

The cover photo shows a sunny day on a downtown street. In the foreground, there are two wooden benches with black metal frames on a brick-paved sidewalk. In the background, there is a red brick building with arched windows, a black street lamp, and a green tree. A white pickup truck is parked on the street.

Owen Sound Route Optimization

Final Report

For:

The City of Owen Sound

Prepared by:

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In collaboration with:

LURA Consulting

TraffMobility Inc.

Final Report

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1 Introduction

1.1 Purpose

This report presents a summary of the study completed from May through August 2021 as a comprehensive review of Owen Sound's transit service. All aspects of the service were assessed, including:

- Route network and service levels
- Fare structures and levels
- Fleet
- Regional service coordination
- Accessibility
- Community growth and ridership growth plan

Recommendations are made in each of these areas to guide Owen Sound Transit through the next five years and beyond.

1.2 Report Structure

This report is structured as follows

- **Section 1** (this section): Provides an overview of the purpose of the transit study
- **Section 2:** Existing Services summary, with details in a separate appendix
- **Section 3:** Guiding Principles, which establish the overall objectives for the transit service and the options in this study
- **Section 4:** Options Development, including
 - Fixed Route Options
 - On-demand Options
 - Extended hours Options
 - Engagement summary, with details in separate summary, and highlights integrated into options development sections
- **Section 5:** Future Concepts, showing the potential transit implications of planned developments

- **Section 6:** Supporting Elements, including:
 - Fares and fare options
 - Fleet replacement
 - Stops and other infrastructure
- **Section 7:** Five Year Plan Summary, including summary of recommendations and financial forecast based on service recommendations

Recommendations
 Individual recommendations are highlighted throughout report and summarized in Section 7

1.3 Background

Like in many smaller communities, providing effective and efficient transit in Owen Sound is a challenge, increased by significant geographical barriers.

Historically, transit in small communities has been further limited by restricted choice of service types. Many systems have experimented with smaller vehicles (now fairly standard) to reduce costs and improve access to neighbourhoods, and various forms of on-demand services have come and gone, but mostly limited to specialized transit service for people with disabilities.

The transit environment is changing.

Communities are changing. Throughout Ontario and across Canada transit in communities like Owen Sound have often been relegated to serving those who cannot drive because of their age (too old or too young), a disability that prevents them from driving, or a financial situation that precludes owning a reliable vehicle. Today however, a renewed interest in climate change and other environmental factors, shifts in spending priorities, and concerns for overall community mobility have sparked a renewed interest in transit as part of a broader mobility movement in communities. This also means that there is growing community support for transit, even among people that do not use the service. Increasingly, communities recognize the value of mobility for themselves and their neighbours in increasing access to jobs, services and the elements of the community that people want and need. Transit makes Owen Sound a better place to live.

Technology is emerging. The emergence of new technologies for transit in the last few years has been revolutionary. Electronic and mobile fare technology, mobile tracking and booking apps and alternative propulsion technologies have transformed the industry and continue to change it almost daily.

Funding is increasing. The renewed interest in transit at the community level has led to increased funding for transit from the provincial and federal governments, spurred by local support for transit improvements in the community. Provincial gas tax funding and federal infrastructure funds have altered the funding landscape, providing communities with more reliable, and predictable funding sources. and more support from community

This combination of renewed interest in transit, new technology opportunities, and increased funding and community support, represents a timely opportunity for Owen Sound.

Owen Sound's other challenges are built in.

The geography of the Owen Sound area creates another challenge to transit services. The bay partially bisects the city, separating two major portions of the city and funneling east-west traffic through downtown. The Sydenham and Pottawatomi Rivers limit crossings in the major street grid. The Niagara Escarpment



not only presents some grade challenges in winter weather, but combined with the Sound and the rivers, sets Owen Sound as a major tourist destination, particularly in summer. While this is a boon for the City, it can present reliability and access challenges for transit.

The COVID-19 pandemic has had profound impacts on our communities, including our transit systems. While not as significant as in larger communities, ridership in Owen Sound is still down about 30 percent from 2019 and will take time to recover. Lingering pandemic conditions have and will continue to slow the full start of this recovery.

Transit must change too

Traditional transit service delivery is also often a financial challenge for smaller communities, and Owen Sound is no exception. The current lack of evening and Sunday service presents a barrier to choosing Owen Sound Transit as an alternative, but traditional fixed route models struggle to attract sufficient ridership to make service expansion affordable.

Making transit an effective choice to enhance access to employment, education, health and social opportunities requires a level of convenience and access that is very difficult to provide with fixed route service throughout a smaller community.

The combination of needs and opportunities in the community demands that Owen Sound look to creative service delivery options that cannot only provide more effective and efficient service but allow the City to explore options for increased mobility in terms of service days and span.

The key to effective mobility in a community is choice.

Meeting the mobility needs of the Owen Sound community means providing choice. Ideally residents can choose a destination based on the nature and quality of the personal experience at that destination, and not simply where limited choices force them to go. This means making transit available, affordable, convenient, and direct.

For Owen Sound, this means finding the optimal combination of neighbourhood service coverage, direct north-south and east-west service, service frequencies and hours that meet broader community needs in a service that is affordable to the rider and to the community that supports it.

2 Existing Service Assessment

2.1 Summary

Full details of the Existing Services Assessment are included in Appendix A, under separate cover. Note that all performance and assessment referenced in this section are drawn from 2019 data under pre-COVID conditions.

Network Assessment

Existing routes

The current service includes four regular routes providing coverage throughout much of the City. In early 2021, the City implemented a temporary fifth route – Midtown – to provide additional capacity to ensure safe distancing measures. This route was funded with provincial Safe Restart funds and was suspended at the end of October 2021. **Figure 1** shows the existing transit routes, including the Midtown route.

Route Performance comparison

Together, the four routes average a little more than 14 boardings per vehicle-hour (about 60 boardings per clock-hour). The East Bayshore route and the Brooke Route are the two above average performers in the system, with Core and Crosstown below this average. No transfer data are available but similar hub-based systems typically have about 20 percent to 25 percent of passengers transferring meaning that the system is likely accommodating about 12 complete one-way passenger trips per vehicle hour, or about 45 each hour of the day. For each route, peak period counts are approximately 20 to 25 percent higher than the average, or about 15 complete passenger trips per vehicle hour – about 60 trips per hour.

Figure 1 - Existing Transit Routes

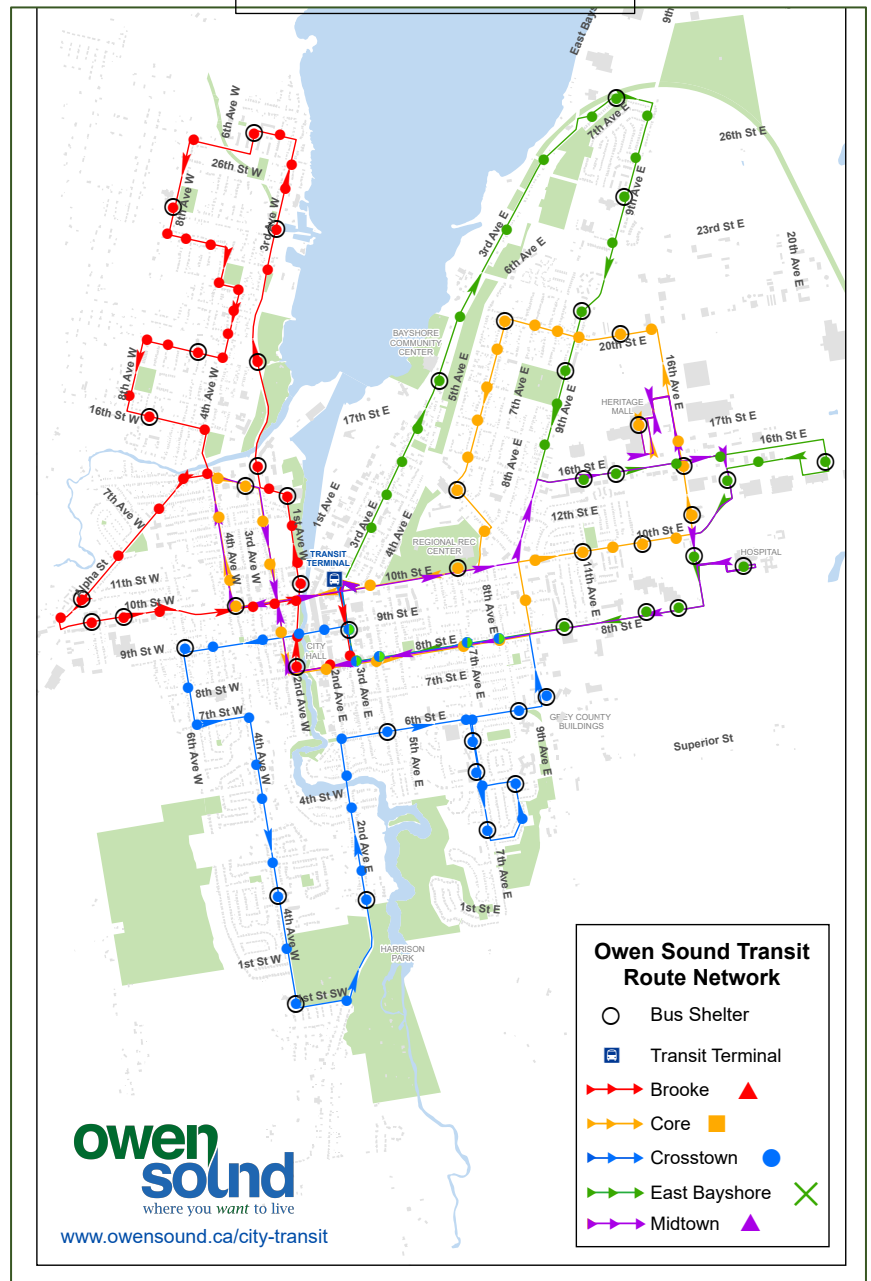
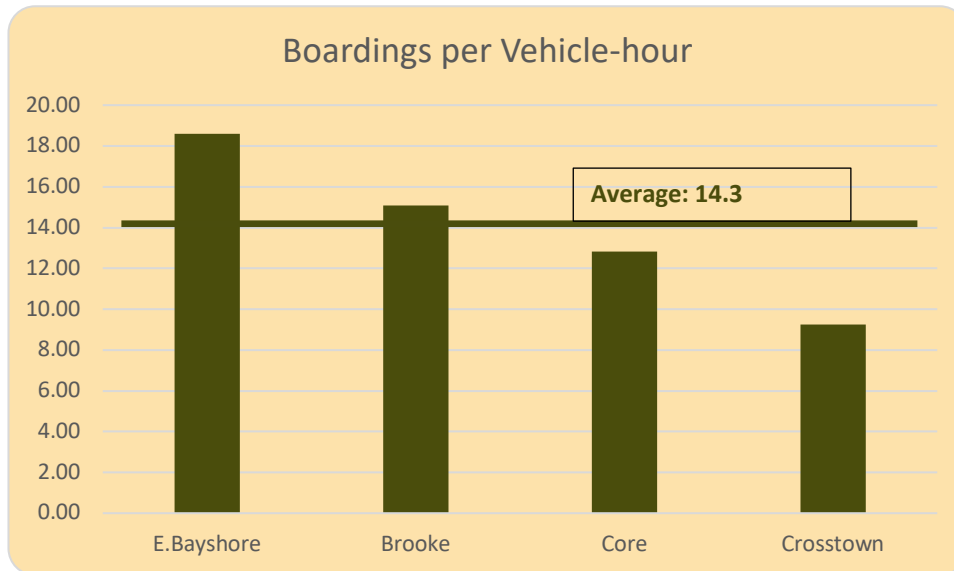


Figure 2 - Route Performance Comparison



High and Low Ridership Areas

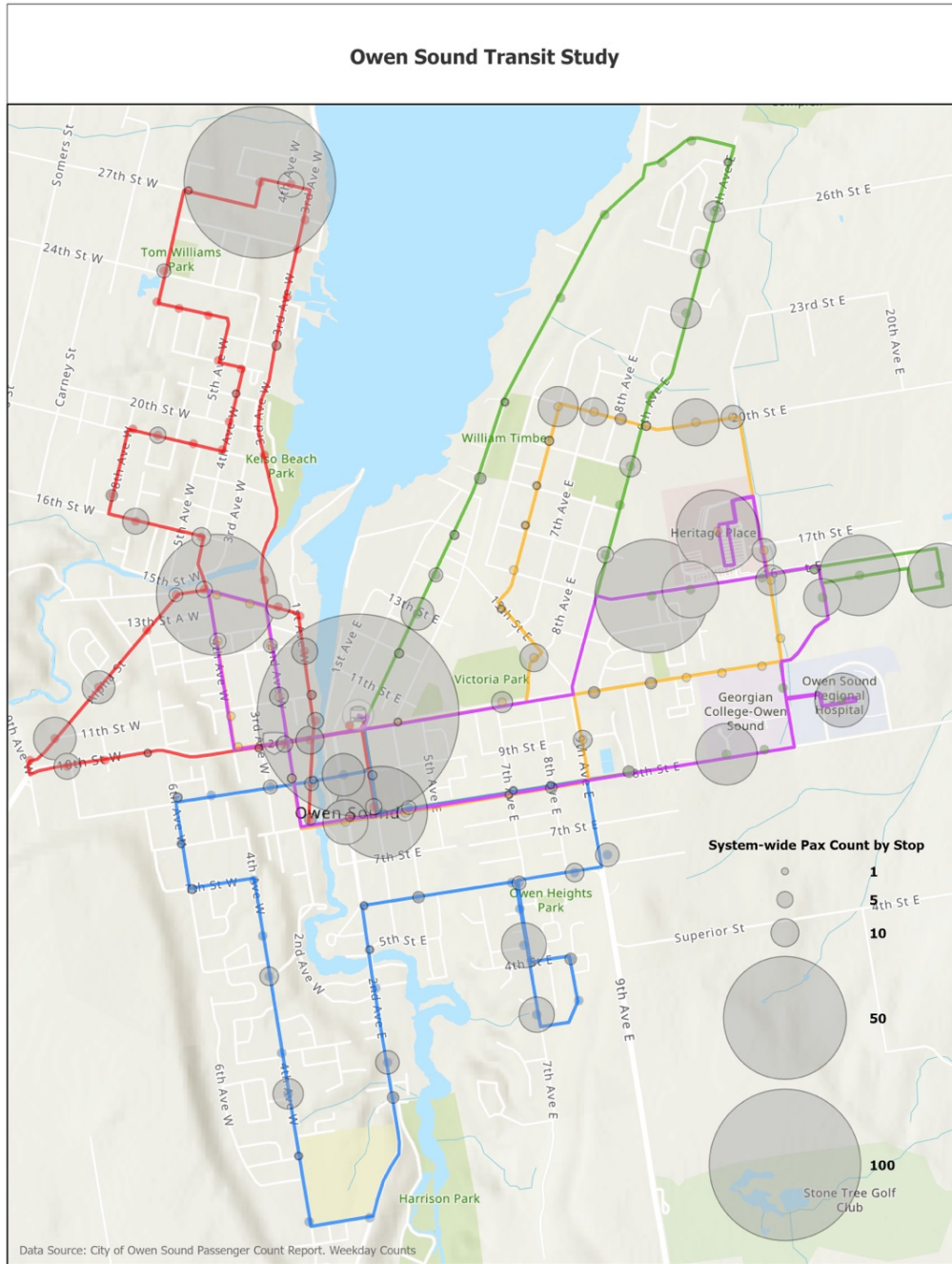
Ridership throughout the system was based on pre-COVID passenger counts conducted in 2019. Owen Sound's service contractor provides stop-by-stop boarding and alighting counts for several days each month and the April 2019 counts (six days) were used for this analysis.

Figure 3 shows the boarding areas locations and numbers at existing stops with the size of the dot representing the number of boardings in that area. Figure 3 shows a significant number of boardings throughout the 16th Ave. E corridor, the hospital and Georgian College on the east side, and on west side the area in the 3rd Ave. E area around 27th St. W and in the 14th St. W area.

The downtown is also a significant boarding area dominated by the boardings at the terminal. These terminal boardings include passengers boarding who are destined to and from the downtown, but also represent the significant transfer activity at the terminal since most passengers travelling from east to west are forced to transfer between vehicles at this location. One of the objectives for the new proposals is to help reduce this number of transfers.

Figure 3 also shows areas and stops where activity is very low, even zero over 24 daily trips for every count day. These low activity areas include the 3rd Ave. E corridor north of the Harry Lumley Community Centre, portions of the Brooke route in the 8th Ave. corridor between 20th St. W and 26th St. W and portions of 4th Ave. W.

Figure 3- April 2019 Boarding counts



- Observations and Conclusions.** Low demand areas are always problematic for fixed route service since it is difficult to tailor a fixed route and fixed schedule service to varying demands. Where lower demand areas are geographically distinct, like the western corridor of Brooke, the 4th Ave. W corridor on Crosstown, or the industrial area east of 9th Ave. E, it may be appropriate to serve these areas with more flexible, on-demand services.

On-Time Performance

In the past, on-time performance was a serious issue with Owen Sound Transit routes. One of the primary objectives of the 2014 review was to re-configure routes to improve on-time performance. Since those route changes, on-time performance has improved. Terminal staff report few regular issues and complaints about late buses have decreased. In the community survey, late buses were mentioned as a barrier to using the service but were not among the top considerations.

A detailed examination of automatic vehicle location data for April 2019 shows on-time departures from and arrivals at the terminal for most trips. All the routes are scheduled on 30-minute cycles, meaning the average trip time should be 26 minutes or 27 minutes to allow some buffer for busier trips.

- **Observations and Conclusions.** The City's transit website and published information no longer includes stop times for any of the routes except at the terminal. An analysis of stop data reveals variations of three to four minutes at individual stops over the course of several trips. In small systems, this is not uncommon, since scheduled trip times are not varied throughout the day yet passenger boarding and traffic conditions create different travel times.

Providing passenger with information for key stops, and ensuring drivers adhere to these intermediate times can significantly improve performance and passenger satisfaction.

Service Span

Owen Sound Transit service is provided 12 hours per day between 6:30 am and 6:30 pm with more limited Saturday service and no Sunday or holiday service. In the community survey, evening and Sunday service were consistently selected as features that would induce people to use transit or use it more.

