumed that a Consolidated Transit Model is in place, as a number of recommendations would be difficult to implement under the existing Status Quo Service Model.

14.1 Inter-Municipal Transit Route Optimization Opportunities (Consolidated Transit Service Area)

There are two types of inter-municipal routes that currently operate within Consolidated Transit Service Area of Niagara Region (St. Catharines/Thorold, Niagara Falls and Welland):

1. Niagara Region Transit services; and
2. Post-secondary services.

Table 35 below illustrates the service hours and peak vehicle requirements for each inter-municipal route operating between St. Catharines/Thorold, Niagara Falls and Welland. In total, the Region provides approximately 35,300 hours of service annually using nine peak period buses (not including the Link Routes). In addition to this, approximately 14,000 hours of service are funded by either Brock University or Niagara College. Most of this resource occurs during the Fall/Winter student semesters, with limited summer service. This provides a total of 49,300 revenue service hours of inter-municipal transit in the Consolidated Transit Service Area.

Table 35: Existing Inter-municipal Service Resources within the Consolidated Transit Service Area

Route	Headway					Annual Service Hours*	Peak Bus Requirement
	Peak	Midday	Evening	Saturday	Sunday		
Niagara Region Transit							
40/45	60	60	60	60		8,400**	2
40/45A	30					600**	1
50/55	60	60	60	60		9,300	2
60/65	60	60	60	60		8,500	2
70/75	60	60	60	60		8,500	2
Subtotal						**35,300**	**9**
Post-Secondary Routes							
NOTL Campus to Downtown St. Catharines	15	30	60			3,300	2
Downtown St. Catharines to Welland Campus	20 - 60					1,400	2
NOTL Link	60	60	60			3,300	1
Brock Link - Brock to Welland Campus	15 - 60	60	45			2,700	2
Niagara Falls to Welland Campus	15 - 60	30 - 60	60+			3,300	2
Subtotal						14,000	9
Total						**49,300**	**18**

***Note: Based on annualized service hours between September 2016 and August 2017. Service hours for post-secondary services in the Summer of 2017 are assumed based on 2016 service, but have not yet been negotiated with each post-secondary institution.**

****Note: 40/45A service hours funded by Niagara College**

One of the challenges with the current transit service structure is the considerable duplication of service between a number of the post-secondary routes and the Niagara Region Transit routes. Many of these routes operate along the same inter-municipal corridors through large rural areas yet do not access the same stops once they reach the urban centres. This results in the need for two separate services and a situation where resources may not be allocated in the most effective manner.

As an example, Niagara Region Transit buses generally have available capacity while student contracted services are over capacity for a number of trips. The reason is that a number of Niagara Region Transit routes come within close proximity but do not provide direct access to Brock University or Niagara College.

The Niagara Region Transit service also operates at a limited level of service, providing hourly headways and no service during the late evenings and all-day Sunday. This is not an attractive level of service that will attract significant ridership.

In contrast, post-secondary funded services typically operate at capacity during peak periods. While the peak period frequency is higher on certain routes, both Student Unions have indicated a lack of U-Pass funding available to sufficiently extend service during off-peak periods (evenings and weekends) and during the summer.

The opportunity for route optimization is to integrate both the Niagara Region Transit and post-secondary student services within the Consolidated Transit Service Area to make better utilization of available capacity.

14.1.1 Niagara Falls / Niagara-on-the-Lake / St. Catharines

Issue / Opportunity

The connection between these municipalities represents the first example of optimization of Niagara Region Transit routes, with a new route structure that was recently implemented in September 2016.

Prior to September 2016, there were two routes that operated between Niagara Falls and St. Catharines/Thorold, two routes between Niagara Falls and Niagara-on-the-Lake two routes between Niagara-on-the-Lake and St. Catharines/Thorold.

Route 50/55 provided service between downtown St. Catharines and the Morrison/Dorchester Hub in Niagara Falls. Prior to the route change, ridership on the route was relatively low, averaging approximately 250 daily weekday boardings. One of the reasons for this low ridership is that the route previously deviated significantly to the Niagara-on-the-Lake Outlet Mall when travelling between St. Catharines and Niagara Falls. The service also did not attract too many student riders as it travelled near Brock University and Niagara College, but did not access them.

Prior to September 2016, Niagara Falls Transit also provided a post-secondary service between the Morrison/Dorchester Hub in Niagara Falls and Brock University (the Brock Rapid). The service provided a direct, non-stop connection with a 20 minute one-way travel time and was very well utilized, particularly during the peak periods.

Two services were also provided to Niagara College Glendale Campus. Niagara Falls Transit provided a Glendale to Niagara Falls Shuttle and St. Catharines provided a shuttle from downtown St. Catharines to the campus (Route 26). The St. Catharines service was very well utilized and operated every 15 minutes during the peak, every 30 minutes during the midday and hourly in the evening.

Figure 15 illustrates the various routes that were in place prior to September 2016 while **Table 36** provides a summary of the services hours and frequency.

Figure 15: Inter-municipal Services between Niagara Falls, Niagara-on-the-Lake and St. Catharines (Prior to September 2016)

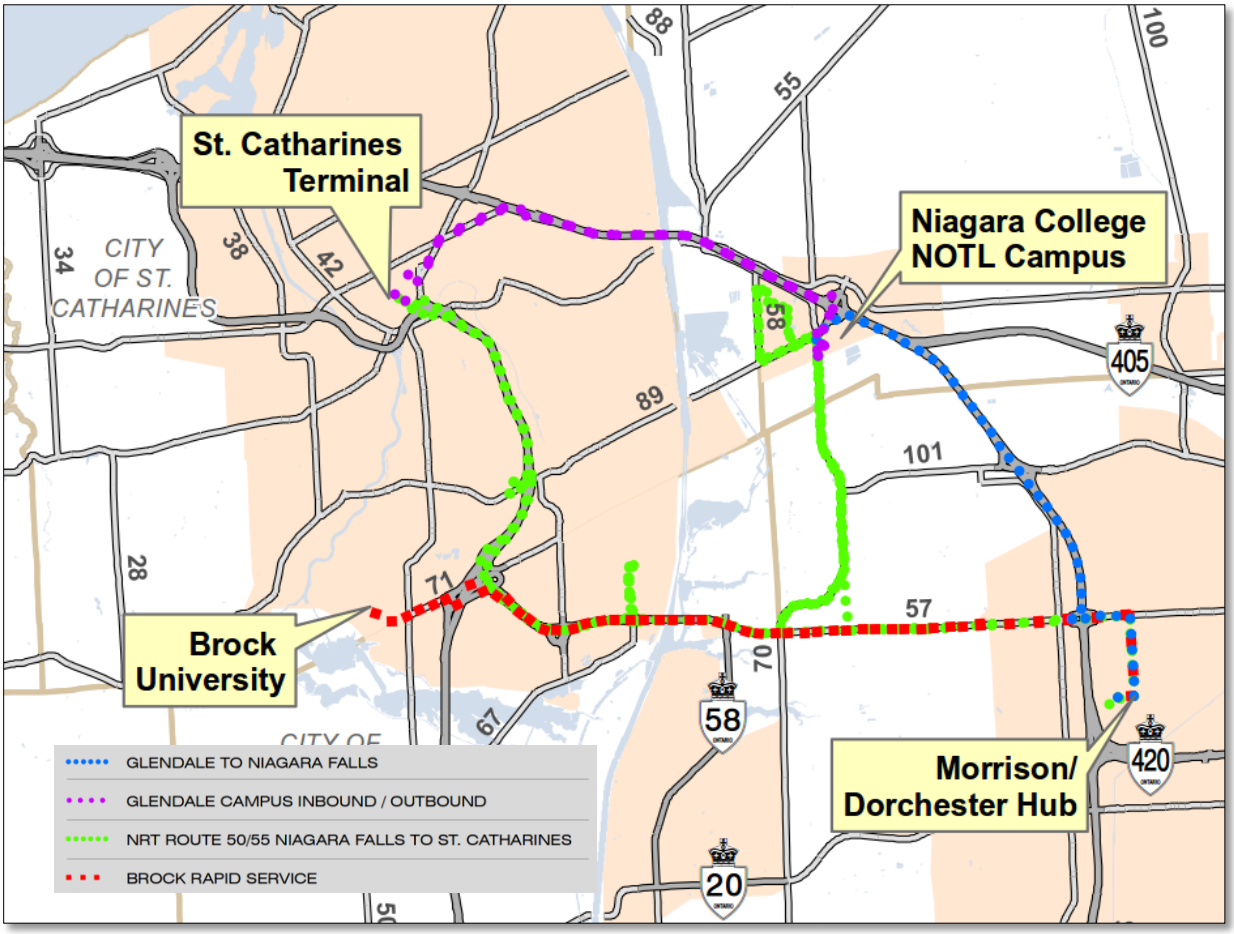


Table 36: Niagara Falls / Niagara-on-the-Lake / St. Catharines Inter-municipal Transit Services (Prior to September 2016)

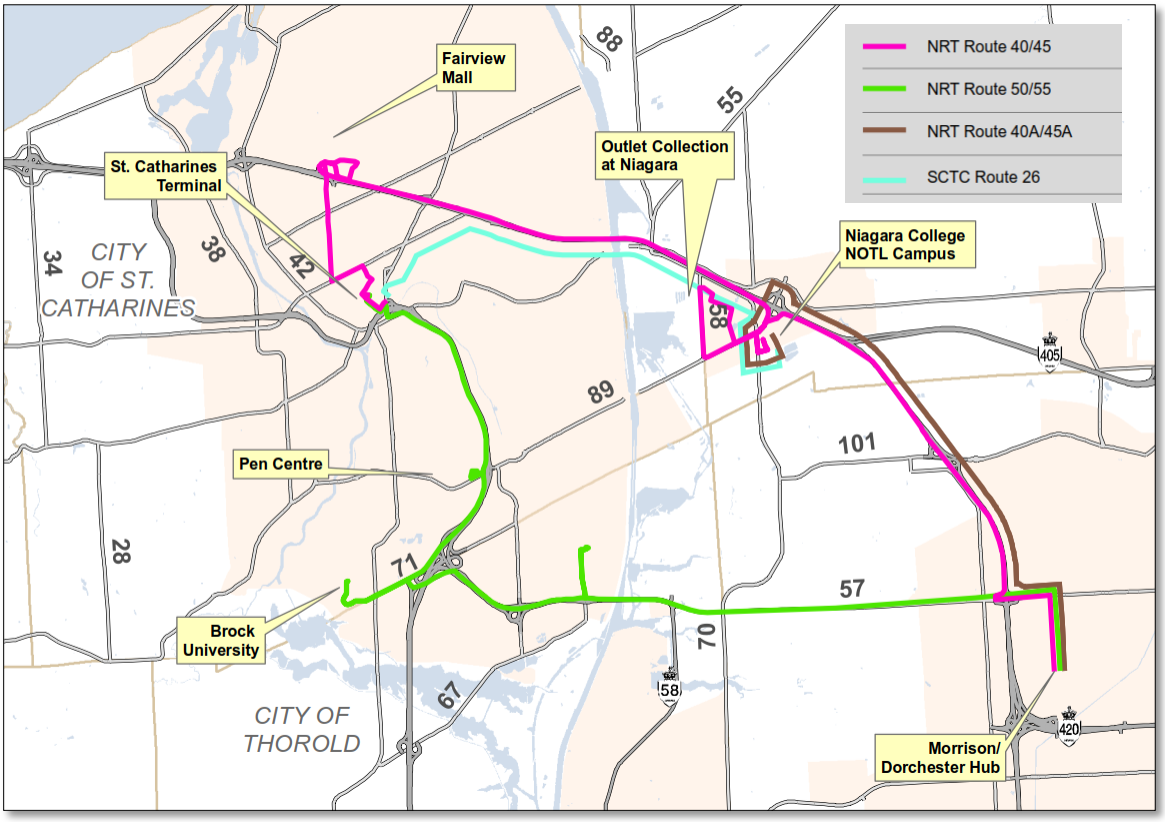
	NRT Route 50/55	Brock Rapid	NF – NC Shuttle	SCTC Route 26
Locations Serviced	• Morrison/ Dorchester Hub • NC NOTL Campus • Thorold Towpath • Pen Centre • St. Catharines Terminal	• Morrison/ Dorchester Hub • Brock University	• Morrison/ Dorchester Hub • NC NOTL	• St. Catharines Terminal • NC NOTL
Service Hours	7:00 am – 9:00 pm	7:00 am – 11:30 pm	7:30 am – 10:30 pm	7:00 am – 10:00 pm
Daily Trips/ Direction	14	20	28	34
Headway	60 min	40 min	30 min	15 min peak 30 min off-peak
Revenue Vehicle Hours	28	15	14	20
Boardings/RVH	9	60	27	50
Capacity	1,200	1,700	2,450	2,650
Daily Ridership	250	900	375	1,000
Availability Capacity	950	800	2,075	1,650
% Utilization	21%	53%	15%	38%

Recommendation - Potential for Route Optimization and Service Improvements

As illustrated in **Table 36**, the Brock Rapid and the St. Catharines to Glendale Campus services were reasonably well utilized while Route 50/55 and the Niagara Falls to Glendale campus service received limited ridership.

In September 2016, the Region, St. Catharines Transit, Niagara Falls Transit and the two student unions agreed to integrate these services to provide a more streamlined service and better use of existing resources. The service modifications that were made include the following and are illustrated in **Figure 16.**

Figure 16: Inter-municipal Transit Services between Niagara Falls, Niagara-on-the-Lake and St. Catharines (Starting September 2016)



Route 50/55

- Route 50/55 was restructured to provide a direct service between Niagara Falls and St. Catharines. The stop to the Niagara-on-the-Lake Outlet Mall was eliminated and a new stop was added at Brock University.
- The service was extended to end at 11:00pm from 9:00pm, Monday to Thursday.

Brock Rapid

- This service was eliminated and service hours were incorporated into a revised Route 50/55 and Route 40/45. Extra buses (trippers) can be utilized at specific times between Brock University and Niagara Falls in the event there are capacity issues.

Route 40/45 (new)

- This new route was introduced and operates between the Morrison/ Dorchester Hub and downtown St. Catharines via the QEW with stops at Niagara College Glendale campus, Niagara-on-the-Lake Outlet Mall, and Fairview Mall.
- The service operates hourly between 8:00am and 10:00pm.

Niagara Falls to NOTL Glendale Campus Shuttle

- Service hours on this route were reduced with the introduction of Route 40/45. This currently operates as 40/45A during the weekday peak periods during the Fall and Winter semester connecting Niagara Falls directly to the NOTL Glendale Campus.

SCTC Route 26

- No change was made to this service.

In addition to the above noted modifications that were made in September 2016, additional modifications are recommended to better utilize and consolidate resources, improve customer service, extend services to new destinations and meet the service guidelines noted in **Section 13.0**). These are identified below:

Route 50/55

- By 2019, increase headway to from every 60 minutes to every 30 minutes during the AM and PM peak period *(as per the Service Guidelines in **Section 13.0**).*
- By 2019, extend weekday service to 11:00pm on Friday and Saturdays *(as per Service Guidelines in **Section 13.0**).*
- By 2019, provide Sunday service between 9:00am and 7:00pm *(as per Service Guidelines in **Section 13.0**).*
- By 2023, extend service to the new St. Catharines GO Transit station *(with the planned introduction of GO Train service to Niagara Region).*

Route 40/45

- By 2019, increase headway from every 60 minutes to every 30 minutes during the AM and PM peak period *(as per Service Guidelines in **Section 13.0**).*
- By 2019, extend weekday and Saturday service to from 10:00pm to 11:00pm) *(as per Service Guidelines in **Section 13.0**).*
- By 2019, start weekday service at 7:00am to match other IMT routes (currently starts service at 8:00am).
- By 2019, provide Sunday service between 9:00am and 7:00pm *(as per Service Guidelines in **Section 13.0**).*
- With the introduction of year-round 30-minute peak service on Route 40/45 by 2019, eliminate Route 40A/45A which provides a 30 minute express service during the school year between Niagara Collage and Niagara Falls.
- By 2023, eliminate service from Fairview Mall and extend service to the St. Catharines GO Train station. This would provide direct connection from downtown St. Catharines connecting to NOTL Glendale campus (which could potentially further reduce the frequency on SCTC Route 26 and redistribute these resources elsewhere). It should be noted that Metrolinx has recently announced that it will connect its Route 12 GO Bus to Niagara College Glendale campus in the Spring of 2017. This would allow this recommendation to be completed earlier in the report and result in a reduction of transit service hours for Route 26 (which should be reinvested elsewhere in the system).
- Continue to work with GO Transit to integrate Route 40/45 with the existing GO Bus service (Route 12) between St. Catharines and Niagara Falls. This would require the GO Bus service to also provide a connection to the Niagara-on-the-Lake Outlet Mall and potentially to the downtown St.

Catharines Transit Terminal. This could potentially reduce the hours of service provided by Route 40/45.

SCTC Route 26

- By 2019, reduce frequency to every 30 minutes during the peak period and every 60 minutes during the midday period (in conjunction with increase in service frequency on Route 40/45).
- By 2019, eliminate service after 7:00pm (Route 40/45 can provide the service at the same headway).
- By 2019, eliminate service during the summer period (operate service as a student special only during the Fall/Winter school semester based on times identified by the Student Union).

Summary

Prior to the September 2016 route changes, ridership on Route 50/55 had not reached its full potential due to the indirect connection between Niagara Falls and St. Catharines (due to the significant detour the route made to the Niagara-on-the-Lake Outlet Mall). Under this old structure, the route did not generate sufficient ridership, particularly compared to the more convenient Brock Rapid service. Restructuring the service that occurred in September 2016 provides a more direct connections to Brock University (via 50/55) and to the Niagara-on-the-Lake Outlet Mall and Niagara College (via Route 40/45). Based on initial ridership reports provided for September 2016, both routes have been well used.

Additional service improvements recommended as part of the 2019 and 2023 service strategy will improve service for all customers, including during the summer period. **Table 39** and **Table 40** provide a summary of the extended service.

14.1.2 St. Catharines and Welland

Issue / Opportunity

There are currently four routes that operate between St. Catharines and Welland. Route 70/75 is funded by Niagara Region Transit, operated by Welland Transit and St. Catharines Transit, and provides service between downtown Welland and downtown St. Catharines. Although the service stops within close proximity to both Niagara College and Brock University (within 5 minutes of both destinations), it does not stop at either of these locations.

Welland Transit provides two post-secondary services that are fully funded by Niagara College and Brock University: the Brock Link (funding split equally between Brock University and Niagara College) and the NOTL Link (funded by Niagara College). The Brock Link connects the Welland Campus of Niagara College with Brock University and the NOTL Link connects the Welland and Glendale Campus of Niagara College.

St. Catharines Transit also provides a post-secondary service that is fully funded by Niagara College (SCTC Route 27). The service connects downtown St. Catharines with the Welland Campus of Niagara College. **Figure 17** illustrates the various routes while **Table 37** provides a summary of the services hours and frequency.

With the implementation of a Consolidated Transit Model, there is an opportunity to optimize these routes and reduce duplication of services.

With the introduction of GO Train service in St. Catharines by 2023, there will be a need to provide a direct connection for Welland residents. While there is opportunity to extend Route 70/75 to this station, the travel time is long for residents that will continue their trip on a GO Train service. Options to reduce travel time should be explored.

Figure 17: Existing Inter-municipal Services between St. Catharines and Welland

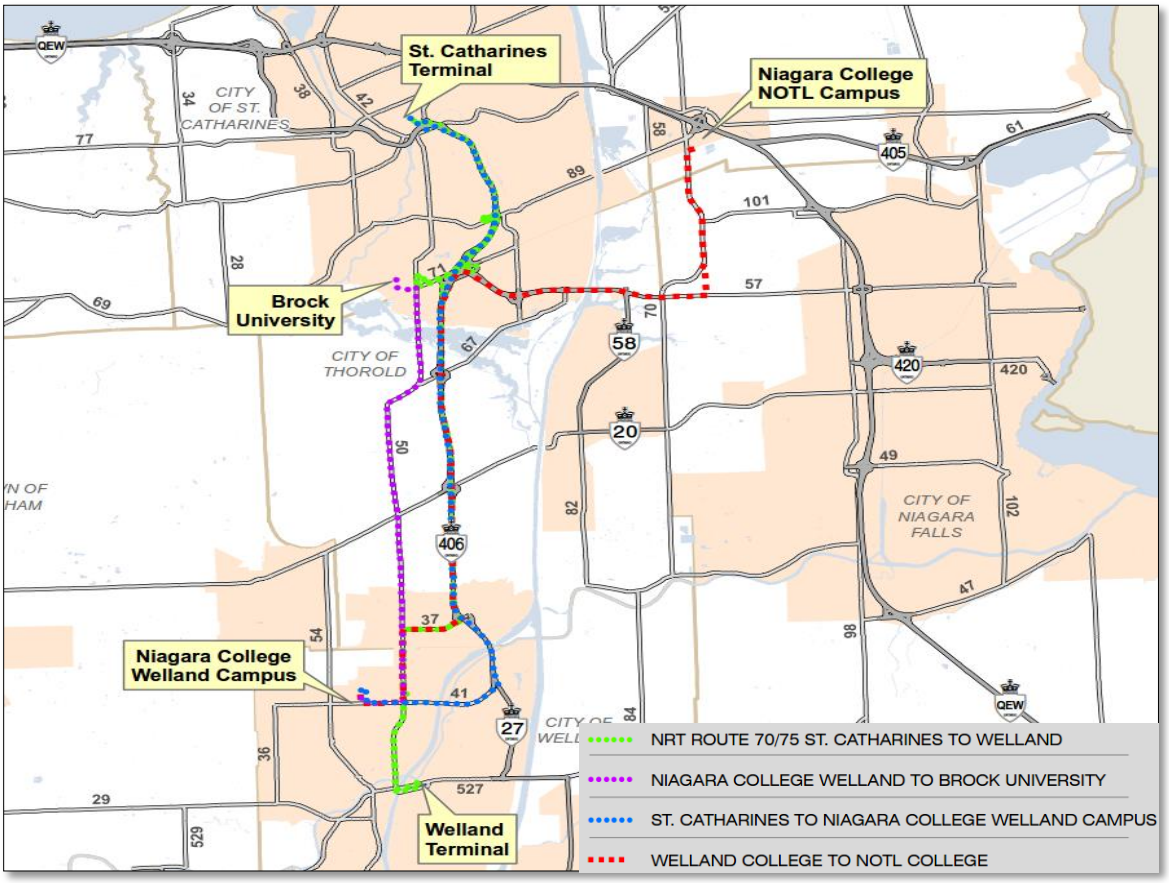


Table 37: St. Catharines / Welland Inter-municipal Transit Services

	NRT Route 70/75	Brock Link	SCTC Route 27	NOTL Link
Locations Serviced	• Welland Terminal • Seaway Mall • Brock University • Pen Centre • St. Catharines Terminal	• NC Welland • Brock University	• NC Welland • St. Catharines Terminal	• NC Welland • NC NOTL
Service Hours	7:00am – 9:00pm	7:30am – 10:00pm	7:30am-9:30am; 3:00pm-5:00pm	8:00am – 11:00pm
Daily Trips/Direction	14	16	6	15
Headway	60 min	60 min	30 min (am) 60 min (pm)	60 min
Revenue Vehicle Hours	28	16	6	15
Boardings/RVH	9	47	63	32
Capacity	1,200	1,150	450	1,100
Daily Ridership	250	750	375	475
Available Capacity	950	400	75	625
% Utilization	21%	65%	83%	43%

Recommendation - Potential for Route Optimization and Service Improvements

As illustrated in **Table 37**, each of the student services is reasonably well utilized, particularly during the peak periods. However, when each of these services is combined, only 47 percent of the daily seated capacity is occupied between Welland and St. Catharines. Much of the unused capacity occurs on Route 70/75, which does not provide direct access to either Niagara College or the Brock University campus (Route stops at the Brock University boundary on Glenridge Avenue only).

To address this duplication and better utilize resources, the following strategies are identified for consideration.

Route 70/75

- By 2019, extend Route 70/75 to stop at Niagara College Welland Campus and the Brock University Tower terminal. The route currently has about 20 minutes of layover at each terminal to accommodate transfers in both downtown Welland and downtown St. Catharines. Extending the route to cover these two stops would not require any additional service hours during the existing operating periods.

- By 2019, increase headway to every 30 minutes during the AM and PM peak period (as per Service Guidelines)
- By 2019, extend weekday and Saturday service to 11:00pm (as per Service Guidelines)
- By 2019, provide Sunday service between 9:00am and 7:00pm (as per Service Guidelines)
- By 2023, extend service to the new VIA GO Station (with the planned introduction of GO Train service to Niagara Region).

Brock Link and SCTC Route 27

- By 2019, eliminate both services and incorporate service hours into a revised Route 70/75. The funding would be provided to the Region and operated by one of the municipal transit systems (under the current governance structure). A cost and revenue sharing agreement would need to be in place between the Region, St. Catharines and Welland (as described below).

NOTL Link

- Maintain service between 8:00am and 9:00pm. The NOTL Link provides a very fast connection between the two Niagara College campuses in Welland and Niagara-on-the-Lake (30 minute travel time). Eliminating this service would result in a 45-50 travel time using a combination of Route 70/75 and the new Route 40/45. This would not be viewed favourably by students at the College.
- By 2019, eliminate service between 9:00pm and 11:00pm. Ridership drops significantly during this time period. Route 70/75 and Route 40/45 are proposed to operate until 11:00pm under this plan. While the travel time is longer (and not customer driven), this will impact a limited number of passengers and will help fill existing vehicle capacity. This results in a more economically responsible service and allows service hours to be reinvested along the corridor during other time periods or to other corridors (aligning to the customer driven guiding principle).
- Between 2019 and 2023, assess the need to continue the provision of reduced summer service when ridership is lower and the potential to utilize existing capacity on Route 70/75 and 40/45 for travel between both campuses.

Route 70/75 GO Express

- By 2023, with the introduction of GO Train service to St. Catharines, introduce a point-to-point peak period express service between the downtown Welland Transit terminal and the St. Catharines GO Station. This service would provide an hourly service based on a 30 minute one-way travel time for residents of Welland connecting to the GO Station or students from the GTHA or western Niagara Region destined to Niagara College Welland Campus. The schedule should be timed to meet with GO Train arrival and departure times to provide a seamless connection. The update of this service should be tested to determine the potential application of other Express GO services elsewhere in the region.

Summary

The integration of NRT and post-secondary services will enhance service frequency and extend service hours between Welland and St. Catharines without significantly increasing existing service hours. The 30 minute headway provides a better level of service than each of the existing routes within this corridor (with the exception of SCTC Route 27 which also runs every 30 minutes during the AM peak period). The introduction of the Route 70/75 GO Express service will provide an opportunity to improve inter-municipal connections to the new GO Train station in St. Catharines.

Table 39 and **Table 40** provide a summary of the proposed service.

14.1.3 Welland / Niagara Falls Inter-municipal Connections

Issue / Opportunity

There are currently two routes that operate between Niagara Falls and Welland. Route 60/65 is funded by Niagara Region Transit and provides service between downtown Welland and Morrison/Dorchester Hub in Niagara Falls. This service is operated by Niagara Falls Transit and Welland Transit. Ridership on the route is very low, averaging approximately 150 daily weekday boardings. In addition to the connection between the two municipalities, the service provides a connection to MINACS, a large regional call centre located south of the Niagara Falls local service area. The call centre employs a number of people from the region. In the month of May, the stops serving the facility recorded 849 boardings (approximately 32 boardings per day).

Welland will also be home to a new General Electric plant, located adjacent to Route 60/65, which will employ approximately 150 people. The plant is scheduled to open in 2018 and will be located just east of the Welland Canal East Main Street along the route.

The Province of Ontario has announced plans to build a regional hospital in southern Niagara Region, at the intersection of Montrose Road and Biggar Road. The hospital would serve Niagara Falls, Welland, Fort Erie, Port Colborne, and all of southern Niagara Region. Although timelines have not yet been confirmed, it is planned to open in the 2021-2023 period. When completed, it will represent a significant regional trip generator, and will be directly served by Route 60/65. There is also the potential to connect to the Fort Erie Link service, which utilizes the nearby QEW.

While ridership is currently low on this route, this is an important connection to maintain.

Niagara Falls Transit also provides one post-secondary service that is fully funded by Niagara College: the Niagara College Welland to Niagara Falls Shuttle. The service provides a direct, non-stop connection with a 30 minute one-way travel time. Ridership on this route is very high due to the fast travel times.

Figure 18 illustrates the various routes while **Table 38** provides a summary of the services hours and frequency.

Figure 18: Existing Inter-municipal Transit Services between Welland and Niagara Falls

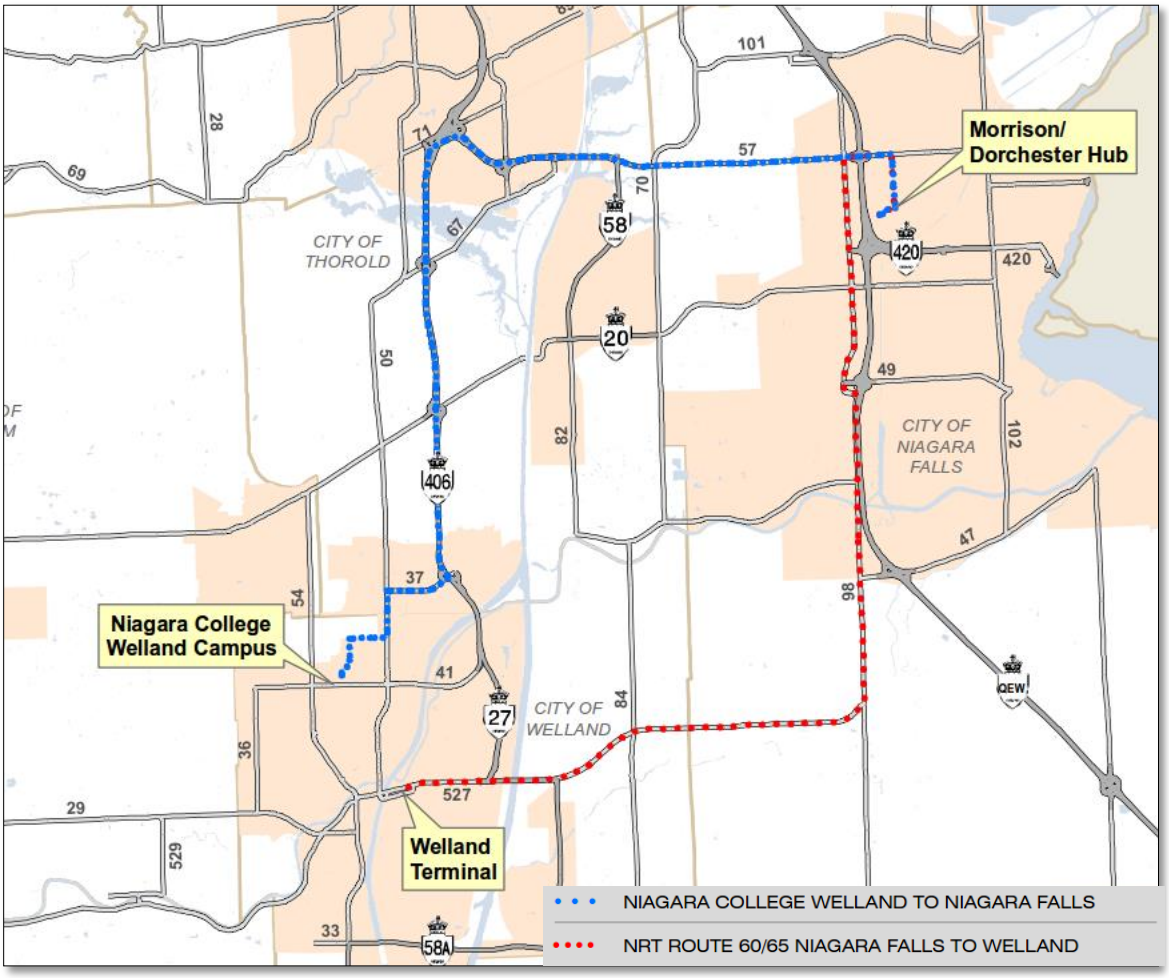


Table 38: Welland / Niagara Falls Inter-municipal Transit Services

	NRT Route 60/65	Niagara Falls – Niagara College Welland Shuttle
Locations Serviced	• Welland Terminal • Morrison/Dorchester Hub	• Niagara College Welland • Morrison/Dorchester Hub
Service Hours	7:00am – 9:00pm	7:00 am – 10:00 pm
Daily Trips/Direction	14	18
Headway	60 min	45 - 60 min
Revenue Vehicle Hours	28	18
Boarding/RVH	5	42
Capacity	1,200	1,600
Daily Ridership	150	750
Available Capacity	1,050	850
% Utilization	13%	47%

Recommendation - Potential for Route Optimization

As illustrated in **Table 38**, the Niagara Falls –Niagara College Welland Shuttle is reasonably well utilized while the Niagara Region Transit service generates limited ridership. While they both operate on different corridors, the opportunity to combine the two routes and better allocate service hours was explored. Together, ridership on both routes only accounts for 32 percent of the daily seated capacity that is available between Welland and Niagara Falls.

The option was explored to integrate both services along the existing Route 60/65 alignment. There is a 15 minute layover built into the route per direction which could be used to provide a direct connection to Niagara College. The difficulty with this scenario is that it would increase travel time for Niagara students travelling between the Morrison/Dorchester Hub in Niagara Falls and Niagara College in Welland. The current travel time on the Niagara Falls / Welland Shuttle is approximately 30 minutes while the travel time using the Route 60/65 alignment would be approximately 50 minutes. This would be a decrease in service level for Niagara College students, particularly given that just under 70 percent of the ridership between Niagara Falls and Welland occurs on Niagara Falls / Welland Shuttle.

A second option was explored to integrate both services along the existing Niagara Falls / Niagara College Welland Shuttle corridor. The majority of ridership occurs on this corridor due to the direct connection to Niagara College and the shorter travel time. The challenge is that extending the service to downtown Welland would add approximately 5-7 minutes travel time per direction to the route. This would result in a one way run time of 37 minutes, which does not allow for convenient connections to either Niagara Falls Transit or Welland Transit local services.

Removing the route off of Montrose Road would also eliminate service to the MINACS call centre, a major employer with high transit ridership. It would also remove the connection to the new GE plant

just outside of Welland and the new hospital that is planned to be built just south of the MINACS call centre. As a result of these issues, this option was also not recommended.

Extending Route 60/65 into the tourist area of Niagara Falls was also explored. The major employment opportunities in Niagara Falls are in tourist area near the Falls and extending the route would provide a direct connection to major employment generators (without the need for a local transit transfer onto Niagara Falls Transit). Reconfiguring the route to access the Main and Ferry terminal before arriving at the Morrison / Dorchester Hub was explored as this connection provides access to more local routes connecting to the tourist area and is within a 10 minute walk of many major employment destinations. The challenge with this alternative is there is limited time for this connection to be made within a 60 minute one-way travel time. New stops at the GE plant and the regional hospital would also take time from the schedule, making it difficult to make this connection. Alternatively, another option would be to work with Niagara Falls Transit to implement an express service from the Morrison / Dorchester Hub to the various major employers in the tourism district.

To address this duplication and better utilize resources, the following strategies are identified for consideration.

Route 60/65

- By 2019, restructure Route 60/65 to operate as an industrial shuttle, connecting to MINACS, the future GE plant, future Niagara South Hospital and other major employers and destinations along the corridor. The route has a very low productivity (approximately 5 boardings per revenue vehicle hour) and does not meet the suggested performance guidelines. It is recommended that the route operate for 7-9 trips per day, Monday to Friday, timed to meet as many shift times of major employers as possible. During other times, alternative service delivery strategies could be employed to meet off-peak employee travel requirements (e.g. emergency ride home program or dynamic transit service).
- Reinvest service hours into other parts of the system.
- By 2023, add additional trips to the service with the opening of the GE plant and future Niagara South Hospital (eventually moving back to hourly service as the service builds).

Niagara Falls to Welland Shuttle

- Maintain schedule under existing route between 7:00am and 10:00pm.

Niagara Falls Transit

- Consider providing an express route between the Morrison / Dorchester Hub and major employers in the tourist district in Niagara Falls. This could help increase ridership on Route 60/65 as well as Route 40/45 and 50/55.

