PEI Department of Transportation and Infrastructure Renewal,
City of Charlottetown, Town of Cornwall, Town of Stratford

REGIONAL ACTIVE TRANSPORTATION PLAN
GREATER CHARLOTTETOWN AREA



FINAL REPORT

MARCH 2012

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1. INTRODUCTION

The City of Charlottetown, Town of Stratford, Town of Cornwall and the PEI Department of Transportation and Infrastructure Renewal are working together to develop an exciting plan to help improve conditions for cycling and walking in the Greater Charlottetown Area. The Regional Active Transportation Plan will recommend ways to develop comfortable and attractive pedestrian and cycling facilities that will connect major activity hubs throughout Charlottetown, Stratford and Cornwall.

The objectives of this study are to:

- Identify major activity hubs
- Identify existing major active transportation facilities (sidewalks, trails, paved shoulders, bike lanes, etc.),
- Identify current and planned local active transportation networks
- Recommend a regional active transportation network to connect the major hubs
- Identify design guidelines and costs

1.1 What is Active Transportation?

Active transportation is any form of **human-powered transportation**, that is walking, cycling, pedestrians with mobility devices, skateboarding, cross-country skiing, etc. The focus is on **"purposeful trips"** to work, school, shopping, errands, visiting; not just for recreation.

Active transportation can take place along roads (walking and cycling), sidewalks (walking), and trails (single or multiple users). We need to find **attractive, comfortable space** connected to activity centres within our communities so more people will be encouraged to take some trips by walking or rolling.

There are many reasons to encourage walking and cycling, as listed in Exhibit 1, and they are all deeply interrelated. Ultimately, the many benefits of active transportation combine to create a better quality of life for all citizens. And **walking and cycling are fun, creating a sense of *joie de vivre*!**

Exhibit 1: Benefits of Active Transportation

Helping People and Communities	Helping to Improve our Environment	Helping the Economy
• Improved health and well-being • Improved quality of life • Increased accessibility • Promotion of secure and liveable communities • Reduced travel costs	• Reduced air pollution • Reduced greenhouse gas emissions • Reduced surface area dedicated to roads and car parking	• Happier, healthier people are more productive at work and school • Potential for increased land values • More efficient use of existing infrastructure • Increased tourism potential • Revitalized urban centres

1.2 Consultation

The Regional Active Transportation Plan was developed through a consultative process consisting of a series of events: initial and final public open houses, meetings and interviews with stakeholders, meetings with the Steering Committee and an Advisory Group, and presentations and discussions with staff and Councilors. Study information was made available through a web site, www.WalkBikeGreaterCharlottetown.com. Input and feedback was sought on existing conditions and issues, major activity hubs, locations where enhancements for cyclists or pedestrians are needed, current programs for promoting safety and use of active transportation, potential partners, and preliminary and draft recommendations. Approximately 100 members of the public were engaged in the first series of Open Houses, and 50 members of the public attended the final series of Open Houses.

Emerging ideas were developed based on work with the study's Steering Committee, Advisory Group, field reviews, consultation with members of the public at Open Houses in September 2011, and results from the Vibrant Communities workshop in September 2011. These ideas or preliminary recommendations were presented in Progress Report No. 1, and reviewed and refined based on discussions with the following stakeholders at meetings and telephone interviews held in November, 2011:

- Councillors representing Charlottetown, Cornwall and Stratford
- PEI Transportation and Infrastructure Renewal directors and managers
- City of Charlottetown directors and managers
- Representatives from UPEI, Holland College and the Eastern School District
- Individuals representing the following interests:
  - Cycling PEI
  - Seniors
  - People with disabilities
  - Newcomers to PEI
  - Youth
  - Environment and sustainability
  - Business and tourism
  - Active living / health

The resulting draft recommendations were presented in Progress Report No. 2 to the Steering Committee and Advisory Group in December 2011, and made available to the public on the study's web site.

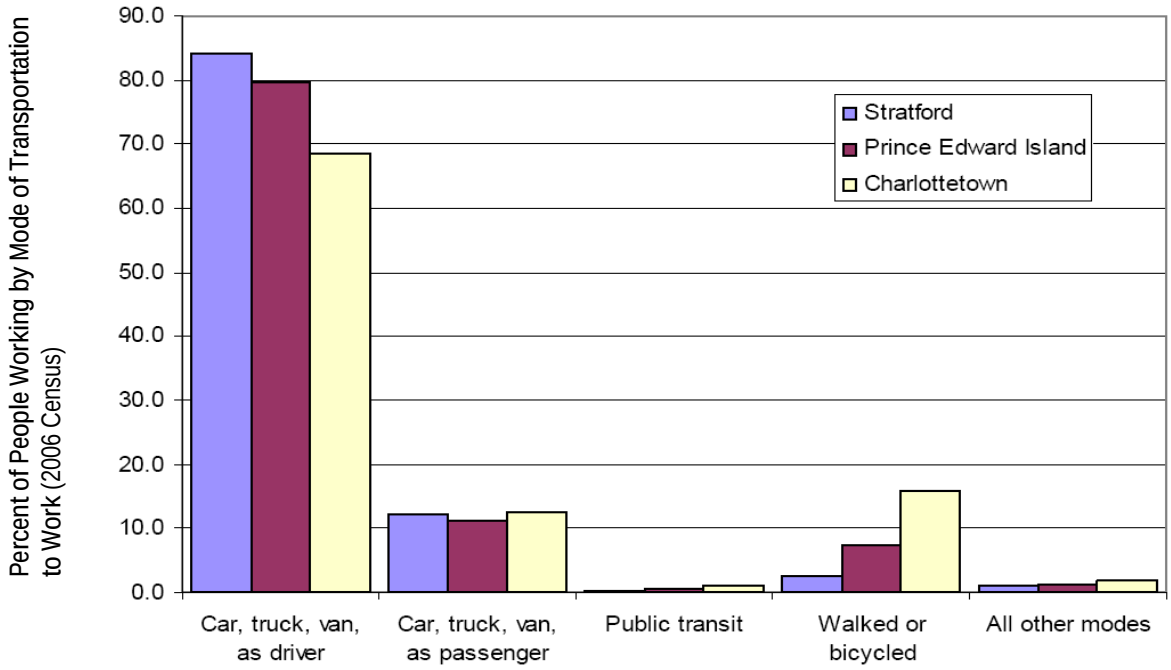


A final series of public Open Houses were held in February 2012, one in each of the three communities. Attendees were supportive of the proposed Regional Pedestrian and Cycling Networks, suggesting a few additions to the network (the networks have been updated to reflect these suggestions), and supportive of the recommended actions.

2. CURRENT CONDITIONS AND STRATEGIES

From the *Creating New Choices: Stratford Transportation Master Plan* (Draft), we know that quite a few people walk or bicycle to work in Charlottetown, but very few commute to work on foot or by bike in Stratford, as illustrated in Exhibit 2. Note that data for Cornwall were not reported but is expected to be similar to Stratford.

Exhibit 2: Mode of Transportation for Trips to Work



Active transportation facilities in Charlottetown, Cornwall and Stratford today consist of:

- A variety of trails: some are for a single use such as walking, hiking or skiing; others are for multiple uses including walking, cycling, in-line skating, and pedestrian mobility devices such as wheelchairs and scooters
- Sidewalks for pedestrians including those with mobility, hearing, visual or cognitive impairments
- The boardwalk along Charlottetown's waterfront for pedestrians only
- Paved shoulders that can be used by cyclists, and by pedestrians when sidewalks are not present
- Bike lanes

The existing network is about 90 km long, as summarized in Exhibit 3, and illustrated on Map 1.

Exhibit 3: Length of Existing Active Transportation Facilities (km)

Type of AT Facility	Length (km)			
	Charlottetown	Cornwall	Stratford	Total
Connecting Sidewalk	5	6	14	25
Multi-Use Trail	22	-	6	28
Boardwalk	3	-	-	3
Walking Path	-	5	-	5
Park/Nature Trail	8	3	-	11
Ski Only Trails	3	-	-	3
Bike Lane / Paved Shoulder (does not include paved shoulders on the Trans Canada Highway)	5	-	10	15
Segregated Bike Lane (Seasonal)	1	-	-	1
Total Length of Existing AT Facilities	47 km	14 km	30 km	91 km

2.1 Provincial Jurisdiction

The Province has jurisdiction over the roadways in the Town of Cornwall and the Town of Stratford: they plan, design, construct, operate and maintain them. The Province also has authority over any other works that are placed within the road rights-of-way. For example, the Province has permitted the Towns of Cornwall and Stratford to construct and maintain sidewalks or trails within the roadway rights-of-way.

In Charlottetown, the Province has jurisdiction over Provincial routes that run through the City. These are the Trans Canada Highway running from the North River Bridge to the Hillsborough Bridge via Capital Drive, Upton Road, Arterial Highway, and Riverside Drive, as well as Route #2 East (St. Peters Road) and Route #2 West (Malpeque Road) north of the Trans Canada Highway. The City of Charlottetown has jurisdiction over all other roadways in the City

2.2 Provincial Regulations

The use of public roadways is regulated by the Province through the *Highway Traffic Act* (HTA). Below are the main regulations in the HTA that apply to active transportation:

Pedestrians and the Highway Traffic Act

- Pedestrians are not to walk on a roadway when there is a sidewalk that is reasonably passable on either or both sides of a highway.

- Where there is no sidewalk, pedestrians are to walk when practicable only on the left side of the roadway or shoulder facing traffic approaching from the opposite direction, and no more than two shall walk abreast.

- At an intersection controlled by traffic signals, a pedestrian that enters the crosswalk with a "walk" or green signal light has the right-of-way over all vehicles.

- Pedestrians have the right-of-way within a marked or unmarked crosswalk at an intersection with a stop sign or yield sign, and at an open intersection. Pedestrians may enter the roadway with caution. Drivers must yield to pedestrians.

- Pedestrians, at locations where they have the right-of-way, must not leave the curb and walk or run into the path of a vehicle that is so close that a driver cannot safely yield the right-of-way.

- A pedestrian crossing a roadway at a point other than within a crosswalk must yield the right-of-way to a driver.

Cyclists and the Highway Traffic Act

- A person riding a bicycle upon a highway has the same rights and duties as a driver. Cyclists must obey the rules of the road the same way as motorists and are also entitled to an equal share of the road.

- Cyclists are not permitted to ride on sidewalks, or to ride on a highway where signs prohibit cyclists. Currently there are no roads in the Province that are signed prohibiting cyclists,

- Cyclists must wear a bicycle safety helmet.

- E-bikes are limited-speed motorcycles under the HTA and are considered a moped. A valid driver's licence is required to operate an E-bike in Prince Edward Island.

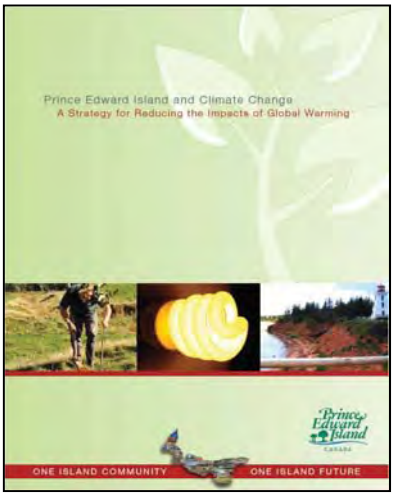
2.3 Provincial Strategies

The Provincial Department of Health and Wellness through their *Strategy for Healthy Living* support and promote active living. Programming through GO! PEI specifically promotes walking and cycling.

