

# Special City Council Meeting Agenda



**Tuesday, January 29, 2019 – 6:00 p.m.**  
**Council Chambers, Guelph City Hall, 1 Carden Street**

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## **Open Meeting – 6:00 p.m.**

### **Disclosure of Pecuniary Interest and General Nature Thereof**

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## **Special Council – Transit Business Service Review**

**PS-2019-02      Guelph Transit Business Service Review Final Report**

### **Presentation:**

Colleen Clack, Deputy CAO, Public Services  
Katherine Gray, Program Manager, Business Process Management  
Robin Gerus, General Manager, Guelph Transit

### **Recommendation:**

1. That staff be directed to proceed with the implementation of the recommendations outlined in Report # PS-2019-02 "Guelph Transit Business Service Review Final Report" dated January 29, 2019.
2. That the 2019 operating impact of \$498,000 be referred to the operating budget deliberation on March 5, 2019.

## **Special Resolutions**

## **Adjournment**

# Staff Report



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To	<b>City Council</b>
Service Area	Public Services
Date	Tuesday, January 29, 2019
Subject	<b>Guelph Transit Business Service Review Final Report</b>
Report Number	PS-2019-02

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## Recommendation

1. That staff be directed to proceed with the implementation of the recommendations outlined in Report # PS-2019-02 "Guelph Transit Business Service Review Final Report" dated January 29, 2019.
2. That the 2019 operating impact of \$498,000 be referred to the operating budget deliberation on March 5, 2019.

## Executive Summary

### Purpose of Report

This final report will provide an overview of the process, findings and recommendations of the Guelph Transit business service review.

### Key Findings

Guelph Transit is the last of the pilot business service reviews for the implementation of the Council-approved Business Service Review framework (CS-2016-61).

Third-party engagement activity indicates that overall satisfaction with Guelph Transit service is 69 per cent, which is higher than most comparator results. Guelph Transit is on par and competitive with the service levels and performance of the other applicable municipalities included in the scope of the review. Analysis indicates that Guelph Transit's net cost to provide service is on par with comparator municipalities; however, expenses are on the rise.

Guelph has some of the highest ridership and revenue of the comparator municipalities, which offset the cost of service provision. Analysis identified concerns related to reliability of service with an average of 3.6 per cent of all runs dropped or missed. The review, benchmarking, and research identify no obvious advantages or savings to using alternate service delivery models compared with the municipally delivered service approach used by Guelph.

There are twelve recommendations resulting from the business service review. These recommendations include options around staffing and service level changes, service standards, funding and fare pricing guidelines, and investigating the viability and feasibility of new technology options.

## **Financial Implications**

Estimated 2019 operating budget impacts of the recommendations equate to \$498,626. This includes cost reductions related to service changes and increased revenue from contract renewal, as well as compensation and contract costs to stabilize the workforce, provide increased capacity and capability for service management and administration, conduct an operational route review, and service expansion planning for the Community Bus service. There is a proposed 2019 capital impact of \$2.7 million for the Community Bus service expansion.

Third party support was utilized to conduct this business service review, including consulting support and community engagement, with total expenditures of \$85,000.

## **Report**

### **Background**

Guelph Transit provides fixed route conventional, on-demand mobility, and specialized service to support Guelph residents, business and visitors. These services provide transportation for over 6.2 million riders (unique revenue passenger trips) or 6.9 million boardings annually.

The review followed the methodology outlined in the Council-approved Business Service Review Framework (CS-2016-61). A business service review looks at what we do well and what needs to change. It studies the effectiveness and efficiency of our services to make sure these services are the best for the City and our citizens, while supporting long-term financial sustainability.

Input into the business service included staff feedback, public input, research on Guelph's current services, and benchmarking from other municipalities. Output of the review includes definition of the current service, service levels and performance, and potential recommendations for consideration. Refer to ATT-1 for the detailed report on the approach and recommendations.

### **Review Scope**

The scope of the review or the specific elements of Guelph Transit services reviewed included:

- Operations (the provision of the service)
  - Conventional services
  - Mobility services
  - Specialty services
- Administration processes
  - Planning and scheduling
  - Customer service
  - Fare review process
  - Route review process

The following elements of Guelph Transit services were not included in the scope of the review.

- Route review
- Fare and fee rate review
- Fleet maintenance and repair operations
- Amalgamation and interregional service

### **Third-Party Technical Expertise Support**

The City of Guelph worked with Dillon Consulting (Dillon) — an impartial, technical expert — to support the benchmarking and data analysis areas of the Guelph Transit business service review. This partnership provided technical expertise and added objective third-party examination of the review results.

### **Benchmarking**

Dillon, as part of the benchmarking analysis, contacted the five municipalities listed below. These comparators met the service review rationale<sup>1</sup> and represented the desired mix to conduct a fair comparison to the City of Guelph:

- City of Barrie (Barrie Transit)
- City of Greater Sudbury (Greater Sudbury Transit)
- City of Kingston (Kingston Transit)
- City of St. Catharines (St. Catharines Transit)
- City of Windsor (Transit Windsor)

Five additional municipalities were added to test findings from the original comparator group related to specific performance indicators for both conventional and specialized services:

- City of Brantford (Brantford Transit)
- City of Burlington (Burlington Transit)
- City of Cornwall (Cornwall Transit)
- Town of Oakville (Oakville Transit)
- City of Thunder Bay (Thunder Bay Transit)

The rationale for selecting the comparators included the following:

- Being part of the Council-approved municipal comparator list
- Delivery approaches that meet those defined by the scope of the service review (i.e., in-house, not-for-profit, and private service provision)
- Relevant level of service and/or technology used to operate their transit systems in the same way as Guelph, and are of a similar scale

Dillon conducted data validation with City staff as well as reviewing other available online data to confirm findings, such as the Canadian Urban Transit Association (CUTA) annual reporting<sup>2</sup>. Key indicators used in the comparison included:

- Service level
- Ridership
- Utilization
  - Passengers per capita
  - Passengers per revenue hour
- Cost Effectiveness
  - Cost per passenger
- Cost Efficiency
  - Net cost per total vehicle operation hour
  - Operating revenue to cost ratio

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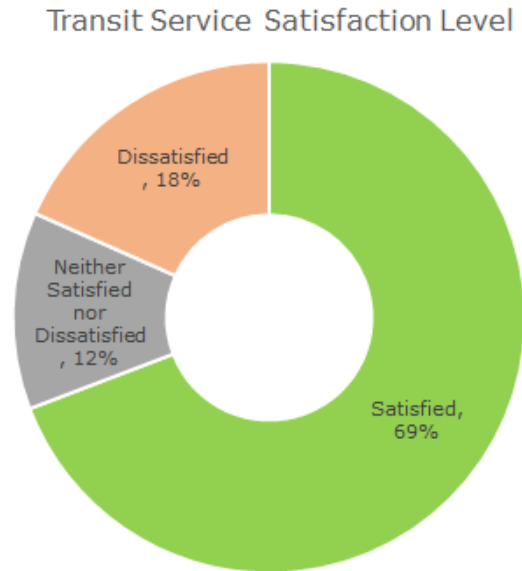
<sup>1</sup> Dillon Consulting Benchmarking and Data Analysis Report (November 2018)

<sup>2</sup> 2016 and 2017 CUTA annual report (Canadian Conventional Transit Statistics, Canadian Specialized Transit Statistics)

### **Engagement Activity**

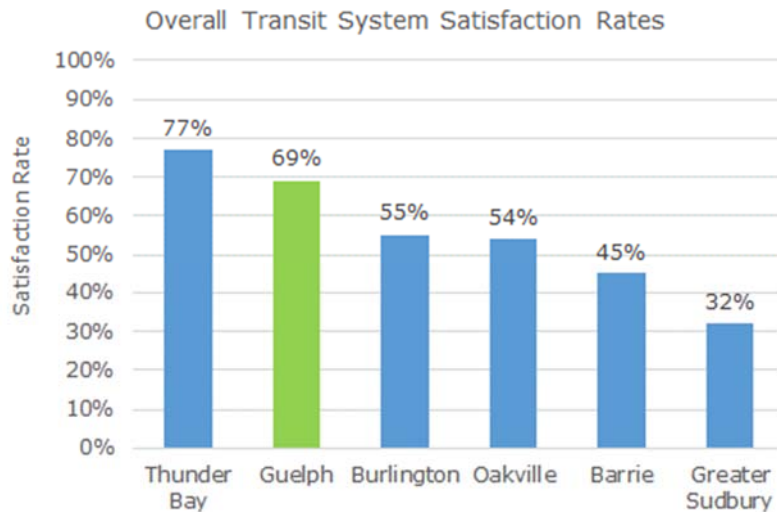
Engagement activity undertaken to inform the business service review included measuring customer satisfaction with the current transit service<sup>3</sup>. The overall satisfaction rate for Guelph Transit is 69 per cent. This is in line with the satisfaction rate reported from the 2017 Citizen Satisfaction survey, which identified the overall satisfaction rate at 71 per cent<sup>4</sup>.

Figure 1: Overall system satisfaction level



When this rate is compared to comparator reported satisfaction rates<sup>5</sup>, Guelph Transit satisfaction rating performance is higher than most of the comparator municipalities.

Figure 2: Municipal benchmark satisfaction rate



### **Initial conclusion**

The business service review focused on the current transit operations (conventional, mobility, specialty services) and administration processes. This review did not include conducting a detailed operational route or fare review, developing strategic long-term objectives or fleet maintenance and repair operations.

<sup>3</sup> Amalgamated satisfaction rate of conventional and mobility service.

<sup>4</sup> 2017 Citizen Survey did not focus on Transit riders but community as a whole.

<sup>5</sup> Publicly reported satisfaction ratings from citizen and community surveys over the last three years.

The review, benchmarking, and research all indicated that Guelph Transit performs on par and is competitive with comparators in key performance indicators. No obvious advantages, disadvantages or savings to using an alternate service delivery model to the City's municipally delivered service approach were identified during the review.

Figure 3: Benchmark performance level

<b>Performance level to peers</b>		Below	Par	Better
<b>Transit Service Overall</b>	<b>Ridership</b>			●
	Hours of operation		●	
	Fare rates		●	
	<b>Utilization</b>			
	Passengers per capita			●
	Passengers per revenue hour			●
	<b>Cost effectiveness</b>			
	Operating cost per passenger		●	
	<b>Cost efficiency</b>			
	Net cost per total vehicle hour		●	
	Operating revenue to cost ratio			●

Even though there is no indication of a need for a service delivery method change, areas of issue or opportunity were identified, including service reliability, growth, technology and administration. These areas of improvement have been identified to ensure efficient and effective delivery of transit service.

### **Recommendations**

There are 12 recommendations, identified below, resulting from the business service review. These recommendations are detailed in ATT-1.

- Service standards
  1. Set a funding and fare pricing policy based on a revenue-to-cost performance range.
- Service expansion and growth
  2. Expand and rebrand the Community Bus service.
  3. Conduct an operational route review, looking at both holistic system changes as well as individual route modification.
  4. Develop a Guelph Transit strategic plan within the context of the Transportation Master Plan, to provide direction for conventional, mobility, and specialized transit service to 2040.
- Service reduction
  5. Discontinue morning shuttle service (pilot project) to Guelph Central Station.
- Service administration
  6. Review and renew the CoFare contract.
  7. Develop an operator recertification program to support service reliability, safety, and consistency.
  8. Implement staffing adjustments to increase capacity for return to work, wellness, recruitment, and retention challenges, and to support the efficient and effective management and administration of core business.
  9. Improve reporting methods related to vehicle maintenance.

- Technology growth
  10. Implement the new fare box program with the capability for reusable tap and go passes (smart cards).
  11. Develop a pilot program to test the service gains (improved scheduling and increased capacity) from Intelligent On-Demand Transit software with the Mobility Service, and assess feasibility for low-density and low utilization applications.
- Service reliability
  12. Stabilize the workforce levels to ensure sustainable provision of current level of service and reduction of overtime, through a base staffing increase of 19 drivers. To be phased in over six years.

Key impacts of the recommendations include:

- Improved conventional service reliability
- Increase service levels in the Community Bus service
- Greater accuracy of data leading to improved controls in performance management and reporting
- Reduced service reliability risks related to safe driving, reinforced defensive driving, customer service and safe work practices
- Potential for increased capacity (ridership and availability), and levels of service for mobility and on-demand customers, as well as increased revenue potential and/or decreased costs
- Service standards to support consistent decision-making related to service levels and delivery

### **Additional Opportunities**

The review scope did not include conducting a full operational route review; however, average ridership demand and service performance was looked at in conjunction with other aspects of the review. The following items were identified as priorities to be addressed, along with the review recommendations:

- Recommend service frequency reinstatement of routes 11 and 14 to 30 minute service. These routes currently receive 40 minute service after 8:15 pm. This recommendation has been identified to improve transfer times at Guelph Central Station and reduce non-revenue generating layover time, gaining service efficiency.
- Recommend that as part of the operational route review, alternative service options or efficiencies within the current route, for route 3, be identified to maintain the current service frequency (30/20/30 minute service). The current level of service and delivery model is proposed to be funded until July 2019.

The Guelph Transit business service review final report constitutes the final deliverable for the review and hand off to the department for implementation.

## Financial Implications

Estimated 2019 operating budget impacts of the recommendations equate to \$498,626. This includes cost reductions related to service changes and increased revenue from contract renewal, as well as costs to implement the recommendations. Table 1 below provides a breakdown of the 2019 budget impacts.

Table 1: 2019 financial impact breakdown

Recommendation		2019 Budget Impact
1	Revenue/Cost Ratio Target (funding and fare policy)	\$0
2	Community Bus Expansion	\$7,000
3	Operational Route Review	\$100,000
4	Transit Strategy	\$0
5	Discontinuation of the morning shuttle service	(\$12,000)
6	Renewal CoFare Contract	(\$5,000)
7	Driver Recertification Program	\$17,626
8	Staffing Structure change	\$115,000
9	Improved Maintenance Reporting	\$0
10	Smart Card assessment	
11	On-demand service pilot	\$0
12	Staffing stabilization	\$260,000
<b>Additional opportunity impact</b>		
	Route 11 and 14 reinstatement	\$16,000
<b>Total 2019 budget impact</b>		<b>\$498,626</b>

There is a proposed 2019 capital impact of \$2.7 million for the Community Bus service expansion.

Third-party support was utilized to conduct this business service review, including consulting support and community engagement, with total expenditures of \$85,000.

## Consultations

Executive Team  
 Transit Business Service Review Steering Committee  
 Transit Management Staff  
 Finance  
 Corporate Communications  
 Human Resources  
 Dillon Consulting



# Corporate Administrative Plan

## Overarching Goals

Service Excellence

## Service Area Operational Work Plans

Our Services - Municipal services that make lives better

## Attachments

ATT-1 Guelph Transit Business Service Review Final Report

## Report Author

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Guelph Transit



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## Business service review Final report

January 2019



## Executive summary

Key Findings	Benchmarking			
	Standard	Below	Par	Better
<ul style="list-style-type: none"> <li>Guelph Transit service is on par with service levels and performance of the comparator municipalities, and has some of the highest ridership and revenue of the comparator municipalities.</li> <li>Analysis of revenue to cost (R/C) performance shows a stable average performance range between 40 and 45 per cent over the last three years.</li> <li>Engagement activity indicates that overall there is a fairly high level of satisfaction with service.</li> <li>Engagement identified the desire for increased reliability in conventional service, the value of the community bus service, and the desire for online trip scheduling and increasing service to allow same-day booking options, in mobility service.</li> <li>Analysis indicates that the Guelph Transit's net cost to provide service is on par with comparator municipalities however, expenses are on the rise, these rising costs are offset by high ridership and revenues.</li> <li>Analysis of internal performance data and community engagement for conventional service identified concerns related to reliability of service. An average of 3.6 per cent of all runs are dropped or missed.</li> <li>Annually there is an average of 10 to 14 FTEs on extended leave (STD/LTD) and an annual absenteeism rate of 9 days per person. These vacancies and absenteeism rates have a significant impact on the available hours of work and service reliability.</li> <li>There is opportunity to explore service improvements and growth through new technology including on-demand ride sharing software and smart cards.</li> <li>The review, benchmarking and research identify no obvious advantages or savings to using alternate service delivery models compared with the municipally delivered service approach used by Guelph.</li> </ul>	Ridership			●
	Service Level		●	
	<b>Utilization</b>			
	Passengers per Capita			●
	Passenger per Revenue Hour			●
	<b>Cost Effectiveness</b>			
	Operating Cost per Passenger		●	
	<b>Cost Efficiency</b>			
	Net Cost per Total Vehicle Hours		●	
	R/C Ratio			●

Recommendations	Key Impacts
<ol style="list-style-type: none"> <li>1. Recommend setting a funding and fare pricing policy based on a target net revenue to cost (R/C) ratio range of between 40 and 45 per cent to support service and ongoing service improvements while reducing the potential financial impacts to customers</li> <li>2. Recommend the expansion and rebranding of the Community Bus program from the current two-bus service to six buses by 2020.</li> <li>3. Recommend conducting an operational level route review in 2019/2020 internally by hiring a contract route planning position.</li> <li>4. Recommend developing a Transit Strategic Plan to provide direction for conventional and mobility service to 2041.</li> <li>5. Recommend to discontinue morning shuttle service effective Q2 2019.</li> <li>6. Recommend the review and renewal of the CoFare contract in 2019.</li> <li>7. Recommend the development and implementation of an operator recertification program with dedicated training hours to improve reliability and reduce risk.</li> <li>8. Recommend adjusting the staffing structure to provide a dedicated Human Resources staff position to better support Guelph Transit return to work and wellness initiatives as well as address ongoing recruitment and retention challenges, and better align the management structure to support efficient and effective management of the core business and be in line with industry standards.</li> <li>9. Recommend vehicle maintenance cost reporting be separated into two line items, one that reports asset specific maintenance costs and one that reports the remaining costs associated with internal fleet services.</li> <li>10. Recommend implementing the new fare box program with the capability for reusable tap and go passes (smart cards).</li> <li>11. Recommend the development of a pilot program to test the feasibility and potential capacity gains from on-demand transit software with the Mobility Service and assess feasibility for low-density and low utilization applications.</li> <li>12. Recommend to stabilize the workforce to ensure sustainable provision of current level of service through base staffing increase by increasing total number of drivers by 19.</li> </ol>	<ul style="list-style-type: none"> <li>• Improved service reliability</li> <li>• Decreased overtime</li> <li>• Increased labour costs (2019 = \$261,000)</li> <li>• Increase service levels in the Community Bus service.</li> <li>• Recommendations have a net operating impact of \$498,000 in 2019 and capital impact of \$2.7 million.</li> <li>• Reduced service reliability risks.</li> <li>• Potential for increased capacity and levels of service for mobility and on-demand customers as well as increased revenue potential and/or decreased costs.</li> <li>• Service standards to support consistent decision-making related to service levels and delivery.</li> <li>• Greater accuracy of data leading to improved controls in performance management and reporting.</li> </ul>

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## Business service review introduction

The purpose of this report is to summarize the work completed during the business service review of Guelph Transit and to provide recommendations for improvements.

Guelph Transit provides public transportation services to over 6.2 million riders (unique revenue passenger trips) annually. Guelph Transit was selected as one of the pilot reviews identified in the Business Service Review Framework Implementation Report<sup>1</sup>.

This business service review was conducted using the Council-approved business service review framework<sup>2</sup> and examined the relevance, effectiveness and efficiency of Guelph Transit services to ensure resources are allocated to achieve the best outcomes for the City and to support long-term sustainability.

The overall goal of the business service review was to better understand the processes and services provided by Guelph Transit and to assist management and Council in making informed, strategic choices regarding the services.

The business service review focused on the following Guelph Transit services and processes:

- Operations (the provision of the service)
  - Conventional services;
  - Mobility services; and
  - Specialty services
- Administration processes

The following aspects of Guelph Transit services were not part of this review:

- Route review (including origin and destination analysis);
- Fare and fee rate review;
- Fleet maintenance and repair operations; and
- Proposal development, assessment of specific third-party amalgamation/interregional transit services (e.g. GO Transit, Metrolinx, Grand River Transit)

Review activities included research, process mapping, data analysis, stakeholder engagement and municipal benchmarking.

Refer to **Appendix A: Business service review methodology** for an overview of the approach.

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<sup>1</sup> CS-2016-82 Business Service Review Framework Implementation Report (November 2016)

<sup>2</sup> CS-2016-61 Business Service Review Framework (October 2016)



This final report and recommendations, which were developed by City staff, constitutes the final deliverable for the review and transition to service management for implementation and next steps.

## Overview of Guelph Transit

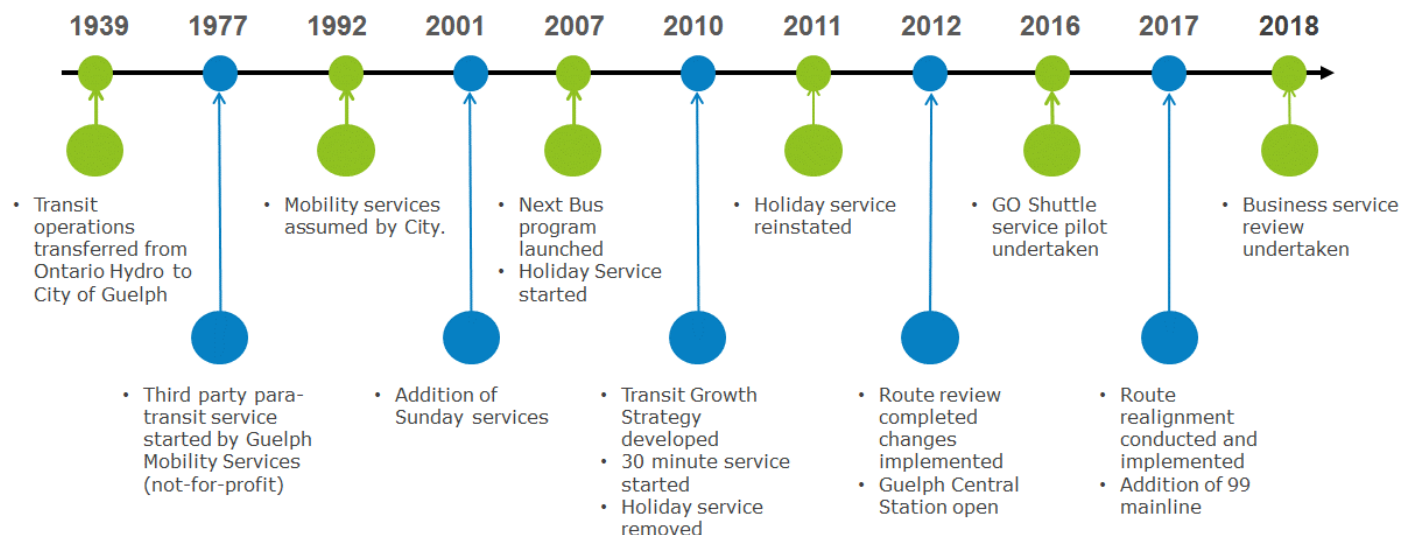
Guelph Transit provides fixed route conventional, on-demand mobility and specialized charter service to support Guelph residents, businesses and visitors. These services provide transportation for over 6.2 million [riders](#) (unique revenue passenger trips) or 6.9 million [boardings](#) annually.

Guelph Transit is an integrated family of services (Figure 2) with different service levels and costs, but taken together, they strive to provide a public transportation system as a viable alternative to personal automobile. Guelph Transit strives to provide services that improve the quality of life of residents who do not have access to an automobile as well as those who choose to use public transit and to meet travel demands generated by various markets in employment, academic, commercial, medial and service industries.<sup>3</sup>

## Service history

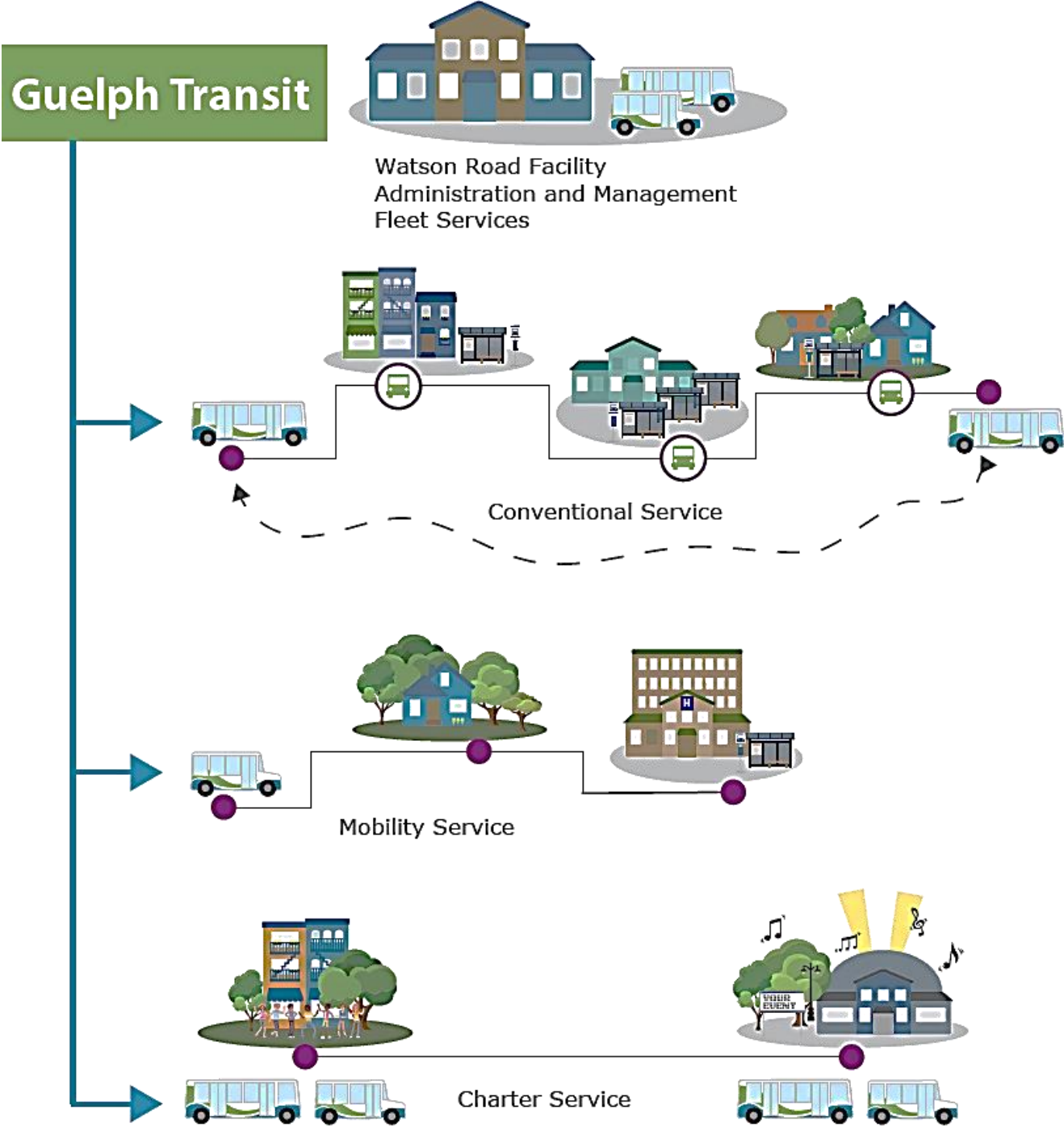
Over the years, there have been multiple service-level changes including the introduction of a para-transit (mobility) service, introduction and removal of services, route changes, expansions and frequency changes. The following graphic (Figure 1) provides a high-level timeline of changes at Guelph Transit.