Summary

Route 60/65 is a poor performing route and does not generate sufficient ridership, particularly with a more convenient Niagara Falls to Welland shuttle in place. Restructuring the route to an employer special targeted to specific trips will allow the service hours to be better allocated in other routes and services. This is a short-term solution, with a plan to expand service with the opening of the South Niagara Hospital and the GE Plant.

Customers travelling between Welland and Niagara Falls during other periods can still make their way to Niagara College and transfer onto an express route to Niagara Falls (30 minute trip) or take a combination of Route 70/75 and 50/55 (approximately 50 minute trip depending on the connection).

This later service will run more frequently during peak periods and will be extended during evenings and on Sundays. **Table 39** and **Table 40** provide a summary of the extended service.

14.1.4 Summary of Short-Term Route Optimization Impacts

The summary of the above noted route optimization and service improvement plan is noted in **Table 39** and **Table 40** below. As illustrated, the new service concept provides an increase in service levels for all residents, including extended weekday evening service, introduction of Sunday service and extended summer service. The overall concept plan will increase annual revenue vehicle hours from approximately 49,300 in 2016 (based on annualized service with September 2016 route modifications in place) to approximately 51,000 by 2019. This increase equates to an increase of approximately 1,700 annual revenue service hours to provide improve peak period service, extended evening service and all-day Sunday service on three core inter-municipal routes.

Post-secondary routes are noted below to provide a comparison of existing post-secondary routes. These should be rebranded as part of the inter-municipal service to allow for seamless use by all residents.

By 2023, additional service improvements to Route 60/65 as well as the addition of the Route 70/75 GO Express service will further increase annual revenue vehicle hours by 4,600. This nominal increase in service will help support growing employment between Niagara Falls and Welland and provide a more attractive connection between Welland and the St. Catharines GO Station.

The route optimization structure and service delivery plan within the Consolidated Transit Service Area of Niagara (St. Catharines, Niagara Falls and Welland) to be implemented within three years is illustrated in **Figure 20** while the medium-term plan (within seven years) is illustrated in **Figure 21**.

The integration of these services will likely see a growth in ridership for both post-secondary students with a U-Pass as well as other residents that require inter-municipal travel.

Ridership growth along this corridor was calculated by:

- Estimating any increase in travel demand over the three and seven year time frame as a result of population and employment growth (as documented in **Section 4.6**);
- Using a service elasticity approach to forecast any potential ridership increases as a result of the proposed service level and service hour improvements.

Table 41 below illustrates the potential demand for inter-municipal transit services between St. Catharines, Welland and Niagara Falls over the three and seven year horizons should a service as described above be implemented. Operating costs, potential passenger revenue and the revenue and the overall financial performance of these routes are also identified.

With the route optimization, introduction of late evening service and Sunday service, as well as the increase in peak period frequency from 60 to 30 minutes, ridership on these inter-municipal routes is forecasted to increase by 12 percent over the next three years and an additional 13 percent over the next seven years. Of this, approximately 5 percent of the growth is due to population and employment growth in the next three years and an additional 4 percent over the seven year time horizon.

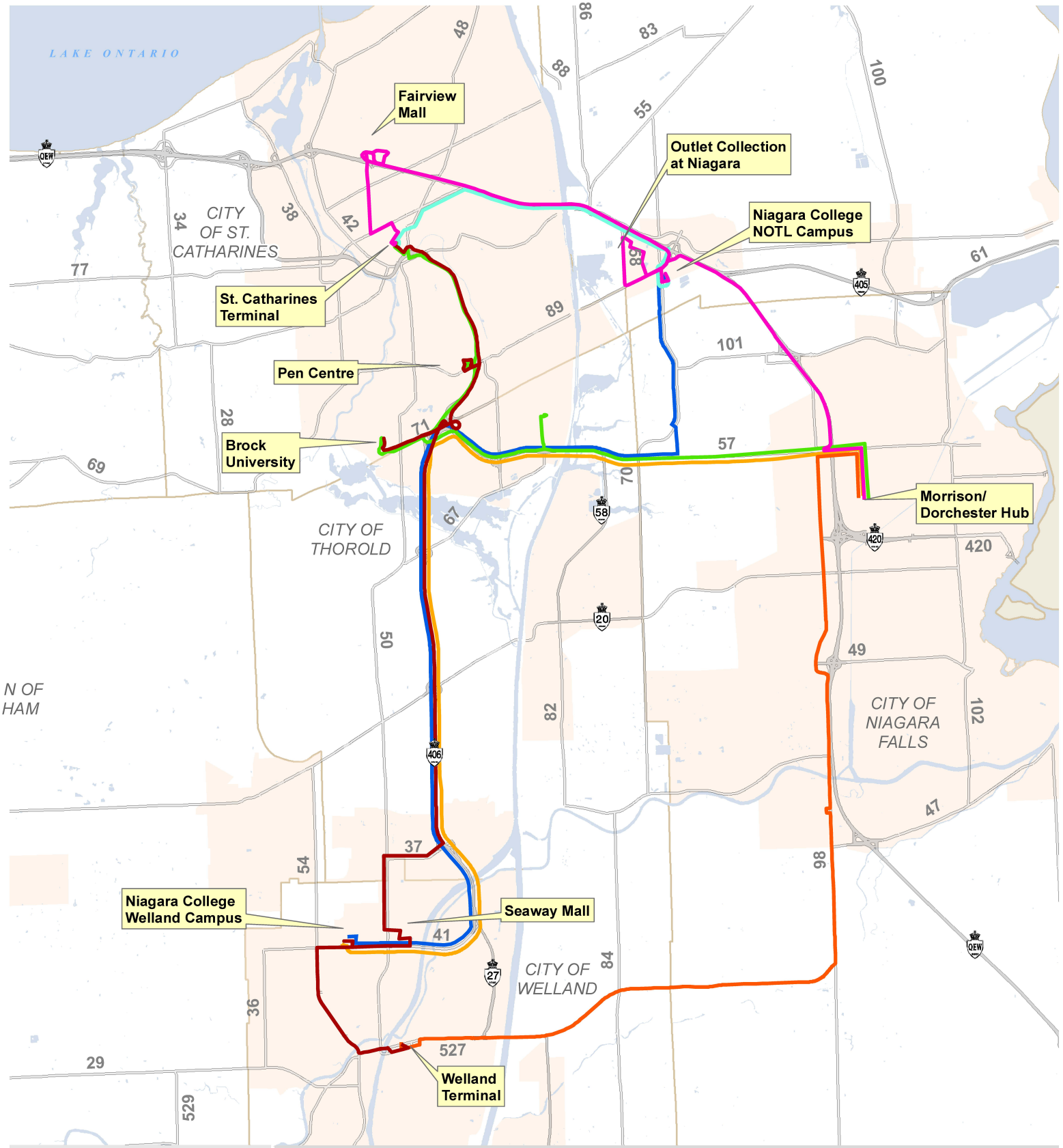
For comparative purposes, post-secondary services were included in the calculation below. Revenue is noted in **Section 17.7**.

Table 39: Proposed 2019 Inter-municipal Express Route Services in Consolidated Transit Service Area

Route	Headway					Annual Revenue Service Hours	Peak Bus Requirement
	Peak	Midday	Evening	Saturday	Sunday		
Niagara Region Transit							
40/45	30	60	60	60	60	12,700	4
50/55	30	60	60	60	60	12,700	4
60/65	60	60	60			4,500	2
70/75	30	60	60	60	60	12,700	4
Subtotal						**42,600**	**14**
Post-Secondary Routes							
Route 26 (NC-NOTL to St. Catharines)	30	30	30			2,200	1
NOTL Link	60	60	60			2,900	1
Niagara Falls to Welland Campus	15 -60	30 - 60	60+			3,300	2
Subtotal						**8,400**	**4**
Total						**51,000**	**18**

Table 40: Proposed 2023 Inter-municipal Express Route Services in the Consolidated Transit Service Area

Route	Headway					Annual Revenue Service Hours	Peak Bus Requirement
	Peak	Midday	Evening	Saturday	Sunday		
Niagara Region Transit							
40/45	30	60	60	60	60	12,600	4
50/55	30	60	60	60	60	12,700	4
60/65	60	60	60			7,500	2
70/75	30	60	60	60	60	12,700	4
70/75 GO Express	60					1,700	1
Subtotal						**47,200**	**15**
Post-Secondary Routes							
Route 26 (NC-NOTL to St. Catharines)	30	30	30			2,200	1
NOTL Link	60	60	60			2,900	1
Niagara Falls to Welland Campus	15 -60	30 - 60	60+			3,300	2
Subtotal						**8,400**	**4**
Total						**55,600**	**19**



NIAGARA TRANSIT SERVICE DELIVERY AND GOVERNANCE STRATEGY

RECOMMENDED 2019 ROUTE OPTIMIZATION STRUCTURE IN CONSOLIDATED TRANSIT SERVICE AREA

FIGURE 19

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY NIAGARA REGION, MNR AND ESRI

MAP CREATED BY: SMB
MAP CHECKED BY: DK
MAP PROJECTION: NAD 1983 UTM Zone 17N

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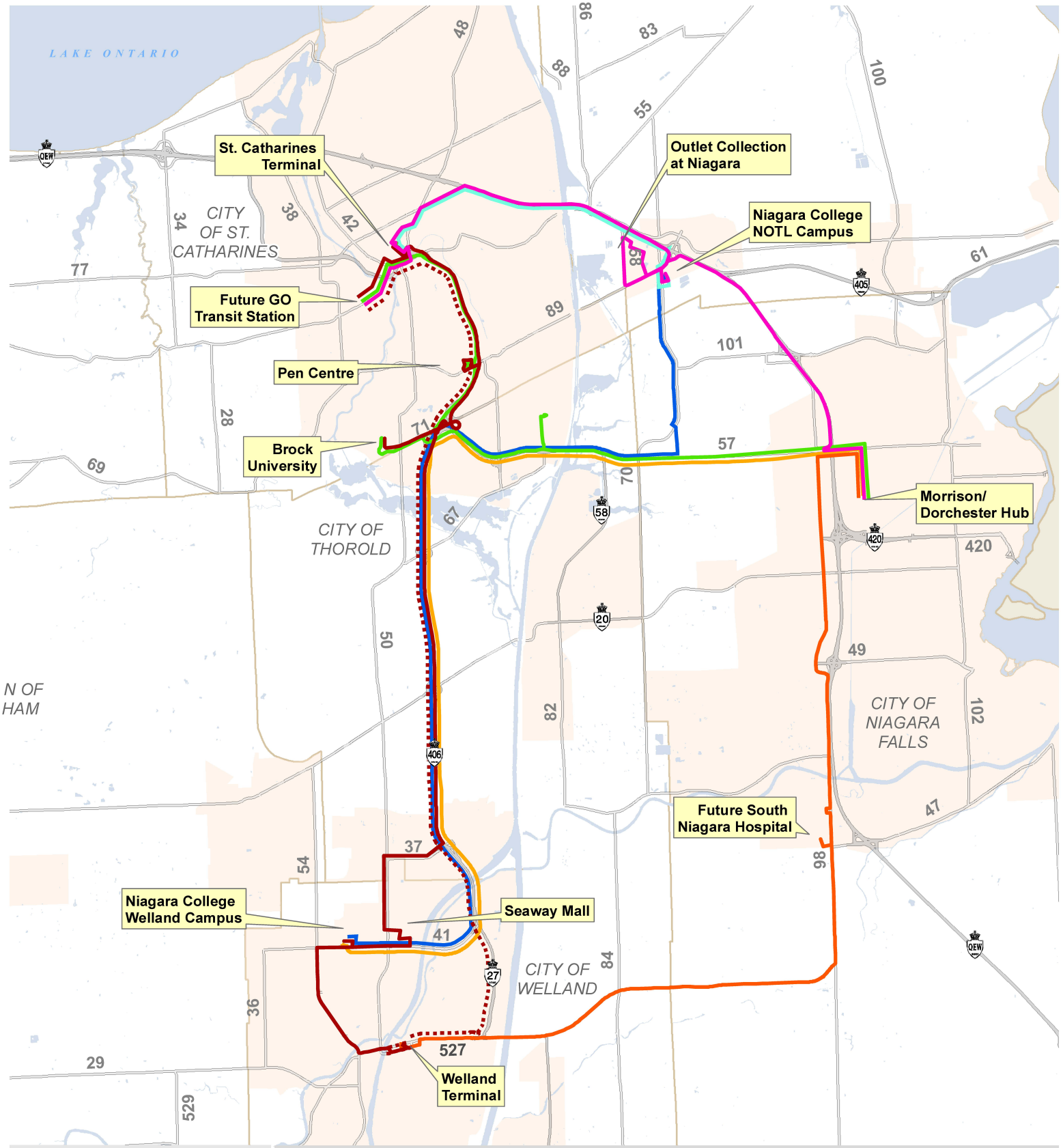
PROJECT: 163664 STATUS: DRAFT 2016-12-19



NIAGARA TRANSIT SERVICE DELIVERY AND GOVERNANCE STRATEGY

RECOMMENDED 2019 ROUTE OPTIMIZATION STRUCTURE IN CONSOLIDATED TRANSIT SERVICE AREA

FIGURE 20

- NRT Route 40/45
- NRT Route 50/55
- NRT Route 60/65
- NRT Route 70/75
- NRT Route 70/75 Express
- Niagara Falls - Welland Campus
- NOTL LINK
- SCTC Route 26
- Provincial Highway
- Regional Road
- Urban Areas
- Niagara Region Municipalities
- Other Municipalities

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY NIAGARA REGION, MNR AND ESRI

MAP CREATED BY: SMB
MAP CHECKED BY: DK
MAP PROJECTION: NAD 1983 UTM Zone 17N

Data\MXD\
Figure4 2023 Network_Zoom.mxd

0 0.5 1 2 km
1:120,000

PROJECT: 163664 STATUS: DRAFT 2016-12-19

Table 41: Projection of Inter-municipal Express Routes in the Consolidated Transit Service Area

Horizon Year	Annual Revenue Vehicle Hours	Annual Operating Cost	Annual Revenue Passengers	Boardings/ Revenue Vehicle Hour
2016/2017*	49,300	$5,256,800	726,600	14.74
2019	51,000	$5,875,000	816,000	16.00
2023	55,600	$7,119,800	919,600	16.54

*Note: Annualized beginning September 2016
**Note: Includes for NRT and inter-municipal post-secondary routes

14.1.5 Challenge Optimizing Inter-municipal Express Routes

It is important to note that the implementation of the Consolidated Transit Model will ease the implementation of the route optimization plan noted above.

There are a number of challenges that come with the implementation of an optimized inter-municipal transit service as described above under the current service delivery and governance model. There are currently four different transit systems that provide inter-municipal transit services between St. Catharines/Thorold, Niagara Falls and Welland. Each has their own long-term vision and short-term priorities that they need to be accountable for and may not necessarily fit within this integrated network plan.

One of the challenges with this service integration model is the distribution of U-Pass revenue to the local transit service providers that currently operate the post-secondary services. Funding from the U-Pass for these inter-municipal services also helps to subsidize the use of local services that Niagara College and Brock University students use. The proposed optimized route structure involves eliminating a number of post-secondary routes and adjusting Niagara Region Transit routes to directly service both post-secondary institutions. This will reduce some of the funding that goes to the local transit operator.

Under the Consolidated Transit Model, U-Pass revenue can be collected into a single pool of funding and distributed to each funding municipality based on criteria set by the consolidated governing body. One potential model is that:

- U-Pass revenue that is dedicated to fund an inter-municipal post-secondary route (e.g. the NOTL Link) should continue to fully fund this service.
- The remaining U-Pass revenue that was previously used to fund post-secondary inter-municipal services that have been optimized (e.g. elimination of the Brock Link with the optimization of Route 70/75) should be consolidated into a larger pool of funds and redistributed to each funding municipality (including the Region) based on the use of transit services by U-Pass holders in each municipality.

This scenario presents one option for the distribution of U-Pass funding. The next phase of implementation of the Consolidated Transit Model should assess these issues by retaining a financial firm to develop scenarios that are fair between all municipalities involved.

Many of the local operators also rely on post-secondary shuttles to generate ridership that is reported to the Ministry of Transportation under the Provincial Gas Tax agreement. Higher ridership would mean

additional gas tax revenue to support capital and operating costs and the loss of this service would result in a funding reduction from the province (the funding would be allocated to the Region instead under the current governance structure).

Under the Consolidated Transit Model, all Provincial Gas Tax revenue would be collected by the one organization and should be distributed fairly to each funding municipality based on a formula set by the consolidated governing body. This could be based on ridership within each municipality, with a portion of inter-municipal trips shared between the Region and each participating local municipality.

There are also challenges in allocating costs that local transit agencies currently take on as part of delivering services for U-pass customers. This includes costs associated with use of terminals (heating, cooling) and staffing to address customer information requests by students (terminal staff, ticket clerks, customer call centre staff). These costs would still continue to be borne by a number of the local transit agencies even if the post-secondary routes were optimized. The redistribution of revenues and costs would need to take this into consideration in the development of the Consolidated Transit Model.

Overall, it should be recognized that providing this optimized inter-municipal route network (including potential to integrate with local transit services) is difficult under the current Status Quo Model. While there have been some successes with the introduction of Route 40/45 and realignment of Route 50/55, this 'success storey' may be difficult to repeat with a number of the other recommendations without a shared common vision and appropriate reconciliation of revenues and costs. This will also be the case with the introduction of other integrated services such as a common fare strategy and smart card, and integrated trip planner. For this reason, the Consolidated Transit Model should be in place before implementation of many of the route optimization recommendations noted above.

14.2 Rural Link Route Modifications

In addition to the core Inter-municipal Express Routes within the Consolidated Transit Service Area, two other inter-municipal transit services exist in Niagara Region today: the Port Colborne Link (connecting Port Colborne and Welland) and the Fort Erie Link (connecting Fort Erie and Niagara Falls). These routes are partially funded by Niagara Region and partially funded by the respective local municipality.

A further three systems provide linkages to Niagara Region Transit routes and/or other local transit services within the region and are very important to regional connectivity: WEGO, Pelham Transit and Niagara-on-the-Lake Transit. While these act primarily as local routes, they do provide an inter-municipal function, connecting to an adjacent municipality, therefore, are discussed in this report.

The following section discusses changes that are recommended to optimize the service on these connecting links to the Consolidated Transit Service Area. The focus is on the inter-municipal connectivity, as local routings and service levels are best determined by the funding municipality. A common recurring theme throughout the recommendations provided for the various systems is to ensure that connections are designed with the customer in mind. Minimizing waiting times at convenient transfer points and trip generators will help foster synergies between the systems and encourage cross-border trips by transit. To further facilitate this, fare integration among the various systems is desirable as described in **Section 16.1**.

14.2.1 Port Colborne Link

Issue / Opportunity

The Port Colborne Link provides six daily trips between Port Colborne and Welland. The service is funded by both the Region and the City of Port Colborne. When entering Welland, the service connects to Niagara College and Seaway Mall before heading south to the downtown Welland terminal. One of the reasons for this route is to provide a direct connection to Niagara College as a number of riders are students accessing the post-secondary school.

An assessment of the existing service reveals a number of key challenges:

1. There is no direct connection to the downtown Welland terminal on the inbound approach. This limits the ability of Port Colborne residents to connect to other Welland Transit routes and Route 60/65 to Niagara Falls.
2. The downtown terminal connection on the outbound approach is not timed with other Welland Transit routes. On the trip back to Port Colborne, the service is only timed to meet with Welland Transit routes on second AM run. For all other runs, passengers must wait up to 20 minutes for a connection.
3. The service only passes the Welland County Hospital in the southbound direction. This reduces the attractiveness of this destination for transit passengers as they are only provided direct access on their return trip to Port Colborne.
4. The service does not start early enough or end late enough to connect to the anticipated AM peak period GO Trains departing from or PM Peak period GO Trains arriving at the St. Catharines GO Station.

Recommendation

With the extension of Route 70/75 to Niagara College as recommended in **Section 14.1**, consideration should be made to short-turn the Port Colborne Link at the downtown Welland terminal. This was a recommendation that has also been discussed by Welland Transit as part of their recent Transit Master Plan.

The trip between Port Colborne and the Welland terminal (via Niagara College) currently takes 39 minutes. The trip from the Welland terminal back to Port Colborne currently takes 24 minutes (total round trip travel time of 65 minutes). By short-turning the route at the downtown terminal, the service would only require 60 minutes to complete a round trip and would save approximately 30 minutes per day. With a 60 minute travel time, the service could be timed to meet with other local Welland Transit services, Route 70/75 and Route 60/65 at the downtown Welland terminal to minimize overall travel time for both inter-municipal connections and local Welland connections. Passengers destined to Niagara College and the Seaway Mall could easily board the 70/75 to have direct access to these major destinations.

It is recommended that a seventh daily run be added to the route by 2019, on both weekdays and Saturdays. This would match the level of service currently being provided on the Niagara Falls to Fort Erie route, which has a lower existing and projected ridership than the Port Colborne Link. The 30 minutes of daily service hours saved by short-turning the route at the downtown terminal would mean that a seventh run could be added each day with only an increase of 30 minutes in daily revenue vehicle hours (equivalent to a 17 percent increase in service, with only an 8 percent increase in revenue vehicle hours).

With the arrival of GO Train service to St. Catharines, it is also recommended that an extra weekday early morning run and one evening run is added to the service. This will increase potential connection opportunities to Route 70/75 or Route 70/75 GO Express service to/from the GO Station.

The weighted growth rates of both Welland and Port Colborne were considered to have a linear effect on ridership for forecasting purposes. The addition of the seventh daily run was also considered in developing the ridership projections.

Operating costs are calculated based on a $97.40 average hourly operating cost for 2016 service[13]. Revenue is noted in **Section 17.7**. The revised service plan is illustrated in **Figure 21**.

Service Hour and Financial Implications

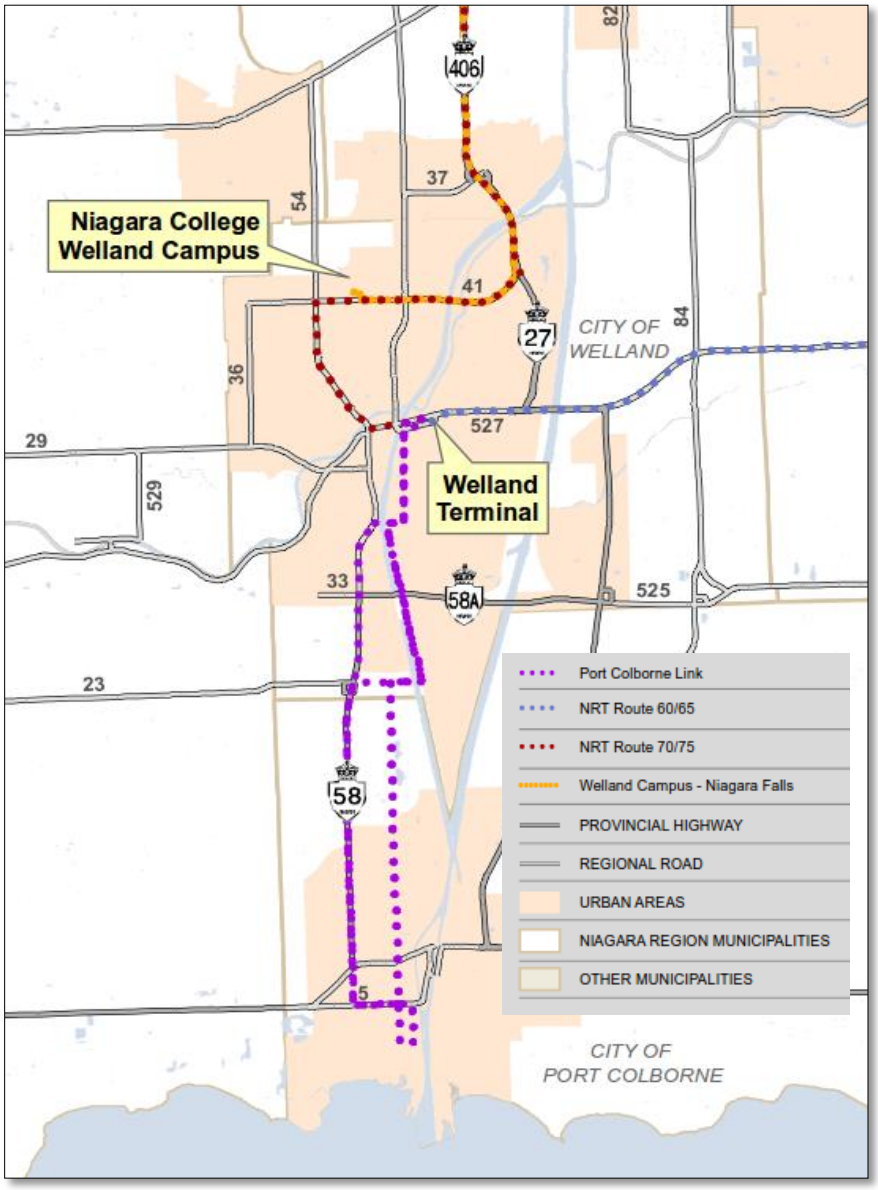
Table 42 illustrates the projected annual revenue vehicle hours, operating costs and revenue passengers for the Port Colborne Link. The increase to a seventh run will increase ridership by providing more travel options for customers and improve connectivity to the system. Travel to Niagara College and Seaway Mall will only be approximately five minutes longer to account for a transfer and is considered to be a good compromise to receive the other system benefits achieved from the modification. The increase to a ninth run by 2023 will also increase connection opportunities to the St. Catharines GO station.

Table 42: Port Colborne Link Service Projection

Horizon Year	Annual Revenue Vehicle Hours	Annual Operating Cost	Annual Revenue Passengers	Boardings/ Revenue Vehicle Hour
2016	2,000	$204,500	15,200	7.6
2019	2,100	$230,000	17,200	8.2
2023	2,600	$316,800	20,400	7.9

[13] Starting from the 2015 operating rate for Niagara Region Transit, this was increased to account for 2 percent increase for inflation. For 2017, operation costs were also increased to account for additional staff resources and facility costs during the base year. A 2 percent annual increase was also included to account for inflation each year following.

Figure 21: Proposed Port Colborne Link Service Plan



14.2.2 Fort Erie Link

Issue / Opportunity

The Fort Erie Link provides seven trips between Fort Erie and Niagara Falls, from Monday through Saturday. As with the remainder of the Niagara Region Transit network, no service is offered on Sunday. Fort Erie is currently undergoing a system-wide review of its local transit system, which will result in a modification and expansion of the current route structure. Additionally, the primary transit hub will be moved to the Fort Erie Municipal Centre, located on Garrison Road.

As a result of this modification, it is recommended that the Fort Erie Link's terminus be moved from its existing location at the Walmart to the Municipal Centre. Doing so would provide two significant advantages:

1. Service the Fort Erie's future transit hub, with connections to local bus routes serving Fort Erie and Crystal Beach. In addition to the convenient transit connections, the Municipal Centre itself is an important destination within the Town of Fort Erie. The site contains a 1,600 seat arena (Leisureplex), the Fort Erie Town Hall, a large gym and recreation centre, a community health centre, and the Clarion Hotel & Conference Centre.
2. Avoid significant congestion in the Walmart parking lot. Currently, the inter-municipal Link service to Niagara Falls is forced to circle through the Walmart parking lot, which occasionally results in delays.

It is also difficult for Fort Erie residents to connect to Welland (particularly Niagara College students destined to the campus). Potential demand between Fort Erie and Welland was not that high to warrant a direct service. However, a pilot dynamic transit service (**Section 14.4.2**) between Crystal Beach and Port Colborne was recommended to test this market.

The existing service also does not start early enough or end late enough to connect to the anticipated AM peak period GO Trains departing from or PM Peak period GO Trains arrived at the Niagara Falls GO station. An extension of the service would be required to better integrate with early morning and late evening GO Train services.

Recommendation

The modification of the Fort Erie terminus for the Fort Erie Link service will have a negligible effect on route travel times, resulting in no significant operational changes. Connections at the Morrison/ Dorchester Hub in Niagara Falls to NRT Routes 40/45, 50/55 and 60/65 will be maintained. As Niagara Falls Transit transitions its entire network to 30-minute headway, connections to local transit will also be improved.

A further change to the Fort Erie Link route is recommended with the opening of the Niagara South Hospital. The hospital, which is currently scheduled to become operational in 2024, will be located just off the Fort Erie Link's current route, at the northwest corner of Montrose Road (Niagara Regional Road 98) and Lyons Creek Road (Niagara Regional Road 47). The route should be modified in order to permit Fort Erie Link buses to exit the QEW at Lyons Creek Road and service the hospital site, which will become a major trip generator in the region. This change will provide a direct link to a major destination, as well as a potential transfer opportunity to Route 60/65 for passengers destined to Welland.

The challenge with this proposed modification is that it will bring the one-way travel time to just above 30 minutes, which will result schedule adherence issues. Since this is an important link, opportunities to maintain a route running time of 30 minutes need to be explored.

One option is to eliminate the detour the route currently makes on the Niagara Falls end of the route. Due to the unpredictably and resulting delays of trains passing an at-grade rail crossing at Dorchester Road, the service is currently routed north to Thorold Stone Road, resulting in significant backtracking of over two kilometres. If the City of Niagara Falls proceeds with a grade-separation of the Dorchester Road crossing in the future, it will allow for approximately 5 minutes of travel time savings, as buses will instead use the more direct QEW-Highway 420-Dorchester Road routing. This will allow the route to stop at the Niagara South Hospital while maintaining a 30 minute run time.

With the arrival of GO Train service to Niagara Falls, it is also recommended that an extra weekday early morning run and one evening run is added to the service. This will increase potential connection opportunities to a local Niagara Falls Transit service to/from the Niagara Falls GO Station. It will also provide improve connections to early morning classes at Brock University and Niagara College, as well as to a number of employers in the region.

Service Hour and Financial Implications

The weighted population and employment growth rates of both Niagara Falls and Fort Erie were considered to have a linear effect on ridership for forecasting purposes. Based on projected ridership, no service changes are currently recommended for the 2019 horizon year. A slight increase in service is, however, recommended for 2023.

Operating costs are calculated based on a $97.40 average hourly operating cost for 2016 service[14]. This operating rate was increased in future years to account for inflation. Revenue is noted in **Section 17.7**.

Table 43 illustrates the projected operating costs, potential passenger revenue and the revenue to cost ratio for the Niagara Falls-Fort Erie.

Table 43: Fort Erie Link Service Projection

Horizon Year	Annual Revenue Vehicle Hours	Annual Operating Cost	Annual Revenue Passengers	Boardings/ Revenue Vehicle Hour
2016	2,100	$233,800	10,200	4.86
2019	2,100	$250,900	10,500	5.0
2023	2,600	$328,100	13,000	5.0

14.2.3 WEGO

Issue / Opportunity

WEGO is a tourism-oriented bus service jointly operated by Niagara Falls Transit and the Niagara Parks Commission. The only inter-municipal service provided by WEGO is the seasonal Orange Line, which connects Queenston Heights to Niagara-on-the-Lake. Service on this link is provided from April 30 until October 30, at a frequency of every 60 minutes between 10:30am and 6:30pm. Based on the overall assessment of transit demand completed in **Section 4.6**, the level of service being provided to address the demand between downtown Niagara Falls and downtown Niagara-on-the-Lake seems to be appropriate over the next seven years.

[14] Starting from the 2015 operating rate for Niagara Region Transit, this was increased to account for 2 percent increase for inflation. For 2017, operation costs were also increased to account for additional staff resources and facility costs during the base year. A 2 percent annual increase was also included to account for inflation each year following.

Recommendation

The primary operational change recommended for this route is its integration into the existing Green Line service. The Green Line runs along the Niagara Parkway, from Rapidsview Park in the south to Queenston Heights. The Green Line passes right alongside the Falls and in close proximity to hotels, attractions, casinos, and restaurants that make up the tourist centre of Niagara Falls. The linear transfer to the Orange Line could be eliminated with the extension of every fifth Green Line bus from Queenston Heights to Niagara-on-the-Lake. Consequently, the Orange Line would be eliminated; with the route it currently covers becoming a branch of the Green Line. This change would maintain hourly service to Niagara-on-the-Lake, without requiring any additional buses or increasing revenue service hours. There would also be no impact on the existing Green Line.

The benefit of this change is that it would improve passenger convenience by providing a direct ride from Niagara Falls to Niagara-on-the-Lake without the need for a transfer.

14.2.4 Pelham Transit

Issue / Opportunity

The Town of Pelham operates a local transit service that links the communities of Fonthill, Ridgeville and Fenwick. The service also provides an inter-municipal connection to the City of Welland with stops at the Seaway Mall and Niagara College, where connections can be made to Niagara Region Transit Route 70/75, the Brock Link and NOTL Link (from Niagara College stop) as well as local Welland Transit routes. The service is relatively new with limited statistics on ridership. According to Town staff, Niagara College and Brock University students consist of approximately one-third of the system's total ridership. Currently, passengers that are destined to Brock University, Niagara College Glendale campus or other destination in St. Catharines must first head south to the Seaway Mall and Niagara College Welland campus before being able to transfer onto a post-secondary route at Niagara College. This adds travel time to the customer and duplicates a part of the inter-municipal transit services between Welland and St. Catharines.

Recommendation

With the recommended improvements to Route 70/75, including integration with post-secondary services, it is recommended that the route eliminate the stop at the Seaway Mall and provide a direct link to Niagara College Welland Campus (timed to meet the northbound Route 70/75 service to the Seaway Mall, Brock University and downtown St. Catharines). The route would use First Avenue to access the College and therefore reduce the one-way travel time by approximately 5-7 minutes. This would reduce the trip length for a number of passengers and allow these revenue vehicle hours to be reinvested in extending local service within Pelham. The travel time for passengers destined to Seaway Mall may take approximately five minutes longer as they would need to transfer onto a local Welland Transit service or Route 70/75.

For this option to be effective, a fare integration agreement should be in place that will allow passengers to transfer between Pelham Transit and any transit service within the Consolidated Transit Service Area. For this to occur, it is recommended that a smart card system is in place, particularly for passengers connecting a short distance to Niagara College or Seaway Mall. For local transfers to destinations in Welland, it is recommended at a full fare integration agreement be in place where passengers are not charged an additional fare to transfer between the two systems. Pelham would keep the fare for passengers that transfer onto Welland Transit and Welland would keep the fare for passengers that

transfer from Welland Transit to Pelham Transit. There is capacity in most bus routes to accommodate additional passengers and the integration agreement would likely lead to a growth in ridership for both systems.

14.2.5 Niagara-on-the-Lake Transit

Issue / Opportunity

The Town of Niagara-on-the-Lake operates a transit system that offers both local service within the urban area of the municipality as well as to Niagara College Glendale campus and the Outlet Collection at Niagara Mall. The system has experienced ridership growth since its inception, and the service offering has recently improved with the implementation of Route 40/45, providing direct connections to St. Catharines, Niagara Falls and west Niagara and the GTHA (via the GO Bus Route 12 stop at Fairview Mall). The majority of inter-municipal transit demand to Niagara-on-the-Lake is to Niagara College Glendale Campus.

Recommendation

No changes to the current service offering are proposed. Niagara-on-the-Lake Transit along with Niagara Region Transit should continue working together to ensure that convenient connections between the two services continue to be available at Niagara College and/or the Outlet Collection at Niagara Mall.

Given the significance of the tourism sector in Niagara-on-the-Lake, the potential for a specialized shuttle service connecting the many wineries in the Town exist. This shuttle should connect with existing transit services at Niagara College and/or the Outlet Collection as well as the Old Town core, to provide a seamless experience for tourists and employees alike. As it would be specifically targeted to wineries, a coordinated effort on the private sector's part, combined with a significant operating funding, would be required to support the service.

Several demand-responsive dynamic transit options exist to service this niche market. **Section 14.4** of this report provides further details on potential transit solutions appropriate for lower-demand rural areas. Since this would be a local service, it would be operated by Niagara-on-the-Lake Transit under the existing service delivery and governance model.

Fare integration opportunities should also be addressed between Niagara-on-the-Lake Transit and the consolidated governing body. This would provide seamless connections for passengers connecting to/from Niagara-on-the-Lake without having to pay a full second fare. A fare premium as described in **Section 16.1** should be implemented to encourage use of the inter-municipal network. To ease implementation and track revenue, an integrated regional smart card solution is recommended for fare integration to occur. This is discussed in more detail in **Section 16.2**.