The Province released its Climate Change Plan in November 2008, *Prince Edward Island and Climate Change: A Strategy for Reducing the Impacts of Global Warming* (Department of Environment, Labour and Justice). The plan has 47 different actions items, including the following initiatives on active transportation:

- Develop co-funding initiatives for the construction of bicycle and walking paths within city limits

- Remove sales taxes on bicycles, bicycle parts and bicycle related clothing and safety gear



2.4 City of Charlottetown Plans

Charlottetown's *Integrated Community Sustainability Plan Actions, Parks and Open Space Master Plan* and *Eastern Gateway Waterfront Master Plan* support expanding the active transportation network and promoting more walking and cycling:

- Ensure City infrastructure and development planning is more pedestrian and active transportation centered
- Seek out and promote community active lifestyle groups
- Link parks together and to the neighbourhoods to allow people to be physically active from the moment they leave their home.
- Expand the existing trail system and better utilize the Confederation Trail
- Develop an Active Streets network

The *Parks and Open Space Master Plan* recommends the following:

- **Trails that facilitate movement in all directions within the city**: The Confederation Trail establishes a central spine. Increase Downtown connections to the Confederation Trail with painted lines on sidewalks and signage on Active Streets. Consider an outer ring of trails along the Arterial Highway right-of-way from the Queen Elizabeth Hospital grounds and Hillsborough Park westerly to Ellen's Creek through Southview Park (this would require PEI TIR approval). Use Active Streets, new and existing trails to link trails in the Queen Elizabeth Hospital-Hillsborough Park network to the UPEI Campus. Connect existing trails at Hermitage Creek and on Lewis Point (i.e., Memorial Forest) with short trail connections across the campus. Augment waterfront connections with connections between the Queen Elizabeth Hospital Grounds on the Hillsborough River and Joseph Ghiz Park, and between Queen Elizabeth Park on the North River and the Hermitage Creek area. In the short term, repaint the 'blue line' to lead people around the waterfront, including Confederation Landing and Victoria Park.
- **An extensive network of Active Streets** to connect residential neighbourhoods to parks, trail systems, First Class Sporting Venues, schools, and primary public transportation and commercial nodes: Provide highly visible signage, designated bicycle lanes, widened and well-maintained sidewalks, traffic calming measures, well-kept benches and bus stops, increased vegetation and trees, and more of bike racks.

Charlottetown's proposed trails and active streets networks are illustrated in Exhibit 4 and Exhibit 5, respectively. Please refer to the *Parks and Open Space Master Plan* (EDM Environmental Design and Management Limited, May 2007) for specific recommendations and details.

The *Eastern Gateway Waterfront Master Plan* concept, illustrated in Exhibit 6, includes the following related to active transportation:

- Realignment of Water Street to allow for a new public Eastern Waterfront Park. Along with this network modification are new roundabouts at Water / Grafton Streets and Grafton Street / Riverside Drive. These network and intersection improvements should enhance pedestrian and cyclists access to the Hillsborough Bridge.

- A new open space system that connects the Gateway area to the downtown and beyond with an enhanced trail network. This network consists of a pedestrian connection between the Eastern Waterfront Park and Joe Ghiz Park, and connections to the east and west sides of downtown, and along Riverside Drive to the hospital, enhancing the Routes for Nature and Health path system and linking to the Confederation Trail.

Please refer to the *Charlottetown Eastern Gateway Waterfront Master Plan* report (Urban Strategies Inc. et al, March 24, 2011) for specific recommendations and details.

The Upton Farm Committee is developing a master plan for the Upton Farm property northwest of the Trans-Canada Highway and Upton Road. A number of informal trails exist on this property.

The City of Charlottetown will be updating their *Official Plan* in 2012 and will consider the policies recommended within this plan in that update.

Exhibit 4: Charlottetown's Existing and Proposed Trails Plan: Excerpt from the Parks and Open Space Master Plan (Figure H-7)



Exhibit 5: Charlottetown's Active Streets Plan: Excerpt from the Parks and Open Space Master Plan (Figure H-8)

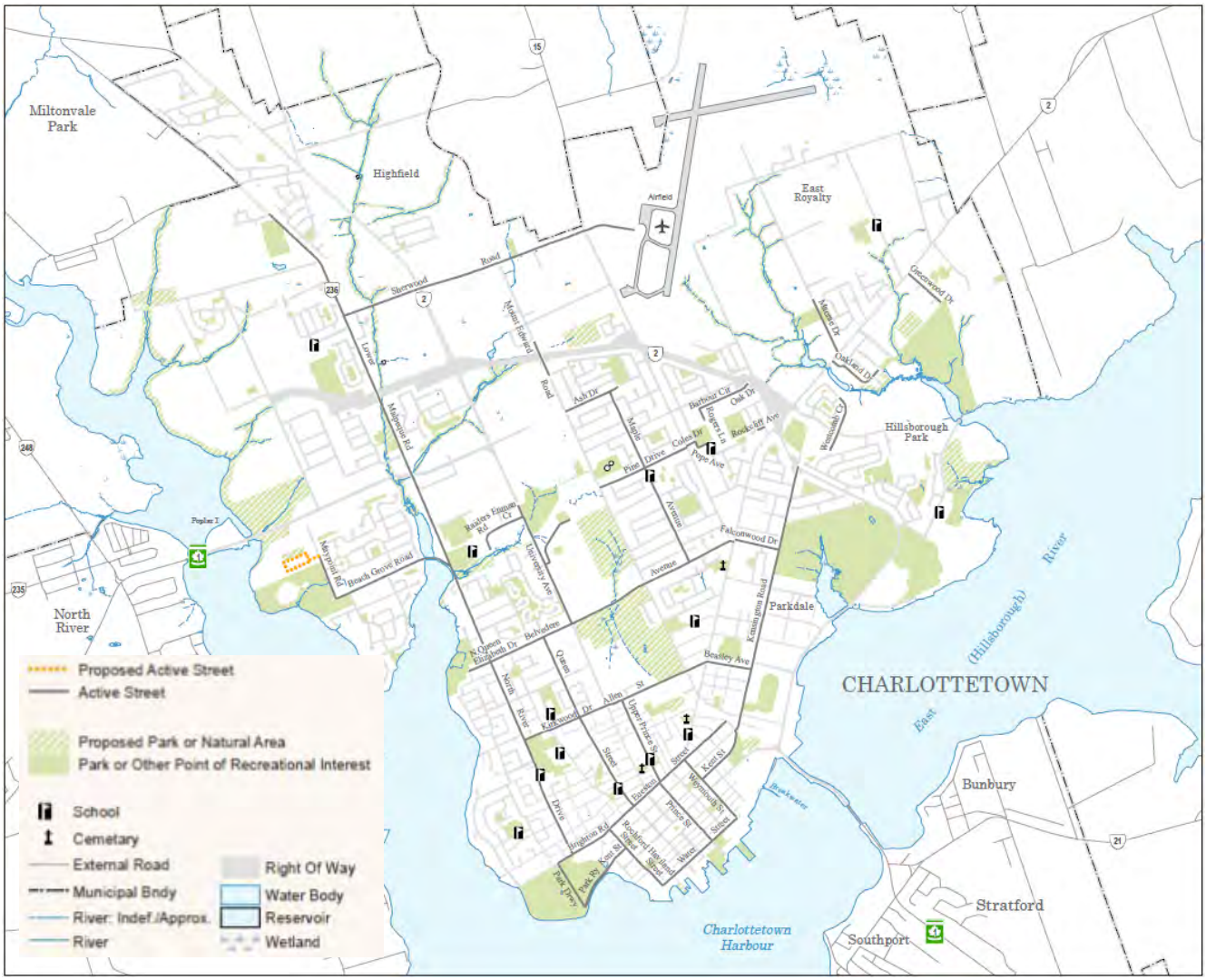








Exhibit 6: Charlottetown's Waterfront Concept: Excerpts from the Eastern Gateway Waterfront Master Plan



A future vision for Charlottetown's Eastern Gateway Waterfront



The open space network in the Eastern Gateway connects to the central Charlottetown area and the Confederation Trail



The recommended Street Network focuses truck traffic along the realigned Water Street and features an extension of the roundabout pattern recently completed on Riverside Drive.







2.5 Town of Cornwall

Cornwall's *Strategic Plan* and *Land Use Strategy* support expanding the active transportation network and promoting more walking and cycling:

- Review land use patterns… with particular regard to walkability, environmental impact, and open space.
- Develop a plan for long-term connectivity of neighbourhood parks through a greenway system to promote walking, open space protection, and habitat preservation
- Develop a plan for long term sidewalk development, providing opportunities to select other modes of transportation over the car while enhancing safety

Cornwall publishes a Recreation Map illustrating where sidewalks, and nature and walking trails exist within the Town, as illustrated in Exhibit 7. The Town also has a concept developed in 2002 for potential trails and paths called *Greenways for our Future*, illustrated in Exhibit 8.

The Town of Cornwall will be updating their *Official Plan* in 2012 and will consider the policies recommended within this plan in that update.







Exhibit 7: Cornwall's Recreation Map showing Trails and Sidewalks

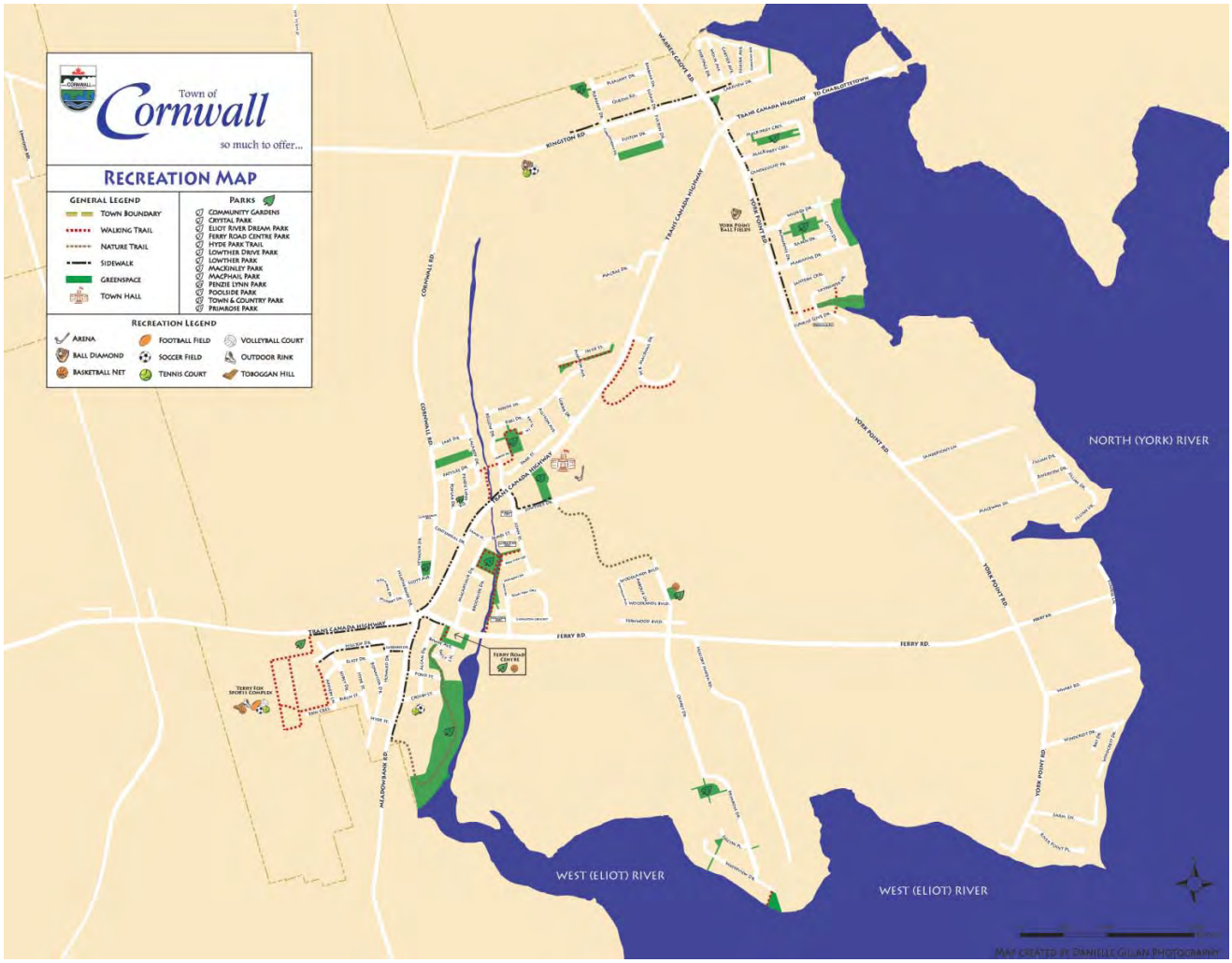








Exhibit 8: Cornwall's Greenways for the Future Concept from the Strategic Plan



2.6 Town of Stratford

Stratford's *Sustainable Strategic Plan and Vision 2028*, *Active Transportation Plan* and *Transportation Master Plan* support expanding the active transportation network and promoting more walking and cycling:

