NOVA SCOTIA TRANSIT RESEARCH INCENTIVE PROGRAM (NS-TRIP)

FEASIBILITY STUDY/NEEDS ASSESSMENT GUIDE

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SUGGESTED OUTLINE FOR A TRANSIT FEASIBILITY STUDY

Title Page

Table of Contents

Executive Summary

Introduction
- Description of Lead Organization
- Study Purpose and Objective
- Scope of Work and Methodology

Background
- The need for public transit
- Benefits of public transit
- Target markets
- Basis for estimating demand

Community Profile
- Description and map of service area
- Current transportation options
- Demographics/Stats Canada Analysis

Community Engagement
- Results of Transit Needs Survey
- Focus Groups
- Stakeholder Consultations (including government)

Existing Rural Community Transit Services

Community Transit Models in Nova Scotia

Potential Funding Sources

Transit Case Studies

Service Comparisons

Proposed Service Model
- Capital & Operating Requirements
- Ridership & Fare Revenue Analysis
- Governance Structure Options
- Marketing Strategies
- Investment Requirements (Three Year Service Forecast (Cost/Revenue)

Summary and Recommendations

Next Steps

Appendices/References

THE NEED FOR PUBLIC TRANSIT

Availability of public transit service is a key determinant of quality of life for many people. Affordable, accessible means of transportation enhances individual lives and contributes to the overall well-being of a community by improving access to education, employment, community services, health services and social interaction.

For seniors, public transit can play a major role when it comes to aging in place. Public transit allows an opportunity to break the isolation barrier for seniors who have no means of moving about through their community. Public transit can generate a sense of independence and fulfillment for the mobility challenged and persons with disabilities. It can also enhance economic development, encourage people to move to or stay in your community, and can assist the local tourism industry, to name a few.

Public transit also enables youth to participate in sports, school and recreation in the community. As well, public transit may be the only option for people who cannot afford to purchase and maintain a personal vehicle.

Public transit also has the potential to reduce greenhouse gas emissions and the consumption of energy in the transport sector. Public transit provides a cost savings in relation to the rising petroleum prices. The benefits that come from reduced fuel consumption can be realized if public transit can reduce several single-occupancy vehicle trips (Genivar, 2011).

BENEFITS OF PUBLIC TRANSIT

Public transit systems provide a service to residents of a community. Transit provides an affordable, efficient and reliable means for people to move between their destinations. In practice it is generally not feasible for such systems to pay for themselves; revenues collected from fares will simply not cover all of the operating costs. In order for this to happen, fares would need to be much higher, ridership would be lost to other modes or would disappear due to unaffordability, and as a result – fare revenue would still not cover the costs.

Community and government investment in transit may be better thought of as investments in quality of life and the long-time future of a community. Public transit systems offer many benefits to a wide range of beneficiaries – not only to users of the system, but also to retail and service businesses, to employers and government agencies, and to the community as a whole. The problem is that these benefits are difficult to quantify and are often external to the transit system and its users and therefore are never considered in balance sheets or accounting books. Nevertheless these benefits are real and experience has shown that for many communities these benefits provide the justification needed for investment in public transit. Some of the benefits of community and conventional transit are described briefly below:

Social equity
Public transit provides an affordable, regular, and reliable means of transportation for the entire population within the service area and is particularly beneficial for those with fixed and lower incomes, those with disabilities, and those who are unable to drive an automobile or cannot afford to.

Mobility choices and travel cost savings
Public transit gives travel choices to individuals and families, providing opportunities to travel more for less. It also provides alternatives to automobile ownership or the opportunity to own fewer automobiles than would otherwise be necessary. This can lead to considerable savings as transportations costs are typically the second-highest household expense next to housing; most often this is related to vehicle ownership, maintenance, and operation.

Economic benefits
Public transit provides real economic benefits to the community at large. Spending less on transportation costs leads to more disposable income for individuals and families which can be spent on goods and services that would not otherwise be purchased. There are also direct economic benefits related to employment opportunities in the administration, operations, and maintenance of the transit system and fleet.

Access to employment and education opportunities
Affordable transportation can provide the opportunities needed for socially supported or underprivileged individuals to enter or re-enter the work force and improve their ability to do so by having access to education facilities and programs. Access to a more skilled workforce may also encourage commercial and industrial development, providing commercial tax benefits to municipalities and income tax benefits to provincial and federal governments.

Environmental
Public transit makes it possible to move more people with less vehicle-kilometers of travel; this removes vehicles from the road, reduces the carbon footprint of each trip made, and ultimately reduces the community's dependence on fossil fuels.

Quality of life
Public transit can lead to increased quality of life by enabling users to prepare for or unwind from work, relax, and socialize while someone else worries about driving. It allows for travel to community, recreational and social events, which may not be accessible to those without a personal vehicle.

Safety and accident/hospital costs
On a per trip basis, travel by bus is considerably safer than travel by automobile. As a result, accident-related costs absorbed by individuals, insurance companies, and the health care system are less (McCormick Rankin, 2012).

DEMOGRAPHIC CONSIDERATIONS

A number of factors can be assessed to determine whether a population may be suited for or in need of a public transit service. These include the age profile of the population, income, household make-up and other factors as highlighted below:

Population and density
The number of people living within a transit service area and the density at which people live will have a large influence on how effective transit can be. Generally speaking, the higher the population and density, the easier it will be to serve users in an economical manner.

Population distribution
Transit is likely to be more viable in places where the population is distributed in close proximity to key road corridors, as opposed to being dispersed throughout a district as is common in agricultural areas.

Age
Older people may be less able or willing to drive, meaning they could have a greater propensity to use a bus service than younger people. Age of residents is less relevant when considering a fixed route or door-to-door service because it would be more likely to attract workers and students.

Living alone
People living alone may have less access to family supports. This group may therefore be more inclined to use transit than those living in larger households.

Family income
Poorer families may not have access to a car, thus, they often find public transit (when available) to be an important means of transportation (MMM Group, 2014).

