

**Thorold Transportation Master Plan
Background Report E:
Public Transit and Paratransit Strategy**

**Final Report
June 2020**



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1 Introduction

The City of Thorold is developing its first Transportation Master Plan (TMP) to set a strategic direction, programs and priorities for the City's transportation networks. The TMP will focus on promoting sustainable transportation practices to address city-wide transportation issues. This report will provide a critical assessment of transit operations in Thorold and provide strategic directions for conventional and specialized transit delivery and expansion.

1.1 Background

Public transit and specialized transit in Thorold are provided through an operating agreement with the St. Catharines Transit Commission. Thorold is also served by Niagara Region Transit, which provides limited-stop service that connects Brock University, the Regional Headquarters, and the Downtown Thorold terminal to neighbouring municipalities and GO Transit service. The existing service is limited to the northern end of the City, where it borders St. Catharines, with one route connecting the downtown Towpath Terminal to Thorold South. New growth areas at the southern end of the city have no transit service.

With the city's population and employment base dispersed over a large area, it is challenging to provide local connectivity efficiently using a traditional fixed-route transit service. The large service area also makes the provision of specialized transit more costly, because it can result in longer average trip lengths to serve door-to-door trips. Consequently, the capacity of the specialized transit service is limited by the trip lengths and travel time, when shared itineraries are not possible

1.2 Purpose and Objectives

Given the context, this report aims to provide strategic directions for the delivery of conventional and specialized transit in the City of Thorold in keeping with the vision of the TMP for a regionally-integrated, multi-modal transportation system that will move people safely, effectively and efficiently, and support a vibrant and livable community.

The objectives of the transit strategy are to critically assess conventional and specialized transit in the city to:

- identify deficiencies in the existing network,
- guide network expansion in an effective and efficient way, and
- improve service integration with regional conventional and specialized transit service.

1.3 Report Structure

The structure of this report is as follows:

- Section 2 summarizes the policy framework that directs the provision of transit in Thorold, along with existing services and initiatives;
- Section 3 is a market review to assess the degree to which transit services meet the needs of the travelling public in Thorold;
- Section 4 provides a review of the service to understand operations and performance trends, as well as the functionality of the existing hub;
- Section 5 outlines the main challenges and opportunities for the system; and,
- Section 6 provides recommendations for actions to be taken by the City to improve transit.

2 Operating Context

This section provides an overview of the policy framework that governs transit in Thorold and outlines existing transit services and initiatives. It identifies transit-supportive policies in Thorold, as well as future plans and projects that may have an impact on transit.

2.1 Policy Framework

Three plans establish the policies that influence transit delivery in Thorold.

The **City of Thorold Official Plan (OP)**, 2015, guides development through its land use policies. For example, it designates intensification areas as well as new growth areas, and encourages linking these to the Towpath Terminal. The OP has various other transit-supportive policies, including designing the road network to accommodate transit operations, encouraging residential densities and development patterns that can support increased transit ridership, and locating community facilities where they are accessible by transit.

Transportation policies in Niagara Region are guided by the **Niagara Region Transportation Master Plan**, 2017. This plan identifies challenges for transit delivery in the region, including providing service to sparsely-populated communities and the fare and service integration of multiple service providers. Given these challenges, the TMP recommends that the Region strengthen its core services and connect local municipalities with a combination of fixed routes and demand-responsive transit, leveraging emerging technologies.

The Regional TMP also recommends reviewing transit governance to reduce service duplication and increase schedule and fare coordination. To this end, Regional Council endorsed the consolidation of the local transit systems to form an integrated regional conventional transit service and is tendering a transit governance study to recommend a consolidated transit model with a suggested governance structure and transition plan. The Region is also in the process of examining the feasibility of consolidating the specialized transit system. These two actions have the potential to significantly change the delivery of transit services in Thorold.

The **Metrolinx 2041 Regional Transportation Plan (RTP)**, 2018, identifies GO rail network expansion to Niagara Falls. The RTP is the Greater Toronto and Hamilton Area's multi-modal long-range transportation plan, and it emphasizes an integrated transportation system, optimizing the region's rapid transit network. Connecting to the regional rapid transit network will play a role in attracting residents and investment to the city.

The development of the Thorold TMP and this transit strategy takes the above recommendations under consideration and aims to coordinate the implementation of network improvements.

2.2 Conventional Transit Service

Existing transit service in Thorold is comprised of conventional and specialized transit operations, both provided under a contract with the St. Catharines Transit Commission. In addition, regional routes operated by Niagara Region Transit pass through the city, and targeted services to Brock University paid for by the Brock University Student Union, operate within the City boundaries. Currently, there are no direct routes connecting to GO rail or bus services from Thorold. Exhibit 2.1 shows all the transit routes within the Thorold boundary, by their service provider.

Conventional fixed-route service in Thorold consists of:

