



WEST HANTS REGIONAL MUNICIPALITY
Committee of the Whole - Meeting Agenda **AMENDED**
September 8, 2020, 6:00 p.m.

Council Chambers, 76 Morison Drive, Windsor, NS (also via Zoom & FB Livestream)

1. Call to Order
2. Roll Call
3. Declaration(s) of Conflict of Interest
4. Announcements
5. Approval of the Agenda, including additions or deletions
 - a) Dashboard Action Items – Information Log
6. Approval of Previous Meeting Minutes
 - a) 2020-07-14 Committee of the Whole minutes
 - b) 2020-07-21 Special Committee of the Whole minutes
7. Presentations
 - a) Avon River Causeway – **Mr. Laclan Rhiel, - Mi'Kmaq Conservation Group**
Mr. Darren Porter – Marine Institute of Natural and Aquatic Sciences
Mr. Daniel Leblanc – Executive Director & Administrator of the Sentinelle de la côte acadienne Project and the Former Founding Riverkeeper of the Petitcodiac River in New Brunswick
 - b) **Fisheries and Oceans Canada Process - Michael Wambolt**
8. Unfinished Business/Postponed Motions
 - a) Rural Internet
 - I. Internet for NS Initiative Update – Informational Zone Map from Develop NS
 - II. West Hants Internet Access Business Plan – Verbal Discussion
 - b) Post-consolidation Funding
 - c) Hwy. 101 Twinning / Community Liaison Committee –Information Report
 - d) PIDs PID 45245578 and portions of PIDs 45182797, 45245560, 45245552, 45184025 and 45182904 (Cogmagun Lands) – Verbal Update
9. Reports
 - a) CAO Activity Update – Information Report
 - b) PAC
 - I. Fire Inspection System Policy – Recommendation Report
10. Correspondence
 - a) Avon River Causeway Related Log
 - I. Nikki-Marie Lloyd (Aug. 2, 2020)
 - II. Heather Boylan, Martock (Sept. 1, 2020)
 - III. Dr. Kirumira (Sept. 2, 2020)
 - IV. Greg O'Leary (Sept. 3, 2020)
 - b) Fisheries and Aquaculture Minister (July 23, 2020) – Marine Debris Clean-up Program

- c) James Salter (Aug 25, 2020) - Wooden Statue Resurrection Financial Req
- d) Windsor Curling Club (Sept. 2, 2020) – Property Tax Exemption
- e) Dean Manning (Sept. 8, 2020) – Avon River Causeway
- f) Colleen Walsh Bouman (Sept. 8, 2020) – Avon River Causeway
- g) David and Michelle Rideout (Sept. 8, 2020) – Avon River Causeway

11. New Business

- a) Windsor Curling Club Correspondence Request – Information Report
- b) James Salter Correspondence (Aug. 25, 2020) – Financial request for statue resurrection discussion
- c) Dangerous or Unsightly Premises, 640 Wentworth Rd – Recommendation Report
- d) Development Officer Appointment, Madelyn LeMay – Recommendation Report
- e) Appointment of Required Fire Official – Recommendation Report
- f) Sidewalks/Paths Infrastructure – Agenda Request Form
- g) Replace/Install Septic Systems Loan Program – Agenda Request Form
- h) Restaurants and Mobile Canteens – Agenda Request Form
- i) Racial Profiling Assertion – Agenda Request Form
- j) Pedestrian Signage Barriers – Agenda Request Form
- k) Sam Slick Removals – Agenda Request Form

12. Public Participation Period

13. In-Camera - None

14. Next Meeting Date / Adjournment

COTW – 2020-04-14	M or D	Status
WH Ground Search and Rescue (20200309) – Surplus REMO Trailer – Donate Trailer	D	
J-Class Roads – write letter expressing interest in program	D	
Water and Sewer Rates Three Mile Plains - staff for a report to look for options for the sewer rates to be put on the tax bill	M	
COTW – IN CAMERA 2020-04-14	M or D	Status
Land Matter	D	
COUNCIL – 2020-04-28	M or D	Status
Internet Access Business Plan - CAO to initiate the process for the development of a business plan to be presented back to Council, which may require consultation with market / industry experts for the delivery of high-speed internet access for the benefit of the residents of Windsor West Hants.	M	
Naming of Regional Municipality - change its name to West Hants Regional Municipality.	M	
COTW – 2020-05-12	M or D	Status
Sewer Billing Review – History and Information Report - staff explore what the sewer rates would be if the sewer utility fees were put back on the taxes. (Tabled until after budget).	M	
Asset Management Policy (Strategic Sustainability) - Future discussion of a strategic sustainability plan is needed.	D	
Avon River Causeway – Aboiteau - CAO to initiate the process for a financial evaluation which may include a feasibility study on the potential economic opportunities that exist with each of the causeway / aboiteau options that are being considered with the Highway 101 twinning project. (table the motion until after the Community Liaison Committee meeting).	M	

Green – complete

Yellow – In Progress

Red – to Start

M – Motion / **D** – Discussion or Direction

COTW – 2020-05-20	M or D	Status
Post Consolidation Funding - Council will need to confirm project priorities by the end of the budget deliberations.	D	
COUNCIL – 2020-05-26	M or D	Status
Branding for the Region – proceed with the Branding project.	M	
FCM Municipal Asset Management Funding Program - staff to apply for a grant opportunity from the Federation of Canadian Municipalities' Municipal Asset Management Program for Asset Management System Implementation	M	
COTW – 2020-06-01	M or D	Status
RCMP (Policing) - Other policing models should be explored to determine best cost per officer including all overhead costs. A review will be needed and if changing models 1-year notice would need to be given.	D	
Blended Rates (Restructuring of existing tax rate) – Staff and Council to review over the next year.	D	
COTW – 2020-06-03	M or D	Status
Post Consolidation Priority List - CAO Phillips informed the post consolidation priority list was being discussed with a grant supervisor at the Department of Municipal Affairs and Housing (DMAH) to determine which grant programs could be used on the projects listed including saltwater marine access. He suggested further discussion be held at another meeting.	D	
COUNCIL – 2020-06-23	M or D	Status
Cost Share Agreement Exit 7 Hwy 101, Water Sewer Main Crossing – Execute Cost Share Agreement with the Province of NS	M	
Low Income Partial Tax Exemption – Staff to bring back a report and draft policy	M	

Green – complete

Yellow – In Progress

Red – to Start

M – Motion / **D** – Discussion or Direction

PID 45245578 and portions of PIDs 45182797, 45245560, 45245552, 45184025 and 45182904 purchase of PID 45245578 and portions of PIDs 45182797, 45245560, 45245552, 45184025 and 45182904 for the amount and conditions set out in the Letter of Offer as presented in -camera at Committee of the Whole on June 9, 2020.	M	
COTW – 2020-07-14	M or D	Status
Hants West Property Owners Association - Staff will meet with the POA to explain the process and cost involved with current service and discuss possible changes.	D	
Avon River Causeway - The Hwy 101 Twinning Community Liaison Committee (CLC) plans to hold another meeting after the aboiteau design has been drafted; Municipal staff will request a meeting sooner.	D	
Reallocation of Hantsport Post-Transitional Funds - staff to write a letter to the Minister of Municipal Affairs requesting the reallocation.	M	
Highland Avenue Cul-de-Sac - No land purchase is required as the cul-de-sac is on Municipal land, but considerations for the affected landowner are being determined. The survey for property boundaries will be confirmed.	D	
COUNCIL – 2020-07-28	M or D	Status
Avon River Causeway / Aboiteau – Mayor to reach out to First Nations Community for their position.	M	
Avon River Causeway / Aboiteau - Transportation and Infrastructure Renewal, Department of Fisheries and Ocean and Department of Agriculture make a presentation at the September Committee of the Whole meeting on the status of the project.	M	
Avon River Causeway / Aboiteau - Council send a letter to Nova Scotia Transportation and Infrastructure Renewal to express the following:	M	

Green – complete**Yellow** – In Progress**Red** – to Start**M** – Motion / **D** – Discussion or Direction

After further deliberation and education, it is the recommendation of West Hants Regional Municipality that while our responsibility is to the citizens of this Municipality, it is not the body responsible for the decisions being made by Nova Scotia Transportation and Infrastructure Renewal. We trust that your decisions concerning the waterflow and fish passage infrastructure will be made to satisfy the needs of all stakeholders of this area. We implore you to ensure that all requirements for waterflow and fish passage infrastructure are met by your actions and that an acceptable solution will be found for the Windsor Causeway waterflow and fish passage infrastructure that will not negatively impact any of the stakeholders of this Municipality.		
• Hantsport Fire Station Design Services Tender Award - award of tender WWHPW20-08 for the Hantsport Fire Station Design contract to Harvey ARCHITECTURE Limited, for the tendered price of \$198,620 plus 10% design contingency, plus applicable taxes. And approve the demolition of the existing Hantsport Fire Station and the old Town Hall building located on Oak Street, pending an environmental assessment of the building and geotechnical work on the site including building and parking areas. - staff explore a space in Hantsport for a community space and warming centre.	M	
• Diversity and Inclusion Establishment of a Committee of Council - staff be directed to draft a Terms of Reference for consideration.	M	

Ecosystem Monitoring of the Avon River – Windsor Causeway

Spring/Summer 2020

Lachlan Riehl
MCG River Monitoring Project Coordinator



MI'KMAW CONSERVATION GROUP
THE CONFEDERACY OF MAINLAND MI'KMAQ

*The Mi'kmaq Conservation
Group*

*The Confederacy Of Mainland
Mi'kmaq*

*57 Martin Crescent
Millbrook Mi'kmaq
Community NS*

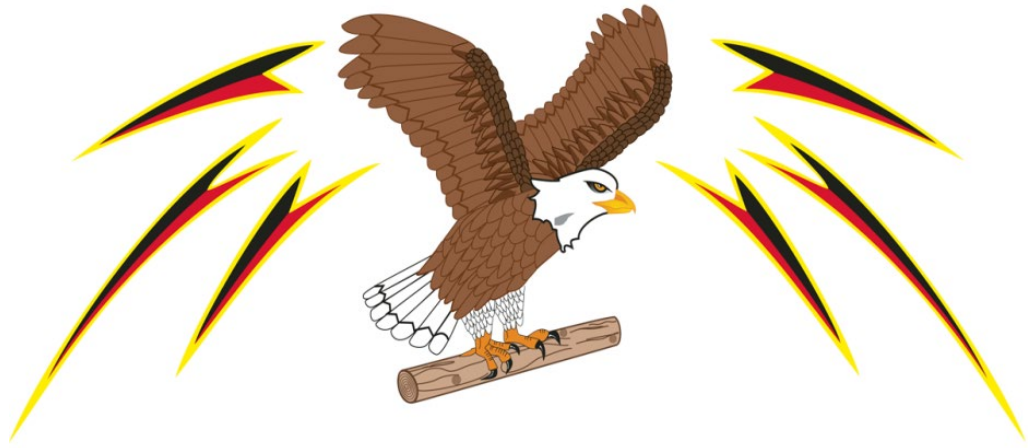
902-895-6385

www.mikmawconservation.ca

An aerial photograph of a coastal wetland area. The foreground shows a large, muddy, brownish area, possibly a construction site or a natural sediment deposit. To the right, there is a large body of water, likely a bay or estuary, with a network of smaller channels and tributaries. The wetland area is characterized by patches of green vegetation interspersed with brown, bare soil or mud. In the background, a road with some vehicles and a few buildings are visible, along with a line of trees and hills in the distance.

Overview

- CMM and MCG
- Background and Research Methods
- Water Quality
 - pH
 - Temperature
 - Salinity
 - Dissolved Oxygen
- CPUE
 - Gaspereau
 - Atlantic Tomcod
- PIT Tag Recaptures
 - American Eel



The Confederacy of Mainland Mi'kmaq



Who We Are

- The Confederacy of Mainland Mi'kmaq (CMM) is governed by Chiefs from its eight member communities and delivers a variety of community programs and advisory services to First Nations communities in Nova Scotia.
- Mi'kmaw Conservation Group is a department within CMM – *“To Promote and Restore the concept of Netukulimk in the Bay of Fundy Watershed”*.

Background

Funding provided by



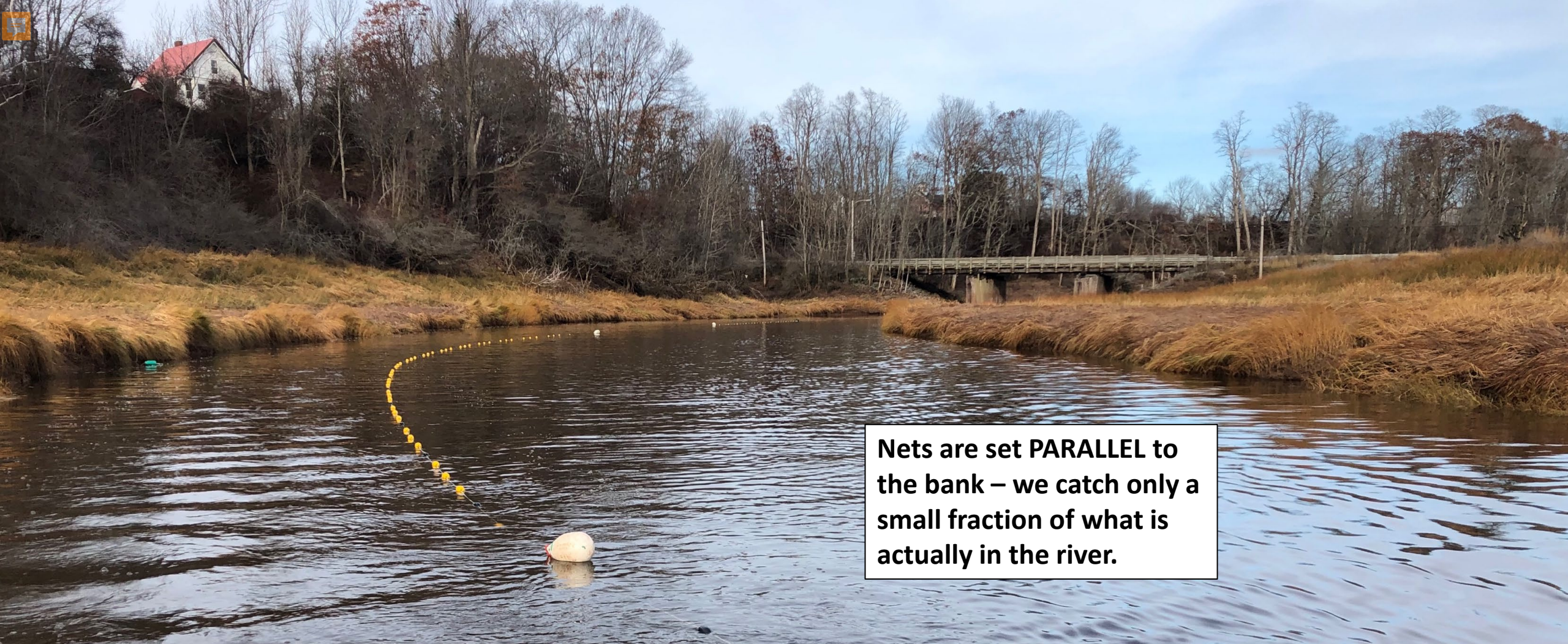
- In partnership between MCG and Darren Porter
- Data analysis done by Dr. Trevor Avery (Acadia University)
- Monitoring this year began April 1, 2020
- Monitoring:
 - Species diversity
 - Relative abundance
 - Passage Effectiveness
 - Changes in water quality
- Completed through:
 - Deployment of nets and traps
 - PIT tagging
 - Measuring water quality
 - Re-deployment of acoustic receivers (funded by NSTIR through a larger project)



We use various net sizes to specifically target certain species and size/age classes



Gill Nets



Nets are set PARALLEL to the bank – we catch only a small fraction of what is actually in the river.

Gill Net Deployment

MINNOW



EEL

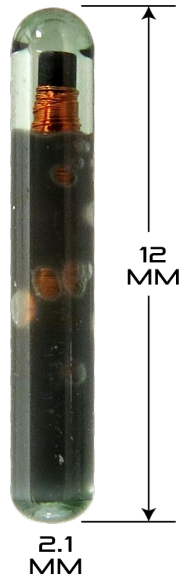


Traps are set in calmer areas with a bit of “structure”. The different mesh sizes on the traps allow us to capture different species and size/age classes.

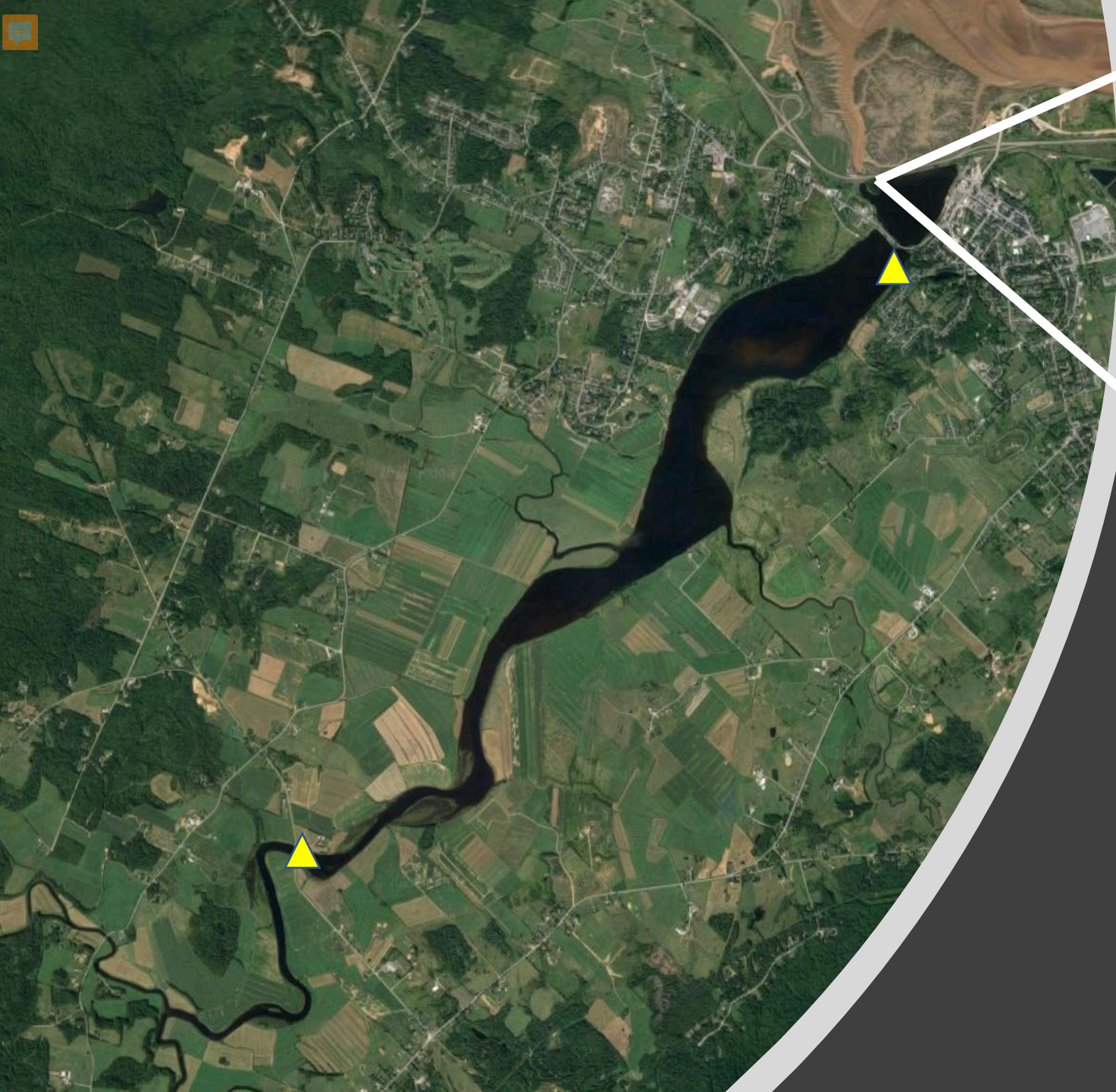
Eel and
Minnow
traps



PIT and Acoustic Tagging



- V9 – Acoustic tag (Active)
 - 180kHz (HR)
 - 69kHz
- PIT Tag – Passive Integrated Transponder
 - Capture - Mark - Recapture



Receiver Deployment

- ▲ 69 kHz VR2W
- 180 kHz HR

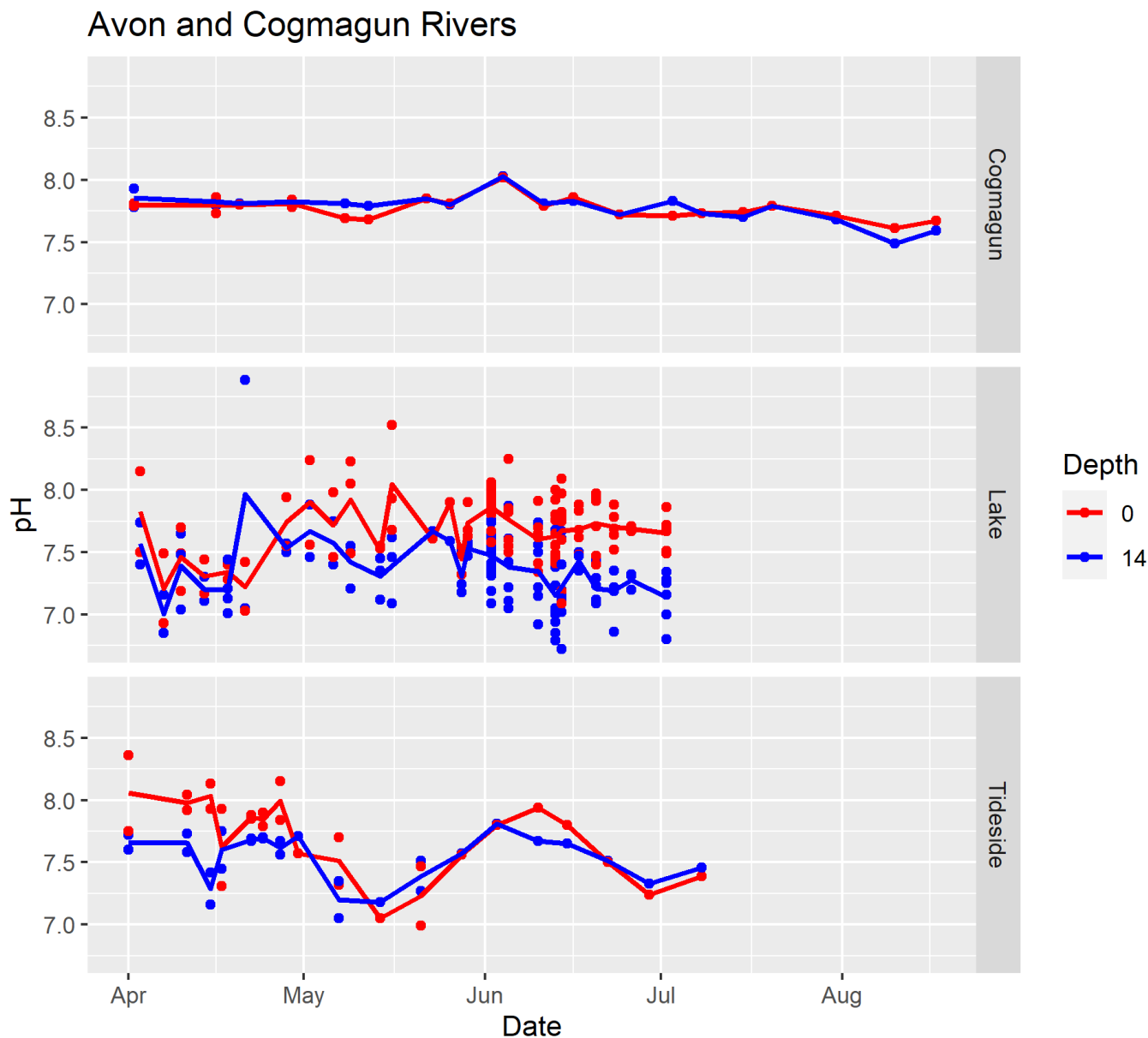
Water Quality

- pH
- Temperature
- Salinity
- Dissolved Oxygen (%)



Water Quality – pH 2020

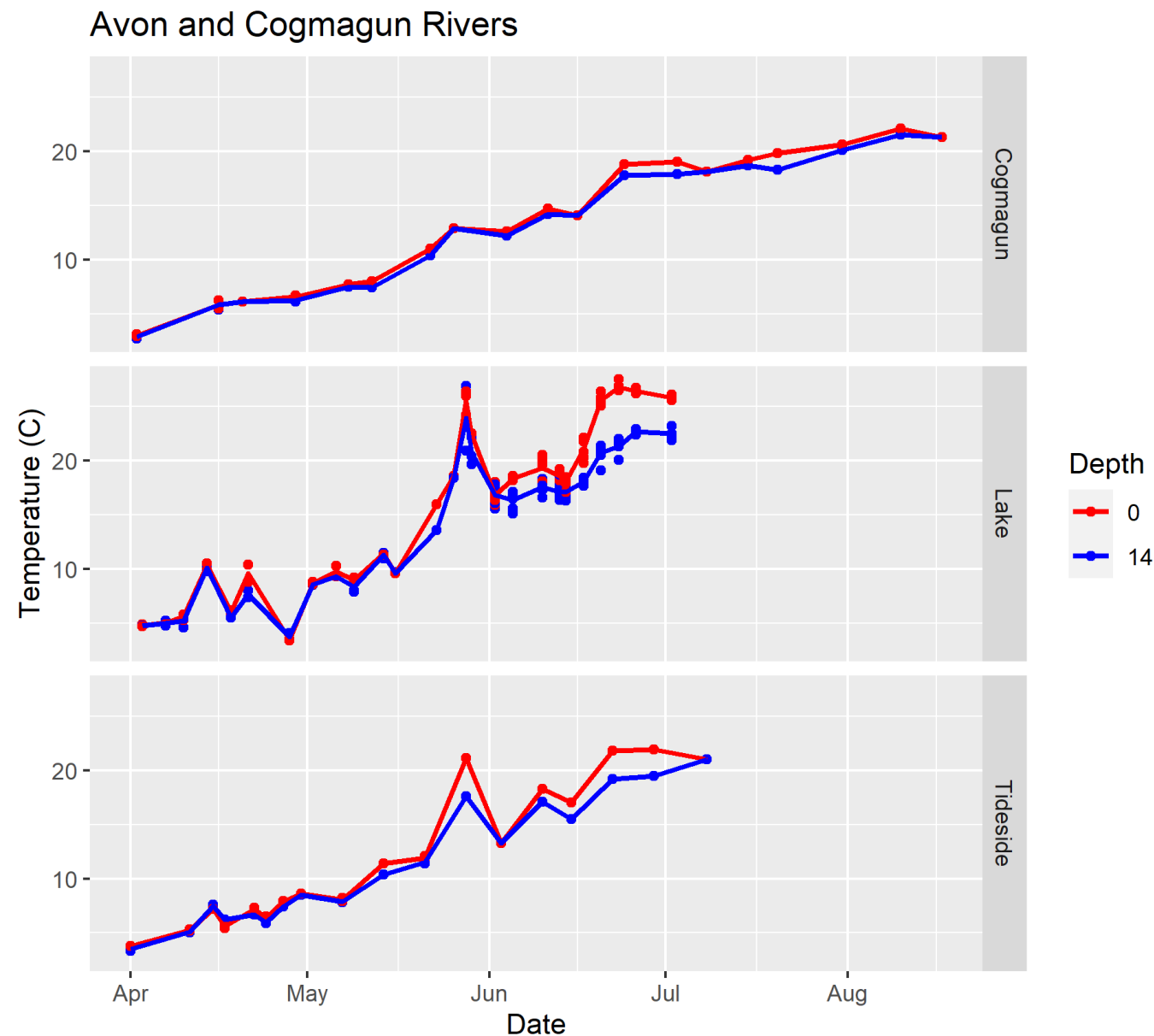
pH ranges from ~7 to 8 in these rivers, which is great for fish – other rivers in NS require liming to boost pH levels.



Water Quality – Temperature

2020

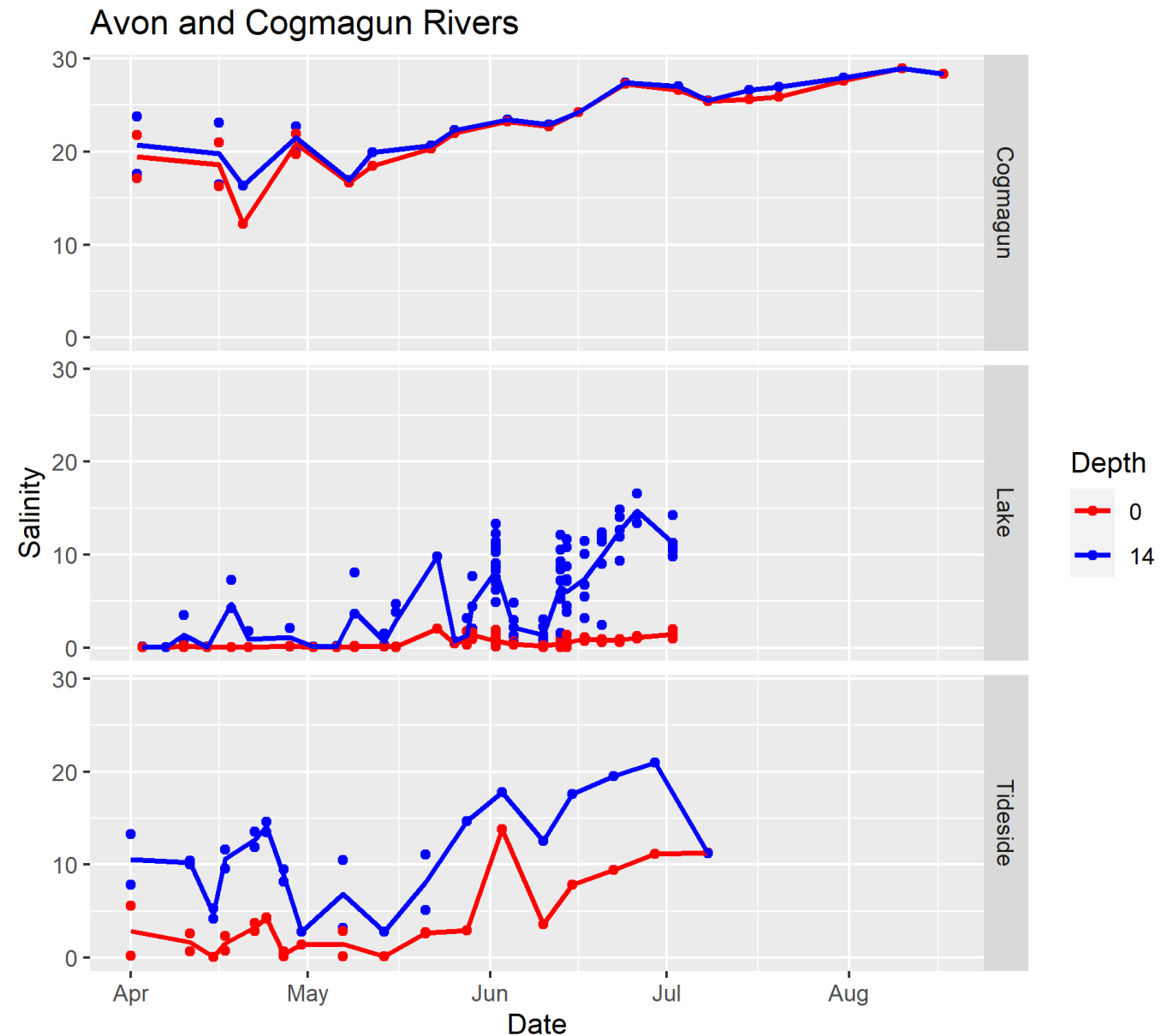
Temperatures in Windsor jump around and diverge (stratify). Those in the Cogmagun are more stable with no sudden changes.



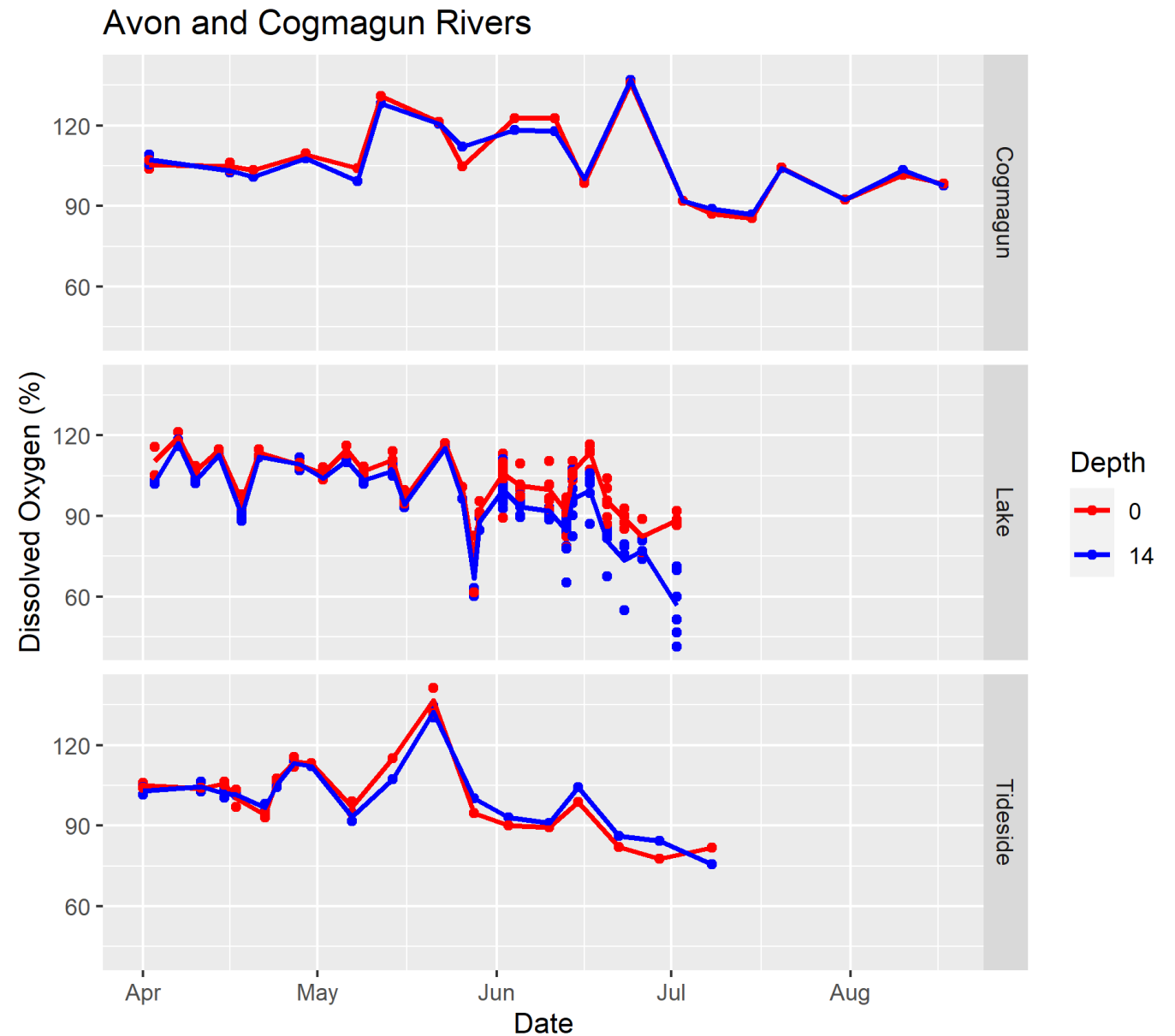
Water Quality – Salinity

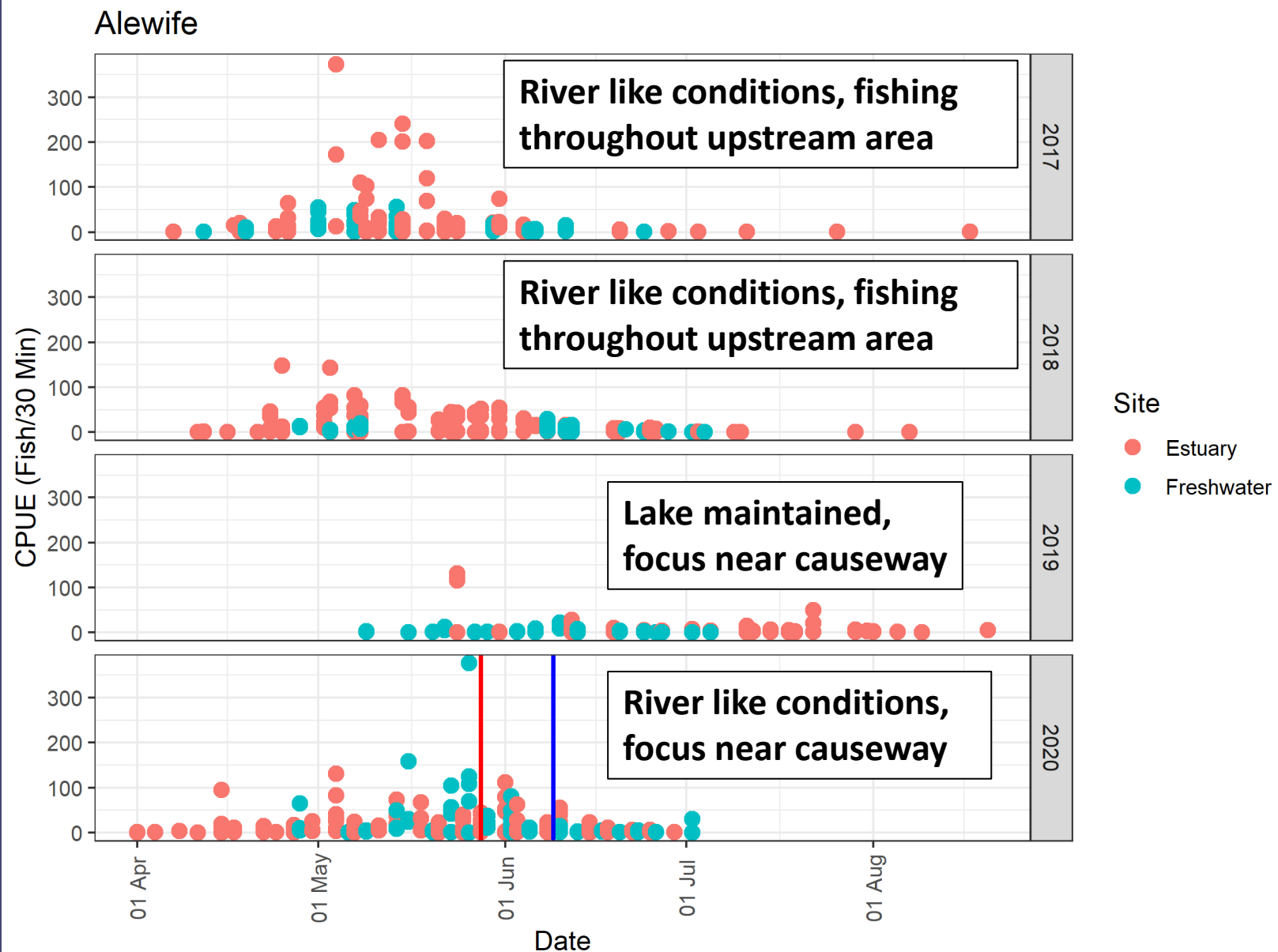
2020

Salinity in Windsor is NOT stable and there is a clear development of an estuary above the causeway. Salinity in the Cogmagun is much more stable.



DO% above the causeway becomes quite depleted by mid summer while areas with more natural flow do not.





CPUE –
Gaspereau
2017 - 2020



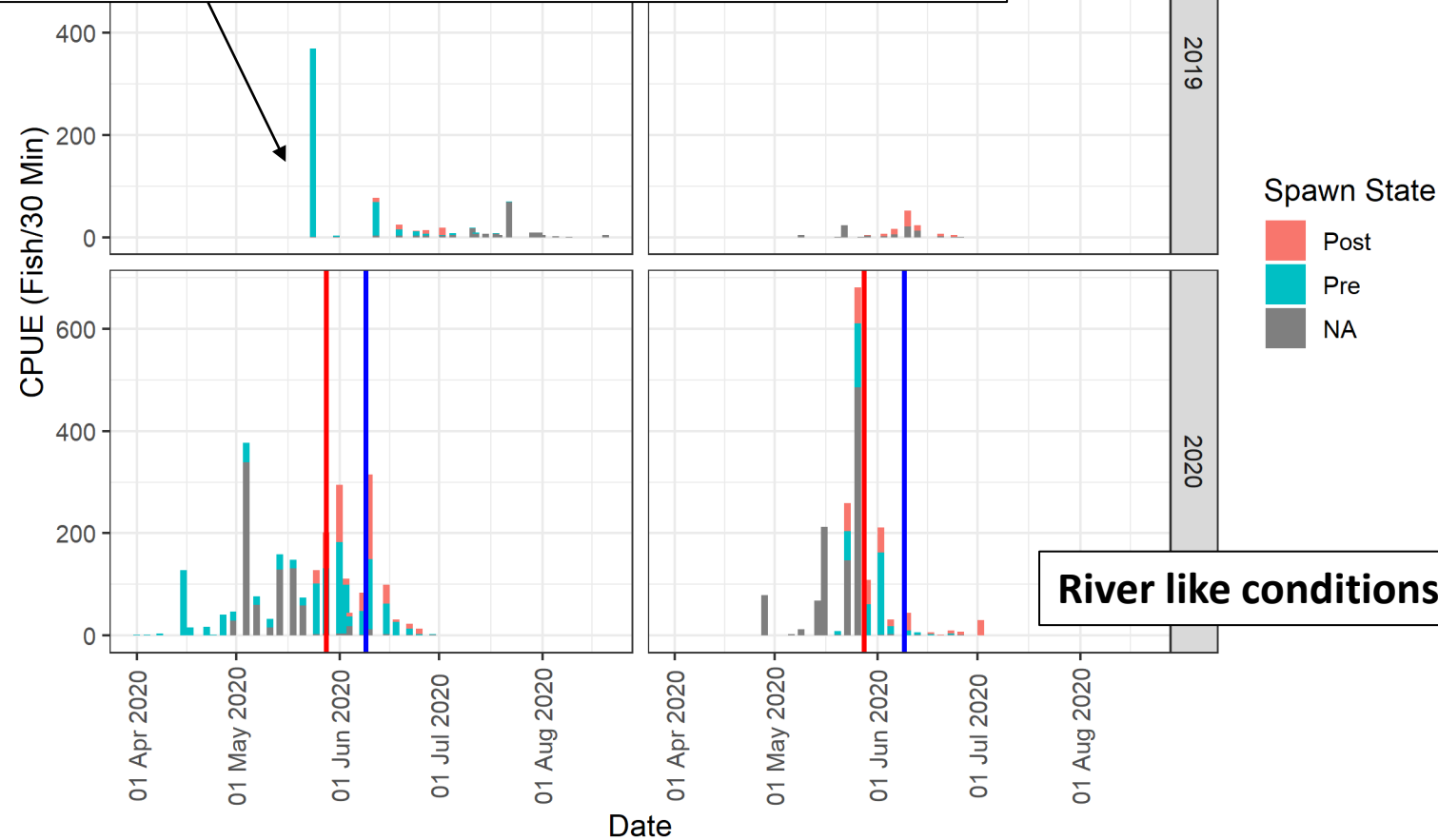
Alewwife Avon River

Estuary

Freshwater

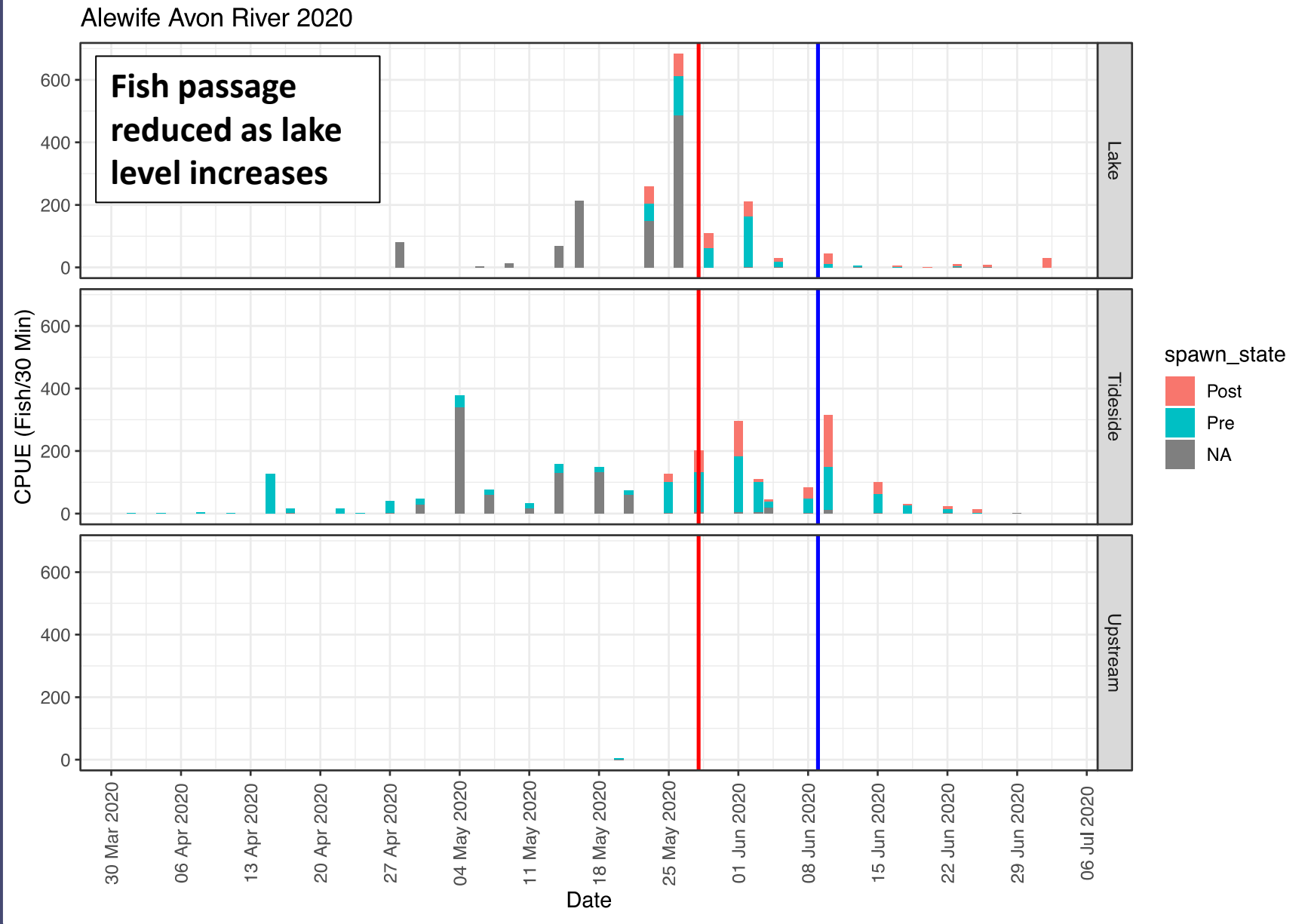
Gates closed until ~May 21, then consistent attractant flow, lake raised back up ~May 28

