

Owen Sound Route Optimization Technical Report #1 - Existing Services Review

For:
The City of Owen Sound

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Technical Report

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Owen Sound Route Optimization

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Introduction

Report Structure

This technical report provides a description and assessment of the existing transit service in Owen Sound identifying strengths and weakness of the existing systems based on performance data and community input.

It comprises three main sections:

- Existing Service Assessment
 - Network Assessment
 - Service Assessment
 - System Assessment
- Policy Review – a review of relevant City policies relevant to transit
- Guiding Principles – guidance for the development of options in the next phase of work

The Existing Service Assessment makes up the bulk of the report, and is further divided into three sections:

- Network assessment – exploring coverage of the current service, demographic and socio-economic characteristics of the service areas, travel times and network connections, and comparison of key travel times by transit versus auto
- Service Assessment - examining ridership levels and patterns, service reliability, service frequency and span by location and key performance indicators (KPIs). This section includes a comparison to a peer group of systems, as well as discussion of the implications of COVID-19 on the current and future service.
- System Assessment - reviewing fleet and infrastructure elements, including bus stops and the transit terminal, transit fleet, and network connections with active transportation elements.

Engagement Activities

A variety of engagement activities were completed to inform this assessment. Details are provided in Appendix 1 and Appendix 2, and relevant input is described in each section of the assessment.

Existing Service Assessment

Network Assessment

Existing Routes

Owen Sound's base route system comprises four routes that operate on 30-minute cycles, converging on the downtown Terminal (3rd Ave E. near 10 St. E) on the half-hours. In February 2021, a fifth route – Midtown was added during the midday period to assist with COVID-related capacity requirements. The service was implemented on a trial basis until March 31, 2021, but has been extended to at least September 2021.

Services operate Monday to Friday from 6:30 am starting at the terminal and finishing at 6:30 pm with the last departure from the terminal at 6:00 pm. The Midtown route operates from 10:00 am until 3:00pm, with the last departure at 2:30 pm.

Saturday service includes the four basic routes operating from 9:00 am to 4:30pm, with the last departure from the terminal at 4:00pm. There is no Midtown service on Saturday and no Sunday or holiday service throughout the system.

Figure 1 shows the existing routes serving the Owen Sound community.

For this assessment, a 'report card' was prepared for each route, highlighting some of the key features and performance of each route. While the report cards show recent data and ridership impacts of the COVID-19 restrictions and travel reductions, the assessment focuses on pre-COVID conditions as the baseline. Service options and recommendations developed in the next phase based on this assessment will address longer term opportunities, while considering the short-term impacts of COVID-19 on overall performance. COVID implications are discussed in more detail in the next section.

East Bayshore Route

The East Bayshore route serves the area between 3rd Avenue E and 9th Avenue E. as well as the 16th St E corridor. It provides connections to the 16th Street E retail shopping area as well as the Hospital and Georgian College.

Brooke Route

The Brooke route serves the area north of 10th Street W. and west of the Sydenham River, including the historical community of Brooke. It provides connections between its primarily residential area and the commercial corridors of 1st Avenue W, 10th Street W and the downtown area. This area has traditionally higher ridership zones in the north, along 27th Street and south of 16th St, with lower ridership in the central area.

Crosstown Route

The Crosstown route serves the area south of 10th Street E/W, between 4th Avenue W and 9th Avenue E. It provides connections between its primarily residential area and the commercial corridors of 10th Street E, 8th Street E and the downtown area. This area has a significant

portion of its ridership in the 7th Street E area, as well as the downtown area and the stops at the south end of 4th Avenue W.

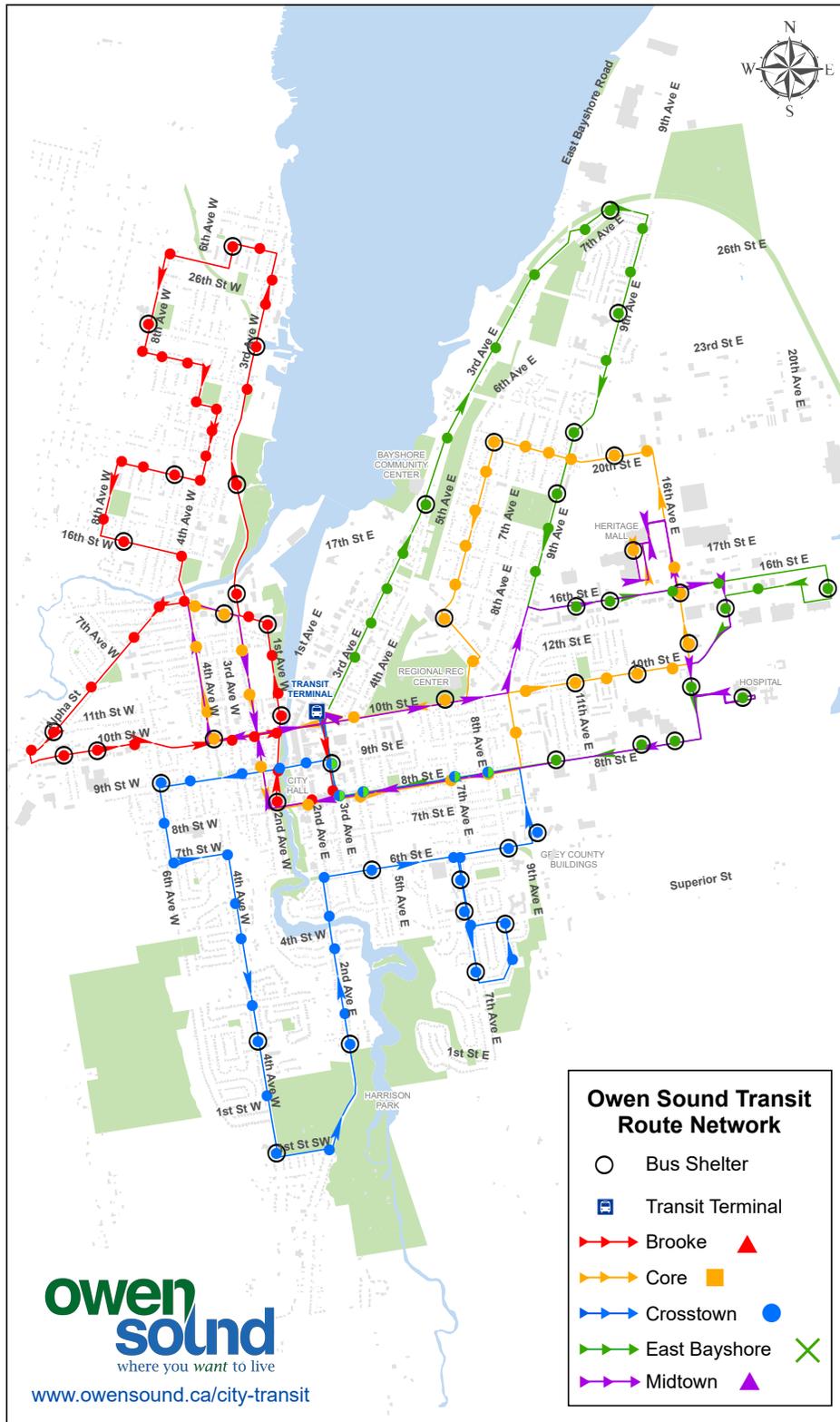
Core Route

The Core route connects the 8th Street and 10th Street corridors to residential areas in the 3rd / 5th Avenue W corridor and the commercial industrial area in the east. The Core route serves a mix of residential, industrial and commercial areas throughout its length.

Midtown Route

The Midtown route was introduced in February 2021, so data for this route is limited. The route operates from 10am to 3pm Monday to Friday, and overlaps several areas of the other routes, particularly the Core route. It provides limited stops, with only two stops along 8th Street E/W in the downtown area, and no stops on 10th Street E/W.

Figure 1 - Existing Transit Routes

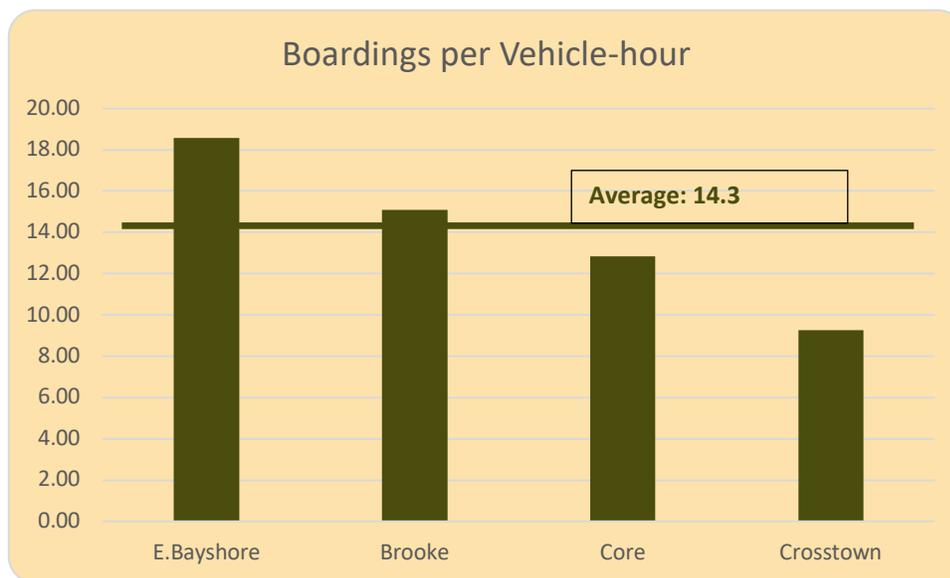


Route Performance comparison

Figure 2 shows a comparison of the boardings per hour for each route, with the ranking of the four routes from East Bayshore with the best performance at more than 18 boardings per vehicle-hour to Crosstown, with a little more than nine boardings per hour. The average of about 14 boardings per hour is compared to previous years and other systems in the following section.

Both Crosstown and Core serve lower demand area: Crosstown serves the relatively higher income area (see demographics section) while Core serves the lower density and auto dependant industrial area. Both routes also overlap each other along 8th Street E and in the downtown.