- Stratford prioritizes preferred methods of transportation in the following order:
    1. Active transportation, i.e. bicycle, pedestrian and other non-motorized means of transport;
    2. Public transit; and
    3. Vehicles using leading edge technologies.
- Sustainable transportation alternatives and options are developed, promoted and supported
- Based on providing key linkages to important recreation, commercial, civic and residences through a network of multi-use connections

Stratford's Active Transportation Committee recommended an Active Transportation Network that was further refined in the *Transportation Master Plan*, as illustrated in Exhibit 9. The later recommends:

- Give priority to developing facilities that encourage active transportation

- Provide safety measures at pedestrian crossings such as signage, curb extensions, and special pavement markings and material

- Require the inclusion of walking and cycling facilities in all future development projects, and ensure connectivity of these facilities is given priority

- Require the provision of bicycle parking and storage facilities at destinations such as public buildings, shops, offices, parks and schools

The active transportation infrastructure recommended in the *Transportation Master Plan* consists of:

- **Sidewalks**: continue with installation on one side of the road along the identified arterial AT routes and then initiate a program to provide sidewalks on one side of the road along selected collector streets

- **Stratford Trail**: Extend using existing rights-of-way and undeveloped land, and upgrade to allow shared use by pedestrians and cyclists including widening, lighting, flattening sharp curves, etc.

- **Hillsborough Bridge**: Make pedestrian and cycling improvements to and across the bridge. A concept plan developed as part of the Active Transportation Network is shown in Exhibit 10. Note that the existing bridge cannot handle any additional loads such as widening or adding a trail bridge due to the limitations of the existing piers and foundations.

- **Commuter Bicycle Network**: Develop a cycling map, promotion programs and cycling skills training program. Undertake an analysis of the marked cycling routes and add appropriate pavement markings and other features.

Please refer to the *Creating New Choices: Stratford Transportation Master Plan* draft report (McCormick Rankin Corporation, February, 2011) for specific recommendations and details.

The Town of Stratford has developed a core area vision and waterfront open space concept plan that include public access to the waterfront and multi-use trails that connect to the Hillsborough Bridge and Commercial Western Gateway. The waterfront concepts are shown in Exhibit 11.

The Town of Stratford will be reviewing their *Official Plan* in 2012 and will consider the policies recommended within this plan in any future updates.

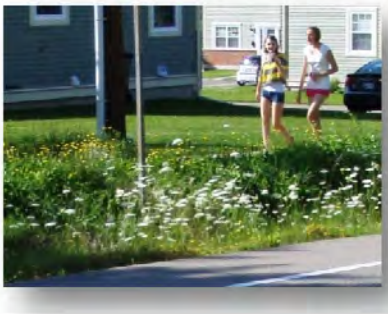
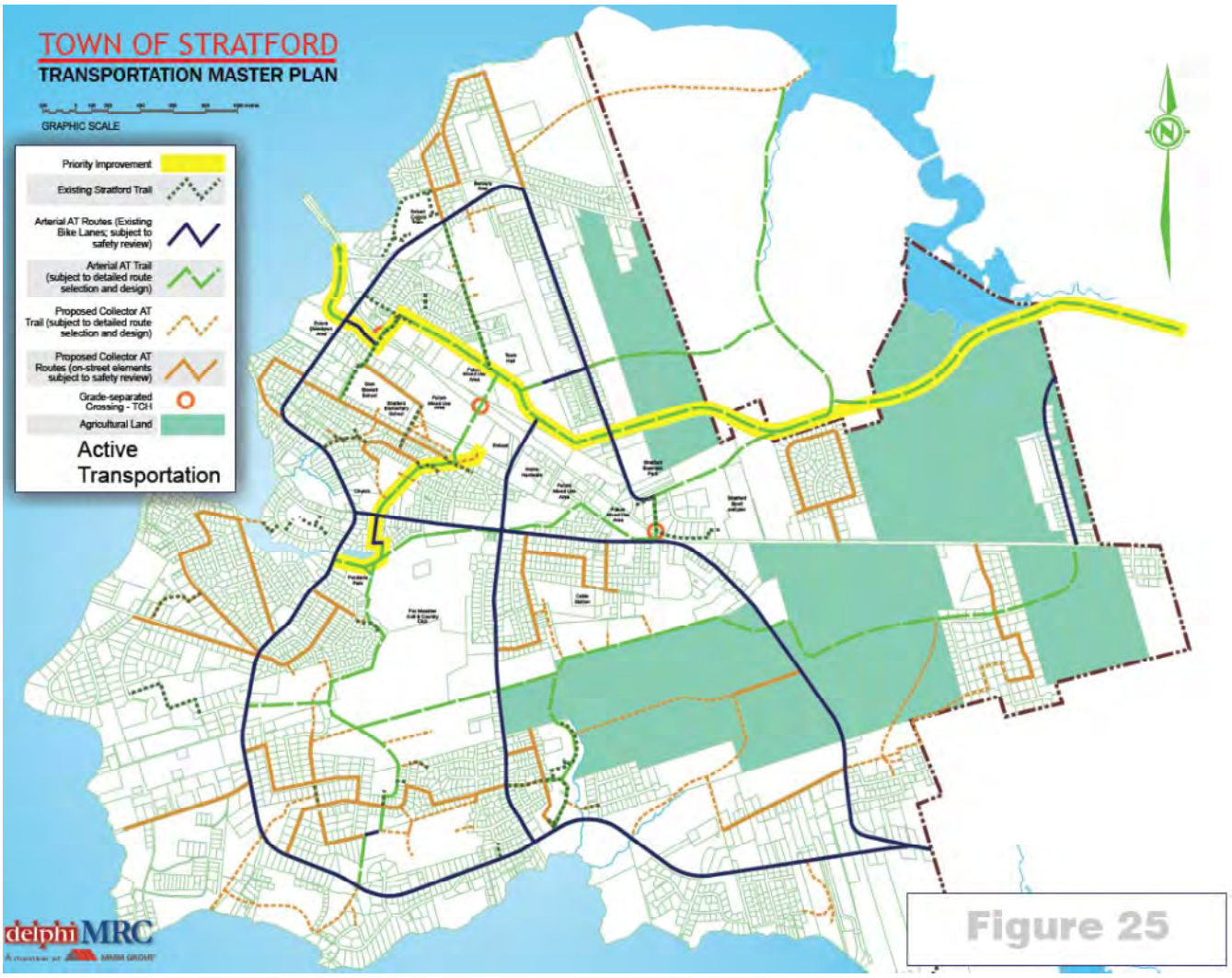






Exhibit 9: Stratford's Active Transportation Network: Excerpt from Creating New Choices: Stratford's Transportation Master Plan (Draft)



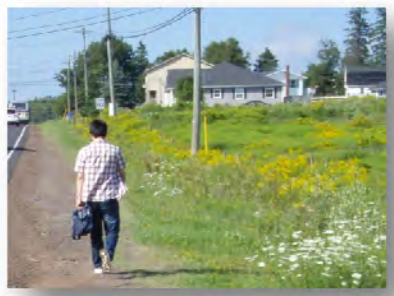






Exhibit 10: Hillsborough Bridge Concept: Excerpt from the Conceptual Civic Entry Plan

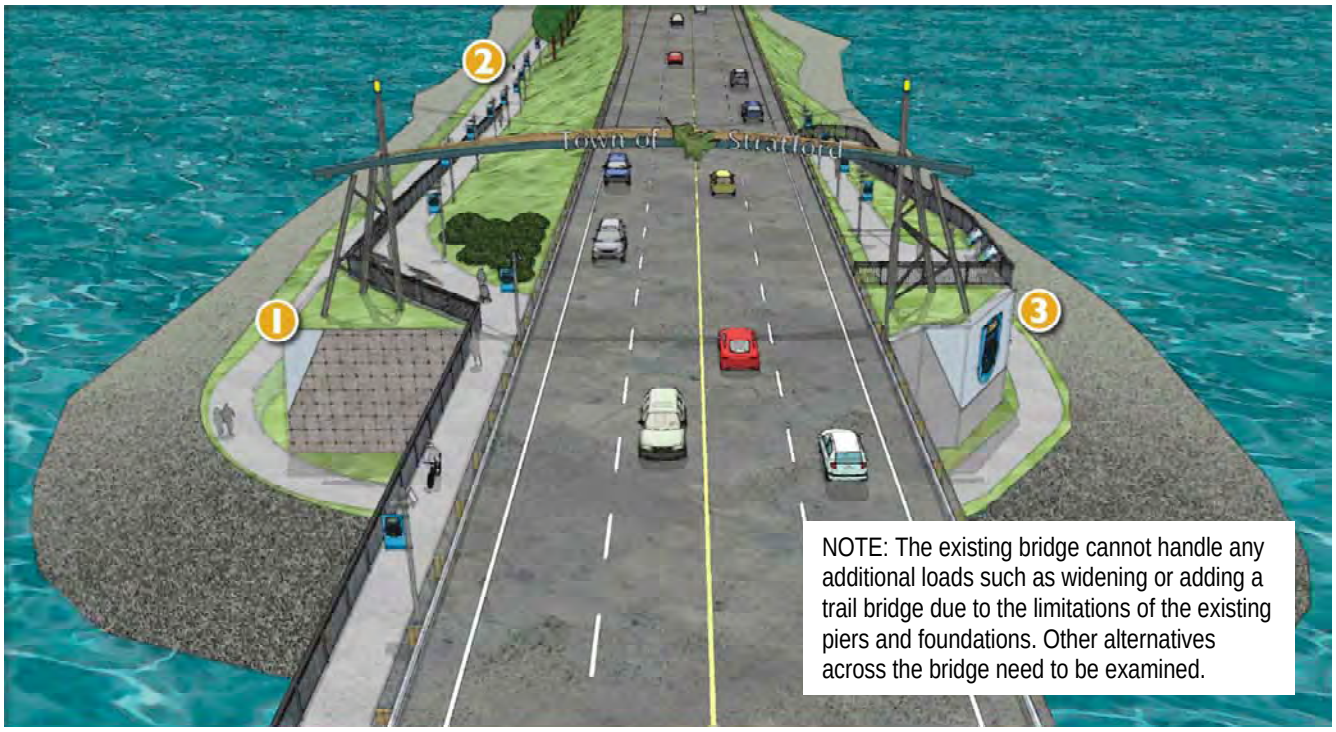










Exhibit 11: Waterfront Concepts: Excerpts from Stratford Waterfront Open Space Plan







3. RECOMMENDED REGIONAL AT NETWORK

3.1 Overall Approach Based on What We Heard

> ***It is time to be more aggressive in taking space for cyclists.***
>
> ***We are capable of standing up in the winter but there is no place to walk.***
>
> Comments heard from members of the public during the Public Open Houses

Generally, people have noted that there are **many great places** for pedestrians and cyclists. In Charlottetown, they value the Confederation Trail, Victoria Park bikeway and Waterfront boardwalk, and the compact downtown to name a few. In Cornwall, they value the quieter rural roads for cycling, the Hyde Park trail and other nature trails, and the addition of sidewalks along the Trans Canada Highway. In Stratford, they value the addition of sidewalks and paved shoulders along the busier roads, the trail connection and underpass of the Trans Canada Highway, and access to quiet rural roads for cycling at the edges of the town. However, some sidewalks, bikeways and trails are **lacking in quality**, whether it is poor signs, street crossings, width, surface or just awareness that they exist. **Connections** between high-quality facilities are lacking. **Safety** was mentioned frequently as an important goal for the plan to achieve.