Lake maintained



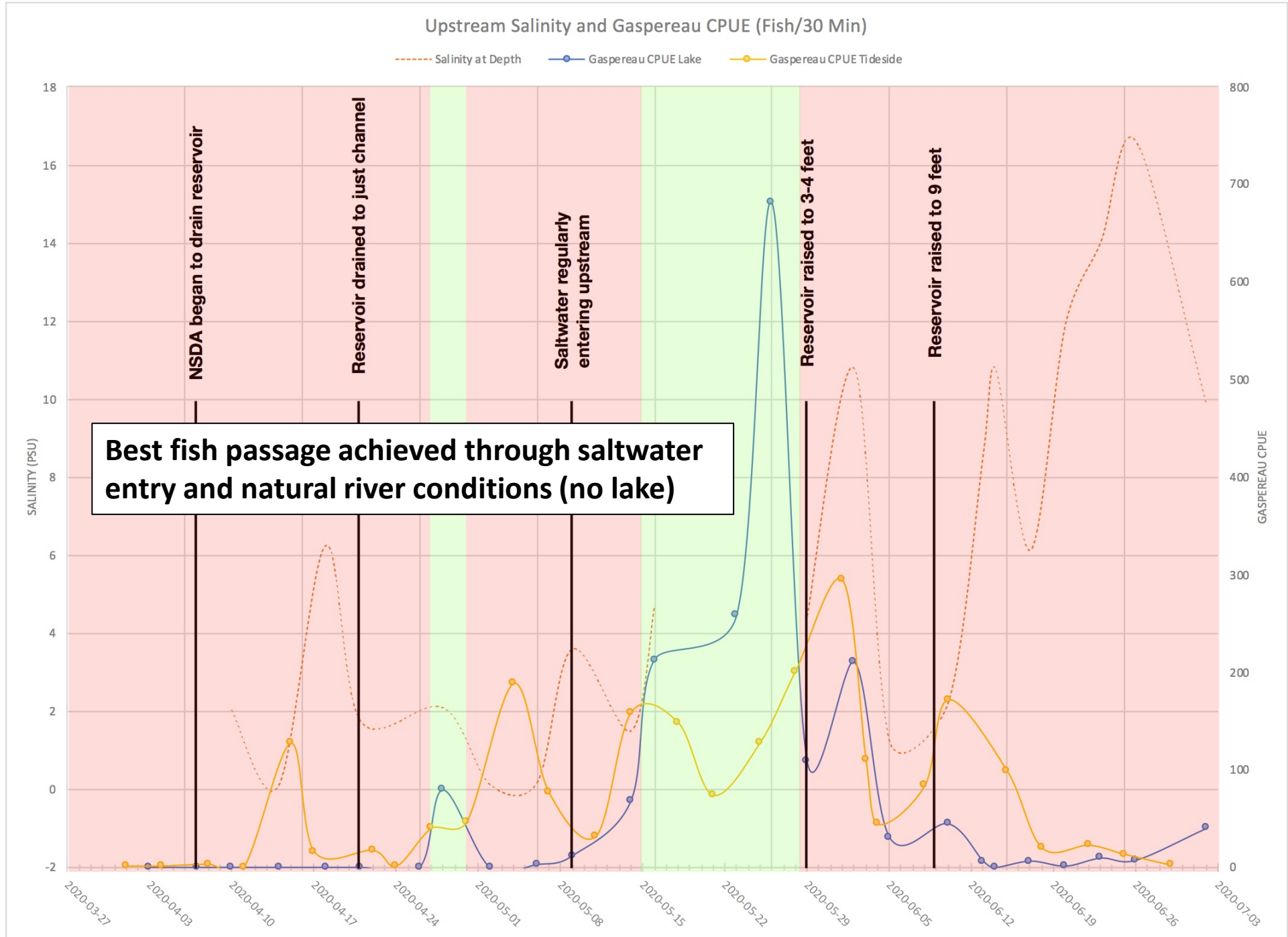
CPUE –
Gaspereau

Spawn State
2019 - 2020



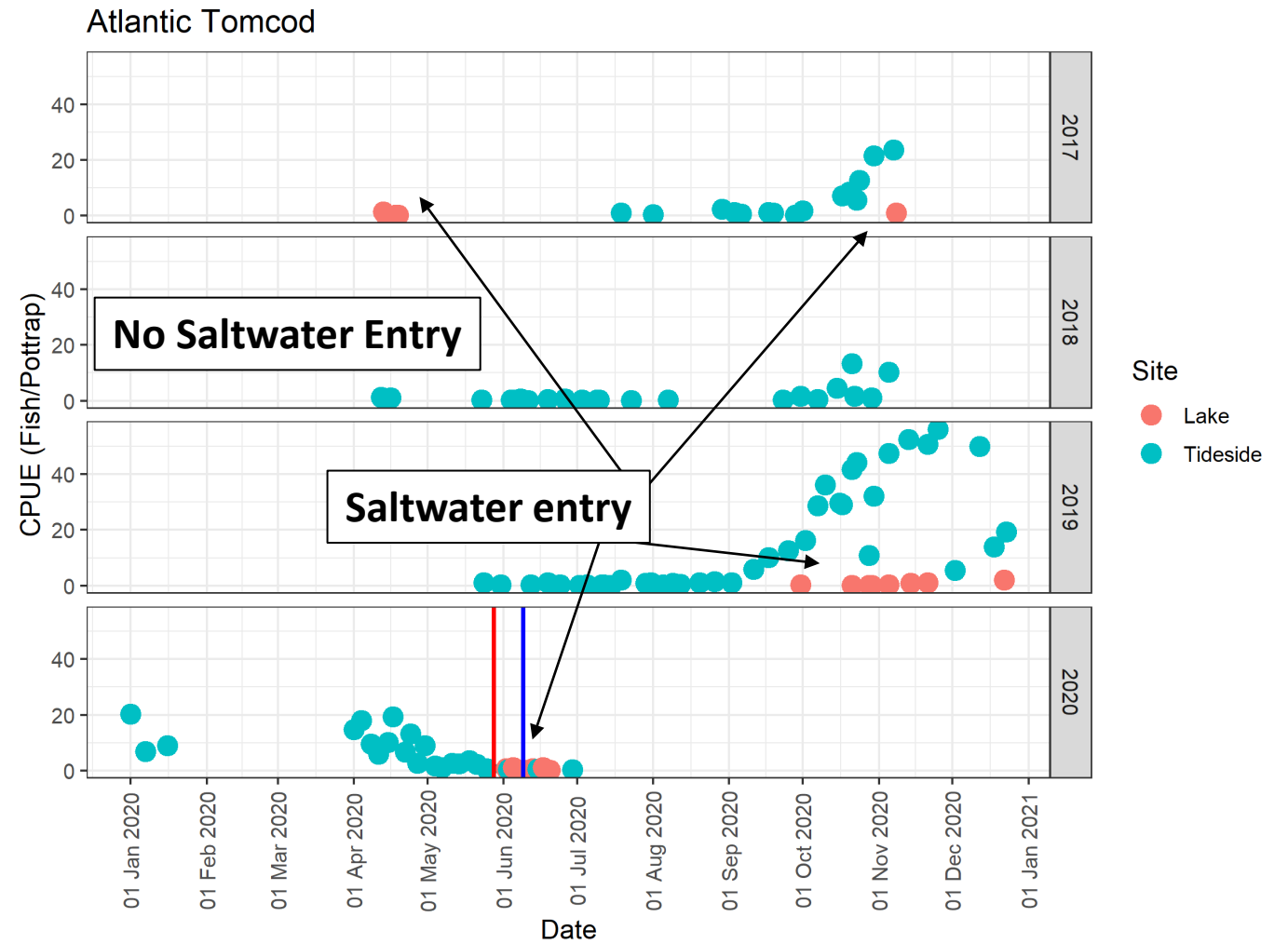
CPUE –
Gaspereau

Spawn State
2020





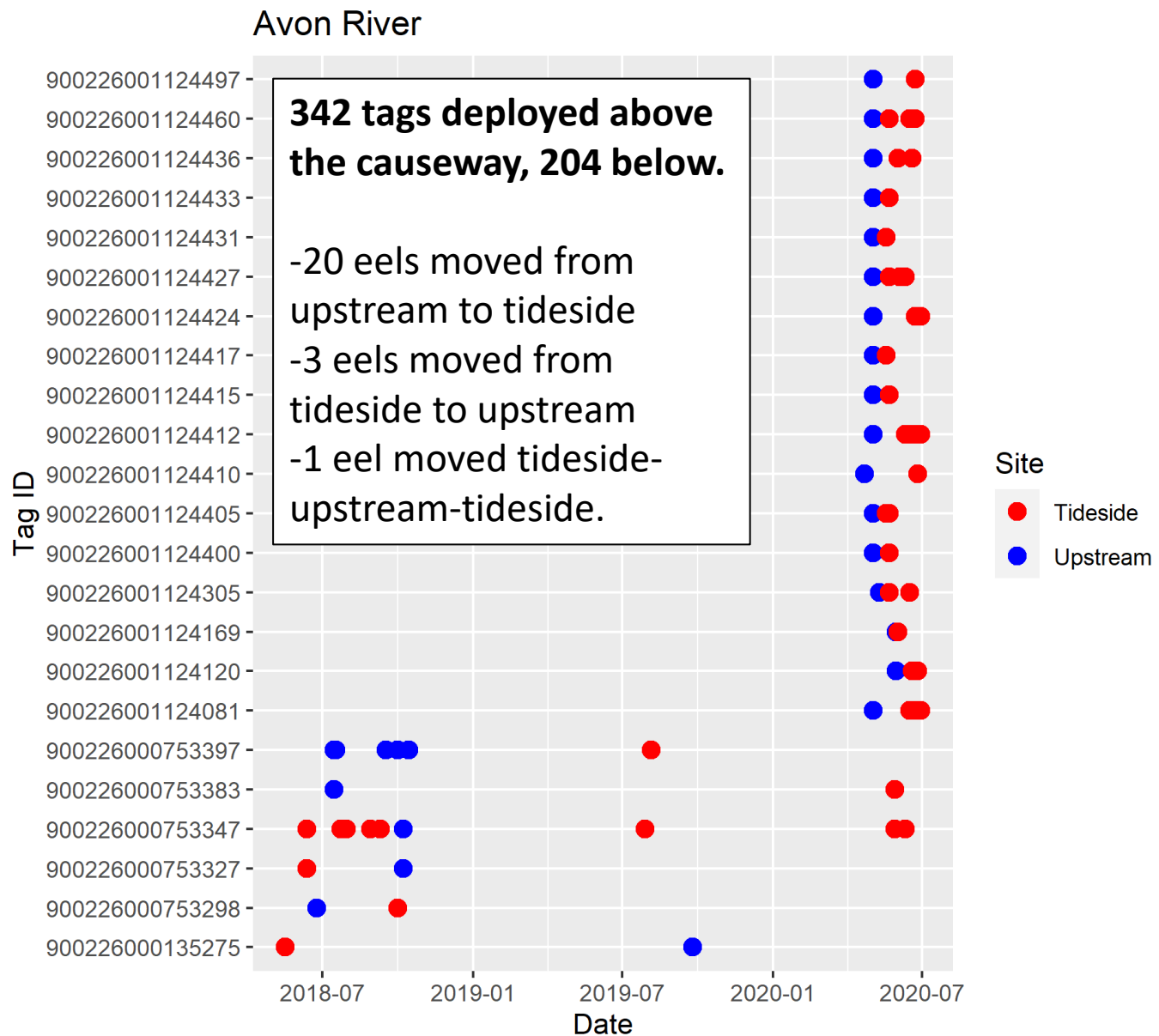
CPUE – Atlantic Tomcod 2017-2020





IBoF Salmon Documentations

- 2018 – one caught just upstream of the causeway
- 2018 – one observed below fist dam
- 2019- early spring, farmer caught slink in Lebreau Creek
- 2020 – Caught June 13 in this study
- Multiple unconfirmed angler reports



PIT Tag Recaptures – American Eel

2018-2020

WELA'LIOQ THANK YOU



MI'KMAW CONSERVATION GROUP
THE CONFEDERACY OF MAINLAND MI'KMAQ



Avon and Petitcodiac River Comparisons

A presentation to the West Hants Regional Municipality

***Daniel LeBlanc, SCFA Administrator and Former
Petitcodiac Riverkeeper (New Brunswick)***

8 September, 2020

Presentation Summary

- 1. Sentinelle de la Côte et forêt acadienne**
- 2. Avon and Petitcodiac River Comparisons**
- 3. Issues of Concern – NSTI Proposal**
 - Safe Fish Passage**
 - Environmental Assessment Assumptions**
 - Fisheries Act Rights**

Conclusion



1. Sentinelle de la côte et forêt acadienne

The protection of l'Acadie's natural environment in Atlantic Canada.



- A project of [Nation Prospère Acadie](#), a Canadian registered charity (2018)
- Invited by Friends of the Avon River in December 2019 to review and assist
- [Expert Statement](#) sent to Minister of Fisheries and Oceans in January 2020



2. Avon and Petitcodiac River Comparisons

- Inner Bay of Fundy
 - Macro tidal estuaries
 - Anadromous fish migrations



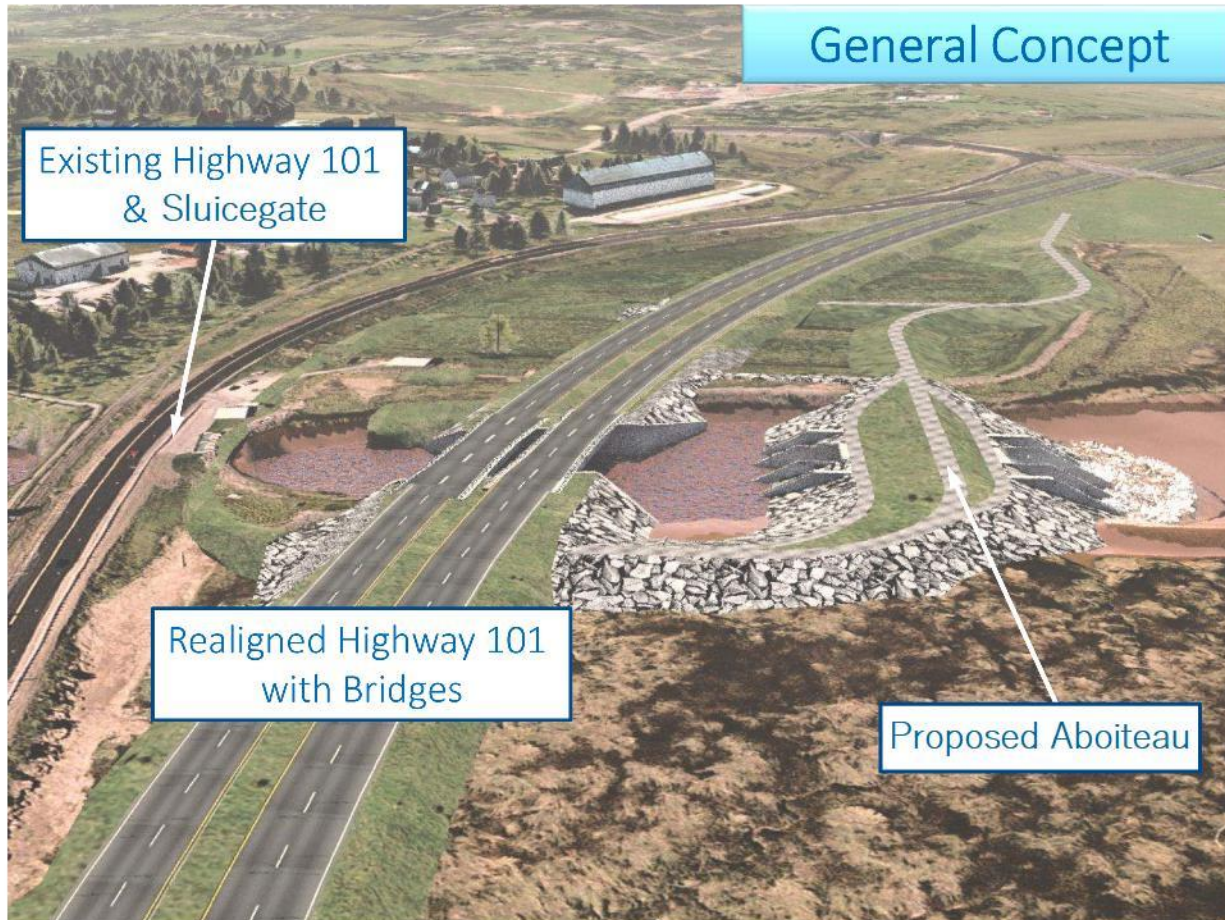
2. Avon and Petitcodiac River (Required)

- Fish passage
 - Unimpeded fish passage
 - Water temperature
 - Water salinity
 - Downstream flow
 - Upstream migrations
- Fish habitat
 - Clean headwaters



2. Avon and Petitcodiac River (Differences)

- Proposed Aboiteau vs. River Restoration Project

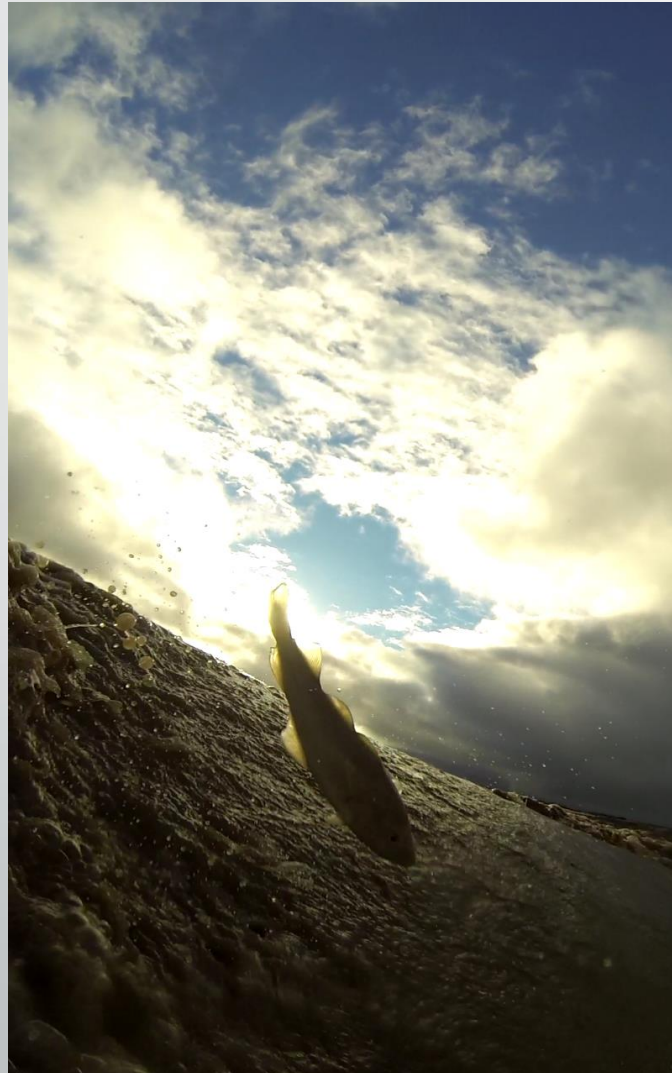


2. Petitcodiac River Restoration (Results)

- Tourism and recreation
- Fish and marine mammals
- Transport infrastructure
- Positive image



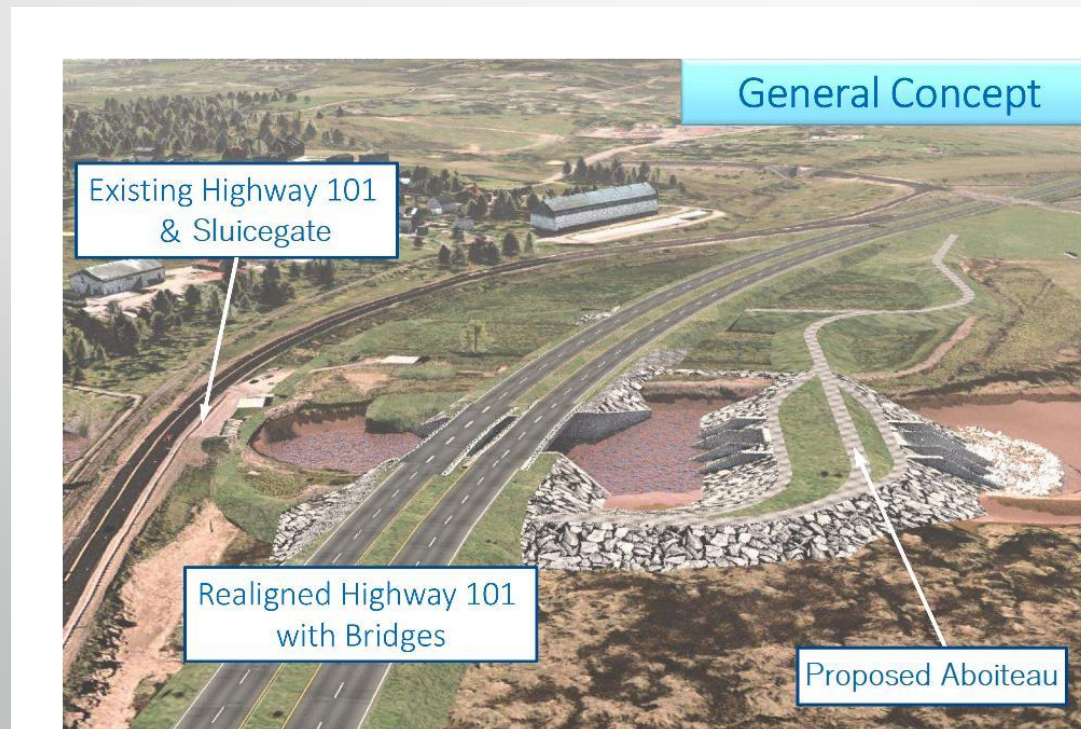
2. Petitcodiac River Restoration (Results)



3. Issues of Concern – NSTI Proposal

1). Safe Fish Passage

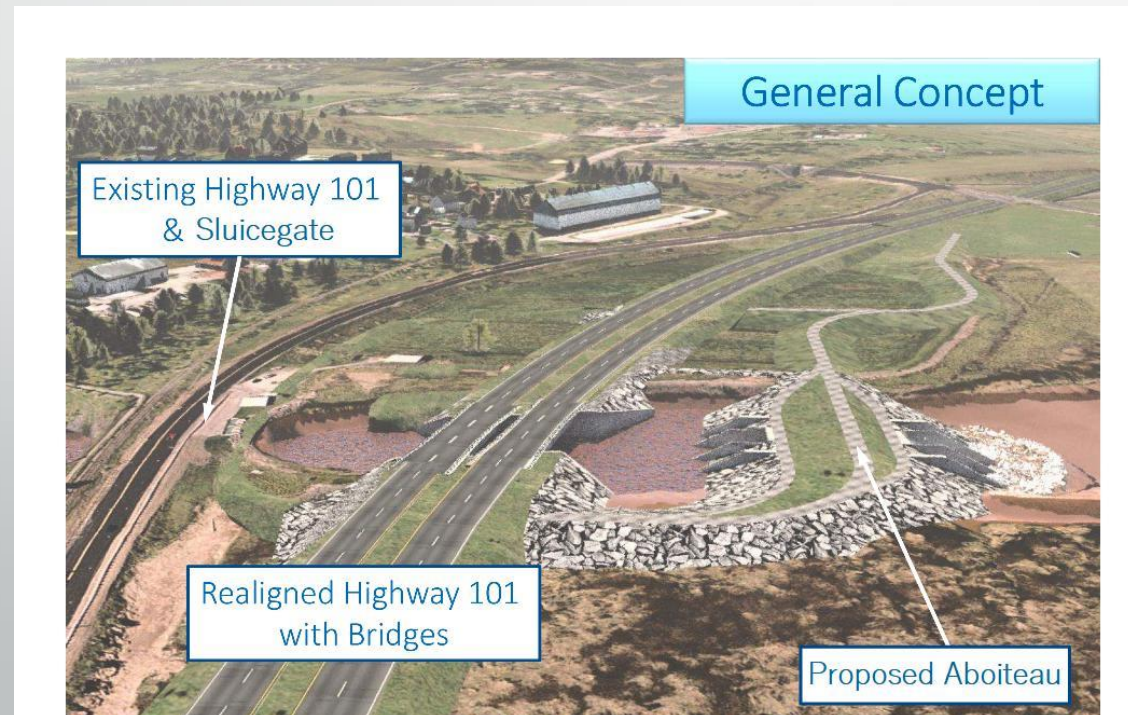
- Retired DFO Habitat Engineer (30 yrs)
- Proposal will not achieve safe fish passage
- Differences in salinity, temperature, etc.



3. Issues of Concern – NSTI Proposal

2). Environmental Assessment Assumptions

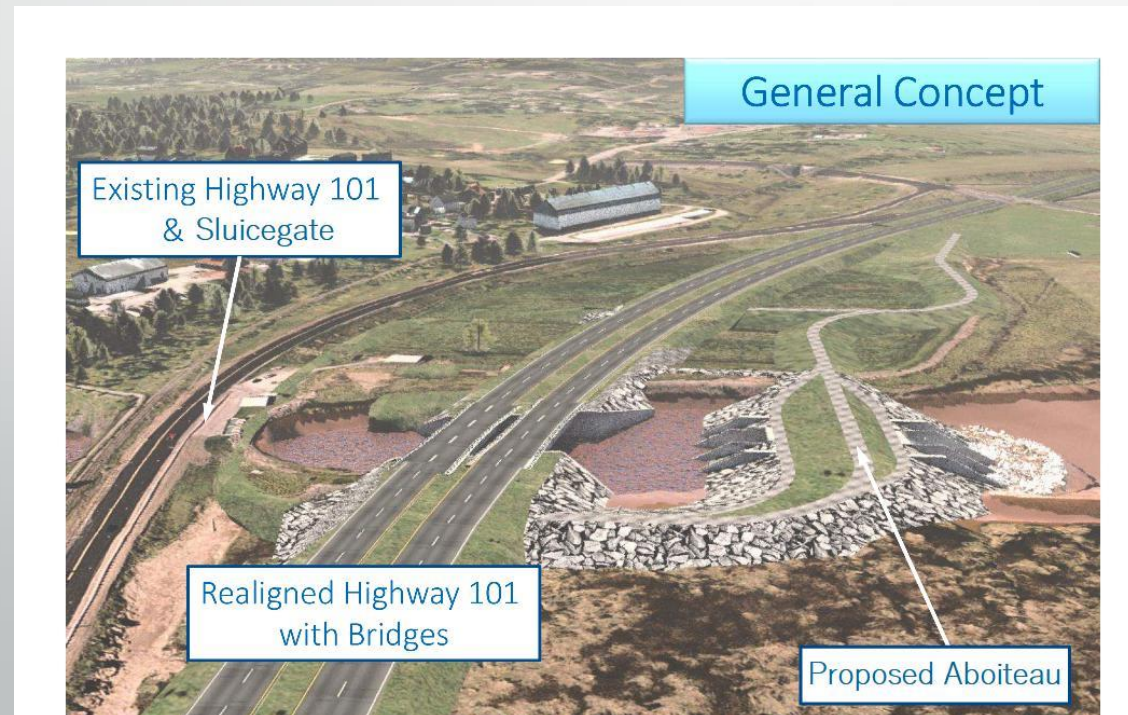
- Dikes costing (350K/km or 3.3M/km)?
- Fishway design (Bay of Fundy or freshwater)?
- Dollar value of fisheries benefits missing



3. Issues of Concern – NSTI Proposal

3). Fisheries Act Rights

- Indigenous peoples rights (consultation, fish)
- Requirement: “Safe fish passage”
- New measures to support restoration



Conclusion

Recommendations on moving forward

- Consult with Indigenous peoples
- Request a new Environmental Assessment to address ALL issues, federal gvt. ideally involved



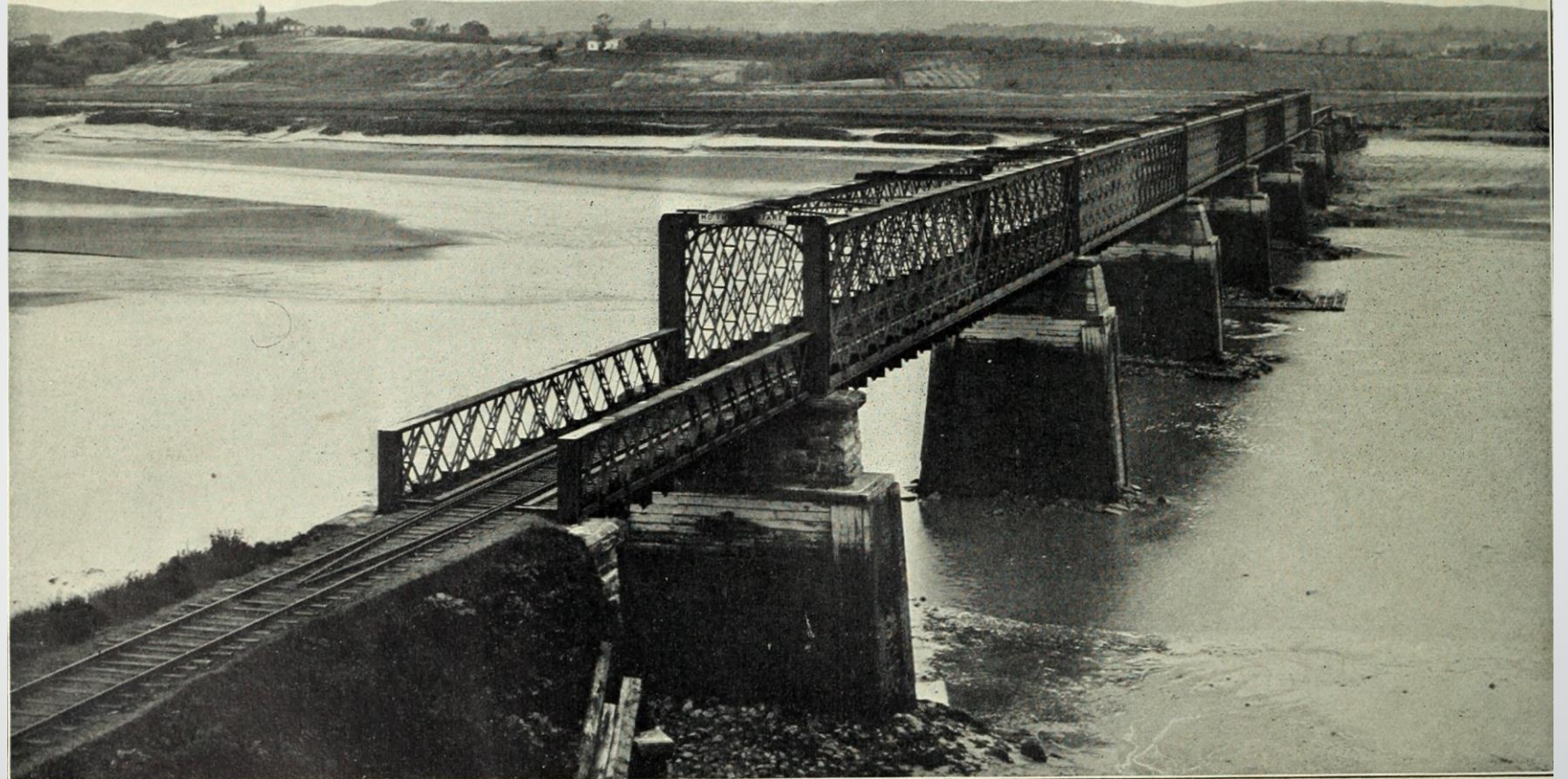
Conclusion

Advantages

- Open and transparent process for all stakeholders
- ALL issues addressed
- Possible federal funding – fish passage restoration



Merci !



Future of the Avon River... ???
Info: coteacadienne.ca



© Nation Prospère Acadie (2020)

Annapolis / Hants

[Home](#) > [Zone Map](#)

Round 1 projects are underway. For more information on these and Round 2 projects announced, see the Communities in this Zone below.

Note: The names of our Internet zones don't necessarily represent the counties they fall within.



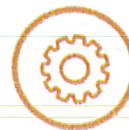
8,050

Homes/Businesses
with New Access



\$8M

NS Internet Trust
Investment



**Bell Canada,
Cross Country**
Service Provider



**Fibre to
home/business,
Wire to
home/business**
Connection
Technology

Communities in this zone

Below is a snapshot of communities and project areas in this zone. Additional information will be added for each project as it becomes available. This will include general coverage maps, estimated completion timelines, and any upcoming community webinars, events or other activities. If you don't see your home or community in projects listed to date, please know we will be urgently looking at next steps to extend

service to remaining communities and will continue to provide updates here as they are available. We remain committed to cover as close to 100% of Nova Scotian homes and businesses as possible.

Bear River

Coverage Map(s) Currently In Development.

Provider:

[Bell Canada](#)

Technology:

Fibre to home/business

Status:

Underway

Anticipated Completion:

April 2021

Belcher

Provider:

[Cross Country](#)

Technology:

Wire to home/business

Status:

Underway

Anticipated Completion:

June 2021

Cross Country Website

[🔗 Visit Website](#)

Brooklyn - Round 1

Provider:

[Bell Canada](#)

Technology:

Fibre to home/business

Status:

Underway

Anticipated Completion:

September 2020

[↓ View Map](#)

Brooklyn - Round 2

Coverage Map(s) Currently In Development.

Includes Hillsvale, Scotch Village, Lower Burlington, Centre Burlington, Upper Burlington, Cogmagun River

Provider:

Bell Canada

Technology:

Fibre to home/business

Status:

Underway

Anticipated Completion:

Under development

Cambridge

Provider:

Cross Country

Technology:

Wire to home/business

Status:

Underway

Anticipated Completion:

June 2021

Cross Country Website

 **Visit Website**

Canning

Provider:

Cross Country

Technology:

Wire to home/business

Status:

Underway

Anticipated Completion:

June 2021

Cross Country Website

[Visit Website](#)

Cheverie

Coverage Map(s) Currently In Development.

Includes Summerville, Kempt Shore, Bramber

Provider:

[Bell Canada](#)

Technology:

Fibre to home/business

Status:

Underway

Anticipated Completion:

Under development

East Dalhousie

Provider:

[Bell Canada](#)

Technology:

Fibre to home/business

Status:

Underway

Anticipated Completion:

January 2021

[View Map](#)

Glenmont

Provider:

Technology:

Status:

Anticipated Completion:

Cross Country

Wire to home/business

Underway

June 2021

Cross Country Website

[Visit Website](#)

Grand Pré

Provider:

Cross Country

Technology:

Wire to home/business

Status:

Underway

Anticipated Completion:

June 2021

Cross Country Website

[Visit Website](#)

New Albany

Coverage Map(s) Currently In Development.

Includes Inglisville, New Albany

Provider:

Bell Canada

Technology:

Fibre to home/business

Status:

Underway

Anticipated Completion:

Under development

Port Lorne

Provider:

[Bell Canada](#)

Technology:

Fibre to home/business

Status:

Underway

Anticipated Completion:

February 2021

[↓ View Map](#)

Scots Bay

Coverage Map(s) Currently In Development.

Provider:

[Bell Canada](#)

Technology:

Fibre to home/business

Status:

Underway

Anticipated Completion:

June 2021

South Milford

Coverage Map(s) Currently In Development.

Includes Graywood, Milford, South Milford

Provider:

[Bell Canada](#)

Technology:

Fibre to home/business

Status:

Underway

Anticipated Completion:

Under development

Springfield

Coverage Map(s) Currently In Development.

Includes Springfield, Cherryfield, Fallkland Bridge, Stoddarts

Provider:

Bell Canada

Technology:

Fibre to home/business

Status:

Underway

Anticipated Completion:

Under development

Windsor-Vaughn

Coverage Map(s) Currently In Development.

Includes Vaughn, Leminster, Upper Vaughn, Lower Vaughn, Smith's Corner

Provider:

Bell Canada

Technology:

Fibre to home/business

Status:

Underway

Anticipated Completion:

Under development

Wolfville South

Coverage Map(s) Currently In Development.

Includes Gaspereau, Black River, Sunken Lake, Lumsden Dam, Newtonville

Provider:

Bell Canada

Technology:

Fibre to home/business

Status:

Underway

Anticipated Completion:

Under development

Woodville

Coverage Map(s) Currently In Development.

Provider:
[Bell Canada](#)

Technology:
Fibre to home/business

Status:
Underway

Anticipated Completion:
Under development

Nowlan Mountain Road

Coverage Map(s) Currently In Development.

Provider:
[Bell Canada](#)

Technology:
Fibre to home/business

Status:
Underway

Anticipated Completion:
Under development

All information and numbers are current as of August 20, 2020 and are subject to change as we proceed with implementation. Check back frequently for the latest.



Address:
Old Red Store, Historic Properties
Suite 301 - 1875 Upper Water St
Halifax, Nova Scotia
Canada B3J 1S9

Email:
info@developns.ca

Telephone:
1-833-422-
6591

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**WEST HANTS REGIONAL MUNICIPALITY
INFORMATION REPORT**

To: **Committee of the Whole**

Submitted by:

Mark Phillips, Chief Administrative Officer

Date: **September 4, 2020**

Subject: Post Consolidation Funding

DISCUSSION

Through the consolidation process there have been ongoing discussions between representatives of The Province of Nova Scotia, the former Town of Windsor and Municipality of the District of West Hants regarding a commitment to provide "Post Consolidation Capital Funding". These discussions carried forward through the Coordinating Committee through the Coordinator, the past Mayor and Warden, as well as Minister Chuck Porter.

As noted at past meetings of the current Council, a list of projects and infrastructure priorities must be identified by The Regional Municipality for consideration by the Province. Council is reminded that there is not a formal application process associated with the expected funding but only a commitment and a past practice by the Province to municipalities who have followed through with amalgamation, dissolution and now the consolidation of Windsor and West Hants.

The attached 5 Year Capital Plan highlights all projects in green that are eligible for funding from separate and existing funding programs in place by the Province. I have further removed projects highlighted in green that are Water or Sewer related as they are utility or utility-related and only benefit those areas of the region connected to those services. The remaining selected projects and infrastructure equal \$3,457,395.00 in value. Additional projects listed for consideration by Council equal \$6,385,527.00. These projects are also included in the 5-Year Capital Plan but have not currently been identified as eligible for other existing funding programs.

The approach to displaying all projects and infrastructure in the 5-Year Capital Plan provides a broader consideration platform for the Province when selecting projects, they wish to support based on their priorities and statements of interests. I further encourage Council to avoid evaluating the list of projects based on geographic location or perceived benefit to one community vs. the other within the Region. All projects listed are included in the 5-Year Capital Plan and funding from the Province towards the projects will alleviate future borrowings and associated debt repayment benefiting the entire region.

5-Year Capital Budget Projects / Infrastructure \$3,457,395.00

(Eligible for funding from separate and existing funding programs)

Other Projects \$6,385,527.00

Total Value of Funding Request \$9,842,922.00

ATTACHMENTS

- West Hants Regional Municipality 5-Year Capital Budget
- Post Consolidation Funding Request – Project Prioritization

Report Prepared by: _____
Carlee Rochon, Director, Financial Services

Report Prepared by:  _____
Mark Phillips, Chief Administrative Officer

West Hants Regional Municipality
Post Consolidation Funding Request - September 2020

Principles previously discussed with Coordinating Committee and Council

1. *Connectivity*
2. *Economic Impact*
3. *Active Transportation / Health*
4. *Safety*
5. *Environmental Impacts*
6. *Social / Cultural*
7. *Other Funding*

Potential Projects for Post Consolidation Funding From NS Government

		Total Project Cost	
1 Windsor Roads Rehabilitation	2020	\$ 1,585,527.00	
2 Municipal Complex Reno	2020	\$ 2,800,000.00	
3 Payzant Drive to King Street Connector plus Payzant Wentworth Road Intersection	2021	\$ 2,000,000.00	
			\$ 6,385,527.00
4 Projects Identified in the 5 Year Capital Plan <i>(Projects are identified as being eligible for other existing Provincial Programs)</i>		\$ 3,457,395.00	\$ 3,457,395.00
Total Post Consolidation Funding Request		\$ 9,842,922.00	\$ 9,842,922.00



**WEST HANTS REGIONAL MUNICIPALITY
INFORMATION REPORT**

To: **Committee of the Whole**

Submitted by:

Mark Phillips, Chief Administrative Officer

Date: **September 8, 2020**

Subject: Highway 101 Twinning / Causeway Project – Fish and Water Flow Infrastructure Components

DISCUSSION

The Highway 101 Twinning Project is a significant project in our community and the current construction work and pending water flow and fish passage infrastructure will have impacts on many stakeholders in our community. This brief report will provide an update on the current discussion points before Regional Council. Specifically, Council has requested 1. That a letter be sent to NSTIR stating the current position of Council on this matter, 2. That a request be made for the CLC to meet and 3. That the various provincial and federal department (s) engaged in the project appear before Council for an update.

1. Position of West Hants Regional Council

A letter has been forwarded to Honourable Lloyd Hines, Minister of NSTIR stating Council's current position. (*please see attached*).

2. CLC Meeting Request and 3. Departmental Updates / Presentation Requests

At the direction of Council NSTIR, NSDOE and DFO were contacted to discuss the status of the twinning project and specifically the proposed fish and water flow infrastructure scheduled for the project. Seeking not only further details about the project but Council requested the presence of the various departments in Chambers for an update and that a meeting of the CLC

Respectfully and in response to the requests, the various departments wish to channel their communications through the CLC vs. making presentations to various individual environments currently. The CLC environment continues to be the preferred environment for communications and the future synchronized release and sharing of information to all stakeholders. Requests have also come from the

agricultural community, 1st Nation Community, Municipal and Business community seeking similar updates and presentations. They to have been asked to be patient and to wait for the CLC to meet.

In addition to wanting to communicate through the CLC, final project components have yet to be finalized for review and compliance checks leaving little information in the form of updates available to the various stakeholders from NSTIR. As updates are disseminated to the various departments and onto the CLC the following communication chain has been explained to me and can be expected:

1. NSTIR is the lead department for the project.
2. CBCL Engineering is to provide NSTIR with the final design (s) to accommodate fish and water flow passage. This updated work has not been presented to NSTIR as of the date of this report.
3. NSTIR will forward the design (s) to DFO for a "compliance check". There is not a design or application currently in front of DFO to respond to or to report on.
4. The CLC will be provided with the design for feedback and for committee members to distribute to their members / communities.
5. NSDOA are taking the lead from NSTIR and will share the design with their community when the proposal is made available through the CLC as with other stakeholders.
6. After the CLC has met and received up-to-date information the various departments have expressed their availability to meet with Council for further discussion.

CLC Meeting

There have been delays in holding a CLC meeting over the summer. The current update from NSTIR is that a meeting will be held by the end of September. The list of committee members is being updated by CLC Chair Ken Donnelly, President of "Beyond Attitude Consulting" to ensure it is current due to change over in representatives at Council, the community and that other existing community members remain interested in serving. Chair, Donnelly is wanting to ensure the history of the CLC, its' members perspectives and the process to-date is brought forward as the next phase of the CLC is carried out. Regional Council will have two seats at the CLC table going forward. The Mayor and a second designate. Mayor Zebian will be responsible for seeing which members of Council would like to serve on the CLC.

Key Contacts (Provincial / Federal CLC Members or Staff Supports):

NSDOTIR, Justin Tanner

DFO, Mike Wambolt

NSDOA, Kevin Bekkers

CLC Chair, Ken Donnelly

Project Engineering Firm, CBCL

ATTACHMENTS

- Letter to Honourable Lloyd Hines, Minister of NSTIR RE Windsor Causeway Infrastructure – August 11, 2020
- Highway 101 Twinning Three Mile Plains to Falmouth - CLC Charter
- CLC Meeting request correspondence – August 4, 2020

REQUESTED ACTION

That in addition to Mayor Zebian serving on the Community Liaison Committee (CLC) for the Highway 101 Twinning Project that Council appoint a second Council member to sit on the CLC.

Report Prepared by: _____


Mark Phillips, Chief Administrative Officer

WEST HANTS REGIONAL MUNICIPALITY

76 Morison Drive, PO Box 3000
Windsor, NS B0N 2T0

Phone # 902-790-1566

Email azebian@westhants.ca

www.westhants.ca



August 11, 2020

Honourable Lloyd Hines, Minister
Nova Scotia Transportation and Infrastructure Renewal
PO Box 186
Halifax, NS B3J 2N2

RE: Windsor Causeway Infrastructure

Honourable Minister Hines,

The Council of the West Hants Regional Municipality has received concerns from individual and community member regarding the future infrastructure to be at the Windsor Causeway for fishing, farming and recreational users of the waterway. After further deliberation and education, it is the recommendation of West Hants Regional Municipality that while our responsibility is to the citizens of this Municipality, it is not the body responsible for the decisions being made by Nova Scotia Transportation and Infrastructure Renewal.

We trust that your decisions concerning the waterflow and fish passage infrastructure will be made to satisfy the needs of all stakeholders of this area. We implore you to ensure that all requirements for waterflow and fish passage infrastructure are met by your actions and that an acceptable solution will be found for the Windsor Causeway waterflow and fish passage infrastructure that will not negatively impact any of the stakeholders of this Municipality.

Sincerely,

Abraham Zebian
Mayor

Cc: Department of Transportation and Infrastructure Renewal, Email: tpwpaff@novascotia.ca

Highway 101 Twinning Three Mile Plains to Falmouth

Community Liaison Committee -
DRAFT Charter

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1. Purpose of the Community Liaison Committee Charter

This document outlines the background and purpose of the Community Liaison Committee (CLC) for the design, construction and operations phases of the Highway 101 Twinning - Three Mile Plains to Falmouth project (The Project).

Once approved by the CLC, this charter will form the operational basis for the CLC. It can be amended as needed from time to time.

2. Background to the Community Liaison Committee

The formation of a CLC is one of several methods of public consultation that may be used during project development. The Nova Scotia Government recognizes the environmental sensitivity of the area as well as public concerns expressed over the past two decades, and has elected to initiate a CLC proactively in advance of the submission of a formal environmental assessment (EA) report. Normally, the formation of a CLC is a condition of approval for the project by the Minister of NS Environment (NSE), with implementation during the more-detailed planning stages, through construction, and into the first year of the operations phase.

Nova Scotia Transportation and Infrastructure Renewal (NSTIR) and Nova Scotia Agriculture (NSA) acting as project leads (the Project Team) have selected an independent firm to facilitate the early formation of a CLC that brings together stakeholders to better plan and renew Highway 101 between Three Mile Plains and Falmouth, and the Avon River Aboiteau.

3. Mandate

The CLC is:

- an advisory body to the Project Team and provides input on matters regarding The Project on detailed design, construction and operations and/or approvals/permits that have or are perceived to have environmental impacts;
- a forum for ongoing dialogue between community representatives on the Committee for consideration of any issues of public concern;
- a forum for the Project Team to disseminate information, consult with community members and obtain advice on local issues related to the highway and aboiteau (see also www.hwy101windsor.ca);
- a conduit for residents to bring issues of public concern to the Project Team; and,
- a forum for discussion of community interests associated with the project, such as:
 - a dispute resolution policy;
 - dust and associated monitoring reports;
 - well interference contingency planning including well monitoring, complaint processing, corrective action and source water protection planning for specific well-fields;
 - potential changes to highway design that could result in impacts to adjacent property;

- archaeological construction monitoring reports specific to heritage buildings and sites and associated contingency plans; and
- Aboriginal use of lands, water and resources in the study area that may be affected by the undertaking.

The horizontal and vertical alignment of the Highway, the results of the EA, and construction-related concerns (e.g., phasing, traffic control and other project management issues carried out by construction contractors) are outside of the scope of the CLC's mandate. Also, operation of the Avon River aboiteau is outside of the CLC mandate as control resides with Nova Scotia Agriculture and the Marsh Bodies formed under the authority of the *Agricultural Marshland Conservation Act*.

4. Frequency of Meetings

The CLC will meet regularly throughout the planning, design and construction phases of the study, and, at the end of the construction phase, will define continuing *ad hoc* meetings as required during the first year of the operations phase in consultation with the Project Team.

The main responsibilities of the CLC are to:

- review and agree to this Project Charter;
- act as a working group where the CLC and the Project Team can test ideas and findings;
- provide advice, critiques and suggestions for problem solving;
- provide a sense of the broader community reactions and concerns and how these might be addressed;
- provide a direct, face-to-face channel of communications between and among CLC members, residents, various community interest groups, property owners and the Project Team;
- identify and discuss potential issues, challenges and opportunities in a timely fashion, and assist in developing mechanisms to identify satisfactory outcomes;
- ensure that the results of the CLC meetings are made publicly available in those areas impacted and for interested parties;
- review the mandate and membership of the CLC every second year; and,
- establish a schedule and agenda for meetings.

Environmental and other public concerns that arise during routine operations of NS highways typically require multi-department conversations or are resolved by regulatory compliance. Aboiteau operations and management following aboiteau completion will not be discussed during CLC meetings but rather as part of the agenda for local Marsh Bodies overseen by Nova Scotia Agriculture.

5. Membership

The membership of the CLC is based on the following principles:

- members are reflective of the local study area;
- members reflect the various interests and demographics within the local study area;
- members reflect those identified in the Environmental Assessment and the decision of the NSE Minister as being impacted or potentially impacted;
- if there are specific groups impacted by the Project who do not reside within the immediate area, the Project Team in consultation with the CLC may decide to select additional CLC members;
- additional members can be added as key interests are identified throughout the study; and,
- if there are members representing a specific sector who are unable to continue their involvement, the CLC and the Project Team will select as soon as possible a new member who can represent that sector.

Recruitment of the CLC will be conducted in a transparent fashion.

6. Term of Membership

Membership in the CLC is for the duration of the detailed design, construction and operations phases of the Project. Prior to the completion of construction, the CLC and the Project Team shall decide on the term for members during the operations phase.

7. Meetings and Attendance

It is important that members try to attend all meetings to ensure consistency in the discussions. Members should advise the Independent Facilitator if they anticipate difficulty in attending meetings.

8. Meeting Times

Meeting times will be agreed upon by CLC members.

9. Decision-making and Dispute Resolution

It is understood that the CLC is an advisory body, and is not responsible for making decisions regarding the Project. Decision-making is the responsibility of the Project Team as the proponent of the project.

Participants in the CLC will have the opportunity for full and open discussions on specific issues of interest with regard to detailed design, construction and operation of the highway. Where differences of opinion occur within the CLC regarding the operation of the committee or its recommendations, participants will make all reasonable efforts to achieve consensus. Where this is not possible, differences of opinion will be documented with a rationale and provided to the Project Team. A dispute resolution process will be agreed to by the CLC to resolve any continuing disputes between members of the CLC.

The CLC may determine to use simple majority voting as a method of moving forward or closing an issue. Once a decision is made on an issue, it will not be subject to being reopened for further discussion and reconsideration, unless there is a substantial change in the situation surrounding the issue.

Any new member joining the CLC must adopt all previous decisions made by the CLC and does not have a right to open up previous decisions for discussion and reconsideration unless there is a substantial change in the situation, as stated above.

10. Disclosure and Transparency

Members of the CLC must bring to the attention of the committee any personal or business interest they may have with respect to issues being discussed. A member will disclose if he or she or the member's family, business or employees has an opportunity to personally gain from a decision on an issue. The member will disclose the interest immediately upon discussion of the issue, and the Facilitator will decide whether the member should be excluded from discussion, and how to proceed, taking into account the need for sector representation in the discussions.

11. Roles and Responsibilities

The CLC reports its advice and recommendations to the Project Team through the Independent Facilitator. The following are the roles and responsibilities of CLC members, Project Team, and the Independent Facilitator.

11.1 Community Liaison Committee Members

The CLC Members will endeavor to attend all meetings, and:

- agree to the charter;
- advise the CLC of community perspectives relating to this project;
- provide advice and perspectives on proposals/reports tabled by the Project Team, CLC members, or others;
- help the CLC operate effectively by offering suggestions and alternatives to issues, concerns and problems;
- communicate CLC discussions back to members' stakeholder organization and community;
- attempt to anticipate potential problems and offer options for resolving them;
- prepare for meetings in advance and consult with member's organizations if possible;
- be respectful to fellow members and not engage in threatening, intimidating or disorderly behaviour, and refrain from any form of conduct that may cause any reasonable person unwarranted offence or embarrassment; and
- declare any potential conflicts of interest during their membership term.

11.2 Project Team (NSTIR and NSA)

The Project Team will not be formal members of the CLC, but will participate as resources to the process. Other provincial government department representatives may also participate, and their role will be similar. The role of Project Team representatives is to:

- agree to this Charter;
- ensure that the public is aware of the formation of the CLC including the list of Committee members;
- ensure that an Independent Facilitator is appointed to the CLC;
- assist with identifying agenda items;
- keep CLC members up to date with study progress, through sound communications;
- listen carefully to the advice and perspectives of members and, where possible and prudent, incorporate advice in the Project;
- help the CLC function effectively by providing information, and offering suggestions and alternatives to issues, concerns and problems being discussed;
- try to anticipate potential problems and advise the CLC;
- provide updates on project status; and,
- provide clear and straightforward information and answers where possible.

11.3 Independent Facilitator

The independent facilitator's (The Facilitator) role is to:

- agree to this Charter;
- adopt the role and responsibilities of CLC Chair;
- provide study materials well in advance of CLC discussions;
- prepare, copy and distribute minutes, handouts, etc., and upload copies to the Project website (accessible to the public and CLC members; www.hwy101windsor.ca);
- take care of all meeting logistics;
- invite technical specialists and government agencies to the meetings when appropriate;

- provide secretariat function, prepare agendas in consultation with CLC/Project Team and manage all communications between the CLC and the Project Team;
- provide meeting space and refreshments;
- facilitate the CLC meetings in an open and fair manner;
- keep the sessions on time and on track in accordance with the CLC work plan;
- prepare and distribute draft and final meeting summaries;
- track action items arising from meetings and provide/assemble required technical documents/specialists relating to these action items; and
- ensure that CLC results and minutes are communicated to the broader public.