Figure 2 - Route Performance Comparison



High and Low Ridership Areas

East Bayshore Route

Ridership on 3rd Avenue north of the Community Centre from 17th Street E. is very low, since there is no connection to the internal neighbourhoods in this area and very little residential or employment area on the west.

On 9th Street E. ridership is higher, but still limited by the lack of development on the east side of this corridor.

The busiest stops on the East Bayshore route, for both boardings and lightings, are the stops on 16th Avenue E through to the Hospital. The busiest single stop on the route (excluding the

Terminal) is the stop on 16th St. E at 12th Avenue E, serving Zehrs and Shoppers Drug Mart retail area, with about 14 percent of the combined boardings and alightings outside the terminal.

The large loop creates a significant imbalance in travel times depending on the location on the route. For example, travel from the terminal to the 28th Street E area is less than five minutes, while the trip from this area to downtown is about 25 minutes. The auto travel time for both directions is less than five minutes.

Brooke Route

The busiest stops on the Brooke route, for both boardings and lightings, are the stops at the north end of the route, the 16th St W/14 St W stops and the 10th St W corridor. Travel from this area to downtown on the Brooke route is approximately 15 minutes, while the trip by car is about five to seven minutes. This location is the most advantageous on the route, with approximately equal length trips to the terminal and back. Other locations on the loop route have imbalanced inbound and outbound trips. For example, the trip from midway along Alpha Street takes about 5 minutes to the terminal, while the trip from the terminal to this point is more than 20 minutes. The auto trip is less than five minutes in both directions.

The single busiest point on the route (excluding the Terminal) is the two stops at 27th St W. at 5th Avenue W. and at 6th Avenue W. with almost 25 percent of the combined boardings and alightings outside the terminal.

The area of the Brooke route north of the river, and west of the 2nd Avenue W corridor was reviewed in the previous assessment and found to have low ridership, and so was examined again in this study. The Brooke route, like all Owen Sound routes, makes 24 trips per weekday; the data from four weekdays represents a total of 96 trips. Table 1 shows a summary of the data from these trips. When operating according to the schedule, the bus on the Brooke route uses about eight minutes to travel from 28th Street W at the top of the corridor to the bridge on 4th Avenue W, or about 30 percent of the route time. Prorating the vehicle-hours for the route by this percentage, Table 1 illustrates that all stops along the corridor, considered as a whole, produce 8.2 boardings and alightings per vehicle-hour, compared to the route average of 30.2 boardings and alightings per vehicle-hour and the system average of about 28 boardings and alightings per vehicle-hour. The first stop in this corridor, on 8th Avenue at 25th St W, accounts for about one-quarter of the vehicle stops and about one-third of the boardings and alightings.

Table 1 – 8th / 5th Avenue stop Activity (Brooke Route)

Brooke - 8th Avenue Corridor Stops	Days with stops (of 4 days)	Trips with stops (of 96 trips)	% of trips with stops	Total ons	Total offs	Boardings / Alightings per count day	Boardings per vehicle-hour
8th Ave. and 25th St. West	4	21	22	20	21	10.3	2.8
8th Ave. and 24th St. West	3	4	4	4	0	1	0.3
24th St. and 7th Ave. West	0	0	0	0	0	0	0.0
24th St. and 6th Ave. West	3	6	6	4	6	2.5	0.7
5th Ave. and 22nd St. West	3	6	6	3	3	1.5	0.4
21st St. and 4th Ave. West	4	7	8	3	4	1.75	1.2
4th Ave. and 21st St. West							
4th Ave. and 20th St. West	3	7		2	7	2.25	0.05
19th St. West, just before 5th Ave.	3	10		6	4	2.5	0.7
19th St. and 5th Ave. West	3	14		9	5	3.5	0.9
19th St. and 7th Ave. West	3	7		4	3	1.75	0.5
19th St. and 8th Ave. West							
8th Ave. West, just before 16th St.	4	6		4	3	1.75	0.5
16th St. and 7th Ave. West	2	3		1	2	0.75	0.2
Total Corridor	4	90	94	60	59	30	4.1
Total without 25th/8th	4	69	72	40	38	19.5	2.7

The Brooke route serves the intersection of Alpha Street, 9th Avenue W and 10th Street W before returning along 10th St W to the terminal. There have been numerous requests for this route (or other service) to continue west on 10th Street W to serve the popular commercial area here. It has been noted that this area not within the city limits of Owen Sound and requires a partnership with the municipality of Georgian Bluffs to provide service. This issue will be revisited in the options development phase.

Crosstown Route

The single busiest stop on the Crosstown route (excluding the Terminal) is the stop at 7th Avenue E. at 6th Street E. with close to 10 percent of the combined boardings and alightings outside the terminal.

The 4th Avenue corridor was reviewed in the previous assessment and found to have low ridership, and so was examined again in this study. The assessment was based on automatic passenger count data from four weekdays and one Saturday in April 2019 (per-Covid).

The Crosstown route, like the Brooke route, makes 24 trips per day; the data from four weekdays represents a total of 96 trips. Table 2 shows a summary of the data from these trips.

When operating according to the schedule, the bus on the Crosstown route uses about four minutes to travel from 7th Street W at the top of the corridor to 1st Street W at the south end, or about 15 percent of the route time. Prorating the vehicle-hours for the route by this percentage, Table 2 illustrates that all stops along the street, considered as a whole, produce 8.75 boardings and alightings per vehicle-hour, compared to the route average of 18.5 boardings and alightings per vehicle-hour and the system average of about 28 boardings and alightings per vehicle-hour.

Table 2 - 4th Avenue stop Activity (Crosstown Route)

4th Avenue Stops	Days with stops (of 4)	Trips with stops (of 96)	% of trips with stops	Total ons	Total offs	Boardings / Alightings per count day	Boardings / Alightings per vehicle-hour
7th St. W. @ 4th Ave W.	2	10	11	4	2	1.5	0.8
620 4th Avenue	1	1	1	0	1	.25	0.15
485 4th Avenue	4	14	15	7	7	3.5	1.9
300 4th Avenue	2	6	6	3	3	1.5	0.8
202 4th Avenue	4	18	20	10	13	5.75	3.2
50 4th Avenue	3	5	5	4	1	1.25	0.7
1st St W @ 4th Avenue	4	14	15	2	6	2	1.1
Total Corridor	4	67	73	30	33	15.75	8.75

Core Route

The single busiest stop on the Core route (excluding the Terminal) is the stop at Heritage Place Mall, followed by the stop on 14th Avenue W. This latter stop is shared with the Brooke Route, and the Mall as a destination is shared with the East Bayshore route, making these two locations the busiest stops in the system.

The travel time by car between these two points is less than 10 minutes, while the transit travel time via Core is about 20 minutes with a wait at the terminal.

Midtown Route

The Midtown route was introduced in February 2021, so data for this route is limited. The route operates from 10am to 3pm Monday to Friday, and overlaps several areas of the other routes, particularly the Core route. It provides limited stops, with only two stops along 8th Steer E/W in the downtown area, and no stops on 10th Street E/W.

No stop-by-stop information is available on this route but manual counts for March and April show ridership increasing up to about 20 to 25 passengers per day on the 10 trips, averaging about two to three passenger per trip.

Observations and Conclusions

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

This opportunity will be revisited in the options development phase

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 of 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.

Brooke

Most Brooke trips have trip lengths ranging from 25 minutes to 29 minutes. There are however, instances of late departures, particularly in the middle of the day, where trip times exceed the maximum 30 minutes. In the trip data examined for days where this problem occurred, this situation persisted until about 2pm, after which trips tend to return to schedule.

Variations in stop arrivals along the route can be considerable. For example, trips from the terminal to stops on 28th St. W average about 9.5 minutes, (on trips where terminal arrivals and departures are on time), but the travel time to these stops ranges from 7.6 to 13.2 minutes.

East Bayshore

Most East Bayshore trips have trip lengths ranging from 23 minutes to 27 minutes. The Core route data too includes one day where trips ran late (same day as East Bayshore). In the trip data examined for days where this problem occurred, this situation persisted from 11:30am to 1:30pm, though trip times returned to less than 30 minutes by about 12:30 pm. From that time, arrivals and departures gradually returned to on-time.

Variations in stop arrivals along the route can also be considerable. For example, trips from the terminal to stops on 16th Street W at 12th Avenue W average about 9.5 minutes, (on trips where terminal arrivals and departures are on time), but the travel time to these stops ranges from 10 minutes to 16 minutes.

Core

Most Core trips have trip lengths ranging from 26 minutes to 29 minutes. Similar to Brooke, there are instances of late departures in the AM peak period, where trip times exceed the maximum 30 minutes. In the trip data examined for days where this problem occurred, this situation persisted until about 3:30pm, though trip times returned to less than 30 minutes by about 11:00 am. From that time, arrivals and departures gradually returned to on-time.

Variations in stop arrivals along the route can also be considerable. For example, trips from the terminal to stops on 16th Street W at 12th Avenue W average about 9.5 minutes, (on trips where terminal arrivals and departures are on time), but the travel time to these stops ranges from 10 minutes to 16 minutes.

Crosstown

Most Crosstown trips have trip lengths ranging from 24 minutes to 28 minutes. Most trips in the available data arrive and depart on time at the terminal, with the exception of one afternoon period on one of five counting days. In this case, a single trip was delayed about eight minutes, and persisted for about four trips. A similar delay was recorded on one of the other routes at the same time, so it is possible that one delay caused the other, since buses will often hold for a transfer on a late arriving bus.

Like the other routes, variations in stop arrivals along the route can also be considerable. For example, trips from the terminal to the stops midway on 4th Avenue W average about 9.0 minutes, (on trips where terminal arrivals and departures are on time), but the travel time to these stops ranges from six minutes to more than 12 minutes.

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's satisfaction.

This issue will be revisited in the options development phase.

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. About 13 percent of respondents said evening service would not be useful, and the remainder were fairly evenly split between desired service extensions to 9pm, 10pm or 11pm.

Many commenters have pointed out the inability to use the service for evening work, particularly for the many restaurants and stores in the 16th street 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.

