DILLON CONSULTING

BURLINGTON TRANSIT

BURLINGTON TRANSIT
Five-Year Business Plan (2020-2024)



November 2020

Preface

Stay Safe.

While finalizing the 2020-2024 Burlington Transit Business Plan ("Business Plan"), a global pandemic took hold. COVID-19 had a significant impact on the daily lives of everyone globally. Stay at home orders, quarantines, lock downs and the closing of all non-essential workplaces caused disruptions to everyone. Locally, in Burlington, the shutdown of non-essential workplaces and the move to work from home, caused ridership to plummet over 75 percent between the start of March and early April 2020.

The following timeline outlines the impacts of the pandemic on Burlington Transit.



- March 13, 2020: City of Burlington activates Crisis Management Team
- March 16, 2020: All city facilities are closed to the public; and seating behind bus operators is blocked off to ensure physical distancing for the bus operators
- March 18, 2020: Burlington Transit buses are sprayed with AEGIS anti-microbial to disinfect all surfaces
- March 19, 2020: Rear door boardings begin and fare collection is suspended
- March 21, 2020: City of Burlington declares a State of Emergency
- March 26, 2020: Bus passenger loads limited
- March 29, 2020: Reduced schedule introduced
- March 29, 2020: Expanded detailed bus cleaning conducted by spare Bus Operators daily
- July 2020: Installation of protective plexi-glass shields on buses in the bus operators' areas
- August 23, 2020: Front door boarding re-introduced and increased capacity on buses permitted
- August 23, 2020: Re-introduction of more frequent service
- September 1, 2020: Re-introduction of fare collection

When reading this Business Plan, it is important to note that it was framed in a pre COVID-19 mindset. With the understanding that financials, timelines, and strategies have now changed in a post COVID-19 world, it is important to still consider the COVID-19 impacts on the strategies and initiatives defined in this plan. This Business Plan implementation can be flexible in timing and financials with the new approach the city has to take in recovering from the global pandemic. As such, a COVID-19 Impact Statement has been added to each section.

These statements will identify what impacts the pandemic had or has on the initiative and how the goals will be changed or updated to reflect a new reality.

This report references 2019 year-end actual ridership for all calculations and all financial figures are in 2020 Canadian dollars. All forecasted costs, ridership and resource requirements do not include specialized transit.

All forecasts have been adjusted for COVID-19.

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Definitions

Alternative Service Delivery: The use of alternative service models in instances when conventional transit is not effective in meeting a transit system's goals. This can include on-demand transit, ridesharing partnerships, flex routing, etc.

Boarding: Is an entry of a passenger onto a transit vehicle. Transfers count as an additional boarding.

Conventional Transit (also known as fixed-route): Transit services where vehicles operate on defined route paths with fixed stops. Fixed-routes are characterized by printed schedules or timetables, designated bus stops where passengers board and alight and the use of larger transit vehicles.

CRM: Customer Relationship Management.

Express Route: A transit route characterized by a limited number of stops, longer distances and higher operating speeds.

Frequency: The number of vehicles that pass a certain point on a route, usually measured in vehicles per hour.

Automatic Vehicle Location System (AVL): On-board systems that use Global Positioning Systems (GPS) to track and transmit the real-time geographic location of a vehicle.

Grid-Based System: A conventional transit network design that focuses transit routes on arterial roadways to provide direct two-way travel with minimal deviations. Refer to Schedule A for a map of the City of Burlington's street types with transit routes.

Headway: The scheduled duration between successive transit vehicles passing the same location on a route in the same direction.

Key Performance Indicator (KPI): A quantifiable measure used to evaluate the success of an organization, employee, or service in meeting objectives for performance.

Level of Service: Measure of transit service quality that includes factors such as hours of operation, service frequency, and operating speed.

Mobility Management: A transportation planning approach that acknowledges that people can travel in many different ways, using many different modes of transport ("mobility"). All of these potential options are brought together, managed and offered through a single service, benefitting the community through simplicity, choice and ease of use.

On-Demand Transit / Microtransit: A form of demand-responsive transit that uses smaller vehicles (e.g. small buses or vans) to offer service on flexible routings and/or flexible schedules. Specialized software applications are used to manage bookings and to plan pick-up and drop-off itineraries for the bus operator.

Planned Annual Revenue Hours: The total number of hours that buses are in service during the year, reflecting how much transit service is provided to the public.

Queue Jump Lane: A type of roadway geometry used to provide preference to buses at intersections. It consists of an additional travel lane on the approach to a signalized intersection. This lane is often restricted to transit vehicles only.

Ridership: The number of origin to destination trips made by passengers on a public transit system in a given time period.

Specialized Transit: An accessible shared ride service for persons with a disability that prevents them from using conventional transportation services. This service is door-to-door and provided on smaller accessible vehicles. Passengers must meet eligibility requirements, register with the service, and book their trips in advance.

Transit Priority: Special measures used to improve the speed and reliability of transit service. Examples include reserved lanes, queue jumps, and traffic signal controls to provide transit vehicles priority over general traffic on a roadway.

1.0 Recent Achievements

To understand how Burlington Transit got to where it is today, it is important to understand the history and recent achievements. Between 2010 and 2019, ridership grew by 25 percent. **Figure 1** outlines the change in ridership.

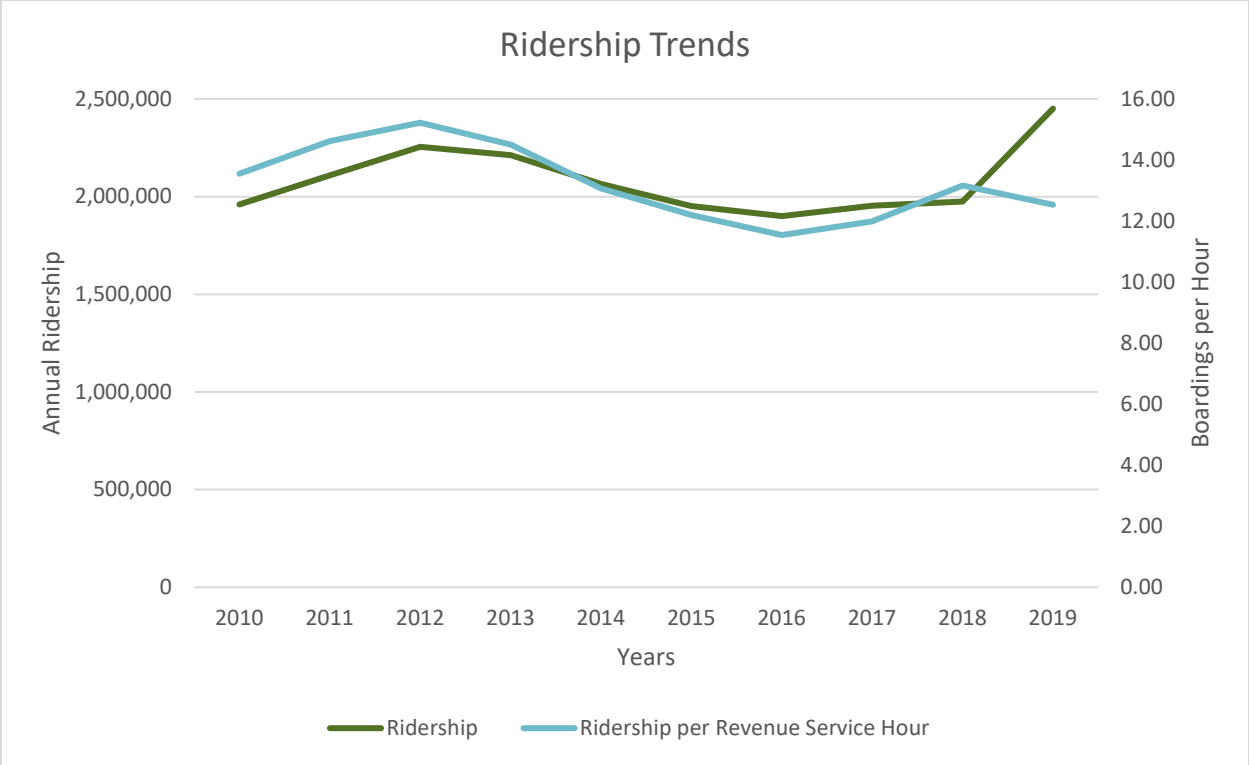


Figure 1: Historic Ridership Trends

As you can see, this did not represent a linear growth, as it peaked in 2012, followed by a decline between 2013 and 2016.

Since 2016, ridership has rebounded, reaching 2.45 million rides in 2019. These recent increases in ridership are a result of a number of changes in how service is delivered and a renewed focus on our customers. Ridership counting methodology also changed in 2019, which resulted in some of the relatively fast growth of ridership shown that year.

While ridership grew, there was also a slight decrease in productivity (measured through boardings per revenue vehicle hour). This small dip was due to investments that were made in service levels, staffing and customer service. While these are

necessary, it is important to note that the cost of investment is immediate, while the associated change in travel behaviour takes time.

There are a number of improvements that have been implemented and have contributed to the increase in ridership. They are important to recognize in the development of the Business Plan for the next five years. Since 2017, Burlington Transit has made the following significant improvements:

Engagement with Customers

It is important to understand how the current service is meeting the needs of existing customers and how it could be improved. Examples of recent initiatives that improve engagement with our customers include initiation of an annual survey and improved on-street communications with customers to better gauge customer responses to the service. Customers have expressed appreciation for the outreach and the ability to voice their opinions. Gathering feedback through these channels enhances the acceptance of service changes because the customers are more aware of the rationale behind some of the changes and feel that they have been able to provide input into decision making.

Ride Guide and Customer Friendly Schedules

To attract new customers to the system, residents must first understand how the system works and how to use Burlington Transit to connect to different areas of the city. A key initiative was to develop a better Ride Guide with a new and more legible map format. New customer friendly printed schedule formats have also been made available to customers that do not have access to a smartphone and prefer a paper format to know when and where their next bus will arrive.

Staffing Resources to Address Operational and Long-Term Planning Needs

A review of the organizational structure identified a need for additional staff required to meet day-to-day operating requirements, cover vacancies, and to deliver on long-term strategies. Burlington Transit has gone through a fairly significant transition in staff over the last two years, with replacements for vacancies in several key positions:

- Planning and Scheduling Team;
- Operations Manager;
- Marketing and Customer Service Coordinator;
- Business Services Coordinators;
- Transit IT Analyst; and
- Manager, Planning and Business Services.

In addition to the above changes, improvements were made to staffing levels in Operations. A number of bus operators that were in a casual position were converted into full-time positions. This has decreased the number of bus operators leaving to seek full-time employment with other transit agencies.

Route Design

Improvements were made in the route structure to increase schedule reliability and improve service levels. The most significant change was to increase the Route 101 Express to operate every 15 minutes during rush hour and streamline the route to reduce the overall travel time.

In September 2019, Burlington Transit initiated a plan to move to a grid-based system to reduce overall travel time for customers by providing more direct routes. Future service plans will further develop the grid-based system, which will be complemented with more on-demand services in low-demand areas that cannot be serviced in a cost-effective manner.

On-board and Off-board Customer Amenities

New shelters were installed at the Downtown Transit Terminal to improve customer comfort during inclement weather and transfer periods. Additionally, safety and security improvements were made by installing new on-board security cameras on all buses. Keeping customers safe on the system is an important priority for Burlington Transit.

2.0 Introduction



2.1 The Value of a Business Plan

A business plan is an effective tool that can be used to manage the delivery of transit services, particularly during periods of change. The primary purpose of the plan is to ensure individual strategies, projects and activities are aligned and contributing to Burlington Transit's vision and policy objectives. This includes prioritizing and staging key decisions to fit within the city's financial guidelines.

A business plan is also an important communication tool that clearly identifies the steps required to align public transit with the city's long-term policy direction. It guides operational decisions, influences budgets, and outlines an action plan based on priorities. It is important to regularly review and adjust the business plan to ensure key outcomes are being achieved.

It should also be noted that a business plan does not provide detailed operating plans that are specific to each route. Rather, the plan provides growth strategies that guide operational decisions over the next five years.

2.2 Alignment with Strategic Policy

To be effective, a business plan needs to be aligned with the strategic directions identified in key municipal policies.

Both the Region of Halton and the City of Burlington place a significant emphasis on sustainable transportation and Burlington Transit's role in improving mobility. This includes ambitious targets to increase transit ridership and the associated actions that need to be taken to achieve them (e.g. focusing transit supportive development and intensification around corridors and mobility hubs; supporting transit priority features that improve the reliability and speed of transit services).