12. Meeting Management, Agendas and Reporting

CLC members will define the basic elements of meeting management, agenda and reporting:

- Meeting locations will be determined by the CLC and will take place within the local area;
- To the extent possible, meetings will be a combination of presentations and working sessions;
- The format of meetings will be discussed with CLC members in advance of their upcoming meeting;
- The meeting schedule will be determined by the CLC subject to confirmation based on the study team's schedule;
- The Facilitator will develop agendas, and coordinate accompanying materials;
- Materials will be sent out in advance of meetings;
- Committee meeting notices, agendas and minutes will be made available to the public in a manner to be determined by the CLC;
- Committee meetings will normally be open to the public as observers only;
- The Facilitator will prepare draft and final minutes/reports from all CLC meetings; and
- Delegations wishing to make representation to the CLC must request to do so through the Facilitator who in turn will brief the Project Team. As required, the Facilitator will add an agenda item for the next CLC meeting, and formally invite the delegate.

13. Advisors and Experts

The CLC may request additional advisors and experts to attend at various points during the Project. Consideration will be given to these requests, and subject to Government budget considerations and relevance to project phases. Additionally, approval agencies may be requested to attend one or more meetings to discuss aspects of their approvals.

14. Liability

The CLC provides a link between the people who live, work and play in the local community, and the Project Team. The CLC is not a decision-making body, but instead will represent the interests of the community to the Project Team. The CLC members will therefore not have any liability in any manner for anything to do with the design, construction and operations of the highway and aboiteau.



West Hants Regional Municipality
Chief Administrative Officer
Mark Phillips

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Windsor, NS
B0N2T0

902-670-4255 c
902-798-8391 p
mphilips@westhants.ca

8/4/2020

Nova Scotia Department of Transportation and Infrastructure
Renewal
c/o Justin Tanner, Manager, Highway Planning and Design

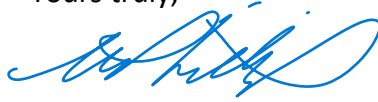
RE: Highway 101 Twinning / CLC Meeting Request

Please accept this letter as a formal request for the Highway 101 Twinning Community Liaison Committee (CLC) to meet in the very near future as directed by the West Hants Regional Council.

Specifically, we want to ensure that the CLC Charter has representation that is diverse and current from our community and that the members be fully informed of the current status of the project. It is understood that planning and design is yet to be finalized for water and fish passage infrastructure. Council's primary concern and purpose for the request is to ensure the open communication exists and that project updates are available to CLC representatives so that they can accurately communicate back to their individual memberships or communities within the region.

I thank you in advance for your consideration to conduct a meeting and I offer our full cooperation with meeting logistics as we continue to operate under the Covid working environment if required.

Yours truly,

A handwritten signature in blue ink, appearing to read 'Mark Phillips', with a stylized flourish at the end.

Mark Phillips
Chief Administrative Officer

cc. Mayor, Abraham Zebian

West Hants Regional Municipality
September 8, 2020
Chief Administrative Officer Report



Activity Report

Governance

- Refining communications process between public, Council and staff.
- Council's participation is requested in forwarding agenda related items (ie: Request for Decision Form) by the Tuesday before the scheduled COTW or Council meeting to ensure appropriate support materials are provided in advance for meeting packages.
- Effective September 8, 2020 in-person Council meetings will resume with restrictions on the number of persons in chambers. ZOOM and Facebook Live will continue moving forward.
- Strategy Session with Council – an informal session was held to review communications and other strategic matters.

Administration

- CUPE – preparation for collective bargaining is underway. Bargaining sessions are expected to take place in October 2020.
- Freedom of Information Protection of Property (FOIPOP) application support.
- Cogmagun Land(s) Purchase Process Update – all outstanding items under the direct or indirect responsibility of the Region are now completed. Delays with the survey process were experienced but are now completed. The survey plans are now with the province. We await their review and notice to proceed with the purchase.
- Hantsport Foodbank. A meeting has been held to measure the impact of relocating the Foodbank from the current location. Options are being explored with the group and a report will be prepared for Council's consideration once options have been explored.
- The Municipal Complex RFP Review. The RFP has been posted on the provincial procurement site.
- Hantsport Municipal Complex. A report is being prepared for Council's future consideration regarding the former Hantsport Municipal Complex and its' potential future. The property consists of two separate parcels which we would like to consolidate as well as to have the property rezoned to C2 essentially allowing it to accommodate broader uses moving forward.
- Branding. Recruitment is underway for community representatives to sit on the "Branding Team".

Finance

- Audit Committee Meeting – September 9, 2020
- Support to the department as they are posting and interviewing for a Customer Service Representative (scheduled to hire in 2020/21 operating budget) and an Accounts Receivable Clerk to replace departing employee Varun Mehta, Accounting and Financial Analyst. We wish Varun all the best with his new employment.

Community Development

- West Hants Sports Complex
 - Ongoing weekly support regarding construction decision making, operational plans, Covid Impacts, sponsorship, Way-Finding Signage, etc. The project remains on schedule.
- Ellershouse Community Group (s) – We have been working with the various groups to assist with their registry renewals and the process of consolidating the various parcels of land owned by the community group (s) as they have requested.

Planning and Development

- EV Charging Station and Electric Car – NSP has approached the municipality to collaborate with the install of an EV Charging Station and the provision of an electric car at no cost to the municipality. Funding is being sought at the federal level to support this program.
- ICIP / Greening of Municipal Facilities Fund – Thorough review and consultation with government representatives was undertaken to explore project eligibility for the announced funding. We have been deemed as ineligible due to the 1 million dollar threshold for energy project cost as well as “community and recreation facilities” being the focus for the project vs other scheduled facility projects (Windsor Municipal Facility and Hantsport Fire Hall)
- Hantsport Municipal Complex – the rezoning process will be initiated.

Economic Development

- Valley Regional Enterprise Network (VREN) Covid Taskforce Updates
- Avon Region Chamber AGM
- Station Food Hub – Driveway Access Agreement Renewal
- Hantsport Business Support – Relocation / Business Growth Request
- Windsor Township Business Association – beautification project (signage and lighting)
- Meeting with Realtor RE: Trends and Activity Levels
 - Future Meet and Greet with Developers, Builders and Realtors
- Internet for Nova Scotia Initiative - monitoring the announcements from Develop Nova Scotia and communicating with Bell on project deliverables associated with Phase 1 and 2 projects.

Public Works and Infrastructure

- Falmouth Storm Water Discussion – Jurisdictional / Existing Infrastructure Review
- Glooscap 1st Nation Water Agreement Review and Preparation for presentation to Glooscap Council in September.
- West Hants Sewer and Water Facilities Tour – Falmouth and Hantsport Locations
- Meeting with DOTIR representatives regarding current and future Highway Exits

Protective Services

- Fire Boundary Review support. Duck Pond area and Uniacke District fire boundary changes are the two remaining changes not completed. Uniacke District changes effective October 31, 2020.
- Final notice to terminate Uniacke and District Fire Service provision to West Hants – effective October 31, 2020. Two in-person meetings were held with Uniacke representatives were held to discuss the changes.
- The geotechnical work has been carried out at the Hantsport Fire Hall location in Hantsport. We have not yet received the report. The environmental assessment remains outstanding.
- Fire Service Review – Joint meetings are ongoing with the CAOs and Fire Chiefs to review the recommendations and contents of the study. Other meeting highlights:
 - Shelleena Thornton, Administrative Supervisor is taking the lead on the implementation and review of outstanding recommendations within the report. Progress is being made thanks to the participation of the Chiefs and her support.
- Covid-19 – Operations have been adjusted to respond to the everchanging notices issued by the Department of Health and EMO NS. REMO meetings have been conducted on Monday, Wednesday and Fridays. Business Continuity planning and communications are the priority action items.

Sincerely,

Mark Phillips

Mark Phillips
Chief Administrative Officer
West Hants Regional Municipality



WEST HANTS REGIONAL MUNICIPALITY

Recommendation Report

To: Members of Council

Submitted by: _____
Madelyn LeMay, Director, Planning and Development

Date: July 28, 2020

Subject: Fire Inspection System Policy
File # 20-17A

Background

Staff recommended a Fire Inspection System Policy for the Region to the Planning and Heritage Advisory Committee (PAC/HAC) on July 9, 2020.

Planning Advisory Committee Recommendation

PAC/HAC recommended in favour of the proposed Fire Inspection System Policy on July 9, 2020.

Possible Motion

Should Council wish to approve the recommended Fire Inspection System Policy, the following motion would be in order:

... that Council approve the Fire Inspection System Policy, RCOPL-002.00, in a manner substantively the same as that included as Attachment B to the report entitled *Fire Inspection System Policy* dated July 9, 2020.

Attachments

Appendix A Fire Inspection Systems Policy Report; File # 20-17

Report Approved by: 
Mark Phillips, CAO



WEST HANTS REGIONAL MUNICIPALITY RECOMMENDATION REPORT

To: Members of Planning Advisory Committee/Heritage Advisory Committee (PAC/HAC)

Submitted by: _____
Madelyn LeMay, Director, Planning and Development

Date: July 9, 2020

Subject: Fire Inspection System Policy
File # 20-17

1.0 LEGISLATIVE AUTHORITY

Nova Scotia Fire Safety Act, 2002, as amended.

2.0 RECOMMENDATION

If PAC/HAC wishes to forward a positive recommendation, the following motion would be in order:

PAC/HAC recommends that that Council approve the Fire Inspection System Policy, RCOPL-002.00, in a manner substantively the same as that included as Attachment B to the report entitled *Fire Inspection System Policy* dated July 9, 2020.

3.0 BACKGROUND

West Hants has a Fire Inspection System Policy which applies only within the West Hants municipality. Windsor does not have a similar policy.

4.0 DISCUSSION

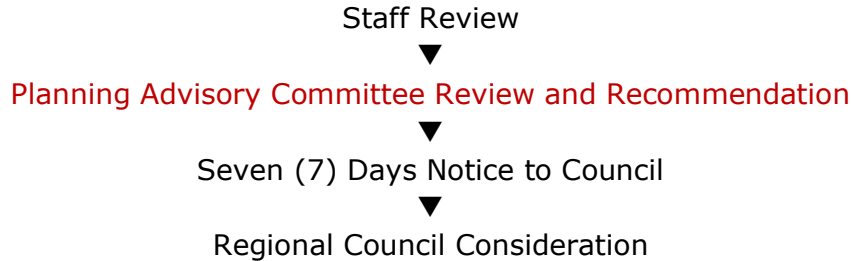
The wording of the Fire Safety Act is mandatory:

Duties of a municipality 19 (1) A municipality shall (a) establish a system of fire-safety inspections of land and premises situate within its jurisdiction, as required by the regulations, to provide for compliance with this Act, the regulations and the Fire Code;

There does not appear to be an opportunity to not have a Fire Inspection System Policy. The proposed Policy will provide the Region with one Fire Inspection System Policy for the entire geographic area which will be clear and fair for all residents and provide an assured process for residents, staff and Council.

5.0 NEXT STEPS

The following process is being used for adoption of the proposed policy:



6.0 FINANCIAL IMPLICATIONS

There are no financial implications for the Region associated with this proposed Policy.

7.0 ALTERNATIVES

Should PAC/HAC not wish to recommend this draft Policy to Council, PAC/HAC may:

- recommend specific amendments to the proposed draft; or
- provide alternative direction, such as requesting further information on a specific topic.

8.0 ATTACHMENTS

Attachment A West Hants Fire Inspection System Policy

Attachment B Proposed Fire Inspection System Policy, RCOPL-002.00



Report Prepared by: _____
Madelyn LeMay, Director, Planning and Development

Report Reviewed by: _____
Tim Leslie, Manager, Building and Fire inspection Services

Report Reviewed by: *Rhonda Brown*
Rhonda Brown, Municipal Clerk

MUNICIPALITY OF THE DISTRICT OF WEST HANTS
A POLICY RESPECTING A SYSTEM OF MUNICIPAL FIRE INSPECTIONS

1. This policy is entitled the "System of Municipal Fire Inspections":
2. In this Policy:
 - (a) **ASSEMBLY OCCUPANCY (GROUP A)**, means the Assembly Occupancy as defined in the National Building Code of Canada (2005), as amended from time to time;
 - (b) **RESIDENTIAL OCCUPANCY (GROUP C)**, means a Residential Occupancy as defined in the National Building Code of Canada (2005) as amended from time to time;
 - (c) **BUSINESS AND PERSONAL SERVICE OCCUPANCY (GROUP D)**, means a Business and Personal Service Occupancy as defined in the National Building Code of Canada (2005), as amended from time to time;
 - (d) **MERCANTILE OCCUPANCY" (GROUP E)**, means a Mercantile Occupancy as defined in the National Building Code of Canada (2005), as amended from time to time;
 - (e) **INDUSTRIAL OCCUPANCY (GROUP F)**, means Industrial Occupancy as defined in the National Building Code of Canada (2005), as amended from time to time;
 - (f) **MUNICIPAL FIRE INSPECTOR**, means a person appointed by the Municipality as a Municipal Fire Inspector pursuant to Fire Safety Act, Chapter 6 of the Acts of 2002, as amended from time to time;
 - (g) **FIRE SAFETY ACT**, means "An Act to Promote and Encourage Fire Safety" Chapter 6 of the Acts of 2002, Nova Scotia, as amended from time to time, and any other successor legislation;
 - (h) **FIRE SAFETY REGULATIONS**, means the "Regulations Respecting Fire Safety" made by the Governor in Council pursuant to Section 51 of Chapter 6 of the Acts of 2002, the Fire Safety Act., as amended from time to time;
 - (i) **COUNCIL**, means the Council of the Municipality of the District of West Hants;
3. Pursuant to Section 19 of the Fire Safety Act this Policy established a "System of Municipal Fire Inspections" to provide for compliance with that Act and the Fire Safety Regulations and that recognizes municipal resources, geography and priorities based upon a risk assessment.
4. **Municipal Fire Inspector**
Pursuant to Section 19 of the Fire Safety Act, Council shall appoint one or more Municipal Fire Inspectors, whom shall carry out the System of Municipal Fire Inspections in accordance with the requirements of the Fire Safety Act and Fire Safety Regulations

5. **Systems of Inspections**

Pursuant to Section 3 of this Policy, Council hereby establishes the following "System of Municipal Fire Inspections":

a) Assembly Occupancies (Group A) – As per Section 13 Fire Safety Regulations.
(every 3 years)

b) Residential Occupancies (Group C)

i) **Buildings with more than three units**, and not regulated under the Homes for Special Care

Buildings will be inspected commencing in the year 2010 and re-inspected every 3 years, unless the Municipal Fire Inspector deems that, to reduce risk of fire and loss of life, a more frequent inspection of one or more particular buildings is required.

c) Mercantile Occupancies (Group E)

Buildings will be inspected commencing in the year 2011 and re-inspected every 5 years, unless the Municipal Fire Inspector deems that, to reduce risk of fire and loss of life, a more frequent inspection of one or more particular buildings is required.

d) Business and Personal Service Occupancies (Group D)

Buildings will be inspected commencing in the year 2011 and re-inspected every 5 years, unless the Municipal Fire Inspector deems that, to reduce risk of fire and loss of life, a more frequent inspection of one or more particular buildings is required.

e) Industrial Occupancies

Buildings will be inspected commencing in the year 2012 and re-inspected every 5 years, unless the Municipal Fire Inspector deems that, to reduce risk of fire and loss of life, a more frequent inspection of one or more particular buildings is required.

6. **Failure to Comply with Order**

a) Summary Conviction

Where the owner of a building, land or premises fails to comply with an Order to Comply issued by the Municipal Fire Inspector, the Municipal Fire Inspector may take action as set out in Section 44 of the Fire Safety Act.

b) Carrying on Matters not done by Owner

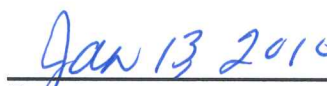
Pursuant to the Fire Safety Act, and subject to the approval of the Fire Marshall and Chief Administrative Officer, where an owner of a building, land or premises fails to comply with an Order issued by the Municipal Fire Inspector, the Municipal Fire Inspector may carry out or cause to be carried out an Order.

Approved by Council:

January 12, 2010

I certify that this Policy was adopted by Council as is indicated above.


Cheryl Chiriac
Chief Administrative Officer


Jan 13 2010
Date

Municipality of the District of West Hants
Residential Fire Inspection Form under Section 23 (2) of the Fire Safety Act
(Three (3) Dwelling Units or less/Woodstove)

- ☐ Inspection request initiated by owner(s)
- PID# _____
- ☐ Inspection request initiated by authorized agent
- Civic# _____
- ☐ Inspection request initiated by tenant
- Owners Name _____
- ☐ Inspection request initiated by complainant
- Date _____
- ☐ Anonymous Complaint
- ☐ Written Complaint

Reason for Inspection - _____

Inspection Results:

Pursuant to Subsection 23 (2) of the Fire Safety Act, and subclauses 5 (b) (ii) and 5 (b) (iii) of Policy MDL – 26 – A Policy Respecting a System of Municipal Fire Inspections in the Municipality of the District of West Hants – the Municipal Fire Inspector can only conduct a Fire Inspection on residential dwellings with three or less units (including wood stove inspections) where the owners written consent has been received and the owner has confirmed in writing that the Fire Inspection requested is for non-insurance purposes, or where a warrant has been obtained under Section 24 of the Fire Safety Act.

I/we hereby certify that:

- a) I/we are the owners of the dwelling in which the Fire Inspection is requested as noted in this application;
- b) That the inspection requested in this application is for non-insurance purposes; and
- c) That I/we acknowledge that any deficiencies noted as a result of this Fire Safety Act requiring that any or all noted deficiencies be corrected by the owner (s).

Owners Signature _____

Date _____

- ☐ Owner Refused Entry
- ☐ Order to be issued
- Fire Inspectors Signature _____

System of Municipal Fire Inspections Policy

1.0 This Policy is entitled the "System of Municipal Fire Inspections".

2.0 Definitions

In this Policy:

"Assembly Occupancy (Group A)" means the Assembly Occupancy as defined in the Building Code;

"Business and Personal Service Occupancy (Group D)" means a Business and Personal Service Occupancy as defined in the Building Code;

"Building Code" means the National Building Code of Canada as amended;

"Council" means Council of the West Hants Regional Municipality;

"Fire Safety Act" means "An Act to Promote and Encourage Fire Safety", Chapter 6 of the Acts of 2002, Nova Scotia, as amended from time to time, and any other successor legislation;

"Fire Safety Regulations" means the "Regulations Respecting Fire Safety" made by the Governor in Council pursuant to Section 51 of Chapter 6 of the Acts of 2002, the Fire Safety Act, as amended from time to time;

"Industrial Occupancy (Group F)" means Industrial Occupancy as defined in the Building Code;

"Mercantile Occupancy (Group E)" means a Mercantile Occupancy as defined in the Building Code;

"Municipal Fire Inspector" means a person appointed by the Municipality as a Municipal Fire Inspector pursuant to Fire Safety Act, Chapter 6 of the Acts of 2002, as amended from time to time;

"Residential Occupancy (Group C)" means a Residential Occupancy as defined in the Building Code;

3.0 Municipal Fire Inspector

Pursuant to Section 19 of the Fire Safety Act, Council shall appoint one or more Municipal Fire Inspectors to carry out the System of Municipal Fire Inspections in accordance with the requirements of the Fire Safety Act and Fire Safety Regulations.

4.0 Systems of Inspections

-
- 4.1 This Policy establishes a "System of Municipal Fire Inspections" to provide for compliance with the Fire Safety Act and the Fire Safety Regulations and which recognizes municipal resources, geography and priorities based on a risk assessment.
- 4.2 Council hereby establishes the following "System of Municipal Fire Inspections". Unless the Municipal Fire Inspector deems that to reduce risk of fire and loss of life a more frequent inspection of one (1) or more particular buildings is required, inspections will be carried out as follows beginning in 2020:
- (a) Assembly Occupancies (Group A)
Every three (3) years in accordance with Section 13 of the Fire Safety Regulations;
 - (b) Residential Occupancies (Group C)
Buildings with more than three units and not regulated under the Homes for Special Care Act every 3 years;
 - (c) Business and Personal Service Occupancies (Group D)
Buildings will be inspected every five (5) years;
 - (d) Mercantile Occupancies (Group E)
Buildings will be inspected every five (5) years;
 - (e) Industrial Occupancies (Group F)
Buildings will be inspected every five (5) years.
- 5.0 **Failure to Comply with Order**
- 5.1 Summary Conviction
Where the owner of a building, land or premises fails to comply with an Order to Comply issued by the Municipal Fire Inspector, the Municipal Fire Inspector may take action as set out in Section 44 of the Fire Safety Act.
- 5.2 Carrying Out Matters Not Done by Owner
Pursuant to the Fire Safety Act, and subject to the approval of the Fire Marshall and Chief Administrative Officer, where an owner of a building, land or premises fails to comply with an Order issued by the Municipal Fire Inspector, the Municipal Fire Inspector may carry out or cause to be carried out an Order.
- 6.0 **Repeal**
- 6.1 The System of Municipal Fire Inspection dated January 12, 2010 of the former Municipality of the District of West Hants is hereby repealed.

I, Rhonda Brown, Municipal Clerk of West Hants Regional Municipality,
Province of Nova Scotia, do hereby certify that this is a true copy of the

policy as adopted by the Council of West Hants Regional Municipality at a meeting duly called and held on the ____ day of ____ (month), ____ 2020.

(Signature of Municipal Clerk)

R.N Brown
Municipal Clerk

Adoption	
Notice to Council:	Date
Approval:	Date
Description:	

Residential Fire Inspection Form

under Section 23 (2) of the Fire Safety Act (Three (3) Dwelling Units or less/Woodstove)

☐ Inspection request initiated by owner(s)	PID#
☐ Inspection request initiated by authorized agent	Civic#
☐ Inspection request initiated by tenant	Owners Name
☐ Inspection request initiated by complainant	Date

- ☐ Anonymous Complaint ☐ Written Complaint
- ☐ Owner Refused Entry

Reason for Inspection:**Inspection Results:**

Pursuant to Subsection 23 (2) of the Fire Safety Act, and Policy RCOPL-002.04, a Policy Respecting a System of Municipal Fire Inspections in the Region of Windsor and West Hants Municipality, the Municipal Fire Inspector can only conduct a Fire Inspection on residential dwellings with three or fewer units (including wood stove inspections) where the owners written consent has been received and the owner has confirmed in writing that the Fire Inspection requested is for non-insurance purposes, or where a warrant has been obtained under Section 24 of the Fire Safety Act.

I/we hereby certify that:

- (a) I/we are the owners of the dwelling in which the Fire Inspection is requested as noted in this application;
- (b) the inspection requested in this application is for non-insurance purposes; and
- (c) I/we acknowledge that any deficiencies noted as a result of this Fire Safety Act must be corrected by the owner(s).

Owners Signature

Date

- ☐ Order to be issued

Fire Inspectors Signature

Avon River Causeway Correspondence

(aka Hwy. 101 Twinning, Aboiteau, Causeway, Lake Pisiquid)

<u>First Name</u>	<u>Last Name</u>	<u>Correspondence Date</u>	<u>Meeting or Just logged</u>
Danny	Dill	30-Jun-20	2020-07-14 COTW
Quentin	Davison	6-Jul-20	2020-07-14 COTW
Alyson	Bremner	7-Jul-20	2020-07-14 COTW
Cecil	Rolfe	13-Jul-20	2020-07-14 COTW
Pat	Porter	13-Jul-20	2020-07-14 COTW
Nikki-Marie	Lloyd	2-Aug-20	2020-09-08 COTW
Heather	Boylan (Martock)	1-Sep-20	2020-09-08 COTW
Greg	O'Leary	3-Sep-20	2020-09-08 COTW
Dr. Abby	Kirumira	2-Sep-20	2020-09-08 COTW

Subject: FW: Avon river.

Dear Mayor and council,

I have been protecting the mighty Avon river since June 8th 2020. I have had to sit here watching Our fish die right in front my of eyes, as well as watching as my rights slowly get taken from me and my people. Why is it okay for Nova Scotia agriculture to violate the fisheries act? Why is DFO not enforcing it? If I went out and caught a fish that was not up to size I know I would be charged.

Fisheries act

Indigenous Peoples of Canada
Rights of Indigenous peoples of Canada

2.3 This Act is to be construed as upholding the rights of Indigenous peoples recognized and affirmed by section 35 of the Constitution Act, 1982, and not as abrogating or derogating from them.

2019, c. 14, s. 3.

Duty of Minister

2.4 When making a decision under this Act, the Minister shall consider any adverse effects that the decision may have on the rights of the Indigenous peoples of Canada recognized and affirmed by section 35 of the Constitution Act, 1982.

2019, c. 14, s. 3.

As Mi'kmaq we have the right to land, as well as to fish, to hunt, to practice one's own culture, and to establish treaties.

It is heartbreaking, the fact that we must sit here along the river to protect from things made by man.

I also want to add the impact the man made lake is having on our river. We sit here and watch our fish die, they are beyond stressed out due to the gates being mismanaged and another added stress to our fish, is the fill from construction sliding down into our river. When a maintenance flow is not given at low tide that water is only a couple inches deep, the water then basically turns into tomato soup. The fish are not able survive that and die right by the gates and down several km of the channel. Imagine not being able to walk through your home, imagine suffocating in your house, because sadly that is what our fish are currently going through.

I would also like to mention the fact that our inner bay of fundy Atlantic salmon has been found in this river, the gates not opening. to allow adequate fish passage will have a major impact on the life cycle of our salmon.

The best possible solution when it comes to the twinning of the highway would be to replace the gates with bridges and rebuild up the dykes, to allow free tidal flow. With free tidal flow given, our river will be able to restore itself and there will be constant fish passage to ensure our fish can continue their life cycle and we can continue to exercise our treaty rights to fish as said in the peace and friendship treaty of 1752.

Sincerely,

Water protector of the Avon river,

Nikki-Marie Lloyd

Sent from my iPhone

Shelleena Thornton

To: Shelleena Thornton (work)
Subject: FW: Avon River Aboiteau

----- Forwarded message -----

From: heather@martock.com
Date: Sep. 1, 2020 3:27 p.m.
Subject: Avon River Aboiteau

We are writing as a major stakeholder in the changes to the Windsor Causeway and aboiteau. As of Friday, August 21, 2020 we were made aware that salt water was present in the Avon River. We tested the water at our intakes and found that the salt level was 4230 ppm. At this location we currently have two vertical turbine pumps at a cost of \$100,000 sitting in salt water.

Ski Martock is a popular recreational ski/snowboard destination for many Nova Scotians. Ski Martock opened in 1965 and since 1980 has been drawing fresh water from the Avon River to make snow for the ski hill. Snowmaking is paramount to the successful operation of a ski resort. Without snow, there is no skiing or snowboarding. Ski Martock's operation is dependent on the causeway/aboiteau having a consistent fresh water supply and a level high enough to accommodate our pumping system.

Ski Martock employs 200 people seasonally and 12 people year-round with an annual payroll in excess of \$1.2 million. Without the ability to make snow these people would not be employed.

We have over 7500 pass holders and 1000 adults and children in weekly snow school programs attracting between 80,000 – 100,000 visits to our local community every year.

Martock is the community field of play for Alpine Ski Nova Scotia's and Nova Scotia Snowboard's grassroots, development and elite athlete programming along with local club programming which includes the Nova Scotia School Athletic Federation, Martock Ski Race and Martock Snowboard Team. Three Olympians in five winter Olympic games began their competitive career here at Ski Martock.

The incomes of many local and provincial businesses depend on the ski hill being open. Both Beavertails and Cleve's Source of Sports are located at the ski resort and employs an additional 10-15 people. The majority of winter sales for the sport shops in the Valley, HRM and South Shore are Ski Martock customers.

In conclusion, having the Avon River remain fresh water is essential to Ski Martock as an industry and employer to our local community.



Heather Boylan

Ski Martock

902.798.9501 x222

Shelleena Thornton

Subject: FW: Representative Academic Report on Highway Twinning Options - SCIENCE MATTERS.
Attachments: Academic Report on Highway 101 Twinning Options.pdf

From: "Dr. Kirumira" <drkirumira@gmail.com>

Date: Wednesday, September 2, 2020 at 6:47 PM

To: " " < " > , " "

< > " < " < " > ,
Cc: " " < " > , " < " > ,
" " < " > , Mark Phillips < " > , Abraham Zebian
< " > , " " < " > , 'Greg O'Leary'
< " > , 'Andrew Smiley' < " >

Subject: Representative Academic Report on Highway Twinning Options - SCIENCE MATTERS.

Caution

This email comes from an outside sender. Verify the sender and use caution with any requests, links or attachments.

Attention of Hants West Municipality Council.
UFS: District Counsellor Mr. Bob Morton.

RE: Deleterious Seawater Contamination of Pisquid Lake:

Dear Mr. Morton

Further to our conversation this afternoon, I forward herewith, our May 27th. communication pertaining to the solid scientific evidence in support of the current option duly selected to twin the highway by expanding the causeway on its seaward side.

Since the construction started, we have noticed a significant contamination of the adjacent fresh water Pisquid lake with salted seawater precipitating the following adverse effects:

1. A change from the previously almost portable fresh water to a salted putrid smelling water, making it unusable to the residents that depend on this resource.
2. Notable deterioration of piping, pumps and appliances in the homes that rely on this water for domestic use.
3. Notable deterioration in the vegetation growing around the lake, that could result in a significant pH drop and acidity that may cause potentially toxic metals leaching from the surrounding rocks.
4. Evidence of a few more dead birds and rodents in the area that may be related to the said lake contamination.

It is clear from these initial observations, that continued prolonged contamination of our lake by sea water could precipitate the deleterious biophysical, sociopolitical, on both the aquatic and terrestrial ecosystems, not to mention on **the healthy eleven species fish population** and other fauna/flora that continue to grow and prosper in the freshwater Pisquid Lake. Many of these potential deleterious effects are clearly cited, discussed and highlighted by scientific evidence and research discussed in the attached report. Most importantly however, further

introduction of a deleterious substance to an existing fish habitat (HADD) such as Pisquid Lake now accomodates, may be contravening the general intent of Sections 34 and 35 of the Fisheries Act. (See Page 63 of the attached report).

We are requesting herewith for your assistance to take the necessary actions to stop this deleterious and potentially dangerous contamination of Pisquid Lake. SCIENCE MATTERS.

Sincerely

Dr. AK Kirumira.

From: Dr. Kirumira [<mailto:drkirumira@gmail.com>]

Sent: May 27, 2020 4:47 PM

To: ; ; ; 'Adrienne Wood'

Subject: Representative Academic Report on Highway Twining Options - SCIENCE MATTERS.

Ladies and Gentlemen.

One lesson all of us have learned in our collective efforts to combat the COVID-19 pandemic is to pay REALLY GOOD ATTENTION TO SCIENCE. There are at least 5 academic studies and reports published and on record urging convincingly, that Expanding the Causeway on its Seaward side originally proposed to NSTIR and currently under implementation is the MOST FEASIBLE from the Ecological, Environmental, Socio-economical, and Political perspectives.

Attached is a representative sample of these reports for your case filing and review. At a minimum, read please the executive summary on page 7 and the conclusions on page 77 to get a gist of the scientific conclusions that are comprehensively supported by over 89 pages of good and well referenced research and science. I will be more than happy to share other studies conducted by my former colleagues at our local Universities and elsewhere.

I sincerely hope this will assist you further, in rationalizing and consolidating your continuing support of the option being implemented on the twining 101 around the causeway by expanding on its seaward side.

Sincerely

Dr. AK. Kirumira
Founding Executive Chairman and Director of Research
TheraPBios PHARMA LTD.
Windsor Industrial Park.



This email has been checked for viruses by Avast antivirus software.
www.avast.com

Final MREM Report, Case B:
Investigating the Options for Twinning Highway 101 at the
Windsor Causeway:
A Biophysical, Socio-political and Legal Perspective

Prepared for
School for Resource and Environmental Studies,
Dalhousie University
April 19, 2010

Erica Fisher
Ashley Graham
Laura Johnstone
Elaine Mailman
Todd McBride
Michelle Wong Ken

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ACKNOWLEDGEMENTS

We would like to thank the following people and organizations for their contributions to this report, Ken Carroll (Department of Agriculture), Paul Beazley (Mayor of Windsor), Friends of the Avon River, Ski Martock, community members of Windsor, Bob Pett and Dwayne Cross (Nova Scotia Transportation and Infrastructure Renewal), Dr. Danika van Proosdij (Saint Mary's University), Kurt McAllister (Department of Fisheries and Oceans), Ivan Rafuse and Joanna Weiss Reid (Canadian Environmental Assessment Agency), Scott Burgess (Fire Chief – Windsor Fire Department), Steve Sanford (Nova Scotia Environmental Assessment Agency), Tim Curry (Nova Scotia Power), Wendy Elliott (The Advertiser), Dr. Karen Beazley, Dr. Heather Castleden, Dr. Michelle Adams, Dr. Peter Tyedmers (School of Resource and Environmental Studies), and the SRES Administrative Staff. Without their contributions the production of this report would not be possible.

EXECUTIVE SUMMARY

Highway 101, extending from Bedford to Yarmouth, was once considered to be the most dangerous highway in Nova Scotia. As a result, a decision was made by Nova Scotia Transportation and Infrastructure Renewal (NSTIR) to twin the highway. Currently, progress to do so, has been made on the entire highway with the exception of a section between Three Miles Plain and Falmouth. Construction has been halted in this segment due to the presence of the Windsor causeway. This is primarily due to the fact that an Environmental Impact Assessment (EIA) for the expansion project that was initially slated to be completed by 2008 continues to be a work in progress. The purpose of this case study is to investigate the foreseeable options for expanding Highway 101 at the Windsor causeway.

Prior to the completion of the causeway in 1970, the Avon River was a tidal river that hosted a variety of diadromous fish. Although, reports on the health of fish populations in the river suggest that there had been historical declines in these populations as a result of upstream barriers preventing passage and anthropogenic activities degrading water quality. Agricultural land upstream of the current causeway was protected from river flooding due to the presence of dykes. Following the construction of the causeway the system endured drastic changes. Tides no longer flow upstream past the causeway and as a result, siltation on the seaward side of the causeway has created extensive mudflats that host one of the most productive salt marshes in the Bay of Fundy. A freshwater lake or headpond now exists upstream of the causeway which has significant recreational value to the community of Windsor. As well, dykes have been left in disrepair as the causeway prevents flooding of the agricultural lands.

Three foreseeable options for twinning the causeway have been identified and are discussed in detail in this report. The first option to expand the existing causeway on its seaward side is the current design proposed by NSTIR. Friends of the Avon River (FAR), a local environmental organization, have a primary goal to restore free tidal flow and to allow for successful upstream passage of diadromous fish in the Avon River. According to Dr. van Proosdij's interpretation of this term, free tidal flow could be accomplished by removing the tide gate which would be covered by a bridge. This would be in addition to the current expansion project, which is the second option considered in this report. The third and final option evaluated in this report is in regards to FAR's interpretation of free tidal flow. This would consist of the removal of a large portion of the causeway, which would be replaced with a 6 lane bridge. Many of the socio-political, biophysical and legal implications of these options are discussed in detail in this report.

Provided this information it can be concluded that the expansion project that is currently being considered is the most feasible option and should go ahead as planned. Public pressure to improve highway safety by expanding Highway 101 must be balanced with environmental concerns surrounding the impact such development would have on local ecosystems. Ecologically, socially, politically and economically, this is the best option. Following the conclusion are three recommendations that will aid in ensuring that the integrity of the current ecosystem is recognized and maintained while satisfying the societal need for improved highway safety over the Windsor causeway.

ACRONYMS

APWPS – Avon Peninsula Watershed Preservation Society

BoFEP – Bay of Fundy Ecosystem Partnership

CEAA – Canadian Environmental Assessment Agency

COSEWIC – Committee on the Status of Endangered Wildlife in Canada

DFO – Department of Fisheries and Oceans

EGSPA – Environmental Goals and Sustainable Prosperity Act

EIA – environmental impact assessment

FAR – Friends of the Avon River

HADD – harmful alteration, disruption or destruction

iBoF – Inner Bay of Fundy

MMRA – Maritime Marshland Reclamation Administration

NSE – Nova Scotia Environment

NSTIR – Nova Scotia Transportation and Infrastructure Renewal

NSWCP – Nova Scotia Wetlands Conservation Policy – draft for consultation

SARA – Species at Risk Act

TERMS AND DEFINITIONS

Aboiteau: a hinged gate built into a dyke to allow freshwater to run off but prevents salt water from moving upstream

Anadramous fish species: species of diadromous fish which spend part of their lives at sea and/or in estuaries but migrate to freshwater systems to spawn

Catadromous fish species: a type of diadromous fish species which spend most of their lives in freshwater systems but migrate to the sea to spawn

Causeway: A road raised above the natural level of the ground, serving as a dry passage over wet ground or a river

Diadromous fish species: migratory species in which all, or the vast majority of, individuals migrate between marine and freshwater habitats as a routine and essential component of their life cycle (Myers, 1965; McDowall, 1988 as cited in Isaaman, 2005).

Divided Highway: A highway with a barrier (land, or concrete barrier) to separate lanes of traffic going in opposite directions

Free Tidal Flow: for the purposes of this paper, free tidal flow is the mixing of fresh and salt waters during high tide cycles, and also the moving of salt water down river

Jersey Barrier: a concrete barrier that separates lanes of traffic (often opposing lanes of traffic) with a goal of minimizing vehicle crossover in the case of accidents. Normally put into place during the twinning process

Lake Pisiquid: freshwater lake formed by the construction of the Windsor causeway, also known as Pesaquid Lake, Lake Pesaquid, Pisiquid Lake or Lake Pezaquid

Tide Gate: A vertical structure in a tidal barrier allowing fresh water to run off the freshwater lake and prevents salt water from entering the lake at high tide

Twinning: The creation of a divided highway from a single highway

Investigating the Options for Twinning Highway 101 at the Windsor Causeway:

A Biophysical, Socio-political and Legal Perspective

About 45 minutes northwest of Halifax, Highway 101 goes over a causeway across the Avon River. Driving over a causeway is not unique, at least not in Nova Scotia. With over 7000 km of coastline (Natural Resources Canada, n.d.), and considering the general topography of the coastline, causeways are a common road feature. What is unique about the causeway at the Avon River is its size, and its importance to transportation to the region. It is almost one kilometer long, and on average has approximately 30 000 crossings per day (Dwayne Cross, personal communication, February 2 2010).

Despite its size and importance, it is not obvious when driving over it that it is anything other than a normal highway. The river is barely visible, and the adjacent mudflats are covered in grass. This allows drivers on the causeway to have a sort of “out of sight, out of mind” relationship with the river crossing. While they may drive the causeway on a daily basis, motorists do not have to pay its existence much mind.

This may be short-lived. Just to the east, Highway 101 at St. Croix is in the last stages of being twinned. After this, the final section to be completed runs right through Windsor and over the causeway, and environmental assessment documents will be filed with Nova Scotia Environment within a month (Bob Pett, personal communication, March 24 2010). If all goes according to plan, construction of the final section of the twinning process of Highway 101 should begin in Windsor within 2 years. Drivers’ “out of sight, out of mind” relationship with the causeway may not last much longer.

INTRODUCTION

The purpose of the paper is to investigate the foreseeable options for expanding Highway 101 at the Windsor causeway. Public pressure to improve highway safety by expanding Highway 101 must be balanced with environmental concerns surrounding the impact such development would have on local ecosystems.

Paper outline

In order to properly accomplish the purpose discussed above, this paper will be laid out as a timeline of the construction of infrastructure at the Avon River estuary. It will begin with a brief description of the region to provide context to the issues. This will be followed by a description of the twinning of Highway 101, along with a discussion of how highway safety concerns informed the twinning decision-making process. Following the timeline format to the paper, the body of the paper will begin with a discussion of the pre-causeway ecosystem, both aquatically and terrestrially. This will be followed by an account of the construction of the causeway itself. Next, the paper will lay out the current, post-causeway ecosystem, and discuss some of how social pressures such as media, place identity and public perception influenced the decision-making process. This will be followed by a brief description of the environmental assessment process and the current status of the environmental assessment report. The next section of the paper will focus on the biophysical, social and legal implications of the three twinning options being discussed: causeway expansion, causeway expansion with tide gate removal, and expansion with causeway removal/replacement. This will be followed by a discussion of the potential for ecological restoration in the Avon River estuary. Finally, the paper will be brought to a close with a discussion of conclusions and recommendations for effective implementation of the twinning process.

Biophysical Methods and Limitations

The biophysical aspects of each of the three options discussed below are by no means all inclusive. These implications are limited in some cases to the literature available on the topic or to the changes that would be most physically apparent to the people of Windsor. In addition, for the purpose of this report, the ecological baseline is the current status of the ecosystem as this is generally, the baseline also used by the literature addressing issues pertaining to the Windsor causeway.

Background

The Windsor causeway was constructed between 1968 and 1970 (Isaacman, 2005). The causeway provides a major highway and railway crossing over the Avon Estuary, permitting relatively high-speed travel along Nova Scotia's Highway 101. The last tidal flow went down the Avon River in 1970, and since then two new ecosystems have been created: a freshwater lake and a salt marsh. The causeway maintains these ecosystems, acting as a barrier between one new ecosystem and the other. The causeway removed tidal oscillations from the region upstream, and therefore is responsible for protecting almost 1400 hectares of previously dyked land from seasonal flooding (Daborn et al., 2003a). In the four decades since the construction of the causeway, many changes observed in the river, estuary and watershed have been ascribed to its presence (Percy, 2008).

The construction of barriers across tidal rivers and estuaries has a long history of altering the sediment dynamics and ecosystem processes in the surrounding area (van Proosdij et al., 2009). The degree of alteration to the system depends in part on structure design, surrounding geology, sediment characteristics, tidal range, and basin morphology. Tidal barriers can cause changes in sedimentation patterns within the estuary that may, over time, decrease the cross sectional area of the channels and the overall capacity of the system to distribute tidal waters (van Proosdij et al., 2009).

The Avon River Watershed has been a primarily freshwater system since the construction of the causeway, which generally prevents tidal movements and saltwater intrusion into the river. Formerly, the tide extended several kilometres upstream; the original head of tide on the South Branch of the river was approximately 16 kilometres above Windsor (around the Windsor Forks area) and on the West Branch of the river was approximately 5 kilometres from the confluence with the South Branch (Isaacman, 2005). The tidal extent no longer reaches upstream, blocked by the causeway forty years ago.

As part of the twinning of Highway 101, Nova Scotia Transportation and Infrastructure Renewal (NSTIR) has proposed the expansion or modification of the causeway to accommodate extra traffic lanes; which has further intensified concerns and questions regarding the threats posed by this tidal barrier (Isaacman, 2005). The causeway is now taking on the role of protecting the Town of Windsor, the surrounding community and farmland from flooding. This role could be altered if the structure itself is changed significantly (Resource Stewardship, 2007).

The town is located immediately adjacent to Highway 101, and this enables quick access to other regions of the province. Windsor is within easy commuting distance of Halifax (66 kilometres) and a number of its residents are employed in the Halifax Regional Municipality. As well, traveling west on Highway 101 about 30 km will take you to Kentville. This is another economic hub, which many Windsor residents often visit for various reasons. The economy of the Town of Windsor and surrounding area is centred on agriculture, the mining and export of gypsum, stone monument manufacturing, and service industries. Windsor is 890.3 hectares (2,200 acres) in size, and has a population of 3,705 (Town of Windsor, 2009).

The natural mixing of freshwater and saltwater in an estuary creates an ecologically rich ecosystem that provides unique habitat for a wide diversity of marine life (Bergstrom et al., 2004). Human activities are affecting the natural balance of salt and other chemicals in estuaries, resulting in changes in ecosystem functions and services in coastal estuaries throughout the world (Bergstrom et al., 2004). The Avon Estuary is no exception as the construction of the causeway and the tide gate has significantly changed the original estuary that existed in the area. The salt content of estuaries is also sensitive to increases or decreases in freshwater inflow resulting from changes of inland river system management. Changes in the delicate balance of freshwater and saltwater in coastal estuaries may also impact the natural habitat function of estuaries, resulting in increases in some fish and wildlife species and decreases in others (Bergstrom et al., 2004).

History of the Area

The region encompassing present day Windsor was originally known as Pesaquid, a Mi'kmaq term meaning "Junction of Waters." This name referred to the confluence of the Avon and St. Croix rivers, which flow into the Bay of Fundy (Town of Windsor, 2009). They were not the only people previously in the area. Later, the European settlers who began settling the area in the early 1600s were the Acadians, a small band of French settlers (Percy, 1996).

There were more than 35,700 hectares (88,200 acres) of productive salt marshes scattered around the Bay of Fundy when the Acadians first arrived in the Windsor area. Most of these salt marshes have long since been wrested from the sea, with seemingly far-reaching consequences for the marine ecosystem of the Bay of Fundy (Percy, 1996). In the 1630s, the Acadians dyked and drained a few acres of salt marsh at Port Royal (present-day Annapolis Royal, Nova Scotia), and discovered that the new dykeland could produce abundant crops year after year without the help of fertilizer. Farmland that

could produce two tonnes of hay or 50 bushels of wheat in a season soon became the means of providing most of the colonists' food and clothing and allowed a distinct Acadian society to prosper and grow (Resource Stewardship, 2007).

Permanent settlement by the British began in 1749. Fort Edward was built in 1750 and is the last original standing blockhouse in Canada; it stands at the top of a hill in the middle of the town. It was a main assembly point in the Acadian Deportation of 1755. In 1764, the Township of Windsor was created (Town of Windsor, 2009).

Settlers around the Bay of Fundy (primarily the Acadians) constructed dykes and aboiteaux for over 350 years in order to farm the fertile tidal marshes of the Bay of Fundy. An aboiteau is a one way gate structure designed by the Acadians, allowing freshwater drainage while preventing the entry of tidal waters and coastal flooding (van Proosdij, 2009). The dykelands supplied the basic needs of the Acadians so well that they largely avoided clearing the upland. In fact, when all available marsh had been dyked along the Annapolis River, the colony expanded to other marsh areas around the Bay rather than using available upland nearby (Resource Stewardship, 2007). Marshland in the province was privately dyked until 1948 when the federal government set up the Maritime Marshland Reclamation Administration (MMRA) (established in 1948) to rebuild the dykes in the Maritimes (van Proosdij, D. et al, 2006).

During the 1950's and 1960's the MMRA embarked on a major program to control most of the large rivers around the Bay with tidal barrages. These served to protect upstream farmland from tidal flooding and did away with the need for frequent, costly repairs to miles of riverside dykes. At the time, little, if any, consideration appears to have been given to the possible environmental consequences of blocking all these tidal rivers (Percy, 1996).

Highway 101 Twinning Project Description

For NSTIR, the project represents the final stage of an overall project to twin Highway 101 from Bedford to Yarmouth. This final stage of construction is called "Highway 101 Phase 4 twinning 3 miles plains to Falmouth", and in total is 9 km long (Bob Pett, personal communication, March 24 2010). This section of the highway includes 4 interchanges, at exits 5, 5A, 6 and 7 respectively. The plan is to expand from 2 to 4 lanes throughout most of this section, although between exits 6 and 7, it will be expanded to 6 lanes. This is due to NSTIR policy regarding the distance between two consecutive exits.

If this distance is less than 2 km, traffic entering at one of the exits must be able to travel to the next exit without actually merging into traffic. The distance in question, between exits 6 and 7, is less than 2 km, and therefore a third “merge” lane must be constructed in each direction (Bob Pett, personal communication, March 24, 2010).

Of particular concern is the 1 km section of highway over the Windsor causeway. As discussed above, the causeway was completed in 1970 as part of the creation of Highway 101. Since then, the macro-tidal environment of the Bay of Fundy has caused sedimentation on the downstream side of the causeway, creating an extensive system of mudflats. Beginning in the early 1990’s, some parts of these mudflats have transitioned to become a very productive salt marsh. The expansion of the causeway will infringe on the salt marsh and the mudflats by 14 m. This infringement must be compensated for according to the new Wetlands Conservation Policy for Nova Scotia.

The total cost of the project is expected to be approximately \$100 million. Although the design has not been finalized, and the contract has not been put to tender, this estimate is based on an average cost of \$1-2 million per km of construction, plus \$10-20 million for each structures. These structures include the 4 interchanges mentioned above, as well as a short bridge over the current channel (Bob Pett, personal communication, March 24 2010).

The current design includes a bridge approximately 100 m long. It will be a clear span bridge, which means that there will be no bridge piers in the channel itself. This length represents approximately the maximum length possible for such a bridge. The expected cost of the bridge is \$20 million, but this estimate will not be confirmed until the design is finalized.

This project will be jointly funded by the provincial and federal governments, although the final funding has not been approved. These funding concerns, along with the compensation issue, have delayed the project. This project is a very high priority for NSTIR, but as of yet, the funding has not been fully secured.

Once funding is finalized and the project is approved by the various interested agencies, such as NSTIR, Department of Fisheries and Oceans, Department of Agriculture, and Nova Scotia Environment, the project will be tender ready. Assuming that a funding package is prepared, the project would be put out to bid sometime in 2012 (Bob Pett, personal communication, March 24 2010). This mean that since

the decision to twin the highway in 2002, it will have been a decade before any decision has been made about what to do at the Windsor causeway.

Highway safety

The official motivation for the twinning of Highway 101 is highway safety (Transport Canada, 2008). The separation of the two directions of traffic by a median has proven to virtually eliminate the potential for head-on collisions, greatly reducing the frequency and severity of accidents (Transport Canada, n.d.). Obviously, from an analytical point of view, twinning a highway has merits. And while, in a court of law, a government may not be liable for any decisions it makes whether to twin highways or not (see *Just v. British Columbia* (1989) 2 SCR 1228), the court of public opinion may come to a different verdict. Often, to governments, the court of public opinion is more important than a court of law.

The court of public opinion in the town of Windsor is definitely sympathetic to the cause of highway safety. In a conversation with the Mayor of Windsor, Paul Beazley, he reiterated, over and over, how important the twinning project was for highway safety, and how important highway safety was to the people of the town of Windsor (Mayor Paul Beazley, personal communication, March 12 2010). In the opinion of Mayor Beazley, the people of Windsor are concerned with the environmental impacts of twinning the highway, but are unwilling to allow these to delay remedying the issue of highway safety in their town (Ibid).

