AGENDA
POLICY & STRATEGY COMMITTEE MEETING
Bridgewater, NS
Tuesday, March 17, 2020 – 9:00 a.m.

Time & Page

1. CALL TO ORDER

2. ANNOUNCEMENTS, ACKNOWLEDGEMENTS, RECOGNITION

3. PUBLIC INPUT (15 Minutes)

4. APPROVAL OF AGENDA – Added Items

5. APPROVAL OF MINUTES – February 18, 2020 (as circulated)

6. BUSINESS ARISING FROM MINUTES

7. PRESENTATIONS
   7.1 Hemlock Woolly Adelgid – Mersey Tobeatic Research Institute ..... 9:15 a.m. 1-7

8. REFERRAL FROM COUNCIL
   8.1 Citizens for Public Transit 8-54

9. STAFF REPORTS
   9.1 Planning Department
      9.1.1 Policy MDL-88 Areas Where New Public Roads are Permitted 55-57
      Re: Proposed Amendment and Repeal of Policies MDL-24 & MDL-25

10. MAYOR'S/DEPUTY MAYOR'S/COUNCILLORS' MATTERS

11. ADDED ITEMS - NIL

12. IN CAMERA

13. NEXT MEETING – April 21, 2020 – 9:00 a.m.

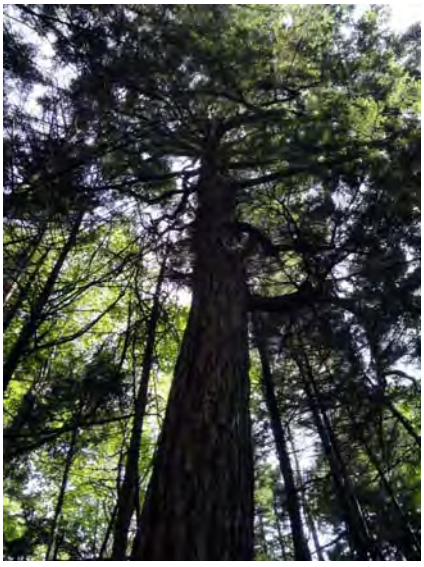
14. ADJOURNMENT

1

MTRI's Mission

Mersey Tobeatic Research Institute

MTRI's mission is to promote sustainable use of natural resources and biodiversity conservation in Southwest Nova Scotia and beyond through research, education, and the operation of a field station.



2

So What Does Hemlock Mean To You ?

Mersey Tobeatic Research Institute

An iconic North American tree

3

So What Does Hemlock Mean To You ?

Mersey Tobeatic Research Institute

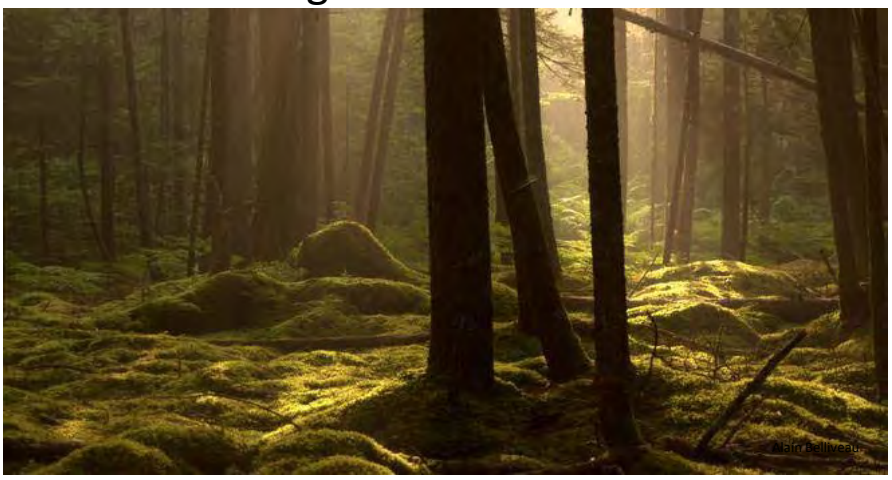
Some of the last remaining old growth forest in Nova Scotia

4

Eastern Hemlock

Mersey Tobeatic Research Institute

Could this be a foundation species on the edge?



5

Hemlock Woolly Adelgid

Mersey Tobeatic Research Institute

6

Some HWA Facts

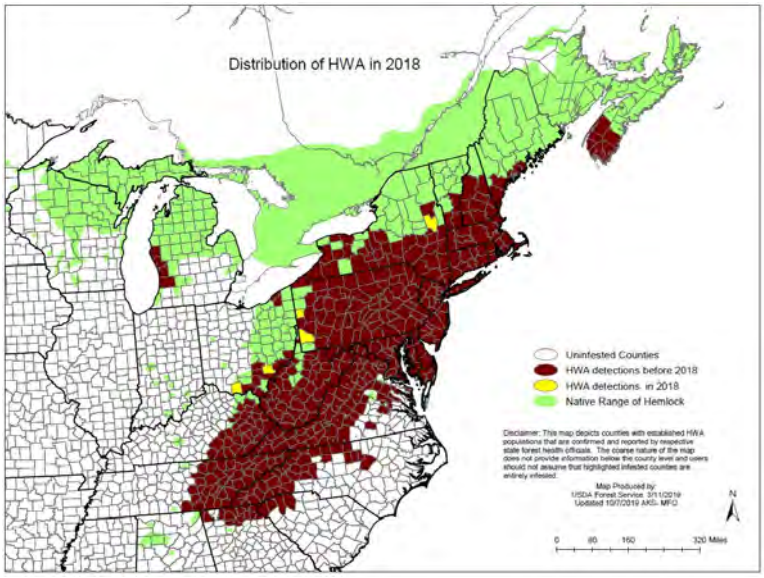
Mersey Tobeatic Research Institute

- First reported in eastern NA in Virginia in 1951
- Naturally spread by wind, birds and mammals
- Long distance dispersal via infected nursery stock, logs, firewood
- HWA can cause defoliation, twig dieback and mortality in as few as 4 years (4-10 years) sometimes up to 20

7

A Creeping Conflict

Mersey Tobeatic Research Institute



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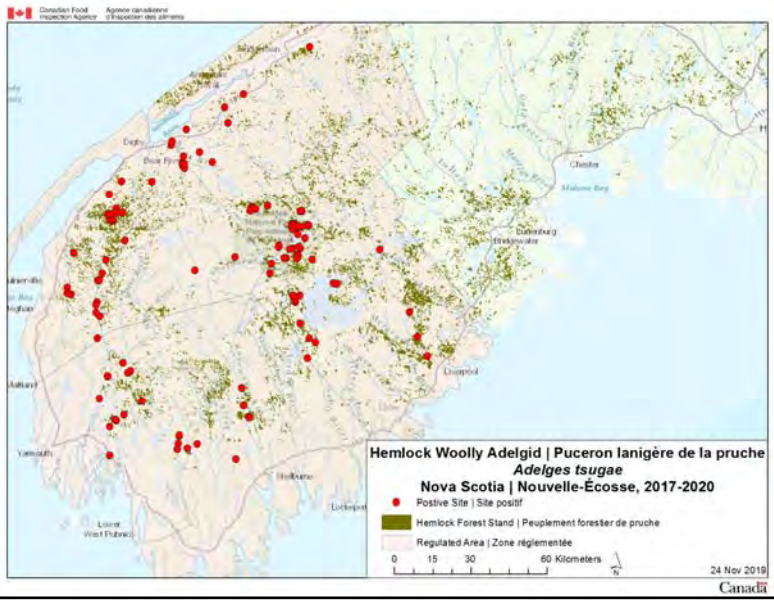
HWA Now In Five NS Counties

Mersey Tobeatic Research Institute



9

Impact On Trees

Mersey Tobeatic Research Institute

- Inserts stylets into twigs at the base of needles and feeds on sugars and other nutrients

- Feeding kills buds first then the needles

10

The Death of Eastern Hemlock

Mersey Tobeatic Research Institute

11

HWA Working Group

Mersey Tobeatic Research Institute

Canadian Food Inspection Agency

Canada
Natural Resources Canada
Canadian Forest Service

Parks Canada Parcs Canada

Mersey Tobeatic Research Institute

Nova Scotia Nature Trust

Lands & Forestry

Medway Community Forest Cooperative

Nature Conservancy Canada

Acadia University

Environment

Environment and Climate Change Canada
Environnement et Changement climatique Canada

New Brunswick Canada

Cornell University

12

A Collaborative Approach

Mersey Tobeatic Research Institute

- Outreach
- Surveys & monitoring
- Management plan development
- Silviculture trials
- Firewood movement restrictions
- Chemical control research
- Biocontrol research

13

MEMORANDUM

TO: **Chair & Members of Policy & Strategy Committee**

FROM: **Tom MacEwan, Chief Administrative Officer**

DATE: **February 25, 2020**

RE: **Citizens for Public Transit**

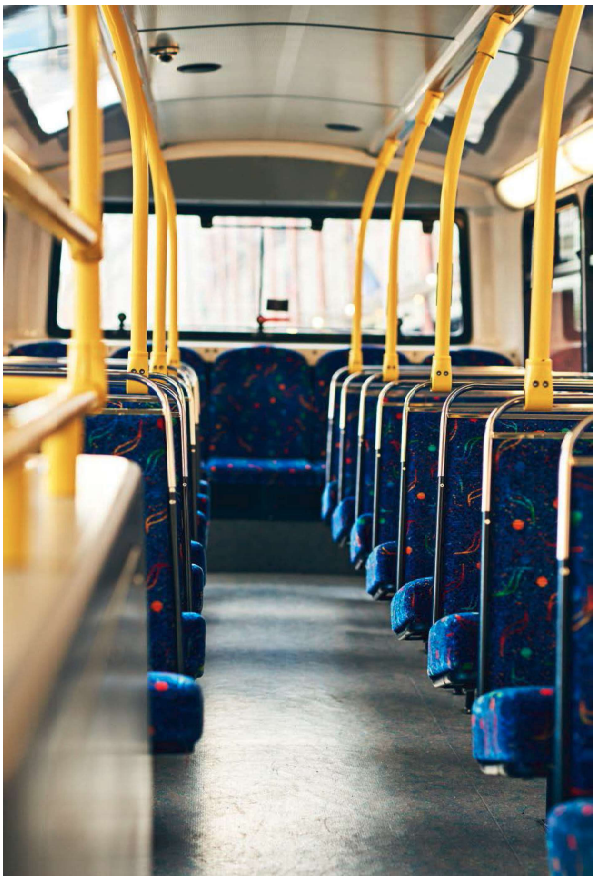
Please be advised that, Municipal Council, in session on Tuesday, February 25, 2020, heard a presentation from the Citizens for Public Transit, and made the following motion:

"that Municipal Council refer the presentation from the Citizens for Public Transit to the Policy and Strategy Committee for consideration".

_____
Tom MacEwan
Chief Administrative Officer

/trb

Citizens for Public Transit



Why are we here?

- CPT… Who are we? What is our role?
- Why we do what we do
- Market Survey / Feasibility Study
- Benefits of public transportation
- Next steps
- What we Ask of Council

We are *Citizens for Public Transit*

- Volunteers, Advocates, Lobbyists, Promoters, Activists
- For public transportation in Lunenburg County
- We've been at this for ~15 years
- Small, effective Board of Directors;

Barbara Carthew	Bill Snyder
Jack Schoon	Megan Williams
Norma Carey	Penelope (Penny) Mundell
Stewart Franck	

CPT… Why do we do what we do?

- We Believe…
  - We ALL win whenever a person takes the bus
  - We ALL pay to get people around; with or without public transit
  - In the Environmental, Economic, Social, Health and Equity benefits of public transportation
  - Public transit is a vitally important essential service

- We take small credit for influencing;
  - Creation of a Joint Transportation Committee
  - Start up of Bridgewater Transit
  - Initiation of Maritime Bus service

This report is dedicated to the memory of

Norman Haslett

long-standing member and former Chair of Citizens for Public Transit.

Funded by the Department of Communities, Culture & Heritage

NOVA SCOTIA

The REPORT is a Conversation *STARTER*…

- Research; Travel demand, Pop'n analysis, Largely DONE
- Stakeholder consultation; Largely DONE
- Routes, corridors; Decide on coverage and stops. Some work DONE
- Service options? Several to choose from
- Implementation; By whom? When?
- Financial parameters; Cost sharing
- Funding options; e.g. PTIF
- Governance; e.g. Local Authority

It requires *LOCAL* flavour and perspective

Benefits of Public Transportation

Environmental

Promotion of a healthier more sustainable environment

Reduced CO, CO^2, Greenhouse gas emissions

Improved environmental stewardship

Economic

Staff wages and maintenance support the local economy

Increased supply of workers for business/industry

Savings in costs of transporting medical out-patients

Stimulus for local business and industry

Savings in infrastructure - reduced parking, road maintenance cost

Reduce out-migration

Societal

Increase mobility/independence for families, seniors, youth, students, Social Services clients

Increase access of workers to potential jobs and services

Reduce isolation, improve access to recreation/health services/etc.

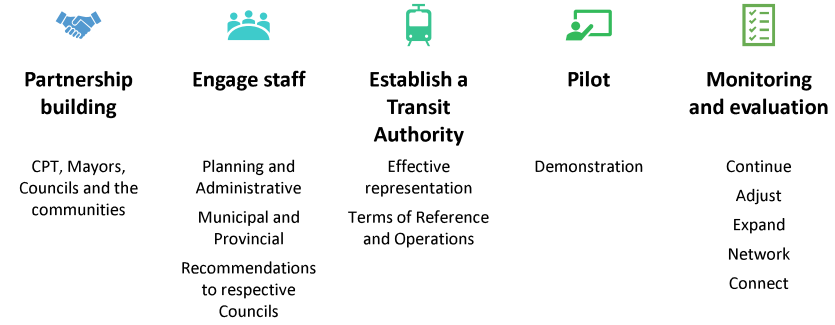
Stay at home, Age at home

"By not having a regional public transit system within Lunenburg County, it could be argued that access to specific services such as health, education, employment and social development are limited by the lack of affordable, accessible and available transportation."

Goals for a Regional Transit Service

- Connect Lunenburg, Mahone Bay, Bridgewater, and significant populations of MODL
- Expand, over time, service to additional rural communities
- Effective, efficient service to meet community needs
- Provide access for residents to services
- Focus on the positive outcomes
- Reflect new realities and complement other transportation options

NEXT STEPS, How We Get There



CPT… We ASK;

That Council allow time and resources necessary for Planning/ Administrative staff to review the CPT Feasibility Study: Public Transit. Their task will be to;

- Dissect and study the Report results and findings
- Identify a transit system model to address residents' needs
- Investigate potential partnership opportunities and funding options
- Develop a proposed governance and operations model
- Prepare a report to Council and/or the appropriate Committee, as applicable

CPT will gladly assist in this process as needed, upon request

Questions?

Thank you for "Getting on the Bus!"

FEASIBILITY STUDY: PUBLIC TRANSIT

for Citizens for Public Transit

Final Report

CBCL LIMITED
Consulting Engineers

Prepared for

CPT
Citizens for Public Transit

191063.00 • Final Report • September 2019

This report is dedicated to the memory of Norman Haslett, long-standing member and former Chair of Citizens for Public Transit.

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A Focus Group Invitation and Materials, Responses
B Survey Form
C Route Options
D Financial Assessment

Chapter 1 Introduction

1.1 Acknowledgements

At the outset of this report, the CBCL and Dr. Habib team would like to acknowledge the assistance and support of a number of key individuals and departments who provided information and knowledge based on their own experiences or operational responsibilities. Without them, our task would have been much more difficult in trying to navigate our way through a complex labyrinth of policies, historic background, real life costing and ridership data, procedures, licensing and governance, among other things.

- Jessica McDonald, Mackenzie Childs, Jim Coleman – Town of Bridgewater / Bridgewater Transit
- Glen Bannon, General Manager, Kings Transit Authority
- William Cutler, Manager, Bus Maintenance, Halifax Transit
- Nova Scotia Communities, Culture and Heritage

1.2 Background

Citizens for Public Transit (CPT) was formed in 2006 to address the need for scheduled fixed-route public transit, accessible to all, in Lunenburg County. Their focus has been for a service primarily connecting Bridgewater, Lunenburg, Mahone Bay and adjacent portions of the Municipality of the District of Lunenburg (MoDL). The four municipalities formed the Joint Transportation Committee (JTC) which was established to explore transit possibilities. For the purpose of this study, the boundaries of these four municipalities form the study area. Although the Municipality of the District of Chester has not been part of this group to date, it is hoped that the transit concept could easily be expanded to connect the District of Chester, and also Queens County in the future.

For over a decade, CPT, both independently and through the JTC framework, which brings together representatives of the municipal governments within Lunenburg County, have commissioned and supported a number of studies to assess the need for public transit and to assess the feasibility of a transit system in the region. The results of these efforts have been mixed. While the JTC did not achieve common ground on the establishment of a Regional Transit Service, two independent transit systems have since come into play: the Town of Bridgewater system - Bridgewater Transit, and the Maritime Bus service.

1.2.1 Existing Transit Services and Initiatives in the Study Area

These two systems are now at opposite ends of the service spectrum; Bridgewater Transit has proven very successful providing focused service at the local municipal level, while Maritime Bus has experienced difficulty in growing its inter-city service as hoped at the regional level. Maritime Bus, as of March 16, 2019, now operates a one trip per direction per day service from Lunenburg County to Halifax, renamed the "Halifax Connector".

https://maritimebus.com/locations/bus-stops-nova-scotia/lunenburg-county/?submit=view

The Nova Scotia Community Transportation Network recognizes its role as the innovative think-tank for community transportation in Nova Scotia. This work involves extensive research into options, identification of best practices, and evaluation of applicability across the province.

http://communitytransitns.ca/resources/

The Nova Scotia Transit Research Incentive Program (NS-TRIP) provides funding to help assess the need for and develop transit services in rural areas and underserviced urban areas. The program provides cost sharing at various funding levels depending on the scope of the project. Funding is available for one project per year per organization.

https://beta.novascotia.ca/apply-funding-help-assess-need-and-develop-transit-service-rural-or-underserviced-urban-area-nova-scotia-transit-research-incentive-program

Lunenburg County currently remains without a viable Regional Transit Service. The opportunity therefore exists for this CPT undertaking to 1) fill the regional transit service gap, and 2) maintain and build upon the considerable momentum sparked by the Bridgewater Transit experience.