This issue will be revisited in the options development phase.

Service Coverage

The report cards 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, while one in five report the travel time compared to auto as the main barrier to using transit.

Figure 3 - East Bayshore Route Report Card

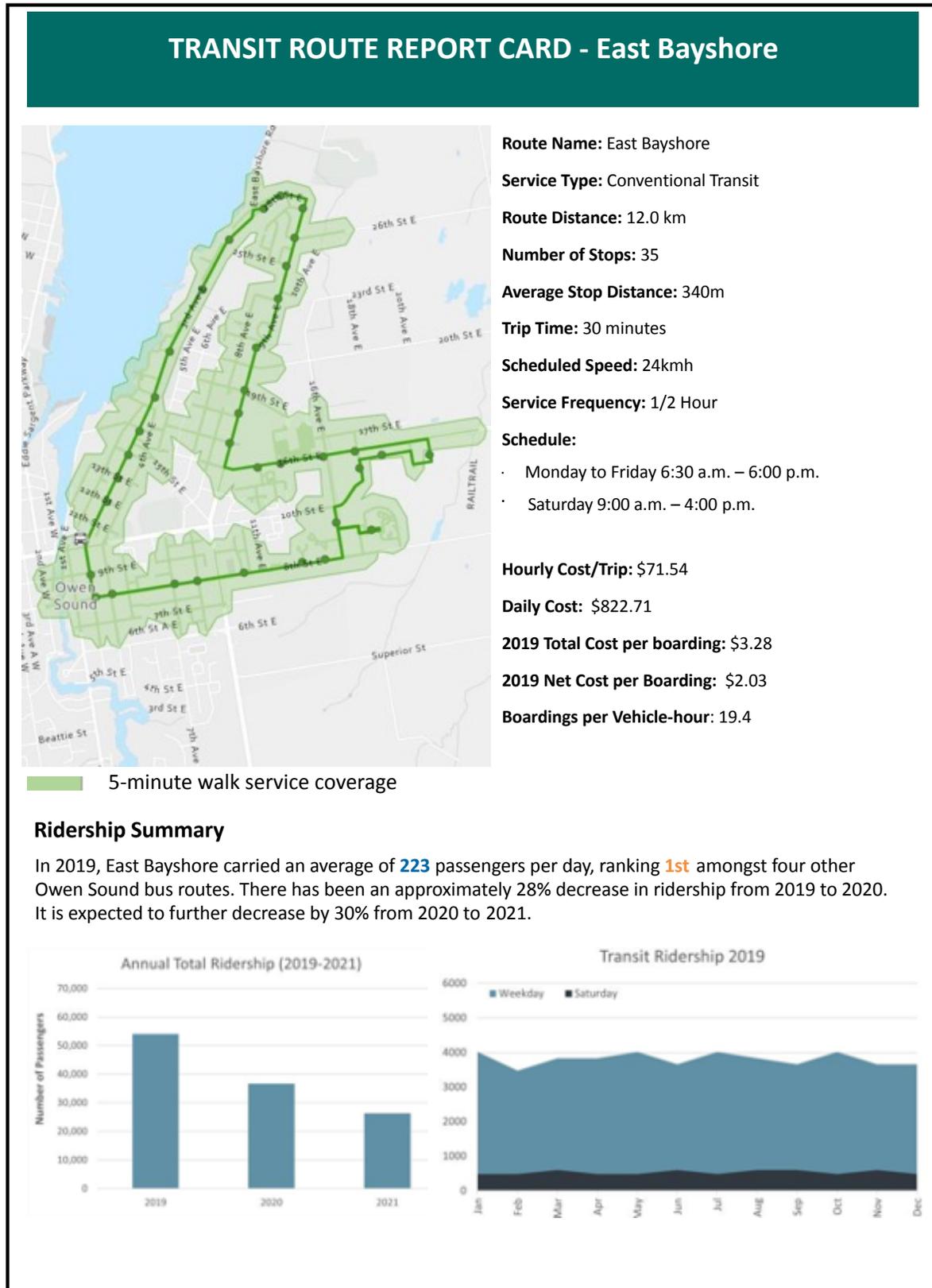


Figure 4 - Brooke Route Report Card

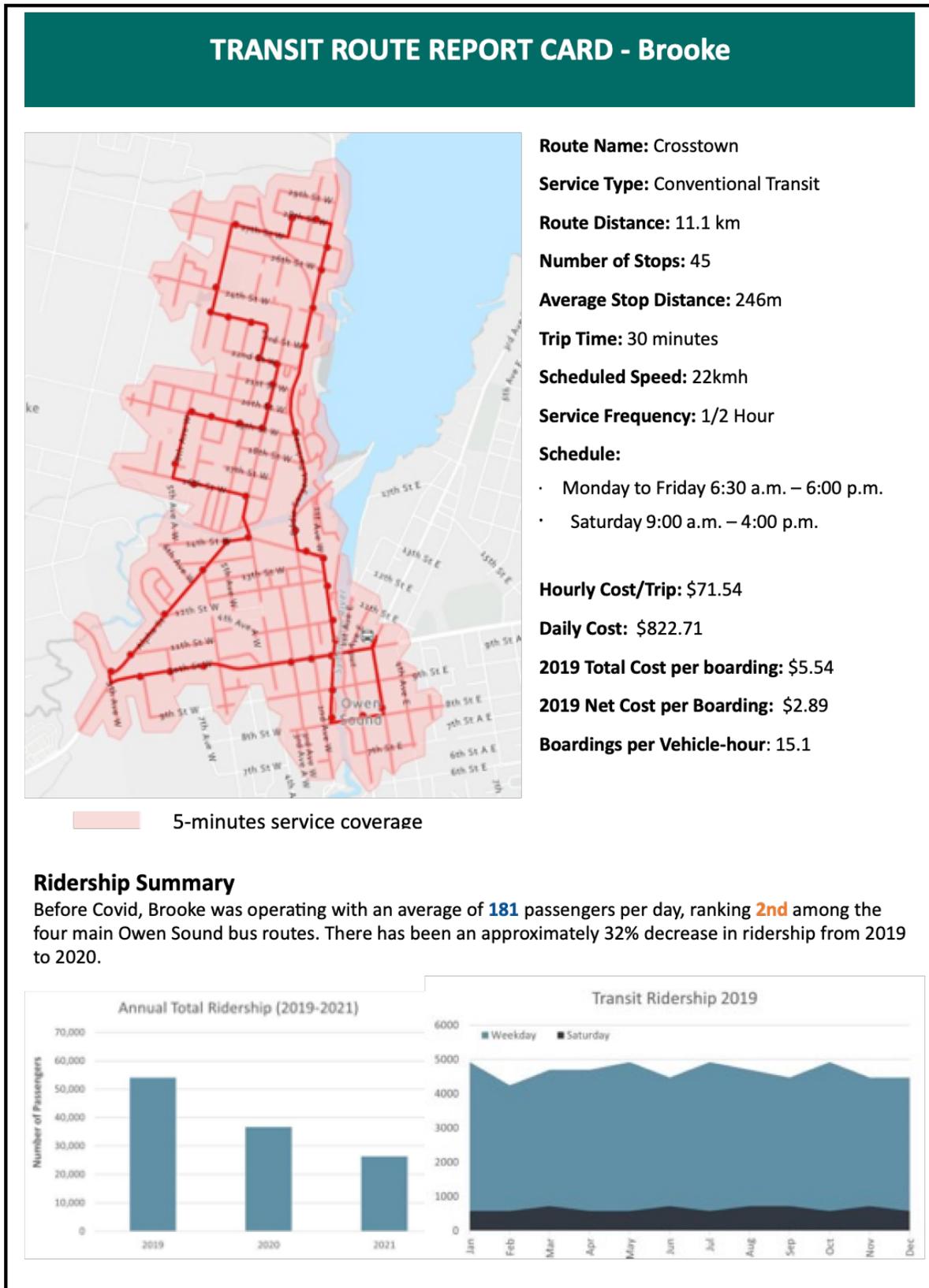


Figure 5 - Core Route Report Card

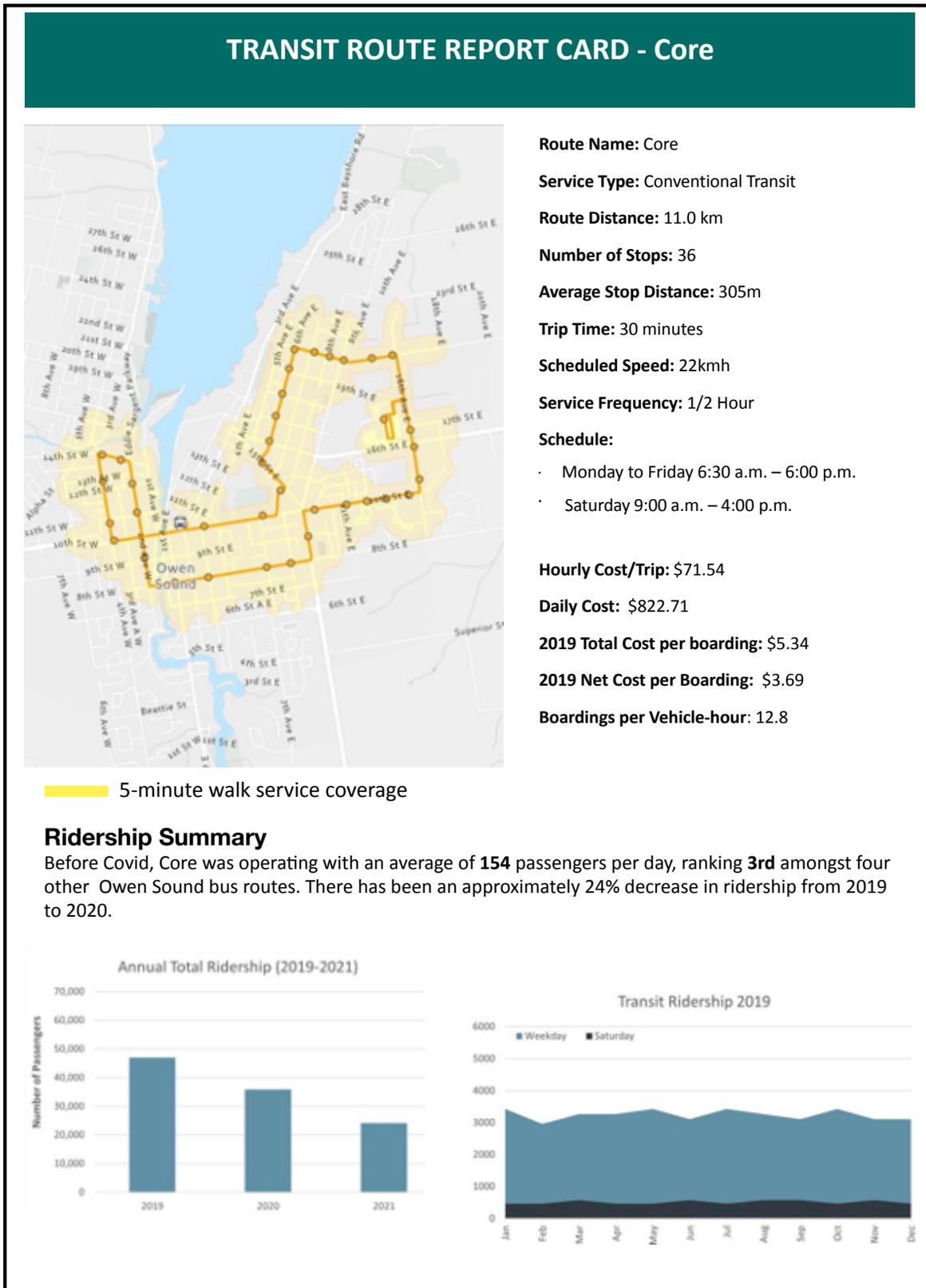
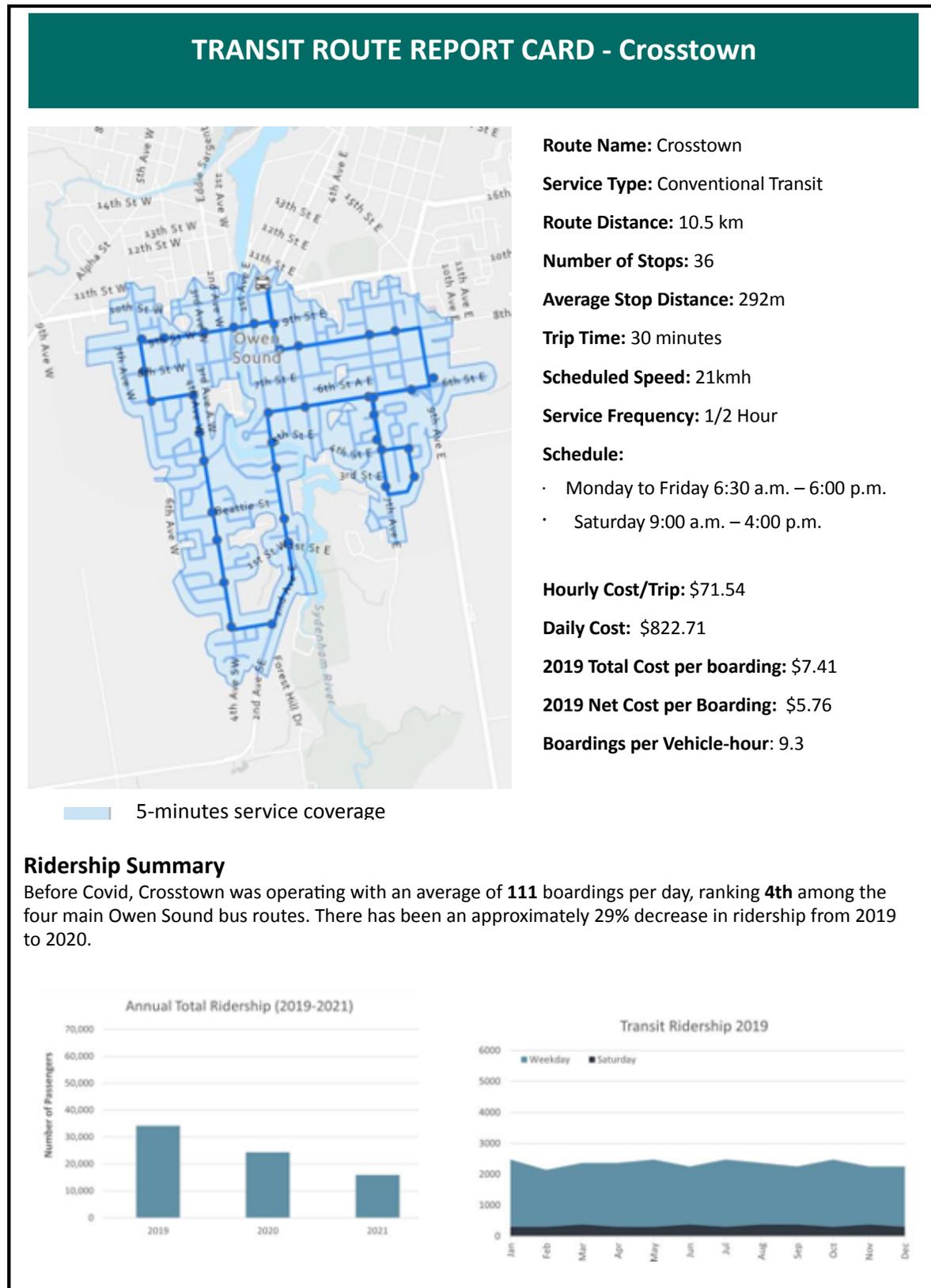


Figure 6 - Crosstown Route Report Card



Transit Fares

The current fare structure has been in place since 2016. Fares comprise cash and monthly passes only as shown in Table 3.

Table 3 – Current Fare Structure

Category	Cash or 1-trip ticket	Monthly Pass
Adults	\$3.00	70.00
Seniors	\$3.00	55.00
Elementary Students	\$2.50	35.00
Other Students	\$2.50	35.00
Children (1-5)	Free	Free

IN the engagement feedback, several respondents spoke to the need to reduce fares to make the system more affordable, as well as to introduce more flexibility in payments, including mobile payments, more flexible pass structures, and increased sales locations. These alternatives will be examined in the next phase of work.

Regional Transit Connections

Guelph-Owen Sound Transit

Guelph-Owen Sound Transit is an intercity transit service 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.

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.

Trips depart the Owen Sound Transit Terminal at 7:30 am and 2:30 pm, arriving at about 12:50 pm and 7:50 pm. The second northbound trip arrives in Owen Sound after the end of daily transit service.

Full fares between Guelph and Owen Sound are \$20 cash only, with lower fares for travel to and between intervening communities. The service is supported by the Province of Ontario's Inter-Community Transit program.

The service launched in the Fall of 2020, under COVID restrictions. Monthly ridership has averaged approximately 175 riders (about seven or eight riders per day). Ridership increased through the Fall of 2020, declined in January 2021 (common for winter months) then has been increasing again in 2021.

Between one-third of the trips are between Owen Sound and Guelph and a slightly larger percentage are shorter trips between Owen Sound and Williamsford/Chatsworth. The 22 km trip between Owen Sound and Williamsford (the most popular stop in the intervening communities) takes about 25 minutes with a \$5.00 one-way fare. Given that there is only one intermediate stop in Chatsworth, this travel time is comparable to the travel time by car.

COVID restrictions and travel impacts are certainly a factor in the low ridership, and provincial funding is crucial to allow the service to continue to mature.

The current service has a monthly operating cost of approximately \$4,000, with fares returning about one-third of that amount. Currently, the service is almost fully supported by provincial subsidies and fares.

Grey Transit Route