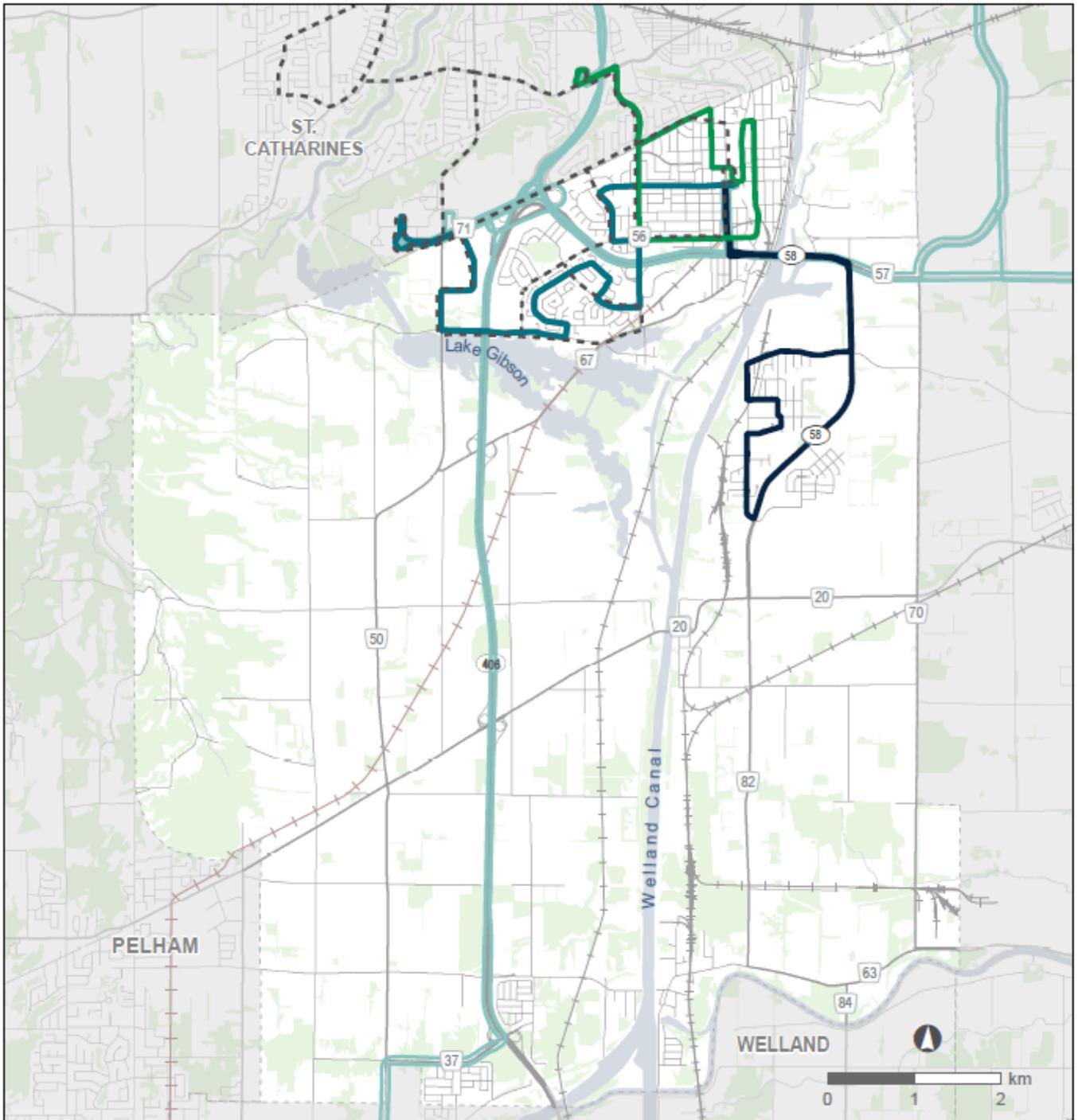
- three local routes (320, 321, 322) connecting the Towpath Terminal to Brock University, Thorold South, and the Pen Centre, respectively;
- two local routes (311, 335) that operate along roadways that border the City of Thorold;
- four targeted routes (324, 328, 331, 432) providing local connections from Thorold Proper to Brock University during the school year; and,
- two regional routes (50/55, 70/75) providing direct connections between Niagara Falls and Brock University via the Towpath Terminal and between Niagara College Welland Campus and Brock University.

2.3 Specialized Transit Service

The specialized transit service in Thorold is also operated by St. Catharines Transit Commission. The specialized transit service provides curb-to-curb service on a first come, first served basis for registered users. Eligibility is limited to people with permanent or temporary physical disabilities that prevent them from walking or using a mobility device for a distance of 175 metres. Service is provided by dedicated vehicles, or through Coventry Connections, a private taxi service.

Applications for eligibility are made through the St. Catharines Transit Commission. Additionally, residents of Thorold can be eligible to use the Niagara Specialized Transit (NST) system. The eligibility for NST is determined on a case-by-case basis and considers the applicant's functional ability. NST service is limited to inter-municipal trips within Niagara Region.

Exhibit 2.1: Fixed-Route Transit Services Within Thorold, by Type of Service



- 320 Thorold - Pen Centre
- 321 Confederation - Brock
- 322 Thorold South
- - - Targeted Services to Brock
- Niagara Region Routes