TARGET MARKETS

The following target groups must be considered when starting up a community transit service in rural Nova Scotia:

Seniors
Nova Scotia's population is aging and life expectancy is increasing. Because disabilities increase with age, the need for accessible transportation is expected to grow as greater numbers of older people have to stop driving because of health problems such as dementia, strokes and certain heart conditions. Changing demographics are already leading to greater demand for a range of transportation alternatives designed to meet the needs of people who can no longer drive. Concerns about road safety will also increase because older seniors are more fragile and therefore more vulnerable to accidents as pedestrians, transit users, and drivers. The traditional response to the problem of transportation dependency has been for family members to transport people who can no longer drive. But given our mobile and dispersed society, family members may not be available or willing to serve as the primary transportation service for older people.

For many Nova Scotia seniors, the same health or mobility factors that made it difficult or impossible for them to continue driving also make it difficult for them to use traditional transportation options. Seniors who are unable to continue driving are often unable to walk to a bus stop, get into a van, travel without an escort, or afford the regular use of taxicabs. Transportation options can link seniors to the array of activities, services, and social contacts that make life full. The ability to access services and activities has a direct impact on seniors remaining in their homes and communities. Improvements that benefit people with impairments should be viewed as improvements that benefit all passengers and pedestrians. Achieving sustainable solutions that address transportation needs in an era of dramatically increasing demand will depend on the right mix of services, sharing resources within communities, attracting and retaining volunteers, and creating innovative funding solutions *(Nova Scotia Poverty Strategy, 2008*).

This market sector includes seniors who are no longer working, and still remain independent. This population sector is available most of the day, but would likely spend the mid-morning and afternoon going shopping and doing other errands, as well as socializing with friends and neighbours. Seniors have more flexibility in their day as they are not required to be at work during specific times (CAAE, 2012).

Persons with Disabilities

Persons with mobility impairments may benefit from access to wheelchair accessible community transportation, especially in rural Nova Scotia. To be a fully inclusive, a community transit service must ensure that at least one of their fleet vehicles is accessible to wheelchairs, and conventional transit services must consider low floor bus options and other equipment that improves accessibility.

Disadvantaged (Low Income)

Another target market is low-income workers. Vehicle expense can be prohibitive for people living on an economically marginal salary. The availability of affordable round-trip transportation to employment provides a social safety net for many, some of whom would be otherwise unable to access work (CAAE, 2012).

Commuters

This market sector includes people commuting to and from work on a daily basis during the AM peak period and PM peak period. An efficient transportation system for this target market will help with the goal of reducing GHG emissions by removing vehicles from the road. However, to make this a viable option for commuters, transportation service needs to be regular, efficient and timely. As morning and evening peaks are the target times, the midday is freed up to service other market sectors such as seniors and shoppers.

Students

This market sector includes both secondary and post-secondary students. Secondary students would benefit from the transportation system by being able to attend extracurricular activities after school hours. Many students do not have the ability to participate in after school sports, music or other programs as they cannot reasonably make the trip home. Post-secondary students may use the transportation system in combination with other target markets. They could take a school bus in the morning, but take the afternoon trip, targeted to the seniors and shoppers, back home. There are examples of community transit services in Nova Scotia that provide transportation to students through a contract with their local school board.

Shoppers
This is a mid-day group that follows much the same pattern as the senior market. Target population in this group would include stay-at-home parents, unemployed, and part-time employees (Genivar, 2011).

BASIS FOR ESTIMATING DEMAND

Estimating the potential demand or use of any transportation service is not an exact science. It is highly conjectural and is influenced by a wide range of variables including trip purpose, origin and destination, the level of service offered (days and hours of operation and the frequency of the service), the style of the service offered (fixed route, fixed flexed route or door-to door), and the directness and travel time of the service. Generally, the more service offered (days, hours, frequency) the higher the ridership, but there are limits and those limits are governed by the following factors:

- Population (number of people served by the service);
- Demographics (seniors travel less often than youth or people age 25 to 45);
- Employment (people employed travel more often than those under-employed);
- Density (transit use is higher in more densely populated areas);
- Origin & destination links (multiple and dispersed origin-destinations are difficult to serve effectively with transit);
- Income levels (people with lower incomes tend to use transit more);
- Availability of the alternative transportation resources such as the car (higher car ownership levels result in less transit use); and
- Trip purposes (health trips are less frequent than work, school or social trips).

The data for these demand measures can be obtained through various means, including Statistics Canada, community surveys, or by researching trends in local or regional transit operating statistics (IBI Group, 2013).

EXAMPLES OF TRANSIT MODELS IN NOVA SCOTIA

A public transit service can bridge a wide range of concepts from the sharing of a vehicle to a formal fixed route or door-to-door service. Overall, transit services fall into two different categories:

Conventional (Urban) Transit
This service model is designed to meet the broad needs of the general public and is the common service found in most municipalities with a public transit service such as in Halifax, CBRM, and Kings County.

Buses operate along a fixed route following a published timetable. Service is generally provided along main roadways where key destinations are located. Routes tend to be as direct as possible to minimize travel time so as to be more competitive with the automobile for work and school trips. Buses are generally heavy-duty vehicles that range in size from 30' to 40', the most common being the 40' bus. These vehicles are typically the most expensive to purchase and operate. They are desirable in urban centres where transit demand is high. Fixed route services are typically operated and funded through one or several municipalities.

Nova Scotia has three municipal funded fixed route public transit systems:

1. Metro Transit, serving the urban core and immediate vicinity of Halifax Regional Municipality (HRM);

2. Transit Cape Breton, serving the urban core of Cape Breton Regional Municipality (CBRM);

3. Kings Transit Authority, serving the counties of West Hants, Kings, Annapolis and Digby.

Conventional Transit Service has the following characteristics:

- Fixed routes, stop locations, and reliable schedules;

- Ideal for urban areas with large population density;

- Service tends to be more frequent during the peak periods;

- Frequency of service is reduced at off-peak times when demand for service is lower, and less capacity is needed. Typical off-peak trip purposes include shopping, recreation, medical, and personal business;

- Vehicles and frequency of service are designed to provide sufficient capacity to accommodate passenger loads that occur at peak times, when demand for work, school and other regular trips is highest;

- Wheelchair accessible or low floor heavy duty buses;

- Low cost per passenger due to high capacity, but high capital and operating costs.