The Grey Transit Route (GTR) is an initiative of Grey County, also supported by the provincial Inter-Community Transit program. It also launched in September 2020, amid COVID restrictions and travel impacts.

The 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.

Route 1 to Dundalk operates weekdays with three daily trips in each direction. Route 3 operates five days per week from Wednesday to Sunday, with five daily trips in each direction. Route 5 operates a similar daily schedule with three trips in each direction.

Fares on Route 1 (with Route 2 continuing to Orangeville) and Route 3 to Meaford (with Route 4 continuing to Blue Mountains) are \$5.00 for adults and 4.50 for seniors and students. Fares on Route 5 to Wiarton and Sauble Beach are \$3.00 for Adults and 2.50 for seniors/students.

Children aged five and younger travel free on all routes.

Similar to the GOST service, ridership on the GTR routes was very low to begin but has been increasing steadily through June 2021. Of the three routes connecting directly to Owen Sound, the Dundalk service is the most popular, while the service to Wiarton and the summer extension to Sauble Beach has the lowest ridership.

Similar to the GOST service, the provincial subsidy covers most of the start-up and operating cost of the service. After fares, the County is projected to be responsible for approximately 2% of the operating cost over the three-year project.

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 worker, 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 the 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 to about 30 percent is with 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 has been a lot of investigations and assessment 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 – Stage 3 re-opening is imminent at the time of this report. While some resurgence is expected in Fall 2021, many speculate that the level of vaccination in the province will allow the worst of the impacts, including lockdowns to be avoided.

Georgian College represents an important part of Owen Sound's market, and at this time, there is optimism that students will return to in-person classes in September.

How long it takes for ridership to fully recover to 2019 levels is very uncertain. Initial 2021 data suggests some slow recovery, but the data is drawn from January – April, when the area was at the height of second and third wave events. In the current context, it seems that conditions to support a ridership return may be improving, but a high level of uncertainty remains. 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.

Demographics

Population and Employment

Based on the 2016 census, population of Owen Sound in 2016 was 21,341, a decrease of slightly more than 1 percent since the 2011 census and lower than the 1996 census count. While the changes are very small, and do not indicate a significant decline in population for the purposes of transit planning, it is fair to say that the population is stable, and not expected to grow significantly.

