The Corporation of the Town of Tecumseh

Planning & Building Services

To: Mayor and Members of Council

From: Brian Hillman, Director Planning & Building Services

Date to Council: February 23, 2021

Report Number: PBS-2021-07

Subject: Tecumseh Transit Service (TTS)
Canada Healthy Communities Initiative
Pilot Program of On-Demand Transit for Tecumseh Transit Service
OUR FILE: T03 TTS

Recommendations

It is recommended:

That PBS-2021-07 – Canada Healthy Communities Initiative - Pilot Program of On-Demand Transit for Tecumseh Transit Service Report, **be received**;

And that a one-year pilot project for an on-demand transit service **be endorsed** as a candidate project for funding through the Canada Healthy Communities Initiative;

And further that the Treasurer **be authorized** to sign any required documents necessary to complete the application to the Canada Healthy Communities Initiative.

Executive Summary

The Canada Healthy Communities Initiative (CHCI) is a $31 million Government of Canada application-based grant program intended to support communities in adapting spaces and services to respond to immediate and ongoing needs arising from COVID-19 over the next two years. Improving mobility options by way of public transit system adjustments is one of the project streams being funded up to $250,000. Administration is recommending a one-year

pilot project for an on-demand transit service be endorsed by Council as a candidate project for funding through the CHCI. Applications are due March 9, 2021.

Background

Canada Healthy Communities Initiative

The CHCI is a $31 million investment from the Government of Canada to support communities to establish new ways to adapt spaces and services to respond to immediate and ongoing needs arising from COVID-19 over the next two years. This initiative will provide maximum funding of $250,000 to a broad range of organizations, including local governments, for projects, programming and services that help communities:

- create safe and vibrant public spaces;
- improve mobility options; and
- provide innovative digital solutions to connect people and improve health.

Improving mobility options includes projects that permit physical distancing through permanent or temporary changes that make it easier for people to get around in their communities, whether walking, biking, accessing public and private transit or other modes of transportation.

Administration believes that this funding opportunity aligns well with the Town's desire to explore the use of on-demand technology as an alternative delivery model for the Tecumseh Transit Service (TTS). The objectives of improved mobility options and the provision of innovative digital solutions to connect people would be achieved through the implementation of an on-demand transit service.

In order to qualify for the funding, an application must be filed by March 9, 2021 that includes a Council resolution supporting the associated project.

On-Demand Transit

The TTS is currently categorized as a "fixed-service" system in that it operates on a fixed route with permanent stops in accordance with a fixed schedule. This route is adhered to for 12 hours per day, Monday to Saturday, regardless of the demand for a particular stop/destination. For this reason, the bus is often running with few to no passengers throughout the day during off-peak times.

On-demand transit service uses computer algorithms in response to service requests to develop instantaneous routing. As a result, in times and areas with lower demand for transit, stops can be served more efficiently as the bus goes directly to where and when people are waiting, instead of following a pre-planned route and schedule. The requests for service are made through an app on a smartphone and handled almost instantaneously. It should be

noted that while it is estimated that 90 percent of the population owns a smartphone, the on-demand service can include a call-in option to book trips for those who don't.

On-demand service can also provide a transit provider with considerable feedback and flexibility in service planning. For example, transit providers can get instantaneous reports about their service use and quality, both by measuring trip lengths and wait times and through a rating system that allows the customer to provide feedback on individual trips.

The on-demand service is also an adjustable service. Variables such as vehicle capacity, minimum ridership thresholds and maximum trip length can be established. These variables are then used to inform algorithms running thousands of routing options to achieve solutions that don't keep passengers on board for too long and guarantee a seat once a trip is reserved.

This feedback loop has become especially useful during the COVID-19 pandemic. The on-demand system is flexible to demand and can dynamically adjust the capacity of vehicles. This has allowed transit providers to adapt more cost-effectively to the decrease in transit demand brought about by the pandemic and remove a lot of the uncertainty surrounding crowding and capacity enforcement from the day-to-day operations. By adjusting vehicle capacities, passengers have certainty that they will have physically distanced room on the bus when it arrives, and drivers will not have to enforce physical distancing by refusing pickups.