Community Based Door to Door Transit
This service model is designed to meet the community needs is rural Nova Scotia. Under this model, potential transit users would call a central phone number in advance (usually 24 hours or more) to pre-book transit service for a particular date and time. This is a demand response type service (often referred to as Dial-a-Ride) which essentially operates according to the demand for the service with no

fixed route. Vehicles would be available to pick up or drop off users as the demand warrants and if there are no requests, the vehicle does not operate. These model is ideal for low density, low population rural areas and is typically operated through non-profit organizations.

Community transit door-to-door services have been operating in Nova Scotia since 1996 and as of April 1, 2014 there are door to door services in 14 rural communities across Nova Scotia:

1. HOPE Dial-Ride, Yarmouth County
2. Le Transport De Clare- Digby County
3. Trans County Transportation Society, Annapolis County and parts of Kings County
4. Kings Point to Point Transit, Kings County
5. Municipality of Chester Community Wheels
6. East Hants Community Rider
7. West Hants Dial-a-Ride
8. Colchester Transportation Co-operative Ltd.
9. CHAD Transit, Pictou County
10. Sou'West Nova Transit Association, Shelburne County
11. Cumberland County Transportation Service
12. Strait Area Transit, Richmond and Inverness Counties
13. MusGo Rider, Eastern Shore
14. Le Cooperative de Transport de Cheticamp

Use of volunteers, that are compensated by a per kilometre rate (or stipend), is a low-cost method that can complement an existing community transit operation. These volunteer drivers can be called upon to provide a trip(s) using their own vehicle when it makes financial sense. For example, if there is only one customer that requests service in a remote community, and there is a volunteer driver in the area, that option could be attempted first.

It is important that all volunteer drivers have the appropriate background checks and driver training, and their personal vehicle must have at least $2 million liability insurance. In Nova Scotia, many door-to-door services use volunteer drivers when there are scheduling conflicts or it is too expensive to send a vehicle (Transit Consulting Network, 2014).

Door-to-door transit services have the following characteristics:

- Uses wheelchair accessible van or small buses (some use volunteer drivers in low population density areas)
- Clients must pre-book the trip (typically 24 to 48 hours in advance)
- High cost per trip due to low capacity unless the trip has multiple passengers
- Service ideal for rural areas in low population density areas
- Services are typically operated by a non-profit organization

Fixed Flex Route

Fixed flex-route service combines some of the advantages of fixed route (predictable service, low cost per passenger) with those of community transit (door-to-door) service, which enables the bus to cover a large, sparsely populated area, and to serve people who cannot or do not wish to walk to a bus stop. A fixed flex-route bus would follow a normal scheduled route but have the ability to deviate off the route and return to the route within 5 minutes or so to continue their trip. Depending on the demand, the service may only provide one or two trips per day once a week. The hours of operation and trip frequency are typically less than a conventional transit service to minimize cost and trip efficiency. This service can work in partnership or in conjunction with a door-to-door service.

A fixed flex-route can be employed along major and secondary roads similar to a conventional transit or community bus route. The vehicle can deviate from the established route to pick up and drop off eligible registrants, seniors with limited mobility, and others. Route deviations for pick-ups must be requested in advance through dispatch (Transit Consulting Network, 2014).

Fixed Flex Route has the following characteristics:

- Service uses combination of accessible mini-vans and mini-buses
- Combines the benefits of door-to-door and fixed route service, but capital and operating costs are higher than a dedicated door-to-door service
- Fixed route may only operate once a week and have several trips per day to minimize costs and maximize demand
- Vehicle can deviate from fixed route if requested in advanced

Car Sharing

Through a membership in a private, non-profit, or cooperative car sharing organization, individuals have access to a fleet of vehicles. The car sharing organization takes on the burden of vehicle purchase, insurance, maintenance, parking spaces, and fuel costs. Vehicle bookings (*i.e.*, reservations) are typically available online or by phone. Payment for vehicle use is typically through a combination of a membership fee and distance and/or time based usage charges. Car Sharing can also work in conjunction with other service models.

Car sharing offers all the benefits of having access to a vehicle without the hassles of car ownership. It can be a more affordable option for many people and is particularly suited for those who require a vehicle for relatively short trips in densely populated areas. Car sharing organizations can, however, support longer trips and can substitute for rentals for weekends and business trips. An example of this model is CarShareHFX located in Halifax. http://www.carsharehfx.ca/

Shared-ride taxi or shuttle

Under this model, the delivery of rural public transit – whether it is demand-based or fixed route/flex fixed service – would be contracted to one or more taxi or shuttle companies based on the terms of an agreement. Each vehicle could be branded to identify it as part of the transit system while providing this

service. The taxi or shuttle companies would operate minivan or van vehicles which generally accommodate up to six riders on each route and could deliver them to any location along the route. Disadvantages of this option include limited ridership capacity and a probable lack of accessibility for wheelchairs.

Fares could be set at a flat rate for each route or could be based on distance travelled (different fares for different communities serviced along the route). The taxi companies would be responsible for collecting fares and ridership information and remitting it to the appropriate authority, which would in turn compensate the operator for making the trips. Such a model may offer considerable operating cost savings to the transit authority, provides a low-cost means of piloting the service, and demonstrates a spirit of cooperation with taxi companies who often oppose the provision of public transit as it may compete with their business (McCormick Rankin, 2012).

EXISTING RURAL COMMUNITY TRANSIT SERVICES

The following are case studies examples of rural community transit services in Nova Scotia:

Le Transport de Clare
Founded in 1996, Le Transport de Clare was the first community based transportation system in Nova Scotia which now serves all of Digby County. Their mission is to provide safe and affordable door-to-door service to seniors, persons with disabilities, economically disadvantaged persons, and those with limited or no access to a motor vehicle. Transport de Clare also offers a variety of transportation options to all members of the communities it serves (Genivar, 2011).

Le Transport de Clare has identified goals, some of which it is currently meeting, and others which it strives to achieve:

- To provide public transit for seniors to access community services;
- To facilitate aging in place, and provide access to community services to the isolated seniors;
- To provide transportation to people with disabilities;
- To provide a link to services in Yarmouth, Weymouth and Digby, particularly the hospitals;
- To provide over $10,000 annually in subsidized trips to those in need, mostly medical trips;
- To provide an alternative to the vehicle in an attempt to reduce greenhouse gas emissions.