Just v. BC

In *Just v. British Columbia* (1989) 2 SCR 1228, the Supreme Court of Canada ruled on the issue of government liability. It found that while British Columbia Department of Highways would in fact owe a duty of care to the motorists on the highway in question (or any highway for that matter), the question of whether it is liable for decisions would depend on whether the decision was one of policy or operations. In this case, the matter was one of inspections, and their relative quantity and quality. It was determined that this was a decision of policy, and therefore exempted the Department of liability. Applying this to the issue of highway expansion, it can be expected that a court would deal with such decisions in a similar fashion as in *Just v. British Columbia*. In all likelihood, the court would apply the test laid out in *Just*, and determine that the decision to twin a highway is one of policy and therefore exempt from liability.

The raw statistics would certainly seem to support the townspeople's concerns with highway safety on Highway 101 at Windsor. While it has recently been overtaken as Nova Scotia's deadliest highway by Highway 103, there is still a significant number of fatal accidents on Highway 101. Between 2006 and 2009, 14 people were killed on the 300 km-long highway (CBC, 2009).

Perhaps more impactful than the raw statistics, however, is a local perspective on the issue of fatal accidents. Fire Chief Scott Burgess has been with the Windsor Fire Department for 22 years, and has experienced the perils of the stretch of highway near Windsor first hand. As fire chief, he is responsible for a 31 km-long section of Highway 101, which he characterizes as “a deathtrap” (Scott Burgess, personal communication, March 26 2010). On a tour of the entire 31 km-long stretch, which includes the causeway, he pointed out the number of crosses on the side of the road memorializing the fatal accidents that occurred there. In total, over the course of the whole section, he pointed out between 25-30 fatal accidents that he can remember from 22 years with the fire department. In the past two and a half years, he can remember fatal accidents just on un-twinning section of Highway 101 alone.

He has also noticed a decrease in the number of serious accidents on the currently twinning section of highway within his jurisdiction. As mentioned above, the twinning of Highway 101 is completed up to St. Croix. Since this twinning was completed, Chief Burgess cannot remember needing to land the heli-vac in that area. On the other hand, he can remember doing so a number of times on the un-twinning section to the west (Scott Burgess, personal communication, March 26 2010). For a long time, the most dangerous section of his jurisdiction was the section to the east of St. Croix, but since the twinning, the number of accidents has decreased drastically.

This recollection of fatalities along the un-twinning highway has therefore been the motivation for twinning the highway. It is obvious that the twinning of the highway has been beneficial in reducing the number of accidents and deaths on the highway. Windsor wants to get rid of the “deathtrap” lingering on the outskirts of town. The Windsor causeway has presented itself as a difficult barrier to overcome in the design and timely implementation of twinning project.

WINDSOR BEFORE THE CAUSEWAY (PRE-1968)

Aquatic Ecosystems

Through research, conflicting information in relation to fish populations in the Avon River historically has been found. Isaacman (2005) describes the historical evidence of Inner Bay of Fundy (iBoF) Atlantic salmon, gaspereau (including blueback herring and alewife), rainbow smelt, American eel,

Atlantic Salmon and First Nations

Historically, Atlantic salmon have played a vital role in many cultures around the world. For over 20,000 years nations across the globe have depended on these animals for food and as artistic inspiration to name a few. In particular, Atlantic salmon have been and continue to be significant First Nations of eastern Canada, including the Mi'kmaq People who called the fish *plamu*. For the Mi'kmaq this species of fish indicated the passing of seasons as a result of its migration patterns in addition to its integral role in their diet (Atlantic Salmon Federation, 2010). Today, as Atlantic salmon are listed as *Endangered* on the federal *Species At Risk Registry* First Nations communities are working with governments to help identify and mitigate threats to the survival of this species (Gespe'gewaq Mi'gmaq Resource Council, 2009).

sea-run brook trout (also known as sea-trout), white perch, three species of stickleback, American shad, striped bass, Atlantic sturgeon, and Atlantic tomcod species in the Avon River. Some species have been observed in the Avon Estuary much less than others, indicating that these species may not have used the Avon for spawning. The evidence presented seems to indicate that all of the species experienced declines in populations before 1970; however none of these declines were as drastic as the numbers observed since the construction of the causeway. By the late 1860s, observations were being made in the decline of anadromous¹ species, such as salmon, smelt, sea-trout and gaspereau, but it seems that there was a brief period of recovery for these species between the late 1800s and early 1900s. This is probably due to the introduction of fish stocking in the late 1800s.

Falling populations were observed once again, in particular in salmon populations, following the hydro-power development on the south and west branches of the watershed between the 1920s and 1930s. Contradicting sources make it difficult to ascertain the exact status of the

fish populations prior to the construction of the causeway, but documents by the Department of Fisheries and Oceans (DFO) from the 1960s indicate that anadromous runs (salmon, sea-trout, smelt, gaspereau, and shad) had significantly declined by the mid-1960s. However, on the contrary, local

¹ Anadromous fishes are species which migrate from marine to freshwater habitats to spawn (Isaacman, 2005).

community members assert that fairly good anadromous runs, including salmon, continued up until the causeway's construction.

Terrestrial Environment

Mudflats and Wetlands

Extensive intertidal flats were evident at low tide on the Avon River near the Town of Windsor during the winter of 1963. Aerial photographs (Figure 1) demonstrate evidence of natural bar formation in the location of the future causeway (van Proosdij et al., 2006). According to Percy (2008), sedimentation historically occurred along the Avon River, creating riverside mudflats and salt marshes as far upriver as the tide could reach.



Figure 1 Picture of the Mouth of the Avon River showing natural bar formation, 1963 (van Proosdij & Bambrick, 2006)

Dyklands

Extensive habitat alteration and degradation of the original ecosystem began immediately upon European settlement in 1685 along the Avon River. The Acadians constructed dykes along much of the tidal portion of the lower Avon River and estuary to convert the fertile salt marshes into productive agricultural lands (Isaacman, 2005). This resulted in the disappearance of much of the salt marsh in the lower Avon River Watershed.

Industry

Before the causeway was constructed across the Avon River, there were other crossings over the river. The construction of the rail bridge began November 2nd, 1867, and the first through train from Annapolis to Halifax January 1st, 1872 (Percy, 2008). This was an important connection to make because it connected agriculture from the valley area to Halifax, and eased commuting.

In 1878, Windsor was incorporated as a town. Windsor's harbour created a favourable environment for shipping and shipbuilding during the age of sail and it became a major port. As more efficient land transportation became available, Windsor's importance as a seaport diminished (Town of Windsor, 2009).

Barriers on the Avon River

There are five barriers along the Avon River that were built between 1920 and 1954. These barriers were built to produce hydro- power, and are still in operation today. Some barriers have fish ladders built within them but others do not. There are also two waterfalls on the river, which impede fish passage upstream from the current causeway. Hydro-power development has significantly impacted the watershed's aquatic ecosystem and therefore has probably been one of the primary reasons for the contemporary declines in fish populations (Isaacman, 2005).

As Issacman (2005) discusses, in the early 1920s, the Avon River Watershed began to be developed for hydro-power generation (Shanks, 1994 as cited in Isaacman, 2005). The Avon River hydro power system is owned and operated by Nova Scotia Power Inc. and consists of a series of power dams, storage dams, and pipeline diversions. Two power dams were, as mentioned above, were installed on the lower South Branch, both without fish passage provisions. Storage dams were also built in the upper Avon River Watershed. In the mid-1930s, a dam was built diverting water flow into the Gaspereau River system (Smith, 1965 as cited in Isaacman, 2005).

The major detrimental effects of the hydro-power development on fish populations and other wildlife are likely to have been from the alteration of downstream hydrological conditions (e.g. water levels, flow rates and patterns), which subsequently affected water quality, disrupted habitat, and impeded fish migration (Isaacman, 2005).

CONSTRUCTION OF THE WINDSOR CAUSEWAY

The construction of the Windsor Causeway was conducted in phases. In September 1968, rock fill was extended from the western edge for a distance of 91.5 metres (300 feet) from the new tide gate structure. In November 1968, infilling began from the other side. By July 30, 1969, 33% of the project had been completed, with that number increasing to 54% by November 1969. By January 1970, a gap of only 305 metres (1000 feet) remained for water exchange. The causeway was closed completely in July

Windsor Causeway Construction According to Mayor Paul Beazley

Every generation has an identifying moment; a moment where everyone knows where they were, and with whom. For many baby boomers, that moment was the moon landing. For younger generations, that moment was September 11, 2001. People generally remember these moments not out of some form of book learning or memorization, but rather simply by experiencing the event.

According to Mayor Paul Beazley, for many who grew up in Windsor and who lived there in 1970, that identifying event was the closing of the causeway. This is not to say the construction of the causeway; that event took too long to be truly identifiable and iconic. But rather, Mayor Beazley says that the day that the causeway was closed, when the flow of the river was stopped, that day was an iconic, identifiable event for the people of Windsor (Paul Beazley, personal communication, March 12 2010). Mayor Beazley remembers that the first two attempts to block the Avon River failed. Finally however, on the third try, in July 1970, the flow of the Avon River was stemmed.

1970 and the tidal gates were opened for use (van Proosdij, et al., 2006). The first cars drove across the causeway later that autumn. The 700 meters (2,300 feet) long causeway required 1.65 million tonnes of rock fill (Percy, 2008).

The Windsor causeway replaced an existing train bridge upriver from the town and resulted in the rerouting of the Dominion Atlantic Railway's Halifax-Yarmouth main line. The rail line used to run through Windsor's downtown, crossing the river on a bridge parallel to the road bridge immediately upriver from the town. Interest in the construction of a causeway across the Avon River in the Town of Windsor was formally initiated sometime around 1966 in collaboration with the Nova Scotia Department of Highways and the Dominion Atlantic Railway (van Proosdij et al., 2006).

The construction of the Windsor causeway forty years ago did not include a fish passage. This is because DFO gave an approval for the causeway to be constructed following a study to assess diadromous fish (that is, fish that migrate between marine and freshwater environments as part of their life cycles)

populations in 1965, which found that the Avon River had little value to these species (Isaacman, 2005). Furthermore, it was thought that appropriate operation of tide control gates would allow sufficient migration of diadromous fish if any were present (Daborn et al., 2003a).

Isaacman (2005) discusses why there is conflicting information regarding fish population estimates. The various interests (e.g. the Provincial Government and Town of Windsor) in favour of constructing a causeway and in a cost-effective manner may have influenced DFO's interpretation of the 1965 study results. This may have led to an overestimated perception of the insignificance of diadromous runs and thus threats to potential fisheries posed by a causeway. Conversely, the negative opinions of some local stakeholders towards the past and future impacts of the causeway may have led them to recollect larger fish abundances and smaller declines prior to, and therefore more significant declines following, its construction (Isaacman, 2005). Moreover, recreational fishers may have been unaware of the extent of declines due to advances in fishing gear technology (Post *et al.*, 2002 as cited in Isaacman, 2005), lower water levels (e.g. from hydro power operations) or other factors, which may have enhanced the detection and capture of fish even as populations declined (Isaacman, 2005).

In addition to the lack of fish ladder in the causeway design, there was also no requirement for a formal environmental impact assessment at the time of construction. This is because the legislation that currently exists in Canada was not yet assented. There is now legislation in Canada, enacted in 1973, that requires a project such as the Windsor causeway to have a formal environmental assessment completed.

PRESENT ISSUES **AT** THE WINDSOR CAUSEWAY

The Windsor causeway has now been in place for forty years. This has resulted in major alterations to the ecosystem, causing a number of biophysical, social and legal consequences. Both the aquatic and terrestrial ecosystems in the region have changed significantly, which has altered the way local people interact with the environment. Furthermore, the creation and amendments of laws since the causeway was constructed has changed the way these ecosystems are protected, which sheds a new light on how they are valued.

The Aquatic Ecosystem

The once single estuary ecosystem at the mouth of the Avon River has since been divided into two separate marine and freshwater ecosystems by the Windsor causeway. These aquatic ecosystems will be referred to as the lower Avon River on the seaward side of the causeway, and Lake Pisiqid² on the upstream side. The differences in these ecosystems are attributed to the causeway preventing fish, sediment, nutrients, and saltwater or freshwater from breaching to the other side.

The most significant change to the aquatic ecosystem is the decline of diadromous fish populations in the Avon River Watershed (Isaacman, 2005). Recent studies and anecdotal experience show that major declines in these fish populations have occurred with many blaming the causeway, as significant changes in populations began to manifest within a few years after the causeway's completion (Isaacman, 2005).

Legally, flags should have been raised when the causeway was first designed in 1968 as the causeway has since contributed to the decline of fish populations. When the causeway was constructed, the *Fisheries Act* of 1952 was in force. Section 20(1) of the Act states that if the Minister determines it to be necessary for the public interest that a fish passage should exist, any obstruction across or in a stream must have an efficient fish-way. As previously mentioned, DFO did not consider the Avon River as a significant habitat for diadromous fish species, but it has since been determined through historical and current evidence that these species were and still are present in the region and that some fish cross through the tide gate (Daborn & Brylinsky, 2003; Isaacman, 2005). Based on this information, it is apparent that when the causeway was designed, DFO should have insisted that the causeway should have been built with a fish passage feature.

² Also known as Pisiqid Lake, Lake Pesaquid, Pesaquid Lake, or Lake Pezaquid

The Lower Avon River

According to Isaacman (2005) the most pronounced change has been observed in iBoF Atlantic salmon populations, which have not been reported in the Avon Watershed since the late 1980s. This is quite devastating considering that during the 17th and 18th centuries the Avon River was considered as one of the most important salmon rivers in Nova Scotia (Isaacman, 2005). It is true that salmon populations fell dramatically even before the causeway, but Isaacman (2005) reports that salmon runs were still fairly common prior to 1970. In a report produced by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) (2006), it is stated that in 2003 there were less than 100 wild anadromous (that is, fish that move from marine to fresh water as part of their life cycle) adult breeders of iBoF salmon spread across all the rivers of the inner Bay of Fundy, with 50-75 being the most likely estimate, and 200 being the maximum (Isaacman, 2005). The species has been listed as critically endangered by COSEWIC since 2001, and under the Species at Risk Act (SARA) since 2003. With such few numbers, it is unlikely that any of these individuals currently use the Avon River to spawn.

Daborn and Brylinsky (2003) conducted studies in the lower Avon River to determine the status of fish populations. Thirteen American eels, a catadromous³ species, were caught on the seaward side of the causeway, but damage to bait indicates that eels were common in the area. American eel is an important species to consider because it is listed as a species of Special Concern by COSEWIC (DFO, 2009b). Gaspereau were quite abundant and represented almost half of the fish caught during this study. It is likely that the research was conducted too late in the season to catch smelt during spawning migration, resulting in no data on smelt. Striped bass was found below the causeway but it was difficult to determine if any spawn or feed in the Avon River. Lack of data on other species may have been due to limited sampling and relatively low abundance, as opposed to complete absence. Anecdotal reports suggest that spawning runs of alewife, blueback herring, and sea-trout still persist, and eels are still present, but all are much below their pre-causeway abundances (Isaacman, 2005). Table 1 summarizes the historic and current status of diadromous fishes in the Avon River.

³ Catadromous fishes are species which migrate from freshwater to marine habitats to spawn (Isaacman, 2005).

Table 1: Historic and Current Status and Characteristics of Diadromous Fish Species in Avon River Watershed

Species	Historic Presence ¹	Evidence of Spawning Stock ²	Current Status ³
Atlantic Salmon	P	Y	N
Gaspereau	P	Y	D
Smelt	P	Y	SD
Sea-trout	P	Y	D
Shad	P	I	N
Striped bass	P	N	EP
Eel	P	N/A	EP
Sea lamprey	N	N	N
Atlantic Sturgeon	N	N	N
Tomcod	P	N	N

¹P-present; N-no records of presence

²Y-spawning stock; N-no indication of spawning; N/A-not applicable; I-inconclusive

³D-declined from historic abundance; SD-significantly declined from historic abundance; EP-evidence of presence, but status unknown; N-no records of presence in recent years (Isaacman, 2005)

As previously mentioned, iBoF salmon and the American eel are designated as species of concern by COSEWIC. This is the main reason activist group, Friends of the Avon River (FAR), has petitioned local, provincial and federal governments to remove the causeway and replace it with a bridge (Eagles-Harvey, 2008; Sonja Wood, personal communication, March 12, 2010). FAR believes that the causeway is directly impeding the migration of these species to critical habitat, furthering contributing to their endangerment (Eagles-Harvey, 2008; Sonja Wood, personal communication, March 12, 2010). The designation by COSEWIC and FAR's concerns indicate that there is a social concern for fish species in the Avon River Watershed.

Comment [s1]: Mentioned later as well

Lake Pisiquid

South of the causeway lies Lake Pisiquid – a mostly freshwater impoundment that was formed when the causeway was constructed (Daborn et al., 2003a). Water flowing downstream, toward the sea, from the Avon River and its tributaries is stopped by the man-made barrier provided by the causeway (Figure 2) (Daborn et al., 2003a). The lake has a depth of approximately 2.75 metres (9 feet), which is maintained by the tide gate (Daborn et al., 2003a).

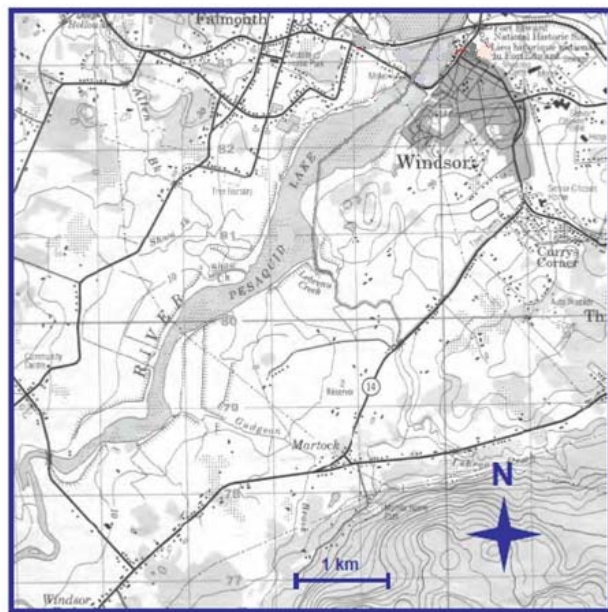


Figure 2. Map of Windsor, Nova Scotia displaying the location of Lake Pisiquid. Source: Daborn et al., 2003.

Daborn and Brylinsky (2003) studied fish populations in Lake Pisiquid and discovered there were eleven fish species in the lake: alewife, blueback herring, yellow perch, white perch, white sucker, small-mouth bass, lake chub, redbelly dace, banded killifish, threespine stickleback, fourspine stickleback and ninespine stickleback. The only anadromous species found on the Lake Pisiquid side of the causeway were gaspereau (blueback herring and alewife) and white perch. Nearly half of all the fish surveyed were gaspereau (Daborn & Brylinsky, 2003). Another interesting observation was eight of the eleven fish species in the lake were freshwater species and would only be found in Lake Pisiquid and the upstream arms of the Avon River (Daborn & Brylinsky, 2003). None of these eight species would typically be found

in the water of the downstream or seaward side of the causeway (Daborn & Brylinsky, 2003). Not only were the species of individual fish identified, but specimens were weighed and measured (Daborn & Brylinsky, 2003). These measurements allowed the researchers to draw conclusions on the quality of fish habitat being provided in Lake Pisiquid (Daborn & Brylinsky, 2003). Through the use of length to weight ratios, rates of growth were estimated for fish and found to be fairly reasonable (Daborn & Brylinsky, 2003). Being able to support reasonably normal, growing fish populations was used as an indicator for Lake Pisiquid being biologically productive (Daborn & Brylinsky, 2003).

Physiochemical conditions of Lake Pisiquid have been studied to determine the water quality. In the past there have been suspicions about farm run-off entering Lake Pisiquid since there is agriculture being conducted in fairly close proximity (Daborn et al., 2003a). Additionally, since the causeway prevents the lake from being flushed by tidal inflows, sediments and nutrients are expected to accumulate (Daborn et al., 2003a). Unexpectedly the first study on lake water quality, which took place in 2002, produced very positive results (Daborn et al., 2003a). Dissolved oxygen levels in the lake were high, there was no evidence of algal growth, and nitrate concentrations were low (Daborn et al., 2003a). Though the authors had found a separation of water quality, where higher salinity water would be found deeper in the lake and freshwater made up the surface water, this was primarily located in the water closer to the causeway (Daborn et al., 2003a). This suggested that some of the seawater was breaching the causeway and flowing into Lake Pisiquid (Daborn & Brylinsky, 2003). For the 2002 study the most significant finding was the absence of algae or excess nutrient content in Lake Pisiquid (Daborn et al., 2003a).

Only a year later, in 2003, another study was designed and conducted to further examine water quality in Lake Pisiquid (Daborn & Brylinsky, 2003). In this case the results were mostly the same (Daborn & Brylinsky, 2003). Oxygen saturation levels were high, greater than 70%, but not high enough to indicate the presence of algal blooms (Daborn & Brylinsky, 2003). There was still a discrepancy in higher salinity water sinking to the bottom of the lake and freshwater remaining in more shallow waters (Daborn & Brylinsky, 2003). But again it should be noted this phenomenon was most common in the water near the causeway, sometimes referred to as the Headpond of Lake Pisiquid. This 2003 study corresponded with the findings of the year before, namely that agricultural run-off and excessive nutrient loads were not a problem in Lake Pisiquid (Daborn & Brylinsky, 2003).

Lake Pisiquid is not only an important habitat for fish and other species, but it is also valued by the community of Windsor. The lake provides Windsor “with an attractive waterfront skirting a broad expanse of placid water,” which contrasts with the seemingly barren mudflats and churning muddy waters that were the typical sight before the causeway (Percy, 2008, p. 9). It has also increased the value of waterfront property in the area (Percy, 2008). Further, the lake provides recreational opportunities, including canoeing, kayaking, and the Windsor-West Hants Pumpkin Regatta (Percy, 2008). The Pumpkin Regatta is part of the Giant Pumpkin Festival, a major annual tourist attraction that draws 8-10,000 visitors from around the world to the region (Lawrence, 2007). Lastly, water from the lake is used by Ski Martock, a skiing operation, to make snow for its seven runs on the nearby 185 m high Martock Mountain (Percy, 2008). This ski hill attracts visitors from across Atlantic Canada and is an important contributor to the local economy (Percy, 2008). According to Jim Boylan-Martock, the owner of Ski Martock, the operation would be out of business without the freshwater supply from Lake Pisiquid (Jim Boylan-Martock, personal communication, April 9, 2010). If any alteration is made to the causeway, the implications it may have on the lake will have to be considered as it is highly valued in the society.

The Terrestrial Environment

The construction of the causeway brought changes to terrestrial ecosystems and structures as well. As previously mentioned, tidal waters used to be able to deposit sediment to the upper reaches of the Avon River, causing the development of salt marshes and mudflats farther upstream. However, when the causeway was built the tidal waves were cut short at the mouth of the river, effectively starving the salt marshes and mudflats upstream of sediment and seawater, while at the same time causing the accumulation of sediment on the seaward side of the causeway (Percy, 2008). This accumulation of sediment has developed over the past forty years into an entirely new wetland ecosystem. Further, structures such as dykes and aboiteaux that once protected valuable agricultural land were no longer needed once the causeway was built. Over the years, dykes were removed or fell into disrepair and the aboiteau was replaced with a tide gate (Percy, 2008).

Wetlands

Since the closure of the causeway in June 1970, perhaps the most noticeable change is the increase of sedimentation along the seaward side banks of the causeway, which has resulted in the vast expanse of mudflats and salt marshes from Windsor to Hantsport (about 20km) along the Avon River

(Daborn et al., 2003a). Sediment of the Windsor causeway tidal flat is predominately clayey silts (~68% silt and ~23% clay), with mean grain size of 23-30 μm (Daborn et al., 2003a). A range of physical characteristics affects what happens to a mudflat ecosystem. These physical characteristics keep mudflats in constant flux, making them dynamic and fascinating systems (DFO, 2007). In 1975 and 1976, Carl Amos from Bedford Institute of Oceanography conducted a study to examine the dynamic forces operating in the upper Bay of Fundy, including Windsor Causeway. The rate of sediment accretion on Windsor mudflats during 1975 and 1976 ranged from 1.0 – 14.0 cm per month, averaging about 5.0 cm per month (Daborn et al., 2003a). This rapid rate of settlement produced a soft, muddy deposit, which has remained fluid to this day.

Previously, the mudflats were a desert, devoid of biota. However, since the 1980's, the lifeless mudflats have been brought to life in the form of a highly productive marsh downstream of the existing causeway below Windsor (van Proosdij, Bambrick & Baker, 2006). The salt marsh is one of the most productive ecosystems in the Bay of Fundy. The salt marsh has increased the biodiversity of the area with plants, insects, shorebirds and other animals. The characteristics of the mudflat-salt marsh system have visibly changed during the last three decades, becoming larger in size as the mudflats are colonized by salt marsh grasses, particularly *Spartina alterniflora* (Daborn et al., 2003a).

Another biophysical change to the flow of the Avon River is that it has become shallower and wider over the years. This is due to erosion from the aggressive tides at the mouth of the river, making it wider, and then the water carrying the sediment and depositing it up river making it shallower. Tidal barriers decrease turbulent energy in the tidal system causing sediments and other particles to drop from suspension and accumulate as deposits of mud, sand and silt (van Proosdij et al., 2006). This increased sedimentation has changed the channel of the river over the years.

There is anecdotal evidence of this from FAR member, Sonja Wood. During an interview, Wood told the story of how her land area has decreased since the time she bought it over two decades ago. She made particular mention of the fact that when she bought her property it was 16.6 hectares (41 acres), and as a result of erosion along the mouth of the Avon River, her property has diminished in size to about 11 hectares (28 acres) (Sonja Wood, personal communication, March 12 2010). It is difficult to determine, however, if this is a direct result of the causeway or if the erosion would have occurred naturally. Undoubtedly, a percentage of the erosion would be naturally occurring, but the causeway may have also been a factor.

Dykelands

It is important to remember that before the causeway was constructed, 26 kilometres of dykes and 36 associated aboiteaux, which were maintained by the MMRA, protected more than 1311 hectares (3240 acres) of agricultural land (Percy, 2008). The MMRA helped to partially fund the causeway construction because the causeway would prevent the need to maintain and repair the long stretch of dykes. Once the causeway was constructed, there was no longer a need for the dykes and aboiteaux, so some were removed or fell into disrepair (van Proosdij, 2009).

In addition to protecting dykelands, the causeway also prevents parts of downtown Windsor from periodic flooding (Percy, 2008; van Proosdij, 2009). Flooding is still possible, however, under storm conditions and/or at high tide, when the tide gate cannot adequately discharge water (van Proosdij, 2009). It is evident that the causeway plays a vital role in the protection of the local community's property, livelihood and economy.

Because of its function of protecting agricultural land, the causeway is now operated and maintained by the Nova Scotia Department of Agriculture. The province took over this responsibility from the MMRA between 1967 and 1970 (Nova Scotia Department of Agriculture, 2007). However, the responsibility over the causeway overlaps with NSTIR as the causeway is also an important highway and railway link. It is likely that these two departments would have to collaborate on any issue affecting the causeway.

Tide Gate Operation

The downstream flow of water of the Avon River, as well as the upstream tidal flow, is controlled by the tide gate located at the western end of the Windsor causeway. This is a vertical gate structure controlled automatically by computer, based on decisions made by an operator on a daily basis. These decisions are made based on the tide cycle, lake elevation and storm events. When the tide goes out and reaches the level of the lake, the gates are opened to allow for flow of water out of Lake Pisiquid. The exact amount the gates are opened, or how many gates are actually opened (one or two), is determined by the operator based on the level of the lake, as influenced by storm events, and the tide cycle. The lake has a set elevation, based on the time of year, and the operator attempts to keep this level as stable as possible by opening and closing the gates a certain amount. During large storm events, however, the level of the lake can rise by 2ft. per hour, creating a need to allow more fresh water out of Lake Pisiquid once the tide goes out (Ken Carroll, personal Communication, March 26 2010). See figure 3, a typical daily cycle of gate openings, tide cycles and lake elevations.

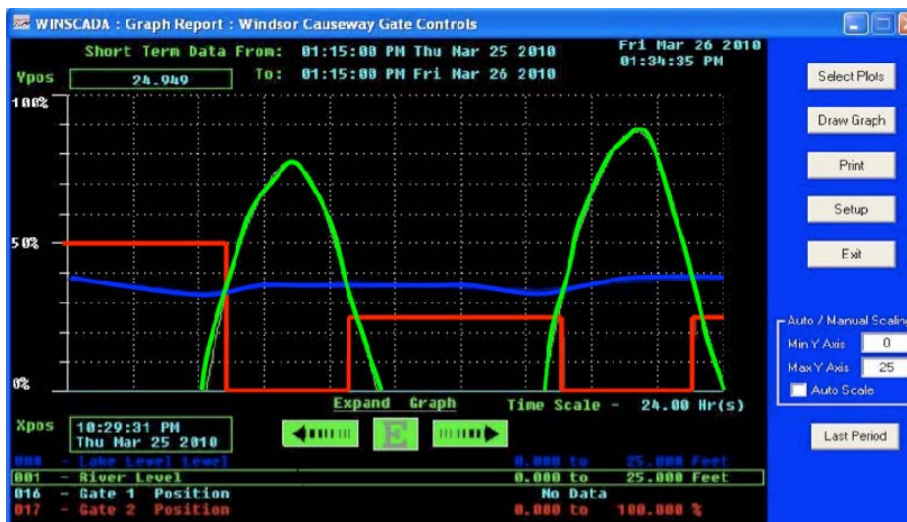


Figure 3. A typical daily cycle of gate openings, tide cycles and lake elevations. Source: Department of Agriculture, 2010

Environmental Impact Assessment

The Canadian Environmental Assessment Agency (CEAA) (2010) defines EIA as a process that “identifies possible environmental effects, proposes measures to mitigate adverse effects, and predicts whether there will be significant adverse environmental effects, even after the mitigation is implemented.” EIA is designed to promote better project planning by informing decision-makers of possible environmental consequences of alternative development options, and using the information gained to reduce or avoid adverse effects (Duinker and Baskerville, 1986; CEAA, 2010; Nova Scotia Environment, 2009). EIA in Canada requires the consideration of biophysical consequences; social impacts on lifestyle, health, culture, historical resources and economic; and how these effects could relate to each other and change over time (Hanna, 2005). This information is collected during field surveys, modeling, background research, and consultation with governmental departments, non-government organizations, aboriginal communities, the general public, and various other stakeholders.

Though not usually a requirement for road and highway expansions, an EIA is required for the expansion of the Windsor causeway because the causeway was constructed before March 17, 1995, which was when provincial legislation for the exclusion of road expansions was created (Nova Scotia Environment, 2009). An EIA is required to assess the ecological and social impacts that the expansion may cause. This is legislated under the Canadian Environmental Assessment Act and the Nova Scotia Environmental Assessment Regulations. Both the federal and provincial governments will be involved in the EIA process for this project because the project affects a provincial highway, as well as involves federal departments – Transport Canada and the Department of Fisheries and Oceans – and uses federal funding. Federal EIA triggers can be found in the Canadian Environmental Assessment Act, s. 5(1). Because both governments are involved, a harmonized EIA must take place, which means that the two governments will collaborate to ensure that the EIA satisfies both of their requirements (NSE, 2009).

COMMUNITY FACTORS INFLUENCING MULTIPLE TWINNING OPTIONS

Why is there a need to consider multiple twinning options for the Windsor causeway? Public opinion surrounding the conservation of the salt marsh, the restoration of fish habitat, and community identity with both Lake Pisiquid and the historic Avon River, has resulted in pressures to rethink the current expansion plan. As a result, this report will highlight three foreseeable options for twinning the Windsor causeway. NSTIR's current proposal is to widen the existing causeway by 14 m on the seaward side. Based on expert opinion, a second hypothetical option could be that the tide gate is continuously open in the spring and summer. A final option for consideration could be the partial or full removal of the causeway and the replacement with a bridge. Since these options are a result of public influence, it is important to analyze several perspectives, such as the ones held by various stakeholders related to this case.

Stakeholders

For any project there will be stakeholders, and the project of twinning the Windsor causeway is no exception. There are government departments, such as Nova Scotia Transportation and Infrastructure Renewal (NSTIR), Nova Scotia Department of Agriculture, Nova Scotia Department of Environment (NSE), Department of Fisheries and Oceans (DFO), and Canadian Environmental Assessment Agency (CEAA). Another stakeholder group are the general community members, which include the Mayor, recreationalists, business and home owners, and motorists. Any development that has an environmental impact will likely have associated concerned environmental organizations. In the case of twinning Windsor causeway these groups are Friends of the Avon River (FAR) and the Avon Peninsula Watershed Preservation Society (APWPS). Other interest groups include Ski Martock, Hantsport Chamber of Commerce, Pisiquid Canoe Club, researchers and academics (Table 2). This is not an exhaustive list, but throughout our research, this is the list of stakeholders we deemed to be affiliated with the issue. A handful of stakeholders will be highlighted in this section to show the varied interests of each group to gain an understanding of the different perspectives.

Table 2: List of involved stakeholder groups for the twinning of Windsor causeway

Stakeholders
Nova Scotia Department of Agriculture
Nova Scotia Department of Transportation and Infrastructure Renewal (NSTIR)
Department of Fisheries and Oceans (DFO)
Friends of Avon River (FAR)
Avon Peninsula Watershed Protection Society (APWPS)
Windsor Citizens
Recreationalists
Ski Martock
Motorists
Mayor Paul Beazley
Pisiquid Canoe Club
Canadian Environmental Assessment Agency (CEAA)
Hantsport Chamber of Commerce
Business and residential owners
Researchers and Academics

Governmental Stakeholders

There are many stakeholders, several of which will be highlighted for special interest. First and perhaps most obviously, are NSTIR, DFO and Department of Agriculture. As mentioned earlier, NSTIR is the proponent because the highway is within their jurisdiction. They are primarily responsible for creating the expansion plans and providing funding for the project. Although NSTIR is responsible for the highway, the road itself is located on a dyke, which falls under the jurisdiction of the Department of Agriculture. As the dyke crosses through the mouth of the Avon River, it interrupts the flow of the river, which is under the jurisdiction of DFO. The result is the involvement of three government departments from both federal and provincial levels that need to collaborate in order to make decisions on the project. This can create confusion and consume time when it comes to decision-making and project advancement.

Department of Agriculture

The Department of Agriculture is responsible for the upkeep of the dykes that protect farmland around Windsor (and is also responsible for maintaining dykes throughout the province). However, they

are not responsible for any dykes that protect the town from flooding. These dykes protect about 3240 acres of agricultural land from flooding (Daborn et al., 2003). However, over the last few decades since the causeway was constructed, the majority of the upstream dykes have fallen into disrepair because the causeway has acted as a form of flood protection. If there were to be any alteration of the causeway, great consideration would have to be given to the upkeep of the dykes up river. Although the Department of Agriculture does not have power over the decision to twin the highway, or how it should be twinned, they could be greatly affected. They would have to rebuild dykes along the river to prevent flooding of the currently protected agricultural land, and they would lose control over the operation of the tide gate.

Ski Martock

Another interest group of special notice is Ski Martock. It may not be directly obvious why they are involved, but it should be realized that they are important to consider. Ski Martock is located about 3km south of the town of Windsor and is a popular vacation destination for many Nova Scotians. Ski Martock opened in 1965 and since 1980 has been drawing water from the fresh water Avon River to make snow for the ski hill. The ability for a ski hill in the Maritimes to make snow is an integral aspect to the success of their business. Without snow there is no skiing, and without the fresh water in the Avon River, there is no snow. In this way, Ski Martock is dependent on the causeway and the tide gate, which controls the fresh water in the river and lake.

If the causeway was removed or free tidal flow was restored in any way, it would result in the lost ability for Ski Martock to make snow. This is because restoring free tidal flow would create brackish water where there is current fresh water in the river and lake. In addition, the water would be inconsistent and muddy. This means that the water could not be used to make snow. In an interview with the owner of Ski Martock, Jim Boylan-Martock stated that there is no other location that they can retrieve water from that is close enough to their operations. If the causeway was removed and replaced with a bridge, Ski Martock would be out of business. Ski Martock also employs about 200 people and host about 100 000 people in the winter, whom would be out of a job or vacation destination if free tidal flow was restored. In an interview with Jim Boylan-Martock, the owner of Ski Martock, it is in their best interest to keep the causeway there in any twinning plans (Jim Boylan-Martock, personal communication, April 15 2010).

Friends of the Avon River (FAR)

A third and important interest group is the active environmental organization called Friends of the Avon River (FAR). FAR is a small grassroots environmental organization based out of Windsor. Sonja Wood is the Chair of the group and has been actively involved with them since 2004. When FAR first formed, their focus was centered around a highway twinning issue. However, as a group they have educated themselves and realized they are more concerned about a fish issue. This is where a lot of the misconception has likely come from about what FAR wants. FAR's main concern is about fish, not the twinning of the highway. This does not mean they do not support the twinning project because that is not the case. They support the twinning of the causeway for improved safety, however, Wood is concerned with the lack of fish passage at the causeway and the now endangered Atlantic salmon and American eel. As a result, for any modifications to the causeway, FAR would like to see a comprehensive EIA of the watershed and would ideally like a twinning solution that includes a bridge or the allowance for free tidal flow to improve fish habitat.

As NSTIR seems to be turning away from the construction of a bridge, FAR still believes that free tidal flow of the Avon River by the construction of a bridge will be the end goal. If construction of a bridge is not the decision made now, FAR wants steps to be made towards restoring free tidal flow over the next ten to fifteen years, so "do [the EIA] right, right now" (based on the case of the Petitcodiac River causeway, which will be explained later in this report).

The Petitcodiac River causeway has set the precedent for causeway removal in the Maritimes and FAR would like to see the Avon River treated the same way. The Petitcodiac has been re-examined and corrected such that the tide gates are going to be opened full time in the spring and summer, and there are plans of a 280m bridge (AMEC, 2005). This would open the river to allow for fish passage and FAR wants to see the same thing happen for the Avon River. Wood thinks, "It should be fair! We expect nothing less" than the Avon River to be treated the same as the Petitcodiac River (Sonja Wood, personal communication, March 12 2010). They are using the Petitcodiac case to support their cause for the Avon River. As a small group they are working within their means trying to raise awareness by protesting and publicizing their concerns.

Effective Environmental Activism

The UN Climate Change Conference in Copenhagen December 2009 provides an example of largely ineffective international environmental activism. Despite a crowd of protesters estimated at 100 000 strong, the agreement reached on reducing greenhouse gas emissions set targets much lower than demanded (van der Zee & McKie, 2009; Vidal, Stratton, & Goldenberg, 2009). On a more local scale, the Ecology Action Centre, an environmental activism group located in Halifax, expressed concerns about biomass playing a central role in developing a renewable energy strategy for Nova Scotia (Benjamin, 2010). It is apparent activist groups play an integral and ubiquitous role in environmental issues of various scales, worldwide. Despite their prevalence, questions are routinely raised about their effectiveness.

The world of academia provides suggestions for environmental groups interested in becoming more effective at affecting change. 1) *Know your issue* – Environmental activist groups need to have a strong grasp of accurate scientific facts that support their position (Chawla, 1999). 2) *See the bigger picture* – To be effective at enacting change activists must understand both who the key players are, and how their decisions affect the economic or political situation surrounding a particular issue (Chawla, 1999). 3) *Understand both sides* – Clearly an activist group will have a defined set of interests and beliefs surrounding an issue. However by approaching a topic with a “balanced bias” it sets the stage for a more open dialogue between opposing parties (Chawla, 1999). The Sea Shepherd marine conservation group presents a case of effective activism in its opposition to Japanese whaling (McCurry, 2010). After a high profile confrontation between groups, resulting in the sinking of one of their boats, Sea Shepherd was successful in preventing Japanese whaling vessels from catching their whale quota for 2010 (McCurry, 2010). While their use of hostile tactics, hurling bombs made of rancid-butter at whaling ships, is in direct opposition to the nature of the suggestions set forth by academia, the groups has been effective. This leaves questions as to if there is a one size fits all method to achieve effectiveness, whether the ends justify the means, and in regards to environmental activism, what does effective mean?

In a second interview with Sonja Wood several issues were clarified, mainly what free tidal flow would mean, and how FAR wanted this to happen. Wood described free tidal flow as, “when the salt water and the fresh water mix, like in the natural flow” at the mouth of a tidal river (Sonja Wood, personal communication, April 15 2010). There are several ways that this could happen at the Avon River. Wood said FAR is aware of the current expansion proposal that allows for a small bridge to be put in over the channel. Our research presented us with another possible option of ensuring ‘free tidal flow’. During the interview this question was asked:

“If NSTIR were to continue with the causeway expansion proposal as planned, but to accommodate your request of ‘free tidal flow’ by opening the two tide gates full time in the spring, summer and fall, would that be sufficient to meet your requests?”

Wood's response to this question was: "Well that would make us happy ... and it would be a good start" (Sonja Wood, personal communication, April 15 2010). So restoring free tidal flow by simply opening the tide gates could potentially be a winning option.

Windsor Community

Perhaps one of the most important interest groups would be the Windsor community members. There were specific people targeted for interviews such as the Mayor, Sonja Wood, members from the specific government departments, and Ski Martock. Likewise, we thought it would be important to obtain local opinion and perception of the situation so in addition to the other stakeholders we interviewed a dozen Windsor citizens. These interviews are not all encompassing by any means, but the sample of opinions gathered does demonstrate different perspectives regarding our project. These citizens were selected randomly in the phone book as to avoid any bias.

The results of the community sample were interesting, and it can be noted from the sample that the majority do not really understand, nor are aware of the different expansion options. Most however, do know that highway 101 is being twinned for safety, but they are generally uncertain as to how it will be changed. Also from the sample of community opinion, when asked the question "what option (removal, free tidal flow, or expansion) would you like to see happen to the Windsor causeway", the responses were relatively evenly mixed. One woman said, "I just don't see how they are ever going to expand it to accommodate 6 lanes. There's just no way! If they did it on one side, they would remove the tracks and part of the lake... and good luck with the mudflats on the other side!" Some commented that it is such a big decision that NSTIR should just "leave it alone", while others were passionate about removing it by saying "get rid of the damn thing!"

At the same time there were responses such as "I guess expansion would be the best option." These responses demonstrate that for the most part, there is a great uncertainty of the real implications of any of the options. As well, the variability in responses demonstrates that some Windsor citizens do not have a strong opinion about what should be done, and others who care do not have any power.

Although this paper will not go into detail about all of the different stakeholders, it is necessary to highlight several key players in the Windsor causeway expansion project. Each of the different interest groups, from government to grassroots, have an important role in the decision making process. Even though not all groups have equal power and weight per se, appropriate social and political actions

can be done to address the imbalance. As mentioned earlier, if a community wide survey was distributed to allow the citizens to voice their opinions, then it would result in a better representation of what the community wants. In addition, it is important to have a series of community engagement and information sessions before and after the survey, where all interest groups are present. This would increase transparency and create a better understanding so that citizens can make more informed judgments, and the government can make more representative decisions. Ultimately, this would serve to manage any possible conflicts and confusion among interest groups.

Place Identity

For an individual, household, or community the simple act of being present in a location has the ability to create emotional attachments to that space (Larsen, 2004). These emotional connections account for the ability of an identical location to be experienced, understood, and valued differently by different individuals (Larsen, 2004). Such variation may be attributed to differing senses of *place* (Larsen, 2004). One interpretation explains sense of place as understanding a location not only through its physical setting, but also through the interactions between people and the natural environment that occur there (Cresswell, 2004). In this way Windsor, Nova Scotia is characterized by more than its causeway, the mudflats or Lake Pisiquid. The sum of these parts would not account for the local traditions, milestones or beliefs that make up Windsor's unique identity. As thoroughly detailed in the previous section, the installation of the Windsor causeway had many tangible effects on the landscape. Perhaps less tangible but no less striking are the variations in sense of place, pre and post causeway. From the dozen or so people interviewed, most had moved into the Windsor area after the causeway was built. This means that their experience of the area is with the causeway, rather than the free flowing tidal river. What they associate with Windsor is the causeway, not the river. These conflicting views are illustrated in the following excerpts from a random sampling of community members and causeway users, commenting on the pre-causeway Avon River or the causeway created Lake Pisiquid and mudflats.

Lake Pisiquid

For Fred Davis, a Windsor resident, Lake Pisiquid is representative of an annual family tradition, "The water there? Yeah when my grandsons visit, we walk the trails and go down to the little park there." Another resident, Ruth Fader, comments on the importance of the lake for the pumpkin regatta, "I don't swim there. I do see some boats there often, canoes and small boats. Of course in October,

when we do the pumpkin fest, you see pumpkins floating around in there.” The importance of the lake for recreation is highlighted by Sally* who states, “My kids have all been involved in the paddling there... and my husband and I canoe. You can start on the lake and go down...almost to Martock. It’s beautiful, so still, it’s lovely. There’s a place in Falmouth you can drive and put your canoe in.” For these three community members Lake Pisiqid is an integral part of their sense of place.

Avon River Pre-Causeway

Contrastingly, some residents associate Windsor with the river as it existed pre-causeway. George* recalls the ecosystem before,

“Well there was a straight flow-through, from the Minas Basin to upper Falmouth. There were tributaries into smaller rivers in upper Falmouth area. Years ago there was lots of boating at the Windsor wharf. They’d ship out, they’d fill the ships and send them out. It was quite an active port in fishing and exporting years ago.”

Susan* also remembers the ship traffic on the Avon River, “Well it was a large river at high tide, with mudflats. And when it was full, it was beautiful. When I first saw it, it had lots of ships in it. Over a hundred ships in the winter.”

Mudflats

Of the participant sample interviewed there were mixed opinions on the mudflats. Windsor resident Susan* remarked on the salt marsh development, “...the mudflats are growing into grass, soon they’ll be into trees if they keep up.” Francis* simply said, “I like [the mudflats],” and went on to mention bird watching in the area. Some less positive sentiments were vocalized by George*, “They’re filling in, taking the river bank farther down the river and eroding the farmland farther down river. That’s how I feel.” One resident, Fred Davis, who has lived in Windsor for 6 years, doesn’t want to lose the marshland and thinks which ever option does the least environmental damage would be the best option as it is “kind of a tricky area” (Fred Davis, personal communication, March 30, 2010). The mudflats while not universally liked by the sample group, seemed to be a part of their understanding of Windsor.

While by no means representative of the Windsor community in its entirety, the above statements provide snapshots into Windsor as a place. Consider Lake Pisiqid as an example. It would not be fully understood without recognizing its importance as a destination for recreational hikers, paddlers or the annual pumpkin regatta. Lake Pisiqid holds unique cultural value for some of the

* Pseudonym

participants interviewed. This cultural value is not diminished by the fact that it is not a naturally occurring lake, and only in existence as a direct result of the causeway's installation (Daborn et al., 2003b).

Social Constructionism and Landscape

Similarly the relationship between individuals and the natural environment can often be described in terms of *landscapes* (Greider & Garkovich, 1994). A landscape refers to an individual's (or community's) symbolic representation of an environmental reality, which is informed by their unique values and beliefs (Greider & Garkovich, 1994). As a result, landscapes are typically reflections of the culture and identity of their creators (Greider & Garkovich, 1994). This relationship implies any changes to the natural environment aspect of a landscape trigger an accompanying re-examination of self-identity in the landscape holder (Greider & Garkovich, 1994). In the forty years since the causeway's construction changing environmental conditions may have contributed to the perturbation of the landscapes held by Windsor residents. The following excerpts, again from a non-representative, random sampling of individuals, are comments on observed environmental changes as a result of the causeway.

One Windsor Resident, Arlene comments on the changes in the area, "Filling in a lot on Avon River side, mud, silt, don't know how tides can come in and go out. That's been, you really notice that over the years, notice it more and more just about every year. Oh I suppose it would have to do with the causeway." Fred Davis states, "[There's] a lot more mud." Sally* has also observed environmental changes, "It's filled with silt, which everyone can't help but notice." Other residents, such as Ruth Fader, have not noticed any environmental impacts since the causeway's construction, "... I don't use the causeway all that much... But no, I would say I haven't noticed it all that much." Another Windsor resident says, "I didn't pay attention, to tell you the truth." Even in the small number of participants interviewed there were broadly varying opinions on environmental changes and the causeway.

Opinions on Twinning Options

Once the two potential twinning scenarios were presented to participants, while some remained uncertain, the majority of residents in the sample expressed an opinion on which scenario they would prefer. Susan* a Windsor resident felt a bridge would be an ideal option, "Well they've got to do something haven't they, because it's a bottleneck. But I'm not an engineer. I don't know what they

* Pseudonym

could do. They could have a bridge, easily they could have bridged that.” Another pro-bridge opinion was expressed by George*, who states, “Well personally I think the bridge going across it and eliminating the causeway altogether. If they build it wider then it’s going to be further damage down river.” There were also several preferences for widening the existing causeway. John*, a farmer in the area thought,

“Well from a monetary view they should expand it. The running dykes that used to protect the riverbanks from flooding have all been let go, they’d have to be replaced and it wouldn’t be cheap. Also building a bridge vs. expanding/filling would probably cost more money. The numbers are astounding if you compare the alternatives. Plus with the channel you have to be 100-200 feet back of the edge of the channel now. If they put those in along the river, well right now I farm right to the edge, I’d be losing 100-200 feet along the about 1.5km of waterfront. For me it probably wouldn’t be profitable/economical to re-dyke for the smaller parts of my land. So I think it would be better to double it.”

David Oulton, another Windsor resident, also expressed pro-widening sentiments,

“Widening is the most economical. It would cost many millions to take it out. Like at the Petitiocodiac, I think most people will be disappointed. I don’t think people will have the river they remember. If they took it out they’d have to re-dyke downriver because of the change in the channel and current. Widening is most practical.”

Interestingly, even in the small sample interviewed there was considerable variation in the individual preferences for a twinned bridge versus an expanded causeway.