On-demand transit is best suited for low-demand areas and times where the goal is to provide coverage to many stops at a lower cost. More specifically, on-demand service works best for the following scenarios:

- **First-and-last mile** - in most places, high-frequency transit isn't within walking distance of where most people live and work. On-demand service connects people to the regional buses (i.e. Transit Windsor hub at Tecumseh Mall) that will then connect them to everything else.

- **Transit deserts** – most smaller towns lack the population density necessary for efficient fixed-route buses or trains. On-demand service creates a more convenient and accessible service for riders in these areas. This may enable the Town to provide transit service to these types of areas, such as south of County Road 22, including Tecumseh Vista School.

- **Equity and accessibility** - public transit is often a critical lifeline for seniors and people with disabilities. On-demand optimizes typically inefficient paratransit options, creating real-time bookings, higher quality service and reducing trip costs with more efficient and equitable shared rides.

- **COVID-19 safety** - as both supply and demand shift with regulated social distancing measures, transit can respond in real-time. On-demand technology allows fixed routes such as the TTS to morph into dynamic lines, managing peak travel times, pre-booking seats and accommodating evolving safety practices.

Comments

Potential On-Demand Pilot Program

As noted earlier in this report, the TTS operates on a fixed route 12 hours per day, six days a week. This route is based on a one-hour headway covering 30 kilometres and 43 stops. The Town owns the two fully accessible buses used in the service but the delivery of the service is contracted out to First Student Canada. Council recently extended the contract with First Student to the end of 2022.

Some of the most common requests received during the various public consultation initiatives over the years are for the bus to run more frequently and on time. In response, some improvements and tweaking to the TTS have been made in an attempt to optimize the service. Despite these improvements, it appears that ridership has peaked in the range of 25,000 to 30,000 annual trips.

Administration believes that an on-demand approach to the existing fixed route network has the potential to yield increased ridership due to enhanced service levels and reliability. In addition, it may offer the flexibility to extend the service area into the Amy Croft area of Lakeshore, which has been the subject of frequent requests by users. Discussions to date suggest that the Municipality of Lakeshore would be agreeable to such a service extension on a trial basis. An on-demand service also has the potential to decrease the amount of fuel used and, in turn, decrease Green House Gas as there may be periods of the day when the bus will not be running as demand does not warrant it.

Administration recently met with a representative of an on-demand service provider who has reviewed the Town's system at a high level and believes it would significantly benefit from on-demand technology. The representative noted the following value proposition associated with this type of service:

- Increased cost recovery ratio;
- Improved service;
- Increased ridership;
- Maximized coverage though increased fleet utilization;
- Improved reliability and trip transparency;
- Shorter commute from route optimization;
- Flexible transit schedule built around ridership needs.

To further illustrate the effectiveness of on-demand service, the representative used the case study of Laval, Quebec. When on-demand service was introduced to this city, revenues increased by 34 percent, expenses decreased by 26 percent and average trip length was reduced by 11 percent.

To test the applications of this technology with the TTS, Administration believes the Town would benefit from undertaking a one-year pilot project. The process for a pilot project as described by this particular service provider would involve the following steps:

Step 1 – Analyze and Simulate (4 weeks)

- On-demand simulations
- Network data analysis
- Corridor selection, operating parameter selection
- Approval of the pilot project

Step 2 – Plan Pilot Project (6 to 8 weeks)

- Set-up and software implementation
- Training of First Student drivers and other staff
- Installation of tablets on buses
- Pre-launch tests with drivers

Step 3 – Launch Pilot Project (12 months)

- Limited operating zones
- Marketing and PR push

Step 4 – Permanent Implementation (if successful)

The total duration of the project (Steps 1-3) is estimated to be 15 months, after which Administration will evaluate the on-demand pilot project and report the findings to Council.