Many commenters pointed out the inability to use the service for evening work, particularly for the many restaurants and stores in the 16th St. E corridor. The 6pm last trip constraint also affects anyone wanting to travel earlier but return after that time. Commenters report significant use of taxis and the affordability issue in dealing with this constraint.

Service Coverage

The report cards included in the detailed report indicate the 5-minute walking distance for each route and illustrate the density of coverage and considerable overlap among the routes. A key factor in this issue is the geography and street pattern of the City. There are few east west routes that provide longer distance travel across the city and specific street patterns limit options. For example, the lack of continuity in the street grid in the Brooke area leads to very dense coverage as the route needs to use a variety of north-south street to connect the high demand areas in the north and south of the route.

This factor is reflected in the community survey, with more than half of respondents indicating that their closest bus stop was only three minutes' walk, while at the same time, one in five report the travel time compared to auto as the main barrier to using transit.

Regional Transit Connections

Owen Sound serves as the hub for several regional routes, including the Guelph Owen Sound Transit Route (GOST) and routes operated by Grey County as the Grey Transit Routes (GTR).

- **GOST.** Guelph-Owen Sound Transit is an intercity transit service managed by the City of Owen Sound connecting Owen Sound to Guelph and the intervening communities in the Highway 6 corridor. The service operates two daily trips in each direction, with the complete one-way trip taking approximately 135 minutes. This compares to a direct auto travel time of about 105 minutes. The last inbound route in the evening does not arrive until after the end of service on Owen Sound Transit.

Stops are served in Chatsworth, Williamsford, Durham, Mt. Forest, Arthur, Fergus, Elora and Guelph. In Guelph, paid connections are available to Guelph Transit, VIA Rail and GO Transit, as well as to Ride Well - the Wellington County rural service. In Owen Sound, paid connections are available to Owen Sound Transit and the Grey Transit Route.

- **GTR.** The Grey Transit Route service comprises a series of routes, most connecting Owen Sound to Dundalk (with service to Orangeville); to Meaford (with service to The Blue Mountains) and to Wiarton and Sauble Beach (Route 5). Route 6 connects Flesherton with Walkerton, without serving Owen Sound. The first two trips from Owen Sound, one to Dundalk and one to Measford, arrive before the first Owen Sound Transit buses arrive at the terminal.

Service Assessment

Peer Group Comparison

Owen Sound Transit's performance was compared to a group of transit agencies representing nearby communities (such as Collingwood or Wasaga Beach) as well as similar-sized communities such as Brockville or Cobourg. Comparisons also included an amalgam of all small transit systems in Ontario (service population less than 50,000). Key indicators for comparison included:

- Amount of Service – Vehicle-hours per Capita
- Operating Cost per Capita
- Boardings Rates

In most indicators, Owen Sound compares favourably with the selected peer group and the small system average, without evidence of superior or inferior performance.

Owen Sound Performance 2015-2019

Owen Sound Transit's annual performance was also compared on an annual basis from 2015 through 2019. In this period, all key indicators have remained stable throughout the five-year period from 2015 through 2019. This can be viewed from both a positive and negative perspective, noting that costs have been controlled and the service has continued in its community mobility role. On the other hand, the indicators have also shown little if any improvement, with a single notable revenue increase resulting from a fare increase in 2016.

System Assessment

Fleet

The existing transit fleet was renewed in 2014, following the previous route assessment and contract renewal. As part of the contract provisions, the operating contractor provides the vehicles, incorporating the capital cost and financing into the average hourly rate for the service.

These ARBOC vehicles are rated for 6-year, 325,000 km life cycle and have reached both milestones. This means that the new contract associated with this service review, scheduled for April 1, 2022, will need to include provisions for new vehicles, appropriate to the service recommendations.

Stops and Shelters

Bus stops and shelters are the key interface between the community and the transit service, and for some non-riders, the most often viewed element of the system. In the 2014 review, accessibility issues were highlighted for many stops outside of the downtown area and 16th St. corridor, particularly in the residential areas served by the Brook and Crosstown routes.

This included bus stops that comprised merely a sign attached to a pole, with poor or no sidewalk connections and in some neighbourhoods, no sidewalks at all.

In 2021, these conditions still exist, but the City has been systematically addressing stop conditions in priority areas as part of its on-going accessibility plan, and improving conditions in several areas, particularly where sidewalks are present but poorly connected to the stop. This also includes provision of more visible signage to assist pedestrians in identifying stop locations.

2.2 COVID-19 Implications

Beginning in March 2020, and continuing through to the current time, the COVID-19 pandemic has had a dramatic effect on travel as employees shifted to working at home and many businesses suspended operations through a series of lockdowns and stay-at-home orders.

Systems that relied heavily on office workers, particularly longer distance commuters, saw the biggest decline. GO Transit's rail ridership for example dropped to about 10 percent of its 2019 levels and has not recovered significant ridership yet. Larger systems often fit into this category more than smaller systems, and large systems typically saw ridership drop to one-third or less of the 2019 ridership. Small systems were less affected, and Owen Sound's decline of about 30 percent is within the range of many small systems.

Some but not all larger systems made service reductions, while many tried to maintain services to permit as much social distancing as possible. Federal funding, in conjunction with the Province, provided interim relief funding and is now supporting systems through the Safe Restart Program.

Over the past 18 months there have been numerous investigations and assessments of what the impacts of the pandemic would be based on different scenarios for treatments. At this point, it seems clear that Ontario is exiting from the worse of the impacts, though a smaller 4th wave is underway at the time of this report. While the emergence of new variants is a concern,

and introduces considerable new uncertainty, many speculate that the level of vaccination in the province will allow the worst of the impacts, including lockdowns, to be avoided.

How long it takes for ridership to fully recover to 2019 levels is very uncertain. Initial 2021 data suggests some slow recovery, but a high level of uncertainty remains. Georgian College represents an important part of Owen Sound's market, and at this time, September classes have resumed with a number of in-class components, as well as some remote learning courses, meaning student ridership may be recovering but still below normal in the Fall semester.

However, in the context of a community like Owen Sound looking to the future of its transit services, it is more important to understand and address travel patterns and need rather than the overall magnitude of the ridership.

Transit has been, and even more so now is an essential service within and outside of pandemic conditions. A portion of the Owen Sound community relies on transit services for employment, health and well-being, and these services are supported by municipal policies that recognize this role in the community.

For Owen Sound, the key to designing a service for the future is to develop a network and a service that is flexible to change, resilient in its delivery of services and responsive to the needs of its community. Throughout this pandemic, transit has shown itself to be vital to the mobility and wellbeing of the community, and it will be important to build on this role to develop an effective service for the future.

3 Guiding Principles

3.1 Background

Purpose and Process

The development of guiding principles was designed to ensure that the service options designed for evaluation followed a consistent framework, and that their key elements and outcomes contribute to a transit service that is aligned with community goals.

This process included a review of relevant strategic documents for the City, and a workshop with stakeholders to develop draft principles. The draft principles were then provided as part of the first round of public engagement for review and comment.

The workshop included key City staff, elected and citizen members of various council committees, and others representing neighbouring jurisdictions and key service agencies.

Participants worked to identify the strengths, weaknesses, opportunities, and challenges they see currently and in the future for Owen Sound's transit system. The following list in each category was established to be validated through the public engagement process and to guide the development of alternatives.

What is working well?

- Recent stop improvements
- Improvements in on-time performance (still room for more improvement)
- Good route coverage
- Good convenience and accessibility of key stops and some local stops

What is not working well?

- Hours of operation – no evening service; Sundays
- Low frequency of service
- Lack of service to key points, such as Harrison Park and Sunst Strip
- Need for tailored solutions that address unique markets and areas

What opportunities exist?

- Serve key travel patterns better
- Greening the system – investigate zero-emission vehicles
- Consider on-demand services
- Implement Events service
- Better communication of schedules, services, delays
- More affordable fare options

What are the challenges?

- Affordability
- Geography
- Schedule information and on-time performance
- Intercity transit connections

3.2 Strategic Plan

The Strategic Plan sets the overall direction for the City. The current plan was developed in 2015 and refreshed in 2020. It is intended to be the guiding document for the City through the current term of Council, to mid-2023.

The Strategic Plan begins with a vision: The City of Owen Sound: Where You Want to Live, complemented by a Mission statement: Strengthening our community through leadership.

The core of the strategic plan is built around four pillars, each with a specific goal that should inform the design and performance of all City services, including transit:

Economy

We will strive to have a prosperous local economy that serves our community as well as Grey and Bruce Counties in our role as the regional centre. We will proactively attract new investment opportunities, enhance tourism opportunities and work with our businesses, industries and institutions to retain and expand our local businesses and job opportunities.

Environment

We will continue to ensure environmental integrity is maintained in Owen Sound and the surrounding area by protecting our environment and natural assets. We will protect, preserve, maintain and enhance Owen Sound's scenic and natural heritage, and we will do so by using resources wisely, cooperating with adjoining communities and agencies, and taking responsibility for City actions.

Society and Culture

We will continue the conservation and promotion of our heritage and will uphold Owen Sound's reputation as one of Canada's best places for arts and cultural activities. We will encourage lifelong learning opportunities and ensure a safe community that is welcoming, inclusive and age-friendly. And we will strive to foster pride of place for residents promoting the City as a great place to live – attracting people, tourists and entrepreneurs along the way.

Finance

We will be a financially stable and responsible municipality and will manage finances in a resilient and forward-thinking manner. We will address the infrastructure deficit by focusing on critical priorities first and approaching these issues one step at a time, with a view to long-term financial sustainability and prosperity.

The pillars are further explained with a set of Council priorities – what Council hopes to achieve in the long-term. These priorities can inform the development of specific transit solutions.

Safe City – Safety is a concept concerned with achieving a positive state of well-being among people within social and physical environments. Not only is it about reducing and preventing injury and crime, but it is also about building strong, cohesive, vibrant, participatory communities. Public transit is one of the safest means of transportation for the rider and has continued to prove safe and effective during the pandemic. Transit contributes to the community objective.



Prosperous City – More work is required to build a resilient local economy that offers residents better opportunities to grow, develop and support their families. The City will support existing businesses and new business start-ups, and work to engage young people, entrepreneurs, innovators, and creative citizens in facilitating economic growth. As noted in the previous section, the role of transit in supporting economic participation by the broader community



Green City – Focusing on climate action planning dependencies include just about every other activity within the urban area. A strategic balance among reducing energy usage, encouraging technological innovation, and changing behaviors lead to a healthier and more sustainable future. Encouraging less use of the private automobile is an effective local solution that contributes to climate change objectives and local environmental quality. Ensuring transit services themselves are green is also an important part of planning an effective service.



A City that Grows – Improving municipal growth readiness requires a concerted effort by municipal leaders to provide appropriate public policy, the availability of land and housing, and infrastructure to support the growth. Transit is a key part of infrastructure planning, to ensure effective, sustainable growth.



A City that Moves – Owen Sound faces common challenges when it comes to a fundamental aspect of urban living: getting around. Council aims to be forward-thinking about mobility and the rising demand it puts on current infrastructure. The City aims to make getting around more flexible, more affordable, faster, safer, and with the natural environment in mind.



City Building – Owen Sound needs destinations that give an identity and image to our communities. Building great places fosters successful social networks and benefits multiple stakeholders and initiatives at once. Transit improves accessibility to those destinations and promotes a cohesive city.



Collaborative City – Continue to search for innovative, more effective ways to achieve a competitive advantage in the economy while also understanding that the quality of life we enjoy, our social, environmental, and economic well-being are all inextricably linked. Good transit service helps maintain and enhance those links.

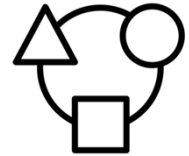


3.3 Guiding Principles

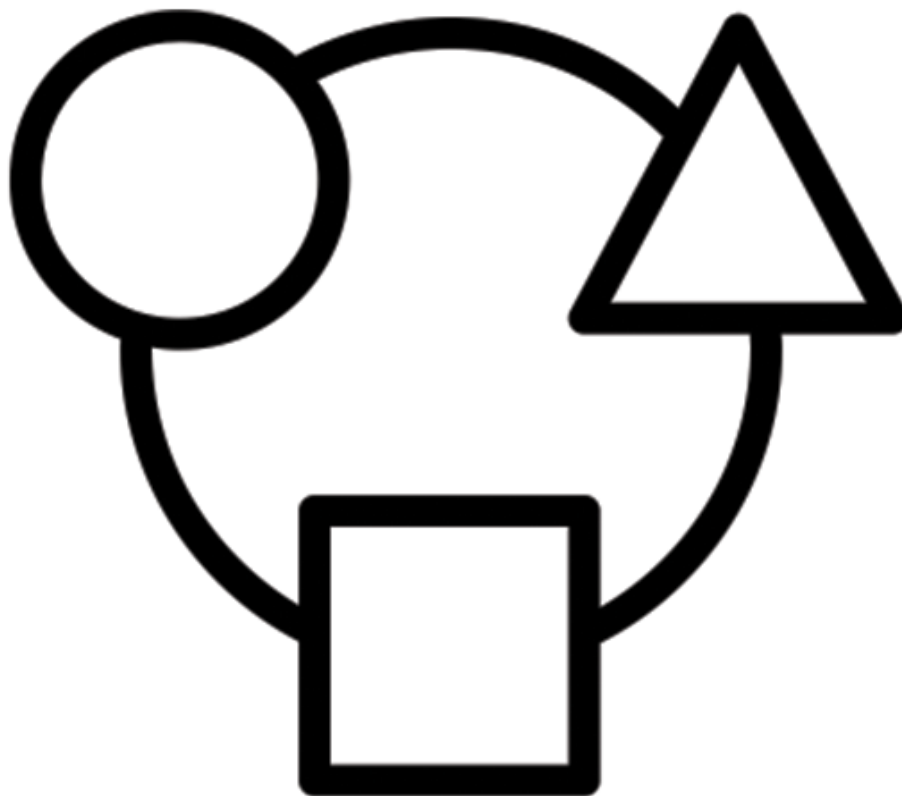
A set of guiding principles was developed with a stakeholder group assembled for this purpose. A full report on the workshop is included in the Appendix. The Guiding Principles were based on the Strategic Plan's Council priorities and refined to suit transit specifically. These principles form the basis of the guidance for the development of options, as well as the evaluation criteria to be used to select preferred alternatives.

Reliable and Inclusive

- Simple and easy to use services that are welcoming, reliable, and



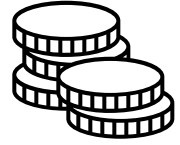
equitable



- Provide necessary information for riders with a good communications system
- Informative and up to date with any temporary changes
- Knowing who the current transit users are and identify potential user groups

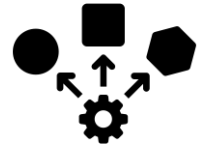
Financial Stability

- Aim for most cost-effective solutions
- Leverage other revenue sources to decrease cost and keep transit affordable
- Balance creativity and affordability when exploring options



Adaptability and Accessibility

- Tailor and adapt to local needs and explore user-centric solutions
- Extend services to make transit flexible and accessible to more people
- Improve accessibility and prioritize higher need users
- Providing sufficient to and from Downtown to serve local community needs



Health and Sustainability

- Green opportunities transit campaigns
- Climate change friendly operations
- Accessible transit as a social determinant of health
- More efficient use of fleets



Smart City Solutions

- Transit connectivity within the City
- Use of smart data and intelligence technology in the system
- Multi-modal connectivity and smooth transfers
- Better data tracking and more responsive services



Building Strong Partnerships

- Building inter-city and inter-regional connections
- Collaborations with upper-tier municipalities



3.4 Transit in Small Communities

During the engagement process, a question was asked: “How much should a city like Owen Sound spend on transit? In truth, this is a question for the community to answer, and first-round survey responses reflected a high level of support for transit service from riders and non-riders alike.

For decision-makers, it is important to recognize that the benefits of a transit system extend well beyond the transportation of an individual rider and the fare they pay. Public transit makes a community a better place to live.

In larger communities, the role of transit in facilitating efficient movement, managing congestion, and reducing transportations’ environmental impacts are well understood and documented. These often lead to direct economic and financial benefits and large cities cannot contemplate operating without their transit systems.

But providing transit in a smaller community is a real challenge. Competition against the

automobile for choice riders is difficult – travel distances are usually short, parking is typically free and plentiful, congestion is low and land uses induce auto travel. Lower ridership means lower revenue, and small systems can rarely match the financial performance of larger systems.

But the revenue returned from operating a service is only one of the benefits of a transit system. Transit services provide independence to people who do not drive by choice or by necessity – youth, seniors, people with disabilities, those with lower incomes and people who simply prioritize different lifestyle choices.

The trip foregone

One element of the benefits case for public transit is the value of the trip foregone. For residents who cannot drive, either because of age, health reasons or their financial situation, lack of access to a car severely limits mobility in a car-centred community. This means that people in these groups make fewer trips than they would like and often fewer than they should. Foregoing a trip because it is too expensive to hire a cab and too far or difficult to walk means foregoing employment and education opportunities, health care requirements, and critical social activities. It means foregoing other economic activity such as shopping.

A missed work trip means lost income in the short-term, and employment or educational opportunities foregone have significant lifetime economic costs for both individuals and the community. A missed healthcare trip means poorer health and discomfort in the short-term, and potential long-term impacts on health with significant community costs.

Even travel foregone for social activities can have effects on social and mental health and are important to consider as part of the small community transit benefits equation. In the surveys conducted for this study, direct service to Harrison Park was a common issue, illustrating the importance of recreational areas and community access to them.

The public engagement process consistently raised the issue of the span of service in Owen Sound limiting opportunities for employment, where people were unable to get to or from job locations on evenings or weekends.

Transit is essential

One outcome of the COVID-19 pandemic heard consistently is how we have come to better appreciate those services and people that are vital to our communities' health and well-being. The front-line medical worker, the warehouse worker, the grocery store clerk, all helped the entire community endure the worst of the pandemic and this continues to be the case.

While economic impacts and changes in travel patterns severely curtailed transit ridership, a core of ridership remained – the employee of an essential service, those requiring medical services, those needing to travel to support family and friends and those trying to avoid social isolation. In smaller communities like Owen Sound, pandemic ridership effects were smaller than in larger communities, illustrating the larger component of ridership that comprises essential travel.