In 2013-14, Le Transport De Clare provide a total of 17,884 one-way passenger trips using 6 accessible vehicles and used 4 volunteer drivers.

CHAD Transit
CHAD Transit provides accessible door-to-door transportation within Pictou County for persons with disability, seniors, and low income individuals demonstrating need for transportation.

The service operates on the “dial-a-ride” door-to-door model servicing single fares by appointment for residents anywhere in the County, and dispatch requires notice 24 hours in advance. The service also provides transportation on a special contract basis for employees of Summer Street and New Hope,

bringing them to work for 8:30 am and home at 2:30 pm (the entire CHAD fleet is mobilized for this purpose during this time).

Founded in 1996, it started operating a day after the Pictou Regional Transit Authority ceased operations. As a non-profit organization, it receives annual funding from provincial programs and the municipal units in Pictou County. Some funding is provided through federal grants and charitable donations and the rest comes from fares.

In 2013-14, CHAD transit provided a total of 31,865 one-way passenger trips using 6 accessible mini-buses.

HOPE Dial-A-Ride

HOPE Dial-A-Ride is a door-to-door community transportation service located in Yarmouth, Nova Scotia. Started as a pilot project in 1999, HOPE Dial-A-Ride has agreements with senior homes in the region and started to use their van to serve the public. This agreement permitted them to service people in the community, with senior homes remaining their priority.

HOPE Dial-A-Ride has a contract with the Tri-County Regional School Board and the Conseil Scolaire Acadien provincial for students with disabilities (CDENE Business Development and Entrepreneurship, 2013).

In 2001, HOPE Dial-A-Ride purchased their first wheelchair accessible van and in 2013-14 provided 10,288 one-way passenger trips using 3 accessible mini-vans and 2 non-accessible vehicles.

Trans-County Transportation Society (TCTS)

TCTS is a non-profit association formed in 1999 and provides door-to-door transportation service in the counties of Annapolis and Kings. The population served is approximately 33,000. Primary trip purposes include health appointments, grocery shopping, education and social visits and their primary client are persons with disabilities and seniors. In 2013-14, TCTS provided 27,912 one-way passenger trips using 5 accessible vehicles, and 7 non-accessible vehicles. They currently have 8 drivers employed who are paid between $10 and $16 for hours worked.

Service is provided seven days a week, from approximately 7am to late evening according to demand. The annual operating budget in 2013-14 was $345,515 of which fares account for 63% ($217,741). Fares begin at $10.00 for local trips. There is a zone system such that longer trips have a higher fare. All trips are pre-booked and all vehicles are equipped to handle wheelchairs and scooters. Fares are developed by the board and approved by the Nova Scotia Utilities and Review Board. All vehicles are subject to the URB inspection process (IBI Group, 2013).

Sou'West Nova Transportation (SWNT)

SWNT is a non-profit point-to-point and charter service based in Barrington that offers service to all residents of the Shelburne County (service area population of approx. 14,500), although they prioritize those clients most in need. Planning for the service began in 2009-2010 and it became operational as a pilot project between October 2012 and March 2013. After the pilot period ended, it continued on as a charitable organization beginning April 1, 2013 with two part time employees, a manager and a dispatcher. The manager works 20 hours per week and there is a dispatcher who works about 5 hours

per week. Dispatch (call-in) hours are Monday to Friday, 10 AM to noon, with daily message checks at 4:30 PM. Clients must provide 24-hours' notice. During the six-month pilot period, ridership grew from 20 rides in the first month to 45 in the last month.

Since the conclusion of the pilot project, ridership has continued to grow impressively, with 1,673 one-way passengers being recorded in 2013-14 using 1 accessible and 1 non-accessible vehicle. The organization has set a mature service ridership target of about 210 to 220 rides per month (2,609 per year), or 0.18 rides per capita. Ridership appears to have been helped by providing pre-advertised shopping "sweeps" through communities in the shopping season leading up to Christmas. The current service level is achieved with two part-time bus drivers and about 17 volunteer drivers who use their own cars (MMM Group, 2014).

POTENTIAL TRANSIT FUNDING SOURCES

The following provincial and federal programs are available to fund both conventional and rural community transit services. Some programs such as the Accessible Transportation Assistance Program and Federal Gas Tax cover capital (i.e. vehicle) costs and others such as Community Transportation Assistance Program and the NS Transit Research Incentive Program can fund operations.

Nova Scotia Transit Research Incentive Program (NS-TRIP)
NS-TRIP provides funding to support capacity building initiatives intended to generate new and improved public transit services in rural and unserviced urban areas of Nova Scotia.

Applications can include but not limited to:

- Feasibility studies
- Business Plans
- Pre-Pilot, Pilot Project, Start-up Costs (first year of operations)
- Research Projects

Applications are accepted from:

- Incorporated non-profit organization with public transit mandate
- Municipalities (for underserviced areas only)
- Public transit services owned by a municipality or a corporate entity on behalf of a municipality
- Incorporated associations representing public transit service operators in Nova Scotia
- Union of Nova Scotia Municipalities (UNSM)
- Private companies providing transit

Source:
http://novascotia.ca/dma/funding/community/ns-transit-research-incentive.asp

Accessible Transportation Assistance Program (ATAP)
The Accessible Transportation Assistance Program (ATAP) provides funding to assist organizations that receive funding from the Community Transportation Assistance Program (CTAP) and municipal accessible transit organizations across the province in the purchase of accessible vehicles or modification of existing vehicles.