To align with these regional and city-wide policies, Burlington Transit has identified strategies to achieve a modal shift to transit.

Burlington 2015-2040 Strategic Plan

- **A City that Moves**: A transportation network where people can move throughout the city more efficiently and safely, based on a variety of convenient, affordable and green forms of transportation

2018-2022 Burlington's Plan: From Vision to Focus

Council's four-year work plan focuses on transit priorities specifically Focus Area 2 – Improving Integrated City Mobility which outlines the following goals:

- Transit Utilization: increasing Burlington Transit service levels and growing overall ridership
- Modal Split: improving the transit and transportation modal split

Halton Region Transportation Master Plan

- Increase the combined local and inter-municipal transit mode share target in the Region by 2031

Current Burlington Official Plan (Adopted)

- Focus on targeted intensification, innovative approaches and new technologies to enhance mobility choices
- Prioritizing active transportation and transit
- Consider Transit Priority Measures along Primary, Secondary and Employment Growth Areas

3.0 Vision, Mission and Strategic Directions



Our vision defines where we are headed, and the role transit will play, while our mission and strategic priorities identify strategies and actions to achieve that vision. These must be aligned with broader city-wide goals and measured against key performance indicators so that progress can be monitored.

3.1 Vision and Mission

Our vision is simple: ***Advancing Innovative Mobility (A.I.M.)*** for residents, employees and visitors.

To deliver on this vision, our mission is ***to provide mobility services that are reliable, efficient, and innovative.***

The vision recognizes the importance of sustainable mobility options, the importance of service quality, and customer convenience to reduce automobile travel. It also emphasizes the need for forward-thinking innovation to plan and operate the type of service that is required to achieve the strategic directions identified in the 25-year City of Burlington Strategic Plan and the 2018-2022 From Vision to Focus plan. Our mission describes how we will achieve our vision, with a focus on reliable, efficient, and innovative service.

3.2 Strategic Directions

Strategic directions identify a course of action that supports the vision and mission. The following strategic directions and associated objectives will guide Burlington Transit over the next five years.

Strategic Direction #1: Be Customer-Focused in every aspect of how service is delivered

Objective 1.1 – Service Excellence: To plan and operate a convenient and easy-to-use service that is frequent, comfortable, reliable, and offers complete, connected trips.

Objective 1.2 – Image: To grow a positive brand that is responsive to and inclusive of the community it serves. This would be done in coordination of the city's rebranding project which will commence in 2020.

Objective 1.3 – Travel Time: To strive to deliver a service that minimizes end-to-end travel times by exploring transit priority features, minimizing route deviations, and reducing transfer time.

Objective 1.4 – Safety and Security: To offer a safe and secure environment to our customers and employees, both while on board the vehicle and at stops, stations, and terminals.

Objective 1.5 – Workplace Culture: To foster a safe, positive, and engaged work environment that stresses the importance of well-being and customer service.

Objective 1.6 – Accessibility: To enhance the accessibility of the service and transit facilities for all customers, regardless of their level of mobility.

Objective 1.7 – Integrity: To treat our customers and employees with dignity and respect at all times, regardless of individual differences, fostering a culture that instills trust.

Objective 1.8 – Affordability: To balance affordability of fares with fiscal responsibility.

Objective 1.9 – Availability: To provide, where feasible, mobility options when and where a customer needs to travel.

Objective 1.10 – Information: To provide accurate information about the service that is easy to understand and is accessible, in real-time where feasible.

Objective 1.11 – Communications: To provide timely and honest communications about service disruptions and responses to customer inquiries and feedback that allows the customer to feel valued.

Strategic Direction #2: Be Forward-Thinking in how services are planned and delivered

Objective 2.1 – Technology: To be abreast of and critically assess opportunities to introduce technological advancements that will help enhance the customer-experience, improve operations and/or reduce Burlington Transit's environmental footprint.

Objective 2.2 – Alternative Service Delivery: To explore and embrace new service delivery models and vehicle types that allow Burlington Transit to effectively serve low demand areas and time periods with new mobility options that cater to a more discerning customer-base.

Objective 2.3 – Sustainability: To promote sustainability and develop resilience for a changing environment, considering environmental, economic and social factors in our decision making.

Objective 2.4 – Proactive Planning: To understand and forecast shifts in community and customer needs in order to be nimble enough as an organization to change how we plan and deliver service.

Objective 2.5 – Innovation: To encourage innovation and the implementation of best practices in every decision made.

Objective 2.6 – Transit-Oriented Development: To work with Burlington's Planning Department early in the planning process to encourage transit-oriented development that is compact, mixed-use and walkable around key transit corridors.

Objective 2.7 – Environmental Footprint: To minimize our environmental footprint through green procurement practices, business operations and transit vehicle operations.

Strategic Direction #3: Be Business-Minded and aligned with municipal directions

Objective 3.1 – Effectiveness: To plan and operate service that makes the most effective use of resources.

Objective 3.2 – Partnerships: To establish partnerships with stakeholders and other mobility providers where the partnership results in a better or more cost-effective option than providing the service internally.

Objective 3.3 – Efficiency: To right-size fleet and staff complement, with a view to improving the efficient operation of the service.

Objective 3.4 – Data Driven: To make decisions based on a combination of reliable data and community feedback.

Objective 3.5 – Accountability: To be results oriented and fiscally responsible, setting measurable targets and holding ourselves accountable to them.

Objective 3.6 – Investment: To recognize the importance that investment in mobility has on achieving broader quality of life, economic development and environmental objectives.

Objective 3.7 – Active Transportation: To continue to integrate transit services with active transportation, including pedestrian and cycling facilities and the use of bike racks on buses.

Objective 3.8 – Demand Management: To develop and support demand management strategies and programs that can influence the greater use of sustainable mobility approaches.

Objective 3.9 – Asset Management: To improve the efficiency, performance and utilization of assets through a comprehensive asset management strategy.



COVID-19 Impact Statement

The strategic directions are very important during COVID-19 and post-COVID-19 transit growth. With ridership plummeting, using the above strategic directions will guide Burlington Transit's growth.

4.0 Growth Forecast



One of our primary goals is to grow ridership by ***advancing innovative mobility options***. This goal helps achieve the regional and city-wide targets. This includes the reduction of peak-period congestion and greenhouse gas emissions from single-occupant vehicle travel, improving opportunities for Burlington residents to access employment, education, services and activities, reducing investment in roadway widenings, and improving overall quality of life.

In 2019, Burlington Transit delivered approximately 2.45 million rides. The goal is to grow to 2.94 million annual rides **(Table 1)**, which represents a 20 percent growth in ridership from 2019. To forecast ridership, it was assumed a vaccine for COVID-19 will be available by the end of 2021. Projects such as on-demand transit, increasing service frequency on the grid-based system, transit signal priority, and fare pricing to specific target markets were all also factored into the ridership forecast.

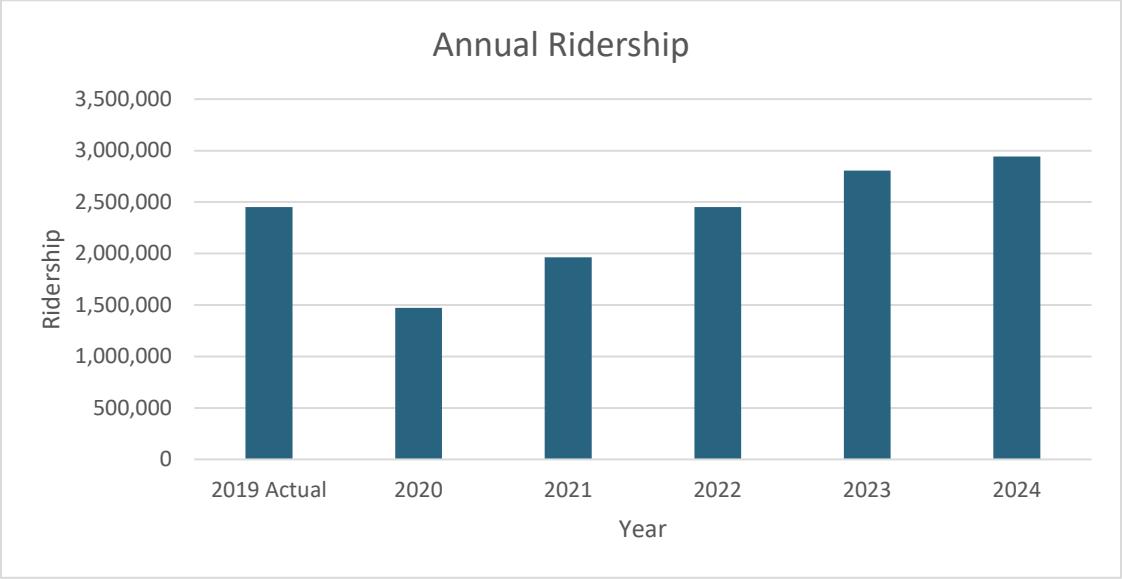


Figure 2: Annual Ridership Growth

The 2024 forecast represents a significant rate of growth over past performance. This can be achieved with an investment in service and vehicles used to deliver a high frequency network, a focus on customer service, a change in how transit services are delivered and how the public views the role of transit in providing mobility. It is anticipated that the initiatives outlined in this plan will contribute to the increase in ridership over the next five years.

Burlington's population is only projected to grow by 3,300 people by 2024, suggesting only a small portion of ridership growth will come from new residents. This means that the majority of growth will require existing residents to ride transit more, creating a shift in travel behaviour towards transit use in the city.

4.1 Growing Our Transit Service

An investment in the level of service will be required to grow transit to generate increased demand and to achieve a modal shift. This will require an increase in the amount of service and the fleet required to deliver the service.

The City of Burlington 2021 to 2030 Ten-Year Capital Budget identifies 16 additional conventional buses in the transit fleet, phased in over the five-year life of this Business Plan. Revenue vehicle hours will also need to grow to achieve the forecasted ridership. It is estimated that an investment in 64,480 planned annual revenue hours is required over the next five years. This represents a 33 percent growth in service levels. The projected fleet, revenue vehicle hours and ridership are detailed below in **Table 1**. This growth forecast is a key part of the Business Plan as well as the ridership growth strategies we have identified to reach the forecast.

COVID-19 Impact Statement

In September 2019, Burlington Transit introduced a new service model, based on a grid-based system and increased service frequency. The early results of this service enhancement showed that ridership had increased over 14 percent from September 2019 to February 2020, compared to the same time a year prior. When the pandemic shut down businesses and lock down began in March 2020, ridership dropped by 75 percent. The pandemic has identified the need to review the numbers above and adjust the forecast. The planned investment outlined above, and the growth forecast have been updated to reflect the reality of ridership challenges during a pandemic.

Other factors in addition to revenue hours that affect ridership include:

- In 2019, in addition to the shift towards a grid-based system, the implementation of free seniors' pilot and free SPLIT pass have led to a bigger than expected ridership increase.
- 2022 initiatives include a major promotion of transit to high school students, which along with 15-minute frequency routes and the full launch of on-demand transit, is expected to boost ridership significantly.
- The COVID-19 pandemic is expected to leave lasting effects on the way residents travel.
    - While the way residents travel will change, ridership is expected to recover with increases in shorter trips and trips outside of the traditional rush hours.
    - Service will focus more on trips within Burlington, and trips to and from Hamilton and Oakville, with longer distance commutes into d Toronto expected to make up a smaller share of ridership going forward.
    - While the rise in telecommuting is expected to reduce travel demand in general, the shift away from the 9 a.m. to 5 p.m. paradigm will reduce rush hour congestion and presents an opportunity for transit to improve travel time and frequency to grow ridership.
    - The launch of on-demand transit will allow transit to be nimbler in adapting to the changing travel patterns.

Table 1: Planned Investment in Burlington Transit (2019 - 2024) - COVID-19 Adjusted

Year	2019 Actual	2020	2021*	2022	2023	2024
Total Buses	63	67	67	71	75	79
Planned Annual Revenue Hours	195,520	212,200	212,200	226,700	243,400	260,000
Annual Ridership	2,450,395	1,471,700	1,962,300	2,452,900	2,806,400	2,941,400
Planned Initiatives (Subject to annual review)	• Shift to a grid-based system • Free Seniors pilot • Free SPLIT pass	• Free Children under 12 • 15 mins or better service on Plains and Fairview • COVID-19 Service Continuity Plan	• Pilot launch of on-demand transit • Launch of transit signal priority • Launch of marketing bus • 15 min service on at least 3 routes**	• Promotion of transit to high school students • Full launch of on-demand transit • 15 min service on at least 6 routes**	• Expected start of 15 min GO Service • 15 min service on 8 routes** • Construction of new bus storage and maintenance facility	• Further frequency improvements to support 15 min GO Service

**Note: Assumed availability of COVID-19 vaccine by end of year 2021*
***Note: Routes on the grid-based system include Route #1, 2, 3, 10, 11, 12, 25, 80 and 81*

Note: Ridership is measured by counting PRESTO card transactions, voucher usage, cash usage and transfers from another connected local transit system.
Note: Planned Annual Revenue Hours is the total number of hours that buses are operated in service during the year, reflecting how much transit service is provided to the public.