3 Market Review

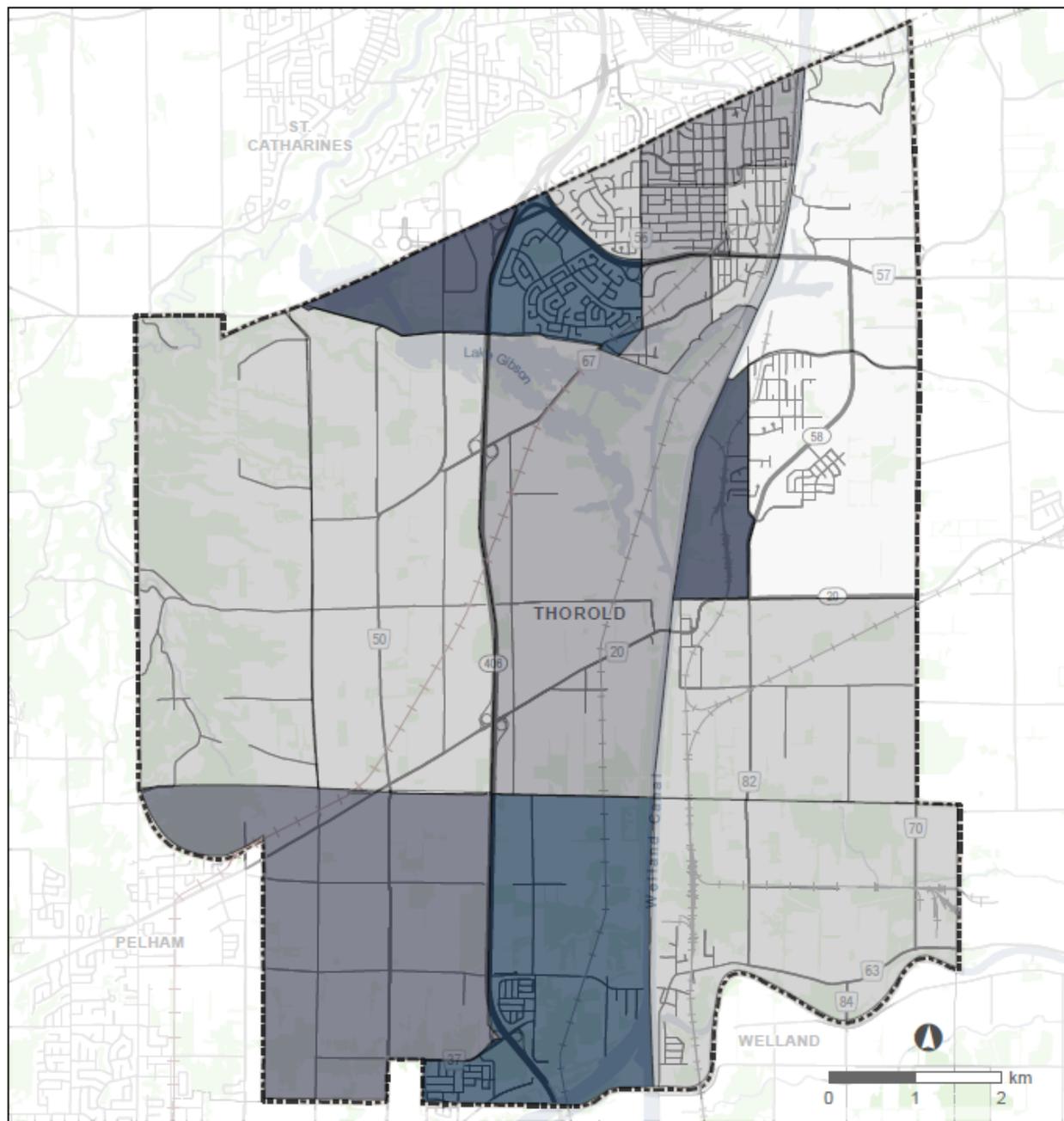
3.1 Service Area Characteristics

Thorold's population and jobs are concentrated at its borders with the neighbouring communities of St. Catharines and Welland. This is due to the city's geographic constraints and development over time. Approximately one-fifth of the city's total land mass, primarily in the west, is part of the Escarpment Natural Area or Escarpment Protection Area and must conform to the policies of the Niagara Escarpment Plan. In addition, Thorold has significant agricultural land, much of which is protected for "specialty crops", limiting non-agricultural land uses.

New growth in the city is directed primarily to Thorold South located on the east side of the Welland Canal, Port Robinson West, in the south bordering Welland, and Thorold Proper, the urban area bordering St. Catharines. Exhibit 3.1 shows the areas where employment and population are expected to grow by 2041 based on Niagara Region's TMP forecasts. In general, the highest growth is anticipated in areas designated for growth in the OP, including Thorold Proper and Port Robinson West. While Thorold Proper is currently served by the fixed-route service, there is no fixed-route service available in Port Robinson West. Thorold South is also projected to experience some growth in population and employment. Although the OP identifies it as a lower priority for future development due to servicing constraints, it is also identified by the Region as a "strategic location for investment," specifically manufacturing, due to its industrial uses.

The canal and Highway 406 are also challenging features of the Thorold service area. Fixed-route transit is most efficient when it can be direct, and a more permeable road network improves access to transit for pedestrians. Due to the limited number of canal and highway crossings, transit routes are limited in where they can operate. The style of suburban development common in new subdivisions in Thorold is primarily comprised of curvilinear streets and cul-de-sacs, which reduce the permeability of the road network and increase trip lengths for users of transit and active modes (walking, cycling). In addition, as a fairly rural community, pedestrian facilities are limited, as are pedestrian connections to transit. Many stops consist only of a pole and sign and are not fully accessible as is required by the Accessibility for Ontarians with Disabilities Act (AODA). This creates a barrier to accessing the fixed-route service for passengers with limited mobility.

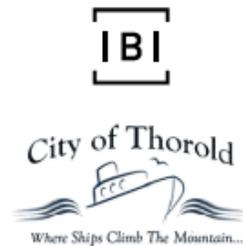
Exhibit 3.1: Change in Population and Employment by Zone (2011-2041)