1.2.2 Rural Transit in Nova Scotia

Currently, there is little in the way of rural transit in Lunenburg County. This is much the same as many other rural areas within Nova Scotia. The exception to this situation is the Kings Transit service, which has been operating successfully since 1981. Kings Transit Authority is a public transit service funded by a group of municipalities, the County of Kings, as well as the towns of Berwick, Kentville, and Wolfville. When the service started, the system serviced only between the towns of Wolfville and Kentville. However, the service has grown and today includes Annapolis County as well as the Municipality of Digby. The Kings Transit Authority was founded on an inter-municipal service agreement (IMSA) that was signed by the partner municipalities, each with a representative on the Board of Directors. Each municipality funds the operational costs of the service through payments calculated based on the ratio of costs to population served. The smallest partner, the Town of Berwick pays the smallest percentage, while the largest partner, the Municipality of Kings, contributes the largest percentage.

Currently, within Lunenburg County residents rely heavily on their own vehicles, sometimes on neighbours giving them a lift, or a number of taxi services that operate mostly in the Towns of Lunenburg and Bridgewater. Taxi services can be expensive, and most people could not afford to use them every day, or even a few times per week, therefore many people struggle to get around because they do not have access to a car, or cannot afford a taxi.

Having a regional public transit system that services the towns and the rural communities in Lunenburg County would provide much needed access for residents to services in the towns, including trips to the hospitals, health appointments, their place of employment, or for leisure purposes.

There are a number of independent travel initiatives that operate in the towns, and in the wider area, such as the Senior Wheels. The Rural Transportation Association provides a door-to-door service on a pre-booked basis, such as the Chester Community Wheels which serves the Municipality of the District of Chester and has been operating since 2007. We are also aware of the Queens County Transit which is currently in its pilot phase. This service is for all residents of Queens County and currently operates a Maritime Bus Connector service between Liverpool and Bridgewater.

There are a number of private shuttle, charter and limousine services that operate in the County, however, there is a lack of an affordable regional service that serves the needs of the people of Lunenburg County. The independent travel initiatives are described in more detail later in this report to provide context to the requirement for a public transit system within Lunenburg County. There is definitely a need for these private enterprises to operate in the region as there will always be gaps in a regional service given the large geographical area to be covered, and there will always be the issue of "the first and last mile", as with a any public transit service as it is not a door-to-door service that is being provided.

1.2.3 Government Policy Regarding Public Transit

All levels of government are looking at ways of encouraging a move away from the private vehicle trips to more sustainable ways of living and travelling. Using this philosophy should allow initiatives to be developed using current government policy. There are a number of ways in which policy initiatives could support a regional public transit system in Lunenburg County including:

- Government of Canada – Aging In Place (https://www.canada.ca/en/employment-social-development/corporate/seniors/forum/aging.html)
- The Nova Scotia Positive Aging Strategy (https://novascotia.ca/seniors/strategy_for_positive_aging.asp)
- The Nova Scotia Poverty Strategy (http://www.canadasocialreport.ca/PovertyReductionStrategies/NS.pdf)

Aging in place is becoming an important aspect of living in such a beautiful and diverse province. It is recognised that Nova Scotia has an aging population. For some, this means selling the family home, and moving into the city, usually Halifax, or a larger town like Truro or Bridgewater, to access medical facilities, hospitals, doctors, and even to be closer to their families. Not everyone wants to leave their rural home or small town community, and so it is very important for those folks to be able to stay where they want but to have access to important services, especially when driving a car is no longer an option.

The SHIFT program is Nova Scotia's Action Plan for an Aging Population. The aim of SHIFT is to change how older adults are "perceived" in our communities, and to help to create more vibrant

communities. Under "rural community transportation", the link directs the reader to the Department of Municipal Affairs. The department headed by the Minister, the Honorable Chuck Porter, MLA, includes responsibilities such as:

- supporting municipalities in providing effective local governance and planning healthy communities;
- providing funding for municipalities.

Priorities for the department from 2018 to 2019, include:

- setting future direction for the province and municipalities through a partnership agreement;
- supporting new infrastructure programs that address local priorities.

In terms of a regional public transit system for Lunenburg County, this could be facilitated through the terms of the Municipal Government Act, specifically Section 60, Municipality and village service agreements. This would of course require buy-in by each of the towns, Bridgewater, Mahone Bay and Lunenburg, and the Municipality of the District of Lunenburg.

1.3 Project Understanding

Throughout the project, we have been working closely with the CPT Board members in attempting to achieve the goal of a Regional Transit System in Lunenburg County, and to respond to the increasing mobility needs of its citizens through a number of initiatives and unique experiences.

The CBCL and Dr. Habib team successfully delivered the Town of Bridgewater Public Transit Feasibility Study in 2017. The study evaluated the Town's latent mobility needs, proposed a public transit service plan with a fixed route, evaluated its costs and potential returns, and provided the guidance needed for the Town to successfully implement the recommended service. Through a recent discussion with the Town, they observed that ridership has steadily increased over the duration of the initial 9-month pilot project, eventually surpassing the estimates of the Feasibility Study. Furthermore, the Town recorded an influx of people moving to Bridgewater and reducing their private vehicle ownership, specifically due to the convenience and reliability provided by the town's transit service. These two trends have led Council to adopt the pilot public transit project as a permanent core service.

Evaluating the feasibility of a Regional Transit System has required interface with all of the municipal jurisdictions within Lunenburg County, as well as discussions with Bridgewater Transit, Kings Transit Authority, Halifax Transit, the department of Municipal Affairs, and the Utilities and Review Board (UARB).

1.4 Project Goals

The study has a number of project goals. As mentioned, there is currently no form of regional public transportation within Lunenburg County. There have been recent feasibility studies into public transit between Bridgewater, Lunenburg and Mahone Bay but the project remained in limbo as of early 2015. In this context, CPT issued an RFP to examine the feasibility of implementing a Regional Transit System within the part of old Lunenburg County presently represented by the Municipality of the District of Lunenburg (MODL), the Town of Bridgewater, the Town of Lunenburg, and the Town of Mahone Bay. The following tasks have been undertaken:

1. Collate all existing information and previous analysis of local regional transit;
2. Develop an understanding of the regulatory framework governing regional transit in the area, and the impacts of existing regulations on service levels and boundaries;
3. Provide an overview of existing transit technologies; and
4. Undertake an examination of the feasibility of different transit service types and route options.

The ultimate goal and challenge of this study has been to provide a feasible strategy and operations plan for the Lunenburg County that meets the needs of the community. The specific objectives of the project were identified as follows and have been considered throughout the duration of the study:

- To assess the various elements required to implement a public transit service in a medium density rural area;
- To understand how people move around and within the study area and what their current and potential future transit needs are;
- To engage targeted stakeholder groups to assess their interest, potential uses and support for public transit within the study area;
- Identify technologies that are efficient, environmentally beneficial, and cost-effective for both the municipalities and users;
- To understand and document the regulatory requirements for public transit within the study area and when transit systems cross municipal boundaries;
- To assess the potential costs of a transit system start-up and ongoing operation for at least two different models for transit within the study area.

By not having a regional public transit system within Lunenburg County, it could be argued that access to specific services such as health, education, employment and social development are limited by the lack of affordable, accessible and available transportation.

Chapter 2 Research and Preparation

2.1 Research

Unlike previous studies undertaken within a single jurisdiction, the current study spans several municipal jurisdictions. The study area focuses on the Municipality of the District of Lunenburg, and the Towns of Bridgewater, Lunenburg and Mahone Bay. Secondary consideration is being given to the feasibility of expanding of a public transit service to other neighbouring rural communities, including the Municipality of the District of Chester, and Queens County.

The major tenet of this undertaking is the understanding of the mobility needs within the study area, and the specific potential for that need to be met by a public transit service. An understanding of existing travel and mobility patterns has been achieved using a number of methods.

Our approach to this project has been multi-facetted, employing multiple lines of enquiry to develop a correct understanding of existing patterns and to formulate a comprehensive statement of needs and opportunities within Lunenburg County. Most importantly, ours has been a participatory approach, recognizing that the future users of a transit service are best suited to define it. The broad geographic coverage of the study area also required innovative methods to reach all of the affected population, beyond traditional surveys and interviews.

2.1.1 Baseline Conditions

Establishing the baseline of existing conditions has consisted of a background review, collecting and aggregating existing sources of information, and determining how people currently travel within the study area. While this has been a citizen-led undertaking, we understand that the municipalities and towns within Lunenburg County are aware and are in general supportive of this endeavour, and they have provided GIS data, and other local information that has helped during the study. They have also provided in-person support by attending the focus groups held in various locations within the County. Some of the current Mayors have also been involved with the Joint Transportation Committee and are long-time supporters of a public transit system in the area.

Population data were extracted from Statistics Canada at the Census Tract (Dissemination Area) level.

By using the available information, we have developed a baseline of existing transportation and mobility conditions and needs in the region.

Our experience with the Town of Bridgewater Transit Feasibility Study taught us the value of broad stakeholder engagement and targeted participatory mapping. For the purposes of this project, we set up a web page providing open access to a participatory web map on the ESRI online platform, an online survey using the Survey Monkey service, along with a discussion platform.

These services were rolled out in the early stages of the project and were carried through until the report writing stage. They have provided us with a base level of public participation, which has complemented the focus groups and the completion of paper survey forms.

We have also reached out to large employers and organisations in the County, as well as to the Mayors of each of the four municipal areas.

Social Dimension

Through our discussions with the CPT Board, and during some of the consultations, we are aware that there are social aspects of transportation that would be beneficial to many people living in the region. Often taxi services are used by Social Services to allow people, families, to travel to appointments on a regular basis. This can be costly, and is not always convenient for the user or the taxi driver as the user may not be ready when the taxi arrives. With a scheduled bus service this could provide more options for users, and may perhaps be more efficient for Social Services as they could provide transit tickets instead of paying for and coordinating taxi fares.

2.1.2 Review of Previously Conducted Transit Studies

Municipality of the District of Lunenburg Public Transportation Feasibility Study, December 2009

In 2009, the four municipalities within Lunenburg County commissioned a study on the feasibility of public transportation in the region. Through stakeholder consultation, it was determined that there was a need for a publicly funded transportation service. The study went on to identify what form the service should take, and to estimate the resources required to provide a service.

A service framework was developed including recommending a scheduled fixed route, using multiple routes to provide greater service area. It was estimated that at full service (year 5), approximately 45,000 passengers would use the service on an annual basis. This would equate to an average of 8 passengers per vehicle per hour. The vehicle types envisaged for the service were a bus or a van. In terms of governance, whether the service was publicly or privately run would depend on the availability of federal or provincial funding. The cost estimate at the time indicated that the capital and net operating cash flows would be almost negative $1 million, although the figure could have been less if funding was available.

Joint Transportation Committee Public Transportation Study, March 2014

The Joint Transportation Committee (JTC) has been working together for a number of years. In March 2014, they received a report on a Public Transportation study that had been undertaken by Transit Consulting Network (Wally Beck). Some key findings from the study are summarised as follows:

- Seven technical memoranda were produced and presented to the JTC in early 2014;
- Summary of recommendations:

  - Need for a public transportation Coordinator "champion";
  - The new service can build on committed and established local expertise from qualified volunteers to help guide service delivery while municipal partners can provide in-kind services to start and on an as-needed basis;
  - During the early stages of developing the service, the municipalities should first take ownership and responsibility of the service on a temporary basis to get service started. During this period, efforts would be made to establish a non-profit public transportation organization that would then have full responsibility for the service. In this business model, the municipalities would still own the vehicles while the new Board of Directors of the service would be responsible for the day to day operation and planning. The Coordinator would then report to the Board of Directors.

We do not wish to replicate the work of the Transit Consulting Network, but rather complement the good work undertaken and to update various costs and operational aspects with new information. Having undertaken our study on behalf of the CPT, we agree with the above findings, and have found through our own research that this is how many of the public transit services currently in operation started out. The need for a pilot study, is also a key component of discovering the actual needs and demands of the communities that you are trying to serve with public transit, and this approach proved very successful in the case of Bridgewater Transit.

Town of Bridgewater Transit Feasibility Study, February 2017

CBCL Limited and our partner Dr. Ahsan Habib undertook the feasibility study on behalf of the Town. By reviewing available information, and through holding public and stakeholder consultation, there was no doubt that the people living and working in the Town of Bridgewater were ready for a public transit service. Through the technical feasibility assessment, we adopted the guiding principles and design criteria obtained through the consultations. The recommendation was that the Town start out with a hybrid fixed route service focussing on all trips (including work and non-work trips). We also recommended that the Town purchase a new gasoline powered Community Bus capable of holding up to 20 passengers. We know of course, that the Town received a vehicle through a donation of an older vehicle from Halifax Transit, and this helped to reduce the start-up costs for the service. Along with a number of other recommendations, we noted that it was clear that there was support from town residents and stakeholders that the service be extended outside of the town limits to make connections with other transit initiatives, namely out at Highway 103 Exit 12, near Osprey Village.

2.2 Travel Demand

Review of 2011 and 2016 Census data for Lunenburg County reveals a number of noteworthy trends with regards to transportation. The Census probes work commuting behaviour and reports the place of work, mode of travel and trip duration, for trips made by persons of working age, 15 years and over. While this does not cover leisure or education trips, it provides a very good indication of the primary trip patterns in the in the County. Additional information was gleaned from the 2016 NovaTRAC survey, which aims at identifying travel patterns throughout Nova Scotia.

This transportation behavioural profile of Lunenburg County suggests that, while the vast majority of trips are made by car, with some noteworthy exceptions, travel patterns are dominated by short, local trips. The opportunity therefore exists to reverse the trend towards auto dependence, by improving the availability of public transportation and also non-motorized mobility.

2.2.1 Mode Split

First of all, review of the mode of travel for commuting to work indicates that in 2016, 93% of work trips were made by car drivers, while 5% of trips were made by walking. Some residual trips were reported as being made by transit and other modes, although there is no regional transit service in the County (see Figure 1). The overall pattern remained constant from 2011.

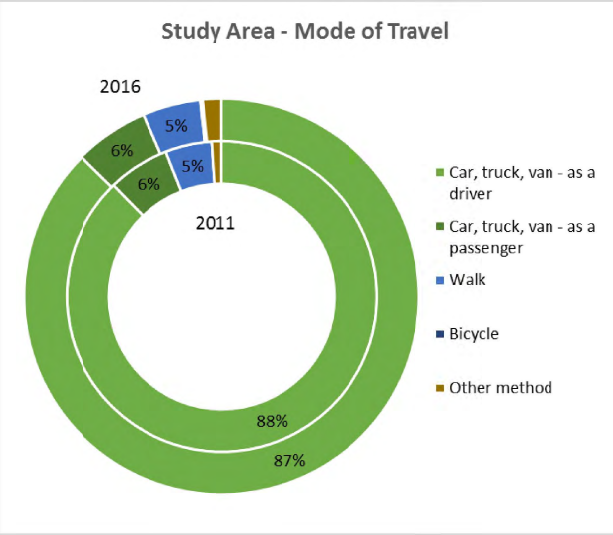


FIGURE 1 STUDY AREA MODE SPLIT

The picture for individual towns and municipalities is equally diverse. While the Municipality of the District of Lunenburg and the Town of Bridgewater exhibit very high auto usage, the Town of Lunenburg and the Town of Mahone Bay show much higher rates of active transportation (see Figure 2). In the Town of Lunenburg, over 20% of work trips were made by walking, consistent between 2011 and 2016. In Mahone Bay, we observe a slightly different dynamic; while 23% of work trips were made by walking in 2011, this proportion fell to 13%, concurrent with an increase of 8% in the proportion of auto passengers. We can infer that 8% of work commuters shifted from walking to being driven to their destinations.

FIGURE 2 MODE SPLIT CHANGE

The NovaTRAC survey roughly confirms these patterns. Lunenburg County residents undertook a combined 71% of their work and school trips by auto (Figure 3). NovaTRAC provides also provides a look at non-work/school trips. Compared to the provincial patterns, we find that

residents of Lunenburg County undertake more of their work/school trips by active modes of transportation than the provincial average (24% vs. 11%), while they undertake more of their non-work/school trips by auto (88% vs. 71%).

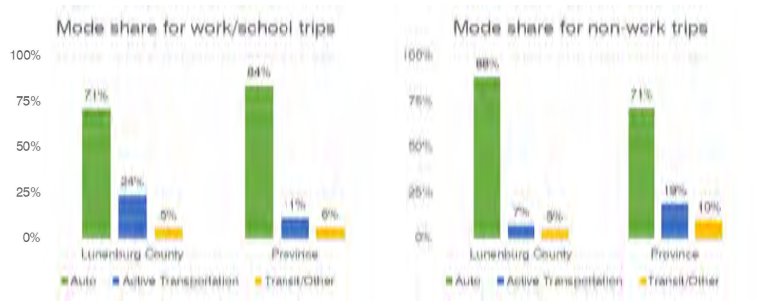


FIGURE 3 STUDY AREA MODE SPLIT - NOVATRAC

This suggests that more of the work/school trips are local, while more discretionary non-work/school related trips are more regional.

Review of work commute destinations in 2016 (see Figure 4) shows that close to 40% of all work trips were made within the municipality of residence, and another 50% of trips remained within Lunenburg County. The Town of Bridgewater exhibits very high internal capture of work trips, with close to 70% of work commuting being undertaken within the Town. Conversely, MoDL and the Town of Mahone Bay exhibit the lowest internal capture and highest proportion of work trips outside of the Towns. Anecdotally, we know that the majority of these County-destined trips are Bridgewater-bound, where a significant portion of the County's employers are based.