Priority for eligible recipients as follows:

- Organizations that receive funding from the Community Transportation Assistance Program (CTAP)
- Municipal Accessible Transit Services (i.e. Metro Transit Access-a-Bus and Handi-Trans CB)
- Taxi drivers in areas not serviced by an organization receiving CTAP funding

Applications will not be considered from the following organizations:

- Fixed route transit services Shuttle operators
- Inter-city transit operators
- Other not-for-profit transit providers that do not meet the CTAP criteria
- Nursing homes
- Individuals

Source: http://novascotia.ca/dma/funding/community/accessible-transportation-assistance.asp

Community Transportation Assistance Program (CTAP)
CTAP covers a portion of the operating costs of a community-based inclusive pre-booked door to door transportation service. Services are developed and provided by non-profit organizations or municipal units through partnerships by coordinating public, private, non-profit, and volunteer resources and services. Inclusive transportation services are community-based public transportation systems in rural Nova Scotia aimed at improving transportation service to disabled, elderly and low-income Nova Scotians who need transportation to and from medical appointments, education, and recreation opportunities.

Eligible recipients include:

- Non-profit community-based organizations (incorporated groups) and Municipalities involved in the delivery of inclusive transportation services in low-population density areas of the province.

Source:
http://novascotia.ca/dma/funding/community/community-transportation-assistance-program.asp

Public Transportation Assistance Program (PTAP)
PTAP covers a portion of the capital cost of a public transit system (ie fixed route or fixed-flex) operated by a municipal unit or a not for profit organization. Funding is allocated using a formula that takes into the service area population of the service which is defined as the population within a kilometre of a bus stop and ridership.

Nova Scotia Moves Grant
Eligible recipients may apply for funding grants through the NS Moves program to support local initiatives prior to this program expiring in 2015-16.

- Grants will cover up to 50% of eligible costs, up to a maximum of $200,000
- The program is generally seeking to fund initiatives of approximately 12 months in duration
- At least 50% of the total project cost (including in-kind contributions) must be covered by sources other than the Nova Scotia Moves program
- At least 25% of the total project funding must come from a local contribution. Local means from within a community or within Nova Scotia, and could include resources from municipalities, community organizations, or businesses. It does not include funding from other provincial government departments

Source: http://novascotia.ca/sustainabletransportation/nova-scotia-moves.asp

Federal Gas Tax Program
On July 3, 2014, the new Administrative Agreement on the Federal Gas Tax Fund was announced between Canada and Nova Scotia. As part of the New Building Canada Plan, the renewed federal Gas Tax Fund (GTF) provides predictable, long-term, stable funding for Canadian municipalities. This funding will help to build and revitalize local public infrastructure while supporting national objectives of productivity and economic growth, a clean environment, and strong cities and communities.
This new Administrative Agreement is effective April 1, 2014 and represents a 10 year investment of an estimated $580M for Nova Scotia municipalities. All Nova Scotia municipalities are eligible to receive payments under the program for their municipal infrastructure and capacity building projects. Public transit is an eligible category under this program however only capital expenditures are eligible.

Source: http://novascotia.ca/dma/funding/infrastructure/gas-tax-fund.asp

Federation of Canadian Municipalities (Green Municipal Fund)
Through GMF, Federation of Canadian Municipalities (FCM) funds three types of municipal environmental initiatives:

- Studies: Grants to conduct feasibility studies
- Projects: Below market loans, usually in combination with grants to implement capital projects

Funding is allocated in five sectors of municipal activity: brownfields, energy, transportation, and waste water.

Eligibility: GMF funding is available to all municipal governments and their partners.

Eligible costs: Grants cover up to 50% of eligible costs for Plans, feasibility studies and field tests to a maximum of $175,000.

Below-market loans: Usually in combination with grants, cover up to 80% of eligible costs for capital projects. The loan maximum is $10 million, and the grant amount is set at up to 20% of the loan to a maximum of $1 million.

Grants are typically around 10% of the loan amount approved. High-scoring projects may be awarded the maximum 20% grant, without exceeding the $1 million grant limit per project. Grants are available to both municipal governments and their partners in municipal projects.

Green Municipal Funding website: www.fcm.ca/home/programs/green-municipal-fund/about-gmf.htm

Other Revenue Sources

The key to sustainability of any community transit service is cross subsidization of funding sources. It is important that a service not rely exclusively on provincial or municipal funding. Entering into charter and contractual arrangements assist in the long-term viability of a service. Other revenue sources such as advertising on vehicles, corporate sponsorship and donations contribute to bottom line but should not be counted on as major revenue source.

The following summarizes the revenue sources for the 14 services funded under the Community Transportation Assistance Program in 2013-14.

Summary of 2013-14 Revenues

	Total	Percentage
CTAP	$637,470	22%
Municipal	$368,874	13%
Fare Income	$1,040,357	35%
Charter	$118,690	4%
Contract	$225,312	8%
Other	$339,127	12%
NS-TRIP	$72,619	2%
Unconditional Grant	$143,536	5%
Total Revenue	**$2,945,985**	**100%**

CAPITAL & OPERATING CONSIDERATIONS

The following capital and operating considerations must be considered when developing a new community transit service:

Accessibility

It is a requirement under the Community Transportation Assistance Program (CTAP) that at least one vehicle in a service's fleet be wheelchair accessible. Typically, this means the use of a ramp or

mechanical lift with tie downs. However, buses that are most accessible (low-floor buses) will appeal to the widest range of users; particularly seniors, persons with disabilities or mobility impairment, individuals with children in strollers, and even able-bodied individuals with bags and cargo. In addition to appealing to a wider base of potential users, accessible buses also minimize the time required for all individuals to board the bus, providing travel time savings and improving reliability (making it easier to maintain schedules (McCormick Rankin, 2012).

Funding for accessible vehicles is available under the Accessible Transportation Assistance Program. The program will provide up to 66% of the total capital cost to a maximum of $70,000 for new or $15,000 for used vehicles.

Vehicle Options

Sedan (car)
A Sedan can normally accommodate five people, including the driver. They are generally not wheelchair accessible, but they can readily be used by volunteer drivers. The price is largely dependent on make of vehicle and supplier.

Passenger Van or Minivan
Vans can typically accommodate seven to 15 people, although the number will be reduced if they are retrofitted to accommodate one or more wheelchairs. Grants (i.e., ATAP) are available for purchase or retrofits of new or used vehicles.

Minibus
Minibuses can generally accommodate up to 25 passengers and are usually wheelchair accessible. These vehicle types are also eligible under ATAP.

All types can accommodate bicycle racks and provisions for bicycles could be included. Vehicle selection should also take into consideration any plans to make it available for charter service. Charter services typically require more passenger capacity (Stantec, 2011).