- Thorold Boundary
- Wooded Area
- Existing Railway

2011 - 2041 Projected Change in Population and Employment by Traffic Zone

Less than 0	501 - 1000
1 - 250	1001 - 2000
251 - 500	Greater than 2001



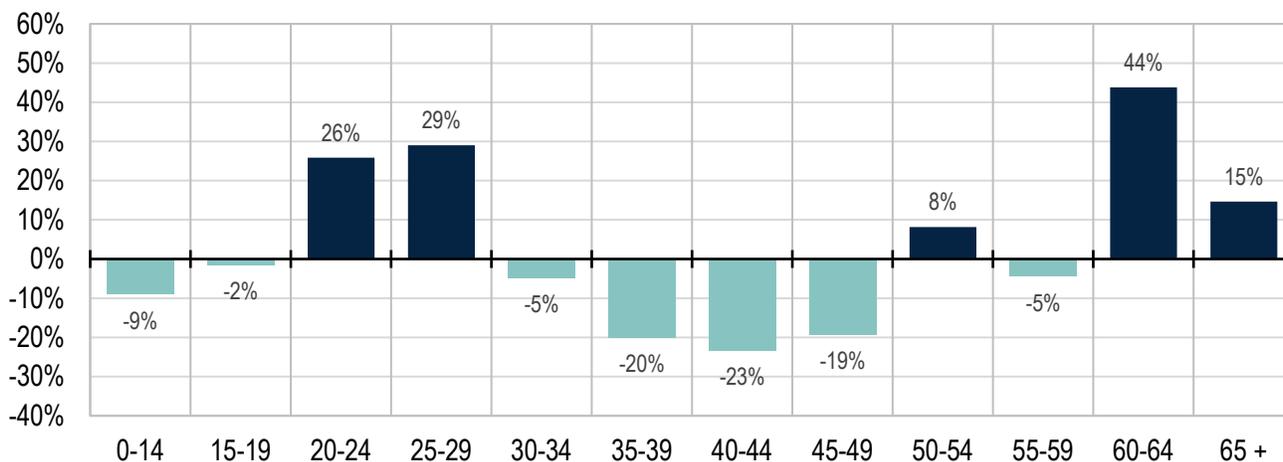
Source: Niagara Region TMP, 2017

3.2 Demographic Trends

Age and income are two factors that positively influence transit ridership.¹ Age, due to ability and regulatory restrictions, and income, due to the lower costs of transit compared to car ownership.

Between 2006 and 2016, Thorold’s population grew by a modest 3%. By 2041, the Niagara Region Municipal Comprehensive Review projects that the population will grow to 28,470 – an increase of over 50% from 2016. Currently, Thorold’s average age is 40.7 – lower than the regional average of 43.8 and the provincial average of 41. Exhibit 3.2 illustrates changes in population by age group between 2006 and 2016. The most significant change in the population is in the 60-64 cohort, which has grown by 44% since 2006. This trend may result in more dependence on specialized transit as the cohort continues to age. The 20-24 and 25-29 cohorts have also grown significantly at 26% and 29%, respectively. This is likely influenced by the growing post-secondary student population. In the same time period, Brock’s enrollment grew by 7%. In communities with post-secondary institutions, ridership is often driven by this demographic that is typically more reliant on transit. The most significant decline has been in the 35-49 cohort. Specifically, the 40-44 age group shrank by 23%. There has also been a slight decline in the 0-19 cohort.

Exhibit 3.2: Population Change by Age Group (2006-2016)



Source: Statistics Canada Census Profile (2016)

Over 14% of Thorold’s residents fall below Niagara Region’s low income measure (the proportion of families with an after tax income below 50% of the median Canadian income). In addition, the city’s unemployment rate is the third-highest in the region at 8.5%. At the neighbourhood level, Thorold Proper has the highest proportion of low income residents at 19.4%, and Thorold South and

¹ Eric J. Miller, Ph.D., Amer Shalaby, Ph.D., P.Eng., Ehab Diab, Ph.D., and Dena Kasraian, Ph.D. Canadian Transit Ridership Trends Study. (Toronto, CUTA. October 2018): 17. Accessed July 2019. <http://cutaactu.ca>

other neighbourhoods east of the canal have the highest unemployment rate at 9.5%.²

All the above factors provide an indication of the target market for transit and where in the city there is likely to be a higher need for transit. The community vision in the OP aims to attract families and retirees to Thorold and improving mobility can play a role in improving the quality of life of existing residents and attracting new residents.

3.3 Travel Patterns

According to the 2016 Transportation Tomorrow Survey, 91% of all trips in Thorold are made by car, as driver or passenger. The share of trips made by transit decreased from 3% to 2% between 2006 and 2016, while the drive alone share of trips increased by 3%. In general, the City's development patterns better lend themselves to auto travel compared to transit and active modes. This is largely due to the geographic size of the city, the separated land uses, and the low-density and dispersed development. Transit is better supported by mixed-use and mid to high-density land uses where it can provide more direct connections. In the absence of these conditions, bus routes are longer and more circuitous to provide necessary service coverage resulting in longer travel times compared to private modes.

A significant portion of daily trips that start or end in Thorold are inter-municipal (84% of trips start or end outside the city limits), a trend that has been increasing since 2006. During the same time period, trips within city limits have decreased by nearly 5%. Many of Thorold's residents work in neighbouring municipalities and opt to drive to work. Thorold has direct transit connections to St. Catharines via the local service, and to Welland and Niagara Falls via the regional service. However, opportunities to connect between the two services are limited due to service frequencies and the lack of fare integration.

Downtown Thorold is the city's main transit trip generator, as are the residential areas west of Collier Road. Brock University and the Pen Centre in St. Catharines also draw a significant portion of transit trips from Thorold. Thorold South is currently connected to downtown via Route 322, which is served by a community bus. As the area grows, demand for this route is likely to grow as well. Port Robinson West is also slated for growth and with that growth it is likely that there will be an increase in demand to Niagara College in Welland and to the commercial developments on Niagara Street just south of Quaker Road.