Having said that, there are a few larger developments on the books for Owen Sound's east end, and there is some evidence that smaller communities outside the Greater Toronto and Hamilton area are experiencing a mini-boom sparked by a movement of remote-eligible employees seeking residential opportunities in Ontario's smaller communities still within a short distance of Toronto.

The Sydenham Heights Planning Area includes considerable scope for increased residential and commercial development that would affect transit services and provide network opportunities for the expansion of services. Other development areas (East Bluffs, East Harbour and West Harbour) are within the service area of existing routes and can improve the ridership performance of those routes.

With the information at hand, it is difficult to estimate specific population levels at for specific years in the plan. From a network perspective, it will be important to explore how these new areas could be served, and the positive contribution that development areas within the existing service areas will make to the overall route performance.

Population and Employed Labour Force

shows the age distribution of Owen Sound's approximately 22,000 residents. Typical of many small communities the aging of the population is evident in the graph.

Figure 8 shows the pre-COVID employed labour force for the community, with approximately 10,000 employed in the community. A handful of larger employers make up about one-quarter of this employment.

Figure 7 - Population and Age Distribution

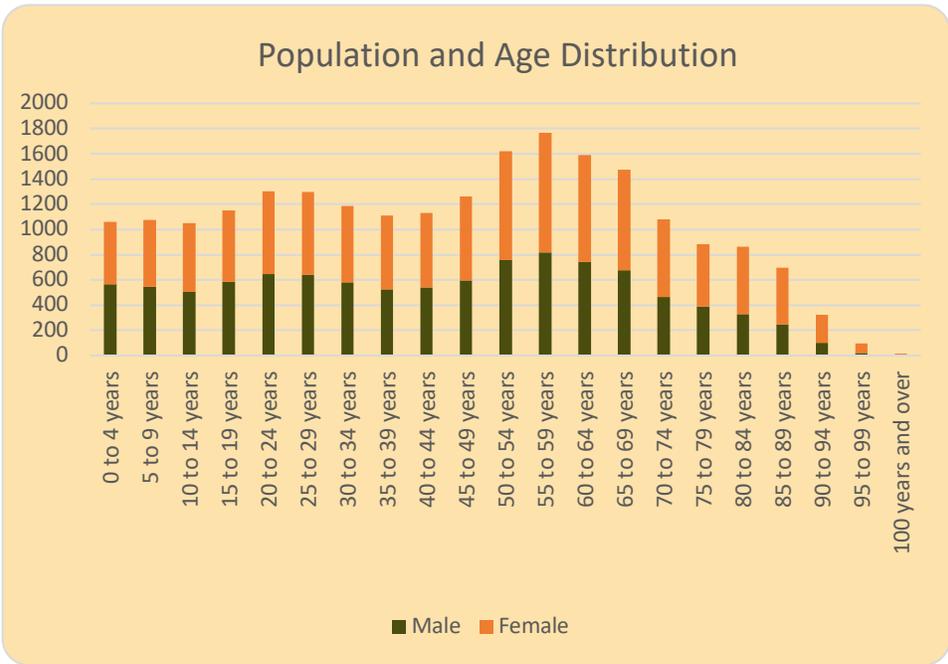


Figure 8 - Labour Force Characteristics

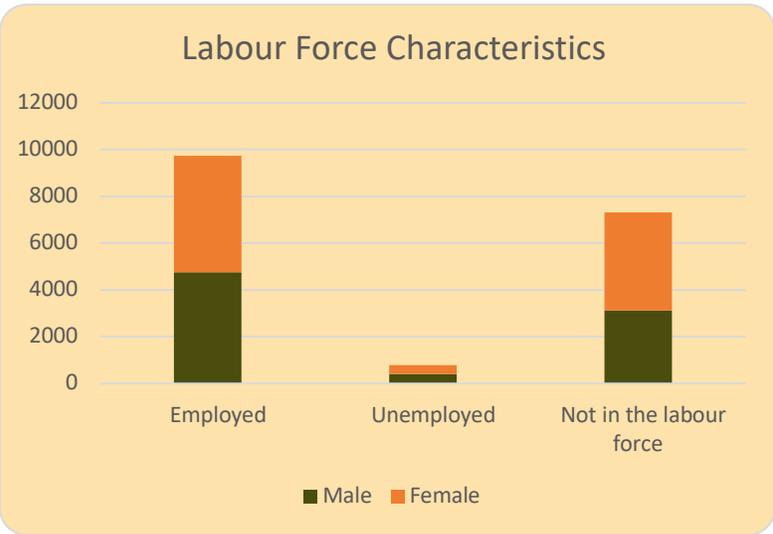


Figure 9 and Figure 10 show the 2016 population and employee density, respectively, for Owen Sound. These figures show the overall population focussed in the areas served by Brooke and Core routes, while the focus of employed residents is more focused on areas served by Crosstown and East Bayshore. Figure 11 complements these patterns, showing the concentration of seniors in the population in areas served by the Brooke route.



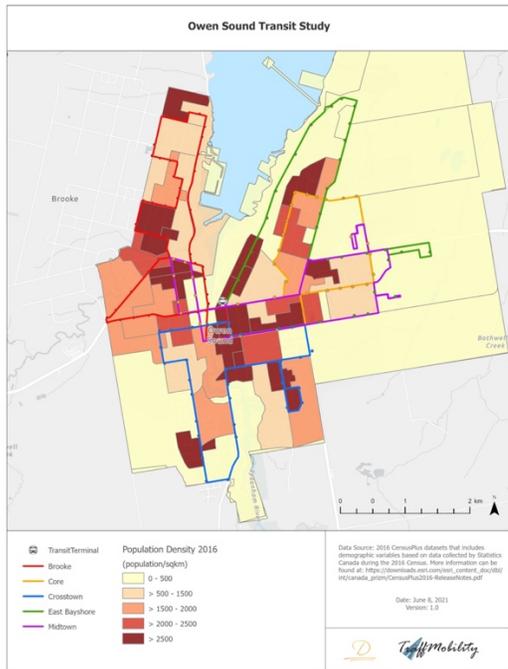


Figure 9 - 2016 Population Density

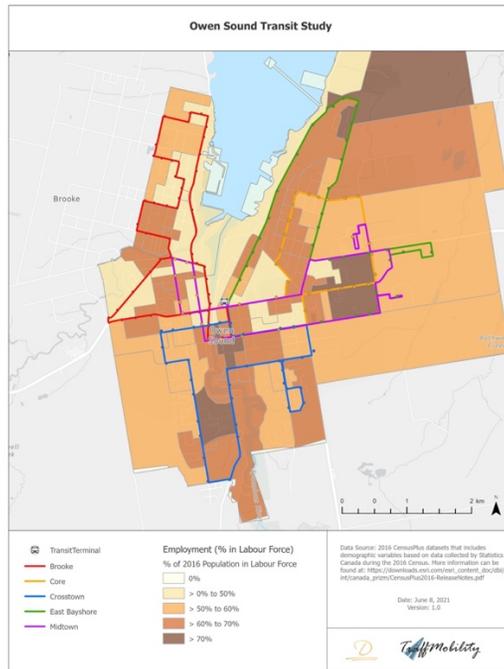


Figure 10 - 2016 Employee Density – percent of population in workforce

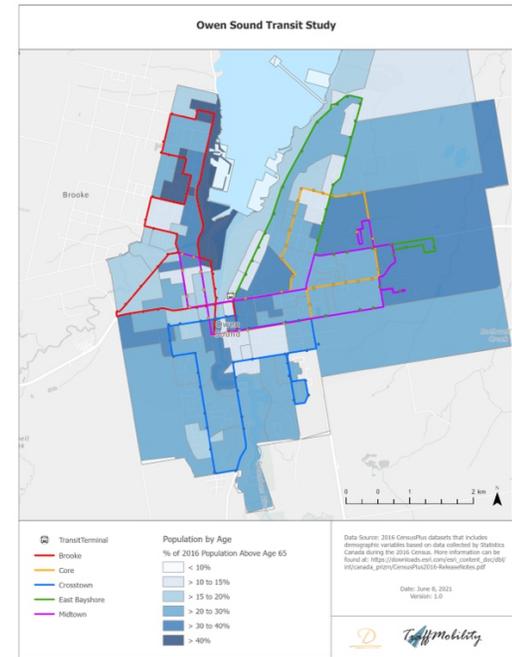
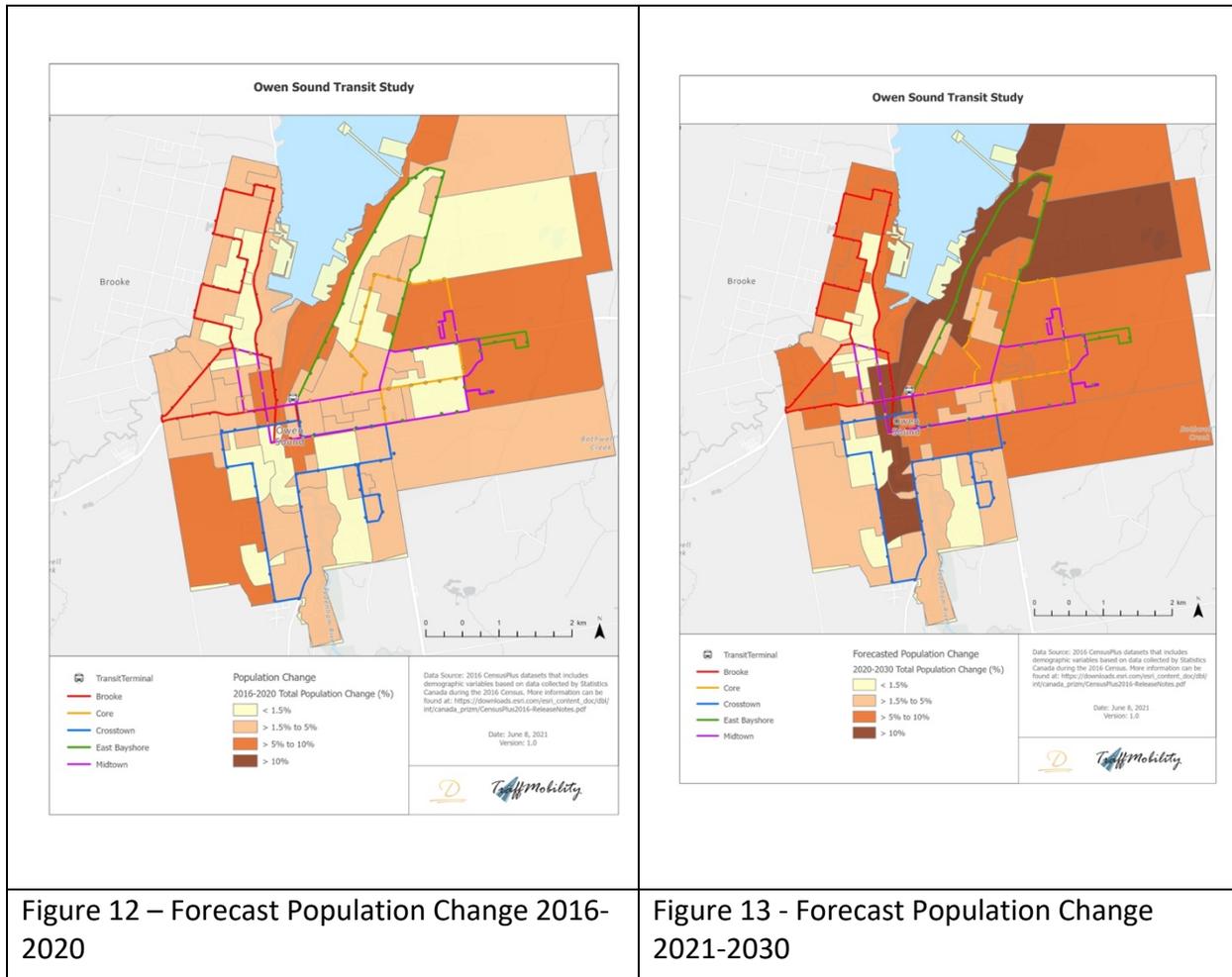