Examples of new community transit vehicles purchased in fiscal 2014-15

Vehicle Type	Passengers	Wheelchair	Total Capital Cost
Van	9 passenger	1	$87,788
Van	7 passenger	1	$53,853
Van	4 passenger	1	$48,087
Mini-Bus	18 passenger	4	$118,310
Mini-Bus	12 passenger	2	$90,930
Mini-Bus	16 passenger	2	$88,671

(Source: Department of Municipal Affairs, ATAP Statistics, 2014-15)

The capital cost of a vehicle is largely dependent on the passenger capacity, accessibility and vehicle type. For instance, new accessible (mini) vans cost between $48,000 and $87,800. However, the price is often dependent on which supplier is used. Accessible mini-buses with larger passenger and wheelchair capacity can cost up to $118,000.

Vehicle Leasing vs. Loans

When procuring vehicles to provide a transit service, the options include purchasing new, purchasing used, or leasing vehicles. Most transit agencies in the area choose to purchase new vehicles for a number of reasons. While they are considerably more expensive, new vehicles are more reliable and break down less often, making it much easier to maintain schedules throughout the day which makes the transit system much more attractive overall.

The amount of time that must be spent maintaining and repairing used vehicles relative to the amount of time they are in service increases considerably as they age and acquire kilometers and operating hours, resulting in higher maintenance costs and a need for more spare buses. Further, the market for used transit buses in this region is not strong given a limited number of transit operations. Used buses that are available for sale are often nearing the end of their useful service life (in terms of age and mileage) when maintenance and operating costs, vehicle downtime, or the need for refurbishment make them undesirable for the operator to keep. Used buses may need to be purchased from central or western Canada or the United States and delivery costs can be significant.

Leasing buses is generally not a feasible option in this area. The amount of operating time and kilometers that are placed on a bus fleet each year makes this more expensive over the long term than purchasing and maintaining buses. It is more feasible for the organization to take out a loan toward the vehicle if they cannot fund their applicant contribution.

Requirements for spare vehicles

In addition to buses that provide regular service on each bus route (or door-to-door), there may be a need to have a spare vehicle available to facilitate regular maintenance and repairs on the fleet, and to have as a backup in case of unexpected breakdowns. It is important to note that most door-to-door community transit organizations don't have the financial capacity to purchase and maintain a spare vehicle.

Maintenance

Regular maintenance and servicing of any transit fleet is obviously necessary to minimize vehicle downtime and protect investments over the long term.

Many transit organizations also develop programs of preventative maintenance whereby components are serviced or replaced at regular intervals prior to failure. Examples include replacing suspension components, servicing wheelchair lifts and heating/ventilation equipment, and refurbishing engines.

Preventative maintenance programs are an important component of maintaining reliable service and minimizing the inconvenience of breakdowns.

Stop Locations

Stop location considerations are applicable to a fixed or fixed flex route service. Infrastructure requirements for bus stops are not substantial. Often an aluminum pole embedded in a concrete foundation tube with a small transit sign attached to the top are placed adjacent to the road and can be provided for approximately $500 each. In some cases lower cost alternatives such as paint on utility poles have been used.

Some transit agencies offering new service determine the location of stops based on use of the system; they provide initial flexibility for users to get on and off the bus at any location where it is safe to do so, monitor the frequency and location of stops, and use this information to establish the location of stops. Bus stops should be located adjacent to destinations where riders frequently board and exit the bus. They should be provided often enough to provide access to residential areas and destinations within a reasonable walking distance, but not so often as to hinder the efficient travel time of the bus along the route.

Bus stops are generally placed at the near-side of intersections, at the far-side of intersections, and midblock between intersections. Each option offers advantages and disadvantages with respect to convenience, safety, intersection operations, and the specific configuration of each stop location should be determined on a case-by-case basis.

Transit buses generally do not stop at stops where no one is waiting and when the stop has not been requested from on-board the vehicle. In rural areas, some transit agencies allow users to flag the bus to stop at any location along the route provided it is safe to do so. Permission from the authority responsible for the road is required when developing bus stop locations.

Charter and Contract Services

Community transit services can enter into Charter services to provide transport to large groups such as wedding parties, sports teams, large groups of seniors, etc. Charters typically make a profit and the revenue could be put towards reducing the net cost of services or to expand service. In some cases, the cost of charters could be offset by sponsors such as a grocery chain and other businesses to bring shoppers to their door step. The service can also enter into a contractual arrangement to provide a sustainable funding source and clientele. For instance, some community transit services have a contractual arrangement with the local school board to provide pupil transportation. This type of service may require a larger vehicle (mini-bus) to accommodate multiple passengers. The passenger capacity of a vehicle must be considered when entering into a charter service (Transit Consulting Network, 2014).

Licensing and Regulatory Framework

Transit providers in Nova Scotia are required to be licensed by the Nova Scotia Utility and Review Board (NSUARB). In addition to regulating and issuing licenses, NSUARB also approves fares, routes, stops, and equipment for use and hears complaints against carriers and applications for the modification or discontinuance of service. A financial statement, business plan, and schedule of rates for the proposed service are required during the application process. Applications for new public passenger services are advertised in the Royal Gazette and local newspapers. Other licensed carriers have an opportunity to object to the issuance of new licenses. If objections are received, a public hearing is held and the NSUARB makes a decision on whether or not the license will be granted. If no objections are received, licenses are generally granted if all requirements are met.

Inspection of all vehicles by the Motor Carrier Division of Department of Transportation and Infrastructure Renewal is required twice per year. There is no fee for this inspection, but the owner is responsible to provide a place for the inspection and a person to drive the vehicle during a road and brake test. There are also some restrictions on vehicle characteristics; for example a traditional heavy duty transit bus is required to have two side doors (this limits opportunities to use 30 ft buses from some manufacturers as many only provide one front door).

Effective January 1, 2003, the NSUARB also regulates carriers who operate a commercial van as a public passenger vehicle that has a seating capacity of 8 passengers or less, excluding the driver, and that provides a daily, weekly, or other regular service, or a charter or tour service that enters or departs any municipality. The requirements are safety based and not economic in nature (Admin Pro, 2013).