Some of the participants interviewed felt there was not enough information to proceed with a decision either way, and that the causeway twinning project should effectively be abandoned. Ruth Fader felt this lack of information regarding the surrounding ecosystems, “I wouldn’t be able to offer you a good opinion on that without having some understanding of what it would do to the river or pond or how it would affect people. I can’t imagine a 6 lane bridge. That seems out of proportion to me. Without looking into that I couldn’t give you a solid answer.” Arlene is another citizen who voiced concerns about the impacts of twinning,

“Like I said it’s such a big debate. They should just leave it alone. I know they want to finish twinning it, but where there’s such a debate and such an impact on everything, not just waterways but everything that’s there now. I don’t see how they could ever do it to

* Pseudonym

accommodate what they want to do. Like I said they just should leave it the way it is. I know they don't want it like that."

One of the other participants interviewed, a resident of Kentville, suggested a compromise for the twinning project, "I might propose they put a partial causeway and a bridge. Put a partial bridge in the channel/flow that goes through there now. It would be a compromise, wouldn't it?" These opinions again suggested the participant group felt under-informed considering the causeway twinning project.

A unique dichotomy exists in that public pressures are the driving force for considering alternatives to widening the existing causeway; however the consensus from the small sample group indicated a majority of these participants were either unaware of the details of the twinning project or misinformed. While outside the feasibility of this case study, further public interviews need to be conducted to gain a representative sample of opinions of Windsor residents. Since the number of participants interviewed was not large enough to be representative of the population of Windsor, further investigation could help understand whether the public pressure to consider alternatives is limited to Friends of the Avon River or if these opinions are widely held town-wide.

The Role of Media

The issue of what to do about the Windsor causeway in terms of its twinning has confused and concerned many people, especially residents of the area, for many years now as illustrated in the previous sections. The media has been of little help to abate these feelings and interpretations. The issue of expanding Highway 101 at the Windsor causeway has been in the newspapers for years. However, it is hard to say whether the role media has played has been hindering or supportive to public perception and opinion of construction plans of the causeway. Throughout the years, media has lacked consistency in the messages it has portrayed to the citizens of Windsor around the decisions to alter the causeway for highway twinning.

The most influential medium for delivering information pertaining to the Windsor causeway would be via the local newspapers. Some of the most significant newspapers would be *The Hants Journal*, *The Wolfville Watch* and *The Advertiser*. Each of these community newspapers has presented articles about highway twinning at the causeway on several different occasions, highlighting various aspects and issues. For example, in 2007 the announcement was made that the Petitcodiac River in New Brunswick would be reclaimed by the river with the replacement of a bridge for the causeway. "New Brunswick has acknowledged problems posed as a result of a causeway there and have announced they

will build a bridge, remove the causeway at the place in question and free the river over the next 15 years" (The Wolfville Watch, 2008). This is a similar case to the Avon River and precisely what Friends of Avon River (FAR) are proposing for reclamation at the Windsor causeway. This could increase public awareness of the situation and arouse support for environmental groups, like FAR. However, it could also stir up conflict because FAR wants the same thing to happen to the Avon River, which to many, seems unrealistic.

Inconsistencies

Another example where media has had inconsistent representation of information is about what NSTIR has planned for the causeway twinning. There have been conflicting stories between 2007 and 2009 with regards to the plan of action for the causeway. For instance, in a 2007 article from *The Hants Journal*, entitled "Bridge to Span the Avon River?", NSTIR engineer, Phil Corkum, states that "DOT plans to install a barrier to divide the lanes on the causeway, but the big picture includes building a freestanding concrete bridge instead of adding more rock to the existing causeway." In this way, they are clearly stating that there will be a bridge the whole length of the causeway "from bank to bank". The article explained the bridge structure plans in greater detail and stated that "he wasn't certain how long the Environmental Impact Assessment will take, but we'll be moving ahead with (bridge) construction inside two to three years".

However, three years later, according to this article, there should be the construction of a bridge over the Avon River. This is clearly not the case, and in fact, NSTIR has changed the twinning plans from a bridge to the infilling of the mudflats on the seaward side to allow for widening the causeway to 6 lanes with a jersey barrier. One article from *The Hants Journal* describes the new plan as a "reconfiguration of interchanges, improved horizontal curve and a minimized highway footprint" (Armstrong, March 8 2009). In the same article, Senior Highway Planner, Dwayne Cross from NSTIR says the "causeway is here to stay". Their reasoning for the change in plans is because a bridge would cost millions more and delay construction even longer. As well, he mentioned that "widening the causeway would have no negative impacts on the environment. It's not going to change the flow pattern from what it has been over the past 30 years. We've conducted extensive environmental evaluation because that is a valuable salt marsh" (Armstrong, March 8 2009). From these two articles readers understand two completely different plans for the causeway. This is an example of the persuasive power of the

media and its ability to sway what the public hears and understands about the project, while also creating confusion.

Representation

Other examples of the role of media are how it portrays grassroots environmental groups such as FAR to the public. According to an article in *The Hants Journal* in 2008, FAR is best known for “raising awareness of the potential hazards they contend the Windsor causeway has placed on the Avon River” (Armstrong, May 25 2008). Wood, would like to see a bridge over the Avon River in order to gradually restore the River to its natural state. FAR has been lobbying for five years for the causeway to be opened to allow for free tidal flow of the river, and “to restore some of the fish habitat destroyed by the silting at the river’s mouth” (“The River and the New Fisheries Bill”, March 5 2007). According to Nadine Armstrong of the Hants Journal in 2008, they (FAR and other groups) “are calling for an ‘emergency’ comprehensive environmental assessment on the complete Avon River Watershed in order to protect the endangered Atlantic salmon, American eel and their critical habitat” (Armstrong, May 25 2008). FAR stands their ground that they are concerned with the fish passage at the river’s mouth, and not the twinning of the highway.

Interviews with FAR and newspaper articles reveal two other primary concerns in addition to free tidal flow, which include the desire for “a comprehensive environmental study on the Avon River Causeway”, whether a bridge is built or not, as well as the lack of community engagement around the decision making processes (Sonja Wood, personal communication, March 12 2010). FAR are portrayed as passionate and underrepresented, but also, perhaps misinformed. They are constantly appearing in the newspapers, on Facebook, and being active in the community to try and gain more support for their cause. FAR base their actions on the fact that “the Avon River causeway has altered the entire ecosystem of the upper river, resulting in decline and loss of critical fish habitats and rapid shoreline erosion and siltation along the Avon River Estuary” (Armstrong, January 19 2009). This is not entirely true as there were pre-causeway fluctuations in the fish populations as a result of other barriers on the river, as well as previous siltation in the area. Ideally, Wood would like to have more research conducted by CEAA. However, Council and Windsor CAO Louis Coutinho, said he was not convinced,

“that the causeway is fully to blame for the current situation. Your literature suggests it’s all due to the causeway. But prior to its construction in 1970, fish stocks were already at very low levels.

It is clear to us that there are other implications that have played a role in this.” (Armstrong, January 19 2009)

Perhaps this is the reason NSTIR has changed their plan for twinning and are now going with causeway expansion rather than a bridge. Currently, the plan is to widen the causeway by about 14 metres and infilling part of the mudflat and salt marsh on the seaward side.

In an interview with Sonja Wood, she mentioned that when she joined the group in 2004, their focus was on the issue of twinning the causeway. However, she stated that after they educated themselves on the issues, they realized that it was not a highway twinning problem, but rather a fish problem. “I’m not against the twinning of the highway. I am a huge advocate of it as I am a victim of an accident on it. I think the safety needs to be improved; for us, it’s a fish issue” (Sonja Wood, personal communication, April 15 2010).

Bias

There is always a bias in media, whether it is intended or not. And often the tone or sensationalism of the article can portray a different message. For example, we can tell that Sonja Wood is passionate in her role because her messages clearly have a tone of urgency. This tone can affect the way readers react to the message. In addition, word choice by the author in a newspaper can have a great affect on the readers’ opinion because they can downplay the role of FAR in the big picture. This can then affect how FAR is perceived by the public and thus have a negative effect on their support. It is important to consider who wrote the article, and who the article was written for. Anything written by FAR is going to have a bias on the side of removal of the causeway because that is what FAR is working for. On the other hand, any articles from NSTIR will feature the benefits of highway expansion, because that is what they want.

Citizen Awareness

Moreover, after conducting a dozen interviews the consensus from the sample was the group did not hear much about what is going on with regards to causeway twinning. There is minimal coverage on the television news, in the newspaper, or magazines and public consultations are virtually non-existent. There was a range of knowledge and interest of the issue. Some people interviewed knew very little of the details and of the causeway itself, and others were very knowledgeable and passionate about what should be done about it. One Windsor citizen, Arlene, who has lived in the area for 30 years

said, “Well I don’t see how they’re ever going to expand it to accommodate 6 lanes. There’s just no way. If they did it on one side they would remove the tracks and part of the lake” (Arlene, personal communication, March 30 2010). She was aware of the plans to twin the highway to improve safety, but she was unaware of the plans to do the twinning. She continued by saying,

“...it’s such a big debate. They should just leave it alone. I know they want to finish twinning it but where there’s such a debate and such an impact on everything, not just waterways but everything that’s there now. I don’t see how they could ever do it to accommodate what they want to do” (Arlene, personal communication, April 8 2010).

There are other residents who were very concerned but still under-informed, such as Mrs. Ruth Fader, a resident of 10 years and an avid volunteer in the community. When asked her opinion about the mudflats, she responded,

“I really don’t have an understanding of that. I know there’s a big environmental uproar about it. Lots of people don’t want the 101 going through because it’s going to disrupt that. I read about it in the Hants Journal, heard about it at Tim Hortons. People are talking about it. I don’t know how to answer in a concrete way if they are good or bad” (Ruth Fader, personal communication, April 8 2010).

In addition, when asked if she thought it was important to have her voice heard, as a community member, she had a strong opinion saying that of course it is important, and that if anything is going to affect the town she lives in and the environment around her then community consultation should absolutely be done. She thinks there should be group meetings and focus groups, but most importantly, there should be more coverage in the newspaper, because “that’s what they read” (Ruth Fader, personal communication, April 8 2010). This is true and there has been little newspaper coverage since the decision to twin the causeway was made.

On the other hand, we interviewed a man from Kentville who seemed well informed of the situation, and opinionated as to what should be done and how people think. When asked if he thought the causeway should be widened, he responded by saying,

“It wouldn’t have much effect over what’s there now, wouldn’t change the amount of silting. Any reasonable person would say expansion would have no influence at all. It’ll be cheaper but it doesn’t address the problem of whether that should be in at all and it shouldn’t be. There should

be a route around the town that goes through Falmouth. Any road that goes in now there's going to be a problem. You still have a reduced speed zone in that whole area. There's no change in motorists' perceptions at all if it's expanded. It's still slow. So morally, ethically and environmentally it shouldn't be there at all" (citizen of Kentville, personal communication, April 7 2010).

Although he doesn't believe that the causeway should even be there, he understands what is easy and what the government wants to do. He also considers the environmental impacts of removing the causeway at the same time as thinking about the ecosystem that was previously there. He acknowledges that it is a tough decision, but added that it would be a good idea to compromise by removing part of the causeway and putting in a partial bridge (citizen of Kentville, personal communication, April 7 2010).

Most of the community members interviewed in the small sample felt their opinion was important but not being considered in the decision making process. As well, most were under-informed as to the details of the causeway twinning project. Furthermore, the majority of the citizens interviewed did not seem to have a strong opinion of the situation as a whole. Mrs. Ruth Fader believes that "the majority of Windsor has no understanding whatsoever or even knows that there's more than one option. I'm just talking about the average guy, but I can pretty well tell you they don't [know]" (Ruth Fader, personal communication, April 8 2010). This is likely a result of limited media coverage, especially in the newspapers. For the most part, people were indifferent as to what should be done, and generally unaware of the details that were involved. About half of the respondents thought the causeway should be removed and replaced with a bridge, and the other half thought it should be expanded.

Technology

There are other forms of media, which contribute to the spread of knowledge about the causeway expansion at Windsor. Technology can further spread information about an issue. FAR's website "Save the Avon River" on Facebook allows people from all over the world, who have access to the internet, to learn about the Avon River who might otherwise not have known. Websites such as Facebook, Twitter, blogs and online news articles have all played a role in increasing the awareness of an issue that arise from the twinning of the causeway at the Avon River.

Language

Moreover, there are scientific reports and data that can be found but the language and information can be limited to those who understand the scientific jargon. In addition, the Facebook

group and some newspaper articles can have certain sensationalism to them where the emotion that is transferred from the writer can be inferred. This has an intended consequence to persuade the reader to feel more or less towards one option over another. Scientific data and results can be limiting to its readership, and often do not reach the Windsor public, so they are dependent on the newspapers, which might not fully inform or represent reality.

Cycle of interest

Over the years, there has been coverage of the issue to expand the causeway, but there have been times of greater and lowered interest and awareness. This is called the cycle of interest, and for the Windsor causeway interest has gone up and down over the last four decades. It refers to the intensity of interest and concern from the public regarding a particular topic. In this case it is the local public interest towards the twinning of the Windsor causeway. Perhaps more obvious examples of cycle of interest are following an earthquake or hurricane, the (global) community is immediately concerned and focused on helping, preventing and preparing for the next event. After time the interest dies down, such as with the Haiti earthquake, or after the Boxing Day tsunami. What to do with the Windsor causeway is a smaller scale example of the cycle of interest. After talking to the Mayor of Windsor, he suggested that once the construction actually begins at the causeway, people will see it every day and it will become more of an issue of concern and interest in the eyes of the Windsor community members. Therefore, the media coverage surrounding it will increase, thus increasing public awareness and communication about the topic. This will be short lived, and after the highway expansion is completed, interest will dwindle once more.

Media obviously has a role in distributing and portraying information on any public issue. Like most forms of information, there is usually a bias, whether there are attempts to mitigate it or not. There is also unequal representation of different interest groups and stakeholders involved. There needs to be more information of the different proposed options in the newspapers so that citizens can have a better understanding of the big picture. As we noticed from our interviews, the consensus from the small sample showed that there was misunderstanding among the group as to what is planned and should happen to the causeway. Furthermore, the language used in reporting the options and findings is important to consider. Overall, media has a significant role in informing the public opinion and perception about twinning the Windsor causeway.

Interview Methods and Limitations

The interview related research was conducted to gain an understanding of historical views of the Avon River, how the community of Windsor perceives the current causeway, and hear resident's opinions on the causeway twinning project. Two interview techniques were designed. In the first scenario, interviews were used to elicit general public opinion from Windsor residents. The second type of interviews targeted "experts" either as they were identified in the community of Windsor, or within academic literature.

For the public opinion sample approximately a dozen semi-structured, open-ended interviews were conducted, where participants were selected using a random sampling method. Individuals were randomly selected from a Windsor phonebook, and interviewed via telephone after informed consent was obtained. Participants had the option of using a pseudonym to ensure confidentiality and were offered a copy of the final report. Interview responses were then transcribed.

To conduct the interviews with community experts small-scale, snowball sampling was used, where after an interview the participant, e.g. the mayor, was asked who else they thought should be interviewed. Interviews with government officials and academic experts were arranged via email or telephone. Again for both types of expert interviews described above, informed consent was obtained and interview responses were transcribed.

The largest limitation in the public opinion interviews was the limited number of participants meant any results gathered were not statistically significant or representative of views held by all of Windsor. Additionally since there were only 12 community member interviews conducted any patterns in the results could merely be a result of chance and hold no indication of views held by the community of Windsor in its entirety. However acknowledging the time and scope constraints of the case study, it would have been very difficult to interview a statistically significant number of community members.

Ideally the randomly selected sample of Windsor residents would have included as broad a selection of participants as possible (e.g. homeowners, business owners, commuters, boaters, paddlers, farmers, anglers, birdwatchers, etc.). Again since only 12 community member interviews were conducted not all of these viewpoints were captured in the sample of participants.

A final limitation is the method in which the public opinion telephone interviews were conducted. Since the interviews were semi-structured and open-ended, each interview was not identical

and could not be reproduced in its entirety by following the sample interview guide. Also since participant responses were being transcribed by hand as the interview was being conducted, it is possible responses were not transcribed word for word.

FUTURE TWINNING OPTIONS

Three foreseeable options for twinning the causeway have been identified and are discussed in detail in this report. These options have been formulated as a result of discussions with various stakeholders. The first option to expand the existing causeway on its seaward side is the current design proposed by NSTIR. In conversation with FAR it was determined that their primary goal on the Avon River would be to restore free tidal flow and to allow for successful upstream passage of diadromous fish. According to Dr. van Proosdij's interpretation of this term, free tidal flow could be accomplished by removing the tide gate and replacing it with a bridge which is the second option considered. FAR's interpretation of free tidal flow would consist of the removal of a large portion of the causeway which would be replaced with a 6 lane bridge which is considered as the final option

EXPANSION

As previously introduced, Highway 101 is being twinned in the interest of highway safety. The total cost of twinning the entire 9 km stretch remaining is expected to be approximately \$100 million (Bob Pett, personal communication, March 24 2010). Current designs for twinning the Windsor causeway involve leaving the existing causeway intact and simply widening it from two to six lanes (Bob Pett, personal communication, March 24 2010). Nova Scotia's Department of Transportation and Infrastructure Renewal's (NSTIR) proposed expansion design widens the causeway by approximately 14 metres on its seaward side to accommodate the extra lanes (Bob Pett, personal communication, March 24 2010). The expansion design would also include a clear span bridge over the existing tide gate channel approximately 100 m long (Bob Pett, personal communication, March 24 2010). The expected cost of the bridge is \$20 million, but this estimate will not be confirmed until the design is finalized (Bob Pett, personal communication, March 24 2010). Additionally the design will decrease the curvature on the causeway's western side (Daborn, van Proosdij, & Brylinksky, 2003b). This will address the current need for drivers to slow to 90 km per hour to negotiate the curve, when a provincial highway should allow for travel at 110 km per hour (Bob Pett, personal communication, March 24 2010).

Terrestrial Ecosystem

Biophysical

For the purposes of this discussion the term terrestrial ecosystem will be used to refer to the salt marsh and mudflat system on the seaward side of the causeway. These salt marshes and mudflats on the seaward side of the causeway will likely suffer some of the most immediate effects as a result of

construction (Daborn et al., 2003b). Estimates for total salt marsh and mudflat area destroyed are 24 284 m² and 13 852 m², respectively (Daborn et al., 2003b). These figures suggest approximately 6% of the existing salt marsh and 4% of the existing mudflats will likely be buried as a direct impact of construction (Table 3) (Daborn et al., 2003b). Consequently 5% of the total ecosystem, including all of the salt marsh and mudflat area, would be destroyed due to construction (Daborn et al., 2003b). While all of the above figures refer to *direct* effects of construction, the *indirect* effects will potentially impact a much larger area of the ecosystem (Daborn et al., 2003b). Indirect effects would be similar to those listed previously in reference to Lake Pisiquid and include increased construction noise, vibrations, sediment deposition, and pollutants. The study conducted on the indirect effects associated with causeway expansion at Windsor examined indirect effects with a 30 m and 50 m buffer (Daborn et al., 2003b). A 30 m buffer resulted in 9% of the total salt marsh and mudflat area that would be indirectly affected by construction, while a 50 m buffer had 11% of the total area indirectly impacted (Table 3) (Daborn et al., 2003b). In summary, if the causeway is expanded 5% of the salt marsh and mudflat area will be destroyed directly as a result of construction, while approximately an additional 9-11% of the area will be impacted by indirect effects (Daborn et al., 2003b). Losing part of the ecosystem will likely also have a social impact, as some individuals use the area for bird watching or recreational exploration of the mudflats (Francis, personal communication, April 2010).

Table 3. Estimates of salt marsh and mudflat ecosystem area affected by proposed Windsor causeway expansion. (Source Daborn et al., 2003)

Existing Habitat within Study Area		Area (m ²)		Area (acres)	
Saltmarsh Vegetation		397,515		98	
Mudflat		327,717		81	
Total Intertidal Habitat		725,232		179	
Analysis of Habitat Impacts from Construction Process					
Habitat	Direct (m ²)	30 m buffer (m ²)	50 m buffer (m ²)	Total (with 30 m buffer)	Total (with 50 m buffer)
Vegetation	24,284	8,057	19,148	32,342	43,432
Mudflat	13,852	15,973	20,860	29,826	34,712
TOTAL (in m ²)	38,136	24,031	40,008	62,167	78,144
TOTAL (in acres)	9	6	10	15	19
% of existing vegetation.	6	2	5	8	11
% of existing mud	4	5	6	9	11
% of total intertidal	5	3	6	9	11

To determine possible construction effects on fish and bird populations the mudflat and salt marsh ecosystems were examined (Daborn et al., 2003b). Unexpectedly the salt marsh that has developed along the causeway has a very low abundance of benthic organisms, indicating it would likely not be productive foraging habitat for fish (Daborn et al., 2003b). Due to the presence of *Spartina alterniflora* and its seeds however, the salt marshes may be a feeding ground for waterfowl (Daborn et al., 2003b). Expanding the causeway on the seaward side would destroy salt marsh, the quantitative area approximations of which will be discussed subsequently (Daborn et al., 2003b). Waterfowl populations would lose part of their best foraging area, since the *Spartina* is most dense in the areas directly adjacent to the causeway, where it is most mature (Daborn et al., 2003b). While expansion would destroy some of this foraging area it is important to remember that salt marsh is continually being created as *Spartina* rapidly colonizes downstream mudflats (van Proosdij & Townsend, 2004). Because new foraging habitat is being created at an exponential rate, the loss of salt marsh caused by an expansion project would likely not be considered a significant impact on waterfowl.

The mudflats were found to support a large number of benthic organisms, most notably the mud shrimp *Corophium volutator* and the sandworm *Nereis diversicolor* (Daborn et al., 2003b). The mud shrimp is a particularly important species for the Bay of Fundy ecosystem since it is the major food source for most migratory shorebirds and fish species (Daborn et al., 2003b). With regards to foraging habitat, evidence suggests that the mudflat ecosystem primarily located downstream of the salt marsh at the causeway, is important for shorebird and fish species (Daborn et al., 2003b). Destruction of this foraging habitat is expected to be minimal as a result of the construction for the expansion project (Daborn et al., 2003b). Furthermore additional studies suggest the major feeding areas for shorebirds in the Bay of Fundy are actually located off of the St. Croix Estuary, not the Avon River (Daborn et al., 2003b).

Legal

An additional challenge to expanding the causeway is a potential legal implication under the *Agricultural Marshlands Conservation Act*. The salt marsh on the downstream side of the causeway would certainly qualify as a “marshland” under the *Agricultural Marshlands Conservation Act*, as it is “subject to periodic tidal flooding” (S. 2 [d] [i]). As a result of this, the expansion project may be subject to permitting issued by the Minister under S. 41 (1) (a), which requires a permit for variance authorizing

development on a marshland. That said, under S. 41 (2), the Minister also has the power to exempt the development from the permitting process if the development is viewed to be in the public interest.

The expansion project would face another legal challenge because of likely wetland destruction. In 2007, Nova Scotia implemented the *Environmental Goals and Sustainable Prosperity Act* (EGSPA) which is a series of 21 goals to be accomplished by 2020. “The long-term environmental and economic objectives of the Province is to fully integrate environmental sustainability and economic prosperity” for the province of Nova Scotia (EGSPA, s. 4 (1), 2007). One of the long term goals in s. 4 (2)(n) stated there needs to be a policy to conserve and protect Nova Scotia’s wetlands by the end of 2009. As a result, wetlands specialist, John Brazner from the Nova Scotia Department of Environment, drafted the Nova Scotia Wetlands Conservation Policy (NSWCP). After rigorous community consultation and revision, the policy will be in effect this year.

The most important aspect of the new wetlands conservation policy is s. 2(e) the “No Net Loss” of wetland function, habitat or area. In addition, all ‘ecologically significant’ wetlands (i.e. salt marshes) will be protected (NSWCP, 2009). This requires that any wetlands that fall under specific parameters be compensated. Moreover, according to the NSWCP, any wetland developed as a result of a construction project prior to 1990 is included in the compensation policy. Because the causeway was built in 1970 and the salt marsh formed as a result of the construction, these wetlands need to be compensated for in accordance to the NSWCP. During the widening of the causeway, a 14m section of the adjacent salt marsh will be filled in along the causeway. According to the new wetlands compensation Policy for NS, the causeway and salt marshes do not fall under any exceptions. The causeway was built before 1970 and the salt marsh is a result of construction, therefore it is not exempt from compensation according to the new wetlands conservation policy.

The new ‘no-net-loss’ of wetlands policy will apply, and the proponents will be responsible for compensating any loss to wetlands that may be incurred. NSTIR’s plan to incorporate this must be demonstrated in the EIA before approval will be granted. NSTIR does plan to compensate for the entire amount of salt marshes affected during construction, which includes the 14m buffer along the seaward side of the causeway. NSTIR has planned a 1:1 compensation ratio, if not more. The location and details of compensation have not yet been confirmed. Details will be in the EIA which as previously mentioned is still in negotiation, and scheduled to be finalized and released this spring.

Social

Another significant benefit to expanding the existing causeway stems from the causeway's role as a flood barrier (van Proosdij, 2009). If the existing causeway remains in place and is simply widened it will continue to act as a flood barrier, protecting both the town of Windsor and agricultural dykelands (van Proosdij, 2009).

Aquatic Ecosystem

Biophysical

Associated with the expansion method of twinning the causeway are some definite benefits. The largest of which is that expanding the causeway will resolve the issue of highway safety most quickly and with the least effects on the surrounding natural environment (Daborn et al., 2003b). Since causeway expansion would occur on the seaward side there would be very limited impacts on the Lake Pisiquid ecosystem (Daborn et al., 2003b). Effects such as increased sedimentation deposited in the lake, greater probability of localized spills of construction related substances, and increased levels of noise and vibration are some of the possible direct effects of widening the causeway on Lake Pisiquid (Daborn et al., 2003b). Specifically in the case of sedimentation, it is unlikely that unintended sediments deposited into the lake over the course of construction would be in large enough quantities to affect the depth of Lake Pisiquid (Daborn et al., 2003b).

Legal

The terms aquatic ecosystem will be used in this discussion to describe the fish populations in the lower Avon River. As described previously, the Avon River Estuary is home to many fish species. The two that are most significant to a potential causeway expansion plan are the American eel and Atlantic salmon. It should be noted that American eel are currently identified as a species of special concern by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), while Atlantic salmon have been identified as endangered (Government of Canada, 2009a; Government of Canada, 2009b). Legislation is in place, *Species at Risk Act*, which prohibits the destruction of any critical habitat of an endangered or threatened species.⁴ However given the fact that Atlantic salmon populations have historically fluctuated, and that the species has not been reported in the Avon River Estuary since the 1980s, it is unlikely any expansion directly adjacent to the causeway will destruct *critical* salmon habitat (Isaacman, 2005).

⁴ *Species at Risk Act*, S.C. 2002, c. 29, s. 58

Impacts on fish habitat as a result of causeway expansion will need to be addressed as stated in the *Fisheries Act*.⁵ The *Fisheries Act* contains a general prohibition of any Harmful Alteration, Disruption, or Destruction (HADD) of fish habitat.⁶ However in cases where HADD cannot be avoided, permission for it to occur must be granted by the Minister.⁷ This will likely be necessary if the causeway is expanded since fish habitat is broadly defined as “spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes”.⁸ Filling will likely be part of the construction process, causing harmful alteration, disruption or destruction to any fish habitat that exists along the seaward side of the causeway. Additionally the Department of Fisheries and Oceans has developed a Fish Habitat Management Program, which includes a guide to habitat compensation for any unavoidable HADD as a result of a project (Department of Fisheries and Oceans, 2009a). The hierarchy of compensation options contains the following four alternatives, as outlined by the Department of Fisheries and Oceans (2007):

1. Create or increase the productive capacity of like-for-like habitat in the same ecological unit;
2. Create or increase the productive capacity of unlike habitat in the same ecological unit;
3. Create or increase the productive capacity of habitat in a different ecological unit;
4. As a last resort, use artificial production techniques to maintain a stock of fish, deferred compensation or restoration of chemically contaminated sites.

Since they are outlined in a hierarchy, a proponent’s first choice is creating like-for-like habitat in the same ecological unit, with the use of artificial production techniques as a last resort (DFO, 2007). In the causeway expansion project any HADD of fish habitat may be required to be compensated for through the use of one of the above options.

Social

The final challenges in the expansion of Windsor causeway are community based. In the small sample of community members that were interviewed the general consensus of the group was a lack of information and misconceptions on how an expansion project would proceed. The second community based challenge relates to Friends of the Avon River (FAR). As outlined earlier (in the stakeholder section) FAR is a local environmental non-governmental organization whose members would like to see free tidal flow and unrestricted fish passage restored to the Avon River (Sonja Wood, personal

⁵ *Fisheries Act* R.S.C. 1985, c. F-14

⁶ *Fisheries Act* R.S.C. 1985, c. F-14 s. 35(1)

⁷ *Fisheries Act* R.S.C. 1985, c. F-14 s. 35(2)

⁸ *Fisheries Act* R.S.C. 1985, s.34(1e)

communication, March 12). Since the expansion project is not designed to allow for either of these, there is a potential for future conflict between FAR and NSTIR if FAR believes their requests are not being taken into consideration. Additionally while not representative of the community's feelings on a whole, some participants in the interview sample group expressed a preference for the causeway's removal and replacement with a twinned bridge (participants, personal communications, March-April 2010).

Conclusion

Ultimately some of the largest challenges facing the entire Windsor causeway expansion project are the concerns surrounding HADD of fish habitat, the potential need for wetland compensation, and possible lack of information in the community. An Environmental Impact Assessment (EIA), aside from being necessary for the expansion project, would likely include and address each of these issues. Currently, an EIA detailing plans to twin the final section of Highway 101, between 3 Mile Plains and Falmouth, has not been registered with Nova Scotia Environment (Steve Stanford, personal communication, March 22, 2010). That said, the plans to complete this final section of twinning are well underway. Sometime this spring, NSTIR plans to file a draft of the "Highway 101 Phase 4 Twinning 3 Miles Plains to Falmouth" Environmental Assessment Report. They commissioned Stantec Consulting of Dartmouth with the completion of this report, and at present, it is approximately 99% finished (Bob Pett, personal communication, March 24, 2010). All that is left to determine is fish habitat compensation due the harmful alteration, disruption or destruction (HADD) of fish habitat due to the limited infilling of the current channel (Bob Pett, personal communication, March 24, 2010).

REMOVAL OF TIDE GATE TO RESTORE FREE TIDAL FLOW

Another option for the expansion of the Windsor causeway would be to alter the existing infrastructure so as to allow for free tidal flow upriver from the tidal impediment. This is not an option that was considered early on in this study, but was revealed later in discussions with Dr. van Proosdij when discussing the definition of free tidal flow (Danika van Proosdij, personal communication, March 26, 2010). This could be accomplished by expanding the causeway to include a 6 lane bridge over the 100 m (Bob Pett, personal communication, March 24, 2010) tide gate, which would be removed (Danika van Proosdij, personal communication, March 26, 2010). This option is largely understudied and the implications of such a project, particularly from a biophysical perspective, are generally unknown. However, there is significance in considering this project as an option for causeway expansion, as this would allow for free tidal flow and the return of fish passage upstream of the causeway. Ultimately, this option would satisfy the desires of Friends of the Avon River, who would like for the expansion project to restore free tidal flow and fish passage (Sonja Wood, personal communication, March 12, 2010).

The known biophysical, socio-political and legal implications of this expansion option are examined below. Given the limited resources available on this topic, it should be noted that the implications presented are by no means exhaustive.

BIOPHYSICAL

Aquatic Ecosystem

This expansion option would obviously have many impacts on the aquatic ecosystem. In particular, this scenario would restore free tidal flow into the system and allow for fish passage however, it can be presumed that there would also be alterations to the existing mudflats and Lake Pisiquid. These implications would be in addition to those created by the expansion option mentioned above as a majority of the causeway would be expanded, and only the short segment consistent of the tide gate would be removed and replaced by a bridge.

Fish

One of the main purposes of removing the tide gate would be to allow for fish passage upstream. Historically, the Avon River has been populated by several species of diadromous fish including gaspereau, Atlantic salmon and American eel. Although species of fish have been vulnerable to anthropogenic activities on the Avon River dating back to the late 1600s, significant declines in fish

populations were observed following the construction of the causeway (Isaacman, 2005). Of particular interest is the decline, and in some cases, complete disappearance, of diadromous species given their ecological importance as previously mentioned. Researchers have attributed the complete loss of Atlantic salmon to the causeway as these fish no longer have access to breeding grounds upstream (Isaacman, 2005). As a result, the restoration of free tidal flow could in theory contribute to the restoration of diadromous fish species in the Avon River.

However, there are other factors that could affect the successful restoration of diadromous fish species in the river including capacity and opportunity (Tanner *et al*, 2002), anthropogenic activities on river (Isaacman, 2005), existence of, and access to, appropriate spawning grounds upstream, the presence of barriers upstream and existence of proper salinity (Haverstock, 2004). The least obvious of these factors is the capacity and opportunity for fish. This was explored in a case of ecosystem restoration as a result of the removal of a tidal barrier on the Snohomish River in Washington. The restoration of juvenile salmon in the system was of great importance to project partners. Two restoration assessment criteria were used in regards to juvenile salmon in the system; they were *capacity and opportunity*. Capacity can be measured by the presence of prey, which in the case of juvenile salmon is the availability and quantity of invertebrates in the estuary. A survey in 1999 at three reference points displayed positive presence of invertebrates and the stomach contents of juvenile salmon collected at the same time included many of the invertebrates present. Furthermore, refuge areas provide juvenile salmon with the *opportunity* to exist in this system as they can hide from predators in these areas. As a result, refuge areas would have to be made available to these fish in order to satisfy the opportunity criteria. Project partners were satisfied with the presence of plant communities within the estuary that could provide refuge for juvenile salmon (Tanner *et al*, 2002). Given this research, it would be of value to ensure that both capacity and opportunity exist in order for juvenile salmon to return to the Avon River.

Lake Pisiquid

Although the restoration of free tidal flow could potentially have a positive impact on diadromous fish populations, its effect on the fish population in Lake Pisiquid would likely be negative. Through sampling Daborn and Brylinsky (2004) discovered there were eleven fish species in Lake Pisiquid: alewife, blueback herring, yellow perch, white perch, white sucker, small-mouth bass, lake chub, redbelly dace, banded killifish, threespine stickleback, fourspine stickleback and ninespine stickleback.

Another interesting observation was that eight of the eleven fish species in the lake were freshwater species (Daborn & Brylinsky, 2004). Not only were the species of individual fish identified but specimens were weighed and measured (Daborn & Brylinsky, 2004). These measurements allowed the researchers to draw conclusions on the quality of fish habitat in Lake Pisiquid (Daborn & Brylinsky, 2004). Through the use of length to weight ratios, rates of growth were estimated for fish and found to be fairly normal (Daborn & Brylinsky, 2004). Being able to support reasonably normal, growing fish populations was used as an indicator for Lake Pisiquid being biologically productive (Daborn & Brylinsky, 2004). Therefore, the introduction of free tidal flow, and water with a higher salinity, into Lake Pisiquid may have detrimental effects on existing fish habitat upstream from the causeway.

While the introduction of tidal cycles to the upstream ecosystem may have a harmful effect on fish populations, the overall effect on water quality would likely be beneficial. Although recent studies suggest that there is no eutrophication occurring within Lake Pisiquid (Daborn & Brylinsky, 2004), the restoration of free tidal flow in the river would furthermore reduce any risk of this taking place. Similar case studies suggest that removing tidal barriers improves upstream water quality and tackle upstream sedimentation as the river is flushed twice daily (Patrick et al, 2006; McAlice & Jaeger, 1983).

Terrestrial Ecosystem

Mudflats/Salt marsh

Again, there is no apparent literature available on the effects that restoring free tidal flow may have on the accumulated mudflats and salt marsh below. However, given that the removal of the tide gate would allow for water to move freely up and down stream, it can be presumed that there would be a decrease in sedimentation downstream of the causeway. Currently, tides carrying sediment from the Bay of Fundy are forced to deposit their load at the causeway. This has led to the creation of remarkable mudflats, and consequently a biologically significant salt marsh over the past 40 years, discussed above (van Proosdij, 2009). The continual sedimentation that is currently occurring (Percy, 2008) would likely decrease significantly or end altogether if free tidal flow were restored. This would also expose the current mudflats and salt marsh to erosion (Percy, 2008) which could affect the integrity of the ecosystem that is important to foraging shorebirds (Daborn et al., 2003b). Furthermore, Daborn (2003b) also suggests that if flow were restricted to a narrow permanent opening in the causeway, significant erosion would occur both upstream and downstream (Percy, 2008).

SOCIOPOLITICAL

The social and political implications of restoring free tidal flow on the Avon River by means of removing the tide gate and replacing it with a short bridge are largely related to the biophysical impacts and are discussed in detail below.

Fish

One of the main purposes for restoring free tidal flow to that Avon River estuary would be to allow for the return of diadromous fish populations to the system (Sonja Wood, personal communication, March 12, 2010). If the fish, particularly the Atlantic salmon were to return to the river, certain members of society, including Friends of the Avon River, would be pleased. Uncertainties arise as to whether the return of such fish would benefit the people from a social perspective which is discussed in more detail in the legal section of this option below.

Flooding

There is only one known study that addresses the flooding hazard as a result of removing the causeway. Dr. van Proosdij suggests that the town of Windsor would be subjected to significant flooding if the barrier were removed (van Proosdij, 2009). This is in line with public perception on the issue (Paul Beazley, personal communication, March 12, 2010). Certainly, this would have significant social and financial ramifications on the Town of Windsor. Daborn (2008) also suggests that ice jamming at the narrow opening would likely occur, which would result in major flooding upstream (Percy, 2008).

Moreover, given that dykes upstream of the causeway have not been maintained over the last 40 years (Percy, 2008), it can be presumed that the restoration of free tidal flow would also lead to the flooding of agricultural lands upstream of the causeway.

Lake Pisiquid

The potential loss or alteration of Lake Pisiquid as a result of removing the tide gate and replacing it with a bridge would likely affect the recreational quality of the lake. Currently, the lake hosts the Pisiquid Canoe Club which offers canoe and kayak programs on the lake (Pisiquid Canoe Club, n.d.). Furthermore, an annual Pumpkin Race is also held on the lake as part of the Pumpkin Regatta (West Hants Pumpkin Festival Committee, 2009). Although the actual physical changes that may occur on the lake if the tide gate were removed are currently unknown, if there were to be significant changes, Lake Pisiquid recreationalists would be affected.

LEGAL

Given the nature of the significant biophysical changes that would likely occur as a result of expanding the causeway to allow for free tidal flow, there are also many legal implications. These implications will be highlighted below.

Fish Habitat (HADD)

The *Fisheries Act* defines two terms that are significant to the legal implications of removing the tide gate and replacing it with a bridge. They are as follows: *Fish habitat* is defined in section 34 as “spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly to carry out their life processes”. *Deleterious substance* is also defined in section 34 as “any substance that, if added to any water, would degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water.”

As previously mentioned, Lake Pisiquid provides sufficient habitat for many species of fish (Daborn & Brylinsky, 2004). The actual effect of restoring free tidal flow in the estuary on existing fish habitat is unknown. However, it can be presumed that an increase in salinity and flow within Lake Pisiquid may have negative implications on existing habitat. Given the definition of a deleterious substance in the *Fisheries Act* (above) it can be argued that the introduction of saline water into a primarily freshwater environment could be considered as the introduction of a deleterious substance. As such, the restoration of free tidal flow could be argued to be in violation of the *Fisheries Act* section 36 (3) which states that no person shall deposit or permit the deposition of deleterious substance into a river where fish are present.

As a result, this project may have the potential to create harmful alteration, disruption or destruction of fish habitat (HADD) which would be in violation of the *Fisheries Act*. Provided the definition of fish habitat (above), it can be argued that any alteration to the existing upstream and downstream river may affect existing fish habitat as a result of erosion and the introduction of salt water into a freshwater environment. According to section 35 (1) of the Act there is a general prohibition of HADD of fish habitat by any undertaking or work. However, section 35(2) offers relief from this prohibition if Authorization is given by the Minister. It is important to note that this Authorization applies to the HADD of habitat itself and not to a project resulting in HADD of habitat. Section 37(1) of the Act gives authority to the Minister to request plans for projects that may result in

HADD of habitat. Under this section, the minister may also make recommendations for modifications, additions to the work or restrict the work entirely. Occasionally the Minister may be confronted with a work or undertaking that will result in HADD of habitat where such avoidance is impractical or impossible. In this situation the proponent will be referred to the *Policy for Management of Fish Habitat* regulated by the Department of Fisheries and Oceans (DFO). Essentially, this policy exists to ensure that there is No Net Loss of fish habitat which can be achieved through a Hierarchy of Compensation Options. Four options exist under this hierarchy and consist of,

- 1) Creating/increase like habitat on site of the project,
 - 2) Creating/increasing unlike habitat on site,
 - 3) Creating/increasing the productive capacity of a different ecological unit, or
 - 4) Use artificial techniques to maintain fish stock, defer compensation or restoration of chemically contaminated sites
- (Department of Fisheries and Oceans Canada, 2007).

Given these options, in this case, it is likely that the proponent would have to compensate for lost habitat.

Environmental Impact Assessment (EIA)

Removing the tide gate at the Windsor causeway so as to allow for free tidal would require an EIA according to federal regulations (*Canadian Environmental Assessment Act S.C., 1992, c. 37*), and these legal issues would be dealt with in the EIA.

Wetlands Compensation

With regards to free tidal flow and wetlands compensation there is a significant amount of salt marsh that will need to be compensated for. With the restoration of free tidal flow, increased erosion on the seaward side of the causeway will greatly decrease the area of salt marsh, at a rate that is currently undetermined (Daborn et al., 2003b; Percy, 2008). The direct impact on the salt marsh and mudflats will be much more than widening the causeway, and thus a greater amount of wetlands will need to be compensated for. Compensation can occur in the form of a 'like habitat' in the same location (which will not be an option), or like-habitat in a different location (could be an option), unlike-habitat in the same location (not likely an option), or unlike habitat in a different location (unlikely an option). In any case, the proponents, NSTIR, will be responsible for compensating any area and productivity loss to

wetlands and their plan for compensation must be incorporated into the EIA before approval will be granted.

REMOVAL OF CAUSEWAY AND REPLACEMENT WITH A BRIDGE

A final option for the expansion of the Windsor causeway would be to remove the causeway entirely or nearly entirely and replace it with a 6 lane bridge. This option has been favoured by a few members of the community, most notably the Friends of the Avon River. This organization has advocated for restoring free tidal flow by removing both the entire causeway and also only a section of the causeway. There appear to be some misconceptions in regards to the wants of this group within the community. Regardless, public documents do state that FAR and other members of the community of Windsor favour this option (Wood, n.d.; Percy, 2008). As a result, it is an important option to explore. Furthermore, a similar case is currently occurring on the Petitcodiac River, NB which according to FAR, sets a precedent for the fate of the Windsor causeway (Sonja Wood, personal communication, March 12, 2010).

The Petitcodiac causeway was built in 1968 primarily as a means to create a cost effective automobile connection between Moncton and Riverview, to protect upstream agricultural lands from flooding and to create a freshwater headpond for recreational purposes. The biophysical implications of building this tidal barrier were also experienced on the Avon River (Daborn et al., 2003b), and included: infilling of sediment, prevention of fish passage upstream and creation of a freshwater headpond (Government of New Brunswick, n.d.). The causeway on the Petitcodiac River is being removed as a result of an EIA that stated the necessity of such action in order to restore fish passage upstream (Amec, 2005). Unlike the Windsor causeway, the Petitcodiac River causeway was built to allow for fish passage upstream, however, despite many attempts to rectify the existing infrastructure fish passage upstream has proven to be unsuccessful (Amec, 2005). The 5 gates of the causeway opened on April 14th, 2010, for the spring and fall seasons. They will then be closed for the fall and winter in order to avoid ice jamming. This process will occur for two years which will be accompanied by rigorous monitoring of the area. The proponent anticipates that by 2013, 280 m of the causeway will be replaced by a bridge (Government of New Brunswick, n.d.).

The implications associated with the option of removing the causeway, and in particular, the biophysical impacts would be colossal. Other similar cases, including the Petitcodiac River causeway, have been documented which prove to be useful when attempting to determine what would happen if the Windsor causeway were removed. The most significant biophysical, socio-political and legal

implications of removing the causeway are highlighted below. It is important to note that many of these implications are similar to those of removing the tide gate. They have been repeated in this section for the purpose of consistency.

BIOPHYSICAL

Aquatic Ecosystem

The removal of the causeway would likely lead to the restoration of the Avon River estuary to pre-causeway conditions. This would lead to significant alterations to the aquatic ecosystem, most would be similar to those resulting from the removal of the tide gate, however, there is considerably more information available from a removal perspective.

Fish

Removal of the causeway would have effects similar to those of removing the tide gate on fish populations in the Avon River including the restoration of fish passage. Again, uncertainties arise as to whether species of special interest including the Atlantic salmon would return to the system (Percy, 2008), as is the case on the Petitcodiac River (Amec, 2005). In order to facilitate this process, appropriate habitat conditions should be available to fish. Moreover, special consideration should be given to other factors that could affect the successful restoration of diadromous fish species in the River including capacity and opportunity (Tanner et al., 2002), anthropogenic activities on river (Isaacman, 2005), existence of and access to appropriate spawning grounds upstream, the presence of barriers upstream and existence of proper salinity (Haverstock, 2004).

Fish Habitat

As mentioned in the study of the effects of removing the tide gate on fish habitat, this option would likely also pose a threat on existing fish habitat. Given Daborn and Brylinsky's (2004) study which indicated that 8 of the 11 fish species found in Lake Pisiquid were freshwater tolerant, the introduction of salt water upstream of the current causeway would affect existing fish habitat. As discussed in the legal implications of removing the tide gate and replacing it with a bridge, it can be argued that the removal of the causeway option may also degrade fish habitat downstream of the causeway as a result of erosive forces. This is further discussed in the legal implications below.

Lake Pisiquid

Removal of the causeway would simply result in the loss of Lake Pisiquid (Percy, 2008). This would have considerable social implications which are discussed below. Removal of the causeway and the loss of Lake Pisiquid would result in improved water quality on the Avon River. Diurnal macrotides historically experienced in the Avon River estuary would flush contaminants in the system occurring as a result of anthropogenic activities on the river banks (Daborn et al., 2003b). However, it should be noted, that a 2003 study indicated that there appeared to be no threat of eutrophication in Lake Pisiquid (Daborn & Brylinsky, 2004). In the case of the Petitcodiac River, researchers anticipate that removing the causeway would have positive impacts on water quality in the river (Amec, 2005).

Terrestrial Ecosystem

Similarly to the effects of removing the causeway on the aquatic ecosystem, the terrestrial ecosystem would also undergo significant change as is discussed below.

Mudflats/Salt marsh

Although sediment accumulation had created some mudflat on the Avon River prior to the construction of the causeway, the majority of this mudflat was located upstream of its current location. The mudflat exists now below the causeway as a result of forced sedimentation occurring as the tidal waters are stopped at the causeway (van Proosdij et al, 2009). A salt marsh has developed on these mudflats which are now considered to be one of the most ecologically productive of its kind in the Bay of Fundy (Daborn et al., 2003b). Limited information exists in regards to what causeway removal would mean for the mudflats and hence the salt marsh, however, it is thought that the effects would result in significant loss of the mudflats (Daborn et al., 2003b). Carl Amos, a sedimentologist formerly at the Bedford Institute of Oceanography, suggests that erosion of the mudflats would occur quite rapidly following the removal of the causeway (Percy, 2008). Interestingly, Daborn et al. (2003b) suggests that this process would occur slowly as it may take years for enough erosion to occur in the channel that the tidal flow could begin eroding the mudflats. The erosion of the mudflats would also result in substantial loss of the *Spartina alterniflora* and the shorebirds that rely on the salt marsh (Daborn et al., 2003b). Over time, mudflats may develop upstream of the current causeway as the sediment that would be eroded could be deposited upstream. However it should be noted that an intertidal bar existed at the location of the current mudflats prior to the construction of the causeway (although no salt marsh existed) which may continue to exist even if the causeway were removed (Percy, 2008). The variety of

opinions of what could potentially happen to the mudflats and salt marsh demonstrates the level of uncertainty associated with the implications of removing the causeway.

Physical changes to the channel

Anticipated physical changes to the channel itself are solely based on what is expected to occur on the Petitcodiac River following the removal of that causeway. It is important to note that substantial differences exist between both systems. However, given the macrotidal nature of both river systems, it is the most relevant comparison. Infilling of sediment would likely be reversed and this is expected to occur on the Petitcodiac in the amount of 77 mm³ over 20 years. Upper estuary tides are expected to increase on the Petitcodiac, however not to pre-causeway heights (Government of New Brunswick, n.d.). Also to be noted, following the removal of a causeway on the Sheepscot River in Maine, tidal flow increased by 50% and researchers suspected that it would eventually reach pre-causeway conditions (McAlice & Jaeger, 1983). Unfortunately, no further research appears to have been conducted on this system.

SOCIO-POLITICAL

Similarly to the socio-political effects of removing the tide gate, the effects of removing the causeway on the people of Windsor would be large. This process would involve altering a system on which many townspeople have been dependent upon for flood control and recreational purposes for 40 years. These issues will be addressed below.

Fish

As is the case in regards to fish passage if the tide gate were removed, it is expected that removing the causeway would also allow for fish migration upstream of the current causeway (Percy, 2008). Nevertheless, there are concerns as to whether certain fisheries would be restored in the Avon River following removal. Furthermore, the question that arises is whether or not the people of Windsor would benefit from the return of the Atlantic salmon fishery. It should be noted that this species is listed as an *Endangered Species* under the federal Species At Risk Act and as *At Risk* under the provincial Endangered Species Act. The implication of these designations will be discussed in detail in the legal section of this option. Furthermore, the introduction of salt water into Lake Pisiquid could result in the loss of freshwater tolerant fish species including the yellow perch found in Lake Pisiquid (Daborn and Brylinsky, 2004). This fish holds some recreational value in Canada (Government of Nova Scotia, 2008) which would be lost if brackish water were introduced to the river.

Flooding

The removal of the causeway would lead to widespread flooding of a portion of the Windsor waterfront (van Proosdij, 2009) including properties that have been developed since the construction of the barrier (Paul Beazley, personal communication, March 12, 2010). Flooding would occur primarily due to the lack of upkeep on 27 km dykes upstream of the causeway and as a result, nearly 1,400 hectares of agricultural land would be subject to tidal surge (Percy, 2008). Flooding would lead to the displacement of people and businesses which would have inevitable financial implications. Interestingly, FAR recognizes this hazard but suggests that it is a necessity and that those affected could be compensated (Sonja Wood, personal communication, April 9, 2010).

