ENTRA CONSULTANTS

Prince Edward Island Public Transit Coalition

Island Wide Transit Feasibility Study

Final Report

June 11, 2008

Excellence in Transportation Planning

Prince Edward Island Transit Coalition

Island Wide Transit Feasibility Study

Final Report

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1. Public Transit Context in PEI

Public transit is an important component of public services, benefiting not only the user (who typically pays a user fee for the service provided), but also the community, which benefits from increased mobility, economic and employment access, cleaner air, reduced congestion and savings in many areas. These community and economic benefits are the rationale for public financial support of the system.

In this context it is important to remember that an effective public transit system comprises a number of elements, not the least of which is the roadway network that it operates on. But an effective transit system also requires vehicle fleet, maintenance facilities, administrative support, communications and marketing, stops shelters and other customer amenities.

This section describes the transit elements already in place on the island, and its legacy of transit services that have enhanced mobility in the past.

1.1 Island-Wide Rail

Island-wide transportation has a colourful history on Prince Edward Island. Construction of the Prince Edward Island Railway (PEIR) started in 1871, and it operated through 1989. The main line connected Alberton to Summerside, Charlottetown, Georgetown, and Souris and a later extension reached Tignish.

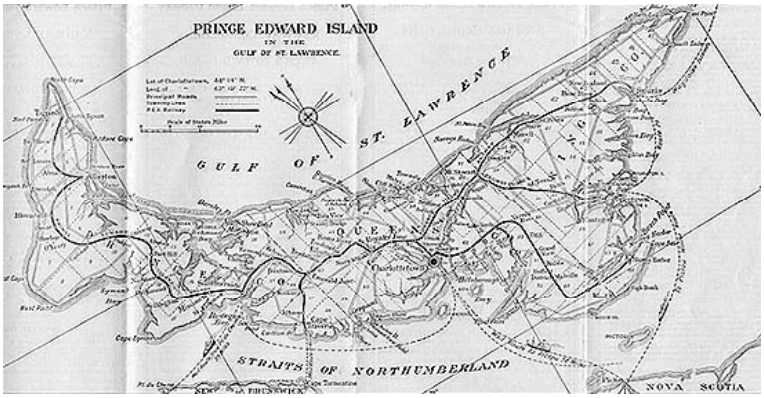
Additional lines were built connecting the Charlottetown-Summerside main line at Emerald Junction to Cape Traverse, and in the east, service was extended to Murray Harbour. Branches were also constructed to Vernon Bridge, Montague, and Elmira.

In 1918, the new Canadian National Railways (CNR) assumed responsibility for PEIR, and began converting narrow to standard gauge and upgrading many elements of the network. Substantial economic benefits, both in construction and transportation resulted from this upgrading to one of the most extensively used rail networks on the continent.

The last significant railway construction occurred during the 1930s with a connecting line to Lake Verde, and a new spur line was built during World War II to serve CFB Summerside.

Island-wide transportation on Prince Edward Island also has a history of innovation. As a CNR operation, rail operations on PEI were completely converted to diesel from coal-fired steam prior to 1940, at least 10 years before the rest of the country.

In most areas of North America, rail travel declined through the 1950s with the rise in popularity of automobile travel. Extensive road construction in Prince Edward Island also saw extensive development, eased access for auto transportation across the island. The last passenger train on the island operated in 1968, with bus service replacing the trains for a number of years.



With increasing decline of rail freight operations and deregulation, CNR abandoned the island rail operations in July 1989. In 1994 the Government of PEI purchased the rights-of-way from the railway and began the development of the Confederation trail system. Approximately three-quarters of the right-of-way is now open to the public.

1.2 Urban Transit

Prior to the existing urban transit service in Charlottetown, other attempts had been made to establish urban services in the capital.

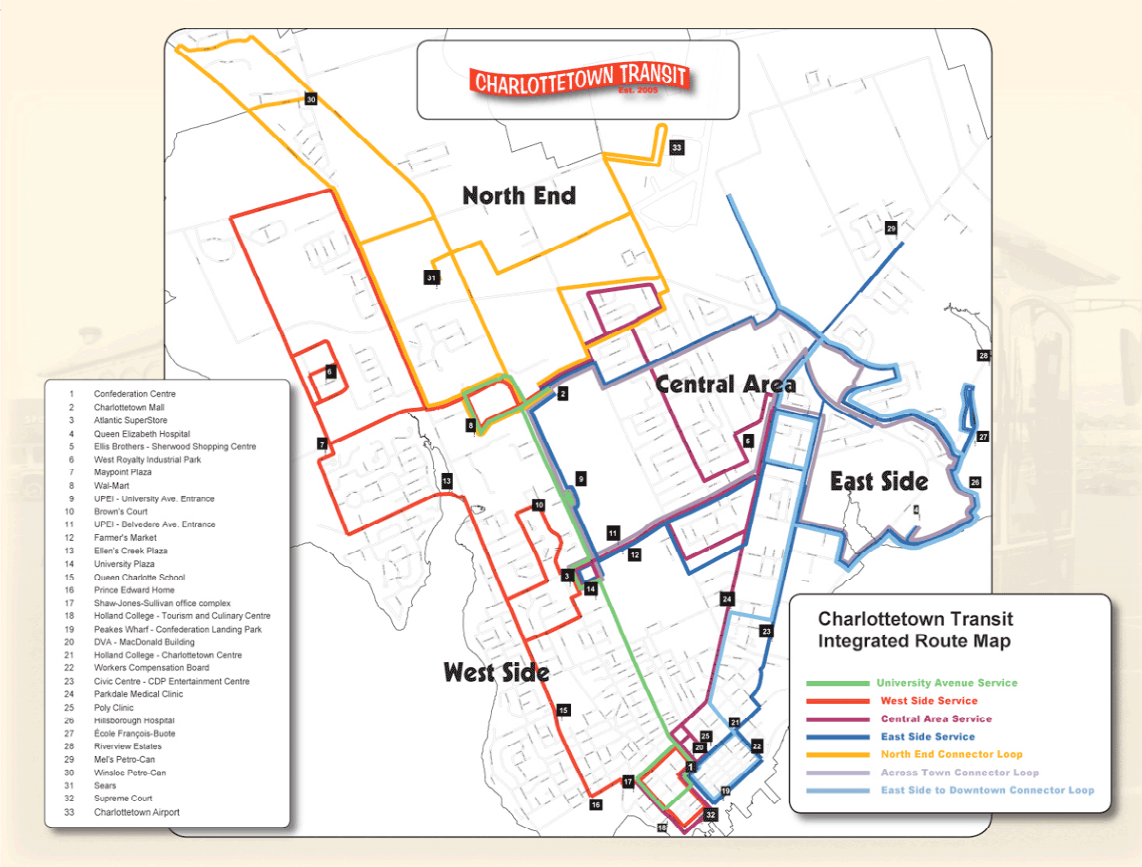
Between 1979 and 1981 the Charlottetown Urban Transit System (CUTS) operated weekday service on 5 routes, approximately 11 hours per day, with limited Saturday service. The lack of operating subsidy for the service led to its demise in 1981.

Beginning in the late 1990s, Charlottetown sponsored a single-bus operation, operated by Trius Tours. Limited subsidy by the City sustained the service, which had long headways and circuitous routes, and attracted limited ridership.

In 2005, Charlottetown embarked on a full-scale transit service, using replica trolleys and multiple fixed routes. Beginning with 4 buses, the service now deploys 6 vehicles in peak periods. Initial ridership levels of about 9,000 per month have grown to more than 13,000 per month and continue to rise (see Figure 1).

In recent months, both the Town of Cornwall and the Town of Stratford have commissioned a joint study (on-going) to examine the feasibility of transit service in the towns, with connections to Charlottetown, and Charlottetown has embarked on a park-and-ride pilot.

Figure 1 – Charlottetown Transit System



1.2.1 Cavendish Trolley

This seasonal tourist-oriented service operating with a replica trolley operates hourly service along Cavendish Road, connecting hotels and tourist attractions.

1.2.2 Paratransit Services

Accessible transit services for people with disabilities are provided by Pat and the Elephant in the Charlottetown area and throughout the island, as well as by Donna's Transport in the Summerside area.

Transportation West provides a similar service, primarily for program-related transportation, in the West Prince area.

1.3 Private Services

There are a number of private operators providing charters and booked services throughout the island as well as to the mainland. Carriers include:

- Trius Tours;
- Acadian Lines;
- Prince Edward Tours;
- Gordon's Tours; and
- Superior Coach.

Acadian Lines provides scheduled service from Charlottetown to and from the mainland, with 2 arrivals and departures daily between Charlottetown and Summerside, and 1 daily arrival and departure to the mainland. An additional trip is provided on Fridays and Sundays. Passenger buses are also used for parcel shipping services.

1.4 Taxis

The Charlottetown area (including Stratford and Cornwall) has more than 100 taxis, operated by six different companies. With about 2.8 taxis per 1000 population, Charlottetown has one of the highest taxi/population ratios in the country.

Summerside is served by two companies and Montague by two companies.

While taxis are popular for local service, inter-city trips are less common, and expensive. There are no formal taxi services based in West Prince.

includes an list of transit and transportation services available on the island.

2. The Case for Public Transit in PEI

As part of the planning and development of an island-wide transit system, ENTRA completed a series of consultations in several of the communities, as well as with targeted stakeholders across the island.

The residents of PEI are very well informed on the benefits of public transit, and see its benefits, not only to themselves as users, but the island community as a whole

Throughout these consultations, ENTRA recognized that the residents of PEI are very well informed on the benefits of public transit, and see its benefits, not only to themselves as users, but the island community as a whole, in terms of economic and social opportunity, health and the environment.

This section presents a summary of the benefits of providing an island-wide transit system, including some examples of relevant comments or experience gleaned from the public consultation. Details of the public consultation, and a summary of the results, are included in Appendix A.

2.1 Access and Equity

Public transit provides access to opportunity.

Public consultation and stakeholder interviews suggest that lack of access to essential services, primarily due to the absence of transportation options, contributes not only to poor health but to a pervasive loss of independence among senior citizens. While clearly a concern in rural areas of P.E.I., seniors interviewed in urban areas also identified lack of access to transportation options as a major quality of life issue. Dependence on others to access medical appointments, as well as visit friends and relatives, may cause some senior citizens to move, give up social activities, or continue to own and drive an automobile past the time they can safely do so. Access to public transit can enhance the quality of life of seniors dramatically.

On a broader demographic basis, the health of individuals generally improves with higher income and social standing. This effect is related to personal opportunity and individuals' ability to control their circumstances, as well as to the provision of food and shelter. For this reason, transportation strategies that help island residents save money or access new opportunities can also help to improve public health.

Personal spending on transportation can compete with the need for food, shelter, education and medicine. Indeed, the average Canadian household spends more on transportation annually—about $7,600 in 2000—than on food. Using public transit allows families to reduce their transportation expenditures, and devote more of their resources to other needs.

Public transit currently serves a relatively small portion of trips in most communities, but the trips it serves tend to be high value to users and society. Transit enables people to access important activities such as medical services, education and employment. In the West Prince consultation session, a doctor from Alberton related how many of his patients when faced with a significant illness requiring a long course of treatment in Charlottetown had to, because of lack of affordable transportation, either move to Charlottetown or forgo treatment.

Numerous residents related how students were deprived of post-secondary education

because there was no way to commute from home to college or university and separate residence in Summerside or Charlottetown was unaffordable.

Parents of high school students told how the lack of late bussing either restricted access to extra-curricular activities, or detracted from overall quality of family life and added significant travel costs in transporting students to and from evening programs. In West Prince, a significant informal sharing program has developed – the concept of which can form the basis for the development of informal networks suggested in this report.

Inequities face people too young or old to drive, those who are disabled, and those who face cultural or language barriers. Only public transit can provide the basic level of mobility that these groups need to access work, school and health care.

Transit is an important travel mode for low- and middle-income non-drivers. For example, a household earning $20,000 annual income typically spends about $2,500 per year on transport. On this budget, a non-driver in a community with no transit service if residing in Montague or Summerside could only afford about five taxi trips per week (resulting in an inferior level of mobility) but, perhaps, more mobility than available to those (more than half of the population) living where no taxi service exists. A non-driver who lives in a community with good transit service can purchase a monthly transit pass and still afford two or three taxi trips per week, providing a relatively high level of mobility, although still inferior to a motorist.

2.2 Economic Efficiency

Public transit travel is cheaper than auto travel.

One international survey identified the average cost of a passenger-kilometre of travel in five large Canadian cities (Montreal, Toronto, Ottawa, Vancouver, and Calgary) as $0.12 by transit compared to $0.46 by car—a 74 percent savings, and another analysis conducted for the federal government found that the marginal social cost of transit travel was $0.30 per passenger-kilometre, versus $0.46 for car travel—meaning that transit is a substantially less-expensive way to serve growing travel demands.

The implications of this finding go beyond mere cost savings. More efficient transportation systems may let us shift public and private resources to other needs, like education or health care, thereby improving our quality of life and economic competitiveness.

2.3 Access to Employment

Public transit provides access to jobs.

Employment-based commuters represent a significant portion of peak period travel in the Charlottetown-Summerside corridor in both directions. These destinations also attract commuters from smaller communities across the Island. Industry sectors such as the aerospace industry, agriculture processing, and the GST centre and the Provincial office complex on lower Kent Street in Charlottetown represent critical masses of centralized employment that can drive transit ridership. Similarly seasonal workers represent a substantial market, particularly in the Cavendish area and for coastal fish and seafood processing operations during the summer.

Prince Edward Island has first-hand experience with the issue of access to employment and its economic impacts. In spring 2007, the seafood processing industry faced a significant capacity issue, resulting from the lack of available employees. In the consultation

process, representatives of the seafood processors were aware of the benefits accruing to their industry by gaining access to island workers and interested in partnering with the Province in island-wide transit. Similarly, the Cavendish area tourist industry sees a transit service as a contributor to reduced costs through improved staff retention, improved employee reliability, and higher productivity.

Increasingly, employers are making the connection between transit accessibility and the basic viability of their operations. Manufacturing facilities, call centres and recreational businesses, in particular, depend on transit to deliver their workers safely, economically and on schedule.

The PEI Business Development representatives took this one step further, recognizing a role for transit in permitting not only employee access to jobs, but giving employers more flexibility in where they choose to locate on the island.

2.4 Personal Productivity

Public transit allows people to make better use of their time.

A commuter trip from Summerside to Charlottetown takes at least 45 minutes, amounting to more than 350 hours per year at a cost of almost $6,000. For the commuter trip from Souris to Charlottetown, these values increase by about 50 percent.

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Transit commuters can make productive use of their travel time. Some read for pleasure, while others catch up on work—returning phone calls, reading or even checking e-mail. This fact is recognized by Transport Canada's models, which discount the cost of transit users' travel time by 25 percent.

Souris residents were attracted by the possibility offered by public transit to leave the car at home once or twice a week—just for the change—and the choice of letting someone else do the driving—in inclement weather or just to finish up that good book.

2.5 Retail Support

For retailers, public transit means increased customer access.

Shopping destinations have access to a larger customer base when transit services are expanded. This effect is not limited to major destinations in Summerside and Charlottetown, but expands the market base for commercial and retail outlets across the island.

For example, in the consultation sessions, residents from Georgetown indicated a desire to travel to Montague on a regular or semi-regular basis to have access to the shopping and service opportunities there.

2.6 Employment Opportunities

Public transit can create jobs in P.E.I.

The transit industry in Canada represents a significant source of employment - approximately equal to the broadcasting industry or petroleum extracting industry.

In PEI, the transit service represents an excellent opportunity for local providers to expand their operation and increase employment levels—perhaps in the area of 30 to 40 employees in a mature system. While not a significant player in the business economy, the transit service would still represent stable full time and regular part time employment for island residents.

2.7 Safety

Riding transit is far safer than driving.

While requiring a significant modal shift from auto driver to transit passenger to effect change, unacknowledged social and economic costs such as provincial medical costs due to accidents are gaining prominence in public discourse about the benefits of transit.

Prince Edward Island has an average safety record when it comes to vehicle collisions, with an average 15 fatalities and 1000 injures per year (2004 data). Canada-wide, vehicle collisions account for almost half of all accidental deaths, and are the leading cause of death among Canadians under the age of 35. (P.E.I. Public Transit Coalition data.)

The economic costs of motor vehicle crashes are high. This has not only a human but an economic cost as the P.E.I. Public Transit Coalition has documented, “the economic costs of motor vehicle crashes [in Canada] amount to an estimated $26 million each day.”

Transit can contribute to road safety on Prince Edward Island since it is the safest mode of urban transportation. The risk of fatality for a car passenger is 20 times higher than for a transit passenger making the same trip. Public transit in Canada is also working to improve its already outstanding contribution to public safety by attracting more automobile users, and by further reducing today’s low rates of transit passenger injury and death through passenger education and driver training.

2.8 Health and the Environment

Public transit contributes to a healthier environment.

Health concerns consistently top the list of concerns among Canadian residents, and recently, concern over the environment has moved to the top of polling results. Canadians and residents of PEI are increasingly concerned about climate change, air quality, and the general health of themselves and their families. The magnitude of the behavioural change required for public transit usage to make a visible impact on air quality and climate change requires a long-term perspective that fosters tactics that resonate with residents and decision makers in the short and medium term.

Air Quality and Climate Change

Transportation is a significant contributor of pollutants that affect heart and lung health—including carbon monoxide (CO), nitrogen oxides (NOx) volatile organic compounds (VOCs) and other particulates—as well as greenhouse gas emissions (GHG).

Automobile use, particularly in urban areas during the tourist season, can significantly impact air quality, thereby contributing to illness, premature death and the cost of health care. About 20 percent of Canadians are affected by respiratory problems, including asthma or chronic obstructive pulmonary disease (COPD), and air pollution is blamed for premature deaths across the country, especially in urban areas. In Ontario, the impacts of poor air quality are estimated to result in health and related economic costs in excess of $10 billion – about $2,000 per household annually.

For typical trips on the island, emissions can be reduced by 85 percent by using transit.

While a small transit vehicle will emit pollutants at levels slightly higher than an average car, it can carry up to 6 times more passengers. This means that for typical trips on the island, emissions can be reduced by 85 percent by using transit.

The same relationship that exists between transit and pollutants holds true for greenhouse gases emissions. Continued climate change is increasingly recognized as a serious problem, and urban passenger travel contributes almost 10 percent of Canada's overall emissions of (GHG). Per car, the commuter trip from Summerside to Charlottetown emits more than 7 tonnes of greenhouse gases per year, (and more than 12 tonnes for the Tignish to Summerside trip). GHG emissions for island residents can be reduced by about 85 percent when travelling by transit with 9 other passengers in a bus, instead of the average of 1.2 persons per car.

Physical Activity

In the last two decades, island residents have become more active, but PEI residents are still among the most likely in Canada not to achieve moderate levels of physical activity.[1]

The direct economic cost of Canadians' physical inactivity is estimated to be $2.1 billion annually, or 2.5% of health care costs nationwide. A 10% reduction in inactivity could produce health care savings of $150 million each year.

Promoting active transportation, such as walking or cycling, is a key element of Health Canada's national strategy to encourage physical activity. Transit and walking have a strong historic relationship. Together, public transit and active transportation complement each other, and offer a "suite" of travel alternatives that help individuals adopt multimodal lifestyles and minimize their automobile use. Levels of walking, cycling and transit use in Canadian communities tend to rise and fall together.

Cycling is also growing in importance as an element of multimodal transit trips. By

[1] Cameron, C., C. Craig and S. Paolin Craig C., Local Opportunities for Physical Activity and Sport: Trends from 1999-2004, Canadian Fitness and Lifestule Research Institute, p. 25)

combining transit's speed and efficiency with cycling's flexibility and independence, passengers find a level of utility that neither mode provides on its own. Measures that make it easier for cyclists to get to transit services, and then store or bring along their bicycles, can boost transit ridership and reduce congestion and pollution.

3. The Experience of Others – Case Studies

To create a service that best meets the needs for travel for Prince Edward Island residents, elements from different service designs need to be examined considering the following characteristics:

- the location of origins and destinations;
- the overall low density of population, and subsequently demand, within parts of the service area;
- differing travel and lifestyle characteristics of rural residents; and
- a higher proportion of people who are aged with reduced mobility and low-income earners.

3.1 Potential Service Designs

There are a number of fixed and flexible service design options that may be appropriate to present transit in Prince Edward Island as a viable transportation option, meeting the needs of various communities. These services options are further detailed in Table 1.

3.1.1 Fixed Services

Fixed services are generally conventional transit service that follow a set timetable and stop only at designated locations, or at flag stops along routes. In fixed schedule service, vehicles are scheduled into runs according to a timetable. This service design may be applicable for sections of routes in densely populated centres. Express service is typically a fixed schedule service, and community connectors may operate a combination of fixed schedule and demand responsive services.

> Fixed services follow a set timetable and stop only at designated locations or at flag stops along routes.

3.1.2 Demand Responsive Services

Demand responsive services allow flexibility for vehicles to be routed according to passenger origin and destination requests and can be adapted to the needs of different areas and on different seasons. Trips can be scheduled as subscription (regularly occurring trips), advance notice (typically 2 to 14 days in advance), or through real time booking (typically on the day of service). Day of service booking allows for immediate needs.

> Demand responsive services are adaptable for different areas or times.

Flexible routes have a defined degree of flexibility that allows flexibility for demand responsive operation. There may be a segment of a fixed route with a fixed schedule that operates as demand responsive for a portion of the route. Flexible routes can be designed to offer deviation zones around established routes or points. Connectors may operate as demand responsive within a defined area and provide transfers to fixed schedule service.