Source: http://nsuarb.novascotia.ca/content/public-passenger

Operator Training & Availability
Most transit organizations regardless of service model administer a driver recruitment and training program to ensure operators have the necessary experience, competency, and skillset required for dealing with and transporting the public in a safe and professional manner. Such programs generally include:

- A screening process based on criminal record, driving record (demerit points and at-fault accidents), education level, experience in a service occupation, and experience driving in high-density traffic

- A screening process based on assessment of personality characteristics (e.g. STRADA Transit Operator Recruitment Tool available from the Canadian Urban Transit Association)

- A road test driving a transit vehicle with a qualified operator/instructor (not carrying the public)

- On-the-job training with a qualified operator/instructor for a period of time, with increasing levels of responsibility

Given the level of investment required to recruit and train operators, most transit agencies strive to achieve low operator turnover.

Ridership Monitoring, Fare collection, and Accountability
Smaller transit operations, for reasons of cost-effectiveness, generally do not have the luxury of access to technology for monitoring ridership information (automated passenger counting systems) and collecting payment (on-board electronic payment). The cost of such systems makes them prohibitive to small operations.

Simple, manual methods of ridership monitoring and revenue collection are both manageable and cost-effective for small transit operations. Such methods require two key pieces of affordable equipment and a form that is filled out by the driver of each bus throughout the shift.

Software
In smaller transit operations, it is once again possible to manage operations, scheduling, maintenance, and fleet logistics without the use of sophisticated software systems that are generally necessary in larger organizations. Such software tends to be relatively expensive for small scale operations. Two leading Canadian companies, GIRO and Trapeze, offer a broad range of software solutions for transit agencies that can help to plan, manage and monitor transit scheduling, routing, and operations, ridership information, vehicle maintenance and operating costs, and much more.

On-board equipment
In addition to the necessary equipment for ridership information and fare collection, many transit agencies of all sizes equip their fleet with additional audio/visual monitoring equipment. Such equipment is relatively inexpensive and can be added to the fleet at any time.

Two-way radios help to maintain communication between vehicles in operation and a central dispatch office; on-board video facilitates agency monitoring of operator and patron actions for the purposes of security and safety; and GPS devices provide central dispatch offices with the exact location of all vehicles in the fleet.

System Evaluation and Monitoring
Once a transit system is operating, it is necessary to continuously record key information and to calculate and monitor measures of performance. These measures of performance are used to assess ridership levels, service levels, and cost-effectiveness on an annual basis, from year to year, and at different time periods (days of the week or times of day) throughout the year. Key performance measures are used to assess the effectiveness of the service and to improve or make adjustments to the operations of the service. Key performance measures include: (McCormick Rankin, 2012)

- Annual ridership (number of rides)
- Annual service hours (amount of service provided)
- Service level (annual service hours per capita)
- Ridership rate (number of users per hour of service)
- Cost effectiveness (operating cost per ride)
- Cost efficiency (operating cost per hour)
- Cost recovery (ratio of revenue to cost)

Insurance
To be eligible for provincial funding for community transportation (refer to CTAP and ATAP program guidelines), liability insurance is required for the Board of Directors and volunteer officers of the transit service, and volunteers, as well as drivers and all vehicles.

MARKETING STRATEGIES

Marketing and promotion of a transit system are critical factors in developing an initial ridership base and maintaining and increasing ridership on a continuous basis. It is especially important leading up to the launch of new services and during the first few years of the service, but should be continuously promoted.

A website should be developed and used to provide convenient access to information on routes, fares, as well as contact information, information about the organization, employment opportunities, and so on. A website also provides an effective means to collect feedback about the service being offered.

In the early stages of implementing a transit service, developing effective "branding" is important. Trade names, logos, slogans, and mission statements can be used to help identify the system and its goals, and to promote it as an attractive alternative to automobile transportation.

The branding of the service will be an essential component of all advertising campaigns and materials throughout the life of the system. Leading up to the launch of a transit service, it should be aggressively promoted through a number of media sources. Traditional print media such as newspapers and local publications, advertisement on local radio stations and television, promotion through Municipality newsletters, targeted online advertisements, and social media (including Facebook and Twitter) all provide excellent means of reaching a broad range of potential users throughout the region.

It is important that services are branded as inclusive, which means they target all segments of the community (seniors, persons with disabilities, disadvantaged, youth, etc.). Focusing the branding exclusively around the disabled or wheelchair services provided may either stigmatize the service, or people may not use the service as they may not think they are eligible (McCormick Rankin, 2012).

GOVERNANCE STRUCTURE OPTIONS

There are several alternative governance structures for over-seeing or operating a public transit service.

The optional approaches are: Direct Municipal Control - the County would have direct involvement as well as responsibility for developing policy, managing and delivering the transit service. The service could be operated directly by County employees or by a private operator through an operating contract. Smaller community transit services (door-to-door) are typically managed through a non-profit organization, or through a sub-committee of a municipality.

Separate Agency – the municipality can create a stand-alone agency to manage and operate the transit service. Depending on the terms of reference for the agency, it would likely require approval of the Province.

Non-Profit Organization – there are a variety of non-profit organizations, both incorporated and unincorporated, which could be set up to oversee and operate a transit service. The primary advantage of a non-profit organization is its ability to solicit and receive donations and the related tax advantages.

Private Sector – the transit service could be operated by a private firm without involvement by the Municipality. However, without some level of financial support particularly from government, a transit service operated wholly by a private company is not feasible which is why there is no such service today.

The majority of public transit services across Canada are governed as departments of the municipality and responsible directly to Council. In some jurisdictions, the service may be operated by a private company under contract to the municipality.

In some jurisdictions, or in the case of a region or multiple municipalities, separate agencies have been created, such as a board or commission, but ultimately responsibility rests with the municipality through the budgeting process if public funds are used.

In smaller systems, particularly in Nova Scotia, the service is operated by a non-profit, incorporated agency (IBI Group, 2013).