14.3 New Rural Link Route Options

A number of new inter-municipal transit services were identified for implementation over the next seven years to better connect each municipality in the region with a viable travel alternative. The majority of these inter-municipal connections provide transit links between the Consolidated Transit Service Area and smaller urban communities (typically located within a larger rural area). These are recommended to be designated as new Rural Link Routes in the service guidelines document (**Section 13.0**).

There is a strong desire to provide connections to larger urban centres to improve quality of life, provide residents who do not have access to an automobile or choose not to drive with mobility to access employment and education opportunities, goods and services and heath care. Given the large tracts of greenfield area separating many of these municipalities, solutions were identified that are cost effective and suitable for the environment being serviced.

The development of service delivery options were built on the initial service option identified in the 2014 IMT Plan and modified based on updated population and employment growth data and new key areas of influence (e.g. introduction of GO Train service).

14.3.1 West Lincoln (Smithville) Link

Issue / Opportunity

West Lincoln is a growing rural municipality in west Niagara Region with a population of approximately 14,500 residents. Within the next seven years, the municipality is expected to reach a population of 17,000. The municipality is primarily rural, with the exception of the community of Smithville, an urban centre of about 5,000 people located approximately 15 kilometres south of Grimsby. Smithville is the primary growth centre within West Lincoln, which is expected to experience a 16 percent increase in population and employment over the next seven years.

Currently, West Lincoln is not served by any conventional transit service. Inter-municipal transit for persons with disabilities is provided by Niagara Specialized Transit, although this service is only available to those who meet its eligibility requirements.

Transit demand forecasting identified a potential current transit demand departing West Lincoln of slightly under 100 trips per day. This is expected to grow to approximately 120 trips per day by 2023.

The prominent travel demand for West Lincoln residents is to Hamilton (45 percent of AM peak period trips), followed by municipalities in east Niagara (e.g. St. Catharines, Niagara Falls and Welland) (25 percent of AM peak period trips). Trips destined to Grimsby account for approximately 15 percent of daily trips while trips destined to Beamsville account for less than 10 percent of AM peak period trips.

With the majority of trips destined to Hamilton, it is important to design a service that provides good connections to the Grimsby GO Bus stop, located at the Casablanca carpool lot. At this location, passengers can make connections to the GO Bus Route 12 service to Stoney Creek in Hamilton.

A direct service to Beamsville was also assessed. Since the overall transit demand between Smithville and Beamsville is relatively low, providing this direct connection may not be cost effective. Therefore, it is recommended that any resources that would be provided in a Smithville / Beamsville connection be reinvested to a direct Smithville/Grimsby connection. This would add more runs to this service, making it more of an attractive option to potential transit customers. Connections between Smithville and Beamsville could still be made by transfer onto another route in Grimsby that provides service to Beamsville.

A reverse direction route between west Niagara and Smithville was also considered, given Smithville's growing employment area located in its northeast industrial park. Based on population and employment forecasting, overall employment in the Town is expected to increase by 800 jobs over the next seven years. There is a desire to provide a transit connection to the industrial park to increase job attraction and retention in this area. While this is a growing area, an assessment of transit demand over

the next seven years identified a limited ridership potential to this area (10 AM peak period trips inbound to Smithville compared to 35 AM peak period trips outbound from Smithville).

Recommendation

The proposed route would link Smithville with the Grimsby GO Casablanca Carpool Lot. This location currently serves the Route 12 GO Bus, which provides hourly service between Burlington and Niagara Falls with stops in Stoney Creek, Beamsville and St. Catharines. In 2021 when GO Train service is extended to Grimsby, the train station will be located across the street from the existing bus loop and the terminus would be moved here.

Beginning at the Grimsby GO Carpool Lot or Casablanca GO Train Station, the route is proposed to conduct a one-way loop within Grimsby before heading south on Niagara Road 12 to connect to Smithville. During the AM peak period, coming from Smithville, it is recommended that the route head west on Main Street West and north on Casablanca north providing an opportunity to pick up some Grimsby residents destined to the GO Bus/Train. On the outbound direction starting at the Grimsby GO Bus/Train station, it is recommended the route follow the South Service Road and Niagara Road 12 (which passes near the town's commercial core and provides access to some large big box format retailers (e.g. Superstore). This provides an opportunity for Smithville and Grimsby residents to access the employment area in the AM peak period. In the PM peak period, it is recommended that the route within Grimsby be reversed to provide a direct access home.

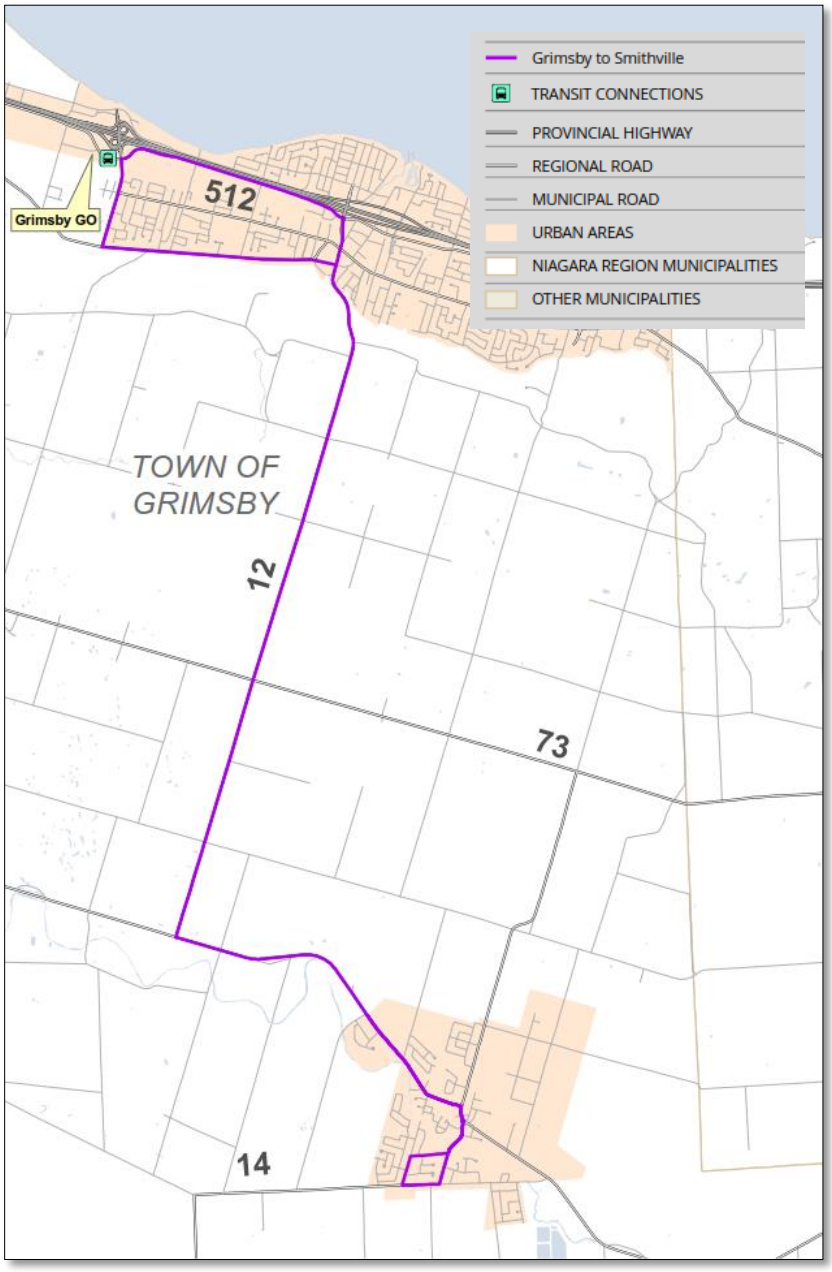
From the intersection of Main Street West and Niagara Road 12, the route would continue south on Niagara Route 12 to Niagara Road 20, and then east into the community of Smithville. The one-way travel time to the edge of Smithville is estimated at approximately 17-20 minutes.

Within Smithville itself, the route would follow Niagara Road 20 and Niagara Road 14 through the community's core, before looping around on Smithville Road, Wade Road, and Colver Street. The Smithville portion of the route is expected to take approximately 15 minutes, for a total round-trip time of approximately 50 to 53 minutes. A seven to ten minute layover is recommended at the Grimsby GO Carpool Lot/future Casablanca GO Train station to increase the potential for connections to be made to the GO Bus and future GO Train service. The proposed route is illustrated in **Figure 22**.

Key destinations served by this route include:

- Grimsby GO Bus Stop (Casablanca GO Train station);
- Grimsby Superstore (300+ employees);
- South Service Road industrial area in Grimsby;
- Downtown Grimsby;
- Southward Community Park (as of 2017) – seven to ten minute walk from route;
- West Niagara Fairgrounds – five minute walk from route;
- West Lincoln Arena and Community Centre;
- Downtown Smithville;
- South Lincoln High School;
- West Lincoln Municipal Offices; and
- Smithville Christian High School.

Figure 22: Proposed West Lincoln Link



As discussed above, a significant portion of the travel demand in West Lincoln is oriented westwards to Hamilton and the Western GTHA, rather than towards the rest of Niagara Region. As a result, connections to GO Transit Route 12 to and from the west were considered a priority and generally have the shortest transfer times.

A schedule was developed based on current GO Transit Route 12 service, with nine daily return trips between Grimsby and Smithville. Service is proposed to run from 6:15am to 11:00am and from 2:00pm to 7:00pm.

Table 44 below illustrates the number of proposed connections available at the Grimsby GO carpool with transfer times of less than 15 minutes, under the current GO Bus Route 12 schedule.

Table 44: Connections Less than 15 Minutes at Grimsby GO Carpool Lot

Direction	Daily Trips to/from Smithville	To/From Hamilton / GTA	To/From East Niagara Region
Outbound from Smithville	9	5	6
Inbound to Smithville	9	7	2

Because the majority of transit demand to/from Smithville will be connecting in Grimsby to/from other destinations, coordinating trip times to connect with GO Transit Route 12 (and future GO Train service) is important. This means that the schedule for the Grimsby to Smithville route might not be able to operate under a clock-face headway (at regular intervals). The priority should be ensuring the maximum number of connections to the GO Bus, minimizing passenger waiting time while transferring between routes.

Within Smithville, the majority of the existing residential area will be within a 400 –metre walking distance (5 minutes or less) to the nearest stop along the proposed route. Some of the expected future residential growth in the northwest part of Smithville will also be within a 5-minute walking distance of the route. Only the industrial area and the residential areas north of the CP railway tracks are outside of this walking distance.

To provide local coverage in Smithville to the areas outside a 5 minutes walking distance, it is recommended that the Town of West Lincoln consider implementing a local transit service within Smithville. Given the lower potential demand, a dynamic transit service option should be considered using a technology enabled smartphone app (see **Section 14.4**). The dynamic transit service could be operated by a taxi service, specialized transit vehicles, Uber vehicles or a community care agency (e.g. the Red Cross). Passengers would connect to an inter-municipal transit stop within downtown Smithville and complete the rest of their trip on the Smithville service. This would also provide connections to Smithville's growing employment area.

The Dynamic Transit service is applicable if the service area is expected to achieve less than 5-8 boardings per revenue vehicle hour. The benefit of this model is that the operating cost is only incurred by the town when a trip is being delivered. If transit ridership is projected to be higher, a fixed route local transit route should be implemented instead.

Service Hour and Financial Implications

Ridership demand was calculated by estimating the total travel demand to/from Smithville and applying a transit mode share to this demand (as noted in **Section 4.6**). This was further adjusted by factoring in the proposed level of service in each of the horizon years to determine transit ridership.

In 2019, it was assumed 80 percent of potential daily transit demand between West Lincoln and Grimsby would use the bus route because of the strong service offering and the potential to connect to a local transit service in Grimsby. For trips to Hamilton and the GTA, it was estimated that 75 percent of

potential transit demand would use the bus route, due to optimized connections to and from Route 12 to/from the west as well as the disincentives for automobile travel to the GTHA (higher parking costs and congestion on the QEW). In contrast to this, a smaller number of trips have optimized connections (with less than 15 minutes waiting time) to and from GO Bus services destined to east Niagara Region. Therefore, only 50 percent of the demand to and from the East was assumed to be realized.

By 2023, GO Train service is scheduled to be in place in Grimsby (2021), St. Catharines and Niagara Falls (2023). As a result of the increased attractiveness of the GO Train service compared to the existing GO Bus route, the materialized transit demand assumptions were adjusted. For Hamilton and the GTA, 85 percent of potential transit demand was assumed to materialize. For St. Catharines and eastern Niagara Region, 60 percent of potential transit demand was assumed to materialize, as the Smithville link would likely continue to optimize connections to and from the west to the potential detriment of connections to and from the east. Materialized transit demand on the Smithville-Grimsby connection was assumed to remain unchanged, as the introduction of the GO Train service would have no effect on this link.

Table 45 illustrates the potential demand for this service in the three and seven year horizons should a service as described above be implemented.

Table 45: Forecasted Ridership Demand for West Lincoln Link

To/From	Potential Weekday Transit Demand		Materialized Weekday Transit Ridership			
	2019	2023	2019		2023	
Grimsby	29	31	80%	23	80%	25
West (Hamilton, GTA)	107	123	75%	80	85%	104
East (St. Catharines, Niagara)	64	67	50%	32	60%	40
Total	**200**	**220**	**-**	**135**	**-**	**169**

A further assumption was made that 10 to 20 percent of riders on the bus route would be destined to/from the Smithville industrial area and would require the use of a dynamic transit service to connect to the fixed route.

In total, approximately 135 daily passengers are forecasted to use the service by 2019, growing approximately 170 by 2023.

On weekends, service levels would be adjusted downward to account for lower travel demand. In 2019, Saturday service is envisioned to be provided only, with seven trips in each direction. Between 2021 and 2023, as a result of the GO Train connection in Grimsby, a Sunday service with five trips in each direction is recommended. This is only recommended if there is a local Grimsby Transit service in place on Sundays by this time horizon.

Operating costs are calculated based on a $104.53 average hourly operating cost for 2019 service[15]. This increases by 2 percent per year to 2023 to account for inflation. The proposed adult cash fare for an inter-municipal service from Smithville to Grimsby or Beamsville is anticipated to be $4.50. It is anticipated that a number of fare concessions will be proposed for age and frequency of use. Revenue is noted in **Section 17.7**. **Table 46** illustrates the projected operating costs, potential passenger revenue and the revenue to cost ratio for the proposed route.

Table 46: West Lincoln Link Service Projection

Horizon Year	Annual Revenue Vehicle Hours	Annual Operating Cost	Annual Revenue Passengers	Boardings/ Revenue Vehicle Hour
2019	2,900	$324,000	39,400	13.6
2023	3,200	$384,700	52,800	16.5

14.3.2 Grimsby/Beamsville Link

Issue/Opportunity

West Niagara, including the Towns of Grimsby and Lincoln on the QEW corridor, is among one of the fastest growing areas in Niagara Region. Today, Grimsby and Lincoln combined have a population of just over 50,000, a figure that is expected to grow to approximately 56,000 by 2023. Grimsby and Beamsville are the two primary population centres in these municipalities and are located in close proximity to each other, with only approximately 2 kilometres separating their urban areas.

Currently, neither Grimsby nor Lincoln have a local transit service or are served by Niagara Region Transit. Inter-municipal transit is provided by GO Transit Route 12, which serves the QEW corridor, linking Burlington to Niagara Falls. In Grimsby, the bus stop is located at the Casablanca Boulevard carpool lot. Service to Beamsville was only recently implemented as of September 2016, stopping at the Ontario Street carpool lot.

The Town of Grimsby is currently undergoing a Transit Investigation Study, which will assess the feasibility of introducing a local transit service within the municipality. Lincoln has also expressed an interest in implementing a local transit service within Beamsville, with potential connections to Grimsby along Main Street East. For both municipalities, stakeholder consultation as well as the review of forecasted travel demand suggests that connections to Hamilton are more important than connections east towards St. Catharines.

[15] Starting from the 2015 operating rate for Niagara Region Transit, this was increased to account for 2 percent increase for inflation. For 2017, operation costs were also increased to account for additional staff resources and facility costs during the base year. A 2 percent annual increase was also included to account for inflation each year following.

Within Niagara Region, current transit demand departing Grimsby (including West Lincoln connections) to points east (Beamsville, St. Catharines and the remainder of east Niagara), has been identified at approximately 100 trips per day. This is expected to grow to approximately 120 trips per day by 2023.

Current transit demand departing Beamsville to Grimsby (including West Lincoln connections) and east Niagara (e.g. St. Catharines) is forecasted to be approximately 140 trips per day. This is expected to grow to approximately 160 trips per day by 2023.

The prominent travel demand within Niagara Region for both Grimsby and Beamsville is to St. Catharines (and onward connections), rather than between the two communities themselves.

Recommendation

There are two options to provide transit service between Grimsby, Lincoln and St. Catharines. Option 1 makes use of the existing GO Bus Route 12 service and relies on fare integration, while Option 2 establishes a parallel Niagara Region Transit service that also provides local service in Grimsby and Beamsville. Both options are detailed in the following sections.

Option 1: GO Bus Route 12 Integration

Fare integration between Niagara Region Transit and GO Transit would allow for travel within Niagara Region on GO Transit services using the recommended inter-municipal transit fare structure within Niagara Region. The option makes use of existing capacity on the Route 12 GO Bus, which provides an hourly service between the GTHA and Niagara Falls, with stops in Stoney Creek (Hamilton), Grimsby, Beamsville and St. Catharines (Fairview Mall). To use this service, the customer would pay a standard Niagara Region Transit fare using a Presto smart card, and GO Transit would keep those revenues. If the standard GO Transit fare is higher than the applicable Niagara inter-municipal fare, the region and the Town of Grimsby and Lincoln would remit the difference to GO Transit. The advantage of such an arrangement is significant:

- Predictable, simple, integrated and affordable inter-municipal transit fares for customers;
- Increased cost recovery for GO Transit through better utilization of existing resources;
- Decreased subsidy requirements for Niagara Region and participating local municipalities, providing a low cost opportunity to pilot a service and assess the potential demand;
- Improved inter and intra-regional transit connectivity; and
- Avoidance of competing services serving similar corridors.

Due to its express nature, the Route 12 GO Bus is able to provide quick travel times between Grimsby, Beamsville, St. Catharines, and Niagara Falls, which would appeal to longer distance travelers. Between Grimsby and St. Catharines, the one-way travel time is approximately 30 minutes.

However, there are also some drawbacks to this option:

- The Route 12 GO Bus serves St. Catharines Fairview Mall, rather than the downtown terminal, reducing the number of connections to local St. Catharines Transit services and certain Niagara Region Transit routes. By 2023, when GO Train service arrives to St. Catharines, this will no longer be an issue as the GO Bus service will connect to various local and inter-municipal transit routes at the St. Catharines GO Station.
- No local service is provided in Beamsville or Grimsby and local services would need to be implemented to connect transit passengers within both municipalities.

The service currently runs approximately every hour throughout the day. Because runs are timed to connect with the GO Train at Burlington, the departure times do not strictly adhere to a clock-face schedule. Service is provided for approximately 20 hours a day, spanning between 5:00am and 1:00am.

The existing GO Transit Route 12 is illustrated in **Figure 23**.

Option 2: New Grimsby-Beamsville-St. Catharines Inter-municipal Transit Route

Option 2 involves establishing a new inter-municipal route connecting Grimsby to St. Catharines via Beamsville. This option would be provided by Niagara Region Transit (depending on the governance structure selected) under a cost sharing agreement with Grimsby and Lincoln, and would provide an integrated local and inter-municipal service between Grimsby and St. Catharines.

The proposed route would begin at the Casablanca GO carpool lot in Grimsby (switched to the Grimsby GO Station once the service is in place). Between Grimsby and Beamsville, the route would provide a local service, heading south on Casablanca Boulevard, then east on Livingston Avenue / Main Street through Grimsby providing direct connections to a number of key destinations such as the Grimsby Town Hall, two local high schools, the Peach King Centre, downtown Grimsby, a number of seniors residents and the YMCA. From here, the route would continue to provide local service in Beamsville on King Street and Ontario Street (north of King), including a connection to the Beamsville Park-and-Ride lot at the QEW. At this point, the route would become an inter-municipal route and take the QEW to the St. Catharines downtown terminal. From here, passengers could easily connect to other St. Catharines Transit routes as well as connections to Routes 40/45 (Niagara College Glendale Campus), 50/55 (Niagara Falls) and 70/75 (Welland).

The proposed route is illustrated in **Figure 24**.

While this option provides improved local service within Grimsby and a portion of Beamsville (without the need to transfer), improved local access would come at the expense of speed for Grimsby and West Lincoln residents, with travel times between Grimsby and St. Catharines of one hour compared to approximately half an hour via the Route 12 GO Bus (Option 1).

Service is recommended to be provided 14 hours per day, between 7:00am and 9:00pm. Using two buses operating on this route, an hourly headway would be achievable.

Options were explored to provide transit service to the communities of Vineland and Jordan (along King Street). A routing option that would provide service to these communities would increase the travel time from Grimsby to St. Catharines to approximately 90 minutes, which is considered unacceptable given the travel time by driving is less than 30 minutes. Given the limited population size in these communities, it is recommended that Lincoln explore local transit opportunities in these communities that would connect to the car pool lot in Beamsville.

2023 Service Plan

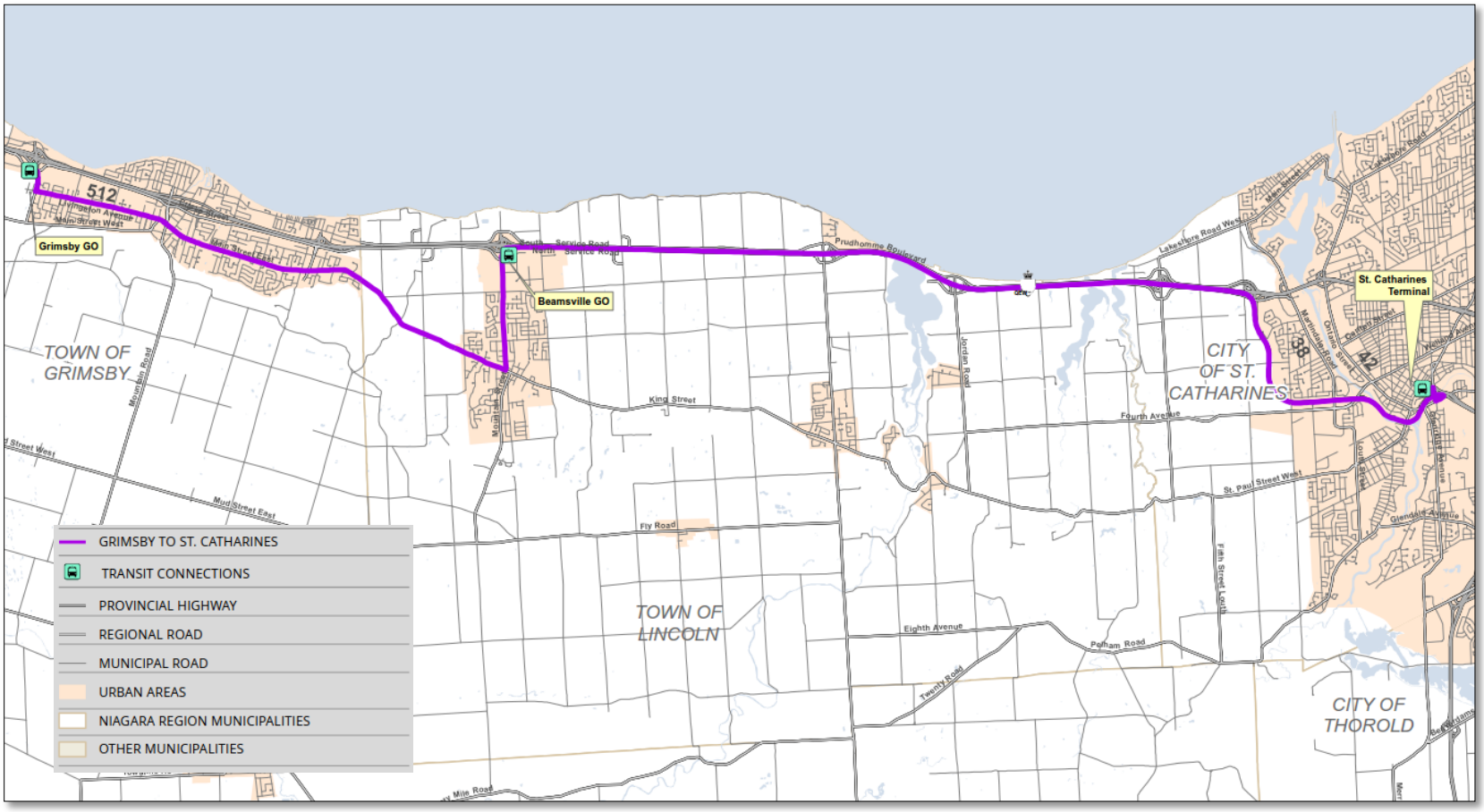
A secondary plan is currently underway for the Prudhommes development, located in north Vineland, on the northeast side of Victoria Avenue and the QEW. The development will add 1,000 to 1,300 medium-density residential units to Vineland by 2023 and will require both local and inter-municipal transit access.

For the GO Bus integration option (Option 1), adding another stop along the QEW near the Victoria Avenue interchange may further reduce travel times on a service that is designed for inter-regional trips and may result in scheduling issues along other portions of the route. When GO Train service is

implemented, the frequency of the GO Bus route may also be reduced, limiting the potential to attract ridership on this route.

Figure 23: Existing GO Transit Route 12 Service

Figure 24: Alternative Grimsby-Beamsville - St. Catharines Inter-municipal Transit Route



Since future plans for GO Bus service are currently unknown, it is recommended that discussions take place with Metrolinx to understand the planned frequency of this future route once GO Train services are in place and to put in place an additional stop at the Victoria Avenue park-and-ride lot.

If discussions with Metrolinx on this stop are favourable, Lincoln would need to implement a local transit service in north Vineland, providing a connection to the Victoria Avenue car pool lot (timed to meet the GO Bus route) and potentially a stop in Beamsville.

Under Option 2, adding a stop at the Victoria Avenue interchange to service this option would increase the overall travel time on this route beyond 60 minutes. This would require the route to be scheduled to operate at a 90 minute one-way trip time between Grimsby and St. Catharines, reducing the attractiveness of the services, particularly for Grimsby residents. Therefore, this option is not recommended to service this new development.

Recommended Service Plan Phasing

Based on the above assessment, the following service plan is recommended to service the Grimsby, Beamsville, Vineland and St. Catharines corridor.

Prior to 2019

1. Pilot a fare integration agreement with GO Transit to provide residents of West Lincoln, Grimsby and Beamsville with a fast connection to St. Catharines using excess capacity on the Route 12 GO Bus and the planned GO Train service. This will help test the market for inter-municipal services between these municipalities without investing in capital. The fare subsidy would be cost-shared between Niagara Region, Town of Grimsby and Town of Lincoln.
2. Work with the Town of Grimsby and Lincoln to introduce a local transit route in Grimsby and Beamsville connecting the Casablanca carpool lot/future GO Station to the Beamsville park-and-ride lot via Casablanca Boulevard, Livingston Avenue/Main Street/King Street and Ontario Street. Residents of these local municipalities could connect to Route 12 at both the Casablanca GO Bus hub/future GO Train station and the Ontario Street park-and-ride lot.
3. If ridership on the integrated GO Bus service results in a subsidy that exceeds the expected net operating cost of Niagara Region Transit providing the service, then the model should switch to Option 2 as described above.

Prior to 2023

1. Meet with Metrolinx and discuss providing a GO Bus stop at the Victoria Avenue park-and-ride lot, including extending the GO fare integration strategy to this stop.
2. Work with the Town of Lincoln to provide a new local transit route connecting the Prudhommes development in north Vineland to the Victoria Park park-and-ride lot, with a potential connection to Beamsville and/or south Vineland.
3. If Metrolinx is unable to include a GO Bus stop at the Victoria Park park-and-ride lot, it is recommended that the Town of Lincoln explore the opportunity to provide a local service connecting the Prudhommes neighbourhood to either the Beamsville car-pool lot or directly to St. Catharines.

Service Hour and Financial Implications

Table 47 below presents the estimated ridership demand between Grimsby, Lincoln and St. Catharines. The corridor is currently serviced by GO Transit's Route 12 GO Bus service.

Table 47: Forecasted Ridership Demand for Grimsby-Lincoln-St. Catharines GO Transit Route 12

From	To	Total Weekday Transit Demand	
		2019	2023
Grimsby	Lincoln	19	20
	St. Catharines	36	49
Lincoln	Grimsby	19	18
	St. Catharines	65	73
St. Catharines	Grimsby	20	29
	Lincoln	32	44
Total		**192**	**232**

In total, approximately 192daily weekday passengers are forecasted to use the service by 2019, increasing to 232 in 2023.

For the implementation of a fare integration agreement with GO Transit (Option 1), the Region and its funding partners (the Town of Grimsby and the Town of Lincoln), would not be responsible for any direct operating costs, which are currently and will continue to be borne by GO Transit. Instead, they would be responsible for the difference in the GO Transit fare and the proposed Niagara inter-municipal transit fare. This service model has been used by GO Transit in other jurisdictions, including Durham Region. Since the peak direction of service on GO Transit is opposite from the peak direction of service for inter-municipal trips along this corridor in Niagara Region, there should be capacity in each vehicle to accommodate additional demand.

The resulting subsidy is thus directly proportional to the number of trips made. The average fare used in the calculation of annual passenger revenue was $3.71; the Niagara Region Transit / post-secondary service funded system-wide average fare in 2016 (see **Section 17.7** for more details). No increase in average fare was assumed for the 2019 and 2023 horizon years. The average subsidy for this service that the Region, Grimsby and Lincoln would need to pay Metrolinx was determined by subtracting the $3.71 average fare from GO Transit's projected average Presto fares between Grimsby, Beamsville and St. Catharines, which were increased by 2 percent annually from existing fares due to historical fare growth.

Table 48 illustrates the projected ridership and subsidy provided by Niagara Region and participating local municipalities for the proposed route.

Table 48: Forecasted Annual Ridership and Fare Subsidy for GO Transit

Horizon Year	Annual Revenue Passengers	Annual Fare Subsidy (to GO Transit)
2019	53,900	$251,200
2023	65,600	$449,500

Operating costs and potential revenue for the local portion of the service were not calculated. This would need to be provided by Grimsby and Lincoln, with a service connecting Grimsby and Beamsville, with a potential future service to Vineland (Prudhommes Development).

14.4 Dynamic Transit Opportunities in Low Demand Areas (Enhanced Ridesharing and App-Based Services)

Dynamic Transit is a new model for transit service delivery which allows customers to use a mobile app to book, track and pay for a shared-ride, demand responsive service.

Unlike fixed-route transit which requires customers to make travel decisions based on pre-defined transit routes and schedules, Dynamic Transit allows transit schedules and routes to be more responsive to individual customer needs. Customers that need a trip simply book a ride before their desired pick-up time and a vehicle will be at a scheduled pick-up point to take them to their destination or a timed transfer point with another transit route.

The service model is a departure from fixed-route transit and is typically used:

1. In areas or periods of low transit demand (as a productivity measure); and
2. To provide a more customized level of service for transit passengers.

The following section provides more detail about how Dynamic Transit services are typically operated:

Customer Trip Requests and Scheduling

- Customer trip requests are made and scheduled through a mobile app that links to a real-time automatic vehicle location system. A customer provides their location of their origin and destination and desired pick-up time and a trip is scheduled. If a customer does not have a mobile phone or access to the mobile app, a phone number is available to allow customers to book the trip directly with the transit agency's Customer Service Centre.
- The trip planner plans complete trips from point of origin to point of destination and allows customers to track the location of their vehicle in real-time. This includes transfers between Dynamic Transit and fixed-route services.
- Trip requests should be made at least one to two hours before the requested pick-up time. Trip requests made closer to the pick-up time are permitted, but are not guaranteed.

Travel on Dynamic Transit

- Dynamic Transit service areas are typically pre-defined in neighbourhoods and employment/retail districts that are outside a 400 to 500 metre walk of a fixed-route service.
- Customers are asked to meet at a communal stop within each Dynamic Transit service area. Communal stops in each Dynamic Transit service area should be placed to ensure at least 90 percent of residents are within a 5 minute walk (400m) of the stop.
- Service will be provided from any communal stop within each Dynamic Transit service area to any other communal stop within the same service area or to a predefined fixed-route transit stop to allow passengers to complete their trip using a fixed-route local transit or inter-municipal transit service.

- Connections between Dynamic Transit and fixed-route services should be seamless. A service policy should be identified to have a maximum waiting time of 5 minutes when transferring between a Dynamic Transit and fixed-route service.
- Dynamic Transit is a shared-ride service, and customers may need to share a ride with other passengers.

Fare Payment

- Fares are integrated between Dynamic Transit and fixed-route services. A customer making a local trip pays a local transit fare and a customer making an inter-municipal trip pays an inter-municipal fare. There is no increased cost to the customer for using Dynamic Transit.
- Customers can pay for the Dynamic Transit trip directly on their smartphone.
- There is the potential to introduce dynamic pricing models if customers request a higher level of service. For example, customers that would prefer a pick-up or drop-off at the curb of their home instead of at a communal pick-up point could do so by paying a slightly higher fare.

Operations

- Dynamic Transit vehicles will be equipped with GPS/AVL technology, allowing vehicles to be monitored in real-time by transit dispatch and customers.
- Dynamic Transit trips may be completed by a specialized transit vehicle, third party ridesharing services, community based transportation services, taxi, or combination of the above.
- There is a potential to contract all or part of the service to a local taxi operator and/or a rideshare service (e.g. Uber). When this occurs, a fixed price per trip is recommended to be negotiated with the service provider as part of a service contract. Customers will pay the driver a standard transit fare (or provide a transfer) and the municipality will reimburse the operator for the difference. A payment is only made to the operator if a trip is booked and completed.

Some potential applications of Dynamic Transit in Niagara Region area noted below.

14.4.1 Wainfleet Link (Dynamic Transit Pilot)

Issue/Opportunity

Wainfleet is a rural township within Niagara Region that does not have a primary urban centre. Instead, its population of approximately 6,500 residents is spread throughout its relatively large territory, making it difficult to service by transit. Within the next seven years, the township is expected to reach a population of just under 7,000, meaning its rural nature will generally be retained and its transportation characteristics are unlikely to be significantly altered. Despite its rural nature, there are several small population clusters, the most significant of which are the Village of Wainfleet and the community of Long Beach.

Currently, Wainfleet is not served by any conventional transit service. Inter-municipal transit for persons with disabilities is provided by Niagara Specialized Transit, although this service is only available to those who meet its eligibility requirements.

Transit demand forecasting identified a potential transit demand departing Wainfleet of approximately 40 trips per day. The forecasted transit demand is not expected to grow significantly by 2023.

The prominent travel demand for Wainfleet residents is to and from Welland, with approximately half of all trips destined there. The remaining travel demand is spread amongst the other municipalities in Niagara Region, with no single municipality capturing a significant share of demand.

As a result of the low demand for transit service connecting Wainfleet to larger urban centres in Niagara Region, the introduction of a conventional transit service would not be an efficient use of resources. Instead, to service Wainfleet effectively, a dynamic transit service linking the primary population centres to the downtown Welland transit terminal is recommended. By providing a service linking Wainfleet to Welland, passengers wishing to continue onwards to other destinations in Niagara Region will have the option of connecting to Routes 60/65, 70/75, or the Port Colborne Link.

Recommendation

The proposed service would link the communities of Long Beach/Burnaby/Ostryhon Corners, the Village of Wainfleet and Chambers Corner with the downtown Welland transit terminal. The trips would be made by either a contracted taxicab or if not available, by a Niagara Specialized Transit vehicle. Passengers wishing to use the service could request pickups or drop-offs at communal dynamic transit stops anywhere within the service area identified above. The proposed dynamic transit service area is illustrated in **Figure 25**.