So, “How much should a city like Owen Sound spend on transit?” This question needs to consider all the competing priorities for funding in the community, so cannot be answered in

absolute terms, or even in terms of proportions of spending. With numerous studies demonstrating the positive return on investment from transit spending in small communities and the local community support for the service, the simple answer is: as much as the community can afford. The challenge then becomes how to spend that investment wisely, to ensure that transit services are innovative and efficient, and when spending wishes are not matched by available funds, to ensure that they are being allocated in the most effective means possible.

4 Options Development

The following sections describe the options developed for consideration in two key areas: fixed route services and on-demand transit options. Proposals for evening service are also considered, but these focus more on the span of service options, since additional periods of service could be provided with a fixed route solution or an on-demand solution.

4.1 What we heard

The first round of public engagement events identified several elements that would drive new riders to the service or current riders to ride more. The most popular of these were:

- More frequent service
- More direct trips with fewer transfers
- Additional Evening and Sunday service
- Add Sunset Strip and Harrison Park
- Improve on-time performance

In the description of options following, each of these points will be specifically addressed.

4.2 Fixed Route Options

Design Elements

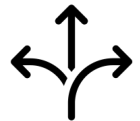
The input from the engagement process led to the development of several design considerations.

- **More frequent service.** More frequent service means increased convenience, less waiting and less overall travel time. It also increases the cost of the service, and the municipal subsidy. This means that frequency level need to match the overall level of demand and be strategically tailored for maximum effect. Also, the review of existing services demonstrated that some areas are over-served, both in terms of coverage and frequency. The fixed route options include alternatives to tailor the level of service to provide more service to higher demand areas and to reduce or even discontinue service to stops and areas with very low or even zero ridership.



- **More direct service.** More direct service means routes that meander less and provide faster trips between origins and destinations.

The fixed route options include alternatives to operate east-west connecting routes in pairs to reduce the need for a physical transfer at the terminal. Shorter loops also mean more direct trips in some cases, and shorter trips times for many.



- **Additional evening and Sunday service.** One of the most frequently comments in all of the public engagement was the lack of weekday evening and (to a lesser extent) Sunday service. Restricting service to weekday daytimes limits the ability of people to travel, to seek employment and education, and to fully participate in the community the way others that other that do not rely on transit do.



- **Service to new areas.** Through both rounds of engagement, several suggestions were made for new destinations, but the most common were Sunset Strip, Harrison Park and special events.



The fixed route alternatives include a service extension to the Sunset Strip, and as part of hybrid on-demand options, to Harrison Park.

- **On-time performance.** On-time performance has improved since the routes were modified in 2015, but like all transit system, remains a daily concern and issue to be managed. The lack of alternative east-west routes, combined with the terminal location, creates a situation where transit travel times can be sensitive to short-term traffic issues. Additionally, on-time performance is affected by the lack of schedule information effectively communicated to drivers and customers alike.



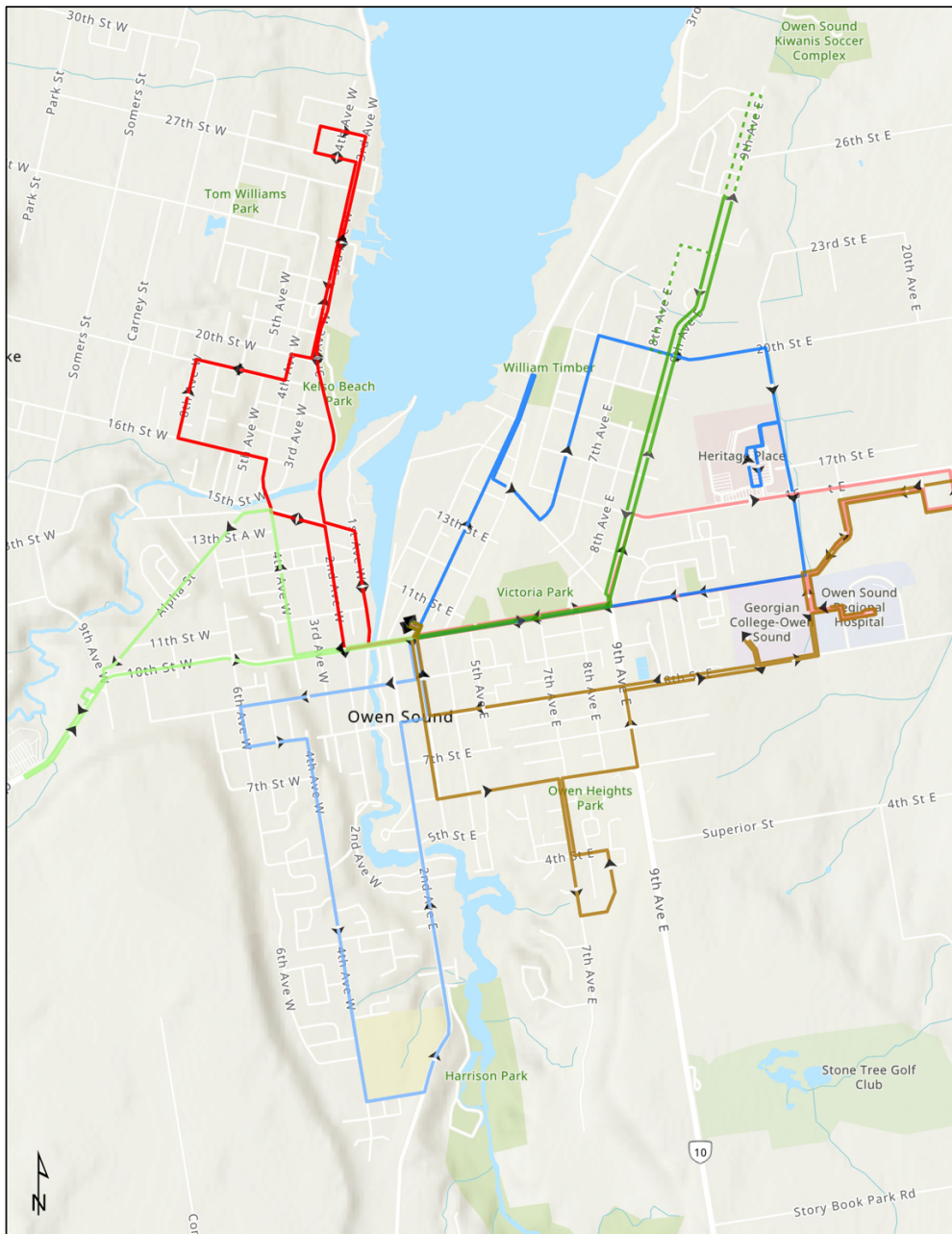
In the fixed route alternatives, travel times are managed to assist on-time performance, and in the supporting elements recommendations, more use of innovative transit schedule information apps, including real-time vehicle information available on apps, online or by phone are included.

Option 1 – Option 2: Common Service Features

The following sections describe the two new fixed route options. Option 1 and Option 2 both have the same routing, but differ in their level of service, transfer patterns, vehicle requirements and costs. Both can be supplemented by additional periods of service, which is addressed in the next section.

A third option, Option 3, is based on the existing routes. It is similar in costs to Option 2 (little to no cost increase) but involves less intervention in the route network.

Figure 4 - Proposed Fixed Route Plan



Coverage

Both Option 1 and Option 2 consist of four routes that cover similar areas compared to the existing fixed routes. Components of each route are similar to the existing routes to serve existing stops as much as possible. Two of the very low ridership areas identified in Figure 3 have their service discontinued, including the area west of 3rd Ave. W from 20th St. W to 25th St. W and 3rd Ave. E north of the Lumley Community Centre. The area in Brooke accommodates about 10 boardings and alightings (5 round trips) per day, with a cost per one-way trip of about \$20. On the north part of 3rd Ave. E in E Bayshore, the cost per one-way trip is about \$40. Serving these areas with fixed route service also limits the ability to provide a more direct trip and so are better suited to on-demand solutions than fixed route options.

Both new options include service to the Sunset Strip as part of the Green route. This route is proposed to serve the Alpha portion of the existing Brooke route, then proceed west on 10th St. W as far as Peavey Mart. The route would deviate into the Galaxy Centre westbound to provide close proximity service to No Frills, Galaxy Theatre and Dollarama. The route would terminate at Peavey Mart, at a turnaround point to be developed in conjunction with landowners or the Town of Georgian Bluffs.

Recognizing that this section of the route is beyond the municipal boundary, it will be necessary to work closely with Georgian Bluffs to reach a mutually beneficial agreement on the provision of service and the sharing of costs, benefits and risks. Benefits to Georgian Bluffs are small and not easily quantifiable but include support for its employers and business, enhancing their financial stability and helping to ensure a sustainable business tax base.

However, most of the benefits accrue to residents and employees in Owen Sound, since the proposed route would connect the existing service coverage from Owen Sound to this popular shopping area and employment zone. This provides benefits of community access, employment access to residents and employees and should be considered even if Georgian Bluffs does not participate.

For Owen Sound Transit specifically, the extension will generate new ridership as employees and customers, particularly from the west side, use transit to access this area. There may be some shift of passengers from the other routes to this new route extension, but these are expected to be small and most of the ridership on this portion of the route would be new rides.

Route patterns

Each route, except for the Brown route, has a west side portion and an east side portion, passing through the terminal. This allows passengers to remain on the bus at the terminal, reducing the number of transfers required.

For the most part, routes use the same roads as the current system, but routes are configured differently to provide more direct trips between popular origins and destinations.

Specific transfer connections and timings differ by Option, and more details are provided in the next section.

Red route: This route is a 40-minute round trip, with service levels varying between the options. Passengers travelling between the east side and west will have a transfer-free ride, with transfer connections to other routes.

The west side of the route is similar to the existing Brooke route but does not serve the Alpha Drive portion (see Green Route) and a very low demand portion of the service in the 8th Ave. W corridor north of 20th St. W is discontinued.

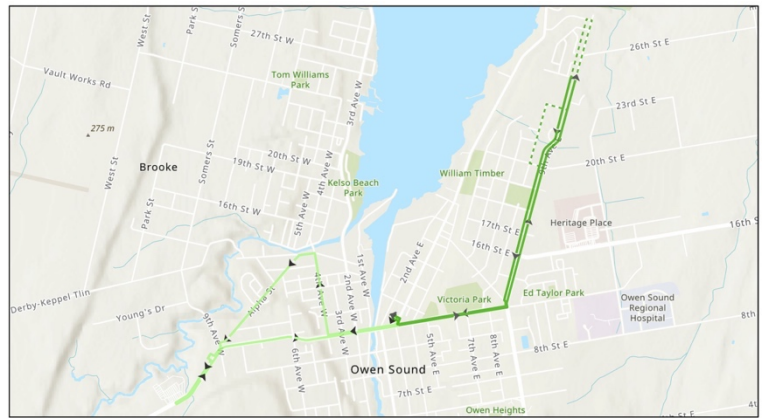
The east side of the route is similar to the temporary Midtown route serving the 10th St. E. corridor, 16th St. E corridor, the Hospital and Georgian College.



Green route: This route is a 40-minute round trip, providing direct service between Sunset Strip in the west and the 9th Ave. E corridor. Passengers travelling between the east side and west will have a transfer-free ride, with transfer connections to other routes.

The west side of the route replaces the Alpha St. area and extends service to the Sunset Strip.

The east side of the route serves a portion of the current East Bayshore route in the 9th Ave. E corridor. A portion of the 3rd Ave. corridor from downtown to the Harry Lumley Community Centre is shifted to the Blue route, and a very low demand portion of the service north of the Community Centre is discontinued.

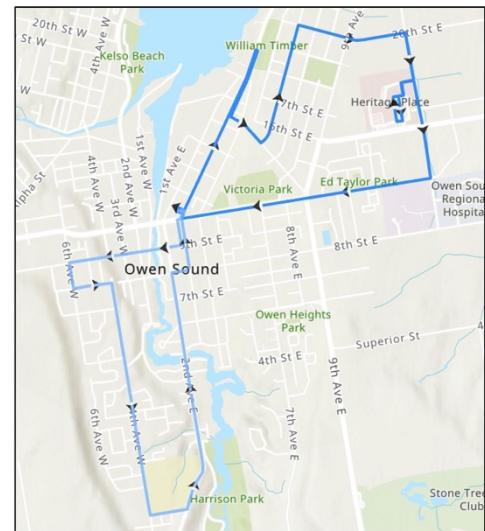


Proposed Transit Routes - Green

Blue route: This route is a 40-minute round trip, providing direct service between 4th Ave. W area and the 6th Ave. E corridor and Heritage Mall. Passengers travelling between the east side and west will have a transfer-free ride, with transfer connections to other routes.

The west side of the route is similar to the west portion of the existing Crosstown route, in the 4th Ave. W and 2nd Ave. E corridors.

The east side of the route is similar to the current Core route east of the terminal.



Proposed Transit Routes - Blue (OPTION 1)

Brown route: The Brown Route is a 40-minute round trip and is the only route without an east-west connection through the terminal. The Brown route covers the eastern portion of the existing Crosstown route, extending to Georgian College, the Hospital and the 16th St. E shopping area.

At the terminal, it provides a transfer connection to the other routes.

Travel time

The shorter route components allow trips between the route ends and the downtown terminal to be shorter and more direct. The direct connections of east side and west side portions of the new routes match existing travel patterns and eliminate the physical transfer at the downtown terminal. For example, the pattern of the Red route means that passengers from the Brooke area do not have to transfer at the terminal and have a more direct ride to the 16th St. E shopping area or the hospital.

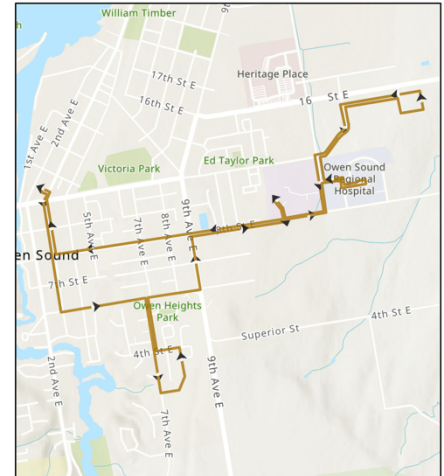


Figure 5 shows a selection of points assessed for travel time changes. Points indicated with a letter represent residential areas and points represented with a number represent business areas or institutions.

Table 1 shows the travel times between these points, including by auto, existing transit and the proposed fixed route options. Note that the auto travel times are the same in both directions, but the transit times differ depending on the stop location on the one-way loop. Also, a wait time corresponding to the level of service headway has been added to the transit travel times. For existing 30-minute and proposed 40-minute loops, this is assumed to be six minutes; for proposed 20-minute loops the assumption is five minutes.

As shown in Table 1, most travel times are less than or equal to existing, with some substantially shorter. Only a few trips are longer, and almost all trips, except those involving the unique portion of the Brown route, are about the same in both directions, compared to many existing trips that are much longer in one direction than the other.

On-Time Performance

The routes for Option 1 and Option 2 have been established with consideration for on-time performance. Route lengths and patterns for each route ensure that the required speed for schedule adherence is no faster, and in most cases slower than the existing system. Each route enters the terminal twice per cycle, allowing a buffer to help maintain schedules. Additionally, strategic consolidation of stops will improve trip times.

Figure 5 - Travel time analysis points

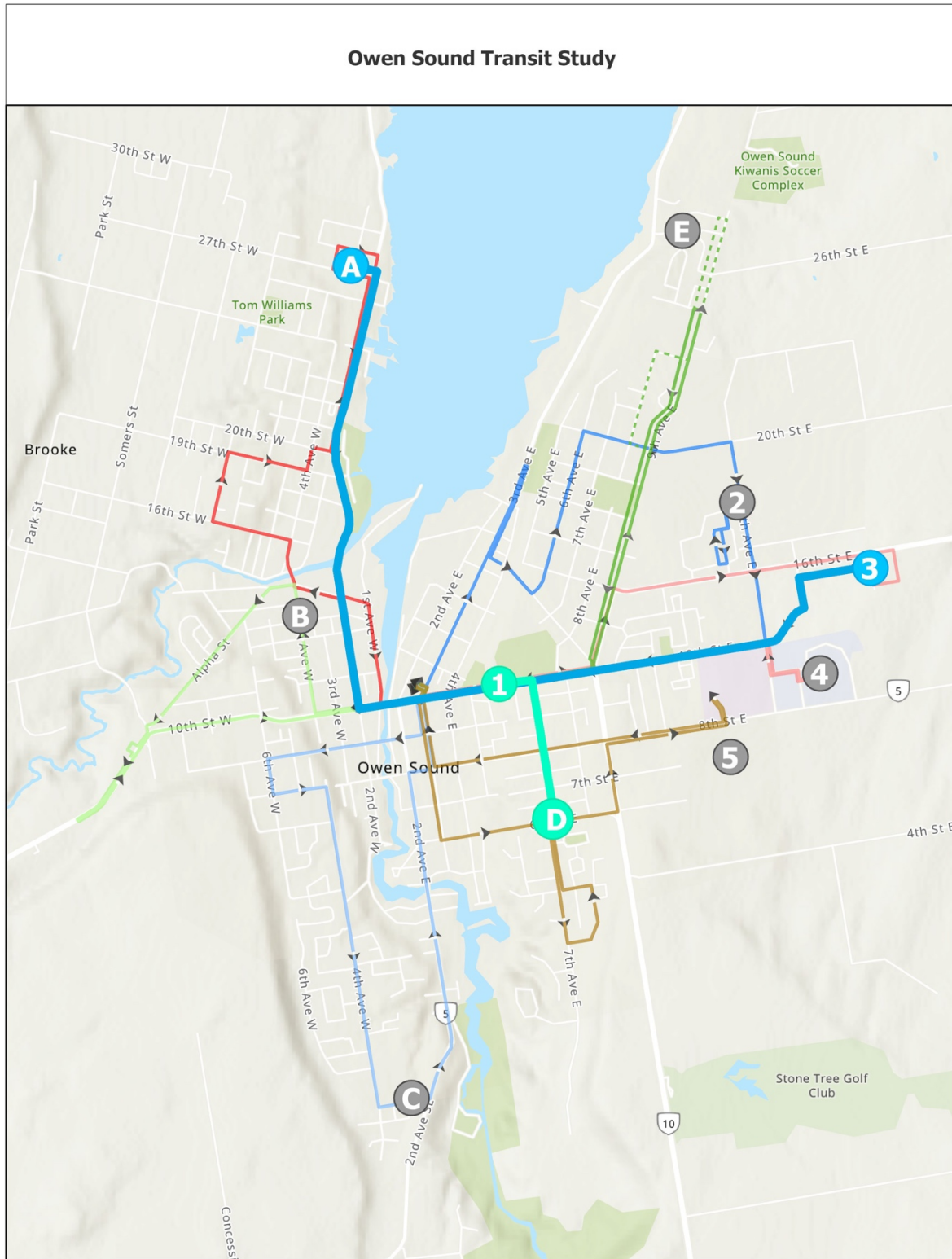


Table 1 – Trip Time Assessment

Residential to Commercial						
From Point :	To Point:					
	Mode	1	2	3	4	5
A	Auto	5	10	11	10	9
	Existing	25	34	36	38	43
	Proposed	15	15	27	26	25
B	Auto	3	8	8	7	7
	Existing	10	19	21	24	26
	Proposed	10	10	22	19	20
C	Auto	5	8	9	7	6
	Existing	23	28	26	25	21
	Proposed	15	15	27	25	25
D	Auto	2	5	5	4	2
	Existing	10	16	15	13	9
	Proposed	30	17	19	12	10
E	Auto	5	3	6	6	6
	Existing	16	14	18	22	24
	Proposed	15	25	23	22	20

Commercial to Residential						
From Point :	To Point:					
	Mode	A	B	C	D	E
1	Auto	5	3	5	2	5
	Existing	17	11	18	29	14
	Proposed	15	10	15	10	15
2	Auto	10	8	8	5	3
	Existing	29	22	26	38	27
	Proposed	15	10	15	20	25
3	Auto	17	14	15	11	12
	Existing	25	21	26	37	25
	Proposed	24	22	25	20	25
4	Auto	10	7	7	4	6
	Existing	22	17	23	34	21
	Proposed	24	18	24	20	22
5	Auto	9	7	6	2	6
	Existing	19	15	20	32	19
	Proposed	25	20	25	35	30

Yellow: Trip Times close to existing system

Red: Trip Times greater than existing system

Option 1 – Option 2: Unique Service Elements

Service Frequency

Option 1 – In Option 1, the Red route requires 40 minutes for a round trip. The route is operated with two vehicles, creating a **20-minute** service interval.