Despite Ms. Wood's assertions, the economic effects of causeway removal would not be insignificant. According to estimates from Ken Carroll, Aboiteau Superintendent for the Department of Agriculture, the total construction costs of replacing the dykes necessary to protect the 3240 acres of agricultural land that the causeway currently protects would be an estimated \$ 2 960 000, in 2003 dollars (Ken Carroll, personal communication, March 26 2010). In 2010 dollars, this works out to \$3 328 520, based on a 2010 CPI of 112.45 and base year of 2003 (Bank of Canada, 2010). This includes estimated costs of \$1 416 870 (2010 dollars) for reconstruction of the 84 000 ft of dykes that protect the surrounding agricultural land, \$1 686 750 for reconstruction of 33 aboiteaux in the system, and \$224 900 for rocking of certain areas (Ken Carroll, personal communication, March 26 2010).

While this represents a significant investment, it is important to note costs which are not included. These estimates only represent construction costs, without any consideration for engineering or design. This does not include the relocation of 4 houses which would be displaced by the reconstruction of the dykes. Nor does this estimate include any work required to protect the town itself from the flooding that would inevitably occur, as mentioned above. The above estimates deal only with the protection of agricultural land, and estimates of other costs were not available. This estimate also does not include the increased project costs associated with deconstruction of the current causeway and the longer bridge over the newly opened channel, should the causeway be removed. Estimates of these costs were unavailable as well.

Lake Pisiquid

The removal of the causeway would result in the loss of Lake Pisiquid which currently serves several recreational purposes for the people of Windsor. Most significantly, Windsor and West Hants

host an annual Pumpkin Regatta which includes a race of giant pumpkins across Lake Pisiquid (West Hants Pumpkin Festival Committee, 2009). With the loss of Lake Pisiquid this event would have to find a new home. Lake Pisiquid is also used by the Canoe Club (Pisiquid Canoe Club, n.d.) which would too have to relocate and find another lake on which to recreate.

Property Value

In the case of the Petitcodiac River causeway removal, concerns arise over decreased property value as a result of the lack of flood protection. Despite the fact that if the causeway were removed many properties would be lost, there may also be cause for concern over general loss in value of water front properties. Interestingly, the value of properties downstream of the Petitcodiac River causeway decreased following the construction of the barrier as a result of sedimentation (Amec, 2005). Property value upstream of the Windsor causeway increased as Lake Pisiquid formed, and created attractive lakefront property (Percy, 2008), this is likely to change if the causeway were removed as the waterfront property could be subjected to flooding (Percy, 2008).

Public apathy on the subject of causeway could come back to haunt the residents of Windsor. As discussed above, for the most part, the citizens of Windsor are uninformed on the proposed expansion project. While the planned design would have little effect on their lives, restoration of free tidal flow, either through removal of the tide gates or removal of the causeway in general (to be replaced by a bridge) would have a far greater effect. If the experience of the citizens of Moncton is any indication, the potential removal of the causeway might be something with which the citizens of Windsor may wish to become involved.

Ken Carroll, of the Department of Agriculture was contacted recently by members of the Petitcodiac causeway association to obtain contact information for community members in Windsor. The landowners upstream of the Petitcodiac causeway are concerned that their land may be affected, and wanted to warn the landowners near the Windsor causeway. The apathy apparent in Windsor is similar to that which existed with regard to the Petitcodiac causeway, and by the time the citizens became well-informed enough to understand the implications, it was too late – the decisions had already been made (Ken Carroll, personal communication, March 26, 2010).

LEGAL

There are several legal implications associated with the removal of the causeway all of which are consistent with those determined for the removal of the tide gate.

Harmful Alteration, Disruption or Destruction of Fish Habitat (HADD)

As mentioned above, Lake Pisiquid provides sufficient habitat for many species of fish (Daborn & Brylinsky, 2004). Furthermore, given the definition of fish habitat in the *Fisheries Act* it can be argued that the river downstream of the causeway may too serve as fish habitat as many species of fish have been found in the estuary (Daborn & Brylinsky, 2004). The actual effect of restoring free tidal flow in the estuary on existing fish habitat is unknown. However, it can be presumed that an increase in salinity and flow within Lake Pisiquid may have negative implications on existing habitat. It is presumed that the river downstream of the causeway would also be subject to erosion if the causeway were removed. As a result, this project may have the potential of creating harmful alteration, disruption or destruction of fish habitat (HADD) which would be in violation of the *Fisheries Act*. According to section 35 (1) of the Act there is a general prohibition of HADD of fish habitat by any undertaking or work. As is the case in the option above, it is likely that lost habitat would have to be compensated for.

Species At Risk

One of the main motivations for removing the causeway would be to allow for fish passage upstream. In particular, FAR is interested in the fate of the Atlantic salmon and American eel (Sonja Wood, personal communication, March 12, 2010). The Atlantic salmon is listed as a federal *Endangered Species* according to the Species At Risk Act (SARA). Provincially, this species is considered to be *At Risk* in the Endangered Species Act. According to section 32. (1) of SARA there are several prohibitions as to what one can do to an endangered species including harm, kill or capture the animal. As a result, Atlantic salmon could not be fished. The benefits of restoring this fish to the system would be based solely on spiritual significance of the presence of this species, if such exists in the area. Also, there are some biological benefits associated with diadromous fish species in aquatic ecosystems as previously mentioned.

Environmental Impact Assessment

Friends of the Avon River hope that the result of an EIA would be similar to that of the Petitcodiac River causeway EIA. The causeway on the Petitcodiac is being removed as a result of an EIA that stated that the causeway impeded the upstream migration of the Atlantic salmon which is in

violation of the *Fisheries Act*. However, it is important to bring to light that sampling of fish species in the Petitcodiac River have resulted in the presence of juvenile salmon (although potentially as a result of stocking) and no such species have been found on the Avon River (DFO, 2006).

Expanding the Windsor causeway so as to allow for free tidal by removing the tide gate and replacing it with a bridge would require an EIA according to both provincial and federal regulations (*Canadian Environmental Assessment Act S.C., 1992, c. 37*).

Wetlands Compensation

As mentioned in the free tidal flow option above, the implications on wetlands will be nearly identical. Therefore, the requirement and procedure for wetland compensation will be similar. That means any salt marsh destroyed will need to be compensated for in one of the aforementioned methods. Again, in the case of causeway removal and replacement with a bridge, NSTIR will be responsible for compensating for any loss of wetland area, habitat or function. Furthermore, this will need to be addressed in the formal EIA.

Economics

While certainly not equivalent, the economics of the removal of the Petitcodiac River causeway can certainly help to inform decision-making with regard to the Windsor causeway. In 1992, the Department of Transportation of the Province of New Brunswick commissioned a report called “Analysis of the Options for the Future of the Petitcodiac River Dam and Causeway”. Included in this analysis was a cost-benefit analysis of each of the 7 options proposed. Some of the options proposed have not been investigated in any way, in this paper or elsewhere, for the Windsor causeway. But for the common options proposed, it is interesting to look at the cost-benefit analysis.

The analysis examined the costs of the gates being opened, as well as replacement of the causeway with a bridge (the eventual option chosen), among others. Neither of these options was determined to be feasible economically. The analysis examined the net present value (NPV) of costs as well as benefits and found that the NPV of opening the gates (benefits-costs) was -\$ 1 951 972, meaning that the costs outweighed the benefits (ADI Limited, 1992, p. 113). For replacement of the causeway with a bridge, the NPV (benefits-costs) was -\$ 13 923 154, with costs again drastically outweighing the benefits (Ibid, p. 114).

There are two caveats to think about, however. First, the report, although acknowledging and accounting for intangible benefits and disbenefits, does nothing to quantify these, and these are not included in the cost-benefit analysis. Second, this report was written in 1992, so the actual numbers involved are relatively insignificant. What is of interest is the relationship between the costs and the benefits of each option. For the two options foreseeable for the Windsor causeway, the NPV is negative, meaning that neither option made economic sense. Interestingly, however, the same can be said about each of the options analyzed – they all had negative NPVs. Despite this fact, as mentioned above, on April 14th 2010 the gates were opened to allow water to flow freely, and by 2013 the causeway will be replaced with a bridge. There is no guarantee that this cost-benefit analysis was used to help decide the fate of the Petitcodiac causeway, but if it was, it is clear that the intangible benefits that went unquantified must have been given great value in the decision-making process.

Ecological Restoration

If the causeway on the Avon River were removed, the current ecosystem would endure significant changes. Advocates for this option would like to see the return of Atlantic salmon in the river and the restoration of free tidal flow. Ultimately the ecosystem may restore itself to pre causeway conditions. Research has been conducted to examine the motivation around social support for ecological restoration and the willingness to pay (WTP). Connelly et al (2002) suggest that there are many criteria that may influence one's willingness to pay for restoration including; past experience with restoration, use of ecosystem in question, income and social status. Ultimately, users of the particular ecosystem have some vested interest into its fate, and generally, those who earn higher incomes are more willing to pay. However, it should be noted that public support for restoration tends to decrease once the cost of action is defined. Generally, what appears at first to be a novel idea to local residents may soon become a burden when the costs, not only financial, are introduced into the restoration plan. The researchers suggest that in order to maintain some level of interest, those advocating for change should continue to partake in public outreach and involvement despite loss of support (Connelly et al, 2002).

Friends of the Avon River are the primary advocates for the restoration of free tidal flow and fish passage on the Avon River. Essentially, the group would like the *Endangered* Atlantic salmon and *Species of Special Concern*, the American eel, to have access to suitable habitat upstream of the causeway (Sonja Wood, personal communication, April 9, 2010). Ultimately, the removal of either the tide gate or the causeway would encourage

"I would suggest to you, just from being a resident and very active in the community, I am a lion and do a lot of volunteer work. The majority of Windsor has no understanding whatsoever or even knows that there's more than one option. I can pretty well tell you they don't. Now I'm just talking the average person. But for the average guy, I can tell you they don't know."

-Ruth Fader, Town of Windsor Resident

ecological restoration to the former ecosystem. Despite efforts by members of FAR to advocate for the restoration of free tidal flow and fish passage, generally, the people of Windsor have either grown complacent on the issue as a whole or are not aware as suggested to in the quotation to the right (Ruth Fader, personal communication, April 8 2010). Despite this, FAR should continue with a public outreach campaign in order to maintain the support that they have.

Generally, ecological restoration occurs to restore a system to a healthier level of functioning (Kent, 1999, as cited in Connelly et al, 2002). More specifically, The Society for Ecological Restoration defines this process as,

"an intentional activity that initiates or accelerates the recovery of an ecosystem with respect to its health, integrity and sustainability. Frequently, the ecosystem that requires restoration has been degraded, damaged, transformed or entirely destroyed as the direct or indirect result of human activities...Restoration attempts to return an ecosystem to its historic trajectory" (SER, 2004, pp 3).

When considering ecological restoration of an ecosystem questions arise in regards to the historic trajectory of the system. To what date does an ecological restorer restore a system (Allison, 2004)? According to the SER definition, that date is prior to when humans had direct or indirect impacts on the system. Without historical records how can we know specifics about the ecosystem at that date? In North America, Aboriginal people had direct and/or indirect impacts on the environment prior to European settlers. So, does our historic trajectory date back to pre Aboriginal influence (Allison, 2004)? It is apparent that defining historic trajectory in regards to ecological restoration is highly contentious. As such, humans and human activities must be separate, and unnatural human activities must be clearly defined. In the case of the Avon River, if the causeway was removed and efforts were established to

restore the ecosystem to its pre-causeway condition, what would the historic trajectory be for this restoration project? Human influence on the Avon River predates the construction of the causeway and as a result, there have been historic declines in fish populations. Furthermore, other barriers exist upstream of the causeway which have been on the river system for decades longer than the causeway, should they be removed as well (Percy, 2008)? Should agricultural activity that has altered the water quality in the river for over a century cease? There are many uncertainties as to whether or not diadromous fish populations, in particular the Atlantic salmon and the American eel would recover in the Avon River given the changes that have arisen as a result of more than just the construction of the causeway (Percy, 2008).

Another point of interest concerning ecological restoration is the value of the new ecosystem in comparison to the “old” ecosystem. Allison (2004) addresses this issue when considering a restoration project in Illinois where agricultural land is restored to tallgrass prairie. Allison (2004) states that although agricultural land is not native to the area, it is of great value to American society for food production. Furthermore, the researcher is uncertain as to how successful the tallgrass prairie system would be at hosting important keystone species fauna. The restoration itself would require a great amount of human influence and Allison states that if the agricultural land were left to restore naturally, it is unlikely that the end result would be tallgrass prairie (Allison, 2004).

In the case of the Avon River estuary, questions arise as to whether the pre causeway tidal river was indeed healthier than the current freshwater lake and salt marsh. Friends of the Avon River state that the current system is a mud desert devoid of life (Wood, n.d.). However, scientists argue that the existing salt marsh is one of the most productive in the Bay of Fundy and possibly in North America (Daborn et al, 2003b). Given the uncertainties surrounding the ability of the Atlantic salmon and American eel populations to recover in the Avon River, it is possible that the biophysical and social benefits of the current ecosystem outweigh those of recorded accounts of the pre-causeway system.

CONCLUSIONS

Responding to concerns surrounding safety on Highway 101, plans to twin the highway were announced in 2002 and it quickly became apparent that this project would also include adjustments to the existing Windsor causeway. The tidal barrier has been in place for 40 years, and as a result, has altered a tidal river hosting a variety of populations of diadromous fish into a limited access for diadromous fish, freshwater river and an ecologically significant salt marsh. Members of the community, in particular the activist organization Friends of the Avon River, view this highway safety project as an opportunity to restore free tidal flow and to allow for fish passage upstream of the causeway. Restoring free tidal flow on the Avon River would have significant biophysical, socio-political and legal ramifications. Through a series of interviews with members of the community and experts, and an extensive literature review, many of these ramifications have been identified and summarized in this report. The restoration of free tidal flow would almost certainly destroy the current ecosystem, including the productive salt marsh, without any guarantee that the previous ecosystem would be restored or that the lost diadromous fish populations would return. Provided this information, it can be concluded that the expansion project that is currently being considered is the most feasible option and should go ahead as planned. Public pressure to improve highway safety by expanding Highway 101 must be balanced with environmental concerns surrounding the impact such development would have on local ecosystems. Ecologically, socially, politically and economically, this is the best option. However, this conclusion comes with recommendations, and they are as follows:

First, NSTIR is presented with a very informative case study to help with the decision-making process. On Wednesday, April 14th, 2010 the gates of the Petitcodiac causeway were permanently opened with about 500 people watching. Within the next three years, the causeway itself will be removed, replaced with a bridge. From a biophysical perspective, this case will provide a good indication as to whether ecosystem restoration is possible in a macrotidal environment. From a social perspective, it will also provide an opportunity to gauge public reaction to the removal of a causeway. The lessons learned on the Petitcodiac River can be easily applied to the Avon River, and as such the removal of the Petitcodiac causeway should be closely monitored.

Second, in the meantime, further research should be conducted on the effectiveness of different types of fish passages in macrotidal environments such as the Avon River estuary. A number of fish passage options were explored on the Petitcodiac prior to deciding to remove it, but none were

successful. If an effective means of incorporating fish passage could be included in the current expansion plans, this would be a cost effective way to satisfy highway safety needs while attempting to restore healthy levels of diadromous fish populations in the Avon River. This would also allow for the maintenance one of the most productive salt marshes in the Bay of Fundy.

Third, the creation of a community-based stewardship group that could monitor the ecosystem and construction progress would present an opportunity for further community engagement. This could be partially incorporated into the elementary school curriculum which would foster an appreciation for the local ecosystem in grade school children. The community stewardship group could also aid in the facilitation of more effective community consultations by presenting the twinning process from a local perspective. Ultimately, a stewardship group would give voice to the community members, as well as act as a quality control device for the twinning project.

In addition to the recommendations laid out above, there is one overarching issue to be considered. While climate change is certainly a factor in the planning of developments, the exact effects are generally unknown. Even the IPCC 4th Assessment Report, perhaps the most comprehensive study of the global effects of climate change, couches all of its predictions of these effects in probability-related terms such as "likely" and "very likely" (IPCC, 2007).

This fact may be the proverbial red herring in the entire decision making process in the twinning of Highway 101. It is a variable that can be considered, but can't be accurately accounted for, due to many unknowns. For instance, how do we deal with question such as the following: How will climate change affect fish populations? How will it affect tide cycles? How will it affect river flow? What about siltation? And what about the unknown effects that don't have names, and certainly haven't been considered? These recommendations will aid in ensuring that the integrity of the current ecosystem is recognized and maintained while satisfying the societal need for improved highway safety over the Windsor causeway.

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Canadian Environmental Assessment Act, S.C. 1992, c. 37 (*CanLII*).

Environmental Assessment Regulations, N.S. Reg. 26/95 (*CanLII*).

Fisheries Act R.S.C. 1985, c. F-14

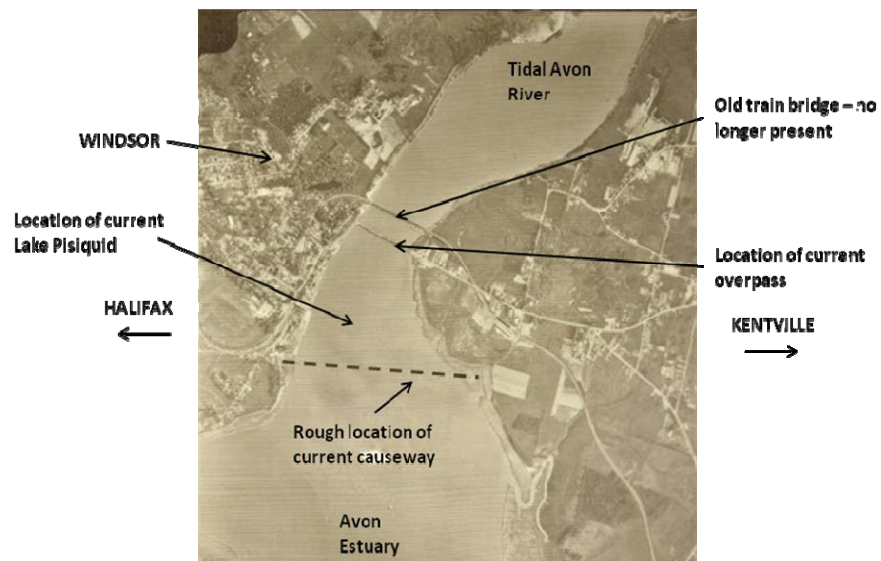
Environmental Goals and Sustainable Prosperity Act (2007 c.7)

Nova Scotia Wetlands Conservation Policy - Draft for consultation (2009)

Species At Risk Act, (2002, c.29)

APPENDIX A: SCENARIO DRAWINGS

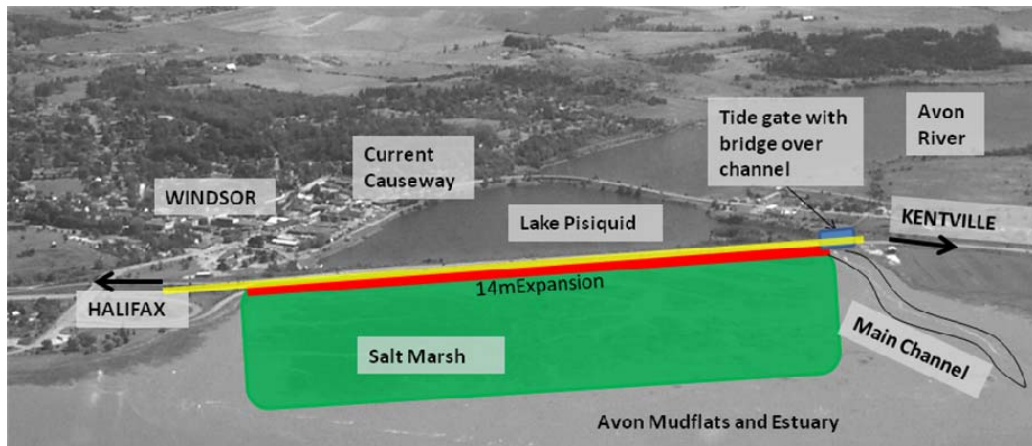
Pre-Causeway (Pre-1968)



Adapted from:

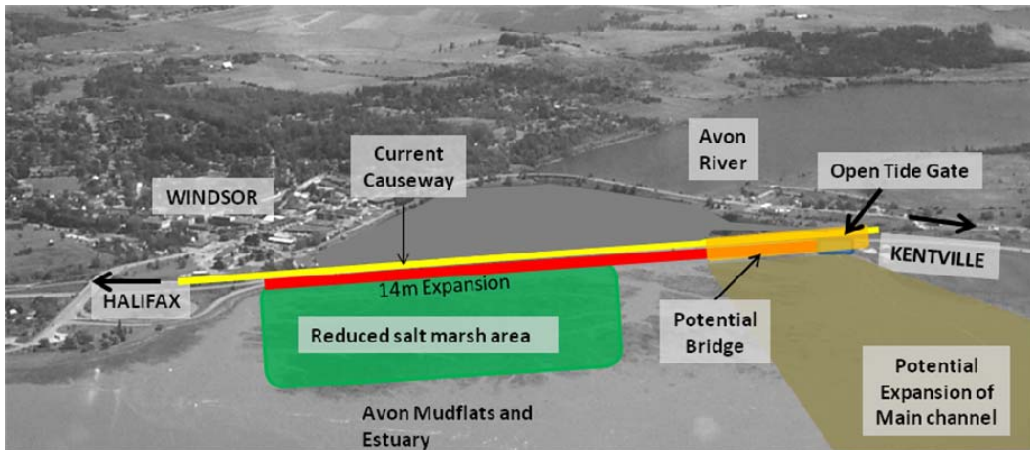
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Future: Expansion



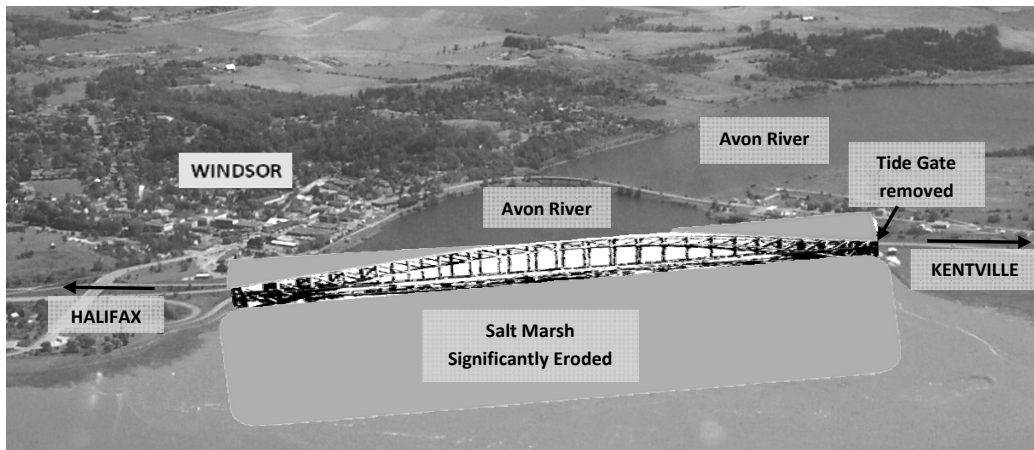
Adapted from: http://www.bofep.org/PDFfiles/fundy_issue_28.pdf

Future: Tide Gate Removal



Adapted from: http://www.bofep.org/PDFfiles/fundy_issue_28.pdf

Future: Partial or Complete Causeway Removal and Replacement with Bridge



Adapted from: http://www.bofep.org/PDFfiles/fundy_issue_28.pdf

APPENDIX B: SAMPLE CONSENT FORM

Implications of the Removal or Expansion of the Windsor Causeway

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Supervised by: Faculty in the School for Resource and Environmental Studies, Dalhousie University, Contact: Dr. Heather Castleden (heather.castleden@dal.ca or 902-494-2966)

Research Question: What is the social context surrounding the removal or expansion of the Windsor Causeway?

Purpose of Research: To gain an understanding of multiple stakeholder perspectives of the potential expansion or removal of the Windsor Causeway.

Participation and Withdrawal

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. If you feel uncomfortable with the content of the discussion during the interview you are free to terminate participation.

Confidentiality and Anonymity

Confidentiality will be maintained because the recordings and transcripts will only be seen by the Student Researchers and their supervising professors. The recordings and transcripts will be securely stored on a password protected website and computers. Pseudonyms will be used if you wish to be quoted but remain anonymous.

How the Research will be used

Direct quotes of what you say may be used in our final report and/or presentation in April 2010. This presentation is open to the public and the final report will be posted on the School's website. Any direct quotes from your participation will be available for your review up until April 9th, and anonymity, if requested, will be maintained by using a pseudonym (fake name). As a participant in our research, a copy of our final report will be available to you if you request one.

Rights of Research Participants

You may withdraw your consent at any time and discontinue participation. This study has been reviewed by the Faculty of Management Ethics Review Board at Dalhousie University. If you have questions regarding your rights as a research participant, please contact Dr. Peter Duinker, Associate Dean (Research) of the Faculty of Management, Dalhousie University, at peter.duinker@dal.ca.

Consent:

- ☐ I AGREE to participate in this study.
- ☐ I give permission to tape record the meeting.
- ☐ I give permission to be identified as a participant and quoted by name.
- ☐ I give permission to attribute my name, in the form of a pseudonym, to any quotes.
- ☐ I would like a copy of the final report. Provide electronic or postal mailing address below.

Participant Signature: _____ **Date:** _____

___ **Verbal Consent over phone**

Name: _____

Affiliation: _____

Mailing Address: _____

Email: _____

Shelleena Thornton

Subject: FW: Salt Lake Water

From: Greg O'Leary <[REDACTED]>
Date: September 3, 2020 at 9:46:17 AM ADT
To: Bob Morton <bmorton@westhants.ca>
Subject: Re: Salt Lake Water

Caution

This email comes from an outside sender. Verify the sender and use caution with any requests, links or attachments.

Bob Morton

I'm writing you a letter in regards to our water supply. I have lived on the lake for 20 years. My neighbour, parents and I have been relying on the fresh water from Lake Pisquid for our homes. We received a permit to put a water line in the lake when we built our homes. We do not drink the water, but do use it for showering, washing dishes and clothes, and the toilet.

For the past few months the water in the lake has been salty. This has been causing problems with my taps and the hot water heater. I spoke with a plumber and he said that it will cause damage to my washer, dishwasher, hot water heater, taps, water lines, and water pump. Other people also rely on the freshwater of the lake, including other homeowners, the farmers for water for their livestock and irrigation, the local golf course for irrigation, and Ski Martock in the winter time to make snow.

I see that it is having an effect on the vegetation in the water. All of the grass in the water around my house is brown and dying. And I'm sure that there must be an adverse effect on the freshwater wildlife including the muskrats, beavers, turtles, freshwater clams, birds and fish.

On Thursday August 25th while out for a boat ride we found at least a dozen dead white suckers in parts of the lake that are now salty. I am not sure of the cause of death, but I hope it wasn't from the salt water.

I understand that they're allowing the saltwater to enter to have better fish passage. And I'm definitely not against anything that is helping the fish, but I am concerned for the freshwater wildlife also. I hope this is not going to be long-term when the causeway is completed and the fish ladders are installed. I am hoping my water supply will be back to normal soon.

Please add this to council correspondence

Thanks,
Greg O'Leary
[REDACTED]



**Fisheries and Aquaculture
Minister**

PO Box 2223, Halifax, Nova Scotia, Canada B3J 3C4 • Telephone 902 424-8953 Fax 902 428-3145 • novascotia.ca

July 23, 2020

Warden Abraham Zebian
Municipality of the District of West Hants
PO Box 3000
Windsor, NS B0N 2T0

Dear Warden Abraham Zebian:

I am writing to inform you about a funding program that the Nova Scotia Department of Fisheries and Aquaculture has launched and ask for your support.

Nova Scotia is known for its clean coastal and ocean environment from which our seafood comes. Marine debris harms both our environment and our economy. Our seafood industry has been undertaking efforts to clean up our shores and oceans in some areas of the province and we want to encourage and support these efforts.

We have established the Marine Debris Clean-Up program which provides financial support to remove debris from areas that are of commercial and social importance to the seafood sector of Nova Scotia. Please see the attached program package for more information or visit <https://novascotia.ca/fish/marine-clean-up/>.

Covid-19 temporarily restricted the ability to conduct clean-ups. Now that restrictions are changing and our province is entering a new 'normal', organizations may be able to consider clean-ups that can be conducted safely following public health guidelines.

The removal of debris from our oceans and shorelines will support the pristine image of our coastal communities and have direct benefits to tourism. I recognize that municipalities play a vital role in this effort, and I encourage you to consider your current and future involvement. Municipal waste and recycling charges can be an impediment to clean-up efforts. Waiving these fees for clean-up projects may be one way that you can provide support.

If you have questions about the Marine Debris Clean-Up program, or would like to discuss your municipality's involvement, please contact Amber Creamer at (902)237-7146 or amber.creamer@novascotia.ca.

Yours sincerely,

Honourable Keith Colwell, E.C.N.S

James Salter
PO Box 10
Hantsport, NS
BOP 1P0
902-684-9501

August 25, 2020

Dear West Hants Council,

I am writing you currently, looking for your support. I am a veteran member of the Hantsport Fire Department, having served for 35 years.

Back in 2005 and 2006, I was chairman of the departments Centennial Committee celebrating 100 years of fire service to our community. One of the projects the committee raised money for was the commissioning of a wooden statue in honor of the members who have served the department. The statue was carved by James McMahon from Western Shore from a very sturdy looking "rock maple" tree, he chose from the grounds of the Hantsport Memorial Community Centre. Unfortunately, the statue that was supposed to last for 100 years had to be taken down because of rot within the tree in 2012.

I am presently looking for your financial support to have the statue resurrected back to the corner of Prince Street and Oak Street where it once proudly stood. My plan is to have the rot removed from within and replaced with spray foam and refinish the outside with marine grade epoxy. I have been given an estimate for \$5000 to \$7000 to complete the necessary work. The cost of the epoxy alone for the outside is \$2500. If work can be completed for less ex. not needing as much work as estimated, then the cost saving will be reflected in the final invoice.

The statue must be removed from its present location at the former Minas Basin site in Hantsport. I have secured a new location which will enable the work to be completed some time in 2021. I have also been advised that the statue, once resurrected should have a roof or gazebo built to protect the structure from weather.

Thank you for your consideration and I am looking forward to hearing from you. If you require any more information about the statue, please feel free to contact me at any time.

Sincerely,



James Salter

"1906 Hantsport
Fireman"

← 30" →

↑
approx.
10 ft
↓



Hantsport Fire Dept.
1906
on base.

J. McMahon
*illustration does not depict
the full level of detail of the sculpture



WINDSOR CURLING CLUB

Windsor Curling Club
174 Grey Street
Windsor, NS
B0N 2T0
September 2, 2020

TO: Abraham Zebian, Mayor, WWH and WWH Councillors

Dear Mayor Zebian and WWH Councillors:

I am writing at this unprecedented time, on behalf of the executive and members of the Windsor Curling Club, to request your consideration of a complete property tax exemption for the Windsor Curling Club.

It is our hope that the Windsor Curling Club can be provided the same tax consideration as the local hockey rinks and other recreational facilities in the new Windsor West Hants community. The Windsor Curling Club provides recreation for community members of all ages and without this help we may not be able to afford to open this season and quite possibly in future seasons as the property tax bill is one of our largest operating costs.

During a recent poll of members it has become apparent that the curling club could lose up to half of their members this year due to Covid 19 concerns. If this becomes the reality it will take years to build the membership back to its previous state. A complete property tax exemption may be the only way for the Windsor Curling Club to survive.

We would appreciate your immediate consideration of this urgent request and look forward to your reply. A decision on whether to open the Windsor Curling Club for the 2020-21 season will be made in the upcoming weeks.

Sincerely,

Heather Gray
President, Windsor Curling Club

Marvin Peck
Vice-President, Windsor Curling Club

Rhonda Brown

To: Rhonda Brown
Subject: FW: Salt Water Intrusion into Fresh Water

Date: September 8, 2020 at 7:24:54 AM ADT
To: Mark Phillips <MPhillips@westhants.ca>
Cc: Abraham Zebian <AZebian@westhants.ca>, Richard Murphy <rmurphy@westhants.ca>
Subject: Salt Water Intrusion into Fresh Water
Reply-To:

Good morning Mark,

Just wanted to pass along my concerns of the reported salt water contamination of Lake Pisiquid and the fresh water resource of the Avon River. Our farm requires fresh water resources for our crops and livestock and although we have that resource from Shaw Creek that feeds into the lake, I am worried that the salt at some point may intrude upstream at some point. Our farm is providing well over 2000 meals per week in fresh vegetables to citizens of our community and the equivalent of well over 80000 servings per year of beef protein to the community.

As Chair of the Falmouth Great Dyke Marsh Body, I can also say that as a group , we are extremely concerned of the salt water contamination of the fresh water resource of the lake and would like to see the necessary steps taken to have the lake return to its fresh water ecosystem.

I would ask that this be brought forward to Council for their consideration as in the public consultation with the lake the message was that the lake level would be maintained as a fresh water resource but with greater fish passage allowance. There was never any discussion of salt water contamination up the lake as far as it has been reported to be.

These past few months with Covid-19 affecting our communities it should be extremely clear to all that having and protecting a local food supply be of high priority to our community. I trust that council can have that higher level discussion with appropriate Departments to get the fresh water resource back to the previous status quo.

Sincerely,

Dean Manning

Subject: FW: The Flowing Avon River / Pesaquid: the true meeting of two rivers flowing

From: Colleen - The Shift Network <colleen@theshiftnetwork.com>

Date: September 8, 2020 at 2:13:03 PM ADT

To: jivey@westhants.ca, lmurley@westhants.ca, azebian@westhants.ca

Cc: Colleen Walsh-Bouman

Subject: The Flowing Avon River / Pesaquid: the true meeting of two rivers flowing

Hello Jim & Laurie & Abraham,

I am writing to ask you to consider and to see the absolute importance of the future of Windsor with a flowing river. We are the nature of where we live, this is known. We need our river to flow for the health of the future, for the health of now, for the communities, for the fish life, for all of life.

In our modern day era where we have much more understanding of the flow of life and our relationship to the environment, it is of urgency. At this moment we can change this and even correct mistakes of the past. The building of the causeway back when, was a decision made with no full consideration of a flowing river, it is an environmental disaster. This river is the largest flow of water on the planet and it is meant to flow. Flowing waters is everything. You can work with financing and with dams and with community and you can especially when the river flows. You will see our community flourish.

Thank You both for your utmost respect for nature and her presence with us in this community. Tonight there is a gathering for our region and I am asking that you both re-consider the Flowing of the River. This will need to be the ground of our community. Connecting us all. Flowing with us all. Fish. Life. Future. Now.

Much Appreciation for your time,
Colleen
Resident at [REDACTED],
Born in Windsor.

--



With Heavenly Love,

Colleen Walsh-Bouman

The Shift Network Team

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Follow us on Twitter: @theshiftnetwork

Visit us online at: www.theshiftnetwork.com

Rhonda Brown

Subject: FW: Causeway / water supply / fish passage

From: David and Michelle Rideout
Date: September 8, 2020 at 1:15:58 PM ADT
To: Bob Morton <bmorton@westhants.ca>
Subject: Causeway / water supply / fish passage

Dear Mr. Morton,

I am concerned about the water quality in the lake at this time.

We use the water to aid in irrigation and although some salt water is not harmful the content that is currently there is very harmful to plant life as well as the current freshwater wildlife. I am concerned as to what will happen to the current inhabitants of the river while everyone is so concerned with the salt water fish. It seems to me everyone and everything were already happy on either side of the causeway and it seems many humans who were unaffected previously are extremely concerned now. However, those that are being heard through protesting are not affected by the change in the water quality of the lake. From what I can tell they are not stakeholders, they do not use the river or lake, they don't live near it, they don't fish it, swim in it, walk along it. They certainly want to save the fish and I'm not really sure the fish need saving? I believe in the process the humans are doing more harm than good to nature by again disturbing an already settled and thriving eco system. Just because there was a mistake made in the past it doesn't mean we need to make a new mistake now trying to "fix it". If the salt intrusion continues I'm not sure how many of the family run businesses around that rely on the freshwater will survive.

We do have a dug well on our property that now has salt water content. We previously attempted to have a drilled well however, it is entirely salt water to the point that the department of environment questioned where I obtained the water sample. We only have the dug well to rely on for our home and if that is contaminated through the surrounding land and water where will we be? We will have no access to water for our home and no access to water for our irrigation system.

The river that runs behind our home is higher than I have ever seen it and we have more seagulls around than I would expect to see at the Halifax Harbour. The plant life is dying as well as the trees that line the river as they are now under water.

The muskrats are wandering our yard and I am surmising it is because they are searching for freshwater? Also, we found one dead one that we can only assume is from the effects the new water had on it.

I am not against the fish that is for sure. I believe I need a better understanding of why they need help and why is what's currently on the other side of the causeway not just as important? I believe two wrongs do not make a right and we need to find a better way. Saving the fish is affecting so much more.

Is the allowing if the opening for water to be let in but not out going to continue?

Thank you for your time,

David & Michelle Rideout
(Rosevale Golf Course
136 Redden Road)

Sent from my iPhone



**WEST HANTS REGIONAL MUNICIPALITY
INFORMATION REPORT**

To: **Committee of the Whole**

Submitted by: _____
Carlee Rochon, Director, Financial Services

Date: **September 8, 2020**

Subject: Windsor Curling Club – Tax Exemption

LEGISLATIVE AUTHORITY

Municipal Government Act, Section 71

DISCUSSION

The Windsor Curling Club is assessed commercially at \$1,227,100. Before the rebate, the annual tax bill would have been \$47,979.61, and after the rebate it was \$24,233.40. The level of support is the same as it was with the former Town of Windsor under the By-law.

The report received on July 21st at Committee of the Whole, was prepared using the RCOFN-002.00 Tax Exemption Policy. Two things to note from the policy are as follows:

- Our policy defines “Exempt” as the release from obligation to pay whole or a portion of taxes excluding rates for sewer, water, road maintenance, area rates and special tax arrangements.
- It also outlines that commercially assessed properties owned by non-profit community, charitable, fraternal, educational, recreational, religious, cultural or sporting organizations, may be given a tax reduction from the commercial to residential rate on all or part of the taxable commercial assessed property value.

In the schedules approved by Council, if the word “Full” is in the Extent of Exemption column it means the exemption is based on the full assessed property value. If it is not the full amount it will indicate the percentage of the assessed property value that is exempted.

ATTACHMENTS

- RCOFN-002.00 Tax Exemption Policy

Report Prepared by: _____
Carlee Rochon, Director, Financial Services

Report Approved by: _____
Mark Phillips, Chief Administrative Officer



640 Wentworth Road
Dangerous or Unsightly Premises
Committee of the Whole
September 8, 2020

BACKGROUND and PROCESS





26. 5. 2020 8:55



26. 5. 2020 9:00



26. 5. 2020 8:59



26. 5. 2020 8:59



26. 5. 2020 8:59





26. 5. 2020 9:00



26. 5. 2020 8:58





26. 5. 2020 8:56



26. 5. 2020 8:55



26. 5. 2020 9:01

NEXT STEPS

- Notify the owner of the decision made by council
- If work not completed in 45 days, WHRM will hire a contractor to carry out the work
- Cost of the work will be a first lien on the property

RECOMMENDATION

...that Committee of the Whole orders the Owner to demolish the dwelling located at 640 Wentworth Road, Wentworth Creek, Windsor, PID 45018363, including but not limited to the removal of all demolition debris, backfilling of any foundation or crawl space and disconnecting any and all utility connections, to the standards set by each respective utility provider, so as to leave the property in a neat, tidy, environmentally compliant and safe condition within forty-five (45) days of this Order being posted in a conspicuous place upon the property or personally served upon the owner. Otherwise, the Municipality will exercise its rights as set forth under Part XV of the Municipal Government Act.



WEST HANTS REGIONAL MUNICIPALITY

Recommendation Report

To: Committee of the Whole

Submitted by: _____
Tim Leslie, Administrator, Dangerous or Unsightly Premises

Date: September 8, 2020

Subject: Dangerous or Unsightly Premises
640 Wentworth Road, Wentworth Creek, Windsor

Origin

A complaint was received of a Dangerous or Unsightly structure at 640 Wentworth Road in May 2020.

Legislative Authority

Municipal Government Act, Part XV, Sections 345(1)(2), 346

Recommendation

...that Committee of the Whole orders the Owner to demolish the dwelling located at 640 Wentworth Road, Wentworth Creek, Windsor, PID 45018363, including but not limited to the removal of all demolition debris, backfilling of any foundation or crawl space and disconnecting any and all utility connections, to the standards set by each respective utility provider, so as to leave the property in a neat, tidy, environmentally compliant and safe condition within forty-five (45) days of this Order being posted in a conspicuous place upon the property or personally served upon the owner. Otherwise, the Municipality will exercise its rights as set forth under Part XV of the Municipal Government Act.

Background

On May 26, 2020, the By-law Enforcement Officer and Senior Building Official responded to a complaint regarding a Dangerous or Unsightly structure located at 640 Wentworth Road, Wentworth Creek, Windsor. Pictures taken at the time show the abandoned structure's front porch collapsing and pulling away from the structure and the porch full of clutter. Garbage and clutter were stored in and around the structure, not allowing the entrance door to close. Shingles and roof boards were missing off the

roof allowing all weather inside. A portion of the wall is missing near the entrance. Rats were seen at the property. Power was still being supplied to the structure at the time of investigation but the property is not being maintained.

On June 3, 2020, a notice was sent via registered mail to the mailing address we have on file for the owner, Ms. Ross, informing her of the complaint and requiring her to submit a Structural Engineers report advising if the structure is sound within fourteen (14) days. No response was received, and the letter was not returned. June 30, 2020 a registered letter was sent advising of the date, time and place of a meeting to be held before Committee of the Whole (COTW), where she would have the opportunity to be heard before any Order was issued. July 21, 2020 a change of date notice was sent via registered mail advising of the COTW date of September 8, 2020.

It was noted that Canada Post was no longer requiring signatures indicating that registered mail had been received. To ensure the property owner was aware of the September 8, 2020 COTW meeting, the By-Law Officer was able to locate and personally serve the letter of intent to Ms. Ross on August 21, 2020. Ms. Ross had nothing to say when served and was asked to contact the Administrator at the number provided as soon as possible. The letter of intent was posted on the property August 25, 2020.

The condition of the structure poses a safety hazard should anyone attempt to enter the structure. The building is structurally compromised and is not safe for entry. The holes in the roof allow weather inside which is another safety hazard since power is still being supplied.

Financial Implications

Should the Region be required to act to remedy the property, any costs will be attached to the property as a first lien.

Alternatives

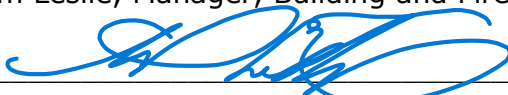
Committee of the Whole may choose not to issue an order, but this is not the recommendation supported by the Administrator.

Attachments

Appendix A Pictures of the property's condition taken May 26, 2020.

Report prepared by: _____
Ryan Parker, By-law Officer

Report Reviewed by: _____
Tim Leslie, Manager, Building and Fire Inspection Services

Report Approved by:  _____
Mark Phillips, CAO



6
4
0

26. 5. 2020 8:55



26. 5. 2020 8:56



26. 5. 2020 8:56



26. 5. 2020 8:57



26. 5. 2020 8:57



26. 5. 2020 8:58



26. 5. 2020 8:58



26. 5. 2020 8:58



26. 5. 2020 8:59



26. 5. 2020 8:59



26. 5. 2020 8:59



26. 5. 2020 9:00



26. 5. 2020 9:00



26. 5. 2020 9:01



26. 5. 2020 9:01



640

26. 5. 2020 9:01

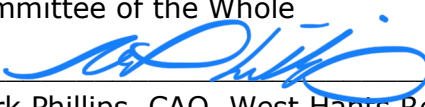


26. 5. 2020 8:55



WEST HANTS REGIONAL MUNICIPALITY RECOMMENDATION REPORT

To: Committee of the Whole

Submitted by: 
Mark Phillips, CAO, West Hants Regional Municipality

Meeting Date: September 08, 2020

Subject: Appointment of Development Officer

ORIGIN

The Municipal Government Act (MGA) requires that Council appoint a development officer to administer the Land Use and Subdivision By-laws.

LEGISLATIVE AUTHORITY

Municipal Government Act s 243 (1)

RECOMMENDATIONS

If Committee of the Whole is in agreement with the recommendations, the following motion would be in order:

... that COTW recommends that Council appoint Madelyn LeMay as Development Officer for the Region effective September 22, 2020.

DISCUSSION

West Hants Regional Municipality has two appointed Development Officers: Doug MacInnis and Janet Redden. Mr. MacInnis will be off work for approximately two (2) months likely beginning in early October for medical reasons. In order for Ms. Redden to have backup, it is reasonable to appoint Ms. LeMay again as Development Officer.

Ms. LeMay is certified as a Senior Development Officer by the Municipal Development Officers' Association.

FINANCIAL IMPLICATIONS

There are no financial implications related to these appointments.

ALTERNATIVES

Council could not appoint the required Development Officer, resulting in an inability to administer and enforce the Land Use By-laws of the Region in a timely manner.

ATTACHMENTS

None

Report Prepared by:

Madelyn LeMay, Director of Planning and Development
Region of Windsor and West Hants Municipality

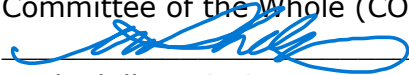
Report Reviewed by:



Rhonda Brown, Municipal Clerk
Region of Windsor and West Hants Municipality



WEST HANTS REGIONAL MUNICIPALITY RECOMMENDATION REPORT

To: Committee of the Whole (COTW)
Submitted by: 
Mark Phillips, CAO, West Hants Regional Municipality
Meeting Date: September 8, 2020
Subject: Appointment of Required Fire Official

ORIGIN

The Fire Safety Act requires that Council appoint one or more Fire Inspectors.

LEGISLATIVE AUTHORITY

Fire Safety Act

RECOMMENDATIONS

... COTW recommends that effective September 8, 2020, Council appoint Tim Leslie, Jody den Haan and Tina McKay as Fire Inspectors for West Hants Regional Municipality in accordance with Clause 19 (1) (b), Fire Safety Act.

DISCUSSION

Appointed fire officials are required for the work directed by Council and carried out by the Planning and Development Department. Jody den Haan and Tina McKay are not yet fully qualified as fire inspectors and will not be able to carry out fire inspections until fully qualified. We expect Jody to be qualified in the very near future.

FINANCIAL IMPLICATIONS

There are no financial implications related to these appointments.

ALTERNATIVES

COTW could recommend that Council not appoint the required officials, resulting in lack of compliance with the Fire Safety Act.

ATTACHMENTS

Attachment A Appointments, Qualifications and Authority

Report Prepared by:

Madelyn LeMay, Director of Planning and Development

ATTACHMENT A
Appointments, Qualifications and Authority

Appointment	Person	Qualifications	Authority
Fire Inspector	Tim Leslie	Level 2 Certified by NS Fire Inspector's Association and NS Office of the Fire Marshall	Fire Safety Act 19 (1) (b)
Fire Inspector	Jody den Haan	In process for certification as Level 1 Fire Inspector with NS Fire Inspector's Association and NS office of the Fire Marshall (will not carry out Fire inspections until certified)	Fire Safety Act 19 (1) (b)
Fire Inspector	Tina McKay	In process for certification as Level 1 Fire Inspector with NS Fire Inspector's Association and NS office of the Fire Marshall (will not carry out Fire inspections until certified)	Fire Safety Act 19 (1) (b)



WEST HANTS REGIONAL MUNICIPALITY DECISION REQUEST FORM

Name:	Richard Murphy		
Date:	Aug 22, 2020	Date Submitted to CAO:	Sept. 01, 2020

Request– Initial – to be completed by Council Member

Detail	During the Covid slowdown there was a huge increase in the amount of walking, running and biking. As traffic ramps up, it would be beneficial to provide an active transportation environment where residents feel safe enough that they continue to get outside and enjoy the many great aspects of physical outdoor exercise. Safe active transportation networks are healthy and also provide connectivity between neighbourhoods and even communities.				
Decision Requested:	That Committee of the Whole recommends having staff, with public consultation, look at ways to provide a sidewalk/path system to allow the residents of Falmouth a safe method of getting around the community and provide safe routes for children to get to school. To look at funding through a possible area rate, Covid-19 Resilience Funding and other Federal and Provincial programs.				
Background: What? Who? How? When?	Property ☐	Public Opinion X	Environment X	Social X	Economic X
	Falmouth is a growing district in West Hants and is the third most densely populated area. It has experienced large population growth over the last 15 years, with continued growth expected. Currently 60 percent of the children who attend Falmouth Elementary School are required to walk, because they are in the “no-bus zone.” Very few do walk because of the dangerousness of the roads and the very thin shoulders. While campaigning this winter the amount of traffic and lack of feeling safe on the roads was the main topic of concern of the residents I spoke with.				

Strategic Implication: with Dashboard	Current ☐	Short Term ☐	Long Term X
Budget:	Yes ☐ No ☐	Policy: MGA section S.65 – Power to expend money	Yes ☐ No ☐
Desired Outcome:	That the recommendation be supported.		
Recommendation:	Report/Document: Attached ☐ Available ☐ Nil ☐ See Decision Requested		

Request for Decision – CAO Initial Review

Detail	Synopsis
Department: select all that apply	Governance/Legislative ☒ Protective Services ☐ Administration ☐ Planning ☒ Engineering Public Works ☒ Parks and Recreation ☒ Finance ☒ Economic Development ☐
Decision Requested:	Operational Matter ☐ Decision of Council Required ☒ Policy Change ☐ Other ☐
Background:	The request for decision form was completed by Council Murphy expressing his opinion surrounding requested AT routes in the Falmouth area. In addition to the Councillor's comments and background the following documents currently exist and should be

	referenced as a significant amount of research, consultation as well as recommendations have been made guiding AT in the West Hants Region. 1. Active Transportation Plan, February 2015 (Joint Project by former West Hants, Windsor and Hantsport) 2. West Hants AT Policy June 2017 3. Windsor "Municipalities for Green Mobility", July 2009 4. West Hants Active Living Strategy 2018-2022, 2018 5. Municipal Planning Strategy and Land Use Bylaw
Budget:	Unknown currently in relation to the request for decision. The funding for construction of sidewalks and other community specific infrastructure will have to be considered in relation to when infrastructure is installed in a former Town or growth center. Is the infrastructure primarily for the benefit of the community it is installed in or does the greater region benefit from its' existence? Funding sources have been noted in the background section. These sources will have to be further investigated to confirm eligibility for the region as well as other funding that may exist.
Staff Workload:	Staff time will be required to properly respond to the Councillor's request pending Council's discussion and direction. Short-Term: Refer to existing documentation, programs, and future capital projects to see what information exists to support the request Medium – Long Term: Further project planning and Budget forecasting for both Capital and Operating impacts. Stakeholders: DOTIR, WH Public Works, Residents, Developers, and others will have to be engaged should the request for decision be supported by Council.
Policy:	Refer to the attachments as noted in the background section.