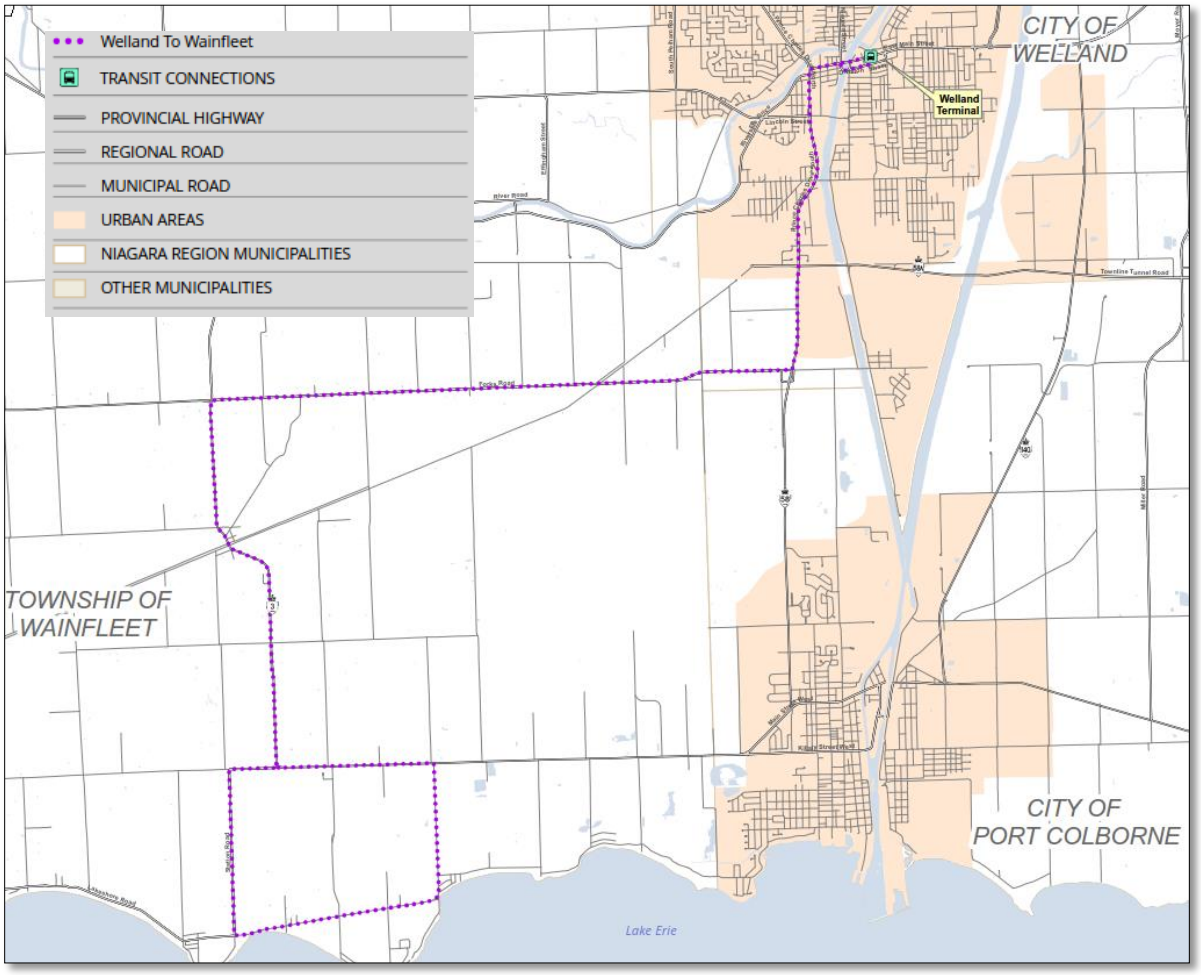
In order to consolidate demand and increase the likelihood of multiple passengers per trip, it is recommended that the service operate as a dynamic route, fixed schedule service. On weekdays, a maximum of five to six trips in each direction would be offered, including two during the morning period, one during the midday, two in the afternoon and one in the evening (return trip from Welland only). On Saturday, a maximum of four trips would be offered in each direction. Although the trips would have pre-scheduled times, they would not actually occur unless a passenger has booked the trip in advance. As a result, the service would only incur a cost if the trip is requested and delivered. Additionally, in outlining a pre-determined schedule, there is an increased chance of sharing rides on a vehicle, reducing the potential of subsidizing single occupant trips.

The one-way trip time between the two furthest points in the dynamic transit area (Welland to Long Beach/Burnaby area) is approximately 30 minutes. If no trip requests are received for the Lake Erie area, the vehicle (NST or taxicab) would make a correspondingly shorter trip, as required. One-way trip time from the Village of Wainfleet to Welland is approximately 20 minutes.

The operating cost of the service is recommended to be negotiated with both the taxi industry and the operator of the Niagara Specialized Transit service. For this model to work, the Region would need to negotiate a fixed rate for this trip, which includes the ability for the taxi service to pick up multiple passengers at different designated stops along the route. For the purposes of this analysis, operating costs were assumed to be $60.00 for an average one-way fare for each scheduled trip that was made (taking into account that not all trips will extend as far as the Long Beach/Burnaby area).

In the event that a taxi vehicle is not available, a Niagara Specialized Transit vehicle could also be used to provide the service. Niagara Specialized Transit is under contract with a private sector carrier who charges $75.00 per trip crossing a zone boundary (such as Welland to Wainfleet) to deliver eligible specialized transit clients. In this scenario, the Niagara Specialized Transit vehicle would be available to pick up both conventional transit passengers and specialized transit clients travelling between Wainfleet and Welland at the same time. While Niagara Specialized Transit clients would continue to receive curb-to-curb service, conventional passengers would be asked to make their way a communal stop located in each village in the Dynamic Transit service area within Wainfleet or to the downtown Welland Transit terminal. In the event that a trip is not requested, no cost would be incurred to the municipality.

Figure 25: Proposed Wainfleet Dynamic Link Route



It is recommended that the service operate as a pilot for a period of 12 months to assess the demand and work out any operational issues. During this pilot, customers would be requested to call into the Customer Call Centre which could be provided by the Region or contracted to the Niagara Specialized Transit service one to two hours before their trip during regular customer service hours (e.g. 9:00am to 5:00pm). A separate phone number or extension is recommended to be made available for this and other Dynamic Transit services. For early morning trips, customers may be requested to call in the day before.

The dispatcher would confirm the availability of a trip with either the taxi or the specialized transit operator and confirm with the client a pick-up or drop-off window at the nearest communal stop to the passengers origin and destination. The passenger would also be asked their method of fare payment in order to reconcile any payment issues between the service provider and the municipality.

In order to book multiple passengers on a single trip, a pick-up/drop off window of approximately 10 minutes should be provided to the customer to allow additional passenger trip requests to be booked on the same dynamic transit vehicle. If customer emails or cell phone numbers are provided, a more exact time can be sent to the client closer to the trip.

Passengers would pay the driver a Niagara Region Transit fare to complete the trip. The driver would keep any cash fares received and provide an invoice to Niagara Region/Wainfleet to pay the difference. The invoice would include any trips paid for by tickets of passes (paid at full cost recovery).

If the pilot is successful and there is potential to extend the pilot to other service areas, it is recommended that the use of a Dynamic Transit mobile app be explored and a more formal call centre operated by the Region be established. This is discussed in **Section 14.4.3** below.

Service Hour and Financial Implications

Ridership demand was calculated by estimating the total travel demand between Wainfleet and Welland and applying a transit mode share to this demand. This was further adjusted by factoring in the proposed level of service. As a result of the relatively low level of service and the dispersed nature of Wainfleet's population and employment, only 30 percent of the total daily transit demand was assumed to be realized.

Table 49 below illustrates the potential demand for this service in the three and seven year horizons should a service as described above be implemented.

Table 49: Forecasted Ridership Demand for Wainfleet Inter-Municipal Link

Direction	Potential Daily Transit Demand		Materialized Daily Transit Demand		
	2019	2023	%	2019	2023
To Welland	44	46	30%	14	14
To Wainfleet	43	45	30%	14	14
Total	**87**	**91**	**-**	**28**	**28**

In total, approximately 30 daily passengers are forecasted to use the service by 2019, with little change in 2023. This equals approximately 2.5 passengers per trip on average (enough to fill a taxi cab or a specialized transit vehicle).

As identified above, the operating cost of the service was assumed to be $60.00 for a taxi and $75.00 for a Niagara Specialized Transit vehicle. For budgeting purposes, it was assumed that out of the 6 daily return weekday trips and 4 daily return Saturday trips available, 60 percent would be delivered by a taxi, 20 percent by a Niagara Specialized Transit vehicle and 20 percent would have no trip request made.

The adult cash fare for an inter-municipal service between Wainfleet and Welland is anticipated to be $4.50 (including use of Welland's transit system). If a passenger wants to continue their trip from Welland onto and IMT route, the recommended adult cash fare is $6.00 (see **Section 9.1** on recommended fare structure).

Table 50 illustrates the projected operating costs and ridership for the proposed dynamic transit service.

Table 50: Wainfleet Link Forecasted Service Projection

Horizon Year	Annual Operating Cost	Annual Revenue Passengers
2019	$191,400	7,900
2023	$207,100	8,300

The costs shown in the above table are the overall costs for the route, and do not include the breakdown of portions covered by Niagara Region and the Township of Wainfleet. The exact breakdown of subsidies is to be determined through funding formulas agreed upon by all funding partners.

14.4.2 Crystal Beach Link (Dynamic Transit Pilot)

Issue/Opportunity

Crystal Beach is a community within the Town of Fort Erie, on the northern shore of Lake Erie. It is located approximately 15 kilometres west of the primary urban centre of Fort Erie, and has a population exceeding 4,000 residents. Within the next seven years, Fort Erie as a whole is expected to maintain its relatively slow growth. Although population and employment growth data was not specifically available for Crystal Beach, demographic changes are expected to closely mirror the general characteristics of Fort Erie.

Currently, Crystal Beach is served by the Town of Fort Erie's local transit service. The route connects the Crystal Beach and Ridgeway areas to central Fort Erie, including the Walmart Plaza where connections can be made to the Fort Erie Link service to Niagara Falls. Conventional Inter-municipal service is not provided directly to Crystal Beach, despite the community being located halfway between Fort Erie and Port Colborne. Inter-municipal transit for persons with disabilities is provided by Niagara Specialized Transit, although this service is only available to those who meet its eligibility requirements.

A gap in the existing inter-municipal transit network has been identified between Crystal Beach and Port Colborne. Despite the geographic proximity between the two communities, a passenger wishing to travel between them currently has to embark on a confusing, time-consuming, and costly journey that involves four separate buses. If provided, a transit service connecting Crystal Beach and Port Colborne would have a forecasted demand of approximately 10 trips per day in each direction. The forecasted transit demand is not expected to grow significantly by 2023.

These passengers would benefit from significantly improved access between Fort Erie and Port Colborne, for access to shopping and employment. Additionally, connections to Niagara College and other key destinations in Welland would be made via the Port Colborne Link service.

As a result of the low demand for transit service connecting Crystal Beach to Port Colborne, the introduction of a conventional transit service would not be an efficient use of resources. Instead, to service this link effectively, a dynamic transit service is recommended.

Recommendation

Given the low demand, it is recommended that a Dynamic Transit service model be piloted between Crystal Beach and Port Colborne for a period of at least 12 months. The proposed dynamic transit

service would link the communities of Crystal Beach and Ridgeway in the Town of Fort Erie with downtown Port Colborne. The trips would be made by either a contracted taxicab or if not available, by a Niagara Specialized Transit vehicle. Passengers wishing to use the service could request pickups or drop-offs anywhere along the designated dynamic transit service area at a pre-designated communal stop located in:

- Gorham Road – Highway 3 to Erie Road, including Ridgeway;
- Highway 3 – Gasline to Gorham Road;
- Killaly Street East – Port Colborne; and/or
- Downtown Port Colborne.

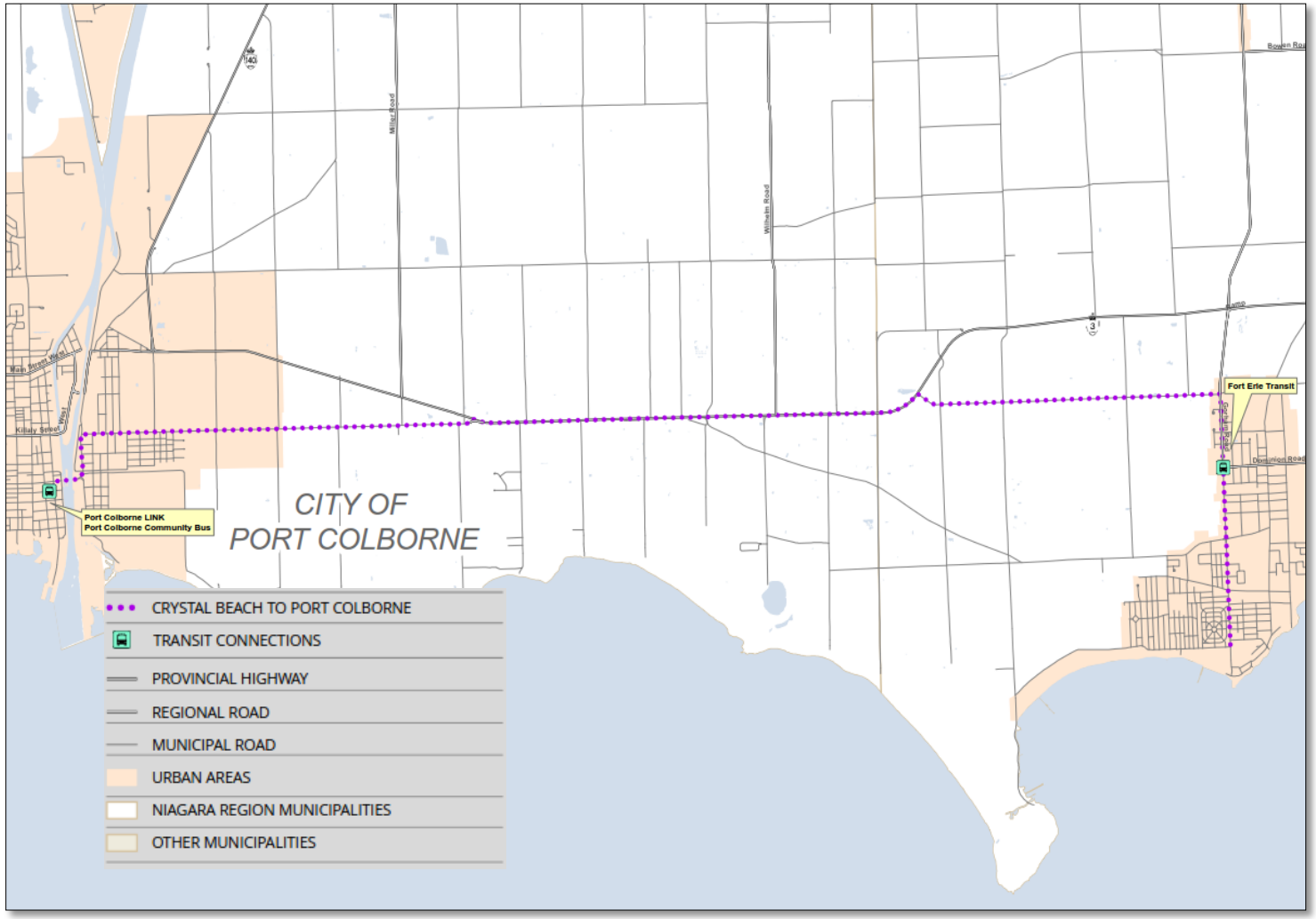
The proposed dynamic transit service area and potential route is illustrated in **Figure 26**.

In order to consolidate demand and increase the likelihood of multiple passengers per trip, scheduled trip times would be identified for this fixed schedule, dynamic routing service. On weekdays, four trips in each direction would be offered, including one during the morning period, one during the midday, one during the afternoon, and one during the evening. Due to low travel demand, no weekend service would be offered. Although the trips would have pre-scheduled times, they would not actually occur unless a customer has booked the trip in advance. As a result, the municipality would only pay the operator if a trip were requested and delivered. Additionally, in outlining a pre-determined schedule, the service avoids becoming a personal taxi by consolidating riders into shared trips, which significantly increases its cost-effectiveness.

Connections to the Fort Erie's municipal transit would be timed at Gorham Road and Dominion Road in Ridgeway, to ensure convenient connections to and from Fort Erie Transit. This will facilitate travel between Fort Erie and Port Colborne, with only one timed transfer. Efforts should also be made to ensure a connection to the Port Colborne Link service, to ensure convenient connections to and from Welland.

The one-way trip time between Crystal Beach and Port Colborne (via Ridgeway) is approximately 20 minutes. If no trip requests are received for the Crystal Beach area, the vehicle would make a correspondingly shorter trip (likely between Ridgeway and Port Colborne, to transport connecting passengers to/from Fort Erie Transit).

Figure 26: Proposed Crystal Beach Dynamic Link Route



The operating cost of the service is recommended to be negotiated with both the taxi industry and the operator of the Niagara Specialized Transit service. The one-way cost of a taxi between Crystal Beach and Port Colborne is approximately $45, while a trip between Ridgeway and Port Colborne is approximately $50. Similar to the Wainfleet service noted above, it is recommended that the Region negotiate a fixed rate for this service, which includes the ability for the taxi service to pick up multiple passengers at different designated stops along the route. For the purposes of this analysis, operating costs were assumed to be $50 for an average one-way fare for each scheduled trip that was made.

In the event that a taxi vehicle is not available, a Niagara Specialized Transit vehicle could also be used to provide the service. Niagara Specialized Transit contracts out its service to a private operator, who charges $75 per trip to deliver eligible specialized transit clients. In this scenario, the Niagara Specialized Transit vehicle would be available to pick up both conventional transit passengers and specialized transit clients travelling between Fort Erie/Crystal Beach and Port Colborne/Welland. While Niagara Specialized Transit clients would continue to receive curb-to-curb service, conventional passengers would be asked to make their way a communal stop located in Crystal Beach or Ridgeway or to the downtown Port Colborne Transit terminal in Port Colborne.

In the event that a trip is not requested, no cost would be incurred to the municipality.

Similar to the Wainfleet to Welland service, it is recommended that the service operate as a pilot for a period of 12 months to assess the demand and work out any issues. During this pilot, customers would be requested to call into a Customer Call Centre at least two to three hours before their trip. If the pilot is successful and there is potential to extend the pilot to other service areas, it is recommended that the use of a Dynamic Transit app be explored. This is discussed in **Section 14.4.3** below.

Service Hour and Financial Implications

Ridership demand was calculated by estimating the total travel demand between Port Colborne and Fort Erie and applying a transit mode share to this demand. This was further adjusted by factoring in the proposed level of service. As a result of the relatively low level of service, only 50 percent of the transit demand during each period was assumed to be realized.

Table 51 illustrates the potential demand for this service in the three and seven year horizons should a service as described above be implemented.

Table 51: Forecasted Ridership Demand for Crystal Beach-Port Colborne Inter-Municipal Link

Direction	Potential Transit Demand		Materialized Transit Demand		
	2019	2023	%	2019	2023
Eastbound	13	14	50%	6	7
Westbound	13	13	50%	6	6
Total	**26**	**27**	**-**	**12**	**13**

In total, just over six daily passengers are forecasted to use the service by 2019, with little change in 2023. Assuming that an average of two one-way trips per day does not materialize due to lack of demand, the projected ridership represents an average of two passengers per one-way trip.

As identified above, the operating cost of the service was assumed to be $50 for a taxi and $75 for a Specialized Transit Vehicle. It was assumed that out of the eight daily one-way weekday trips available, 50 percent would be delivered by a taxi, 25 percent by a Niagara Specialized Transit vehicle and 25 percent would have no trip request made.

The adult cash fare for an inter-municipal service from Port Colborne to Fort Erie is anticipated to be $4.50 (including transfers onto Port Colborne and Fort Erie's local transit service. If a passenger wants to continue their trip to Welland on the Port Colborne Link, the recommended adult cash fare is $6.00. (see **Section 16.1** on recommended fare structure). **Table 52** illustrates the projected operating costs and ridership for the proposed route.

Table 52: Crystal Beach Link Forecasted Annual Operating Cost and Ridership

Horizon Year	Annual Operating Cost	Annual Revenue Passengers
2019	$124,200	3,000
2023	$134,400	3,100

The costs shown in the above table are the overall costs for the route, and do not include the breakdown of portions covered by Niagara Region, the City of Port Colborne, and the Town of Fort Erie. The exact breakdown of subsidies is to be determined through funding formulas agreed upon by all funding partners.

14.4.3 Future Dynamic Transit Options for Niagara Region

There are a number of other opportunities to implement Dynamic Transit options in Niagara Region that should be explored with the successful completion of the pilot service in Wainfleet and Crystal Beach.

The evolution of Dynamic Transit involves working with a software vendor to develop a mobile app that is able to book, track and pay for dynamic transit services. It is recommended that this mobile app be integrated with a future mobile payment strategy for all conventional and specialized transit services (see **Section 16.2**). Consideration should also be made to establishing a common customer call centre that can be used to schedule Dynamic Transit trips for passengers that do not have access to a smartphone. This could be the same call centre used to schedule and dispatch specialized transit services.

With this Dynamic Transit strategy in place, there are four potential Dynamic Transit service models that should be considered and evaluated as part of a future service delivery strategy. These are described in detail below.

Option 1 – Provide Local Transit Connections to Inter-municipal Transit

In this service model, Dynamic Transit is used in low demand areas or operating periods to provide a combination of local service as well as connections to Inter-municipal Transit. This would operate similarly to the TransCab service provided by Welland Transit, however, it would use the mobile app to allow customers to book, track and pay for their ride. York Region Transit (YRT/Viva) operates a similar service model with its Dial-a-Ride strategy. There are currently four Dial-a-Ride zones within the region that provide demand responsive service in low demand areas and/or operating periods connecting

passengers within a designated area or to an adjacent fixed route transit stop. York Region is in the process of developing a mobile app which will allow customers to book and pay for their trip through their smart phone. The mobile app then schedules the trip and communicates the route to the driver.

The Dynamic Transit service would replace fixed-route service and be provided in an operating area that is expected to achieve less than 5 boardings per revenue vehicle hour. The benefit of this model is that the operating cost is only incurred by the transit operator when a trip is being delivered. Potential markets for this service model include:

1. Off-peak (midday, evening and weekend) local service in Port Colborne and Fort Erie
2. All-day service in Smithville (West Lincoln), connecting to the inter-municipal route to/from Grimsby
3. All-day service in Vineland (including the new Prudhommes development) in Lincoln
4. Replacement of the TransCab service in Welland and St. Catharines
5. Potential replacement of evening Community Bus service in Welland or St. Catharines

Transfer locations to fixed-route local and inter-municipal stops would need to be identified that would allow passengers to complete their trip when travelling outside of the Dynamic Transit area.

Option 2 – Supplement Local Fixed-Route Connections to GO Train or Inter-municipal Transit Services

In this service model, Dynamic Transit would be used to improve existing local transit connections to inter-municipal transit services.

This would operate similarly to Milton Transit's GO Connect Pilot program that was recently in place. The GO Connect service model used Dynamic Transit to provide enhanced connections to the Milton GO Train Station for GO Train arrivals and departures that did not have a direct local transit connection. The challenge in Milton was that a number of local transit services were not timed with GO Train arrivals/departures due to the variability of GO Train schedules. As a result, a number of customers would need to wait up to 20 minutes at the station for a connection between services. The Milton GO Connect model allowed customers to plan their trip based on the GO Train arrival or departure time to ensure a seamless connection with local transit. On the trip to the GO Station, customers would pick their GO Train departure time and the app would identify a time and location for a Dynamic Transit pick-up which would be timed to meet the GO Train. Customers were charged a small fare premium for the direct connection to the GO Train and an additional fare premium if they wanted a pick-up or drop-off directly in front of their house instead of at a communal stop.

In Niagara Region, a number of inter-municipal services are not fully integrated with local transit schedules on both ends of the trip. This is due to the challenge of providing seamless connections between three systems (e.g. Route 70/75 needs to connect both to St. Catharine's Transit buses at the downtown terminal and to Welland Transit buses at the downtown terminal). Where the connections are limited, a similar service model could be employed to improve connectivity. A fare premium could be charged for this shared-ride service to continue to encourage utilization of the fixed route transit service.

Potential applications of this Dynamic Transit service model include:

1. Transit terminals where IMT routes are not fully integrated with local services; and
2. Connections to future GO Train services in stations in Grimsby, St. Catharines and Niagara Falls.

Option 3 – Integrate with Ridesharing Services

In this service model, ridesharing services are incorporated into the trip planning app or potentially subsidized by a municipality to provide customers with alternative travel options to connect to an inter-municipal service. Legislation has been past legalizing the provision of Uber services in Niagara Region.

Uber has formed partnerships with several technology companies providing real-time bus tracking and route planning mobile apps. These apps have been used to provide improved integration between transit services and ridesharing services in transit agencies such in Memphis, Dallas, Atlanta, Los Angeles and Minneapolis. Under this model, transit customer's typically using long-distance inter-municipal services can use a ridesharing service to complete their trip, particularly during periods where local transit connections are limited (first-mile, last-mile approach). For passengers willing to pay a higher fare, the ridesharing vehicle can provide a seamless connection (rather than waiting for a longer period of time for the next available transit vehicle). The benefit to transit is that it can limit the amount of service invested during low demand periods if alternative travel options are available for customers. As an alternative to Uber and other ridesharing services, local options such as eCab, a mobile application utilizing the existing Central Taxi fleet and drivers, could be integrated into the service model.

This option presents a future opportunity once there is more clarity on the role of ridesharing services in Niagara Region. TripLinx, the recommended trip planning software developed by Metrolinx, does not have this feature at this time due to the uncertainty of ridesharing within each GTHA municipality. It is expected that as there is more clarity on ridesharing over the next few years, this feature will be incorporated into the TripLinx tool.

Option 4 - Integration with Specialized Transit for Inter-municipal and Local Trips

In this service model, there is an opportunity to use Niagara Specialized Transit vehicles to provide inter-municipal trips between certain municipalities that have a lower ridership demand (e.g. between Wainfleet and Welland) or during certain operating periods with low demand (e.g. late evening service).

York Region Transit (YRT/Viva) is implementing a similar integrated model with its Mobility Plus (specialized transit) and Dial-a-Ride (dynamic transit) service. Under this model, a vehicle used to provide a Mobility Plus service can also be used to simultaneously provide a Dial-a-Ride service for conventional transit passengers. The goal is to provide more flexibility in utilizing the right vehicle for the right type of trip, irrespective of whether a passenger is registered for specialized transit. The strategy helps support the integration and co-mingling of passengers on vehicles that were traditionally reserved for Mobility Plus customers and will allow for more efficient scheduling and increase the available capacity to all customers. To this end, YRT/Viva is in the process of removing the Mobility Plus logo from all of its Mobility Plus vehicles and will replace them with a YRT/Viva logo.

In Niagara's case, a similar recommendation would be made to remove the "Niagara Specialized Transit" logo from each specialized transit vehicle and replace them with a "Niagara Transit" logo. These vehicles could then be used to provide any dynamic transit trip, both for specialized transit customers and for conventional transit customers. Trips would be booked using a mobile app similar to the Dynamic Transit process described above. Specialized transit passengers would continue to be picked-up and dropped-off from point of origin to point of destination. Conventional passengers would be picked-up/dropped-off at a communal stop or transfer point. This recommendation should also be considered for local specialized transit services (e.g. Welland's WellTrans service).

For this model to be effective in Niagara, the operating cost structure would need to be changed with the service provider to encourage shared ride trips. As an example, York Region Transit's Mobility Plus

service model pays operators on a per km basis instead of a per trip basis (which is the model currently used for Niagara Specialized Transit). This results in a reduction in net cost per passenger when additional passengers are added to a trip. A customer call centre should also be brought in-house and integrated with Dynamic Transit trips. This would allow the municipality responsible for specialized transit and dynamic transit to schedule trips and dispatch them to the most cost effective operator (taxis or specialized transit), and encourage shared ride trips.

Some potential applications for this model include:

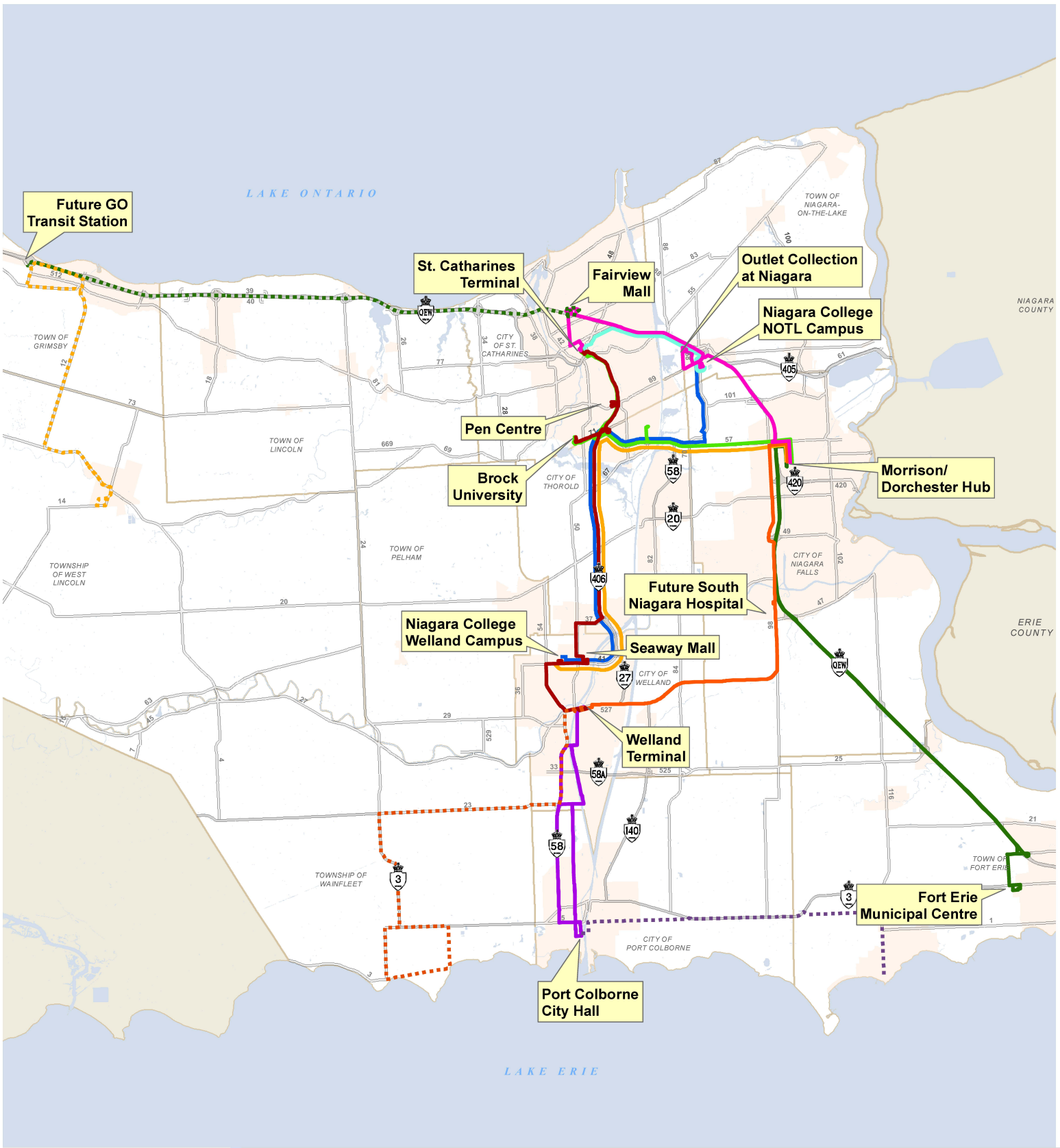
1. Service between Wainfleet and Welland and Crystal Beach and Port Colborne (as discussed in **Sections 14.4.1 and 14.4.2**).
2. Late evening service after 9:00pm connecting passengers between the three urban areas (St. Catharines, Niagara Falls and Welland).

14.5 Service Summary

The recommended 2019 and 2023 service plan within all of Niagara Region is illustrated in **Figure 27** and **Figure 28** below respectively. The transit service plan includes the:

- The optimization of post-secondary and NRT services within the Consolidated Transit Service Area;
- Integration of inter-municipal and GO Transit services;
- Expansion of existing and introduction of new Rural Link Routes;
- Introduction of a new Inter-municipal Express Route to a future GO Station; and
- Implementation of pilot Dynamic Transit service in low demand areas.

Details of service hour requirements, operating and capital costs, ridership and revenue are provided in **Section 17.0** below.



NIAGARA TRANSIT SERVICE DELIVERY AND GOVERNANCE STRATEGY

RECOMMENDED 2019 INTER-MUNICIPAL TRANSIT SERVICE PLAN

FIGURE 27

- NRT Route 40/45
- NRT Route 50/55
- NRT Route 60/65
- NRT Route 70/75
- SCTC Route 26
- Niagara Falls - Welland Campus
- NOTL LINK
- Fort Erie LINK
- Port Colborne LINK
- Grimsby / Beamsville LINK
- Smithville LINK
- Crystal Beach Dynamic Route
- Wainfleet Dynamic Route
- Provincial Highway
- Regional Road
- Urban Areas
- Niagara Region Municipalities
- Other Municipalities

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY NIAGARA REGION, MNR AND ESRI

MAP CREATED BY: SMB
MAP CHECKED BY: DK
MAP PROJECTION: NAD 1983 UTM Zone 17N

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Figure6 2019 System-Wide.mxd

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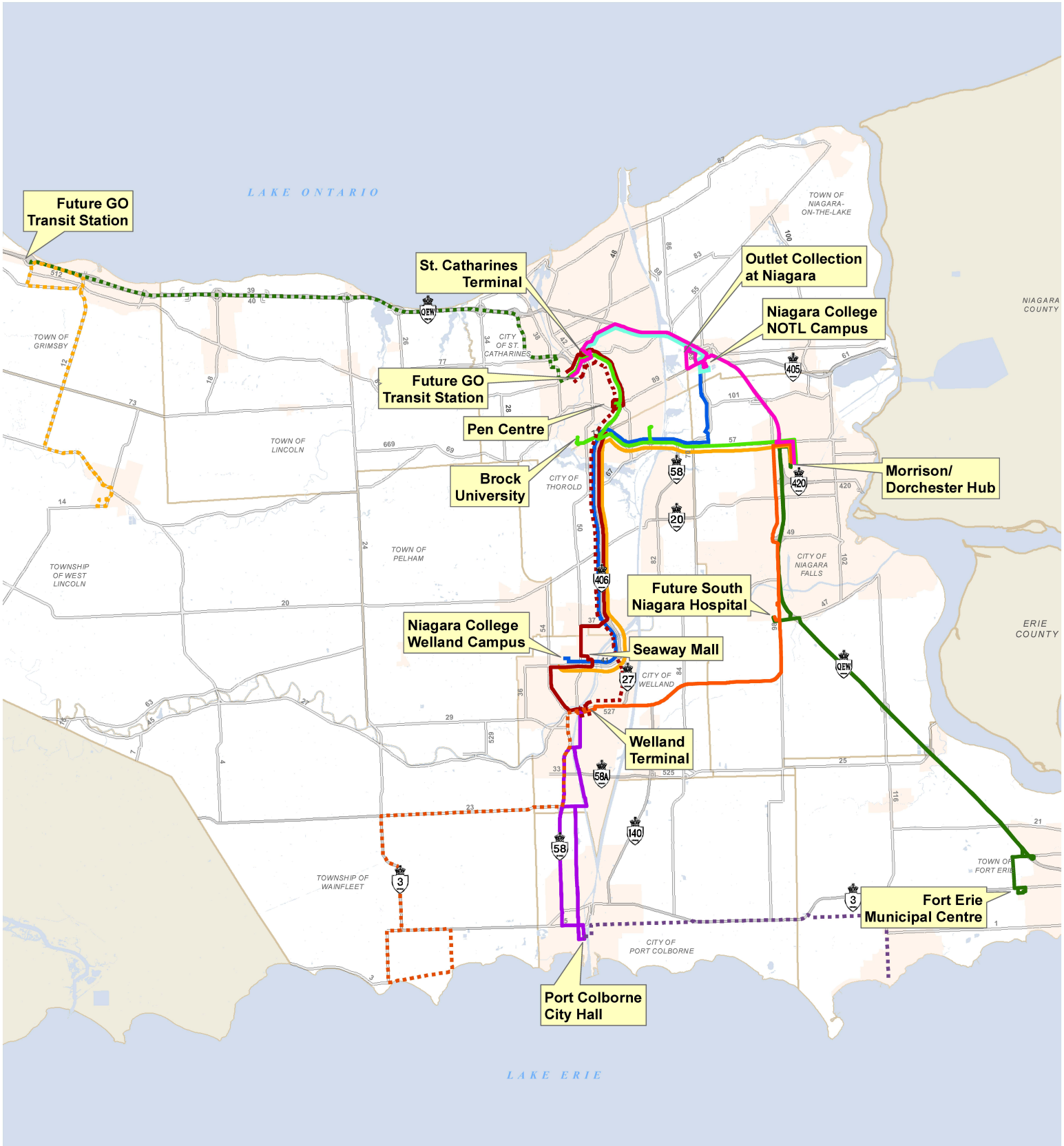
N W E S

PROJECT: 163664 STATUS: DRAFT 2016-12-19



NIAGARA TRANSIT SERVICE DELIVERY AND GOVERNANCE STRATEGY

RECOMMENDED 2023 INTER-MUNICIPAL TRANSIT SERVICE PLAN

FIGURE 28

- NRT Route 40/45
- NRT Route 50/55
- NRT Route 60/65
- NRT Route 70/75
- NRT Route 70/75 Express
- Niagara Falls - Welland Campus
- NOTL LINK
- SCTC Route 26
- Fort Erie LINK
- Port Colborne LINK
- Grimsby / Beamsville LINK
- Smithville LINK
- Crystal Beach Dynamic Route
- Wainfleet Dynamic Route
- Provincial Highway
- Regional Road
- Urban Areas
- Niagara Region Municipalities
- Other Municipalities

DILLON CONSULTING

MAP DRAWING INFORMATION:
DATA PROVIDED BY NIAGARA REGION, MNR AND ESRI

MAP CREATED BY: SMB
MAP CHECKED BY: DK
MAP PROJECTION: NAD 1983 UTM Zone 17N

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Figure5 2023 System-Wide.mxd

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PROJECT: 163664 STATUS: DRAFT 2016-12-19

15.0 Regional Integrated Trip Planning

There are three major options for the implementation of an integrated trip planner in Niagara Region:

- Integration with the Google Transit trip planner through a GTFS feed;
- Integration with Transit App; or
- Integration with the Metrolinx trip planner (TripLinx).