In flexible schedule service, vehicles are dispatched according to requested passenger pick-up and drop-off times.

Service may be limited to defined zones by time of day or day of week, with boundaries and major origins and destinations based upon historical or predicted trip making. Zone service is best used for short trip distances to a common destination. Zone service may be transformed to a fixed route service if demand and trip patterns warrant.

Table 1 - Fixed and Flexible Transit Services

	Settlement	Trip Patterns	Origins and Destinations
Fixed Route, Fixed Schedule	Dense	Predictable	Predictable
Fixed Route, Flexible Schedule	Dense	Predictable	Variable
Flexible Route, Fixed Schedule (Route Deviation)	Sparse	Variable	Predictable
Flexible Route, Fixed Schedule (Point Deviation)	Sparse	Predictable	Variable
Demand Responsive (Subscription)	Sparse	Predictable	Predictable
Demand Responsive (Advanced Reservation)	Sparse	Variable	Variable
Demand Responsive (Zone)	Dense	Predictable	Predictable
Demand Responsive (Real Time Scheduling)	Sparse	Variable	Variable
Demand Responsive (Connector)	Dense	Predictable	Predictable
Demand Responsive (Flexible Route Segments)	Sparse	Predictable	Variable
Demand Responsive (Route Deviation)	Sparse	Predictable	Variable
Demand Responsive (Zone)	Dense	Predictable	Predictable

3.2 Case Studies

This phase examined several case studies of transit providers who incorporate elements of transit services that may be appropriate for implementation in Prince Edward Island. These elements are broken in to three categories:

- service design;
- fares; and
- governance.

While the transit services may be located in areas with settlement and geographical difference, the same elements may be applied on a scale that is effective for Prince Edward Island. Table 2 lists the services described in these case studies and the elements of transit service that are presented. Details of the case studies are included in , and particularly relevant services are also detailed here.

Table 2 - Elements of Transit Service

	Municipality	Service
Fixed Route, Fixed Schedule	Halifax, Nova Scotia	MetroLink
Fixed Route, Flexible Schedule	Bloomington, Indiana	Express Routes
Flexible Route, Fixed Schedule (Route Deviation)	Fort Worth, Texas	"The T" Rider Request
Demand Responsive (Advanced Reservation)	Winnipeg, Manitoba	DART
Demand Responsive (Zone)	Bloomington, Indiana	County Routes
Demand Responsive (Flexible Route Segments)	Winnipeg, Manitoba	DART
Demand Responsive (Route Deviation)	PRTC	OmniLink
Van pool	Forth Worth, Texas	"The T" Van pool
Corridor Service	Kings County	KTA Transit
Corridor and Seasonal Services	Hancock County, Maine	Downeast Transportation Inc.

Downeast Transportation, Inc. (DTI) – Hancock County, Maine

Service Design

DTI is private, non-profit agency that operates flexible and fixed routes in Hancock County, Maine. The services include: a commuter service that is provided five days per week; contract services to workshops and employment centres; mid-day inter-city services

between three Hancock County cities - Bar Harbor, Ellsworth and Bangor; and a seasonal fixed route service servicing Acadia Park and the Schoodic Peninsula.

The weekday commuter service connects a variety of communities to Bangor, and is currently under review for service revisions.

Intercity services are scheduled on varying days, depending on the geographical area. For instance, the Bar Harbor-Ellsworth-Bangor service, and the Bar Harbor-Southwest Harbor - Ellsworth operate on Mondays, while the Bar Harbor – Ellsworth service operates on Fridays. Each of these intercity routes operate one trip in each direction, from Bar Harbor in the morning and to Bar Harbor in the afternoon.

DTI also operates a seasonal fixed route service, called the Island Explorer, which operates from mid-June to Labor Day using propane-powered 28-passenger vehicles. Service was extended to mid-October for 2007, with a grant from retailer LL Bean. Eight routes comprise this service, providing access to hiking routes, inns, beaches and campgrounds on Acadia National Park island and providing connections to the Bar Harbor Airport and the Bay Ferry terminal (to Yarmouth, Nova Scotia) as well as to neighbouring villages.

A web-based automatic vehicle location system allows users to see the buses' location at any time.

The service began in 1999 with approximately 140,000 trips and this year, is expected to carry approximately 350,000 trips in its extended service period. Rider surveys show that out-of-state visitors comprise approximately 80 percent of the ridership.

Fares

The cash fares for the full year route are $1.00 within one town, $2.50 - $5.00 between neighbouring towns. Rides to Bangor are $9.00 from Bar Harbor and $7.00 from Ellsworth. The seasonal Island Explorer fixed route service is free, with funding support from the National Park Service and LL Bean. The propane fuel option is part of this funding arrangement, helping to secure the participation of LL Bean.

The fare structure used here compares favourably with the fare recommendations for the PEI system, with a base fare for one zone trips and an additional fare for longer trips. This structure is fully explored in the implementation report.

Governance

A Board of Directors was appointed when constituents in Hancock County, Maine established the service in 1979. This Board was formed to govern the organization and focus on policy issues. The issues include providing direction and setting policies for Downeast Transportation Inc., promoting a comprehensive transportation system within Hancock County; monitoring and supervising operations; planning services, overseeing the General Manager; fundraising and budget approval.

The Board comprises a Chair, nine members and two alternates, serving three year staggered terms (which may be consecutive). Board meetings are semi-monthly, and are attended by two standing committees in addition to the Board and the General Manager. An agenda, relevant reports and financial statements are sent to Board members in advance keeping meetings short and informal. The General Manager leads the Board members through these meetings. The Board receives minimal training and receives no administrative support. Board members are not compensated for expenses.

The board reflects the demographics of the area, and is comprised of seven males and three females. Membership is comprised of residents who are interested in transportation. The current board members are the Operations Manager for the Bay Ferry, the National Park Superintendent, representatives from the “friends of Acadia”, transit planners, a housewife and retirees.

Kings Transit Authority – King’s County NS

Service Design

The Kings Transit Authority (KTA) operates service primarily in the Highway 101 corridor throughout the Annapolis Valley in Nova Scotia. The service is designed to serve the towns of Berwick, Kentville and Wolfville, as well as the other communities of the Municipality of the County of Kings.

Service began in 1981, serving the towns of Wolfville and Kentville. Routes passing through the town areas connected the two communities with hourly service, Monday to Saturday.

Service is also provided in the Highway 101 corridor throughout the county, with a local loop in Berwick, also with hourly service, Monday to Friday.

Following this initial service, a route was added in Annapolis County, serving Middleton and Bridgetown, and intermediate communities along the highway corridor. Connections at Greenwood to the Kentville Route allow passengers to travel into Kings County.

More recently, a route was added, extending the network westerly to Digby County, serving Weymouth and Digby with connections to the Annapolis route at Bridgetown.

On September 4, 2007, service was expanded again, with a new eastern route added to serve the communities of West Hants, including Windsor and Brooklyn, with connections to communities in between, and a connection to the Wolfville-Kentville service at Hortonville.

With this last extension, routes now extend almost 200 kilometres along the Highway 101 corridor.

KTA Transit has been historically heralded as a very successful service, uncharacteristic of its small size. In the 2004 Strategic Plan prepared by ENTRA Consultants, this success was attributed to the demographic and demand pattern in the corridor, where a significant portion of the population and employment is located within typical walking distances of the highway corridor. This characteristic of the service is unlike the corridor characteristics on PEI, where initial reliance on park-and-ride will also be required. However, the success and growth of the

KTA service over the years points to the significant potential of a corridor service to attract ridership, and provide a convenient, attractive service to passengers over a variety of distances.

Fares

Fares for all services are $3.00. While it is possible to travel the full length of the network for this price, most travel is quite local in nature, or extends over two routes at most. Cash discounts are extended to children only (age 5 through 11), but monthly passes are available with discounts for seniors and children. No student discount is available.

KTA provides services outside the towns and the Municipality of the County of Kings at 100 percent cost recovery. These services are supported by fares and funded by the relevant local municipalities. Services within Kings County, recovered approximately 60 percent of the operating costs from fares – a cost-recovery level typical of much larger systems.

Governance

The KTA is designed to provide service to the towns of Berwick, Kentville and Wolfville and the Municipality of the County of Kings. The structure of the Authority is governed by an agreement that sets out the various roles and responsibilities, membership and voting structure, cost sharing agreement and legal matters. The agreement has been in place since April 1999.

In addition to the services governed by the KTA, the Authority also operates service outside of Kings County, under contract to the Municipality of the County of Annapolis, Digby County, and the Municipality of West Hants. Services provided to the adjacent communities are fully funded by the communities on a 100 percent cost recovery basis. Representatives of Annapolis County are invited to participate in the regular meetings of the KTA, but do not vote.

County Routes- Rural Transit, Bloomington, Indiana

Service Design

County routes link rural areas with towns, and provide round trip services between specific points within defined zones on varying scheduled times throughout the week. Three counties, which are divided into eight zones, offer this service from approximately 8:00 am to 5:00 pm, depending on the needs of residents, and program availability. Connections to Bloomington Transit conventional and express services can be made through County routes, as can connections to intercity carriers, neighbouring transit systems and Indiana University buses.

These county routes are on a pre-schedule basis, with bookings required at least 24 hours in advance of a trip. Accessible trips can be provided upon request.

Fares

To travel within one county, adult cash fare is .75 and two county trips are $1.50. Transfers to Bloomington Transit and Indiana University buses are free. Reduced fares are available for children, and seniors are asked to donate the full fare amount. The low fare reflects the substantial funding support received by the Indiana Agency on Aging from the federal government.

Governance

The Rural Transit service is operated by the Area 10 Agency on Aging (AOA). In the United States, AOAs are established in each region as part of a national network of organizations established under the 1971 Older Americans Act (OAA) to respond to the needs of older adults. Funded by the federal government, most agencies are established as private non-profit corporations with a Board of Directors drawn from local agencies and public members, and provide a variety of program and funding support to seniors.

MetroLink – Metro Transit, Halifax, Nova Scotia

Service Design

The Halifax Regional Municipality provides accessible service in two corridors, linking outlying communities to downtown Halifax/Dartmouth. This is provided as a premium service, with extra comfort, convenience and passenger amenities. Limited-stop, direct service is available through transit priority measures, and multimodal connections are provided to Metro Transit's bus and ferry services, bike racks and paths in addition to park and ride lots.

Fares

$2.50 cash fare for adults and students with reduced fares for seniors and children, which is .50 more than the conventional Metro fare.

Governance

MetroLink is operated as a service of Metro Transit, a department of the Halifax Regional Municipality. Metro Transit is fully accountable to HRM council for operating and capital budget approval, major project initiatives and significant operating changes and improvements.

Rural Express – Metro Transit, Halifax, Nova Scotia

Service Design

The Halifax Regional Municipality is proposing accessible service in three corridors, linking rural communities and small urban centers to downtown Halifax/Dartmouth. This is proposed as a premium service with provisions for extra comfort, convenience and passenger amenities. The service is proposed initially as a commuter service, with limited midday service and will operate in the Highway 103 corridor from Halifax to Upper Tantallon, in the Highway 107 corridor from Halifax/Dartmouth to Musquodoboit Harbour, and in the Highway 118/102 corridor from Halifax/Dartmouth to the airport and Enfield. Neighbouring East Hants is considering local service serving Elmsdale and Enfield, with connections to the airport and the HRM service.

Initial implementation of the service is expected in Fall 2008.

Fares

Fares are proposed on a zone basis for peak periods, when each of two zones in each corridor is served by separate routes. In off-peak periods, when a single corridor route serves both zones in a corridor, the lower one-zone fare will aply. Ultimately, the corridors will operate in full two-zone format, with a 50 percent premium paid for travel to the second zone.

Governance

The Rural Express service will be operated as a service of Metro Transit, a department of the Halifax Regional Municipality. Metro Transit is fully accountable to HRM council for operating and capital budget approval, major project initiatives and significant operating changes and improvements.

4. Market Analysis

Transit implementation in sparsely populated rural communities can require a range of services to meet the needs of residents who may have differing travel requirements. Similarly, suburban areas of smaller, remote cities, which are more densely populated, may also require alternatives to traditional fixed-route service to meet the needs of residents. There are many parallels between the needs of the rural and suburban commuters, and it is possible to develop a service that is efficiently and effectively meets these needs through innovative service designs. The first step in achieving this design for Prince Edward Island is to assess the travel needs of communities within the defined service area.

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4.1 Geographic Markets

The province of Prince Edward Island has a population of 135,900 living in an area of 5,684 square kilometers. Approximately 65 percent of the population lives in rural areas. In addition to approximately 20 settlements having populations ranging between 1,000 to 7,000 there are two cities that function as centres for the province – Charlottetown, with a population of 32,500 and Summerside with a population of 14,500.

To assess potential markets, population estimates for island zones were determined, as shown in Figure 2. Population estimates are shown in Table 3

Figure 2 - Island Analysis Zones

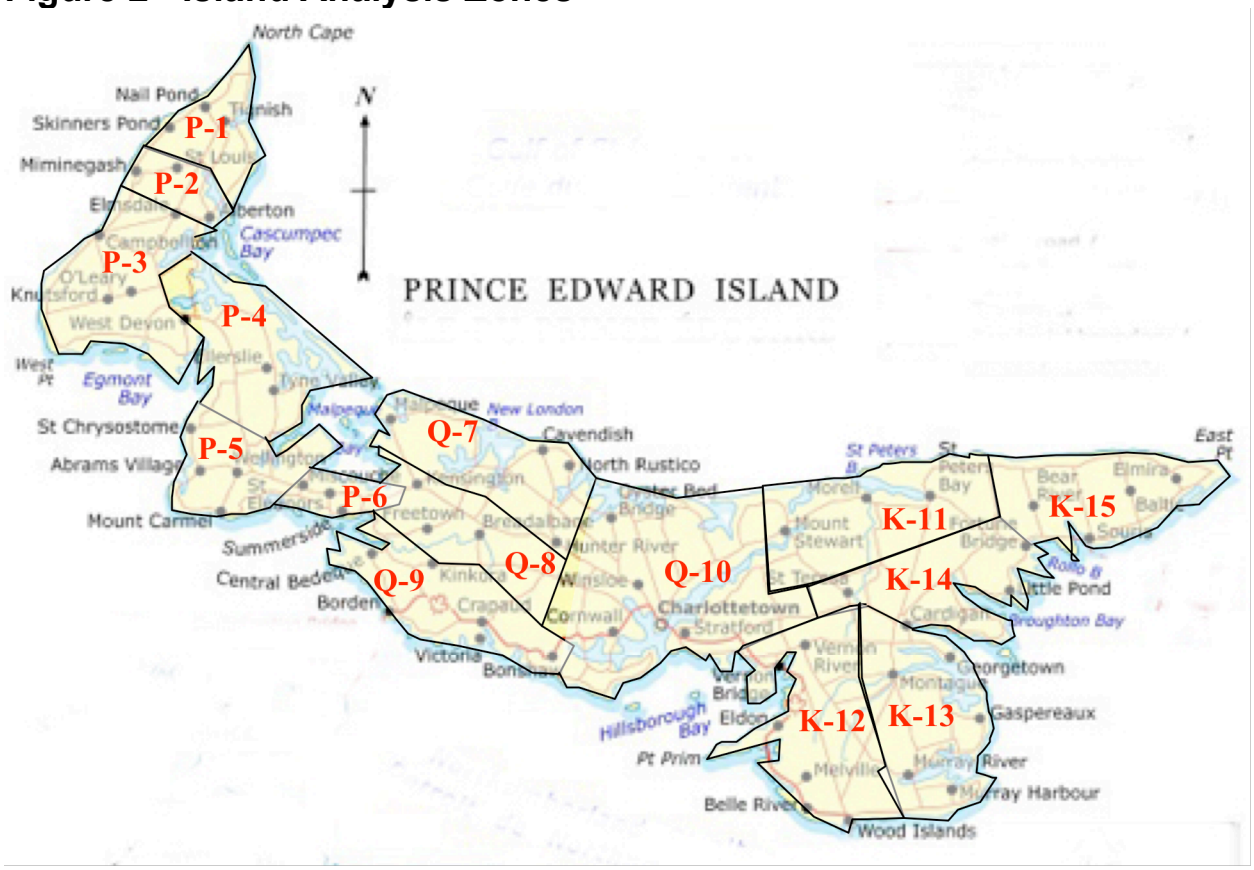


Table 3 – Population Estimates

	Sub-Zone	Urban Communities	Pop.	Rural Pop.	Total Pop.			
1	**Prince-1**		**838**	**5,610**	**6,448**	*4.8%*		
		Tignish	758					
		Linkletter	321					
		St. Louis	80					
2	**Prince-2**		**1,257**	**2,658**	**3,915**	*2.9%*		
		Alberton	1081					
		Miminegash	176					
3	**Prince-3**		**861**	**1,334**	**2,195**	*1.6%*		
		O'Leary	861					
4	**Prince-4**		**478**	**1,396**	**1,874**	*1.4%*		
		Lennox Island	252					
		Tyne Valley	226					
5	**Prince-5**		**667**	**3,394**	**4,061**	*3.0%*		
		Abrams Village	266					
		Wellington	401					
6	**Prince-6(Summerside)**		**15,437**	**884**	**16,321**	*12.2%*		
		Summerside	14500					
		Miscouche	769					
		Sherbrooke	168				**34,814**	**26.0%**
7	**Queens-7**		**1,190**	**3,943**	**5,133**	*3.8%*		
		Cavendish Resort Municipality	272					
		Hunter River	319					
		North Rustico	599					
8	**Queens-8**		**1,657**	**4,381**	**6,038**	*4.5%*		
		Kensington	1,485					
		Breadalbane	172					
9	**Queens-9**		**1,830**	**5,551**	**7,381**	*5.5%*		
		Borden-Carleton	786					
		Bedeque	139					
		Central Bedeque	149					
		Crapaud	353					
		Victoria	77					
		Kinkora	326					
10	**Queens-10 (Charlottetown)**		**47,199**	**11,956**	**59,155**	*44.2%*		
		Charlottetown	32,174					
		Cornwall	4,677					
		Stratford	7,083					
		Winsloe South	198					
		Brackley	336					
		Clyde River	618					
		Meadowbank	364					
		Miltonvale Park	1,163					
		Union Road	245					
		Warren Grove	341				**77,707**	**58.1%**
11	**Kings-11**		**952**	**1,012**	**1,964**	*1.5%*		
		Morell	306					
		Mount Stewart	261					
		St. Peter's Bay	248					
		Scotchfort	137					
12	**Kings-12**			**3,232**	**3,232**	*2.4%*		
13	**Kings-13**		**2,590**	**6,370**	**8,960**	*6.7%*		
		Montague	1,802					
		Murray Harbour	358					
		Murray River	430					
14	**Kings-14**		**666**	**1,426**	**2,092**	*1.6%*		
		Cardigan	374					
		Kings Royalty	292					
15	**Kings-15 (Souris)**		**1,232**	**3,829**	**5,061**	*3.8%*		
		Souris	1232				**21,309**	**15.9%**
	PEI		**76,854**	**56,976**	**133,830**			
			57.4%	*42.6%*	*100.0%*			

4.1.1 County Profiles

The island is divided into three counties: Prince, Queens and Kings. Of these, Queen's County is the most populous and contains the largest proportion of urban dwellers. Queens

County comprises more than half of the island's population and almost two-thirds of the urban dwellers, With the main centre of Charlottetown, this makes Queens County the natural focus of commuter and community connectors. The Cavendish area in Queens represents an important seasonal demand area, with the potential for both tourist and employee trips. Outside of the main tourist season, this area may only warrant informal community services to connect to other centers or the corridor transit service.

Prince County is the second largest county, with about 26 percent of the total population and about 20 percent of the urban dwellers, mostly focused in the City of Summerside and a few key centres, such as O'Leary, Tignish and Alberton. Much of the remaining population, including in areas such as Tyne Valley, is focused along the main Highway 2 corridor, or effective alternative routes. Tignish and Alberton in Prince County and Montague and Souris in Kings County (see below) make up the largest urban concentrations outside of Charlottetown and Summerside, and are also the most remote centres from Charlottetown, making these areas ideal candidates for commuter-based services in addition to community connectors.

Kings County is the smallest county in terms of population, and the largest in terms of area, making it the least dense of the three counties. Kings is also the only one of the three counties with more rural dwellers than urban dwellers. This will make transit service to Kings a particular challenge in terms of service efficiency. Another complicating factor for Kings is the spatial arrangement of the smaller population along two highway corridors. In Prince and Queens, most of the population is focussed on the main trunk highway, and in the case of Queens, there is clear seasonal demand for the one alternative corridor serving the Cavendish area. In Kings, the most efficient service may be forced to choose between service in the Highway 2 corridor serving the north shore and Souris, versus the Hwy 3-Hwy 4 corridors serving Montague and communities in the southeast such as Georgetown Murray Harbour and others. Also, distances to Charlottetown from key centres in Kings are shorter than from Prince County, making it even more difficult to attract drivers and passengers to transit.

4.1.2 Community Links

Establishing links between individual smaller communities, and linking these communities to the main corridor services will require community-based solutions, since there is likely insufficient demand to support a fixed route service.

This might include:

- collaborating with employers who arrange to car or van pool employees to stop(s) on core service route;
- collaborating with courier and taxi services; and
- promoting and developing car and Van pool services, supported by volunteer networks, and such.

4.2 Demographic Markets

4.2.1 Commuters

Employment-based commuters are a significant portion of peak period travel in the Charlottetown-Summerside corridor in both directions. Slemon Park, Cavendish Farms, the

GST Tax Centre and other employment sites in Summerside, account for almost 2000 regular and seasonal jobs.