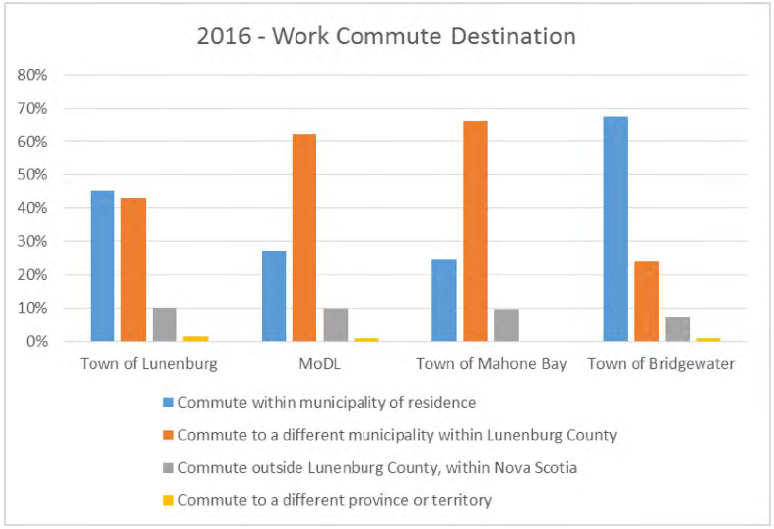


FIGURE 4 WORK COMMUTE DESTINATIONS - 2016

In conjunction with the local character of work trips, we also observed that in 2016, over 40% of all work trips were less than 15 minutes long, while close to 35% of trips were 15-29 minutes long. These very local trips are clearly seen in the Town of Lunenburg and the Town of Bridgewater (see Figure 5).

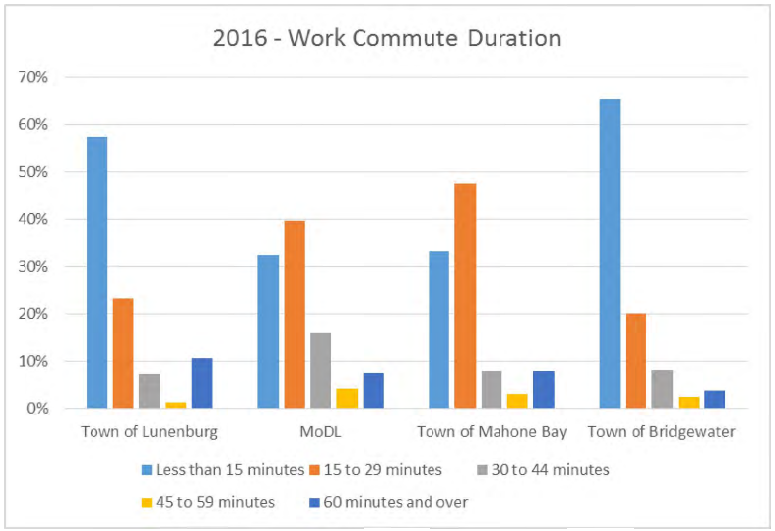


FIGURE 5 WORK COMMUTE DURATION – 2016

2.2.2 Trip Generators

The work commute destinations suggest that there are places of employment throughout Lunenburg County, with a very significant cluster in the Town of Lunenburg and the Town of Bridgewater. A review of major businesses, employers and institutions (summarized in Table 1) confirms that this is indeed the case.

TABLE 1 MAJOR ACTIVITY GENERATORS

Activity Generator	Community
Atlantic superstore	Bridgewater
Blessed hope Baptist Church	Bridgewater
Bowater Mersey Paper Co. Ltd	Bridgewater
Bridgewater Electrolysis Clinic	Bridgewater
Bridgewater Jr High School	Bridgewater
Bridgewater Open Bible Church	Bridgewater
Bridgewater United Church	Bridgewater
Crown Tire Service (Atlantic) Ltd	Bridgewater
Elmer M. Lohnes Lumbering Ltd	Bridgewater
Grant Thornton Limited	Bridgewater
HB Studios Sports Centre	Bridgewater
Impact Church Bridgewater	Bridgewater
Lighthouse Publishing Limited	Bridgewater
Michelin North America	Bridgewater
Millennium 1 Solutions	Bridgewater
Newcombville Elementary School	Bridgewater
NSCC	Bridgewater
Park View Education Centre	Bridgewater
Seventh-day Adventist Church	Bridgewater
Snyder's Shipyard Limited	Bridgewater
Sobeys	Bridgewater
South Shore Ready Mix Ltd	Bridgewater
South Shore Regional Hospital	Bridgewater
South Shore Veterinary Hospital	Bridgewater
ST joseph's Roman Catholic Church	Bridgewater
The Ark	Bridgewater
The Church of Jesus Christ of Latter-day saints	Bridgewater
Trinity Holy Anglican Church	Bridgewater
Walmart Bridgewater supercentre	Bridgewater
ABCO Industries Limited	Lunenburg

Adams & Knickle	Lunenburg
Atlantic Electronics Ltd	Lunenburg
Bailly's Holding Ltd	Lunenburg
Bluenose Academy	Lunenburg
Central United Church	Lunenburg
Composites Atlantic Limited	Lunenburg
First South United Church	Lunenburg
Fishermen's Memorial Hospital	Lunenburg
Grace Lutheran Church	Lunenburg
High Liner Foods Inc.	Lunenburg
Lunenburg Boat Locker	Lunenburg
Lunenburg Fish Company	Lunenburg
Lunenburg Industrial Foundry & Engineering Ltd	Lunenburg
Nova Wood Products Limited	Lunenburg
Ocean Gear Inc	Lunenburg
Scotia Trawler Equipment Limited	Lunenburg
St Andrews Presbyterian Church and Hall	Lunenburg
St Norbert's Catholic Church	Lunenburg
St. John's Anglican Church	Lunenburg
Stelia North America	Lunenburg
Zion Ev Lutheran Church	Lunenburg
Amos Pewter Limited	Mahone Bay
Anglican Church	Mahone Bay
KEKA	Mahone Bay
Mahone Bay Centre	Mahone Bay
Mahone Bay Museum	Mahone Bay
Reinforced Plastic System Inc	Mahone Bay
St. John's Lutheran Church	Mahone Bay
Suttles & Seawinds of Nova Scotia Limited	Mahone Bay
T. Ernst Forest Products Inc	Mahone Bay
United Church Mahone Bay	Mahone Bay

This local economic activity presents the opportunity of shifting a significant portion of work trips from the auto, to alternative modes of transportation.

2.2.3 Population/Demographics

Review of Canada Census demographics data indicates that overall, the population of the study area has remained relatively stable between 2011 and 2016, growing slightly from 36,600 to 36,685 people. At a more detailed level, this stability can be explained by some minor decrease in the populations of the Town of Lunenburg and MoDL, balanced by growth in the Towns of Mahone Bay and Bridgewater.

Overall, we note a clear aging of the population throughout the area; the segment of the population over 64 years of age increased from 22% in 2011 to 26% in 2016. The trends are summarized in Table 2 and illustrated in Figure 6 and Figure 7. The aging of the population, particularly in the Town of Mahone Bay, may provide some understanding of the changes in mode split observed in that Town between 2011 and 2016.

TABLE 2 POPULATION TRENDS FROM CENSUS DATA

	Town of Lunenburg		MoDL		Town of Mahone Bay		Town of Bridgewater		Study Area	
	2011	**2016**	**2011**	**2016**	**2011**	**2016**	**2011**	**2016**	**2011**	**2016**
Total	2,300	2,255	25,115	24,860	945	1030	8,240	8,540	36,600	36,685
Under 15	11%	11%	13%	12%	12%	10%	13%	13%	13%	12%
15-64	58%	53%	68%	64%	56%	52%	63%	60%	66%	62%
Over 65	31%	35%	19%	24%	33%	38%	24%	27%	22%	26%

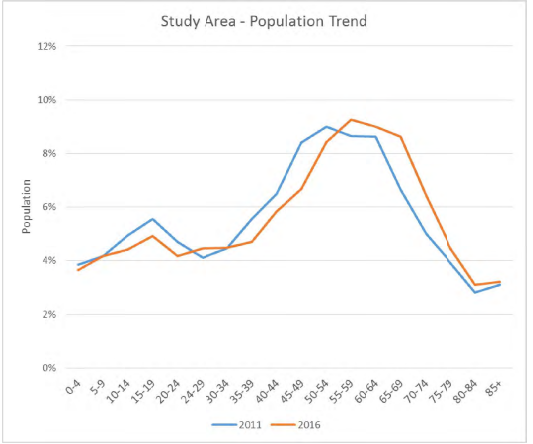


FIGURE 6 POPULATION CHANGE – STUDY AREA

The trend observed at the County level roughly matches the trends of each Town. We do note that the Town of Bridgewater exhibits a "flatter" profile, with its population being more equally distributed between younger and older cohorts.

The aging trend will have a significant impact on travel needs. Residents of retirement age tend to do fewer work-related trips, and more leisure or discretionary trips. At the same time, as they progress in age, they may require more access to services. Their needs may be compounded by reduced mobility in terms of walking and cycling ability, access to an automobile, or the ability to drive.

Aging population groups therefore become a prime candidate for a public transit system that preserves their mobility.

FIGURE 7 POPULATION CHANGE BY MUNICIPALITY

To get a better understanding of the population dynamics in Lunenburg County, we conducted a GIS analysis of all residential address points, correlated to Statistics Canada population figures (see Figure 8). The analysis demonstrates that the majority of the population in Lunenburg County is heavily clustered in the three Towns, and along the major highways (see Figure 9). Additional population clusters are evident, corresponding to New Germany, Conquerall Bank, and the shores of Fancy Lake.

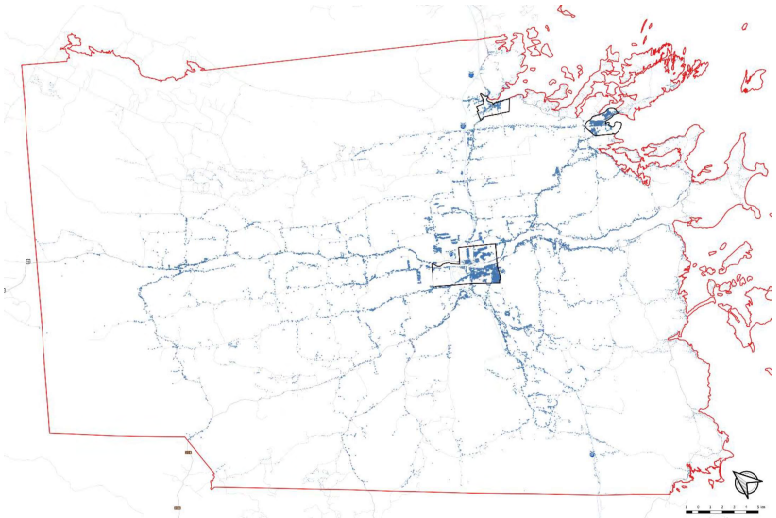


FIGURE 8 LUNENBURG COUNTY POPULATION DISTRIBUTION

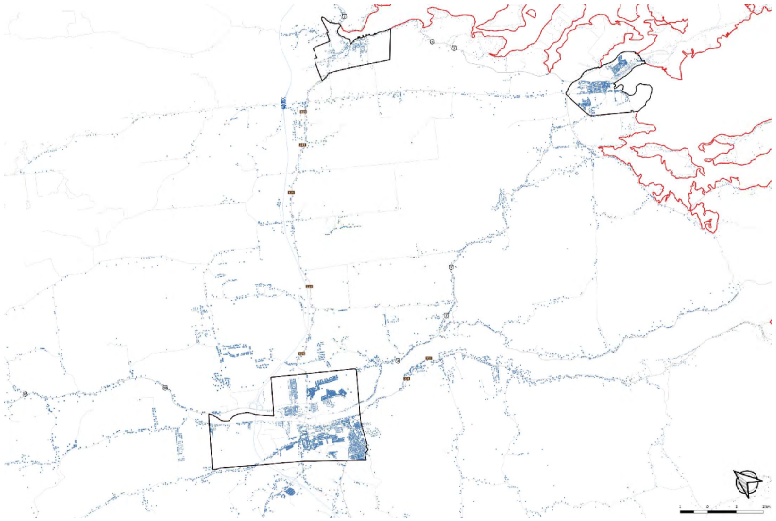


FIGURE 9 LUNENBURG COUNTY MAIN POPULATION CLUSTERS

Chapter 3 Stakeholder Consultation

To better understand the needs of Lunenburg County residents, we undertook an extensive public consultation process. We are also aware that, historically Lunenburg County residents have not had consistent and regular public transit services, therefore they may not be aware of the benefits of public transit. Consultation therefore also included an awareness exercise probing participants' understanding of public transit and its benefits to themselves, their families and communities. The process also aimed at formulating the guiding principles of a regional transit system.

The consultation process consisted of 3 rounds of focus groups, an online participatory map tool, surveys, and targeted stakeholder interviews.

3.1 Focus Groups

Three focus groups were held on the following days and in the listed locations:

- Monday May 13, 2019 - Town of Lunenburg Fire Hall; and
- Wednesday June 12, 2019 - Mahone Bay Centre, and LaHave Bakery.

These events introduced the project and sought to identify the needs of the community for public transit, and key principles that will govern and shape a future transit service in the region.

Approximately 30 people attended the event in Lunenburg, with approximately 10 each at the Mahone Bay and LaHave events, respectively.

The events included a short presentation of the project, a review of Lunenburg County demographic profiles and travel demand patterns, as observed in Census Data, followed by two workshop sessions.

The first workshop session probed participants' understanding of public transportation benefits and guiding principles, while the second workshop session asked participants to imagine and discuss potential transit service connections within their communities, across Lunenburg County, and beyond.

The Focus Group Invitation and Materials, Photos, and Responses are contained in **Appendix A**.

As a result of the three focus groups, we have a clearer understanding of the perceived benefits of a public transit service, and the guiding principles that the service should follow through the input and participation of local residents.

3.2 Participatory Map and Survey

Coinciding with the first focus group event, the project also launched an online participatory website and map, and a survey available both in print and online formats. The participatory map explored participants' places of residence, their major destinations within Lunenburg County, and locations that they thought would benefit from transit access. As illustrated in Figure 710 below, while place of residence (green) were reported throughout Lunenburg County, the principle destinations (blue) were the Town of Bridgewater and the Town of Lunenburg, and to a lesser degree Mahone Bay, LaHave, Petite Rivière and other coastal communities.

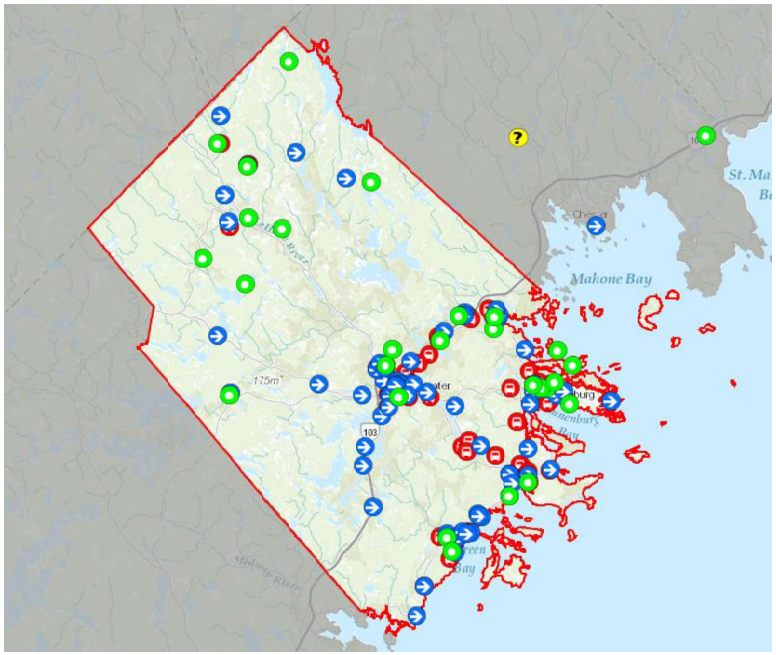


FIGURE 10 PARTICIPATORY MAP RESULTS

In conjunction with the focus groups, each participant was asked to complete a one-page survey asking questions about where they live, how and why they travel, and their feedback on how a public transit service could operate. The survey form is included in **Appendix B**. The survey was designed to complement both the focus group events, and the participatory map. Participants were asked targeted questions on their travel habits and needs, modes of travel, travel purposes, likelihood of using a transit service, and willingness to pay for one. Open-ended questions were also asked, concerning the type of transit service they would like and how they would see such a service being implemented.

The paper and online survey garnered close to 250 responses. Filtering for completion and validity, this resulted in a usable number of 205 responses.

Overall, we found the majority of participation from MoDL, at just over 50% of responses. The statistics are shown in Figure 11 below.

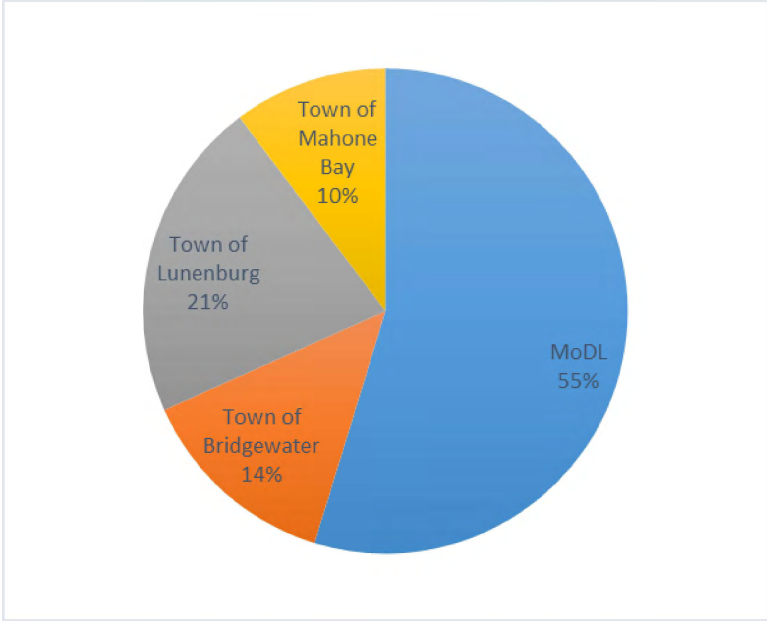


FIGURE 11 SURVEY PARTICIPATION – LOCATION OF RESPONDENTS

3.3 Stakeholder Interviews

Throughout the duration of the study, we have been in discussions with the Utilities and Review Board (UARB), all four municipalities (Town staff and Council representatives), as well as transit operators including Kings Transit Authority, Bridgewater Transit, and Halifax Transit.