Figure 1: Guelph Transit service history timeline



<sup>3</sup> Transit Growth Strategy 2010

Figure 2: Guelph Transit Service Graphic

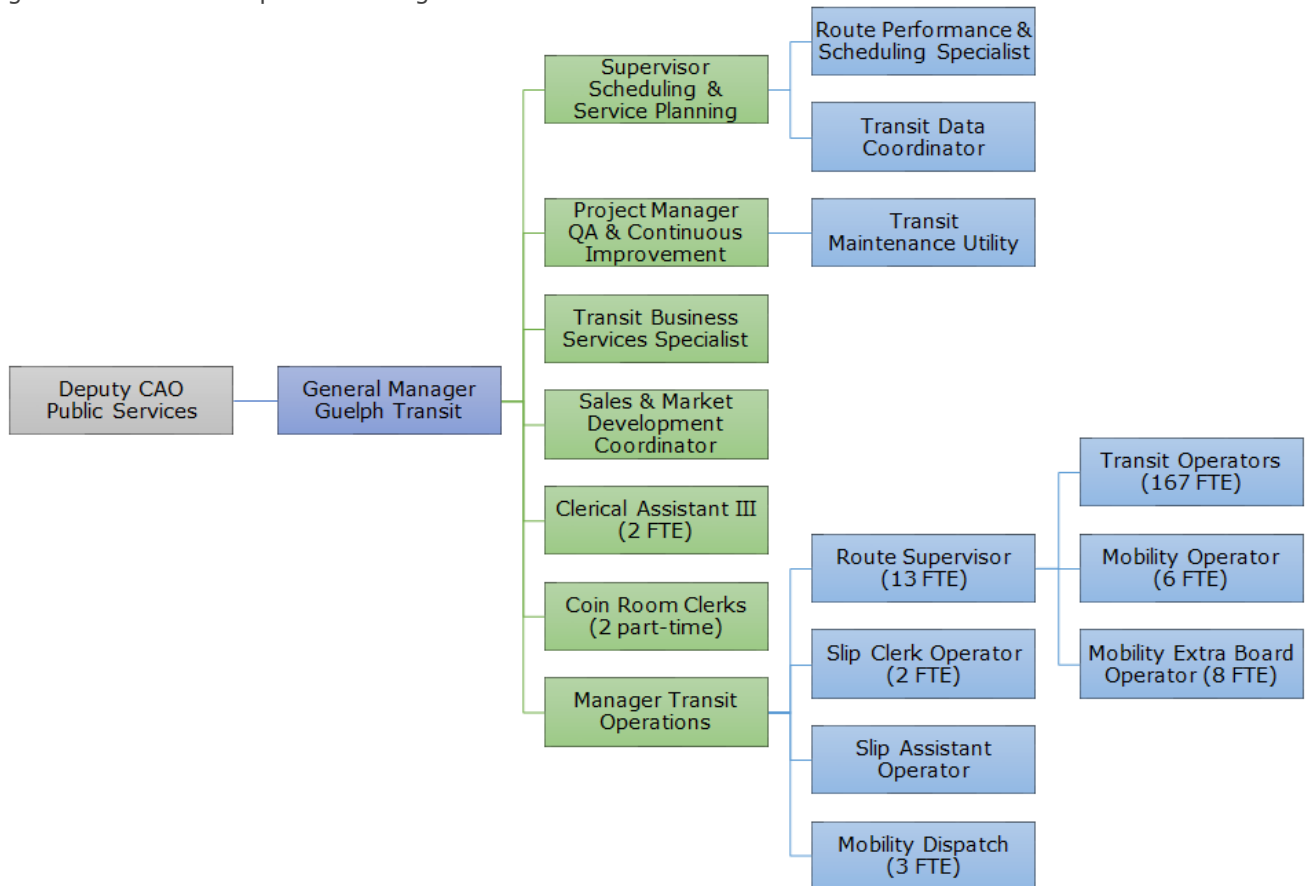


Note: Fleet Services are physically located at the Watson Road facility; fleet service provision is external to the Transit department.

## Organizational structure

At the time of the business service review, there were 212 full-time equivalent positions (FTE) within Guelph Transit to provide the current level of service. The chart in Figure 3 illustrates the current staffing structure.<sup>4</sup>

Figure 3: Current Guelph Transit organizational structure



## Key industry terminology and performance measures

Common performance measures, used to identify trends in service performance and trigger the need for change, within the transit industry include:

**Boardings:** The number of vehicle entries made by riders. Boardings will always be equal to or greater than ridership because all trips begin with vehicle entry and all transfers count as an additional boarding.

**Cost per passenger:** The relationship between cost of service and ridership measuring cost effectiveness. The expense or cost (not including revenue) to provide service for each passenger that utilizes the service.

<sup>4</sup> November 2018 data as provided by Human Resources, compensation information. Where not noted specifically the FTE count is one.

**Dropped or cancelled runs:** When partial or entire runs are cancelled; typically occurs when buses are significantly delayed or a mechanical breakdown forces buses out of service. It can also occur if there are insufficient staff on hand to provide the service.

Dropped or cancelled runs is a service reliability measure. Dropped runs have a negative impact on the perceived reliability of the service. These occurrences can be mitigated by ensuring appropriate resourcing.

**Municipal subsidy:** Funding provided from municipal property taxes to support the provision of transit services. Municipal subsidy is the difference between operating cost, revenue and other recoveries.

**Net cost:** The total annual cost to provide transit services. It includes all operating and maintenance, debt financing, capital and revenue.

**Net operating cost:** The operating costs incurred to provide transit service. This includes salary and wages as well as purchased goods and services. Operating cost does not include capital costs or debt financing.

**Net operating cost per hour of operation:** Calculated by comparing the net direct operating costs against the total hours of operation.

For the purposes of this review, net operating cost, within the specific service breakdown, includes all operating costs with the exclusion of vehicle maintenance. There is no capability to separate the vehicle maintenance data by specific service stream. However, vehicle maintenance is included in the overall Guelph Transit system performance analysis.

**Off-peak service:** Non-rush periods of the day when travel activity is generally lower and less transit service is scheduled.

**On-time performance:** Is a measure of service reliability and is defined as; the bus being at the stop between zero minutes early and five minutes late relative to the scheduled time. On-time performance is only measured for bus routes that are in operation; it does not take into consideration any cancelled or dropped runs.

**Operating hours:** The total time a bus is in use, including non-revenue generating travel time, such as travelling to and from the depot.

**Passengers per revenue hour:** The number of unique riders that utilize transit per hour of revenue generating activity.

A measure to quantify transit utilization and service efficiency and to help determine the need to modify service.

**Peak service:** Is the time of the day or season during which demand for service is at its highest.

**Revenue hour:** The time a bus is on route transporting passengers to and from destinations. Revenue hours does not include time spent travelling to and from the depot or any other non-passenger moving time.

**Revenue to cost ratio (R/C):** The relationship between the total revenue (service revenue and recoveries, such as the gas tax) generated through operations to the total costs (operating and capital) related to service delivery.

**Operating revenue to cost ratio (R/C):** The relationship between the total revenue generated through operations to the total operating costs related to service delivery.

R/C is a measure of cost efficiency. The more balanced the ratio, the greater the cost efficiency of the service.

**Ridership:** Ridership is the number of unique revenue passenger trips; one-way trips from origin to final destination, regardless of the number of transfers used. A rider is one trip made with one fare purchase.

## Review analysis and findings

The business service review looked at the operations and performance for each segment of the services both individually and as an integrated whole.

### Analysis at an organizational level

#### Level of service

Benchmarking data determined that the City is on par with the service performance of the comparator municipalities in all key performance indicators<sup>5</sup>, as illustrated in figure 4, with the current methods of service delivery.

The review, benchmarking and research all identify no obvious advantages, disadvantages or savings to using an alternate service delivery model compared with the municipally delivered service approach used by Guelph for either conventional or mobility service.

Figure 4: Transit service overall performance to peer municipalities

Performance level to peers		Below	Par	Better
Transit Service Overall	Ridership			●
	Hours of operation		●	
	Fare rates		●	
	<b>Utilization</b>			
	Passengers per capita			●
	Passengers per revenue hour			●
	<b>Cost effectiveness</b>			
	Operating cost per passenger		●	
	<b>Cost efficiency</b>			
	Net cost per total vehicle hour		●	
Operating revenue to cost ratio			●	

Refer to **Appendix B: Benchmark peer review summary** and **Appendix C: Dillon Consulting** report for further information on the peer comparison results.

<sup>5</sup> Dillon report dated November 2018

### Key performance indicators

[Ridership](#) and [revenue hours](#) has remained stable over the last three years illustrating a stable customer base and service delivery model, as illustrated in Figure 5 Figure 6. In comparison to the peer municipalities, Guelph’s ridership is higher than the average performance.

Figure 5: Overall ridership and revenue hours<sup>6</sup>

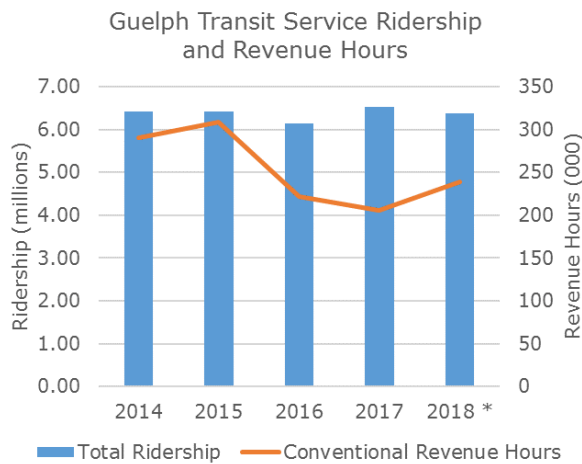


Figure 6: Benchmark ridership and revenue hours

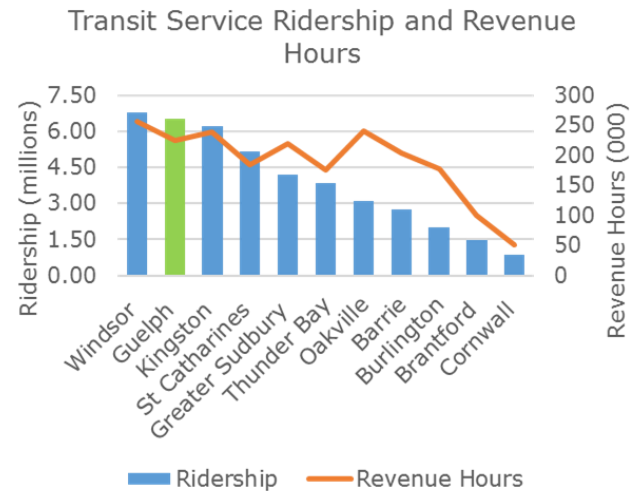


Figure 7 Figure 8 illustrate Guelph Transit’s utilization ([passengers per revenue hour](#)) has improved an average of 22 per cent over the last two years with the hours of required service remaining stable. In comparison to the peer group, Guelph is performing better in this efficiency metric.

Figure 7: Passengers per revenue hour  
Guelph Transit Service Passengers per Revenue Hour of Operation

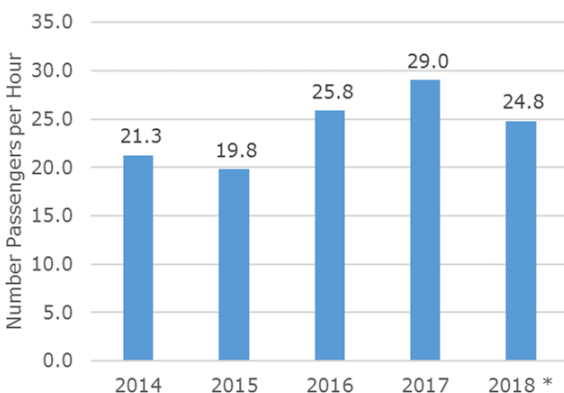
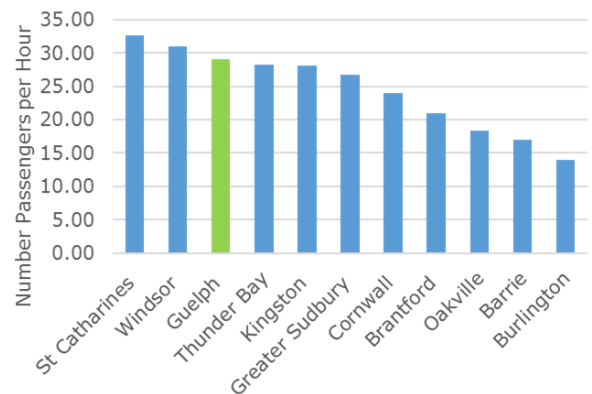


Figure 8: Benchmark passengers per revenue hour  
Transit Service Average Passengers per Revenue Hour of Operation



<sup>6</sup> 2018 pro-rated performance and planned hours of operation. The year end results of inputs may change the result

Growing [ridership](#) demand with consistent, stable [revenue hour](#) requirements will continue to improve utilization and efficiency rates; however, it can also contribute to schedule reliability issues associated with increased busload demand (when demand exceeds busload capacity).

Figure 9 illustrates that Guelph Transit’s utilization per capita has remained stable with minimal gains or losses over the last few years.

Figure 9: Ridership per capita

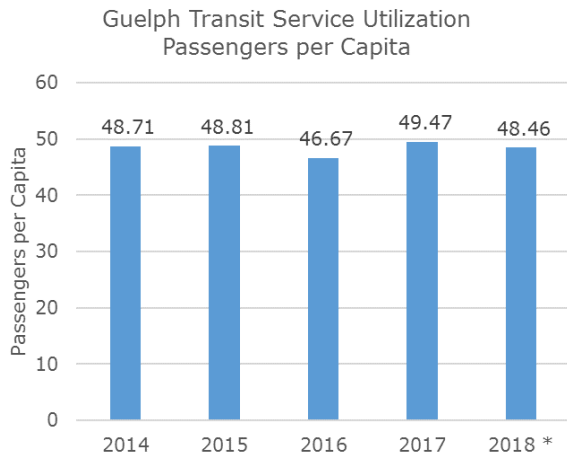
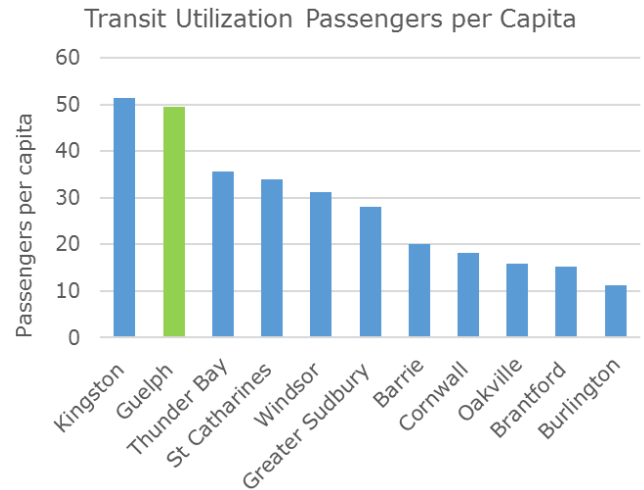


Figure 10: Benchmark ridership per capita



When Guelph Transit’s performance is compared to the peer municipalities (Figure 10) the utilization and effectiveness is performing better than the peer group average.

Figure 11: Net Operating cost per hour of operation

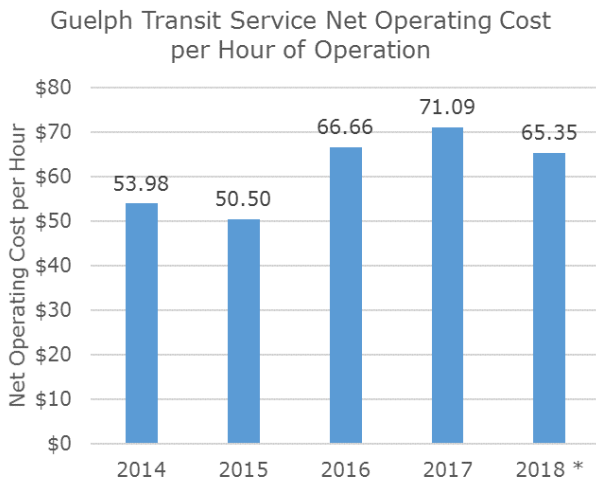


Figure 12: Benchmark operating cost per hour of operation

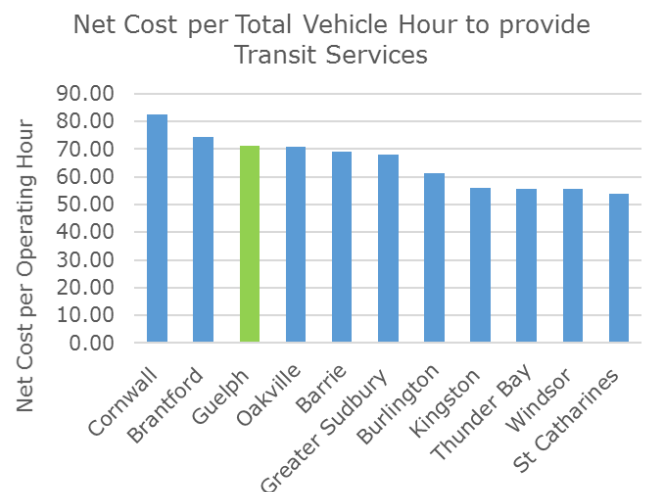


Figure 11 and Figure 12 illustrate that Guelph Transit’s [net cost per operating hour](#) has increased year over year but is estimated to remain fairly stable in 2018<sup>7</sup> from 2017. When compared to the peer municipalities, Guelph is on par with the net cost per [operating hour](#). A significant impact to Guelph’s cost per hour is the overtime currently required to meet service demands.

The net [operating cost per operating hour](#) performance measure can vary significantly between transit systems. It is important to conduct internal analysis to look at system performance over time to identify trends in performance.

Guelph Transit has an average [operating R/C](#) of 0.40<sup>8</sup> for the overall integrated family of transit services. This operating R/C has remained stable over the past three years (figure 13) and is on par with the comparator municipalities (figure 14). The operating R/C ratio indicates that \$0.40 of every dollar spent to provide transit service is recovered in revenue. Historically, a high R/C ratio has been an indicator of high performance and efficiency, particularly if it remains stable year over year

Figure 13: Operating revenue to cost ratio  
Guelph Transit Service Overall  
Operating Revenue to Cost Ratio

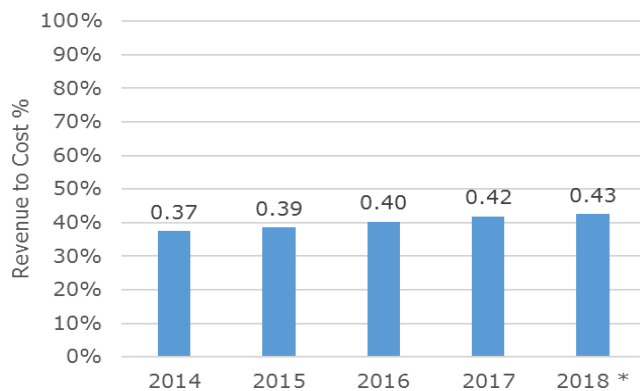
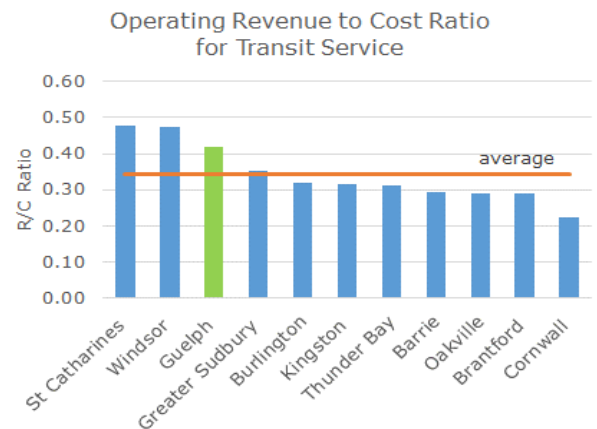


Figure 14: Benchmark operating R/C ratio



Engagement activity undertaken to inform the business service review, included measuring customer satisfaction with the current transit service<sup>9</sup>. The overall satisfaction rate for Guelph Transit is 69 per cent. This is inline with the satisfaction rate reported from the 2017 Citizen Satisfaction survey, which identified the overall satisfaction rate at 71 per cent<sup>10</sup>.

<sup>7</sup> 2018 pro-rated financial performance and planned hours of operation. The year end results of both inputs may change the result

<sup>8</sup> Operating R/C ratio measures operating revenues to operating costs only – it does not include capital costs

<sup>9</sup> Amalgamated satisfaction rate of conventional and mobility service.

<sup>10</sup> 2017 Citizen Survey did not focus on Transit riders but community as a whole.



When this rate is compared to comparator reported satisfaction rates<sup>11</sup>, Guelph Transit satisfaction rating performance is higher than most of the comparator municipalities (figure 16).

Figure 15: Transit satisfaction level

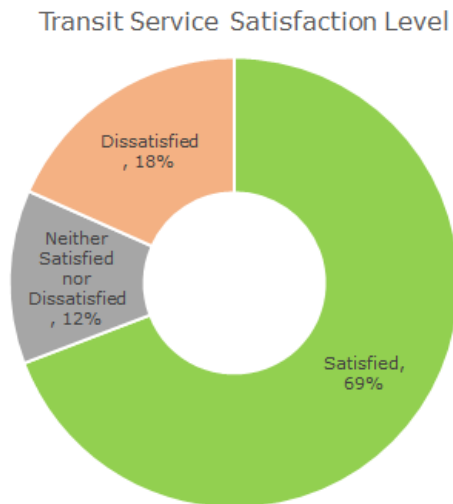
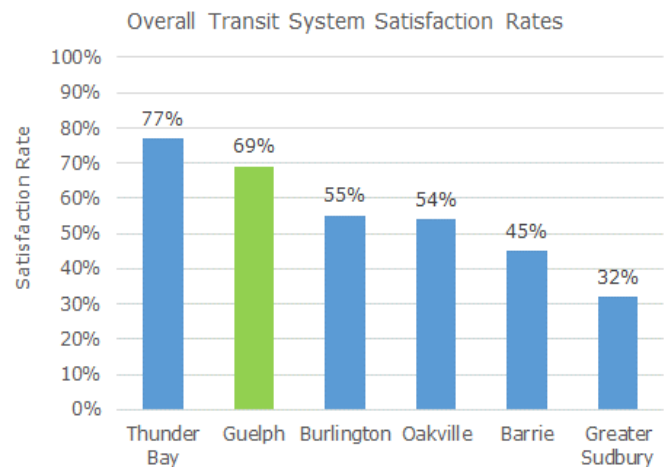


Figure 16: Transit system satisfaction rates



Overall, the benchmarking activity and analysis indicates that the Guelph Transit is on par and competitive with the service performance of the comparator municipalities in all key performance indicators. There is no indication of a need for a service delivery method change; however, areas of improvement are identified in the following sections of this report to ensure efficient and effective delivery of service.

## Business service review recommendations

Recommendations are grouped by type and categorized by:

1. **Recommendations that require follow-up**
  - These recommendations require further action and approvals (e.g. budget or resourcing implications).
2. **Operational recommendations**
  - These recommendations are operational in nature and require implementation plans to be developed and carried out by Guelph Transit staff.
3. **Recommendations underway**
  - These recommendations are either underway or are being initiated shortly.

<sup>11</sup> Publicly reported satisfaction ratings from citizen and community surveys over the last three years.

## Service standards recommendations

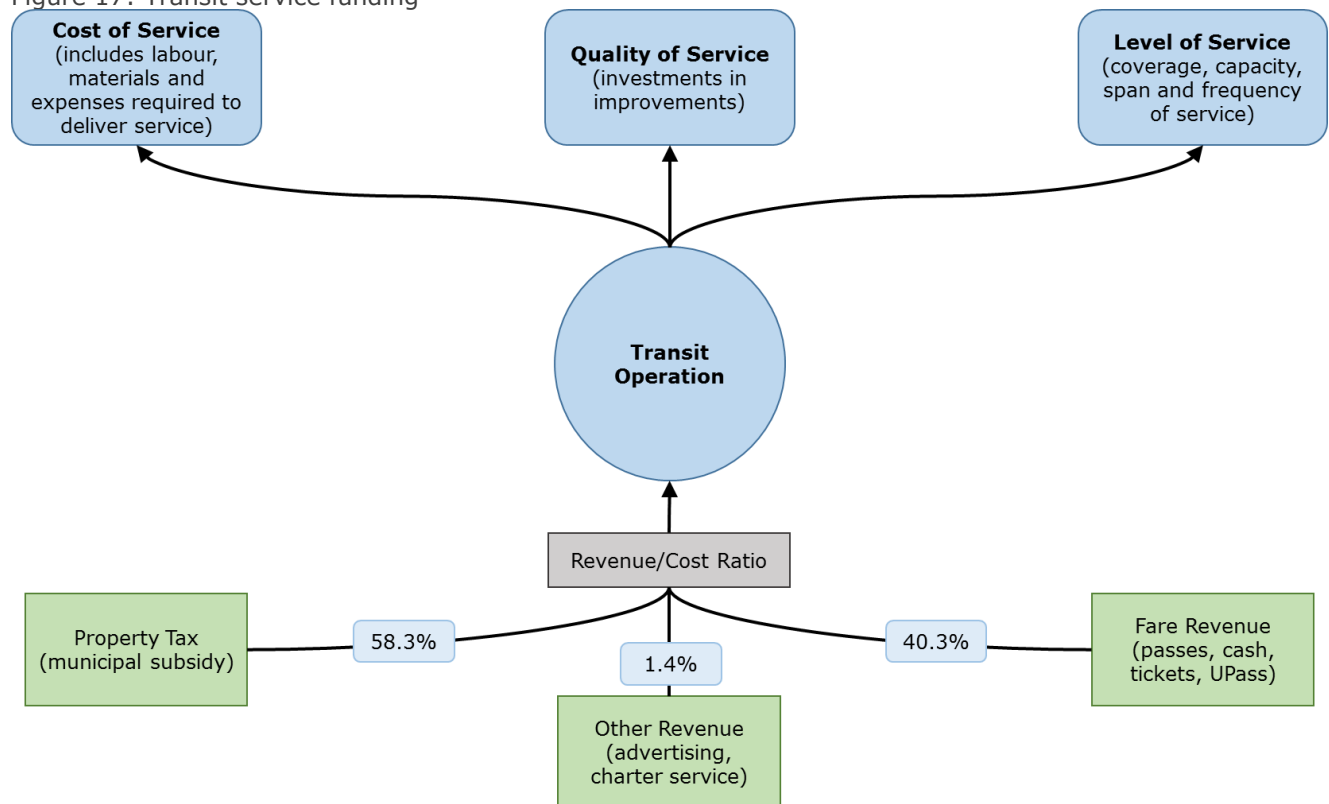
**Recommendation 1: Recommend setting a funding and fare pricing policy based on a target net revenue to cost (R/C) ratio range of between 40 and 45 per cent to support service and ongoing service improvements while reducing the potential financial impacts to customers**

**Category:** Recommendation that requires follow-up

**Background:** The primary funding sources for Guelph Transit are revenues and municipal subsidies, the proportions of which are in constant flux. Passenger revenue (i.e. fares) is the largest component of revenue. Fare pricing can directly impact customer demand and thus the funding available to support the service. Municipal (property tax) subsidy is the other essential funding source that is required to support service delivery and improvements that attract more riders, who generate more fare revenue to support the improved service.

Subsidization through the municipal tax base is a generally accepted principle and practice that supports the many social and environmental benefits provided by a Transit system. Figure 17 illustrates the current funding structure for Guelph Transit.

Figure 17: Transit service funding



The cost of providing transit service is influenced by many factors and requires significant resourcing (staffing, materials, equipment, facilities). When changes in the level or scope of service occur, even a small change can have a significant impact on these costs.

During the 2009 budget process, the Guelph Transit operating budget subsidy rate was set at 55 per cent. A 55 per cent subsidy rate means that municipal subsidies fund 55 per cent of the total operating costs. The remaining 45 per cent of the funding (i.e. R/C rate) is generated by the various, external revenue sources (e.g. passenger fares, advertising revenue, gas tax credits). This subsidy rate has not been reviewed or adjusted since that time, and 55 per cent has remained the target for transit operations.

Historically, a high R/C ratio has been an indicator of high performance and efficiency, particularly if it remains stable year over year. It is important to understand that a fluctuating or lower R/C ratio can still be representative of positive performance or change, such as service expansion or capital investment, since services rarely recover new revenues at the same rate as expenses.

Guelph Transit has maintained a stable R/C year over year, with minimal fluctuation (figures 18 and 19).

Figure 18: Year over year R/C performance

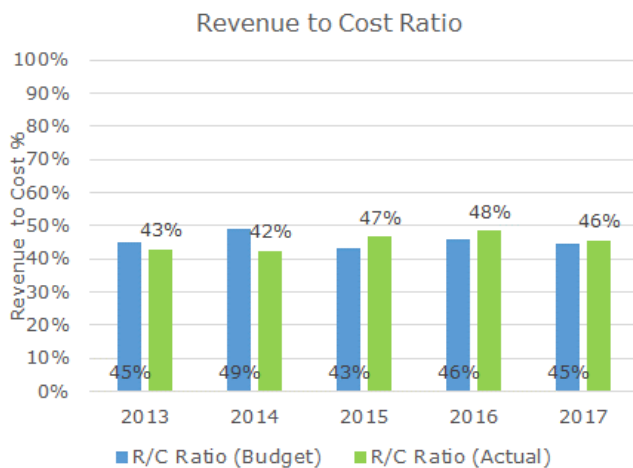
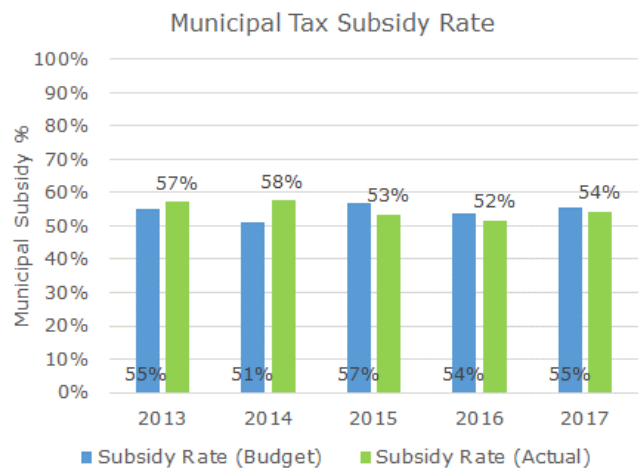


Figure 19: Year over year municipal tax subsidy



A funding strategy provides guidance on the appropriate mix of revenues to ensure sufficient operating funds are available to deliver the required level of service. The [R/C ratio](#) identifies the desired split between municipal subsidy (from property taxes) to fares and other revenue sources.