The remaining routes – Green, Blue and Brown - also require 40 minutes for the round trip, and are operated with one vehicle each, creating a **40-minute** service interval on each of the routes.

Option 2 – in Option 2 all routes require 40-minutes for the complete round trip and operate with one vehicle per route, creating a 40-minute service interval throughout the entire system. This also means that the Red route does not connect to every other route on each trip but connects to alternating routes as shown in Table 3.

Transfer Patterns

Option 1 – In Option 1, the higher service level on the Red route means that passengers will be able to transfer between the Red route and any other route, in both directions. For transfers between other routes, the lower frequency on these route means that most transfer will be timed at the terminal but select pairs will have a 20-minute connection. To the extent possible, schedule times were developed to set these transfers on the lowest demand connections. Table 2 shows the transfer patterns for the Option 1 schedules. Of the 42 possible connections, Option 1 provides:

- 6 direct transfer-free trips
- 28 timed connections at the terminal
- 8 connections with a 20-minute wait between buses at the terminal

Table 2 - Option 1 Transfer patterns

Route	Red West	Red East	Blue W	Blue E	Green W	Green E	Brown
Red West	NA	direct	T	T	T	T	T
Red East	direct	NA	T	T	T	T	T
Blue W	T	T	NA	direct	T	20	T
Blue E	T	T	direct	NA	20	T	20
Green W	T	T	T	20	NA	direct	20
Green E	T	T	20	T	direct	NA	T
Brown	T	T	20	T	T	20	NA

Option 2 – In Option 2, the service level on the Red route is the same as all the other routes, meaning that like the other routes, some transfers will be times and others will have a 20-

minute connection. Table 3 shows the transfer patterns for the Option 2 schedules. Of the 42 possible connections, Option 2 provides:

- 6 direct transfer-free trips
- 18 timed connections at the terminal
- 18 connections with a 20-minute wait between buses at the terminal

Table 3 - Option 2 Transfer patterns

Route	Red West	Red East	Blue West	Blue East	Green West	Green East	Brown
Red West	NA	direct	T	20	20	T	T
Red East	direct	NA	20	T	T	20	20
Blue West	T	20	NA	direct	T	20	T
Blue East	20	T	direct	NA	20	T	20
Green West	T	20	T	20	NA	direct	20
Green East	20	T	20	T	direct	NA	T
Brown	20	T	20	T	T	20	NA

Operating Requirements

Table 4 shows a summary of the vehicles and operating hours for the existing system and the options.

Option 1. Option 1 uses one more vehicle compared to the existing system. Since no change of service span is considered as part of the base option, total annual operating hours increase in the same ratio, or about 25 percent. Some minor adjustments to start and finish times may be necessary to accommodate the different 40-minute schedules on some routes. Details of a possible schedule for the routes are included in the Appendix.

Option 2. Option 2 uses the same number of vehicles compared to the existing system. Since no change of service span is considered as part of the base option, total annual operating hours will be similar to the existing service and about 20 percent lower than Option 1. Some minor adjustments to start and finish times may be necessary to accommodate the different 40-minute schedules on some routes.

Table 4 shows a summary of the operating requirements.

Table 4 - Fixed Route Options Operating Requirements

	Existing	Option 1	Option 2
Vehicles Required	4	5	4
Weekday	48	60	48
Weekday Total	240	300	240
Saturday	30	38	30
Weekly Total	270	338	270
Annual Total*	13,500	±17,000	±13,500

* Excludes 10 weekdays as holidays

Assessment and Recommendation

Option 1 Ridership

The changes proposed for Option 1 are expected to drive additional ridership based on four changes:

- Increased ridership resulting from the increased east-west service frequencies and connections between Brooke and the 16th St. E corridor with the new Red route
- Ridership loss from areas on existing Brooke route and East Bayshore Route where service is discontinued
- Increased ridership from the new service to Sunset Strip
- Minimal negative ridership changes from the service frequency changes on other routes, offset by improved connections and trip times

Red Route Service. The existing Brooke route, as well as the 16th St. E portion of the East Bayshore route are the best performing part of the system, and these are the areas that see the most improvement in service frequency, trip times and connections with the proposed Red route.

Currently, these routes perform at a level of about 18 boardings per hour, and this level is expected to increase with the improved service and similar vehicle-hours on each route. Assuming a 25 percent transfer rate, 18 boardings per hour is the equivalent of about 13.5 complete trips per vehicle-hour.

The increased frequency for these areas will drive additional ridership, which can be estimated using an elasticity factor of 0.5. This means that for each one percent improvement in headway, ridership is expected to increase 0.5 percent. For these routes, service is being increased by 50 percent, from 2 trips per hour to 3 trips per hour. The elasticity factor suggest that ridership would increase about 20 percent. Since these two routes represent 60 percent of the system ridership, the overall increase would equal about 12 percent. This is equal to about 24,000 boardings, or 17,000 complete trips.

The proposed Red route discontinues service from a portion of the Brooke area as well as a portion 3rd Ave. E in East Bayshore. The current ridership in these two areas combined is less than 15 boardings per day, or less than 4,000 per year. While riders at some stops may choose to walk to a more distant remaining stop, a conservative estimate is a ridership decline of 5,000 boardings.

New Sunset Service. The proposed extension of service to sunset strip will drive new ridership to the service as a new destination market becomes accessible. Ridership for this extension was based on the performance of stops in the 16th St. E corridor on the East Bayshore and Core routes.

The East Bayshore route generates about three boardings and three alightings per vehicle trip in the 16th St. E Corridor east of 9th Ave. E. The boarding areas are similar on both routes for weekdays and Saturdays.

Both proposed service options will provide 18 vehicle trips per day in the Sunset Strip corridor. If the service attracts passengers at rates close to but lower than the rate of the east side area, this service can expect to attract about two boardings and alightings per trip, meaning about 35 boardings and alightings on weekdays and about 20 on Saturdays (with current service span). This equates to about 200 trips per week, or 20,000 annually in both directions. This means about 10,000 boardings in the Georgian Bluffs area travelling to Owen Sound, and similar number boarding in Owen Sound to travel to the Sunset Strip.

Opening the Sunset Strip to transit access may have an impact on transit ridership to the 16th Ave. corridor, though there is no way to quantify this impact. To be conservative, 25 percent of boardings are expected to come from other routes, decreasing the overall ridership gain to about 15,000 in both directions.

In total, the expected ridership gains from Option 1 include:

- Service frequency and quality increase: 24,000 annual boardings
- Service area change decrease: -5,000 annual boardings
- New service area increase: 15,000 Annual boardings
- Total: 34,000 annual boardings, with the increase spread over three years

Option 1 Performance

Option 1 requires one additional vehicle, adding approximately 3,500 vehicle-hours of service, increasing the cost of the service by about 25 percent. Based on the ridership projections, which are somewhat conservative, overall performance of the system would remain about the same.

Option 2 Ridership

Since Option 2 is similar to the route network of Option 1, the source of ridership impacts will also be similar.

Notably, the Red route in Option 2 also operates on a 40-minute schedule along with all the other routes, so the benefits of the frequency increase are lost.

There will still be upward pressure on ridership from the improvements due to shorter trips times and improved connections, but there is more risk in adopting a full 40-minute network that affects the high demand areas. As a result, the positive effects of the network changes could be offset by the network-wide frequency change.

Other ridership factors remain the same.

In total, the expected ridership change from Option 2 include:

- Service area change decrease: -5,000 annual boardings
- New service area increase: 15,000 Annual boardings
- Total: 10,000 annual boardings, with the increase spread over three years

Table 5 - Fixed Route Options Performance Summary

	Existing (2019)	Option 1	Option 2
Annual Vehicle-hours	13,500	17,000	13,500
Annual Ridership (Boardings)	195,000	229,000	205,000
Boardings per Vehicle-Hour	14.4	13.5	15.0
Boardings per capita	9.1	10.7	9.6
Annual Operating Cost*	1,020,000	1,330,000	1,000,000
Revenue	320,000	375,000	335,000
Net Cost before subsidies	700,000	840,000	665,000
Cost per boarding	5.64	5.37	5.36
Net Cost per boarding	3.60	3.73	3.25

* assumes continuing contractor-owned vehicle model. In subsequent years, adopting city-owned vehicle policy could reduce operating costs (2019 \$)

Recommendation

Option 1 is preferred, based on its increased convenience, mobility improvements and resulting ridership increase.

Weekday Service Recommendation
Implement revised fixed route service, based on Option 1

Option 3

Option 3 is presented as an alternative to the no-cost Option 2 and is based on the existing routes. The rationale for Option 3 is the limited benefits of Option 2, compared to the level of re-organization in the system.

Coverage

Coverage under Option 3 is similar to the existing routes with the exception of the low-demand portions of the Brooke and East Bayshore routes.

Brooke Route. The Brooke Route is adjusted to be similar to that presented as the west portion of the Red route in Option 1 and Option 2, operating in both directions on 3rd Ave. W between 20th St. W and 27th St. W. Discontinuing service to some of the stops in the 8th Ave. W corridor north of 19th St. will assist with on-time performance.

East Bayshore Route. The east Bayshore route is also adjusted to remove the low productivity area of 3rd Ave., eliminating the need to monitor and maintain these routes. Service would operate from the terminal to the Harry Lumley Community Centre, returning on 3rd Ave. E to 15th St. E, then 9th Ave. E. Service would operate on 9th Ave. E as far north as 23rd St. E, looping on street and returning south on 9th Ave. E. From the intersection of 9th Ave. E and 16th St. E, the route would operate the same as today.

Core Route. No change to the Core Route is proposed in Option 3.

Crosstown Route. No change to the Crosstown Route is proposed in Option 3 but some low demand stops on 4th Ave. W and other locations would be consolidated, as in Option 1, to reduce running time and eliminate monitoring and maintenance costs at these stops.

Midtown Route. No change to the Midtown Route is proposed in Option 3. When temporary funding for this route is eliminated, the service would be discontinued.

Ridership

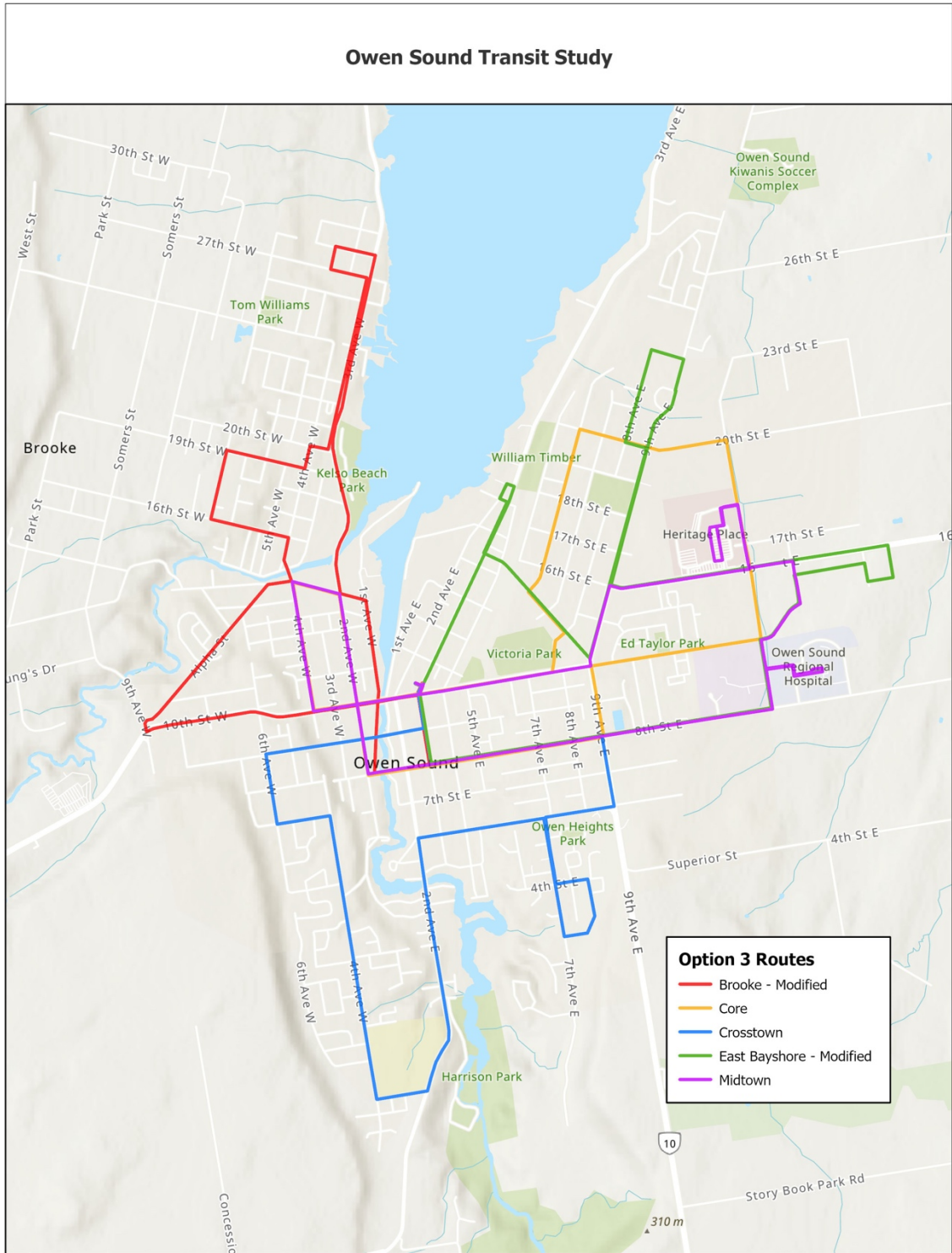
While Option 3 is simpler than the route network proposed in Option 1 and Option 2, it also offers few of the benefits of the revised network, including status quo travel times (except from the north end of Brooke), similar transfer requirements and no Sunset Strip service. As a result, ridership revenue and other performance metrics are expected to be similar to the existing service, as shown in Table 5.

Recommendation

Adopt Option 3 as the default route network, in advance of implementing Option 1 as the preferred daytime network

Weekday Service Recommendation
Adopt Option 3 as the default service network

Figure 6 - Fixed Route Option 3



4.3 On-demand Options

On-demand transit has emerged over the last few years as an attractive alternative to fixed route service for low demand areas and periods. Since the 1970s, many communities provided some type of similar service, typically referred to as dial-a-ride or similar. For example, in Hamilton and Welland, among others, a system has been operated within the fixed route network using taxi contracts to provide a first-mile / last mile service connecting more remote areas into the fixed route network. In Rimouski QC, TaxiBus service was used to provide service throughout the community, eventually converting in higher demand areas to fixed route service (CitiBus) while continuing TaxiBus in lower demand areas. Typically, these services were booked through a dispatcher using manual, low-tech or taxi-based scheduling solutions, which limited effectiveness for shared rides.

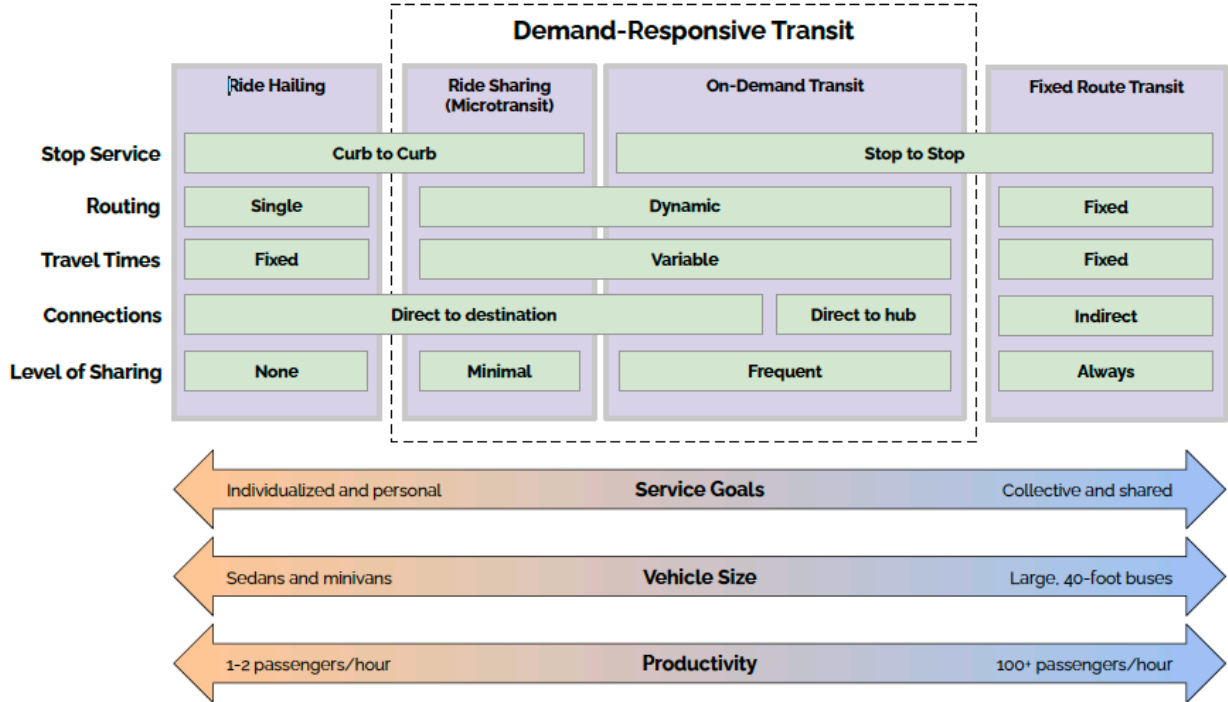
In many communities, including Owen Sound, accessible paratransit mobility services operate in a similar fashion, though service is typically not provided on demand, but requires a pre-booking of one to several days. Only a limited number of trips are typically provided on and on-demand basis.