We have also reached out to major employers and large organisations within Lunenburg County, and including the Nova Scotia Health Authority local representative in Bridgewater. The largest of these organizations are summarized in Table 1 above. A number of organisations have been contacted via phone and email, and we have received feedback from some of them.

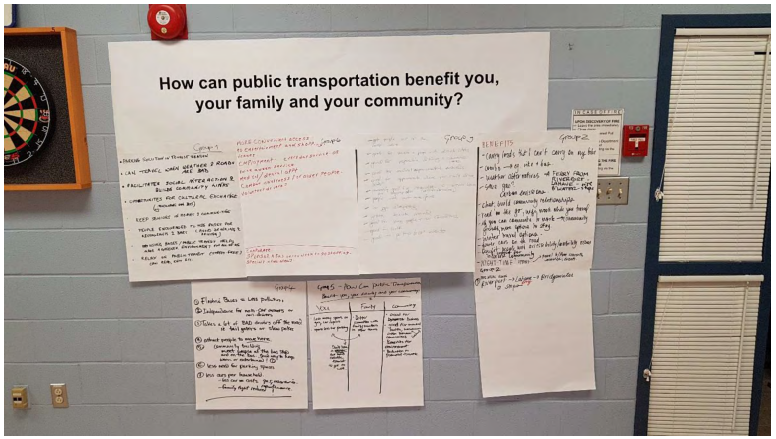
For the large organisations, we developed a similar questionnaire to that used for the public consultation, this time focussing on how employers think that a public transit service could benefit their employees. The questions asked are shown below:

Questionnaire

1. Can you please tell me how many people you employ?
2. What hours do they work?
3. Do any of them work shift hours?
4. What hours of operation do you have?
5. Where do your employees commute from?
6. What are your thoughts about a possible public transit service for Lunenburg County?
7. Do you think that your employees would take transit, if available?
8. Would you be interested in contributing in some way to the service, for example by offering assistance to employees through a transit pass, or subsidised fares, or free tickets?
9. Would you like to provide any additional comments or information?

3.4 Major Findings

The survey and public consultation provided a great depth of information about Lunenburg County residents' travel patterns and needs. Most startling, we found that the 250 survey respondents reported doing over 3,800 trips on a typical week. That equates to over 15 trips per person per week, and close to 800 trips per person per year.



The reported purposes of these trips were found to be mixed. Based on our team's experience in the Town of Bridgewater, we had assumed that a majority of public transit users would be work and school commuters. This newest round of surveys across the County suggests that non-work/school trips are as important, if not more so, as work/school trips. In aggregate, work/school trips were only found to account for 22% of needs, with the rest of travel needs most highly represented by shopping trips (24%), followed by entertainment, personal and non-utilitarian trips (leisure, dog-walking), roughly equal at 18% each.

Interesting differences were observed between the type of travel needs of the Towns of Bridgewater, Lunenburg and Mahone Bay, and those of MoDL. Specifically, MoDL and the Town of Bridgewater are the primary drivers of work & school trips, whereas the Town of Lunenburg and the Town of Mahone Bay exhibit a smaller percentage of work and school trips, but higher proportions of discretionary trips. This may be due to higher numbers of retired residents in these two communities.

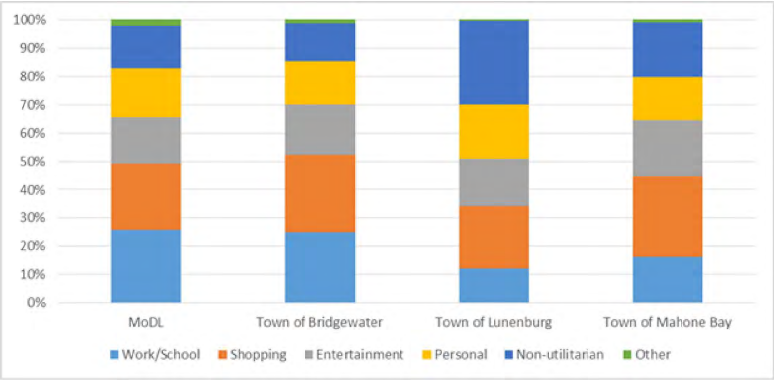


FIGURE 12 PRIMARY REASONS FOR TRAVEL

Throughout the project, the survey demonstrated that there is overwhelming support for public transit, with the majority of respondents reporting that they would be likely or highly likely to use the service.

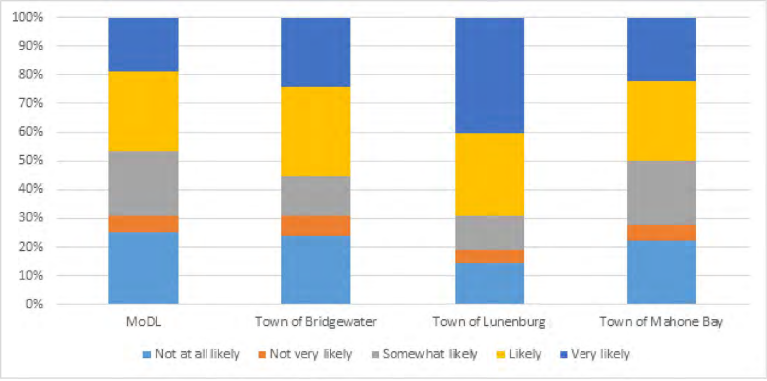


FIGURE 13 LIKELIHOOD OF USING PUBLIC TRANSIT

In terms of willingness to pay for public transit, well over 50% of respondents reported that they would be willing to pay around $3 to $4 per transit trip. This range appears to be reasonable given the acceptable threshold obtained during public consultation in the Town of Bridgewater for a town service. Respondents during that service selected around $2 per trip. So, it seems logical that respondents for a regional transit service would suggest a higher range given further distances, and a larger area being serviced.

For ongoing analysis, we have therefore assumed a standard transit fare of $3.50 per one-way trip.

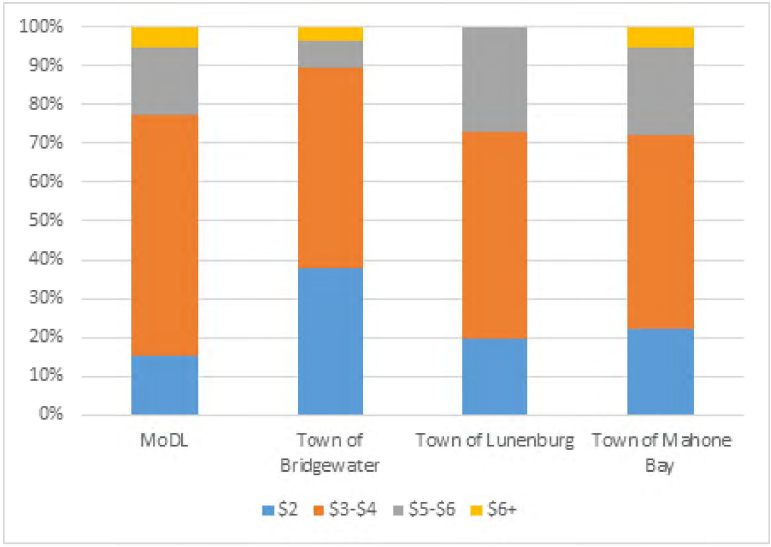


FIGURE 14 WILLINGNESS TO PAY FOR PUBLIC TRANSIT

3.4.1 Benefits of Transit

Overwhelmingly, participants at all three public events reported on the social benefits of public transit service, as well as possible economic and leisure benefits. Transit is seen as being very positive for mental and physical health, and for the promotion of a healthier and more sustainable environment. Transit is also seen as a way for people to access employment in areas where they cannot afford to live, for example, some participants would like to live and work in Lunenburg, however, they cannot afford to live in the town due to the higher cost of properties.

The figure below demonstrates the topics raised by participants at each of the events, and highlights the benefits of most importance to people, namely, the social, leisure, economic and accessibility factors that can be provided by a public transit service. This is consistent with anecdotal evidence.

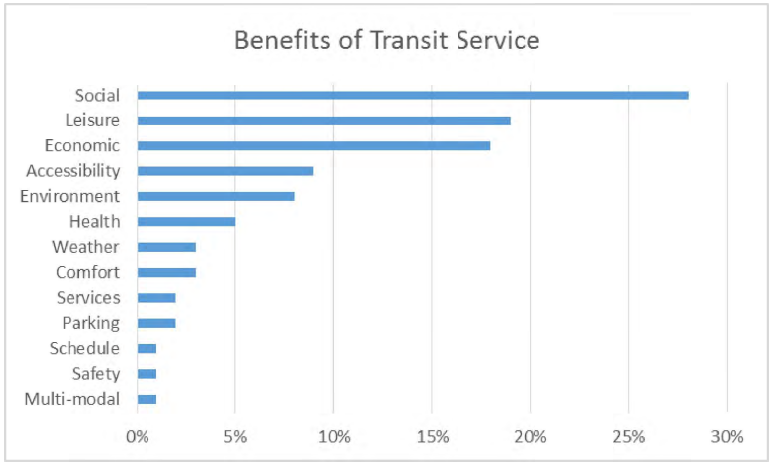


FIGURE 15 BENEFITS OF A TRANSIT SERVICE

3.4.2 Vision Statement

Through the feedback received during the consultation process, core principles were identified based on the proportion of in-person, on-line survey, email correspondence, and phone survey responses. Responses are summarized in Appendix A.

In general, the core principles of a fair and just public transit system can be summarized as follows:

- Prioritize transit service for the people who need it most;
- Establish a fair revenue (fair fares);
- Plan and operate inclusively;
- Plan for housing affordability; and
- Support jobs in low-income communities.

Many of the guiding principles identified during this project align well with these overarching principles for a public transit system.

Based on the core principles reported by participants, we propose the following Vision Statement for a Lunenburg County Transit System:

"Lunenburg County Transit is an accessible, affordable and responsive system that provides safe, convenient, and connected mobility to its users. It is an environmentally conscious system that strives to improve personal mobility, while reducing the footprint of personal auto usage."

3.4.3 Service Routes

Through the focus groups, we also received excellent input on typical travel circuits around Lunenburg County. The major route options identified by participants were digitized, and compiled into a single map, illustrated in Figure 16.

This illustration conveys the relative weight of user demand for and interest in a transit system. Predictably, the majority of indicated routes centre on the Town of Bridgewater as a Regional Core, connecting to satellite nodes such as Lunenburg and Mahone Bay.

The surveys provided an understanding of the type of trips made in the area, and the chosen modes of transport.

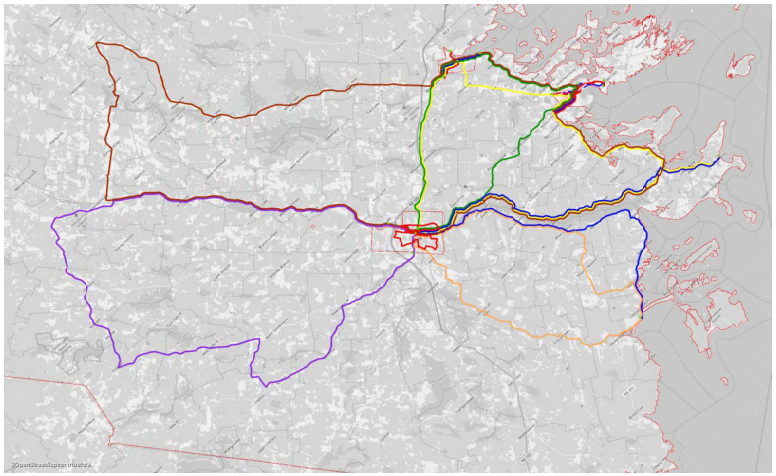


FIGURE 16 PUBLIC TRANSIT ROUTES PROPOSED BY PARTICIPANTS

3.4.4 Service Features

Consistent with the reported operating principles for a public transit system, survey and focus group participants also reported desirable service features such as wheelchair accessible buses, online service maps, fixed scheduling and bike racks. Most importantly, respondents desire a dependable and consistent service with fixed schedule and coverage of the most heavily populated parts of Lunenburg County.

3.4.5 Stakeholders and Large Organisations

Through our discussions with the stakeholders and large organisations we have also been made aware of the following points:

- The Town of Bridgewater is looking at the feasibility of connecting the existing town public transit to a wider, regional transit system in the future;
- The Mayor of Lunenburg notes (with Council's approval), that a pilot study would be supported with certain parameters around cost responsibility in place;
- The Mayor of Mahone Bay has called a special meeting of Council for Tuesday August 6th, 2019 to discuss the CPT study. The Mayor committed to contacting CBCL following the meeting to provide an update;
- Under Question 6 of the large organisations questionnaire *"What are your thoughts about a possible public transit service for Lunenburg County?",* the responses received included "Wonderful", "Good. Lots of Senior People Need It.", "Good Thing", "Great Idea, it'd benefit Seniors who can't drive, students who can't afford cars.", "Sounds Good";
- Under "*Do you think that your employees would take transit, if available?",* some mixed responses were received, however, there were some that thought that their employees would use a service, if available including some who noted that "… it will provide the employees with a lot of convenience as they have an increasing amount of international employees who rely on walking.";
- Some employers would also consider contributing in some way to the service to benefit their employees, including free bus passes;
- Some of the larger organizations contacted have in excess of 100 employees, many of whom work shifts;
- Many of the organizations consider that a public transit system would benefit their employees and residents of the region.

Chapter 4 Technical Feasibility Assessment

4.1 Route Options

Using Land Use and Address Point datasets provided by the three Towns and MoDL, we were able to compile a GIS dataset of all the dwellings in the study area. With this information and the survey inputs, and with the route concepts provided by the focus group participants, we have shortlisted three potential routes, all centred on Bridgewater, and consistent with much of the public input. Routes were designed to capture as much of the resident population as possible, while providing direct connections between the Towns and to major destinations like employment and commercial clusters, and services. The four potential route corridors are:

- An initial Mahone Bay-Lunenburg Core Loop;
- A subsequent Riverport Loop Extension;
- A LaHave-Petite Rivière Extension; and
- A New Germany Extension.

These potential routes are illustrated in Figure 17, and in detail in **Appendix C**.

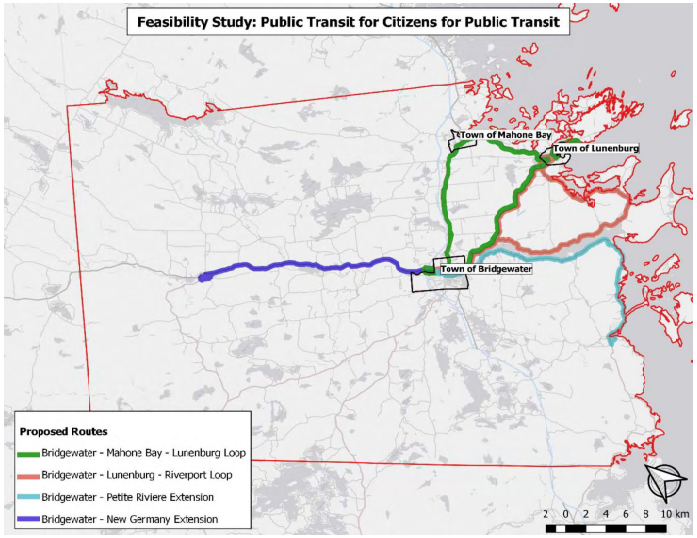


FIGURE 17 POTENTIAL ROUTE CORRIDORS

4.2 Service Options

The design criteria for the route options were derived from the guiding principles developed through the public focus group process, overwhelmingly reported to be accessibility and affordability, with responsive scheduling. Table 3 explains the benefits and constraints of the four service concepts for a public transit system for the County. It is recommended that a Lunenburg County transit system operate as a hybrid fixed route service which focuses on all trips (work and non-work). A secondary, fixed route shared-ride on-call van service could be organized for the less populated areas of the County.

TABLE 3 SERVICE CONCEPTS

Concepts	1. Fixed Route Conventional Transit	2. Fixed Route Community Bus	3. Fixed Route Shared-Ride Taxis	4. On Call
Merits	✓ Highest capacity ✓ Services all markets ✓ Accessible	✓ Serves more origins and destinations ✓ Accessible	✓ Ideal feeder service for remote areas ✓ Groups pay a reduced, shared cost	✓ Applicable to more remote areas ✓ Flexible hours of operation
Demerits	× Highest capital and operating costs × Buses would be underutilized in off peak periods	× Not designed for work/school trips	× Minimum capacity	× Lack of frequent daily service × Availability issues could arise

4.3 Vehicle Options

We have reviewed a number of vehicle options that could be considered for a Lunenburg County transit system. These range from the standard urban (conventional) bus, to a variety of smaller cabin chassis community buses with wheelchair ramps or elevators, and including microtransit options using vans. Table 4 summarizes the four main vehicle options, their advantages and disadvantages.

TABLE 4 VEHICLE OPTIONS

Type	1. Standard	2. Small Bus	3. Community Bus	4. Large Van
				
Length	9.3 or 12.2 m	8.8 – 9.2 m	5.9 - 6.7 m	5.9 m
Seats	40	16-28 passengers	10-20 passengers	Up to 10 passengers
Examples in Nova Scotia	Kings Transit Halifax Transit	Halifax Transit Access-a-Ride	Town of Bridgewater Transit	Transport de Clare
Driver's License Type	Class 2	Class 5 (standard)	Class 5 (standard)	Class 5 (standard)
Capital Cost	New: $535,000 Used: $45,000-$65,000	New: $250,000 Used: $18,000-$40,000	New: $90,000 Used: $16,000-$32,000	New: $50,000 Used: $16,000-$18,000
Operating Cost	High	Medium	Low	Lowest
Merits	✓ Medium to high demand routes ✓ Low-floor ✓ Wheelchair accessible ✓ 12+ year life cycle	✓ Low-floor ✓ Wheelchair accessible ✓ Can be maintained locally by most truck service centres ✓ More versatile than bigger models ✓ Drivers do not need a higher license to operate bus ✓ 7-10 year life cycle	✓ Ideal for low demand areas ✓ Wheelchair accessible ✓ Can be maintained locally by most truck service centres	✓ Ideal for low demand areas ✓ Wheelchair accessible ✓ Can be maintained locally by most auto service centres
Demerits	× Longer bus may have issues turning on narrow streets × Higher initial and operating costs × Would need a specialized maintenance depot close by × Driver needs a Class 2 license	× Holds a smaller number of passengers	× 5-7 year life cycle	× Only 5 year life cycle × Minimum capacity

Throughout the project, and particularly during the consultation process, the use of school buses was suggested as a way of using an existing resource to provide a much needed service in the area. For a number of reasons, the use of school buses is not recommended to provide a regional transit service in Lunenburg County. The reasons that we did not consider this as an option for this study are as follows:

- The vehicles are not designed to transport the general public as they are not outfitted with ramps for wheelchairs or to provide accessible transportation;
- School buses are operated by a private company;
- The existing insurance coverage would likely not meet the requirements for transporting the general public;
- School buses would not be available during the hours that the school children need to be taken to and from school, therefore could not provide a service for people travelling to and from work during those hours.