Figure 11 – Percentage of residents aged 65 and older

Future Context

Figure 12 and Figure 13 show the population change from 2016 to 2020 and from 2020 through 2030. While the pattern of growth prior to 2016 suggests that these levels are optimistic, the location of the growth is quite likely and post-COVID recovery growth may contribute to the overall totals. For the purposes of this study, we are more interested in the location of the growth as the absolute magnitude of the growth, given that the overall growth will be small in any event.



Service Assessment

This section looks at the performance of the service, comparing key metrics to a selected group of neighbouring and similar systems, then comparing some of the same metrics for Owen Sound over a five-year period to understand how the situation has been changing.

Peer Group Comparison

For the peer group comparison, a variety of systems were selected from Ontario transit agencies based on similar:

- Service area or community populations
- routes and vehicles
- operating budgets

While they are also similar in some of the characteristics, Wasaga Beach, Collingwood and Midland were specifically included because of their proximity to Owen Sound.

Table 4 shows the comparative statistics for the selected communities and includes whether evening service (end time) or Sunday service is provided.

The comparison of metrics also includes all small systems in Ontario – small being defined as any community with a service area population of 50,000 people or fewer.

A Word on Municipal Comparisons

Service reviews of this type almost always include comparisons of key metrics to that of other municipalities. It is natural to be curious about where one's agency 'fits' with other systems.

However, the results of these comparisons must be considered very carefully and without too much weight. Different measures are often calculated differently from agency to agency and there can be many factors that influence one particular metric that are unique to the agency and unfamiliar to the reviewer.

These comparisons are useful to determine if Owen Sound is in the same range as its neighbours and peers, but a detailed examination of metrics should rely on year over year comparisons, as presented in the next section.

Table 4 - Peer Group Characteristics

	Municipal Population	Service Area Population	Service Area (kms ²)	Annual Boardings	Routes	Peak vehicles	Evening service (end)	Sunday service
Owen Sound	21,341	21,341	23.7	196,611	4	4	X	X
Brockville	21,854	21,854	20.7	131,023	3	3	21:00	√
Cobourg	19,440	10,740	13	113,614	2	2	20:00	√
Collingwood	49,943	19,000	27.1	236,661	5	5	21:00	X
Ft. Erie	30,710	26,000	16.8	40,467	4	4	21:00	X
Leamington	27,525	20,000	11.6	50,249	2	2	X	X
Midland	17,000	12,500	23	66,612	2	2	X	X
Orangeville	30,113	19,875	10.3	120,000	4	4	21:00	X
Quinte West	43,577	21,972	35	54,283	3	3	20:00	X
Wasaga Beach	20,645	11,560	18.4	60,450	2	2	21:00	√

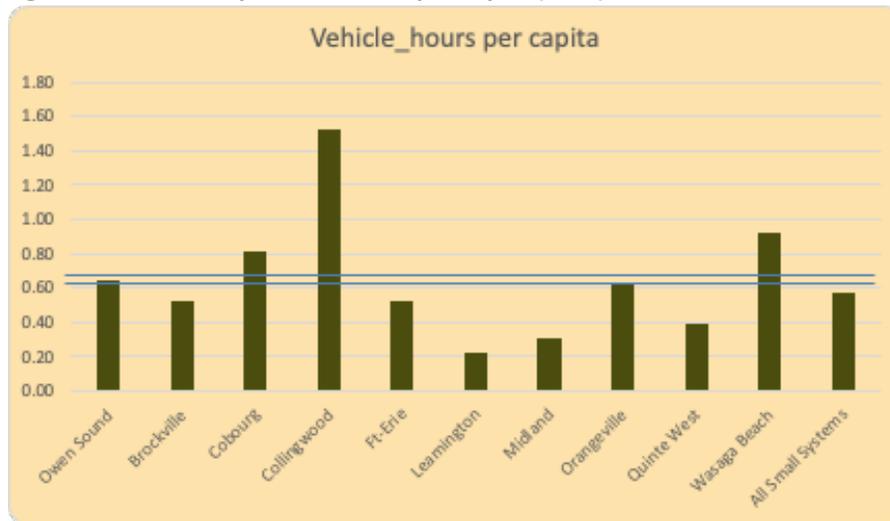
Source: Ontario Transit Factbook, 2019

Amount of Service – Vehicle-hours per Capita

Figure 14 shows the value for vehicle-hours per capita for Owen Sound and the peer group. This metric reflects the amount of service provided to the community relative to the community size. Vehicle-hours tend to increase exponentially with population, so this metric, even relative to community size, tends to increase with larger populations. Owen Sound's value of 0.64 vehicle-hours per capita is almost identical to the peer group average of 0.65 and the median of 0.62. The average for all small systems in the province is about 0.57 vehicle-hours per capita.

However, note that Owen Sound is among the largest of the peer group in terms of population, so one would expect this value to be above both the mean and the median value.

Figure 14 - Peer Group Vehicle-hours per Capita (2019)



Vehicle-hours per Capita
Total annual hours operated by all vehicles in service, divided by the respective municipal population.
This is a measure of the amount of service provided by each municipality relative to its size. In 2019, the small system average was **0.59** hours per capita

Operating Cost per Capita

Figure 15 shows the peer group comparison in Operating Cost per Capita, including both Total operating cost and Net operating Cost (net of revenue). This metric can reflect the community's willingness and ability to invest in the system; higher values must also be compared with ridership measures to determine whether they are favourable or unfavourable.

Owen's Sound's values for 2019 total and net operating cost were about \$48 and \$32 respectively compared to the peer group average of \$42 and \$32. The average for all small systems in the province was about \$53 for operating cost per capita and about \$32 for Net operating cost per capita.

This means that Owen Sound's values are close to the average in both measures compared to both the peer group and all small systems. In fact, most of the peer group is lower than the provincial average.

Figure 15 - Peer Group Cost per Capita (2019)



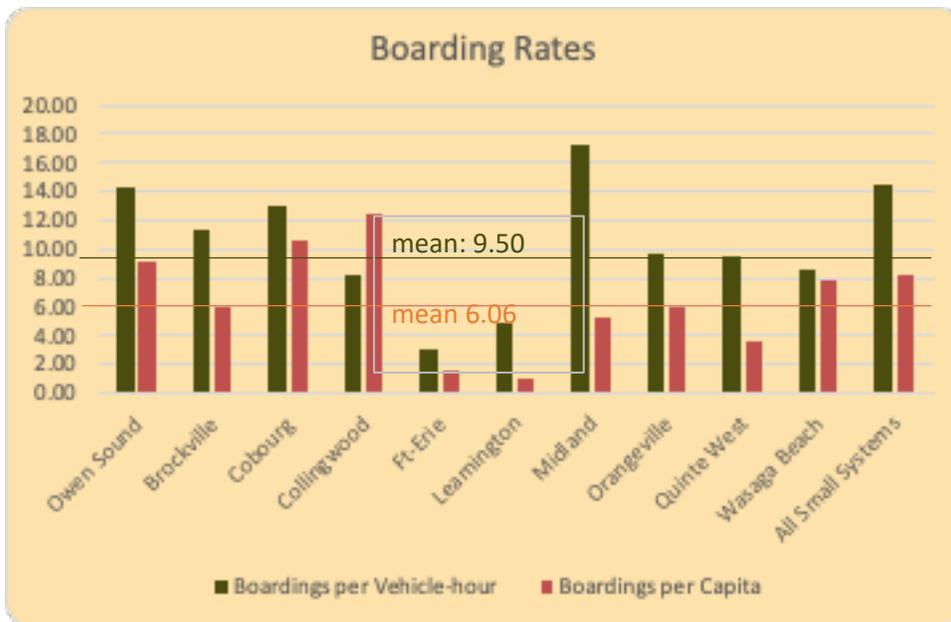
Total Cost per Capita
 Total annual operating cost for each municipal system divided by the respective municipal population

Net Cost per Capita
 Annual operating cost minus fare revenue for each system, divided by the respective municipal population