Charlottetown and Summerside are also significant destinations for peak-based commuter trips, drawing commuters from the smaller communities across the island. In total, approximately 55 percent of the employed labour force on the island (about 32,000 employees) reported a place of employment outside of the municipality or county where they lived in the 2006 census.

Outside of Charlottetown and Summerside, employees commute to work outside their community of residence almost as often as they work in their community of residence. For example, in O'Leary, 50 percent of the employees leave the community for work, and in Alberton, 45 percent. In Montague, the percentage of residents working in another community is about 40 percent and in Souris, about 35 percent. In Kensington, almost 75 percent of the employed labour force works in another community.

Many commuters travel to Charlottetown and Summerside, with their large concentrations of employment.

4.2.2 Post-Secondary Students

This may be an important medium- to long-term market, allowing students the future opportunity to remain at home and commute…making post-secondary education a more realistic option.

Post-secondary students represent a good potential market for connecting services to Charlottetown as well as Summerside. This may be an important medium- to long-term market, allowing students the opportunity to remain at home and commute rather than relocate to Charlottetown. The financial advantage of living at home makes post-secondary education a more realistic option for many young people. Holland College students also commute from Charlottetown and other areas of the island to the Slemon Park campus in Summerside.

4.2.3 High School Students

The vast majority of high school students without access to a car are transported to school by the school Districts, and there is little opportunity to capitalize on this market.

However, there is a significant opportunity for a transportation service providing after-school bussing, giving students the opportunity to remain late or return to school for extra-curricular activities. This role is currently being performed by parents and represents an excellent potential market.

4.2.4 Seasonal Employees

Seasonal employees also represent a substantial market, particularly in the Cavendish area during the summer months. Secondary markets include coastal fish and seafood processing operations, and these may also represent potential partners for the service.

Seasonal employee shortages (estimated at more than 300 in the Souris area and more than 400 in West Prince in 2007), can be assisted by the provision of reliable and affordable transportation services and will prove more economical and practical than importing and housing temporary workers from abroad.

4.2.5 Tourist Market

The tourist market is an important part of the Prince Edward island Community, and can form an important seasonal market for transit services. While the majority of 1.6 million travellers arrive by private auto (more than 85 percent), the remaining portion (more than 240,000 visitors) still represent a substantial market opportunity. Of these, approximately 50,000 arrive by plane, and this sector has been increasing in recent years. The remaining portion arrives by coach, primarily tour coaches, but still represents a potential market for some trips.

Even the private auto market is a potential market for tourist-related services in major tourist areas. For example, tourists could be attracted to a seasonal service connecting Summerside and Charlottetown to the Cavendish resort area.

4.2.6 Seniors

Seniors represent a smaller, but growing, more dispersed market than the employee and student commuter, but a critical market to serve in terms of mobility and access to services. Seniors represent approximately 15 percent of the population of PEI, about 10 percent higher than the Canadian average of 13.7 percent. The urban areas surrounding Summerside and Charlottetown accommodate approximately 66 percent of the total population, but only about 54 percent seniors' population. Seniors, therefore, are proportionally more numerous in rural PEL where transportation is often more difficult. This can confront seniors with the painful choice between moving to Charlottetown away from long-time friends and neighbours or foregoing a necessary course of treatment.

Access to medical services at the regional hospitals is a critical issue, and will drive demand for trips to Souris and Montague in Kings County, and Alberton and O'Leary in Prince County, and reinforce demand for travel to Charlottetown and Summerside from across the island.

The potential centralization of hospital facilities in Bloomfield in the future will reinforce this demand for travel in West Prince.

4.2.7 People with Disabilities

Services provided by operators such as Transportation West accommodate the needs of people with disabilities to reach program and facilities outside of their area. Such services will be enhanced by interfacing with an island-wide system.

4.2.8 First Nations Communities

The First Nations communities on Prince Edward Island, represent both a potential market and potential community partner. The locations of some of their population centres will make some of these communities difficult to efficiently serve. On the other hand, these communities have access to specialized programs and funding sources that could be used to leverage additional funds and support complementary transportation services.

5. Service Standards

Service standards are established by transit services for two principal reasons: to establish the minimum service levels and quality of service to make the service attractive, and to assist in the fair and equitable distribution of scarce resources.

Service standards typically include:

- service level standards, including span of service, and service frequency
- route design standards, including stop locations, station locations and amenities and the like
- performance measures to guide the monitoring and control of the service on an on-going basis

Without minimum service standards a system risks reducing service levels to a point where the system is no longer attractive to passengers. This begins a cycle of decline and elimination. At the same time, minimum performance levels ensure that the service remains affordable, and that remedial action is identified and implemented when routes are not performing to standard. This ensures that resources are allocated to different routes, or to different operating periods in the most effective and efficient manner.

Service standards, when developed and implemented, facilitate communication to communities requesting service, demonstrating how the service is designed, and how and why resources are allocated. This becomes an important tool for consensus building.

Service standards were developed for the proposed system reflecting its character as a commuter service and a service connecting different commuters, rather than as an urban system primarily providing transportation within a community. These standards differ from typical urban transit standards in several ways, for example designating a minimum number of trips rather than minimum frequency.

5.1 Service Objectives

As the basis for this service, the PEI Public Transit Coalition established the following service objectives.

1. Provide accessible transportation to residents of PEI.
2. Increase opportunities for travellers to transfer from low occupancy to higher occupancy modes.
3. Reduce personal vehicle kilometers and associated pollutant emissions.
4. Encourage peak hour traffic volume reduction.

In meeting these objectives, the service will be based on standards which reflect the needs of commuters, employees, employers, students, seniors and persons with disabilities.

5.2 Service Types

5.2.1 Commuter Connector

Commuter Connectors are designed to connect commuters to their jobs, with fast, direct convenient service. These routes serve primarily daytime commuters, with the flexibility to accommodate a range of daytime shifts.

The intent of the Commuter Connector is to be competitive with auto travel in terms of speed, cost and convenience.

5.2.2 Community Connector

Community Connectors are designed to connect communities to each other, including workers and students to jobs and schools, residents to medical and shopping opportunities in other communities, and the full range of social opportunities.

Fixed Route Service

Fixed route service will operate on core highways, connecting communities to each other, and providing access through park-and-ride and passenger drop-off opportunities at highway intersections.

These services will operate on fixed schedules, with routes that deviate to serve major attractors, but with a consistent route.

5.2.3 Community Support Services

The development of a truly island-wide network will rely on a finer network of transportation services to provide links between the smaller centres and the Commuter and Community connectors.

The development of this support network is anticipated in the selection of governance Option 2C, where an arms-length agency is responsible for the planning and operation of the main network, and also responsible for supporting and promoting the development of the community support services.

Community support links will include formal and semi-formal services, based in local communities, and include:

- taxi services;
- local providers, such as Transportation West;
- rideshare programs;
- Van pool programs;
- volunteer drivers; and such.

During the consultation sessions, some residents reported that a type of cooperative transportation was already in place– precisely because of the lack of transit alternatives.

The role of the transit agency will be to support the existing and emerging cooperating groups to develop as fine a support network as possible.

Support for these groups might include:

- information sharing;

- resource coordination;
- small start-up seed funds;
- subsidies for insurance or fuel;
- administrative support.

5.2.4 Local Urban Transit

Local urban transit services may also be provided within larger urban communities (such as Summerside) could provide either fixed route or demand responsive services. Like the Community Connectors, there may be alternative service delivery options in smaller communities that rely on more informal transportation arrangements.

5.3 Service Standards

Consultation with the community, combined with a survey of service requirements and analysis of the costs and efficiencies of different service levels, have been used to establish the basic levels of service required for the various island service concepts. The standards are summarized in Table 4 and additional details of these standards are provided in .

Table 4 - Service Standard Summary

Guideline	Commuter Connector	Community Connector	Community Support
Service Area	Serving and connecting major employment areas	Urban and rural centres across the island	Island-wide, where appropriate
Hours of Service	Focused on morning and afternoon peaks	Based on demand	Based on demand
Levels of Service	Minimum 3 trips in AM and PM, plus additional off-peak trips	Based on demand, but focused more on all day travel. No prescribed minimum service	Based on demand
Travel Time	Target within 10 percent of auto travel time	Minimized where possible, subject to ridership patterns	Not Applicable
Stops	Located at major attractors and generators only, to minimize travel delay	Based on demand patterns, flag stop where appropriate	No formal stops. Based on demand patterns, flag stop where appropriate

5.4 Performance Indicators

Effective monitoring is crucial in maintaining effective and attractive services that meet customers' needs. Performance measures are designed to provide service planners and decision-makers with a yardstick by which to assess the service and identify the need for

service changes in a manner consistent with the service standards, ensuring fair and equitable service for all.

These proposed services provide a range of service types, meeting different market needs, and the performance measures need to reflect these different service types and needs. For example, a typical urban transit measure examines passengers carried per vehicle hour, and sets minimum standards for these to reflect affordability, and sets maximum measures to ensure sufficient service without overcrowding. This standard can be appropriate for the proposed community connectors, which will serve a variety of markets over the length of the route, and see passengers boarding and alighting at many stops throughout the route.

In services that primarily connect one community to another over longer distances, such as the proposed commuter connectors this typical urban transit standard is not appropriate, since the number of passengers is typically much lower (since passengers are normally getting on and off along the route, but tend to all ride to just a few longer distance points), and so cost per passenger-kilometre is often used for these types of services. This factor measure calculates the cost of the service divided by the sum of the distance each passenger travels (available from ticket data). If more passengers ride, or ride further, or both, then this performance measure improves. Alternatively, if the same combination of passengers and distances are accommodated at lower cost, then this measure also improves. Since this measure includes a component of costs, elements of which naturally increase from year to year, this fact must be taken into account when measuring year-over-year performance.

The other key measures for the service reflect the basic transportation function of the service – ridership. Two ridership measures are proposed, one to measure the overall performance of routes and the system, and one to measure individual elements of the service.

Therefore, basic indicators should include:

- ridership, tracking period-over-period change, monitored monthly and annually;
- ridership by stop, assessing the relative performance of stop locations; and
- cost per passenger-kilometre and passengers per vehicle-hour.

The first two ridership performance measures of effectiveness are used for assessing the overall performance of the route, and reporting progress. Both of these measures should increase over time, and year-over-year comparisons are effective for plotting progress. Any declines in these measures should signal a need to more closely examine the service to identify the cause of the decline and identify potential remedial actions.

The efficiency indicators of cost per passenger-kilometre and passengers per vehicle-hour also incorporate measures of affordability for the system, and should have minimum thresholds associated with them. If the indicator approaches or falls below the minimum threshold, then serious consideration is given to changes that can improve the measure. If no such remedial actions are available, provision of the service should be reconsidered.

Individual results may vary considerably between the corridors. This raises the issue of establishing individual performance measures for each corridor, or an average performance measure for the combined corridors. ENTRA recommends that a combination of both be

used – an average calculation for the all of the corridors combined, with a single threshold calculation, combined with a minimum threshold for each corridor or route segment.

5.4.1 Commuter and Community Connectors

The recommended average threshold for all segments and corridors combined, is $0.50 per passenger-kilometre, with a minimum for any segment or corridor of 2 times this amount, or $1.00 per passenger kilometre.

Community connectors should also be assessed in terms of boardings per vehicle-hour, for the service time spent within the communities. This will help planners and administrators assess the local community routing, the number of stops

5.4.2 Community Support Services

Community support services, by the nature of their route and service delivery methods, do not lend themselves easily to strict performance monitoring. Ridership measures are still important, to track the effectiveness of the service. However, strict efficiency measures may only serve to stifle the creativity and community support required for these services and are not recommended.

5.4.3 Local Services

For local services, the more traditional measure of boardings per vehicle-hour is recommended. Specific threshold levels will need to be determined for each specific local service, where they are provided.

5.5 Data Collection Requirements

Basic data collection to facilitate performance monitoring will be required for these services. This includes ridership counts, calculation of passenger-kilometres, total hours and kilometres of operation, and fare classifications.

Ridership counts by trip could be available through driver counts or trip sheets, allowing monitoring at very low cost. The other required operational data (hours, kilometres, vehicles and such) will be available from scheduled trip information and operators.

If electronic fare media is implemented in the future, this technology will provide much of the ridership data required, and all of the data if passengers use their card when both boarding and alighting, which is certainly feasible in this type of distance-based operation.

Other transaction tracking methods are possible, but most of these track purchase, not use, and are less effective for ridership monitoring. Other on-board data collection methods are available, principally automatic passenger count (APC) technology. In its current form, APC technology will add approximately $10,000 per vehicle, plus approximately $100,000 in related system costs. This includes the cost of automatic vehicle location (AVL) sytems desirable to support the APC system. However, AVL systems also have additional benefits beyond the APC system that can help to justify this cost, including customer communication, operations and dispatch tracking. In fact, AVL may be considered on its own, as first step towards the APC data collection, because of its lower cost and associated benefits. AVL systems will provide comprehensive data on vehicle operations, including travel times, delays, vehicle-kilometres and the like.

6. Strategic Service Conclusions

The proposed transit service is based on a three-level hierarchy of service, plus a level of local routes within communities, which are not recommended at this time.

The three levels of service include commuter connectors, connecting urban centres to Charlottetown and Summerside, community connectors, connecting one community to another, and including communities such as Souris, Montague, O'leary, Alberton and Tignish, and community support services facilitating connection from other communities to the proposed route systems or other urban centers.

6.1 Transit Service Objectives

Public transit on Prince Edward Island needs to:

- connect various communities to the two principal employment destinations – Charlottetown and Summerside;
- provide access to significant destinations and from other parts of the island:
  - population concentration zones;
  - learning centers;
  - hospitals; and
  - industrial centers;
- provide competitive and convenient travel solutions, especially for commuters;
- provide inter-community connections and connections to principal transit routes; and
- provide travel options within communities.

To achieve these objectives, two route components have been examined for this preliminary phase of the analysis. In this analysis, each of these is examined separately as an individual link component, to determine the operational characteristics and resource requirements. In the second phase of this study, link components will be assembled into the most effective and efficient route networks. Components include:

- main connector components; and
- community connector components.

This section outlines the preferred corridors for service to meet the demands of the major travel markets. The corridors presented here are not specific routes necessarily, but represent the areas where transit will travel. Specific routes and associated demand and ridership levels are described in the subsequent sections.

6.1.1 Main Commuter Connector Design

The market assessment identifies the commuter market as a principal area for transit. The principal commuter markets are naturally between the urban centres – the major attractors and generators of all employment travel.

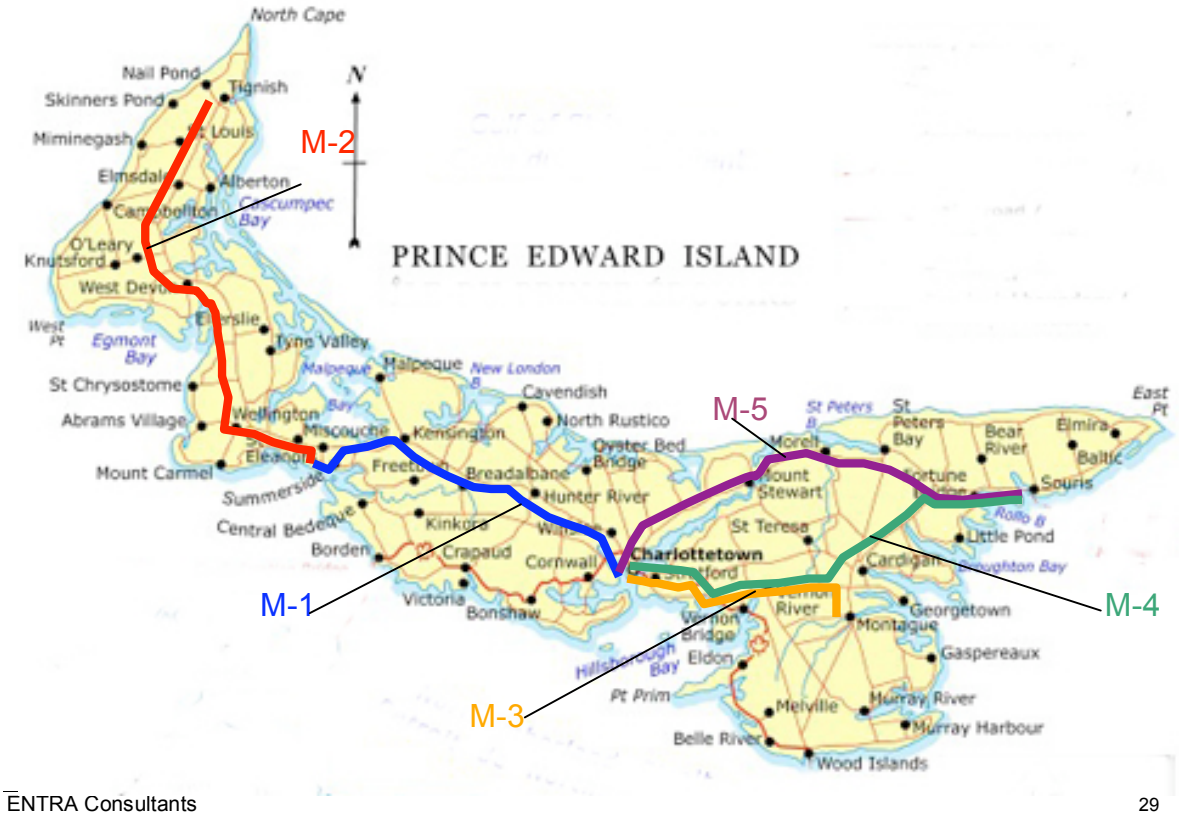
The analysis of commuter connector components is based on:

- fast, direct route using the trunk highways;
- connection between principal population centres to Summerside and Charlottetown;
- service to significant Island attractors and destinations with passenger amenities and park-and-ride facilities; and
- maximum frequency in peak periods, with off-peak frequencies geared to local demands.

The main commuter connector components include five key connections using the trunk highway system, as shown in Figure 3.

- **M-1** : Summerside - Charlottetown (HWY 2);
- **M-2** : Tignish - Summerside (HWY 2);
- **M-3** : Charlottetown - Montague (HWYS 1,3,4);
- **M-4** : Charlottetown - Souris (HWYS 1,3,4); and
- **M-5** : Charlottetown - Souris (HWY 2).

Figure 3 - Main Connector Components



6.1.2 Community Connector Design

Community Connectors are less dependent on travel demand, but reflect more the need for specific market groups to travel between communities – especially seniors, residents without access to an automobile, including students and youth, and others.

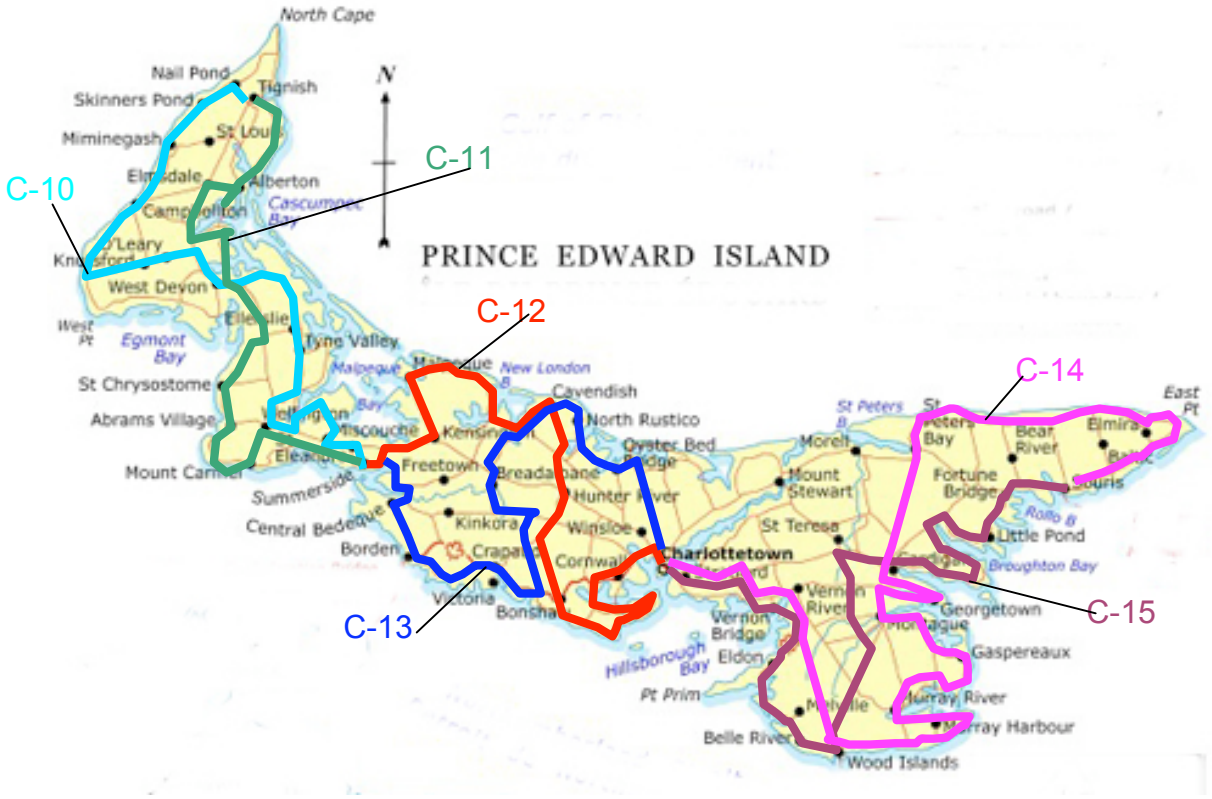
The analysis of community connector components is based on:

- service to the same terminal points as the commuter connectors;
- more direct service to communities removed from the main trunk routes; and
- service to a wider range of travel needs.