### Transit fare pricing

Transit fare pricing varies across Ontario. Guelph's 2017/2018 fare structure is below.

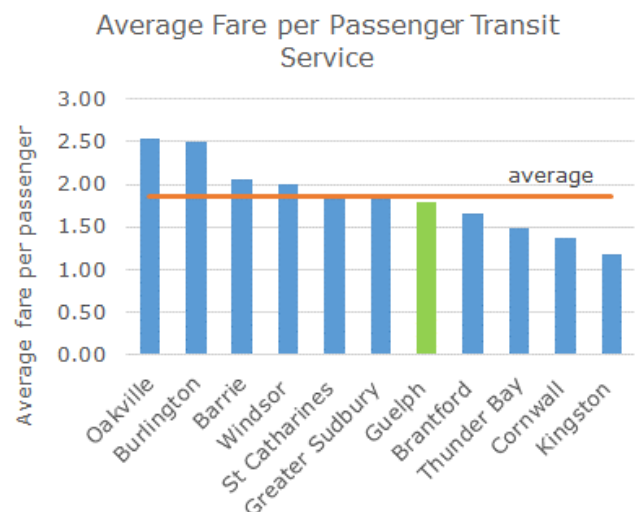
Category	Cash Price	Ticket Price	Day Pass	Monthly Pass Price	Affordable Pass
Adult	\$3.00	\$2.80	\$8.00	\$80.00	\$37.50
Student/Youth	\$3.00	\$2.25	\$8.00	\$68.00	\$32.00
Senior	\$3.00	\$2.25	\$8.00	\$68.00	\$31.00

It is common practice to price fares on a series of discounts related to media type and customer category. Fare pricing should reflect the objectives established with the R/C ratio and annual budgeting process. Pricing should also reflect the cost of collecting and handling fares (cash handling requires the greatest resourcing), benefits for more frequent transit use and discounts for those who are in need of subsidy and not able to pay a full fare.

Passengers view fare increases, no matter how small, negatively, especially if they do not perceive corresponding service improvements. However, fare increases are necessary to keep up with rising costs of operating and maintaining<sup>12</sup> a transit service. Small fare increases should be considered during the annual budget process to assist in maintaining the R/C target and to avoid large, on-time increases to 'catch-up'. Larger fare increases should only be considered in response to new service introduction or large service change.

The average fare paid per transit passenger in 2017 was \$1.80<sup>13</sup>, which is in-line with the average of the benchmarked peers, as illustrated in figure 20.

Figure 20: average fare paid per passenger



It is recommended to set an R/C target range within which to work. For example, an R/C target of 40 per cent to 45 per cent (equating to a subsidy rating of 55 per cent to 60 per cent) would result in consideration of a fare increase if the R/C decreased below target, to reset the funding balance. Alternately, if the R/C exceeds 45 per cent, fare increases can be minimized or avoided while maintaining the funding balance. This funding strategy utilizes the R/C as a mechanism to identify the requirement to analyze change opportunities balancing expenses and revenues. Using an R/C guideline rather than a subsidization guideline reflects the industry standard for benchmarking cost efficiency.

<sup>12</sup> Operation and maintenance includes fuel, vehicle maintenance and repair, salaries and benefits, overhead including utilities, etc.)

<sup>13</sup> Average fare is calculated by dividing passenger fare revenue by ridership

## Service expansion and growth

**Recommendation 2: Recommend the expansion and rebranding of the Community Bus program from the current two-bus service to six buses by 2020. Engagement, route review and capital investment activity should occur in 2019, with operationalization in 2020. This will provide improved service levels and options for riders.**

**Category:** Recommendation that requires follow-up

**Background:** Community Bus service connects customers to a variety of popular destinations throughout the city. The Community Bus provides service where passengers can flag the Community Bus along its route when standing both at a bus stop and not at a bus stop. This means, if it is a safe location to stop the bus, an operator will pick up passengers to board their bus throughout the route who flag them down as they approach.

The Community Bus is provided with two fully accessible conventional sized buses, Monday to Saturday, 8:30 a.m. to 4:30 p.m. with a 60-minute service frequency. There is currently an average annual demand rate of 27,000 riders or 70 riders a day.

Reviewing similar services within other municipalities identified that 60-minute service is the average level of service provided; however, there is no standard practice evident for hours of service. There are many variations with the service hours, with some providing weekday service only and others providing variations of weekend (Saturday and/or Sunday) service as well.

Engagement activity conducted during the review identified that many of the respondents valued the Community Bus service, particularly as an alternative to the Mobility Service. Respondents also identified the desire for increased frequency and more options for use, including additional routes, stops, and more door-to-door type service.

To provide improved service levels and options for riders, as well as increase the ridership potential (wider scope of riders) and expand the customer base, it is recommended to expand the service from two to six buses by 2020.

To increase service awareness and gain a wider scope of ridership the service should be rebranded as an expanded service option within the conventional service.

This expansion also provides additional opportunity to assess the feasibility and potential gains in a lower density service, utilizing scheduling software, in conjunction with recommendation 11 of this report.

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**Recommendation 3: Recommend conducting an operational level route review in 2019/2020 as well as continuous route audits. Hire a contract route planning position. The route review will look at both holistic system changes as well as individual route modifications including:**

- a. Identifying opportunities to move to a blended network with hub and spoke, spine (grid), perimeter and express routes.**
- b. Identifying individual route structure and frequency to best meet the needs of the ridership**

**Category:** Recommendation that requires follow-up

**Background:** The current overall transit system hours of service and frequency levels are in-line with the comparator municipalities. However; analyzing specific route service was outside the scope of this business service review. Analyzing and altering the level of service for routes requires a full operational route review, to identify areas of utilization and to ensure any changes in the baseline service standard can be maintained. A full operational route review has not been undertaken at Guelph Transit since 2012.

#### Coverage vs. utilization

A commonly asked question is whether the allocation of transit resources (service hours) should be based on providing increased service frequency for routes that consistently operate with a high level of ridership (i.e. utilization) or to provide a consistent minimum level of service across the entire service area (i.e. coverage).

Designing and managing a transit system based on utilization would result in buses running routes on major corridors more frequently, where riders may have to walk further to a bus stop. However, wait times at stops would be reduced and connections between routes would be better facilitated.

Prioritizing coverage as a transit service would have buses servicing many streets, with shorter walks to bus stops, increasing potential destination options and better serving vulnerable populations, but operating at a lower frequency. With a fixed budget, more or larger routes amount to a lower frequency of service. This may result in lower ridership, as infrequent service implies that routes are less convenient and less useful to more riders, regardless of density and location of bus stops.

When focusing on coverage, ridership is not the goal; social and geographic equity and responding to the public's expectations and needs for the service is. However, with finite resources, transit services achieve higher ridership potential through a focus on utilization. Therefore, providing transit services requires a balance of resource allocation between the two priorities. General practice is to focus on providing consistent, frequent routes in the areas of the community that can be maintained and utilized, and operate less frequent service in those areas that cannot support the utilization of more frequent service.

The current practice in Guelph is to plan service frequency to the utilization rates (providing higher levels of service where demand is higher). Service utilization (i.e. the number of passengers using the system per hour of service) is a measure that reports on productivity. Major factors that influence service utilization include demand for service, density of residential and employment areas, service area size, and service availability and reliability.

Until a full route review can be completed, it is recommended that utilization levels for each route be monitored. Based on industry research (or is it best practice), routes must be able to maintain the following passengers per revenue vehicle hour:

- Weekday Peak: average of 25 passengers per revenue vehicle hour
  - Minimum 10 passengers per revenue vehicle hour
- Off Peak (Weekdays and Saturdays): average of 18 passengers per revenue vehicle hour
  - Minimum 7 passengers per revenue vehicle hour
- Sundays and holidays: average 12 passengers per revenue vehicle hour.
  - Minimum 6 passengers per revenue vehicle hour

Routes which fall below these targets should be audited and potentially modified (i.e. for frequency and coverage). The ongoing auditing and analysis of route data should be reported month to Transit management. Improvement projects or potential service changes are triggered when routes begin to fall below these established target averages.

### Network structure

Almost every community starts with a radial transit network, usually focused on a central area, such as downtown, as a hub. As the community grows so does the need to connect to other major destinations without travelling through the central hub, through the development of spine routes or other key nodes/hubs.

One of the goals of the City's Official Plan<sup>14</sup> is to build a compact, mixed use and transit-supportive community. In keeping with this vision, downtown has been identified as a major transit area supporting both local and inter-city transit services. The Guelph Central Station functions as the central hub providing connections within and outside of the city. The other three nodes/hubs located at the University of Guelph, Stone Road Mall and the Smart Centres on Woodlawn connect riders to major destinations within the city limits.

Defining a network structure is complicated with no simple solutions, but there are common, proven structures. Industry research indicates that grid networks with parallel lines that don't overlap are the most efficient to operate, increasing or maximizing the time on each route. However, most municipalities cannot support a true grid network, they generally have a hub and spoke model and with elements of a grid if multiple cross-town routes connecting hubs can be supported.

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In discussion with Dillon Consulting during this review regarding the potential evolution of Guelph's network structure, a next stage in evolution could be to:

- Have three hubs (university, downtown, and Woodlawn) connected by a frequent spine route with, for example, service every 15 minutes (or better) during weekday peaks, midday and weekend shopping hours, and every 30 minutes (or better) during early morning and evening time periods
- Routes south of the university could focus on the university hub and not travel north of it
- The same type of arrangement could be put in place to the north (Woodlawn area)
- Most routes between these two hubs would have two ends - one at the downtown hub and one at either the south or north hub
- Other north/south routes might bypass the downtown hub in order to provide more direct service to the north or south hubs for areas away from the main spine route

This format is not a recommended direction of evolution. It is simply an example of a possible future state. A comprehensive route review and ridership demand analysis is required to identify future network structure options, with routes and service frequencies.

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**Recommendation 4: Recommend updating the Transit Growth Strategy (Transit Strategic Plan) to provide direction for conventional and mobility service to 2040, supporting the Corporate Transportation Master Plan. Ensure the scope of activity includes the assessment and potential impacts of the following.**

- **Market growth and impacts**
- **Inter regional transit**
- **Transit priority options**
- **Technology developments (electric fleet)**
- **Light rail transit (LRT) and/or bus rapid transit (BRT)**

**Category:** Recommendation that requires follow-up

**Background:** The 2005 Guelph–Wellington Transportation Study was developed to assess transportation needs in the Guelph–Wellington area and to identify specific transportation improvements for the 2005-2021 planning period. An update to the Transportation Master Plan is underway and will set the direction for sustainable transportation planning for the next 24 years, and includes accommodating expected growth in Guelph.

The Transportation Master Plan update includes policies related to walking, cycling and transit use, and the updated plan will inform future updates of the Official Plan, the Cycling Master Plan, the Transit Growth Plan, and other development- or travel- related plans.



Upon completion of the corporate Transportation Master Plan, the Transit Growth Strategy (or Transit Strategic Plan) needs to be updated to develop Guelph Transit's future state into 2040 providing direction and strategy through short and long term programs.

The Transit Growth Strategy was conducted in 2010 and outlined strategic direction for five years. This strategy is considered complete and requires updating to investigate and identify the needs of the community and stakeholders within the context of the current Transportation Master Plan.

Public transit is both a business and a public service—transit needs to be financially sustainable and responsible to the taxpayers who may or may not ride transit, while also ensuring that it can provide vital transportation to residents without other means of travelling. The current population in Guelph is approximately 131,794<sup>15</sup> up from 121,688 in 2011 and is forecasted to increase to 175,000 by 2031 with an average 1.5 per cent annual growth rate. This growth will require changes in service levels, routing and delivery methods.

The intensity of service and choice of vehicle technology/capacity in a transit system evolve over time to meet changing demand, land use characteristics and expectations of customers and residents. Planning is required to forecast the future population, land use and transit demand, identify and reserve rights-of-way, locate transit facilities and identify key markets and customer needs.

Key markets and demographic trends to consider in strategic planning are the aging population, the post-secondary market and the industrial and employment areas. Other key considerations include environmental impacts, technology development and service options (including light rail, transit priorities as well as [network structure](#), [coverage and utilization](#)).

#### Aging population

As birth rates continue to decline, the senior population will continue to be a prominent market for transit. There has been a rapid increase in the number of people aged 65 and older resulting in more seniors than children aged 14 and under. By 2031, it is estimated that 23 per cent of the population will be 65 and older while children under the age of 14 will maintain at 16 per cent. In Guelph, seniors account for 14.6 per cent of the population.<sup>16</sup>

As identified by the Canadian Survey on Disability (CSD), the prevalence of disability increases steadily with age: 2.3 million working-age Canadians (15 to 64), or 10.1 per cent, reported having a disability in 2012, compared to 33.2 per cent of Canadian seniors—those aged 65 or older<sup>17</sup>.

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<sup>15</sup> Statistics Canada 2016 census profile

<sup>16</sup> Data collected through Canadian Statistics Canada 2016 reporting

<sup>17</sup> Disability in Canada: Initial findings from the Canadian Survey on Disability 2012 data

According to the 2012 Canadian Survey on Disability (CSD), 3,775,900 (13.7 per cent) Canadians aged 15 years and older reported some type of disability, and among them, 1,971,800 (7.2 per cent of Canadian adults) were identified as having a mobility disability that limited their daily activities. As with disability in general, the likelihood of having a mobility disability increased substantially with age—ranging from a prevalence rate of 1.0 per cent for those aged 15 to 24 to a rate of 20.6 per cent for those aged 65 and older.

This trend will generate increased demand for mobility and transportation services for the community. While seniors may have access to a private vehicle, some may be dependent on transit and mobility services to connect with shopping, medical, entertainment or employment. To ensure capacity to meet this growing need, additional capacity and/or optimization may be needed in the Mobility Service.

#### Post secondary market

The University of Guelph and Conestoga College enroll an average of 22,000 students annually.<sup>18</sup> Post secondary students are an important transit market as many students live in Guelph while attending school and often do not have access to a private vehicle.

A program (UPass) is currently in place with the University of Guelph and provides full-time students unlimited use of transit services while in school. UPass ridership accounts for 49 per cent of all ridership and 54 per cent of annual revenue.

A similar program is being piloted with Conestoga College commencing in September 2018 to run for one year.

#### Industrial and employment areas

Conventional transit is primarily designed to collect customers from residential areas and deliver them to major destinations. Major destinations are generally a concentration of employers, schools or services. The higher the concentration, the more efficient the service. Low-density areas are more difficult to serve efficiently and effectively, as they do not have a high concentration of passengers and stops. There can be significant deadheading<sup>19</sup> required to access the locations. Often there is poor pedestrian access or connections to stops. For industrial areas, there are additional challenges with work start and end times not coinciding with fixed route schedules and shift structures that may not be compatible with transit service hours.

There may be opportunities to test or pilot providing targeted on-demand options in these areas, if the mobility pilot (recommendation 11) is successful and fully implemented.

#### Environmental impacts

More than one-third of Ontario's greenhouse gas pollution is caused by the transportation sector, with cars and trucks responsible for more than 70 per cent of the total. Domestic

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<sup>18</sup> Office of Registrarial Services, University of Guelph

<sup>19</sup> Deadheading is non-revenue travel time

aviation, rail, marine, and other off-road forms of transportation such as mining and construction vehicles, make up the other 30 per cent.

Since 1990, vehicle emissions in this province have been rising steadily due to increased vehicle ownership, commuting distance and population growth. It's important that this be reduced. Today, about 11 million passenger and commercial vehicles regularly travel Ontario roads<sup>20</sup>.

Effective public transportation networks reduce the number of vehicles on the road, and therefore can have significant impact reducing air emissions, fuel usage and congestion.

#### Transit priority options

Transit priority options can be a number of different things. They can be comprised of transit only lanes separated from regular roadways, separate lanes on existing roadways, shoulders on an existing roadway, or any combination of these. In each case, the priority lanes are for the exclusive use of transit and emergency services vehicles. Priority options can reduce transit travel times because transit vehicles are not stuck in traffic. This helps provide reliable service that customers can count on without much of the uncertainty produced by traffic congestion or collisions.

The strategic plan work should include origin-destination/travel pattern analysis ([operational route review](#)). The Transit Strategic Plan provides a long-term and comprehensive strategy or blueprint for Guelph Transit to move forward and meet the long-term challenges of a growing municipality.

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## Service reduction

### **Recommendation 5: Recommend to discontinue morning shuttle service (pilot project) to Guelph Central Station effective Q2 2019.**

**Category:** Operational Recommendation

**Background:** This service was initiated in 2016 as a pilot; there has been minimal uptake or use (with an average of two riders per day and only six registered users). The average annual cost to provide the service is \$12,000 with annual revenues of \$100.

This service runs from 5 to 5:45 am and provides registrants with a scheduled trip to Guelph Central Station to meet the first GO train of the day. The service was initially started in 2016 as a pilot program that did not have a defined end date.

A review of the utilization and cost data has identified that the service is provided 45 minutes per day on weekdays, for an average ridership of two to three passengers per day. Riders using this service pay only the \$0.60 co-fare payment available to GO users. The difference between the full rate and co-fare amount is eligible to be charged to

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<sup>20</sup> Ontario Climate Change Action Plan

Metrolinx. However, Guelph has not been including these totals in the chargeback to Metrolinx.

Annual cost breakdown:

- At the time of the review there were six customers registered to use this program.
- 45 minutes of service equates to an average gross cost of \$51.65 per day.
- Annual cost of service (250 days/year) equates to \$12,911.25<sup>21</sup>
- Annual utilization equals 191 with revenues of \$114.60
  - Equal to a 99 per cent subsidy rate

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## Service administration

**Recommendation 6: Recommend the review and renewal of the CoFare contract with Metrolinx in 2019, to be consistent with the fare management process and other transit facilities that utilize a CoFare agreement. The agreement requires revision to reflect current fare rates and include recurring renewal dates to ensure ongoing accuracy of rates.**

This has an annual impact of approximately \$5,000 in increased revenue.

**Category:** Recommendation underway

**Background:** City of Guelph has an agreement with Metrolinx to provide a reduced fare to GO Transit users at the Guelph Central Station. This agreement has no end or renewal date and the rates identified within the agreement are at the 2012 transit rates.

According to the agreement, GO Transit passengers with a valid GO Transit ticket are only required to pay a co-fare rate of \$0.60 per ride on Guelph Transit. This ride is recorded through the fare box and Guelph Transit then invoices Metrolinx \$1.70 for each passenger. The current cash fare is \$3 per person. If Guelph Transit were to amend the agreement to reflect current rates, there is \$0.70 in unrealized revenue per co-fare rider. Reviewing the ridership in 2016 and 2017, this unrealized revenue equates to an average of \$5,000 per year.

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**Recommendation 7: Recommend the development and implementation of an operator recertification program with dedicated training hours to improve service reliability, reduce risk and ensure we are inline with industry standards.**

The projected annual impact will be approximately \$17,000. Without the base staffing increase (refer to recommendation 10), this training will further affect overtime costs for the department.

**Category:** Recommendation underway

**Background:** All new operators undergo a minimum six week licensing and training program, prior to being cleared for duty (working alone). This training is a blended

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<sup>21</sup> Based on 191 passengers per year (as reported in 2017)

program of internal required training and MTO-mandated training. However, minimal follow-up or refresher training is provided after this initial training, which poses a risk to Guelph Transit that drivers are not current on the latest information, skills, knowledge, practices and techniques.

Operators involved in preventable accidents receive post-incident refresher training. Operators who have been on extended leave (longer than six weeks) also receive review training prior to returning to duty; however, this is not a formalized practice.

Guelph Transit does not have a proactive program to bring operators back to the classroom on a regular basis (i.e. every two years) to reinforce repeatable practices, techniques, defensive driving, customer service, safe work practices, etc. To implement a proactive program, training time must be part of the base scheduling of all operators, to ensure service coverage is maintained during the recertification program.

To ensure coverage for training and availability of staff to participate in training, an average of 30 hours per year, per person should be included in the workforce planning activity. Failure to include this time in the annual work plan will preclude operator availability or require overtime to ensure service delivery during the planned training.

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**Recommendation 8: Recommend adjusting the staffing structure to:**

- a. Better align the management structure to support efficient and effective management of the core business and be in line with industry standards, and**
- b. provide a dedicated Human Resources staff position to better support Transit return to work and wellness initiatives as well as address ongoing recruitment and retention challenges**

**Category:** Recommendation that requires follow-up

**Background:** When reviewing the organizational structure of peer comparators, the average ratio of management to staff is 1:27 and Guelph Transit's ratio is 1:88. A majority of transit systems the size of Guelph have a level of management between the department head (General Manager) and operations staff, such as an Operations Manager and Administration Manager, to assist with the operations and management of the system. Refer to the [organizational chart](#) (Figure 3), which illustrates the lack of this level of management within Guelph Transit's structure. The ratio of administration to Guelph Transit staff at Guelph is 1:34 compared to the 1:14 average of peer municipalities.

Currently an organizational assessment is underway with the Human Resource department to better align the management structure to support efficient and effective management of the core businesses. These recommendations should be formalized and where applicable, brought forward through the 2019 and future budgets.

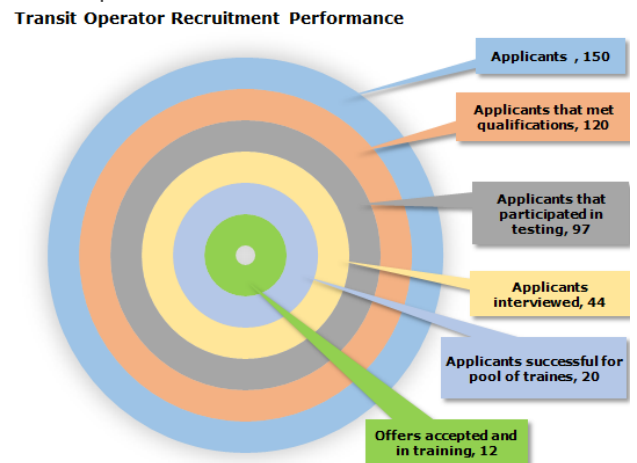
Annually there is an average of 10 to 14 full time equivalents (FTE) on extended leave (STD/LTD) and an annual absenteeism rate of nine days per person. The annual turnover

rates, due to resignation, retirement and terminations average seven to 10 per year. These vacancies and leave rates have a significant impact on the available hours of work, overtime requirements and service reliability.

Recruitment activity to fill vacant Guelph Transit operator positions is challenging. The low unemployment rate in Guelph creates a highly competitive market and presents challenges in recruitment, attraction and retention of employees.

The process for recruitment includes group testing, individual applicant testing, interviews, offers and significant training prior to full employment. Figure 21 illustrates the levels of recruitment and average number of applicants and candidates.

Figure 21: Recruitment performance to fill vacant Transit positions



This process can take in excess of eight weeks followed by six weeks of training prior to a Transit operator being deployed to provide service.

A dedicated Human Resources staff position is recommended, to better support Guelph Transit return to work and wellness initiatives as well as address ongoing attendance management, recruitment and retention challenges.

**Recommendation 9: Recommend that vehicle maintenance cost reporting be separated into two line items, one that reports asset specific maintenance costs and one that reports the remaining costs associated with internal fleet services.**

**Category:** Operational recommendation

**Background:** Assessment of current assets, lifecycle and maintenance cost impacts to service, identified that there is no capability to separate the maintenance cost data by service stream or specific asset.

Current process is to allocate the total Transit Fleet system costs across both conventional and mobility services (based on a kilometre-travelled split). This practice prevents accurate cost allocation to individual assets or lifecycle assessment.

Current lifecycle of the conventional bus is 12 years with major rehabilitation activity in year seven and/or eight. Mobility buses have a lifecycle of seven years with major rebuild (engine and/or transmission) in year five.

To identify costs specifically related to maintaining the assets providing transit service and conduct lifecycle assessments, it is recommended that vehicle maintenance costs be

reported in a manner that provides the ability to analyze asset specific maintenance costs independently of overall fleet system costs.

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## Technology growth

**Recommendation 10: Recommend to implement the new fare box program with the capability for reusable tap and go passes (smart cards). Utilization of smart card capable fare boxes will also validate fare box data and address inconsistency in current fare box cash fare reporting.**

**Category:** Recommendation underway

**Background:** Guelph Transit uses cash, tickets and passes as fare media for the transportation system. The current passes are monthly and ordered in June of each year. This annual purchasing practice gains a cost reduction through the bulk order. Passes are delivered in three-month batches, but changes throughout the year can be costly.



As passes are only valid for a month and are not reusable, a certain percentage of loss is expected. Currently Guelph Transit has an annual loss of 28 per cent of the passes purchased, which means that 28 per cent of the passes ordered are not sold to customers and returned to Transit for disposition. This loss equates to approximately \$28,000 annually.

A new fare box program (Electronic Fare Management System – EFMS) is underway that includes the use of reusable smart cards. Smart card systems are increasingly replacing the need for transit customers to carry exact cash fares and tickets and can be reprogrammed for use month over month, which would reduce the number of annual required purchase and loss. Reusable or reloadable cards also have the potential to reduce the cost of revenue management (coin counting, printing, distribution of fare media, unrecoverable costs from unsold passes). They can also help reduce boarding times. Studies show that the time taken to deposit and verify cash fares and tickets can take an estimated five seconds per passenger versus a tap and go system (smart card) that takes an average of two seconds per rider. If, for example, there are 50 passengers in a standard 30-minute trip, a tap and go card system could save approximately 3 minutes per trip.

Recommend the feasibility and capability investigation of reusable tap and go passes (smart cards) as part of the new fare box program. Ensure the inclusion in the EFMS request for proposal currently under development. Utilization of smart card capable fare boxes will also validate fare box data and address inconsistency in current fare box cash fare reporting

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**Recommendation 11: Recommend the development and pilot program for Intelligent On-Demand Transit software with the Mobility Service, to improve service availability and service options.** This activity should also test the feasibility and potential capacity for low-density and low utilization area.

**Category:** Recommendation underway

**Background:** The current process for scheduling mobility riders and dispatching vehicles is manual. All requests are called into dispatch and staff identify best possible options for the rider and book trips. These trips are then scheduled to specific vehicles. Any changes, cancellations or new requests are received the same way and all alterations to the schedule are manually conducted. This manual process is limited in its ability to address real time issues in the field, such as traffic or extended loading times.

The current process does not provide for the ability to request a trip on-line or via app, which was identified as an improvement for mobility service during the community engagement activity.

Service efficiency is impacted by external influences, such as cancellation rates and no-shows. Typical industry cancellation rates are approximately five per cent of total trips provided. Higher cancellation rates often occur when it is difficult for customers to book trips and when customers tend to book more trips than needed to ensure they have what they need, then cancel the unneeded trips later. This practice reduces the efficiency of the mobility service, especially when the cancellations are made close to the service time and the sudden availability cannot be filled with another trip.

The cancellation rate can be positively impacted through service growth (additional vehicles to increase service availability) and continued communication and public education.

Capacity and efficiency gains have been made over the last two years in third-party overflow usage. Third-party overflow utilizes taxi service to support riders when capacity is not available within Mobility Service. Improvements and increased fleet size has resulted in a 40 per cent reduction in third-party usage since 2015, with only emergency trips utilizing a taxi service when capacity is not available. 2018 is projecting a further reduction from 2017 of 80 to 90 per cent. This equates to an annualized expense reduction of approximately \$40,000.