All of the existing transit agencies in Niagara Region provide GTFS data to Google Transit with the exception of Niagara-on-the-Lake and Fort Erie (inter-municipal trips). This allows customers in the Region to use Google Maps to plan transit trips within each local service area and between municipalities (using multiple transit systems). A number of transit agencies in the region also provide data to Transit App, including St. Catharines, Niagara-on-the-Lake and Fort Erie.

The value of these tools is only as good as the accuracy of the data provided. When being used by customers to plan services, it is important that this data is updated regularly. Fort Erie and Niagara-on-the-Lake should also be encouraged to generate and provide GTFS data to Google and all systems should also be encouraged to provide data to Transit App (particularly within the Consolidated Transit Service Area). This will allow customers to use these tools when planning trips to all areas of the region with an inter-municipal transit connection.

Given the wide-spread use of Google Maps, it is recommended that each of the transit systems within Niagara Region continue to provide GTFS data to Google. This should be coordinated through a staff representative within the Consolidated Transit Service Area through an agreement/memorandum of understanding. This will help ensure all data is up-to-date on a regular basis and increase the accuracy of the tool when planning an inter-municipal trip. A similar decision should also be made to provide data to the Transit App tool.

The third option available is the Metrolinx TripLinx trip planning tool. TripLinx is a one-stop information resource that provides information on all Greater Toronto Hamilton Area (GTHA) transit systems (e.g. fares, schedules, stations), as well as an integrated and intermodal trip planning tool that allow customers to travel throughout the region using a combination of any of the existing transit agencies.

Customers can access the tool via their computer or a smartphone app. The tool allows them to key in their start and end point as well as desired departure time. The tool will then identify the steps required to take transit to reach their destination within the entire GTHA.

In the future, the tool will also be expanded to include real-time information and alerts as well as integration of other modes.

To join the TripLinx platform, the consolidated governing body as well as smaller transit systems in Niagara Region would need to provide Metrolinx with GTFS data including:

- Routes and stops/terminals;
- Schedules;
- Accessibility of stops and trips;
- Ability to carry bicycles on trips; and
- Use of Head signs for Trip Direction.

This information can be pulled from an open-data site. There is no cost to any of the participating transit systems to join the TripLinx platform.

Each municipality is expected to:

- Sign Letter of Intent to formalise participation;
- Provide timely, quality data;
- Provide input and approve decisions through
  - the Working Group (as required, approximately every 2 months); and
  - the Steering Committee (quarterly, usually teleconference);
- Participate in design workshops (optional);
- Test on launch and as required to ensure that the information meets requirements and expectations; and
- Assist with resolution of agency-related issues.

Based on the information gathered above, it is recommended that each transit system in Niagara Region sign a formal letter of intent to participate in the TripLinx platform. This will allow customers to use this customized platform to plan and get information about any transit trip they need to make within Niagara Region and to/from the GTHA.

As noted above, staff member from the consolidated governing body should take the lead on coordinating the use and updating of GTFS data from smaller transit agencies in the region to TripLinx to ensure the information is up-to-date. This will minimize the risk of having out-of-date data when a customer is planning a trip.

16.0 Fare Strategy

A passenger fare strategy was assessed and recommended as part of the inter-municipal transit strategy. The fare strategy includes an assessment of fare structure, fare payment technology and the assessment of the existing fare sharing model.

16.1 Fare Structure

There is little consistency in the existing fare structure within Niagara Region. Each local transit system set's their own local transit fare, including concessions for different demographics and degree of system use. Inter-municipal transit fares are also varied, with a separate fare within the Consolidated Transit Service Area and other fare policies for the Rural Link Route services. Transfer policies and fare integration policies between each of the systems are also not consistent.

In order to create a more integrated transit system within Niagara, it is recommended that a common fare structure be established that promotes fare integration within the Consolidated Transit Service Area. There should also be a push to extend this common fare strategy to connecting transit systems in the region. This also includes the use of a common smart card to pay for a trip between any municipalities in the region.

16.1.1 Assessment of Alternatives

The fare strategy review focused on considering the following alternative inter-municipal fare structures:

1. **Region-Wide Flat Fare** – There is one common fare for both local trips and inter-municipal trips. This includes free transfers to connecting services for a continuous journey. Fare concessions by demographics and system usage are still available; however, an internal transit trip within Grimsby is the same cost as an inter-municipal transit trip between Welland and St. Catharines.
2. **Zone Fares** – A fare supplement is added to the total fare each time a journey crosses a fare zone boundary. This option has been implemented with a number of larger regional transit authorities (e.g. York Region Transit).
3. **Fares Based on Distance Travelled** - Passengers pay a higher fare for longer distance journeys recognizing both the higher value of the trip to the passenger and the higher cost to provide the service. This is measured by service kilometres traveled rather they by zone of travel.
4. **Hybrid** - Local flat fare coupled with either distance-based or zone-based inter-municipal service.

These fare structure alternatives were assessed against the Service Guideline principles noted in **Section 13.6.** The evaluation is noted in **Table 53** below.

Table 53: Assessment of Inter-municipal Fare Structure Options

Principle	Region-wide Flat Fare	Zone Fares	Fares Based on Distance	Hybrid
Seamless Travel Customers should be able to pay for a trip with a single transaction when travelling from anywhere in the region. Fares should incorporate the transfer cost of using local transit services to access inter-municipal services.	High	Medium	Low	Medium-High
Continuity Customers should be charged an appropriate fare for the type of trip they are making, regardless of the type of service (route classification) they are using. The decision to use a type of service should be based on the availability of the service at the time the trip is required, not the difference in the fare being charged for each service.	High	Medium	Medium	Medium
Connectivity Customers travelling within Niagara Region may need to use multiple service types to complete trips. To ensure a seamless and integrated experience for customers, the fare structure should not penalise passengers that require the use of multiple service types on a single trip.	High	Medium	Medium	High
Consistency The fare structure and fare price should be the same on each municipal service provider in the region and on each inter-municipal service when making the same type of trip.	High	Medium	High	High
Setting Local Transit Service Fares A single flat fare should be charged to customers using transit entirely within a single Urban Transit Service Area or a single Rural Transit Service Area. Concessions can continue to be offered based on demographic profile, purchase of multi-use fare media or for customers with affordability issues.	High	Medium	Medium	High
Value of Service Higher fares are charged for longer distance trips, recognizing the higher value of the trip to the customer, the increased cost of providing longer distance services and the need to recover a high proportion of cost.	Low	Medium-High	High	Medium-High
Simplicity Easily understood by customers the fare that will be paid when travelling between any municipality within the region.	High	Medium	Low	Medium High
Fare System Operating Complexity Fare sharing models between different transit operators are easily understood and reconciled when customers are using multiple systems.	High	Medium	High	Medium
SUMMARY	**High**	**Medium**	**Medium**	**Medium-High**

16.1.2 Recommendation Fare Structure

While the region-wide flat fare structure ranks higher from a customer perspective, it is not recommended to implement this fare structure at this point in time.

The existing local Adult Cash fare is $2.75 to $3.00 on the transit systems that operate in the Consolidated Transit Service Area. Bringing the inter-municipal fare to this price (to create a Region-wide flat fare) would significantly reduce revenue collected by the system that could be used to reinvest into the system for growth. The alternative would be to increase the region-wide flat fare to minimize the potential for revenue loss (the flat fare becomes higher than existing local fares yet lower than the existing NRT fare).

As a comparison, the region-wide flat fare in other regional transit systems is higher than the local fares in Niagara: $3.25 Adult Cash fare in Waterloo Region; $3.75 Adult Cash fare in Durham Region Transit; $4.00 to $5.00 Adult Cash fare in York Region. Considering the majority of trips in Niagara are still local, increasing the region-wide flat fare to a rate similar to other Regions would be a challenge and penalize the majority of passengers who currently make local trips.

For these reasons, it is recommended the **Hybrid** inter-municipal fare structure is adopted. The Hybrid structure balances the need for a simple fare structure, providing consistency in the region, while balancing affordability (passengers that travel a longer distance pay for a higher fare due to the higher cost incurred of long-distance travel).

Based on this recommendation, the Hybrid fare structure should be designed with the following characteristics:

- A local municipal service flat fare structure with consistent local municipal flat fares, including consistent transfer policies (this may be difficult to achieve under the existing 'Status Quo' governance model, but should be strived for).
- A three-zone inter-municipal service fare structure.

The proposed Hybrid fare structure is illustrated in **Figure 29.** Each zone, along with fare integration principles within and between each zone, is further discussed below.

Local Transit Service

Local transit fares are charged for travel within an urban transit service area or between two contiguous urban transit service areas (e.g. Grimsby and Beamsville, Pelham and Welland, or St. Catharines and Thorold).

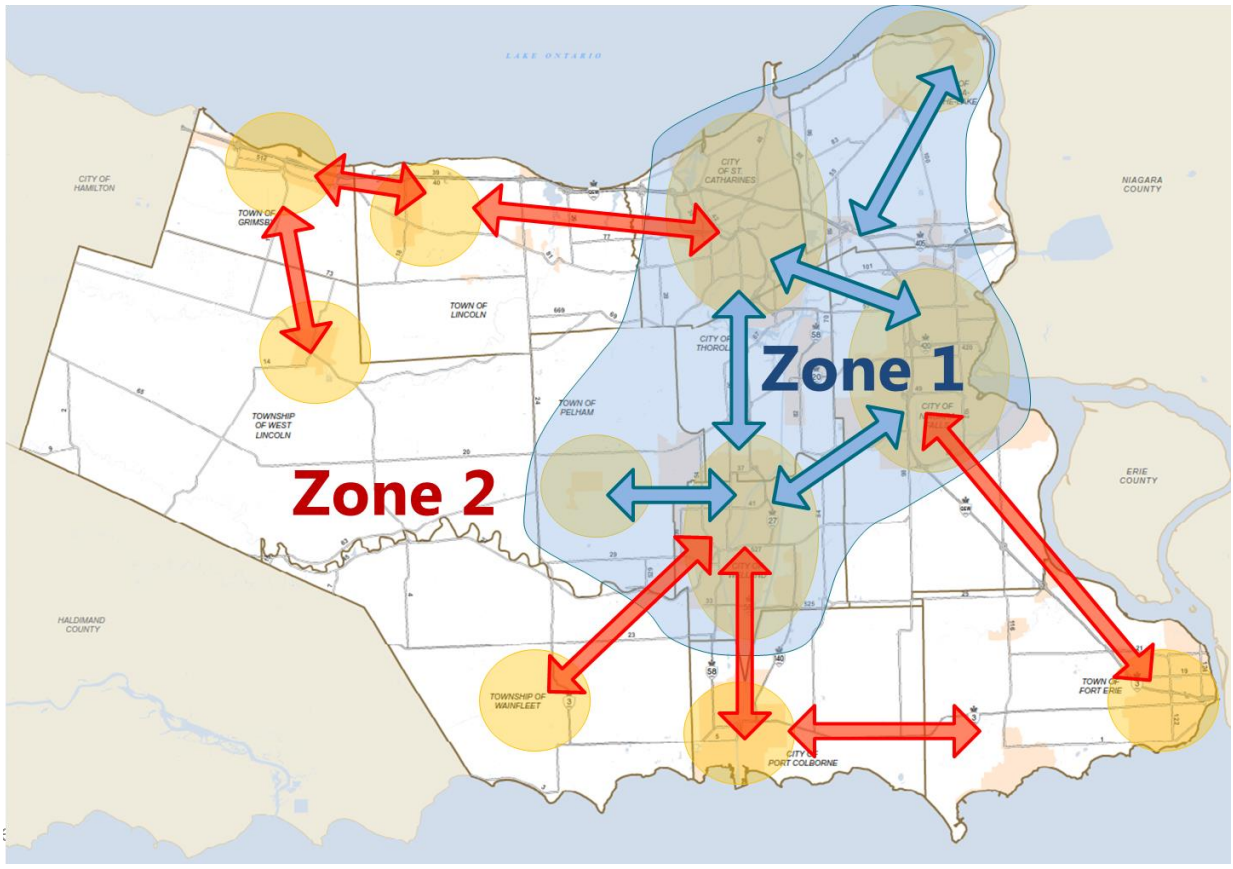
Zone 1

Zone 1 consists of the Consolidated Transit Service Area, encompassing the current Inter-Municipal Express Routes (current NRT routes and post-secondary routes) connecting St. Catharines/Thorold, Welland and Niagara Falls. Niagara-on-the-Lake and Pelham have been added to Zone 1. Recommended Inter-municipal links in Zone 1 include:

- Routes 40/45, 50/55, 60/65, 70/75, 70/75 GO Express
- All inter-municipal post-secondary services

Under the existing governance model, all trips that originate and terminate within Zone 1 and include any of the above services would be charged at a flat fare and include free local transfers to and any local service within the Consolidated Transit Service Area, Pelham Transit, and Niagara-on-the-Lake Transit.

Figure 29: Illustration of Hybrid Fare Structure Concept



Zone 2

Zone 2 encompasses the municipalities located outside of Zone 1 and includes the following recommended inter-municipal services:

- Fort Erie Link
- Port Colborne Link
- Future West Lincoln (Smithville) Link
- Future Grimsby/Beamsville Link
- Future Wainfleet Dynamic Link
- Future Crystal Beach Dynamic Link

All trips that cross between Zone 2 and Zone 1 and include any of the above inter-municipal services would be charged at a flat fare and include free local transfers to local transit services within the Consolidated Transit Service Area, Fort Erie Transit, Port Colborne Community Bus, Pelham Transit as well as future local transit services in Grimsby, West Lincoln and Lincoln.

For passengers that transfer between an inter-municipal transit route in Zone 1 and Zone 2 to complete a trip (e.g. start on Grimsby/Beamsville Link and transfer onto Route 70/75 to go to Welland), it is suggested that a small additional fare supplement be added to the base fare.

16.1.3 Potential Fares

Using the initial $6.00 Adult Niagara Region Transit fare as a base, an example of a potential fare structure for each zone is noted below; including transfers between zones is included in **Table 54** below.

Table 54: Potential Adult Transit Fares

	Local Trips within Zone 1 or Zone 2	Inter-Municipal Trips (IMT)		
		Inter-Municipal Trip within Zone 1	Inter-Municipal Trip within Zone 2 or Inter-Municipal Trip between Zone 2 and Zone 1 (Local transfer)	Inter-Municipal Trip between Zone 2 and Zone 1 with an Inter-Municipal transfer in Zone 1
Potential Adult Cash Fare	Uniform Fare e.g. $3.00	$6.00	$4.50	$6.00
Free Transfers	Local	Local + IMT	Local	Local + IMT
Example Trip	Welland Transit or Fort Erie Transit	St. Catharines Transit Commission + NRT Route 40/45 + Niagara Falls Transit	Port Colborne Community Bus + Port Colborne Link + Welland Transit	Grimsby Transit + Grimsby-Beamsville-Link + Route 70/75

The sample fares outlined above are the full adult cash fares. Discounts for seniors, students, frequent users, and other concession fares should continue to be made available. Fare integration agreements should continue to be in place and expanded between each Zone and local municipal transit systems. A common policy is recommended to simplify the customer experience. Local transit fares would continue to be charged on trips that do not involve any connections to the inter-municipal network or other local transit agencies; however, these should be consistent between municipalities in the region.

Next Steps

The next step in the development of a fare strategy is to conduct a more detailed assessment and recommend a detailed fare structure based on the hybrid fare strategy outlined above. This will be someone dependent on the timing of the implementation of a common smart card and discussions with Brock University and Niagara College on the potential to extend U-Pass services to other areas of the region. The development of a fare structure should include common concessions (e.g. Adult, student pass and cash fare), transfer policies and a common affordable pass strategy. This would further examine and incorporate the Affordable Transit Pass program for assisted income or low income residents that was proposed by the Region and has been deferred for further review.

16.2 Fare Payment Technologies

16.2.1 Farebox Integration Guidelines

The following guidelines were provided to the study team for the development of new technology efficiencies relative to farebox integration.

> *In developing the technology-based solutions for farebox integration, care has to be taken to use, where possible, the existing fare collection technologies and bridge the gap between fare collection systems using low cost solutions rather than creating a new product or solution.*
>
> *The fare integration product should be scalable, (i.e. starting with a reader that can read electronic cards by both the Fare Logistics and GFI fare collection systems, however ensuring the back–end specifications are Presto-compliant for future use.*
>
> *Proposing fare solutions based on smart phones will be an important part of this assignment. In developing fare solutions based on smartphones the Proponents are encouraged to bring out technological solution(s) utilizing any partnership opportunity with the wireless carriers for finding new revenue sources through advertising.*
>
> *Note it is critical that the fare-box integration solutions developed be compliant to tie in with the Metrolinx Presto system.*

A careful review of these guidelines leads to the following observations, interpretations and suggested refinements:

- Use of '*existing fare collection technologies'* can best be accommodated by:
  - Not requiring St. Catharines to replace its existing Genfare Odyssey fareboxes;
  - Not requiring Niagara Falls Transit, Niagara Parks Commission WEGO nor the Inter-municipal Service to replace their existing Fare Logistics fareboxes; and
  - Not requiring Welland Transit to replace its current mechanical fareboxes, but if they choose to do so, not requiring them to purchase any one particular brand of validating electronic farebox.
- '*Bridging the gap between fare collection systems using low cost solutions'* can best be accommodated by competitively procuring a common regional electronic fare collection system from a number of market leading solution providers, one of whom should be Fare Logistics.
- Not '*creating a new product or solution'* can best be accommodated by stipulating in the formal competitive procurement document that only proven fare payment solutions will be considered.
- The guideline that the '*fare integration product be scalable, (i.e. starting with a reader that can read electronic cards by both the Fare Logistics and GFI fare collection systems)*' and *'ensuring that the back–end specifications are Presto-compliant for future use'* is problematic for a number of reasons:
  - While technically feasible to have the on-bus validators designed to read smart cards uniquely configured and mapped by both Fare Logistic and GFI, it is virtually certain not to be economically feasible, even if Fare Logistic and GFI were willing to collaborate.
  - Unless PRESTO were to be selected as the smart card fare payment solution for the region and all participating municipal service providers, there is virtually no possibility that the '*back-end specification'* of either a Fare Logistics or GFI system will be '*PRESTO-compliant for future use'.* PRESTO has never had its fare cards managed by other than the PRESTO back end.

- The guideline that '*Proposing fare solutions based on smart phones'* can be accommodated by stipulating in the formal competitive procurement document that 'the fare system should be readily able to be enhanced to accommodate fare payment with bank-issued credit (and debit) cards and mobile tickets carried on passengers' smart phones' and that Proponents need to include revenue-generating opportunities (for example, from advertising, through partnerships with wireless carriers).
- The presumed operating objective behind the guideline that '*the fare-box integration solutions developed be compliant to tie in with the Metrolinx Presto system'* can potentially be recast to stipulate that 'the fare system must accommodate the automated management of the co-fare transfer discount for Niagara Region passengers transferring to/from GO Transit and (in the future) to/from Hamilton Street Railway who pay their GO and HSR fares with a PRESTO fare card'.

16.2.2 Proposed Farebox Integration Objective

Building on the review of the farebox integration guidelines above, it is proposed that the fare integration objective be:

> *To provide an integrated seamless electronic fare payment capability for all participating transit operators in Niagara Region using a common Niagara smart fare card.*

16.2.3 Assessment of Fare Payment Technologies

There are several payment technologies available for transit systems in Niagara for its transit fare payment solution:

Stored Value Card Technologies

- Passengers' purchased fare products are stored on the fare card and removed from the card when a fare is paid.
- Fare payment business rules are stored and managed on each field fare payment validator.

Account-based Card Technologies

- Passengers' purchased fare products are stored in an account in the fare system 'back end' and removed from the account when the presentation of an authorized 'credential card' to a fare payment reader is reported to the 'back end'.
- Fare payment business rules are stored and managed in the fare system 'back end'.

Bank Card-based Open Payment Technologies

- Fares are paid when a valid bank-issued credit (or debit) card is presented to the fare payment reader and the service provider is credited with the fare payment amount less the financial institution's service fee.
- Depending on the extent to which the fare business rules of each transit system are implemented on the financial institution server, the number of fare products and concessions that can be offered will be limited.

Based on current functionalities available with open payment technologies, the transit systems in Niagara could expect initially to implement bank card payments for 'pay-as-you-go' single journey fares as a replacement for cash fares. Once financial service providers expand their 'back end' functionalities,

one might expect to be able to extend open payments to other fare products and fare concession payments.

The functionality distinction between stored value and account-based technologies rests primarily on where the fare products and fare business rules are stored and how they are managed. For the purposes of this fare strategy assessment, it is irrelevant which technology is implemented.

16.2.3.1 Fare Payment Technology Implementation Alternatives

The review focused on the following three smart card fare payment technology alternatives:

1. **Upgrade Current Niagara Falls Transit Trapeze/Fare Logistics Stored Value Smart Card System**
    a. All pre-purchased fare products will be loaded onto a Trapeze 'Niagara Card'.
    b. Enhancements to Fare Logistics 'back end' and installed fareboxes will be required.
    c. Welland Transit may be required to purchase validating fareboxes from Fare Logistics or may be able to purchase fareboxes from an alternative supplier.
    d. Install Trapeze's standalone smart card fare payment EZ Validator on St. Catharines Transit and possibly Welland Transit buses to accept smart card fare payment.
    e. Niagara Falls Transit will operate the smart card service bureau on behalf of Niagara Region Transit, St. Catharines Transit and Welland Transit.

2. **Implement PRESTO**
    a. The PRESTO card will be used for all non-cash fare payments on all inter-municipal transit and municipal transit service providers that form part of an integrated governance structure.
    b. The same PRESTO card can be used for fare payments on GO Transit and other GTHA transit service providers.
    c. PRESTO standalone fare payment validators will be installed on each service provider bus.
    d. PRESTO will charge a percentage of fare revenue collected to provide PRESTO card management and non-cash fare payment operating services.

3. **Implement a Smart Card System from a Different Provider than Trapeze/Fare Logistics**
    a. May be a stored value or account-based system.
    b. All pre-purchased fare products will be loaded onto a stored value 'Niagara Card' or in a back end account that is accessed by an authenticated transit 'credential' card.
    c. Niagara Falls Transit discontinues use of Trapeze/Fare Logistics smart card system.
    d. A 'standalone' fare payment validator will be installed on every bus in the region to collect all non-cash pre-purchased fare product fare payments.
    e. One of municipal transit service providers, Niagara Region or the solution provider will operate the smart card service bureau.

It is important to emphasize that the current Niagara Falls Transit smart card system does not have the necessary functionality to accommodate the new fare payment requirements without a significant upgrade.

In the instance of Alternatives 1 or 3, the management of the GO Transit co-fare discount will be automated by having passengers using a one of the transit systems in Niagara Region to tag their 'Niagara Card' or their credential card on a 'Niagara Card' platform fare transaction processor ('PFTP') prior to boarding on or alighting from a GO Transit vehicle.

In the instance of Alternative 2, the PRESTO system will automatically manage the GO Transit co-fare discount.

All three alternatives should be designed to accommodate the eventual implementation of EMV bank card fare payments and smart phone-based mobile ticketing functionality, certainly using Near Field Communications ('NFC') between the smart phone and the bus validator smart card reader antenna, and in some instances using 2D bar code (QR code) communications.

In the instance of Alternative 2, it would be necessary for every participating transit service provider in Niagara Region to adopt the passenger classification definitions in place at every other GTHA service provider using PRESTO. This should already be in place for systems that form part of the consolidated governing body.

The consolidated governing body will host and manage the smart system and the customer service bureau in the instance of Alternatives 1 and 3 (including on behalf of any local transit agency outside the Consolidated Transit Service Area that decides to implement this integrated smart card). In the instance of Alternative 2, PRESTO's business model involves them performing this service.

16.2.4 Fare Technology Implementation

16.2.4.1 Essential Functional Performance Requirements

All buses within the Consolidated Transit Service Area will be equipped with the following farebox systems:

- **Niagara Falls Transit and Niagara Region Transit owned buses** – Fare Logistics electronic validating fareboxes that will:
  - accept CDN and US coins and banknotes for single journey pay-as-you-go fare payment
  - accept magnetic stripe swipe period pass fare payment
  - issue and accept bar coded single journey paper-based transfers
  - accept Niagara College chip-enabled U-Passes as fare payment
- **St. Catharines Transit** – SPX Genfare Odyssey electronic validating fareboxes that will:
  - accept coins and banknotes for single journey pay-as-you-go fare payment
  - accept magnetic stripe swipe period pass fare payment
  - issue and accept magnetic stripe single journey paper-based tickets/transfers
- **Welland Transit** – An electronic validating farebox or manual mechanical farebox system from a to-be-determined vendor

Cash will continue to be accepted for 'pay-as-you-go' single journey fare payment for all participating service providers. All current tickets will be replaced by e-cash fares.

All pre-purchased fare products (e-cash and e-passes) will either be loaded onto a stored value Niagara smart fare card and taken off when the card is presented to a fare payment validator on a bus or will be stored into a back-end passenger account that is debited for a fare payment when an acceptable Niagara credential card is presented to a fare payment validator on a bus and the debit instruction is transmitted to the back-end account. For the purposes of this section, it is referred to loading products onto a stored value 'Niagara Card'.

These pre-purchased fare products will include:

- **E-cash** – 'pay-as-you-go' single ride, includes transfer (set at the previous 'ticket' fare)

- **E-passes** – pre-purchased unlimited rides (previously 'passes') in the following configurations:

  Period E-Passes – valid for unlimited travel throughout the transit day for a time period with an established start and end calendar date (e.g. a calendar month, a semester, a half year or a year)

  Limited Period E-Passes – valid for unlimited travel for a time period with an established start and end time on particular days for an established start and end calendar date (e.g. High School Student Pass valid weekdays from 7:00am to 7:00pm during the school year)

  Time E-Passes – valid for unlimited travel for a time period of a specific duration with a start date that is the date of first use (also known as a 'rolling' or 'hanging' start date) (e.g. 24-hour, 3-day, 7-day, 14-day, 21-day or 28-day)

E-passes for unlimited travel within the Consolidated Transit Service Area will be sold through the consolidated governing body at one of the terminals, through a third-party agent or online at the consolidated governing body's 24/7 website and will be loaded onto the 'Niagara Card'.

An option exists where the E-pass can be used for unlimited travel within the entire Region, or to a specific municipal transit service area (e.g. St. Catharines) during the pass validity period). This will be loaded onto the Niagara Card.

Inter-municipal Transit period and time e-passes will be accepted as fare payment for unlimited travel during the pass validity period on both Inter-municipal Transit services and on every participating local transit service.

All zone supplements and transfer fare supplements will be paid from the e-cash balance on the e-purse.

Municipal transit service providers will continue to issue and accept their magnetic stripe or bar coded transfers for cash fare transfers within their service area.

In the instance of Fare Payment Technology Implementation Alternatives 1 and 3, a 'Niagara Card' platform fare transaction validator will be required at each GO Transit stop or station to accommodate tagging a 'Niagara Card' when passengers transfer between GO Transit and an Inter-municipal transit service or between GO Transit and one of the participating municipal transit service providers in order to accommodate the automated management of the GO Transit co-fare discount for PRESTO card using GO Transit passengers.

For Fare Payment Technology Implementation Alternative 1, a standalone Trapeze EZ Validator fare payment processor will be required on all buses that are not equipped with a Fare Logistics electronic

validating farebox (St. Catharines Transit and possibly Welland Transit). For Fare Payment Technology Implementation Alternative 3, every Inter-municipal Transit and participating municipal transit service provider bus will be required to be equipped with a standalone fare payment processor suitable for that particular system provider.

Fare payment validators will be equipped with EMV-1 certified readers to facilitate the eventual accommodation of EMV bank card fare payment. Vendors will be required to indicate the steps that must be done to enable their system to migrate to accept open payments in addition to either stored value or account-based fare payments.

Vendors will also be required to indicate how their proposed system can accommodate smart phone-based mobile ticketing, either using NFC communications or bar code optical recognition.

16.2.5 Cost Estimate of Each Alternative

A high level cost estimate was conducted for each of the three smart card fare payment technology alternatives that are being considered:

1. Upgrade the Trapeze – Fare Logistics Niagara Falls Transit stored value smart card system currently implemented at Niagara Falls Transit and on Niagara Region Transit vehicles to suit the new fare payment system functional requirements and extend its implementation as part of the Consolidated Transit Model and to other local service providers across the region. This involves the provision of stand-alone validators on all buses that are not currently equipped with Fare Logistics fareboxes. Provide a Customer Service Bureau for passengers using the Niagara Smart Card to pay for their fares while riding on every participating service provider. Install station and terminal platform fare transaction processors at GO Transit rail stations and bus terminals to manage the GO Transit co-fare discount for PRESTO card-carrying GO Transit passengers transferring to and from local transit.

2. Implement PRESTO stored value system for all non-cash fare payments on every bus in the region.

3. Implement a differed stored value smart card system similar to the Trapeze – Fare Logistics system.

In order to provide a meaningful comparison, the cost estimate for each alternative is based on providing a comparably functional stored value smart card fare payment system that will handle all non-cash fare payments for each participating Niagara Region service providers (both local and inter-municipal services). While for Alternative 1, the best way to provide smart card fare payment capability on Niagara Falls Transit and Niagara Region Transit vehicles is to upgrade the existing Fare Logistics fareboxes with modern smart card readers, the estimates for Alternatives 2 and 3 do not include the provision of any Electronic Registering Fareboxes.

The high-level cost estimates for each alternative are included in **Table 55** below. It should be noted that these are high level estimates and are not based on formal quotes from any vendor.

The Trapeze – Fare Logistics cost estimate (Alternative 1) is based on an assessment of earlier Fare Logistics budget proposals for several service providers and discussions concerning potential costs for the farebox upgrade.

The **PRESTO** cost estimate (Alternative 2) are based on known 2010 PRESTO device configuration and equipment, maintenance and operating prices applicable to the GTHA 905 transit service providers, where appropriate, complemented by several educated guesses.

Cost estimates for a **similar stored value system** to the Trapeze – Fare Logistics system (Alternative 3) is based on an extrapolation of the installed prices of several `comparable` system with similar functionalities over the last five years.

Table 55: Cost Estimates for Alternative Fare Payment Technologies

Alternative	Estimated Capital Cost	Estimated Annual Operating Cost
1 - Trapeze – Fare Logistics Upgrade	$3,162,000	$440,000
2 – PRESTO*	$4,900,000 to $7,000,000	$1,400,000 to $1,800,000
3 - Similar Stored Value System	$3,440,000	$467,000

***Note: These costs were not provided by PRESTO but are based on educated estimates based on available data. If PRESTO has to develop any functionality other than is currently available in their other systems, the cost could go significantly.**

It is important to emphasize that for each of these three alternatives, an account-based smart card system could replace the stored value system; however, the timelines for availability and the anticipated costs are less certain.

- Trapeze has indicated they expect to be able to provide a regional back-office account-based system within 2 years. They have suggested the costs to upgrade from their new stored value system to an account-based system would include a one-time license fee of $250K and `soft` costs of $1M. It is expected that an additional $250K in equipment may be required. Adding in a 25 percent contingency and 25 percent for other Regional costs, such an upgrade would cost $2.25M. If the initial system were account-based from the start, some of this upgrade cost might be reduced.

- PRESTO has similarly indicated that they expect to be able to provide an account-based system in the future, but they have not provided a timeline. They have indicated that they will first implement a bank-card based fare payment capability before they will offer an account based capability. It is important to note that the expected bank-card based system functionality is unlikely to suit all the Region`s fare payment functional requirements. PRESTO has not given any indication of the expected cost of its stored value system much less its future account-based system. It must be emphasized that when the specified functionality for a new fare system is not directly included in PRESTO's current or under-active development capabilities, Metrolinx' past practice has been to include much of the cost of an entire new PRESTO system release in its cost allowance. With this in mind, it very possible that both the capital and operating costs for a PRESTO solution implemented in Niagara could substantially exceed the amounts provided above.

- There are a number of system providers that already offer account-based systems including Xerox (ACS), Cubic and Scheidt & Bachmann. It is expected that these systems will meet most of the Region`s functional performance requirements and will be comparably priced with stored value systems.

Based on the above assessment, it is expected that PRESTO will have a higher start-up capital cost as well as significantly higher ongoing operating costs. Before a decision is made on a recommended fare payment technology, a more detailed cost estimate should be obtained through an RFP process (see below).

16.2.5.1 Recommended Fare Payment Technology

The potential of each option was assessed in the Niagara context. The benefit of PRESTO is the ability to integrate into the GO Transit network as well as other GTHA transit systems. The drawback is that it is likely to be the highest cost and the least flexible to support tailored solutions. PRESTO is currently in the process of revising its service offering, focusing first on implementation within the GTHA. This is likely to take at least a year before more information is known. As such, it is recommended that the various transit systems in Niagara wait at least a year to receive an update from PRESTO on next version of its smart card and the potential cost to transit service delivery in Niagara. At this point, it is recommended that an RFP process is initiated and budget proposals are solicited from smart card system vendors to provide a smart card system. Trapeze and PRESTO should be invited to submit budget proposals for Alternatives 1 and 2 respectively. Other vendors should be invited to provide budget proposals for Alternative 3. The list of vendors to be invited will be impacted by whatever commercial and legal conditions are required by each transit system.

The selection of a recommended fare payment technology implementation alternative can then be made based on an assessment of these budget proposals. The confirmation of the system supply vendor selection needs to be based on a detailed evaluation of the price/performance/conditions of the detailed proposals received following a formal procurement process.

This strategy may be complicated somewhat by PRESTO's often declared unwillingness to participate in formal competitive procurements which would put them (as a government entity) into competition with the private sector. The participating transit systems will need to determine whether the budget price information and commercial terms provided by PRESTO will be sufficient to have satisfied each municipality's responsibility to other bidders for a fair procurement process. Waiting a year to understand PRESTO's new product offering will help create a more fair comparison with the other farebox providers.

Whichever fare medium is chosen, fare sharing principles ensuring network financial responsibility and fairness for all transit operators must be implemented. The process of allocating revenues, costs, and subsidies should be transparent across the board. While it is important that costs and revenues are fairly allocated behind the scenes, passengers riding the system should be faced with a simple, unified, and consistent fare payment.