The community connector components include six links designed to test connections, community links and access to main connector routes, as shown in Figure 4:

- **C-10** : Tignish - Summerside (West Cape, Tignish, O'Leary, Tyne Valley, Summerside);
- **C-11** : Tignish - Summerside (Tignish, Alberton, Abram Village, Summerside);
- **C-12** : Summerside - Charlottetown (Summerside, Kensington, Cornwall, Stratford);
- **C-13** : Summerside - Charlottetown (Summerside, Borden-Carleton, Rustico/Cavendish, Charlottetown);
- **C-14** : Charlottetown - Souris (Charlottetown, Murray River, Fairfield. Souris); and
- **C-15** : Charlottetown - Souris (Charlottetown, Flat River, Georgetown, Souris).

Figure 4 - Community Connector Components



6.2 Service Level Assessment

Service levels were assessed by comparing travel time between various destinations and Charlottetown as a base, with assumptions including:

- minimal wait time for bus, based on reliable, well-communicated schedules;
- typical auto travel speeds for auto components and bus travel; and
- standard bus dwell times at stops.

Travel was assessed using direct travel, transit transfers, or drive to park-and-ride options, depending on locations relative to the link components.

Additional details of this analysis are presented in .

7. Fare Systems

A fare system requires fare structures and policies, a fare table, selection of a fare payment technology and the design of an implementation plan. To ensure the system will be robust in the P.E.I. context, the proposed fare system was evaluated against those used by other transit authorities that provide comparable longer distance transit services.

A number of assumptions can be made that provide a framework for the development of a fare collection system:

- There are no legacy fare systems that must be integrated with the new fare system
- The target cost recovery ratio for the new fare system is approximately 30 to 40 percent
- Fares that vary based on the distance travelled are appropriate to the P.E.I. public transit system requirements
- Fares need to be set at rates that are competitive with the cost of driving an automobile[2]

Considering the experience of other transit authorities and the results of the needs assessment, the fare system for P.E.I.'s new public transit service needs to:

- Be simple—easy for passengers to understand and perceived as being equitable and fair
- Provide passengers incentives—encouraging frequent and regular ridership
- Employ progressive technology—enhance opportunities to develop techniques to attract new ridership and effective passenger information services
- Be affordable—reasonably priced and manageable with limited operating staff
- Be convenient—ease passenger effort to purchase fare media, make fare payments and enquire about fare payment history
- Be flexible—facilitate efforts to devise innovative fare policies to target niche ridership markets

7.1 Fare zones and Levels

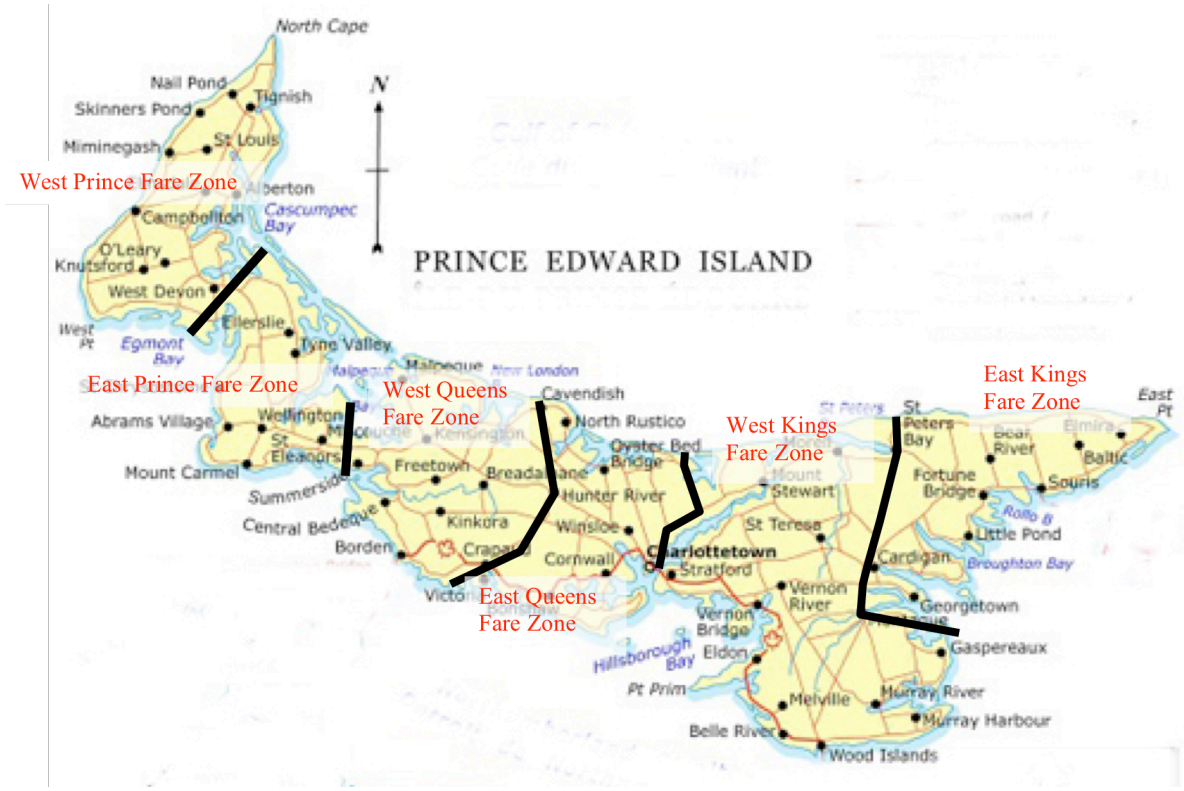
7.1.1 Fare Zones

Distance-based fares appropriate for the large distances to be serviced by P.E.I Transit, require zones to be established by dividing the province into six transit fare zones as shown in Figure 5.

[2] [2] Estimates are based on the following: at $1.20 per litre and 10 litres per 100 km. automobile fuel efficiency, fuel costs about 12¢ per km.; maintenance, cleaning, parking, etc. adds another 8¢ per km. bringing the target fare to $20¢ per km. Depreciation and insurance are not considered since it is likely that a passenger will still own her/his car even though she/he travels by transit. Of course, for those passengers that have a driver's license but do not own a car, the cost of driving is considerably more.

The zone boundaries straddling both Charlottetown and Summerside have been established to enable travel from anywhere in Charlottetown to/from anywhere in Summerside for the base fare.

Figure 5 – Fare Zones



The fare for a single journey (including a transfer if required) anywhere within two adjacent fare zones will be established as the base fare. For travel into a third fare zone, the passenger will be required to pay a 50 percent zone fare supplement. It may be appropriate to expand this system to include subsequent zone supplements to be paid for each zone boundary crossed. However, given the limited number of passengers expected to take longer distance trips, and the longer travel times associated with making this trip on the community connector service, it is recommended that fares be capped at a 3-zone payment.

Table 5 – Zone Travel Examples

Origin	Destination	Zone Boundaries	Fare Basis
Tignish	O'Leary	None	Base Fare
Tignish	Tyne Valley	One	Base Fare
Tignish	Summerside	Two	Base plus Supplement
Tignish	Charlottetown	Three	Base + Supplement (capped)
Summerside	Charlottetown	One	Base Fare

Summerside	Stratford	Two	Base plus Supplement
Summerside	Montague	Three	Base + Supplement (capped)
Charlottetown	Montague	One	Base Fare
Charlottetown	Souris	Two	Base plus Supplement
Montague	Souris	One	Base Fare

Fares should be the same whether travel is via the commuter connector, the community connector routes, or a combination of both.

7.1.2 Average Fares

Table 6 illustrates target average fares. The average trip distance is provided for the five main connector links labelled M1 to M5.

Table 6 – Average One-way Fare by Zone

Fare Zone	Max. Trip Distance Across Zone	Avg. Trip Distance Across Two Zones	Fare at 15¢ per km	Fare at 20¢ per km
Prince West	40 km	M2 – 40 km.	$6.00	$8.00
Prince East	40 km			
Queens West	35 km.	M1 – 49 km.	$7.50	$9.80
Queens East	30 km.			
Kings West	40 km.	M3 – 25 km.	$3.75	$5.00
Kings East	40 km.	M4 – 43 km	$6.45	$8.60
		M5 – 40 km	$6.00	$8.00

To establish a simple base fare for two-zone travel across the province, to provide adequate revenue and to make the service as attractive as possible, an initial $6.00 average two-zone base fare was established. This average fare includes both undiscounted cash fares, and discounted fares.

Discount fares can take two forms. Concession fares are those discounts made available to different passenger classes – usually based on age – such as seniors or children. Volume discounts are those based on the amount of travel and frequency of use.

For a passenger-friendly simple fare system, it is recommended that the one-zone supplement be set at 50 percent of the two-zone fare. This would mean that the average fare for travel in one direction across three zones would be $9.00.

To the extent that the public transit authority decides to offer discounted fares for certain passenger classes and for certain pre-purchase commitments, the non-discounted fares need to be set higher than $6.00. This must compensate for the discounts offered and net out at a $6.00 average fare.

It is recommended that a base fare be established for each passenger class and that all discounts for this passenger class be indexed from this base fare.

The following passenger classes are recommended:

- Adult—older than 13 yrs and not either a high school student or a post secondary student
- Post Secondary Student—in full time attendance at a certified post secondary institution
- High School Student—in full time attendance at a high school
- Senior—65 years and older
- Youth—5 years to 12 years
- Child—1 year to 4 years
- Infant—under 1 year
- CNIB passenger—in possession of a valid CNIB card

Based on these passenger classes, and proposed discounts for volume purchases, a base cash fare of $7.00 is recommended. As shown in Table 7 , this will provide a wide variety of discount prices less than this base fare, and, based on estimated percentages of ridership and purchase in each category, will likely result in a net average fare of approximately $6.00. Details of the fare table template, showing each of the specific percentage discounts, are included in Appendix D.

Table 7 - Suggested Fare Table

	Cash		Smart Card									Smart Ticket
Passenger Class	Single Ride Fare	One Zone Cash Fare Supp't	1-Ride Fare E-purse	10-Ride Booklet Single Fare	10-Ride Ticket Booklet Price	Monthly Pass Single Fare	Monthly Pass Price at 42/mo	Semester Pass Single Fare	Semester Pass Price (4 mo)	Day Pass S/C Fare	One Zone S/C Fare Supp't	Day Pass
Adult	7.00	3.50	6.65	6.30	63.00	5.60	234.20			13.30	3.15	14.00
Post Secondary Student	7.00	3.50	6.65	6.30	63.00	5.60	234.20	4.20	697.60	13.30	3.15	14.00
High School Student	7.00	3.50	6.65	6.30	63.00	5.60	234.20	4.20	697.60	13.30	3.15	14.00
Senior	4.20	2.10	3.99	3.78	37.80	3.50	147.00			7.98	1.89	8.40
Youth	4.20	2.10	3.99	3.78	37.80	3.50	147.00			7.98	1.89	8.40
Child	4.20	2.10	3.99	3.78	37.80	3.50	147.00			7.98	1.89	8.40
Infant	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free	Free
CNIB	4.20	2.10	3.99	3.78	37.80	3.50	147.00			7.98	1.89	8.40

7.1.3 Transfers

Passengers that have paid the proper fare when boarding the first bus should be permitted a free transfer to the next available connecting bus on that day. Stopovers should not be permitted. There is no stipulated transfer time validity period.

7.2 Fare Collection System

7.2.1 Fare Purchase

Passengers should be encouraged through fare discounts to purchase tickets or passes prior to boarding the bus, but also permitted to pay their fares with cash at the time of boarding the bus. Given the value of the distance-based fares, it will likely be necessary to have drivers make change, meaning it will be necessary to establish protocols for cash dispensing, security, reporting, return and reconciliation.

Other on-board technologies, such as wireless debit may also be considered. However, given the transaction time required for these devices (up to 20 or 30 seconds for data entry and a similar time for transaction communication), it may be necessary to limit the availability of this type of transaction to major terminals where stop time is built in to the schedule, and preclude them from stops along the route. Another factor in precluding these technologies at in-route stops is the availability and reliability of wireless coverage throughout the route. For the sake of consistency, wireless transactions, if pursued, should only be accommodated where coverage can be consistently ensured. For the early stages of implementation, this technology is not recommended, but may warrant further investigation.

7.2.2 Fare Media

It is recommended that fare payment be accept in any one of several ways:

- Exact cash fare
- Period passes, loaded on a smart card, which are valid for unlimited travel for the pass holder for the duration of the period, primarily for one month or for a four month semester
- Tickets or ride tokens, loaded on a smart card, which are valid of one continuous journey through two fare zones for one passenger of the appropriate passenger class
- Money paid from an electronic purse, loaded on a smart card, which will be used to pay for a single journey fare or a fare zone supplement for a passenger in the appropriate passenger class
- Day passes, loaded on a smart card or provided on a non-reloadable smart ticket, which are valid for unlimited travel by the pass holder during the day of the pass validity

Paper transfers should be provided on request to cash fare passengers. For smart card and smart ticket fare passengers, the transfer will be automatically encoded on the smart card or smart ticket.

To ensure flexibility in the fare structure and policy, electronic fare media must be adopted after the initial launch of the service. While some flexibility can be accommodated by magnetic stripe tickets and passes, a number of the more important ridership growth and retention capabilities can only be provided with a smart card based fare collection system.

There are a number of additional qualitative benefits that can be expected from a smart card fare payment system:

- Virtual elimination of transfer and pass fraud
- Availability of accurate ridership and enriched fare system performance information
- Greatly enhanced flexibility to adjust fares and create innovative marketing and fare policies
- Ability to add other applications to the system relatively simply such as:
  - E-purse to pay for other provincial services
  - Secure access to provincial services
  - Non-transit applications that can ‘rent’ space on the smart card and provide revenue
- Enhanced perception of quality of life in Prince Edward Island through a high-tech payment card that makes riding transit more chic and is fully supportive of both the province's growth and development objectives and its progressive development initiatives
- As more passengers pay their fares with the smart card, cash will be used less and the reduced costs to operate the cash based system can possibly be passed on through fare savings
- Potential for ridership growth through ease of use—simple to recharge monthly passes by telephone and on the Internet thereby avoiding need to line up and pay in person, and
- Long service life for smart cards—expected to last up to four years before replacement

7.2.3 Fare Collection System

While the fareboxes used must be able to accept both coins and banknotes for cash riders there are two alternative approaches available:

1. The farebox can be equipped with a mechanism that will automatically read, validate and record the cash fare payment. This will make it easier for the driver to be certain that the correct amount has been deposited and will provide an automated record of the cash fares collected.

   With a proper farebox validation capability, it is also possible to permit passengers to load value onto their smart cards on board the bus. This passenger convenience, however, is not recommended because of the potential negative impact on boarding

times. The smart card reader and fare payment transaction processor are integrated with the validating farebox. The validating farebox solution is a significantly more expensive alternative.

2. The farebox can be a simpler mechanical drop box that does not have the ability to read and record the cash deposited automatically. The smart card reader and fare payment transaction processor would be a separate device installed beside the farebox. This mechanical farebox solution is a significantly less expensive alternative.

Regardless of the farebox selected, a good smart card fare management system is recommended. This system includes the software, hardware and operating protocols required to manage the entire lifecycle of a smart card that is used for transit fare payment. This includes issuing, initializing, registering, personalizing, loading, revaluing, replacing, hot-listing, restocking and redeeming all cards issued.

7.3 Fare Policies

To preserve the relative relationship among the various fare discounts offered to different passenger classes, it is recommended that a fare table be created with each fare established as a function or multiple of the adult single-journey cash fare. When the adult single-journey cash fare changes, the entire fare table is adjusted accordingly.

The fare table indicates that fare payment can be made in any one of three ways:

- Cash deposited in the farebox;
- Reloadable smart card that will be configured with an electronic purse for single journey e-cash fares and zone supplements, ride tokens loaded on the card in lots of ten, monthly and semester passes and one-day passes; or
- Non-reloadable smart ticket, configured as a day pass, intended to be purchased by visitors and infrequent riders.

The following discount guidelines are recommended:

- Same concession fare discount structure should be established for senior, youth and CNIB passenger classes;
- Fare discount structure for post secondary student and high school student passenger classes should be identical to the adult passenger class fare discount structure except that both student classes should be able to purchase a discounted semester pass; and
- Infant passengers and one child passenger travelling with a fare-paying passenger should be able to travel for free; any additional child passengers travelling with a fare-paying passenger should be required to pay the appropriate child passenger fare.

7.3.1 Day Passes

Presenting a day pass when boarding a bus will permit the pass holder to ride as many times on as many buses as she or he desires during the day of pass validity. Day

passes can be purchased and loaded onto a smart card at any time or can be purchased on a smart ticket at a premium price if the passenger does not have a smart card. In either instance, when the day pass is first presented for travel, the date of use is encoded on the smart card or smart ticket making it valid for the duration of that calendar day. Day passes should not be transferable.

7.3.2 Photo ID and Non-Transferable Passes

It is recommended that passes not be transferable among passengers and that they only be used by the individual to whom the pass was issued.

All smart cards should carry a photograph of the cardholder to permit the driver of the bus to ascertain that the pass is being used by the individual whose picture appears on the smart card. Passengers should be required on request to display the photograph on the smart card to the driver.

If a passenger asks to be charged a reduced concession cash fare or presents a concession day pass for fare payment, the driver can request that the passenger provide some form of acceptable proof of entitlement for the concession fare. Appropriate proof of entitlement needs to be stipulated such as birth certificate, OAS card, Health Card, driver's license, etc.

7.3.3 Bulk Purchase Discount

A bulk purchase discount program should be established and employers encouraged to purchase adult monthly passes and resell them to their employees at a price not greater than the bulk purchase discounted price. Employers that wish to attract employees to work at their organizations by providing a travel subsidy should be encouraged to resell these monthly passes at a lower price that the bulk purchase discounted price.

The recommended bulk purchase discount is one free adult monthly pass for every nine adult monthly passes that are purchased at the full fare price. This is equivalent to a 10 percent volume price discount.

7.3.4 Frequent Rider Loyalty Program

A frequent rider loyalty program should be established for all passengers that use a smart card to pay fares. One loyalty point should be awarded to the cardholder and stored both on the card and in the central system database every time that passenger's smart card is used to pay a fare. Points should not be awarded for transfers where a fare is not paid or the passenger is on a continuous journey using a monthly or semester pass. Points will accumulate for as long as the passenger holds the smart card and will be transferred to any replacement smart card issued to that passenger. In the event that a passenger loses her or his smart card, the loyalty points that are logged at the central database should be transferred to the replacement smart card

As each loyalty point threshold level is attained, the passenger should be mailed a loyalty point reward certificate established for that threshold that can be redeemed for value. In the event that the transit authority is funding the program, the rewards should be in the form of discount coupons redeemable towards the purchase of a monthly pass. It the authority is able to attract a participating sponsor to fund all or part of the program,

rewards should be redeemable towards the purchase of a product or service from that sponsor.

7.3.5 Zone Supplement Payment

When a passenger travels through the zone boundary into the third zone of his or her journey, the passenger will be required either to deposit the exact value of the one-zone cash fare supplement applicable for his or her passenger class into the farebox or pay the applicable lower one-zone smart card fare supplement from her smart card e-purse. A protocol should be developed to ensure that passengers do not override the zone boundary without paying the zone fare supplement. One simple possibility (although perhaps inconvenient to riders) would be to have the driver stop the bus at the zone boundary and require that passengers crossing into the third zone come forward to pay the supplement. As an alternative, the proper fare could be presented on boarding, and passengers would be given a simple proof-of-payment stub (similar to a transfer slip), which they would present on alighting. Also, if all passengers were to possess smart cards, it would be simple to require each passenger to tag their smart card when alighting and the system would automatically deduct any fare zone supplement owing.

7.3.6 Transfers To/From Charlottetown Transit

To encourage passengers to travel on the local transit service provided by Charlottetown Transit between their homes and the several stops and transfer locations that the island-wide service will make in Charlottetown, it would be very desirable to negotiate a co-fare agreement between the two transit providers. The essential aspects of this agreement would require that:

- Charlottetown Transit accepts a valid transfer issued by the island-wide service provider as partial or full payment of the required Charlottetown Transit fare, and
- Island-wide service operator accepts a valid transfer issued by Charlottetown Transit as partial payment for the required fare.

A protocol should be developed to allow passengers holding valid smart card period passes or paying their fare with a smart card ticket to be credited with the value of this partial payment. Similarly a paper transfer should be provided to passengers transferring to Charlottetown Transit, which uses a paper-based fare system. A transfer time validity window will need to be established to compensate for the comparatively longer travel times on the island-wide transit routes.

It is expected that commuters will often retrace their route in the evening, therefore, if the cost of the co-fare discounts offered are comparable in either direction, it is likely that the fares will balance out over time and money need not actually change hands to keep each operator whole.

7.4 Partnerships

Partnerships should be established with selected organizations with a view to collaborating on fares and services as illustrated in the following examples.

- Employers can purchase adult monthly passes in bulk both to provide a fare discount incentive to their employees and to give the transit agency the revenue certainty it requires to commit to add service to meet the employer's unique travel requirements.
- First Nations communities can purchase adult monthly passes in bulk to give The transit agency the revenue certainty it requires to commit to add service to meet the community's unique travel requirements.
- Corporations can commit to sponsor the frequent rider loyalty program by providing certificates redeemable for valuable goods and services that will be some of the rewards for frequent riders. These sponsors will be attracted to the program by the opportunity to associate themselves with the positive image of a new transit service in the province.