FARE STRUCTURE OPTIONS

While there are a wide range of fare possibilities, the fare structure should be clear and not overly complicated. A fare system should be selected that is fair, encourages ridership, and helps the cooperative meet its financial needs. A public transit service does not expect to be self-sufficient on fares alone. Fares can be a flat-rate based on a service area zone, or passengers can be charged by the kilometer. Fare rates must balance affordability for the client and sustainability of the service (Stantec, 2011).

The following are some examples of fare rates set by community transit organization in Nova Scotia.

Fare Comparisons-Existing Community Transit Organizations

	King's Point to Point	**CCTS**	**CTCL**	**Sou'West (Volunt. driver)**
Up to 5km	$6.50	$5.00	$4.00	$5.00
6 to 10 km	$8.00	$5.00	$6.00	$5.00
11 to 20 km	$9.50 - $12.50	$7.50 - $10.00	$8.00 - $10.00	$5.00
21 to 30 km	$16.50 - $21.00	$10.00 - $12.50	$0.75/km	$5.00
31 to 40 km	$25.00	$17.50	$0.75/km	$7.50
41 to 50 km	$0.80/km		$0.75/km	$7.50
51 to 60 km	$0.80/km		$0.75/km	$10.00

(Admin Pro, 2013)

OPERATING BENCHMARKS

Currently there are 14 community transit services funded under the Community Transportation Assistance Program (CTAP). As a requirement of receiving funding each organization must provide the Department of Municipal Affairs with quarterly service operating statistics and cash flow summary.

The following summarizes the operating, ridership and cash flow statistics for the 14 CTAP funded services in Nova Scotia. In fiscal 2013-14, the 14 CTAP funded services provided 180,110 passenger 18trips travelling over 1.9 million kilometers of road in rural parts of Nova Scotia. The following data is based from 2013-14 CTAP summary statistics collected by the Department of Municipal Affairs.

2013-14 Operating Information

Total Ridership	180,110
Total Kms. Travelled	1,860,059
Total Accessible Vehicles	44
Total Non-Accessible Vehicles	16
Total Drivers employed	59
Total Volunteer Drivers	55

2013-14 Ridership Data	**Total**	**Percentage**
School Board	26,666	18%
Dep't. of Community Services	10,458	7%
Contracts	49,806	34%
General	61,509	41%
Total Ridership not including charter	**148,439**	**100%**
Wheelchair passengers	15,209	10%
Able Bodied passengers	133,230	90%
Total	**148,439**	**100%**
Seniors (65 and over)	34,129	23%
Youth (18 and under)	31,724	21%
General	82,586	56%
Total	**148,439**	**100%**

The following provides a comparison of operating benchmarks for new services and services with small, medium and large service population areas

Newest Community Transit Services

SERVICE	SERVICE AREA	2013-14 RIDERSHIP	RIDES PER CAPITA	FARE REVENUE	OPERATING COST
Cheticamp	5,280	1,447	0.27	11,105	54,380
Sou'West	14,496	1,673	0.12	20,231	98,907
MusGo	23,635	2,360	0.10	26,779	95,352
Average	**14,470**	**1,827**	**0.13**	**19,372**	**82,880**

Organizations that are in the process (first or second year of start-up) of developing a new community transit service with a similar model to those funded under CTAP should expect to reach an average rides per capita between 0.10 and 0.15 in the first year or two of service.

There is no accurate way to estimate demand, but it should not be realistic for new service to expect the same level of ridership and fare revenue as an existing service that has been operating for a number of years in the community. It takes time for the community to understand and change their mode of travel in areas where no public transit previously existed. New services should also be conservative in their budget estimations for fare revenue, donations, and municipal support. Typically, the average operating cost in the first year of operation is around $80,000. This does not include capital replacement or vehicle purchase, which should be budgeted for separately.

Small Service Area Population (10,000 to 19,999)

SERVICE	SERVICE AREA	2013-14 RIDERSHIP	RIDES PER CAPITA	FARE REVENUE	OPERATING COST
Chester	10,599	3,569	0.34	7,118	79,741
Clare	18,036	14,188	0.99	21,843	294,145
West Hants	19,109	3,293	0.17	104,804	154,901
Average	**15,915**	**7,017**	**0.44**	**44,667**	**177,585**

For purposes of comparison we have defined small service areas population areas between 10,599 and 19,109. These include Community Wheels in Chester, Le Transport De Clare and West Hants Dial-a-Ride. The average ridership of these services was 7,017 with an average rides per capita of 0.44. Operating costs are typically lower for smaller service areas ($177,585) when compared to medium ($189,042) or large ($333,492) CTAP funded service areas. Services with smaller service areas lack the economy of scale effect which impacts average fare revenue.

Medium Service Area Population (20,000 to 39,999)

SERVICE	SERVICE AREA	2013-14 RIDERSHIP	RIDES PER CAPITA	FARE REVENUE	OPERATING COST
SAT	21,960	3,773	0.17	32,407	119,104
East Hants	23,195	7,228	0.31	86,955	164,286
HOPE	25,275	10,288	0.41	98,547	165,555
CCTS	31,353	5,284	0.17	30,562	150,750
TCTS	33,460	27,912	0.83	217,741	345,515
Average	**27,049**	**10,897**	**0.40**	**93,242**	**189,042**

When compared to smaller service areas, CTAP services with medium service area populations tend to have overall higher average ridership (10,897), fare revenue ($92,242) and operating cost ($189,042) but a slightly lower rides per capita (.40 vs .44).

Large Service Area Population (40,000 plus)

SERVICE	SERVICE AREA	2013-14 RIDERSHIP	RIDES PER CAPITA	FARE REVENUE	OPERATING COST
CHAD	45,643	31,865	0.70	171,390	425,185
Kings PTP	47,885	19,638	0.41	173,219	412,807
CTCL	50,968	20,879	0.41	37,655	162,485
Average	**48,165**	**24,127**	**0.50**	**127,425**	**333,492**

The larger service areas (CHAD Transit, Kings Point to Point and Colchester Transportation Cooperative Ltd.) tend to benefit the most when compared to the small and medium service area populations. For instance, they have on average the highest ridership per annum (24,127), rides per capita (0.50), and fare revenue ($127,425). However, the higher ridership also correlates with higher operating costs as well. These services require more vehicles and drivers to accommodate the increased demand for service.

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