Over the last 15 years, services have developed quite rapidly, deploying new scheduling technology while maintaining many of the same service characteristics as the traditional dial-a-ride service. In their early incarnations, these services were sometimes referred to as “dial-a-ride with an app”; currently however, the algorithms used in the smartphone-based technology have dramatically increased efficiency, response times and scheduling flexibility. On-demand services have established themselves as partners with fixed route networks in service delivery.

Figure 7 shows how on-demand services, along with ridehailing services provided by transportation network companies (TNCs), complete the continuum of transit service. A variety of terms are used in the industry and by the public, sometimes referring to the same service, and sometimes similar terms are applied to different types of service.

Figure 7 clearly differentiated between the private, single trip ride hailing service (such as Uber or Lyft) and fixed route transit, with their place on opposite ends of the continuum. In the middle are a range of services referred to as “Demand Responsive Transit”, of which on-demand transit forms an important part. This is differentiated from ‘micro-transit’, though there are clear overlaps and the terms are sometimes used interchangeably. The key differentiator between micro-transit and on-demand transit is the nature of the pick-up/drop-off point – where microtransit provides curb-to-curb service and on-demand transit relies on riders walking to a nearby stop. Also, micro-transit typically aims to limit shared rides, while on-demand transit works to maximize them.

Figure 7 - Transit and Ride-hailing services

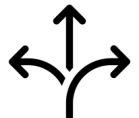


Source: Klupenhauer, W. The State of Demand-Responsive Transit in Canada, Toronto, UTTRI, July 2020

Design elements

In addition to the comments on the existing service, the engagement process provided specific inputs on the potential for on-demand options. In the first engagement round, there was limited awareness of the concept, and participants were largely skeptical of the service as well as the degree of change it might bring. In the second round of engagement, responding to specific options and proposals, respondents similarly expressed a general skepticism of the concept, and expressed concerns regarding accessibility, and questions about accessible options.

- More frequent service.** With on-demand transit, frequency is not a consideration and is replaced by response time. Setting response times to be equal to average walk and wait times for fixed route buses means a similar level of service, but without the need to plan, and allowing spontaneous travel.
- More direct service.** Like fixed route, more direct service means routes that meander less and provide faster trips between origins and destinations, accomplished by establishing maximum ride times. Using the the best trip sharing possible, on-demand routing software will provide the most direct trip possible.
- Additional evening and Sunday service.** Extended hours of service can be added to the preferred newtowrk and service as on-demand service, even if the preferred netwrk is fixed route. The flexibility, qualitative benefits and potential for lower cost make on-demaidd options attractive for new service periods.



- **Service to new areas.** Both options provide new service to these requested areas – either with partial fixed routes or on-demand service.
- **On-time performance.** In on-demand options, on-time performance is determined by the scheduling software for each trip, and monitored and communicated to the passenger. If on-time performance (or response times) begins to suffer because of increasing demand, this can be adjusted by adding additional vehicles to the service and in some cases can be done for short periods of time. In a service recently introduced in Leduc AB, the system records late pick-ups or late drop-offs on about 10 percent of trips, but the average late pick-up is 12 seconds late and the average late drop-off is only 9 seconds late. This kind of reliability is very attractive to transit riders.



On-demand design elements

The characteristics and quality of an on-demand service are determined by several key parameters.

- **Stop service:** level of service desired – curb-to-curb or local stop access
 - service can integrate curb-to-curb service for passengers with eligible mobility restrictions, and provide nearby stop access for non-eligible passengers
 - *Guideline:* For areas where fixed route is used in some periods, stops would be common. For unique on-demand areas, local stops should be provided in locations similar to fixed route
- **Response time:** time from booking being confirmed to bus arriving at a stop
 - *Guideline:* response time can be greater than the fixed route walk and wait time, but should not exceed it significantly. On average, most Owen Sound residents live within about a 5-minute walk of a bus stop and with current 30-minute headways, wait about five to seven minutes on average. (assuming trips are planned to the schedule), suggesting a response time of about 15 minutes.
- **Level of sharing / maximum trip time:** increasing the potential for sharing increases the length of the trip. Sharing potential is determined by maximum trip time as well as sharing policy
 - *Guideline:* shared rides should be maximized, within maximum trip times
 - *Guideline:* maximum trip times should be greater than the direct drive time for a private auto to permit shared ride trips
 - *Guideline:* maximum trip times should be less than the comparable fixed route trip time in the existing service, to provide a qualitative improvement. Currently, the maximum trip time on transit for the longest trip averages about 30 minutes (from 27th St. W to Home Depot), comprising 43 minutes eastbound and 19 minutes westbound. The average of trip times presented in Figure 5 is about 22 minutes

Other Issues

Accessibility

During the engagement process, some concerns were raised about the accessibility of the booking system and other aspects of on-demand services. AODA compliance is a requirement of these services and specific provisions can be incorporated into the procurement process. This includes:

- Every transit stop within the system can be designated as either accessible or not; only stops that are accessible will be offered as an option to the rider who indicates that they or a member of their party requires an accessible stop.
- All trip booking functions can be accommodated via the smartphone app, booking website, or by contacting the transit call centre.
- Routing algorithms can dynamically calculate current vehicle capacity in terms of both ambulatory and wheelchair spots available to ensure a rider requiring wheelchair access is never dispatched a vehicle without available wheelchair space.
- All user facing content and applications, training, including materials must meet the appropriate accessibility criteria, including text-to-voice and voice-to-text.

Integration with mobility services

In addition to providing conventional on-demand transit, many vendors can operate specialized transit service. This includes the ability to operate these services independently or to co-mingle specialized transit with conventional transit riders on a vehicle-by-vehicle basis. Co-mingling these services can be an effective way to mitigate the typically high costs of offering specialized transit service.

Using specialized transit vehicles to provide conventional service when there are no suitable specialized trip requests can also improve cost-recovery through a more efficient use of the specialized transit resources. In this case, spaces on specialized transit vehicles are pre-allocated to ensure that specialized trips are given priority over conventional trips in times of higher demand.

This level of integration gives specialized riders the ability to book trips without having to book 24 hours (or more) in advance, as required by Owen Sound Transit and most specialized transit systems. This provides a much higher level of convenience for specialized transit riders and allows for riders to adjust and cancel their trip requests in real time if their plans change.

Option A – Full On-demand service

Option A includes on-demand service throughout the Owen Sound Transit service area. This option includes a fixed spine route that connects the downtown and the 16th St. E corridor and the hospital (similar to the east portion of the proposed Red route).

Service parameters would be consistent with the guidelines presented in the previous section.

With the spine route in place, the scheduling software would make trip-by-trip decisions on how to use this route most effectively and efficiently. For example, if travelling from the west end to the 16th St. E corridor, a passenger may be given a direct shared trip on the on-demand service. In another instance, if the two vehicles were going to coincide for a portion of the trip, and by transferring the passenger to the fixed route the ride time could be maintained and service available to pick up another passenger, then the transfer would be arranged. This process would take place at the time of booking and communicated to the passenger at that time. Transfer points can be limited in the system to specific locations.

Initial analysis indicates that higher demand periods in evening and weekends can be accommodated with two on-demand vehicles in addition to one vehicle serving the spine route. Lower demand periods can be served with two on-demand vehicles without the spine route service and very low demand periods can be served with one on-demand vehicle.

Option B – Hybrid on-demand service

Option B was developed to test the concept of providing on-demand service during higher demand times, including weekday daytime, using on-demand service in the lower demand areas only and using fixed routes to serve the other areas.

On-demand service areas would include:

- 4th Ave. W corridor
- 3rd Ave. E corridor in East Bayshore
- The low demand portion of the existing Brooke route
- The northeast industrial area (new)

The remainder of the service would comprise fixed routes similar to the proposed Option1/Option 2 plan. One difference is the portion of the Blue route in the 2nd Ave. E corridor, which can now provide service directly to the parking loop in Harrison Park.

Preliminary analysis indicates that the on-demand zones may require up to three vehicles and trips between the zones with fewer vehicles would be inefficient.

Figure 8 - On-demand Option A: Full on-demand

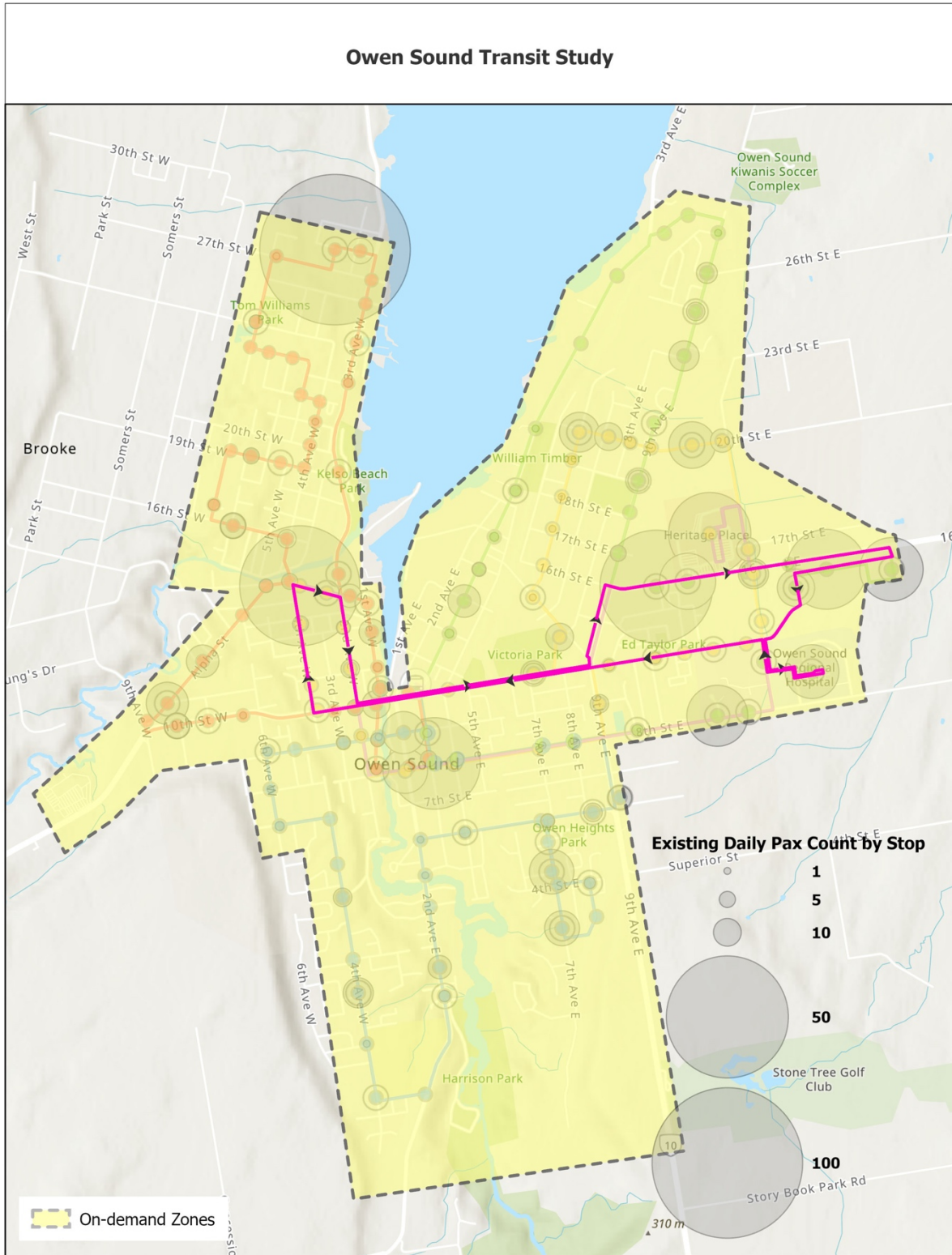
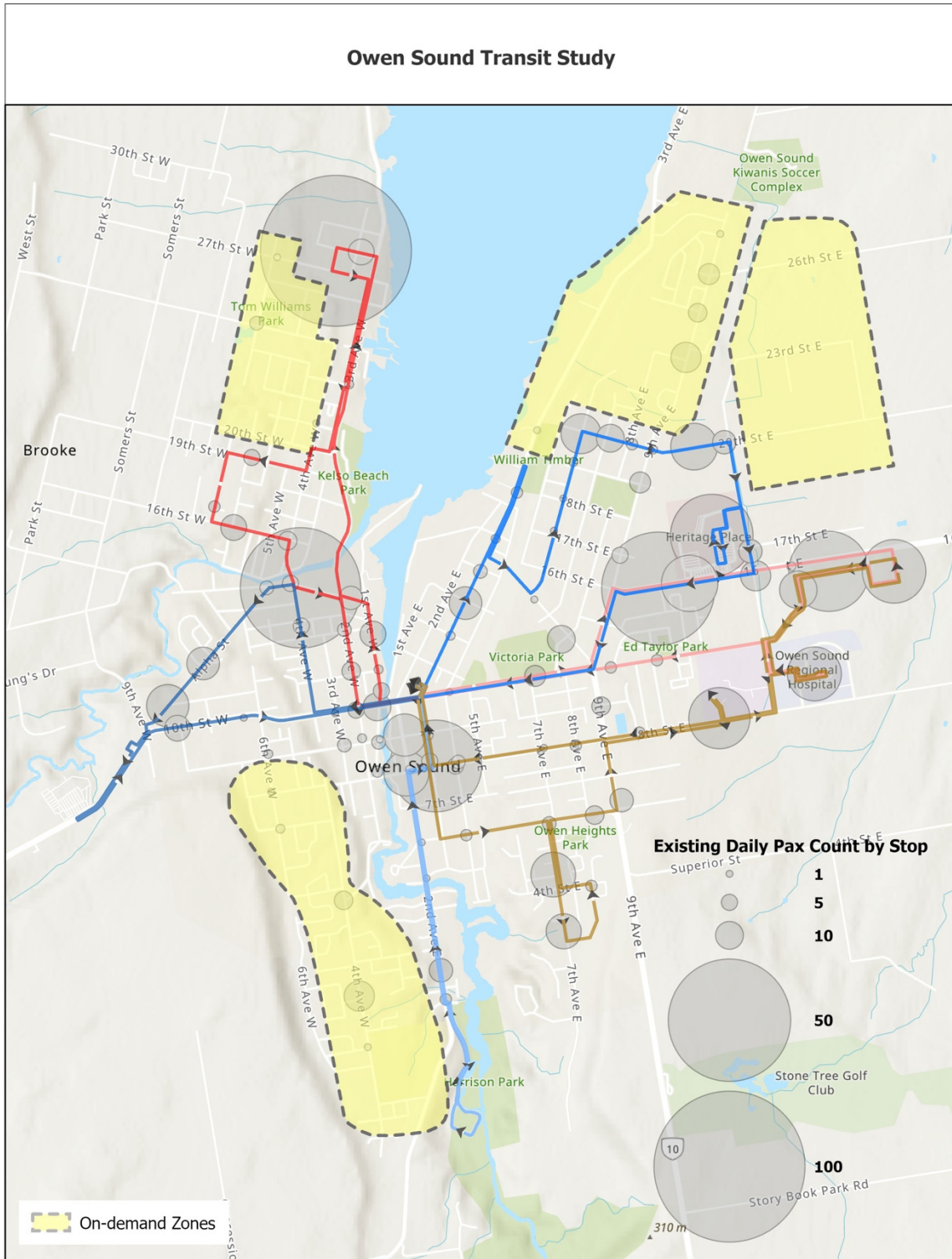


Figure 9 - On-demand Option B: Hybrid on-demand



On-demand Assessment

	Advantages	Disadvantages
Option A – Full On-demand	<ul style="list-style-type: none"> Easier to understand and use Flexible with or without spine route Allows service into Harrison Park and NW industrial area High on-time performance 	<ul style="list-style-type: none"> Not suited for weekday daytime demand levels
Option B – Hybrid On-demand	<ul style="list-style-type: none"> Maintains familiar route concept Allows direct service to Harrison Park 	<ul style="list-style-type: none"> Additional vehicles required Operates as first/mile last mile service with most passengers needing to transfer between fixed route and on-demand service Avoiding transfers with direct trips between zones inefficient

Service Costs

Recent experience with on-demand systems demonstrates the ability to provide service:

- At a lower cost for the same service span and increased service convenience
- At a similar cost for a larger service area

Typical deployment of on-demand systems require a one-time set-up fee to tailor the system to the local conditions, for software licenses and hardware if necessary. Recent procurement processes indicate that these costs can range fromr as low as \$25,000 to as much as \$100,000 depending on the vendor and how the total contract is structured.

On-going service charges may be on a per trip basis, or on an hourly basis, or combination, depending on the vendor and the requested sepcifications. In Leduc AB, which recently converted its local routes from fixed route to on-demand service, the hourly cost was approximately 20 percent higher than the fixed route contract price, but the service area was more than doubled and service hours expanded.