8. Transit Service and Implementation Plan

8.1 Transit Service Objectives

The objectives of the Stage 1 implementation project include:

- develop, test and demonstrate the effectiveness of the transit concept;
- manage the first stage of the implementation in a limited environment; and
- test the indicators.

8.2 Stage 1 Implementation Corridor

The Stage 1 implementation corridor was selected based on the following criteria:

- overall ridership potential
- ability to serve major attractors and generators and address specific issues raised in the consultation, such as school transportation
- ability to introduce service with minimum number of vehicles and facilities
- input from the study Oversight Committee

In the initial analysis, a combination of commuter and connector routes were selected, serving the corridor from Tignish to Summerside and from Summerside to Charlottetown. After review, it was decided to recommend a reduced version of this network, to reduce the scope of the initial stage in terms of vehicles and service complexity, and to be able to introduce service in all three counties. Accordingly, the recommended Stage 1 implementation comprises the Connector routes only, and includes the links represented as M-1 (Charlottetown to Summerside), M-2 (Tignish to Summerside) and M-3 (Charlottetown to Montague).

The general corridor areas are shown in Figure 6.

Figure 6 - Stage 1 Implementation Corridors

8.3 Stage 1 Routes and Service Design

8.3.1 Service Parameters

The Stage 1 implementation links were selected based on the ridership estimates (presented in and include:

- Commuter Connector Link (M-1) connecting Charlottetown and Summerside via Hwy. 2;
- Commuter Connector Link (M-2) connecting Tignish and Summerside via Hwy. 2;

The service design was established to support:

- Commuter Connector Link (M-3) connecting Charlottetown to Montague
- Peak Commuter service:
  - Tignish-Summerside corridor, eastbound from Tignish to Summerside in the morning peak and westbound from Summerside to Tignish in the afternoon
  - Summerside-Charlottetown corridor, both directions warrant peak service in the morning and afternoon
  - Charlottetown – Montague, westbound from Montague to Charlottetown in the morning peak and eastbound from Charlottetown to Montague in the afternoon

8.3.2 Stage 1 Service Details

The Stage 1 implementation routes were developed from the basic links used in the Phase 1 analysis. In the case of the commuter routes, these routes are essentially unchanged from the concept proposal.

Table 8, Table 9 and Table 10 outline the major stops, inter-stop distances and estimated travel time for each of the proposed Stage 1 routes.

Table 8 – Commuter Route 1 Details

Commuter Network *Route 2* Stop Point		Road	Distance. km		Speed	Time, minutes			
			prev	accum	km/h	prev		accum	
						travel	stop		
1	Summerside						2	2	
2	Travellers Rest	HWY 11	8.0	8.0	70	7	1	10	0:10
3	Kensington	HWY 2	9.7	17.7	80	7	1	18	0:18
4	Pleasant Valley	HWY 2	16.1	33.8	80	12	1	31	0:31
5	Hunter River	HWY 2	9.2	43.0	80	7	1	39	0:39
6	Winsloe	HWY 2	18.0	61.0	80	14	1	54	0:54
7	Charlottetown	HWY 2+??	7.7	68.7	70	7		61	1:01

Table 9 – Commuter Route 2 Details

Commuter Network *Route 2* Stop Point		Road	Distance. km		Speed	Time, minutes			
			prev	accum	km/h	prev		accum	
						travel	stop		
1	Tignish						2	2	0:02
2	Alberton	Hwy 12	22.1	22.1	70	19	1	22	0:22
3	Elmsdale	Hwy 2/12	6.1	28.2	70	5	1	28	0:28
3	Bloomfield	HWY 2	10.8	39.0	70	9	1	38	0:38
4	Portage	HWY 2	8.0	47.0	70	7	1	46	0:46
5	Mount Pleasant	HWY 2	10.0	57.0	70	9	1	56	0:56
6	Wellington	HWY 2	15.1	72.1	70	13	1	70	1:10
7	Miscouche	HWY 2	9.0	81.1	70	8	1	79	1:19
8	Summerside	HWY 2	9.0	90.1	55	10		89	1:29

Table 10 – Commuter Route 3 Details

Commuter Network *Route 3* Stop Point		Road	Distance. km		Speed	Time, minutes			
			prev	accum	km/h	prev		accum	
						travel	stop		
1	Charlottetown						2	2	
2	Stratford	HWY 3	4.6	4.6	55	5	1	8	0:08
3	Mount Albion	HWY 3	9.7	14.3	60	10	1	19	0:19
4	Cherry Valley	HWY 3	6.4	20.7	60	6	1	26	0:26
5	Pooles Corner	HWY 3	21.8	42.5	60	22	1	49	0:49
6	Montague	HWY 4	5.4	47.9	55	6	1	56	0:56

These service frameworks indicate a travel time of one hour between Summerside and Charlottetown, with an average speed of approximately 70 kph, within the target range of auto travel time plus 10 percent. Similarly, the travel time from Summerside to Tignish via the commuter route is 1 hour 29 minutes, or 65 kilometres per hour on average.

8.3.3 Proposed Stage 1 Schedules

For the Stage 1 service, a basic level of service is proposed, to use the minimum number of buses, while still providing an effective level of service that will be attractive to passengers. Once the service is established, additional trips can and should be added to both promote and accommodate growth.

For Route 1, between Summerside and Charlottetown, the service conforms to the service standards by providing at least three trips in each direction in the morning and afternoon peak periods, at least two trips in each direction in the midday, and a later trip in each direction Total trips in the proposed system are 12 trips in each direction.

Table 11, Table 12, and Table 13 shows the suggested schedule for the Stage 1 implementation service on the commuter connector route between Tignish and Summerside and Charlottetown and Montague. Additional trips may be appropriate to include at the outset of the service, with additional resources required.

Other schedules are possible, and may be appropriate.

Table 11 – Commuter Route 1 – Suggested Stage 1 Schedule

Origin	Destination	Start		End
Summerside	Charlottetown	6:20 AM	1:01	7:21 AM
Summerside	Charlottetown	6:50 AM	1:01	7:51 AM
Summerside	Charlottetown	7:20 AM	1:01	8:21 AM
Summerside	Charlottetown	7:50 AM	1:01	8:51 AM
Summerside	Charlottetown	11:00 AM	1:01	12:01 PM
Summerside	Charlottetown	1:30 PM	1:01	2:31 PM
Summerside	Charlottetown	2:45 PM	1:01	3:46 PM
Summerside	Charlottetown	4:00 PM	1:01	5:01 PM
Summerside	Charlottetown	4:30 PM	1:01	5:31 PM
Summerside	Charlottetown	5:00 PM	1:01	6:01 PM
Summerside	Charlottetown	5:30 PM	1:01	6:31 PM
Summerside	Charlottetown	7:00 PM	1:01	8:01 PM
Charlottetown	Summerside	6:20 AM	1:01	7:21 AM
Charlottetown	Summerside	6:50 AM	1:01	7:51 AM
Charlottetown	Summerside	7:20 AM	1:01	8:21 AM
Charlottetown	Summerside	7:50 AM	1:01	8:51 AM
Charlottetown	Summerside	11:00 AM	1:01	12:01 PM
Charlottetown	Summerside	1:30 PM	1:01	2:31 PM
Charlottetown	Summerside	2:45 PM	1:01	3:46 PM
Charlottetown	Summerside	4:00 PM	1:01	5:01 PM
Charlottetown	Summerside	4:30 PM	1:01	5:31 PM
Charlottetown	Summerside	5:00 PM	1:01	6:01 PM
Charlottetown	Summerside	5:30 PM	1:01	6:31 PM
Charlottetown	Summerside	7:00 PM	1:01	8:01 PM

Table 12 shows the proposed schedule for the Stage 1 implementation service on the commuter route between Tignish and Summerside. Additional trips may be appropriate to include at the outset of the service, with additional resources required.

Table 12 – Commuter Route 2 - – Suggested Stage 1 Schedule

Origin	Destination	Start		End
Tignish	Summerside	6:00 AM	1:21	7:21 AM
Tignish	Summerside	6:30 AM	1:21	7:51 AM
Tignish	Summerside	7:00 AM	1:21	8:21 AM
Tignish	Summerside	1:00 PM	1:21	2:21 PM
Summerside	Tignish	11:30 AM	1:21	12:51 PM
Summerside	Tignish	3:45 PM	1:21	5:06 PM
Summerside	Tignish	4:14 PM	1:21	5:35 PM
Summerside	Tignish	4:45 PM	1:21	6:06 PM
Summerside	Tignish	7:00 PM	1:21	8:21 PM

Table 13 shows the proposed schedule for the Stage 1 implementation service on the commuter route between Charlottetown and Montague. This route will rely on a park-and-ride facility at Pooles Corner, to accommodate trips from the surrounding area, including East Kings county, not directly served in the initial stage.

Additional trips may be appropriate to include at the outset of the service, with additional resources required.

Table 13 – Commuter Route 3 - – Suggested Stage 1 Schedule

Origin	Destination	Start		End
Charlottetown	Montague	11:30 AM	0:56	12:26 PM
Charlottetown	Montague	4:15 PM	0:56	5:11 PM
Charlottetown	Montague	4:45 PM	0:56	5:41 PM
Charlottetown	Montague	6:30 PM	0:56	7:26 PM
Charlottetown	Montague	7:00 PM	0:56	7:56 PM

Montague	Charlottetown	6:15 AM	0:56	7:11 AM
Montague	Charlottetown	6:45 AM	0:56	7:41 AM
Montague	Charlottetown	8:30 AM	0:56	9:26 AM
Montague	Charlottetown	12:40 PM	0:56	1:36 PM

8.3.4 Projected Stage 1 Ridership

Table 14 shows the revised ridership projection for the Stage 1 implementation, based on the initial levels of service. These estimates are based on the overall demand estimates described in . Immediate post-launch ridership levels will likely be somewhat less than these levels, depending on the level of pre-launch marketing effort, but should be expected to reach these levels within the first year.

In the initial demand estimates described in , the ridership estimates were based on a first principles approach. This includes determining or estimating the overall travel in the corridors, and establishing a range of estimates based on market share expected to be achieved by transit. These market shares were varied to reflect different attraction rates to the service, as well as to represent the maturing of the service over time. Results of the estimation process were validated against the result of the consultation and fact-finding process.

For this Stage 1 service, even lower market share estimates were used, reflecting the "newness" of the service concept and the time required for people to adapt to using transit, general rates achieved in small and rural communities across the country, and the levels of service. These market share rates ranged from 1 percent to about 3 percent, with the higher factors reserved for the attraction between pairs of larger communities and longer trips, and the lower factors reserved for the attraction between pairs of small communities and very short trips.

Table 14 – Stage 1 Travel Potential

Link	Daily Travel Potential	Peak Hour Travel Potential
M-1 Summerside-Charlottetown	175	75
M-2 Tignish-Summerside Commuter	100	40
M-3 Charlottetown-Montague	85	35

8.3.5 Resource Requirements

Table 15 shows the overall operating resources required for the Stage 1 implementation, based on the proposed schedule. Using the proposed schedule, the service could be operated with as few as 7 vehicles, plus 3 spares for total of 10 vehicles. However, to manage the overall mileage for these vehicles, additional vehicles are recommended to maintain the average vehicle use at approximately 75,000 annual kilometres. This means that the minimum 7 vehicles is increased to 11 vehicles. Since a proportion of downtime is built into the vehicle use in this plan, a reduced number of spares is required and a total of 12 vehicles is recommended, only two more than the minimum option.

Total operating hours for the service is approximately 13,500 annually for the Stage 1 implementation.

Table 15 – Stage 1 Resource Requirements

Link	Daily One-Way Trips	Required Vehicles	Annual Vehicle-Hours	Annual Vehicle-Kilometres
M-1 Summerside-Charlottetown	24	4	6,100	366,000
M-2 Tignish-Summerside Commuter	10	4	5,300	319,000
M-3 Charlottetown-Montague	10	3	2,100	125,000
Total		11	13,500	810,000

Stage 2 Implementation

The Stage 2 implementation links build on the Stage 1 routes, complementing the commuter services by adding community connector links, and laying the groundwork for the community support network.

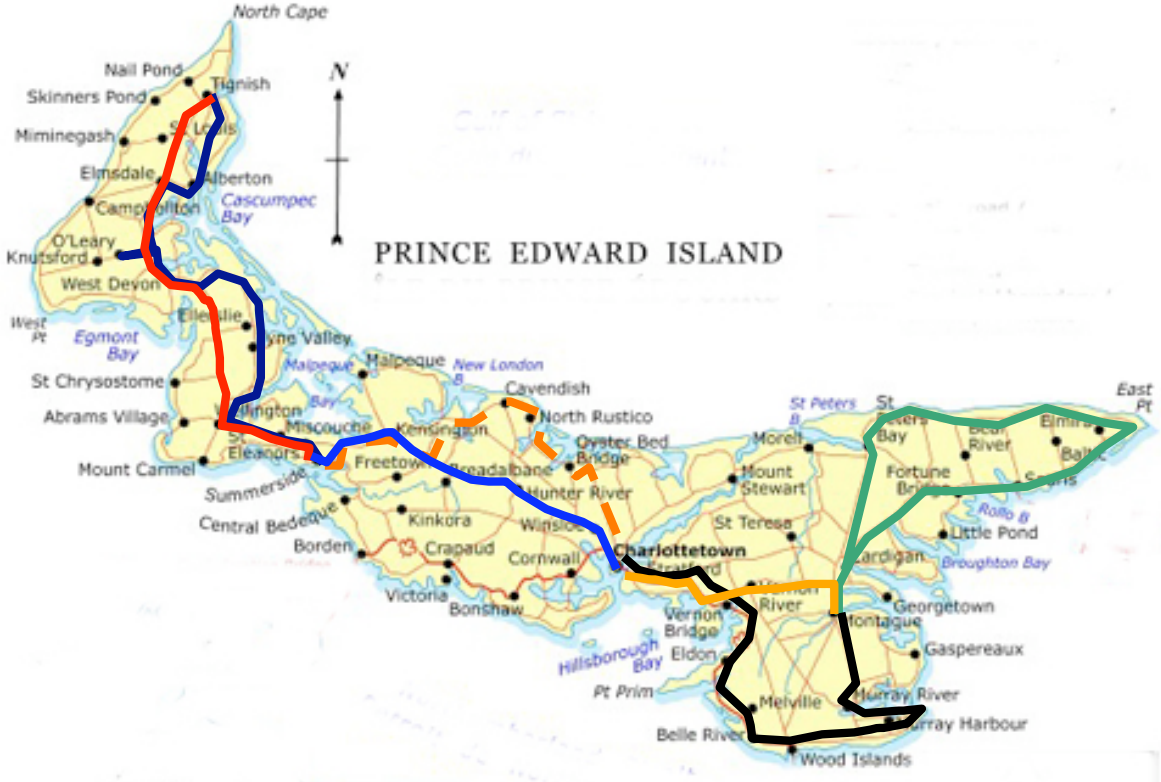
To maximize the ridership potential in this initial stage, additional links and modifications were also included:

- Afternoon service of Westisle High School, facilitating after school activity
- Connections to Jude's Point, with trips coinciding with seafood plants start and finish times

The general corridor areas are shown in Figure 7 and the combination of the Stage 1 and Stage 2 routes comprising the service network is illustrated in Figure 8.

Figure 7 - Stage 2 Implementation Corridors

Figure 8 - Stage 2 Route Network



8.4 Stage 2 Routes and Service Design

8.4.1 Service Parameters

The Stage 2 implementation routes were developed from the basic links used in the Phase 1 analysis. These Community Connectors, from Tignish to Summerside, a loop route from Montague to Souris, a route from Montague to Charlottetown via Wood Islands and a seasonal route from Summerside to Charlottetown via the Cavendish Resort Municipality area.

The Stage 2 implementation routes include:

- Community Connector Route A (combination of links C-11 and C-12) connecting Tignish and Summerside through major destinations, including O'Leary, Tyne Valley
- Afternoon service of Westisle High School, facilitating after school activity
- Connections to Jude's Point, with trips coinciding with seafood plants start and finish times
- Community Connector Route B (combination of links C-14 and C-15)
- Community Connector Route C (seasonal) C-12
- Community Connector Route D (portion of link C-14)

The service design was also established to support:

- Transit service for Westisle High School – service is designed to support after school activities:
  - At approximately 5:30 pm to take after-school activity participants home;
  - At approximately 6:30 pm to bring evening activity participants to school; and
  - At approximately 9:00 pm to bring evening activity participants home.
- Employment connections to the seafood plant in Jude's Point:
  - At approximately 8:30 AM period to bring workers to plant; and
  - At approximately 5:00 PM period to take workers from plant.

8.4.2 Stage 2 Service Details

The Stage 2 implementation includes service increases on the commuter routes first introduced in Stage 1, in response to demonstrated demand. Detailed service designs and schedules have not been developed for these increases, since they will need to be specifically designed to meet corridor demand based on monitoring the Stage 1 service performance. For budgeting purposes, an increase of 10 percent has bee included each year from Year 2 through Year 4.

Table 16 and Table 17 and Table 18 – Commuter Route C - Route Design

Table 19 and Table 18 outline the major stops, inter-stop distances and estimated travel time for each of the proposed Stage 2 routes.

For the Stage 2 implementation, Community Connector Route A and Route B are recommended for launch in Year 2, after the demonstrated success of the commuter corridor services in Stage 1.

The seasonal service on Community Connector Route C is assumed for launch in the summer of Year 2. However, monitoring of the other services in their initial operation may suggest and earlier or later launch for this service.

The future service on Community Connector Route D is assumed for launch in Year 3 at about 50 percent of the service levels described with service increases in Year 4. However, monitoring of the other services in their initial operation may also suggest and earlier or later launch for this service.

Table 16 – Community Route A - Route Design

Community Network *Route A* Stop Point		Road	Distance. km		Speed	Time, minutes			
			prev	*accum*	*km/h*	*prev*		*accum*	
						travel	*stop*		
1	Tignish						2	2	
17	Montrose	Rd 14,Rd 12	10.2	10.2	70	9	1	12	0:12
5	Alberton	Road 12	7.2	17.4	70	6	1	19	0:19
11	Elmsdale	Road 12	6.2	23.6	70	5	1	25	0:25
7	Bloomfield	Road 12	6.7	30.3	70	6	1	32	0:32
25	St. Anthony	HWY 2	2.5	32.8	70	2	1	35	0:35
12	Howlan	Road 12	3.8	36.6	70	3	1	39	0:39
20	O'Leary	Road 12	3.3	39.9	70	3	1	43	0:43
30	Woodstock	Road 12	5.6	45.5	70	5		48	0:48
22	Portage	Road 163	7.8	53.3	70	7		55	0:55
18	Mt. Pleasant	Road 163	10.0	63.3	70	9	1	65	1:05
10	Ellerslie	Road 12	5.4	68.7	70	5	1	71	1:11
27	Tyne Valley	Road 12	5.4	74.1	70	5	1	77	1:17
14	Hwy 2/ Hwty 122	Road 12	16.6	90.7	70	14	1	92	1:32
16	Miscouche	Road 12	5.1	95.8	70	4	1	97	1:37
2	Summerside	Road 11	12.0	107.8	70	10	1	108	1:48

Table 17 – Commuter Route B - Route Design

Community Network *Route B* Stop Point		Road	Distance. km		Speed	Time, minutes			
			prev	*accum*	*km/h*	*prev*		*accum*	
						travel	*stop*		
11	Montague	Road 315					2	2	0:02
12	Pooles Corner	HWY 4	5.4	5.4	70	5	1	8	0:08
14	Cardigan	Road 342	3.1	8.5	70	3	1	12	0:12
15	Int. Hwy 4/Hwy 2	Road 311	20.6	29.1	70	18	1	31	0:31
16	Souris	Road 311	15.7	44.8	70	13	1	45	0:45
17	Kingsboro	Road 16	12.8	57.6	70	11	1	57	0:57
18	East Point	Road 16	11.0	68.6	70	9	1	67	1:07
21	St. Peters	Road 311	52.6	121.2	70	45	1	113	1:53
22	Pooles Corner	Road 310	23.6	144.8	70	20	1	134	2:14

Table 18 – Commuter Route C - Route Design

Community Network / Route D - Seasonal / Stop Point		Road	Distance. km		Speed	Time, minutes			
			prev	accum	km/h	prev		accum	
						travel	stop		
1	Summerside						2	2	
2	Travellers Rest	HWY 11	8.0	8.0	70	7	1	10	0:10
3	Kensington	HWY 2	9.7	17.7	70	8	1	19	0:19
9	Cavendish	Road 6	23.0	40.7	70	20	1	40	0:40
10	North Rustico	Road 6	6.9	47.6	70	6	1	47	0:47
	Oyster Bed Bridge	Road 6	10.0	57.6	70	9	1	57	0:57
	Union Road	Road 15	15.4	73.0	70	13	1	71	1:11
20	Charlottetown	Road 19	9.9	82.9	55	11	1	83	1:23

Table 19 – Commuter Route D - Route Design

Community Network / Route C - Future / Stop Point		Road	Distance. km		Speed	Time, minutes			
			prev	accum	km/h	prev		accum	
						travel	stop		
1	Charlottetown						2	2	
2	Stratford	HWY 3	4.6	4.6	70	4	1	7	0:07
3	Mount Albion	HWY 3	9.7	14.3	70	8	1	16	0:16
4	Cherry Valley	HWY 3	6.4	20.7	70	5	1	22	0:22
5	Orwell	HWY 4	10.0	30.7	70	9	1	32	0:32
6	Wood Island Term	Road 23	25.6	56.3	70	22	1	55	0:55
7	High Bank	HWY 4	12.8	69.1	70	11	1	67	1:07
8	Cape Bear	Road 18	13.1	82.2	70	11	1	79	1:19
9	Murray Harbour	Road 18	5.9	88.1	70	5	1	85	1:25
10	Murray River	Road 18	8.2	96.3	70	7	1	93	1:33
11	Murray Harbour N	Road 17	12.8	109.1	70	11	1	105	1:45
12	Albion	Road 17	16.7	125.8	70	14	1	120	2:00
13	Montague	Road 17	12.3	138.1	65	11	3	134	2:14
14	Pooles Corner	HWY 4	5.4	143.5	65	5	1	140	2:20

8.4.3 Proposed Stage 2 Schedules

Table 20, Table 21, Table 22, and Table 23 shows the suggested schedule for the Stage 2 implementation service on the community connector Additional trips may be appropriate to include at the outset of the service, with additional resources required. For example, additional trips could be considered earlier in the schedule, to accommodate work trip connections from Tyne Valley and other areas to Summerside prior to 9 AM.