5.0 The Business Plan

A business plan is a strategic document that defines a vision/mission and strategic direction. Burlington Transit does not currently have an effective tool to manage the delivery of transit services and guide operational decision making. Developing this Business Plan will guide budget decisions, prioritize service initiatives, and be an important communication tool for staff, customers and stakeholders.

Our vision is simple: ***Advancing Innovative Mobility (A.I.M.)*** for residents, employees and visitors. To deliver on this vision, our mission is ***to provide mobility services that are reliable, efficient, and innovative.*** In doing so, we will be:

- **Customer-Focused** in every aspect of how service is delivered,
- **Forward-Thinking** in how services are planned and delivered, and
- **Business-Minded** and aligned with municipal directions.

Advanced and Innovative Mobility is to be provided to residents, employees, and visitors of the city, which will play a major factor in the growth in ridership from 2.45 million in 2019 to 2.94 million by 2024.

To achieve these goals, this Business Plan outlines several growth strategies over the next five years. These initiatives reflect our vision, mission and strategic directions and will be supported by a phasing plan and forecasted financial impact summary. These growth strategies are organized into the following themes:

- Service Structure and Delivery
- Mobility Management
- Customer Experience
- Travel Demand Management

5.1 Growth Strategy 1 - Service Structure and Delivery

The way services are structured and delivered defines the primary customer aspects of any transit system. Where services go, how often vehicles are scheduled, how long the trip takes, how accessible stops are, and how the service is delivered (focus on customer service), are all key factors in residents choosing not only which services to take, but if transit is an option for them at all.

With finite budgets, transit systems must balance the competing demands for services that provide a high level of accessibility to more people, but take longer and run less often, against those services that are fast, direct and more frequent. Typically, more frequent and direct services attract higher ridership and are in line with Burlington Transit's ridership growth aspirations.

There are a number of strategies that Burlington Transit will implement over the next five years to improve the service structure and how services are delivered. These are discussed below.

5.1.1 Strategy 1A – Moving Towards a Grid-Based System

Burlington Transit currently operates a combination of grid-based routes and local routes. Local routes operate on local and collector roads and are designed to improve connectivity and reduce walking distance to a number of residential areas. While passengers on these routes may enjoy the convenience of having close access to transit services, local routes typically have longer travel times resulting from the meandering nature of the roads themselves. Many of these routes often have the lowest productivity in the system.

The grid-based system focuses on key population and employment areas, with links to the GO Transit network. Key north-south corridors like Brant Street and Walkers Line link the established southern areas to growing northern areas. Such grid-based systems allow for more direct routes on arterial roads that are faster, resulting in quicker journeys that attract more riders. The restructured grid-based system forms the foundation for future frequency improvements towards a 15-minute high frequency grid-based system.

While there will continue to be a role for local routes, the focus of future investment will be on major arterial corridors, where the greatest ridership potential per invested hour of service can be generated.

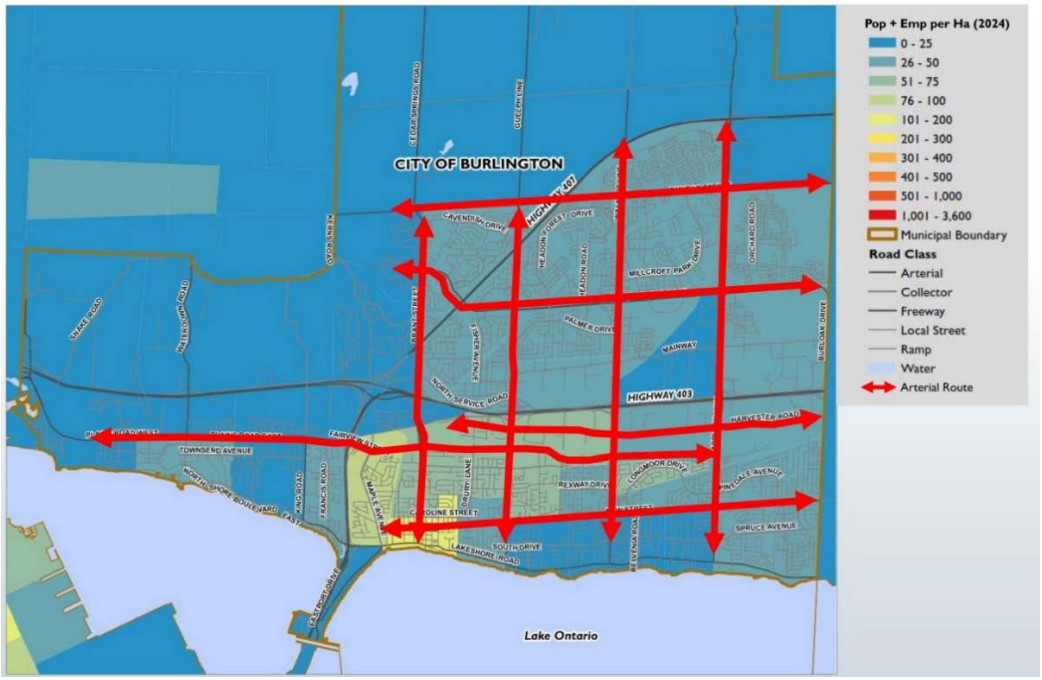


Figure 3: Conceptual Grid-Based System

Arterial routes, particularly when arranged as a grid, are easy to remember and the roads used are better-known by the wider community, reducing barriers for new customers. The September 2019 route modifications have already moved in this direction, and the plan is to move in this direction for all future services. A grid-based system also allows for convenient transfers between routes at intersections, providing greater connectivity to more destinations than a single local route could.

Where gaps are left in the network, alternative service delivery options such as on-demand transit services will be explored as a more cost-effective solution. This is more fully discussed in Strategy 2A.

Actions/Priorities:
To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Delete peak-only and after-hours only routes and reinvest service hours back into the system.
- Review underperforming routes in conjunction with the exploration of alternative service delivery options (Strategy 2A).
- Improve the amount of service on key arterial corridors and connections to GO Transit stations. Focus on east-west connectivity with strategic north-south corridors.

5.1.2 Strategy 1B - Increase Frequency of Services

One of the most important factors that influences transit use is frequency. Higher frequency services attract riders for the following reasons:

- shorter wait times
- improved reliability (as redundancy is built into the system for when individual trips are delayed)
- provides riders more flexibility in planning their trips
- spreads demand over more services during peak travel periods
- promotes greater connectivity and reduces transfer times

One of the challenges of this strategy is that arterial roads typically have long blocks with limited pedestrian connections into local neighbourhoods. Burlington Transit will work with the Community Planning, Regulation and Mobility Service Group to address pedestrian connectivity (including road crossings) between grid-based transit routes and local neighbourhoods and identify opportunities for mixed-use intensification.

Actions/Priorities:
To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Continue to improve frequencies on arterial roads, particularly on the east-west corridors of Plains Road / Fairview Street and New Street and the north-south corridor along Brant Street, with a goal of achieving frequencies of 15 minutes or better.
- Work with the Community Planning, Regulation and Mobility Service Group to increase and enhance pedestrian connectivity between arterial corridors and local neighbourhoods and identify opportunities for mixed-use intensification along grid-based transit routes.

5.1.3 Strategy 1C - Introduce Transit Priority Features

Successful transit services transport a large number of people using a relatively small amount of road space. Transit priority measures enable transit vehicles to gain priority on congested roadway networks, thereby improving reliability and reducing travel times relative to auto travel.

Queue jump lanes and signal priority are effective priority features on arterial roads that have moderate levels of congestion. Such corridors include Guelph Line north of the QEW or Appleby Line.

Burlington Transit is partnering with the Transportation Services Department to investigate a transit signal priority pilot project on the Plains Road / Fairview Street corridor, scheduled to start in 2021. Key data and lessons learned from this pilot project will be helpful in identifying other potential applications of transit signal priority across the transit network. Other priority features, such as dedicated transit lanes, will be considered post-2024.

Metrolinx's 2041 Regional Transportation Plan includes transit priority along Dundas Street to Fairview Street in Burlington and Frequent Regional Bus services using HOV lanes on Highway 407. While these initiatives are focused on regional trips, the Dundas Street priority corridor will also provide direct benefits to Burlington Transit.

Figure 4 illustrates the priority measures proposed by Metrolinx, the transit priority pilot project on Plains Road and Fairview Street, and other corridors that will be considered for transit priority over the five-year life of this Business Plan.

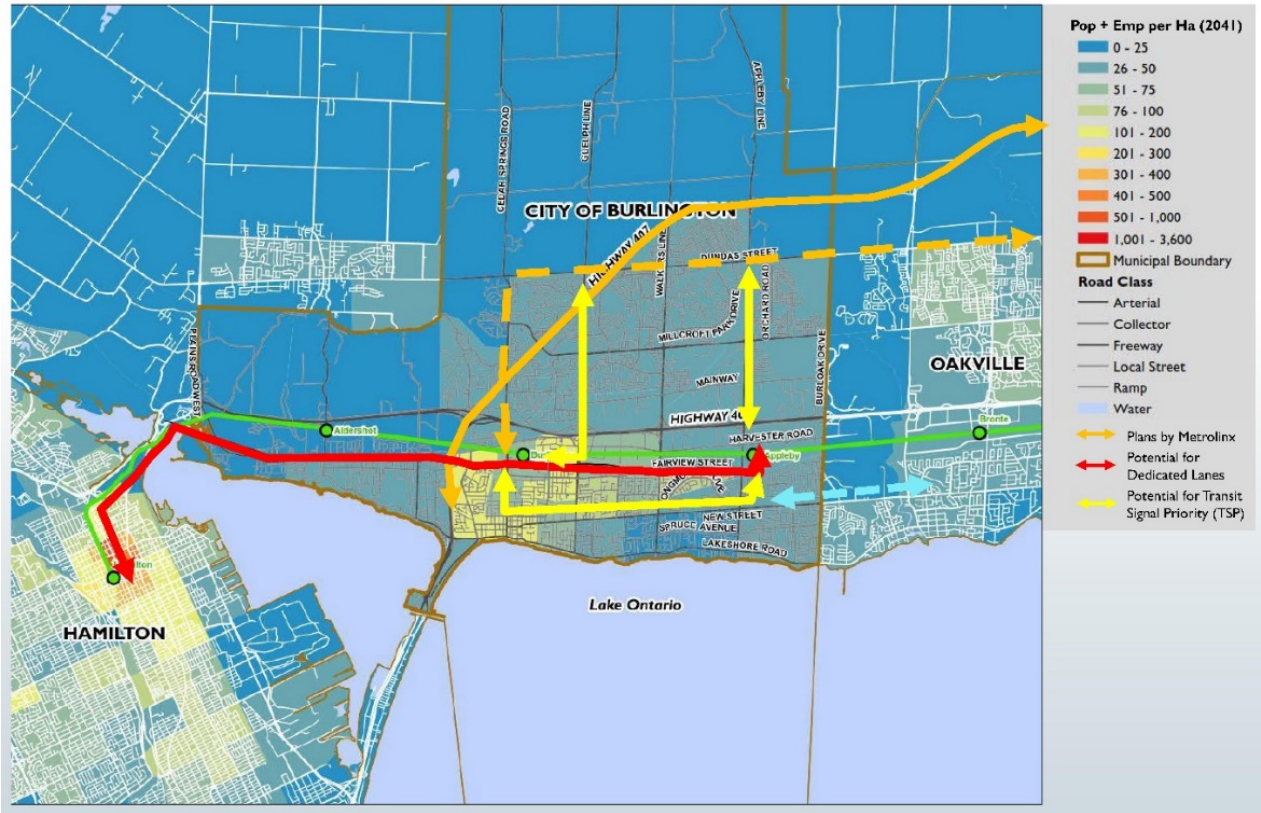


Figure 4: Conceptual Transit Priority Network

Actions/Priorities:
To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Implement currently-planned pilot transit priority project on the Plains Road / Fairview Street corridor.
- Initiate discussions with Metrolinx and advocate for the implementation of transit priority on Dundas Street and Brant Street as part of the overall Dundas Bus Rapid Transit (BRT) project. Ensure that those plans align with Burlington Transit's needs and complement other transit priority projects.
- Explore other transit priority corridors once the pilot on the Plains Road / Fairview Street corridor is complete.