16.3 Fare Sharing Model

16.3.1 Assessment

The current fare sharing model addresses the allocation of revenue:

- collected from the sale of Niagara Region passes that are accepted for unlimited travel on Niagara Region Transit, St. Catharines Transit, Welland Transit and Niagara Falls Transit during the pass validity period;
- collected by an original local municipal service provider on a pay-as-you go journey that involves a transfer to Niagara Region Transit and possibly to a final municipal service providers; and
- collected by Niagara Region Transit on a pay-as-you-go journey that may involve a transfer to a final local municipal service provider.

This current Niagara Region Transit pass revenue fare sharing model is based on negotiated and agreed formulae rather than on reimbursing each operator for the service actually delivered. The current cash and Fare Logistics smart card-based fare payment system does not readily enable such a reimbursement allocation, particularly not being able to track and reconcile the final municipal transit service provider transfer. A more fully functional smart card system would enable reimbursement to be made based on the actual service delivered.

The pay-as-you go fare revenue fare sharing is also based on a negotiated and agreed formula.

Even with a more fully functional smart card-based fare payment system, there remains a significant challenge to track the collection of cash fare payments and the transfer services provided for linked journeys that involve inter-municipal trips and one or more municipal transit service provider.

16.3.2 Recommendations

Under the Consolidated Transit Model, it is recommended that inter-municipal transit pass fare revenues collected by the inter-municipal transit services and local transit services be allocated to each municipality within the partnership in proportion to the actual transit journeys funded by each municipality, after making whatever provisions are appropriate for compensation for agreed 'overhead' expenses such as pass sales commissions, vehicle operating charges, etc.

For the purposes of this allocation, it is recommended that the determination of transit journeys continue to be based on boardings and not on journey distance or duration.

For non-pass Inter-municipal transit fare revenue, the current revenue allocation formula should be continued; however, the percentages should be an easily configurable fare system parameter.

- In the instance of an Inter-municipal transit one-way non-pass, 'pay-as-you-go' fare for a one-transfer journey, the fare revenue should be allocated according to the following formula:
    - 33.3% to the original (or final) municipality in which the local service is provided; and
    - 66.7% to Niagara Region for the inter-municipal transit service.

- In the instance of an Inter-municipal transit one-way non-pass, 'pay-as-you-go' fare for a two-transfer journey involving one inter-municipal transit service and two links to a local transit service , the fare revenue should be allocated according to the following formula:
    - 33.3% to the original the municipality in which the local service is provided;
    - 33.3% to Niagara Region for the inter-municipal transit service; and
    - 33.3% to the final the municipality in which the local service is provided.
- In the instance of an Inter-municipal transit one-way non-pass 'pay-as-you-go' fare for a **two-transfer journey** involving one local transit service link and two inter-municipal transit links between two Zones, the fare revenue will be allocated according to the following formula:
    - 33.3% to the original or final municipality in which the local service is provided; and
    - 66.7% to Niagara Region for the inter-municipal transit service.
- In the instance of an Inter-municipal transit service one-way non-pass 'pay-as-you-go' fare for a **three-transfer journey** involving two inter-municipal transit routes (between two zones) and two local transit service links, the fare revenue will be allocated according to the following formula:
    - 25% to the original municipality in which the local service is provided;
    - 50% to Niagara Region for the inter-municipal transit service; and
    - 25% to the final municipality in which the local service is provided.

E. INVESTMENT PLAN & NEXT STEPS

17.0 Inter-municipal Transit Investment Plan

This section describes the steps necessary to implement the recommended transit service plan, fare strategy and integrated transit information plan outlined in **Part D**. For the purpose of this assessment, it is assumed that the Consolidated Transit Model is in place. The impact on revenue service hours, operating and capital costs, ridership and revenue, and overall financial performance is also estimated over the next seven years as part of a financial plan. The financial plan is based on the existing service delivery and governance structure plan. The financial plan encompasses several components:

1. Change in service levels for inter-municipal services as a result of the seven year service delivery plan (based on average hourly operating costs and average revenue);
2. Change in the average hourly operating cost based on service improvements; and
3. Capital Investment of new vehicles, smart card technology, facilities and other infrastructure required to meet a growing public expectation that comes with an integrated service model.

17.1 Phasing and Implementation Plan

The following phasing plan groups the necessary steps into a short-term (one to three years) and a medium-term (four to seven year) timeframes. For service improvements, certain assumptions are made on other factors that will influence the implementation of service, such as the introduction of GO Train service. With this in mind, the implementation plan should be adjustable based on specific factors as well as performance standards noted in the service guidelines document (**Section 5.0**) being achieved.

The short-term plan addresses recommendations that should and can be implemented in the 1-3 year time horizon. The objectives of the short-term plan are to optimize existing services to increase the cost effectiveness of existing inter-municipal services and improve the customer experience. It is expected that the majority of recommendations in this plan will not be in place until the Consolidated Transit Model is in place.

The medium-term plan addresses recommendations based on anticipated ridership growth due to population and employment projections, the introduction of GO Train service in Niagara and the evolution of new service delivery models.

Anticipated timing of each of the service modifications in noted below and reflected in the financial plan.

17.1.1 Consolidation of Inter-Municipal Services

Short-term Plan (Year 1-3)

1. Enter into discussions with St. Catharines Transit, Welland Transit, Niagara Falls Transit and Niagara Region Transit to develop an implementation plan for the consolidated inter-municipal service plan.
2. Meet with Student Union representatives from both post-secondary institutions to present the service implementation plan and create buy-in.
3. Implement optimized service plan, including increased peak period headways, extension of evening service and introduction of Sunday service on Routes 40/45, 50/55 and 70/75.
4. Initiate discussions with a number of major employers along the Route 60/65 corridor and adjust service hours to reflect shift times.

5. Assess the need for Route 40/45 to continue to stop at Fairview Mall with the potential new GO Bus Route 12 stop at Niagara College Glendale campus. Further assess the required service hours on SCTC Route 27 as a result.
6. Eliminate a number of post-secondary services and transfer funding to the new optimize inter-municipal services and/or local transit services within the Consolidated Transit Service Area.

Medium-term Plan (Year 4-7)

1. Gradually increase number of runs on Route 60/65 to accommodate new employers on the corridors (e.g. new GE Plant and new South Hospital).
2. Assess demand on Route 70/75 and assess need to introduce extras to accommodate peak load issues during the peak periods (school year only).
3. Extend service on Route 40/45; Route 50/55 and Route 70/75 to the St. Catharines GO Train station. For Route 40/45, the service would no longer stop at Fairview Mall.
4. Work with St. Catharines Transit to assess opportunities to reduce service levels on Route 26. This becomes feasible with Route 40/45 no longer stopping at Fairview Mall and providing a direct connection between downtown St. Catharines and Niagara College Glendale Campus.
5. Implement the New Route 70/75 GO Express peak period service between Welland and the St. Catharines GO Train Station with the introduction of GO Train service to St. Catharines. Service should be timed to meet with GO Train arrivals and departures where feasible.
6. Budget for new maintenance facility in either St. Catharines or Welland.

17.1.2 Modification of Existing Inter-municipal Services and Connections

Short-term Plan (Year 1-3)

1. Work with Town of Pelham to modify the terminus of the Pelham Transit route (assuming the pilot is extended). Fare integration opportunities should also be discussed, moving towards a fare integration strategy.
2. Work with Niagara Parks Commission on WEGO Route to interline the Green route with the Orange route.
3. Work with the Town of Port Colborne to modify the Port Colborne Link to terminate at the downtown Welland Transit terminal. Increase number of runs on the service from six to seven runs per day, Monday through Saturday. The cost of this modification would be shared by the Region and the Town.
4. Modify the terminus of the Fort Erie Link to the new municipal centre once Fort Erie's local transit service is restructured (as recommended in the recent Transit Master Plan).
5. Explore opportunities for Niagara Falls Transit to better connect Route 60/65 and Fort Erie Link passengers to the tourist areas in Niagara Falls (shuttle service, better communication of transfer opportunities, etc.).

Medium-term Plan (Year 4-7)

1. Work with City of Niagara Falls to identify potential route modification options for the Fort Erie Link, including potential grade separation of the rail corridor on Montrose. This is necessary to introduce a new stop at the South Hospital.
2. Work with Niagara-on-the-Lake to identify potential local Dynamic Transit solutions to a number of the wineries in the municipality.

3. Work with Port Colborne to assess the opportunity to add two additional runs to the Port Colborne Link to provide enhanced connection opportunities to Route 70/75 or Route 70/55 GO Express once GO Train service is introduced to St. Catharines.
4. Work with Fort Erie to assess the opportunity to add two additional runs to the Fort Erie Link to provide enhanced connection opportunities to local Niagara Falls Transit services once GO Train service is introduced to Niagara Falls.

17.1.3 New Inter-municipal Services

Short-term Plan (Year 1-3)

1. Enter into discussions with GO Transit to provide an integrated service between Grimsby, Beamsville and St. Catharines. The subsidy would be provided by Niagara Region and the Town of Grimsby and the Town of Lincoln based on a cost sharing agreement. This should only occur if a local transit service is in place in both the Town of Grimsby and the Town of Lincoln (within Beamsville), connecting to both GO Bus stops.
2. Evaluate the effectiveness of this service relative to Niagara Region Transit implementing its own service between Grimsby and St. Catharines.
3. Work the Town of West Lincoln to implement an inter-municipal transit service (Smithville Link) between Smithville and the Casablanca GO Bus stop. This should be completed with the implementation of local transit services in Grimsby and would require a cost sharing agreement between Niagara Region and the Town of West Lincoln. Work with the Town of Grimsby to identify opportunities to integrate this service with local Grimsby Transit services.

Medium-term Plan (Year 4-7)

1. Introduce Sunday service on the Smithville Link service to Grimsby.
2. Enter into discussions with GO Transit to introduce a stop on the Route 12 GO Bus at the Victoria Avenue park-and-ride lot. This should occur as population growth occurs in the Prudhommes development and the Town of Lincoln introduces a local transit service. In the event that GO Transit does not introduce the new stop, extend the local transit service to the stop in Beamsville.

17.1.4 Dynamic Transit

Short-term Plan (Year 1-3)

1. Establish customer call centre either in-house or through the Specialized Transit contractor to receive calls for the two Dynamic Transit pilot projects in Wainfleet and Crystal Beach.
2. Enter into preliminary conversations with service providers that may be able to operate the Dynamic Transit service model. This could include the City issuing a Request for Information to potential contractors to prepare them for a future Request for Proposal.
3. Develop communication and marketing plan for the new Dynamic Transit pilots.
4. Pilot the new Dynamic Transit Service between Wainfleet and Welland for a period of 12 months. Extend service if successful.
5. Pilot the new Dynamic Transit Service between Port Colborne and Crystal Beach for a period of 12 months. Extend service if successful.
6. Conduct a more detailed Long-term Dynamic Transit Strategy and Operational Plan Study which will address the future vision of Dynamic Transit (both local and inter-municipal services) and develop performance specifications for a future mobile app. This should occur once information and lessons learned from the two pilot programs are available.

7. Issue an RFP to various software developers to develop a Dynamic Transit mobile app based on the performance specifications in the Operational Plan Study noted above. A request for information to potential vendors may be an appropriate step to help refine the specifications and ensure that the performance expectations are realistic.
8. Pilot upgraded Dynamic Transit concept with the new mobile app on the Wainfleet Link and Crystal Beach Link services.

Medium-Term Plan (Year 4-7)

1. Extend Dynamic Transit service concept to other areas based on the recommendations noted in **Section 7.4.3.**

17.1.5 Fare Structure and Fare Payment Technology

Short-term Plan (Year 1-3)

1. Initiate discussion with each transit system to develop a common fare structure and implement the Hybrid fare strategy (as noted in **Section 9.1**). This may involve bringing in an outside consulting firm to facilitate discussions and engage the community. A decision on the Affordable Pass Program developed by the Region should also be incorporated into this fare structure.
2. Continue discussions with PRESTO regarding potential implementation of Presto in Niagara Region.
3. Explore Federal or Provincial funding opportunities to implement a common smart card for transit services in Niagara Region.
4. Issue a RFP for a new seamless smart card technology and evaluate options.
5. Adopt recommended fare sharing strategy based on governance model chosen.

17.1.6 Trip Planning Software

Short-term Plan (Year 1-3)

1. Designate a staff member within the consolidated governing body to be responsible for collecting and ensuring that timely GTFS data is provided by each transit agency in the region for inclusion into various trip planning software tools (e.g. Transit App, Google Transit and TripLINX).
2. Enter into agreement with Metrolinx to join TripLINX trip planning software.

17.2 Proposed Service Hours

The annual revenue service hours are based on the forecasted hours required to implement the proposed inter-municipal transit service plan over a seven year period and based on the phasing plan identified above. With the new service plan implemented in September 2016 (which includes the introduction of Route 40/45, etc.), there are approximately 53,500 hours of revenue service required annually to operate inter-municipal services within Niagara Region (both Niagara Region Transit and inter-municipal post-secondary routes).

With the implementation of the recommended service plan, the number of revenue service hours is anticipated to increase to 55,400 by 2019 and 61,000 by 2023. This does not include any potential change in local services or specialized transit services which were not included as part of this study.

The recommended improvements to the frequency and span of service will only see a modest increase in revenue service hours by 2019 within the existing core transit service area. Outside of the core urban

area of St. Catharines/Thorold, Niagara Falls and Welland, there is only a slight increase in service hours on the Port Colborne Link and the addition of a new Smithville Link service. While other new inter-municipal link services are planned during this time frame, these are not fixed route services provided by Niagara Region Transit, and therefore service hours are not accounted for (e.g. The Grimsby/ Beamsville Link uses existing capacity on GO Transit's Route 12 GO Bus service).

By 2023, additional expansion of inter-municipal services will see another slight increase in revenue service hours (primarily due to improvements to Route 60/65, the introduction of the Route 70/75 GO Express shuttle and other smaller service enhancements.

Total service hours for the entire inter-municipal system, which includes hours when a vehicle is not in revenue service (e.g. travelling between a transit facility and the start of revenue service) is calculated by applying a 12 percent increase to revenue service hours for all routes currently operated by Niagara Falls Transit, and a 7 percent increase on all remaining revenue vehicle hours operated by other transit systems.

Table 56 illustrates the recommended increase in Revenue Service Hours.

Table 56: Recommended Annual Revenue Service Hours

Service	2016/2017*	2019	2023
40/45 & 40/45A	9,000	12,700	12,700
50/55	9,300	12,700	12,700
60/65	8,500	4,500	7,400
70/75	8,500	12,700	12,700
70/75 GO Express	-	-	1,700
Subtotal Core NRT Routes	**35,300**	**42,600**	**47,200**
NOTL Campus to Downtown St. Catharines	3,300	2,200	2,200
Downtown St. Catharines to Welland Campus	1,400	-	-
NOTL Link	3,300	2,900	2,900
Brock Link - Brock to Welland Campus	2,700	-	-
Niagara Falls to Welland Campus	3,300	3,300	3,300
Subtotal Post-Secondary Routes	**14,000**	**8,400**	**8,400**
Port Colborne Link	2,000	2,100	2,600
Fort Erie Link	2,100	2,100	2,600
Subtotal Existing Rural Link Routes	**4,100**	**4,200**	**5,200**
Grimsby / Beamsville Link	-	**	**
Smithville Link	-	2,900	3,200
Wainfleet Dynamic Link	-	***	***
Crystal Beach Dynamic Link	-	***	***
Subtotal New Rural Link Routes	**-**	**2,900**	**3,200**
TOTAL	**53,400**	**58,100**	**64,000**

***Note: Represents annualized service hours based on the inter-municipal service in place as of September 2016**

****Note: Revenue Service hours not indicated on this route as the service is based on the existing use of the GO Bus Route 12. Net Operating Costs are based on the difference between the GO Bus fare and the IMT fare.**

*****Note: Revenue service hours are not indicated on dynamic routes since they are not fixed and based on a trip request.**

17.3 Peak Vehicle Requirements

Table 57 provides a summary of the peak period vehicle requirements needed to operate the recommended service plan. In September 2016, 20 peak vehicles are required to operate the inter-municipal services (both Niagara Region Transit and post-secondary services). It should be noted that two of the peak vehicles used to operate Route 40/45 are currently provided by Niagara Falls Transit; therefore, there is a short-fall of two vehicles to operate the existing service.

With the recommended improvements identified in the service strategy, the peak period vehicle requirements will increase to 21 vehicles by 2019 and 22 vehicles by 2023.

Table 57: Recommended Peak Vehicle Requirements

Service	2016/2017*	2019	2023
40/45 & 40/45A	3	4	4
50/55	2	4	4
60/65	2	2	2
70/75	2	4	4
70/75 GO Express	-	-	1
Subtotal Core NRT Routes	**9**	**14**	**15**
NOTL Campus to Downtown St. Catharines	2	1	1
Downtown St. Catharines to Welland Campus	2		
NOTL Link	1	1	1
Brock Link - Brock to Welland Campus	2		
Niagara Falls to Welland Campus	2	2	2
Subtotal Post-Secondary Routes	**9**	**4**	**4**
PC Link	1	1	1
FE Link	1	1	1
Subtotal Existing Rural Link Routes	**2**	**2**	**2**
Grimsby / Beamsville Link	-	-	-
Smithville Link	-	1	1
Wainfleet Dynamic Link	-	-	-
Crystal Beach Dynamic Link	-	-	-
Subtotal New Rural Link Routes	**0**	**1**	**1**
TOTAL	**20**	**21**	**22**

***Note: Based on service in place as of September 2016**
****Note: This service uses existing GO Buses**
*****Note: This service uses taxi cabs or Niagara Specialized Transit vehicles**

As part of this strategy, the number of spare vehicles would need to grow as well, along with a change in vehicle branding. A spare ratio of 20 percent should be maintained for inter-municipal services. Niagara Region currently provides two spare vehicles to St. Catharines Transit and Niagara Falls Transit to operate the NRT service. This should be increased to three spare vehicles in the immediate-term to account for the existing short-fall in Welland. A fourth spare vehicle should also be added in the short-term for the Smithville Link service and a fifth spare vehicle in the medium-term to account for the new Route 70/75 GO Express service. It should be noted that under the Consolidated Transit Service Model, spare vehicle requirements may be reduced slightly with better integration of inter-municipal and local transit fleet.

Based on the above assessment of peak and spare vehicle requirements, the following vehicle purchases should be budgeted for over the next seven years:

Immediate-term (three new vehicles)

- Two 40ft low-floor accessible buses to be used on Route 40/45
- One 40ft low-floor accessible spare bus to be stationed in Welland (already ordered)

Short-term (by 2019) (two new vehicles to five vehicles)

- Two 30ft or smaller purpose-built accessible vehicles for the Smithville Link (one primary and one spare)
- If an agreement is not able to be reached to integrate the GO Bus Route 12 service with a Grimsby/Beamsville Link service, three additional 40ft low-floor accessible buses are required to operate this service (two peak and one spare)

Medium-term (by 2023) (two new vehicles)

- One 40ft low-floor accessible bus to be used on Route 70/75 GO Express
- One 40ft low-floor accessible bus to be used as an additional spare vehicle

This brings the total capital requirement over the next seven years to 7 to 10 vehicles (two smaller purpose-built or cutaway vehicles and eight low-floor accessible transit buses).

17.4 Cost Sharing Model

Under the Consolidated Transit Model, the following cost sharing agreement is recommended for between various municipalities in Niagara.

Local Transit

Capital and operating costs of local transit systems both within and outside the Consolidated Transit Service Area are recommended to be 100 percent funded by the local municipality it services.

Local transit primarily benefits residents of the municipality it services and therefore should be funded through the local municipal tax base. While some residents from adjacent municipalities can access the local transit service, the amount of ridership from these residents is minimal and typically does not require additional capacity to accommodate these trips. Therefore funding local transit under the Consolidated Transit Model for local municipalities both within and outside of the Consolidated Transit Service Area should continue to be funded local municipalities (off-set by passenger revenue, U-Pass revenue where applicable and other funding sources.

Inter-municipal Express Transit Routes within the Consolidated Transit Service Area

Capital and operating costs are recommended to be 100 percent funded by the Region. Operating costs will be off-set by funding from passenger fares, U-Pass revenue and a share of other revenue sources (e.g. part of a system-wide advertising contract).

The implementation of inter-municipal services connecting the urban area of Niagara Region has stronger ties to regional goals than it does to local goals. Inter-municipal transit provides accessibility to employment, education, health care, services and tourism across municipal boundaries and can reduce vehicle travel on regional roads. These are regional goals and therefore should be funded by the Region. Since local municipalities are responsible for funding local transit services, the cost of the entire customer trip is shared by local municipalities and the Region if a transfer is made between service providers.

Rural Link Routes connecting one or more municipalities outside of the Consolidated Transit Service Area

Capital costs are recommended to be 100 percent funded by the Region.

Operating costs are recommended to be 60 percent funded by the Region and 40 percent funded by the local municipality(s) it connects to outside the Consolidated Transit Service Area of Niagara.

Rural Links Routes are designed as feeder services that link a small population centre to employment, education, services and health care opportunities in the urban area of Niagara. This is in contrast to Inter-municipal Express Transit routes which connect municipalities that have both large population centres as well as key destinations of regional significance (e.g. major employers, post-secondary institutions, hospitals, etc.).

For this reason, the provision of Rural Link Routes has an equal benefit to local municipalities as it does the Region. Municipalities outside the Consolidated Transit Service Area of Niagara Region also benefit from the ability to use inter-municipal services and local services in St. Catharines/Thorold, Niagara Falls and Welland without contributing to the capital and operating cost of these services. For this reason, a cost sharing model as noted above is proposed.

17.5 Operational Costs

An average hourly cost for inter-municipal services operating within the Consolidated Transit Model was used to calculate the operating cost of the seven-year service plan within the Consolidated Transit Service Area, as well as potential inter-municipal connections to outer municipalities. Since it was assumed that Rural Link Routes would be delivered by the consolidated governing body, the same hourly operating rate was used.

The 2015 average hourly operating rate of $95.49 for Niagara Region Transit services was used as a base and increased by 2 percent for 2016 to $97.40. This was increased by an additional 5.2 percent to $102.48 for 2018 to account for the additional costs noted in **Part D, Section 8.2** with the implementation of the Consolidated Transit Model. This represents a 7.3 percent increase over 2015 operating costs. This was increased by 2 percent per year for each additional year beyond 2018 to account for inflation. This rate was applied to all inter-municipal services recommended in the service plan (**Section 7.0**).

For post-secondary services, an hourly operating cost is negotiated between each of the local transit providers and each post-secondary institution to provide the service. This rate includes a portion of bus amortization to account for the wear-and-tear of using local transit buses. Since this rate is negotiated each year, the existing rates were used for post-secondary services and only increased in 2017 as a result of potential increases in transit operating costs due to consolidation. Otherwise, these remained constant throughout the life of this plan. In reality, these rates would likely increase annually to account for inflation.

The Grimsby/Beamsville Link is based on a fare subsidy provided by the Region, Grimsby and Beamsville to GO Transit as described in **Section 14.3.2**. For the Dynamic Transit services in Wainfleet and Crystal Beach, a combination of fixed taxi fares and Niagara Specialized Transit service costs are assumed as described in **Section 14.4**.

Based on the above assessment of hourly operating cost, **Table 58** presents the total annual operating cost during the base year, the 1-3 year time horizon and the 4-7 year time horizon based on the service improvement plan identified in **Section 14.0**.

In addition to this cost, between $440,000 and $1,800,000 are required to operate a smart card program annually (depending on the smart card alternative selected as described in **Section 16.2**). A more detailed assessment would need to be conducted to determine how this cost is broken down by each

municipality once a smart card vendor is selected and more detail is known about the cost. For the purposes of this analysis, costs should be broken down proportionally based on the number of transit vehicles funded by each municipality.

Table 58: Gross Operating Costs for the Recommended Service Strategy

Service	2016/2017*	2019	2023
40/45 & 40/45A	$983,700	$1,494,800	$1,618,000
50/55	$974,000	$1,421,600	$1,538,800
60/65	$886,300	$501,700	$905,200
70/75	$886,300	$1,432,100	$1,550,100
70/75 GO Express	-	-	$203,700
Subtotal NRT Routes	**$3,730,300**	**$4,850,200**	**$5,815,800**
NOTL Campus to Downtown St. Catharines	$393,400	$250,900	$271,600
Downtown St. Catharines to Welland Campus	$163,900	-	-
NOTL Link	$325,300	$345,300	$492,400
Brock Link - Brock to Welland Campus	$262,000	-	-
Niagara Falls to Welland Campus	$381,900	$428,600	$540,000
Subtotal Post-Secondary Routes	**$1,526,500**	**$1,024,800**	**$1,304,000**
Port Colborne Link	$204,500	$230,000	$316,800
Fort Erie Link	$233,800	$250,900	$328,100
Subtotal Existing Rural Link Routes	**$438,300**	**$480,900**	**$644,900**
Grimsby / Beamsville Link	-	$251,200	$449,500
Smithville Link	-	$324,000	$384,700
Wainfleet Dynamic Link	-	$191,400	$207,100
Crystal Beach Dynamic Link	-	$124,200	$134,400
Subtotal New Rural Link Routes	**-**	**$890,800**	**$1,175,700**
TOTAL	**$5,695,100**	**$7,246,700**	**$8,940,400**

*Note: Based on service in place as of September 2016

17.6 Capital Costs

Table 59 summarizes the projected capital costs over the next three years for the proposed Inter-municipal Transit Service Plan. **Table 60** notes the operating costs over the four to seven year horizon. These include the costs for expansion buses (including spares) smart card technology, and the need for expansion of bus storage and maintenance facilities.

Table 59: Capital Costs for the Recommended Inter-municipal Transit Service Strategy (1-3 Year Time Frame)

Service	Quantity	Total Cost Year 1-3	Niagara Region	St. Catharines	Niagara Falls	Welland
Fleet Expansion (40 ft vehicles)	3 – 6*	$1,800,000 - $3,600,000	$1,800,000 - $3,600,000	-	-	-
Fleet Expansion (cutaway)	2	$300,000	$300,000	-	-	-
Smart card system	-	$3,162,000 - $7,000,000	$442,000 - $980,000	$1,581,000 - $3,500,000	$717,000 – $1,590,000	$443,000 - $980,000
St. Catharines Transit Maintenance Facility Expansion	1	$2,500,000	-	$2,500,000	-	-
Welland Transit Maintenance Facility Expansion	1	$1,500,000 - $2,500,000	-	-	-	$1,500,000 - $2,500,000
TOTAL		**$9,262,000 – 15,900,000**	**$2,543,000 - $4,880,000**	**$4,081,000 - $6,000,000**	**$717,000 - $1,590,000**	**$1,943,000 - $3,480,000**

Note: Fleet cost includes existing buses required for Route 40/45 and the extra spare bus required for Welland Transit

Table 60: Capital Costs for the Recommended Inter-municipal Transit Service Strategy (4-7 Year Time Frame)

Service	Quantity	Total Cost Year 4-7	Niagara Region	St. Catharines	Niagara Falls	Welland
Fleet Expansion (40 ft vehicles)	2	$1,200,000	$1,200,000	-	-	-
Dynamic Transit Mobile App	1	$20,000 - $50,000	$20,000 - $50,000	-	-	-
TOTAL		**$1,220,000 - $1,250,000**	**$1,220,000 - $1,250,000**	**-**	**-**	**-**

A unit price of $600,000 was used for each 40ft low-floor accessible bus and $150,000 for a smaller accessible cutaway vehicle that could be used to operate the Smithville Link service.

For the smart card technology, the capital cost ranges from $3.162 million to $7.0 million.

Facility expansion is an immediate need identified by St. Catharines Transit, the expansion expected to be completed by the Spring of 2018 at a capital cost of $2.5 million. Welland Transit has also identified a need to expand its existing transit facility, as many of its existing fleet are currently stored outdoors (which is not ideal, particularly during winter weather conditions). No cost estimate has been identified by Welland for the expansion of its facility. For costing purposes for this study, a range between $1.5 and $2.5 million is estimated. It should be noted that the expansion of both of these facilities is largely due to existing deficiencies and not a result of any recommended inter-municipal transit improvements noted in this plan.

17.7 Ridership and Revenue

Ridership on Niagara Region Transit has grown steadily since its inception, from just over 128,863 annual trips in 2012 (the first full year of operation) to 191,120 annual passengers in 2015. In addition to this approximately 563,000 annual trips occur on the inter-municipal post-secondary services provided by St. Catharines Transit, Niagara Falls Transit and Welland Transit. With the introduction of Route 40/45, improvements to Route 50/55 and consolidation of a number of post-secondary routes in 2016, inter-municipal ridership is forecasted to be approximately 752,100[16].

Three approaches were used to forecast ridership growth for each of the various service improvements noted in the plan:

- Update existing 2015 ridership number to forecast 2016 ridership as a result of new service improvements added in September 2016.
- Estimate any increase in travel demand over the three and seven year time frame as a result of population and employment growth (as documented in **Section 4.6**);
- Use a service elasticity approach to forecast any potential ridership increases as a result of the proposed service level and service hour improvements (**Section 14.0**).

It should be noted that the transit industry in general has seen a general flattening or decline in ridership over the past few years. A number of systems are reporting a small rebound in the early part of 2016, but this will be difficult to understand until the end of the year. Between 2015 and 2016, ridership on the three existing NRT routes provided by Niagara Region Transit grew by approximately 4 percent.

Table 61 presents the projected ridership and revenue from the proposed service plan.

In 2015, out of 191,120 existing passenger boardings, 77,641 were U-Pass holders. This represents just over 40 percent of passenger boardings, which is expected to grow in 2016 with the introduction of Route 40/45 and adjustments to Route 50/55 and the various post-secondary services. In 2016, existing Niagara Region Transit routes are projected to earn approximately $697,000 in passenger fare revenue (not including U-Pass riders).

All of the post-secondary routes are funded fully through the U-Pass agreement, making them 100 percent cost-recoverable. Niagara Region Transit, Port Colborne and Fort Erie also allow U-Pass riders, and therefore receive a U-Pass contribution from Brock University and Niagara College. In 2016, the total U-Pass contribution for each system is projected to be $2.17 million. This is broken down by the following municipalities (for inter-municipal trips only):

- Niagara Region - $337,000
- Port Colborne - $7,000
- Fort Erie - $26,000
- Welland - $700,000
- Niagara Falls - $439,000
- St. Catharines - $660,000

[16] Estimate based on preliminary data received from ridership in September and October 2016 for modified NRT routes and includes ridership on Rural Link Routes, Inter-municipal Express Routes and post-secondary routes.

Table 61: Projected Inter-municipal Ridership

Service	2016/2017*	2019	2023
40/45	96,400	145,600	184,400
50/55	96,800	133,900	155,900
60/65	61,400	49,800	64,700
70/75	62,200	230,800	248,300
70/75 Express	-	-	20,200
Subtotal NRT Routes	**316,800**	**560,100**	**673,500**
NOTL Campus to Downtown St. Catharines	119,000	97,900	84,900
Downtown St. Catharines to Welland Campus	37,300	-	-
Welland Campus to NOTL Campus	72,200	67,100	68,300
Brock Link - Brock to Welland Campus	96,200	-	-
Niagara Falls to Welland Campus	85,100	90,900	92,900
Subtotal Post-Secondary Routes	**409,800**	**255,900**	**246,100**
Port Colborne Link	15,200	17,200	20,400
Fort Erie Link	10,200	10,500	13,000
Subtotal Existing Rural Link Routes	**25,400**	**27,700**	**33,400**
Grimsby / Beamsville Link**	-	53,900	65,600
West-Lincoln Link	-	39,400	52,800
Wainfleet Dynamic Link	-	7,900	8,300
Crystal Beach Dynamic Link	-	3,000	3,100
Subtotal New Rural Link Routes	**-**	**104,200**	**129,800**
TOTAL	**752,000**	**947,900**	**1,082,800**

***Based on September 2016 service in place**

****Does not include GO Ridership travelling outside of Niagara Region.**

Based on existing ridership forecasts, approximately 80 percent of all inter-municipal transit trips are taken by U-Pass holders. Since these trips are funded through the U-Pass program, each additional ride that is taken by U-Pass holders does not generate additional revenue to the system. The only way to increase revenue through U-Pass holders is if:

- the enrolment at either Niagara College or Brock University increases; and/or
- there is an approved increase in the U-Pass rate.

To be conservative in this analysis (and since student enrolment has been reported to have stabilized), it was assumed that the existing U-Pass rates would remain constant over the next seven years. In reality, there are regular rate increases that have been negotiated into both U-Pass agreements to account for inflation. The consolidated governing body also has the ability to renegotiate the U-Pass contract (through referendum) with the student union at both institutions.

For non-U-Pass fares, an average fare was calculated by taking the existing passenger fare revenue (non-U-Pass users) for inter-municipal services and dividing it by the existing inter-municipal transit ridership. This results in an average Inter-municipal transit fare of $5.06 for trips within the Consolidated Transit Service Area and $2.85 for Rural Link Routes that connect to the Consolidated Transit Service Area. This average fare was used to calculate total non-U-Pass revenue. Between 2017 and 2023, it was also

assumed that percent of non-U-Pass riders would grow from 20 percent to 28 percent of all inter-municipal trips (particularly with the introduction of GO Train service). The Non-U-Pass revenue was added to the U-Pass revenue to determine the total revenue by route. This is illustrated in **Table 62**.

Table 62: Projected Inter-municipal Transit Passenger Revenue

Service	2016/2017*	2019	2023
40/45 & 40/45A	$243,200	$481,500	$410,400
50/55	$232,000	$469,400	$397,200
60/65	$233,800	$248,400	$300,700
70/75	$266,200	$453,200	$377,400
70/75 GO Express	-	-	$116,800
Subtotal NRT Routes	**$975,200**	**$1,652,500**	**$1,602,500**
NOTL Campus to Downtown St. Catharines	$393,400	$250,900	$271,600
Downtown St. Catharines to Welland Campus	$163,900	-	-
NOTL Link	$325,300	$345,300	$492,400
Brock Link - Brock to Welland Campus	$262,000	-	-
Niagara Falls to Welland Campus	$381,900	$428,600	$540,000
Subtotal Post-Secondary Routes	**$1,526,500**	**$1,024,800**	**$1,304,000**
Port Colborne Link	$31,900	$44,500	$53,500
Fort Erie Link	$44,700	$51,600	$59,600
Subtotal Existing Rural Link Routes	**$76,600**	**$96,100**	**$113,100**
Grimsby / Beamsville Link**	-	$0	$0
West-Lincoln Link	-	$149,600	$200,500
Wainfleet Dynamic Link	-	$30,000	$31,500
Crystal Beach Dynamic Link	-	$11,400	$11,800
Subtotal New Rural Link Routes	**-**	**$191,000**	**$243,800**
TOTAL	**$2,578,300**	**$2,964,400**	**$3,263,400**

***Note: Based on annualized service beginning in September 2016**

There is one caution that should be made when viewing the revenue projections indicated in **Table 62**. While U-Pass revenue is provided to fully fund the post-secondary services, some of this revenue also off-sets the costs of local transit service, which students are allowed to use for free. Under route consolidation, the post-secondary routes that were eliminated were allocated to other inter-municipal routes (e.g. Route 70/75). As the details of the Consolidated Transit Model are worked through, a decision may be made to allocate some of this revenue to local municipalities to support funding for local services.

Based on this, caution should be taken when assessing route by route revenue until more information is known on the transfer of U-Pass funding and how student ridership patterns will shift between routes with route optimization.

17.8 Other Funding Sources

There are a number of other funding sources that the Region can take advantage of to help fund the upfront capital and ongoing operational costs of running an expanded, attractive, and regionally

integrated transit network. In addition to the traditional methods of funding that result from user fees (fares) and property taxes, dedicated funds flowing from upper levels of government can help support the development and operation of a regionally integrated transit system in Niagara.

17.8.1 Federal Public Transit Infrastructure Fund

The Public Transit Infrastructure Fund (PTIF) is a fund administered by the Government of Canada that explicitly aims to support investments in transit. Funding of 50 percent of the total project cost is provided for eligible capital projects, the rehabilitation of transit systems, and planning studies for future transit expansion. Municipalities, Regional governments, and the provincial government must provide the remaining 50 percent of eligible project costs. Funds are allocated to each province on a ridership basis; of the total $3.4 billion dollars available in Phase 1, Ontario has been allocated almost $1.5 billion dollars.