Figure 22: Mobility cancellation rates

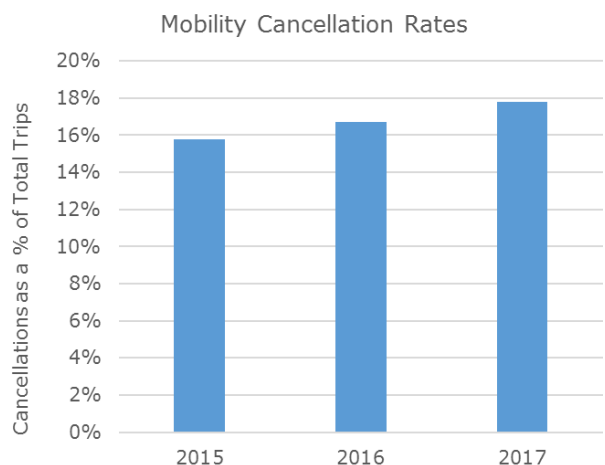
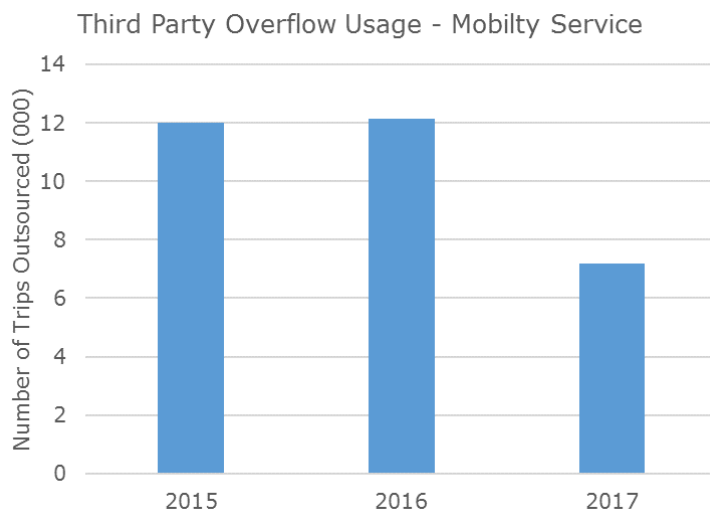




Figure 23: Third-party usage



The manual scheduling process is limited in its ability to address real time issues in the field, such as traffic or extended loading times. This process does not provide for the ability to request a trip on-line or via app, which was identified as an improvement for mobility service during the community engagement activity.

#### On-Demand service

On-demand or demand responsive transit has flexible routing and scheduling of vehicles in a shared-ride mode between pick-up and drop-off locations according to passenger needs. Historically, this type of service has been utilized in mobility/para-transit service. This type of service can also be provided for areas of low passenger demand or where regular fixed-route service is not feasible.

Conventional fixed route, fixed schedule services are generally the most cost effective approach when demand is 10 boardings per hour and higher. On-demand services are generally effective and efficient for six to 10 boardings per hour. Multiple on-demand vehicles can also be more efficient and effective than a conventional fixed-route to service larger areas or areas with low-density. To service more than 10 per hour using on-demand delivery model requires resource levels that generally overtake the cost required to provide standard conventional service.

There are automated software scheduling programs gaining traction in the transit industry providing on-line capability for booking and intelligent on-demand scheduling. Initial investigation into this technology has identified the potential for further capacity and efficiency gains in mobility service of up to 20 per cent, which could translate into shorter booking windows, increased ridership or the opportunity to investigate other on-demand markets. This type of software system can provide the following:

- Autonomously scheduled vehicle itineraries and routes

- Online ride bookings by both dispatch and customers
- Improved option times for service (goal of three hour window guarantee)
- All factors are taken into account automatically, including expected time of day traffic and re-routing based on real-time traffic and vehicle locations
- Continual updating of the system to take into account new bookings, changes in traffic, or vehicle slowdowns
  - Vehicles are automatically re-routed if a vehicle is taken out or added into service

It is recommended to plan and test the feasibility and potential capacity gains from a dynamic-route on-demand program with real-time intelligent scheduling and online booking.

## Service reliability

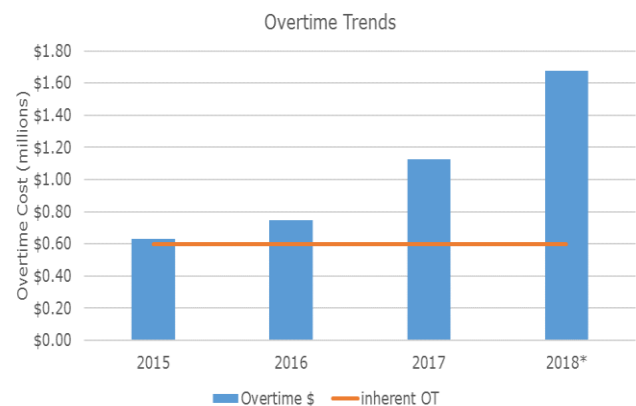
**Recommendation 12: Stabilization of workforce to ensure sustainable provision of current level of service through base staffing increase of 19 operators, to be achieved through annual budget increases of \$260,000 per year over six years.**

**Category:** Recommendation that requires follow-up

**Background:** Guelph Transit’s current level of service requires an average of 230,000 operating hours, which translates into the need for 186<sup>22</sup> drivers. With the current staffing complement of 167 operators, only 204,000 hours of operation can be provided per year, during regular scheduled shifts, which is 26,000 [operating hours](#) below the planned level. Any [operating hours](#) achieved above this level can only be done through overtime hours.

Analysis of overtime indicates a significant increase year over year, of approximately 20 per cent. This overtime is largely driven by capacity issues where planned hours of service are greater than the available hours of work currently staffed at Guelph Transit. It is important to note that inherent overtime is required with the service to provide service on statutory holidays and regular “open work”.

Figure 24: Year over year overtime cost (\*2018 data year to date Dec 5, 2018)



<sup>22</sup> Calculation for actual available hours is the total budgeted amount less average vacation, sick time, floaters and holidays, training, lunch and sign in/out.

Open work is any of the following:

1. Unassigned service

When pieces of work (scheduled runs) are:

- not selected by operators during general sign-up periods,
- not part of the regular operator schedules, or
- related to schedule modifications or changes.

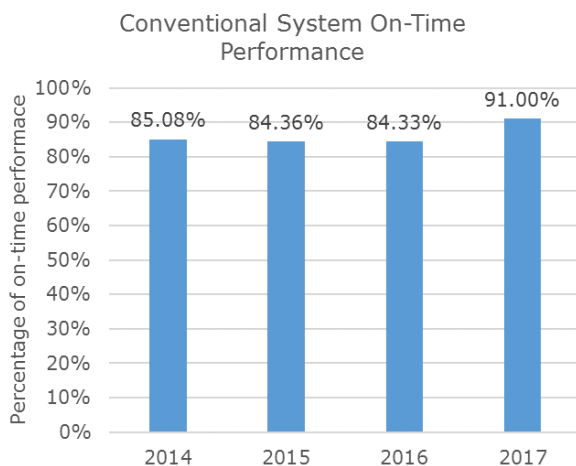
2. Non-operating assignments

Staffing of non-operating work, requiring staff to do tasks other than operate a vehicle, such as training and administrative activities. If these assignments are not planned as part of their available work time, it is often completed on overtime.

3. Operator absence

Is a main driver of unplanned open work. Absence occurs through sick leave, injury, personal leave and contractual leave (holidays, floaters, vacation, etc.). Some degree of absenteeism is constant and can be anticipated, such as vacation (planned in advance), while other forms are variable such as sick, short-term and long-term leave.

Figure 25: On-time performance



Analysis of 2017 data also found that an average of 3.6 per cent of all runs were cancelled either in full or part. Lower utilized runs are selected to be [cancelled](#) before highly utilized runs; therefore, the [on-time performance](#) is not as greatly impacted overall. Enhanced data collection practices and technology employed in the later half of 2018 indicated that an average of 1.08 full runs a week are cancelled, 2.3 runs are modified and 12 runs are being covered through staff overtime

[On-time performance](#) is defined as a bus being zero minutes early and not more than five minutes late. On-time performance indicated that in 2017, approximately nine per cent of the time buses failed to meet the on-time performance standard, as illustrated in figure 25.

In order to address this gap, it is recommended to stabilize the workforce to ensure sustainable provision of current level of service through base staffing increase by increasing total number of drivers by 20.

This stabilization can be phased in over the next five to six years, adding \$260,000 annually to the base compensation budget. Until fully implemented, overtime will continue to be required to deliver service.

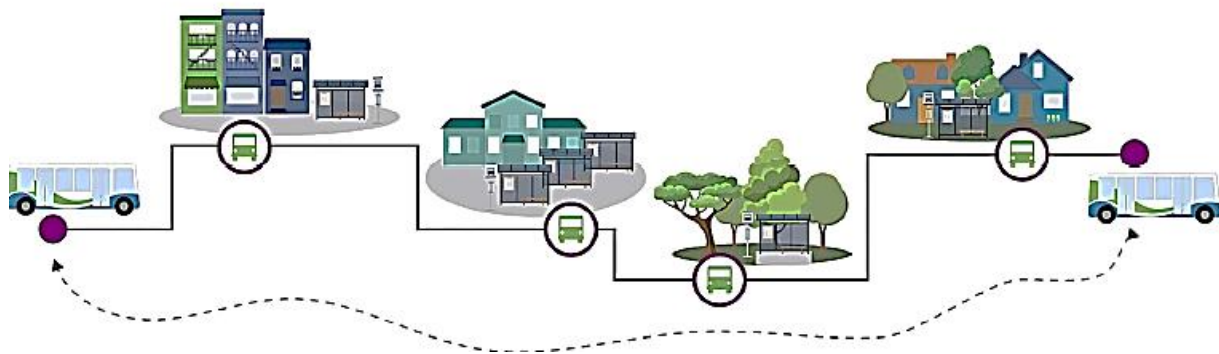
Alternatively, the level of service could be altered to correspond with the current capacity levels. This alteration would require reducing the service level by 26,000 operating hours per year equates to a reduction of approximately six buses per day. A full operational route review would be needed to identify the routes to reduce service in order to minimize the impact on overall efficiency and effectiveness of transit services.

## Service overview

### Conventional service

Conventional transit service operates primarily fixed routes and schedules to serve the residents and visitors of Guelph.

Figure 26: diagram of conventional transit service



### Route structure and operations

Guelph Transit operates a radial hub and grid system providing service to an average of 6.2 million riders annually. This system consists of four hubs, the main terminal or central hub downtown (Guelph Central Station), and smaller hubs located at the University of Guelph, Stone Road Mall and the Smart Centres on Woodlawn Road. GO Transit buses and trains as well as Via Rail trains connect at Guelph Central Station. GO Transit buses also connect at the University hub and along routes such as Gordon Street and Highway 7.

Guelph Transit, in partnership with the Central Students Association at the University of Guelph, also operates a late night drop-off service, after regular service ends. This is a contracted service provided September to April.

There are 28 base routes connecting Guelph's neighbourhoods and key nodes. Service is available seven days a week.

- Monday to Friday: 5:45 a.m. to 12:15 a.m.
  - Buses operate on a 10, 15, 20 or 30-minute service schedule.

- Routes 11 and 14 operate on 40-minute service after 8:15 a.m.
- Saturday: 5:45 a.m. to 12:15 a.m.
  - Buses operate on a 15, 20 or 30-minute service schedule.
- Sunday and civic holidays: 9:15 a.m. to 6:45 p.m.
  - Buses operate on a 30-minute service schedule, except Route 99 Mainline and Route 41 Downtown-University Express (which provide 15-minute service).
- Statutory holidays: 9:15 a.m. to 6:45 p.m.
  - Buses operate on a staggered 30 and 60-minute service schedule.

Regular service includes two express routes.<sup>23</sup> These routes are designed for special markets but are available to everyone and run on the same fare structure as regular routes.

Service is provided on fixed routes with a fleet of 74 buses. The average age of the fleet is six years, with a replacement timeframe of 12 years. One hundred per cent of the fleet is accessible and meets the Accessibility for Ontarians with Disabilities Act (AODA) requirements. Peak service requires 65 buses to be in service to meet demand.

Overall, conventional ridership has remained relatively stable year over year and Guelph has the second highest ridership attainment of the municipal comparators as illustrated in Figure 2727 and figure 28. Of this ridership number, approximately 47 per cent are students.

Figure 27: Conventional Ridership

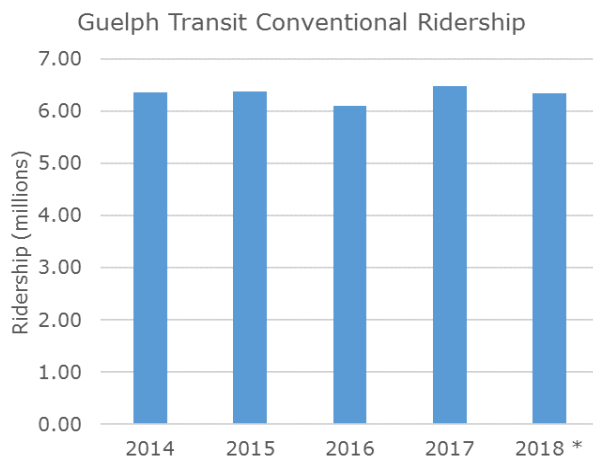
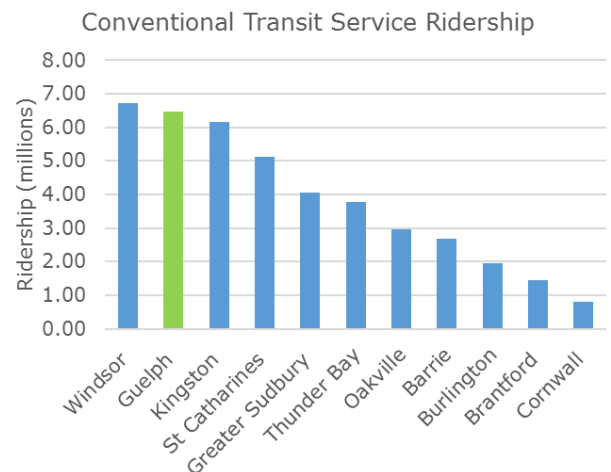


Figure 28: Benchmark conventional ridership



<sup>23</sup> Scottsdale express and the University-Downtown express routes

Sunday hours of service

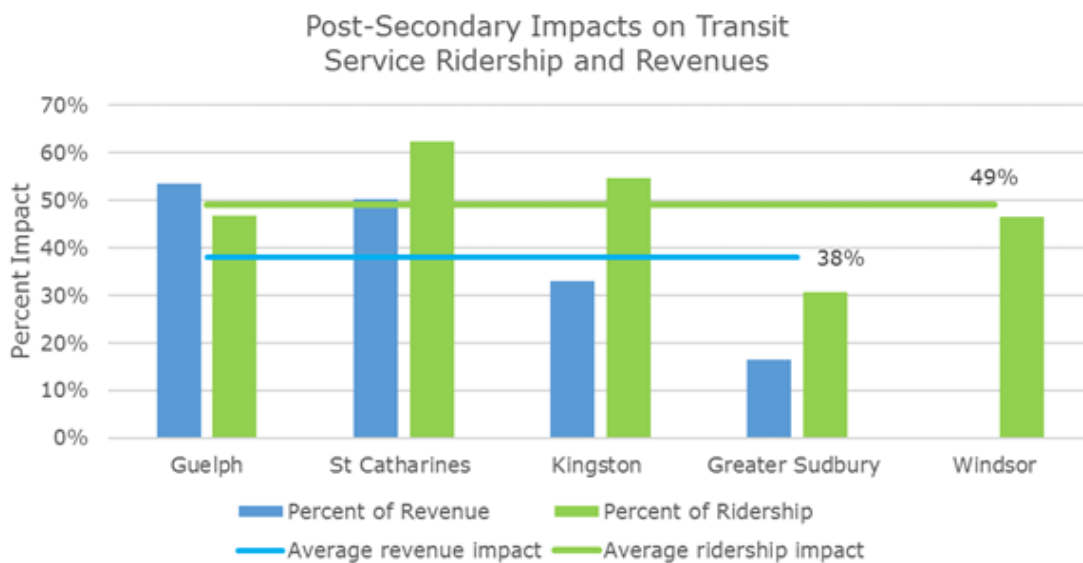
Guelph Transit’s Sunday service hours are definitely shorter than those of the peer communities. Most communities start their service by 8 a.m. and end shortly after 8 pm with some operating as late as 10 p.m., whereas Guelph provides 30 minute service from 9:15 a.m. to 6:45 p.m.

A route analysis would be required to define origin and destination needs and utilization rates of routes currently operating on Sunday to identify any that should be extended. A service level increase such as this would likely have an operating cost of approximately \$105 per hour per route of extended operation plus any capital impacts due to increased service level. These impacts do not include any potential revenue gains.

Student ridership

Municipalities with major colleges and universities have higher ridership numbers, as can be seen by the overall ridership numbers in Windsor, St. Catharines, Guelph, Kingston and Greater Sudbury. Figure 29 illustrates the impact of students on ridership and revenues.

Figure 29: Student and UPass impacts



When the data was analyzed it identified that in municipalities with post-secondary institution(s), students<sup>24</sup> account for an average<sup>25</sup> of 49 per cent of the total overall (meaning on average 49 per cent of total ridership is generated by students).

UPass agreements are contracts with the schools and/or student associations that provide full time students with a bus pass throughout the school year. These UPass type agreements generate an average of 38 per cent of the annual transit revenue (for the

<sup>24</sup> Student ridership equates to all student riders. University students cannot be specifically separated from the total students.

<sup>25</sup> Average based on the 2017 CUTA reported data for the comparator municipalities.

comparator municipalities) meaning on average 38 per cent of overall passenger revenue comes from the agreements with the post secondary institutes.

Guelph’s UPass program with the University of Guelph Graduate Students Association provides a boon to ridership and a sustainable revenue source for the transit system.

### Benchmark performance

Comparison data determined that the City’s conventional service is on par with the service performance of the comparators in all key performance indicators.<sup>26</sup>

Refer to **Appendix B: Benchmark peer review summary** and **Appendix C: Dillon Consulting** report for further information on the peer comparison results

Figure 30: Benchmark performance

Performance level to peers		Below	Par	Better
Conventional Service	Ridership			●
	Hours of operation		●	
	Fare rates		●	
	<b>Utilization</b>			
	Passengers per capita			●
	Passengers per revenue hour			●
	<b>Cost effectiveness</b>			
	Operating cost per passenger		●	
	<b>Cost efficiency</b>			
	Net cost per total vehicle hour		●	

### Key performance indicators

Looking at utilization and service efficiency through [passengers per revenue hour data](#), Guelph Transit’s utilization has improved an average of 14 per cent over the last few years (figure 31 and figure 32). In comparison to the peer group, Guelph is performing better in this efficiency metric.

Figure 31: Year over year passengers per revenue hour

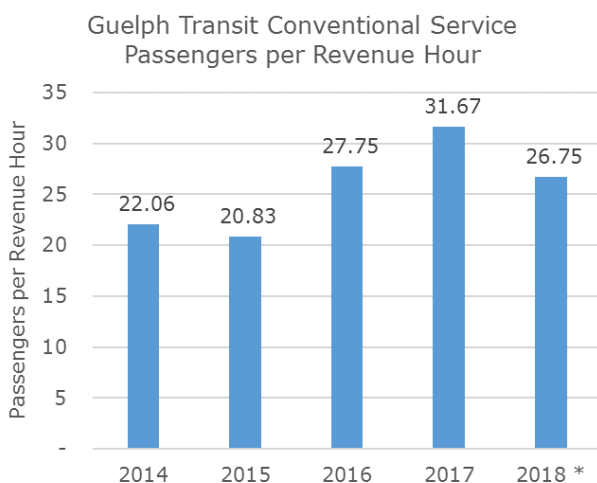
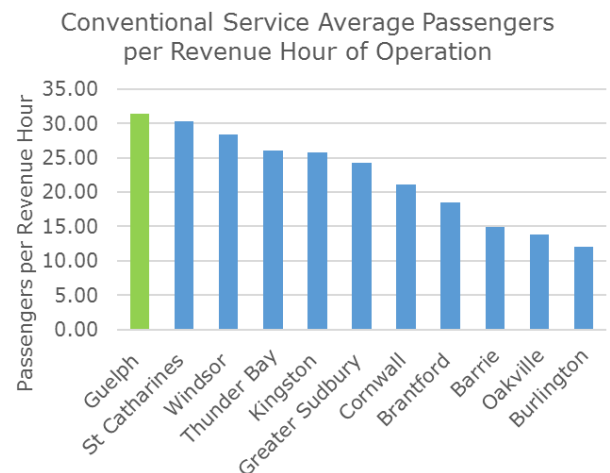


Figure 32: Benchmark passengers per revenue hour



The [cost per passenger](#) is a measure of expense per rider based on total [ridership](#) (it does not include revenue) and is impacted by utilization. Cost effectiveness, measured as cost

<sup>26</sup> Results summary from Dillon report dated November 2018

per passenger, indicates Guelph Transit’s costs have remained stable year over year with an average +/- 2 per cent change (figure 33). When compared with the benchmarked municipalities (figure 34), Guelph’s performance is among the lowest of the comparator group.

Figure 33: Cost per passenger  
Guelph Transit Conventional Service  
Cost per Passenger

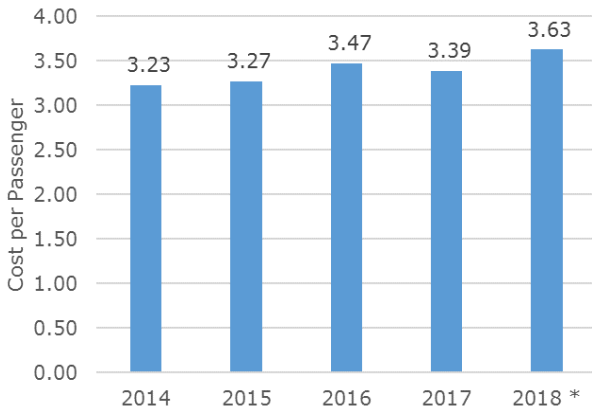
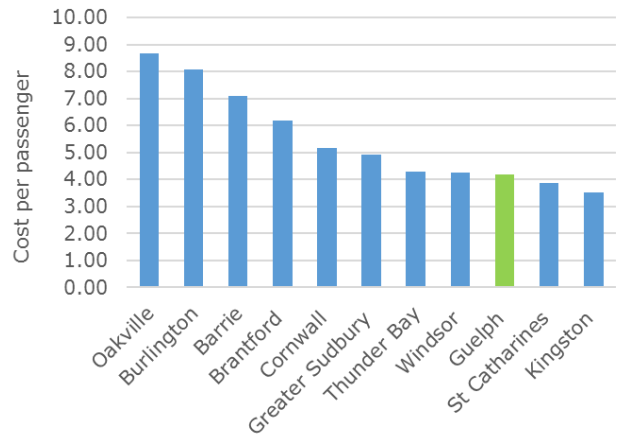


Figure 34: Benchmark cost per passenger  
Conventional Service Cost per Passenger



When Guelph Transit’s overall performance is compared to the peer municipalities, the utilization and effectiveness is performing on par with the peer group average.

Figure 35 illustrates that Guelph Transit net cost per operating hour has generally increased year over year. However, when compared to the peer municipalities (Figure 366), Guelph is on par with the average net cost per operating hour. A significant contributor to Guelph’s cost per hour is the overtime currently required to meet service demands.

Figure 35: Net operating cost per hour  
Guelph Transit Conventional Service  
Cost per Passenger

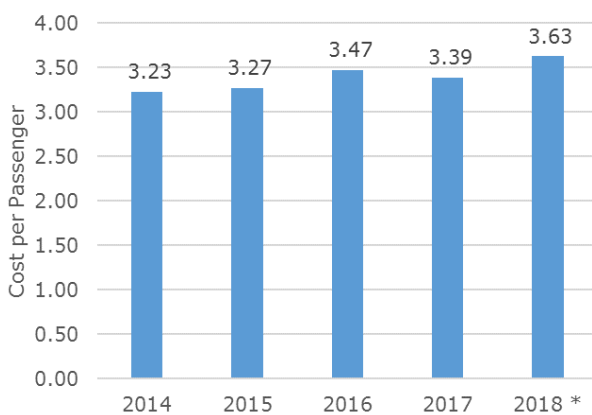
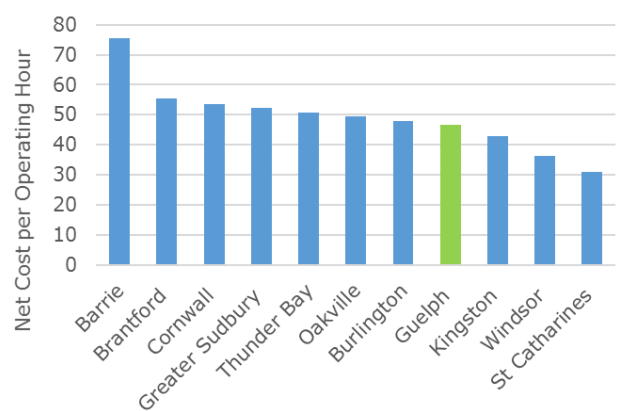


Figure 36: Benchmarked operating cost per hour  
Net Cost per Total Vehicle Hour to provide  
Conventional Transit Service





### Ridership demand by route

The business service review scope did not include conducting a route review. However; average ridership demand was looked at in conjunction with other aspects of the review. The table in Figure 37 identifies 2018 service levels as well as the average monthly demand (ridership levels) by route.

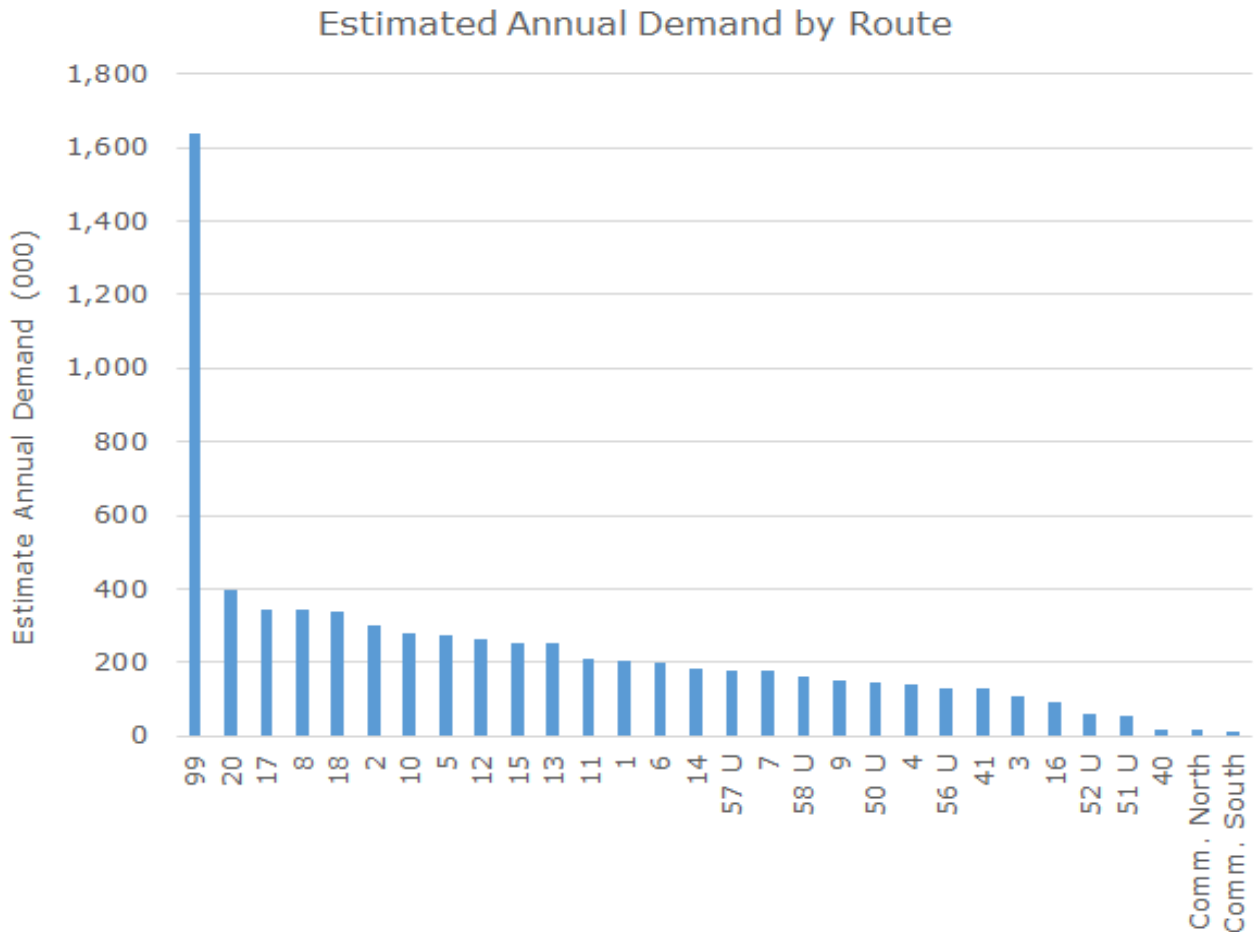
Figure 37: Route frequency and average demand<sup>27</sup>

	Route Name	Weeday	Saturday	Sunday, Civic Holiday and Boxing Day	Stat Holiday (Hourly Service)	Monthly Average Demand		
		Frequency	Frequency	Frequency	Frequency	Summer Months (no school)	School Year	
Main Routes	1	Edinburgh College	30 minutes, all day	30 minutes, all day	30 minutes, all day	60 minutes, all day	8,280	21,207
	2	College Edinburgh	30 minutes, all day	30 minutes, all day	30 minutes, all day	60 minutes, all day	11,434	31,817
	3	Westmount	30 minutes, all day	30 minutes, all day	30 minutes, all day	60 minutes, all day	6,376	10,403
	4	York	30 minutes, all day	30 minutes, all day	30 minutes, all day	60 minutes, all day	11,946	11,774
	5	Goodwin	30 min, early AM and PM, 20 minutes AM peak, mid, PM peak	30 minutes, all day	30 minutes, all day	60 minutes, all day	14,385	26,905
	6	Harvard Ironwood	30 minutes, all day	30 minutes, all day	30 minutes, all day	60 minutes, all day	7,664	20,965
	7	Kortright Downey	30 minutes, all day	30 minutes, all day	30 minutes, all day	60 minutes, all day	7,586	18,160
	8	Stone	30 minutes, all day	30 minutes, all day	30 minutes, all day	60 minutes, all day	27,728	29,060
	9	Waterloo	30 minutes, all day	30 minutes, all day	30 minutes, all day	60 minutes, all day	12,398	12,464
	10	Imperial	30 min early AM, mid, PM, 20 min AM and PM Peak	30 minutes, all day	30 minutes, all day	60 minutes, all day	20,742	24,486
	11	Willow West	30 min until 8:15pm; 40 min from 8:50pm to EOS	30 minutes, all day	30 minutes, all day	60 minutes, all day	16,937	17,985
	12	General Hospital	30 min early AM, mid, PM 20 min AM and PM Peak	30 minutes, all day	30 minutes, all day	60 minutes, all day	21,518	22,271
	13	Victoria Road Rec. Centre	30 min early AM, mid, PM 20 min AM and PM Peak	30 minutes, all day	30 minutes, all day	60 minutes, all day	17,993	22,371
	14	Grange	30 min until 8:15pm; 40 minutes from 8:50pm to EOS	30 minutes, all day	30 minutes, all day	60 minutes, all day	13,675	15,810
	15	University College	30 minutes, all day	30 minutes, all day	30 minutes, all day	60 minutes, all day	10,825	26,273
	16	Southgate	30 minutes, all day	30 minutes, all day	30 minutes, all day	60 minutes, all day	9,481	6,901
	17	Woodlawn Watson	30 minutes, all day	30 minutes, all day	30 minutes, all day	60 minutes, all day	26,122	29,875
	18	Watson Woodlawn	30 minutes, all day	30 minutes, all day	30 minutes, all day	60 minutes, all day	25,558	29,598
	19	Northwest Industrial	30 minutes, all day	30 minutes, all day	30 minutes, all day	60 minutes, all day	32,891	32,866
		99	Mainline	10 minutes, all day	30 minutes, all day from GCS to Woodlawn Smart Centres; 15 minutes, all day from GCS to Clair at Gordon westbound	30 minutes, all day from GCS to Woodlawn Smart Centres; 15 minutes, all day from GCS to Clair at Gordon westbound	60 minutes, all day from GCS to Woodlawn Smart Centres; 30 minutes, all day from GCS to Clair at Gordon westbound	98,476
Community Bus	50 U	Stone	20 minutes, all day					18,035
	51 U	Janefield	30 minutes, all day					6,803
	52 U	Kortright	30 minutes, AM and PM Peak					7,683
	56 U	Colonial	20 minutes, AM Peak/Midday/PM Peak; 30 minutes evening					16,456
	57 U	Ironwood	20 minutes, all day					22,094
	58 U	Edinburgh	20 minutes, all day					20,222
Community Bus	40	Scottsdale Express	30 minutes, PM peak only				996	1,677
	41	Downtown-University Express	10 minutes, AM Peak only; 20 minutes, PM Peak only	10 or 15 minutes, all day	10 or 15 minutes, all day	30 minutes, all day	4,094	14,060
Community Bus	Comm. North	North Loop	60 minutes, all day				1,163	1,316
	Comm. South	South Loop	60 minutes, all day				994	995

<sup>27</sup> Demand information data from APC (automated passenger counter)

When demand is annualized, we see the routes with the highest level of demand and utilization as illustrated in Figure 388.