5.1.4 Strategy 1D - Improve Connections to the GO Transit Network

Most of Burlington Transit's routes currently connect to at least one GO station, providing a logical transfer point between Burlington Transit and links to destinations outside of Burlington. Currently, peak GO Train frequencies from Burlington GO and Appleby GO is every 15 minutes or better during rush hours, and every 30 minutes off-peak and on weekends. Meanwhile, there are only two routes from Burlington Transit that operate every 15 minutes during rush hours. Due to the lack of frequency, most Burlington Transit routes cannot effectively service GO Trains during rush hour.

By 2025, Metrolinx plans to improve all-day frequencies on the Lakeshore West Line between Aldershot GO Station and Union Station to every 15 minutes, as part of the "Regional Express Rail" initiative (see **Figure 5**). This will result in reduced travel times between the three GO stations in Burlington and Union Station.

Parking at each of the stations is nearing capacity, and any increased demand that results from the improved GO Train service levels will need to be accommodated by other modes. A focus on transit-oriented, mixed-use development around each GO station will help increase pedestrian and cycling access to and from the three GO stations and should be encouraged. Burlington Transit will also focus on improving connections to each GO station to match the proposed 15-minute headway. On-demand transit service delivery options or partnerships with ridesharing services will help provide the flexibility required to provide GO Train passengers with convenient travel options for the first and last mile of their trip.

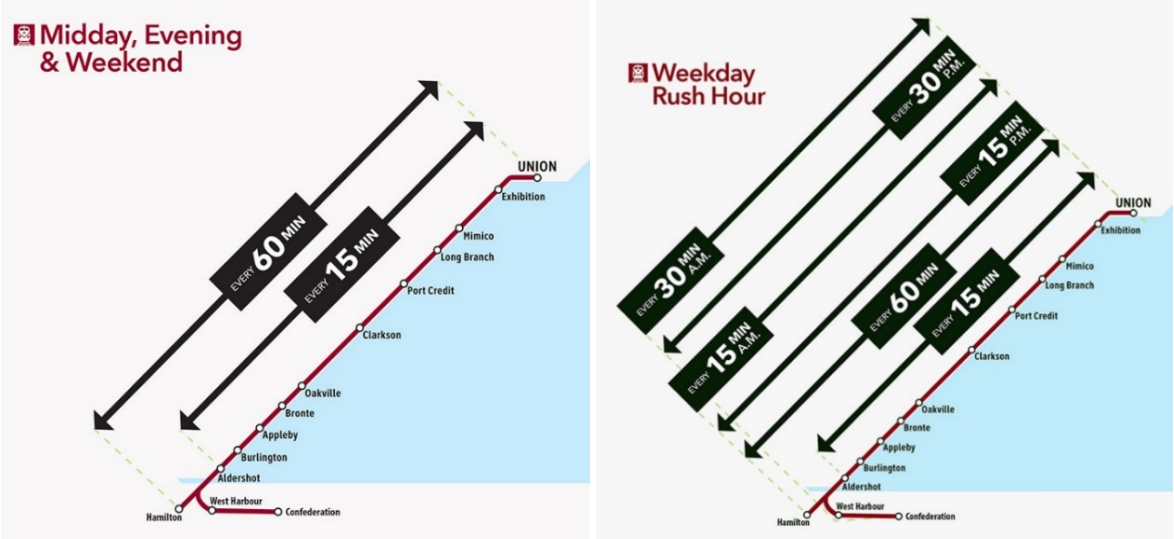


Figure 5: Regional Express Rail Planned Headways

The introduction of frequent two-way, all-day 15-minute service on the Lakeshore West line, along with a recent reduction in GO Transit fares for short-distance trips, provides an opportunity to better integrate this express service with Burlington Transit. This will result in a better level of service for Burlington residents and utilize a resource that is already available. For passengers traveling between any two GO stations in Burlington, their travel time may be significantly reduced using a combination of GO Transit and Burlington Transit services.

Rather than compete with GO Transit by offering express routes parallel to the Lakeshore West Line, we will focus our efforts on providing integration opportunities with this east-west express service. This may include improving service on local routes that connect with GO stations and encouraging passengers to use a combination of GO Transit and Burlington Transit routes to complete trips within Burlington. This connectivity reduces duplication while offering passengers faster journeys and improved access to a greater number of regional opportunities, like employment.

Actions/Priorities:
To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Improve frequency of direct connections to GO Transit stations with the introduction of Regional Express Rail (RER).

- Explore on-demand alternative service delivery strategies to connect to all GO Train trips that do not conveniently connect to conventional Burlington Transit service.
- Explore integration opportunities to better utilize the Regional Express Rail (RER) network for local express trips within the city. This should include improvements to trip planning tools (e.g. Triplinx, Google Maps), and marketing and communication (see Strategy 3D – Digital Connectivity).
- Continue to participate in the GTHA Fare and Service Integration Working Group.

5.1.5 Strategy 1E - Increase Service Integration with Neighbouring Transit Systems

There is also a significant travel demand between Burlington and the adjacent municipalities of Hamilton and Oakville. When drivers use roads that cross municipal boundaries, they do not experience any service level reduction or increase in cost. To attract more riders, transit service needs to be seamless in the same way.

While Burlington Transit already offers service and fare integration with its neighbouring transit systems, the level of integration could be improved to create a more seamless experience for customers and reduce operating costs.

There are a number of examples of this type of integration that exist in the Greater Toronto and Hamilton Area (GTHA). Brampton Transit shares the operation of select routes with MiWay (in Mississauga) and York Region Transit (YRT), allowing passengers from both municipalities, respectively, to make single vehicle journeys without either agency operating competing services.

Actions/Priorities:

To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Meet with Hamilton Street Railway (HSR) and Oakville Transit to identify opportunities to further integrate services through shared and coordinated scheduling and routing.
- Participate in the Region of Halton's Defining Major Transit Requirements in Halton initiative to identify opportunities for regional and local transit collaboration.



COVID-19 Impact Statement

The Service Structure and Delivery plan will continue to be implemented. The grid-based system and frequency are important in getting riders to their destination and making transit a compelling option. In the early days of COVID-

19, Burlington Transit reduced its scheduled service and decreased the number of buses. Scaling back service to meet reduced demands worked early on. Rather than scheduling buses to run at specific times, shadow buses were deployed on busy routes. Shadow buses pick up excess passengers when buses were full and physical distancing could not be adhered to. This approach continued throughout the pandemic. Future service will need to consider bus capacity, availability of buses for shadowing on high ridership routes, and new travel patterns of riders, post COVID-19.

5.2 Growth Strategy 2 - Mobility Management

Mobility Management acknowledges that people can travel in different ways, using many different modes of transport, like cycling, walking, or ride sharing ("mobility"). All of these potential options are brought together, managed and offered through a single service, benefitting the community through simplicity, choice and ease of use.

Investing in Mobility Management means thinking beyond the primary role of providing public transit service and becoming the sustainable mobility integrator in the community. It means understanding the needs of all customers in order to better integrate conventional and specialized transit services, consider how to use or partner with other sustainable mobility providers for new or improved service, and provide better overall service.

There are a number of strategies that Burlington Transit will implement over the next five years that are in line with the theme of mobility management. These are discussed in the following sections.

5.2.1 Strategy 2A – Research and Implement On-Demand Alternative Service Delivery Models

Customers are demanding greater customization of their mobility options; seeking more adaptable and flexible services that adjust to when they want to travel in real-time, without relying on a published schedule. Similarly, transit systems continue to seek solutions to reduce costs and improve productivity of services. Conventional transit solutions do not always meet these two goals, particularly during evening and weekend periods when ridership demand is lower, low demand areas characterized by low density neighbourhoods, and in employment areas designed around the private automobile. This combination of factors makes it difficult to provide cost-effective conventional service in a manner that meets rising customer expectations.

On-demand transit (or microtransit) is a traditional form of mobility that is experiencing a resurgence with the help of technology. On-demand transit has four components that differentiate it from conventional transit:

- Flexible routing and/or scheduling that is responsive to customer demand;
- Newly-emerged “mobility brokers” who use mobile applications to connect supply and demand;
- Use of smaller vehicles; and
- Integration of multiple transportation services to complete a trip (using a mobile application).

On-demand transit works as follows:

- Customer requests a trip through a mobile application that links to Burlington Transit’s real-time automatic vehicle location system. Available pick-up times that are close to when the customer wants to travel are provided and the customer chooses the most suitable option and the trip is scheduled. If a customer does not have a mobile phone, a phone number is available to allow customers to book the trip directly with Burlington Transit.
- The mobile application considers all concurrent requests for service and determines an optimal itinerary of pick-ups and drop-offs such that the aggregate travel time for all passengers is minimized.
- Once the trip is booked, the mobile application allows the customers to track the location of the vehicle in real-time.
- A marked vehicle (typically a van or an accessible specialized transit vehicle) arrives at a marked or virtual stop.
- Customers with a PRESTO card pay for their trip when they board the vehicle by tapping onto a PRESTO card reader. In the future, mobile fare payment options integrated with PRESTO will be explored.
- The vehicle does not follow a predefined fixed route. Customers will be taken to their destination as directly as possible; picking up and dropping off other customers that are in close proximity.
- The customer would be dropped off at their destination or to the closest transit hub, where more than one Burlington Transit and/or GO Transit service connect, to allow them to complete their trip.

Actions/Priorities:

To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Further explore the use of on-demand transit services to complement conventional services. This should include a review of using dedicated Burlington

Transit vehicles or contracting out the service using vehicles that are not dedicated to the service (e.g. pay per trip).

- Develop an on-demand transit service model and business case for low demand areas and time periods, allowing customers to use a mobile application to book a shared-ride demand-responsive service to connect to the conventional service. This should coincide with the transition to a grid-based system.

5.2.2 Strategy 2B - Explore Partnerships

Travel is becoming increasingly multi-modal. A Burlington resident may cycle to a local event, drive to the grocery store, and take a combination of Burlington Transit and GO Transit to work. Younger generations are not acquiring personal vehicles and driver's licences to the extent that previous generations did. While auto travel will continue to dominate in Burlington, there are opportunities for the city to partner with other mobility providers to make residents more aware of the range of sustainable travel options. Ride sharing and carpooling have become easier to use now that applications have been developed that match those looking for rides with those having seats to share. Car shares and bike shares are now common in urban settings. Taxis and new Transportation Network Companies (TNCs) are adapting and offering residents an alternative to owning a second car for many trips. There are also opportunities to better integrate transportation services with school boards, including student travel for after-school activities.

Burlington Transit will continue to evolve and see itself as not only an operator of transit services, but as a partner and collaborator of sustainable mobility services. This will allow residents to increase their use of sustainable mobility options and to easily transfer between different modes.

Actions/Priorities:
To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Continue and proactively explore partnerships and approaches with other sustainable mobility providers.
- Promote sustainable mobility services through awareness, marketing, and education campaigns to inform residents of alternatives to driving alone in private vehicles.

5.2.3 Strategy 2C - Integration of Specialized Transit and On-Demand Transit Service

Burlington Transit is interested in improving the integration of specialized transit for persons with disabilities with on-demand transit trips. Under an integrated service model, a vehicle used to provide specialized transit service can also be used to provide on-demand transit service, and vice versa. This means that the services would be "comingled", and specialized transit and on-demand transit service customers may share vehicles if it provides greater efficiency in the delivery of their trips. The decision to integrate trips will be based on the ability to utilize existing in-vehicle capacity without compromising the current level of service to customers.

This approach will provide more flexibility to utilize the right vehicle for the right type of trip. This allows for more efficient scheduling and increases the available capacity for all Burlington Transit customers.

It should be noted that specialized transit will continue to operate as a core service for registered customers and any integration with on-demand transit service should not reduce the level of service. This approach should be evaluated based on the availability of specialized transit vehicles and ensure that vehicles are maintained and managed to serve trips booked on specialized transit. Further review of maintenance costs should also be considered.

Actions/Priorities:
To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Explore the concept of integrating specialized transit services with on-demand transit services – which could be achieved with demand-responsive technology that supports both on-demand transit service and specialized transit dispatch.