Islanders have embraced walking and cycling for **fitness and recreation**. This was demonstrated recently in the number of people including children involved in the PEI Marathon events. However, they are **not so engaged in making purposeful trips**. Many are emotionally attached to their cars. Seniors and people with disabilities are isolated without alternatives to driving, and the winter sidewalk conditions can make it worse. Public transit shelters are sometimes “landing pads” without sidewalks connecting them to nearby destinations or residential areas. Many newcomers to PEI are used to communities with more transit, more bicycles, and more pedestrians. School children are often unaware of traffic safety and not dressed for outside activity. Healthy, active living has tremendous benefits. Reinvest in our built environment. Overall, “**make it easy** for people to change their travel behaviour”.

The **short** distances in the region mean most destinations are within walking or cycling distance. It is too **easy to get around the region by car**, so motivations and incentives must focus on elements other than combating traffic congestion. This also brings opportunities to fit active transportation into corridors that operate without congestion.

The development of the Regional Active Transportation Network generally focuses on high-order streets and roadways that connect from one part of the community to another. These provide access to the regional activity hubs and over-come barriers, where possible, as identified below. Local streets were considered in the regional network when they provided a direct and comfortable alternative to the high-order streets.

3.2 Regional Activity Hubs and Barriers

Members of the public and stakeholders were asked to identify regional activity hubs and barriers, illustrated on Map 2. **Regional activity hubs** identified are listed in Exhibit 12. **Regional barriers** identified include:

- North River and Hillsborough River—addressing these two barriers are critical to regional success

- Trans-Canada Highway through Charlottetown (By-pass), Cornwall and Stratford, including the larger intersections along it

- Other large intersections, such as Capital Drive / University Avenue, and Water Street / Grafton Street / Riverside Drive, and St. Peters Road / Belvedere Avenue / Brackley Point Road

Exhibit 12: Regional Activity Hubs

Charlottetown	Cornwall
• Downtown including City Hall, Province House, Confederation Centre of the Arts, Confederation Court Mall, Murphy's Community Centre, Great George Street, Victoria Row, and many employers, services and amenities • Waterfront including Founder's Hall, Confederation Landing Park, Peakes Wharf, and the Harbour Boardwalk • Eastern Gateway including Civic Centre, Red Shores Casino, Driving Park, and businesses • CARI Centre • Simmons Sports Centre • Cody Banks Arena • Victoria Park • Beach Grove • Upton Farm / BioCommons • Sherwood Suburban Centre and St. Peter's Road • West Royalty Suburban Centre, Charlottetown Mall and University Avenue • Cows Creamery and retail outlets (Poplar Island) • Farmers' Market • UPEI • Holland College Main Campus including outdoor amphitheatre, and Culinary Institute • Schools • Queen Elizabeth and Hillsborough Hospitals • MacAleer Drive Industrial Area • Parkdale Industrial Area • West Royalty Industrial Centre • Airport	• Town Hall, Library, Community Gardens, and APM Centre • Terry Fox Sports Complex • Ferry Road Park • Curling Club and Civic Centre • Business Park • Commercial businesses along the Trans-Canada Highway, and at its intersection with Warren Grove Road / York Point Road, Centennial Drive, and Meadowbank Road • Schools
	Stratford
	• Town Centre • Cotton Park, Youth and Senior's Complex, and Library • Commercial businesses at Trans-Canada Highway / Kinlock Road (Core Area), and at Trans-Canada Highway / Hopeton Road / Stratford Road (Western Gateway) • Stratford Business Park and Indoor Soccer Centre (Eastern Gateway) • Tea Hill Park and Beach • Trans-Canada Trail easterly extension • Schools

3.3 Proposed Regional Pedestrian Network

The proposed regional pedestrian network was developed considering walking catchments around each of the regional activity hubs as follows:

- 750 m from an activity hub that could be defined as a "node", such as a civic centre, based on an average 10 to 15 minute walk to the node.

- 500 m from the boundary of a larger activity hub that could be defined as an "area", such as a commercial / employment area or corridor, etc. It is based on an average 10 to 15 minute walk to and within the area.

- 1 km from schools serving kindergarten to grade 8; and 1.6 km from schools serving grades 9 to 12, as per the Eastern School District transportation polices

Map 3 shows the overlap of the walking catchments and existing sidewalks along the high-order streets and roadways, and walking or multi-use trails. The proposed regional pedestrian network, illustrated in Map 4, consists of building sidewalks, and building or upgrading trails that fill in gaps within the walking catchments.

3.4 Proposed Regional Cycling Network

The City of Charlottetown and PEI Transportation and Infrastructure Renewal have been constructing paved shoulders on rural and urban roads in the region for a number of years. The City has marked a few, such as Belvedere, as bike lanes. Widespread marking and signing of these paved shoulders as bike lanes has not moved forward due to a number of reasons:

- **Lack of funding** for pavement markings and signs. For bike lanes, bicycle symbols and signs are typically applied in the shoulder downstream of intersections and every 200 m. Depending on traffic use of these lanes, type of pavement marking material used (water-based paint, thermoplastic, or inlaid thermoplastic), maintenance equipment for winter and debris control, and weather conditions, the pavement markings may need to be reapplied every year (for water-based paint), or every five to ten years (for thermoplastic materials). Of course, the more durable the material with a longer life cycle, the higher cost the initial cost. Pavement markings do not receive much wear from bicycles so communities are finding that pavement markings in bike lanes or paved shoulders last longer than those traversed by motor vehicles.

- **Hazards** to cyclists exist in the paved shoulder. In particular, concern has been expressed over the stormwater catchbasins, utility poles and other fixed objects. The Transportation Association of Canada recommends the use of a line painted upstream of such hazards to alert cyclists of the need to move around them, as illustrated in Exhibit 13. Paved shoulders are often eliminated on narrow bridge crossings, near intersections with additional auxiliary turn lanes, on a block where on-street parking demand is high, or due to other circumstances. There are a number of alternatives in bikeway design guides for addressing these situations, such as the use of warning signs, or shared-use lane markings (“sharrows”) where bike lanes are dropped, etc.

- **Gaps in the network** exist or only a segment of a roadway has paved shoulders. There is a concern that liability is higher since the bike lanes would not be continuous for an entire stretch of roadway, or may connect to other routes that do not have paved shoulders. Many bicycle transportation trips are typically short, less than 5 km. Even a relatively short section of roadway that has a paved shoulder may improve and encourage cycling trips. For example, the 1.5 km section of Belvedere Avenue with intermittently marked bike lanes is useful in connecting the Confederation Trail to St. Peter’s Road and the businesses located there. In Stratford, marking the paved shoulders on Stratford Road and Kinlock Road, before the paved shoulders on Keppoch Road are completed, would serve many residents who may ride to destinations along these roads.

- **Paved shoulders are used for parking** so cannot be marked as bike lanes. If on-street parking has moderate to high use, its removal can be very controversial. Some communities have established guidelines on the use of on-street parking and availability of off-street parking, and when it can be removed for bike lanes. Others have restricted the time of day when parking is permitted in bike lanes, typically permitting it overnight when cyclist volumes are lower, and prohibiting it during the commuting to school or work hours. The occasional use of bike lanes for parking can be an annoyance and affect safety if cyclists are forced suddenly into heavy traffic or to ride within the opening car-door zone. A review of a few of the paved shoulders in the region revealed that they are sometimes on roadways with higher operating

speeds (50 km/h or more) and moderate to heavy traffic volumes. The paved shoulders are sometimes too narrow for a parked car and, with the traffic conditions, not an attractive location to park one's vehicle. On rural roadways, where the paved shoulder will be used by slow-moving vehicles, or where parking may be permitted at certain times, the diamond symbol indicating the shoulder is reserved for bicycles only can be omitted

- **The shoulder on one side of the road may be wider than on the other side.** In this case the shoulders should not be marked as bike lanes unless the narrower shoulder can be widened. This could be done by either reconstruction (widening the road) or narrowing the width of the adjacent travel lanes in order to provide more width for the shoulder. Studies have shown that lane widths down to 3.25 m have no statistically significant effect on collision rates. Care should be taken not to shift the crown of the roadway, which can interfere with snow-ploughing operations.

- **Paved shoulders narrow or are dropped at intersections.** Ideally bike lanes should be provide through intersections, just as general purpose travel lanes are. However, with the addition of turn lanes at intersections, the shoulder is often dropped. This can be mitigated by providing shared-use lane markings ("sharrows") beyond the end of the paved shoulder / bike lane to guide cyclists and inform motorists of where to expect them to ride. An example of this type of marking layout is shown in Exhibit 14.

Exhibit 13: Bicycle Lane Obstacle Pavement Marking: from Transportation Association of Canada's Bicycle Traffic Control Guidelines for Canada

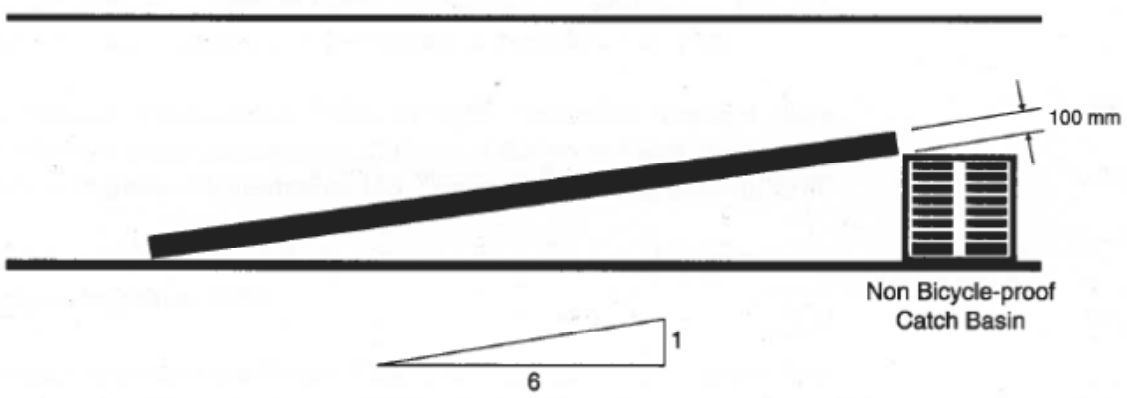
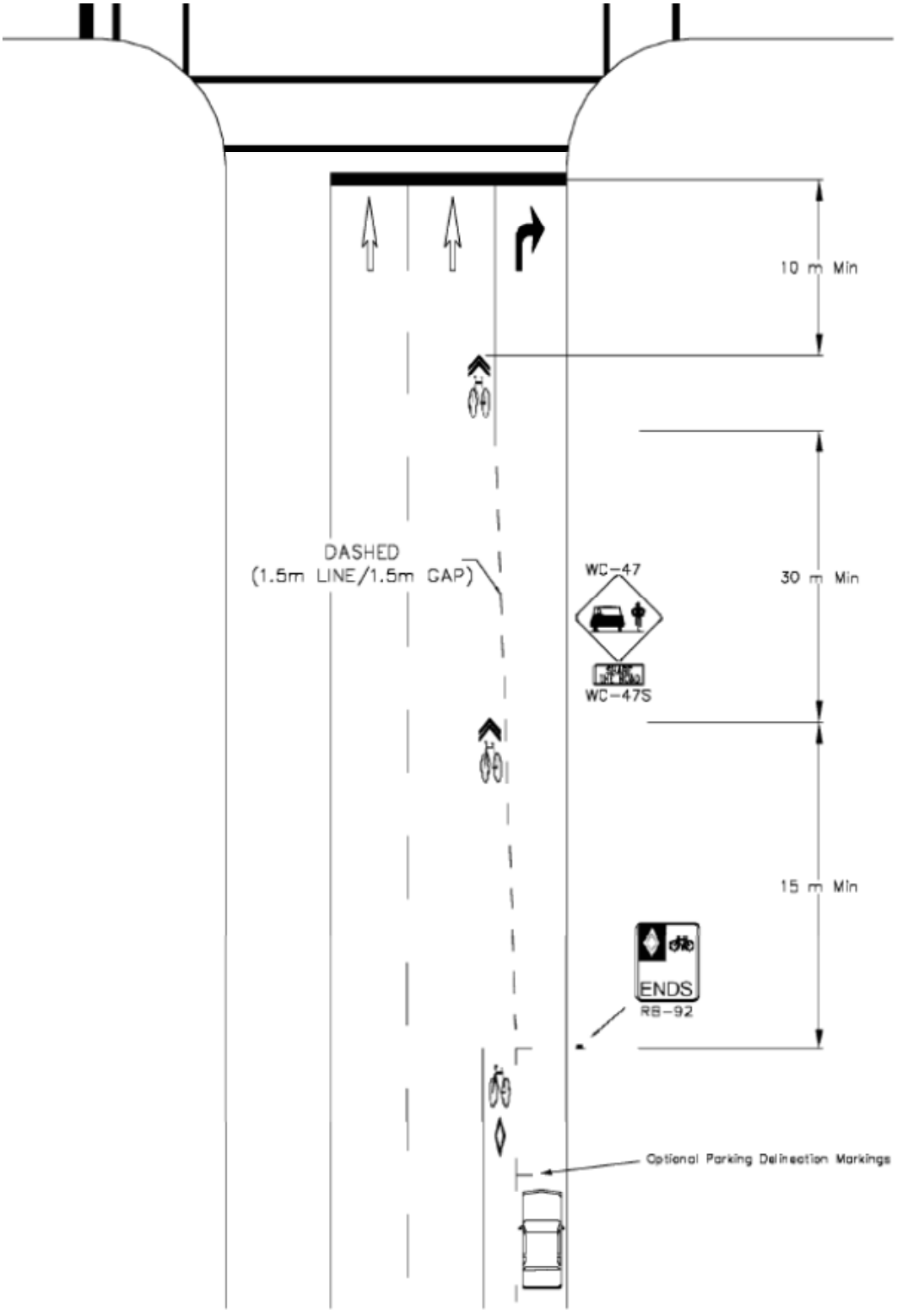