² Niagara Prosperity Initiative, *Community Profile - Thorold*. (Niagara Region. January 2019): Accessed July 2019. <https://niagararegion.ca>

4 Service Review

4.1 Conventional Route Review

This section provides an overview of the existing conventional transit service in Thorold, focusing on the three local routes serving the community and their performance. Exhibit 4.1 is a summary of the operating statistics of the routes providing service within Thorold and paid for by the City of Thorold through the service agreement with St. Catharines Transit Commission. The table summarizes the headways, route lengths, cycle times and number of buses required to operate the daily service. *Information on routes that provide targeted services to Brock University is not available at this level of detail.*

Exhibit 4.1: Key Operating Statistics (Local Routes Only)

Route	Headway	Headway Off Peak	Length (km)	Cycle Time (mins)	Buses Required	Buses Required Off Peak	Cycles per Day	Revenue Vehicle kms	Daily Revenue Vehicle Hours	Average Speed (km/h)	Annual Revenue Vehicle Hours
Weekday											
320/420 Thorold - Pen Centre	30	60	10.4	30	1.0	0.5	30.5	315.7	15.3	20.7	3812.5
321/421 Confederation - Brock	60	60	20.7	60	1.0	1.0	17.0	352.2	17.0	20.7	4250.0
322 Thorold South	30	60	13.9	30	1.0	0.5	14.5	202.0	7.3	27.9	1812.5
Total			45.0		3.0	2.0	62.0	869.9	39.5	23.1	9875.0
Saturday											
420 Thorold - Pen Centre	30	60	10.4	30	1.0	0.5	30.0	310.5	15.0	20.7	3750.0
421 Confederation - Brock	60	60	20.7	60	1.0	1.0	16.0	331.5	16.0	20.7	4000.0
322 Thorold South	30	60	13.9	30	1.0	0.5	14.5	202.0	7.3	27.9	1812.5
Total			45.0		3.0	2.0	60.5	844.0	38.3	23.1	9562.5
Sunday											
420 Thorold - Pen Centre	30	30	10.4	30	1.0	1.0	23.0	238.1	11.5	20.7	2875.0
421 Confederation - Brock	60	60	20.7	60	1.0	1.0	12.0	248.6	12.0	20.7	3000.0
Total			31.1		2.0	2.0	35.0	486.7	23.5	20.7	5875.0
No Summer Service											

The cycle times and headways on the routes are fairly uniform, which makes it possible to coordinate transfers. The service operates on “clock headways” making it easy for users to understand. Overall, the span of service and frequencies provided are slightly higher than most similar-sized communities (e.g. Brockville, Cobourg, Midland, Port Hope), and consistent with slightly larger communities (e.g. Orangeville, Orillia, Woodstock).

Best practice operating speed for local buses in urban settings is 22km/hr. Routes operating above or below the average speed guideline may experience schedule adherence issues. Routes in Thorold operate in the city’s urban areas and should meet this guideline. Routes 320 and 321 fall slightly below the guideline, while Route 322 falls significantly above it. This is likely due the fact that a significant section of Route 322 is through the Thorold Tunnel (controlled access) and along a Highway 58 (Davis Road). In general, schedule adherence does not seem to be an issue for these routes.

Route Analysis

The Thorold fixed-route service consist of three routes. This section provides an overview of each local route, focusing on the function and potential issues to be investigated or further reviewed.

Route 320/420 Thorold – Pen Centre

Function:

- Fairly direct route connecting the Towpath Terminal to the Pen Centre via Downtown Thorold and some residential areas
- Can connect Thorold residents to downtown St. Catharines with a one-seat ride (it is interlined with Route 310 Glenridge to Downtown).

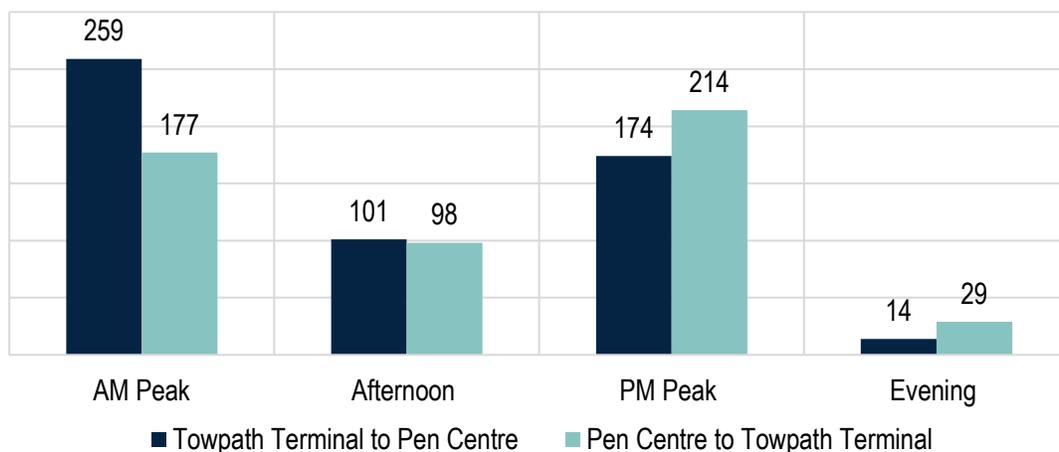
Issues:

- Single directional service, which also requires riders to transfer at the Pen Centre due to interlining
- Some duplication with Route 432 (Brock-Richmond-Towpath) during the school year on the outbound trip
- Some stops along the route are not accessible and are not connected to the pedestrian network

Demand:

- High demand for service toward the Pen Centre in the morning and afternoon peaks, and from the Pen Centre in the morning peak (Exhibit 4.2)
- High ridership along Collier, Richmond, and Queen
- Main trip generators are the Pen Centre and Towpath Terminal

Exhibit 4.2: Route 320 Average Boardings by Time of Day and Direction



Route 321/421 Confederation – Brock

Function:

- High coverage route connecting Brock University to Towpath Terminal via residential areas in Thorold Proper