COVID-19 Impact Statement

During a pandemic, mobility management is a key component. Several of the initiatives identified in this section have been impacted by COVID-19. In mid-March, after the declaration of the provincial and city emergency, ridership plummeted, and revenue completely dried up. Burlington Transit had many empty buses driving around the city. As the emergency restrictions loosened up and more people ventured out to use public transit, it was evident that buses were required on busier routes due to physical distancing requirements. However, due to the limited number of buses and the number of bus operators, it was sometimes challenging to manage the ridership limits. As noted earlier, shadow buses were deployed on busier routes to help alleviate crowding on

buses. In assessing the situation, it was determined that having an on-demand service to service less busy routes and diverting buses to busier routes would have been a good pandemic strategy. With the decreased usage of specialized transit during the pandemic, vehicles could have been deployed as part of this strategy.

5.3 Growth Strategy 3 - Customer Experience

Residents choose to try transit for many reasons, but their experience when taking transit, informs future use. While routing and frequency are key in determining whether transit is a viable option, the experience is key in making transit an option that people actively want to use.

The implementation of more in-depth real-time operational information and proactive communication can give passengers certainty and a sense of reliability. Improving accessibility and increasing the provision of shelters will help remove barriers to transit use, making it an option for more members of the community. Finally, enhanced digital connectivity builds on one of transit's competitive advantages – the ability to dedicate attention to digital devices to get work done and stay connected while travelling.

Customer experience enhancements will encourage new customers to use transit and, importantly, keep existing customers on the system.

There are a number of strategies that Burlington Transit will implement over the next five years that are aimed to improve the customer experience. These are discussed in the following sections.

5.3.1 Strategy 3A - Improve Communications

Increasingly, customers source transit information from generic applications that require Burlington Transit to provide operational information through open data channels. The strategies outlined in Growth Strategy 1 regarding service structure and delivery, specifically improving the connections to the GO Transit network and increasing service integration with neighbouring transit systems, stress the importance of the use of third-party transit applications. These applications help riders navigate multiple transit agencies as their trips may cross municipal boundaries and transit systems and obtain the most up-to-date information.

In addition to pre-trip information, onboard information also contributes to a positive customer experience. Feedback from the community shows that Burlington Transit's bus operators are friendly and helpful, however, they need to focus on driving and may

not be able to provide as much information as all passengers may require. Burlington Transit has onboard systems that provide legislated information, like next stop announcements. However real time information regarding service disruptions and service changes needs to be communicated either through applications, Burlington Transit's website, or various notification systems like text messages.

Communications about planned and unplanned disruptions are very important to instill confidence in customers that transit is reliable and comfortable to use, and to ensure that customers are aware of the actual operating environment on the routes and services they need to take.

Actions/Priorities:
To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Establish a new service standard to ensure that information on all disruptions and unplanned events are published on Burlington Transit's website and provided to the open data (Google Transit) disruptions application programming interface and social feeds within 15 minutes of them occurring.
- Hire operations administrative dispatch clerks to support on-road supervisors and enhance communications with Customer Service.
- Investigate partnerships with third-party trip planning applications to provide riding assistance to new customers.
- Implement technology to provide real time text messaging notifications for riders.

5.3.2 Strategy 3B - Improve Comfort and Accessibility at the Stop

Improved accessibility on Burlington Transit benefits both persons with disabilities and all other passengers that use the system. To continue to progress towards a more accessible system, we released a 2019/2020 Accessibility Plan, which forms part of the City of Burlington's Multi-Year Accessibility Plan 2019-2024. The Accessibility Plan outlines actions to remove barriers and improve accessibility. Items in this Business Plan are consistent with initiatives in the Accessibility Plan, including improved frequency, improved communications, and improved links with neighbouring municipalities. The plan also includes a bus stop upgrade program and the addition of real-time information screens. In addition, new bus stop design standards (which define dimensions, access, orientation, and other requirements for accessible transit stops and shelters) have been formalized.

Actions/Priorities:
To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Continue to implement key actions in the Burlington Transit Accessibility Plan.
- Update the Burlington Transit Accessibility Plan on an annual basis.
- Expand the bus stop upgrade program.
- Pilot and monitor a heated bus shelter at a key destination in the city.

5.3.3 Strategy 3C - Shelters

A customer's perception of the transit experience starts before they board a vehicle. One of the first interactions with the system on the day of travel is waiting for the service at a stop. Shelters provide customers with a place to take refuge during inclement weather (rain, snow and strong winds) or shade during hot summer days. They also provide a source of information about the service (through maps, information signs or digital signs) and a sense of permanency of a transit system, particularly on routes that provide direct, frequent, and rapid service.

As service is expanded and the grid-based system is developed, the expansion of shelters will be a key part of improving the customer experience.

Actions/Priorities:
To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Continue to improve the process for conducting bus shelter condition assessments for all existing stops with shelters. This includes better use of technology for more efficient data capture.
- Create a shelter upgrade program, dictating how stops qualify for shelters and how to prioritize the roll-out of new shelters.
- Work with the Roads, Parks and Forestry Department to increase natural shelters at stops (e.g. strategic location of tree planting near bus stops).

5.3.4 Strategy 3D - Digital Connectivity

One of the benefits of taking transit is that our customers are free to engage in activities that are not possible when driving. Staying connected is increasingly important and it is common to see transit passengers using smartphones and tablets during their journeys. To improve the experience of customers using electronic devices during their travels, the provision of charging facilities onboard buses and Wi-Fi at major stations and transfer points will be explored.

The implementation of USB power outlets on buses and Wi-Fi at facilities will initially be on a pilot basis and focused on routes and facilities with higher ridership. The rollout of onboard charging will be tied to new bus deliveries and their allocation to certain routes will be subject to operational requirements.

Actions/Priorities:
To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Include USB charging ports on all new bus deliveries.
- Develop a business case and cost estimate for adding Wi-Fi on buses.

COVID-19 Impact Statement

Communication is key during the pandemic. With changes happening daily, transit agencies have to be flexible, and thus communicating changes became paramount. Social media, website and signage on buses continued to be the main channels to communicate to customers.

5.4 Growth Strategy 4 - Travel Demand Management

Travel demand management includes strategies to influence demand, through transit fare pricing, the use of incentives, and land use planning. Travel demand management can shift travel from peak to non-peak times, freeing up peak capacity and improving resource utilization.

There are a number of strategies that can be implemented to influence travel demand. These are discussed in the following sections.

5.4.1 Strategy 4A - Free Midday Travel for Seniors

As part of the 2019 Budget, a pilot program offering seniors free travel on public transit between 9 a.m. and 2:30 p.m. on weekdays was approved. This became effective in June 2019 and will run until December 31, 2020. Based on the initial response of the pilot, this policy seems to have had positive benefits to the seniors' community. Cost implications are currently being monitored and a detailed report will be provided as part of the 2021 budget process. Since Burlington Transit was not collecting fares between March 19, 2020 to September 1, 2020 due to COVID-19, this pilot program has been extended until May 31, 2021 in order to capture a full 18-months worth of data.

Before the pilot began, seniors made up nine percent of all-day ridership on the system. The free fare policy was aimed at increasing seniors' ridership, particularly for those on

fixed incomes during the off-peak hours. The anticipated reduction in paid ridership was forecast at 51,000 rides which equated to approximately $148,000 in revenue.

However, a year into the pilot showed that senior boardings in the midday increased by over 2.5 times and ridership outside of the free period did not change. Seniors did not shift travel time, rather more seniors used the bus more frequently. Overall senior ridership increased by 41 percent between June 2019 and February 2020.

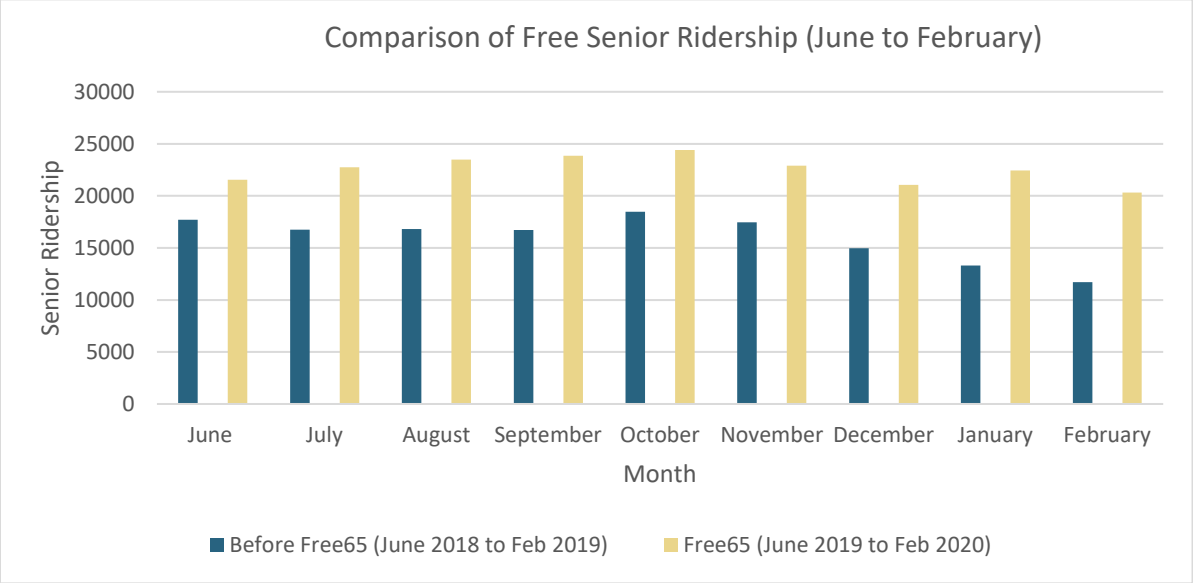


Figure 6: Comparison of Senior Ridership (June to February)

It should be noted that free transit also applies to seniors who use specialized transit. The Accessibility for Ontarians with Disabilities Act (AODA) requires fare parity between conventional and specialized services. Unlike conventional transit, specialized transit peaks during the midday period and has less capacity to accommodate an increase in demand (due to the small vehicle size and door-to-door service delivery model). Early indicators show that the introduction of this policy did see an increase in specialized transit usage. The extent of this increase is being monitored over the course of the pilot.

Actions/Priorities:
To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Monitor the impacts of the free midday travel for seniors' pilot project on ridership, technology, customer service, revenue and operating costs for the duration of the pilot before implementing further changes or mitigation measures.

- Identify strategies to increase specialized transit service levels during the pilot project to maintain an acceptable trip accommodation rate.

5.4.2 Strategy 4B - Affordability

In conjunction with the city's decision on seniors' fares, Council also approved the change to the Subsidized Passes for Low-Income Transit (SPLIT) program from a 50 percent fare reduction to a free monthly pass, effective May 1, 2019.

The existing SPLIT pass has been in place for almost nine years and has provided a 50 percent fare subsidy to residents of Burlington that meet the qualifications. The program is administered and initially funded by Halton Region Social Services. With the change in the program to a free pass, the city now covers the remaining 50 percent of the pass price. In 2019, the cost to subsidize the remaining 50 percent was approximately $185,000.

Actions/Priorities:
To achieve this strategy over the next five years, efforts will be focused on the following action:

- Monitor the usage of the SPLIT pass program and report the results to council on a yearly basis.

5.4.3 Strategy 4C - Free Transit for Children (ages 12 and under)

As of March 9, 2019, children aged 12 and under are permitted to ride for free on GO Transit. This aligns GO Transit with the Toronto Transit Commission (TTC) 'kids ride for free' policy and allows for improved system integration and a more seamless travel experience for families. To align with this new GO Transit policy, Burlington Council approved, as part of the 2020 budget process, free transit for children aged 12 and under, which started January 1, 2020.

A similar fare structure makes travel more convenient for passengers travelling with children using both GO Transit and Burlington Transit, and will become increasingly so when the Regional Express Rail (RER) is introduced.

Children 6 to 12 represent less than one percent of total ridership on Burlington Transit. This represents approximately $42,250 in annual fare revenue for the 2020 budget. This suggests that the move to a free fare for children aged 12 and under would not have a significant impact on revenue and may increase ridership as more families choose to take transit.

Actions/Priorities:
To achieve this strategy over the next five years, our efforts will be focused on the following actions:

- Continue to maintain free fares for children aged 12 and under.
- Monitor ridership and revenue changes in 2020 to assess the impact of this new fare policy.

5.4.4 Strategy 4D - Student Fare Strategy (ages 13 – 19)

Students offer a significant opportunity to encourage transit familiarity, increase ridership, and establish travel patterns that may continue into post-secondary student and adult life. To maximize this opportunity, Burlington Transit is developing a student fare strategy. This strategy will include transit familiarization outreach for students 13 to 19 years of age.