Response Options:	1. Recommends having staff, with public consultation, look at ways to provide a sidewalk/path system to allow the residents of Falmouth a safe method of getting around the community and provide safe routes for children to get to school. 2. Direct staff to review existing documentation (s) that may support the request of the Councillor and report back to COTW in October. 3. Decline the request by the Councillor.
Preferred Strategy:	2. Direct staff to review existing documentation (s) that may support the request of the Councillor and report back to COTW in October. A considerable amount of work has been completed in the past that is transferable to support the current decision request. These documents should be referenced before proceeding with new research and processes.
CAO Comments:	This request for decision is specific to the Falmouth area. I support the creation of networks within the proposed area and would bring great benefit to the community. All areas of West Hants and particularly the growth centers will benefit from more AT initiatives. Connecting our greater region through "Trails on Rails" or Trails by Rails" is a greater initiative that should remain current for this Council should a change in the Windsor / Hantsport Rail-line Operation change in the future.

Reviewed and Signed by Mark Phillips ,CAO :





ACTIVE AVON

An Active Transportation Plan for the Avon Region

Draft Final Report

UPLAND

Urban Planning + Design Studio

Project No. 140503.00

February 6, 2015

Prepared for the Municipality of West Hants,
Town of Windsor and Town of Hantsport

Prepared by UPLAND (Project Lead)
and SNC Lavalin (Engineering Lead)



Acknowledgments

UPLAND would like to thank the many residents and community groups who contributed to this Plan by providing invaluable feedback, attending public meeting, and embedding themselves into the vision of an active Avon Region.

We would particularly like to thank the Steering Committee for their dedication, passion and enthusiasm.

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1 Introduction

1.1 What is Active Transportation?	Active transportation (AT) is a broad term, that refers to all forms of human powered or non-motorized transportation. It typically refers to walking and cycling, but also rollerblading, skateboarding, wheelchair use, etc. There are also many seasonal activities such as canoeing, kayaking and cross-country skiing that can be defined as active transportation.	Active transportation is commonly broken down into two different categories: • Utilitarian active transportation includes active destination oriented trips (e.g.: commuting to work or school) and active workplace travel (e.g.: delivering materials or attending meetings). • Recreational active transportation includes leisure, recreational pursuits, and fitness (e.g.: dog walking, hiking, paddling, etc.) and often takes place in off-road locations. In some cases, both utilitarian and recreational active transportation can occur at the same time.
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1.2 Why Active Transportation?	Active transportation has steadily been gaining popularity across the continent because of the health, social, environmental, economic and tourism benefits. There is clear evidence of the advantages associated with designing cycling and pedestrian friendly communities which enable and encourage residents to be more active by walking and biking for recreation and utilitarian purposes. The Municipality of West Hants, Town of Hantsport, and Town of Windsor, collectively known as the Avon Region, have	recognized the importance of providing residents with improved options for safe and enjoyable self-propelled transportation and have individually begun to promote better infrastructure through policies and plans. The latest round of Municipal Planning Strategies, Integrated Community Sustainability Plans, Active Living Strategies, Trail Plans and Transportation Studies all encourage better walking and biking infrastructure for each respective community. In recent years, pathways have been inventoried and trails have been planned and built. While some of these initiatives have already made cross-municipal recommendations, this new Regional Active Transportation Plan is a critical project for the Avon Region and for Nova Scotia. It will define how conversations beyond municipal boundaries offer unique opportunities to build collaborative active transportation capacity for an entire region.
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1.3 Impacts and Benefits

Municipalities across Canada and North America are realizing the multifaceted benefits of promoting active transportation and are undertaking such initiatives. The following paragraphs outline some of the high-level benefits that can be realized by implementing active transportation initiatives at a regional level.

Health Benefits

Encouraging greater participation in active transportation is one of the best ways to increase physical activity, which often results in increased overall health and wellbeing by decreasing obesity rates and improving mental health. Research suggests that increasing physical activity rates is one of the most effective ways to create a culture of healthy living (Department of Health and Wellness, 2012). The economic benefit of reducing physical inactivity is estimated at \$0.52 per kilometer for cycling

and \$1.07 per kilometre for walking (Institute of Sensible Transport, 2011).

Although recent figures indicate a reduction in serious car accidents on Canadian roads, driving is a relatively dangerous mode of transportation. In 2011, there were 2,006 deaths, 10,443 serious injuries and 30,463 total injuries related to car accidents (Statistics Canada, 2011).

Active transportation can also facilitate more socially cohesive communities as residents have more opportunities to interact with one another when they are outside of their cars. Greater physical activity rates have been proven to reduce mental issues such as stress, anxiety and depression while contributing to an improved quality of life and overall happiness.

Better Mobility Options

Active Transportation provides an efficient, affordable and flexible travel option, particularly for those who would prefer to not drive and for residents without access to a vehicle. Furthermore, an aging population will result in a larger proportion of the population that can no longer operate a vehicle.

Less Pollution

Active transportation use and its associated infrastructure have a low environmental impact, particularly when compared to driving a vehicle. Automobile use contributes to air pollution through emission of harmful greenhouse gases such as nitrous oxide, carbon dioxide and low level ozone.



The impacts of vehicle infrastructure also have negative environmental implications. Road and parking maintenance such as resurfacing and winter snow removal have negative environmental impacts on soil contamination and water quality. Impermeable road surfaces increase the degree of runoff during heavy precipitation and cause oil and salt to contaminate neighbouring ecosystems. On the other hand, active transportation infrastructure such as trails, bike lanes, and bike racks have substantially less negative environmental impacts. Trails and bike paths have narrower right-of-ways and are often permeable with less detrimental affects on adjacent ecosystems.

Tourism

Bicycle tourism has been growing steadily over the past few decades, initiated by successful experiences

in Northern Europe and the UK. This growing trend stems from the shifting inclination of tourists to healthier, more experiential and contemplative methods of travel. In the Netherlands, an investment over a 20 year period of approximately \$150/km/year resulted in a return of investment of over \$75,000/km/yr (Netherlands Cycling Platform, 2010). In the US, several states have significantly invested in AT infrastructure with positive results. The North Carolina Department of Transport (2004) reported an annual return of 9 times the initial investment in active transportation infrastructure.

In Canada, the province of Quebec is at the forefront of the bicycle tourism industry, where a regional 4,000 km AT network called the “Route Verte” has been in development since the 1980s, and is supported by a growing suite of

education and awareness materials and organization tools. It is estimated that the route generates revenues of \$85 million per year.

In Nova Scotia, Bicycle Nova Scotia is working with the province to implement a similar project called the Blue Route, which proposes a provincial bicycle network that supports local community-based active transportation initiatives.

Economic Benefits

According to a recent national poll owning and operating a car is the second largest expense for Canadian families (CAA, 2013). The average annual costs for a small compact car is \$9,500 or \$0.528 per kilometer. In comparison, the costs of walking and cycling are negligible.

An additional economic benefit is the reduced costs associated with a reduction in car use as outlined in a number of recent studies:

- reduced the costs associated with road construction, repair and maintenance in certain areas;
- reduced healthcare costs;
- reduced fuel, repair and maintenance costs for the user; and
- increased property values along quieter streets and trail networks

Reducing or centralizing parking also has significant economic benefit. Parking has significant costs associated with it including land, construction, maintenance and operational costs. Parking costs are significantly lower for bicycles and non existent for most other forms of active transportation.



1.4 Challenges in the Avon Region

There are several challenges to understand and overcome when promoting active transportation in rural areas like the Avon Region.

Size and Density

A key challenge for the Avon Region is its large area and a dispersed population, typically resulting in greater travel distances than in dense, urban areas. Furthermore, the majority of residents living in the Avon Region work outside of the region in Halifax or the Annapolis Valley. With such considerable travel distances, it is unreasonable to expect a large amount of utilitarian active transportation to occur, particularly in rural areas.

Car Culture

North Americans have become reliant on their cars, which can be a challenge

when promoting active transportation. Using the automobile for all trips has been a default choice for most people throughout their entire lives. Although automobile use is necessary for many trips in rural areas, there may be some shorter trips that could be made using active modes of transportation. However, the prevalence of car culture has resulted in most people not even thinking about the possibility of using active modes of transportation.

Rural Road Design

Most Canadian rural roads have been designed for efficient automobile use without much consideration for pedestrian and cyclist safety. Although this conventional approach to road design is changing, many existing roads are straight, two-lane right-of-ways that en-

courage high traffic volumes and high speeds and do not incorporate paved shoulders. This results in transportation corridors that favour fast automobile traffic, without offering any safe corridors for slower and more vulnerable road users.

Climate

Climate can have an impact on the use and enjoyment of active transportation. Nova Scotia features a North Atlantic climate that is mild during summer months, but harsh and unpredictable during winter months. Cold temperatures, strong winds and heavy precipitation can make AT challenging between December and April. Varying temperatures and the freeze-thaw cycle increases the amount of road maintenance required for roads and pathways.



1.5 Opportunities in the Avon Region

Although planning for active transportation in rural areas comes with many challenges, there are also several opportunities that can be taken advantage of, particularly for the Avon Region.

Beauty

The Avon Region boasts a wonderfully scenic rural setting that unites meandering river valleys, tidal flats, rolling farmlands and Acadian forests with a handful of quaint villages and hamlets. This scenic quality has attracted people from all over the world to visit or live in the Avon Region.

Topography

Compared to other areas in Nova Scotia, the general topography of the Avon

Region is relatively flat and conducive to active transportation.

Strategic Location

The Avon Region is strategically located between Halifax Regional Municipality and Kings County, the two largest population (and tourism) centres in Nova Scotia. As a result, the Region is well positioned to benefit from any potential future active transportation corridors linking the two destinations.

Community Capacity

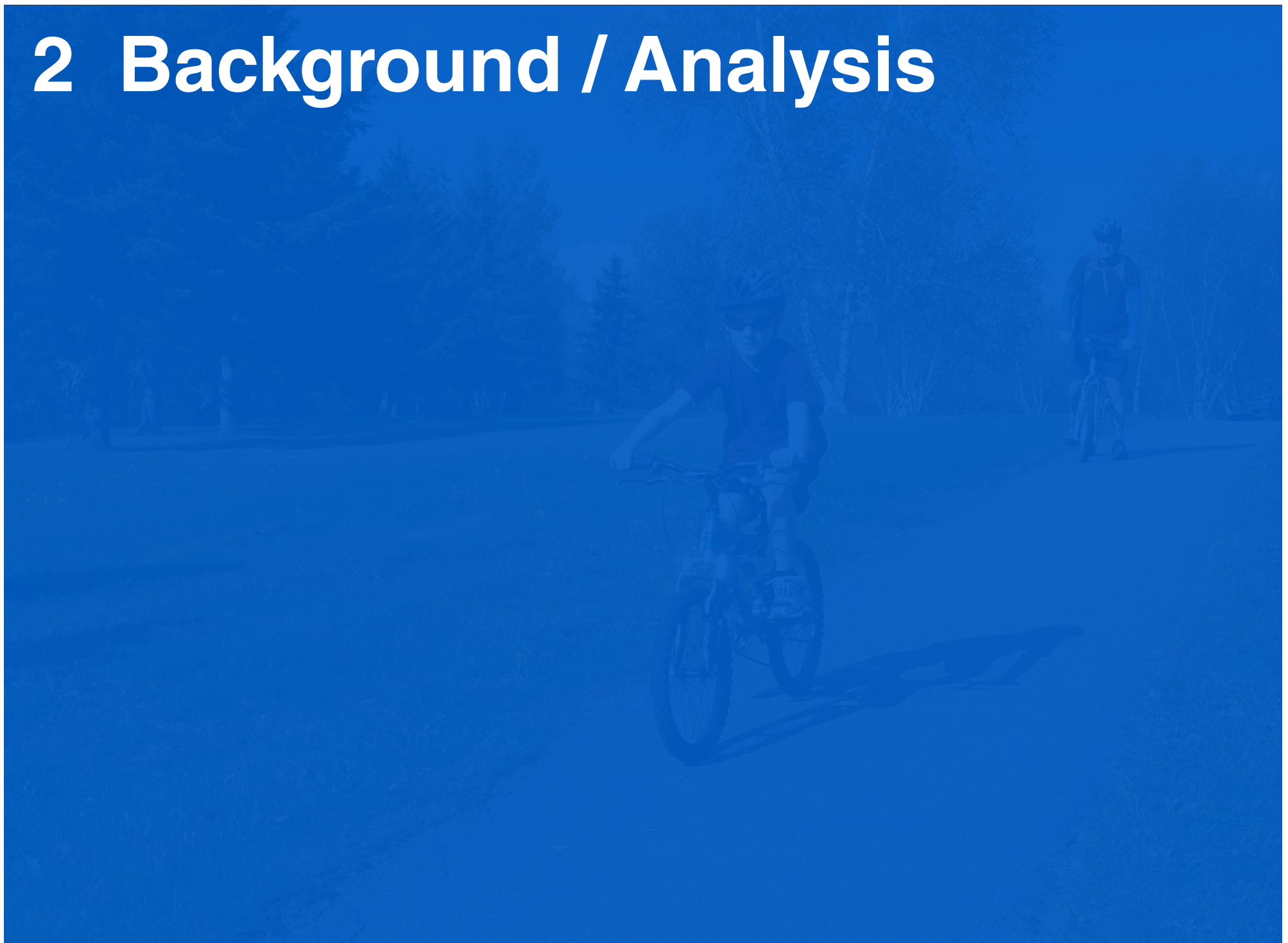
An enthusiastic group of volunteers, staff and elected officials exists in the Avon Region, all of whom are excited and eager to improve active transportation. Similarly, the Region benefits from tight

knit social networks, flexible decision makers and staffers, and the lack of lengthy bureaucratic processes that may be a challenge in more urban areas.

A Compact Regional Core

There are opportunities for utilitarian active transportation within the regional urban core of the Avon Region between Three Mile Plains and Hantsport, where a dense concentration of homes, shops, services, and other destinations exist.

2 Background / Analysis



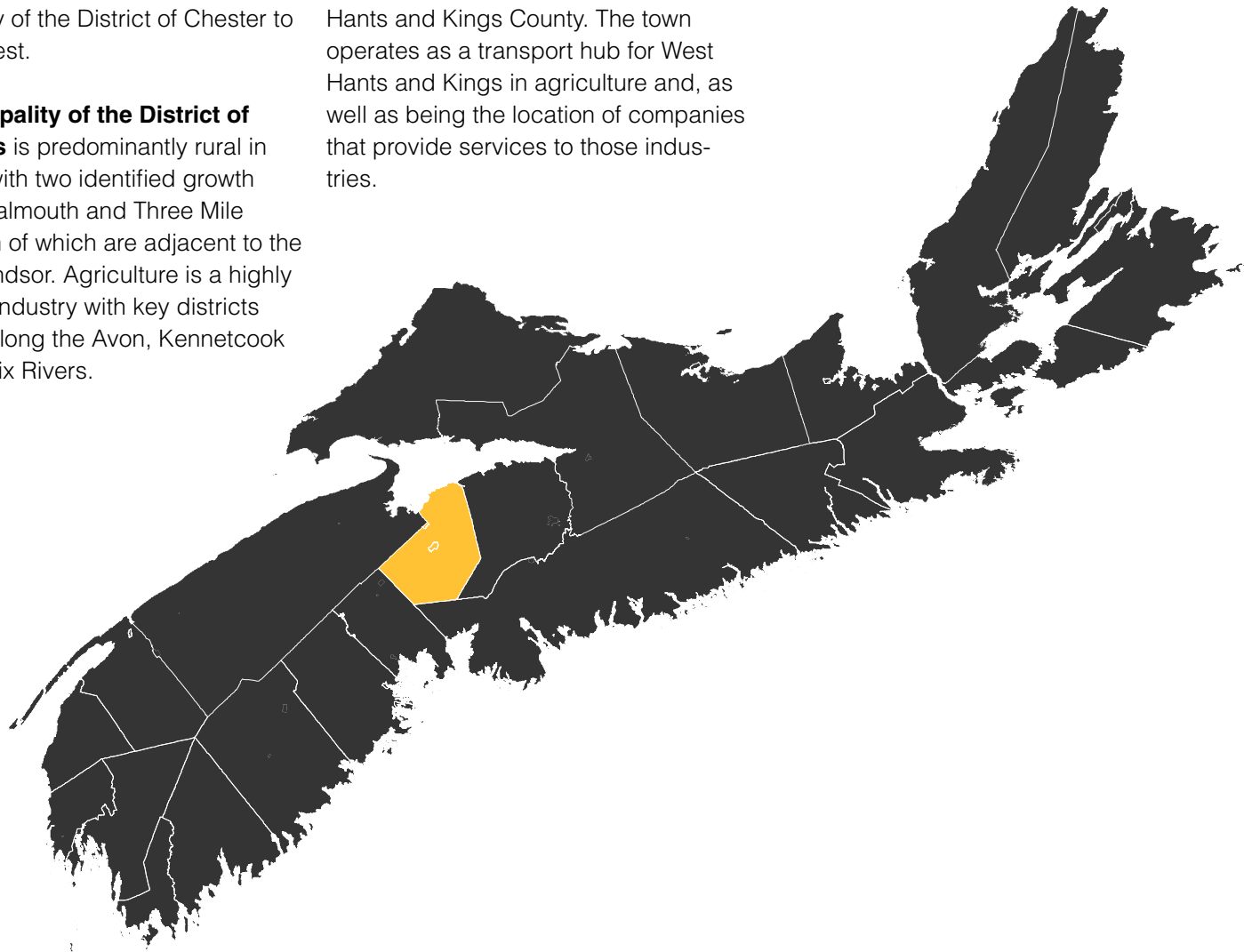
2.1 About the Avon Region

The Avon Region consists of the Municipality of the District of West Hants, the Town of Windsor, and the Town of Hantsport. It is situated in central Nova Scotia along the shores of the Minas Basin. It borders the Halifax Regional Municipality to the south, the Municipality of the District of East Hants to the east, Kings County to the west, and the Municipality of the District of Chester to the southwest.

The **Municipality of the District of West Hants** is predominantly rural in character with two identified growth centres – Falmouth and Three Mile Plains, both of which are adjacent to the Town of Windsor. Agriculture is a highly significant industry with key districts occurring along the Avon, Kennetcook and St. Croix Rivers.

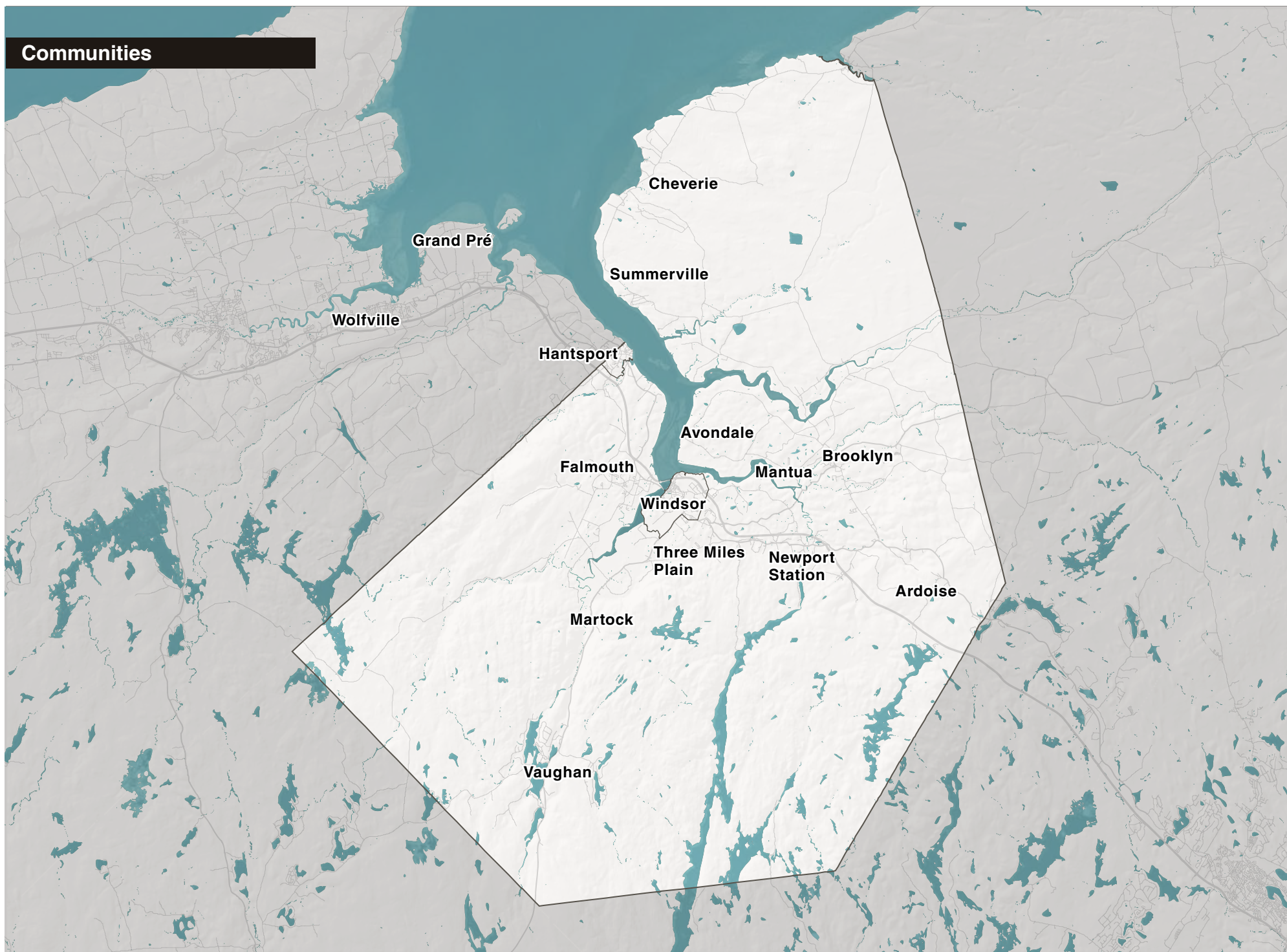
The **Town of Windsor** has an urban core comprised of mixed commercial and residential land uses and a small rural fringe which extends into the municipality of West Hants.

The **Town of Hantsport** is a small and compact urban district located on the northeastern border between West Hants and Kings County. The town operates as a transport hub for West Hants and Kings in agriculture and, as well as being the location of companies that provide services to those industries.

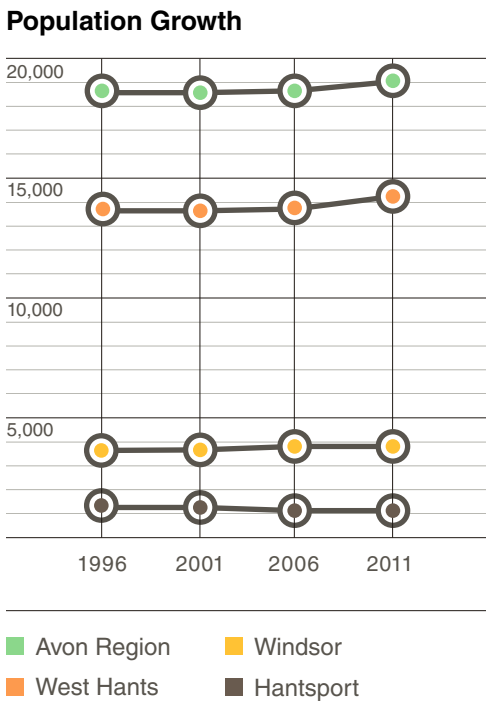




Communities

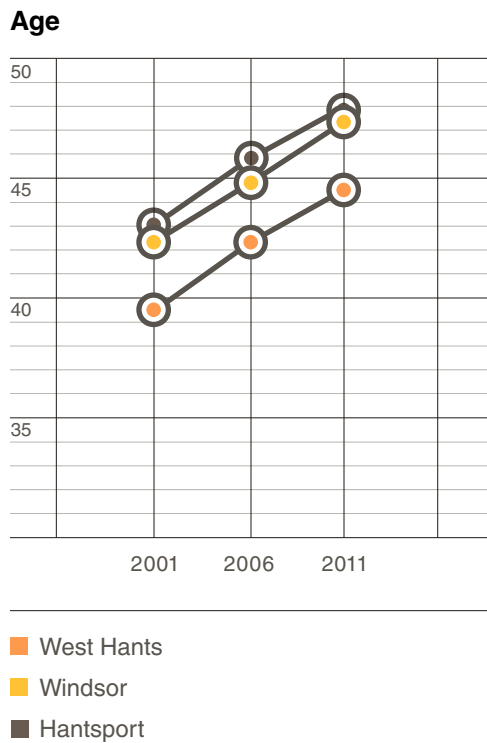


2.2 Socioeconomic Profile



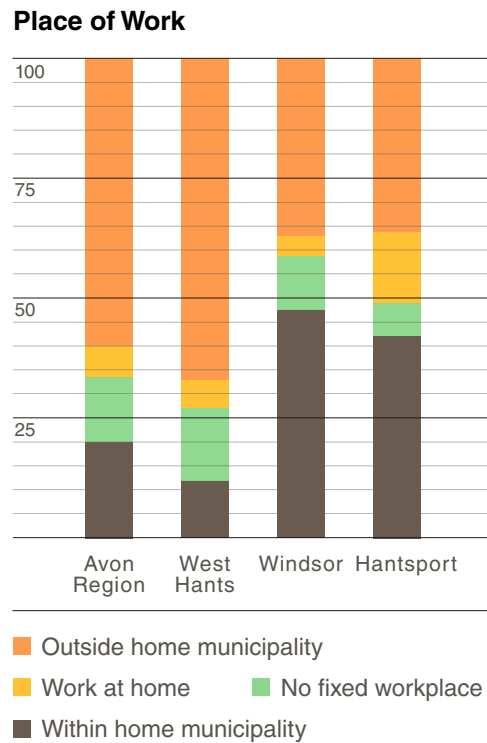
Population growth by year (Statistics Canada, 2011)

The population of the entire Avon Region in 2011 was 19,106. Since 1996, the Region has experienced modest growth. Over the past twenty years, Windsor has had a steady population of around 3,700 people, while the population of Hantsport has been moderately declining since 1996. The District of West Hants, on the other hand, has experienced population growth since 2001 due to recent development in Falmouth and Three Mile Plains. West Hants is one of the few rural Nova Scotian municipalities to experience growth in the past decade.



Median age by year (Statistics Canada, 2011)

As is being experienced throughout Canada, the Avon Region has an aging population. For example, the median age for residents living in the Region was estimated to be 40.3 in 2001. Ten years later, the median age rose to approximately 45.3. Interestingly, residents living in the District of West Hants have been on average three years younger than their counterparts living in Windsor and Hantsport.



Destination of workplace, by proportion (Statistics Canada, 2006)

Travel behaviour for getting to work and back is strongly influenced by commute distance. In 2006, approximately 60% of the total labour force in the Avon Region worked in a different municipality than the one they lived in (note: this type of data was not recorded in the 2011 Census). Only 20% lived and worked in the same municipality, making it difficult to promote utilitarian active transportation as a viable mode of transportation, particularly in the large district of West Hants. In Hantsport and Windsor, however, 43% and 47% of employees lived and worked within each town respectively.

Commute Time



10.4 min
Windsor



12.4 min
Hantsport

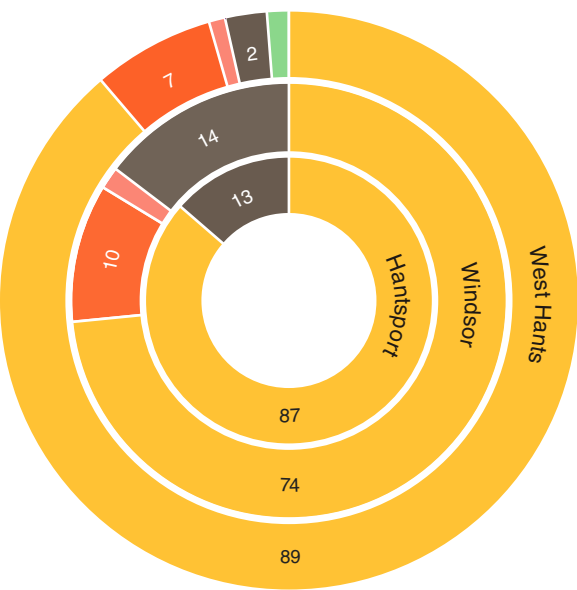


25.4 min
West Hants

Median commute duration (Statistics Canada, 2011)

Because the majority of commuters in West Hants are travelling outside of their municipality to get to work, commute times are much longer than for residents in Windsor and Hantsport. In 2011, the median travel time for commuters in West Hants was 25.4 minutes each way. This is well over ten minutes longer than those experienced for commuters in Hantsport and Windsor, where the median travel times were 12.4 and 10.4 minutes respectively.

Mode of Transportation



Mode of transportation to work (Statistics Canada, 2011)

The vast majority of residents in the Avon Region used their car to travel to work and back in 2011. In West Hants, 96% of residents used a car as their primary mode of transportation for getting to work and back. In Hantsport and Windsor, car use was less dominant at 87% and 84% respectively.

Walking is much more common in the towns of Hantsport and Windsor, where approximately 13% and 14% respectively, walk to work.

In 2011, cycling was not identified as the primary mode of transportation for anyone in the Avon Region.

2.3 Health and Wellness

The rise of physical inactivity and obesity rates throughout North America is so prevalent that it is often referred to as an epidemic (Velo Quebec, 2010; Mapes J, 2009). Similar issues are of concern in the Avon Region, where physical activity rates are low and overweight/obesity rates are high, as revealed in a Community Health Survey in 2009.

Although the Avon Region recorded higher physical activity rates than the rest of Nova Scotia, and indeed the country, almost half of the population is physically inactive with less than 15 minutes of exercise per day. Furthermore, the West Hants Active Living Strategy (2013) states that:

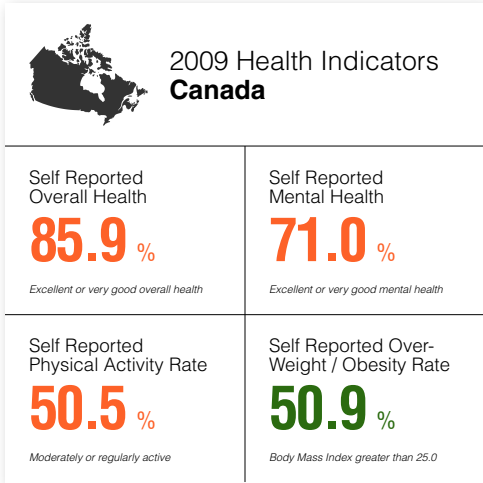
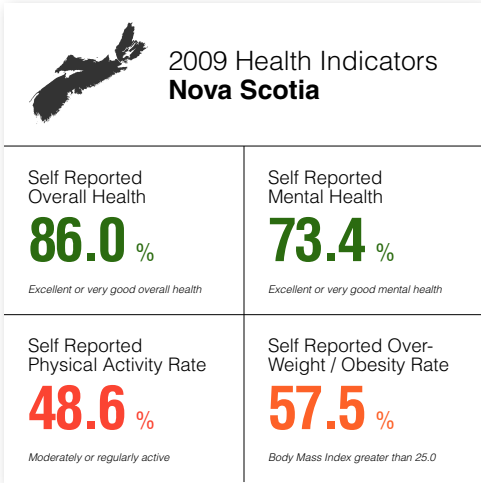
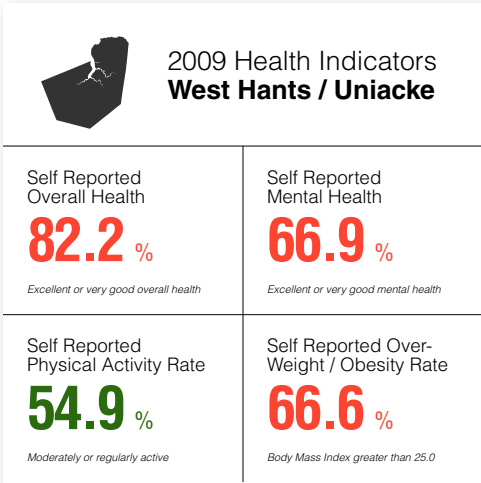
- Less than a third of all residents perform the recommended amount of moderate to vigorous activity

- each week, with the most popular activity cited as walking.
- Approximately a third of youth and children regularly play actively (60 minutes of daily activity, six days a week), and
 - Only 17% of children walk or run regularly and even less cycle (5%).

Decreased physical activity rates have been linked to the rapid increase of obesity rates within Canadian communities; so too has the increase in risk for a variety of chronic diseases including cardiovascular disease, diabetes, osteoarthritis and some forms of cancer (Velo Quebec, 2010). In 2009, two-thirds of persons in the Avon Region were overweight or obese (ie, body mass index greater than 25.0), which is much greater than in the rest of the country (which is at about 50%).

The Nova Scotian Department of Health and Wellness has identified that the decline in activity and subsequent rise in obesity is not simply the result of individuals making poor choices. The 2012 Thrive report identifies that the majority of Nova Scotians live within an ‘obesogenic’ environment.

Residents within the Avon Region indicate that significant barriers to increasing regular physical activity rates include a lack of time, access to paths, trails and open spaces and costs associated with recreational activity. Replacing short car trips with more active modes of transport is an affordable, achievable and effective strategy to increase daily activity for these residents (West Hants Active Living Strategy, 2013; Mapes, J 2009).



2.4 Road Network

The Avon Region is served by a network of provincial roads and highways that provide connections with neighbouring municipalities. These roads are maintained by the Nova Scotia Department of Transportation and Infrastructure Renewal (NSTIR).

The principal route into the Avon Region is via **Highway 101**, an east-west highway that connects Bedford to Yarmouth via the Avon Region and the Annapolis Valley. The 100-series highway is a two or four-lane, controlled access highway featuring high traffic volumes.

The modern expressway has replaced **Trunk 1**, another east-west corridor that is one of the oldest major roads in Nova Scotia. It was once called the Great Western Road and is now commonly referred to as “the old number one”. It runs more or less parallel to Highway 101 and features lower traffic volumes, although it lacks a paved shoulder along most of the route. The trunk route hosts the Evangeline Trail scenic roadway along its entire length, as well as the Glooscap Trail scenic travelway between Windsor and Wolfville.

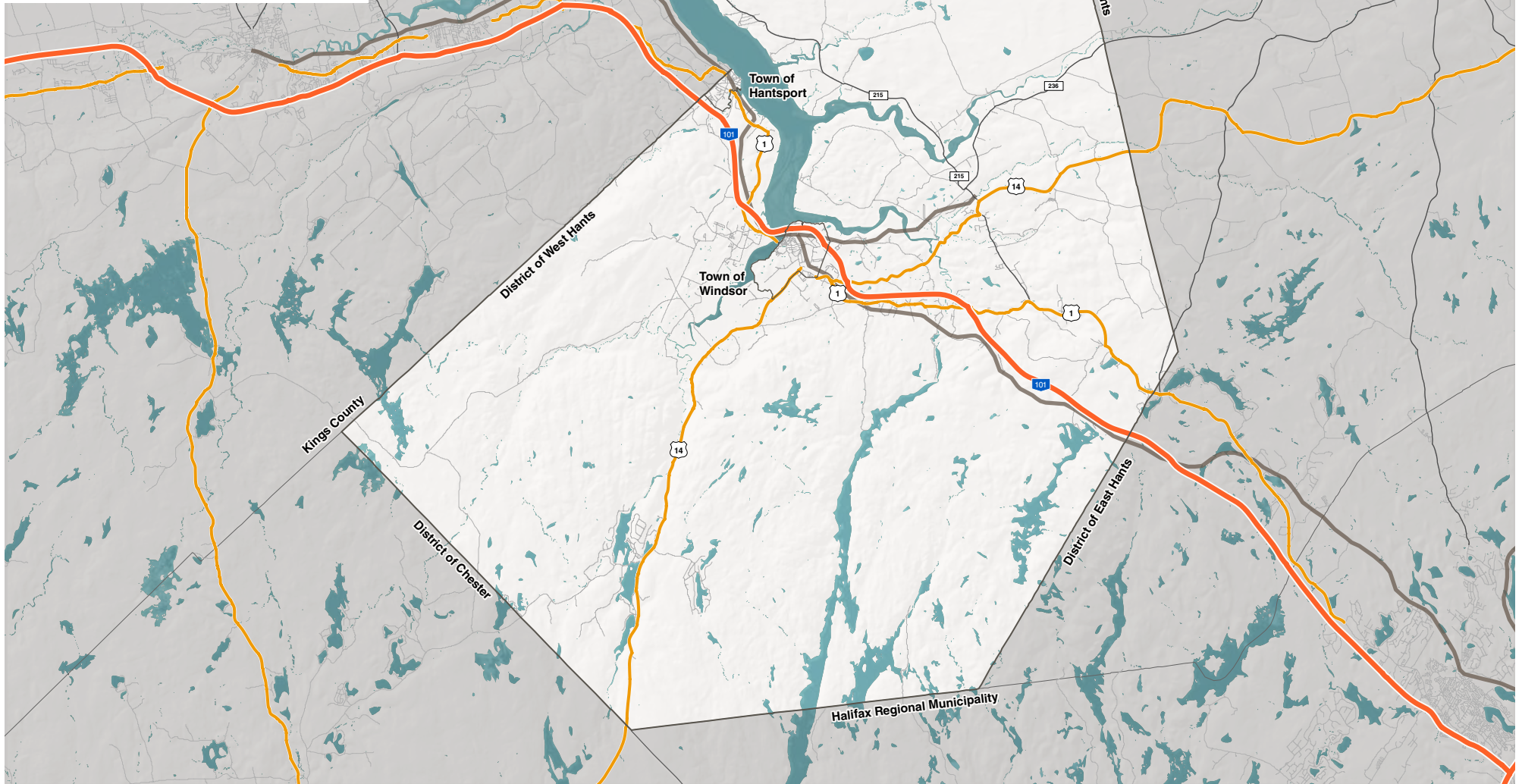
Trunk 14 connects Chester from the southwest of the Avon Region up in to Windsor before continuing east on to Milford. It is a common truck route, with moderate traffic volumes, no paved shoulders and a relatively straight alignment that encourages travel speeds above the posted limits.

Route 215 is a scenic collector road connecting the village of Shubenacadie at Trunk 2 to the east of the Avon Region with Newport Corner. Parts of the road are included in the Glooscap Trail and also the Fundy Shore Ecotour. It also does not include a paved shoulder but has very low traffic volumes and follows closely along the shores of the Minas Basin.

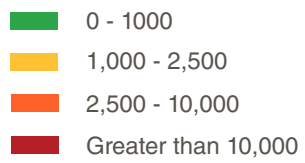
Road Network

- Highway
- Trunk Route (Secondary Highway)
- Collector Route
- Local Road
- Railway

Source: NSTDB, 2011.

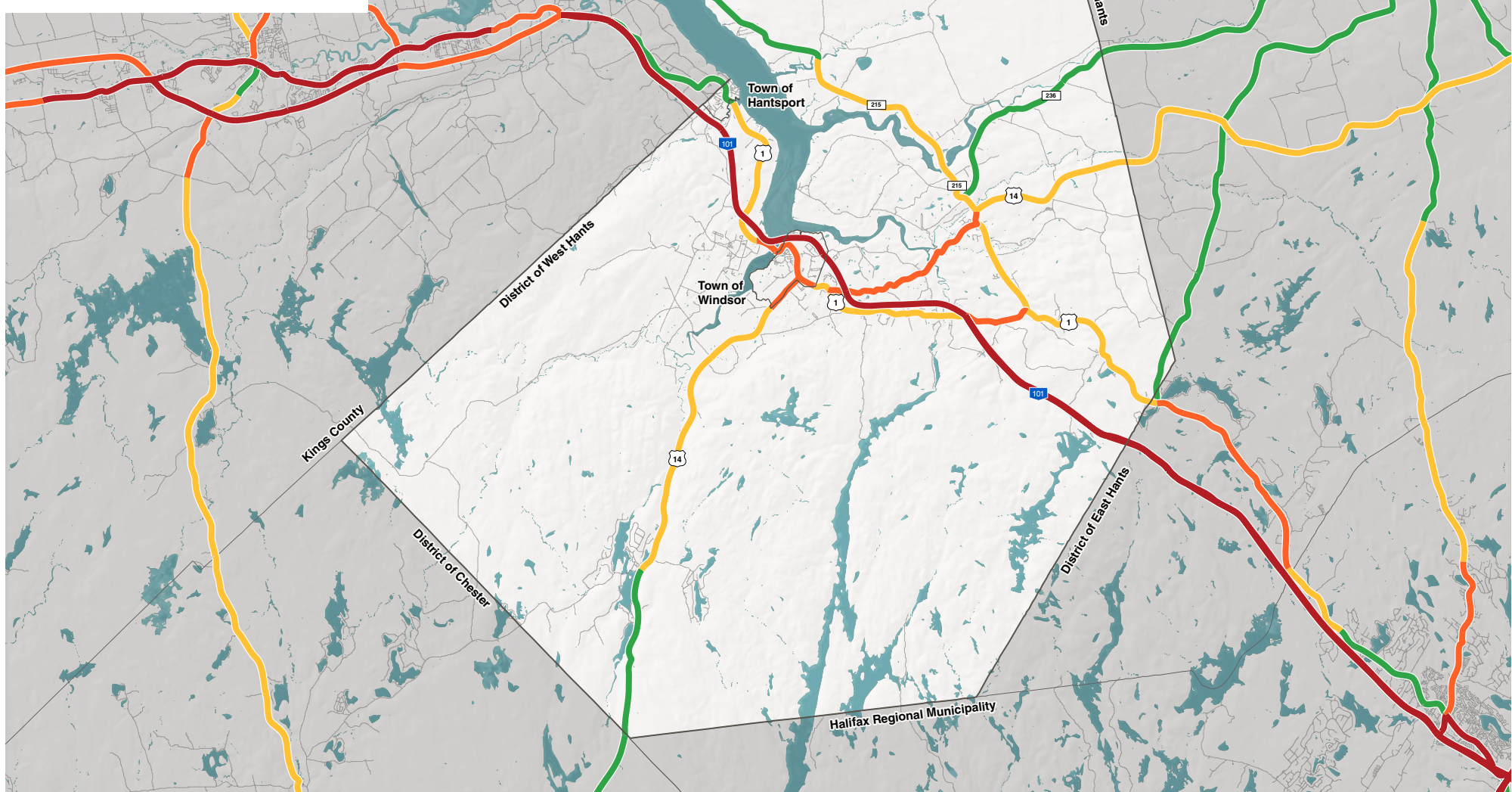


Traffic Volumes



Annual average daily traffic

Source: NSTIR, 2011.

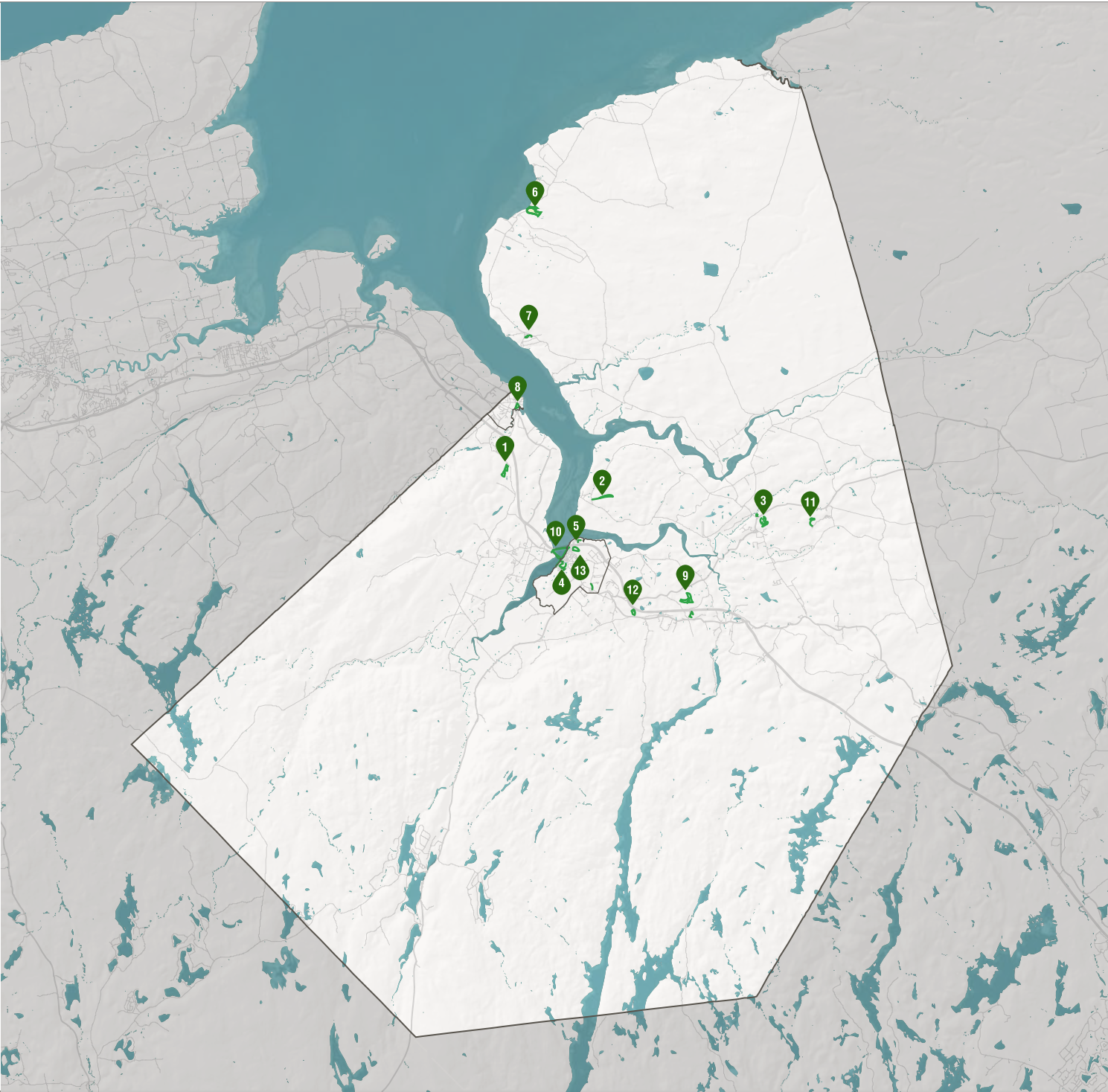


2.5 Existing Trail Inventory

The following is a list of recognized trails that exist in the Avon Region. There are a handful of additional informal trails that are occasionally used by cyclists and pedestrians as well, such as the Windsor to Hantsport rail line, and extensions of the Castle Frederick to Moses Mountain and Eldridge Road trails.

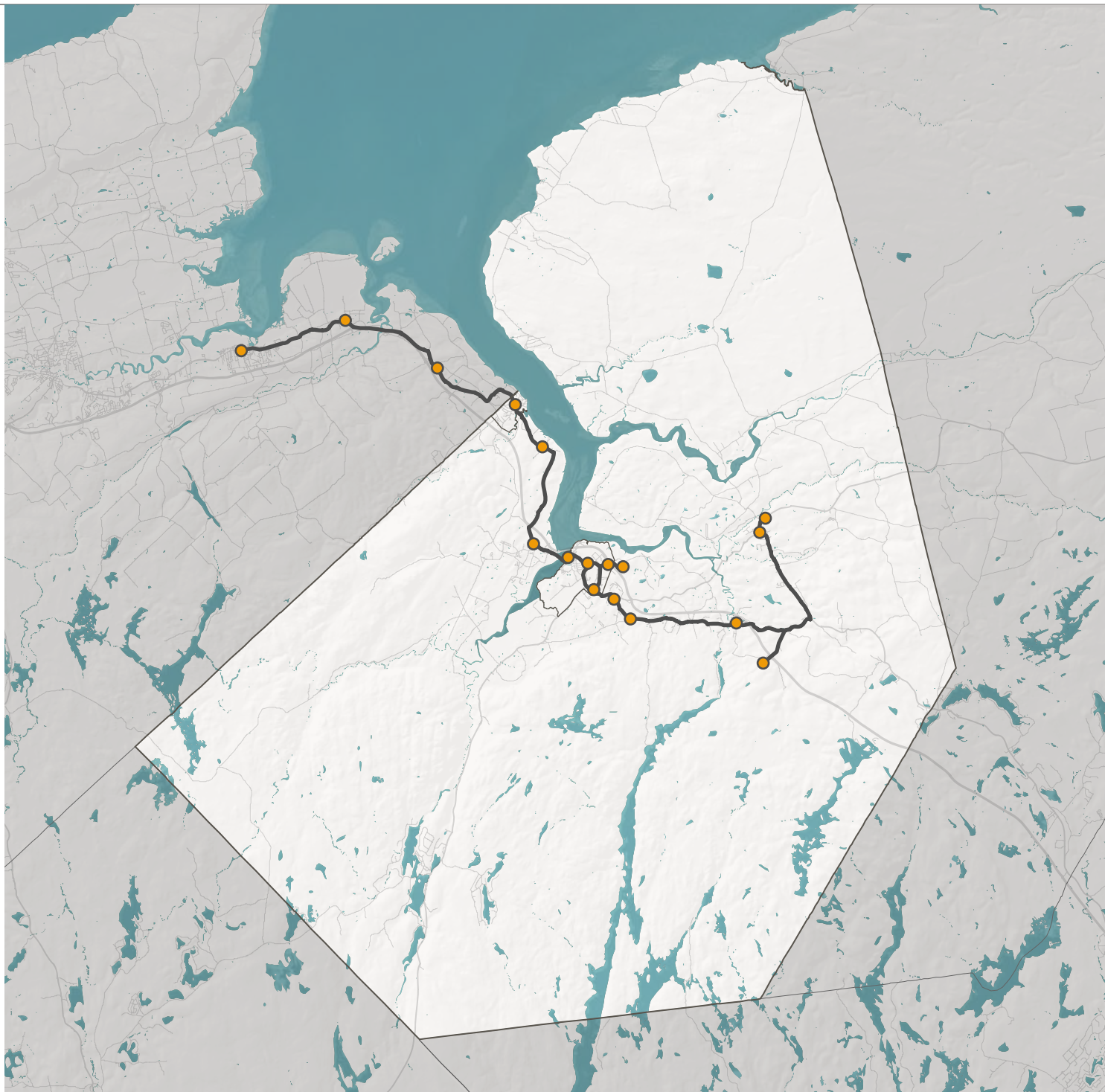
Trail Inventory:

- 1 Aikins Marsh Trail / Laurie Saulnier Memorial Trail
- 2 Avondale Trail
- 3 Brooklyn Elementary School Trail
- 4 Haliburton Trail
- 5 Shell Conservation Trail
- 6 Cheverie Salt Marsh Restoration Trail
- 7 Dr. Arthur Hines Elementary School Trails
- 8 Hantsport Walking Trail
- 9 Irishman's Road Recreation Site
- 10 Lake Pisiquid Trail
- 11 Smiley's Provincial Park Trail
- 12 Three Mile Plains Elementary School
- 13 Fort Edwards Trail Loop



2.6 Transit

Kings Transit currently operates a number of bus routes in the Annapolis Valley, extending from Brooklyn to Weymouth. The Avon Region is served by the Wolfville to Brooklyn line, which makes stops at Sweets Corner, Ellershoushe, Three Mile Plains, Garland Crossing, Windsor, Falmouth, Mount Denson and Hantsport before linking into Wolfville.