Figure 38: Estimated annual route demand



The average monthly demand illustrates annualized utilization by route. A more in-depth route review is recommended to identify origin and destination requirements during all service hours, days and seasonal impacts.

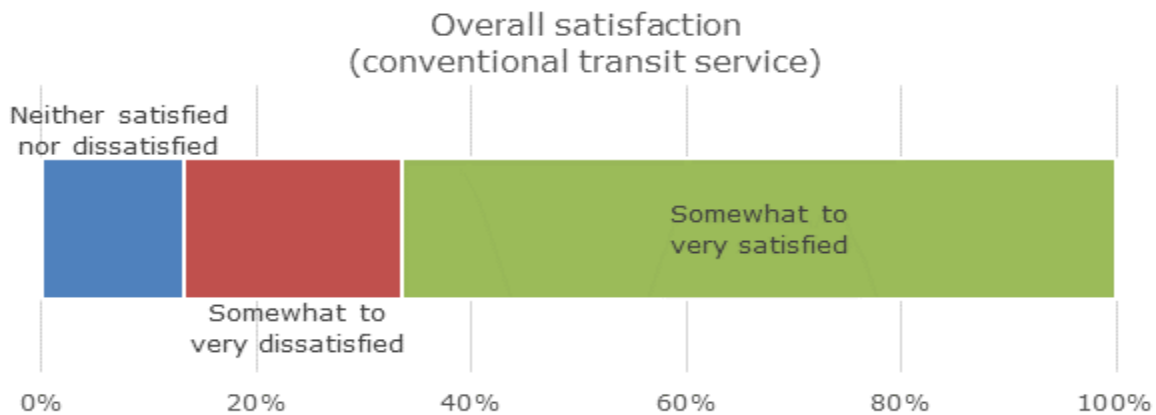
**Community engagement**

A total of 1,619 conventional riders participated in the Guelph Transit business service review engagement.

Overall, 67 per cent of respondents identified they were satisfied with Guelph Transit’s conventional transit services (Figure 399).

Participants were asked why they use conventional transit and among students, school is the main reason cited for using transit, followed by shopping or running errands and taking trips for leisure. Reasons named among the general public were more varied with the top mentions being shopping or errands, work, leisure and going to appointments (especially medical appointments).

Figure 39: Overall satisfaction of conventional transit service (source: third-party telephone survey, n=602)



70 per cent of respondents indicated they were satisfied with the current level of service provided (figure 40). A majority indicated a desire for service to end later (extend service times).

Figure 40: Satisfaction with current level of service, conventional transit service (source: third-party telephone survey, n=602)



Both telephone and online survey respondents preferred later end times for conventional transit services. More than 60 per cent suggested ending conventional transit services more than 90 minutes later than the currently scheduled times on Sundays and holidays.

The survey also included questions regarding methods of and satisfaction with communication sources for conventional transit service. Current methods of communication used by Guelph Transit include the Guelph Transit website, Twitter, Facebook, Guelph Transit posters and Guelph City News.

The Guelph Transit website is the most utilized, with roughly six in 10 users being satisfied with it as a communications resource. Posters are also read by a high number of riders and satisfaction with them is rated high at 70 per cent. City News has a greater resonance among general riders compared to students, but those riders who see these notices tend to like them (highest rated satisfaction – 75%). More students use Facebook

and Twitter in relation to the general population, but satisfaction with them is moderate. The website is the preferred option among all riders, but especially among students.

Overall when asked what improvements they would like to see to conventional transit service, the top concern from both telephone and online survey respondents was for service to be more reliable, consistent and on-time.

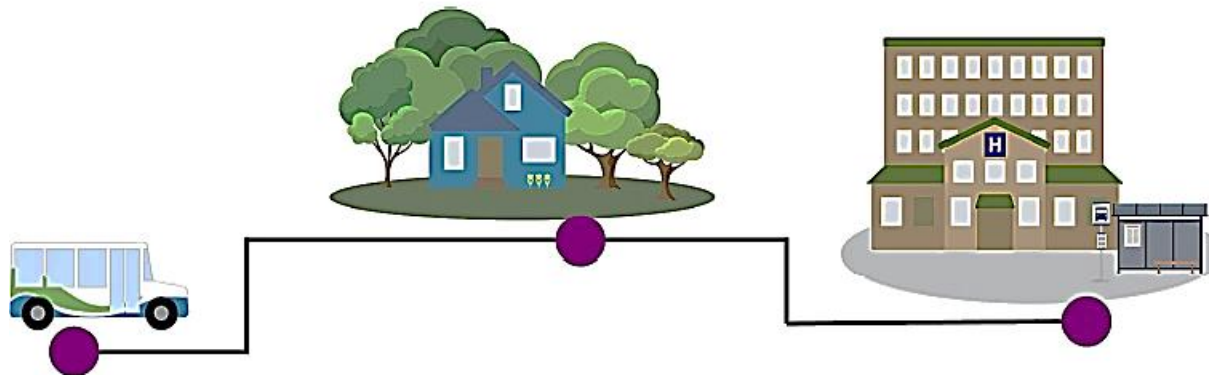
Further information on identified recommendations and background information, for the conventional service, can be found in the [Recommendations](#) section of this report. In addition to the recommendations made ongoing continuous improvement activities should be continued with the goal of identifying efficiencies. This includes further analysis on potential capacity and efficiency gains with on-demand software management systems related to low-density areas.

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## Mobility service

Mobility services provide door-to-door, on-demand transportation services to individuals with disabilities who meet eligibility requirements.

Figure 41: Visual depiction of mobility service



### Operations

In 1977, this service was provided by the not-for-profit agency, Guelph Mobility Service Inc. The City assumed responsibility for the operation and provision of this service in 1992, and integrated the mobility service with the City-operated conventional transit service.

Today, a select group of operators provide mobility services with assistance from dispatchers. Dispatchers are full-time employees who work in administration; their primary function is to take reservations and to schedule/dispatch the mobility buses.

Mobility services an average of 42,000 rides annually to 1,483 registered riders. The number of riders has remained stable year over year. Guelph is in line with ridership totals identified by the municipal benchmarks, as illustrated in figure 42 and figure 43.

Figure 42: Mobility ridership year over year

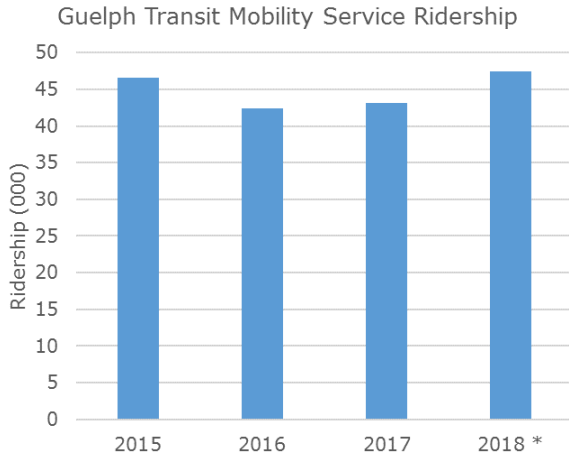
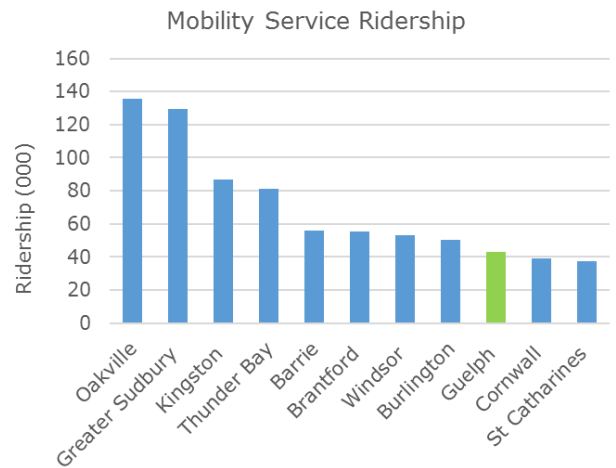


Figure 43: Benchmark mobility ridership



Mobility service operates the same hours as conventional transit:

- Monday – Saturday: 5:45 a.m. – 12:15 a.m.
- Sunday: 9:15 a.m. – 6:45 p.m.
- Statutory holidays: 9:15 a.m. – 6:45 p.m.

Customers contact dispatch via phone or email:

- Monday – Friday: 8 a.m. – 9 p.m.
- Saturdays: 8 a.m. – 9 p.m.
- Sundays: 10 a.m. – 4 p.m.

Dispatchers use Trapeze software to book and dispatch trips. There is currently no option for online or automated booking and scheduling.

**Level of service**

Comparison data determined that the City’s mobility service is on par with most areas of service performance of the comparator municipalities.<sup>28</sup>

Refer to **Appendix B: Benchmark peer review summary** and **Appendix C: Dillon Consulting report** for further information on the peer comparison results

Figure 44: Mobility service benchmark performance

Performance level to peers		Below	Par	Better
Mobility Service	Ridership		●	
	Hours of operation		●	
	Fare rates			●
	<b>Utilization</b>			
	Passengers per capita		●	
	Passengers per revenue hour		●	
	<b>Cost effectiveness</b>			
	Operating cost per passenger	●		
	<b>Cost efficiency</b>			
	Net cost per total vehicle hour		●	

<sup>28</sup> Results summary from Dillon report dated November 2018

### Key performance indicators

Looking at utilization and service efficiency through [passengers per revenue hour](#) data, mobility service utilization fluctuates an average of +/-0.3 riders per hour annually (figure 45). Figure 46 illustrates Guelph Transit mobility service’s utilization in comparison to the peer group; Guelph is on par in this efficiency metric.

Figure 45: Mobility passengers per revenue hour

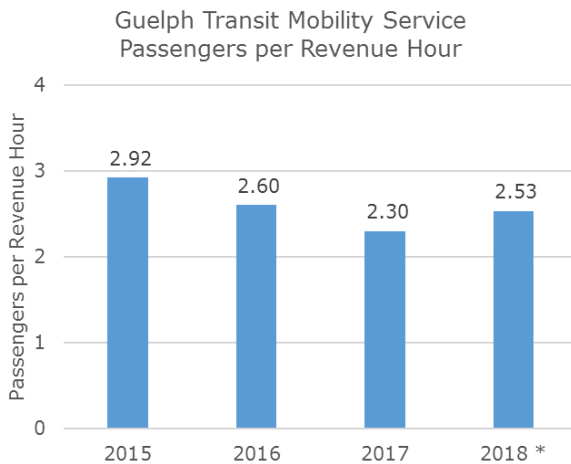
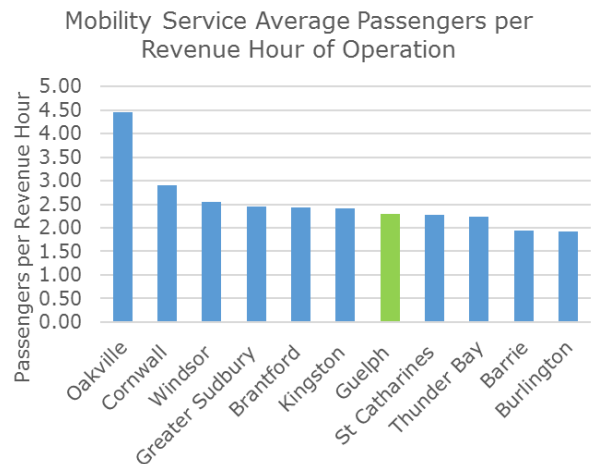


Figure 46: Benchmark passengers per revenue hour



The [cost per passenger](#) is a measure of expense per rider based on total ridership (it does not include revenue) and is impacted by utilization. Cost effectiveness, measured as cost per passenger, indicates Guelph Transit mobility service’s costs have risen year over year (figure 47), primarily driven by increasing labour, fuel and materials costs. When compared with the benchmarked municipalities, Guelph’s [cost per passenger](#) is higher than the comparators (figure 48) this is primarily driven by compensation costs and ridership levels.

Figure 47: Mobility cost per passenger

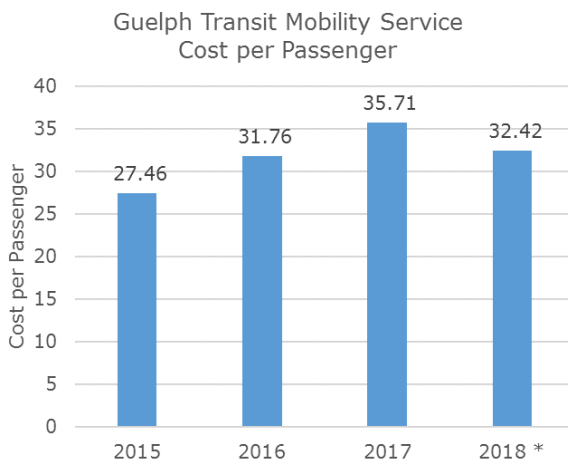


Figure 48: Benchmark cost per passenger

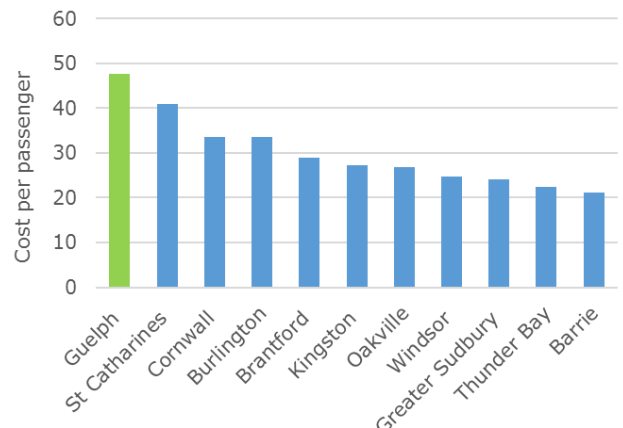


Figure 49 illustrates that Guelph Transits mobility service [net cost per operating hour](#) has fluctuated an average of two per cent over the last three years. When looking at the [net cost per operating hour](#), Guelph is on the higher side of average when compared with the peer municipalities (figure 50).

Figure 49: Mobility net operating cost per hour

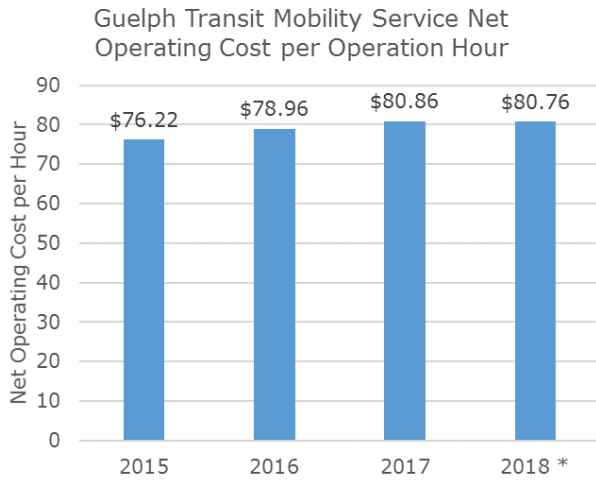
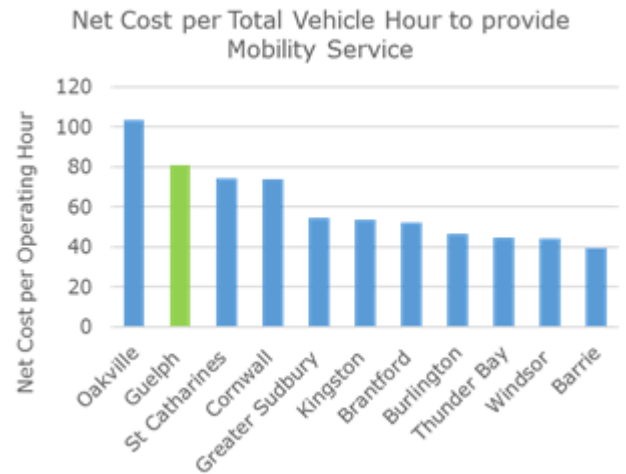


Figure 50: Benchmark operating cost per hour



When comparing the overall performance of Mobility Service to the peer municipalities across all measures, the utilization and effectiveness results indicate that Guelph is on the high end of the cost of service, however overall performance is on par with the peer group averages.

### Community engagement

Overall, 78 per cent of respondents identified they were satisfied with Guelph Transit’s mobility services (figure 51).

The survey results identified that most use Mobility Service for shopping or errands, closely followed by medical appointments and then leisure activities. Lesser cited reasons were work, school and for convenience.

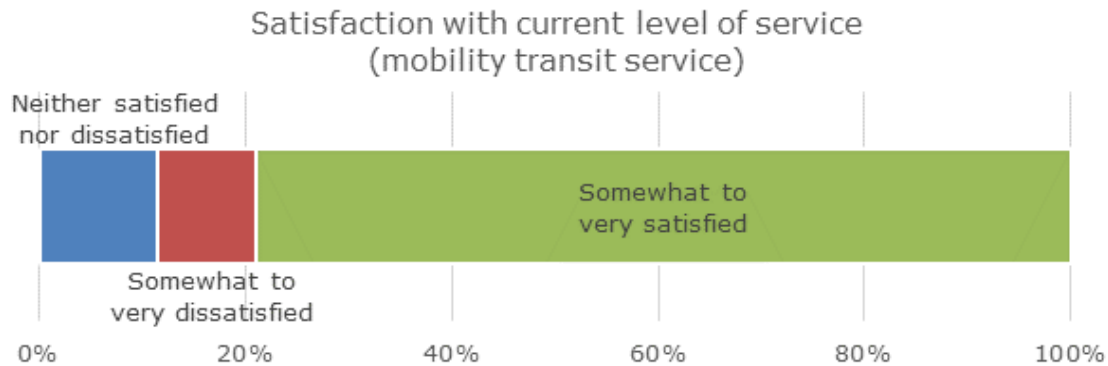
Figure 51: Overall satisfaction of mobility service (source: third-party telephone survey, n=200)





Almost eight in 10 respondents expressed satisfaction with the current level of service (79 per cent being somewhat to very satisfied), as illustrated in Figure 52.

Figure 52: Satisfaction with Mobility current level of service, (source: third-party telephone survey, n=200)



When asked what could be done to improve mobility transit service, the most named suggestions by respondents was for an option for online trip scheduling and increasing service to allow increased same-day booking options.

Further information on identified recommendations and background information, for Mobility Service, can be found in the [Recommendations](#) section of this report. Other specialized services

## Taxi-Scrip

The taxi scrip program service has been provided since May 2007. This program provides discounted coupons for Red Top Taxi accessible vehicle service. To be eligible, a passenger must have a registered mobility service user (with a registration number) and be registered as requiring the use of a mobility device. Passengers may reserve a trip directly with the taxi company.

This program allows Mobility users (registered clients) to buy up to two books of coupons a month. These coupons are sold for \$20 for a book with a face value of \$40. The coupons then may be used to pay for taxi trips with Red Top Taxi. Payment for the trips is based on the regular meter cost of the taxi trip. The taxi company keeps a record of the trips provided along with the taxi scrip used to pay for the trips and invoices the City of Guelph for reimbursement on a monthly basis.

This is a well-utilized program with an average of 1,392 trips taken per month using the Taxi Scrip program at an average cost of \$2,790 per month. Of the benchmarked municipalities, only Thunder Bay reports unique expenditures in support of a Taxi Scrip program.

## Charter service

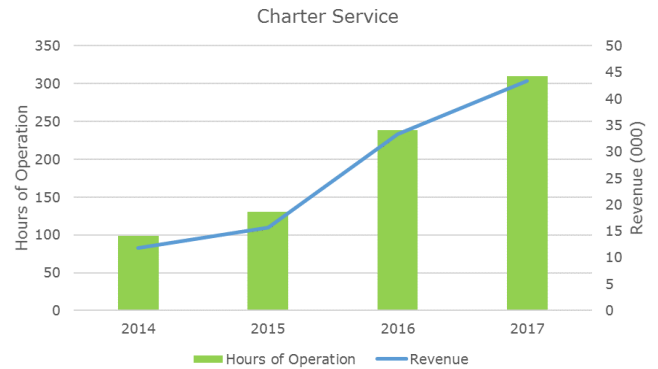
By definition, charter service is typically considered as one-off contracts to provide a bus and driver for a particular event or activity. Charter service is provided by Guelph Transit



to other City departments and external customers by request. The current rate for charter rental is \$140 per hour with a minimum two hours rental.

Charter activity in Guelph Transit has increased year over year by an average of 30 per cent<sup>29</sup>, indicating an increasing demand for this service. Current level of service requires an average of 275 to 300 hours of resourcing (labour and vehicle) per year. These hours are considered “open work” and is often required to be conducted on overtime.

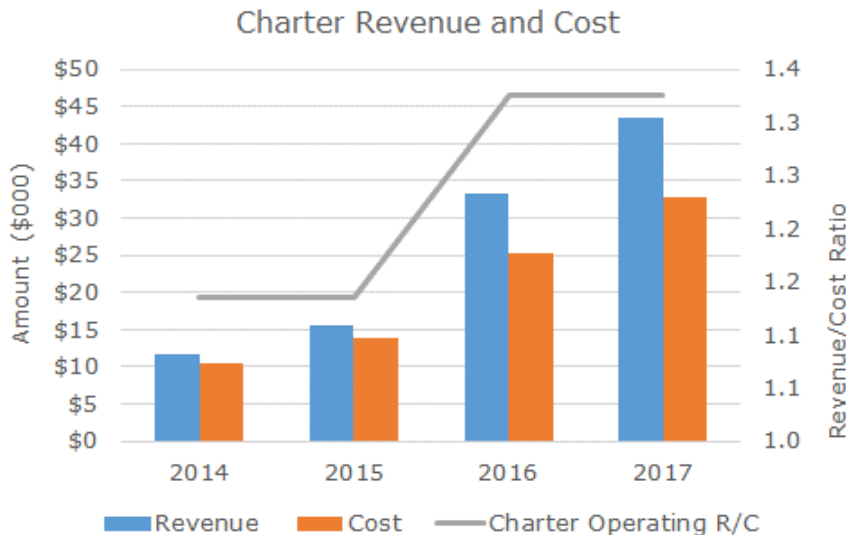
Figure 53: Charter service demand year over year



Guelph Transit provides charters by request, when service capacity is available as well as three regularly scheduled charters that are not considered one-off. These include the Metro grocery store charter that runs every other Tuesday and the Eden House charter, which runs once a month. The late night bus service contract with the University of Guelph is also considered a charter service.

Guelph Transit currently has a 1.3 [operating R/C ratio](#) which means for every dollar spent on providing a charter service approximately \$1.30 is received in revenue.

Figure 54: charter service revenue and cost

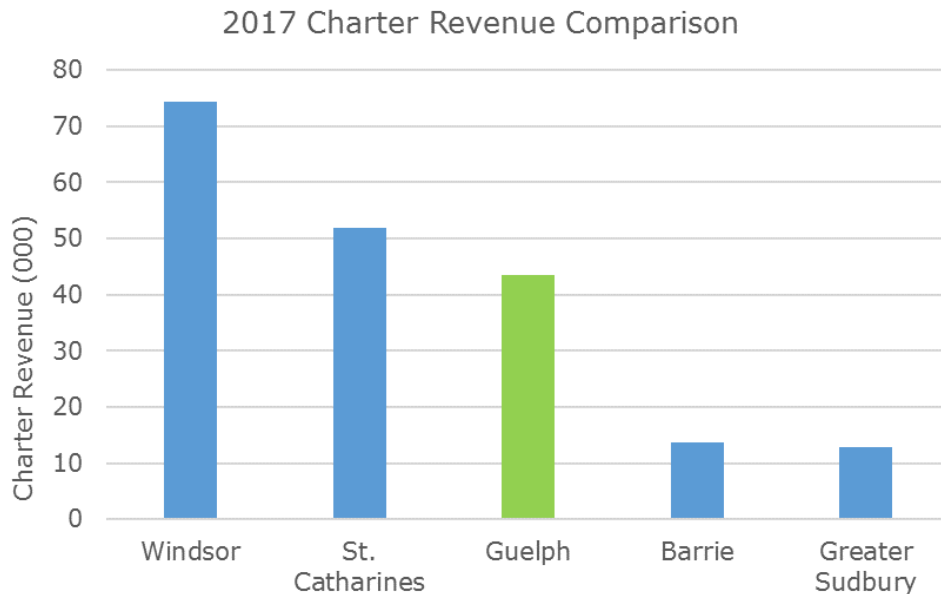


General practice is to provide charter services on a full cost recovery basis and the level of charter activity varies widely from community to community. It is not a service that

<sup>29</sup> Impacted by increased charter sponsorship

can be benchmarked with any accuracy; however, comparing the publicly reported revenue gained through charter services (figure 55), Guelph Transit is on par with comparator municipalities. Charter service is a growth opportunity for revenue in Transit.

Figure 55: Benchmark charter revenue



Charter service is a growth opportunity for revenue for Guelph Transit service. Ensure base conventional and mobility services are reliably provided prior to expanding this service market

## Administration and management

The administration and management area of Guelph Transit provides direction and support to all service elements within Transit. These supports include (but are not limited to):

### 1. Marketing and Advertising

Guelph Transit has a high ridership that is driven and supported by successful programs and campaigns. Market Development staff develop campaigns to improve customer service and satisfaction, identify marketing opportunities, increase ridership and build community support. Campaigns include items such as sponsorship, special events, communications and advertising.