Exhibit 14: Shared-use Lane Markings at Intersection beyond Dropped Bike Lane from Transportation Association of Canada's *Guidelines for the Design and Application of Bikeway Pavement Markings*, Final Report, December 2007



PEI's *Highway Traffic Act* expressly permits cyclists to use public roadways. The authorities that maintain the highways owe the travelling public a reasonable level of care: to plan, design and maintain facilities on public roads, and to warn users of dangers and hazards. That reasonable level of care extends to cyclists regardless of whether bikeways exist or not. Road authorities can minimize their liability by following current design guidelines and accepted engineering principles that comply with applicable laws and regulations, by having a program of inspection and repair, by communicating dangers or hazards, and by maintaining proper insurance coverage. Opting to do nothing or to do very little because the "best" solution is not feasible does not limit one's liability. Reasonable accommodation of cyclists (and pedestrians) and improvements can address liability for these public road users especially on busy corridors where demand for walking and cycling is already apparent.

There is safety in numbers: a motorist is less likely to collide with a person walking and bicycling if more people walk or bicycle (P.L. Jacobsen, "Safety in numbers: more walkers and bicyclists, safer walking and bicycling", Injury Prevention, 2003;9:205-209, http://injuryprevention.bmj.com/content/9/3/205.abstract).

Charlottetown, Cornwall, Stratford and PEI TIR have an opportunity to promote the viability of active transportation, and help change attitudes toward active transportation by marking and signing paved shoulders as bike lanes. Few communities can go from having very few bikeways to a potential network of 30 km of bike lanes in a short period. The more visible the network, the more use it will get; the more users, the higher the demand for additional improvements.

Through field visits and reviewing "streetview" images (Google, image date August 2009), paved shoulder that are potentially wide enough to mark as bike lanes, or where lane lines could be shifted slightly to provide consistent width, were identified. These are shown on Map 5 as proposed bike lanes, along with existing trails, to create the "Visible Network".

Marking existing paved shoulders as bike lanes is not necessarily easy, that is, some effort is required to review and modify the pavement markings.

- **Each route requires an audit** to confirm that the minimum width for a bike lane (1.2 m minimum and 1.5 m preferred on urban roads; 1.5 m minimum on rural roads, *Planning and Design for Pedestrians and Cyclists: A Technical Guide*, Vélo Québec Association, 2010, pp 76-77 and 78) is met and hazards are mitigated or marked.

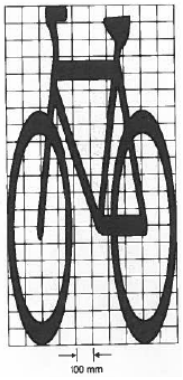
- **Some narrowing or shifting of the travel lane lines may be required** where the shoulders may be wider on one side of the road than the other, as noted earlier.

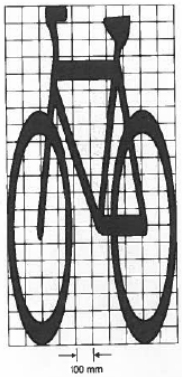
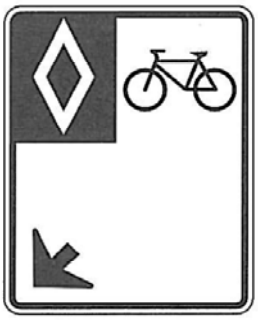
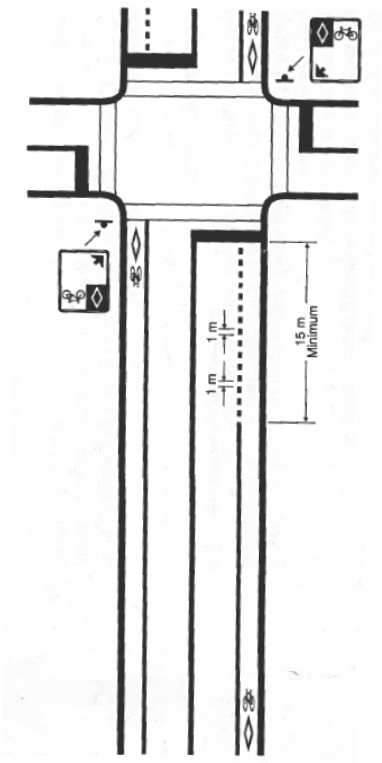
- Use **shared-use lane markings** ("sharrows") where the paved shoulders are dropped at intersections, as noted earlier.

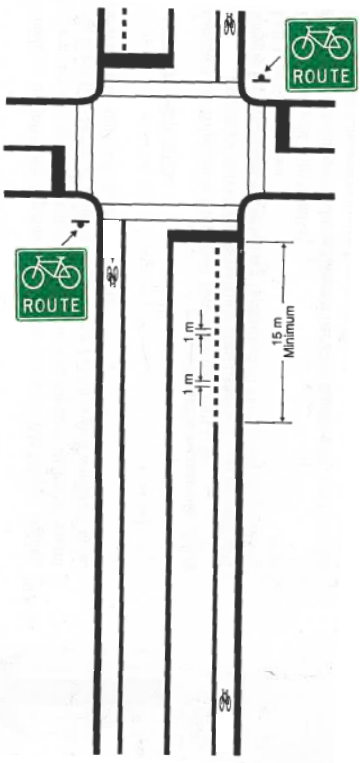
- **Consider longer-lasting** thermoplastic pavement marking symbols.

- **The "bicycle" symbol can be used, while omitting the "diamond" reserved lane symbol** if the paved shoulders are used by slow-moving vehicles, emergency stopping, and occasional parking. Corresponding alternative signs can also be considered. These are shown in Exhibit 15.

Exhibit 15: Bike Lane Marking and Signage Alternatives: Excerpts from Transportation Association of Canada Bikeway Traffic Control Guidelines for Canada (1998)

<table>
<tr><th colspan="2">Reserved Bike Lane</th><th>Bike Lane</th></tr>
<tr><td colspan="2">to be used by cyclists only</td><td>to be used by cyclists and slow-moving vehicles or occasional parking</td></tr>
<tr><td>Bicycle Symbol

</td><td>Reserved Lane Diamond

</td><td>Bicycle Symbol

</td></tr>
<tr><td>Reserved Bike Lane Sign

RB-91
600 mm x 750 mm</td><td>Typical Layout

</td><td>Bicycle Route Sign


IB-23
450 mm x 450 mm</td><td>Typical Layout

</td></tr>
</table>

In addition to the "Visible Network" of proposed bike lanes, a regional cycling network is recommended to expand the network to all regional activity hubs, as illustrated in Map 6. It consists of new or upgraded multi-use trails and on-street bikeways. The selection of the type of bikeway suitable for each corridor should be based on current design guidelines and selection criteria as presented in the *Regional Active Transportation Plan Greater Charlottetown Area—Supportive Knowledge Report* .

3.5 Implementation

The recommended Regional Active Transportation Network consists of about 125 km of sidewalks, multi-use trails and bikeways as summarized in Exhibit 16. This expands the existing active transportation network to about 200 km.

Exhibit 16: Length of Recommended Regional Active Transportation Network (km)

	Length (km)			
Type of Proposed AT Facility	Charlottetown	Cornwall	Stratford	Total
Sidewalk	12	2	7	22
Multi-Use Trail	13	3	6	22
Upgraded or Improved Trails for Multi-use	3	2	-	5
Proposed Bike Lanes	17	2	10	29
On-road Bikeways	27	13	12	52
Total Length of Proposed AT Facilities	72 km	22 km	35 km	129 km

The following opinions of the unit costs of construction were applied to the recommended Regional Active Transportation Network resulting in an estimate of the cost to implement it, summarized in Exhibit 17.

- Construct concrete sidewalks, 1.8 m wide: $150,000/km
- Construct asphalt multi-use trail, 3 m wide: $220,000/km
- Upgrade or improve existing trails to 3.0 m wide asphalt: $150,000/km
- Sign and mark paved shoulders as bike lanes: $20,000/km
- Construct on-street bikeways (bike lanes, segregated bike lanes, bicycle boulevards, etc.): $150,000/km

Over a 15 year period, the Regional Active Transportation Network will cost approximately $17 M to construct. This is equivalent to an investment of $600,000 per year in Charlottetown, $200,000 per year in Cornwall, and $300,000 per year in Stratford.

Exhibit 17: Estimated Cost to Implement the Regional Active Transportation Network

Type of Proposed AT Facility	Estimated Cost of Implementation (2011 Dollars)			
	Charlottetown	Cornwall	Stratford	Total
Sidewalk	$1.8 M	$0.3 M	$1.0 M	$3.2 M
Multi-Use Trail	$2.9 M	$0.6 M	$1.2 M	$4.8 M
Upgraded or Improved Trails for Multi-use	$0.4 M	$0.3 M	-	$0.8 M
Proposed Bike Lanes	$0.3 M	$0.1 M	$0.2 M	$0.6 M
On-road Bikeways	$4.0 M	$2.0 M	$1.9 M	$7.7 M
Total Cost of Implementation	$9.4 M	$3.3 M	$4.3	$17.0 M
Per year over 15 years	$0.6 M	$0.2 M	$0.3 M	
Per capita per year over 15 years	$21	$41	$37	

3.6 Funding Sources

The Regional Active Transportation Master Plan can be funded through a variety of sources including but not limited to:

- Operations Budgets—pavement markings, signage, winter network, etc.
- Capital Budgets—co-ordinate the implementation sidewalks, trails and bikeways with large capital projects; and consider allocating funds for stand-alone projects
- Developer Funding—as properties are developed and redeveloped, include the provision of sidewalks, trails and bikeways in the development and subdivision agreements
- Gas Tax Fund Transfer Payment Program: Local Roads and Bridges Category—2005 to 2015 program includes reconstruction and rehabilitation of road structures; construction, reconstruction and rehabilitation of bridges; and other ancillary works such as sidewalks, commuter bikeways, lighting, traffic control signals, pedestrian signals.
- Other funds or grants that may be available from the Federal or Provincial Governments—including potential future funding for climate change initiatives, health promotion, sustainable growth and infrastructure renewal (transportation and recreation) programs
- The Federation of Canadian Municipalities Green Municipal Fund—Grants to develop plans, and conduct feasibility studies and field tests; and below-market loans to implement capital projects. Modal shift projects (changing the number of trips made by single occupant vehicles, i.e. driving alone) currently funded (December 2011 applications) include;
    - Improvements to active transportation infrastructure around transit nodes, such as sidewalks, pedestrian crossings, pedestrian links from park and ride, bike paths and bike crossings, and end-of-trip bike facilities such as bike parking and shower facilities

- Development or completion of walking and cycling networks and systems planned around travel to work, school, shopping or culture, that promote safety, accessibility and viable alternatives to car travel

- Development of complete streets (roadways designed and operated to enable safe, attractive and comfortable access and travel for all users - pedestrians, cyclists, transit, high-occupancy vehicles, and private and commercial vehicles)

- Sponsorships, donations / gifts similar to Charlottetown's memorial tree / shrub planting program and street bench dedication program, in-kind materials or labour, etc.