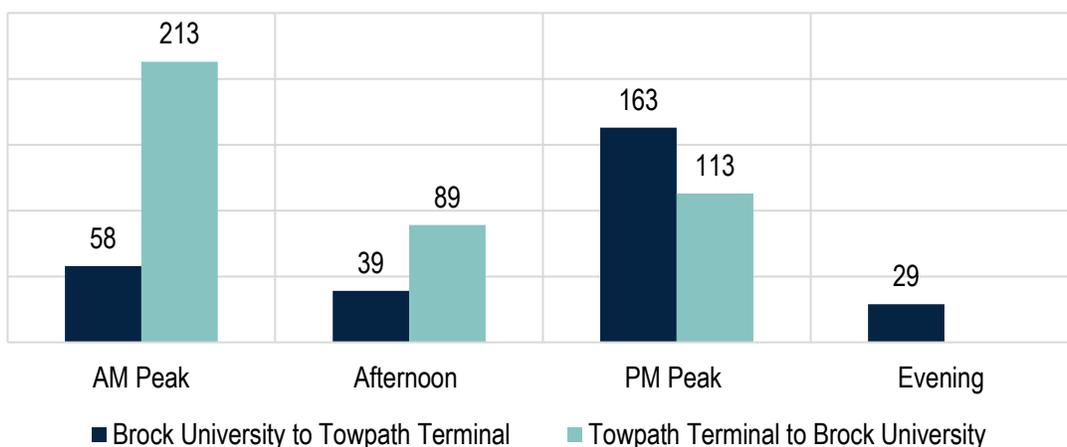
Issues:

- Some duplication with the Route 331 (Brock-Richmond) leaving Brock University on the inbound direction
- Shorter weekday service spans and no evening or weekend service in the summer
- Some stops along the route are not accessible and are not connected to the pedestrian network

Demand:

- High demand to and from Brock University in the morning and afternoon peaks (Exhibit 4.3)
- High ridership along Keefer
- Main trip generator on the route is Brock University

Exhibit 4.3: Route 321 Average Boardings by Time of Day and Direction



Route 322 Thorold South

Function:

- Local coverage service connecting the primarily residential and industrial area of Thorold South to downtown
- Service is coordinated to allow transfers to Route 321 (Thorold – Pen Centre) route

Issues:

- No evening or Sunday/Holiday service
- Transfers at Towpath are not coordinated with Route 321, limiting opportunities to connect Brock University to Thorold South

- Many stops along the route are not accessible and are not connected to the pedestrian network

Demand:

- Ridership is generally significantly lower than the other Thorold routes, but the area is expected to grow in the coming decades

(Average boarding data not available)

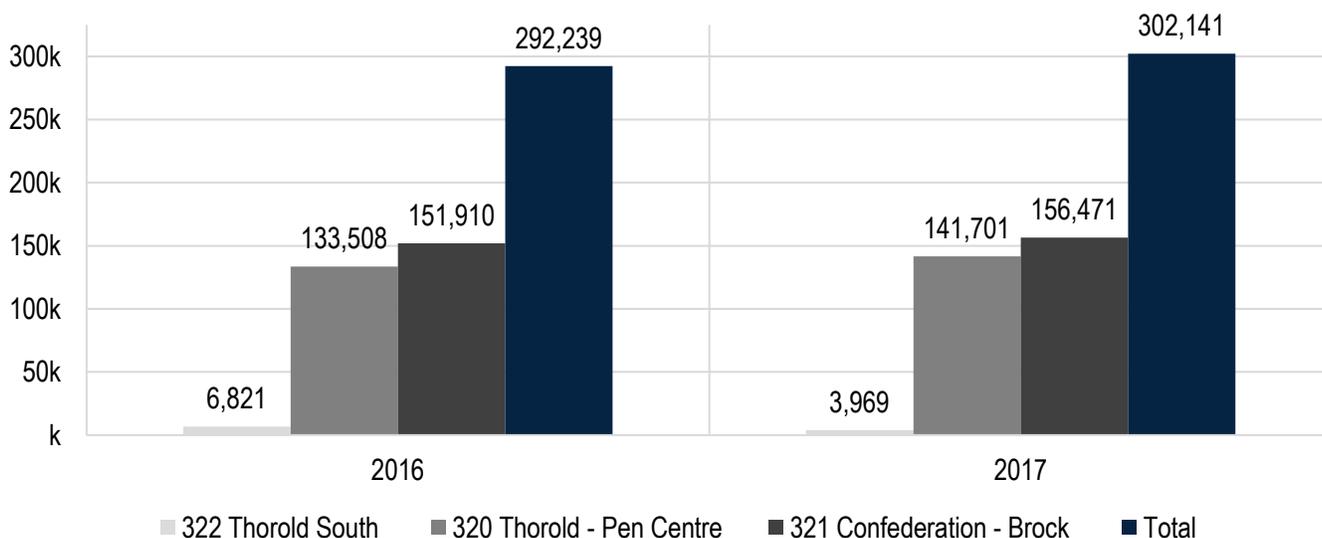
4.2 Performance Review

This subsection focuses on the performance of the three local routes. *Information on the targeted services for Brock University is not available at this level of detail.* The three main indicators of route performance are:

- **Ridership**, which provides an indication of the usage of the service;
- **Revenue/cost ratio** and **operating costs per rider**, which measure the cost-effectiveness of the service; and,
- **Rides per capita**, which compares ridership to population to understand how well the service is being utilized.

Between 2016 and 2017, **ridership** grew by 3.3%. In the same time period, overall ridership in St. Catharines decreased by 3.5%. The highest ridership is on Route 321 (Confederation – Brock), which comprises just over half of the annual ridership (Exhibit 4.4).