Advertising provides sustainable revenues to Guelph Transit through contracts with vendors who manage the sale and space utilization in buses and shelters, as illustrated in figures 56 and 57.

Figure 56: Year over year advertising revenue

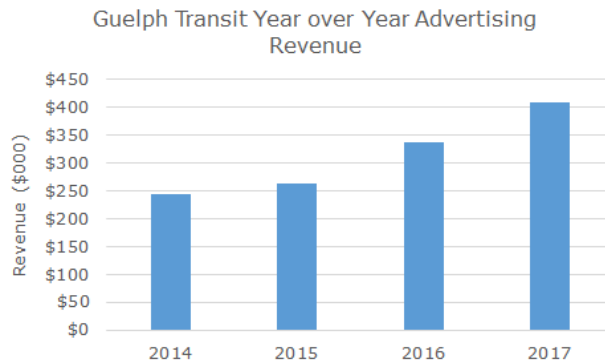
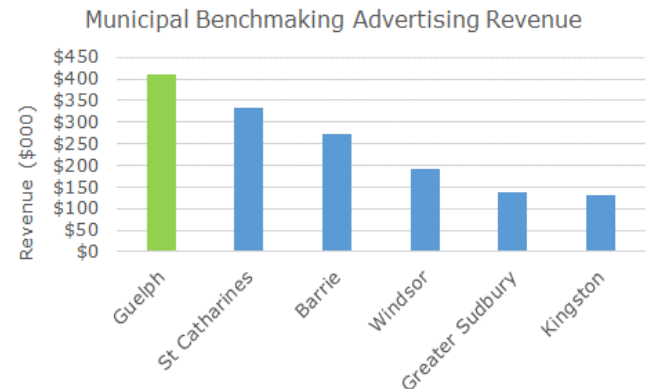


Figure 57: Benchmark advertising revenue (2017 reported revenue)



## 2. Planning and Scheduling

Planning and scheduling play a key role in the delivery of transit services, through activities such as

- service planning (frequency setting and timetabling),
- performance assessment (development of route and service adjustments), and
- scheduling (vehicle scheduling and driver assignment)

Schedules are developed for each bus showing all trips per day, including arrival and departure times. These schedules are called Paddles and are developed every four months and staff select routes from these four-month paddles.

Route performance is analyzed including demand, utilization and service delivery performance. This information is used to identify trends and potential service level changes within a limited scope (e.g. small modifications). This route auditing is used to inform annual route planning, potential improvement projects and budget impacts.

Accurate data allows decision makers to understand how their performance measures against set targets and comparators at any given time. Having accurate and reliable data provides information for making important, short- and long-term business decisions.

The changing demands for increased service options, performance management and continuous improvement have identified increased need for capacity and skill development to support a full operational route review (refer to recommendation 8).

## 3. Supervision

Supervisors report to the Operations Manager and are responsible for overseeing the daily delivery of conventional and mobility service. They also perform a variety of tasks, broadly distributed as follows;

- Conducting training
- Scheduling
- Investigation

- On-road supervision
- Communications (service advisories, social media, Info post updates, etc.)
- Shift scheduling, attendance management
- Reporting
- Administrative duties
- Customer service and interaction

#### **4. Fare Management**

A fare is the fee paid by a passenger to use Guelph Transit (conventional or mobility). This fare can be in the form of cash, tickets, a pass, or using a paper transfer.

Management of these fares includes the activities identified below.

- Pass and ticket
  - Procurement
  - Inventory management
  - Sale and distribution
  - Disposition
  - Contract management with vendors (both supplies and sellers)
- Cash
  - Coin control
    - Intake, count and deposit from fare boxes

Fare management activity at Guelph Transit also provides cash management (coin control) for the parking division of the City.

#### **5. Customer Service and Communication**

Customer service and communication provide contact options for the public through phone, email, social media and in-person to provide support for the following activities.

- Customer complaints and compliments
- Issue investigation and solving
- Trip planning
- Fare media sales
- Lost and found management
- Customer invoicing

Information is also shared to the public through social media, print (media and information posts at stops) and on-line (Transit website). This includes information regarding service changes and disruptions.

Information on identified recommendations and background information, for the Administration and management service element, can be found in the [Recommendations](#) section of this report.

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## Strategic and operational planning

### Service standards

Service standards provide the necessary guidelines to support the decision-making process. They guide Guelph Transit in determining when service will be provided, how often it will be provided and the method of provision. Service standards need to include guidance for decision making based on level and quality of service and a commitment from Council to maintain service standards within the context of balancing social objectives with fiscal responsibility.

### City planning

There is a direct relationship between the development of the community and transit service. Successful transit systems require development standards that support it and allows the service to operate efficiently and effectively. A strong public transit system facilitates accessibility, mobility and environmental sustainability for residents and the community, which enhances quality of life.

The province guides overall policy planning for municipalities. These policies help guide population and employment growth and infrastructure investment. Provincial policies that provide guidance to transit include the following:

- 2014 Provincial Policy Statement;
- Place to Grow;
- Transit Supportive Guidelines; and
- Accessibility for Ontarians with Disabilities Act (AODA).

Local policies have a direct impact on Transit services, including timing and location of community growth, funding levels and ensuring transit-supported development. Three key planning documents affect and inform transit service in Guelph:

- Official Plan;
- Transportation Master Plan; and
- Transit Growth Strategy.

A significant portion of future growth will be directed to areas within the built boundary, through intensification and infill.

### **Walking distance to a bus route**

This standard measures the effectiveness of transit service delivery and is used to determine geographic gaps in transit service within the urban service area. It also identifies effective levels of system access during planning and development. Achieving high coverage targets can be difficult with low densities and undeveloped parcels of land between urbanized areas (which occurs in the industrial areas of Guelph). The current target is for 90 per cent of the population should be within 450 metres of a service.

The majority of the developed area within the city limits are within 400 metres of a bus route (i.e. approximately a 5 min walk). This indicates a good level of coverage and a realistic goal. If a more stringent standard is selected, this may result in improved coverage but at a much higher cost.

## **Conclusion**

The overall goal of the business service review was to better understand the processes and services provided by Transit. The business service review focused on the current transit operations (conventional, mobility, specialty services) and administration processes. This review did not include conducting a detailed operational route or fare review, developing strategic long-term objectives or fleet maintenance and repair operations.

The review, benchmarking and research all indicated that Guelph Transit performs on par and is competitive with comparators in key performance indicators. No obvious advantages, disadvantages or savings to using an alternate service delivery model to the City's municipally delivered service approach were identified during the review.

Even though there is no indication of a need for a service delivery method change, areas of issue or opportunity were identified, including service reliability, growth, technology and administration. These areas of improvement have been identified to ensure efficient and effective delivery of transit service.

## Appendix A: Business service review methodology

This review has been undertaken utilizing the Council-approved Business Service Review Framework<sup>30</sup>. A business service review looks at what we do well and what needs to change, it studies the effectiveness and efficiency of our services to make sure these services are the best for the City and our citizens, while supporting long-term financial sustainability.

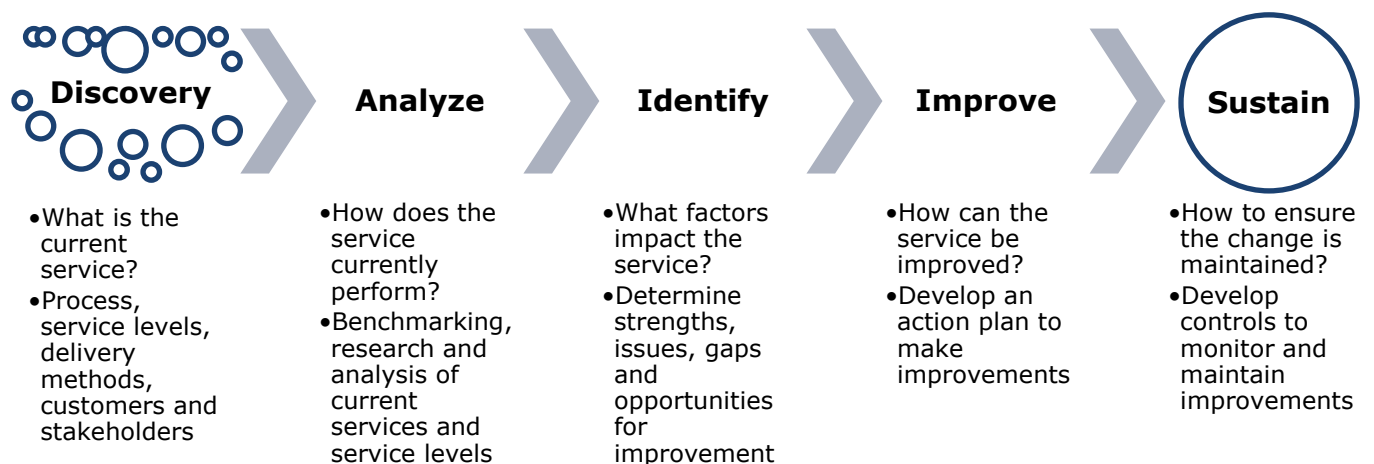
As part of a service review, we ask ourselves:

- What services do we currently provide?
- How do we deliver services?
- What service level do we currently offer?
- Can we improve the way we deliver services?
- What is the impact to the community and our employees if service levels are increased or reduced?
- Can services be delivered in other ways?

### Key components of a service review

A business service review typically consists of five phases of work, as illustrated below.

Figure 58: Business service review flow



### Outcomes of a business service review

During a service review, the review team gathers staff feedback, public input, data analysis and research on Guelph’s current services as well as benchmarking from other municipalities and organizations to define the current service, service levels and performance as well as develop recommendations for consideration.

Potential recommendations can include, but are not limited to:

- No change – we are delivering the best service at the right level

<sup>30</sup> CS-2016-61 Business Service Review Framework

- Improve service level – we are delivering the right service but should increase the level of service, which may or may not require additional resources
- Change service delivery – we are delivering the right service but should change the way we offer the service, which may or may not require a change to resources
- Change service type - we are not offering the right service and need to change it, which may or may not require stopping to offer a service that is not meeting the needs of users.

## Data approach and confidence

The following provides an overview of the data sources used to date and the confidence rating for each.

Data Source	Confidence Rating	Comments/next steps
Financial data	Moderate to high	Credible source through JD Edwards (and data verified with Finance staff and Transit management staff)
Process Data	Moderate to high	Information verified by staff interviews, performance data and documentation.
Benchmark data	Moderate to high	Credible sources, confirmed through third-party assessment and external publicly reported data <sup>31</sup>
Customer data	Moderate to high	Statistically significant third-party survey conducted. As well as customer contact data, public optional survey, historical engagement results.

## Engagement

For the purposes of the business service review framework, engagement is used as a generic, inclusive term to describe the broad range of interactions between all people involved (impacted by or impacting the review) in the review. An engagement plan was developed as part of the Transit review, with the following goals:

- Understand Transit processes
- Understand the customer service experience
- Understand the customer needs and desires



<sup>31</sup> External publicly reported data through the Canadian Urban Transit Association



- Identify areas of potential improvement and excellence

There are a variety of approaches for engagement, such as education, consultation, collaboration and involvement. The Transit review utilized many approaches during the review, including the following:

- Internal engagement activities such as process mapping sessions, on-going meetings with staff and site visits.
- External stakeholder meeting including Councillors and committees.
- Community surveys including on-line and third-party conducted phone surveys.
- Ongoing communications, as defined in the next section.

All engagement results were analyzed to inform the business service review, where appropriate aggregated engagement<sup>32</sup> results are provided in the recommendation and service overview sections of this report.

Input from the community, on aspects of Guelph Transit that were within the scope of the business service review, was gathered through two types of surveys.

1. A third-party engagement company was retained to conduct a statistically significant telephone survey,
2. An online survey on the City's engagement platform, where any member of the public was able to provide their feedback.

The same questions were contained within both surveys.

The survey focused on reasons for using or not using Guelph Transit and satisfaction with the current level of service, hours of operation, methods of communication and sources of transit information.

Voluntary online surveys offer an opportunity to people who were not randomly selected for the telephone survey to express their opinions. These participants often have a high interest in the subject and can help us understand their concerns and priorities. While they are helpful, the results don't tend to reflect the views of the entire community.

Random surveys with a statistically significant sample size help ensure our decisions reflect everyone—including people who are unlikely or unable to attend a public meeting or fill out an online survey. The results reflect the diversity of opinions throughout the community and are considered to be representative of the community as a whole.

The third-party telephone survey (conducted from September 17 to 28, 2018) required a sample size of 802 transit users, with the following distribution.

- 402 conventional transit users across the City's six wards;
- 200 University of Guelph student transit riders, and

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<sup>32</sup> Aggregated engagement results include a statistically significant third-party (n=800 participants across the city) survey and public survey on the City's webpage (opt-in participation, n=1143)

- 200 mobility transit riders.

The online survey, available on the City's website, had 1,143 submissions, with 1,017 conventional transit riders and 15 mobility transit riders responding. The online survey was available from September 14 to October 5, 2018.

In screening transit riders for appropriate respondents, 1980 non-transit users from the telephone survey and 97 respondents to the online survey were asked their reason(s) for not using Guelph Transit. The most prevalent reason shared for not using Guelph Transit was the respondent having a vehicle and preferring to drive.

Engagement results are provided in the specific service sections of this report.

## Communications

A key element of the business service review process is communication, to support engagement, alignment, and involvement for everyone involved. The project team implemented the following communications tactics and activities in support of the Guelph Transit business service review project.

### Internal communications

- A staff information package, including information about the service review process, what to expect, project timelines, staff engagement opportunities and frequently asked questions
- A toolkit for supervisors
- Resource packages for City Council
- Monthly staff updates (electronic and hard copies)
- Posters on staff bulletin boards
- A webpage on the City's internal Infonet
- Face-to-face meetings for Transit employees
- Quarterly updates, included as part of Information reports to Council and staff

### External communications

- Webpage on [guelph.ca](http://guelph.ca)
- Social media messages on Twitter and Facebook, including Facebook boosted posts
- Media releases and public notices at key milestones
- Ads in the City News section of the Guelph Mercury Tribune
- Ads in the City of Guelph information section on [guelphtoday.com](http://guelphtoday.com)
- Quarterly updates, included as part of Information reports, shared publically
- Online feedback survey

## Appendix B: Benchmark peer review summary

Benchmarking is the process of finding good practices and learning from others. It is the comparison of the performance of a process or service in one organization to performance of a similar process or service in other companies. Benchmarking can provide important insights regarding efficiency and competitiveness of processes or services. The overarching goal of benchmarking is to put a process or service in perspective against other similar processes or services of other groups or institutions.

The City of Guelph worked in partnership with Dillon Consulting Limited (Dillon) — an impartial, technical expert — to conduct the benchmarking and support the data analysis portion of the Transit business service review. This partnership provided technical expertise and added objective third-party credibility to the review results.

Dillon, as part of the best practices investigation, contacted the following five municipalities. These comparators met the service review rationale<sup>33</sup> and represented the desired mix to conduct a fair comparison to the City of Guelph<sup>34</sup>:

- City of Barrie (Barrie Transit);
- City of Greater Sudbury (Greater Sudbury Transit);
- City of Kingston (Kingston Transit);
- City of St. Catharines (St. Catharines Transit); and,
- City of Windsor (Transit Windsor).

Five additional municipalities were added, to test findings from the original comparator group related to specific performance indicators for both conventional and specialized services.

- City of Brantford (Brantford Transit);
- City of Burlington (Burlington Transit);
- City of Cornwall (Cornwall Transit);
- Town of Oakville (Oakville Transit); and,
- City of Thunder Bay (Thunder Bay Transit).

The rationale for selecting the comparators included the following.

- Being part of the Council-approved municipal comparator list;
- Delivery approaches that meet those defined by the scope of the service review (i.e., in-house, not-for-profit, and private service provision); and/or,

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<sup>33</sup> Dillon Consulting Benchmarking and Data Analysis Report (November 2018)

<sup>34</sup> These cities provide a good representation of services delivered using in-house, not-for-profit, and private service provision

- Relevant level of service and/or technology used to operate their transit systems in the same way as Guelph, and are of a similar scale.

Dillon conducted multiple data validation assessments, with City staff as well as reviewing other available online data to confirm findings, such as the Canadian Urban Transit Association (CUTA) annual reporting<sup>35</sup>.

Key indicators used in the comparison included

- Service level,
- Ridership,
- Utilization,
  - Passengers per capita,
  - Passengers per revenue hour,
- Cost Effectiveness,
  - Cost per passenger,
- Cost Efficiency,
  - Net cost<sup>36</sup> per total vehicle operation hour<sup>37</sup>, and
  - Revenue to cost ratio.

**Comparison data determined that the City is on par with the service performance of comparators in key performance indicators<sup>38</sup>.**

It is important to note that performance can vary significantly between transit systems. There are many factors that influence performance and comparison data and can create variances in comparison from municipality to municipality. These factors include items such as;

- Education: Methods to promote, manage and communicate transit programs and services.
- Geography: Urban/rural population, seasonal population, socio-economic factors and the mix of urban development and intensification areas.
- Government and service structure: Services can be provided by a single-tier or a two-tier system (combination of Regional and Municipal service), and a mix of private and public owners and operators.
- Infrastructure: age of infrastructure and type of assets.
- Management: Different approaches to reporting and accounting

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<sup>35</sup> 2016 and 2017 CUTA annual report (Canadian Conventional Transit Statistics, Canadian Specialized Transit Statistics)

<sup>36</sup> Net cost includes all direct operating costs (labour, vehicle and facility maintenance, fuel and administration)

<sup>37</sup> Total hours of vehicle operations (revenue hours and auxiliary hours)

<sup>38</sup> Results summary from Dillon report dated November 2018

It is important to look at internal performance over time to identify trends and opportunities, peer comparison provides an opportunity to determine if the system is in line with the norm seen in other systems.

The following table provides a summary of the benchmarking peer review.

Comparison data is illustrated in specific service sections of the report as well as in **Appendix C: Dillon Consulting Limited Benchmarking and Data Analysis report.**

# Guelph Transit Business Service Review Final Report

Transit Service Benchmarking Overview Summary												
	Guelph	St Catharines	Thunder Bay	Kingston	Greater Sudbury	Windsor	Brantford	Burlington	Cornwall	Oakville	Barrie	
Population Served	131,794	151,914	107,909	121,133	149,667	217,188	98,225	179,236	46,940	194,000	135,543	
Post-Secondary Enrollment Numbers	24,000	15,300	6,000	21,100	6,200	10,600						
Ridership	6,476,108	5,124,483	3,779,172	6,145,809	4,062,532	6,719,622	1,435,449	1,952,624	805,842	2,945,877	2,677,396	
Revenue Vehicle Hours	205,820	168,774	145,157	238,668	167,095	236,123	77,400	162,898	38,159	212,008	178,608	
Total Vehicle Hours	219,711	190,021	148,450	257,133	167,453	269,905	77,400	168,187	38,159	261,776	178,293	
Total Direct Expenses (excluding vehicle mtc.)	\$21,949,481	\$15,573,847	\$13,039,895	\$18,209,077	\$16,386,995	\$22,861,159	\$6,671,442	\$12,950,266	\$3,103,403	\$20,450,402	\$19,027,367	
Passenger Revenue	\$11,696,803	\$9,677,142	\$5,534,920	\$7,181,973	\$7,660,281	\$13,282,460	\$2,371,809	\$4,924,439	\$1,066,477	\$7,511,419	\$5,569,103	
<b>Average Fare</b>												
Passenger Revenue/Passengers	\$1.81	\$1.89	\$1.46	\$1.17	\$1.89	\$1.98	\$1.65	\$2.52	\$1.32	\$2.55	\$2.08	
<b>Utilization</b>												
Passengers per Capita	49.14	33.73	35.02	50.74	27.14	30.94	14.61	10.89	17.39	15.18	19.75	
Passengers per Revenue Hour	31.46	30.36	26.04	25.75	24.31	28.46	18.55	11.99	21.12	13.90	14.99	
<b>Cost Effectiveness</b>												
Operating Cost per Passenger	\$3.39	\$3.04	\$3.45	\$2.96	\$4.03	\$3.40	\$4.65	\$6.63	\$3.85	\$6.94	\$7.11	
<b>Cost Efficiency</b>												
Net Cost per Total Vehicle Hour	\$46.66	\$31.03	\$50.56	\$42.88	\$52.11	\$36.30	\$55.55	\$47.72	\$53.38	\$49.43	\$75.48	
<b>Central</b>												
Population Served	131,794	131,400	146,048	123,363	149,667	233,687	98,225	179,236	46,940	190,100	152,000	
Ridership	43,137	37,452	80,941	86,865	129,582	52,245	55,305	50,382	39,195	135,674	56,153	
Revenue Vehicle Hours	18,755	14,458	31,350	0	52,924	20,805	14,789	20,693	12,742	27,921	24,359	
Total Vehicle Hours	18,755	16,418	36,079	96,145	52,924	20,805	22,693	26,105	13,463	30,492	28,822	
Total Direct Expenses (excluding vehicle mtc.)	\$1,540,600	\$1,314,474	\$1,911,600	\$2,143,793	\$3,112,216	\$1,190,520	\$1,293,190	\$1,288,260	\$1,085,629	\$3,449,595	\$1,187,948	
Passenger Revenue	\$24,105	\$93,174	\$162,792	\$204,105	\$221,309	\$262,491	\$105,329	\$74,563	\$93,116	\$288,200	\$52,243	
<b>Average Fare</b>												
Passenger Revenue/Passengers	\$0.56	\$2.49	\$2.01	\$2.35	\$1.71	\$4.93	\$1.90	\$1.48	\$2.38	\$2.12	\$0.93	
<b>Utilization</b>												
Passengers per Capita	0.33	0.29	0.55	0.70	0.87	0.23	0.56	0.28	0.85	0.71	0.37	
Passengers per Revenue Hour	2.30	2.28	2.24	2.40	2.45	2.56	2.44	1.93	2.91	4.45	1.95	
<b>Cost Effectiveness</b>												
Operating Cost per Passenger	35.71	35.10	23.62	24.68	24.02	22.36	23.38	25.57	27.70	25.43	21.16	
<b>Cost Efficiency</b>												
Net Cost per Total Vehicle Hour	\$80.86	\$74.39	\$48.47	\$55.66	\$54.62	\$44.61	\$52.34	\$46.49	\$73.72	\$103.68	\$39.40	
<b>North</b>												
Population Served	131,794	131,400	146,048	123,363	149,667	233,687	98,225	179,236	46,940	190,100	152,000	
Ridership	6,519,245	5,161,915	3,860,113	6,232,674	4,192,114	6,772,867	1,490,754	2,003,006	845,037	3,081,551	2,733,549	
Revenue Vehicle Hours	224,575	185,192	176,507	238,668	220,019	256,928	100,093	177,687	51,622	239,929	202,967	
Total Vehicle Hours	238,466	206,439	184,529	293,278	220,377	284,710	100,093	194,292	51,622	292,268	207,115	
Total Direct Expenses	\$29,114,372	\$21,777,204	\$18,611,808	\$23,909,620	\$23,102,575	\$29,963,079	\$10,483,464	\$17,446,720	\$5,472,442	\$29,152,541	\$20,215,315	
Passenger Revenue	\$11,720,908	\$9,770,316	\$5,697,712	\$7,386,078	\$7,881,590	\$13,544,951	\$2,477,138	\$4,999,002	\$1,159,593	\$7,795,619	\$5,621,346	
Total Operating Revenue	\$12,161,523	\$10,156,005	\$5,820,696	\$7,521,496	\$8,101,319	\$14,144,921	\$3,035,482	\$5,546,057	\$1,223,748	\$8,457,762	\$5,900,119	
<b>Average Fare</b>												
Passenger Revenue/Passengers	\$1.80	\$1.89	\$1.48	\$1.19	\$1.88	\$2.00	\$1.66	\$2.50	\$1.37	\$2.53	\$2.06	
<b>Utilization</b>												
Passengers per Capita	49.47	34.02	35.58	51.44	28.01	31.17	15.18	11.18	18.24	15.90	20.12	
Passengers per Revenue Hour	29.03	32.64	28.28	28.15	26.76	31.02	20.98	13.92	24.03	18.34	16.94	
<b>Cost Effectiveness</b>												
Operating Cost per Passenger	4.47	4.12	4.82	3.84	5.51	4.42	7.03	8.71	6.48	9.46	7.40	
<b>Cost Efficiency</b>												
Net Cost per Total Vehicle Hour	\$71.09	\$53.87	\$69.32	\$55.88	\$68.07	\$55.56	\$74.41	\$61.25	\$82.30	\$70.81	\$69.12	
Operating R/C Ratio	0.42	0.48	0.31	0.31	0.35	0.47	0.29	0.32	0.22	0.29	0.29	
<b>Confidence Rating for Data and Rationale</b>												
High - questionnaires and publicly reported data		High - questionnaires and publicly reported data	High - questionnaires and publicly reported data	High - questionnaires and publicly reported data	High - questionnaires and publicly reported data	High - questionnaires and publicly reported data	Med to High as reported through publicly reported data	Med to High as reported through publicly reported data	Med to High as reported through publicly reported data	Med to High as reported through publicly reported data	Med to High as reported through publicly reported data	Med to High - questionnaires and publicly reported data

Note: Operating revenue to cost (R/C) ratio does not include capital expense or non-operating generated revenue. This is a measure of operating efficiency not total service efficiency.



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CONSULTING

CITY OF GUELPH

**Guelph Transit Business Service  
Review**

**Final Report**





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## 1.0 Introduction

The purpose of this report is to document work completed by Dillon Consulting Limited (Dillon) and Performance Concepts Consulting in support of the City of Guelph (the City) in their completion of a Business Service Review of Guelph Transit. This work was undertaken between May and October 2018 and is described in the following sections:

- Background – This section summarizes the work undertaken to complete the project;
- Method of Comparison - The peer benchmarking method and communities selected for comparison with Guelph are summarized in this section;
- Conventional Transit – Relevant conventional transit system characteristics and performance indicators are reviewed in this section;
- Mobility Transit Service – Relevant mobility transit service system characteristics and performance indicators are reviewed in this section; and,
- Combined System Analysis – Relevant performance indicators pertaining to each transit system overall are review in this section.

## 2.0 Background

The City of Guelph selected the team led by Dillon Consulting Limited (Dillon) to assist with completion of a Business Service Review of Guelph Transit based on Dillon's submission in response to the City's Request for Proposal 18-092. This project was undertaken by the City as part of an ongoing program of continuous improvement throughout all areas of the organization.

Led by Dillon in partnership with Performance Concepts Consulting, the Dillon team was selected by the City for its unique combination of recognized expertise in both transit planning and municipal management consulting. In addition to having completed numerous business service reviews and transit projects across Canada, and for its intimate understanding of the technical issues and local context in question, the Dillon team was noted for having most recently supported the City in its review of the Solid Waste Management business unit.

Dillon's work plan consisted of the following elements:

- Identifying appropriate comparison communities for peer benchmarking;
- Gathering data and information about the comparison communities for comparison with Guelph;
- Reviewing and discussing the collected information with City of Guelph staff to identify areas of further study and analysis;
- Collecting additional data and information to address identified areas of further analysis;
- Reviewing and discussing the additional information and analysis with City of Guelph staff; and,
- Reporting on the outcomes of the work.

## 3.0 Method of Comparison

This report offers a series of comparisons between Guelph Transit and its peer comparators for both conventional and mobility transit services. The project team relied on a number of sources to develop comparisons between Guelph Transit and its peer comparators, including:

- Canadian Urban Transit Association (CUTA) Fact Book for conventional transit service (most recently published describing the 2017 calendar year);
- Canadian Urban Transit Association Fact Book for mobility transit service (most recently published describing the 2017 calendar year);
- Survey questionnaires disseminated to the original 6 peer comparators (including Guelph Transit); and,
- Correspondence with staff at each transit agency to confirm values as needed.

In order to ensure comparability of data over time, the majority of data referred to in this report comes from CUTA Fact Book entries and was validated directly with the comparison communities.

### 3.1 Comparison Communities

The project team selected peer comparison communities on the basis of building a pool of comparators which represent similar (but varied) community contexts and operational environments. The list of peer comparators was developed with the City's Council-approved peer comparator framework in mind.

The following peer comparison communities and their respective transit systems were initially chosen for study:

- City of Barrie (Barrie Transit);
- City of Greater Sudbury (Greater Sudbury Transit);
- City of Kingston (Kingston Transit);
- City of St. Catharines (St. Catharines Transit); and,
- City of Windsor (Transit Windsor).

These cities provide a good representation of services delivered using in-house, not-for-profit, and private service provision. A summary of relevant facets of comparison between the communities in which the peer agencies operate is given in **Table 1**.