Recommendation

Adopt On-demand Service Option A as the default service option for additional periods of service. Work with on-demand additional to conduct a detailed simulation of service to determine the appropriate allocation of up to three vehicles between the on-demand zone and the spine route, and period for reduced vehicle requirements using one or two vehicles.

On-demand Service Recommendation

Adopt On-demand Option A as the default service plan for weekday evening and weekend services

4.4 Evening Service Options

What we heard

The need for evening service was the most common point raised in both rounds of the engagement, citing the need for employees to be able to access evening work opportunities, for shopping and for general evening travel to be available to the entire community. The most popular service extensions were to 9:30pm or 10:30pm on weekdays, followed by similar service hours on service on Saturdays, followed by Sunday service similar to the existing Saturday service. There was very little attraction for short evening extensions (7:30pm or 8:30pm) as well as for longer ones (11:30pm).

Evening service can be added to the fixed route or on-demand options, at additional cost compared to the base option.

Assuming a lower level of demand for new evening service compared to the daytime, and on weekends compared to weekdays, it is appropriate to consider a lower level of service for these periods, as is common in other systems. For weekdays this means a transition to Fixed Route Option 2 or the on-demand service. For weekends, it means using Option 2 or the hybrid on-demand service in the daytime, with full on-demand service in other times.

Options

Table 6 shows the range of potential service options between fixed route service and on-demand service for the additional periods of service. Table 7 shows a range of possible increased periods of service.

Weekday evening extensions

Additional hours of fixed route service could be added to the current 6:00pm last trip in half trip (20 minutes) or full trip (40-minutes) increments or to the on-demand service without any specific service constraint.

Table 6 - Evening and Weekend Service Extension delivery options

	Weekday Daytime	Weekday eve	Sat Day	Sat eve	Sunday
Service Scenario 1	Option 1 or 2	Option 2	Option 2	OD	OD
Service Scenario 2	Option 1 or 2	Option 2	OD	OD	OD
Service Scenario 3	Option 1 or 2	OD	OD	OD	OD

Table 7 - Extended Service Span Scenarios

	Weekday Eve	Weekday late	Saturday Eve	Sunday day	Sunday Eve
Span Scenario 1	Wed, Thurs, Fri only				
Span Scenario 2	M-F				
Span Scenario 3	M-F	Friday			
Span Scenario 4	Mon – Fri		√		
Span Scenario 5	Mon – Fri		√	√	
Span Scenario 6	Mon – Fri		√	√	√

Table 8 shows a summary of weekday and evening closing times for selected businesses throughout the city, including the 16th St. E corridor, downtown and the Sunset Strip

Table 8 - Evening closing times for selected businesses

Business	Location	Early Weekday	Late Weekday	Saturday	Sunday
Boston Pizza	16 th St. E	10:00pm	11:00pm	11:00pm	11:00pm
Walmart	16 th St. E	10:00pm	10:00pm	10:00pm	10:00pm
Shopper’s Drug	16 th St. E	10:00pm	10:00pm	10:00pm	10:00pm
Kelsey’s	16 th St. E	10:00pm	10:00pm	10:00pm	10:00pm
Beer Store	Downtown	9:00pm	9:00pm	9:00pm	5:00pm
Home Depot	16 th St. E	9:00 pm	9:00 pm	8:00 pm	6:00 pm
No Frills	10 th St. W	9:00pm	9:00pm	8:00pm	8:00pm
Metro	Downtown	9:00pm	9:00pm	8:00pm	8:00pm
Michael’s	16 th St. E	9:00pm	9:00pm	7:00pm	6:00pm
Peavey Mart	10 th St. W	8:00pm	8:00pm	6:00pm	6:00pm
Heritage Mall	16 th St. E	7:00 pm	7:00 pm	7:00 pm	7:00 pm
Galaxy Theatre (Early)	10 th St. W	9:00pm	9:00pm	9:00pm	9:00pm
Galaxy Theatre (Late)	10 th St. W	11:30pm	11:30pm	11:30pm	11:30pm

Based on the times shown in Table 8, weekday evening service would be useful if extended to permit employees of business closing at 9:00pm to travel home, and full service would require an extension to past 10:00pm. With the same criteria, Saturday service could be extended until after 8:00pm and Sunday service also provided until after 8:00pm.

Additional Service Assessment

The provision of additional hours of service is based on improving community access, supporting employers and employees and enhancing transit as a choice. As such, the service extensions should be equal on each day to maximum extent possible and affordable.

Using on-demand options for lower demand periods gives the flexibility to respond with lower cost service where and when demand is lower. If demand is lower on early week evenings, an on-demand service can be adjusted from three vehicles to two vehicles, or even a single vehicle, while still providing full coverage.

Access

Additional periods of service as described would increase access to areas businesses for employees and customers alike. For employees, some limitations on access would still be present, and customers would still need to plan trips to accommodate the service hours at some locations.

Note that under the requirements of the Accessibility for Ontarians with Disabilities Act (*AODA 2005*) and its regulations (*RSO 191/11*), hours of service for the Mobility Bus service would also be extended. However, the costs of this additional service (typically one additional vehicle) can be reduced by integrating the two services together as described in the previous section.

Ridership

The existing daytime service averages about 14.4 boardings per hour, and with the new routes, this level is expected to change to about 13.5, as described earlier. Saturday service is limited to about seven hours per day, and currently accommodates about five to six boardings per vehicle-hour.

Extending hours on weekdays and evenings not only increases ridership potential for passengers travelling within those extended periods, but it also increases opportunities for people who can use the existing service to get to locations but need to find alternatives for the return trip. For these people, the extended hours can be an immediate benefit, increasing ridership in the short-term.

In the short-term, weekday evenings are expected to be similar to Saturday service, at about five or six passengers per vehicle-hour or 20 to 25 per clock hour. This level of activity can easily be accommodated with the full on-demand solution with two or three vehicles, with better coverage and more flexibility than the fixed route options.

For similar reasons, on-demand service is appropriate for extended periods of service on Saturdays and added Sundays and could be used for all Saturday service. Shifting to on-demand service for all Saturdays would provide more consistent, less complicated service, and provide better coverage and flexibility throughout the day. It could also reduce the cost of the current service hours..

Extended periods of service on Saturdays, as well as Saturday daytime service, are expected to increase Saturday ridership with an on-demand solution. Compared to the current

average of 20 to 25 passengers per clock hour, increased ridership on Saturdays could see levels of 25 to 30 ridership per hour in the daytime, and ridership similar to existing during Saturday evenings.

Sunday service is expected to be lower than Saturday, likely similar to estimates of Saturday evening ridership on Sunday daytimes, and lower in Sunday evenings.

Table 9 - Evening Service Ridership Potential

	Weekday Evening	Saturday Day	Saturday Evening	Sunday
Early Start Extension	N/A	7:00 am	NA	9:00 am
Late Finish Extension	9:30pm	6:30 pm	9:30pm	6:30pm
Total Added hours	3.5	4	3.5	9.5
Annual New Ridership	17k-20k	5k-6k	4k-5k	4k-5k
Revenue	\$35k-\$40k	\$10k-\$12k	\$8k-\$10k	\$8k-\$10k
Additional Annual Vehicle-hours (on-demand)	2,600	410	365	1,000
Annual Cost**	\$195,000	\$28,000	\$25,000	\$70,000
Net Annual Cost	\$155k-\$160k	\$16k-\$18k	\$15k-\$17k	\$60k-\$62k

*existing 30 vehicle-hours would be reduced by 7.5, plus 12.5 new hours, for a net of 5 new daily

** based on \$70/vehicle hour for future

Recommendations

- Add weekday service to approximately 9:30pm using full on demand Option A, monitor and evaluate.
- Based on satisfactory results for weekday evening, convert Saturday service to on-demand and extend hours of service to start at approximately 7:00am and end at approximately 9:30pm, monitor and evaluate.
- Based on satisfactory results for Saturday service, introduce Sunday service with on-demand with service to start at approximately 9:00am and end at approximately 7:00pm, monitor and evaluate.
- Adjust service as necessary.
- Work with on-demand vendor to develop integrated mobility service, relying on additional hours of existing Mobility service in the interim.

New Service Periods Recommendation
 Add Evening Saturday and Sunday service incrementally, using On-demand Option A

4.5 Events Services

What we heard

In the engagement sessions with both stakeholders and members of the public, the opportunity for special community services was also raised. This included Attack hockey games at the Harry Lumley Community Centre as well as festivals and other events at Kelso Park. Direct service into Harrison Park was also raised frequently.

Events Service

Most events venues, particularly the Harry Lumley Community Centre and Kelso Park, are already served by the existing system as well as each of the proposed options. For events, service could be increased on the existing routes for peak travel times. For evening events, shuttle trips to the venues could be added, either as an add-on to evening on-demand service or as special trips if evening service is not implemented. An shuttle with vehicles would cost approximately \$1,000 for a three-hour period under the current pricing structure.

In addition to shuttle service, partnerships could be established with event organizers and venue management to create an 'all-in' ticket that provides event access and transportation. These arrangements could be negotiated to include financial support for the shuttle service.

Harrison Park Service

Harrison Park is currently served by the Crosstown route with a stop at the Park entrance northbound. A detour into the park and through the one-way loop and back to the entrance would add about 2kms to the route. This would add about 20 percent to the distance and travel time of the Crosstown route and represent a significant detour for riders travelling from the western portion of the route to downtown.

As an alternative, the Park could be served by the proposed on-demand service, for evening and weekend service if implemented. For weekday daytimes, or other periods, a seasonal shuttle could be used to increase access to the park and its activities. Costs for a shuttle from May 24th weekend through Labour Day could range from \$25,000 to \$50,000 depending on the span of service.

Recommendation

Events Service

- Include a budget allowance to add or supplement events service.
- Work with venue management and events organizers to establish marketing and promotional packages to promote transit travel to events.

Harrison Park Service

- Include a budget allowance to add summer daytime shuttle service, in addition to the proposed on-demand coverage for evenings and weekends.

Events Service Recommendation

Include budget allowance for events service supplements

Harrison Park Service Recommendation

Include budget allowance for summer shuttle

5 Future Concepts

5.1 Future growth areas and staging

Considering the City's Official plan, and in conjunction with City staff, a list of relevant development areas that can affect transit service over the next several years was developed.

Staff provided approximate timing for these development areas based on known applications and expected plans, but timing is uncertain and will depend on external forces.

For this reason, the development areas are considered in their entirety, with future transit implications based on the complete plan. Where relevant, short-term plans where staff is more confident on timing have been considered in the development of route options.

Figure 10 shows the future growth areas, based on Official Plan designations. These include:

- East Harbour and West Harbour mixed use development
 - current and on-going
- East Bluffs (9th Ave. E) medium density residential development: 2022 – 2025
 - Townhouse and low-rise apartments
 - Initial occupancy 2022, through 2025
- Sydenham Heights: large mixed density residential and mixed-use development
 - Centred on 16th Ave. E / Hospital area between 6th St. E and 16th St. E
 - Beyond 2025; long-term development

Short-term Implications

In the short-term, the East Bluffs development will support ridership on the proposed Green route. On-going development in the East Harbour and West Harbour areas will be positive for transit service in the areas and vice-versa.

Medium-Term Implications

In the medium-term, East Harbour and West Harbour will increase the attractiveness of downtown as a destination generally and provide increased rationale for direct service. Red Route service on the west side, serving 1st Ave. W and 2nd Ave. W will not likely require changes and the increased level of service proposed in Option 1 will serve this area well. In the East Harbour Area, 3rd Ave. E could be modified to operate partially on 2nd Ave. E with minimal impact on operations or scheduling.

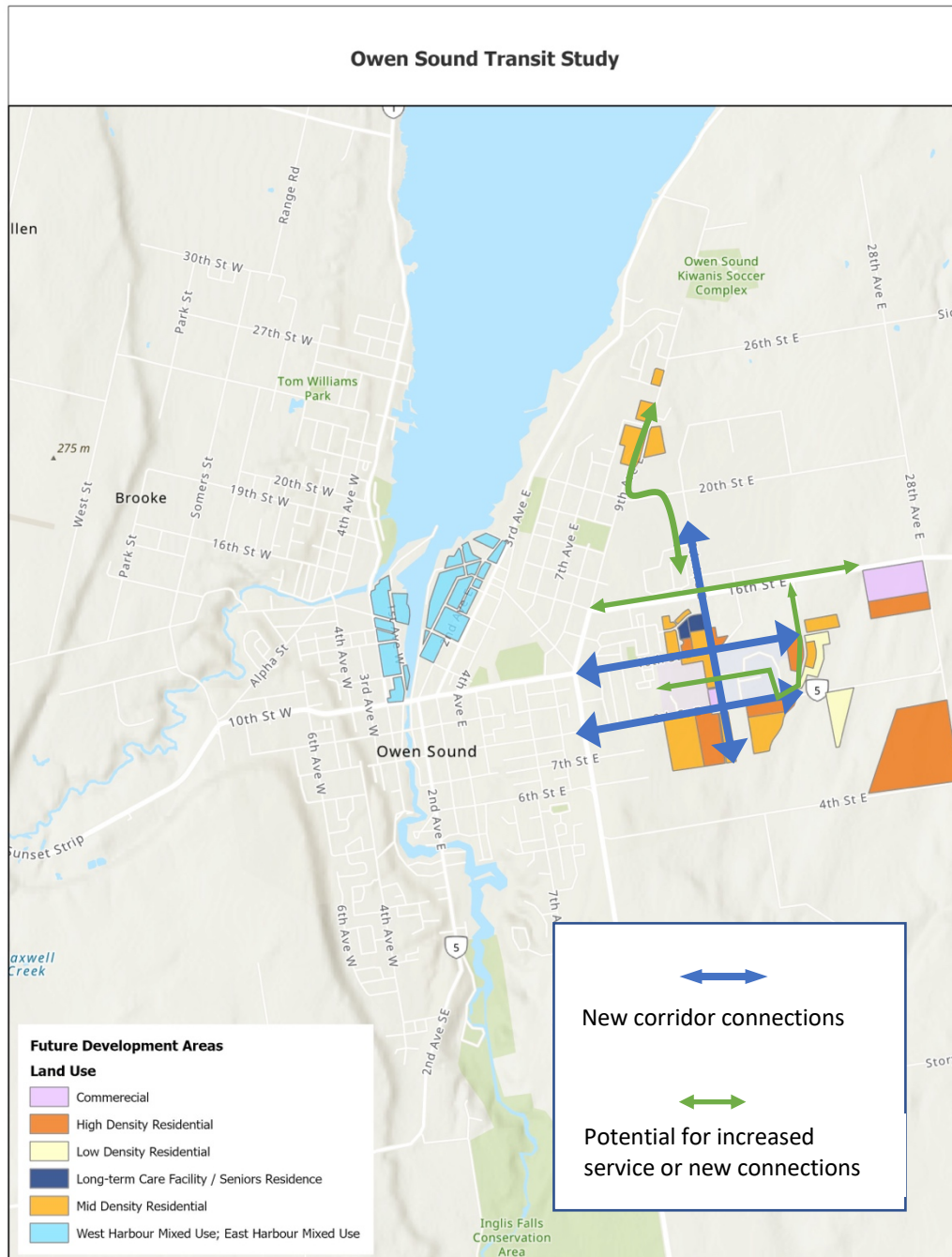
Long-term implications

The long-term developments planned for Sydenham Heights could have significant impact on transit services, particularly in the east portion of the city. At full build-out, these developments will both provide the opportunity and create the need to connect 16th St. E to 8th St. E and 6th St. E in the 20th Ave. E corridor, east of the hospital.

In addition to serving this north-south corridor and the adjacent developments, service will be required on 8th St. E, and possibly 6th St. E, east of 16th Ave. E.

The distance of these new route segments from the downtown, either as new routes or extensions, may require network revisions to establish an eastern transit node in this area. This node, designed to serve as an operations focus for east side routes, could be located at Smart Centre, the Hospital or within the area. Planned developments in the east end at 28th Ave. E will be extremely difficult and expensive to serve, particularly the parcel at 4th St. E.

Figure 10 - Future Growth Areas



6 Supporting Elements

6.1 Transit Fares

Current fares

The current fare structure is quite simple and offers cash fares or single trip tickets or a discounted monthly pass. Table 10 shows the current fare structure with trips per pass equivalent and the discount on seniors and student passes compared to the adult pass. While many systems use a flat cash rate (e.g., Woodstock), many systems still use discounted cash fares. However, in these systems, it is much more common to offer both seniors and students a similar cash fare discount. In Owen Sound, seniors pay the full cash fare, while students are offered a discount (16 percent) on the cash fare or single ticket.

Table 10 – Current Fare Structure

Category	Cash or 1-trip ticket	Monthly Pass	Trip /pass Equivalent	Discount from Adult pass price
Adults	\$3.00	70.00	23	-
Seniors	\$3.00	55.00	18	22%
Elementary Students	\$2.50	35.00	14	50%
Other Students	\$2.50	35.00	14	50%
Children (1-5)	Free	Free	-	-

COVID recovery experience

Many systems introduced free fares during Summer 2020, to accommodate rear-door boarding to ensure proper physical distancing. Most systems that eliminated fares re-introduced them in Fall 2020.

There are few instances of systems considering discounted fares to help drive ridership return, but these are temporary measures. However, there is little evidence of systems considering fare increases in the short-term, at least until ridership has stabilized, if not fully returned. Some exceptions include systems that are introducing major network revisions at the same time.

What we heard

During the engagement discussions, there were some concerns about keeping the service affordable, but most feedback focussed on the ways to make paying for the service more accessible and flexible rather than simply reducing fares.

This included more outlets for passes and tickets, more flexible pass options and mobile payments. The discussion on mobile payments raised concerns that the technology may not

be available, affordable, or accessible to all and should only be implemented as an option to current fare products.

Regarding passes, there were discussion about more flexible options to receive a discount for periods other than a calendar month for those that may use transit regularly or periodically but not frequently enough to justify a monthly pass. More flexible options would also assist riders whose travel patterns change temporarily, for example due to a week's vacation, who then must shift to the full cash fare payment.