Examples of projects eligible for federal funding through the PTIF include:

- Refurbishment or replacement of existing rolling stock;
- Projects for system expansion;
- Pilot projects related to innovative and transformative technologies; and
- Expenditures to support asset management capacity.

Phase 1 of the PTIF is currently being distributed, with ongoing projects currently eligible for funding. For projects to be considered eligible, costs must be incurred prior to March 31, 2018. Many of the improvements detailed in this report, including fleet expansion, smart card system implementation, and innovative pilot projects are likely eligible for funding under the PTIF. The application deadline for Phase 1 of the funding was on October 18th, 2016 all each transit system within the region made an application for funding.

Phase 2 of the PTIF is expected to follow in 2018, and will be targeted to longer-term strategic projects. Consultations to determine project eligibility and cost-sharing formulas are currently ongoing.

The fund provides an opportunity to utilize this revenue source for a number of larger capital projects that move towards service integration (e.g. Capital costs towards a common smart card system).

17.8.2 Development Charges

The population of Niagara Region is expected to grow by 48,400 people over the next 10 years, to a population of 498,600 by 2026. Part of this growth will result in the need for additional transit services; some of which can be recovered through Development Charges (DCs).

Through the application of Development Charges (DCs), the development community contributes an appropriate share of infrastructure capital costs for necessary growth-related transit improvements over the ten-year planning period. DCs are a tool for municipalities to ensure that “growth pays for growth”. The *Development Charges Act* (“DCA”) regulates when and how municipalities may collect DCs.

The provincial government recently enacted changes to the Development Charges Act, 1997 (the DCA) with direct implications for how municipalities plan and fund future transit services.

Historically, transit services could only be funded through DCs in the following manner:

- Service costs could only be recovered at up to 90 percent of total capital cost due to a DCA mandatory 10 percent reduction of eligible growth related capital cost applied to transit services; and

- Growth-related capital expenditures for transit infrastructure were limited to expenditures that supported maintaining historic service levels. This was calculated based on the average level of service over the prior ten years.

Changes in the DCA, which came into effect in January 2016, have resulted in alterations to a municipal growth-related transit funding mechanisms. These changes are summarized as follows:

- The mandatory 10 percent reduction of eligible growth-related capital costs has been removed for transit services, allowing growth related transit services to be 100 percent recoverable through development charges.
- The introduction of planned levels of services for transit, with the prescribed method and criteria to establish the service level (outlined in O.Reg. 428/15). This allows municipalities to be forward-looking in estimating future level of service for transit development charge calculations and apportion them to growth accordingly. It also included new highly prescriptive reporting requirements associated with the background reporting for development charges.

A portion of transit capital expenses that are identified in a Council approved capital plan can be paid for by the development community as a growth related expense. This would require the Region and/or each municipality that operates transit services to update their current DC By-law to reflect the new legislation and the recommended transit capital plan.

Expenditures are eligible to be funded through the DC legislation including:

- New transit vehicles;
- Expansion of transit terminals;
- Expansion of transit facilities;
- On-road transit infrastructure; and
- Transit technology (e.g. smart card technology).

Once the total transit capital cost is determined, detailed ridership forecasting would need to be completed to determine the required reduction in the eligible capital expenditures based on the extent to which an increase in service benefits existing development (growth related expenditures versus non-growth related expenditures). The portion of capital costs that are growth related within the ten-year period of the capital plan are eligible for DC funding.

The seven year growth plan for inter-municipal transit services includes a growth of seven to ten transit vehicles over the next seven years (including spares). Other major capital expenditures include the implementation of a common smart card system, dynamic transit service mobile app and the expansion of the St. Catharines and Welland transit facility. The majority of this growth will benefit existing passengers since there is excess capacity in the system to accommodate growth from existing residents. Population growth in the region is also limited (approximately 10 percent), which will result in the majority of improvements benefiting existing residents.

Based on this initial assessment, it is estimated that approximately 10 to 15 percent of transit capital costs will be apportioned to growth and therefore eligible for DC funding.

For transit capital expenses that are dedicated to inter-municipal services, 100 percent of DC eligible costs would go to the Region under the current service delivery and governance structure. For DC eligible costs that benefit both local transit systems and inter-municipal systems (e.g. expansion of a transit facility that stores both local transit vehicles and Regional transit vehicles), the DC eligible cost should be split between each participating municipality.

17.9 Financial Summary

Table 63 illustrates the net operating costs or municipal investment for the recommended inter-municipal transit service strategy. Municipal operating investment for inter-municipal transit services is the net difference between the total annual operating costs and the passenger and U-Pass revenue. Municipal operating investment could be further reduced by Provincial Gas Tax revenue, advertising revenue or other miscellaneous revenue sources (e.g. charters). It should be noted that the distribution of U-Pass revenue would still need to be confirmed through discussions between the local municipalities, the Region and both post-secondary institutions and may result in an adjustment to municipal investment noted below.

Municipal investment for each inter-municipal service is further allocated to each funding municipality based on the cost sharing model proposed in **Section 17.4**. The total municipal investment contribution by each municipality is illustrated in **Table 64**.

Table 63: Net Operating Costs (Municipal Investment) for the Recommended Service Strategy

Service	2016/2017	2019	2023
40/45 & 40/45A	$740,500	$1,013,300	$1,207,600
50/55	$742,000	$952,200	$1,141,600
60/65	$652,500	$253,300	$604,500
70/75	$620,100	$978,900	$1,172,700
70/75 GO Express	-	-	$86,900
Subtotal NRT Routes *(Niagara Region cost)*	**$2,755,100**	**$3,197,700**	**$4,213,300**
NOTL Campus to Downtown St. Catharines	$0	$0	$0
Downtown St. Catharines to Welland Campus	$0	-	-
NOTL Link	$0	$0	$0
Brock Link - Brock to Welland Campus	$0	-	-
Niagara Falls to Welland Campus	$0	$0	$0
Subtotal Post-Secondary Routes *(Niagara Region cost)*	**$0**	**$0**	**$0**
Port Colborne Link	$172,600	$185,500	$263,300
- *Niagara Region share (60%)*	*$103,560*	*$111,300*	*$157,980*
- *Port Colborne Share (40%)*	*$69,040*	*$74,200*	*$105,320*
Fort Erie Link	$189,100	$199,300	$268,500
- *Niagara Region share (60%)*	*$113,460*	*$119,580*	*$161,100*
- *Fort Erie share (40%)*	*$75,640*	*$79,720*	*$107,400*
Subtotal Existing Rural Link Routes	**$361,700**	**$384,800**	**$531,800**
Grimsby / Beamsville Link	-	$251,200	$449,500
- *Niagara Region share (60%)*		*$150,720*	*$269,700*
- *Grimsby share (20%)*		*$50,240*	*$89,900*
- *Lincoln share (20%)*		*$50,240*	*$89,900*
Smithville Link	-	$174,400	$184,200
- *Niagara Region share (60%)*		*$104,640*	*$110,520*
- *West Lincoln share (40%)*		*$69,760*	*$73,680*
Wainfleet Dynamic Link	-	$161,400	$175,600
- *Niagara Region share (60%)*		*$96,840*	*$105,360*
- *Wainfleet share (40%)*		*$64,560*	*$70,240*
Crystal Beach Dynamic Link	-	$112,800	$122,600
- *Niagara Region share (60%)*		*$67,680*	*$73,560*
- *Fort Erie share (20%)*		*$22,560*	*$24,520*
- *Port Colborne share (20%)*		*$22,560*	*$24,520*
Subtotal New Rural Link Routes	**-**	**$699,800**	**$931,900**
TOTAL	**$3,116,800**	**$4,282,300**	**$5,677,000**

Table 64: Distribution of Inter-municipal Transit Net Operating Costs (Investment) by Municipality

Municipality	2016/2017*	2019	2023
Niagara Region (*Inter-municipal and share of rural link routes)*	$2,972,120	$3,848,460	$5,091,520
Port Colborne *(share of Port Colborne Link and Crystal Beach Dynamic Link)*	$69,040	$96,760	$129,840
Fort Erie *(share of Fort Erie Link and Crystal Beach Dynamic service)*	$75,640	$102,280	$131,920
Grimsby *(share of Grimsby/Beamsville Link)*	-	$50,240	$89,900
Lincoln *(share of Grimsby/Beamsville Link)*	-	$50,240	$89,900
West Lincoln *(share of Smithville Link)*	-	$69,760	$73,680
Wainfleet *(share of Wainfleet Dynamic Link)*	-	$64,560	$70,240
TOTAL	**$3,116,800**	**$4,282,300**	**$5,677,000**

***Note: Based on annualized service beginning in September 2016**

Table 65 illustrates the system-wide financial summary and performance measures for inter-municipal transit routes expected to be achieved over the next seven years. The summary table illustrates an increase in ridership to 2023, including an increase in riders per capita and rides per service hour. Rising operating costs are primarily due to expansion of services in rural areas (which will see a lower rate of ridership per revenue vehicle hours due to lower densities it services), as well as increasing operating costs required to run an effective system (average approximately 2 percent per year). System-wide R/C decreases for these reasons. If the average fare and U-Pass revenue was increased by a similar rate, the 2023 R/C ratio would increase to over 40 percent.

It should be noted that the financial performance reflected below is for Niagara Region Transit and inter-municipal post-secondary routes and does not take into account local transit services.

Table 65: Projected Inter-municipal Transit Financial Performance

Service	2016/2017*	2019	2023
Population	450,200	461,720	481,080
Ridership	752,000	947,900	1,082,800
Revenue Service Hours	53,400	58,100	64,000
Total Service Hours	58,200	63,500	69,900
Operating Cost	$5,695,100	$7,246,700	$8,940,400
Total Revenue	$2,578,300	$2,964,400	$3,263,400
Municipal Operating Contribution	$3,116,800	$4,282,300	$5,677,000
R/C Ratio	45%	41%	37%
Boardings per Revenue Vehicle Hour	14.08	16.31	16.92
Boardings per Capita	1.67	2.05	2.25

***Note: Based on annualized service beginning in September 2016**

****Note: This table represents all inter-municipal routes across the entire Region, including post-secondary services, fixed routes and dynamic routes.**

*****Note: U-Pass revenues and fares have been kept constant under this analysis while operating costs increase by 2 percent annually. An increase in passenger revenue and U-Pass rates would improve the R/C ratio**

18.0 Financial Impacts of Consolidation

As identified in **Section 11.0**, moving towards the Consolidated Transit Model will come with an increased annual operating cost. With there are some efficiencies to be gained with consolidation, this is offset by various cost increases such as standardizing wages between all systems and upgrading systems to enhance the overall level of transit service. It is important to note that the reason for moving towards a Consolidated Transit Model is to improve the opportunity for integrated and seamless mobility in the region. This is very similar rationale that was used by municipalities in the Regions of Waterloo, Durham and York when they moved towards a Regional structure.

The recent provincial announcement confirming GO Train service between Hamilton and Niagara Falls by 2023 has added extra impetus to move towards the Consolidated Transit Model. For many customers, the daily commute does not end at a GO Train station. Integrated public transit solutions is an important part of a multi-modal transportation system that will support daily GO Train service in Niagara. In order to best leverage this valuable service for residents of the region, a robust transit system connecting residents to the new GO Train stations in Niagara Falls, St. Catharines and Grimsby is required.

Investment in inter-municipal transit also helps support economic development. A collaborative and supportive macroeconomic climate has become a prerequisite for business retention and expansion, and investment attraction. The investment attraction process favours municipalities which are known and prepared for investment attraction. Being investment ready, not only means having the available land and building inventory, plus incentive programs to accommodate new development, but ensuring the necessary infrastructure needs are in place to create a 'connected' Niagara that will motivate and attract the desired workforce. Inter-municipal transit is a powerful economic-development engine that can be used to help transform and intensify certain areas of the region.

One of the biggest challenges with inter-municipal transit services in Niagara today is that the existing Status Quo Model is not set up to allow for the effective delivery of inter-municipal transit services that meets the needs of a growing and more discerning customer base.

Existing inter-municipal routes operate at a low cost recovery, primarily due to the duplication with post-secondary funded inter-municipal services, which attract the majority of customers. Optimizing these routes with some small changes to the route structure and schedule and can provide a better level of service for all customers, as evidenced by the recent introduction of Route 40/45 and adjustments to Route 50/55 and parallel post-secondary routes. A plan to optimize inter-municipal services is presented in **Section 14.1** of this report.

However, there are a number of challenges that come with the implementation of an optimized inter-municipal transit service under the existing Status Quo Model. There are currently four different transit systems that provide inter-municipal transit services between St. Catharines/Thorold, Niagara Falls and Welland. Each has their own long-term vision and short-term priorities that they need to be accountable for and may not necessarily fit within this integrated network plan. A key challenge is the distribution of U-Pass revenue between the various systems that currently operate the post-secondary services. U-Pass funding from the post-secondary inter-municipal services (e.g. Brock Rapid) also helps to subsidize the use of local transit services that Niagara College and Brock University students use. The proposed optimized route structure involves eliminating a number of post-secondary routes and adjusting Niagara Region Transit routes to directly service both post-secondary institutions. This will

reduce some of the funding to the local transit operator as well as ridership, which may also impact Provincial Gas Tax revenue.

The service delivery plan also includes a number of recommendations to create a more integrated transit experience for customers travelling between municipalities in the region. This includes an integrated smart card system, a common fare strategy, implementation of a common trip planning tool as well as a common approach to new dynamic transit solutions. St. Catharines Transit, Niagara Falls Transit and Welland Transit are each at a different state of readiness to move towards an integrated approach to customer service and technology. While there have been several successful examples of coordination and integration that have occurred under the existing Status Quo Model with each of the three systems working together, it will be difficult to identify appropriate funding and cost sharing strategies to reach a common vision.

The review of different service delivery and governance models identified that the Consolidated Transit Model is the best possible structure to reach a shared vision of transit services in Niagara and meet the IMT guiding principles of a transit system that is customer driven, explores unconventional solutions, is integrated, economically responsible and fair.

The Status Quo Model falls short of meeting these guiding principles, including expectations from the Province and the public of improved transit service delivery needs to be in place with the introduction of GO Train service by 2023.

The Regional Transit Model delivers on service integration and system optimization objectives, however, does so at the highest cost. The majority of existing ridership in the region occurs within St. Catharines/ Thorold, Niagara Falls and Welland (98 percent). Unlike other regional services that were recently formed (York Region Transit, Durham Region Transit and Grand River Transit), Niagara Region does not have significant congestion issues that a strong focus on inter-municipal transit would resolve. Many of the local municipality's within the region are also separated by large greenfield areas, making travel time between urban centres long. This creates a stronger focus on local trips (approximately 80 percent of existing urban travel occurs within one municipality). Therefore, while optimization of inter-municipal services is important, local transit trips will continue to be a primary focus of transit service delivery. The challenge with a Regional Transit Model is that it may take focus away from local transit needs and replace these with broader regional objectives. While this may be important as Niagara continues to grow, the model should also be sensitive to the needs of local municipalities.

The Consolidated Transit Model strikes a balance between local and inter-municipal transit needs. The model places a higher degree of accountability on the three largest transit systems in the region to make decisions that balance both local interests with inter-municipal connectivity, integration and optimization. Continued involvement by the Region with this new corporation will provide needed funding and priority setting to ensure inter-municipal connectivity objectives continue to be met.

Municipalities that do not form part of the Consolidated Transit Model (e.g. Grimsby and Port Colborne), have the ability to continue to operate their own local transit service and utilize resources provided by the consolidated governing body (based on a contract arrangement) to partially fund and implement inter-municipal services (Rural Link Routes). This allows local systems to retain local autonomy for local transit decisions while having a continued level of funding support from the Region for inter-municipal service delivery. It also allows each municipality to share costs of various customer-driven improvements that would be unaffordable for a small system (e.g. use of a common dynamic transit app for low demand areas, a common customer call centre, a Region-wide smart card and trip planning tool, etc.).

Table 66 below illustrates the relative increase in annual net operating costs, moving from the existing (2015) Status Quo Model to three alternative models:

- Maintain the Status Quo Model, but with various approved and planned service level improvements, staffing increases and facility expansion (2018 operating year)
- Implement the Consolidated Transit Model (2018 operating year), building on the above noted improvements in the Status Quo Model
- Implement the Regional Transit Model (2018 operating year), building on the above noted improvements in the Status Quo Model.

It is important to note that simply staying with the Status Quo Model will see an increase in the average hourly operating cost and net operating costs over the next few years. The hourly operating cost for each transit system was estimated to increase by 2 percent per year to account for the cost of inflation. Other improvements to a number of transit systems were also included in a revised hourly operating cost including the addition maintenance staff (e.g. the new mechanic in Welland), the need for additional supervisors and planning staff in Welland and St. Catharines, and increased operating costs which come with the planned expansion of the transit garage in St. Catharines. These improvements were already identified as a need by staff and/or local councils outside of any recommendations in this study.

In addition to this, service hours for each system are planned to grow. This includes:

- An additional 4,700 annual service hours by the Region for the introduction of Route 40/45 and to implement the inter-municipal transit service plan within the Consolidated Transit Service Area as recommended in **Section 14.0**;
- An additional 18,180 annual service hours in Niagara Falls to move towards 30 minute peak period service on all of its routes;
- An additional 14,030 annual service hours in St. Catharines to implement a new crosstown route;
- An additional 2,080 annual service hours in Welland to implement Sunday service; and
- Additional service hours for the potential introduction of local service in Pelham, Grimsby, West Lincoln and Lincoln.

The growth in the hourly operating cost and increase in service hours was estimated to see an increase net operating cost from all local and inter-municipal transit systems in the Region from $18,477,000 in 2015[17] to approximately $24,421,900 by 2018. This represents a 34 percent increase in net operating costs across all systems in the region.

The cost of moving to the Consolidated Transit Model was calculated and compared against this 'enhanced' Status Quo Model (using 2018 rates) and the Regional Transit Model. The comparison assumed that the service hours remained constant across for all three models.

The change in cost between the three models is due primarily to a change in hourly operating rates as a result of different governance structures. In the Consolidated Transit Model, the largest increase in cost is the need to standardize wages for transit operators and maintenance staff between all three systems. In the Regional Transit Model, this occurs for all transit systems (including smaller systems in Niagara-

[17] Note: At the time of writing this report, annual 2016 data for all transit systems in the region was not available.

on-the-Lake, Port Colborne, Fort Erie, Pelham and future systems in Grimsby, Lincoln and Grimsby that typically have much lower rates).

Based on this calculation, the move to the Consolidated Transit Model will see approximately $255,000 increase in net operating costs from the 2018 Status Quo Model, shared between all four service providers[18]. This represents a 1 percent increase over the Status Quo Model (2018 rate). In contrast, the move to a Regional Transit Model would likely see a $722,000 increase in annual net operating costs from the 2018 Status Quo Model. This represents a 3 percent increase in net operating costs from the 2018 Status Quo Model.

Table 66: Annual Net Operating Costs by Service Delivery Model

Municipality	Net Operating Costs			
	Status Quo Model (2015 rate)*	**Status Quo Model (2018 rate)**	**Consolidated Transit Model *(2018 rate)***	**Regional Transit Model *(2018 rate)***
Niagara Region	$2,216,000	$3,076,300**	$3,138,400**	$3,143,600**
St. Catharines	$8,831,800	$10,736,400	$10,783,800	$10,913,900
Niagara Falls	$4,409,700	$5,860,200	$5,861,500	$5,869,900
Welland	$1,986,200	$2,534,700	$2,678,600	$2,679,800
Outer Municipalities	$1,033,000	$2,214,300**	$2,214,300**	$2,536,600**
Total	**$18,476,700**	**$24,421,900**	**$24,676,600**	**$25,143,800**

***Note: Net operating cost estimates are based on a high-level estimate and will need to be further refined in the next phase of the move to the Consolidated Transit Model.**

**** Note: For this high-level analysis, the Region's share of rural inter-municipal link routes that connect to outer municipalities was fully allocated to the 'Outer Municipalities' row in the table. A more detailed allotment of net operating costs based on the proposed funding model is included in Table 64.**

Welland Transit would see the largest increase in operating costs with the move to the Consolidated Transit Model, primarily due to its lower hourly operating rate relative to St. Catharines and Niagara Falls. The challenge with this move to consolidation is that the largest increase in net operating cost will go to the municipality in the group with the smallest tax base. If this cost increase is considered onerous by the municipality, it may influence their willingness to join the Consolidated Transit governing body.

As a next step, a decision would need to be made about how the net operating cost increase would be distributed and phased in between each municipality that will form part of the Consolidated Transit governing body.

A phased in approach could be considered where the Region would assist in paying some portion of the base operating cost increase (50 to 100 percent) for a few years to minimize the financial impact of moving to the Consolidated Transit Model. This could be completed over a 3 to 5 year period, gradually

[18] Note: This is based on a high-level analysis and would require a more detailed assessment of operating costs of each system to confirm the average rate increase under the Consolidated Transit Model.

phasing back the increased cost to each local municipality. Ridership and revenue growth that is forecasted to occur with consolidation will help off-set this net operating cost increase noted above.

The distribution of net operating cost increases is a decision that would need to be determined as part of a more detailed negotiation between each municipality involved in implementing the Consolidated Transit Model. This would be completed in the next phase (see **Section 19.0** below).

19.0 Next Steps Towards the Consolidated Transit Model

The move towards the Consolidated Transit Model and implementation of the inter-municipal transit service strategy will require a number of steps. Senior staff need to be intimately involved in the various steps to bring the Consolidated Service Model together. Many of the actions required can occur simultaneously or can be done incrementally depending upon staff resources and funding availability. Some of the major elements of the next steps to consolidate transit services within the major urban areas of Niagara will include the following:

1. **Approve Consolidated Transit Model**

   The move towards a Consolidated Transit Model will first require an agreement and commitment by all municipalities involved to work together and implement this strategic direction. This can be achieved through an approval from each Council or the recommended strategy contained in this report or a signed Memorandum of Understanding between all municipalities that wish to move forward with the Consolidated Transit Model and further develop the implementation plan.

   Consolidation will create a consolidated governing body (e.g. Board or Commission) which includes representation from St. Catharines, Niagara Falls, Welland and Niagara Region to plan and delivery a seamless transit service within the Consolidated Transit Service Area. Decision-making on local transit services will continue to be made by each respective municipality, and presented to the consolidated governing body for inclusion in their annual budget process. The consolidated governing body will also include representation from the other nine municipalities outside of the Consolidated Transit Service Area through a Technical Advisory Committee and through a representative member of the consolidated governing body.

2. **Reach Triple Majority for Region's Involvement in Transit**

   Once a decision has been made to implement the Consolidated Transit Model, the Region's role in the planning and funding of transit services will need to be defined and approved through a triple majority vote. This should occur before the expiry of the inter-municipal transit pilot program in May 2017. Under the Consolidated Transit Model, the Region should be given legislative authority through a transit by-law to:

   - Plan, provide funding and make decisions on inter-municipal transit services that connect two or more municipalities in the region. Local transit services that connect two contiguous urban municipalities (e.g. St. Catharines and Thorold) shall remain within local control).
   - Plan, fund and make decisions with its local municipal partners on transit policy and capital requirements that move towards a more seamless transit service within the region (e.g. implementation of a single Region-wide smart card).

   The exact wording of a transit by-law needs to be further defined and reviewed by independent legal counsel before being brought forward to a triple majority vote. The role of the Region should be phrased in such a way as to allow the Region to continue its role in the planning and

funding of inter-municipal services under the existing Status Quo Model during the transition to a Consolidated Transit Model. This task should be completed by May 2017.

3. **Consolidated Transit Model Implementation Plan**

   There are a number of steps that are still required to implement the Consolidated Transit Model once triple majority is achieved confirming the Region's future involvement in transit services. It is anticipated that it will take approximately one year to identify the various implementation details (e.g. working model and contractual relationship between parties, the framework of the operating model, the voting parameters of the consolidated governing body, the funding arrangement, the dispute resolution mechanism and other contractual aspects) and to implement the new Consolidated Transit Model (e.g. rebrand buses and stop signs). This will include the need to initiate further studies to assess the role of specialized transit, develop a fare structure, etc.

4. **Implement Inter-municipal Transit Service Strategy**

   The implementation of the inter-municipal transit service strategy can occur independently of the Consolidated Transit Model. However, it is recommended that this does not take place until the detailed structure of the consolidated governing body is known. This will help create a more seamless system, identify any local modifications to support the new inter-municipal structure, and create more buy-in for customer service improvements that support a seamless traveller experience (e.g. a common smart card system).

19.1 Phasing of the Consolidated Transit Model Implementation Plan

Once triple majority is achieved confirming the Region's involvement in the Consolidated Transit Model, a number of next steps will need to be initiated to form the new service delivery and governance structure. As mentioned above, this is anticipated to take approximately one year once the process begins. The process of moving to this model can be split into three major phases:

1. Confirm Legal Requirements, Financing and Decision-Making Process
2. Confirm Organizational Structure and Develop a Brand
3. Implementation

While a number of steps can occur concurrently, the following order is recommended.

19.1.1 Phase 1: Confirm Legal Requirements, Financing and Decision-Making (one to three months)

The initial steps required to move towards the Consolidated Transit Model will focus on confirming any legal requirements to form a consolidated corporation (e.g. a Joint Municipal Services Board), attaining an agreement on distribution of assets and operating/capital costs, revenue sharing, representation on the consolidated governing body and developing a decision-making process. The role of specialized transit in the Consolidated Transit Model should also be clearly defined. This will likely involve the assistance from a consulting firm(s). To achieve these outcomes, the following tasks should be initiated in Phase 1:

1. **Form a Joint Municipal Working Group**
   - Establish a Joint Municipal Working Group (similar to the current IMT Working Group), along with several sub-working groups to manage various implementation tasks throughout Phase 1 to Phase 3.

2. **Legal**
   - Undertake the legislative requirements for forming a consolidated corporation and governing body (this may require outside legal counsel if the resources are not available to conduct this in-house). This should include a review of any legislative requirement to complete a business case and consult with the public).
   - Retain legal assistance to investigate the process to transfer assets and liabilities to the new corporation.

3. **Finance**
   - Establish and agree to a budget and funding mechanism for the new corporation (including minimum base-line funding for first year of operation).
   - Confirm method and process for how revenue and other funding is distributed to each municipality to off-set operating and capital costs.
   - It is anticipated that this process could take at least four months to complete and may require that outside assistance be retained from a management consulting or accounting firm to assist staff through this process. The cost of retaining this type of assistance would range between $100,000 and $150,000, depending on the level of involvement of municipal staff.
   - Work with post-secondary institutions and each municipality to equitably distribute U-Pass funding among each of the participating municipalities.

4. **Specialized Transit**
   - Retain a consulting firm to assess the potential to bring local and regional specialized transit services into the Consolidated Transit Model. While this process should begin in the first three months, it is anticipated that the study outcomes will take at least 6-8 months to complete.

19.1.2 Phase 2: Confirm Organizational Structure and Initiate Marketing/Branding Strategy (Month 4-9)

Once the various legal, financing, cost sharing and decision making arrangements have been agreed to, the next step would be to confirm the organizational structure and representation on the consolidated governing body, begin the process of hiring a General Manager and other key management positions, and engaging with transit unions on their role within the new corporation. A communications and marketing plan should also be initiated early in this phase to develop a common brand for transit under this new structure. To achieve these outcomes, the following tasks should be initiated in Phase 2:

1. **Organization**
   - Review organization options (e.g. Board or Commission).

- Identify preferred organizational chart.
- Determine staffing needs within the new corporation.
- Define the consolidated governing body members' appointment and Technical Advisory Board process.
- Identify a location for the new administrative headquarters.

2. **Human Resources**
   - Initiate recruitment and hire a General Manager of transit as well as other key management positions identified in the above organizational chart (could be transfers from positions in the three local transit organizations).
   - Initiate discussions with consolidated transit unions to transfer unionized staff to the new corporation.
   - Reach an agreement on a common wage and benefits structure.

3. **Finance**
   - Investigate and implement Development Charges for the new transit system through an update of each participating municipalities DC bylaw.
   - Select a lead municipality that will represent the corporation in reporting, receiving and distributing Provincial Gas Tax revenue.

4. **Legal**
   - Work with Human Resources to negotiate a new contract with unionized staff.
   - Develop dispute resolution mechanism to be used when agreement cannot be reached with a particular recommended plan.

5. **Communications and Marketing**
   - Retain a marketing firm to develop a common brand and marketing and communications plan for the Consolidated Transit Model. This should include a name and logo for the transit system.

19.1.3 Phase 3: Implementation (Month 10 - 12)

The completion of Phase 2 will have in place an approved governance structure, including a decision-making process, type and representation on the consolidated governing body and new organizational structure and a staffing plan. Phase 3 is focused on the implementation of the Consolidated Transit Model as well as the recommended inter-municipal service strategy. One of the first tasks will be to implement the new brand and develop a common vision for the new corporation. While this can be completed in prior phases, it should be a process that is completed and approved by the identified senior management team and members of the consolidated governing body to ensure buy-in of the big-picture strategy. Additional work will also need to be completed to implement a number of the strategies in the inter-municipal service plan. The phasing of this plan is detailed in **Section 17.1**. To achieve these outcomes, the following tasks should be initiated in Phase 3:

1. **Communications and Marketing**
   - Initiate a communications plan for the new service delivery model, including newsletters, media, etc.).

- Update branding on transit vehicles, bus stops, website, maps and schedules and all other public communications.

2. **Transit Goals, Policies and Service Guidelines**
   - Identify a long-term vision and mandate for the new consolidated governing body (this should be completed and approved by the new consolidated governing body to establish buy-in).
   - Formalize and adopt Service Guidelines for the Consolidated Transit Model as recommended in **Section 13.0** and establish a performance monitoring program.
   - Develop a Business Plan for the new consolidated governing body which brings all components of the corporation together towards a shared vision.

3. **Implement Common Customer Fare and Communication Platforms**
   - Assess the steps and costs necessary to implement integrated telephone and computer systems, including customer service plan. This would likely require the use of an outside consulting service.
   - Conduct a comprehensive fare strategy to agree to a common fare structure (including setting appropriate concession fares and fare media). This should include a review of the proposed Affordable Transit Pass program into the new Consolidated Transit Model.
   - Review and implement the proposed 2023 inter-municipal transit service plan recommended in this report.

Working through each of the three phases, communications and coordination between the groups is critical and can be managed by regular meeting with the Joint Municipal Working Group. As mentioned above, the above process (following establishment of consolidated corporation and governing body) could take at least twelve months to complete. As an example, the Region of Waterloo was able to implement Grand River Transit within 6 months of receiving a triple majority and Council approval to proceed. This timing was very tight but was able to be streamlined as there was a single entity governing the process. The Consolidated Transit Model is somewhat more complex so it is anticipated that additional six months (12 months in total) would be required.

19.2 Summary of Additional Studies and Consulting Fees

There are a number of additional studies that were identified as part of the next steps identified above that should be initiated over the next year. These additional studies can occur simultaneously depending on the availability of staff resources and should have oversight from members of the Joint Municipal Working Group. At the beginning of the process, the Joint Municipal Working Group should determine the extent that a number of tasks identified above can be completed in-house or require outside assistance. The following studies are anticipated with potential costs detailed in **Table 67** (anticipated to be spent in 2017, early 2018):

Organization and Human Resources Consulting Support

Assistance from a management consulting or accounting firm may be required to help work through an effective organizational structure of the consolidated framework and representation on the consolidated governing body. The firm should also help facilitate a decision-making process which is fair and balances inter-municipal goals with local interests, and confirm costs and revenue distribution. This would be a priority step that would begin prior to requesting triple majority and would likely continue

once triple majority is achieved. The recommendations in this report would form the basis for the more detailed review.

Specialized Transit Governance Study

With local transit services and inter-municipal services moving to a Consolidated Transit Model, there should be a similar assessment of how specialized services are integrated. A consulting firm should be retained to conduct a separate study which investigates the potential to bring Niagara Specialized Transit and each local specialized transit service into the new corporation or to a new Regional Transit Model, and how this service should be integrated with conventional transit services in the Consolidated Transit Model. This should occur within a 6 to 9 month time frame.

Legal Fees

A placeholder of $50,000 to $100,000 is provided to retain outside legal counsel. This may be preferred to ensure an unbiased opinion. A lawyer would need to be in place to work out issues such as transfer of assets (both prior to and after triple majority is achieved). If the work is done internally, there would be no need for an external cost.

Branding and Marketing Strategy

A marketing and branding specialist would need to be retained to develop a brand and communications strategy for the Consolidated Transit Model. This would involve developing a name, logo and colour theme for the new consolidated framework and establishing a marketing and communications strategy to promote the new framework. It is estimated that the consulting fee would be in the order of $60,000 to $100,000, depending on the level of market research that needs to be conducted.

Telephone and Computer Systems Integration Study

A consultant should be retained to conduct a more detailed review of the existing systems and their capabilities. The goal is to establish a single telephone and computer system for customer service, as well as for scheduling and dispatching of conventional and potentially specialized transit services. It is anticipated that the cost of this would range between $50,000 and $75,000. This cost could be minimized if internal IT staff is able to complete this task.

Five Year Transit Business Plan

A Five-year Business Plan should be developed for the consolidated governing body that establishes the vision for transit services, goals and objectives that work towards the vision, as well as key strategies that identify how each of the components of the transit business in each municipality can move towards the Consolidated Transit Model. This would involve retaining an outside consultant to work through the process over an 8 – 10 month period.

Transit Fare Strategy

A more detailed fare strategy should be conducted which will recommend a fare structure based on the hybrid fare strategy. This will be somewhat dependent on the timing of the implementation of a common smart card and discussions with Brock University and Niagara College on the potential to extend U-Pass services to other areas of the region. The development of a fare structure should include common concessions (e.g. Adult, student pass and cash fare), transfer policies and a common affordable pass strategy. This could further examine and incorporate the Affordable Transit Pass program for assisted income or low income residents that was proposed by the Region and has been deferred for further review. An outside consultant could be retained to undertake this work, which may take 6-8 months to complete.

Development Charges Study

A Development Charges (DC) study is recommended to determine the extent of transit capital expenses that are DC eligible. This should include potential expansion of both local and inter-municipal transit services within the Consolidated Transit Service Area. Consulting assistance for this type of work is typically completed in conjunction with other capital works (e.g. roads, utilities), however, can be completed as an update for simply transit services. This is anticipated to take 8-12 months to complete.

Table 67: Estimated One-Time Costs to for Further Studies and Reviews

Item	Cost
Organization and Human Resources Consulting Support	$100,000 - $150,000
Specialized Transit Study	$50,000 - $75,000
Legal Fees	$50,000 - $100,000
Branding, Marketing and Communications Strategy	$60,000 - $100,000
Telephone and Computer Systems Integration Study	$50,000 - $75,000
Five-year Business Plan	$60,000 - $100,000
Fare Structure Plan	$50,000 - $75,000
Development Charges Review	$30,000 - $40,000
TOTAL	**$450,000 - $740,000**

The above noted study costs would need to be distributed to each participating municipality based on an agreed upon formula. This could be based on existing population or hours of revenue transit service provided by each municipality. There is also a potential to reduce these need for a number of these study costs based on the availability of staff resources to complete some of this work in-house. Federal or Provincial grants or other funding sources could also be sought where available to reduce costs.

19.3 One-time Implementation Fees

There would also be a one-time cost associated with Phase 3 of the implementation plan noted above. This includes bus restriping, bus stop replacement (with new brand), website development, new map and schedule production, integration of telephone and computer systems, etc. This cost is anticipated to be in the range of $950,000 to $1.3M (including additional costs not identified below). These costs may be reduced by phasing in the introduction of the new brand.

Table 67 provides a summary of potential one-time implementation costs to move towards the Consolidated Transit Model.

The assumptions below provide some context to the above costs.

1. **Bus Restriping.** There are approximately 131 buses within the consolidated service area (inter-municipal and local). For costing purposes, it was assumed that approximately 100 of the buses would need restriping, while ones that are nearing the end of their life would not need to be restriped. A unit cost of $5,000 per bus was assumed for restriping to the new brand. Phasing

this in could reduce the cost (e.g. paint the new logo on existing buses and only paint new buses with new brand).