**Table 1: Community Profiles Summary**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines
<b>Population</b>	131,794	152,000	160,274	217,188	124,454	133,113
<b>Annual ridership, conventional</b>	6,476,108	2,677,396	4,062,532	6,719,622	6,145,809	5,124,463
<b>Annual ridership, mobility</b>	42,417	45,277	130,312	55,898	86,865	35,956
<b>Service area size (sq.km)</b>	87	113	153	147	132	179
<b>Fleet size (conventional)</b>	74	48	59	112	74	72

Despite the variation in population levels, all of the peer comparator agencies can be considered to serve mid-size cities. Service area sizes are varied but comparable.

Wide variation exists between the comparators in terms of fleet sizes and, to a lesser extent, annual ridership levels. This variation is nonetheless useful in that examining cities in different stages and contexts of development can help to identify patterns that may be applicable to Guelph.

### 3.1.1 Additional Comparators

Following initial study efforts with the above comparison communities, five additional transit systems were chosen for further review in order to complement the pool of comparators to address specific questions. The following agencies were included:

- City of Brantford (Brantford Transit);
- City of Burlington (Burlington Transit);
- City of Cornwall (Cornwall Transit);
- Town of Oakville (Oakville Transit); and,
- City of Thunder Bay (Thunder Bay Transit).

These additional communities were chosen specifically because they operate their transit systems in the same way as Guelph (both conventional and mobility transit services delivered by municipal government staff), and are of a similar scale. Basic information about each of the additional comparison communities is provided in **Table 2**.

**Table 2: Community Profiles of Additional Comparison Communities**

	Guelph	Brantford	Burlington	Cornwall	Oakville	Thunder Bay
<b>Population</b>	131,794	98,225	183,314	46,340	194,000	107,909
<b>Annual ridership, conventional</b>	6,476,108	1,435,449	1,952,624	805,842	2,945,877	3,779,172
<b>Annual ridership, mobility</b>	42,417	55,305	50,382	39,195	135,674	80,941
<b>Service area size (sq.km)</b>	87	75.1	98	61.5	103.5	323
<b>Fleet size (conventional)</b>	74	30	52	11	95	42

The additional comparators were used to test findings from the original comparator group related to specific performance indicators for both conventional and mobility services.

## 4.0 Conventional Transit Service

Conventional transit service encompasses several distinct service categories. The transit agencies surveyed each provide some or all of the following types of conventional transit service:

- Local: Scheduled transit service following fixed routes using conventional buses during most time periods;
- Express: Scheduled transit service following fixed routes serving limited stops and, possibly, only in some time periods;
- School: Dedicated trips using conventional buses focused on serving high schools;
- On-Demand: Service provided using small vehicles when requested by a customer; and,
- Community Bus: Scheduled transit service following fixed or flexible routes using either conventional buses or small vehicles during some time periods.

Note that some communities, including Guelph, provide charter services. These are typically one-off contracts to provide a bus and driver for a particular event such as a wedding or other private activity. As charter services are usually offered to the community on a full cost recovery basis and the level of charter activity varies widely from community to community, charter services are not included in this analysis.

The following sections offer an examination of pertinent characteristics of conventional transit service for comparison between agencies for the noted operational years.



## 4.1 General Overview

An overview of pertinent data for comparing conventional service provision is given in **Table 3**.

**Table 3: General overview, conventional service, 2017**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines	
<b>Municipal Population</b>	131,794	152,000	160,274	217,188	124,454	133,113	
<b>Service Area Population</b>	131,794	127,800	149,667	217,188	121,133	133,113	
<b>Service Area Size (km<sup>2</sup>)</b>	87.0	121.0	101.5	166.0	128.5	123.0	
<b>Service Provided by</b>	Municipal Transit System	Contractor	Municipal Transit System	Municipal Transit System	Municipal Transit System	Municipal Transit System	
<b>Ridership (revenue passengers)</b>	6,476,108	2,677,396	4,062,532	6,719,622	6,145,809	5,124,463	
<b>Total Operating Revenues</b>	\$12,137,418	\$5,847,876	\$7,880,010	\$13,882,076	\$7,313,339	\$10,062,831	
<b>Total Direct Operating Expenses</b>	\$27,054,852	\$19,354,355	\$19,990,359	\$28,648,236	\$21,535,065	\$19,743,943	
<b>Peak Period Buses</b>	65	37	44	85	55	55	
<b>Average Fleet Age (years)</b>	7.2	4.0	7.1	11.3	6.2	8.8	
<b>Bus Stops</b>	580	750	1,365	1,200	840	1,177	
<b>Bus Shelters</b>	110	141	109	153	232	192	
<b>Hours of Service</b>	<b>Wkdy</b>	05:45-00:15	04:15-00:45	06:00-02:00	05:00-02:00	06:00-23:30	06:00-00:00
	<b>Sat</b>	05:45-00:15	07:00-00:45	06:00-02:00	05:00-02:00	06:00-23:30	06:00-00:00
	<b>Sun</b>	09:15-18:45	08:30-22:45	06:00-02:00	08:00-00:00	08:30-20:30	08:30-20:00

The following observations can be made based on the information above:

- Like almost all of the peer comparators, conventional transit services in Guelph are provided by the municipal agency;
- Guelph Transit provides conventional service within the smallest service area boundary of the peer agencies;

- Guelph is at the higher end of the peer comparators in terms of ridership volume, operating revenues and expenses, and peak period buses;
- Guelph’s average fleet age is similar to that of its peer comparators;
- While Guelph has fewer bus stops than the peer comparators, it has proportionately more stops with shelters than most of the peer agencies; and,
- Guelph’s hours of service are similar on weekdays and Saturdays, and end earlier on Sundays.

## 4.2 Staffing Levels

Staffing levels measured as the number of full-time equivalent (FTE) staff employed by each transit agency are given in **Table 4**.

**Table 4: Staffing levels, conventional service, 2017**

FTE Employees <sup>1</sup>	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines
<b>Operators</b>	153.5	121.0	101.5	166.0	128.5	123.0
<b>Other Transportation Operations</b>	20.0	17.0	5.0	13.5	10.0	7.0
<b>Vehicle Mechanics</b>	15.0	11.0	9.0	19.0	15.0	12.0
<b>Other Vehicle Maintenance and Servicing</b>	13.0	8.0	11.5	15.0	4.0	14.0
<b>Plant and Other Maintenance</b>	2.0	6.0	Not reported	10.0	9.0	2.0
<b>General and Administration</b>	6.0	7.0	16.5	25.0	9.0	11.5
<b>Total Employees</b>	209.5	170.0	143.5	248.5	175.5	169.5

1. Note that for some of the categories, staff support both conventional and mobility transit services

Wide variation exists within staffing categories and between municipalities:

- Windsor reported having the most operators, with substantially more staff than the other peer comparators;
- Greater Sudbury reported employing half the number of other transportation operations staff than the average of the peer comparators;
- Greater Sudbury reported employing substantially fewer vehicle mechanics compared to the average of the peer comparators;
- Kingston reported employing less than half the number of vehicle maintenance and servicing employees than the average of the peer comparators;
- Kingston and Windsor reported employing double the number of plant and non-vehicle maintenance employees compared to the average of the peer comparators;
- Kingston reported employing almost half as many general and administration employees compared to the average of the peer comparators; and,

- Overall, Windsor employs substantially more employees in transit service delivery than any of the peer comparators.

Compared to its peers, Guelph's staffing structure is more heavily weighted towards vehicle operators and transportation operations, maintaining higher than average staffing levels in all categories save for plant maintenance and general administration roles. It should be noted that Guelph shares some staff between conventional and mobility services, something that most of the comparison communities do not do.

### 4.3 Operating Expenses

The breakdown of operating expenses specific to conventional transit service for each transit system included in the study is given in **Table 5**.

**Table 5: Operating expenses, conventional service, 2017**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines
<b>Transportation Operations Expenses</b>	\$17,178,171	\$15,223,417	\$10,177,662	\$17,179,575	\$14,165,238	\$10,351,118
<b>Fuel/Energy Expense for Vehicles</b>	\$2,519,091	\$1,920,121	\$2,063,820	\$2,767,947	\$2,885,006	\$2,209,964
<b>Vehicle Maintenance Expenses</b>	Vehicle maintenance costs are not calculated in the same manner in all communities. As a result, they are not included for comparison.					
<b>Plant Maintenance Expenses</b>	\$1,206,238	\$1,349,258	\$1,658,253	\$1,274,020	\$743,272	\$1,009,600
<b>General/Admin. Expenses</b>	\$1,045,981	\$861,559	\$2,487,260	\$1,639,617	\$415,561	\$2,003,165
<b>Total Direct Operating Expenses<sup>1</sup></b>	\$21,949,481	\$19,990,359 <sup>2</sup>	\$16,386,995	\$22,861,159	\$18,209,077	\$15,573,847

- Total direct operating expenses not including vehicle maintenance expenses. Comparison of conventional transit service vehicle maintenance costs cannot be undertaken because some communities do not reliably separate their conventional and mobility transit service vehicle maintenance costs.
- Barrie's vehicle maintenance expenses are included as part of their transportation operations expenses as a result of their contracted operation arrangement.

Key points to note from the table include:

- As the Barrie transit service is operated and maintained by a contractor, the reported numbers may not be readily comparable to the other transit systems;
- Kingston appears to spend relatively less on plant maintenance and general/admin expenses than the other communities;
- Guelph and Windsor are very similar in the breakdown of operating expenses; and,

- St. Catharines and Sudbury are very similar in the breakdown of operating expenses, and spend proportionally more on plant maintenance and general/admin expenses than Guelph and Windsor.

#### 4.4 Operating Revenues and Funding Contributions

Each agency's revenue position, insofar as conventional service is concerned, is summarized in **Table 6**. Substantial variation between transit systems is apparent with respect to revenue levels.

**Table 6: Operating revenue, conventional service, 2017**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines
<b>Total Operating Revenues</b>	\$12,137,418	\$5,847,876	\$7,880,010	\$13,882,076	\$7,313,339	\$10,062,831
<b>Total Revenues</b>	\$12,170,120	\$6,071,929	\$7,959,301	\$13,882,076	\$8,179,560	\$11,725,275

Financial contributions for operations from municipal, provincial and federal levels of government are summarized in **Table 7**.

**Table 7: Government contributions to operations, conventional service, 2017**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines
<b>Federal Operating Contribution</b>	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported
<b>Provincial Operating Contribution</b>	Not reported	\$2,090,000	\$927,929	\$3,382,946	\$2,494,608	Not reported
<b>Municipal Operating Contribution</b>	\$14,884,732	\$11,362,700	\$11,507,202	\$12,729,457	\$14,226,961	\$9,378,623
<b>Total Contribution</b>	\$14,884,732	\$13,452,700	\$12,435,131	\$16,112,403	\$16,721,569	\$9,378,623

None of the transit systems surveyed reported receiving any operating contributions from the federal government, whereas most reported provincial gas tax funding. Municipal contributions were reported to come from property taxes.

## 4.5 Service Performance

Service utilization key performance indicators (KPIs) for conventional transit services are summarized in **Table 8**.

**Table 8: Service utilization indicators, conventional service, 2017**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines
<i>Service Utilization</i>						
<b>Regular service passengers per capita</b>	49.1	20.9	27.1	30.9	50.7	38.5
<b>Regular service passengers per revenue vehicle hour</b>	31.5	15.0	24.3	28.5	25.7	30.4
<i>Amount of Service</i>						
<b>Regular vehicle hours per capita</b>	1.30	1.25	1.12	0.99	1.85	1.04
<i>Average Service Speed</i>						
<b>Revenue vehicle kilometres per revenue vehicle hour</b>	20.4	19.8	26.8	24.7	20.3	24.0

The following observations can be made based on these indicators:

- Guelph is on the higher end of its peer agencies with respect to the number of regular service passengers served relative to the total population of its service area;
- Guelph leads the peer agencies in the number of passengers served for each hour a regular service bus is in operation;
- Guelph is on the higher end of its peer agencies with respect to the number of regular vehicle hours operated relative to the total population of its service area; and,
- Guelph is in the middle of the pack with respect to the distance travelled in each hour a regular service bus is in operation.

These findings indicate that Guelph has high ridership relative to its population size and the transit agency provides a higher level of service than most of the peer agencies studied.

## 4.6 Productivity Performance

Productivity KPIs for conventional transit services are summarized in **Table 9**.

**Table 9: Productivity indicators, conventional service, 2017**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines
<i>Labour Productivity</i>						
<b>Vehicle hours per operator paid hour</b>	0.59	0.71	0.73	0.58	0.75	0.72
<i>Labour Costs</i>						
<b>Top wage rate per hour, operators</b>	\$28.84	\$24.00	\$27.87	\$29.05	\$29.17	\$28.67
<b>Top wage rate per hour, mechanics</b>	\$34.93	\$31.00	\$32.26	\$33.35	\$32.48	\$34.35

Guelph recorded the second lowest value compared to its peers with respect to the amount of time a bus is in active service compared to the amount of time for which operators are paid. This indicator is a measure of the degree to which labour costs relate to service levels, and could be explained by unrealized revenue hours, labour costs, or both.

The top wage rate for Guelph's operators is the third highest of the comparison communities, while Guelph's top wage rate for mechanics is the highest.

## 4.7 Financial Performance

Financial KPIs for conventional transit services are summarized in **Table 10**. Note that vehicle maintenance expenses are excluded from all calculations where indicated.

**Table 10: Financial performance indicators, conventional service, 2017**

	Guelph	Barrie <sup>2</sup>	Greater Sudbury	Windsor	Kingston	St. Catharines
<i>Financial Performance</i>						
<b>Revenue to cost ratio<sup>1</sup></b>	0.53	0.28	0.47	0.58	0.39	0.62
<b>Municipal operating contribution per capita</b>	\$112.94	\$88.91	\$76.89	\$58.61	\$117.45	\$70.46
<b>Net direct operating cost per passenger, regular service<sup>1</sup></b>	\$1.58	\$5.39	\$2.15	\$1.43	\$1.79	\$1.15
<i>Average Fare</i>						
<b>Revenue per passenger, regular service</b>	\$1.81	\$2.08	\$1.89	\$1.98	\$1.17	\$1.89
<i>Cost Effectiveness</i>						
<b>Total direct operating expenses per passenger, regular service<sup>1</sup></b>	\$3.39	\$7.47	\$4.03	\$3.40	\$2.96	\$3.04
<i>Cost Efficiency</i>						
<b>Total direct operating expenses per vehicle hour<sup>1</sup></b>	\$99.90	\$107.61	\$97.86	\$86.63	\$70.82	\$81.96
<b>Net direct operating cost per vehicle hour<sup>1</sup></b>	\$46.66	\$77.66	\$52.11	\$36.30	\$42.88	\$31.03

1. Performance measures do not include vehicle maintenance expenses in their calculation

2. Barrie's vehicle maintenance costs were not indicated separately in provided data and, thus, are included in overall cost information – as such, Barrie's costs may not be directly comparable to the other communities

The following observations can be made based on these indicators:

- Guelph's revenue to cost ratio is in the middle of the pack;
- Municipal contributions per capita (in relation to transit service area population) vary widely, with Guelph benefitting from the second highest contribution level;
- Operating costs and revenue per passenger are comparable to peer agencies; and,
- Operating costs per hour of vehicle service are higher in Guelph than the majority of the peer agencies whether looking at total or net (including fare revenue) costs, although the net costs are more closely grouped.

It is interesting to note that Guelph's 2016 operating cost per hour of vehicle service not including vehicle maintenance costs was \$89.81 compared with Barrie at \$101.85, Sudbury at \$93.35, Windsor at

\$87.38, Kingston at \$67.58, and St Catharines at \$77.05. This data illustrates that Guelph had the largest increase in per hour operating costs from 2016 to 2017.

As mentioned in **Section 4.6**, relatively high operating costs per hour could be driven by unrealized revenue hours, higher labour costs, or both. In order to better understand this question, the breakdown of operating expenses per hour for each transit system is given in **Table 11**.

**Table 11: Expenses per hour, conventional service, 2017**

	Guelph	Barrie <sup>1</sup>	Greater Sudbury	Windsor	Kingston	St. Catharines
<b>Transportation operations expenses per vehicle hour</b>	\$78.18	\$81.95	\$60.78	\$65.10	\$55.09	\$54.47
<b>Fuel and energy expenses per vehicle hour</b>	\$11.47	\$10.34	\$12.32	\$10.49	\$11.22	\$11.63
<b>Vehicle maintenance expenses per revenue vehicle hour</b>	Vehicle maintenance costs are not calculated in the same manner in all communities. As a result, they are not included for comparison.					
<b>Plant maintenance expenses per vehicle hour</b>	\$5.49	\$7.26	\$9.90	\$4.83	\$2.89	\$5.31
<b>General and administration expenses per vehicle hour</b>	\$4.76	\$4.64	\$14.85	\$6.21	\$1.62	\$10.54
<b>Total direct operating expenses per vehicle hour</b>	\$99.90	\$107.61	\$97.86	\$86.63	\$70.82	\$81.96
<b>Net direct operating expenses per vehicle hour</b>	\$46.66	\$77.66	\$52.11	\$36.30	\$42.88	\$31.03

1. Barrie's vehicle maintenance costs were not indicated separately in provided data and, thus, are included in overall cost information – as such, Barrie's costs may not be directly comparable to the other communities

Excluding Barrie (due to cost information not being directly comparable), Guelph incurs higher transportation operations costs for every hour of conventional service delivered. These could be caused by the slightly higher wage rates for Guelph Transit Operators, an experienced operations workforce with larger numbers of people at the maximum vacation allotment, less than ideal attendance, and/or higher than desirable overtime levels.



## 4.8 Additional Conventional Transit Questions

During the course of the analysis, additional questions about Guelph's conventional transit service provision and approach were raised. Commentary suitable to the question and relative to the scope of the project is provided below.

### Levels of Service

Guelph generally operates conventional transit routes at 30 minute frequencies throughout the service day. This is on par with the comparison communities as they also mostly operate routes at 30 minute frequencies, although some routes are operated more or less frequently at different times of day in response to demand.

Policies about level of transit service and frequency of route operation are best developed as part of a set of comprehensive service guidelines. Service guidelines are typically developed or updated during the development of a transit master plan or completion of a route and network review. Typical service guidelines would establish policy frequencies for different service types by time period and indicate appropriate levels of ridership for the implementation of improved or reduced frequencies. Examples of potential level of service guidelines could include:

- Consider improving service frequency on a route if the number of people on the bus at the busiest point on the route exceeds 110% of the seated capacity of on more than 50% of the trips during the time period in question; and,
- Consider reductions in service frequency on a route if the amount of revenue collected from fares on the route is less than 25% of the cost of operating the route during the time period in question.

These are just two examples of approaches that can be taken. Note that the numbers indicated are representative and the precise numbers chosen are unique to each transit system.

### Transit Network Structure

It is common to question whether or not a community's transit system is providing the best service that it can for residents. The answer to this question typically comes from a review of the transit network structure and the bus routes that make up that network.

Whether or not the most effective network structure for a community is radial from a central terminal, has multiple hubs connected together, or is a grid system is usually determined by studying the travel demands and mobility needs of the community. This is normally done by gathering origin-destination data describing travel within the community and completing market research on the needs and attitudes

of both transit users and non-users. This information will allow you to assess the current network and identify options for network and route changes that may better serve the community.

Detailed review of the performance of individual bus routes is also necessary in order to understand the effectiveness of the transit system. Ideally, boarding and alighting information at all bus stops in the system for all time periods of operation will be available, and this can allow for the development of detailed performance information for each route and section of route. Appropriate frequencies for high performing routes and possible changes for low performing routes can then be identified. If available, automated vehicle location data for all routes can be analysed in order to identify and prioritize potential transit priority locations and other methods for improving transit service reliability.

To be most effective, the network and route review activities described above should be accompanied by a robust community engagement program. The initial market research should include meetings with stakeholders and appropriate community surveys to better understand user needs. Network and route options, and the overall draft plan, should also be reviewed with stakeholders and the community at large. Only once this is undertaken should final network, route, implementation and financial plans be developed.

#### Delivering Service, a Different Way

Guelph's conventional transit service is currently delivered directly by the municipality. All administration, planning, implementation, operation and maintenance activities are undertaken by City of Guelph employees. This is by far the most common method of delivering conventional transit service in Canada.

Some communities choose to deliver a portion of their transit system using private sector businesses under contract to the municipality. Many very small communities, as well as those that are just starting transit systems, use this arrangement because they do not have the internal staff resources to effectively and efficiently run the service and they do not have the system size to justify hiring dedicated staff.

Most Canadian communities have eventually brought their transit system operation in-house as the systems have grown in order to maintain better control of operations and ensure a high level of customer service. There are exceptions to this, including Barrie, one of the comparison communities. Barrie has used a contractor for many years to provide bus operators, run the day-to-day operation and maintain the buses. Barrie plans and markets the service and owns the buses. The municipality has a detailed contract with the service provider that spells out significant performance criteria.

Review of the data and information about Barrie in the previous sections of this report illustrates that there are not any obvious advantages, disadvantages or savings compared with the municipally

delivered service approach used by Guelph and the other comparison communities. This is because the employees (whether public or private sector) have largely similar salaries and benefits, the vehicles being used to provide service are largely the same, and the types of service offered are similar.

#### 4.9 Conclusions about Conventional Transit Service

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Review of Guelph Transit's conventional transit service in comparison with other relevant communities and transit systems demonstrates that Guelph's performance is largely in line with that of the other communities. In most areas of review, Guelph's conventional transit system is comparable and competitive with the comparison communities. The following areas of interest that may warrant further investigation or action were identified:

- Guelph's transportation operations costs are generally higher than those of the comparison communities. There are a number of possible reasons for this including: slightly higher (but not excessive) wage rates for Operators; low ratio of in-service hours to operator-paid hours (possibly indicating a more experienced workforce with maximum vacation time, less than ideal attendance, unrealized revenue hours and/or the opportunity for improved scheduling and runcutting efficiency); or higher than normal overtime costs.
- Fleet maintenance in Guelph is completed by a corporate Fleet department, unlike in the comparison communities where fleet maintenance is conducted within the Transit department. The current fleet management processes result in costs being allocated across both the conventional and mobility services, resulting in the inability to analyse costs specific to the maintenance of the individual vehicles in each service.

## 5.0 Mobility Transit Service

Mobility Transit is the name given to demand-responsive, shared-ride transit service for registered persons with disabilities who are unable to use conventional transit service due to an eligible disability. The City of Guelph and its comparator cities all provide this service in their communities.

Mobility transit services provided by the transit systems surveyed include the following types of service:

- Dedicated bus service: Shared-ride service provided on demand using specialized, accessible transit vehicles;
- Non-dedicated hired car service: Provision of transit service on demand using accessible cars or vans, typically delivered by a third party on contract to the transit agency; and,
- Taxi-scrip: Subsidization of trip costs by the transit agency, with services delivered by local taxicab firms in the same manner as private customers.

The following sections offer an examination of pertinent characteristics for comparison between agencies for the 2017 operational year.

### 5.1 General Overview

An overview of pertinent data for comparing mobility transit service provision is given in **Table 12**.

**Table 12: General overview, mobility transit service, 2017**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston <sup>2</sup>	St. Catharines	
<b>Service Area Population</b>	131,794	142,000	138,000	233,687	123,363	131,400	
<b>Service Area Size (km<sup>2</sup>)</b>	87.0	100.0	152.6	195.6	451.2	97.0	
<b>Service Provided by</b>	Hybrid <sup>1</sup>	Contractor	Contractor	Non-Profit	Contractor/Non-Profit	Hybrid <sup>1</sup>	
<b>Total Passengers</b>	43,137	56,153	129,582	53,245	86,865	37,452	
<b>Total Operating Revenues</b>	\$24,105	\$52,243	\$221,309	\$262,491	\$204,105	\$93,174	
<b>Total Operating Expenses</b>	\$2,059,520	\$1,187,948	\$3,112,216	\$1,314,843	\$2,374,555	\$1,533,261	
<b>Hours of Service</b>	<b>Wkdy</b>	05:45-00:15	04:15-00:30	06:30-00:00	06:30-00:30	-	07:30-23:00
	<b>Sat</b>	05:45-00:15	06:45-00:30	07:00-00:00	08:00-00:30	-	09:00-23:00
	<b>Sun</b>	09:15-18:45	08:30-22:30	07:00-00:00	08:00-22:00	-	09:00-20:00

1. Hybrid means a mixture of municipality and contractor provided service delivery

2. Kingston data from 2016

The following observations can be made based upon the information above:

- A variety of service delivery models are employed by transit agencies in the provision of mobility transit services;
- Guelph Transit provides mobility transit service within the smallest service area boundary of the peer agencies, some of which cover an area more than twice as extensive;
- Guelph ranks in the middle of the peer agencies studied with respect to the total cost to operate mobility transit services; and,
- Guelph's hours of service are similar to most of the comparison communities and match the hours operated by Guelph's conventional transit service (as is required in the Accessibility for Ontarian's with Disabilities Act (AODA)).

## 5.2 Staffing Levels

Staff required to operate a mobility transit service include a combination of vehicle operators, maintenance staff, management, administrative staff, transit planning staff and schedulers. Full-time equivalent staffing levels applied to mobility transit service delivery, as reported by each agency, are given in **Table 13**.

**Table 13: Staffing levels, mobility transit service, 2016**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines
<b>Operators (FTE)</b>	7.5	13.0	Not Reported	10.5	20.0	8.0
<b>Other Operations (FTE)</b>	2.0	3.0	Not Reported	4.0	5.5	Not reported
<b>Vehicle Mechanics (FTE)</b>	Not reported	Not reported	Not Reported	-	Not reported	Not reported
<b>General and Administration (FTE)</b>	Not reported	Not reported	Not Reported	2.0	4.0	2.0
<b>Other (FTE)</b>	Not reported	Not reported	Not Reported	-	-	Not reported
<b>Total (FTE)</b>	9.5	16.0	Not Reported	16.5	29.5	10.0

In Guelph's case, management, administrative and transit planning staff are shared with conventional transit services, making it difficult to compare to other systems that separate these positions between conventional and mobility services. Values for Greater Sudbury were not reported by that agency.

### 5.3 Operating Expenses

The breakdown of operating expenses specific for mobility transit service for each transit system included in the study is given in **Table 14**.

**Table 14: Operating expenses, mobility transit service, 2017**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston <sup>1</sup>	St. Catharines
<b>Admin Expenses</b>	Not reported	\$87,225	\$216,802	\$37,223	\$734,111	\$180,699
<b>Operations Expenses, Internal, Dedicated Service</b>	\$1,286,038	Not reported	Not reported	\$1,041,325	\$1,219,101	\$831,256
<b>Operations Expenses, Contract, Dedicate Service</b>	Not reported	\$1,100,723	\$2,614,317	Not reported	Not reported	\$128,007
<b>Operations Expenses, Contract, Non-Dedicated Service</b>	Not reported	Not reported	\$281,097	Not reported	Not reported	\$109,863
<b>Operations Expenses, Contract, Taxiscrip</b>	\$67,470	Not reported	Not reported	Not reported	Not reported	Not reported
<b>Maintenance Expenses</b>	Vehicle maintenance costs are not calculated in the same manner in all communities. As a result, they are not included for comparison.					
<b>Fuel Expenses</b>	\$187,092	Not reported	Not reported	\$111,972	\$190,581	\$64,649
<b>Total Operating Expenses<sup>2</sup></b>	\$1,540,600	\$1,187,948	\$3,112,216	\$1,210,122	\$2,087,156	\$1,314,474

1. Kingston data from 2016
2. Total direct operating expenses not including vehicle maintenance expenses. Comparison of conventional transit service vehicle maintenance costs cannot be undertaken because some communities do not reliably separate their conventional and mobility transit service vehicle maintenance costs.
3. Barrie's vehicle maintenance expenses are included as part of their transportation operations expenses as a result of their contracted operation arrangement.
4. Sudbury does not report maintenance expenses separately.

Guelph has the second highest overall operating expense for mobility transit service in this peer group, not including Barrie and Sudbury, whose expenses are not directly comparable because they do not report maintenance costs separately from other costs.

## 5.4 Operating Revenues and Funding Contributions

Each agency's operating revenue position, insofar as mobility transit service is concerned, is summarized in **Table 15**. While operating revenues varied widely between the peer agencies, passenger revenue accounted for almost all operating revenue reported.

**Table 15: Revenues, mobility transit service, 2017**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines
<b>Passenger Revenue</b>	\$24,105	\$52,243	\$221,309	\$262,491	\$204,105	\$93,174
<b>Other Operating Revenue</b>	Not reported	Not reported	Not reported	\$354	\$4,052	Not reported
<b>Total Operating Revenue</b>	\$24,105	\$52,243	\$221,309	\$262,845	\$208,157	\$93,174

Financial contributions for mobility transit operations from municipal, provincial and federal levels of government are summarized in **Table 16**.