Boardings Rates

Figure 16 shows the comparison for boardings per capita and boardings per vehicle-hour for Owen Sound and the peer group (2019). These metrics reflect how well the system is used (per capita) and how effective the system is in delivering the service (per vehicle-hour). Owen Sound's values of 9.2 boardings per capita and 14.3 boardings per vehicle-hour compare favourably with the peer group average of 6.0 and 9.5 respectively as well as with the provincial average for small systems at 8.2 and 14.4 respectively

Figure 16 - Boardings Rates



Boardings per Capita
 Total annual boardings divided by the municipal population

Boardings per Vehicle-Hour
 Total annual boardings divided by the total annual hours operated by all vehicles in service

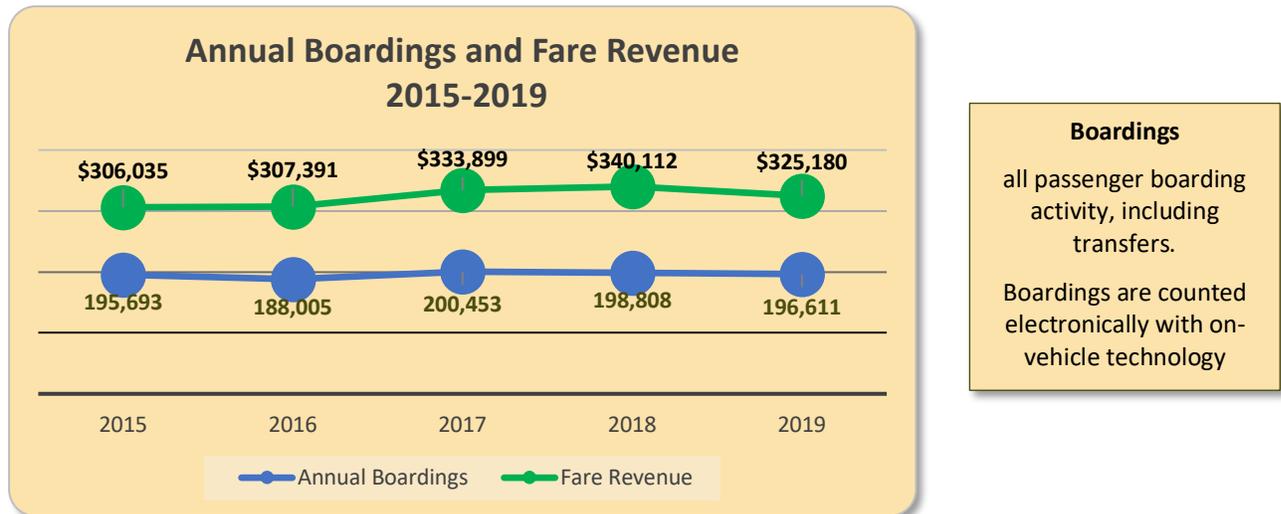
Owen Sound Performance 2015-2019

A more effective measurement of transit's performance in Owen Sound is an examination of the system's performance over time. The following charts present a variety of key metrics for the pre-COVID period covering the five years from 2015 through 2019.

Annual Boardings and Revenue

Figure 1 shows the annual boardings and fare revenue for the five-year period. The graph illustrates considerable stability in the service, with just a two percent variation between the highest and lowest passenger boarding values. The 2016 fare increases of approximately 10 percent is reflected both ridership declines and revenue increase immediately following the change. Since 2016, fare revenue has been within a three percent range. From 2018 to 2019, there was a slightly larger decline in revenues compared to ridership. Since the ridership decline was about equal in all age groups this likely indicates a relative shift to monthly pass use, an increase in transfer rates, or both.

Figure 17 - Annual Boardings and Fare Revenue: 2015 - 2019

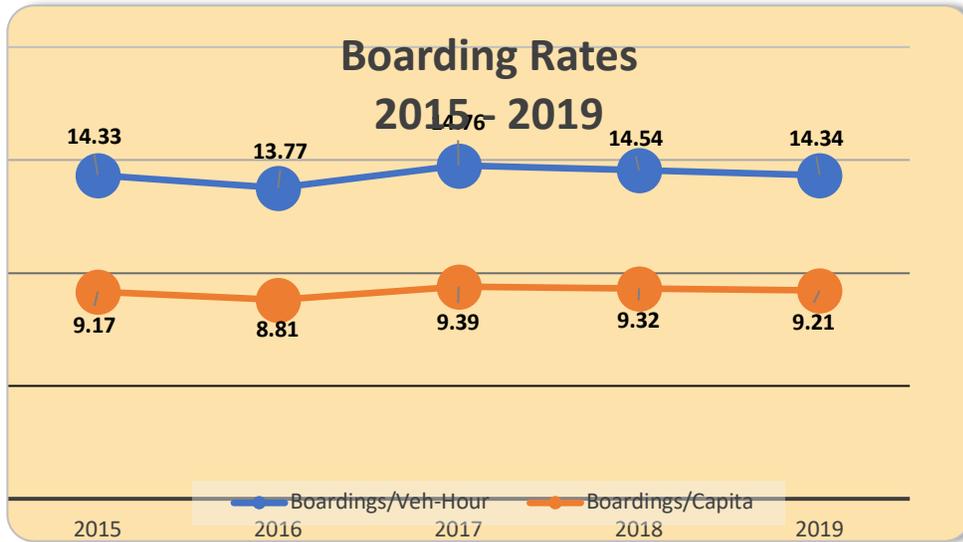


Boarding Rates- Service Utilization

Figure 18 shows boarding rates per capita and per vehicle hour for the five-year period. Boardings per capita is a measure of how much the system is used by the overall population. Boardings per vehicle-hour is another measure of service utilization indicating how much the service is used by the community of riders. Over time, system improvements as well as marketing and advertising aim to promote increases in these values.

Because the service has remained essentially unchanged over the five-year period and ridership has also been stable, these values also reflect very little change over time.

Figure 18 - Boarding Rates 2015 – 2019



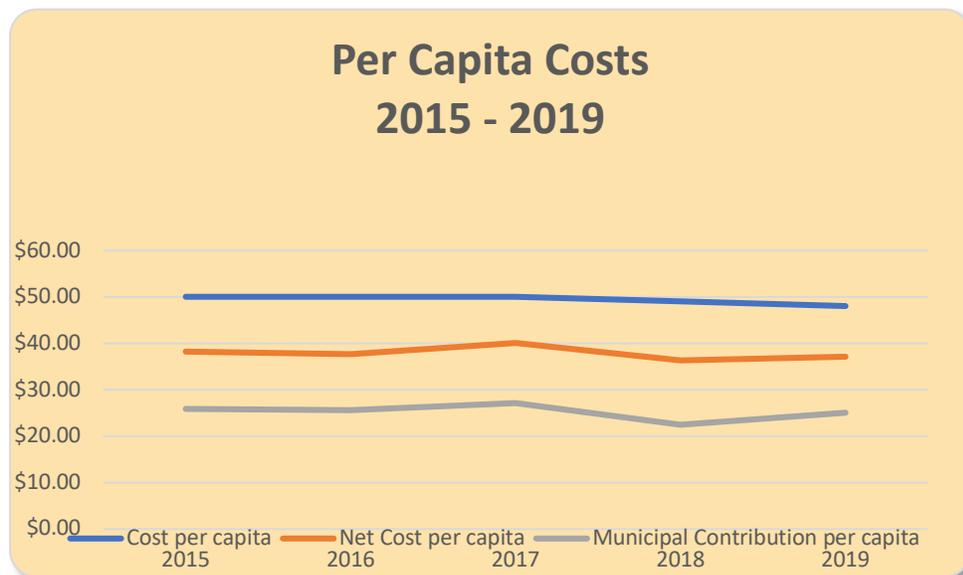
Boardings per Capita
Total annual boardings divided by the municipal population

Boardings per Vehicle-Hour
Total annual boardings divided by the total annual hours operated by all vehicles in service

Per Capita Costs

Figure 19 shows the per capita costs for the service over the five-year period. Since service hours have not changed, the overall cost for the service has also remained quite stable. Also, since population figures are not updated between censuses, these values have also not changed, resulting in very stable per capita cost values. Since the 2016 census, the population has been declining slightly, meaning that the true per capita cost values could be slightly lower than shown here.

Figure 19 - Per Capita Costs 2015 – 2019



Cost per Capita
Total annual operating cost divided by the municipal population

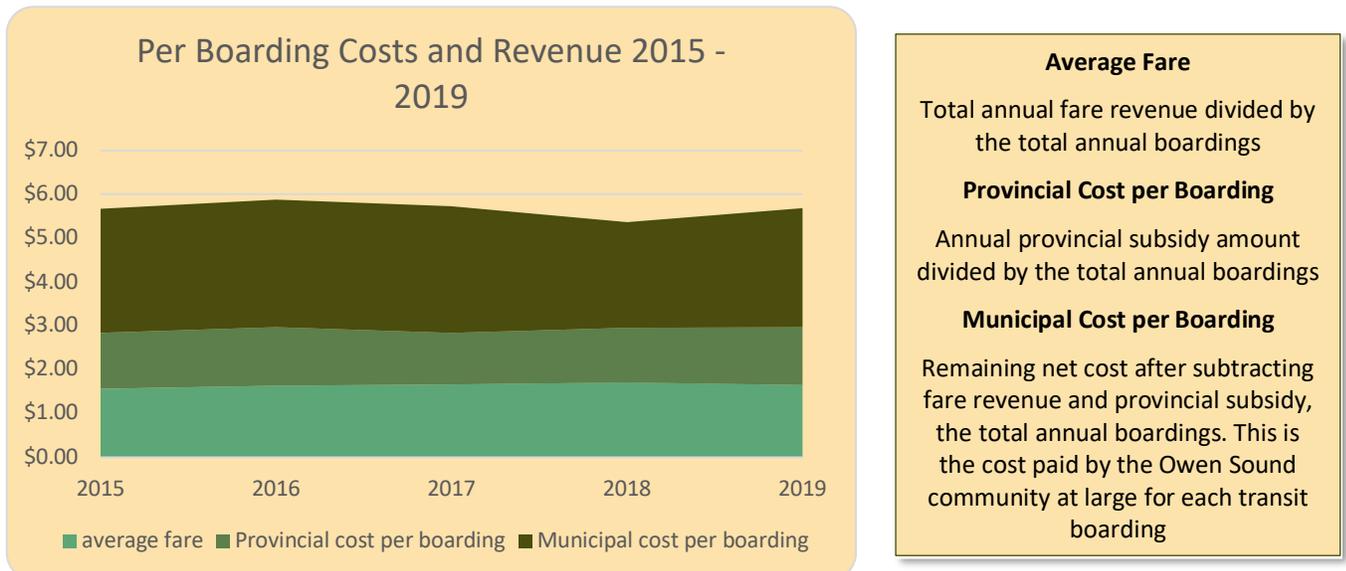
Net Cost per Capita
Annual operating cost minus fare revenue, divided by the municipal population