- Bulk purchasing discounts, i.e. for bicycle parking racks

Staff may wish to consider identifying both annual and forecast capital and operation budget implications for Ministerial and Council considerations as active transportation projects move forward through in the short and longer terms.







4. RECOMMENDED ACTIONS

Recommended actions to support and promote more walking and cycling in the region emerged through the consultation with the public and various stakeholders (see Section 1.2, page 2). These are in addition to the Recommended Active Transportation Regional Network, and reflect four major themes:

- Create a Visible Network
- Pursue Big Ideas
- Support Local Plans
- Work Together

Big cost projects are important to plan for overcoming significant barriers, however, **early success** will come from the implementation of many smaller, realistic improvements. It is important to recognize that progress takes time—short and long-term actions are needed. A range of funding sources will need to be considered including health promotion and climate change strategies.

The recommended actions are summarized in Exhibit 18. Timeframes for implementation are suggested: short-term (within the next 5 years), mid-term (within the next 10 years) and longer term (beyond 10 years). Range of costs include lower cost solutions ($), mid-range costs ($$), and high costs ($$$). Considerations, issues and needs fulfilled are listed below each recommendation.

Although the City of Charlottetown, Towns of Stratford and Cornwall, and PEI Transportation and Infrastructure Renewal are working together to develop this plan in a consultation process, its implementation will require additional effort and approvals. There are many partners and stakeholders who can work collaboratively on the many parts of this plan. Some have been identified with each recommended action; others will emerge as ideas are implemented.

Updating of actions will be required to ensure that needs are being met as active transportation evolves in the region, building on success and introducing new ideas.







Exhibit 18: Recommended Actions to Support and Promote Active Transportation in the Region

4.1 Create a Visible Network

Recommendation	Timeframe	Range of Cost
A. Mark and sign paved shoulders suitable as bike lanes, and trail connections so they are visible to users and the travelling public.	Short-term	$
Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Town of Stratford, Cycling PEI, Tourism PEI, Tourism Charlottetown		
• Promotes the viability of active transportation, and helps change attitudes toward active transportation. The more visible the network, the more use it will get; the more users, the higher the demand for additional improvements. • Improved pavement markings can have a big impact at a relatively low cost. • Shorter sections of a roadway can be marked if they connect to destinations. See Map 5: Proposed Visible Cycling network • Support the marking and signing of the Active Streets as part of the implementation of the Parks and Open Space Master Plan • Marking of the shoulders along the Trans-Canada Highway is not desirable due to the high volume, speed and mix of traffic. • Consider longer-lasting thermoplastic bicycle symbols. The "bicycle" symbol can be used, while omitting the "diamond" symbol indicating exclusive use since paved shoulders are used by slow-moving vehicles, emergency stopping, and occasional parking (See Exhibit 15). • Paved shoulders require an audit to confirm that the minimum width for a bicycle lane (1.2 m minimum and 1.5 m preferred on urban roads; 1.5 m minimum on rural roads) is met and hazards are mitigated or marked. • At trail and roadway intersections, street name signs should be installed along with directional signs that indicate where the trail goes (destination or street name). • See also way-finding signage strategy.		
B. Develop a way-finding signage strategy that will connect on and off-road segments of the Active Transportation Network and promote the short distance (or time) to regional activity hubs.	Short term	$$
Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Town of Stratford, Cycling PEI, Tourism PEI, Tourism Charlottetown, Downtown Charlottetown Inc., Island Trails, trail user groups, Regional Active Transportation Committee (proposed)		
• Create a regional committee made up of representatives from the Province, Charlottetown, Cornwall and Stratford to collaborate on the development of the strategy, creating sign templates, guidelines for locations / use, etc. • Identify viable walking and cycling routes to regional destinations and promote the time that it takes to get there. • Support the current initiative marking walking routes in Downtown Charlottetown (Recreation, Heritage, and Downtown routes). • Upgrade street name signs—many intersections lack signs (typically two are required at each intersection) or they are not in conventional locations. • Create a Cornwall to Charlottetown to Stratford pilot project to test the way-finding strategy. • Implement the way-finding signage strategy as each active transportation corridor is implemented or enhanced in each community.		

4.1 Create a Visible Network

Recommendation	Timeframe	Range of Cost
C. Create a regional active transportation map that shows all existing bikeways, trails and critical sidewalk links to regional activity hubs.	Short term	$
Potential Partners: City of Charlottetown, Town of Cornwall, Town of Stratford, Cycling PEI, Tourism PEI, Tourism Charlottetown, Downtown Charlottetown Inc., Island Trails, Regional Active Transportation Committee (proposed)		
• Consolidate Cornwall's trail map, Stratford's town map, and Charlottetown's Routes for Nature and Health; eventually add a sidewalk / crosswalk inventory. • Develop various mediums for distribution: interactive on-line versions (partner with Google Maps), downloadable copies, folding wallet-sized hardcopies, etc. • Include a section that indicates priority routes for snow clearing.		
D. Define a winter network of priority cycling and walking routes that will be given a consistent and timely level of winter maintenance to promote the viability of walking and cycling in winter. Set priorities such as focusing on main routes within 1 km (walking) and 5 km (cycling) of high priority regional activity hubs such as schools.	Short term	$ to $$
Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Town of Stratford, Cycling PEI, Downtown Charlottetown Inc., Island Trails, trail user groups, Regional Active Transportation Committee (proposed)		
• Winter conditions have a big impact on pedestrians, particularly those with mobility impairments. A change in travel behaviour needs a year-round commitment to accessible facilities. • Consistency is required to meet expectations; otherwise people will give up trying to use active transportation in the winter. • Stratford's snow clearing is contracted out and paid for on a per hour basis. This can have a higher cost, but consistency and timeliness requirements seem to be met. • Trails and the boardwalk in Charlottetown are done by in-house crews and typically meet expectations. • Sometimes sidewalks are cleared quickly but other times they lag behind the street clearing. Curb ramps can be blocked by snow piled from the road. • Snow clearing contractual incentives or penalties may be required. • Maintain short-cut trails that service schools. • Establish a working group that will have defined priority routes to regional activity hubs such as schools.		

4.1 Create a Visible Network

Recommendation	Timeframe	Range of Cost
E. Develop and deliver information resources on safety, skills and opportunities (new routes, maps, events, etc.) for new, current and potential pedestrians, cyclists, and drivers. Create one co-ordinated web site on active transportation for all three communities.	Define in short term; Roll out in short to long term	$ to $$

Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Town of Stratford, Cycling PEI, Regional Active Transportation Committee (proposed)

- The perception that a large portion of the population wants to engage in active transportation needs to be fostered.
- Create an internet-based clearinghouse for active transportation information in the region (e.g. www.BikeStJohns.ca, www.walkandrollpeel.ca), but also include printed materials for distribution to those without access to the internet.
- Use social media or create an "app" to promote active transportation.
- Develop cyclist and pedestrian handbooks for adults and youth that provide tips, advice, and information on rules of the road (e.g. Getting Around St. John's: A Cyclist's Handbook, My Bike and Me: A Young Cyclist's Handbook).
- Raise drivers' awareness of their roles and responsibilities for the safety of pedestrians and cyclists, including information provided in PEI's Driver's Handbook.
- Establish partners to reach youth on traffic skills for walking and cycling through schools, community events or recreation programs.
- Promote active transportation infrastructure as it is built or improved through opening-day events, signage, announcements, updated maps, etc.

F. Create an on-going program to install pedestrian and cycling amenities within public spaces, including bicycle parking, benches, bicycle repair "fix-it" stations, public washrooms, lighting, focusing on regional activity hubs.	Mid term	$$

Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Town of Stratford

- Audit lighting levels at key crosswalks of collector and arterial roadways and along key sections of multi-use trails, such as the Confederation Trail from Downtown / Holland College to UPEI (illuminate the "emerald necklace").
- Families and seniors need to know where public washrooms are located.
- Charlottetown already has a successful program for memorial benches, trees and shrubs.
- The United Nations' Secretariat for the Convention on the Rights of Persons with Disabilities recommends rest areas every 100 to 200 m, and more frequently on long grades.
- Various guidelines on public amenities and bicycle parking are available on the internet, including www.apbp.org bicycle parking guide and www.pps.org public amenities.
- Bicycle repair "fix-it" stations are similar to bicycle parking racks. They include a tire air pump and tools attached by cables to a stand. The stand can hold the bicycle off the ground and simple repairs, such as changing a tire, or adjusting brakes, can be made. Regional activity hubs, such as UPEI, Holland College, city / town centres and busy parks are ideal locations for bicycle repair racks.

4.1 Create a Visible Network

Recommendation	Timeframe	Range of Cost
G. Develop a short-term solution to enhance cyclists' and pedestrians' experience crossing the Hillsborough Bridge.	Short term	$$

Potential Partners: PEI TIR, Town of Stratford, City of Charlottetown

- Staff to collaborate on developing short-term enhancements.
- Consider alternatives (one, or more than one in combination) such as:
  - Add "Share the Road" signage
  - Widen or remove the sidewalks on the structure to provide a wider area for pedestrians and cyclists to share
  - Narrowing travel lanes to 3.5 m to provide wider shoulders (studies have shown that narrowing lanes on arterial roads to 3.25 m has no statistically significant effect on collision rates)
  - Provide a painted buffer 0.5 m wide between the travel lanes and the paved shoulders
  - Provide flexible delineators ("posts") between the travel lanes and the paved shoulders
  - Install a shoulder rumble strip 100 mm wide along the edgeline stripe of the shoulder
  - Install in-pavement reflectors along the edgeline stripe of the shoulder
  - Construct a multi-use trail on the causeways leading to the structure, where possible, and stairways to connect the trail to the sidewalk / paved shoulder at the structure. The stairs can be fitted with a gutter to allow cyclists to roll their bicycle up and down the steps. In the long term, the stairs could be replaced by an accessible ramp.
  - Convert the four travel lanes to three travel lanes plus buffered or segregated bike lanes. The centre lane would reverse direction (with traffic signal control) for peak traffic flows.

H. Develop a short-term solution to enhance cyclists' and pedestrians' experience crossing the North River Bridge.	Short term	$$

Potential Partners: PEI TIR, Town of Cornwall, City of Charlottetown

- Staff to collaborate on developing short-term enhancements.
- Consider alternatives (one or more than one in combination) such as:
  - Add "Share the Road" signage
  - Widen or remove the sidewalks on the structure to provide a wider area for pedestrians and cyclists to share
  - Narrowing travel lanes to 3.5 m minimum to provide wider shoulders. The existing lanes are 3.75 m wide. Narrowing to 3.5 m wide would provide two 0.5 m wide buffers between the paved shoulders and the travel lanes. See alternative treatments for the buffer below. (Studies have shown that narrowing lanes on arterial roads to 3.25 m has no statistically significant effect on collision rates.)
  - Provide a painted buffer 0.5 m wide between the travel lanes and the paved shoulders
  - Provide flexible delineators ("posts") between the travel lanes and the paved shoulders
  - Install a shoulder rumble strip 100 mm wide along the edgeline stripe of the shoulder
  - Install in-pavement reflectors along the edgeline stripe of the shoulder
  - Construct a multi-use trail on the causeways, or along the access roadway on the north side, leading to the structure, where possible, and stairways to connect the trail to the sidewalk / paved shoulder at the structure. The stairs can be fitted with a gutter to allow cyclists to roll their bicycle up and down the steps. In the long term, the stairs could be replaced by an accessible ramp.