**Table 16: Contributions to operating revenues, mobility transit service, 2017**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines
<b>Federal Operating Contribution</b>	Not reported	Not reported	Not reported	Not reported	Not reported	Not reported
<b>Provincial Operating Contribution</b>	Not Reported	\$275,000	\$141,334	Not reported	\$69,476	Not reported
<b>Municipal Operating Contribution</b>	\$2,035,415	\$860,705	\$2,739,579	\$1,071,600	\$2,039,985	\$1,437,029
<b>Other Contributions</b>	Not reported	Not reported	\$9,994	Not reported	\$300	\$3,058
<b>Total Contribution</b>	\$2,059,520	\$1,187,948	\$3,112,216	\$1,334,445	\$2,317,918	\$1,533,261

No federal contributions were recorded for any of the transit agencies studied. Some agencies reported some contribution from provincial coffers, with amounts varying widely. Municipal contributions accounted for the majority of non-earned operating revenue. Three agencies (Sudbury, Kingston and St. Catharines) reported minimal contributions from other sources of revenue (donations).

## 5.5 Service Performance

Service utilization KPIs for Mobility transit services are summarized in **Table 17**.

**Table 17: Service utilization indicators, mobility transit service, 2017**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines
<i>Service Utilization</i>						
<b>Passengers per capita, total</b>	0.33	0.37	0.87	0.23	0.70	0.29
<b>Registrants per capita</b>	0.01	0.05	0.05	0.02	0.03	0.01
<b>Passengers per registrant, total</b>	33.23	6.84	16.59	12.75	28.02	20.26
<b>Passengers per vehicle hour</b>	2.30	1.95	2.45	2.56	2.40	2.59
<i>Amount of Service</i>						
<b>Revenue vehicle hours per capita, dedicated service</b>	0.14	0.19	0.35	0.09	0.29	0.11
<i>Average Service Speed</i>						
<b>Total vehicle kilometres per vehicle hours</b>	16.66	13.40	21.48	22.60	18.36	18.79

The following observations can be made based on these indicators:

- Guelph is on the low end of the peer agencies with respect to passengers served per capita, and has the lowest number of registrants relative to the population of its service area (along with St. Catharines);
- Conversely, Guelph services the most number of passengers for every active registrant;
- Guelph's passengers per hour of service is similar to the peer agencies studied; and,
- Guelph's vehicles travel a similar distance per hour of service to the peer agencies.



## 5.6 Productivity Performance

The mobility transit service industry does not track and report appropriate information to assess overall labour productivity. Some information about top wage rates is available, and this is summarized in **Table 18**.

**Table 18: Productivity indicators, mobility transit service, 2017**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines
<i>Labour Costs</i>						
<b>Top wage rate per hour, operators</b>	\$28.84	\$22.94	\$20.93	\$21.84	\$21.60	\$28.67
<b>Top wage rate per hour, mechanics</b>	\$34.93	\$31.15	\$34.70	Not reported	Not reported	\$33.93 \$34.35

Guelph is subject to the highest labour costs of those reported by the peer agencies, with wages for operators notably higher than three of the four reporting peer agencies. Four of the five additional communities considered (Brantford, Burlington, Cornwall, Oakville, Thunder Bay) have lower wage rates than Guelph's. Only Oakville's wage rates were higher (\$30.81 for Operators and \$36.66 for Mechanics).

## 5.7 Financial Performance

Financial KPIs for mobility transit services, not including maintenance expenses, are summarized in **Table 19**.

**Table 19: Financial performance indicators, mobility transit service, 2017**

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines
<i>Financial Performance</i>						
<b>Revenue to cost ratio<sup>1</sup></b>	0.02	0.04	0.06	0.21	0.09	0.06
<b>Net operating cost per capita</b>	\$14.01	\$7.30	\$20.28	\$4.34	\$17.56	\$10.69
<i>Cost Effectiveness</i>						
<b>Total operating expenses per passenger<sup>1</sup></b>	\$35.71	\$21.16	\$24.02	\$22.73	\$24.03	\$35.10
<i>Cost Efficiency</i>						
<b>Total operating expense per vehicle hour<sup>1</sup></b>	\$82.14	\$41.22	\$58.81	\$58.16	\$57.74	\$90.92
<b>Net operating expense per vehicle hour<sup>1</sup></b>	\$80.86	\$39.40	\$54.62	\$45.53	\$51.99	\$84.47

1. Does not include maintenance expenses

The following observations can be made based on these indicators:

- Guelph's revenue to cost ratio is the lowest among the peer agencies;
- Operating costs per capita (in relation to transit service area population) are on par with the peer agencies;
- Operating costs per passenger are the highest of the peer agencies;
- Only St Catharines has higher total and net operating expenses per hour of service than Guelph.

## 5.8 Additional Mobility Transit Questions

During the course of the analysis, additional questions about Guelph's transit service provision and approach were raised. Commentary suitable to the question and relative to the scope of the project is provided below.

### Levels of Service

Unlike conventional transit service where the level of service can be readily defined by the frequency being operated and policies provided in a set of comprehensive service guidelines, it is more difficult to define what level of service means for on demand mobility transit services. This is because these services do not generally have excess capacity and communities are typically trying to balance the level of supply with the level of demand. Much of the demand depends on the eligibility criteria that the community uses to determine who is allowed to use the mobility transit services as well as the quality of accessible infrastructure to access conventional transit services and key community facilities. Given this, the level of service offered by different communities is not usually compared. Instead, performance information such as that illustrated in previous sections is normally used. This information, outlined in the previous sections, shows that Guelph's level of service in terms of passengers per capita and passengers per revenue vehicle hour of service are generally on par with those of the comparison communities.

### Delivering Service, a Different Way

There is greater variety of service delivery approaches for mobility transit service than there is with conventional transit. While mobility transit services are commonly delivered by either municipal staff or private contractors in Canada, there is also a not-for-profit service delivery model in some communities.

The not-for-profit model evolved for historical reasons – a community organization saw a need for mobility transit service in their community before it was a regular service and stepped forward to plan and operate it. As time passed, the organization evolved and was contracted by the municipality to continue operating the service. Some of these have been quite successful, but others have run into difficulty and been taken over by the municipality. Two of the comparison communities, Kingston and Windsor, operate some or all of their mobility transit service through a not-for-profit organization. These services have similar performance characteristics to the other comparison communities.

The experiences of municipally operated versus contracted mobility transit services are similar to those of conventional transit services – communities most often used a contracted service model when services were first started and some continue to use this model because of good experiences and relationships with a contractor while others have brought the service in house to the municipality in order to better manage the business and customer interactions.

There are a number of examples within Canada over the past several years where municipalities have brought contracted or not-for-profit services in-house. Their reasons for doing so are most often focused on improving the management and control of the product in order to provide a better and more reliable customer experience. No recent examples of a municipally operated service being changed to a contracted operation were identified.

There is no evidence to suggest that Guelph would realize any substantial savings or simplification of administration if changes were made to the current service delivery model. Guelph should continue to deliver the service as they do today and look for opportunities to improve efficiency and effectiveness.

## 5.9 Conclusions about Mobility Transit Service

Like the conventional transit service, it is clear from the above analysis that the overall performance of Guelph's mobility transit service is largely in line with that observed in the comparison communities. Two areas of interest for further analysis may include:

- Operating costs for mobility transit service are similar to or higher than those of the comparison communities, likely as a result of slightly higher Operator wages.
- Fleet maintenance in Guelph is completed by a corporate Fleet department, unlike in the comparison communities where fleet maintenance is conducted within the Transit department. The current fleet management processes result in costs being allocated across both the conventional and mobility services, resulting in the inability to analyse costs specific to the maintenance of the individual vehicles in each service.

## 6.0 Combined System Analysis

Given the findings regarding operational costs for conventional and mobility transit services, this section assesses whether those findings also apply at the aggregate, system-wide level (i.e. examining conventional and mobility transit service in combination).

A breakdown of total system-wide operational costs for each of the peer agencies studied is given in **Table 20**.

When conventional and mobility costs are combined together, the previous findings remain: Guelph's operational costs are higher than the average of the peer agencies studied. In particular, maintenance costs and service operations expenses are substantially higher than the peer group. However, when service operations and maintenance expenses are removed from the calculation of overall expenses, Guelph's system-wide operational unit costs per revenue hour remain below the average of the peer agencies.

To confirm these findings, the same analysis was performed using additional peer comparators, details of which are given in **Table 21**. The same pattern is apparent: while Guelph's system-wide operational unit costs are higher than the average of the additional peer group, this variance largely disappears once service operations and maintenance costs are excluded – such that Guelph's values are in line with the average of the additional peer group.

When net operating costs are examined and compared with all of the comparison communities presented in Tables 20 and 21, it is clear that Guelph's net operating costs are more in line with the other communities.

The results of the combined analysis indicate that Guelph's higher operational costs stem largely from higher than average service operation and maintenance costs. The possible reasons for this were introduced in the previous sections and are summarized below:

- Service operation expenses focus on the costs of actually delivering the service – the Operators driving the vehicles and the supervisory and administrative activities and items that directly support them. Guelph's wage rates for Operators is slightly higher than the comparison communities (although not excessively so), and this will contribute to the difference. Also contributing may be Guelph's low ratio of in-service hours to operator paid hours, which could be reflecting a more experienced work force with maximum vacation allotments, attendance management concerns, unrealized revenue service hours, and/or a smaller than needed number of Operators resulting in excessive overtime.

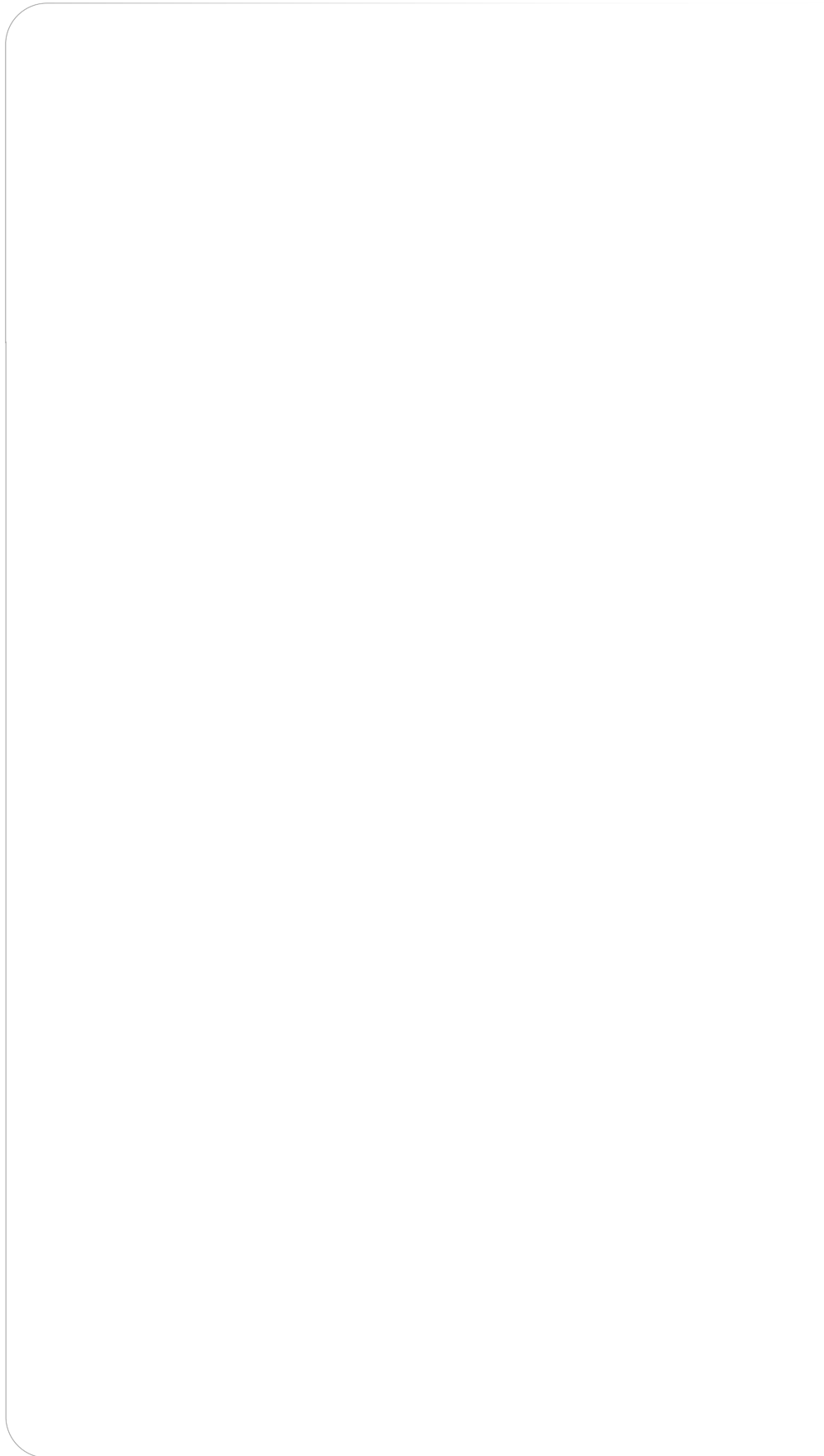
- Transit vehicle maintenance in Guelph is completed by a separate fleet department that is not part of the transit department. This is different than in the comparison communities where the transit department undertakes its own maintenance. In order for a direct comparison to occur, Guelph's actual maintenance costs should be reported separately from fleet service costs. This will allow for analysis and reporting of incurred costs, and be more comparable.

Table 20: Combined system analysis, 2017

	Guelph	Barrie	Greater Sudbury	Windsor	Kingston	St. Catharines	Average of peers
<b>Hours and Passenger Revenue</b>							
Total vehicle hours, conventional service	219,712	185,771	167,454	263,905	257,133	190,021	212,857
Total vehicle hours, dedicated mobility service	18,755	28,822	52,924	20,805	36,145	14,458	30,631
Total vehicle hours, overall system	238,467	214,593	220,378	284,710	293,278	204,479	243,487
Total passenger revenue, conventional service	\$11,696,803	\$5,562,799	\$7,660,281	\$13,282,460	\$7,181,973	\$9,677,142	\$8,672,931
Total passenger revenue, mobility service	\$24,105	\$52,243	\$221,309	\$262,845	\$208,157	\$93,174	\$167,546
Total passenger revenue, overall system	\$11,720,908	\$5,615,042	\$7,881,590	\$13,545,305	\$7,390,130	\$9,770,316	\$8,840,477
<b>Maintenance Expenses</b>							
Maintenance expenses, conventional service	\$5,105,371	Not reported	\$3,603,364	\$5,787,077	\$3,325,988	\$4,170,096	\$4,221,631
Maintenance expenses, dedicated mobility service	\$518,920	Not reported	Not reported	\$124,323	\$230,762	\$218,787	\$191,291
Total maintenance expenses, overall system	\$5,624,291	Not reported	\$3,603,364	\$5,911,400	\$3,556,750	\$4,388,883	\$4,365,099
Total maintenance expenses per vehicle hour, overall system	\$23.59	Not reported	\$16.35	\$20.76	\$12.13	\$21.46	\$17.68
<b>Service Operations Expenses</b>							
Transportation operations expenses, conventional service	\$17,178,171	\$15,223,417	\$10,177,662	\$17,179,575	\$14,165,238	\$10,351,118	\$13,419,402
Internal dedicated service operations expenses, mobility service	\$1,286,038	Not reported	Not reported	\$1,041,325	\$1,219,101	\$831,256	\$1,030,561
Total service operations expenses, overall system	\$18,464,209	\$15,223,417	\$10,177,662	\$18,220,900	\$15,384,339	\$11,182,374	\$14,037,738
Total service operations expenses per vehicle hour, overall system	\$77.43	\$70.94	\$46.18	\$64.00	\$52.46	\$54.69	\$57.65
<b>Overall Operations Expenses</b>							
Total direct operating expenses, conventional service	\$27,054,852	\$19,354,355	\$19,990,359	\$28,648,236	\$21,535,065	\$19,743,943	\$21,854,392
Total operating expenses, mobility service	\$2,059,520	\$1,187,948	\$3,112,216	\$1,314,843	\$2,374,555	\$1,533,261	\$1,904,565
Total operating expenses, overall system	\$29,114,372	\$20,542,303	\$23,102,575	\$29,963,079	\$23,909,620	\$21,277,204	\$23,758,956
Operating expenses per hour, overall system	\$122.09	\$95.73	\$104.83	\$105.24	\$81.53	\$104.06	\$98.28
<b>Adjusted Operations Expenses</b>							
Operations expenses, not including transportation operations and maintenance costs, conventional service	\$4,771,310	\$4,130,938	\$6,209,333	\$5,681,584	\$4,043,839	\$5,222,729	\$5,057,685
Operations expenses, not including internal dedicated service operations and maintenance costs, mobility service	\$254,562	\$1,187,948	\$3,112,216	\$149,195	\$924,692	\$483,218	\$1,171,454
Total adjusted operations expenses, overall system	\$5,025,872	\$5,318,886	\$9,321,549	\$5,830,779	\$4,968,531	\$5,705,947	\$6,229,138
Adjusted operations expenses per vehicle hour, overall system	\$21.08	\$24.79	\$42.30	\$20.48	\$16.94	\$27.90	\$26.48
<b>Combined Net Operations Expenses</b>							
Combined net operations expenses per revenue vehicle hour, overall system	\$72.94	\$69.56	\$69.07	\$57.66	\$56.33	\$56.27	\$61.78

**Table 21: Combined system analysis, additional agencies, 2017**

Combined system analysis, additional agencies	Guelph	Brantford	Burlington	Cornwall	Oakville	Thunder Bay	Average of peers
<b>Revenue Hours</b>							
Revenue vehicle hours, conventional service	171,900	76,149	164,694	38,159	208,831	141,413	125,849
Revenue vehicle hours, dedicated mobility service	16,286	25,454	13,830	13,370	24,645	30,339	21,528
Total revenue vehicle hours, overall system	188,186	101,603	178,524	51,529	233,476	171,752	147,377
<b>Maintenance Expenses</b>							
Maintenance expenses, conventional service	\$5,105,371	\$2,206,984	\$2,805,873	\$1,053,108	\$5,063,733	\$3,220,882	\$2,870,116
Maintenance expenses, mobility service	\$518,920	\$311,888	\$402,321	\$230,302	\$188,871	\$439,431	\$314,563
Total maintenance expenses, overall system	\$5,624,291	\$2,518,872	\$3,208,194	\$1,283,410	\$5,252,604	\$3,660,313	\$3,184,679
Total maintenance expenses per vehicle hour, overall system	\$23.59	\$25.17	\$16.97	\$25.21	\$21.66	\$20.20	\$21.84
<b>Service Operations Expenses</b>							
Transportation operations expenses, conventional service	\$17,178,171	\$4,671,776	\$8,841,526	\$2,094,612	\$15,291,568	\$7,664,037	\$7,712,704
Internal dedicated service operations expenses, mobility service	\$1,286,038	\$1,166,850	\$1,050,179	\$685,384	\$1,615,569	\$1,269,799	\$1,157,556
Total service operations expenses, overall system	\$18,464,209	\$5,838,626	\$9,891,705	\$2,779,996	\$16,907,137	\$8,933,836	\$8,870,260
Total service operations expenses per vehicle hour	\$77.43	\$58.33	\$52.34	\$54.62	\$69.72	\$49.29	\$56.86
<b>Overall Operations Expenses</b>							
Total direct operating expenses, conventional service	\$27,054,852	\$8,878,426	\$15,756,139	\$4,156,511	\$25,514,135	\$16,260,777	\$14,113,198
Total operating expenses, mobility service	\$2,059,520	\$1,605,038	\$1,690,581	\$1,315,931	\$3,638,406	\$2,351,031	\$2,120,197
Total operating expenses, overall system	\$29,114,372	\$10,483,464	\$17,446,720	\$5,472,442	\$29,152,541	\$18,611,808	\$16,233,395
Operating expenses per hour, overall system	\$122.09	\$104.74	\$92.31	\$107.51	\$120.22	\$102.69	\$105.49
<b>Adjusted Operations Expenses</b>							
Operations expenses, not including transportation operations and maintenance costs, conventional service	\$4,771,310	\$1,999,666	\$4,108,740	\$1,008,791	\$5,158,834	\$5,375,858	\$3,530,378
Operations expenses, not including internal dedicated service operations and maintenance costs, mobility service	\$254,562	\$126,300	\$238,081	\$400,245	\$1,833,966	\$641,801	\$648,079
Total adjusted operations expenses, overall system	\$5,025,872	\$2,125,966	\$4,346,821	\$1,409,036	\$6,992,800	\$6,017,659	\$4,178,456
Adjusted operations expenses per revenue vehicle hour, overall system	\$21.08	\$21.24	\$23.00	\$27.68	\$28.84	\$33.20	\$26.79
<b>Combined Net Operations Expenses</b>							
Combined net operations expenses per vehicle hour, overall system	\$72.94	\$79.99	\$65.86	\$84.55	\$88.05	\$70.22	\$77.73





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# Guelph Transit

Business Service Review  
Final Report  
January 29, 2019

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## Background and methodology

- City's commitment to continuous improvement
- Guelph Transit = pilot
- Council Approved Business service review framework



# Business Service Review

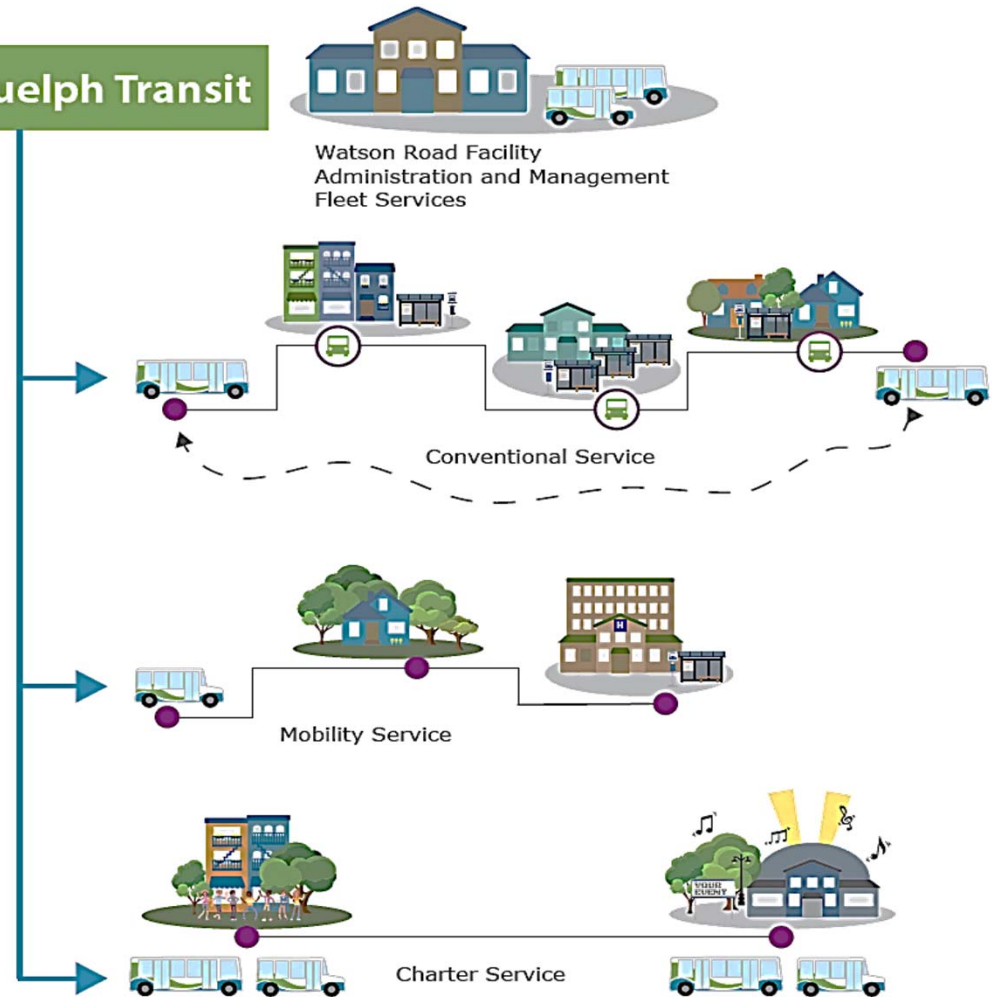
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- Operations
  - Conventional services;
  - Mobility services; and
  - Specialty services
- Administration processes

## Review scope

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## Key findings

- Transit service is on par with service levels and performance of the other comparator municipalities.
- Stable revenue to cash performance over the last three years.
- Overall there is a fairly high level of satisfaction with service
- Net cost to provide service is on par with comparator municipalities
  - expenses are on the rise
- Concerns related to reliability of service.
  - Average of 3.6% of all runs are dropped or missed.
- Vacancies and absenteeism rates have a significant impact on the available hours of work and service reliability.
- Opportunity for service improvements and growth through new technology including on-demand service software and smart cards.

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## Recommendations

- **Recommendations that require follow-up**
  - recommendations require further action and approvals
- **Operational recommendations**
  - recommendations are operational in nature
  - require implementation plans to be developed and carried out by Guelph Transit
- **Recommendations underway**
  - recommendations are underway or being initiated shortly.

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## Recommendation 1

**Set a funding and fare pricing policy based on a target net revenue to cost (R/C) ratio range of between 40% and 45% to support service and ongoing service improvements while reducing the potential financial impacts to customers**

- **Category:** Recommendation that requires follow-up
- **Next steps:**
  - Budget process to support revised R/C ratio target range



## Recommendation 2

**Expand and rebrand the Community Bus.  
Increase from the current two-bus service to  
six buses by 2020.**

- **Category:** Recommendation that requires follow-up
- **Next steps:**
  - Engagement, route review and capital investment activity in 2019
  - Operationalize the increased service in 2020

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## Recommendation 3

**Conduct an operational level route review, to review both holistic system changes as well as individual route modifications including:**

- a) opportunities to move to a blended network with hub and spoke, spine (grid), perimeter and express routes.
  - b) Identifying individual route structure and frequency to best meet the needs to the ridership
- **Category:** Recommendation that requires follow-up
  - **Next steps:**
    - Hire a contract route planning position (2019)
    - Conduct route review activity (2019/2020)



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## Recommendation 4

**Update the Transit Growth Strategy (Transit Strategic Plan) to provide direction for conventional and mobility service to 2040, supporting the Corporate Transportation Master Plan.**

- **Category:** Recommendation that requires follow-up
- **Next steps:**
  - Identify resource requirements to support this activity
  - Conduct activity post Corporate Transportation Master plan completion

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## Recommendation 5

**Discontinue morning shuttle service (pilot project) to Guelph Central Station effective Q2 2019.**

- **Category:** Operational Recommendation
- **Next steps:**
  - Communicate the service change Q1 2019
  - Cancel service Q2 2019

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## Recommendation 6

**Review and renew the CoFare contract with Metrolinx.**

- **Category:** Recommendation underway
- **Next steps:**
  - Review contract and identify required changes 2019

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## Recommendation 7

**Develop and implement an operator recertification program with dedicated training hours.**

- **Category:** Recommendation underway
- **Next steps:**
  - Develop program 2019/2020
  - Launch 2021

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## Recommendation 8

### Adjusting the staffing structure at Transit to:

- a) Provide a dedicated Human Resources staff position, and
- b) better align the management structure
- **Category:** Recommendation underway
- **Next steps:**
  - Develop and fill a contract position to provide dedicated HR support over a two year period (2019)
  - Conduct an internal organizational assessment (2019)

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## Recommendation 9

**Separate vehicle maintenance cost reporting into two line items, one that reports asset specific maintenance costs and one that reports the remaining costs associated with internal fleet services**

- **Category:** Recommendation underway
- **Next steps:**
  - Implementation of a fleet maintenance management system

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## Recommendation 10

**Implement the new fare box program with the capability for reusable tap and go passes (smart cards).**

- **Category:** Recommendation underway
- **Next steps:**
  - Award contract for fare box implementation 2019
  - Implement new fare box program 2020

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## Recommendation 11

**Develop and pilot a program for Intelligent On-Demand Transit software with the Mobility Service, to improve service availability and service options**

- **Category:** Recommendation underway
- **Next steps:**
  - Feasibility and capability assessment through a pilot program in 2019/2020



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## Recommendation 12

**Stabilize the workforce to ensure sustainable provision of current level of service through base staffing increase of 19 operators.**

- **Category:** Recommendation underway
- **Next steps:**
  - annual budget increase of \$260,000 per year until base increase is complete.

# Business Service Review

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## Summary & Next Steps

Recommendation	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Q1 2020	Q2 2020	Q3 2020	Q4 2020	2021	2022	2023	2024
1. R/C Funding Ratio	█											
2. Community Bus	█											
3. Route Review		█										
4. Transit Strategy						█						
5. Morning Shuttle	█											
6. CoFare Contract		█										
7. Recertification	█											
8. Staffing Structure		█										
9. Maintenance Reporting			█									
10. Smart Cards	█											
11. On-Demand Software	█											
12. Workforce Stabilization		█										

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## Key impacts

- Improved service reliability
- Increase service levels in the Community Bus service.
- Recommendations have a net operating impact of \$498,000 in 2019 and capital impact of \$2.7 million.
- Service standards to support consistent decision-making related to service levels and delivery.
- Greater accuracy of data leading to improved controls in performance management and reporting.

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