2. **Bus Stop Replacement.** The Region provides the bus stop signs for approximately $25 per stop. If they are installed on the same posts, labour costs would be minimal. To be conservative, a $75 per sign unit rate was used to estimate bus stop replacement to the new brand (including labour). It was assumed that approximately 1,920 bus stops would need to be replaced.
3. **Website and Map, Schedule.** A new website would need to be developed for the Consolidated Transit Model reflecting all transit services within and connected to the consolidated service area. The cost of the website would depend on the functionality that is desired by the new consolidated governing body. It is estimated that the cost for a new website would be approximately $50,000 and the cost for map and schedule production would be approximately $10,000.

Table 68: One-time Implementation Costs

Item	# of Units	Unit Cost	Total Cost
Bus Restriping	100	$5,000	$500,000
Bus Stop Replacement	1,920	$75	$144,000
Website Development	1	$50,000	$50,000
Map and Schedule Production	1	$10,000	$10,000
TOTAL			**$704,000**

The above noted implementation costs would need to be distributed to each participating municipality based on an agreed upon formula. This could be based on existing population, hours of revenue transit service or existing capital (e.g. each municipality could be responsible for restriping the buses they currently own).

19.4 Potential Phasing Prior to Forming a Consolidated Transit Model

The move towards the Consolidated Transit Model can also be phased in over time and does not need to occur at once. As identified above, one of the first primary steps would be to formalize the Region's involvement in the establishment, operation and delivery of transit services through a triple majority vote. For this to occur, the Region's role would need to be clearly defined based on the Consolidated Transit Model identified above.

If triple majority is achieved, there are a number of steps each of the participating transit systems can take in the short-term to better integrate services before formalizing an agreement to form a consolidated governing body. Once the Joint Municipal Working Group is formed and each participating municipality has agreed to consolidate their transit services, a sub-working group (Transit Integration Working Group) can be formed to focus on implementation of various strategies identified in this plan that would improve integration of local and inter-municipal transit services. This sub-working group would include representatives from each participating municipality as well as potentiation representation from municipalities outside of the proposed consolidated governing body that are interested in better integrating their local services and Rural Link Routes to the Consolidated Transit Service Area.

This sub-working group would meet on a regular basis and could push forward with a number of initiatives, including:

1. Seek approval of the common Service Guidelines document noted in **Section 13.0** of this report to move towards a common standard in service design and performance measures and monitoring.
2. Work internally or hire a consulting firm to develop an Integrated Transit Business Plan to establish a common vision, goals and objectives for transit services within the Consolidated Transit Service Area.
3. Develop a centralized customer call centre that would provide transit customers within each participating municipality one number to call to obtain answers to any transit-related question within each participating municipality. In-person staff at terminals would still be required and would need to be knowledgeable about transit in the entire Region. Municipalities outside of the Consolidated Transit Service Area could also participate. Participating municipalities would pay a portion of staff costs based on the size of their system.
4. Establish a common website and trip planning tool for passenger information on all transit systems within the Consolidated Transit Service Area. Other municipalities outside this area would also be encouraged to participate. This would require the need for a dedicated IT staff member to manage and update all transit information onto one website, including important notices and updates to routes, fares, etc.
5. Identify a common brand that should be used for all participating transit systems (e.g. Niagara Transit). This would involve working with a marketing and branding firm to develop a brand and marketing/communications strategy (identified above) and phasing in the new brand on vehicles, bus stops and maps, schedules and other communication tools.
6. Work towards selecting a common smart card platform based on the three alternatives identified in **Section 16.3**.
7. Identify a process to ensure all GTFS data is collected by each participating transit agency on a regular basis and fed into various trip planning tools identified in **Section 15.0**.
8. Agree to a common fare strategy, including base local fares, transfer policies and fare integration strategies between all participating systems.
9. Identify opportunities to implement the recommended inter-municipal transit service strategy identified in **Section 14.0** of this report.

While a number of initiatives identified above can be implemented under the existing Status Quo Model, others will be more difficult and will need to be phased in once the Consolidated Transit Model is in place.

20.0 Summary

Inter-municipal transit services have been in place in Niagara Region since the 1990s, with an initial focus on post-secondary trips; and expanding to various trip purposes with the introduction of the Niagara Region Transit pilot in September 2011.

While ridership on the Niagara Region Transit pilot service has not reached the levels initially projected, ridership has been growing every year, as has public acceptance of the service. This includes a growing recognition of the importance of inter-municipality connectivity in the Region to support:

- access to education, employment and medical and other services;
- mobility options to future GO Train service in Niagara (reducing local congestion near GO stations);
- economic development by businesses that are seeking a connected workforce;
- a high quality of life for Niagara residents; and
- sustainable community development.

With the existing pilot for Niagara Region's involvement in conventional transit set to expire in May 2017, a decision needs to be made regarding the structure and delivery of inter-municipal transit services, including how inter-municipal transit is integrated with local transit in the region.

With this objective in mind, the above study provides recommendation on the future of transit within Niagara Region, with a focus on:

- How transit systems within the region are delivered, governed and work together to provide for a seamless travel experience for Niagara residents;
- How the inter-municipal service should expand and be optimized to meet a growing demand for travel between local municipalities in Niagara; and
- How customers use the system, including the development of an integrated fare strategy and trip planning capabilities.

A Consolidated Transit Model is recommended to better integrate the region and the three largest local transit operators (St. Catharines, Niagara Falls and Welland), and provide enhanced connections to municipalities outside the Consolidated Transit Service Area. The move to a more consolidated network is not a decision that is made to reduce operating costs (as experienced in York Region, Durham Region and Waterloo Region); rather, it is a decision that is made to enhance transit services within a Region, improving the ability to make cross-boundary trips and create a more seamless network. These decisions are made with an understanding that transit forms an important solution to achieve broader quality of life and economic development goals of both the region and each of the local municipalities it represents.

The Consolidated Transit Model strikes a balance between local and inter-municipal transit needs. Approximately 80 percent of existing transit trips in Niagara Region are local in nature and the recommended model allows for a greater focus on local needs than the Regional Transit Model. The model also places a higher degree of accountability on the three largest transit systems in the region (where 98 percent of all transit trips take place) to make decisions that balance both local interests with inter-municipal connectivity, integration and optimization. Continued involvement by the Region within this new corporation will provide needed funding and decision-making input to ensure inter-municipal connectivity objectives continue to be met. As the Consolidated Transit Model is implemented and evolves over time, this may lead to a transition to a Regional Transit Model in the future.

While a lot of work has been done by the Region and each local transit operator to integrate local and inter-municipal services and fares, the potential for enhanced integration and route optimization is greater under the Consolidated Transit Model. The seven-year inter-municipal service plan recommended in this report is based on a strategy to optimize existing inter-municipal transit services and improve service levels by reducing duplication between existing Niagara Region Transit and U-Pass funded post-secondary services within the Consolidated Transit Service Area. The optimization of these routes results in the ability to increase peak period service frequency (every 30 minutes), extend evening service and introduce Sunday service on a number of routes without a significant increase in revenue service hours. Route changes are also recommended to improve connections to the new GO Train stations, enhance service levels on routes connecting to Port Colborne and Fort Erie and implement new inter-municipal connections to various municipalities. An integrated fare strategy which includes a common smart card will also provide seamless mobility throughout the region.

Implementation of this plan should occur with the Consolidated Transit Model. This will require a number of additional steps, including confirmation of the Region's future involvement in the establishment, operations and maintenance of conventional transit services through a triple majority vote. Before this can occur, a more detailed review of how the detailed operating costs, capital assets and funding sources from each participating municipality would need to be completed, along with a general agreement on how the system-wide investment will be distributed between each partner municipality.

If a triple majority vote for the Region's involvement in the Consolidated Transit Model is achieved, there are also additional steps required in the process, including the extension of the pilot program for at least a year to allow the details of implementing the Consolidated Transit Model to be developed. Taking the time to work through these details will be important in the success of the recommended plan, including the implementation of the inter-municipal transit strategy and integrated fare strategy. This could involve the implementation of several interim steps (e.g. move to a common customer call centre or consolidated service guidelines document) to improve coordination between each transit system and create a more seamless experience for the customer.

This will result in a plan for both transit service delivery/governance and the route structure and fare strategy that meets the guiding principles of an effective inter-municipal transit system that is:

- Customer Driven;
- Has the ability to Implement Unconventional Solutions;
- Integrated;
- Economically Responsible; and
- Fair.

Appendix A

Legal Review of Niagara Region's Role in Public Transit

SULLIVAN MAHONEY LLP
LAWYERS

December 23, 2016

Reply to St. Catharines Office
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Dear Mr. Todd and Mr. Dilwaria:

Re: Niagara Transit Service and Governance Study- Input into Terms of Reference
Our File No. 110024

On behalf of the Inter-Municipal Transit Working Group, and with the assistance of Dillon Consulting, you have asked us to review the law in relation to the operation of a regional transit service within the Region of Niagara ("Region"). In connection with such request, you have provided a series of questions that you seek to have answered. Our opinion, and answers to those questions, are set out below.

Authority to establish, operate and maintain a passenger transportation system

It is our view that the Region, on its own, does not have the authority to establish, operate and maintain a passenger transportation system within the Niagara Region. However, there is a possibility that such authority could be uploaded to the Region under certain prescribed conditions as set out below.

In section 11 of the *Municipal Act, 2001* (the "Act"), both upper and lower tiered municipalities have been granted relatively broad and general authority to provide any service or thing that is deemed by the municipality to be necessary and desirable for its constituents. Specific to transit, subsection 11(3) para. 2 of the Act allows municipalities to pass by-laws, with some limitation, relating to "Transportation Systems, other than highways". However, that broad authority has limitations regulated under subsection 11(4) of the Act.

Subsection 11(4) of the Act reads that if a sphere or part of a sphere of jurisdiction is not assigned to an upper-tier municipality as set out in the table found within subsection 11, the upper-tier municipality does not have the power to pass by-laws under that sphere and does not have the power to pass by-laws pursuant to the broad and general authority granted in the Act. In the case of transit, exclusive jurisdiction is granted to the lower-tiered municipalities, with the specific exception in the regions of Waterloo and York.

On that basis, the Region does not have the authority to pass by-laws in relation to transit and any attempt to do so could be deemed *ultra vires*.

You have asked about the different components of the Region's involvement with the local transit file, and what might be considered an act that could be seen as a breach of the delegation provisions found in the Act. With respect to the Region providing funding to lower tier municipalities to operate transit, it is our view that if that funding is unconditional then it falls within the general granting authority found in section 107 of the Act. However, if there is conditional funding, such that the Region is provided the right to be involved in operational aspects of the provision of transit, then that might be considered "operating" under the Act and not something the Region is able to do.

Similarly, in our view, if the Region is involved in making operational decisions (i.e. determining or approving routes, giving direction etc.), then that would be considered a breach. On the contrary, if there is simply consultation with the Region and the ultimate decision remains with a lower tier transit authority, then we do not feel that is a breach of the delegation provided in the Act.

Authority to Upload Jurisdiction to "establish, operate and maintain" a passenger transportation system

Notwithstanding the above, there is an opportunity for the Region to pass a by-law uploading the jurisdiction to "establish, operate and maintain" a passenger transportation system. Pursuant to section 189 of the Act, an upper tier municipality may pass a by-law to provide for the transfer of all or part of a "lower tier power" to the upper-tier municipality. This transfer could be from one or more of its lower-tier municipalities which are specified in the by-law. We note that the definition of "lower tier power" in section 188 of the Act specifically includes "public transportation systems, other than highways". The by-law can and should also address transitional matters to facilitate the assumption of the lower-tier power.

The authority to upload a lower-tier power to the upper tier is conditional upon obtaining a triple majority. In particular, the uploading by-law cannot come into force unless the following three conditions are met:

(a) a majority of all votes on the council of the upper-tier municipality are cast in its favour;

(b) a majority of the councils of all the lower-tier municipalities forming part of the upper-tier municipality for municipal purposes have passed resolutions giving their consent to the by-law; and

(c) the total number of electors in the lower-tier municipalities that have passed resolutions under clause (b) form a majority of all the electors in the upper-tier municipality.

Accordingly, the by-law would have to be passed by the Region with majority support. The local municipalities would then have to consider and pass resolutions consenting to that by-law as required under the Act. On that basis, the by-law should clearly set out what is being uploaded to the Region. It is conceivable that the by-law could include the permission for the Region to be involved in the operational aspects of whichever system is adopted. Moreover, a by-law may refer to only a partial uploading to the Region. For instance, the by-law passed by the Region could only include the operation of a transit system between local municipalities, whereas the operation of a transit system within the lower tier municipality would remain with that lower tier municipality. As another example, the by-law passed could include the authority to operate between local municipalities and within municipalities that do not have large sized transit authorities. Either way, each option would require a clear by-law for consideration under the triple majority process.

We are aware of one other circumstance in the Province of Ontario where public transportation was uploaded from the lower-tier municipality to the upper-tier municipality. In the Region of Durham, the operation of a public transportation system was uploaded to the Region.

On the basis of the above, it is our view that the Region does not have the jurisdiction to establish, operate and maintain a public transportation system. However, such jurisdiction could be uploaded to the Region based on the conditions referenced above.

The only other alternative is that the Region seek an amendment to the Act to allow for it to have part of the sphere assigned to it in section 11 of the Act, similar to what is permitted in Waterloo and York regions.

For the purpose of discussion, we have considered the term “establish” to mean the creation of a transit system. The term "operate" includes, with respect to a transit service, any act necessary for the managing of the transit service or the operation of a bus. While very similar, “maintain” would include the ongoing function of keeping the transit system active.

Questions Posed by Dillon Consulting

Based on the foundation set out above, we wish to provide our opinions on the question posed by Dillon Consulting Limited and McNeil Management Services in their memo dated November 27, 2016.

Municipal Act Triple Majority Approval

Question #1
Does the level of involvement of Niagara Region, as described in each of the options, result in Niagara Region breaching the limitations in the Act that prevents it from establishing, operating and maintaining a public transaction system and requiring triple majority approval?

In considering each of the three delivery and government options set out on page 1 of the Memo, we offer the following:

(a) Status Quo- In our view, if the local transit is operating and maintaining the transit system, without the direct involvement of the Region, then this is an acceptable form of transportation system in the Region. In this scenario, the Region clearly has not established its own Regional transit commission. While the Region is involved in the funding of some buses, it should not be involved in the daily operation and maintenance of the bus system. Once the Region becomes involved in operational decisions, such actions would likely be seen as outside of the jurisdiction of the Region. We understand that the cost of eight buses was provided to the local transit commissions by the Region, but that the local transit commissions maintain the independent decisions in relation to how the service is provided. If the Region has no influence on the daily operation aspect of how the buses are run, then we don't believe the limitations set out in the Act are offended.

(b) Municipal Services Board or Corporation- similar to the "status quo" option, if the consolidated transit board or commission is established between the lower-tier municipalities, and the jurisdiction to conduct the daily operations is continued by the lower-tier municipalities, then we do not believe this offends the Act either. However, in such case, the Region could not form part of the board/corporation since it not permitted to "operate and maintain" a transit system. Even if the Region was not part of the establishment of the board/corporation, it could not include involvement in the operation of the transit system. While the lower-tier municipalities may have some routes that connect to other lower-tier municipalities, as long as this is done by the local transit commission, then this is acceptable.

(c) Regional Transit- based on our opinion set out above, the Region does not have the jurisdiction to pass by-laws relating to transit. Consequently, the Region could not establish regional transit without properly uploading the service as required under the Act.

Question #2(a)
Does a model involving Niagara Region's financial commitment to partially or fully fund an inter-municipal transit system (that by its nature is intended to be long term or permanent) through contractual arrangements with local transit providers or a Municipal Services Board (with no Regional representation on the Board) constitute establishing, operating or maintaining a public transportation system?

We have reviewed the significance of the Region's financial commitment to the transit system run by the local tier municipalities. While we could not find any direct caselaw on this point, it is likely that an arrangement where the Region provided funding to the lower tier municipal transit fits within the permissible limits of section 107 of the Act. In our view, by virtue of the power to issue grants under section 107 of the Act, the Region is permitted to provide funding to the transit system operated by the lower-tier municipalities. The funding alone, is likely not sufficient to constitute "establishing, operating or maintaining" a public transportation system. As stated above, the Region could not be involved in the operation of the transit service, including sitting on a municipal service board/corporation.

Question 2(b)
If the answer to question 2a. is no, does the fact that Niagara Region is not involved in the operation of the public transportation system permit Niagara Region to provide funding and be represented on a Transit Municipal Services Board without exceeding its authority as established by Section 11 of the Act? Does a model involving Niagara Region's financial commitment and having representation on a Municipal Services Board formed to provide public transportation constitute establishing, operating or maintaining a public transportation system?

As stated above, funding is not sufficient to reach the level of "establishing, operating or maintaining" a public transportation system. However, having representation on a transit municipal services board or corporation would then mean that the Region would be involved in the management of the transit system, and therefore it could be considered "operating or maintaining" a public transportation system.

Question 2(c)
If the answer to question 2b. is yes, is there any guidance you can provide as to limits to be placed on such funding including specific limits on involvement in the:

i. *Evaluation of the system operated by the local municipalities;*
ii. *The authorizing of transit routes.*

In terms of limits, the Region should not be involved in the operation of the transit system. However, if the local transit commission sought advice on things such as the evaluation of the system operated by the local municipalities or the authorization of transit routes, but the lower-tier transit body maintained their independence in making decisions, then consulting with the Region might be acceptable.

Question 2(d)
What, if any, impact does Section 107 of the Act with respect to the giving of grants have on your opinions?

Similar to what is stated above, it is likely that a funding arrangement where the Region provided funding to the lower-tier municipal transit fits within the permissible limits of section 107 of the Act. Firstly, we believe that any arrangement provided by the Region to its lower-tier municipalities for a service such as regional transit would not offend the bonusing restrictions under section 106 of the Act. Moreover, section 107 states that despite any provision of the Act or any other Act relating to the giving of grants or aid by a municipality, a municipality may make grants, on such terms as to security and otherwise as the council considers appropriate, to any person, group or body, including a fund, for any purpose that council considers to be in the interests of the municipality. If Regional Council determines that the giving of the grant in these circumstances is in the interests of the Region, then a grant would be available under section 107 of the Act.

Question 3
If it's your opinion that one or more of the options involving some participation by Niagara Region can or ay be permissible under the Act, what are the potential consequences of reliance on that opinion if a court ultimately rules that such involvement is not within the powers of Niagara Region? Specifically, what is the effect of past actions and what would the effect be going forward on, for example, contracts between the Region and the municipalities for the provision of funding?

If a Court determined that the involvement of the Region in any way breached the jurisdiction granted under section 11 of the Act, any contractual arrangement would likely be considered void for being illegal. While it might be difficult to determine how the losses might lie between the parties, the contracts would no longer be enforceable. Regardless of past actions, the acts deemed by the Court to be ultra vires would have to cease immediately. If there remains uncertainty as to exactly what the Region is permitted to do, an Application to the Ontario Superior Court of Justice is available seeking an interpretation of the provisions of the Act. Essentially, the applicant would be seeking the Court's interpretation of the Act and would provide an Order detailing exactly what is permissible.

Question 4

If the local municipalities proceed with an option that requires a transfer of powers from the local municipalities to Niagara Region pursuant to Section 189, can that transfer be limited in a very specific manner to permit only the jurisdiction to carry out the specific duties and responsibilities contemplated by the selected option? Specifically, can the transfer of powers be limited strictly to funding, approval of routes, schedules and extent of inter-municipal transit and auditing of the inter-municipal operation of the overall transit system?

Subsection 189(1) of the Act allows the transfer of all or part of a lower-tier power to the Region. Moreover, the transfer of a power does not have to be from all of its lower-tier municipalities. With the use of the term "all or part", the transfer could be limited in a specific manner to carry out detailed duties and responsibilities. Since the transfer of power can be scoped, things such as, *inter alia*, the approval of routes and the extent of inter-municipal transit could be transferred to the Region without a transfer of all powers held by the lower-tier municipality.

Question 5

Can the transit bylaw be framed in such a way that a second triple majority would not be required if there is a future decision to move from either Status Quo or a Municipal Services Board to a Region of Niagara operated system?

Any by-law that is passed by the upper-tier municipality to assume all or part of the lower-tier power must be very specific in what is being proposed and exactly what is being transferred to the Region. Any by-law that is uncertain could be challenged as being void for uncertainty or void for vagueness. There is also caselaw under this section which states that the consent given by the councils of the lower-tier municipalities cannot be conditional. Any such conditional consent would be considered defective. From a practical perspective, an open ended by-law might be more difficult to garner support from the local municipal councils.

Municipal Service Board/Corporation

Municipalities have the authority to establish both municipal service boards (section 196) and municipal service corporations (section 203) with the same effect.

In terms of a municipal service board, a municipality may give and delegate to such board the control and management of such services and activities of the municipality as the municipality considers appropriate. Two or more municipalities may enter into agreements to establish joint municipal service boards.

With respect to municipal service corporations, a municipality may establish a corporation by itself, or with one or more municipalities, to provide a system, service or thing that the municipality itself could provide. In both circumstances, a municipality could create one of these entities to provide a public transportation system.

In terms of the requirements to establish municipal service corporations, we cannot comment on what details are required to create a business case study or asset transfer policy other than the fact that they are necessary. It may be advisable to contact the Region of Durham to investigate what steps were taken in those circumstances, if any, or any consulting service retained by the group.

In terms of the requirement for public participation, it is advisable that the municipality creating the municipal service corporation should have at least one public meeting before its municipal Council. Since there are no requirements prescribed under Act, we feel that a public meeting before Council would be the minimum requirement and any other meetings (i.e. Open House etc.) are at the discretion of the municipality.

We trust you find this to be satisfactory and would be happy to answer any further questions you might have.

Yours very truly,

SULLIVAN, MAHONEY LLP
Per:

Thomas A. Richardson, C.S.

J. Patrick Maloney

TAR:JPM:sm

Appendix B

Detailed Evaluation of Service Delivery and Governance Structure

Table A1: Detailed Evaluation of Service Delivery Options

Principle	Measure	Option 1: Status Quo Model	Option 2: Consolidation Transit Model	Option 3: Regional Transit Model
CUSTOMER DRIVEN	Ability to continuously improve rider experience and understand customer needs	**MEDIUM** There has been considerable work completed between the three transit agencies and the Region to improve customer service for inter-municipal services (e.g. fare and service integration). While this has been positive, improvements will only go so far with different budgets and service mandates that are in place with four separate transit service providers. This may result in a different customer experience as a passenger travels from one municipality to another (e.g. ability to use smart card in one municipality but not another).	**MEDIUM-HIGH** Provides an opportunity to provide a consistent customer mandate or customer charter for trips within all four municipalities within the consolidated service area. For inter-municipal connections to municipalities outside of the consolidated service area, this same customer mandate would be in place if service is contracted to the consolidated system. Local services outside of the consolidated system may not be subject to the same customer charter, if the Region contributes funding. It should be noted that this only negatively impacts approximately 1-2 percent of all existing transit passengers in the Region.	**HIGH** Provides an opportunity to provide a consistent customer mandate or customer charter for trips within all municipalities within Niagara Region.
	Ability to create a culture of customer service among transit employees	**LOW- MEDIUM** Within each system, a high level of customer service is possible, but there is limited consistency of customer service across systems within Niagara. Every system has their own mandate.	**HIGH** With one consolidated system serving over 98% of transit trips in the region, a high level of customer service is expected through consistent training and hiring practices which meets or exceeds the highest standard of any of the individual systems within the consolidated network.	**MEDIUM-HIGH** With one regional system, a high level of customer service is expected through consistent training and hiring practices which meets or exceeds the highest standard of any of the individual systems within the consolidated network. Smaller municipalities in the region may perceive this as providing worse level of customer service as drivers and customer call centre staff may not be from the local area. However, this only represents 1-2% of existing passengers.
	Provides service to areas outside of the traditional transit service area within Niagara	**LOW** Expansion of service outside the existing transit area based on a request by local municipality, as well as a business case assessment of ridership and cost. Service expansion is more ad hoc. Funding support from the Region can be continued under this model.	**MEDIUM** Expansion of service outside the consolidated area based on requests for service from a local municipality outside the Consolidated Transit System. Funding support from the Region can be continued under this model. These services can also share the resources of the consolidated network to improve service for customers (e.g. consolidated customer call centre, dynamic transit mobile app, smart card, etc.).	**HIGH** Region would have a stronger mandate to extend service outside the traditional service area. While a Business Case approach could be applied, there would be a stronger likelihood of future connections being made with a very lower cost recovery.
	Respects the importance of local services and responsiveness to local service requests	**HIGH** Local operators strongly respect local services.	**HIGH** Because the new transit corporation is based upon a consolidation of three local systems, respect for local services will continue, especially as the primary source of funding comes from the St. Catharines, Thorold, Niagara Falls and Welland. Transit systems outside of the Consolidated service area are also more autonomous.	**MEDIUM** Although Regional systems respect local service needs, they have the over-riding needs of the greater community to consider. Subsistent local services could be removed if larger inter-municipal needs over-rule funding or asset ability.

Principle	Measure	Option 1: Status Quo Model	Option 2: Consolidation Transit Model	Option 3: Regional Transit Model
	Improves service to Post Secondary educations institutions	**MEDIUM** Existing local transit agencies provide a good level of service to post-secondary institutions, however, there is limited room for improvement under existing U-Pass budgets (included limited service during evenings, weekends and during the summer period). There are greater challenges in integrating Niagara Region Transit routes with post-secondary shuttles to allow for expansion of service during low-demand periods. Difficultly negotiating a U-Pass price for improved service levels as student union has more negotiating power between the various different systems.	**MEDIUM- HIGH** Stronger ability to integrate post-secondary routes and inter-municipal transit routes, using efficiencies gained to improve service levels to post-secondary institutions during all periods of the day, week and year. Outside of the service area, it would be provided if the various educational institutions agreed to pay for the extended inter-municipal service. However, this only represents a small portion of total ridership. Greater ability for Consolidated Transit Model to negotiate a U-Pass price to improve service levels to post-secondary institutions.	**HIGH** Greater ability to integrate post-secondary routes and inter-municipal transit routes, using efficiencies gained to improve service levels to post-secondary institutions during all periods of the day, week and year. Students that reside in some of the smaller municipalities in the region would have improved transit access to both post-secondary institutions. Greater ability for the regional system to negotiate a U-Pass price to improve service levels to post-secondary institutions.
INTEGRATED: URBAN OR RURAL	Delivers seamless inter-municipal and local transit system with less transfers to key destinations (work, school, healthcare and recreation)	**LOW** Contracted inter-municipal services are provided with seamless connections. However, in areas where two of the existing transit services meet, transfers from one system to another for the inter-municipal trip could be necessary even if a relatively large demand existed for through service.	**MEDIUM-HIGH** Inter-municipal services within the service area of the existing local transit systems would be provided with seamless connections. For external inter-municipal service trips, a relatively robust inter-municipal service beyond the consolidated area could be provided assuming there is a demand and a willingness for local or Regional funding to occur.	**HIGH** Full integration between inter-municipal and local services that are not planned based on municipal boundaries. The inter-municipal services would be expanded as necessary under a Regional Transit Model.
	Provides an integrated and standardized fare structure, reduced complexity of customer service in dealing with Call Centres, trip planning and fare systems (smart cards, etc.)	**LOW** Local fare structures and multiple call centres would continue. Challenge implementing a common smart card, trip planning tool (requires timely input of GTFS data from all transit providers), and customer call centre.	**MEDIUM-HIGH** A consistent fare structure and a single call centre would be provided within the major urban area of Niagara. This could also cover areas where contracted services are provided. Easier to implement a common smart card system and trip planning tool. Local transit services outside the consolidated service may choose to have their own fare payment, customer call centre, etc., which reduces integration of inter-municipal trips.	**HIGH** A consistent fare structure and a single call centre would be provided. Easier to implement a common smart card system and trip planning tool.
	Supports the GO Train service to Niagara	**LOW** Local services to St. Catharines and Niagara Falls GO would be provided, but special contracts would have to be developed for serving Grimsby GO.	**MEDIUM** More services to St. Catharines and Niagara Falls GO would be provided, but special contracts would have to be developed for services to Grimsby GO.	**HIGH** Local and municipal services to all GO stations would be provided, as part of the Regional Transit Model.

Principle	Measure	Option 1: Status Quo Model	Option 2: Consolidation Transit Model	Option 3: Regional Transit Model
ECONOMICALLY RESPONSIBLE	Operating Cost Implications	**HIGH** The base case would see an 8.5% increase in the average hourly operating costs between 2015 and 2018 due primarily to staffing increases required to implement a number of the recommendations in the plan. Additional revenue gained from the optimization of inter-municipal routes may not materialize in this model.	**MEDIUM** The Consolidated Transit Model would likely see a 9.5% increase in the average hourly operating costs between 2015 and 2018 due primarily to additional staffing increases as well as higher wages. This would result in approximately a $254,700 annual increase in net operating cost for the entire system from the Status Quo Model (due to higher salaries and greater investment in technology and infrastructure). The ability to optimize transit routes and invest in various improvements to the system (e.g. smart card) is greater in the Consolidated Transit Model over the Status Quo Model. This would likely off-set this annual net operating cost increase over time.	**MEDIUM - LOW** The Regional Transit Model would likely see an 11.2% increase in the average hourly operating costs due primarily to additional staffing increases as well as higher wages. This would result in approximately a $721,900 annual increase in net operating cost for the entire system (both local and inter-municipal services). The ability to optimize transit routes and invest in various improvements to the system (e.g. smart card) is greater in the Consolidated Transit Model over the Status Quo Model. This would likely off-set some of this annual net operating cost increase over time.
	Reduces number of staff required to operate transit within the region	**HIGH** Services are being provided with very limited staff and operating budgets.	**MEDIUM** With good management, services will be provided with an efficient labour pool. There may be some efficiency with “stand-by driver needs, but this could be offset by a larger administrative need to meet a higher expectation for customer service and improved service levels.	**MEDIUM - LOW** With good management, services will be provided with an efficient labour pool. There may be some efficiency with “stand-by” driver needs, but this could be offset by a larger administrative need to meet a higher expectation for customer service and improved service levels. Additional staff would be required to provide services into areas with low demand but desired as they are part of the region.
	Reduces the likelihood of duplication of local services and inter-municipal services or between post-secondary services and inter-municipal services	**LOW** Local needs, inter-municipal needs and post-secondary needs are viewed and planned independently. Greater difficultly integrating services due to distribution of costs and revenue between each system. This will limit ridership growth and thus revenue in the system.	**HIGH** Local needs, inter-municipal needs and post-secondary needs are viewed and planned together to reduce duplication of services.	**HIGH** Local needs, inter-municipal needs and post-secondary needs are viewed and planned together to reduce duplication of services.
	Easier to provide unconventional transit solutions and technology for a more cost-effective inter-municipal solutions	**LOW** Limited resources restrict the ability to look at alternative technology solutions for services outside of the local systems traditional area.	**MEDIUM - HIGH** A broader scope allows alternative technology solutions to be explored for services within and outside of the local systems traditional area. However, as budget approvals are required from all three municipalities, and possibly the Region, resources may still be restricted.	**HIGH** A broader scope allows alternative technology solutions to be explored for services. As costs are within the regional framework, they get approved as part of the Budget approval process as long as they are consistent with the mandate and vision of the Region.

Principle	Measure	Option 1: Status Quo Model	Option 2: Consolidation Transit Model	Option 3: Regional Transit Model
	Provide advantages for accessing capital funding from more senior levels of government	**LOW** Capital funding requests to the Province and Federal Government tend to maximize the benefits across the largest population base. Individual systems within Niagara Region will have less of a voice compared to Option 2 or 3.	**MEDIUM-HIGH** Capital funding requests to the Province and Federal Government tend to maximize the benefits across the largest population base. Most of the population of Niagara is serviced by the three large transit systems.	**HIGH** Capital funding requests to the Province and Federal Government tend to maximize the benefits across the largest population base. Represent 100 percent of the population within the region (providing a stronger voice).
	Increase Provincial Gas Tax revenue collected	**MEDIUM-HIGH** Gas tax funding stays at the current level. An inter-municipal trip that includes transfers to two local transit systems is counted as three trips (one per operator) when calculating gas tax allocation. This increases overall gas tax funding (in total). However, ridership growth is limited in this option, which will reduce potential future gas tax allocation.	**HIGH** Inter-municipal trips within the Consolidated network will only be counted as one trip when made within the Consolidated service area. Inter-municipal trips beyond the transit service area would be considered as an individual trip. This is only expected to reduce the number of reported rides for the purpose of receiving gas tax revenues by 5 percent, which is minimal. Increased ridership growth as a result of a more integrated network should off-set this minor reduction.	**MEDIUM** All trips within the regional system will only be counted as one trip, regardless of number of transfers that are made. Increased ridership growth as a result of a more integrated network should off-set this minor reduction.
EQUITABLE	Respects existing investments made by communities that now have transit services	**HIGH** Services would remain in the local municipality where investments were made.	**HIGH** Services would remain in the local municipalities where investments were made.	**MEDIUM** Although services could remain in the local municipalities where investments were made, there is a possibility that some of these investments could be diverted to local municipalities where sufficient contributions had not been made.
	Able to easily facilitate expansion of services to existing, growing communities outside the traditional transit service area	**LOW** Services would remain in the local municipality and only be extended if requests are made by the outer municipality. The Region would have the opportunity to assist with service requests through partial funding that meet Business Case requirements as they now do with a portion of the service to Port Colborne and Fort Erie.	**MEDIUM** Services would remain in the consolidated municipalities, which is a larger area, and only be extended if requests are made. Region would have the opportunity to assist with service requests through partial funding that meet Business Case requirements as they now do with a portion of the service to Port Colborne and Fort Erie. The costs for service requests for outer municipalities can be further reduced by cost sharing in services provided by the consolidated network, including a dynamic transit mobile app, consolidated customer call centre, smart card technology on all vehicles, etc.	**HIGH** Bus routes would be extended if Service Standards were met.
	Respect collective labour agreements	**HIGH** Labour agreements remain intact.	**MEDIUM** Labour agreements would be consolidated and a single agreement should be developed.	**MEDIUM** Labour agreements would be consolidated and a single agreement should be developed.
	Ensures local municipalities have a say in local services and funding allocation	**HIGH** Local services are provided as requested by the local municipality.	**HIGH** Local services are provided as requested by the local municipalities of the consolidated service area as well as the municipalities outside of the consolidated service area.	**LOW** Local services are provided by the Region in consultation with local residents, but the local municipality would not have direct approval of local service requests.

Principle	Measure	Option 1: Status Quo Model	Option 2: Consolidation Transit Model	Option 3: Regional Transit Model
EASE OF IMPLEMENT-ATION	Agreement can be easily achieved on the structure of the Service Delivery Model	**HIGH** There is no change, therefore relatively easy to implement the model. Modifications to improve overall customer service and service integration can be more difficult. There is an expectation from the public and the Province that something needs to be done to create an integrated transit network. The Status Quo Model may be unacceptable. A triple majority is required if the Region desires to continue funding support.	**MEDIUM - HIGH** There is an expectation from the public and the Province that something needs to be done to create an integrated transit network. Transit stays within local control, which may make it easier to get a triple majority and agree to a new service delivery and governance model. A triple majority would be required if the Region is involved in ongoing funding for transit in Niagara.	**LOW** There is an expectation from the public and the Province that something needs to be done to create an integrated transit network. It may be a challenge to get approval of the three Municipal Councils, as well as the significant majority at Regional Council. There could be challenge to get a triple majority (as well as full Regional approval) with transit services being transferred away from local municipalities to the Region.
	Ease of transition from one service model to another	**MEDIUM** Once the framework for combining services is created, it can be transitioned to another Model.	**HIGH** Once the Consolidated Transit Model is created, it can be transitioned to a Regional Transit Model in the future as growth, funding and political acceptance develops.	**LOW** Once the Regional Transit Model is created, it would be difficult to transition back to a Consolidated Transit Model.
	Ongoing decision making looks at the big picture and is not hampered by local interests	**LOW** Local issues are the main concerns for direction and vision. Larger regional direction is not considered unless fully funded by others and accepted by the local municipality.	**MEDIUM** Local issues within the consolidated area are the main issues for direction and vision. This includes inter-municipal services within the consolidated area. Larger regional direction is not considered unless fully funded by others and accepted by the municipalities within the consolidated area.	**HIGH** The big picture is not hampered by local interests, unless the local interests are over-riding. Local representation exists on Regional Council and local support is critical for budget approvals and a managed approval process.