That being said, this does not preclude a Lunenburg County Transit system from providing connections with the school bus services, perhaps to accommodate children who attend after school programs or have other travel needs.

Considering the Town of Bridgewater example, a Lunenburg County transit service could have the option of acquiring used vehicles from neighbouring municipalities. The Town of Bridgewater was gifted a used small bus from Halifax's Access-a-bus paratransit service. Halifax Transit has recently announced that it would be divesting itself of up to 10 such vehicles. While the opportunity exists to receive and operate one or more of these used vehicles, discussion with Halifax Transit staff revealed that, typically, these vehicles are past their serviceable life and are no longer fit for use. The opportunity also exists to purchase less used vehicles from Halifax Transit, as that service is transitioning to newer vehicles and technology.

Our analysis is based on a review of both new vehicles at market price, and old vehicles, either donated or purchased at discount. The experience of the Town of Bridgewater has been that, while donated or used buses carry low capital costs, they cost up to $20,000 per year to maintain and repair. New buses, while expensive up front, may cost less than $5,000 per year to maintain. In the event of a bus breakdown while using an older vehicle within the first few years of service, the entire service may be compromised, requiring additional expenditure to recover.

Depending on the implementation of a public transit service for Lunenburg County, the service may well start with used or donated vehicles, and acquire new vehicles over time, as service demand, ridership, and resulting revenue increase.

4.4 Fare Technology Options

Three main fare options are available to a new transit authority: cash, paper tickets, and some form of online application. Table 5 presents the advantages and disadvantages of each system. Ideally a combination of two or more of these technologies would suit community preference. It is recommended that a Lunenburg County transit authority implement all three as they offer the flexibility needed to cover all users. Input from consultation consistently called for a connected system, both in terms of service, and technology. As society increasingly moves towards digitized services, younger people especially rely more on connected, smart-phone based transactions. A system like HotSpot provides an online app-based platform that may include transit vehicle tracking, fare payment, and transit service information. The HotSpot business model is primarily based on user subscription fees. Purchased fares are remitted to the transit authority as per a service agreement, with no additional costs to the transit authority.

TABLE 5 FARE TECHNOLOGY OPTIONS

Type	1. Cash	2. Bus Tickets	3. HotSpot
			
Examples in Nova Scotia	Halifax Transit Kings Transit	Halifax Transit Kings Transit Town of Yarmouth	Codiac Transport Bridgewater Transit Kings Transit
Merits	✓ Easier for younger and older populations ✓ Beneficial for tourists or people from out of town	✓ No need to carry cash ✓ Buying weekly or month tickets may be less expensive over longer term	✓ Automatic payment via phone ✓ No physical equipment needed on the bus ✓ Provides online/app vehicle tracking and service information platform ✓ No cost to the transit authority
Demerits	× Only exact change is accepted × Less commitment for long term ridership	× Have to pick up at a specific location before getting on bus (possibly town hall or other public location)	× Not everyone has access to a smartphone × App user pays monthly/yearly

			subscription to use the service

4.5 Bus Stop Options

We propose that a Lunenburg County transit system operate during the pilot period with flag stops along the entire route, to determine where user demand is highest. Within each Town, however, we recommend that there be 2-3 designated stops. These stops would feature prominent signage advertising the transit authority and service, and would cover the most important destinations: i.e. hospitals and major employment/commercial clusters.

The specific placement of these designated stops will remain to be decided by the transit authority that would operate the transit system. Possible locations include:

Community	Location
Town of Bridgewater	Osprey Village Bridgewater Mall South Shore Regional Hospital Lunenburg County Lifestyle Centre (LCLC)
Town of Lunenburg	Fishermen's Memorial Hospital Community Centre Stelia Aerospace High Liner Foods
Town of Mahone Bay	Main Street & Highway 3 RPS Composites

4.6 Estimated Ridership

The GIS analysis undertaken above was extended to produce an estimate of the ridership potential of each route. Catchment areas were developed for each route, assumed to capture all the population within a 600m corridor, equivalent to a 5-minute walk on either side of the bus route. Resulting population catchments are summarized as follows:

- Bridgewater – Mahone Bay – Lunenburg 5,910 people
- Bridgewater – Lunenburg – Riverport 5,700 people
- Bridgewater – LaHave – Petite Rivière 3,220 people
- Bridgewater – New Germany 1,070 people

Review of the Town of Bridgewater Transit experience suggests a transit modal split of 0.6%, or approximately 3 transit trips per year, per person, and roughly 6 passengers per service hour. In the first year of the pilot service, we might expect a more conservative split of 0.3%, equivalent to approximately 1.5 transit trips per year, per person. As the service expands and becomes more accepted, we estimate an additional transit mode increase of 0.1% per year (0.5 transit trips per person), reaching the current Bridgewater Transit ridership level in 5 years.

The proposed transit routes will have total lengths between 50km and 75km. Considering these distances, and depending on the daily service operating time, service frequency may be limited to between 6 and 8 times per day. At this frequency, the ridership estimates above could be accommodated by a Large Van or a wheelchair-accessible Community Bus.

4.7 Implementation Plan and Phasing of Transit Service

The experience of the Town of Bridgewater is very instructive in how a new transit system could be implemented. Considering the many uncertainties about user demand, a pilot service could be implemented initially for the regional transit system, followed by a more comprehensive system with broader coverage. The parameters of such a system would be developed following a functional performance review of the pilot service. In general, the pilot service could commence by following the route from Bridgewater to Mahone Bay, Lunenburg, and back during peak morning and afternoon hours, and following an extended route via Riverport during the middle of the day (off-peak). This is referred to as the "Core Loop Service". This route could be serviced as a single loop in the first year, and separate into two loops after the first year of service. From this point onward, the second loop would follow the route from Bridgewater to Lunenburg, Riverport and back, via Highway 3 and Route 332. The segment between Bridgewater and Lunenburg would therefore be serviced in both directions. Over the next few years, the service could be expanded to include a shuttle route from Bridgewater to LaHave and Petite Rivière and back to Bridgewater. The service on this route could be scheduled to meet the ferry coming across from Riverport/Rosebay area. Over a five year implementation period, and depending on demand, the service could be expanded to include another shuttle route from Bridgewater to New Germany and back again.

The parameters of the proposed routes are summarized in Table 6.

TABLE 6 ROUTE PARAMETERS

Route	Length	Average Speed	Travel Time	Population 300m
Bridgewater - Mahone Bay - Lunenburg - Riverport Loop	75 km	40 km/h	2 hours	6,460
Bridgewater - Mahone Bay - Lunenburg Loop	55 km	40 km/h	1.5 hours	5,910
Bridgewater - Lunenburg - Riverport Loop	70 km	40 km/h	1.75 hours	5,700
Bridgewater - LaHave - Petite Rivière Extension	70 km	40 km/h	1.75 hours	3,220
Bridgewater - New Germany Extension	50 km	40 km/h	1.25 hours	1,070

The phasing of such a service is summarized in Table 7 and illustrated in Figure 11 to Figure 14. The timing and sequence of service rollout would be confirmed once a Transit Authority is established, and following first year operations and monitoring of service performance.

TABLE 7 TRANSIT SERVICE PHASING

Year	Route	Service	Schedule	Drivers	Vehicle Purchase	Fleet
1	Bridgewater – Mahone Bay – Lunenburg via Route 325 and Highway 3	Core Loop Service,	Peak Hours Monday-Saturday	1 full time 1 part-time	1 New Large Van	1 New Large Van
	Bridgewater - Mahone Bay - Lunenburg - Riverport via Route 332	Extended Loop Service	Off-Peak Hours Monday-Saturday pre-booking			
2	Bridgewater – Mahone Bay – Lunenburg via Route 325 and Highway 3	Core Loop Service,	Fixed 12-hour, Monday-Saturday	1 full time 1 part-time		2 New Large Vans
	Bridgewater - Lunenburg - Riverport via Highway 3 and Route 332	Core Loop Service,	Fixed 12-hour, Monday-Saturday	1 full time 1 part-time	1 New Large Van	
3	Bridgewater – Mahone Bay – Lunenburg via Route 325 and Highway 3	Core Loop Service,	Fixed 12-hour, Monday-Saturday	1 full time 1 part-time	1 New Community Bus	2 New Large Vans 1 New Community Bus
	Bridgewater - Lunenburg - Riverport via Highway 3 and Route 332	Core Loop Service,	Fixed 12-hour, Monday-Saturday	1 full time 1 part-time		
	Bridgewater - LaHave - Petite-Rivière via Route 331	Extended Shuttle Service	Flex 4-hour, Monday-Saturday pre-booking	1 part-time		
4	Bridgewater – Mahone Bay – Lunenburg via Route 325 and Highway 3	Core Loop Service,	Fixed 12-hour, Monday-Saturday	1 full time 1 part-time		2 New Large Vans 2 New Community Bus
	Bridgewater - Lunenburg - Riverport via Highway 3 and Route 332	Core Loop Service,	Fixed 12-hour, Monday-Saturday	1 full time 1 part-time	1 New Community Bus	
	Bridgewater - LaHave - Petite-Rivière via Route 331	Extended Shuttle Service	Flex 4-hour, Monday-Saturday pre-booking	1 part-time		
	Bridgewater - New-Germany via Highway 10	Extended Shuttle Service	Flex 4-hour, Monday-Saturday pre-booking	1 part-time		
5	Bridgewater – Mahone Bay – Lunenburg via Route 325 and Highway 3	Core Loop Service,	Fixed 12-hour, Monday-Saturday	1 full time 1 part-time		2 New Large Vans 2 New Community Bus
	Bridgewater - Lunenburg - Riverport via Highway 3 and Route 332	Core Loop Service,	Fixed 12-hour, Monday-Saturday	1 full time 1 part-time		
	Bridgewater - LaHave - Petite-Rivière via Route 331	Extended Shuttle Service	Flex 4-hour, Monday-Saturday pre-booking	1 part-time		
	Bridgewater - New-Germany via Highway 10	Extended Shuttle Service	Flex 4-hour, Monday-Saturday pre-booking	1 part-time		

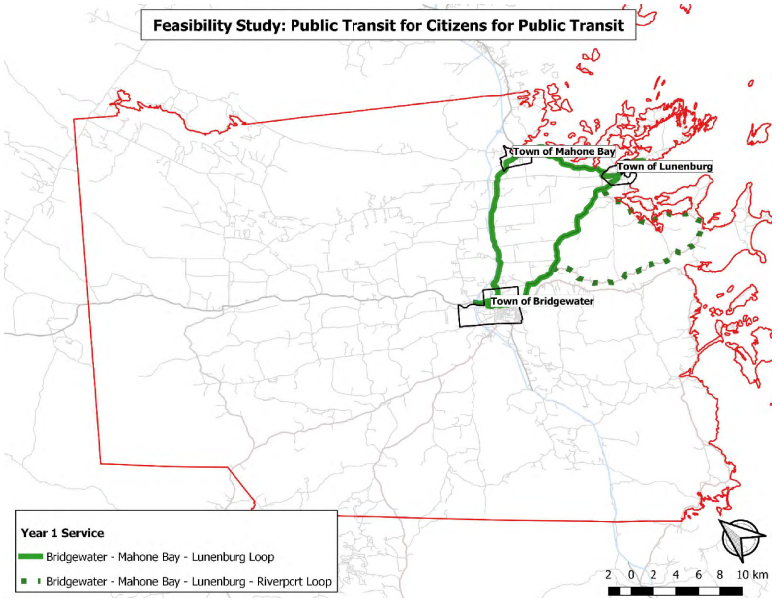


FIGURE 11 YEAR 1 SERVICE

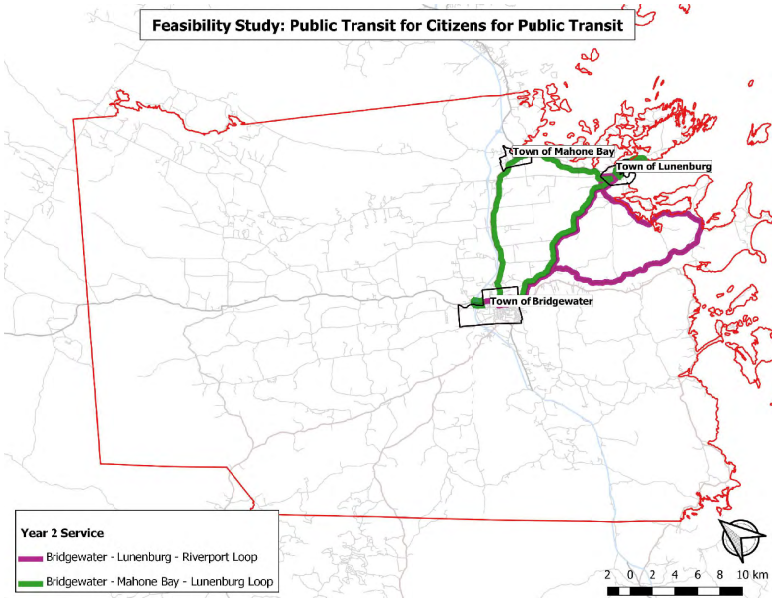


FIGURE 12 YEAR 2 SERVICE

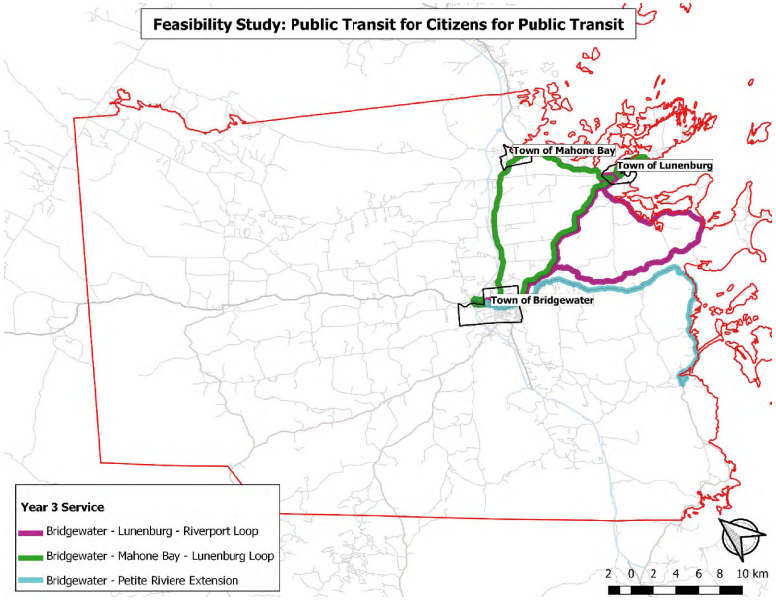


FIGURE 13 YEAR 3 SERVICE

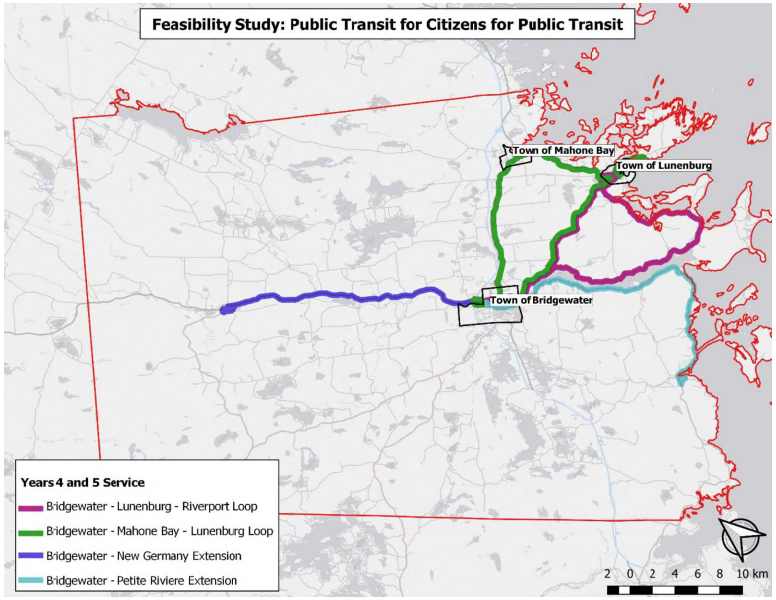


FIGURE 14 YEARS 4 AND 5 SERVICE

Chapter 5 Financial Feasibility Assessment

5.1 Costing

Through discussions with the Kings Transit Authority, and Bridgewater Transit, we have considered the costs of a regional public transit system in Lunenburg County. There are two key financial components to such a system:

- Operating budget; and
- Capital budget.

The operating budget takes into consideration the number of service hours, operational expenses such as driver's salaries, fuel for the vehicle, licence and administrative fees etc.

Capital costs include the purchase of the bus or transit vehicles, as well as any infrastructure such as bus stops and shelters, and other one-time equipment purchases.

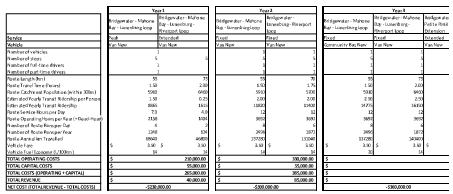
Anticipated revenue from the service would be based on the level of ridership and fare amount.