These proposed service expansions could all be accommodated with the addition of 3 vehicles to the initial implementation.

Note that the 4:10 and 4:50 trips from Summerside facilitates pick-ups at the high school for west bound trips, along with the 5:08 and 6:15 trips from Tignish to Summerside to facilitate eastbound return trips and late homebound trips. Additional trips can be accommodated with more resources, or with continued support of volunteers.

Other schedules are possible, and may be appropriate.

Table 20 – Commuter Route A - – Suggested Stage 2 Schedule

Origin	Destination	Start		End
Tignish	Summerside	6:00 AM	1:48	7:48 AM
Tignish	Summerside	8:30 AM	1:48	10:18 AM
Tignish	Summerside	10:00 AM	1:48	11:48 AM
Tignish	Summerside	2:00 PM	1:48	3:48 PM
Tignish	Summerside	5:00 PM	1:48	6:48 PM
Tignish	Summerside	6:15 PM	1:48	8:03 PM

Summerside	Tignish	9:00 AM	1:48	10:48 AM
Summerside	Tignish	12:15 PM	1:48	2:03 PM
Summerside	Tignish	2:45 PM	1:48	4:33 PM
Summerside	Tignish	4:10 PM	1:48	5:58 PM
Summerside	Tignish	4:50 PM	1:48	6:38 PM
Summerside	Tignish	7:15 PM	1:48	9:03 PM

Table 21 – Commuter Route B - – Suggested Stage 2 Schedule

Origin	Destination	Start		End
Via Hwy 4				
Souris	Montague	6:00 AM	0:45	6:45 AM
Souris	Montague	7:45 AM	0:45	8:30 AM
Souris	Montague	9:00 AM	0:45	9:45 AM
Souris	Montague	11:55 AM	0:45	12:40 PM
Montague	Souris	5:10 PM	0:45	5:55 PM
Montague	Souris	5:40 PM	0:45	6:25 PM
Montague	Souris	7:25 PM	0:45	8:10 PM
Montague	Souris	7:55 PM	0:45	8:40 PM
Via St. Peters/East Point				
Montague	Souris	7:00 AM	1:30	8:30 AM
Montague	Souris	8:45 AM	1:30	10:15 AM
Montague	Souris	10:00 AM	1:30	11:30 AM
Montague	Souris	1:00 PM	1:30	2:30 PM
Souris	Montague	6:10 PM	1:30	7:40 PM
Souris	Montague	6:30 PM	1:30	8:00 PM
Souris	Montague	8:15 PM	1:30	9:45 PM

Table 22 – Commuter Route C - – Suggested Stage 2 Schedule

Origin	Destination	Start		End
Summerside	Charlottetown	6:30 AM	1:23	7:53 AM
Summerside	Charlottetown	8:00 AM	1:23	9:23 AM
Summerside	Charlottetown	9:45 AM	1:23	11:08 AM
Summerside	Charlottetown	11:00 AM	1:23	12:23 PM
Summerside	Charlottetown	1:00 PM	1:23	2:23 PM
Summerside	Charlottetown	3:00 PM	1:23	4:23 PM
Summerside	Charlottetown	5:00 PM	1:23	6:23 PM
Summerside	Charlottetown	6:30 PM	1:23	7:53 PM

Charlottetown	Summerside	6:30 AM	1:23	7:53 AM
Charlottetown	Summerside	8:00 AM	1:23	9:23 AM
Charlottetown	Summerside	9:45 AM	1:23	11:08 AM
Charlottetown	Summerside	11:00 AM	1:23	12:23 PM
Charlottetown	Summerside	1:00 PM	1:23	2:23 PM
Charlottetown	Summerside	3:00 PM	1:23	4:23 PM
Charlottetown	Summerside	5:00 PM	1:23	6:23 PM
Charlottetown	Summerside	6:30 PM	1:23	7:53 PM

Table 23 – Commuter Route D - – Suggested Stage 2 Schedule

Origin	Destination	Start		End
Charlottetown	Montague	6:30 AM	2:20	8:50 AM
Charlottetown	Montague	8:30 AM	2:20	10:50 AM
Charlottetown	Montague	11:00 AM	2:20	1:20 PM
Charlottetown	Montague	2:00 PM	2:20	4:20 PM
Charlottetown	Montague	4:00 PM	2:20	6:20 PM
Charlottetown	Montague	6:00 PM	2:20	8:20 PM

Montague	Charlottetown	6:00 AM	2:20	8:20 AM
Montague	Charlottetown	8:00 AM	2:20	10:20 AM
Montague	Charlottetown	10:30 AM	2:20	12:50 PM
Montague	Charlottetown	1:30 PM	2:20	3:50 PM
Montague	Charlottetown	3:30 PM	2:20	5:50 PM
Montague	Charlottetown	6:00 PM	2:20	8:20 PM

8.4.4 Projected Stage 2 Ridership

Table 24 shows the revised ridership projection for the Stage 2 implementation, based on growth in the Stage 1 corridors, and the initial levels of service in the new Stage 2 corridors. These estimates are based on the overall demand estimates described in . As with the Stage 1 implementation, immediate post-launch ridership levels in the new Stage 2 corridors will likely be somewhat less than these levels, depending on the level

of pre-launch marketing effort, but should be expected to reach these levels within the first year.

The Stage 2 travel potential figures are projected for approximately 3 years out from launch. This means that the Commuter corridors are expected to reach these levels by the end of Year 3, and the Community Connector corridors by the end of Year 4 or Year 5.

For the Commuter corridor routes introduced in Stage 1, the ridership potential is assumed to reach the mature levels projected in the analysis, based on service increases of 10 percent per year in Year 2, Year 3 and Year 4.

Table 24 – Stage 2 Travel Potential

Link		Daily Travel Potential	Peak Hour Travel Potential
M-1	Summerside-Charlottetown	225	100
M-2	Tignish-Summerside Commuter	200	80
M-3	Charlottetown-Montague	175	75
A	Tignish - Summerside	125	40
B	Montague-Souris-Montague	100	40
C	Summerside-Cavendish-Charlottetown	150	40
D	Charlottetown-Wood Islands-Montague	75	35

8.4.5 Resource Requirements

Table 15 shows the additional operating resources required for the Stage 2 implementation, based on the proposed schedules. Using the same mileage management plan described for the Stage 1 implementation the minimum ten vehicles plus two spares is increased to 16 vehicles, including spares.

Total operating hours for the service is approximately 18,700 annually for the Stage 2 implementation.

Table 25 – Stage 2 Additional Annual Resource Requirements (Mature Service)

Link	Daily Trips	Required Vehicles	Annual Vehicle-Hours	Annual Vehicle-Kilometres
A – Tignish-Summerside	12	4	5,400	324,000
B – Montague-Souris loop	12	4	4,500	270,000
C – Summerside–Cavendish- C'Town	8	2	1,800	105,000
D – C'town-Wood islands-Montague	12	6	7,000	420,000
Total		16	18,700	1,119,000

In addition to these resources, service increases on the commuter routes will add approximately 3,000 annual hours by Year 5, with approximately 180,000 kilometers, and three additional vehicles.

Details of the staging of these resources and the impacts on costs are described more fully in Section 10.

9. Transit Service Requirements

9.1 Vehicles Specifications

The introduction of the intra-provincial express bus service operating over the provincial highway network will require the transit authority to purchase or lease vehicles that will accommodate both initial and long range ridership demand for service. This will entail securing accessible vehicles that will provide passengers with comfortable, safe and reliable transportation and at the same time, withstand the rigors of express service operations.

Two main options are available:

- highway coaches, ranging in length from 40-45 ft. with a capacity of 45 to 55 passengers and luggage. These vehicles typically cost between $500,000 and $600,000 depending on the equipment, with a life expectancy of up to 20 years if properly maintained
- medium- or heavy-duty bus equipment that is built around a truck chassis with capacity ranging from 15 up to 30-35 passengers in a 35 ft. configuration This equipment ranges in price from $75,000 $150,000, in medium duty construction, and from $100,000 to $200,000 in heavy duty construction, depending on configuration. These vehicles would have an expected life of approximately 10 years.

ENTRA recommends the second option, since it provides smaller vehicles with capacities more suited to expected demand levels, and the flexibility to tailor vehicles to demand levels. Shorter vehicle life and a wider range of configurations means the ability to adjust fleet composition more readily as services increase. Also, since all vehicles need to be wheel-chair accessible, the larger coach presents an issue with respect to boarding and alighting times for the accessible features, while the smaller vehicles have considerably faster accessible boarding and alighting times.

Appropriate vehicles are available in the Canadian marketplace, with a 6-month delivery lead time. These vehicles have been tested and meet the requirements of the Bus Research and Testing Center – required testing for transit vehicles in North America. This testing program rates these vehicles for 10-year and 560,000 kilometre lifespan.

Several upgrades are available for these vehicles to ensure they withstand the rigour of express service and road conditions on the island. These include an upgraded chassis, suspension and tires and extended warranty for purchase. With each of these elements incorporated, the price for the larger capacity vehicle will be approximately $175,000. This includes standard warranty on chassis, engine and drive train, and a purchased warranty to extend coverage on most components to 5 years or 160,000 kilomettres. Vehicle requirements for the service have been developed with this range.

Additional details are presented in

9.2 Facilities

Part of the facility requirements for the highway service will be the establishment of a

series of interface points along the route where community bus or park-and-ride connections can be made with the express service.

In Stage 1, these points will provide basic accommodations for park-and-ride users and transferring passengers as well as lay-bys for the express service and bus loops for the community bus services. In the early stages of the service development, passenger accommodations may be limited to graded or paved passenger platforms with bus shelters; once these locations have been designated as permanent, more elaborate accommodations can be provided.

In the larger communities that will serve as terminal points, facilities will be developed to accommodate transit riders, provide customer services, sell tickets and promote the system.

9.2.1 Terminal Facilities

At the terminal points in Tignish, Summerside and Charlottetown, and perhaps, eventually in Souris and Poole's Corner, facilities will have to be found where passengers can be accommodated and transit personnel can provide schedule information, sell tickets and answer queries about the new transit system. Initially, these facilities could be temporary with more permanent sites as the system develops. In Stage 1, buses could stop on the street in front of the temporary terminal buildings; eventually in the future permanent facilities should allow for buses to be parked in off-street accommodations.

9.2.2 Station and Stops

The station stops at major intersections along the trunk highways should, at minimum, provide a pull off area for the buses so that passengers can board and alight safely. Other necessary passenger amenities are shelter for passenger comfort along with posted information identifying scheduled arrival and departure times at that particular location. Transit shelters should be fully enclosed (as opposed to the urban-style open-sided shelter). These should include interior and exterior benches, customer information, interior and exterior lighting. Shelters should also be accessible to persons with disabilities.

At intersections where commercial facilities exist, attempts should be made to utilize these accommodations.

At intersections close to urban areas and where all quadrants are occupied; transit stops may be initially established without shelters, unless passenger activity at the stop clearly warrants a structure.

Details of stop locations are included in Appendix L.

9.2.3 Car Parking

Several of the intersections identified as potential station stops currently have some level of car-pooling activity on site. These locations should be developed to continue to encourage both activities. This may require expanding and organizing the sites to achieve maximum vehicle parking.

9.2.4 Equipment Storage (Buses)

In Stage 1, facilities to accommodate the bus fleet should be located in Tignish, Summerside/Kensington, Charlottetown and Montague with the main maintenance depot being central to the operation and located in the Summerside or Kensington area.

At this location buses would receive routine servicing and major maintenance or repairs. This facility would have to be staffed with qualified-diesel mechanics and provide adequate parts storage for the bus fleet.

At the west end of the service area, in Tignish, the buses could be stored at a secured location where they could be washed, cleaned and refuelled on a daily basis; a similar arrangement could be sought in Charlottetown for the buses stored overnight in this location.

To control costs and maintain fleet balance, all buses should be assigned through the main facility—in Summerside or Kensington—so that preventative maintenance programs and fleet equalization can be implemented. This location could also serve as the head office of the operation for the implementation period, although this may be revisited once the system matures.

9.2.5 Stage 2 Station Layouts

Permanent station sites may not be constructed in Stage 1; however, as the demand for service grows more structured park-and-ride facilities should be developed at each site, adapted to each particular configuration.

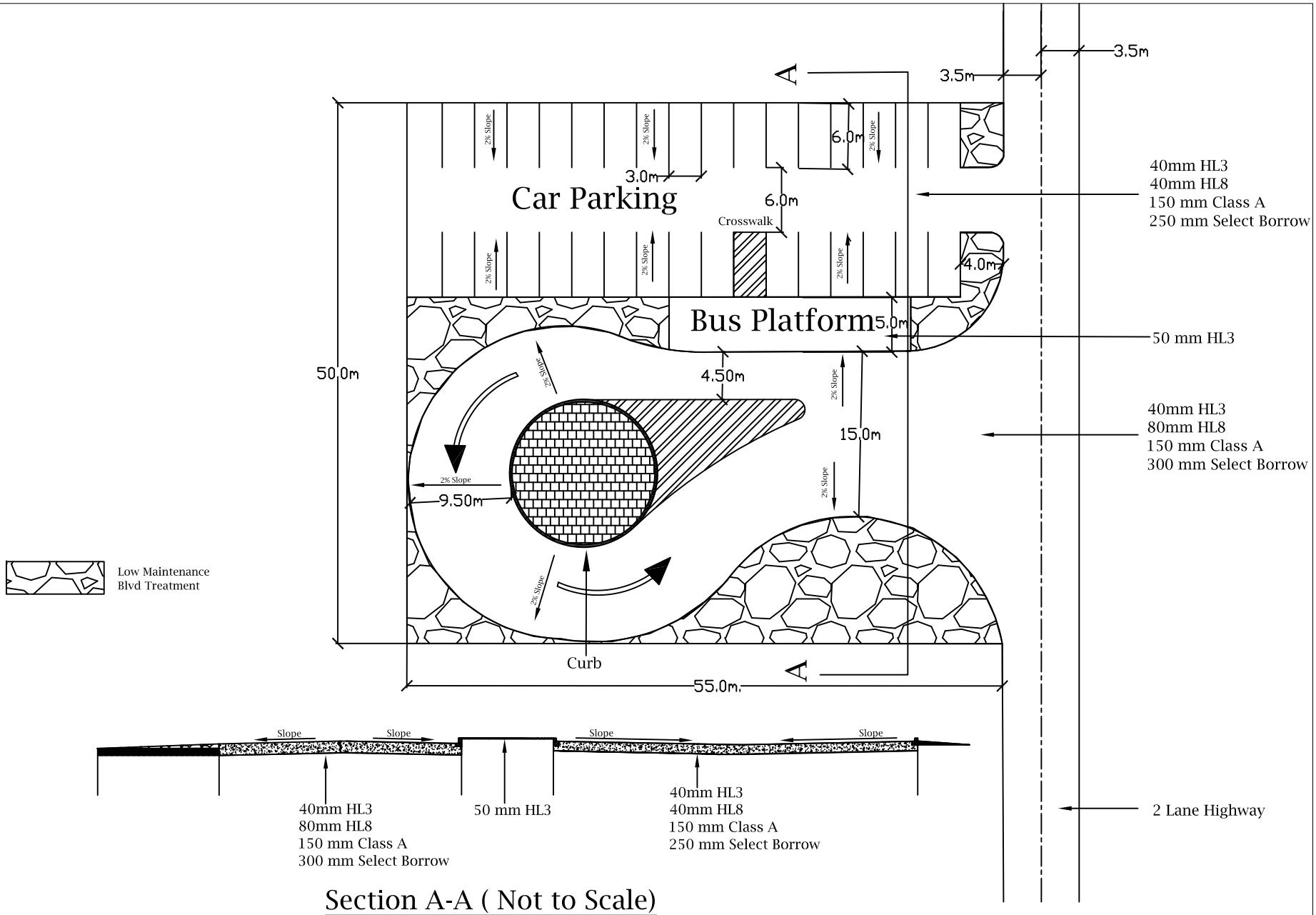
Two typical layouts are provided as examples of what future stations could look like.

Figure 9 illustrates a site layout for a single bus stop, with the passenger platform located between the car parking area and the bus loop. This type of configuration would be applied at locations were only one bus serves the station.

Figure 10 illustrates the site layout for multiple bus stops on a centre island platform; this configuration is an expansion of the layout in Figure 9 and could be constructed should the need arise.

In a mature state the station stops at major intersections should be constructed following design criteria approved by the Department of Transportation and Public Works for parking lots.

Since these facilities would be permanent, it is assumed that the surface treatment of the stations would be asphalt over a granular base allowing for pavement markings delineating parking spaces. Passenger platforms should be separated from both car and bus movements by a raised curb and accommodate permanent shelters, platform lighting, passenger information kiosks and a pay phone. Depending on need, the perimeter of the station could be fenced and the parking lot lit for safety and security. In both examples the initial property requirement for the bus loop and car parking is between .5 and .7 of an acre.



Section A-A (Not to Scale)

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Typical One Bus Platform Option 1

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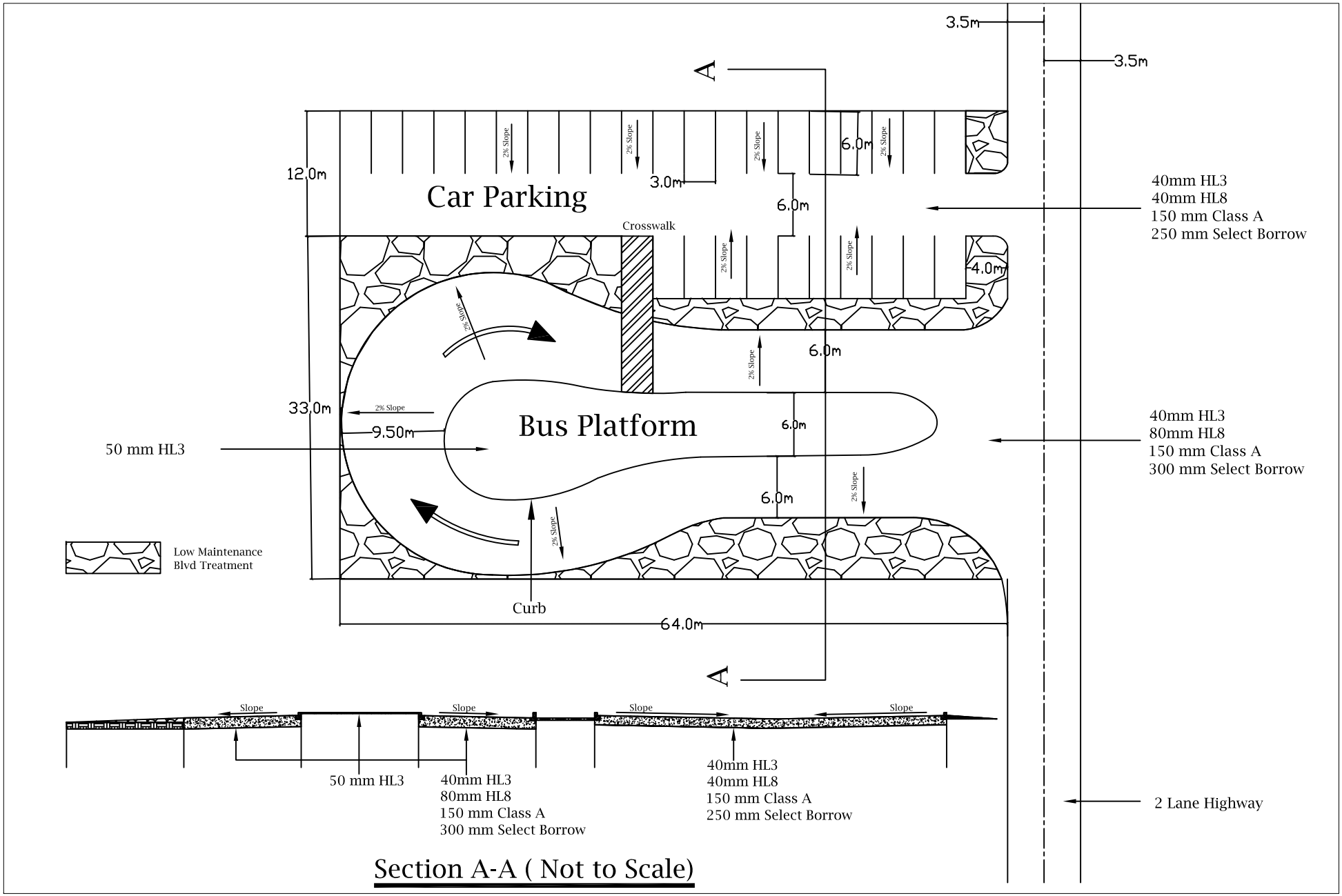

Section A-A (Not to Scale)

Scale 1:500

Typical Two Buses Platform Option 2

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9.3 Communications Infrastructure

Communication with passengers is a critical element of attracting passengers to transit services. Transit passengers are more willing to ride a service they understand and are comfortable with, in terms of understanding the routes and the schedule, and having good information about the arrival and departures of services.