Fare Options

Fare Structure

- **Child fare discount.** Over last few years, several systems have raised the age limit for free child travel to 12 year of age (grade 6). This trend was started in Ontario by GO Transit in 2019, which implemented it as a form of family payment targeting off-peak riders. Since then, several GTA agencies have implemented the same policy (most notable TTC with likely the largest proportion of riders in this age group), along with several Ontario agencies. The policy is seen as a way of accommodating family travel and supporting low-income families at negligible cost.
- **Senior and student fare discount.** With respect to student and senior discount options, it is appropriate to consider a consistent fee policy with other city services, however, since no specific policy is currently in place, it has not been considered. If the City should complete a fee review in the future, consistency across City services should be an element of that review. In many transit systems in Ontario, cash fares are consistent in each age groups, with the intent of encouraging riders to pay by means other than cash. However, in still in many systems cash discounts are offered to students or seniors. Most commonly, discounts are offered to seniors only, with students paying the same cash fare as adults and in cases where discounts are offered to both groups, the seniors' discount is often larger than that of students.
- **Discount for People with Disabilities.** In on-going consultation, staff report discussions with stakeholders regarding fixed route service discounts for perons with disabilities. While not wiodespread, this type of initiative is not uncommon among transit agencies in Ontario as way of moving riders from the expensive Mobility bus service to the less expensive fixed route service.

Fare Structure Assessment and Recommendation.

- **Fare Levels.** Increasing fares often accompany service increases, tying service improvements to added fares. However, an increase in fares will counter efforts to restore ridership to pre-COVID levels. A fare increase tied to service improvements could be considered if packaged with low-income supports described in the next recommendations.

Recommendation: No fare increase through at least 2024, unless packaged with low-income fare initiatives.

Fare Level Recommendation
No fare increase until at least 2024, unless packaged with low-income supports

- **Child fare classification to 12 years.** For Owen Sound, there are no data available on the number of youth riders younger than 12, but it is likely low, with very few in this age group travelling alone. This means that a similar policy in Owen Sound could accomplish two objectives:

- Support lower-income families currently riding transit and paying multiple fares.
- Attract additional ridership from the group that are discouraged from using transit because of the higher cost of multiple fares (\$8.00 one-way for a parent and two children older than five).

The financial impact of this policy is not specifically known, but is expected to be minimal, while increasing affordability and community mobility with a simple to implement system.

Recommendation: Implement free child policy for all riders age 12 and younger.

Child Fare Recommendation
Implement free Child policy to age 12 and younger

- **Senior and Student fare.** Discounts among the various age categories should be consistent with all service offered by the City, where user fees are implemented. Extending the current student discount to seniors will reduce revenue, but should be incorporated over time if consistent with overall City policy.

Recommendation: Maintain current discount structure in short-term. Further study to review in context of City-wide policy services pricing policy.

Senior / Student Discount Recommendation

Maintain current structure in short-term, pending review

- **Free Fixed Route Transit fares.** Offering free transit to people who are eligible for Mobility bus service has little or no marginal cost, and the fare revenue impact is negligible.

However, each passenger that elects to travel on the fixed route system when able, leaves additional capacity on the Mobility Bus service for another rider. With the Mobility Bus system at or near capacity, this means increasing community mobility by accommodating a new rider on the service at no cost. Limiting the incentive to registered users of the Mobility Bus offers an effective means of managing the policy and ensures that benefits accrue to other Mobility Bus riders. Note that where service is offered through an on-demand system (recommended for new evening and Sunday service as well as for Saturday service), the free fare option should not be extended, since the systems will be integrated.

Recommendation: Implement policy of free fares on fixed route transit for registered Mobility Bus users.

Fare for People with Disabilities Recommendation
Implement free fare on fixed route transit for Mobility Bus riders

Pass Options

- **31-day pass.** Converting the monthly pass to a 31-day pass is a way to address the periodic absence issue. For a daily adult rider, the cost of the monthly pass equates to 23 cash rides, or about 12 days of return trip activity. In a period where the rider does not travel for two weeks, the monthly pass would not be a financial advantage, and the rider would need to pay cash for the remaining two weeks of the month, making the fares much more inconvenient and more expensive than the usual expenditure.

Converting the monthly pass to a 31-day pass that provided unlimited travel from the day of first use rather than from the first day of the month could address this issue. It would allow riders to simply skip the absence period and resume pass purchases after.

This type of pass is not commonly used with transit systems, and for the most part is only used with systems that offer electronic farecard payment. The reason for this is that accommodating a variable date pass in a manual pass is cumbersome and requires more stringent verification by the operator. Additionally, 30-day passes still require planning on the part of the rider in advance of the absence period, and do not address unplanned absences.

- **Weekly Pass.** A weekly pass, good for unlimited travel in a seven-day period, could also address several issues.
 - **Affordability:** a weekly pass, priced between the cost of one-quarter of a monthly pass and regular cash fares would make the system more affordable for riders using cash because they cannot manage the large outlay of a monthly pass.
 - **Periodic absence:** a weekly pass would also provide a simple alternative for the rider who will periodically ride less than the amount required to justify a monthly pass.
 - A weekly pass would have several effects on revenue, depending on the rider using it:
 - For riders who cannot afford the one-time cost of a monthly pass but pay for regular trips with cash, the weekly pass would provide a lower cost option allowing them to take advantage of a discount, as well as having unlimited rides. This would improve affordability, increase ridership and mobility and have a small negative effect on revenue.
 - For riders that cannot afford a monthly pass and so travel less because of limited funds, a weekly pass could provide more trips for the same cost, increasing mobility and increasing ridership without little if any impact on revenue
 - For riders that occasionally need a shorter period pass, the weekly pass would have a similar effect as the first group – providing a small discount during those temporary periods, rather than paying cash. This would increase mobility and ridership with a small negative effect on revenue.

- Low Income or Subsidized Fares.** Some Ontario systems have implemented low-income fares, a concept that has spread to Ontario from the US and from western Canada. For example, Grand River Transit, serving Waterloo Region, offers all fares to residents (not enrolled in school) at a discount of 42 percent, reducing the adult monthly pass from \$90 to \$46.80. In Simcoe County, Toronto, Durham Region and Peterborough, the agencies and local governments have partnered with Ontario Works (OW) and Ontario Disability Support Program (ODSP) to subsidize transit passes for program recipients. This works to increase local transit ridership, provide greater flexibility and convenience to the recipient and reduces transportation expenditures under the provincial programs.

Fare Pass Options - Assessment and Recommendation.

- 31-day pass:** A 31-day pass is cumbersome to implement and use as part of a manual fare system, but could be considered within a farecard system.

Recommendation: Defer consideration of a 31-day pass until the planning stages of a mobile payment or farecard solution, if implemented.

31-day Pass
Recommendation
Defer consideration of a 31-day pass

- Weekly pass.** A weekly pass is less cumbersome as manual payment than the 31-day pass, because it is similar to the current monthly pass, for a different period. Sales, management and enforcement are all easier. The weekly pass is generally beneficial for affordability and mobility with negligible revenue impact, but perhaps less effective than targeted low-income pass. For the regular pass rider looking for an alternative for occasional absences, the option has limited appeal.

Recommendation: Consider targeted low-income pass as alternative.

Weekly Pass
Recommendation
Consider targeted low-income pass as alternative

- Low-income pass:** A low-income pass is a targeted solution, with demonstrated effectiveness in many communities. Transit can be an effective enabler of social policy, but should not be responsible for direct funding. Implementation should include specific identification and allocation of broader social service funding to transit for a low-income pass.

Recommendation: Further study: Review in context of City's overall social service objectives. For a Low-income option, identify internal or external funding support to account for transit lost revenue. For a subsidized OW/ODSP pass, work in conjunction with the province and local social service agencies to identify appropriate subsidy levels and financial agreements.

Low-income Pass
Recommendation
Further review in context of overall City objectives

Farecards and mobile payments

Electronic farecards have become increasingly popular in small systems over the past several years and vendors and technology adapt to the needs of small systems. IN larger systems, the last five years or so have seen increasing moves towards mobile payments alongside, or in place of farecards and other fare systems. With mobile payments systems as well, technology and vendors' products have increasingly been adapting to the needs of smaller communities.

- **Farecard.** Electronic farecards are typically an electronic replacement for cash and passes. An electronic purse in the card allows the rider to use stored value to purchase cash fares or other fare products, as well as to incorporate a period pass. Most farecards can accommodate different period passes, but usually not at the same time. The electronic fare card would be one of the effective measures of introducing more flexible fare products.

Farecards can typically be loaded at a kiosk (at the terminal for example) or online. Online payments are transferred to the card the next time the card is used. Cards can also be autoloaded from a credit card when the balance falls below a user-defined amount.

Farecard systems are most effective when linked to credit card account, permitting the rider to autoload the card or use online loading. Those without a credit card account would still need to visit the terminal or other outlet to load cash onto the card.

Farecard systems require on-board readers and depot download systems to validate cards, perform transactions, and manage revenue systems. This means technology systems on-board the vehicle (\$1k-2K per vehicle), in the depot (\$25k-\$50k) and at vendor outlets (\$5k-\$10k).

Farecard systems reduce, but do not eliminate cash handling costs and security issues.

Farecard systems typically operate on a commission-type of system, with the system vendor receiving a percentage of fares or transaction fees or both. For Metrolinx's Presto card, the management and accounting fees for most systems are nine percent of revenue.

- **Mobile payments.** Mobile payment systems typically use a smartphone app linked to a credit card or other account system to pay for transit fares.

The engagement feedback made it clear that mobile payments should be an option in the fare system, allowing those that do not have, or cannot use a smartphone to continue to use traditional fare methods.

Several vendors offer a range of products and services, from simple to complex, including post-trip processing that allows very flexible fare structures and subsidies based on actual variable usage.

Farecard and Mobile Payment - Assessment and Recommendation

- **Mobile Payment.** Mobile payments options are complex and evolving and are beyond the scope of this study to determine a specific solution; but the benefits as a flexible and convenient payment system are clear.

Recommendation: Develop a Request for Information (RFI) to solicit information from vendors to identify range of appropriate technology, applications and costs.

Develop a Request for Proposals (RFP) based on the RFI outcomes, and consider solution for 2023 – 2025.

Farecard and Mobile Payment Recommendation

Develop RFP to identify applications for Owen Sound Transit

Develop RFP based on outcomes

Other Fare Options and Partnerships

- **Sales Outlets.** Transit passes are currently available at the Transit Terminal, City Hall and the Public Library – all are downtown locations, which limits the availability of fares and passes. While all routes come downtown and pass through the terminal, this is not the destination for many passengers and it remains difficult for many to purchase passes. A wider network of sales outlets would ease this situation and help to reduce situations where passengers need to pay cash until they can get downtown to purchase a pass.

The City already has a more extensive network for the sale and distribution of garbage pick-up ‘bag tags’. This includes the City facilities plus about a dozen retail outlets throughout the city. Negotiating agreements with these outlets should be straightforward and would increase convenience for passengers.

Additional agreements could be pursued with popular passenger destinations, such as the hospital or Georgian College to also participate.

- **Regional transportation.** Together with ensuring more effective service integration with GOST and GTR, particularly extending service to provide full service meets, integration and support for each of the services could be enhanced with a form of fare integration.

In Simcoe County, a discounted fare was established for passengers using both the Linx intermunicipal service and the local transit services. In this framework, passengers boarding the local system pay the full fare and receive a discount on the intermunicipal service. Passengers transferring to the local service receive a free transfer. The rationale for the free transfer is that the passenger represents a new trip with no marginal cost to the local operator, and the local operator receives a new fare on the return trip.

A similar system with GTR and GOST would see Owen Sound providing free transfers from GTR and GOST to the Owen Sound Transit on the inbound trip and receiving an additional new fare (and rider) on the outbound trip. For GOST and GTR, a fare discount could be provided upon presentation of a valid transfer, subject to any restrictions in their funding partner arrangements. Together this would increase the attraction of the

service and support both the local and in the intermunicipal services. Further study and planning for this arrangement could be funded by the Federal Rural Transit Planning Grant.

Other Fare Options and Partnerships – Assessment and Recommendations

- **Increased pass sales outlets.** Direct staff to make passes and tickets available at city owned facilities capable of handling financial transactions including City Hall, community centres. Implementation Fall 2021
- Investigate options for partnerships to increase pass and ticket sales outlets including:
 - Georgian College
 - Heritage Mall
 - Hospital
- Existing outlets with bag tag agreements
 - Implementation (individual agreements beginning January 2022)

Other Fare Recommendations

Increase transit pass sales network

6.2 Fleet and Facilities

Fleet

What we heard

Customer and operator feedback regarding the vehicles reflect general dissatisfaction with the current vehicles, including a rough ride and restricted interior accessibility for larger mobility devices or walkers.

In the second round of engagement, respondents thought it was very important to invest in more comfortable, more reliable vehicles to increase customer satisfaction and promote ridership. Respondents also think it is important for the City to address its climate change objectives through transit, particularly if upper tier funding support is available.

Fleet Replacement

The existing transit fleet was renewed in 2014, following the previous route assessment and contract renewal. As part of the contract provisions, the operating contractor provides the vehicles, incorporating the capital cost and financing into the average hourly rate for the service. This contract is known as an Own-Operate-Maintain (OOM) model.

These vehicles are rated for 6-year, 300,000 km life cycle. Detailed mileages by vehicle are not available, however, in seven years from 2015 through 2021, the vehicles will have logged approximately 2.2M kms in total, or approximately 350,000 kms per vehicle.

This means that the new contract associated with this service review, scheduled for April 1, 2022, will need to include provisions for new vehicles, appropriate to the service recommendations.

Recent sales of the Arboc Spirit of Mobility – 2021 models average about \$140,000 USD, or about \$175,000 per vehicle. This means that replacing the fleet would require a capital expenditure of about \$1.1 million.

Ownership model options

Amortizing the capital cost of the vehicles over the current operating hours of about 13,500 annually for seven years, means the provision for the operator to provide the vehicles adds about \$10 per operating hour to the contract price, or approximately 15 percent of the contract hourly rate. This assumes no interest charges on the capital costs are included in the hourly rate.

Currently, there are a variety of funding programs available to municipalities and public agencies to support capital infrastructure in transit services. More details on the specific programs are included in the next section. Under currently programs, most Ontario municipalities can fund transit capital infrastructure spending, including vehicles, rail and guideway infrastructure, stops and stations with a municipal contribution of about 26 percent. Applied to the vehicle replacement expenditure of \$1.1M, this would result in a municipal cost of less than \$300,000.

The caveat on this funding is that it is only available to municipalities and public agencies, not private providers. Therefore, to obtain the benefit of these funding programs, Owen Sound would need to change from an OOM model to a simple Operate/Maintain model. These models are very common in contracted transit operations across Ontario and Canada.

Because the contract operator would be responsible for the maintenance and care of city-owned assets, specific contract provisions would need to be included to ensure proper maintenance procedures, monitoring and reporting protocols and enforcement mechanisms. These contract provisions are also common in own/operate models across the province.

Alternative Propulsion Options

Recently, low or zero-emission vehicles (ZEV) for transit have become more widely available and popular as a means of reducing tailpipe emissions from transit. As part of environmental and climate change initiatives, ZEVs are important in small communities, since the overall benefits to the community in these areas is lower than in larger communities where ridership is much higher. In large centres, there is often debate about whether the capital outlay for electric buses would be better spent, within increase environmental benefit, in increasing transit service to induce modal shift to transit.

In smaller communities, where effecting modal shift is very difficult, making sure the municipal fleet is as green as possible becomes important. This is part of the rationale for federal assistance programs to support municipalities in purchasing ZEVs, particularly electric buses. Federal assistance programs, in conjunction with provincial governments and the Canada Infrastructure Bank, currently make electric vehicle purchases very attractive. At the same time, vendors have responded with an increasingly wider offering of electric buses, including Vicinity Motors (manufacturer of the buses used in Simcoe County) and Green Power in Canada, as well as Arboc, the manufacturer of the buses currently used by Owen

Sound. These buses can be delivered as medium-duty vehicles (eight-year life span and providing a better ride than the cutaway models) with substantial federal funding support (see next section). New innovative small electric vehicles are also being introduced to Canada through Canadian distributors.

Acquisition of electric vehicles would need to consider the size and range of the vehicle to ensure the correct vehicle for Owen Sound. Generally, electric vehicles are considerably lighter and electric motors produce more torque than internal combustion engines, making the vehicle well-suited to Owen Sound's terrain.

While larger 40-foot buses have larger batteries that would not have any issues with the required range for daily operations in Owen Sound, smaller vehicles would need to be considered carefully to ensure they have adequate range. The alternative is the additional capital cost of rapid charging infrastructure, or additional buses to allow vehicle change-offs for charging.

Fleet Recommendations

- **Vehicle Replacement.** Replace existing vehicles with the start of the renewed contract. Since confirming funding arrangements and securing a vehicle will take longer than the current contract extends, the new contract should include a first stage provision to continue a similar OOM contract, with contractors specifying the vehicle they will provide for this stage. A second stage of the contract, with flexible timing, would change to an OM contract, with the contractor responsible for the operations and maintenance of City-owned vehicles.

For the second stage of the new contract, take advantage of current capital funding support to replace vehicles with City-owned units, considering zero-emission electric buses and other low-emission options. A higher quality vehicle (medium or heavy duty) should be considered. Issuing an RFI to vendors as a first step will provide ample information to craft an RFP as a second step.

Fleet Recommendations

Replace existing vehicles with new contract

Fleet Recommendations

Issue RFI to vehicle manufacturers for low- and zero-emission medium or heavy-duty vehicles

Issue RFP based on RFI assessment

Facilities

What we heard

Discussions with transit staff and participants in the engagement process reveal few if any problems with the downtown terminal. No complaints or comments were received about issues such as cleanliness or state or repair. Several comments were received about information and communication, and these are addressed in the next section.

With respect to stops and other facilities, there were few comments, though some noted the lack of sidewalk access to several stops.

Downtown Terminal

The downtown terminal remains an important feature in the fixed route system. In an on-demand environment, the terminal plays a much smaller role, serving only as an anchor and transfer point for the spine route if used. Apart from the technology improvements and the ticket sales issues noted in other sections, no recommendations are included for the downtown terminal.

Stops and Shelters

As part of the City's on-going Accessibility Plan, stop locations and neighbourhood access improvements are identified for improvements each year, and several stops have been improved with extended pads, curb cut access and sidewalk connections. As part of the City's commitment to accessibility improvements, this work needs to continue, and be accelerated if possible.