Metrolinx is currently managing a Fare Integration Forum through which they have requested that GTHA municipalities put a six-month pause on new fare products or concessions. They have also asked that future concessions or fare products be considered together. Given the importance of a seamless fare strategy in the GTHA, we will wait for the outcome of this forum before introducing any new concessions for students.

Actions/Priorities:
To achieve this strategy over the next five years, we will focus our efforts on the following actions:

- Implement an outreach program to educate students ages 13 to 19 on how to use public transit.
- Monitor the results of the Fare Integration Forum and bring recommendations back to council that are consistent with the municipalities in the GTHA.
- Meet with school boards that represent secondary schools located in Burlington to develop a Memorandum of Understanding regarding a student fare strategy and outreach program.

5.4.5 Strategy 4E - Employer Partnerships

Targeting employees that regularly commute represents a good opportunity to increase ridership on Burlington Transit. Employers that have standard office hours are typically located along key arterial corridors that have direct service, with start and end times that typically coincide with peak transit frequencies. Since service levels are high, staff will work with employers to develop communications and marketing strategies that offer an emergency ride home program.

Large industrial/warehousing employers, retail service employers and other employers located in areas not well serviced by Burlington Transit provide another employer partnership opportunity. These types of opportunities typically involve some degree of employer funding to provide more tailored service to meet employee requirements. This could include free or discounted transit passes, emergency ride home programs, and/or shuttle or on-demand services from transit hubs to work locations.

Actions/Priorities:
To achieve this strategy over the next five years, our efforts will be focused on the following actions:

- Explore opportunities for partnerships with employers and evaluate alternative service delivery models to provide service to employees. Target one employment area for a year to assess the level of effort required for ridership growth.
- Assess whether regular service can be supplemented by on-demand alternatives during off-peak travel times and/or emergency ride home programs.
- Assess an Employee Pass program in partnership with major employers that offers discounts on transit passes.

5.4.6 Strategy 4F - Enhanced Coordination with Other City Departments

An essential component of transit planning is supportive land use planning and community design. Transit services that operate along mixed-use high-density corridors with good connectivity to the places where people live, work and play offer the highest potential to grow ridership. In this way, transit and land use development are inexorably linked. Consequently, it is important that land use planning give strong consideration to transit needs, and vice versa. Ensuring the alignment of land use and transit creates sustainable, mixed-use communities, and leads to strong ridership levels.

Burlington Transit already collaborates with the Community Planning, Regulation and Mobility Service Group. Staff are engaged through circulated development applications and long-range plans, including Official Plan (2018) amendments and secondary plans. This relationship will be maintained, with both departments working in partnership to achieve the ridership forecast.

Staff will also work towards developing a revised service standard for Proximity to Service. The revised standard will place an increased onus to target growth in population and employment around existing transit routes, particularly high-frequency arterial corridors. A target could be established that directs the majority of population and employment growth to be within a 400-metre walk of transit stops. This places

some accountability for achieving this target on the Community Planning Department, as the grid-based system would have already been established. Any growth in green field development where a route extension is required should also ensure that this target is met.

Staff will also work with the Transportation Services and Capital Works Departments to develop a formalized policy that ensures construction and capital improvement projects (e.g. resurfacing, widenings) include Transit input so that transit improvements are incorporated where feasible (e.g. stop relocations, new shelters and shelter upgrades, bus stop accessibility improvements and transit priority measures).

Burlington Transit will also be a key stakeholder in the Integrated Mobility Plan (IMP), which will set a policy direction for all transportation infrastructure and services provided in Burlington over a 30-year time horizon. An investment in transit will play a key role in meeting any transit mode share targets identified in the IMP. This could include recommendations to encourage the city to adopt a Multi-Modal Level of Service (MMLOS) Policy for New Corridors.

While improved planning integration between land use, roadway planning and transit is unlikely to result in measurable ridership growth in the short-term, it will pay dividends as development patterns evolve over time.

Actions/Priorities:
To achieve this strategy over the next five years, our efforts will be focused on the following actions:

- Continue to play an active role in strategic land-use planning decisions, highlighting the need for improvements to pedestrian amenities and walking access to the grid-based system.
- Continue to work with City of Burlington staff on the alignment of development, growth and employment areas with transit investment and service by reviewing development applications and secondary plans.
- Develop and formalize a Service Development Plan for Burlington Transit to inform land use planning decisions.
- Develop a Proximity to Service standard with the Community Planning, Regulation and Mobility Service Group. This standard should define a five-year target for proximity to transit once the grid-network has been established.
- Continue to work with Transportation Services and Capital Works Departments to coordinate transit interests in roadway capital improvement programs (e.g. new stops, shelters, accessibility improvements, transit priority features).

- Work with Transportation Services Department as a key stakeholder in the Integrated Mobility Plan and QEW Prosperity Corridor study to identify strategies to meet the transit mode share target.

5.4.7 Strategy 4G – Reduce Transit's Carbon Footprint

City Council unanimously passed a motion to declare a climate emergency at their meeting on April 23, 2019. The motion resulted in the preparation and approval of a Climate Action Plan which directs staff to apply a climate lens to plans developed by the city. These actions were incorporated into council's 25-year Strategic Plan work plan - "2018-2022 Burlington's Plan: From Vision to Focus". The plan identifies key strategies and targets for council to achieve in working towards being net carbon neutral by 2040.

Burlington Transit has a significant role to play in moving towards this important goal. The key focus of this Business Plan is to identify strategies that will increase transit ridership, and therefore reduce single occupant vehicle travel. One full bus can replace 40 to 50 private vehicles on the road, significantly reducing the level of GHG emissions.

New electric buses are also being introduced into the market that can contribute to achievement of the net carbon neutral goal. This initiative, however, requires a significant capital investment and a complex operational implementation. In early 2020, Burlington Transit engaged CUTRIC (Canadian Urban Transit Research & Innovation Consortium) to undertake a full fleet modelling study on transit electrification. The study's objectives include:

- Energy analysis of electric buses using in depot and on-route charging.
- Economic analysis to estimate electricity usage costs in energy and demand charges, in comparison to diesel.
- Schedule analysis of electric buses.
- Analysis of optimal charger locations.
- Recommendations for electrification for Burlington Transit.

The outcome of this modelling will provide a road map for electrification that will include both short and long-term plans to achieve this goal.

How Burlington Transit operates as an organization is relevant to the Climate Change Action Plan. A Sustainability Plan that outlines key strategies, policies, and actions to reduce greenhouse gas emissions, promote waste reduction and minimize energy use in transit operations will be developed. Changing how we operate as an organization will

help send the right message and promote Burlington Transit as a good corporate citizen.

Actions/Priorities:
To achieve this strategy over the next five years, our efforts will be focused on the following actions:

- Implement key recommendations in this Business Plan that have the most significant impact on ridership growth, which will in turn reduce the use of single-occupant vehicles.
- Work with CUTRIC (Canadian Urban Transit Research and Innovation Consortium) to develop a Fleet Electrification: Feasibility Analysis and Simulation-based Planning study. The study will analyse energy requirements, economic analysis, GHG emissions analysis, electrification roadmap and schedule optimization.
- Implement the directives in the City of Burlington Climate Action Plan that focus on how we operate as an employer and report annually on the progress made. This includes initiatives in waste reduction, sustainable commuting and energy use.
- Work with the Roads, Parks and Forestry Department to increase natural shelters at stops (e.g. strategic location of tree planting near bus stops - Strategy 3C).
- Design the new Operations and Maintenance Storage Facility (refer to Section 6.4) using Burlington's "Sustainable Building and Development Guidelines", identified as a key recommendation in the 2018-2022 Burlington's Plan: From Vision to Focus work plan.
- Develop a formal Sustainability Plan for Burlington Transit that guides decisions that are made as an employer to promote sustainability in line with the city-wide Climate Change Action Plan.

COVID-19 Impact Statement

Many of the strategies defined by Travel Demand Management were greatly impacted during the pandemic. With PRESTO fare payment discontinued, it has been difficult to understand ridership behaviour. Fare payment resumed on September 1, 2020, and passenger information will be available in order to analyse and compare ridership to previous years. With seniors being a vulnerable population for COVID-19, it will be particularly important to monitor this ridership group. Forecasts for the seniors' free program have been toned down in 2021 due to COVID-19 in both the Business Plan and operating budget.

However, the program is an important part of increasing ridership and making transit a viable option for seniors. Following COVID-19, and once a vaccine is available, some strategies will require revisiting, especially if transit ridership continues to be low.

The COVID-19 shutdown had a significant impact on traffic within the City of Burlington. From mid-March to early June, traffic congestion was at its lowest. On-time performance of our buses was also very high and schedule adherence was impressive. It was evident that decreased traffic congestion and few stops minimized repairs required to buses; and does decrease the amount of fuel used. For the first two weeks of the shutdown, Burlington Transit maintained its service levels. Same number of routes, frequency, and buses, however due to decreased traffic, daily fueling decreased by approximately 20 percent at the end of March. As traffic begins to increase in the coming months, and transit ridership starts to recover, prioritizing Travel Demand Management to make transit a first-choice mode must be continued.

6.0 Assets and Infrastructure

The Business Plan identifies an increase in the number of buses required to operate the service. This will impact the existing facility used to house and maintain the fleet, as well as on-street infrastructure of bus stops, terminals, and shelters. The Business Plan includes a strategic review of our assets and infrastructure. The results of this review are identified below.



6.1 Fleet Replacement and Growth

Burlington Transit's fleet is able to meet current service levels and is planned for phased replacement as buses age. As service grows, however, additional vehicles will be required and, as technology develops, alternative vehicles will become increasingly relevant. As part of the city's climate change emergency declaration, city staff and council are investigating all options to reduce the city's greenhouse gas emissions, including the use of electric buses (see Strategy 4G). Initial work indicates that electric buses cost approximately double that of a diesel equivalent bus. However, without engines and transmissions, electric buses are expected to have lower lifecycle costs (although the longevity and lifecycle costs of batteries is not yet proven). The capital and operating requirements of electric buses need to be carefully investigated.

Members of council received a briefing from a leading expert on electric buses to determine the best way forward. Moving in this direction will require changes to training, both on the vehicle and various legislative requirements to work on 600 volts. This will also require new equipment and tooling purchases, and changes to the existing maintenance facility. These items will be addressed in the Fleet Electrification: Feasibility Analysis and Simulation-based Planning study that is underway with CUTRIC.

Actions/Priorities:

To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Develop a clear transit fleet plan detailing all the fleet additions and changes, including options for electrification. This plan should be developed in conjunction with and support the facility strategy detailed in Section 6.4.
- Develop five, ten and 20-year budgets that coordinate all existing expansion and replacement vehicles and consider new vehicle technologies. This would be included in the city's Asset Management Plan.

6.2 Fleet Maintenance Management

To increase the reliability, safety and cleanliness of our fleet, the transit industry standard is to measure the performance of fleet maintenance through a series of metrics. These metrics typically include mean distance between failure, inspection adherence, vehicle cleanliness, quality assurance checks, etc.

An enterprise-wide city asset management system is currently being assessed. This system will form the backbone of transit's future performance management and inventory program. As this system is being developed, we will assess the functionality to ensure that transit-specific fleet management requirements can be provided.

Actions/Priorities:

To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Replace the existing manual parts management system with a more enhanced system that can meet Transit's specific needs.
- Work to ensure that the city's new asset management system includes automated minimum/maximum level, warranty management, latent defects, invoicing and cost control.
- Establish Key Performance Indicators (KPI's) and a maintenance program to achieve them. The system will assist in developing and measuring preventative maintenance programs, managing work and tracking warranties.

6.3 Fleet Maintenance Plan

Increased demands on a larger fleet will require more proactive planning and scheduling of maintenance activities. To achieve this, practices will be improved to meet industry standards by changing to distance-based maintenance planning, analysis, and Quality Assurance (Q/A). This will optimize the useful life of vehicles and their components.

Actions/Priorities:
To achieve this strategy over the next five years, efforts will be focused on the following actions:

- Implement Quality Assurance (Q/A) programs and lifecycle replacement or overhaul strategies.
- Review new technologies and develop a strategy for future implementation and integration.
- Determine if conventional bus replacement cycles can be adjusted from the current 12-year cycle, by reviewing bus life optimization, considering areas such as proactive maintenance programs and lifecycle replacement.