Technology applications can play an important role in passenger information and communications, as well as collecting data from passengers to assist in monitoring and planning of future services.

9.3.1 Operations Technology

Automatic Vehicle Location

Automatic Vehicle Location (AVL) uses signpost or Global Positioning Systems (GPS) technology to track a vehicle's location, permitting a range of operations functions and customer communication.

In the past several years, this technology has be come commonplace for fleet applications, and Canada is home to one of the largest providers of GPS-based AVL technology (NextBus).

AVL can be used to monitor on-time performance, for safety applications, for public communication of vehicle location or arrival times, to facilitate on-demand service, and a host of other applications.

AVL technology can be installed on-board vehicles for about $1,000 per bus. System requirements can be purchased for approximately $50,000 to $100,000, or bureau service leased from service providers.

Automatic Passenger Counting

Automatic passenger Counters (APC) is an on-board technology used to count passengers boarding and alighting from vehicles at each stop. When lined to AVL equipment, the APC technology provides reliable robust data on all boardings and alightings.

APC technology, while reduced in price from its early introduction, still costs close to $10,000 per bus, plus system and operating costs. APC is also most beneficial in an urban environment with many closely-spaced transit stops. If the transit agency for PEI is considering a move to electronic fare collection, the additional cost of APC technology is not recommended, since most of the data required will come from the fare collection system.

9.3.2 Customer Information and Amenities

Website

An effective website is an important part of any transit system's communication with customers. Websites must be able to provide user-friendly (and accessible) information on routes, schedules, fares, agent locations, hours of service and more. Many systems

have interactive features, on their sites, including current vehicle location mapping and trip planners.

Trip planners allow users to enter a start and finish point and desired travel time and provides the user with choices of available trips, describing walk times, boarding points, travel times, deboarding points and destination walk times. Google® is working with several communities to develop this functionality for communities that do not have the sophisticated scheduling software typically used to create these products, and Google Transit® may be an effective option for transit information on Prince Edward island.

Wireless Internet

Several transit agencies, primarily larger systems in the US, are beginning to offer wireless internet services to their passengers. VIA Rail also offers the service in the Quebec-Windsor corridors. Most of these services rely on cel phone technology to connect internet technology on-board the vehicle to the the internet, then wireless route technology to allow passengers to connect. In this manner, the service is available wherever cell service is available, though bandwidth on the cellular network is limited. In other urban environments, wireless coverage is being expanded by internet service providers, providing full city or corridor coverage, allowing higher speed connections.

Cell Phone and Email Communication

With many of the information systems developed for transit, information can be readily distributed to users via email or cell phone text messages. For example, if a user registers for an information service related to the commuter trips from Tignish to Summerside, the AVL system can be used to notify the registered user when the vehicle is delayed, and when the arrival of the vehicle is imminent. Regular system information, alerts and updates (such as pending schedule changes) can also be communicate in this way.

Published Schedules

Many users, whether they will have access to electronic communication devices or not, will rely on printed schedules, and clear, simple, easy to use printed materials (using accessible features) are important to the success of the system. This feature is often overlooked by transit agencies, and several Canadian companies provide expert services in design and production of transit maps and schedules.

10. Financial Plan

10.1 Cost Implications

Table 26 shows the five-year projections for capital costs operating cots and ridership and revenue.

Capital costs include vehicles, station and stop facilities, and technology requirements. Operating costs are based on the estimates of hours and kilometres for each. Operating costs are based on an average hourly rate of $80 per hour. This assumes mileage related costs of $0.75 per kilometre, and hourly related costs of $35 per hour. This compares with the average reported hourly cost for Charlottetown Transit of $49.72 per hour the small system national average of about $77.00 (2006 data) and the New Brunswick system average of about $73.00.

Ridership and revenue are based on the ridership projections outlined in the service details, and the projected average fare of $6.00

The costs are developed on the following assumptions:

- Vehicle costs – $180,000
- Stop cost - $1,000
- Shelter Cost - $4,000, all stops have shelters, staged over time
- Station Cost – $50,000
- Park-Ride Cost - $50,000
- Initial Fare collection costs: $1,000/vehicle
- Electronic Fare collection costs: $10,000/vehicle
- AVL System: $1,000 per vehicle plus $40,000 system costs shared in Year 1 and Year 2
- Passenger Communications: $
- Operating Cost: $80 per vehicle-hour
- Planning and Administration: 8 percent of vehicle operating cost, excluding community network support
- Administration: 75 percent of planning and administration
- Planning: 25 percent of planning and administration
- Community Network Support: $200,000 budget annually to support planning sand implementation of community support services
- Year 1 commuter ridership as described in text

- Year 5 commuter ridership at mature levels, intervening years on straight-line interpolation
- Year 1 community ridership as described in text
- Year 5 community ridership at 75 percent of mature levels, intervening years on straight-line interpolation
- Average fare: $6.00
- Other Revenue: $200,000 budget, including advertising

Table 26 - Five-Year Financial Projection

	Year 1	Year 2	Year 3	Year 4	Year 5
Capital Costs					
(all dollar amounts in $,000s)					
Vehicles					
Commuter units	11	1	1	1	1
Community units		10	3	3	
cost	$1,980	$1,980	$720	$720	$180
Stops					
units	48	35	15		
Stops Cost	$48	$35	$15		
Shelter					
units	24	41.5	25	7.5	0
Shelter Cost	$96	$166	$100	$30	$0
Terminal Stations					
units	2	1	1		
Terminal Stations Cost	$100	$50	$50	$0	$0
Park-Ride					
units	5	15	10	5	5
Park-Ride Cost	$250	$750	$500	$250	$250
AVL system	$135	$135	$40	$40	$10
Fare Systems	$22	$22	$210	$40	$10
Passenger Communications	$50	$50	$50	$50	$50
Total Capital Costs	$2,681	$3,188	$1,685	$1,130	$500
Operating Costs					
(all figures in ,000s)					
Vehicles					
Commuter Vehicle Hours	13.5	14	15.4	16.9	18.6
Community Vehicle Hours		10	13.5	17	17
Vehicle Operating Costs	$1,080	$1,920	$2,312	$2,712	$2,848
Planning and Administration					
Admin	$65	$115	$139	$163	$171
Planning	$22	$38	$46	$54	$57
Community Network Support		$200	$200	$200	$200
Administration Costs	$87	$353	$385	$417	$428
Technology					
AVL System	$51	$51	$4	$4	$1
Total Operating Costs	$1,218	$2,324	$2,701	$3,133	$3,277
Ridership And Revenue					
(all figures in ,000s)					
Commuter Ridership	91	106	121	136	151
Revenue	$546	$636	$726	$816	$906
Community Riderhsip		68	87	96	106
Revenue	$0	$408	$522	$576	$636
Total Ridership	91	174	208	232	257
Total Fare Revenue	$546	$1,044	$1,248	$1,392	$1,542
Other Revenue	$50	$60	$70	$80	$100
Total Revenue	$596	$1,104	$1,318	$1,472	$1,642
Operating Subsidy	$622	$1,220	$1,383	$1,661	$1,635
R/C	44.8%	44.9%	46.2%	44.4%	47.1%
$/P-KM	$0.25	$0.40	$0.43	$0.45	$0.43

10.2 Funding Opportunities

10.2.1 Federal Programs

Federal Gas Tax

The federal Gas Tax program was recently announced as a permanent program for funding sustainable infrastructure in Canada. This program includes funds for transit projects as well as water, waste water, energy systems roads and bridges.

In the Public Transit Infrastructure Category, eligible projects include:

- Rapid Transit: capital assets and rolling stock (includes ferries, transit stations, park and ride facilities, and grade separated bus lanes)
- Transit Buses: bus rolling stock, transit bus stations
- Intelligent Transport System (ITS) and Transit Priority Capital Investments;
- ITS technologies to improve transit priority signalling, passenger and traffic information and transit operations;
- Capital investments, such as transit queue-jumpers and High Occupancy Vehicle (HOV) lanes
- Public transit facilities including garages, maintenance facilities, and terminal
- Infrastructure and tangible assets associated with public transit for persons with disabilities.

For Prince Edward Island, the total committed funding under this program includes $37.5 million over first 5 years of program, including $7.5 million in 2008/9 and $15 million in 2009/10.

Given the current government's commitment to this program, similar funding levels are expected in future years of the program.

Public Transit Capital Trust

The Public Transit Capital Trust allocated $900 million over three years, ending in 2008/2009 for transit infrastructure projects, over the life of this program, PEI received about $1.3 million annually, which was used to support the development of transit in Charlottetown.

Municipal Rural Infrastructure Fund (MRIF)

The Canada-PEI Municipal Rural Infrastructure Fund was designed to improve and increases public infrastructure, especially water and wastewater systems, and cultural and recreation facilities.

The purpose of Can-PEI MRIF is to improve urban and rural municipal infrastructure in PEI. In PEI, the program is implemented by ACOA and the Department of Communities, Cultural Affairs and Labour, and is administered by an Infrastructure Secretariat. The Can-PEI MRIF Management Committee oversees the administration of the Program and comprises representatives from the Governments of Canada and PEI. The Federation of PEI Municipalities sits as an observer.

Transit Pass Tax Credit

Beginning in tax year 2006, the federal government introduced a non-refundable tax credit for monthly transit pass holders, resulting in tax refunds roughly equivalent to one month per year.

10.2.2 Provincial Programs

Other Provinces

Provincial support for transit varies widely across the country, with Quebec, Ontario and British Columbia providing the strongest support, a variety of programs in other provinces, and some provinces providing no support.

In the Atlantic provinces, only Nova Scotia has provided limited support in the form of fuel tax rebates for transit agency purchases. In Spring 2008, the Nova Scotia government announced a $3 million program to support transit development in the province, but few details are currently available.

Quebec

The government of Quebec has a long history of supporting transit, beginning in the mid-1970s, and remains as one of the strongest provincial supporters of transit. Currently, the province has a variety of capital programs, ridership improvement programs and tax incentives for transit users. New programs include operating funding to support system growth, though operating funding remains primarily a municipal responsibility.

Ontario

Historically, Ontario supported 75 percent of transit capital purchases and 50 percent funding of operating deficits. This program was discontinued in 1996. In 2004, the provincial government reintroduced transit funding with a gas tax sharing program, distributed to municipalities on a combined formula of transit ridership and population. This funding can be used for capital projects and operating funding over and above historical levels, as a ridership growth measure

In addition to this funding, the province has allocated $830 million in strategic transit projects, and a 12-year plan for $17.5 billion investment in transit projects throughout the Greater Toronto and Hamilton area.

British Columbia

The province of British Columbia supports the provision of transit services in the lower mainland though the creation of Translink – the South Coast British Columbia Transportation Authority. The province has empowered Translink to raise its own funds though three main measures – transit revenues (currently 35 percent to 40 percent) a dedicated gas tax for the lower mainland amounting to approximately 12 cents per litre (currently about 30 percent), and a portion of property taxes (currently about 30 percent). A small portion of revenue also comes from a parking site tax, a parking sales tax, and a hydro levy. These funds are used to support all of Translink's activities which include comprehensive responsibility for transportation services. For transit alone, fares accounted for approximately 55 percent of the $600 million cost, and the balance was covered by Translink's funds.

For smaller systems in BC, the province dedicates the resources of BC Transit, a provincial organization that provides a variety of support measures of more than 75 small systems across the province. This includes joint procurement of fleet and technology, planning and technical support, information sharing and such. BC Transit

also provides capital and operating support to all small systems, through a system of master operating agreements and supporting annual operating agreements. In 2008-09, BC Tran sit will contribute approximately 50 percent of the operating costs (which are projected at about $100 million including Victoria Transit), and most of the projected $65 million in capital expenditures.

On April 1, 2008 British Columbia dedicated an additional 1 cent per litre of fuel sales tax to Victoria Regional Transit.

It is important to note that Translink has experienced a growth in fuel tax revenue that is below budget – a result in increasing vehicle efficiency and a decline in per vehicle fuel sales.

Manitoba

The Building Manitoba Fund provides the City of Winnipeg with a share of provincial income tax and fuel tax revenues in support of transit, roads, public safety and other municipal infrastructure and services. This fund includes both and operating and capital grant program. Municipalities outside of Winnipeg benefit from a similar program, with operating grants for conventional transit and paratransit services.

Saskatchewan

In its current budget, the province of Saskatchewan provides capital and operating funding for both fixed route service and paratransit. Funding for specialized paratransit represents a larger proportionate contribution since “special needs transportation (paratransit) provides a critical link to social services and health clients and public housing residents for various purposes, as well as being essential to meet the needs of persons with disabilities.”

Alberta

Alberta supports capital infrastructure projects, including transit through its Alberta Municipal Infrastructure Program (AMIP) and directly supports transit through the City Transportation Fund (for Edmonton and Calgary) and the City Special Transportation Grant for other cities.

Yukon

The Yukon Territorial Government directly supports the provision of paratransit service in Whitehorse, with a smaller contribution from the City.

Nunavut

The Nunuvut Territorial Government administers the funds available through the federal programs. No formal transit systems currently exist in the territory, following a short-lived system operating in 2002-2005.

Northwest Territories

The NWT Territorial Government has supplemented the funds of the federal Public Transit Capital Trust with a 50 percent matching grant to support further transit development in small communities.

10.2.3 Prince Edward Island

There are currently no provincial programs designed to directly fund public transit in Prince Edward Island. But the success of island-wide transit depends on additional financial support for both capital and operating costs.

With the implementation of a province-wide transit system, there would appear to be a clear role for the government of PEI in funding both capital and operating costs. In addition to the available federal funding (which will increase with the additional ridership of a island-wide system) the province is the only level of government with the resources to effectively support this service.

Most municipalities in PEI have limited capacity to support transit services, and will be reluctant to support a service which primarily promotes intra-island travel.

A “green levy” fund in Prince Edward Island could be used to support both a contribution to capital funding as well as operating funding support. The province currently collects 15.8 cents per litre on existing sales. This is a combination of a fixed amount per litre, plus a percentage of sales value. However, this ad valorem amount is capped at 8.6 cents per litre, effectively making the current tax a fixed per litre amount at current prices.

Based on recent data, an 1-cent green levy drawn from gasoline sales would generate approximately $2 million annually, which could be used to support the initial capital requirements as well as the on-going annual operating costs.

Over the five-year implementation plan, capital costs total approximately $15 million and operating subsidies approximately $6.5 million. On-going federal gas tax transfers (totaling $22.5 million in 2008/09 and 2009/10), could offset a substantial portion of this expenditure, even with funding for other priorities.

Capital subsidies in the first five years of implementing the program total approximately $10 million. Additional on-going capital renewal expenditures in the order of $0.75 million to $1 million will also be required. Annual operating subsidies are projected in the range of $1.5 million to $2.0 million.

This would suggest that a dedication of a portion of federal gas tax funding will be sufficient to support capital expenditures and a green levy or carbon levy in the range of $1.5 million to $2.0 million annually would be sufficient to meet the on-going requirements or the proposed plan. A green levy could take the form of:

- an allocation of fuel sales based on price (to provide a natural increase in revenue to keep pace with inflation and fund service expansion) with the risk of short-term volatility
- an allocation of fuel sales based on volume, with the risk of declining funds in real dollar terms
- a carbon levy, based on vehicle sales and projected fuel efficiency

10.3 Funding Proposal

To support the capital requirements of implementing and supporting on-going infrastructure requirements of the island-wide transit system, established in the range of $1.5 million to $2.0 million, it is recommended that the transit agency work with the government of PEI and the federal government to ensure the allocation of federal funding programs to cover these costs.

For operating costs, it is recommended that the established transit agency:

- establish a fare structure as recommended in this report to optimize ridership and revenue
- work with the identified strategic partners to maximize constituent ridership, rider revenue, and both direct and indirect financial support from these beneficiaries
- work with the government of Prince Edward Island to develop a green levy plan to fund the balance of operating and capital costs.

11. Marketing and Communications

11.1 Marketing and Communications

This Marketing and Communications Strategy provides a template for marketing and promoting island-wide public transit to residents, businesses and government. The strategy focuses on the following characteristics, which define the service.

What	A convenient island-wide public transit service along the spine of the island, supplemented by community partners providing feeder services that link to the core service
When	Conventional fixed route services, with weekday and weekend schedules; supplemented by the informal network
Who	High potential priority segments such as work commuters, university commuters, intermediate and high school students in extra-curricular activities, seniors, shoppers and entertainment/festivals/events travellers
Why	To provide public transit service that enhances community access and mobility of the people of P.E.I.
How	Provide a convenient core service with reasonable ridership and a mechanism to promote a comprehensive service over time; co-ordinate and facilitate interface with informal service providers and user groups; establish strategic partnerships with elements of the informal system to complement service and supplement ridership; integrate with existing services, both formal, informal, public and private

The primary or overarching goal for marketing public transit system in P.E.I. is to educate and engage the community and promote and grow transit ridership by creating awareness, familiarity and desire, and providing mobility options to provide connections to the core service. To be successful, the campaign must effectively deliver against consumer's expectations; communicate the benefits that transit brings to the community at large and to the targeted market segments in particular; alter perceptions, attitudes and behaviour towards transit; induce trial and then incrementally grow ridership over time. Initially, initiatives should be aimed at attracting a core ridership by targeting priority segments of the population.

The purpose of the communications plan is to ensure that customers and potential customers have ready access to timely information that makes the transit experience relevant, responsive and predictable. Messages should be communicated with clarity and simplicity and with positive consumer relevance.

Marketing efforts should focus on the community at large, as well as targeting specific market segments. Key messages for differing audiences would include—

Residents—educate, create awareness, familiarity and desire to ride transit. Communicate the environmental, economic and social community benefits and the personal benefits that transit will bring to busy schedules. Alter perceptions, attitudes and behaviour towards transit and induce trial and then increase usage.

Potential Customers—target high potential priority segments such as work commuters, university commuters, high school students, shoppers, entertainment/festivals/events, seniors, travellers and visitors. Create chatter among potential target markets.

Business—educate, create awareness and familiarity. Communicate the benefits that transit will bring to companies and their employees, as well as to the community as a whole. Generate buy-in and commitments to participate.

Government—educate, create awareness and familiarity among municipal governments; communicate the environmental, economic and social community benefits and garner support. Generate buy-in and commitments by federal and provincial governments to participate.

In marketing public transit a broad mix of tactics should be used—targeted marketing, mass marketing, public relations, customer information, community partnerships, government partnerships, special events and regular community events.

11.1.1 Three-phased Strategy

The marketing strategy needs to focus on three phases—pre-launch, launch event and ongoing ridership maintenance and growth. The strategy must create and sustain consumer interest and key stakeholder support for the service. It must go beyond simply advertising, promotion or selling. A successful marketing campaign is about activation. It must build on the relevance and opportunity for travelling by transit.

Pre-launch

Introduce the concept of island-wide transit service to the general public, creating community-wide awareness of the planned services, the benefits of public transit and how residents and businesses can access more information on the new service. Build desire among the public to try the island-wide service, and commitments from targeted businesses to participate as a partner. Now is the time to bring key influencers on-board.

Key message—

Island-wide transit service is effective, frequent and reliable and will be a relaxing way to travel/commute. It will transform the way you live and work.

Strategic goals—

- Introduce the brand and service
- Educate audience about the benefits of using inter-community transit service
- Build awareness and anticipation

Tactical objectives—

- Create island-wide transit service advocates among community leaders

- Develop a community outreach program among targeted segments and along priority routes
- Inform and educate people on the overall merits of an island-wide public transit service
- Bring opinion leaders, business leaders and key influencers onside

Launch activities

Introduce the public, and media, to the island-wide pubic transit service and its features and launch service. This public relations event will provide an opportunity to generate significant media exposure and to demonstrate the benefits, features and routing to potential customers and key stakeholders. Provides an opportunity to highlight partnerships and give them media exposure.

Strategic goals

Officially launch and introduce the brand and service

- Educate audience about the benefits of public transit and features of island-wide service
- Create demand among audience(s) for the new service
- Encourage trial

Key message

- Inter-community public transit will improve access and make life richer
- Island-wide service is accessible, effective and reliable and will be co-ordinated with community linkages
- Inter-municipal public transit is a relaxing way to commute. It can transform the way you live and work.

Tactical objectives

- Continue to inform and educate people on the overall merits of island-wide public transit
- Encourage trial
- Increase awareness of service, vehicles and fare promotions
- Build ridership and support

On-going growth and retention

Island-wide public transit service has been introduced to the public and the Authority must now grow its ridership through promotional campaigns to core potential customer base and targeted campaigns to other segments.

Key message

Public transit will make life easier. Island-wide public transit is accessible, effective, frequent, and reliable and will be a relaxing way to travel/commute. It can transform the way you live and work. The benefits of public transit will be many. Key takeaway

message: “Experience a public transit lifestyle” “Public transit puts everything within reach!”