4.2 Pursue Big Ideas

Recommendation	Timeframe	Range of Cost
A. Create a high quality walking and cycling connection through downtown Charlottetown to connect the Confederation Trail to Victoria Park.	Short term	$$
Potential Partners: City of Charlottetown, Cycling PEI, Downtown Charlottetown Inc., Regional Active Transportation Committee (proposed)		
• Supports an improved connection to the Confederation Trail. • The seasonal segregated bike lane along Victoria Park Roadway is very popular and considered by many as an important destination and link in the Active Transportation network. • Options include Fitzroy / Kent, Richmond / Sydney, or Grafton Streets. • Evaluate a variety of design alternatives with a goal of creating comfortable space through the downtown for people relatively new to cycling: bike lane between parking and the sidewalk, buffered bike lane, flexible bollards or other types of barriers, coloured pavement markings, etc. See *Regional Active Transportation Plan Greater Charlottetown Area—Supportive Knowledge Report*, for concepts. • Incorporate active transportation into the Victoria Park Master Plan, and consider the desire of all users to want to be near the water.		
B. Create a Task Force to develop solutions for an active transportation link to Cornwall from Charlottetown by developing a multi-use trail (similar to the Brackley Trail) along the Trans-Canada Highway and across the North River bridge from Cornwall's Town Hall / Library to the Upton Farm / Beach Grove areas.	Short to mid term	$$ to $$$
Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Regional Active Transportation Committee (proposed), Cycling PEI, property owners		
• Add bike racks to all buses crossing the North River. • There may be room behind the guard rail along the Trans-Canada Highway on the north side of the North River bridge to develop a multi-use trail since there is already access to fishing along this side. • Consider the feasibility of retrofitting a cantilevered pedestrian bridge on the side of the existing structure, or constructing a separate pedestrian bridge. • Consider the feasibility of a connection from the North River crossing to Lakeview Drive to avoid that section of the Trans-Canada Highway. • PEI Transportation and Infrastructure Renewal will consider allowing the Town of Cornwall to build and maintain a multi-use trail along the Trans-Canada Highway if there is room for one. It may be feasible along properties outside of the road right-of-way: Town Hall, Water Tower, Cornwall Business Park, fields, connect to ball park on York Point Road, etc. Avoiding the commercial area near York Point Road is desirable due to the high speeds and turning traffic in this location. • Hiking trails already exist in the Upton Farm area. It is recommended that the Upton Farm Committee consider the feasibility and alignment for a multi-use trail connection from the Trans Canada Highway to the BioCommons as part the master plan they are developing for this property. It would improve access to the BioCommons and the West Royalty Industrial Centre.		

4.2 Pursue Big Ideas

Recommendation	Timeframe	Range of Cost
C. A Trans-Canada Highway by-pass of Cornwall will provide opportunities to enhance the existing corridor for pedestrians and cyclists. If this will not be achieved in the short to mid-term, then measures to slow traffic on the existing Trans-Canada Highway trough Cornwall and a pedestrian underpass are needed.	Short to mid term	$$$

Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Regional Active Transportation Committee (proposed), property owners

- The by-pass could connect to the existing North River bridge, and the bridge enhanced to better accommodate cyclists and pedestrians.
- With the by-pass in place, the existing Trans-Canada Highway could be reduced to two travel lanes, which would make it easier for pedestrians to cross. The by-pass may connect to the existing bridge.
- Provide a grade-separated crossing (bridge or tunnel) of the Trans-Canada Highway if the by-pass will not be implemented within the long term. A pedestrian underpass of the Trans-Canada Highway may be feasible through the embankment at the Town Hall, however, the north side is private residential properties along Park Street, and it may conflict with underground municipal services along the highway.
- Consider roundabouts as gateways and speed control measures.

D. Create a Task Force to develop solutions for an active transportation gateway between Stratford and Charlottetown along the Hillsborough River bridge, focusing on a phased approach.	Short to long term	$$ to $$$$

Potential Partners: PEI TIR, City of Charlottetown, Town of Stratford, Charlottetown Area Development Corporation, Cycling PEI, Regional Active Transportation Committee (proposed)

- Add bike racks to all buses crossing the Hillsborough River.
- Create a Task Force to develop and evaluate a range of alternatives, including shorter-terms improvements and longer-term solutions
- In the shorter term, enhance the existing bridge crossing. Examine the feasibility of narrower travel lane widths, say from 3.7 m wide to 3.5 m wide, to provide wide shoulders on one or both sides with a barrier such as flexible bollards. Along the structure, consider widening the sidewalks, increasing the railing height and allowing pedestrians and cyclists to share the sidewalks; or removing the sidewalk for a wider shoulder for sharing.
- Consider the potential to widen the embankment on the causeways to develop a trail behind the guard rail.
- Consider creating trail access to the shoreline. Any trail access under the bridge needs to address security issues and environmental issues associated with roosting and nesting birds. Create a new public waterfront in Stratford near the Hillsborough Bridge.
- The foundations are at or near their load-carrying capacity and thus additional loads such as a cantilevered path may not be possible.
- In the longer term, plan bridge rehabilitation with enhancements for pedestrians and cyclists.
- The Charlottetown Eastern Gateway provides an opportunity to realign roads / intersections to make access to the bridge more pedestrian and bicycle-friendly. The capacity of the bridge is likely to improve with improvements to the intersection at either end that feed traffic to / from the bridge.
- The Stratford Waterfront Open Space Concept provides an opportunity to connect the Hillsborough Bridge and the Commercial Eastern Gateway via a multi-use trail.
- Consider the feasibility for a ferry to Stratford from the Charlottetown Eastern Gateway.
- Consider converting the four travel lanes to three travel lanes plus buffered or segregated bike lanes. The centre lane would

4.2 Pursue Big Ideas

Recommendation	Timeframe	Range of Cost
reverse direction (with traffic signal control) for peak traffic flows. • Consider the feasibility of using the remnant piers from the former bridge for a new pedestrian bridge. More than half of these piers are no long visible, having collapsed into the river.		
E. Investigate the feasibility of providing tax incentives or funding from higher levels of government and leverage additional funding.	Short term	$
Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Town of Stratford		
• Look into the potential to remove the PST on the sale of bicycles, pedometers and heart-rate monitors; or channel the PST to fund active transportation plans. • Seek out funds and grants that require multiple partners, such as infrastructure renewal or stimulus programs. • Consider gas taxes to fund active transportation infrastructure. • Leverage capital programs—sidewalks typically add only 2% to the cost of road construction projects, and bike lanes typically add 3 to 5%, if the width of travel lanes is optimized (3.25 m wide if posted speeds are 60 km/h or less).		

4.3 Support Local Plans

Recommendation	Timeframe	Range of Cost
A. Complete two of Stratford's arterial active transportation corridor loops (one north and one south Stratford Road), plus the connection to the easterly extension of the Trans Canada Trail.	Short term	$$
Potential Partners: PEI TIR, Town of Stratford		
• Co-ordinate with PEI Transportation and Infrastructure Renewal capital program for road improvements; such as gaps along Keppoch Road, Mason Road, and the intersection of Bunbury Road / Hopeton Road that may be improved within 5 years. • Include sidewalks or trails for pedestrians, and bike lanes or trails for cyclists.		
B. Complete two of Cornwall's core active transportation corridor loops as part of the Greenways for a Future plan.	Short term	$$
Potential Partners: PEI TIR, Town of Cornwall		
• Co-ordinate with PEI Transportation and Infrastructure Renewal capital program for road improvements. • Include sidewalks or trails for pedestrians, and bike lanes or trails for cyclists.		
C. Complete active transportation routes that radiate from downtown Charlottetown towards Upton Farm, University / Mall, Maple Avenue, Kensington Road and Hospitals.	Short term	$$
Potential Partners: City of Charlottetown		
• Some of pedestrian and cycling facilities exist along these routes, such as bike lanes on Maple Avenue, the Confederation Trail, etc. • Along North River Road sidewalks are narrow or missing. • Queen Street and sections of University Avenue are not very pedestrian-friendly.		

4.3 Support Local Plans

Recommendation	Timeframe	Range of Cost
D. Undertake an urban design study of University Avenue from Belvedere Avenue to Euston Street in Charlottetown when it requires resurfacing / reconstruction to find additional space within the right-of-way to improve the pedestrian facilities.	Mid to long term	$$ to $$$
Potential Partners: City of Charlottetown, Businesses		
• This section of University Avenue from Belvedere to Avenue to Euston Street is well-traveled by pedestrians and provides access to many retail businesses. • Sidewalks are generally adjacent the roadway with no boulevard, are narrow and in poor condition. The volume and speed of traffic, along with poor drainage of the roadway, creates an uncomfortable pedestrian environment. Pedestrians are often splashed by passing motorists; and ice accumulates on the sidewalks in winter. • Adding a grassed boulevard would buffer pedestrians from motorists. The boulevard would also provide additional space for landscaping and pedestrian amenities (transit shelters, benches, waste receptacles, etc.) that would enhance the corridor for all users. Utility poles could be located in the boulevard, increasing the separation to moving traffic. • The existing lane functions, configuration and widths are recommended to be reviewed to find additional space within the right-of-way and road width in order to add a boulevard. For example, there is one section that is four lanes wide; two lanes are through lanes and two lanes are adjacent left-turn lanes. This section could be modified to provide two travel lanes and one centre, two-way left-turn lane. The space used for the fourth travel lane could be used to create boulevards. • The most cost-effective way to improve the pedestrian environment is to undertake modifications when the roadway requires resurfacing or reconstruction in the future.		
E. Support expansion of the sidewalk network in Cornwall and Stratford by focusing on filling in gaps along collector roads to regional activity hubs.	Short to mid term	$$
Potential Partners: PEI TIR, Town of Cornwall, Town of Stratford		
• Sidewalks that have been built in Stratford have been very popular. • Need to make progress on installing sidewalks on collector streets that serve schools and other regional activity hubs.		
F. Undertake an accessibility audit of all existing sidewalk / mulit-use trail / crosswalk locations and implement an annual program to address deficiencies based on priorities.	Audit in short term; implement in short to mid - term	$$
Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Town of Stratford, Accessibility groups, Regional Active Transportation Committee (proposed)		
• Accessibility is in the details, such as the location, orientation and grade of curb ramps; type of detectable warnings where sidewalks connect to street crossings at curb ramps; walking speed used for pedestrian signal timing, etc. • Develop criteria for determining priorities based on regional activity hubs, residential densities, presence of destinations important to special populations such as youth and seniors, etc. • Engage members of the public to report on deficient conditions. • Adopt best practices in sidewalk construction that provide smoother joints at a reduced frequency.		