6.4 Operations, Maintenance & Storage Facility (OMSF)

Our current transit facility where buses are stored and maintained was renovated approximately ten years ago and is at its functional capacity limits. In its current condition and configuration, it does not meet the future growth needs identified in this Business Plan. As such, additional space is required to increase storage and address shortfalls of the current infrastructure. This space could be in the form of an expansion on the current site or a second site elsewhere in Burlington.

To effectively manage the current and new/expanded facility, a lifecycle replacement strategy for the current site will be developed.

Actions/Priorities:
To achieve this strategy over the next five years, our efforts will be focused on the following actions:

- Conduct a study to assess the optimal design and/or location of an expanded OMSF.
- Expand the current facility or build a second maintenance and/or storage site.
- Develop a budget and lifecycle replacement strategy for the current facility site.
- Investigate a contracted-out facility maintenance model including levels of service, lifecycle budgeting and replacement.

COVID-19 Impact Statement

COVID-19 has impacted the world and has prompted leaders to initiate changes that can help prevent further spread of this deadly virus and work towards restoring a balance. By making changes to our work environment, we will not only address the current issues we are facing but be ready for future challenges. The existing transit facility is already at capacity, which limits our ability to accommodate proper staff distancing. The pandemic has further necessitated the need to expand our existing facility to accommodate proper physical distancing, provide a designated area for increased cleaning and sanitizing of transit vehicles, and the installation of advanced HVAC systems in repair and indoor storage areas to circulate and filter breathable air for staff.

7.0 Organizational Structure and Staffing



Our vision and ridership growth forecasts are ambitious and will not only require a significant investment in service, but a change in how service is delivered. In order to meet the Business Plan's vision and strategic directions, we will need to adapt the organizational structure. Are we structured appropriately? Do we have enough staff to take-on a growing customer base? Do we have the right skill sets so that staff are best positioned to meet growth goals?

By reviewing our existing structure and those in our peer municipalities, the following staffing changes will help us meet our goal of being more Customer-Focused, Forward-Thinking, and Business-Minded. **Table 2** below provides a summary chart of this information.

Based on the initiatives and actions included in the Business Plan, the following assumptions are being made:

- Planned annual revenue hours will increase by 33% between 2019 and 2024;
- Bus operators per bus will remain at 1.8, which still remains within industry norms;
- Revenue hours per bus operator will increase by 3%;
- Bus operators per supervisor will decrease by 32%; and
- Revenue hours per Customer Service staff will increase by 3%.

Outlined below are the resource requirements in order to achieve these goals. **This section incorporates the COVID-19 impacts and adjustments for staffing levels.**

1. **Bus Operators:** The planned increase in service hours to improve frequencies during all time periods will require eight additional bus operators each year, starting in 2022.
2. **Supervision of Bus Operators:** With the increase in service hours and frequencies, we will require additional supervision for on-street service. This will allow for better coverage when dealing with incidents (accidents, construction, emergencies), to continually support bus operators, and to improve customer service. We are recommending three additional supervisors in 2022, and one for each year after to 2024.
3. **Dispatcher**: To support the need for supervisors to be on the road and managing incidents on-site, a Dispatcher position is recommended to continually support the bus operators and provide administrative support at Transit Headquarters. They will be able to dispatch buses, respond to radio calls, answer bus operator questions and communicate with management, while the supervisors are on the road.
4. **Service Development Focus:** The Business Services and Planning section will continue to focus on service development, strategic business planning and technology initiatives. To better meet the Business Plan's vision and strategic directions, we are recommending the following realignment, which can be accommodated within our existing staff complement.

    - **Service Development and Planning** will be responsible for transit service planning, scheduling, statistics and data analysis, and strategic service development.
    - **Marketing and Customer Care** will be responsible for marketing, customer service, outreach and engagement, relationship management and Burlington Transit branding. This role will be the media liaison and provide strategic communications to council.
    - **Financial Operations** will focus on transit budgeting, reporting, accounting, cash management, revenue collection, asset management and fleet financial management. This team will work closely with the city's Finance Department to ensure budgets are aligned with the city's guidelines.
    - **Accessibility and Business Service Delivery** will focus on various policies and procedures including fare strategies, accessibility policies and planning, on-demand service policies and procedures, bus stop planning and construction and contract management. This section will define service standards and monitor performance of service and contracts.

5. **Marketing:** An increased focus on marketing and communications will be key in growing ridership. To provide additional capacity for the marketing function, we are recommending the addition of one Marketing Specialist. This position will assist in marketing and communication outreach programs and help build the Burlington Transit brand.
6. **Customer Service:** The city is in the process of establishing a customer experience program that aligns with the city's Service Brilliance vision, increases community input, and encourages a customer first approach. Further, the city is implementing a new Client Relationship Management (CRM) system, which may alter how customer service requests are routed, investigated, resolved and managed. The outcome of these initiatives may have an impact on staffing requirements, and we will review the Customer Service positions as part of the 2022 budget process.
7. **Facility Maintenance:** Burlington Transit does not have dedicated staff to maintain its major physical facilities (garage, Downtown Transit Terminal and administration building). While responsibility for this is formally assigned to another city department, the resources devoted to these major facilities do not meet current needs for good asset management. Given the value of these facilities, we are recommending the addition of a Maintenance Facilities Coordinator position within the Transit Maintenance section to guide physical facility maintenance/development and provide quality control of building maintenance services provided by other municipal departments.
8. **Mechanics:** In growing the fleet, Burlington Transit will require an additional Mechanic in 2022 and 2024 in order to maintain the bus per mechanic ratio. This will help sustain efficiency in maintenance and further prevent backlogs of unattended mechanical issues. Maintaining efficient maintenance processes is key to continue safe and reliable operation of service.
9. **Electronics Technician:** While the responsibility for PRESTO fare equipment on buses is planned to be assumed by Metrolinx, the other on-board electronic equipment is significant and will grow in complexity (e.g. automated vehicle location, passenger counting, signal priority, passenger information, engine tracking and fuel management, and communications systems). We are recommending converting the Electronics Technician position to an FTE position. This position is currently filled on a part time basis.
10. **Bus Servicing:** Burlington Transit continues to utilize an external contractor for bus servicing, which includes cleaning, fueling and farebox handling. Given the impact of this on daily operations and on customer satisfaction amongst our

passengers, the performance of the contractor will be reviewed for both performance and cost measures. The process and standards for bus servicing will be reviewed and analyzed over the life of this Business Plan.

A summary of staffing targets required to meet the vision, growth strategies and ridership growth between 2020 and 2024 is summarized in **Table 2** below.

As **Table 2** illustrates, the number of required bus operators, mechanics, supervisory staff and other staff grows in tandem with an increase in transit service levels. This is required to ensure that the transit service remains reliable and focused on the needs of the customer. The table also shows how the ratio of bus operators per bus, bus operators per supervisor, buses per mechanic and revenue vehicle hours per Customer Service staff will change in the future. The goal is to become more productive in some areas and maintain productivity levels in others.



COVID-19 Impacts

Due to COVID-19, the proposed staffing level is pushed out a year, however an insourced cleaning crew will be piloted in 2021. The insource cleaning pilot will help define the best process for cleaning and disinfecting buses. It is also anticipated that hiring dedicated staff to clean buses, creates consistency in the cleaning process, and

Table 2: Proposed Staffing Levels to Support the Business Plan - COVID-19 Adjusted*

	2019	2020	2021	2022	2023	2024	*2019 to 2024*
Total Buses	63	67	67	71	75	79	*+ 16*
Planned Annual Revenue Hours	195,520	212,160	212,160	226,720	243,360	260,000	*+ 64,480*
Bus Operators	111	119	119	127	135	143	*+ 32*
Bus Operators / Bus**	1.8	1.8	1.8	1.8	1.8	1.8	*0*
Revenue Hours / Bus Operator	1,761	1,783	1,783	1,785	1,803	1,818	*+ 57*
Supervisors	6	6	6	9	10	11	*+ 5*
Bus Operators / Supervisor	19	20	20	14	14	13	*- 6*

	2019	2020	2021	2022	2023	2024	*2019 to 2024*
Mechanics	8	8	8	9	9	10	*+ 2*
Mechanic Helpers	4	4	4	4	4	4	*0*
Buses / Mechanic***	7.9	8.4	8.4	7.9	8.3	7.9	*0*
Electronics Technician	1	1	1	1	1	1	*0*
In-house Bus Cleaning & Fueling Crew (General Service Person)	0	0	6 FT, 4 PT	6 FT, 4 PT	7 FT, 5 PT	8 FT, 6 PT	*+ 8 FT + 6 PT*
Customer Service Staff	2 FT, 3 PT	2 FT, 3 PT	2 FT, 3 PT	2 FT, 4 PT	2 FT, 5 PT	2 FT, 5 PT	*0 FT + 2 PT*
Revenue Hours / Customer Service Staff (FTE)	55,863	60,617	60,617	56,680	54,080	57,778	*+ 1,915*
Maintenance Facilities Coordinator	0	0	0	1	1	1	*+ 1*
Marketing Specialist	0	0	0	1	1	1	*+ 1*
Operations Dispatcher	0	0	0	1	1	1	*+ 1*

The numbers in this table reflect the total staffing complement required per year.

**Note: The above table does not reflect specialized transit staff or vehicles, as this Business Plan is focused on conventional transit.*

*** Note: The number of bus operators per bus reflects how efficiently buses are staffed. The number of bus operators per bus in Burlington is considered within industry norms.*

****Note: The number of buses per mechanic indicates how efficiently buses are maintained, however, too many buses per mechanic can be indicative of maintenance issues. This is within industry norms based on the average age and spare ratio of Burlington Transit's fleet.*

8.0 Phasing Plan and Forecast of Project Costs

8.1 Phasing Plan

A phasing plan has been developed to distribute the service improvements and other growth strategies noted in this Business Plan over a five-year period, adding approximately 12,900 average revenue vehicle hours annually. The phasing plan was based on a number of principles:

- Establishing a solid foundation for growth, then adding key strategies that build on this foundation;
- Prioritize strategies that have the highest potential for ridership growth;
- Ensure the organizational structure is positioned to meet the growing demands on staff that come with change; and
- Distribute service improvements and strategies so that service hours, operating costs, and peak vehicle requirements are not onerous during any single year.

The phasing plan presents a guide for implementation over the next five years. This is presented in **Table 3**, with key highlights of each year noted below. The phasing plan identifies both the project start and the operational start of each strategy in the Business Plan. The project start begins when there is an action taken on a strategy. This could include an external study, discussions with stakeholders, internal analysis and budgeting, or a decision by council to investigate a matter further. The operational start occurs when customers begin to experience the benefit of the strategy (e.g. the frequency of a route is increased). **The Phasing Plan incorporates the COVID-19 impacts and adjustments.**

The translation of customer benefit to ridership growth can occur immediately after the operational start but does take time to be fully realized. Changing travel behaviour takes time, as existing travel patterns are well-established. Typically, it takes two to three years for the full benefit of a service improvement to be realized. This will cause a lag in revenue in comparison to operating costs (which occur with the operational start of the strategy).

Annual plans will be developed for each year of the Business Plan, identifying the key priorities that should take place, and providing further detail on the level of investment, expected ridership and impacts on staffing, assets, and structure.

Table 3: Phasing Plan – COVID-19 Adjusted

Strategies	2019				2020				2021				2022	2023	2024
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4			
1 - Service Structure and Delivery															
1A – Moving Towards a Grid-Based System		◆	▶												
1B - Increase Frequency of Services		◆	▶												
1C - Introduce Transit Priority Features									◆		▶				
1D - Improve Connections to the GO Transit Network														◆	▶
1E - Increase Service Integration with Neighbouring Transit Systems									◆		▶				
2 - Mobility Management															
2A – Research & Implement On-demand Alternative Service Delivery Models								◆					▶		
2B - Explore Partnerships									◆		▶				
2C - Integration of Specialized Transit and On-Demand Transit Service									◆				▶		
3 – Customer Experience															
3A - Improve Communications	◆	▶													
3B - Improve Comfort and Accessibility at the Stop		◆	▶												
3C - Shelters			◆	▶											
3D - Digital Connectivity									◆				▶		
4 – Travel Demand Management															
4A - Free Midday Travel for Seniors		◆ ▶													
4B - Affordability		◆ ▶													
4C - Free Transit for Children (ages 12 and under)				◆	▶										
4D - Student Fare Strategy (ages 13 – 19)													◆ ▶		
4E - Employer Partnerships								◆			▶				
4F - Improve Coordination with Other City Departments	◆	▶													
4G – Reduce Transit's Carbon Footprint		◆	▶												

□ - Project Start; ▶ - Operations Start

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8.1.1 2019 Highlights

A number of strategies identified in this Business Plan began in 2019 and will continue to evolve over the next five years. This includes the restructuring of the route network to a grid-based system, the increase in frequency of service along a number of arterial corridors, customer service improvements and coordination with other city departments. In 2019, Burlington Transit also introduced a free midday travel for seniors' program and a free subsidized low-income pass (SPLIT program).