Strategic goals

- Alter target market’s behaviour and attract new riders (trial)
- Educate audience about the benefits of public transit and features of island-wide service
- Increase awareness
- Create demand among audience(s) for the new service
- Bring opinion leaders, business leaders and key influencers onside
- Encourage trial and grow the core ridership base

Tactical objectives

- Continue to inform and educate people on the overall merits of public transit
- Encourage trial by non-riders and increase frequency of usage among occasional riders
- Create awareness of service, vehicles and fare promotions
- Build ridership and support

12. Governance Considerations

12.1 Introduction

One of the important components of establishing a successful public transit system in any new area and certainly in PEI is to ensure that the governance of the service is reflective of the strengths and informal arrangements that have already been created in the community. Building on the strengths evident in the community generates a certain degree of support for the new service and entity and also expands on the work already done rather than giving a sense of starting over.

One of the important components of establishing a successful public transit system in any new area and certainly in PEI is to ensure that the governance of the service is reflective of the strengths and informal arrangements that have already been created in the community.

Based on an analysis of PEI public transit services goals and objectives, best practices in other jurisdictions and the local context a range of governance options were identified and assessed. At the end of this chapter recommendations are made on the model that would best meet the needs of PEI in providing inter-municipal public transit services.

Governance is about—Who sets and enforces policy? Who is accountable? Who recruits and manages staff? Who owns the infrastructure? Who operates the service? Who is financially responsible? Who is responsible ultimately to deliver the most effective public transportation service? An effective governance model ensures capacity and structures are in place to deliver a quality service while at the same time making sure there is clear accountability to the owner of the infrastructure, management of the service, community partners and funders, including the public at large.

The governance model for PEI needs to be the one that best supports the purpose or mandate of the organization. Options were assessed, therefore, according to their potential capacity to effectively fulfil PEI's public transit service objectives:

- provide a core service with reasonable ridership and a mechanism to promote a comprehensive service over time;
- co-ordinate and facilitate interface with informal service providers and user groups;
- establish strategic partnerships with elements of the informal system to complement service and supplement ridership; and
- integrate with existing services, formal, informal, public and private.

The assessment of governance options must also take into consideration not only the various interests of stakeholders and province-wide representation, but funding partners at all levels including:

- provincial and federal governments providing capital funding for infrastructure and vehicles through various infrastructure programs;
- province providing operating subsidy;
- riders paying for service based on a fee structure; and
- employers and local alternative transportation providers contributing on an incentive, fee-for-service or voluntary basis.

A range of governance options is available depending on the local and provincial priorities. The following discussion draws on stakeholder interviews as well as the case studies of comparable systems.

12.2 Broad Range of Governance Options

In the approach taken to governance, options range along a continuum from public sector owned and operated to private sector owned and operated with several combinations and permutations in between.

To assess viable options, core functions were determined and criteria established. There are four core functions associated with inter-municipal public transit service.

- provide infrastructure—roadway infrastructure, stops and stations, maintenance facility, vehicles, technology;
- operate core service—service and route structure, fare collection, maintenance and repair, interface with other operators, public information;
- engage community by co-ordinating mobility options to provide a connecting function to core service—car or van pooling, taxis, school buses, courier vehicles, employer programs and so on; and
- educate, promote and grow transit ridership—initiatives aimed at attracting a core ridership and then changing individual behaviour and community attitudes to incrementally grow ridership over time.

As an initial start up operation, public transit in PEI should build on existing resources and expertise….this means considering co-locating, sharing or contracting (existing) maintenance services

As an initial start up operation, public transit in PEI should build on existing resources and expertise. In terms of maintenance this means considering co-locating, sharing or contracting maintenance services from the Charlottetown transit provider and/or the centralized maintenance facilities that operate out of Slemon Park and Kings County. The latter provides service to the provincial transportation and public works fleets, and recently the school bus fleet.

The following criteria were used in the evaluation of governance options.

- mandate—capacity to provide quality service and community leadership in educating the public and promoting transit; flexibility to collaborate with other service providers, informal transportation alternatives, employers and other community stakeholders;
- value for money—capacity to provide predictable and reliable service while being responsive to local demand; flexibility to optimize existing resources until business case can be made for a more comprehensive service and discrete facilities; and
- accountability—capacity to maintain clear and transparent relationships with owner, management, funders and community partners; flexibility to leverage various funding programs.

Several options can be considered for each core function.

12.2.1 Transit Infrastructure

At least initially, it is anticipated that the public transit service will operate on provincial roadways. It is anticipated that, whichever governance option is selected, maintenance and ownership of these rights-of-way will continue to be vested with the provincial government. In the short-term no additional roadway infrastructure is envisioned. The province has three options regarding ownership of the stops and stations, facilities and vehicles.

- direct provincial ownership;
- create an arms-length agency that owns these elements of the system; and
- outsource to the private sector ownership of these elements of the system.

12.2.2 Service Provision

The provincial government, which has just recently changed hands after ten years, has had a tendency to outsource service provision. For example, a 10-year contract was signed in 2006 with Island EMS to consolidate ambulance services and centralize dispatch. Similarly, the operation of the hydrogen buses (PEI Energy Corporation project) are being contracted out to Trius rather than being operated by the province.

The newly-mandated provincial government has three options to consider concerning the operation of public transit services.

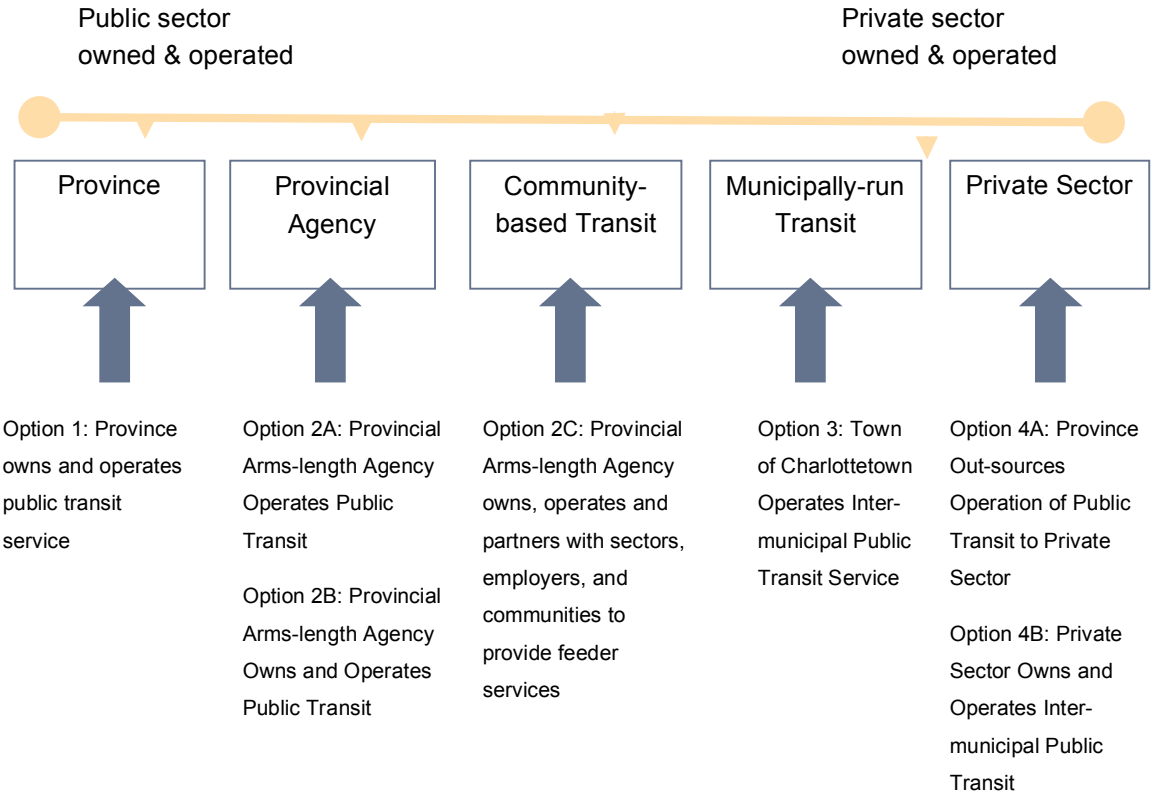
- directly manage and operate transit services;
- create an arms-length agency that manages and operates the services; and
- outsource operation to the private sector.

12.2.3 Co-ordinating Function

The province has three options with respect to the facilitator/co-ordinator function.

- Include this responsibility as part of the mandate of the service operator;
- Separate this function from general operations and either;
  - set up a special entity; or
  - designate a person in-house.

Figure 11 - Governance Options—a continuum



The first issue to be addressed is whether transit is best seated within the provincial government, set up as an arms-length corporation, contracted out to a third party or some combination of the three. Seven options were assessed for suitability in meeting public transit service objectives and the degree to which the option strengths out-weigh their weaknesses. The governance options as depicted in Table 27 are detailed in .

Table 27 - Summary of Governance Options

		Own	Operate	Engage
Province	Option 1	☑	☑	☑
Agencies, Boards and Commissions	Option 2A		☑	
	Option 2B	☑	☑	
	Option 2C	☑	☑	☑
Charlottetown	Option 3		☑	
Private Sector	Option 4A		☑	
	Option 4B	☑	☑	

12.3 Infrastructure Delivery Options

Governance options based on public sector ownership and control of operations, whether directly or indirectly, do not preclude a role for the private sector through contracts for vehicle procurement and/or maintenance, and infrastructure design and/or construction such as stops, stations, information technology, dispatch and maintenance facilities if required.

There are several infrastructure delivery options to consider:

- province may design and/or build infrastructure and purchase and/or maintain vehicles;
- agency may purchase and/or maintain vehicles;
- private sector may design and/or build and/or finance infrastructure and purchase and/or maintain and/or finance vehicles; and
- or a combination of the above.

12.4 Governance Structure

A number of options envision oversight by a board or commission. The governance structure and make up of that board can be approached in a number of ways. Issues to be discussed include—Does board membership comprise stakeholders? How are members selected? Is it an advisory or decision-making board? What decision-making authorities does the board have?

ENTRA recommends an arms-length agency with a decision-making board representing key stakeholders.

We recommend an arms-length agency with a decision-making board representing key stakeholders. During the setting-up process, the Public Transit Coalition could serve a useful advisory role because of its familiarity with islanders knowledgeable about or already contributing, privately or professionally, to facilitating public transit.

To be effective, the oversight board must have a clear mandate reflective of the provincial vision for inter-municipal public transit in PEI. An agency would allow business to be conducted at arms length from the political process, permitting greater flexibility and enhanced agility to respond to local needs and demands with innovation, engage the informal providers and establish partnerships with various sectors and foster ridership growth.

To be effective, a balance must be struck between the agency's autonomy and its accountability to the province. This can be achieved through enabling legislation that provide the board with the province's goals and objectives for inter-municipal public transit and sets out accountability, responsibility and relationship between the province and the board. To be effective, the agency should also comprise some members with experience and background in public transit planning or operations.

Table 28 - Comparison of key characteristics among governance options

	PROVINCE	AGENCY	CHARLOTTETOWN	PRIVATE SECTOR
Ownership	Province	Province or agency	Province	Province or private sector
Entity	Provincial Ministry	Agency	City Department	Private Sector Firm
STRUCTURE				
Leadership	Minister, Cabinet	Board of Directors	Council, Advisory Bd.	Company executive
Nomination Process	NA	Province appoints	Council appoints council reps. & province appoints stakeholders	NA
Board Composition	NA	Stakeholder representation & citizens	Councillors or stakeholder reps. & citizens	NA
ACCOUNTABILITY TO PROVINCE				
Provincial Control	Direct	Legislative and indirect—policy objectives, budget approvals, subsidy agreements	Indirect—purchase of service agreement, budget approvals, subsidy agreements	Contractual
Management	Provincial staff	Agency staff	Municipal staff	Private sector staff
Budget approval	Line items	Annual board budget & subsidy approval	Annual council budget & subsidy approval	Annual subsidy approval
Transparency of financial relationship	Transparent	Annual reports		Least transparent
OPPORTUNITIES AND RISKS				
Likelihood to engage informal services across province	Yes	Yes	No	No
Depoliticizes decision making	No	Yes	No	Yes
Agility (entrepreneurial and innovative)	Highly bureaucratic	Less bureaucratic/ more innovative	Highly bureaucratic	Entrepreneurial

12.5 Conclusion

After assessing governance options, ENTRA recommends that PEI public transit be governed by an arms-length organization led by a community-based board of directors (Option 2C). The organization should be vested with responsibility to own and maintain the vehicles, manage and operate the service, (through direct provision or with a contract with a supplier) and partner with sectors, employers, and communities to provide feeder services, as well as educate, promote and grow transit ridership across the province.

> ENTRA recommends that PEI public transit be governed by an arms-length organization led by a community-based board of directors.

This option builds not only on the networking and advocacy work to date of the Public Transit Coalition, but on optimizing the existing informal transportation alternates. The recommended approach is likely to be more responsive to community needs and local demand, gaining community buy-in and promoting transit ridership. Community partners are critical to building ridership over the long term and should help to provide more flexibility in collaborating with existing local service providers over the shorter term. A community-based board can heighten public profile with board members becoming ambassadors for transit as a viable alternative in PEI.

Some stakeholders raised concern about government not having a good track record of operating businesses and increasingly outsourcing service provision; for example, the recent 10-year contract with Island EMS. Similarly, the operation of the hydrogen buses is being contracted out to Trius rather than being operated by the province. While not outsourcing to the private sector, the recommended option enables the government to remain arms length from operations. However, providing oversight and a policy context conducive to enhancing public transit ridership may help to build capacity and credibility within the provincial government.

Under the recommended option, the provincial government involvement would include:

- oversight of arms-length organization;
- contributions to capital costs to offset federal infrastructure funding;
- operating subsidy to bridge the gap between the operating budget and fares;
- access to provincial transportation and public works maintenance facilities;
- access to provincial rights-of-way, kept in state of good repair; and
- pro-transit policy regime.

The recommended option does not preclude private sector involvement. The private sector may be contracted through tender calls to purchase and/or maintain vehicles, design and/or construct stops and stations, design and/or maintain IT and dispatch systems. Also, the private sector may participate through partnerships—as providers of alternative transportation options and employers.

Delivering public transit services through an arms-length organization best supports PEI's public transit service objectives and meets the needs of its stakeholders.

13. Strategic Partnerships

Partnerships are pivotal to the successful initiation, short-term implementation and long-term sustainability of an inter-municipal public transit service for Prince Edward Island.

To identify partnership opportunities that should be pursued, stakeholders were identified and categorized in terms of current responsibilities and potential roles in implementing a public transit service in P.E.I. As partnerships may take a variety of forms, possible relationships and key elements to be included are described.

A broad-based inventory of stakeholders was developed—federal government, province, municipalities, transit providers, alternative transportation providers, community groups, private sector companies, businesses and residents. Then areas of responsibility that would assist with implementing public transit in P.E.I. were identified—policy, planning, funding, operations—and opportunities to help deliver core functions explored.

Seamless linkages to the core service will go a long way to promoting ridership so partnerships with alternative service providers and elements of the informal system are critical. These partnerships may involve establishing service agreements and/or co-ordinating schedules to interface with the informal system at designated stops.

A detailed inventory of who is currently delivering and funding transportation-related services was prepared. Based on an analysis of latent demand—geographic and demographic—potential partners were then identified in specific markets.

Finally, the shape and format of partnerships will vary depending on roles, responsibilities and relationships. Formalizing partnerships may take the form of—letters of understanding, contracts or funding, subsidy or service agreements. Partnerships may involve money, land, access to rights-of-way, facility sharing, policy or regulatory concessions or voluntary collaboration.

This section identifies the stakeholders, the assets that partnerships may leverage, and the markets to target and key elements that should be incorporated in respective partnerships. This initial study has identified potential opportunities – the on-going work of the transit agency will need to include further development of these opportunities, including identifying the mutual objectives of the partnerships, establishing the criteria for success and determining timeframes and terms for the agreements.

13.1 Stakeholders—opportunities for partnerships

It is important to understand the policy, planning and funding context, which, for the most part, sets the parameters for stakeholder involvement in public transit.

Table C-1 in Appendix C identifies opportunities for stakeholders to help deliver core functions.

Based on a detailed inventory of existing services in each demographic and geographic market and an analysis of latent demand, Table C-2 in Appendix C hones in on specific elements of potential partnership agreements.

13.1.1 Federal Government

The federal government is actively evaluating ways in which it can work with provincial and local governments to support transit. It currently provides capital funding for infrastructure and vehicles through various infrastructure programs such as the gas tax, ecoMOBILITY and the First Nation's green infrastructure program.

Transportation support is also provided by the federal government through a number of programs such as HRSDC apprenticeship training and Aboriginal health services.

As an employer, the federal government can actively promote transit ridership among employees. For example, it could organize car and van pooling for employees of the Summerside Tax Centre linking them into the core service.

13.1.2 Province

There are a number of ways the provincial government can invest in transit. It can assist with capital to fund infrastructure and vehicles through tri-partite agreements with federal and local governments. The provincial government may provide an operating subsidy to top-up fare box revenues and help bridge the gap between fares paid by riders and real operating costs to provide the service and keep infrastructure in a state-of-good repair.

The province currently provides transportation support to specific client groups through several programs such as social and disabled services. It also regulates the insurance industry and sets the standards for vehicle insurance, which impacts alternative transportation providers.

Also, the province owns and maintains transportation infrastructure across P.E.I. including rights-of-way and maintenance facilities. At least initially, consideration needs to be given to co-locating, sharing or contracting maintenance services from the centralized maintenance facilities that operate out of Slemon Park and Kings County. This facility currently provides service to the provincial transportation and public works fleets and the school bus fleet.

By adopting a transit supportive policy regime, the province can influence attitudes towards transit and help increase ridership. Initiatives may include public education, tax incentives, or corporate challenges. Members of the Provincial Legislative Assembly can also become visible advocates and ambassadors for public transit. As an added benefit, riding the bus is often a positive way to informally meet constituents and be seen out and about in the community.

As an employer, the provincial government can actively promote transit ridership among employees.

13.1.3 Municipalities

Municipalities can support transit through funding, transportation master plans and official plan policies and zoning by-laws regarding corridors and the location of stops and stations, as well as commuter parking lots. Municipalities are also responsible for regulating or licensing some of the alternative transportation services and can be supportive of these options through such means as parking enforcement practices, drop-off zones and curb cuts.

Municipalities also own and maintain transportation infrastructure within their respective jurisdictions and may contribute land and access to rights-of-way.

Charlottetown is the only municipality in P.E.I. that provides public transit service. The opportunity to extend this service to adjacent communities through a purchase of service agreement should be explored. Also, consideration may be given to co-locating, sharing or contracting some maintenance services from the Charlottetown transit provider.

Cavendish & Area Resort Municipality is unique in terms of the huge variation in residents between tourist season and the rest of the year. Large numbers of seasonal employees are required during the summer tourist months. The opportunity for the municipality to organize vanpools to link into the core system needs to be explored. This would enable the flexibility to provide relevant transit service all year long.

As an employer municipalities can encourage transit ridership by establishing and co-ordinating car and van pooling for employees and linking with the core service. They may also undertake proactive public education programs to encourage transit ridership.

13.1.4 Private Sector

The private sector may participate as a provider of a transit (e.g. Charlottetown Transit) or alternative transportation service (e.g. taxis, couriers, hydrogen bus, Donna's Transport Ltd. and Pat and the Elephant) and as employers or associations representing employers (e.g. P.E.I. Seafood Processors Assoc.). Employers and local alternative transportation providers may contribute on an incentive, fee-for-service or voluntary basis.

13.1.5 Community and Non-profit

While community facilities and non-profit organizations such as Holland College and University of P.E.I., may participate as employers, they can also support public transit by organizing car and vanpools to transport students linking them into the core service. The not-for-profit sector may also participate as a provider of an alternative transportation service (e.g. Transportation West and Pat and the Elephant).

Community groups such as Home and School Associations may also get involved by organizing car and van pooling from schools to links with the core service for students who have participated in after-hours activities and thus missed the school bus.

Some community organizations may fund raise to purchase a car or van(s); some may make arrangements with a local property owner to facilitate staging and commuter parking areas.

13.2 Partnership Agreements—an ongoing process

To begin to take practical steps to realize the vision of an inter-municipal public transit service in P.E.I. requires strategic partnerships with various stakeholders. Coalition members need to meet with potential partners to develop a shared understanding of issues, requirements, barriers and opportunities.

The initial priority is to reach agreement around principles for working together and gain commitments to pursue partnerships to supplement and complement the delivery of

public transit. Drafting letters of understanding may facilitate the process by clarifying objectives, roles and responsibilities, setting the timeframe and tracking progress. It is intended that these letters will be continually updated as issues are resolved and consensus achieved. This is a continuous process—the importance of managing and nurturing these partnerships cannot be overstated.

Some partnerships may continue as collaborations defined by letters of understanding, while others may evolve into more formal funding or purchase of service agreements or contracts. Some partnerships may involve funding, others incentives and still others may be based on voluntarism. Table 29 sets out recommended partnerships for the transit agency to pursue.

Table 29 - Priority Opportunities for Formal Partnerships

ROUTE	SUPPLEMENT SERVICE	POTENTIAL PARTNER
Outlying communities of Charlottetown	■ Inter-community connections to areas surrounding Charlottetown	■ Charlottetown Transit
Charlottetown to north end of Tignish	■ Seasonal commuter service to and from coastal fish and seafood processing operations	■ Seafood Processor's Association
North Rustico	■ Seasonal commuter service co-ordinating linkage to core service	■ Cavendish & Area Resort Municipality
Lennox Island	■ Commuter service linking to core service	■ Mi'kmaq Confederacy