- **New fixed route stops.** Adopting the preferred Option 1 will require new and relocated stops. Many of these are new stops on portions of routes that were one-way and are proposed for two-way service, such as 3rd Ave. W and 9th Ave. E. New stops on these route segments will be located at appropriate spots close to and opposite existing stops.
- **New On-demand stops.** On-demand stops can be located almost anywhere. Stop locations common with the fixed route service can use the facilities in place for the fixed route, including stops and shelters. Virtual stops can be established to optimize walk distances, response times and travel times. These should be developed in conjunction with the on-demand service provider.
- **Existing Low-use stops.** Stop locations that are rarely used often create trip time issues when passengers are present at the stop and should be considered for consolidation with other nearby stops, considering accessibility and walk distances. These stops, as well as stops that are rarely used, still need to be maintained, with snow clearing and maintenance, reducing the resources available for dealing with other more heavily used stops. Many of these stop locations have been addressed by the route changes but some still remain along 4th Ave. W, 3rd Ave. W and 10th St. W.
- **General stop hierarchy.** The previous 2014 report provided a guideline for various stop locations and shelter locations. These guidelines have been re-assessed as part of this study and found to be still relevant. The report is included in the Appendix.

Facilities Recommendations

- **Fixed Route stops.** Once routes are confirmed, conduct a field review to determine appropriate fixed route stop locations, as well as to further identify stops that can be removed from existing routes.

Continue the current program of stop accessibility improvements, and accelerate where necessary. During any street renovation projects on transit routes, consider sidewalk construction to enhance pedestrian access and active transportation goals.

- **On-demand stops.** Once a service provider has been confirmed, work with the on-demand provider to identify virtual and physical stop locations to optimize customer convenience and efficient operations

Stop Recommendations
Consolidate unused and low-use stops to reduce maintenance costs and improve trip times
Continue accessibility Enhancement program

6.3 Communications and Technology

Providing reliable information to customers on schedules and expected travel times is crucial to customer satisfaction and building confidence in the system. Without a clear schedule, individual drivers may drive each of the routes differently and differ from day to day affecting passengers' perspective of on-time performance.

Stop announcements

Consistent with the AODA and Ontario Human Rights requirements, Owen Sound Transit vehicles include on-board stop announcements. This technology utilizes automatic vehicle locations (AVL) systems to determine the vehicle location and trigger the appropriate stop announcement.

This technology can also be used or adapted to provide real time vehicle locations to customers, with through a smartphone app, or web portal. These data can be used to provide real-time information to customers as well as operations staff to improve system monitoring and performance.

Web-based information

Owen Sound Transit has discontinued publication of transit schedules on the web or print materials. Customers wishing to know the arrival or departure times of a bus at a particular stop must inquire from the transit staff at the terminal, either in person or by phone. This lack of consistent information to customers and drivers can be responsible for perceived or real schedule adherence issues.

Web-based and phone app information can also include detailed schedules. Developing a database of service information according to the General Transit Feed Specification (GTFS) would allow Owen Sound Transit to work with information providers such as Google Transit to provide scheduled or real time transit information via online maps.

Providing information to Google Transit requires working with Google to ensure data integrity and compliance, and there are on-going staff resources required to maintain the data. For a system such as Owen Sound however, where changes are infrequent, the on-going effort once the database is established is minimal.

Real time bus information

Real time information can and should be provided to customers at stops at key locations, including the terminal, but also at other key stops such as Heritage Mall, Georgian College or the Hospital.

Real-time (and scheduled) information can be provided to individual riders through apps such as Transit, or bespoke apps developed for Owen Sound.

Fare Payment technology

Fare payment technology options and recommendations are dealt with separately in the fares section.

Communications and Technology Recommendations

- **Web-based information.** Enhance the availability of transit schedule information with timetables published on the City's website and incorporated into a performance-based contract for the operations provider.

Develop a GTFS database of new schedules for the fixed route service, and work with Google or other publishers to provide map-based transit info on the web.

Make this data publically available to app developers.

- **Real-Time Bus information.** Consider technology applications to install real-time schedule info at Terminal, Hospital and Georgian College.

Communications
Recommendations

Return to publishing transit timetables on City website

Develop GTFS database for public distribution and use as well as map-based information providers

6.4 Funding

Over the last several years, both the Federal government and the Ontario Provincial government have substantially increased transit support for both operating and capital expenditures, to levels not seen in Ontario since the early 1990s. Today, transit agencies have several funding programs available to them from both levels of government, with most funds administered through the province:

- Ontario Gas Tax Fund
- Safe Restart Funds
- Investing in Canada Infrastructure Program (ICIP)
- Rural Transit Solutions Fund

- Canada Investment Bank ZEV financing

Ontario Gas Tax funding

Owen Sound transit has taken advantage of the provincial gas tax funding since its inception. This program is funded by a 2-cent per litre contribution from the provincial gas tax and has traditionally provided about \$320 million annually to Ontario transit systems. The funds are allocated based on a formula including both ridership and area population. For small systems, including Owen Sound, the formula results in amounts that are largely driven by population and relatively insensitive to ridership changes.

The next round of allocation will be based on 2020 performance and revenues. Discussions with the Ministry of Transportation suggest that the tax fund may be about 20 percent to 25 percent smaller than in previous years, due to reduced gas tax revenue. Since all systems experienced ridership declines, the relative allocations among municipalities may not change very much, but the overall pool will be smaller.

Safe Restart Funds

COVID support funding for operations is set to end at the end of 2021. Given a new Federal government and a provincial election in 2022, uncertainty around any possible extensions of the program is high. However, various advocacy organizations are working diligently towards extensions.

Investing in Canada Infrastructure Program (ICIP)

The Investing in Canada Infrastructure Program (ICIP) transit stream, which involves federal funding administered through agreements with the provinces has provided significant capital funding support to transit agencies across the country. The fund has been designed to support projects that:

- Improve the capacity of public transit infrastructure;
- Improve the quality or safety of existing or future transit systems; and
- Improve access to a public transit system.

This program is ending in 2027 but is being replaced by a permanent federal program with \$3 billion annually for all transit agencies combined. Similar to the Ontario Gas Tax program, funding is allocated according to a formula based on ridership and population, which balances the demand on existing systems, while providing support for expected population growth.

In the current ICIP program, Owen Sound was allocated \$1.8 million in federal funds. This amount can represent 40 percent of eligible costs, provided that the Province contributes matching funds of at least 33.3 percent of eligible costs. This means that the remainder of eligible costs – less than 27 percent – are to be borne by the municipality.

CIB ZEV financing

The Canada Infrastructure Bank has implemented a program to support the acquisition of zero emission (ZEV) transit and school buses across Canada, with a target of 5,000 vehicles in

five years. For transit system, this means financing the municipal portion of the vehicle purchase, with the municipality entering into an agreement to repay the loan from the projected operating savings derived from electric bus operation. These savings are projected to include approximately 40 percent on fuel/energy and about 25 percent on maintenance costs.

Note: As a specific initiative of the Liberal government following the 2019 election, the continuation of this program may be in jeopardy following the September 2021 election.

Rural Transit Solutions Fund

The Rural Transit Solutions Fund, also from Infrastructure Canada, offers:

- planning grants of up to \$50,000
- capital grants of up to \$3M
- zero-emissions grants of up to \$5M

These grants are part of a total of \$250M CAD that Infrastructure Canada will invest in rural transit over the next five years. Applications for planning grants are being accepted now, until October 8, 2021, and could be used to further the development of on-demand transit solution prior to launch, support the development of electric vehicle procurement and unlock future grants from the program.

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7 Five-Year Plan Summary

7.1 Summary of Recommendations

The following section summarizes the recommendations from the study, with implementation planning guidelines. These guidelines are based on an introduction of the service beginning April 1, 2022, following the current contract expiry date. However, given the magnitude of the changes, the implementation work to be completed and the on-going uncertainty in the pandemic environment, it may be prudent to exercise an option to extend the current contract and plan for the introduction of new services in mid-August, allowing more fair-weather time for stop relocations and installations a shake-out period prior, and additional planning time for the on-demand service. A mid-August launch would allow a fine-tuning period prior to the start of the Fall schedule.

Service Network

1. Adopt Fixed Route Option 3 as the default service Option, prior to implementing enhanced services. (2021)
2. Adopt Fixed Route Option 1 as the preferred network. (Implement April 1, 2022)

Extended Operating Periods

3. Add weekday service to approximately 9:30 and convert Saturday service to on-demand using full **On-demand Option A**, monitor and evaluate. (Implement January 1, 2023)
4. Based on satisfactory results for weekday evening, and extend hours of service to start at approximately 7:00 am and end at approximately 9:30 pm, monitor and evaluate. (2024)
5. Based on satisfactory results for Saturday service, introduce Sunday service with on-demand with service to start at approximately 9:00 am and end at approximately 7:00 pm, monitor and evaluate. (2025)
6. Work with on-demand vendor to develop integrated Mobility Bus service, relying on additional hours of existing Mobility service in the interim. (2022-2023)
7. Develop education and marketing plan for route changes (Jan-Mar 2022)
8. Develop education and marketing plan for On-demand service (Fall 2022)

Events and Harrison Services

9. Include a budget allowance to add or supplement events services at venues including Kelso Park and the Community Centre
10. Work with venue management and events organizers to establish marketing and promotional packages to promote transit travel to events
11. Include a budget allowance to add summer daytime shuttle service to Harrison Park, in addition to the proposed on-demand coverage for evenings and weekends

Fares

12. Defer any fare increase through at least 2024, unless supported by low-income fare package (#13, #15, #16)
13. Change Child fare classification to 12 years. (2021-2022)
14. Maintain Senior and Student fare structure in short-term.
 - a. Review age discount structure in context of City-wide policy (2022)
15. Implement a free-fare policy for registered users of the Mobility Bus service for all trips on the fixed route transit system
16. Low-income fare options (2021-2022)
 - a. Review in context of City's overall social service objectives
 - b. identify internal or external funding to account for transit lost revenue.
 - c. Work with province to identify appropriate subsidy levels and financial agreements related to OW and ODSP
17. Mobile Payments
 - a. Develop RFI to solicit information from vendors to identify range of appropriate technology, applications and costs. (2022)
 - b. Develop RFP based on RFI Outcomes (2022)
 - c. Consider solution for 2023 - 2025
18. Sales Outlets
 - a. Expand network of fare sales outlets among city facilities (2022)
 - b. Explore commission-based agreements with other agencies (2022)
19. Regional Coordination
 - a. Adopt free transfer policy from GOST and from GTR to Owen Sound Transit. (2022)
 - b. Review option for fare discount for transfer from Owen Sound Transit to GTR, subject to funding agreement rules. (2021-2022)

Fleet and Operations

20. Prepare RFP for new vehicle acquisition (2021)
 - a. Include options for current cut-way style and medium-duty small bus
 - b. Include option for small electric vehicles and related charging equipment
21. Funding applications
 - a. Initiate funding application for capital funding support through Ministry of Transportation Ontario (January 2022)

- b. Initiate Rural Transit funding application for next round of planning funding support for on-demand and electric vehicle planning through Infrastructure Canada (2022)
- 22. Prepare new procurement process based on existing Own-Operate-Maintain model for first year of new contract, and transition to Operate-Maintain model in subsequent years (Nov. – Dec. 2021)
- 23. Incorporate performance specifications and monitoring measures in the new service contract, focussed on vehicle maintenance, customer satisfaction and schedule adherence.

Stops

- 24. Continue to prioritize accessibility improvements consistent with City Accessibility Plan. (2021-2025)
- 25. Install new stops required for Fixed Route Option 1. (Jan – Mar 2022)
- 26. Review and remove selected existing stops based on updated ridership counts (Jan – Mar 2022)

Communications

- 27. Develop schedule database (GTFS data) to support:
 - a. Transit web page publication of detailed schedules (Jan – Mar 2022)
Web map-based schedule data and independent developer initiatives (2022)
 - b. On-time performance specification for operator contract (Jan – Mar 2022)
- 28. Install real-time schedule information system at Downtown terminal. Include other locations (Heritage Mall, Georgian College as option in procurement process) (2022)

7.2 Five Year Financial Summary

Operating Costs

Table 11 shows projected operating costs and revenue for the proposed service. The historical values illustrate the impact of COVID declines after 2019, including the ridership and revenue impact and the offsetting provincial support.

For future years, the current funding scenario is very uncertain. The provincial gas tax pool is expected to be approximately 80 percent of previous years, based on reduced fuel sales, which would translate to a 20 percent decrease in the gas tax subsidy. However, the province has been supporting transit agencies with replacement funds to offset revenue losses, and it is possible that additional funds will be available to offset this gap. Further, it is very uncertain as to whether other revenue support will be on-going beyond 2021.

If ridership recovers slowly and no further provincial support is forthcoming, this will increase overall net costs. However, with the pandemic-related programs from the provincial government, supported by federal funds, and a provincial election in 2022, there should be some optimism that additional funding support will continue to ridership recovery.

Table 11 presents two scenarios for COVID recovery. In Scenario 1: Recovery, the ridership losses experienced in 2020 and 2021 are reduced to zero over four years. Similarly, Scenario 1 assumes that the Provincial COVID revenue support continues at reduced amounts for two years and the provincial gas tax support is maintained at current levels.

In Scenario 2: No Recovery, the ridership losses experienced in 2020 and 2021 are maintained throughout the plan. Further, Scenario 2 assumes that the Provincial COVID revenue support ends at the end of 2021 as planned and the provincial gas tax support returns to pre-COVID levels over three years.

Capital Costs

Table 12 shows the historical and projected operating costs and revenue for the proposed service. This includes one major item – the capital costs of purchasing new vehicles for service in the second year of the new service (introduced in early 2023). Federal and provincial financing covers about 73 percent of the capital expenditures and, if new vehicles are electric, CIB financing will be available to support the premium cost.

Other amounts are included for initial stop replacements and relocations, plus communications technology, as well as an on-going amount for stop accessibility enhancements.

Table 11 - Historical and Projected Operating Budget (,000s)

	2019	2020	2021	2022	2023	2024	2025	2026
Operating Costs								
Option 1 daytime service	\$1,280	\$1,280	\$1,280	\$1,452	\$1,326	\$1,326	\$1,326	\$1,326
Additional Evening Service					\$146	\$172	\$172	\$172
<i>Total for daytime + evening</i>	\$1,280	\$1,280	\$1,280	\$1,452	\$1,472	\$1,498	\$1,498	\$1,498
Additional Saturday Service					-\$37	\$20	\$20	\$20
<i>Total for Weekday + Saturday</i>	\$1,280	\$1,280	\$1,280	\$1,452	\$1,436	\$1,519	\$1,519	\$1,519
Additional Sunday Service							\$65	\$65
<i>Total for Full weekly Service</i>	\$1,280	\$1,280	\$1,280	\$1,452	\$1,236	\$1,519	\$1,584	\$1,584
CIB Capital Loan Repayment					\$20	\$20	\$20	\$20
Events/Park Service				\$50	\$50	\$50	\$50	\$50
Implementation Planning				\$65	\$45	\$25		
Total Operating Cost	\$1,280	\$1,280	\$1,280	\$1,576	\$1,551	\$1,614	\$1,654	\$1,654
Ridership (without COVID adjustment)								
Weekday Ridership Base	199	199	199	217	224	224	224	224
New Sunset Ridership (Owen Sound)				4	10	15	15	15
New Evening Ridership					6.5	12	12	12
New Saturday Ridership					-1.5	2	2.5	3
New Sunday Ridership							3.5	5
Total Annual Ridership	199	199	199	221	239	253	257	259

	2019	2020	2021	2022	2023	2024	2025	2026
COVID Ridership Impact – Scenario 1: Recovery		-90	-100	-80	-50	-25		
Total Annual Ridership – Scenario 1	199	109	99	141	189	227	256	258
Total Fare Revenue Scenario 1	\$330	\$178	\$164	\$234	\$314	\$377	\$425	\$428
Provincial Gas Tax Revenue	\$255	\$246	\$246	\$250	\$250	\$250	\$250	\$250
Provincial COVID Support (inc. MTEC)		\$182	\$250	\$160	\$100			
Federal Rural Transit Grant				\$35				
Total Operating Revenue	\$585	\$609	\$660	\$679	\$664	\$627	\$675	\$678
Net Operating Cost	\$699	\$675	\$624	\$888	\$887	\$987	\$979	\$976
COVID Ridership Impact - Scenario 2: No Recovery		-90	-100	-100	-100	-100	-100	-100
Total Annual Ridership – Scenario 2	199	109	99	121	139	152	156	158
Total Fare Revenue Scenario 2	\$330	\$178	\$164	\$201	\$231	\$252	\$259	\$262
Provincial Gas Tax Revenue	\$255	\$246	\$246	\$196	\$208	\$250	\$250	\$250
Provincial COVID Support (inc. MTEC)		\$182	\$250					
Federal Rural Transit Grant				\$35				
Total Operating Revenue	\$585	\$609	\$660	\$432	\$439	\$502	\$509	\$512
Net Operating Cost	\$699	\$675	\$624	\$1,135	\$1,112	\$1,111	\$1,145	\$1,142

All amounts in constant 2019 dollars

2022 fuel costs assumed same as 2020

2023 energy costs at 65% of fuel (conservative)

Revenue based on current average fare: \$1.65

Federal Rural Transit grant may be available in subsequent years

MTEC (enhanced cleaning grant) = \$10K

Table 12 - Projected Capital Cost Budget (,000s)

	22/23	23/24	24/25	25/26	26/27
Capital Costs					
Vehicle Replacement		\$2,100			
Stops and Facilities	\$315	\$115	\$115	\$115	\$115
Technology	\$100	\$60			
Total Non-Vehicle Capital Cost	\$415	\$175	\$115	\$115	\$115
Total Capital Cost	\$415	\$2,275	\$115	\$115	\$115
Federal/Provincial Capital Funding		\$1,700			
Vehicle Subsidy		\$1,539			
CIB ZEB Financing (e-bus premium)		\$160			
Net Vehicle Capital Cost		\$401			
Other Capital Subsidy	\$ 304	\$ 128	\$ 84	\$ 84	\$ 84
Net Non-Vehicle Capital Cost	\$111	\$47	\$31	\$31	\$31
Total Net Capital Cost	\$111	\$447	\$31	\$31	\$31

New City-owned replacement vehicles assumed for 2023
 Capital cost based on Vicinity Lightning 28-foot
 All non-vehicle costs are allowances



Appendix A
Existing Services Report
(Under Separate Cover)

Appendix B

Guiding Principles Workshop Summary

Appendix C
Round 1 Feedback Summary

Appendix D
Round 2 Feedback Summary

Appendix E

Bus Stop Guidelines

Appendix F

Sample Option 1 timetables