8.1.2 2020 Annual Plan Highlights

The focus of the 2020 annual plan will be to continue to make progress on the streamlining of the route network, with a focus on providing more direct and frequent routes on major arterial roads. The increased service levels will result in additional bus operators being hired and the conventional bus fleet growing by four vehicles. The impact that the September 2019 route modifications have had on ridership will be assessed and further modifications will be made based on customer response, ridership growth, and travel behaviour. With significant investment, it will be important to ensure that we are allocating resources in the right areas.

The impacts of the seniors, child and SPLIT free fare initiatives will be continually monitored with the reintroduction of fare payment in September 2020. This will provide valuable insights on how fare strategies can impact ridership and the impact that lost revenue (from free fares) might have on the capacity to fund the expansion of the service. The cost-effectiveness of these programs will provide more insight into other fare strategies, including the student fare program.

Planning will be initiated for an on-demand pilot to replace a low-ridership conventional route(s) during a low-demand period of the day (e.g. late evenings) or in an area where residents are not in close proximity to conventional service.

The Integrated Mobility Plan being led by the city will also be underway, and Transit will be active participants, bringing a full multi-modal perspective to the broader strategy.

Actions and strategies to reduce our carbon footprint that began with the declaration of a climate emergency by council in 2019 will continue to take place, starting with further investigation of electric buses.

8.1.3 2021 Annual Plan Highlights

An assessment of the optimal design and location for the expansion of the maintenance and storage facility will be undertaken. This assessment will identify whether expansion and/or land acquisition is required and what the potential cost and funding implications of potential options would be.

The on-demand transit pilot will be in operation, with ongoing evaluation to facilitate service adaptation during the course of the pilot.

There will also be an introduction of in-house cleaning staff (on contract) as a pilot in 2021, as a response to COVID-19 and to mitigate future impact.

The customer communication service standard will be introduced to ensure the timely communication of service information to our customers. Employer partnerships will also be explored more effectively. There will be more capacity to explore partnerships with adjacent transit providers and other mobility partners (e.g. bike-share companies) to create a more seamless network of mobility options in the city.

The transit priority pilot project that commenced in 2020 will be evaluated with the opportunity for the technology to be rolled out to other locations commencing in subsequent years.



8.1.4 2022 Annual Plan Highlights

The focus of 2022 will be the consolidation of ongoing service increases and the prior year's initiatives. This will include additional bus operators and four additional conventional buses.

Burlington Transit's administration will also be restructured in 2022, allowing better organizational response to ridership growth and emerging trends. This will include business cases for review in the 2022 budget cycle for additional staff in marketing and operational supervision roles.

Subject to the success of the transit priority and on-demand service pilots, these programs will be expanded to other parts of the city. The first major station or transfer point with Wi-Fi (location to be determined) and the first buses with USB charging are planned to be introduced in 2022. Further USB-enabled buses will be rolled out as existing vehicles are replaced.

The stop and shelter upgrade program will continue at a more measured pace after its initial "catch-up" years from 2019.

8.1.5 2023 Annual Plan Highlights

In 2023, business cases will be submitted for consideration in the 2024 budget for a further four buses and associated bus operators, supervisors and mechanics to address capacity and reliability issues. Following an anticipated large roll-out in 2022, transit priority investment will reduce, focusing on adding incremental infrastructure based on effectiveness and need. Further on-demand transit services will be introduced, subject to demand and the effectiveness of previously-introduced services. Construction of a new storage and maintenance facility should commence, pending the outcome of the feasibility study.

8.1.6 2024 Annual Plan Highlights

The final year of the plan will see continued service growth and the roll-out of further conventional service hours, on-demand services, transit priority and stop upgrades. A new maintenance and storage facility should be in use, allowing for the continued growth of Burlington Transit's services and fleet. Business cases will be submitted for consideration in the 2025 budget for a further four buses and associated bus operators, supervisors and mechanics to address capacity and reliability issues.

GO Transit's Regional Express Rail (RER) service frequencies on the Lakeshore West line will likely be near their 2025 targets and, therefore, any remaining route

optimizations to match GO Transit frequency improvements will be implemented at this time. This will include identifying opportunities to take advantage of the GO Transit services for local trips within Burlington.



COVID-19 Impact Statement

Due to the plummeting ridership numbers and the temporary pause on collecting fares during the peak of the pandemic, transit revenues have declined. As the City of Burlington faces financial pressures while trying to recover from COVID-19, the above Phasing Plan will be reviewed annually to adapt to changing needs and budget guidelines.

8.2 Forecasted Financial Impact

Table 4 summarizes the planned growth and ridership forecast, including adjustments due to COVID-19.

Table 4: Total Buses, Revenue Vehicle Hours and Ridership - COVID-19 Adjusted

	2019 Actual	2020	2021	2022	2023	2024	*2019 to 2024*
Total Conventional Fleet	63	67	67	71	75	79	*+ 16*
Planned Annual Revenue Hours	195,520	212,200	212,200	226,700	243,400	260,000	*+ 64,480*
Ridership Forecast	2,450,395	1,471,700	1,962,300	2,452,900	2,806,400	2,941,400	*+ 491,005*

Table 5 below illustrates the projected operating costs associated with the Phasing Plan including adjustments due to COVID-19.

The majority of cost increases will result from the expansion of service as the route network is restructured and service frequencies are improved. The on-demand pilot will require annual licensing fees and operating costs, which will increase should the pilot prove successful. Increases to administrative and supervisory staff as well as maintenance and service-costs will be required to ensure the system has sufficient resources to effectively operate and manage growth and change.

Table 5: Projected Operating Costs – COVID-19 Adjusted

Projects Costs - Operating	2020	2021	2022	2023	2024	*2020 to 2024 Total*
Additional Staffing	$663,500	$491,800	$1,369,900	$897,000	$963,900	*$4,386,100*
Alternative Service Delivery	$0	$0	$259,500	$519,000	$778,400	*$1,556,900*
Expansion Building	$0	$0	$0	$0	$500,000	*$500,000*
Free Children Under 12	$25,400	$33,800	$42,300	$48,400	$50,700	*$200,600*
Free Senior Midday	$87,500	$116,700	$145,900	$166,900	$174,900	*$691,900*
SPLIT Passes	$110,900	$147,900	$184,900	$211,500	$221,700	*$876,900*
Grand Total	**$887,300**	**$790,200**	**$2,002,500**	**$1,842,800**	**$2,689,600**	***$8,212,400***

Table 6 illustrates the anticipated capital requirements based on the growth strategies noted in the Phasing Plan, including adjustments due to COVID-19.

Table 6: Projected Capital Costs - COVID-19 Adjusted

Strategies	2020	2021	2022	2023	2024	*2020 to 2024 Total*
Growth Strategy 1 - Service Structure and Delivery						
Conventional Growth Bus Costs (VE-VN-1503)	$2,603,000		$2,622,000	$2,622,000	$2,622,000	*$10,469,000*
Growth Strategy 2 - Mobility Management						
On-demand Alternative Service Delivery Implementation (IT-DA-1908)	$200,000	$100,000	$50,000	$50,000	$50,000	*$450,000*
Transit Priority Features (VE-EN-1902)	$35,000	$550,000	$170,000	$40,000	$40,000	*$835,000*

Strategies	2020	2021	2022	2023	2024	*2020 to 2024 Total*
Growth Strategy 3 - Customer Experience						
Shelter and Stop Upgrades (RD-TR-1903 & RD-TR-270)	$610,000	$610,000	$300,000	$300,000	$300,000	*$2,120,000*
Digital Connectivity*			$9,000	$9,000	$9,000	*$27,000*
Maintenance Facility Expansion (FD-BD-1863)		$650,000	$12,375,000	$8,125,000		*$21,150,000*
Total Incremental Capital Costs	**$3,448,000**	**$1,910,000**	**$15,526,000**	**$11,146,000**	**$3,021,000**	***$35,051,000***

**This item is not included in the ten-year capital program.*

Note: The resources (service hours and vehicles) identified in this Business Plan are guidelines and are subject to change as part of the annual budget process and corporate priorities.

A new maintenance facility to house a growing fleet, at an estimated cost of $21.1 million, will be the largest capital cost of this Business Plan. The majority of the budget would be spent during construction, anticipated to begin in 2022 or 2023.

The growth in the bus fleet will increase the vehicle acquisition budget by approximately $10.4 million over five years. This only accounts for expansion vehicles. A number of existing vehicles will reach the end of their lifecycle over the five-year life of this Business Plan and will need to be replaced. Replacement costs for conventional vehicles is estimated to be $19.1 million from 2020 to 2024.

Overall capital investments are anticipated to reach $35 million over the five-year life of this Business Plan. Burlington Transit continues to take advantage of funding opportunities through senior levels of government, specifically the Investing in Canada Infrastructure Program (ICIP). This project is a cost-shared infrastructure funding program between the federal (40%), provincial (33.33%) and municipal (26.67%) governments.

COVID-19 Impact Statement

COVID-19 changed the forecasts and project priorities. Updated tables have been provided to highlight the impacts on operating costs, revenues and strategies.

Both the province and federal government have been generous to transit agencies within Canada and have committed to funding to manage revenue shortfalls due to the pandemic.

8.3 Understanding the Need for Investment

Even with an increase in revenue from ridership growth, net operating costs and capital costs will continue to increase each year. When assessing the business case for this investment in sustainable public mobility, it is important to understand two key factors:

While investment is immediate, it takes time to change established travel patterns.

The cost of investing in service has an instantaneous impact on municipal budgets. To attract more residents to use transit and existing customers to use transit more often, improvements in service levels (e.g. reducing travel time, reducing waiting times and improving flexibility, improving reliability and increasing the comfort and convenience of the service) are necessary to make public transit more competitive with the private automobile. While all these improvements are important to achieve the ridership forecast, changes in travel behaviour take time.

Ridership and revenue are not the only measures of success.

Increasing transit ridership has other benefits that are not included in the operating and capital budgets noted in **Tables 5 and 6**. Investment in transit and other forms of sustainable mobility help achieve other important goals, including:

- off-setting the need for roadway widening, expansion and maintenance;
- reducing GHG emissions from single-occupant vehicle travel;
- improving public health;
- reducing unemployment and improving economic competitiveness; and
- enhancing Burlington's quality of life.

Similar to investments in health care and education, investment in sustainable mobility benefits all Burlington residents, even those who do not use the service.

9.0 Key Messages

A business plan is an effective tool to ensure all strategies and actions taken by an organization are aligned towards a common vision. Burlington Transit's vision is about **Advancing Innovative Mobility** for its residents, employees and visitors, and we will do this by providing mobility services that are reliable, efficient and innovative.

Our vision has roots in recent accomplishments, which led to a significant growth in ridership between 2018 and 2019. To build on this success over the next five years, the Business Plan outlines a number of strategies that not only continue our focus on investment in service, but also provide clear direction on mobility management, the customer experience, and transportation demand management. The Business Plan takes a deep look at our current operation and recommends how changes could be delivered. Changing focus and direction requires a look at how we are structured, the assets we have to deliver the service, and the cost and affordability of the strategies.

The most important aspect of the Business Plan is to maintain focus on the vision during periods of change or disruption. This need could not be more pronounced than during the current COVID-19 pandemic. While the pandemic made changes to our growth projections and expansion plans, the overall vision stays the same. The Business Plan proved to be a guiding document that helped form decisions in a time when so much uncertainty was present.

The pandemic resulted in a significant reduction in ridership as our residents were told to stay at home and practice physical distancing. We adjusted our focus to reduce crowding and provide enhanced cleaning, enhanced technology, and new equipment to ensure that our customers and staff stay safe and healthy. What became clear, particularly with the reopening of the economy, is that transit continues to be an **essential service** that is required by many of our residents so that they can travel to work, stores, appointments and needed services. This requires continued investment in transit and the creation of reserve funds to ensure that service delivery could continue. We continue to work with Finance staff to fund various initiatives, but also to continue on the path of the strategies outlined in this document.

Our goal of **Advancing Innovative Mobility** stays the same, however the lens in which we implement these goals will change. COVID-19 has created new challenges yet created new opportunities. It is important to consider the opportunities and seek ways of making transit better during a pandemic; and to continue to move forward to deliver on our mission of providing mobility services that are reliable, efficient, innovative and **safe**.