Municipal Cost per Capita
Net operating cost minus Provincial subsidy, divided by the municipal population. This value represents the amount of the service funded by the Owen Sound community at large

Per Boarding Costs

Figure 20 shows the per boarding costs and revenues for the five-year period. The average fare has remained stable between \$1.65 and \$1.70 over the five-year period. Because provincial gas tax revenues in Owen Sound are dominated by the population portion of the formula, and both population and ridership have remained stable, this portion of the graph is virtually unchanged since 2016. Any of the variation in the costs and boardings has resulted in changes to the municipal cost per boarding, though this remains in a very narrow range. As shown in Figure 20, the total cost per boarding has ranged from a low of \$5.61 in 2018 to a high of 5.93 in 2017. The municipal cost per boarding – the amount paid by the Owen Sound community for each transit rider has ranged from a low of \$2.41 in 2018 to a high of 2.91 in 2016. This value compares favourably with the per group and contradicts a sentiment expressed in the community survey that “it would be cheaper just to order a cab for everyone”.

Figure 20 - Per Boarding Costs and Revenues 2015 - 2019



Observations and Conclusions

As noted throughout this assessment, 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.

The current vehicles are 2014 ARBOC Spirit of Mobility vehicles. Six similar vehicles are used in conventional transit service, a 7th is used exclusively for Mobility Bus operations. The vehicles are built on a Chevrolet 3500 chassis with a 6.0L GM Vortec engine and 6-speed automatic transmission.



These vehicles are rated for 7-year, 325,000 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.

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

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 Street 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.

Two figures showing intersection improvements at 3rd Avenue E and 13th Street E. Figure 21 shows one example, from the East Bayshore route at the intersection of 3rd Avenue E at 13th Street E, indicating the construction of a new pad connecting the curb to the sidewalk and the installation of a more visible bus stop sign.

In areas where sidewalks do not exist at all, remediation is much more difficult and expensive, and in practice, can only be effectively addressed during major street renovations.

The 2014 review included a guide for the hierarchy of facilities at stop locations. These guidelines will be reviewed and refreshed for inclusion with the recommendations of this study.

Two figures showing intersection improvements at 3rd Avenue E and 13th Street E. Figure 21 - Recent Stop



Improvements 3rd Avenue E. @ 13th Street E (East Bayshore route)

Policy Review

There are three principal plans that typically relate to a community’s approach to transit service: the Official Plan, the Strategic Plan and the Transportation Master Plan. In the case of Owen Sound, both the Official Plan and the Strategic Plan have been recently updated. The Transportation Master Plan was completed more than 10 years ago and given the recent updates of the other two plans, bears little relevance to the situation today and for the future.

As a result, this section includes an overview of the draft update to the Official Plan, completed in June 2021. The Strategic Plan refresh, completed in 2020 complements this plan, and together, these plans form the basis of the high-level guidance for the development of future transit solutions for Owen Sound.

Official Plan

The Official Plan has several sections that relate to public transit and its role in the community. Some of these are direct transit policies and others are complementary policies that can be supported by the provision of effective transit services.

Public Transit Policy

Section 5.1.6 of the Official Plan deals directly with the provision of transit services in Owen Sound. It requires that:

- Planning for new developments and built-up areas should include consideration for public transit which may include requirements for bus bays, elimination of street parking for bus

stops, streets planned and designed to accommodate transit vehicles, installation of bus shelters subject to requirements in Transit Accessibility Plan

- The City encourages greater population density close to transit routes
- Development plans address public transit requirements and be evaluated with respect to their impact on transit services
- The City promote transit as an alternative to the private vehicle
- The system be inclusive and accessible with
 - Accessible facilities, routes, and vehicles
 - Improvements over time to stops and shelters
 - Stops connected to adjacent sidewalks
 - Safe stop locations and facilities
 - Complementary specialized transit service for persons with disabilities
 - Implemented recommendations from the City’s Multi-year Accessibility Plan and Transit Accessibility Plan.
- This transit study provides a framework for consideration of planning applications and transportation planning
- The City consider the dedication of land or financial assistance for transit in the process of reviewing and approving development proposals
- The City work with neighbouring municipalities to create an integrated transit service

Active Transportation

One section of the Official Plan deals with active transportation, and several of the policies included in this section support and are supported by an effective transit service. Every transit rider begins their trip a pedestrian, and an integrated active transportation and transit system is a key element of an effective network. Relevant policies follow with relevant points highlighted:

- **New developments will be designed to be walkable and bike friendly by including multi-use trails, sidewalks, and/or paved shoulders where appropriate to integrate with the overall complete transportation system.**
- The City shall promote sustainable, healthy, active living through **well-connected and maintained streets, paths and trails** that are able to safely accommodate different modes of transportation.
- **Accessibility for all people shall be considered in the design of pedestrian links and trails in accordance with the City’s Multi-year Accessibility Plan, Transit Accessibility Plan and AODA requirements.**
- The City shall work towards **providing sidewalks** and bicycle trails separated from the roadway on existing and proposed arterial roads and on abandoned rail corridors and within parks and open spaces as appropriate.
- **The City will support the integration of pedestrian and cycling facilities into existing and new development areas.**
- **The City will encourage new development to include accessible, age-friendly and transit supportive design elements such as:**

- A system of **walkways** (sidewalks, paved shoulders, and trails) and **bicycle paths** (paved shoulders and trails) **linking the subdivision internally as well as externally to other walkways and bicycle paths, and to other public areas**
- Design that includes **living streets, active transportation, and safety.**

Energy Conservation

Owen Sound’s Official Plan reflects the community’s commitment to energy conservation, and includes a specific policy requiring the City to “**encourage the reduction of energy consumption and reliance on carbon-based fuels for energy . . .**”

Public transit can provide an effective less energy intensive alternative for travel within the community, and the service itself should work towards ensuring its own operations are as energy efficient as possible.

Community Services

The Official Plan has several policies related to the provision of community services, of which public transit is one. These policies include specific provisions for transit, as well as policies that can be supported by the provision of effective transit services

- The City shall encourage the provision of an appropriate range and distribution of **health, safety, educational, cultural and recreational facilities and services throughout the community.**
- The needs of people of **all areas of diversity shall be considered in the provision of community services and facilities, reflecting the demographic changes in the community.**
- **Public health, leisure and recreation services and programs will be distributed throughout the City so they may be convenient and accessible to the intended users.**

An important element of these policies is the understanding of effective transit services as part of an overall public health environment.

Experiencing the City

The Official Plan has several policies to improve the way residents and visitors experience the City. AS a key service in the City, and one of the most visible, transit plays a key role in how people experience and perceive the City. These Official Plan policies are intended to “strengthen the positive image of Owen Sound as an attractive and liveable City by making the impression on entering and the experience of passing through the main streets enjoyable and easily understood.”

- The City intends to maintain a simple and easily understood plan structure based on nodes of intensive commercial, industrial and service activity joined together by an arterial road system. Secondary service uses should primarily be located along these arterial routes.
- The City will consider higher standards for permitted uses and the design of buildings and streetscapes along the main arterial streets. Design guidelines should be developed for uses fronting on these arterial streets, with appropriate building setbacks and points of access.

- The City will employ clear directional signage to inform visitors of the route to reach the main centres of the River District Commercial area, harbour, east side commercial and west side commercial areas and to reach highway linking points. Signage should also identify the routes to other landmark destinations such as major parks, the library, art gallery and hospital.

Pedestrian Environment

The objective of the Official Plan’s pedestrian environment policies is to “secure a safe and accessible pedestrian environment in public and private development . . .” A safe and accessible pedestrian network, as noted earlier, is the cornerstone of an accessible transit service.

Living Streets

- Promote the objective of “Healthy Communities” through program and facility development. New neighbourhood streets should be designed to limit the speed of traffic and to create a **continuous pattern of pedestrian connections**, consistent with the principles of Living Streets. Sidewalks should, where possible, be separated from the roadway by landscaped boulevards.
- The City will promote the principles of “Living Streets” by:
 - **Encouraging walking** throughout the City.
 - Providing **continuous safe and comfortable walking routes**.
 - Reducing **potential pedestrian conflict** with vehicles and **separating pedestrian paths from roadways** where possible.
 - **Reducing vehicular speeds** on local roads.
- In retail areas, the City will promote the provision of a **comfortable pedestrian environment** suitable for shopping, with **wide sidewalks and some weather protection**. Retail areas should provide opportunities to meet people or to sit in outdoor cafes. **Sidewalks should not be utilized for snow storage.**

Strategic Plan

The Strategic Plan sets the overall direction for the City. The current plan was developed in 2015 and refreshed last year. 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 or community through leadership.

The core of the strategic plan is built around four pillars, each with a specific goal:

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 developed with a set of Council priorities – what the Council hopes to achieve in the long-term. These priorities can inform the development of transit solutions

Guiding Principles

A set of guiding principles was developed in conjunction with stakeholder group assembled for this purpose. A full report on the workshop process is included in the Appendix. The Guiding Principles were based on the Council priorities in the strategic plan and refined to suit transit specifically.

These principles form the basis of the guidance for the development of options in the next phase of work, as well as the evaluation criteria to be used to select preferred alternatives.

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

Health and Sustainability

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

Financial Stability

- Leverage other revenue sources to decrease cost and keep transit affordable
- Aim for most cost-effective solutions
- 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

Reliable and Inclusive

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