As the study progressed, we looked into the necessary components of both budgets for a Lunenburg County public transit system. The various costs associated with implementing a public transit system, and the potential ridership and revenue obtained through operating the service, are summarized in **Appendix D**.

Costs were estimated on a five-year basis. The first year would operate as a pilot demonstration, with the service being expanded and extended over the following years, as described in **Section 4.7**.

The resulting costs for each year of operation are summarized and rounded to the nearest $5,000 in Table 8 and are presented in detail in **Appendix D**.

TABLE 8 TRANSIT SERVICE COST SUMMARY



5.2 Funding Options

There is little doubt that providing a reliable, affordable and connected public transit system could improve quality of life for many people. While the costing exercise has found that the costs of a Lunenburg County transit service cannot be covered through advertising and fares alone, additional funding mechanisms are available at the provincial and federal levels.

According to the Infrastructure Canada webpage, investments in rural and northern infrastructure will help grow local economies, build stronger, more inclusive communities, and help safeguard the environment and the health of Canadians.

There are infrastructure dollars available from a number of programs as described in the following sections.

5.2.1 Federal Funding Streams

Because rural and northern communities have unique infrastructure needs that require a more targeted approach, the Federal Government will invest $2 billion over the next decade to support a broad range of infrastructure projects, to be allocated to provinces and territories on a base plus per capita allocation basis [https://www.infrastructure.gc.ca/plan/rnc-crn-eng.html].

Through the Public Transit Infrastructure Fund (PTIF), Budget 2016 focused on making immediate investments of $3.4 billion over three years, to upgrade and improve public transit systems across Canada. PTIF will provide short-term funding to help accelerate municipal investments to support the rehabilitation of transit systems, new capital projects, and planning and studies for future transit expansion to foster long-term transit plans.

To support the next phase of ambitious public transit projects, through Budget 2017 the Government will invest $25.3 billion over the next decade, including $5 billion invested by the Canada Infrastructure Bank.

Through new bilateral agreements with provinces and territories, the Public Transit stream will provide provinces, territories and municipalities with funding to address the new construction, expansion, and improvement and rehabilitation of public transit infrastructure, and active transportation projects [https://www.infrastructure.gc.ca/plan/pti-itc-eng.html].

5.2.2 Provincial Funding Streams

The Province of Nova Scotia has introduced the Public Transit Assistance Program (PTAP). It allows municipalities and community organizations to apply for funding to buy capital assets like vehicles, for fixed-route transit services. The funding is not intended to offset the cost of operating transit services. Based on funding levels provided to other fixed route services it is estimated that a new service could receive up to $25,000 in annual capital funding.

Another potential funding source could be the Low Carbon Communities & Connect2 fund, which is designed to help communities save money and reduce emissions. This grant program is

administered through the Nova Scotia Department of Energy and Mines. It covers three focus areas: buildings, electricity and transportation. Under the transportation stream's Connect2 program, pilot projects proposing shared mobility services may qualify for grants of up to $75,000. https://novascotia.ca/low-carbon-communities/.

Chapter 6 Governance Assessment

The proposed transit system for Lunenburg County presents a higher complexity over typical transit systems in that it consists of a service across a number of municipal boundaries. Municipalities in Nova Scotia are incorporated on a single-tier hierarchy: Towns, District municipalities, Regional municipalities and County municipalities all have parallel jurisdictions. The only authority above this structure is the provincial government. However, since the provision of transit services is a municipal, not a provincial responsibility, another service delivery mechanism is required.

Several governance structures are available, ranging from fully public, to fully private. Each structure has certain merits, and presents different advantages and disadvantages to a cross-boundary system such as the one proposed for Lunenburg County. Table 9 describes the type of governance structures that could be adopted for a Lunenburg County transit system.

TABLE 9 GOVERNANCE OPTIONS

Type	1. Public Municipal Transit System	2. Public Management and Private Operations/ Maintenance	3. Delegated Private Management and Operations/ Maintenance	4. Private System
Description	• All aspects of the transit service are a public responsibility, including maintenance and operation being provided by public sector employees.	• The municipality is responsible for subsidizing all operating losses. • Governance is often the responsibility of the municipal council, or publicly appointed board.	• The municipality owns and is responsible to ensure the transit service is provided. • The management, maintenance and operation of the vehicles is delegated to a third party service provider.	• A private corporation owns, manages, operates and maintains the system

The consultation process considered all of these governance structures and delivery mechanisms; most importantly, however, it was felt that a publicly-owned and operated system was most in keeping with the goals and vision of Lunenburg County residents.

A private system has the advantage of leveraging existing service providers. Services like Maritime Bus already operate a regional bus system that is well connected to major hubs in the Atlantic region. On a smaller scale, the example of the rural Town of Innisfil in Ontario is telling. The Town entered into an agreement with the ride-sharing service Uber to provide transportation services in the rural municipality. The Town compensates Uber for every ride taken by Town residents. While this system has been very successful, the Town has found that its costs significantly exceed the initial forecasted costs of a municipal transit system. The main issue is that Uber offers no economies of scale: the higher the usage, the higher the costs. A municipal bus system, in comparison, offers the potential for economies of scale by carrying a higher number of patrons on every ride. The resulting net cost per kilometer travelled is therefore reduced.

A private system is also ultimately guided by profitability. As observed in the case of Maritime Bus, there is no guarantee of service, if routes are not profitable. As demonstrated in Table 7, however, a Lunenburg County transit service would not be profitable, under basic operating assumptions. A form of public system would therefore be preferable to a private system.

Drawing from the experience of Kings Transit Authority, several municipalities could enter into an Inter-Municipal Service Agreement, whereby they each contribute to the operating and capital funds of an arms-length transit corporation, which in turn owns and operates the transit service. A transit authority would be established, with a Board of Directors including members from all participating jurisdictions.

Considering that the Town of Bridgewater has already started a transit service, the opportunity also exists for Town of Bridgewater to extend this service to the rest of Lunenburg Transit along the routes proposed in Chapter 4 , through an Inter-Municipal Service Agreement, with contributions from participating municipalities proportional to the size of their populations.

Chapter 7 Conclusions

This Feasibility Study has assessed transportation needs throughout Lunenburg County, with the aim of identifying the feasibility of implementing a transit system. Through review of census data, and extensive public and stakeholder consultation, it was found that there is significant travel activity between the municipalities within Lunenburg County, for work, school and discretionary (non-work) trips. At the same time, several dynamics (including lack of access to a private vehicle, low-income, or age or illness related issues) increasingly reduce residents' mobility and access to the services they need.

At the forefront, we note the trend towards a population looking to "age in place", and needing dependable and consistent access to services (medical, shopping, socializing). Equally important, we found a disconnect between employers' access to Lunenburg County's workforce, and employees unable to travel to employment locations. Lastly, students and young people have limited access to programmed activities, summer jobs, and leisure destinations, if they cannot be driven around, are not able to afford to live close to where they work, or have access to their own vehicle.

Considering these needs, and the widely dispersed nature of communities in Lunenburg County, we sought to develop a responsive pilot transit service. Four main service corridors were identified, connecting into the Town of Bridgewater as the regional hub:

- Bridgewater – Mahone Bay – Lunenburg
- Bridgewater – Lunenburg – Riverport
- Bridgewater – LaHave – Petite Rivière
- Bridgewater – New Germany

Through discussions with recently-implemented transit systems in the Town of Bridgewater, and longer standing systems in Annapolis Valley (Kings Transit Authority), we developed an initial Core Loop peak hour service, with extended off-peak service. We found that, due to long distances that would have to be travelled, and the relatively low population density in Lunenburg County, a transit service would not be profitable, and would not cover operating costs based on fare recovery alone.

However, we do believe that a transit service is feasible with funding from federal and provincial sources to complement the fare revenue, which could be established through a shorter, pilot route, the Bridgewater – Mahone Bay – Lunenburg – Riverport route, that if successful could be extended to include the other routes to LaHave and Petite Rivière, and perhaps New Germany. We have identified principal federal and provincial funding sources that are intended to offset a part of transit system capital and operating costs. A Lunenburg County Transit Authority would have to apply for grants under the applicable funds.

7.1 Next Steps

To initiate a Lunenburg County transit system, the following steps will need to be taken:

- CPT to present the study to all four town and municipal councils and Mayors;
- CPT to present the study to provincial representatives and Nova Scotia Communities, Culture and Heritage who have funded the study;
- Confirm participating jurisdictions;
- Sign an Inter-Municipal Service Agreement, establishing a Lunenburg County Transit Authority and a Board of Directors;
- Set transit authority charter and policies;
- Confirm bus routes and bus stops in consultation with participating jurisdictions and Councils;
- Determine fare structure;
- Develop service plan;
- Establish operating and capital budgets;
- Apply for funding;
- Acquire UARB service operating licensing;
- Liaise with other local transit systems/organizations (Senior Wheels, Chester Community Wheels, Queens County Transit, Maritime Bus, school bus services, Cloud Nine Shuttle, Alternative Routes etc.).

As for the Citizens for Public Transit Board, we believe that it is essential that they continue to play a part in establishing the transit system due to their long-term commitment to bringing a service to the region, their existing contacts and influence, and their continued enthusiasm to seeing their mission completed. One suggestion would be for CPT to be represented on the Board of Directors of a newly formed Lunenburg County Transit Authority.

Appendix A

Focus Group Invitation and Materials, Responses

WANT A BUS SYSTEM FOR LUNENBURG COUNTY?

Come learn about efforts to make this happen and to contribute your ideas!

May 13, 2019, from 4:30 - 6 pm
Lunenburg Fire Hall - 25 Medway St

For more information, please contact Citizens for Public Transit
(902) 543-5541 | cpt@bellaliant.net

We welcome you to attend our focus group meetings, and to participate in our online survey. A hard copy of the survey can also be obtained and dropped off at town/municipal offices. Please participate in our online survey at

www.transitlunenburg.ca/LunenburgCountyTransit

NOVA SCOTIA
Communities, Culture and Heritage

CPT
Citizens for Public Transit

CBCL LIMITED
Consulting Engineers

WANT A BUS SYSTEM FOR LUNENBURG COUNTY?

Come learn about efforts to make this happen and to contribute your ideas!

Wednesday, June 12, 2-4 p.m.,
Mahone Bay Centre, 45 School Street,
Large Conference Room 307

Wednesday, June 12, 6-8 p.m.,
LaHave Bakery, 3421 Hwy 331,
La Have, 2nd floor

For more information, please contact Citizens for Public Transit
(902) 543-5541 | cpt@bellaliant.net

We welcome you to attend our focus group meetings, and to participate in our online survey. A hard copy of the survey can also be obtained and dropped off at town/municipal offices. Please participate in our online survey at

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NOVA SCOTIA
Communities, Culture and Heritage

CPT
Citizens for Public Transit

CBCL LIMITED
Consulting Engineers

How can public transportation benefit you, your family and your community?>

Record	Focus Group	Group	Comment
1001	1	1	Parking solution in tourist season
1002	1	1	Can travel when weather and roads are bad
1003	1	1	Facilitates social interaction and builds community links
1004	1	1	oppertunities for cultural exchange (eg.Muscians on bus)
1005	1	1	Keep seniors in homes and communities
1006	1	1	People encouraged to use buses for restaurants and bars (Avoid drinking and driving)
1007	1	1	Using buses/public transit helps make a greener enviornment for all of us
1008	1	1	Relex on public transit (stress free) can read,knit etc
1009	1	2	Potential Route- Riverport to Lahave ferry to Bridgewater with stops
1010	1	2	Carry loads that I can't carry on my bike
1011	1	2	Combo ->eg. Bike + bus
1012	1	2	Weather alternatives - A ferry from Riverport - Lahave - Lunenburg - Brdgewater with stops
1013	1	2	Save gas- Carbon emissioons
1014	1	2	Chat, build community relationship
1015	1	2	Read on the go, wifi work while you travel
1016	1	2	If you can commute to work -->community growth, more options to stay
1017	1	2	Winter travel options
1018	1	2	Fewer cars on the road
1019	1	2	Benefit people with accessibility/Mobility issue, support for diverse community
1020	1	2	Night time options - travel to/from concerts, movies,events
1021	1	2	Employers buy bus passes for staff
1022	1	2	Corporate sponsors (Plastics factory, restaurants, smaller businesses)
1023	1	2	Bridgewater, Lunenburg link up
1024	1	2	Churches, Senior homes
1025	1	3	Get people out of the house more
1026	1	3	Good for seniors + people with disabilities
1027	1	3	Good for responsible drinking + cannabis
1028	1	3	Good for medical appointments + errand
1029	1	3	Good for appointment where you can't drive after
1030	1	3	Potentially good for commuting if service hours are appropriate (work + after school)
1031	1	3	People with part time jobs
1032	1	3	To go shopping
1033	1	3	Getting tourists around
1034	1	3	Good for young people + new Canadians
1035	1	3	Good for health
1036	1	3	Good to go to local events
1037	1	4	Electric Buses = Less pollution
1038	1	4	Independence for non-car owners or non-drivers
1039	1	4	Takes a lot of bad drivers off the road. Ie tailgaters or slow pokes
1040	1	4	Attract people to move here.
1041	1	4	Communitiy buildings- meet people at the bus stop and on the bus. Good way to keep warm or entertained
1042	1	4	Less need for parking spaces
1043	1	4	Less cars per household- less car costs gas, insurance. Family fight reduced
1044	1	5	Less money spend on gas, car repairs
1045	1	5	Spend less for Parking
1046	1	5	Don't have license but need reliable transit to get to work
1047	1	5	Better connection with family members in other towns
1048	1	5	Good for business
1049	1	5	Good for mental health, inter communication between communities
1050	1	5	Benefits for environment
1051	1	5	Reduction in potential traffic
1052	1	6	More conveinient access to entertainment and shopping venues
1053	1	6	Employment
1054	1	6	Everyday service or twice a week service
1055	1	6	Medical/dental appointment
1056	1	6	Combat loneliness for older people - Volunteer drives
1057	1	6	Corporate sponsor a bus once a week to go shopping, specialy in rural areas
1058	MB	3	Start 6:00 Bridgewater, main loop to Lunenburg. Express Lunenburg to Bridgewater
1059	MB	3	Offset Departure between 2 buses
1060	MB	3	Slack gives people to run errand and catch return bus
1061	MB	3	Later service
1062	MB	3	Flex- Call ahead for stop, Night before/Online/app
1063	MB	3	Shuttle
1064	MB	1	Help break isolation
1065	MB	1	Bring the county together
1066	MB	1	Give people access to services
1067	MB	1	Well being, knowing you can see others - Social life
1068	MB	1	Access to jobs
1069	MB	2	Health connections

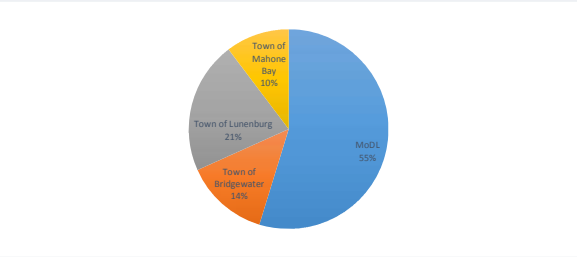
1070	MB	2	Shopping - food & other
1071	MB	2	Committee meetings & other meetings
1072	MB	2	Social connections - dining/friends
1073	MB	2	Access to gout. Services & represent actives
1074	MB	2	Library & Recreationed services (Lunenburg & Bridgewater) - Spots, concerts & yoga/ Tai Chi etc
1075	MB	2	Entertainment (sports, concerts, mouics)
1076	MB	2	High school/ community college/extra curricular
1077	MB	2	Job opportunities
1078	MB	2	Professional services
1079	MB	2	Visits to nursing/Hospitals/care facilities
1080	MB	2	access to parks/beaches/lakes
1081	LH	1	Retired if few demands, but have appointments/shopping
1082	LH	1	Appointments 2 times per week +/-
1083	LH	1	Trips to the Library
1084	LH	1	Shopping, dentist, doctor, change of pase, beach etc
1085	LH	1	Medical serivces (eg. Chester)
1086	LH	1	Volunteer activeties
1087	LH	1	Meethings
1088	LH	1	Recreation outings
1089	LH	1	shopping
1090	LH	1	Increase number of people coming into this community, accessing shops, artistic/Gallaries/ beach/winery
1091	LH	1	Tourist actives = increase for local people
1092	LH	1	Seasonal actives @ beaches etc
1093	LH	1	Environmental
1094	LH	1	Social
1095	LH	1	Essential Service
1096	LH	1	commercial
1097	LH	1	Culture
1098	LH	2	Not having to own car
1099	LH	2	Less fossil fuel burning (enviornment)
1100	LH	2	Not having to ferry children always by car
1101	LH	2	Connecting to Halifax bus
1102	LH	2	Access to community programs
1103	LH	2	Social benefit: meeting others
1104	1	2	Fitness benefit
1105	1	2	Not being vulnerable when aging (getting stuck at home)
1106	1	2	Connecting with family - Less trips to pick up and drop off
1107	1	2	Conscious travel decisions
1108	1	2	** Winter options
1109	1	2	More access to rec. resources
1110	1	2	Positive retail impacts
1111	1	2	reduce congestion in towns
1112	1	2	productive time on bus (Reading)

What are the guiding principles for a bus system in Lunenburg County?