Exhibit 4.4: Total Ridership and Ridership per Route 2016-2017



In 2018, the **revenue/cost ratio** for the conventional routes was 46.5%, slightly lower than it was for St. Catharines as a whole (51%). For cities with similar

populations as Thorold, this number tends to be much lower (30%).³ The operating cost per rider in 2017 was \$3.85, similar to St. Catharines and significantly lower than other Canadian communities its size (\$5.44).⁴ The shared service agreement with St. Catharines Transit benefits Thorold due to economies of scale for providing the service. This also indicates that more investment can be justified to meet the peer average and improve service levels for Thorold residents.

In 2017, the **service utilization** in Thorold was 16.1 rides per capita. This is significantly lower than St. Catharines, which was 33.7 rides per capita, but slightly higher than similar-sized communities (13.5).⁵ This is consistent with the city's low transit mode share and transit service levels. The low service utilization indicates that there is room for improvement in increasing transit use among residents.

4.3 Transit Hub Operations Review

The Towpath Terminal is the main transit terminal in Thorold and is the starting point of all three local routes. It also serves NRT Route 50/55, which provides hourly service, six days a week, between St. Catharines, the Pen Centre, Brock University, Thorold, and Niagara Falls.

The Towpath Terminal was reconfigured in 2019. At the time of the initial analysis, the Towpath Terminal was located at the corner of Towpath Street and Sullivan Avenue, south of the new location, and operated as a loop facility. At the new terminal, the bus bay was re-located to the east side of Towpath Street. New shelters with benches were installed and a sidewalk was constructed along the length of the block to provide pedestrian access to the terminal. New lighting for the adjacent municipal parking lot also illuminates the transit waiting area. Exhibit 4.5 Shows the new Towpath Terminal.

³ Canadian Urban Transit Association (CUTA), *Canadian Conventional Transit Statistics – 2017 Operating Data*. (CUTA, 2018): G22. Accessed June 2019. <http://cutaactu.ca/>.

⁴ CUTA, *Canadian Conventional Transit Statistics – 2017 Operating Data*. G22.

⁵ Ibid

Exhibit 4.5: New Towpath Terminal Configuration



4.4 Brock University Transit Hub

The current location of the Brock University Transit Hub presents capacity and operational challenges (delays, conflicts with pedestrians and other vehicles) for transit operations at the campus. Brock University has undertaken a Transit Hub Study to explore opportunities to relocate the hub to minimize these challenges. The recommended alternative from the study addresses the capacity challenges (and can accommodate double the current frequency of route 321/421) and would result in a reduction in travel time for buses accessing the campus. Overall the recommended alternative would be an improvement for transit routes to the Brock campus.

4.5 Specialized Transit Review

The specialized transit service in Thorold is operated and administered by St. Catharines Transit Commission. The City of Thorold's clerk's department has information available regarding eligibility, as well as application forms. The service is provided by the Transit Commission and contracted out to a third party, Coventry Connections. Residents are also eligible to use the NST system for inter-municipal trips within Niagara Region.

This subsection focuses on the performance of the specialized transit service focusing on two main indicators:

- **Ridership**, which provides an indication of the usage of the service; and

- **Revenue/cost ratio** and **operating costs per hour**, which measure the cost-effectiveness of the service.

Between 2016 and 2017, **ridership** of specialized transit increased by 4.2 % throughout the whole service area.⁶ In the same time period, usage of the NST has increased by 58.1% for the whole service area.⁷ This significant bump can be attributed to three main factors: increased awareness of the service, a significant in-migration of older adults, and the high demand for inter-municipal trips to access services and amenities.

The 2017 **revenue/cost ratio** for the specialized system was 6.1%, a slight decrease from the year before (6.2%). The 2017 hourly **operating cost** for the system was \$85.95, 3% higher than in was in 2016.⁸ For the NST, the revenue/cost ratio was 5.9% in 2017, down from 15.1% in 2016, due to a 76% increase in the per capita operating costs. These revenue/cost ratios are low compared to communities with similar population sizes. The 2017 hourly operating cost for NST was \$80.97 per hour, a 47% increase from 2016.⁹

Typically, the costs to operate specialized transit are significantly higher than fixed-route services due to the nature of the service (demand-responsive, door-to-door). As the population ages in Thorold and in Niagara Region as a whole, there will be an increased demand for specialized transit. Older adults who have been driving most of their lives are more likely to opt for the door-to-door option if they are unfamiliar with the fixed-route service, or if their access to the service is limited by long walking distances and a lack of adequate pedestrian facilities.

Due the significant increase in ridership and limited resources, NST has begun to restrict its trips as of 2018. The system no longer serves trips within the same municipality, therefore multi-leg trips must be coordinated between local and regional specialized transit and may result in higher wait times. These jurisdictional barriers can limit mobility for users of the system, and as a result, the Region is in the process of reviewing their specialized transit system to explore opportunities to better integrate service planning and delivery. The recommendations of that study will influence how specialized transit is delivered in Thorold.

⁶ Canadian Urban Transit Association (CUTA), *Canadian Specialized Transit Statistics – 2017 Operating Data*. (CUTA, 2018): 216. Accessed June 2019. <http://cutaactu.ca/>.

⁷ CUTA, *Canadian Specialized Transit Statistics – 2017 Operating Data*. 147.

⁸ CUTA, *Canadian Specialized Transit Statistics – 2017 Operating Data*. 216.

⁹ CUTA, *Canadian Specialized Transit Statistics – 2017 Operating Data*. 147.

5 Challenges and Opportunities

Following the assessment of the conventional and specialized transit services, below are the challenges and opportunities identified for transit in Thorold.