4.3 Support Local Plans

Recommendation	Timeframe	Range of Cost
G. Complete the east-west route to UPEI / Confederation Trail at the Hermitage Creek.	Short to mid term	$$
Potential Partners: City of Charlottetown, UPEI		
• This route is used informally already, and could create a short-cut from North River Road avoiding the Capital Drive corridor. • Crossing of University Avenue would occur at the traffic control signals at Enman Crescent		
H. Support Stratford's Active Transportation and traffic safety plans by developing design criteria for traffic calming and elements of shared-use on local streets.	Short to long term	$$
Potential Partners: PEI TIR, Town of Stratford, Cycling PEI, Regional Active Transportation Committee (proposed)		
• Active transportation plan requires an approach to phasing so that progress and funding can be considered on an annual basis. • Phase in trails along longer corridors in new developments prior to building housing so that they are accepted by residents when they move in. • Make walking in Stratford attractive so residents do not have to drive to Charlottetown to go for a nice walk. • Take advantage of views and access to the shoreline at the end of public streets. • Add a trail connection behind Sobey's to the school. • Find a location for a skateboard park and ensure it is accessible by active transportation. • Develop a trails maintenance plan. • PEI Transportation and Infrastructure Renewal to review speeds; 40 km/h is reasonable for local, residential streets; 50 km/h or 60 km/h for collector streets.		
I. Support Charlottetown's Active Streets plan by developing design criteria appropriate to the class and function of roadways.	Short to long term	$$
Potential Partners: City of Charlottetown, Cycling PEI, Regional Active Transportation Committee (proposed)		
• Traffic calming can be introduced on collector and local streets to slow traffic so it is more compatible with the movements of pedestrians and cyclists. • East-west links for cyclists are currently lacking. • Discuss design criteria for separated bike lanes / cycle tracks, bike lanes, traffic calmed bicycle boulevards, and shared streets.		
J. Support Cornwall's Greenways for our Future plan by developing design criteria for a hierarchy of trails (hiking to multi-use) that will enhance the overall quality of the trails for a wide variety of users. Create a working group to establish the feasibility of the proposed greenways.	Short to long term	$$
Potential Partners: PEI TIR, Town of Cornwall, Cycling PEI, Regional Active Transportation Committee (proposed), property owners		
• Plan and develop a more comprehensive, multi-use trail network including a maintenance strategy. • The Town of Cornwall will be reviewing their Official Plan and will include Greenways as part of that review. • Design criteria should ensure a high quality experience for the desired users (width, grade, surface, access, etc.), and discourage motorized use where inappropriate. Consider the type of surface required for the type of users desired. • Concerns over the use of private properties for trails need to be addressed.		

4.3 Support Local Plans

Recommendation	Timeframe	Range of Cost
• Hyde Creek may support the development of a multi-use trail along its greenway corridor. The crossing of the Trans-Canada Highway is deep. • Rehabilitation of Mill Pond could become an attractive destination on the trail network. • Ferry Road granular shoulders were recently widened; they could be paved in the future. Cornwall Road from Patti Lee to Scott will have a sidewalk constructed along it at the request of the Town. • PEI Transportation and Infrastructure Renewal to review speeds; 40 km/h is reasonable for local, residential streets, 50 km/h for collector streets. Variable speed message signs are available to use at gateways into the Town.		
K. Ensure provincial and municipal staff receive training on the design and operation of accessible and active transportation facilities.	On-going	$
Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Town of Stratford, Regional Active Transportation Committee (proposed)		
• Consider in-house training sessions, webinars, off-site training sessions, sensitivity training by experiencing walking, cycling and pedestrian impairments. • Accessibility training should be a requirement of all public employees involved in providing services and responsible for an accessible built environment, i.e., development planners, building inspectors, roadway engineers, etc. • Develop a process for continual improvement of design practices, incorporating best practices. • Encourage collaboration and co-ordination between various departments and agencies. For example, City of Charlottetown's Active Streets network being implemented as part of the Parks and Open Space Master Plan of the Parks and Recreation Department requires collaboration with the Public Works Department; land-use policies being implemented by the Towns of Cornwall and Stratford require collaboration with PEI TIR for the supporting, multi-modal transportation network.		

4.4 Work Together

Recommendation	Timeframe	Range of Cost
A. Implement policies for creating walkable and bicycle-friendly communities in the community planning process and subdivision and site development review processes.	Short term	$
Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Town of Stratford, development industry,		
• Develop guidelines or standards that outline what is required at the destination such as transit shelter, bicycle parking (short-term and higher security long-term), change rooms, showers, lockers, bicycle "fix-it" stands, etc. • Bicycle repair "fix-it" stations are similar to bicycle parking racks. They include a tire air pump and tools attached by cables to a stand. The stand can hold the bicycle off the ground and simple repairs, such as changing a tire, or adjusting brakes, can be made. • Present best practices available such as the Institute of Transportation's recommended practice: "Promoting Sustainable Transportation Through Site Design". • Charlottetown, Cornwall and Stratford should work together to develop guidelines with input from the development community recognizing their uniqueness without compromising active transportation needs. • Upgrade and promote bicycle parking at Charlottetown parkades. • Subdivisions are being built without sidewalks and bike lanes. There will be a cost to retrofit these later. Look for agreement among all three municipalities to consider requiring sidewalks and bike lanes along collector streets. Along local streets, consider alternatives that support the local stormwater management strategies (storm sewers or open ditches) such as advisory lanes, shared space, traffic calming, or sidewalks to suite the local context.		

4.4 Work Together

Recommendation	Timeframe	Range of Cost
• Consider green / park space dedication to linear corridors that can support trail development. • Recognize public and private projects that have done a good job incorporating active transportation, such as Holland College's new "green globe" building, through showcasing, awards, designations or other celebrations.		
B. Create local active transportation events that celebrate walking and cycling, explore communities and get more people trying active transportation.	Short term	$
Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Town of Stratford, Cycling PEI, Regional Active Transportation Committee (proposed), Service Clubs, PEI Tourism, Tourism Charlottetown, Downtown Charlottetown Inc., Island Trails,		
• Cornwall and Stratford could host cycling rides and walking tours with loops of all lengths for all skill levels including families. Allow residents to find the trail connections. • Charlottetown could host a loop of Sunday Open Streets to include downtown, Victoria Park, and the Confederation Trail • Events could be extended to include the two TransCanada Highway river crossings between Charlottetown and Cornwall / Stratford to create an awareness of the need for these crossings to accommodate more than just cars. • Pilot additional streets closed to traffic and open to active transportation only in downtown Charlottetown. It would result in more people enjoying the slower pace and choosing active transportation for their activities in the downtown. • Co-ordinate events among the three communities to increase exposure and participation. Events could be promoted using a "passport" and or other means to encourage attendance. • Promote "PDE": "public display of environmentalism" contest with UPEI and Holland College students residence • Involve community groups in supporting events.		
C. Work with transit to integrate cycling and walking and encourage use of all three modes for linked trips, including having bike racks on all buses.	Short term	$
Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Town of Stratford, Trius Transit, Regional Active Transportation Committee (proposed), UPEI, Holland College, Downtown Charlottetown Inc., employers / businesses		
• Add bike racks to all buses. This can make the connection across the two bridges until the North River and Hillsborough River structures can be improved, and improve other regional connections. Make a rack available at events so that people can try it out to overcome any intimidation towards its use. Adding bike racks to transit buses is being considered for potential gas tax funding in 2012. • Add bicycle parking, benches and transit shelters to major transit stops. • Incorporate using transit into social marketing efforts as a sympathetic mode of transportation to extend shorter walking and cycling trips. • Consider transit service for Holland College (Grafton Street lacks frequent service).		

4.4 Work Together

Recommendation	Timeframe	Range of Cost
D. Develop a program for assisting existing businesses in providing pedestrian amenities and bicycle parking for their visitors and employees.	Short term	$
Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Town of Stratford, Downtown Charlottetown Inc., employers / businesses		
• Existing businesses want to help, but often don't know what to do or see it as a lower priority. Some guidance, co-ordination or financial assistance can result in small improvements, such as bicycle parking racks that can attract customers. • Different programs can be developed such as bulk discount purchasing of amenities by government offered to property owners at the bulk price; advice on type and location of amenities, etc. • Town of Cornwall purchased a few bicycle parking racks in 2011 and approached business owners to have them installed on their commercial properties. They intend to continue this program in 2012. • Build awareness with Bicycle Friendly Business designations and awards.		
E. Connect current efforts in economic development and tourism to active transportation and the associated quality of life, updating communications, programs, and events to increase awareness.	Short term	$
Potential Partners: PEI Tourism, PEI Health and Wellness, City of Charlottetown, Town of Cornwall, Town of Stratford, Regional Active Transportation Committee (proposed)		
• An interesting journey will engage people to travel longer distances. • Continue to support and enhance the painted line walking routes: "gold line" for shops and services, "burgundy line" for Founder's Hall, and "green line" for parks and the Waterfront. • The Eastern Gateway will become the confluence of the trails. • Promote active transportation as part of the quality of life that the region has to offer, emphasizing the short distances between places. • Plan for and promote active transportation as viable modes to access festivals and events, providing bicycle valet parking or other incentives.		
F. Create a Regional Active Transportation Committee, or committees in each community, to oversee the implementation of the Active Transportation Plan, mobilize volunteers to support events, and engage community groups in actions.	Short term	$
Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Town of Stratford, Cycling PEI		
• Start an "adopt a trail" or "trail build" program to assist with trail construction, maintenance and enhancements. • Engage youth in special volunteer or "jobs for youth" programs.		

4.4 Work Together

Recommendation	Timeframe	Range of Cost
G. Investigate the feasibility of supporting programs such as car share, carpool ride-matching and public bikes.	Mid term	$
Potential Partners: PEI TIR, City of Charlottetown, Town of Cornwall, Town of Stratford, Regional Active Transportation Committee (proposed), UPEI, Holland College, other potential user groups		
• Holland College provides support for a web-based carpool matching program. • Make it easier for people to reduce driving or live without owning a car. • A public bike system like Montreal's where hundreds of rental bicycles are provided at locking stations throughout the City for short duration trips may not be feasible, but a public bike system tied to tourism, the post-secondary student populations, or large employers may be effective models.		
H. Develop a social marketing and individualized marketing programs to help shift travel behaviour towards more walking and cycling targeted neighbourhoods, employers, schools, or districts.	Define in short term; implement in short to long term	$ to $$
Potential Partners: PEI Health and Wellness, City of Charlottetown, Town of Cornwall, Town of Stratford, Regional Active Transportation Committee (proposed), UPEI, Holland College, Cycling PEI, other target groups / program providers		
• Incorporate the six stages of the behavioural change process (pre-contemplation, contemplation, preparation, action, maintenance, relapse). • Consider incentives such as earning rewards towards gear, bicycle helmet discounts, give-a-ways such as bicycle carrier / basket with town logo / crest, etc. • Focus efforts on specific populations or activities, such as "walk to lunch", "walk to transit", or "walk to worship". • Work with the Eastern School District to consider active transportation within their transportation policies and practices. Focus on those schools with a significant population within walking or cycling distance (some schools have large catchments areas). Support the Active and Safe Routes to School Program. Promote safe walking routes to the safe collection point as an alternative to bus stops at every front door. Designate passenger drop-off / pick-up zones or no drive zones to organize and discourage traffic adjacent schools where walking and cycling are promoted. Promote health, social and "ready to learn" benefits of being active on the way to school, as opposed to the behavioural problems that occur on school buses. • Every year, audit the walking and cycling catchment area for a school within each community and work together to resolve barriers, fill infrastructure gaps and address other concerns that are limiting active transportation. Develop programs that overcome parent's perception that bussing is safer than letting youth walk to school. Glen Stewart would be a good school in Stratford to start with because of its small catchment area. • UPEI now has the UPass transit pass for all students. There are also locations on campus to park bicycles. Recruiting and student services could promote active transportation. Define the "best routes to campus". • Incorporate using transit into social marketing efforts as a sympathetic mode of transportation to extend shorter walking and cycling trips. • Promote active transportation among the youth today so they will embrace it in the future. • Tell "success stories" and create "champions" *among* the average citizens.		

4.5 Making it Happen

It is recommended that a Regional Active Transportation Committee be formed to oversee the Regional Active Transportation Plan implementation and progress. It can include representatives from the Province, the municipalities, and stakeholders.

Implementing the Regional Active Transportation Plan and its recommended network and actions requires continuous effort on the part of politicians, staff, stakeholders and the public. Adopting the Plan in principle is the first step in the overall implementation. Then it will be up to the individual government organizations to approve specific items to carry forward to action, including potential capital and operating budgets, and staff resources. Updating of actions will be required over time to ensure that needs are being met as active transportation evolves in the region, building on success and introducing new ideas.