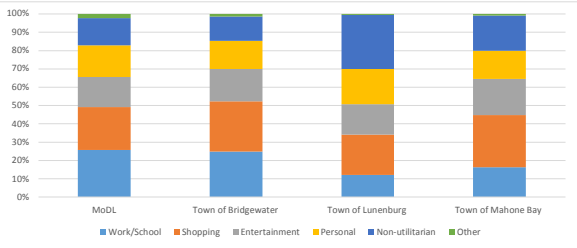
Record	Focus Group	Comment
2059	1	Helpful for old people
2004	1	Accessible
2012	1	Accessible
2048	1	Accessibility for all (not necessarily geographically but physically)
2079	1	Accessible
2081	1	Accessible
2084	1	Accessible
2086	1	Accessible
2088	1	Accessible
2092	1	Accessible
2094	1	Accessible
2099	1	Accessible
2007	1	Accountable
2080	1	Affordable
2082	1	Affordable
2087	1	Affordable
2093	1	Affordable
2096	1	Affordable
2008	1	Affordable
2056	1	Monthly pass
2028	1	No food on buses
2010	1	Comfortable
2025	1	Sheltered bus stops
2052	1	Community fcoused - can do special event markets festival etc
2032	1	Connecting
2037	1	Route-Logical
2041	1	Connect to other transit systems
2046	1	Efficient route and most convenient for the riders
2065	1	Joint public and school bus collaboration and routes
2066	1	Dial a ride to connect remote rural communities
2090	1	Connecting
2078	1	Consistent
2098	1	Consistent
2006	1	Convenient
2009	1	Stop options on request (with reason)
2026	1	Convenience
2047	1	Convenience sufficient to be "culture challenging" (combating car dependency as primary influence
2074	1	Non rush hour (shopping & Social purpose)
2015	1	Get sponsorship: NSCC, Businesses, shoping centres.
2016	1	Annual membership - funded by employers
2063	1	Corporate sponsored including billboard advertising on the bus
2020	1	Cost
2069	1	Free or low cost, more riders save on admin
2075	1	Be able to go to Bridgewater shop 2 hrs, onto Mahone bay , then to Lunenburg- One flexible fare
2001	1	Dependable
2003	1	Efficient (most people on the shortest route)
2040	1	Energy efficient
2042	1	Clean technology
2054	1	Environmental friendly/Green energy
2057	1	More green options
2061	1	Electric
2070	1	Day fares, frequency service, multi modal
2076	1	Frequent

2022	1	Health
2023	1	Support active transport
2024	1	Can live in rural area (less expensive) good for families
2058	1	Good for non driver
2049	1	Reinforcing the idea of pop density & economic hubs within towns/urban centers as the proven land use plan
2014	1	Concept: New germany -> BW, Bridgewater -> BW, Cargo bike racks and storage, Dial a ride
2039	1	Bike racks
2053	1	Can take bicycles, wheelchair and service animals
2011	1	Predictable
2055	1	High visibility stop community profile
2067	1	Well promoted
2017	1	Municipality (MODL) responsible for finding funding
2019	1	secure publiv subisdy (re-structure provincial system so province can contribute
2060	1	Subsidized
2071	1	Subsidized (for continual service)
2073	1	A service, not profit making
2005	1	Reliable
2050	1	Reliability so people can depend on it (again to chip away at car dependency)
2002	1	Safe
2029	1	Seatbelts
2030	1	Madndatory seat belts
2031	1	Trained drivers with authority to remove abusive passengers
2035	1	Safe for women and children
2038	1	Driver has autonomy to keep bus safe and "remove" problematic passegers
2044	1	Watchful of those who need help
2045	1	Stops well marked
2018	1	Orgenic Gorwth: System to evolve from existing services initiatives
2027	1	Times/Logical
2033	1	Regular
2034	1	Appropriate hours of operation
2036	1	Scheduling- very hard to accommodate
2043	1	Fixed schedule
2062	1	Regular service several times per day
2083	1	Seatbelts
2085	1	Seatbelts
2072	1	Speeds and frequency
2097	1	subsidized
2013	1	Sustainable
2077	1	Financially sustainable
2089	1	Sustainable
2091	1	Sustainable
2095	1	Sustainable
2064	1	Useful for everone
2051	1	Able to demonstrate econmomic benefit (Credible counter argument to "subsidy" mentality)
2021	1	Wifi connect
2068	1	Fuel services e.g. Beach bus
2069	MB	Fixed Route
2070	MB	Frequent
2071	MB	Scheduled
2072	MB	Accessible
2073	MB	Afforadble
2074	MB	Public Transit
2075	MB	Reliable
2076	MB	Connected
2077	MB	Well-Being
2078	MB	Pet Friendly
2079	MB	Long term plan
2080	MB	Time schedules realistic
2081	MB	Link as many communities as possible
2082	MB	Accessible vehicles
2083	MB	Good color, for route - well mapped
2084	MB	Safe Access covered wait area
2085	MB	Afforadble
2086	MB	Combine with school bus system with back road system
2087	MB	Frequent Stops
2088	MB	Easy access
2089	MB	Accessibilty
2090	MB	Reliability
2091	MB	Safe
2092	MB	Reliable
2093	MB	Sustainable
2094	MB	Afforadble (to riders & funding agency)
2095	MB	Handycapped assistance
2096	MB	Frequency
2097	MB	Afforadble
2098	MB	Accessible
2099	MB	Sustainable (Environment)
2100	MB	Predictable (schedule)
2101	MB	Active
2102	MB	Timely
2103	MB	Coat
2104	MB	Frequency
2105	MB	Access
2106	MB	more stops
2107	MB	Meeting needs
2108	MB	meeting wishes
2109	MB	convenient
2110	LH	Need Schedules of shift mumbers
2111	LH	3 towns shore road
2112	LH	Area chaning, immigrants, yound families, affordable province.
2113	LH	Older folks unable to drive in future - Need PT
2114	LH	Availbale (Historical routes to liverpool and yarmonth twice a day)
2115	LH	return to what used to work, if unable to drive - couldn't live in rural NS.
2116	LH	Public transit as a service, what does the future look like?
2117	LH	aging in place, mobility. Special events & visitors on the weekend
2118	LH	Conveient route to Mahone bay + Lunenburg + Rose bay + Bridgewater
2119	LH	Accessible
2120	LH	Flexiable in days and evening
2121	LH	Comfortable
2122	LH	Electric (enviormental friendly)
2123	LH	Predictable
2124	LH	Accessible
2125	LH	Affordable
2126	LH	Convenient access
2127	LH	Reasonable coat
2128	LH	Affordable
2129	LH	Sustainable
2130	LH	Convenient
2131	LH	Affordable
2132	LH	Regular access

Participation	Grand Total
MoDL	133
Town of Bridgewater	33
Town of Lunenburg	52
Town of Mahone Bay	25
	243

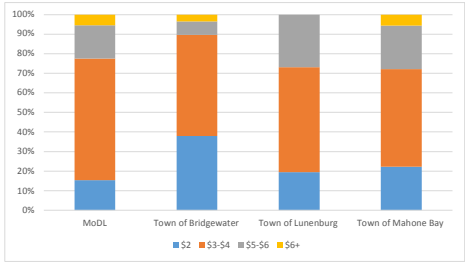


Trip Purpose	Work/School	Shopping	Entertainment	Personal	Non-utilitarian	Other	
MoDL	488	441	311	329	280	42	
Town of Bridgewater	181	199	128	112	96	10	
Town of Lunenburg	104	188	142	164	253	4	
Town of Mahone Bay	55	96	67	52	65	3	
	828	924	648	657	694	59	3810
	22%	24%	17%	17%	18%	2%	15.679012



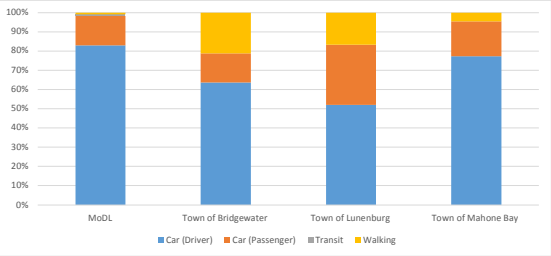
Count of Record #	Column Labels				
Row Labels	$2	$3-$4	$5-$6	$6+	Grand Total
MoDL	17	69	19	6	111
Town of Bridgewater	11	15	2	1	29
Town of Lunenburg	8	22	11		41
Town of Mahone Bay	4	9	4	1	18
Grand Total	**40**	**115**	**36**	**8**	**199**

Willingness to pay	$2	$3-$4	$5-$6	$6+	Total
MoDL	17	69	19	6	111
Town of Bridgewater	11	15	2	1	29
Town of Lunenburg	8	22	11	0	41
Town of Mahone Bay	4	9	4	1	18
	40	115	36	8	199



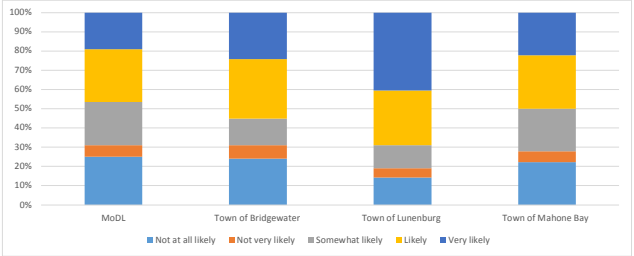
Count of Record #	Column Labels				
Row Labels	Car (Driver)	Car (Passenger)	Transit	Walking	Grand Total
MoDL	98	18	1	1	118
Town of Bridgewater	21	5		7	33
Town of Lunenburg	25	15		8	48
Town of Mahone Bay	17	4		1	22
Grand Total	**161**	**42**	**1**	**17**	**221**

Primary Mode of Travel	Car (Driver)	Car (Passenger)	Transit	Walking	Total
MoDL	98	18	1	1	118
Town of Bridgewater	21	5	0	7	33
Town of Lunenburg	25	15	0	8	48
Town of Mahone Bay	17	4	0	1	22
					221



Count of Record #	Column Labels					
Row Labels	Likely	Not at all likely	Not very likely	Somewhat likely	Very likely	Grand Total
MoDL	29	7	26	32	22	116
Town of Bridgewater	7	2	4	9	7	29
Town of Lunenburg	6	2	5	12	17	42
Town of Mahone Bay	4	1	4	5	4	18
Grand Total	**46**	**12**	**39**	**58**	**50**	**205**

Likelihood to use transit	Not at all likely	Not very likely	Somewhat likely	Likely	Very likely	Total
MoDL	29	7	26	32	22	116
Town of Bridgewater	7	2	4	9	7	29
Town of Lunenburg	6	2	5	12	17	42
Town of Mahone Bay	4	1	4	5	4	18
	46	12	39	58	50	205



Appendix B

Survey Form

NOVA SCOTIA
Communities, Culture and Heritage

CPT
Citizens for Public Transit

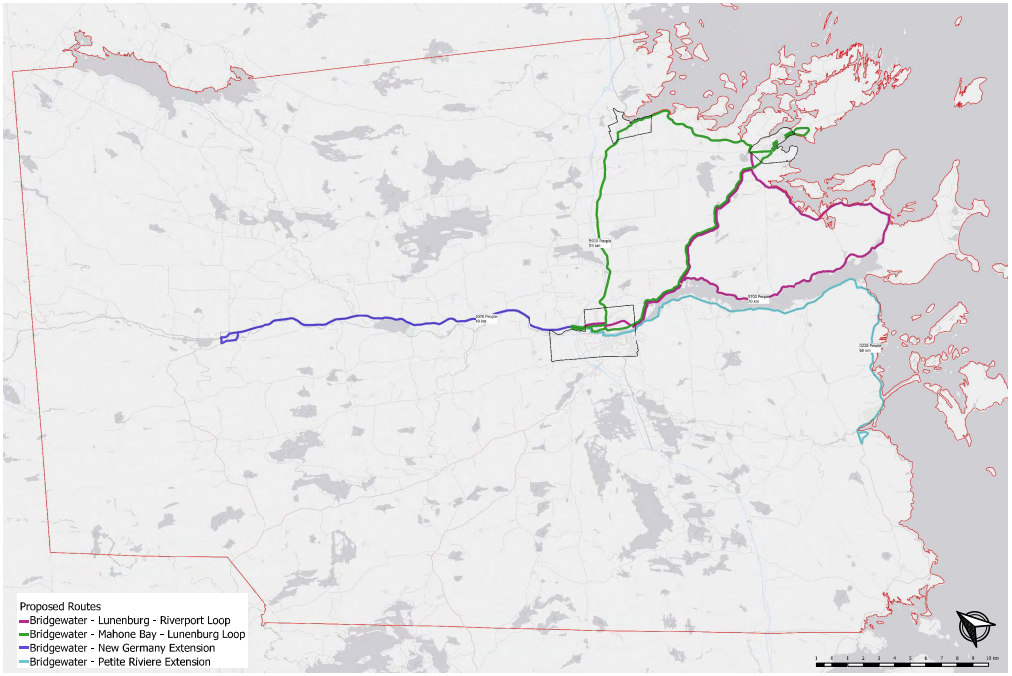
CBCL LIMITED
Consulting Engineers

Bus System for Lunenburg County – Survey

1. In which community do you live?					
☐ Town of Bridgewater	☐ Town of Lunenburg	☐ Town of Mahone Bay	☐ Municipality of the District of Lunenburg (MODL)	(Please specify **which MODL community you live in**)	
2. What is your primary mode of travel?					
☐ Car (Drive alone)	☐ Car passenger	☐ Bike	☐ Walk	☐ Other (Please specify)	
3. During the last month, roughly how many times per week did you travel for the following purposes?					
Work/school	Shopping	Entertainment, social and recreational activity	Personal errands (post office, medical appointments, dropping someone off)	Non-utilitarian (walking for exercise, dog-walking)	Other (Please specify)
4. How likely are you to ride public transportation, if available, in your community?					
☐ Not at all likely	☐ Not very likely	☐ Likely	☐ Somewhat likely	☐ Very likely	
5. How much are you willing to pay per trip for public transit?					
☐ $2	☐ $3 - $5	☐ $5 - $6	☐ more than $6		
6. What type of transit would you like to see in Lunenburg County?					
7. How can we connect communities by transit? (ex. Bridgewater to Mahone Bay)					
8. What features would you like to see in the service? (ex. coverage, flex schedule, bus technologies, apps)					
9. Any additional comments?					
10. What is your postal code?					

Appendix C

Route Options



Appendix D

Financial Assessment

Route	Length (km)	Average Speed (km/h)	Travel Time (hours)	Population 300m	Population % making trips	Average number of yearly trips per person	Likely Transit Split	Potential Yearly Transit Trips
Bridgewater - Mahone Bay - Lunenburg - Riverport Loop	75.00	40	2	6460	66%	784	0.3%	10028
Bridgewater - Mahone Bay - Lunenburg Loop	55.00	40	1.5	5910	66%	784	0.3%	9174
Bridgewater - Lunenburg - Riverport Loop	70.00	40	1.75	5700	66%	784	0.3%	8848
Bridgewater - LaHave - Petite Rivière Extension	70.00	40	1.75	3220	66%	784	0.3%	4998
Bridgewater - New Germany Extension	50.00	40	1.25	1070	66%	784	0.3%	1661

Service Type	Yearly Trips per	Service Hours per Weekday	Service Hours in 5 Weekdays	Service Hour Saturday	Service Hour Sunday	Service Hour per week	Service Hour per year	Break Hour per weekday	Break Hour per week	Break Hour per Saturday	Break Hour per week	Break Hour per year	Dead-Head per year	Total Operating Hours per Year
Peak		7	35	7		42	2184	0.5	2.5	0.5	3.5	182	156	2158
Fixed		12	60	12		72	3744	1	5	1	7	364	312	3692
Extended		4	20	4		24	1248		0		0	0	156	1404

Vehicle Type	Capital Cost	Fuel Economy (litres / 100km)	Yearly Maintenance costs	Inspection and Insurance cost per year	Permit costs per year	Passenger capacity	Fare per trip
Standard Bus New	$ 500,000	42.77	$ 7,500	$ 25,000	$ 515	40	$ 3.50
Standard Bus Old	$ 45,000	45	$ 30,000	$ 20,000	$ 515	40	$ 3.50
Small Bus New	$ 100,000	30	$ 5,000	$ 15,000	$ 450	20	$ 3.50
Small Bus Old	$ 18,000	33.6	$ 20,000	$ 15,000	$ 450	20	$ 3.50
Community Bus New	$ 90,000	20	$ 2,500	$ 10,000	$ 250	15	$ 3.50
Community Bus Old	$ 15,000	25	$ 7,500	$ 10,000	$ 250	15	$ 3.50
Van New	$ 50,000	13.52	$ 1,000	$ 5,000	$ 50	8	$ 3.50
Van Old	$ 5,000	20	$ 2,000	$ 5,000	$ 50	8	$ 10.00

Driver Type	Wage	Benefits	Sick Time	Vacation	Total Hourly Cost	Uniform Cost	First Aid Training	Hours/Day	Salary	Yearly Cost
Full Time	$ 18	$ 1	$ 1	$ 1	$ 21	$ 350	$ 300	$ 8.5	$ 55,692	$ 56,342
Part Time	$ 18				$ 18	$ 250	$ 300	$ 5.5	$ 30,888	$ 31,438

	Year 1	
	Bridgewater - Mahone Bay - Lunenburg Loop	Bridgewater - Mahone Bay - Lunenburg - Riverport Loop
Service	Peak	Extended
Vehicle	Van New	Van New
Number of vehicles	1	
Number of stops	5	5
Number of full-time drivers	1	
Number of part-time drivers	1	
Route Length (km)	55	75
Route Travel Time (hours)	1.50	2.00
Route Catchment Population (within 300m)	5910	6460
Estimated Yearly Transit Ridership per Person	1.50	0.25
Estimated Yearly Transit Ridership	8865	1615
Route Service Hours per Day	7.0	4.0
Route Operating Hours per Year (+ Dead-Head)	2158	1404
Number of Route Runs per Day	4	2
Number of Route Runs per Year	1248	624
Route Annual km Travelled	68640	46800
Vehicle Fare	$ 3.50	$ 3.50
Vehicle Fuel Economy (L/100km)	14	14
OPERATING COSTS		
Bus Drivers		
Wages, Benefits, Sick, First Aid		$ 87,780.00
Management		
Wages		$ 50,000.00
Fees and Registrations		$ 25,000.00
Communications		$ 500.00
Professional Services		$ 5,000.00
Advertising		$ 15,000.00
Cleaning Supplies		$ 240.00
Buses		
Parking		$ 500.00
Fuel price (c/L)	$ 7,888.11	$ 5,378.26
Yearly Maintenance		$ 1,000.00
Inspection and Insurance cost per year		$ 5,000.00
Permits		$ 50.00
Bus Cleaning		$ 5,000.00
Bus Signage		$ 1,500.00
Advertising		$ 50.00
TOTAL OPERATING COSTS		**$ 209,886.36**
		$ 210,000.00
CAPITAL COSTS		
Vehicle		
Capital Cost		$ 50,000.00
Bus stop signage	$ 1,250.00	$ 1,250.00
Radios		$ 1,500.00
Tools		$ 200.00
Fare Boxes		$ 500.00
TOTAL CAPITAL COSTS		**$ 54,700.00**
		$ 55,000.00
TOTAL COSTS (OPERATING + CAPITAL)		**$ 264,586.36**
		$ 265,000.00
REVENUE		
Bus advertising (per bus, per month)	$ 1,800.00	$ -
Fare (Estimated Ridership)	$ 31,027.50	$ 5,652.50
TOTAL REVENUE		**$ 38,480.00**
		$ 40,000.00
NET COST (TOTAL REVENUE - TOTAL COSTS)	**-$226,106.36**	
	-$230,000.00	