- **Service integration with multiple service providers:** Where Thorold has transit (Thorold Proper), there are various options available for users, including regional routes and targeted services. The service agreement with St. Catharines Transit works well for the northern end of the city, where it connects residents to the major trip generators of Brock University and Pen Centre. Expanding the current network to the southern and eastern areas which are experiencing growth could be challenging due to geography. A similar agreement with Welland Transit to provide service to the growing areas at the south end of the city would require the City of Thorold to take on the role of coordinating with multiple providers to make sure services are integrated. For users of specialized transit connecting between the regional and local specialized transit services can be a challenge as it often involves longer wait times.
- **Providing efficient service in a challenging operating environment:** Thorold is a fairly large city that is sparsely populated. Its growth areas are concentrated along its borders with the neighbouring communities of St. Catharines, Welland, and Niagara Falls. The canal and highways crossing the city create additional barriers for providing direct services. These factors present a challenge for providing an efficient and continuous fixed-route transit service that can connect the city's populated areas. For specialized service, the large service area also means longer average trip distances, which are more costly and reduce the capacity of the service.
- **Meeting the travel needs of distinct demographic groups and reducing service duplication:** Transit ridership in Thorold is highest among post-secondary students. At the same time, the 60-64 age group is the fastest-growing cohort in the city. Transit has a role to play in connecting students to other amenities and facilities in the city. The additional targeted services funded by the Brock University Student Union are also accessible by other residents of the city, improving overall transit service. With a growing elderly population, reliance on specialized transit, which is a more costly service to provide, will increase. With targeted and inter-municipal routes oriented toward Brock University, there is some **duplication with the existing services in Thorold**. Some corridors have headways shorter than ten minutes during the school year but no service in the summer months. The **steep drop in service during the summer** makes it difficult to maintain transit ridership among non-students,

who may perceive the system as unreliable. Coordinating the local service with the targeted routes may enhance service for everyone.

- **Direct service to major trip generators:** Transit service in Thorold is oriented around three main destinations concentrated near the border of Thorold and St. Catharines: Downtown Thorold, Brock University, and the Pen Centre. These locations are accessible by transit for residents living in Thorold Proper, but only downtown Thorold is directly accessible by residents in Thorold South. Additionally, travel patterns in the city indicate that a majority of residents work outside the city in the neighbouring municipalities. There are also other major trip generators in neighbouring municipalities including regional commercial developments, other institutions (Niagara College, hospitals), and connections to interregional transportation (VIA, GO). Currently, the fixed-route service does not provide any direct service to these trip generators, limiting its competitiveness with other modes.
- **Accessibility:** Transit users begin and end all trips as pedestrians, making the provision of pedestrian facilities a key part of improving access. Part of providing accessible transit is providing accessible pedestrian facilities to allow users of all abilities to use the service. AODA aims for a fully-accessible province by 2025, and as an extension of the transit system, bus stops must be accessible. Additionally, Thorold's significant proportion of agricultural lands and rural areas present challenges for pedestrians, mainly, gaps in the sidewalk network, limited crosswalks, and maintenance issues. These challenges have an impact on transit use and the overall accessibility of transit.

6 Recommendations

Based on the challenges and opportunities identified, the main recommendations emerging from the review of conventional and specialized transit service in Thorold are:

- **Engage with other service providers to extend fixed-route service to growing neighbourhoods.** Port Robinson West and Thorold South are two growing communities in Thorold that will experience an increasing demand for transit service. **Thorold can explore similar service agreements with Welland Transit to serve Port Robinson West**, which borders Welland. The city can take advantage of the cost savings associated with working with existing transit systems to expand fixed route service. By engaging directly adjacent communities like Welland, they can also **provide more options for direct service** to other trip generators without significantly increasing trip length. This will require a larger administrative role for the City in coordinating service to provide a seamless experience for users. The City can achieve this by directly engaging with the Region as they explore opportunities to improve transit governance in Niagara.
- **Explore opportunities to improve service integration in coordination with the Region.** This can include connecting rural areas to fixed-route service using demand-responsive transit options. Given the limited coverage of the fixed-route service, the city's rural residents face mobility constraints and increasing isolation. Niagara Region Transit currently provides inter-municipal service, connecting major trip generators in the local municipalities and providing opportunities to integrate the different local services. Niagara Specialized Transit plays the same role for the specialized transit service. As the Region reviews its specialized services and explores a consolidated transit governance model, **the City can advocate for providing better connections** (e.g. adding flexible stops that can be served upon request) **to the fixed-route services using regional routes or exploring demand-responsive transit**, to improve mobility and access to opportunities for its rural residents.
- **Improve service levels to attract non-student ridership.** Currently, the Brock University Student Union funds increased service to the university during the school year through an agreement with St. Catharines Transit. These services are also available to Thorold residents, but in the summer months, service levels decrease significantly. **The City can work with the Brock University Student Union and the Transit Commission** to identify if there are any under-served areas, or areas with excess capacity where services can be better streamlined, with the aim of reducing the disparity

between summer and fall/winter service levels. This can help attract transit ridership outside the student demographic and can improve service for students remaining in the city during the summer months. Thorold has lower per capita operation costs than its peers, primarily due to its shared service agreement with St. Catharines. This indicates there is an opportunity to **increase per capita investment to be more in line with peer communities** and improve service levels for residents. With the growing population of residents over the age of 60, improving familiarity of the fixed-route service can make it a viable alternative to driving for older adults. The City can **consider travel training for older adults** to attract a new demographic of riders to transit.

- **Improve access to transit by prioritizing pedestrian facilities** (sidewalks, crosswalks) **to transit.** The gaps in the pedestrian network make it difficult for people with mobility limitations to access transit. By prioritizing transit connections when planning improvements to the pedestrian network, more people will have access to the service, improving ridership. In order to meet the AODA requirements for a fully accessible province by 2025, improvements will also be needed at transit stops, including adding accessible passenger landing pads and connecting stops to the sidewalk network. The City can make these improvements along the Thorold South route, and plan for better pedestrian facilities in new development areas.