Administration believes that the aforementioned pilot project could qualify for the Healthy Communities Initiative funding as it improves mobility options for Town and area residents and it provides an innovative digital solution to connect people. In addition, the use of on-demand technology would enable the Town to establish ridership capacity limits on the bus based on the COVID-19 protocols in effect over the period of the pilot project.

Finally, at the time Council authorized the two-year contract extension with First Student Canada through adoption of PBS-2020-38, the report noted that Administration was investigating the feasibility of various transit delivery models, including:

- Status quo;
- Contract existing service (or variation thereof) to Transit Windsor;
- Transit on-demand;
- Service partnership with Lakeshore; or
- Some combination of the above options.

The introduction of an on-demand pilot project would provide the Town with an opportunity to fully appreciate the potential for such a service model by way of direct experience and evaluate it against our current service delivery model and those other models that continue to be

available. It should be noted that First Student Canada is amenable to participating in such a pilot project with the Town.

In summary, the introduction of a one-year pilot project for an on-demand transit service appears to be consistent with the criteria established for the CHCI and therefore Administration recommends that Council support the submission of an application to seek funding for this initiative.

Consultations

Financial Services
First Student Canada

Financial Implications

There are no financial implications for filing the application.

With respect to the on-demand pilot program and for grant application purposes, the estimated cost of the pilot program is in the range of $25,000 to $49,000 as detailed in the following table.

Expenditure type	Lower Range	Upper Range	Grant Application
Software set-up	$2,000	$15,000	$10,000
Software service fee	$12,000	$18,000	$15,000
Advertising	$3,000	$6,000	$5,000
Driver training	$1,000	$2,000	$2,000
Call center	$2,000	$3,000	$3,000
Contingency	$5,000	$5,000	$5,000
Total	$25,000	$49,000	$40,000

The expenditure estimates are based on limited information available at this time. Estimates will be refined should our application be successful. Administration recommends submitting an application for $40,000.

Potential transit service cost savings, based on limited data available for on-demand transit, as provided by the software supplier and detailed within this report, suggest that annual bus fare revenue could increase by $8,000.

Anticipated expenditure savings would likely come from reduced fuel consumption and vehicle maintenance. These costs are currently contained within our service agreement with First Student and would have to be negotiated. A rough estimate of operating cost savings for illustrative purposes would be approximately $10,000 (fuel and regular maintenance costs). There would be no expected savings to labour costs for the pilot program.

Based on the above assumptions, the one-year pilot program costs would be between $25,000 to $49,000 with potential to offset this cost by up to $18,000 (increase in bus fare revenue and decrease to fuel and maintenance) for a net cost of between $7,000 to $31,000. It is believed that these costs would be the same if the Lakeshore Amy Croft area were to be included in the service area.

Excluding one-time software set-up and training costs, the net operating impact would be between $(5,000) - $19,000.

These figures are based on very limited data and actual results may vary significantly.

Notwithstanding the likelihood that this delivery model may cost a little more than the existing fixed model, Administration recommends proceeding with the application as there are other anticipated benefits with respect to improved rider experience, enhanced rider COVID-19 safety, reduced pollution and GHG emissions and extended useful life of the Town's fleet.

Link to Strategic Priorities

Applicable	2019-22 Strategic Priorities
☒	Make the Town of Tecumseh an even better place to live, work and invest through a shared vision for our residents and newcomers.
☒	Ensure that Tecumseh's current and future growth is built upon the principles of sustainability and strategic decision-making.
☐	Integrate the principles of health and wellness into all of Tecumseh's plans and priorities.
☒	Steward the Town's "continuous improvement" approach to municipal service delivery to residents and businesses.
☐	Demonstrate the Town's leadership role in the community by promoting good governance and community engagement, by bringing together organizations serving the Town and the region to pursue common goals.

Communications

Not applicable ☒

Website ☐ Social Media ☐ News Release ☐ Local Newspaper ☐

This report has been reviewed by Senior Administration as indicated below and recommended for submission by the Chief Administrative Officer.

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Reviewed by:

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Recommended by:

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Attachment Number	**Attachment Name**
None	.