	Year 2	
	Bridgewater - Mahone Bay - Lunenburg Loop	Bridgewater - Lunenburg - Riverport Loop
Service	Fixed	Fixed
Vehicle	Van New	Van New
Number of vehicles	1	1
Number of stops	5	5
Number of full-time drivers	1	1
Number of part-time drivers	1	1
Route Length (km)	55	70
Route Travel Time (hours)	1.50	1.75
Route Catchment Population (within 300m)	5910	5700
Estimated Yearly Transit Ridership per Person	2.00	2.00
Estimated Yearly Transit Ridership	11820	11400
Route Service Hours per Day	12	12
Route Operating Hours per Year (+ Dead-Head)	3692	3692
Number of Route Runs per Day	8	6
Number of Route Runs per Year	2496	1872
Route Annual km Travelled	137280	131040
Vehicle Fare	$ 3.50	$ 3.50
Vehicle Fuel Economy (L/100km)	14	14
OPERATING COSTS		
Bus Drivers		
Wages, Benefits, Sick, First Aid	$ 87,780.00	$ 87,780.00
Management		
Wages	$ 50,000.00	-
Fees and Registrations	$ 25,000.00	-
Communications	$ 500.00	-
Professional Services	$ 5,000.00	-
Advertising	$ 15,000.00	-
Cleaning Supplies	$ 240.00	-
Buses		
Parking	$ 500.00	$ 500.00
Fuel price (c/L)	$ 15,776.22	$ 15,059.12
Yearly Maintenance	$ 1,000.00	$ 1,000.00
Inspection and Insurance cost per year	$ 5,000.00	$ 5,000.00
Permits	$ 50.00	$ 50.00
Bus Cleaning	$ 5,000.00	$ 5,000.00
Bus Signage	$ 1,500.00	$ 1,500.00
Advertising	$ 50.00	$ 50.00
TOTAL OPERATING COSTS	**$ 212,396.22**	**$ 115,939.12**
		$ 330,000.00
CAPITAL COSTS		
Vehicle		
Capital Cost		$ 50,000.00
Bus stop signage		
Radios		$ 1,500.00
Tools		$ 200.00
Fare Boxes		$ 500.00
TOTAL CAPITAL COSTS	**$ -**	**$ 52,200.00**
		$ 55,000.00
TOTAL COSTS (OPERATING + CAPITAL)	**$ 212,396.22**	**$ 168,139.12**
		$ 385,000.00
REVENUE		
Bus advertising (per bus, per month)	$ 1,800.00	$ 1,800.00
Fare (Estimated Ridership)	$ 41,370.00	$ 39,900.00
TOTAL REVENUE	**$ 43,170.00**	**$ 41,700.00**
		$ 85,000.00
NET COST (TOTAL REVENUE - TOTAL COSTS)	**-$169,226.22**	**-$126,439.12**
	-$300,000.00	

	Year 3		
	Bridgewater - Mahone Bay - Lunenburg Loop	Bridgewater - Mahone Bay - Lunenburg - Riverport Loop	Bridgewater - LaHave - Petite Rivière Extension
Service	Fixed	Fixed	Extended
Vehicle	Community Bus New	Van New	Van New
Number of vehicles	1	1	1
Number of stops	5	5	5
Number of full-time drivers	1	1	
Number of part-time drivers	1	1	1
Route Length (km)	55	75	70
Route Travel Time (hours)	1.50	2.00	1.75
Route Catchment Population (within 300m)	5910	6460	3220
Estimated Yearly Transit Ridership per Person	2.50	2.50	1.50
Estimated Yearly Transit Ridership	14775	16150	4830
Route Service Hours per Day	12	12	4.0
Route Operating Hours per Year (+ Dead-Head)	3692	3692	1404
Number of Route Runs per Day	8	6	2
Number of Route Runs per Year	2496	1872	624
Route Annual km Travelled	137280	140400	43680
Vehicle Fare	$ 3.50	$ 3.50	$ 3.50
Vehicle Fuel Economy (L/100km)	20	14	14
OPERATING COSTS			
Bus Drivers			
Wages, Benefits, Sick, First Aid	$ 87,780.00	$ 87,780.00	$ 31,438.00
Management			
Wages	$ 50,000.00	-	-
Fees and Registrations	$ 25,000.00	-	-
Communications	$ 500.00	-	-
Professional Services	$ 5,000.00	-	-
Advertising	$ 15,000.00	-	-
Cleaning Supplies	$ 240.00	-	-
Buses			
Parking	$ 500.00	$ 500.00	$ 500.00
Fuel price (c/L)	$ 23,337.60	$ 16,134.77	$ 5,019.71
Yearly Maintenance	$ 2,500.00	$ 1,000.00	$ 1,000.00
Inspection and Insurance cost per year	$ 10,000.00	$ 5,000.00	$ 5,000.00
Permits	$ 250.00	$ 50.00	$ 50.00
Bus Cleaning	$ 5,000.00	$ 5,000.00	$ 5,000.00
Bus Signage	$ 1,500.00	$ 1,500.00	$ 1,500.00
Advertising	$ 50.00	$ 50.00	$ 50.00
TOTAL OPERATING COSTS	**$ 226,657.60**	**$ 117,014.77**	**$ 49,557.71**
			$ 395,000.00
CAPITAL COSTS			
Vehicle			
Capital Cost	$ 90,000.00		
Bus stop signage			$ 1,250.00
Radios	$ 1,500.00		
Tools	$ 200.00		
Fare Boxes	$ 500.00		
TOTAL CAPITAL COSTS	**$ 92,200.00**	**$ -**	**$ 1,250.00**
			$ 95,000.00
TOTAL COSTS (OPERATING + CAPITAL)	**$ 318,857.60**	**$ 117,014.77**	**$ 50,807.71**
			$ 490,000.00
REVENUE			
Bus advertising (per bus, per month)	$ 1,800.00	$ 1,800.00	$ 1,800.00
Fare (Estimated Ridership)	$ 51,712.50	$ 56,525.00	$ 16,905.00
TOTAL REVENUE	**$ 53,512.50**	**$ 58,325.00**	**$ 18,705.00**
			$ 135,000.00
NET COST (TOTAL REVENUE - TOTAL COSTS)	**-$265,345.10**	**-$58,689.77**	**-$32,102.71**
		-$360,000.00	

	Year 4			
	Bridgewater - Mahone Bay - Lunenburg Loop	Bridgewater - Mahone Bay - Lunenburg - Riverport Loop	Bridgewater - LaHave - Petite Rivière Extension	Bridgewater - New Germany Extension
Service	Fixed	Fixed	Extended	Extended
Vehicle	Community Bus New	Community Bus New	Van New	Van New
Number of vehicles	1	1	1	1
Number of stops	5	5	5	5
Number of full-time drivers	1	1		
Number of part-time drivers	1	1	1	1
Route Length (km)	55	75	70	50
Route Travel Time (hours)	1.50	2.00	1.75	1.25
Route Catchment Population (within 300m)	5910	6460	3220	1070
Estimated Yearly Transit Ridership per Person	3.00	3.00	1.75	1.50
Estimated Yearly Transit Ridership	17730	19380	5635	1605
Route Service Hours per Day	12	12	4.0	4.0
Route Operating Hours per Year (+ Dead-Head)	3692	3692	1404	1404
Number of Route Runs per Day	8	6	2	3
Number of Route Runs per Year	2496	1872	624	936
Route Annual km Travelled	137280	140400	43680	46800
Vehicle Fare	$ 3.50	$ 3.50	$ 10.00	$ 10.00
Vehicle Fuel Economy (L/100km)	20	20	14	14
OPERATING COSTS				
Bus Drivers				
Wages, Benefits, Sick, First Aid	$ 87,780.00	$ 87.780.00	$ 31,438.00	$ 31,438.00
Management				
Wages	$ 50,000.00	-	-	-
Fees and Registrations	$ 25,000.00	-	-	-
Communications	$ 500.00	-	-	-
Professional Services	$ 5,000.00	-	-	-
Advertising	$ 15,000.00	-	-	-
Cleaning Supplies	$ 240.00	-	-	-
Buses				
Parking	$ 500.00	$ 500.00	$ 500.00	$ 500.00
Fuel price (c/L)	$ 23,337.60	$ 23.868.00	$ 5,019.71	$ 5,378.26
Yearly Maintenance	$ 2,500.00	$ 2,500.00	$ 1,000.00	$ 1,000.00
Inspection and Insurance cost per year	$ 10,000.00	$ 10.000.00	$ 5,000.00	$ 5,000.00
Permits	$ 250.00	$ 250.00	$ 50.00	$ 50.00
Bus Cleaning	$ 5,000.00	$ 5,000.00	$ 5,000.00	$ 5,000.00
Bus Signage	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00
Advertising	$ 50.00	$ 50.00	$ 50.00	$ 50.00
TOTAL OPERATING COSTS	**$ 226,657.60**	**$ 131,448.00**	**$ 49,557.71**	**$ 49,916.26**
				$ 460,000.00
CAPITAL COSTS				
Vehicle				
Capital Cost		$ 90,000.00		
Bus stop signage				$ 1,250.00
Radios		$ 1,500.00		
Tools		$ 200.00		
Fare Boxes		$ 500.00		
TOTAL CAPITAL COSTS	**$ -**	**$ 92,200.00**	**$ -**	**$ 1,250.00**
				$ 95,000.00
TOTAL COSTS (OPERATING + CAPITAL)	**$ 226,657.60**	**$ 223,648.00**	**$ 49,557.71**	**$ 51,166.26**
				$ 555,000.00
REVENUE				
Bus advertising (per bus, per month)	$ 1,800.00	$ 1,800.00	$ 1,800.00	$ 1,800.00
Fare (Estimated Ridership)	$ 62,055.00	$ 67.830.00	$ 56,350.00	$ 16,050.00
TOTAL REVENUE	**$ 63,855.00**	**$ 69,630.00**	**$ 58,150.00**	**$ 17,850.00**
				$ 210,000.00
NET COST (TOTAL REVENUE - TOTAL COSTS)	**-$162,802.60**	**-$154,018.00**	**$8,592.29**	**-$33,316.26**
		-$345,000.00		

	Year 5			
	Bridgewater - Mahone Bay - Lunenburg Loop	Bridgewater - Mahone Bay - Lunenburg - Riverport Loop	Bridgewater - LaHave - Petite Rivière Extension	Bridgewater - New Germany Extension
Service	Fixed	Fixed	Extended	Extended
Vehicle	Community Bus New	Community Bus New	Van New	Van New
Number of vehicles	1	1	1	1
Number of stops	5	5	5	5
Number of full-time drivers	1	1		
Number of part-time drivers	1	1	1	1
Route Length (km)	55	75	70	50
Route Travel Time (hours)	1.50	2.00	1.75	1.25
Route Catchment Population (within 300m)	5910	6460	3220	1070
Estimated Yearly Transit Ridership per Person	4.00	4.00	2.00	1.75
Estimated Yearly Transit Ridership	23640	25840	6440	1873
Route Service Hours per Day	12	12	4.0	4.0
Route Operating Hours per Year (+ Dead-Head)	3692	3692	1404	1404
Number of Route Runs per Day	8	6	2	3
Number of Route Runs per Year	2496	1872	624	936
Route Annual km Travelled	137280	140400	43680	46800
Vehicle Fare	$ 3.50	$ 3.50	$ 10.00	$ 10.00
Vehicle Fuel Economy (L/100km)	20	20	14	14
OPERATING COSTS				
Bus Drivers				
Wages, Benefits, Sick, First Aid	$ 87,780.00	$ 87,780.00	$ 31,438.00	$ 31,438.00
Management				
Wages	$ 50,000.00	-	-	-
Fees and Registrations	$ 25,000.00	-	-	-
Communications	$ 500.00	-	-	-
Professional Services	$ 5,000.00	-	-	-
Advertising	$ 15,000.00	-	-	-
Cleaning Supplies	$ 240.00	-	-	-
Buses				
Parking	$ 500.00	$ 500.00	$ 500.00	$ 500.00
Fuel price (c/L)	$ 23,337.60	$ 23,868.00	$ 5,019.71	$ 5,378.26
Yearly Maintenance	$ 2,500.00	$ 2,500.00	$ 1,000.00	$ 1,000.00
Inspection and Insurance cost per year	$ 10,000.00	$ 10,000.00	$ 5,000.00	$ 5,000.00
Permits	$ 250.00	$ 250.00	$ 50.00	$ 50.00
Bus Cleaning	$ 5,000.00	$ 5,000.00	$ 5,000.00	$ 5,000.00
Bus Signage	$ 1,500.00	$ 1,500.00	$ 1,500.00	$ 1,500.00
Advertising	$ 50.00	$ 50.00	$ 50.00	$ 50.00
TOTAL OPERATING COSTS	**$ 226,657.60**	**$ 131,448.00**	**$ 49,557.71**	**$ 49,916.26**
				$ 460,000.00
CAPITAL COSTS				
Vehicle				
Capital Cost				
Bus stop signage				
Radios				
Tools				
Fare Boxes				
TOTAL CAPITAL COSTS	**$ -**	**$ -**	**$ -**	**$ -**
				$ -
TOTAL COSTS (OPERATING + CAPITAL)	**$ 226,657.60**	**$ 131,448.00**	**$ 49,557.71**	**$ 49,916.26**
				$ 460,000.00
REVENUE				
Bus advertising (per bus, per month)	$ 1,800.00	$ 1,800.00	$ 1,800.00	$ 1,800.00
Fare (Estimated Ridership)	$ 82,740.00	$ 90,440.00	$ 64,400.00	$ 18,730.00
TOTAL REVENUE	**$ 84,540.00**	**$ 92,240.00**	**$ 66,200.00**	**$ 20,530.00**
				$ 265,000.00
NET COST (TOTAL REVENUE - TOTAL COSTS)	**-$142,117.60**	**-$39,208.00**	**$16,642.29**	**-$29,386.26**
		-$195,000.00		

Municipality of the District of Lunenburg

REQUEST FOR DECISION

REPORT TO: Policy & Strategy Committee

SUBMITTED BY: Norma Schiefer, Municipal Development Officer

DATE: March 10, 2020

RE: **Areas Where New Public Roads are Permitted – MDL-88**

RECOMMENDATION

"that the Policy & Strategy Committee recommends to Council that Municipal Council amend Policy MDL-88 Areas Where New Public Roads are Permitted, as presented, and, hereby, gives 7 days' notice of its intention to amend Policy MDL-88 at the March 24, 2020 Council Meeting".

And

"that the Policy & Strategy Committee recommends to Council that Municipal Council repeal Policy MDL-24 A By-law Respecting the Subdivision of Land in the Mun. of Lun. – Amendments By Policy, approved Nov. 12, 2003 and MDL-25 Policy to Amend Engineering Specifications for Public Highways, approved June 1, 2004, and, hereby, gives 7 days' notice of its intention to repeal policies MDL-24 and MDL-25 at the March 24, 2020 Council Meeting".

EXECUTIVE SUMMARY

In 2019, the Municipality constructed a new road, the extension to Nathan Cirillo Road, on their property in Cookville. It is required to be listed in Schedule K of the Municipal Subdivision By-law as a new Municipal Road to permit future subdivision of this property.

Policies MDL-24 and MDL-25 are now obsolete due to the approval of the new Municipal Subdivision By-law on September 24, 2018.

DISCUSSION

As part of the Municipality's Subdivision By-law review in 2018, Council had identified, by policy in the Municipal Planning Strategy that they would not accept any new

Municipal Roads without considering if it would be economically sustainable. Council would consider new Municipal Roads on a case by case basis through an amendment to Schedule K – MDL-88.

In 2019, the Municipality built Nathan Cirillo Road to connect to Allee Champlain Dr which provides connectivity through PID 60631009 (owned by the Municipality). In order to allow the future creation of lots, we are required to list this new Municipal Road in MDL-88.

Also, in 2018, the Municipality of Lunenburg's Municipal Planning Strategy and Subdivision By-law was repealed and replaced effective September 24, 2018. As a result of that process, Policy's MDL-24 and MDL-25 are now obsolete and are required to be repealed.

BUDGET IMPLICATIONS

N/A

STRATEGIC PLAN

N/A

WORK PLAN

N/A

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ALTERNATIVES

Don't approve the policy amendment. If MDL-88 is not amended to include PID 60631009 as an area where new Public Roads are permitted, frontage for lot creation will not be acceptable on Nathan Cirillo Road.

CONCLUSION

Any areas acceptable for new Municipal Roads are required to be listed in Schedule K of the Subdivision By-law – MDL-88 to allow future lot creation with frontage on these roads.

Department: Administration	
Report Prepared By: Norma Schiefer, Development Officer	Date: March 10, 2020
Report Approved By: Alex Dumaresq, Deputy CAO	Date:
Reviewed By CAO: Tom MacEwan, CAO	Date:

Municipality of the District of Lunenburg
POLICY

Title: Areas Where New Public Roads Are Permitted	
Policy No. MDL-88	
Effective Date: September 24, 2018	Amended Date:

The policy forms Schedule "K" of the Subdivision By-law.

SCHEDULE 'K'

AREAS WHERE NEW PUBLIC ROADS ARE PERMITTED

~~None~~

PID 60631009 – Nathan Cirillo Road, Cookville

Clerk's Annotation for Official Policy Book

Date of Notice to Council Members: August 28, 2018

Date of Passage of Current Policy: September 24, 2018

Date of Notice to Council Members
of Intent to Consider Amendments:

Date of Passage of Amendments:

I certify that this "*Policy MDL-88"* was adopted by Council as indicated above.

_____ _____

Municipal Clerk