2.7 Form & Development

The density of existing settlements plays a major role in determining the suitability of future active transportation infrastructure. Higher rates of density provide a higher probability of success for any active transportation investment, including infrastructure development. As can be seen in the population density map (see next page), there are a number of key areas in the Region that have medium to high density (greater than 5 persons per acre). The highest densities occur within the Windsor and Hantsport town centres, which feature densities up to 20 persons per acre in some areas. The areas surrounding the Windsor town centre, along with sections in Falmouth and Three Mile Plains have areas between 1 and 5 persons per acre. Throughout the rest of the Avon Region, most areas feature densities less than one person per acre.

Higher densities help accommodate successful utilitarian active transportation. The Town of Windsor is considering increasing the permitted volume of multi-unit development in areas where a moderate to high degree density is

already present. By identifying growth centres, the municipality of West Hants seeks to concentrate residential and commercial development in areas of the Municipality close to the Town of Windsor. The Town of Hantsport seeks to develop greater density by reducing lot sizes in new and existing residential areas and allowing a greater mix of housing types.

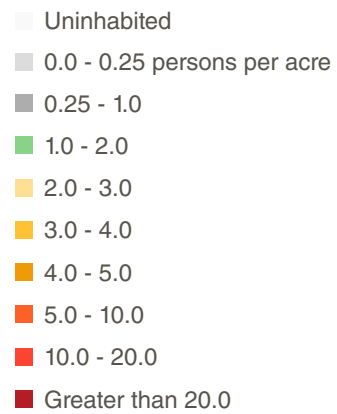
Future Development

West Hants has a clearly defined community development hierarchy. The majority of development within the Municipality is expected to occur within two identified growth centres, located in the communities of Three Mile Plains and Falmouth. The Village of Brooklyn has been identified as being a focal point for the surrounding countryside. The other eleven hamlets in the Municipality exist as small rural communities where limited development is possible, providing a rural atmosphere is maintained. In addition there are residential subdivisions planned by Development Agreement outside these areas.

The Three Mile Plains growth centre is fully serviced with municipal water and sewerage and has capacity to accommodate a considerable amount of new commercial and residential development. Limited residential and commercial development is permitted outside these growth centres yet municipal water and sewer services are not intended to be provided in these areas.

There are plans currently being proposed for a new resort-style residential development in the community of Ardoise (located near the eastern periphery of West Hants). The Forest Lakes Country Club Master Plan calls for up to 2,700 homes, a golf course, and a village centre featuring convenience stores, cafes, hotels, restaurants and a Spa & Wellness Centre. The project is planned to be built in phases over the next 15 to 20 years.

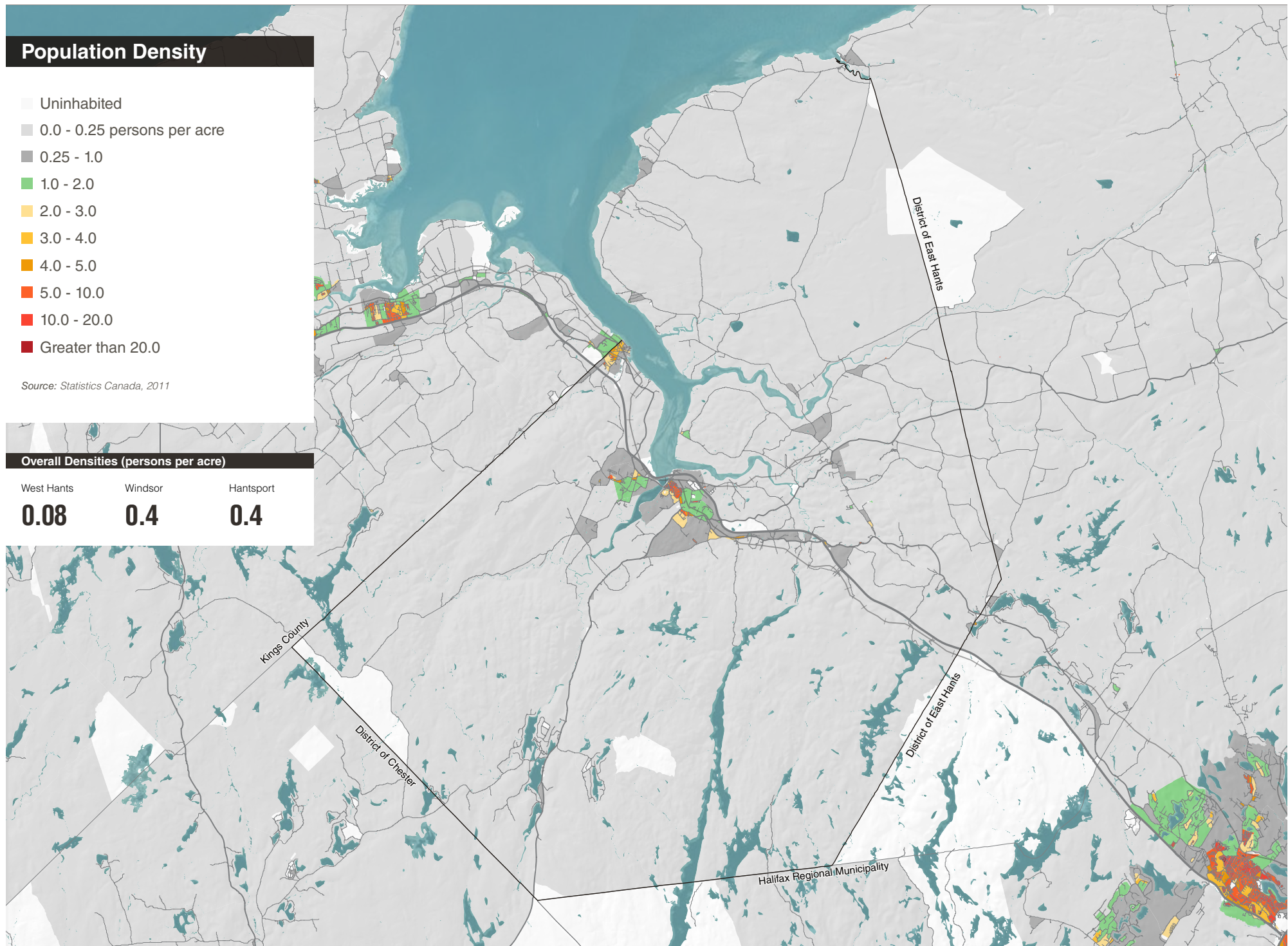
Population Density



Source: Statistics Canada, 2011

Overall Densities (persons per acre)

West Hants	Windsor	Hantsport
0.08	0.4	0.4



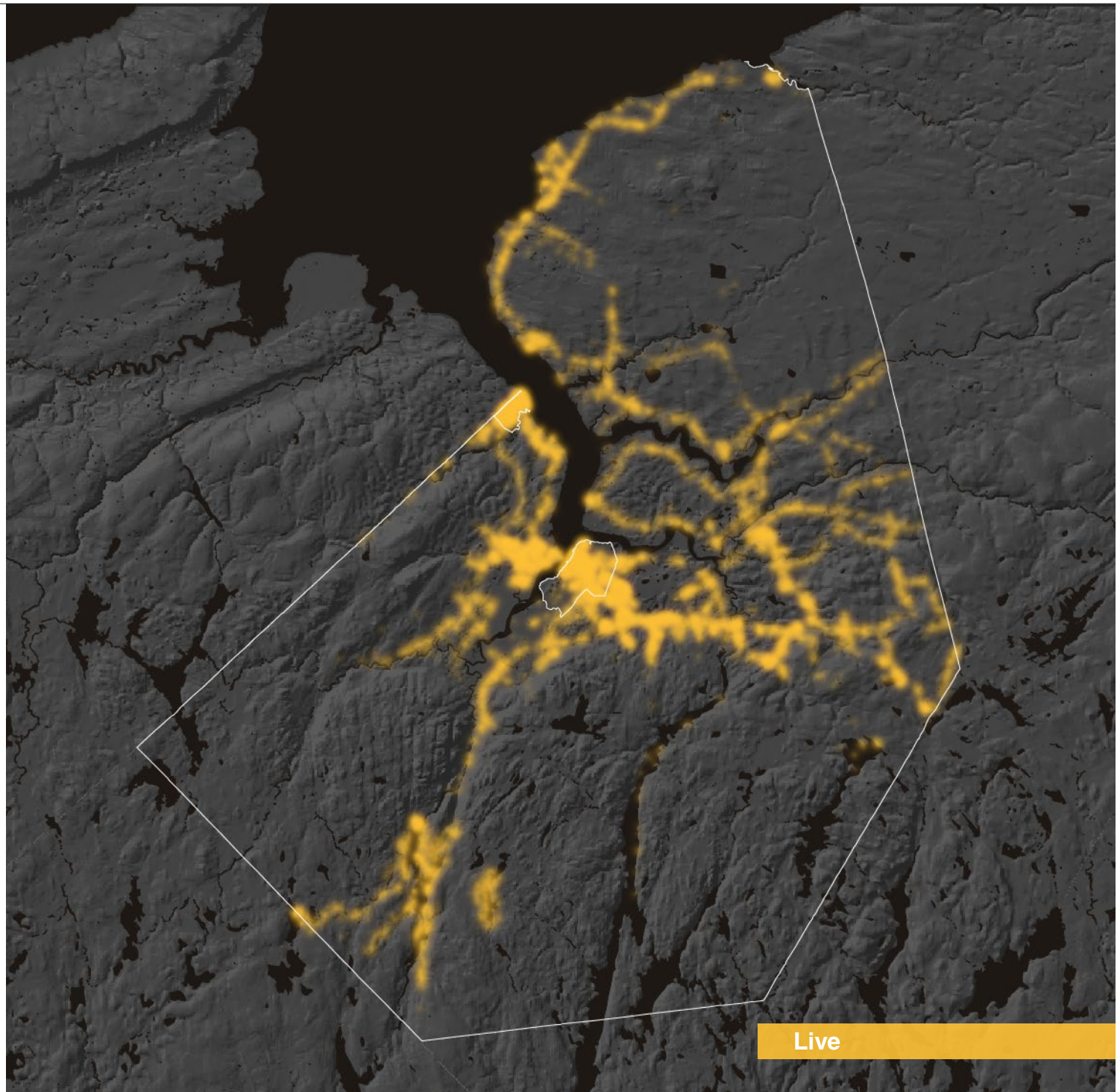
2.8 Trip Origins and Destinations

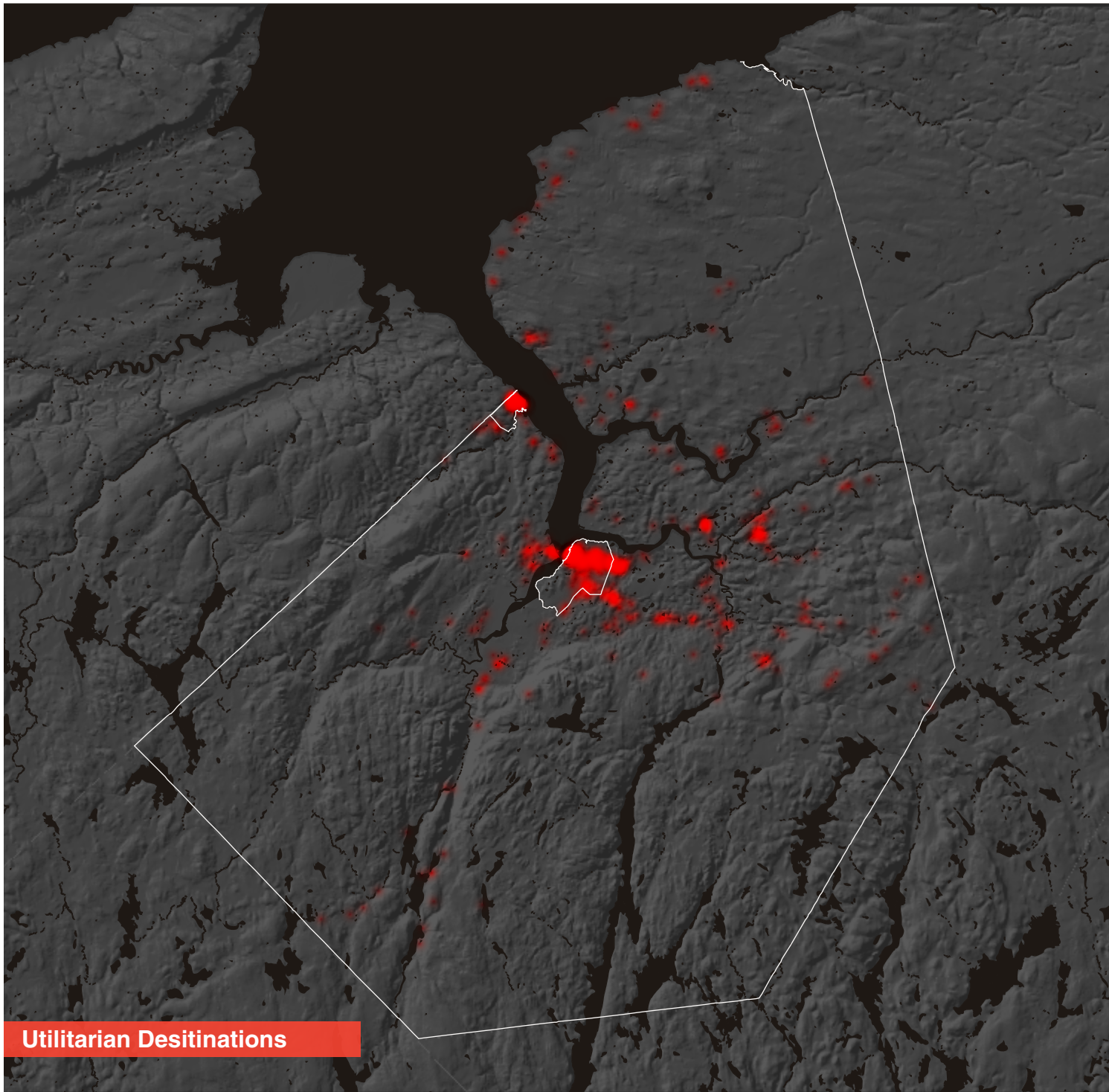
Origins and destinations refer to the starting and end points of any trip. Identifying concentrations of origins and destinations throughout the Avon Region will help determine where active transportation infrastructure should be located.

The Nova Scotia Civic Address File (NSCAF) data includes land use classifications for every civic address point in the province. Trip origins and destinations can be visualized by categorizing these civic address points into general land use categories and mapping them.

Origins

Assuming the majority of trips begin (or end) at home, all residential civic address points in the Avon Region have been mapped and displayed to illustrate concentrations and clusters. As to be expected, the communities of Windsor, Hantsport, Falmouth and Three Mile Plains form a regional core of residential origins. Throughout the District of West Hants, residential development follows closely along rural highways extending outward from the regional core.





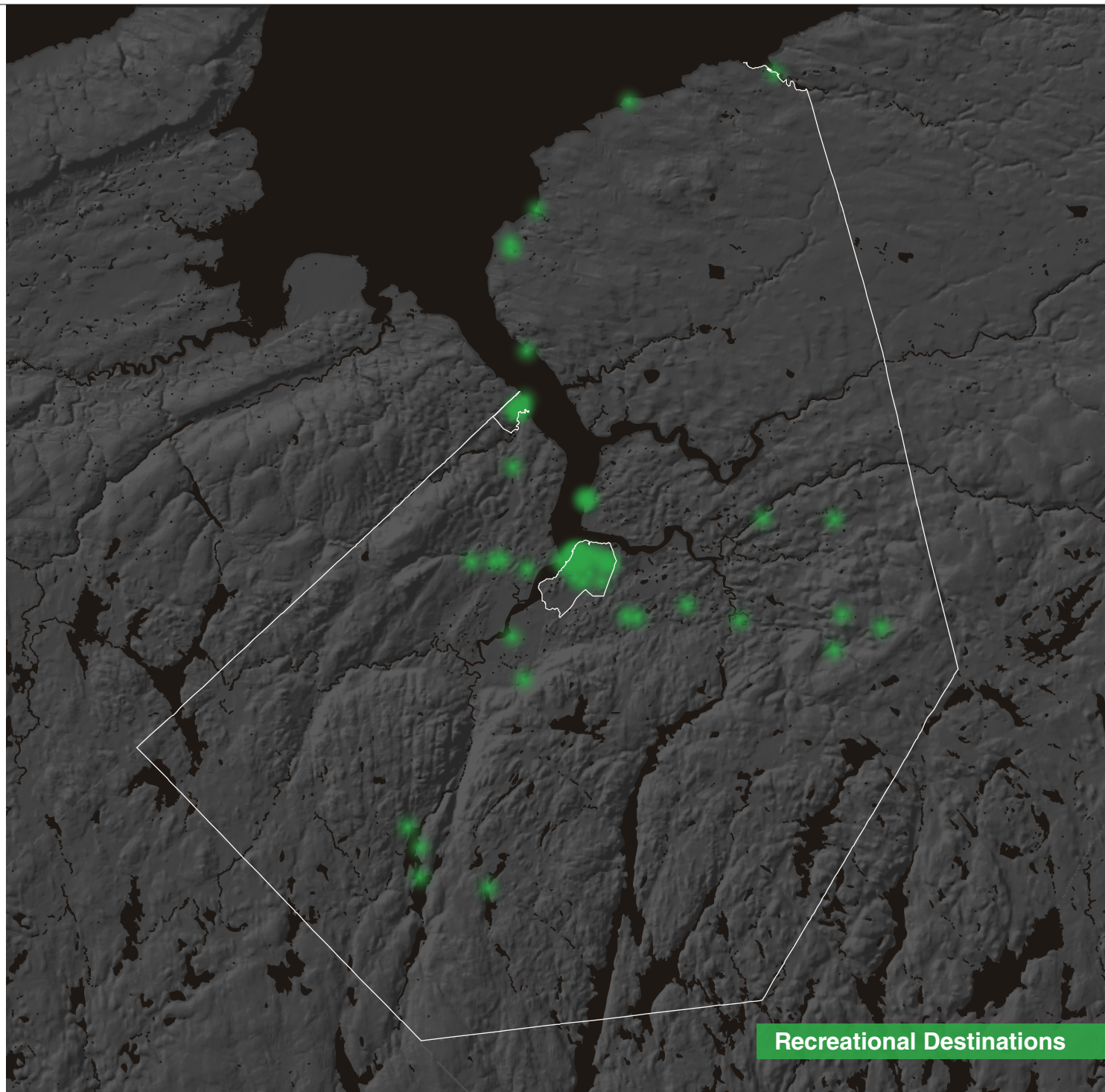
Utilitarian Destinations

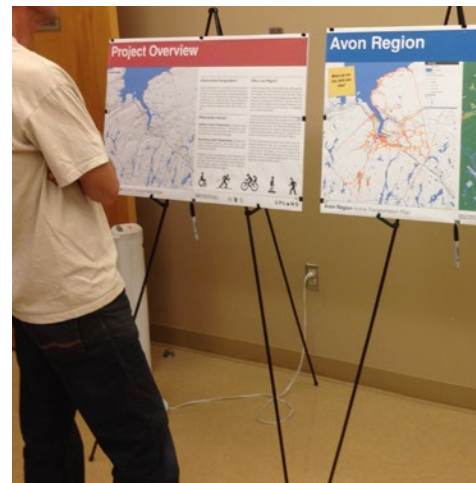
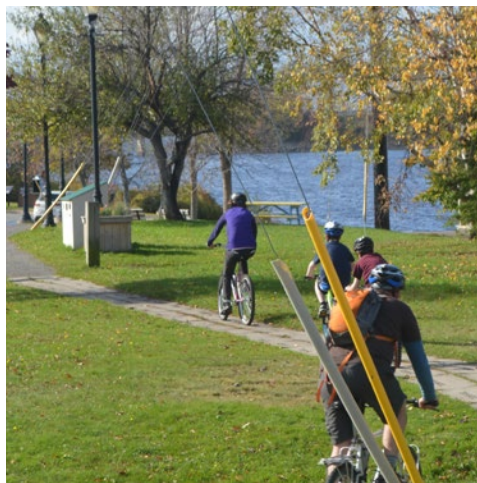
Utilitarian trips are trips made to achieve a functional purpose, such as getting groceries for the week, commuting to the workplace, mailing a letter at the post office, etc. The “Utilitarian Destinations” map illustrates civic address points that are identified as a business, restaurant, shop or store, industrial facility, office, etc.

Once again, there is a concentration of utilitarian destinations in the regional core around Windsor and within Hantsport. Pockets of such destinations are also concentrated around Brooklyn and Summerville. Notably, there are noticeably fewer utilitarian destinations in Falmouth and Three Mile Plains than there are residential origins.

Recreational Destinations

Trips can also be made for pleasure or recreational-based purposes. Such recreational trips involve visiting a local park, trail loop, beach, etc.





2.9 Community Input

Input from the community is critical in order to understand the current state of active transportation in the Avon Region and to ascertain the key issues and opportunities. Recognizing this, a variety of public engagement events were held to provide multiple methods through which the community could enrich the Active Transportation Plan with their input and expertise.

These events included an online survey, an evening public meeting, three focus group sessions, a community bike ride and a public walking tour. All events were held in various locations throughout the Avon Region and at different times of day in order to acquire a diverse representation from all age groups and communities. Information on all the community engagement opportunities were well publicized, which resulted in a positive participation rate.

Public Meeting

The public meeting was held in the evening on Wednesday, October 15th at the Kings-Edgehill School in Windsor, which was well attended by a diverse range of interested community members. Participants were informed of the project goals, objectives and timelines and provided valuable feedback through a series of interactive panels and two facilitated workshops.

Focus Groups

Three focus group sessions were held on Thursday, October 16th to provide an opportunity for key informant groups to offer more specific input and expertise. Each focus group had a specific theme, including:

- Schools and Institutions (to discuss how AT could be further encouraged or supported in the schools and institutions of the Avon Region);
- Councillors and Municipal Staff (to determine what AT initiatives are underway and understand the key issues and opportunities at the municipal level); and
- Local Business Owners and Tourist Operators (to discuss the economic and tourism benefits of AT and determine potential partnerships with the private sector).



Community Bike Ride

On Sunday, October 19th, a community bike ride was held to determine the key issues and opportunities for cycling in the Avon Region. The ride began at the Three Mile Plains Community Centre, went along Trunk 1 to downtown Windsor, then across the causeway to Falmouth and back. This route characterized many of the difficult cycling conditions that were reported during other engagement events.

Walking Tour

A public walking tour was also held on Sunday, October 19 which looped around the Town of Hantsport. A group of local residents and Municipal staff participated in the tour.



Online Survey

An online survey was created to allow local residents, business owners and other stakeholders to provide their perspectives on local conditions. The survey was distributed on September 18 and closed on November 14, 2014. It featured a handful of concise multiple choice questions and asked open ended questions regarding the benefits and barriers related to active transportation. Just over 100 completed surveys were received.

Participation was dispersed across the three municipalities. The vast majority (97%) of respondents indicated that they regularly engage in recreational and/or utilitarian AT use.

When asked about the benefits of active transportation, many respondents cited fresh air, exercise and social interac-



tion as a key motivator to use AT. Many added that AT helped reduce stress and anxiety levels. Many respondents appreciated the natural beauty of the region and acknowledged that intimate connections to the landscape are made when traveling outside of a vehicle. A number of respondents also indicated that many roads 'are relatively quiet..', which results in a peaceful experience.

When asked about the barriers to active transportation, many respondents cited distance as the key issue to using AT for utilitarian purposes. After distance, the most cited barriers were safety issues caused from a lack of infrastructure, poor maintenance of existing infrastructure and/or a lack of driver awareness. A lack of crosswalks, confusing intersections or current snow removal procedures are all contributing factors to the perceived safety issues. Finally respon-



dents indicated a lack of awareness with regards to areas where it would be safe to use AT.

Many suggested that if present concerns were resolved they would be more inclined to use AT. Big picture suggestions included prioritizing AT in all future development proposals and increasing connectivity between communities. Designating and promoting a route that includes bike lanes, trails and roads was also a reoccurring suggestion. Most respondents felt an increase in the number of sidewalks and trails throughout the region is needed. Particular importance was cited in the corridor between the communities of Falmouth, Windsor and Three Mile Plains.

Additional comments and suggestions from the survey can be found in the Appendix.



What We Heard: Issues

Several recurring issues and opportunities emerged throughout all consultation events. Safety and education were the two key topics that were raised during the consultation events as particularly important issues that need to be addressed or overcome.

Community members cited the lack of dedicated space for cyclists and pedestrians and poor road conditions as key barriers to using AT more often in the Avon Region. For cyclists, dangerous and inconvenient conditions exist on arterial thoroughfares such as hidden driveways, blind crests and inconsistent edge conditions. For pedestrians, sidewalks do not exist in most areas, so narrow road shoulders and washed-out road edges often force pedestrians onto the roadway, putting them in conflict with motorists. The

majority of roads in the region do not feature streetlights, making walking or cycling at night particularly dangerous.

Community members identified several intersections within the region that are particularly dangerous for active transportation users (and also motorists), including the intersection at:

- Trunk 14 and Route 215;
- O'Brien St, Wiley Ave and King St;
- O'Brien St and King St; and
- Trunk 14 and Trunk 1 near the Irving gas station.

Cluttered signage and unclear road markings at these locations result in confusion. In these locations, collisions and near misses occasionally occur. Many communities in the region do not have crosswalks or crossing guards for students.

Infrastructure maintenance has also been an issue, particularly in the winter when snow clearing practices results in sidewalks or shoulders tend to be popular snow storage areas. During the summer, ATV use occasionally results in trail erosion and damage, however, it was noted that ATV users contribute to overall trail maintenance and creation.

Active transportation education and awareness was a key issue identified by the community. It was recognized that a pervasive car culture exists, where active transportation is generally considered as a recreational activity rather than an utilitarian activity. It was identified that all road users need to be better educated to share the road, and that drivers need to be aware of the needs and space requirements of AT users. Furthermore, much active transportation infrastructure that does exist is

underutilized due to the lack of signage or promotional materials.

Another dominant issue that emerged was the absence or disconnectedness of active transportation infrastructure in key areas throughout the Avon Region. As a result, many residents are forced to use informal or ad-hoc trails to circumvent longer distances caused by a poorly connected road network featuring dead ends and cul-de-sacs. A good example of this issue is the Avon View High School, where the lack of multiple connections has resulted in significantly longer trips that can only be achieved by car. By adding a few trail connections that link into adjacent neighbourhoods, students and staff may more likely to use active transportation. There are several examples of "missing links" that could be filled in to improve the overall connectivity of AT infrastructure in the Avon Region.



What We Heard: Opportunities

Despite these challenges, participants recognized that there are many local assets and opportunities which can foster an increase in active transportation rates. Cycling, walking, skating and cross-country skiing are recreational activities already popular throughout the Avon Region. Participants recognized the region's scenic attributes, with its abundant natural amenities and strategic location between the Halifax Regional Municipality and Kings County.

Many tourism opportunities were also identified. Developing old highways into regional cycling routes would direct traffic into communities which have been bypassed by Highway 101. Fostering out-of-region connections like the Blue Route would also draw tourists to the region.

Another opportunity that was repeatedly identified by the community was the potential to convert or build a trail alongside the private rail corridor that links Windsor and Hantsport to the Annapolis Valley in the north and Halifax in the south. Coincidentally, Kings County has recently completed a leasing agreement with owner of the Windsor-Hantsport Rail Company which will allow them to build a trailbed next to the rail line. It is understood that the Rail Company is very interested in similar agreements along other portions of the rail line, which is a significant opportunity for the Region.

2.10 Vision Statement

The following vision statement establishes a shared vision of the Active Transportation Plan amongst residents, business owners, municipal staff, elected officials and other stakeholders. A strong vision statement is one that is exciting and inspiring to inspire action,

yet simple and practical enough to ensure achievable change. The following vision has been composed to succinctly summarize the visions heard during the various meeting, focus groups and community meetings:

“To trigger a culture shift in the Avon Region where active transportation is a safe, convenient and celebrated mode of transportation for all residents”

2.11 Guiding Principles

The following guiding principles have emerged from the background work completed to date, public consultation outcomes, and discussions with the Avon Region Active Transportation Plan Committee. These action-oriented principles offer practical ways to achieve the overall community vision during the eight year timespan of the project.

Education and Awareness is Vital.

Efforts to improve education and awareness amongst all road users about the benefits of active transportation and the needs of its users can help improve actual and perceived safety. It will also cultivate a culture that embraces AT by sharing the road with a positive attitude.

Make it Safe.

In order for active transportation to become more widely accepted, its users must feel safe. While education and awareness programs will contribute to improving perceived safety, on-the-ground infrastructure and improved maintenance are also vital to making active transportation a safe option.

Provide Connections.

Reducing travel times is a crucial component to making active transportation a feasible mode of transportation. There are several opportunities to make simple connections in the existing network that would significantly improve travel times for AT users.

Focus the Right Interventions in the Right Places.

A one-size-fits-all approach is not appropriate for a diverse area like the Avon Region. Different contexts require different interventions. Utilitarian-based infrastructure should be focused in the regional core, whereas rural areas should feature more recreational and regional tourism-based improvements.

Make it Fun and Attractive.

Using active modes of transportation is inherently fun, especially within the beautiful setting of the Avon Region! These assets should be promoted through fun and engaging materials or events that celebrate the sheer enjoyment that active transportation has to offer for locals and tourists alike.

Be Strategic and Opportunistic.

An incremental approach that prioritizes achievable, short-term projects over more ambitious projects will generate positive publicity and public support. Efforts should also be concentrated on interventions that will have the best return-on-investment, while also taking advantage of opportunities as they present themselves.

Work Together.

Within the Avon Region, all stakeholders must work together to focus on regional benefits, rather than their own individual jurisdictions. Externally, there are opportunities to form strategic partnerships with adjacent municipalities, provincial departments and non-profit organizations who are working towards similar active transportation goals.

3 Network



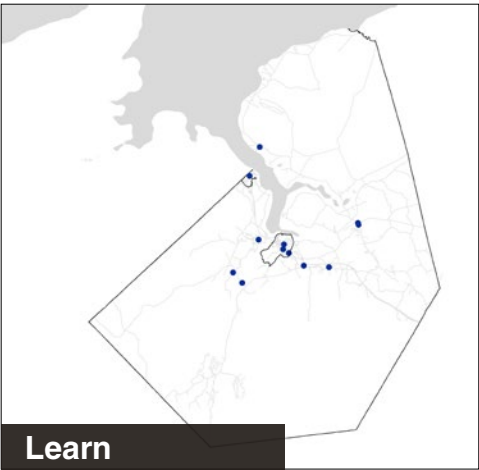
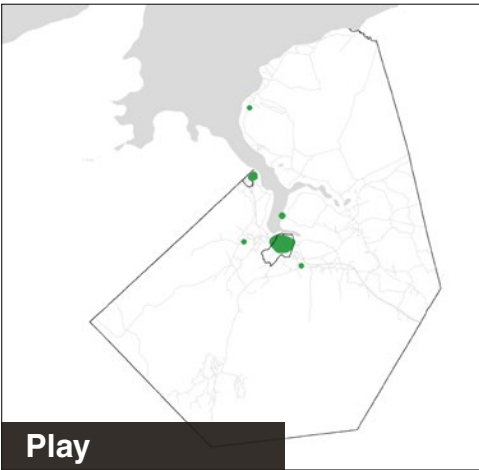
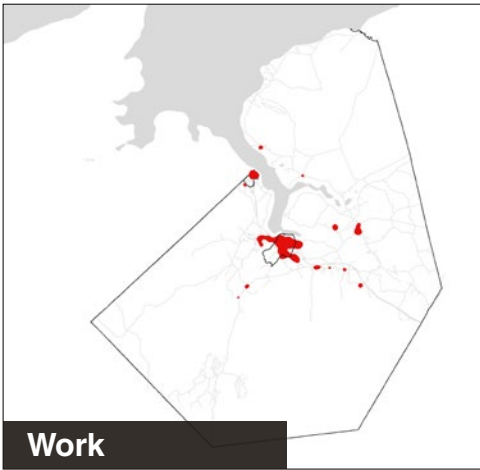
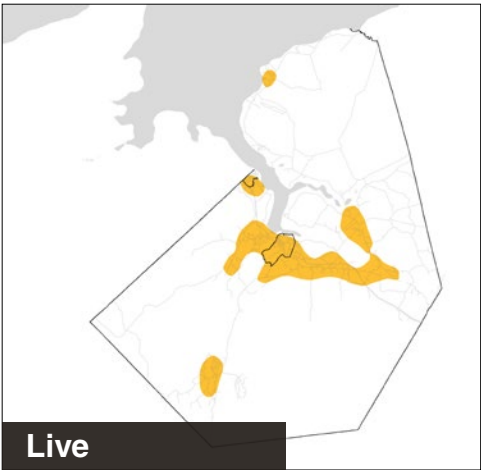
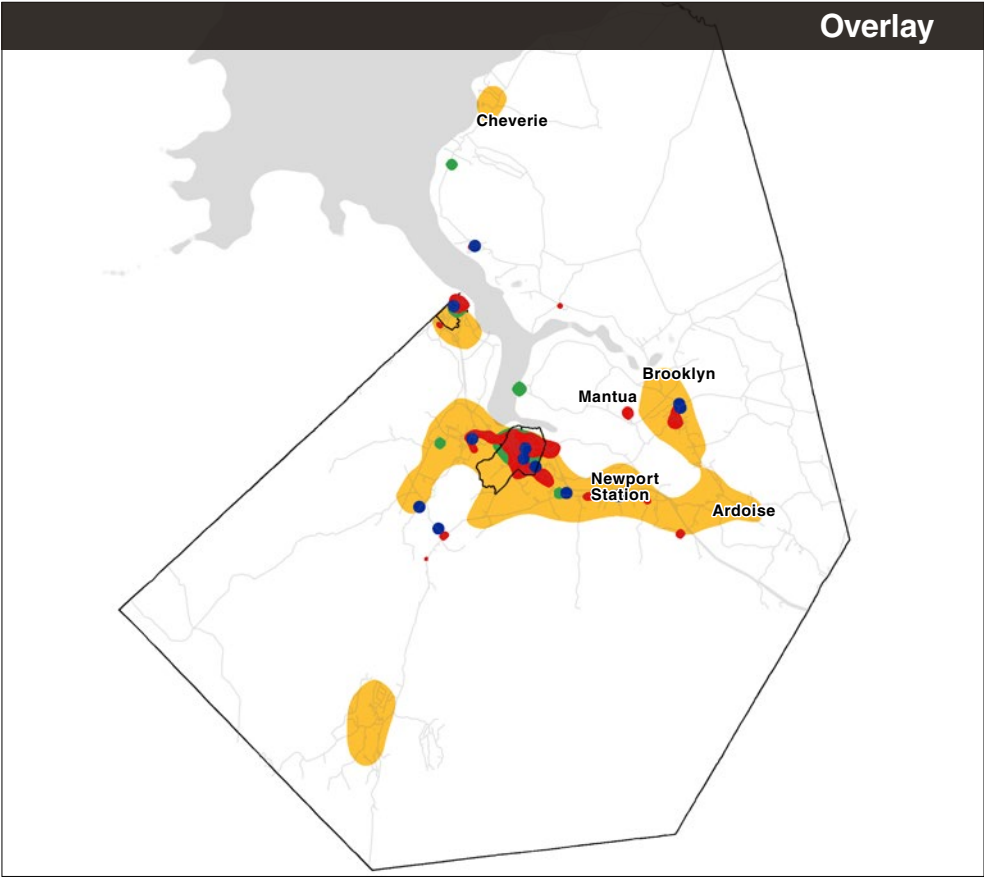
3.1 Network Approach

The diversity of land uses, development patterns and infrastructure in the Avon Region stipulates an approach to active transportation investment that clearly defines network hierarchies. The spatial pattern of origins and destinations which are conducive to recreational and utilitarian active transportation within the region must be defined. Destinations with cross-regional tourism potential must be utilized.

The majority of residential origins (**Live**) are concentrated within the Falmouth-Windsor-Three Mile Plains corridor. The other significant concentration of residences can be found in the Town of Hantsport. The Village of Brooklyn is a focal point for the surrounding countryside, albeit at much lower residential densities. Future growth is expected to occur within the growth centres of Three Mile Plains and Falmouth.

Utilitarian destinations (**Work**) are concentrated in Windsor and Hantsport and in smaller pockets around Brooklyn and Summerville. Recreational destinations (**Play**) are dispersed throughout the region with a noticeable concentration in the Town of Windsor. Perhaps the biggest opportunity for leaving a long-lasting impact in influencing attitudes towards active transportation, lays in the provision of safe cycling and walking routes around schools. School locations (**Learn**) need to be integrated into adjacent active transportation networks or should be provided with their own local school catchment area facilities.

An **Overlay** of origin and destination patterns creates a clear picture: a need for utilitarian active transportation connections within the Windsor area, Hantsport and Brooklyn, and a need for regional connections between these areas and beyond.



3.2 Network Opportunities

The Avon Region can capitalize on a number of opportunities that can accelerate the creation of a comprehensive region-wide Active Transportation Network.

The promotion of cycling tourism has gained previously unseen momentum through serious efforts by the Province of Nova Scotia to establish the **Blue Route**, a province-wide recreational cycling network. Current Blue Route draft corridors traverse the Avon Region and should be integrated with the Regional Active Transportation Network.

Closely linked to the Blue Route are other provincial efforts to improve active transportation facilities through coordination by the Nova Scotia Department of Transportation and Infrastructure Renewal (NSTIR). Policies like the *Trail Policy* and *Paved Shoulder Width for Active Transportation Policy* enable improvements for walking and cycling. A particularly important opportunity is the **Nova Scotia 5-Year Highway Improvement Plan**, which should be monitored and utilized by the three Avon Region municipalities to request the addition of paved shoulders to provincial roads when road repaving is underway.

The currently inactive rail lines owned by the Windsor to Hantsport Rail Company present another major opportunity to establish key connections within a region-wide Active Transportation

Network. **Rails-with-Trails** are remarkable facilities for both utilitarian and recreational active transportation and should be strategically integrated into the network in areas where road conditions are either inconvenient or unsafe. The owners of the rail line recognize the community benefits associated with rails-with-trails and have expressed their openness to negotiate lease agreements for trails within the rail line right-of-ways.

Existing trails are another important asset on which the Active Transportation Network should be built. Not all of these trails are suitable for integration into the network, however they should be considered valuable existing resources and should, where ever possible, become part of the regional network.

3.3 Network Hierarchy

A clear network hierarchy can differentiate individual routes by their purpose. A hierarchy is not meant to prioritize one trail over another, rather a route hierarchy can create a clear structure with individual route types designed for their respective function within the network. The Avon Region Active Transportation Network contains the following three route types: a regional network, a series of local networks and a number of recreational trails.

Regional Routes

Regional routes provides the overarching hierarchy for active transportation infrastructure in the Avon Region. They form the “spine” of the Avon Region Active Transportation Network and consist of cycling routes that connect communities to each other and to neighbouring municipalities. Regional routes extend over long distances and will encourage recreational cycling and promote tourism development opportunities emerging from initiatives such as the Blue Route.

When fully developed, the regional routes will become the “100-Series highways” of cycling. In the meantime, defining these routes will enable focused investment in strategic locations that will ultimately connect and tie together an entire region-spanning active transportation network. Shortcomings in cycling facilities in the mid-term will not deter experienced cyclists and long-distance bike riders from using the regional spines, as long as they are clearly marked and promoted.

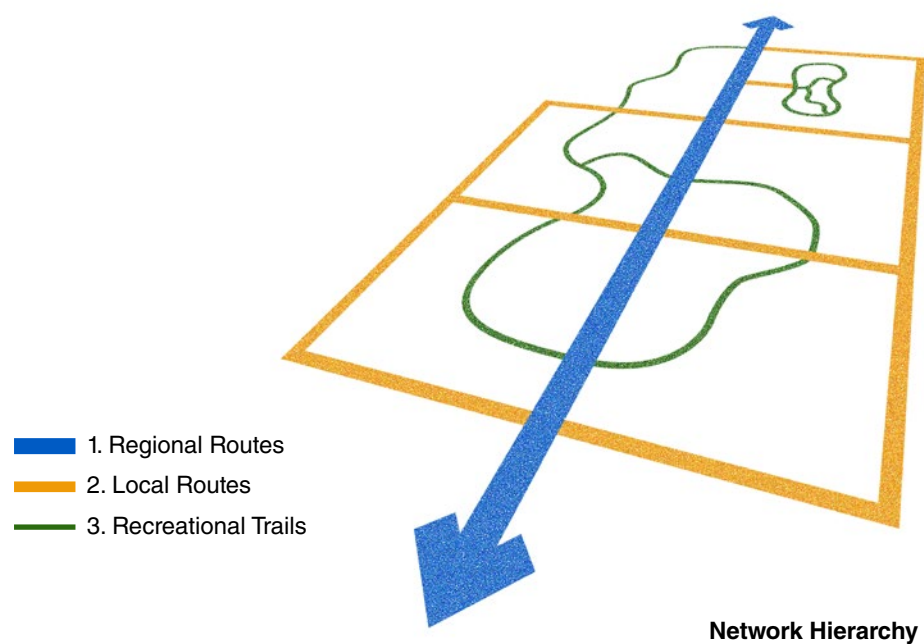
Regional routes consist of both on-road and off-road facilities (see Design chapter for more information). Each route connects through the commercial centers of communities along the route, thus facilitating local economic development opportunities arising from increased recreational visitation.

Local Routes

Local active transportation routes are primarily intended for utilitarian and destination oriented self-propelled travel within a few denser communities. In some instances, these local networks utilize existing recreational trails and integrate them into the overall network in a way that makes them also function as convenient choices for walking or cycling between utilitarian destinations.

Recreational Trails

A series of recreational trails can be found dispersed throughout the Avon Region. Building on the foundation laid by the West Hants Trails Inventory (Cobequid Trails Consulting, 2013), the proposed Regional Active Transportation Network integrates, where ever possible, existing trails and those being developed by community groups.



3.4 Route Descriptions

Regional Routes

The **Windsor - Halifax** route travels from downtown Windsor via Gerrish Street and links onto a new trail next to the Windsor-Hantsport Railroad beginning at Wentworth Road. At Garlands Crossing, the route leaves the rail bed and follows Trunk 1 through Three Mile Plains, Saint Croix, Newport Corner and Ardoise to the border with East Hants. Alternatively, the route could follow the rail bed if leasing the entire trail right-of-way is financially feasible.

The **Windsor - Wolfville** route travels from downtown Windsor via the existing causeway trail by Lake Pisiquid and continues along a new trail next to the Windsor-Hantsport Railroad before reaching an intersection at Trunk 1 north of Falmouth. From there, the route follows Trunk 1 to another rail crossing near Apple Tree Road. The new trail would provide a scenic and safe route into downtown Hantsport. The route jumps onto Main Street in Hantsport before relinking with the new rail trail

that would connect into Wolfville via Avonport along the coast. Alternatively, the route could provide a connection into Wolfville via Trunk 1 and Gaspereau River Road.

Bog Road is shown as an alternative route between Windsor and Wolfville, which could be used until the Rail Trail is built.

Similar to the Windsor - Halifax route, the **Windsor - Chester** route travels from downtown Windsor via Gerrish Street to a new railway trail beginning at Wentworth Road. At Windsor Elementary School, the route leaves the rail bed and connects via a short distance along Trunk 1 with Trunk 14. Passing through Martock, Smiths Corner and Vaughan, the route leaves the District of West Hants and connects into the District of Chester.

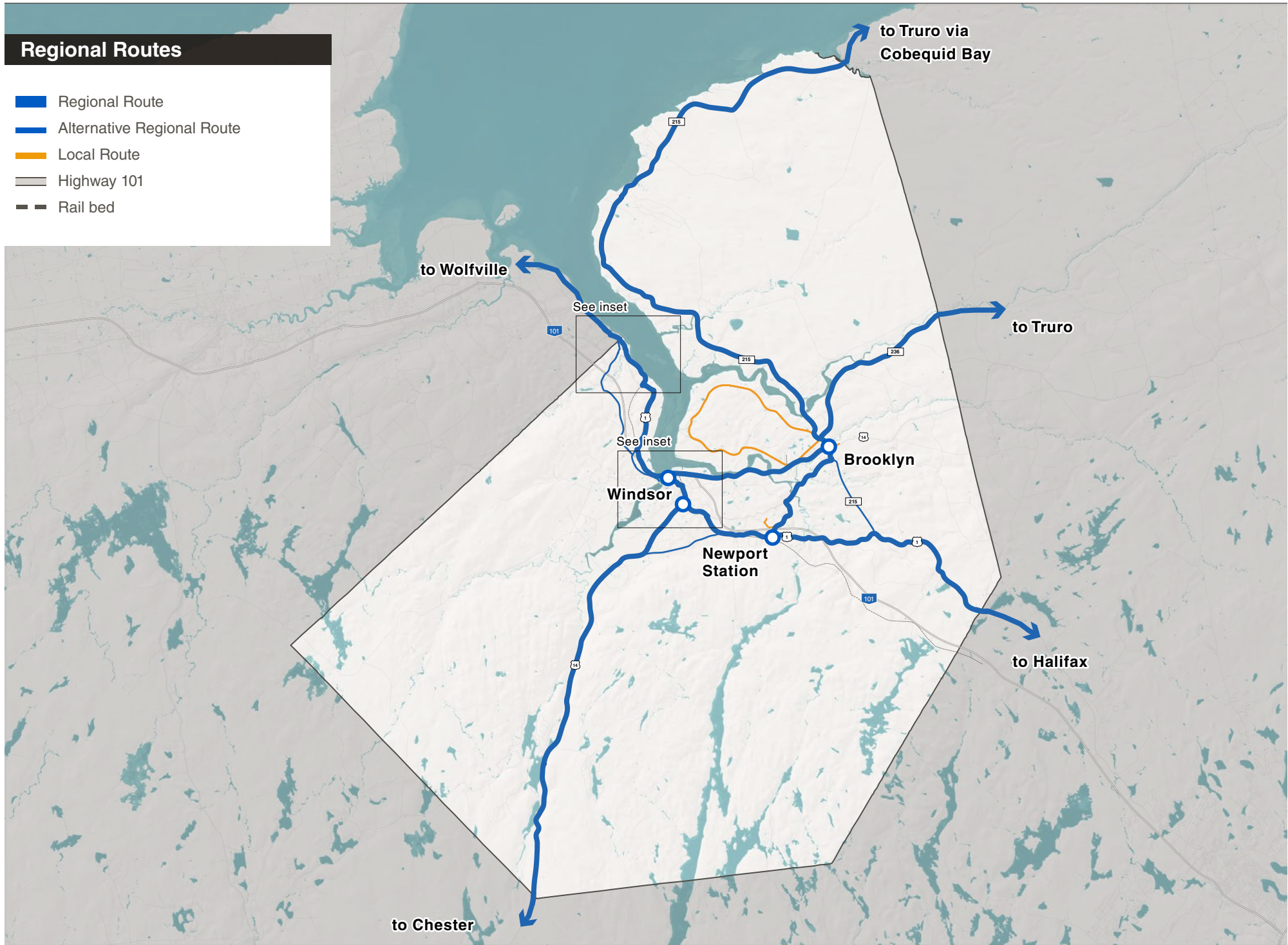
A new **Windsor - Brooklyn** provides a more direct connection between the two communities by taking advantage

of the existing rail bed that runs along the southern bank of the St. Croix River. This route would provide a safe and highly scenic route between Windsor and Brooklyn (and also to the Avon Peninsula).

The **Brooklyn - Truro** route leaves Brooklyn along Trunk 14 before connecting onto Route 236. The route provides relatively low traffic volume for safer riding into East Hants and Truro.

The **Brooklyn - Truro via Cobequid Bay** route is a more scenic route to Truro. The route runs along the Kennetcook River along Route 215, also known as Glooscap Trail, and follows the shoreline of the through the communities of Summerville and Cheverie into East Hants.

The **Brooklyn - Newport Station** connector is currently known as the safest existing route between Brooklyn and Windsor. It connects Brooklyn via Trunk 14 and Wentworth Road with Trunk 1 at Newport Station.





Routes in the Windsor Area

The active transportation network in the Windsor area revolves around the central spine of the regional route along the rail bed. This route, when complete, will provide direct and safe connections within and beyond the Windsor area.

Surrounding these regional routes is a network of local routes that provide further connections to central business district and creates new connections where already existing trails can benefit from a better integration. These routes also enable safe walking and cycling between downtown Windsor, the commercial areas along Wentworth Road, the West Hants Education Centre, the hospital and Garlands Crossing. King's-Edgehill School and Windsor Elementary School are also connected to the network as are the Fort Edward National Historic Site, the Haliburton House Museum, the Windsor Community Centre and the Windsor Regional Library.

In Falmouth, local routes integrate Falmouth Elementary School, the Windsor Elms Village care home and a convenience store and formalizes some already existing informal trails.

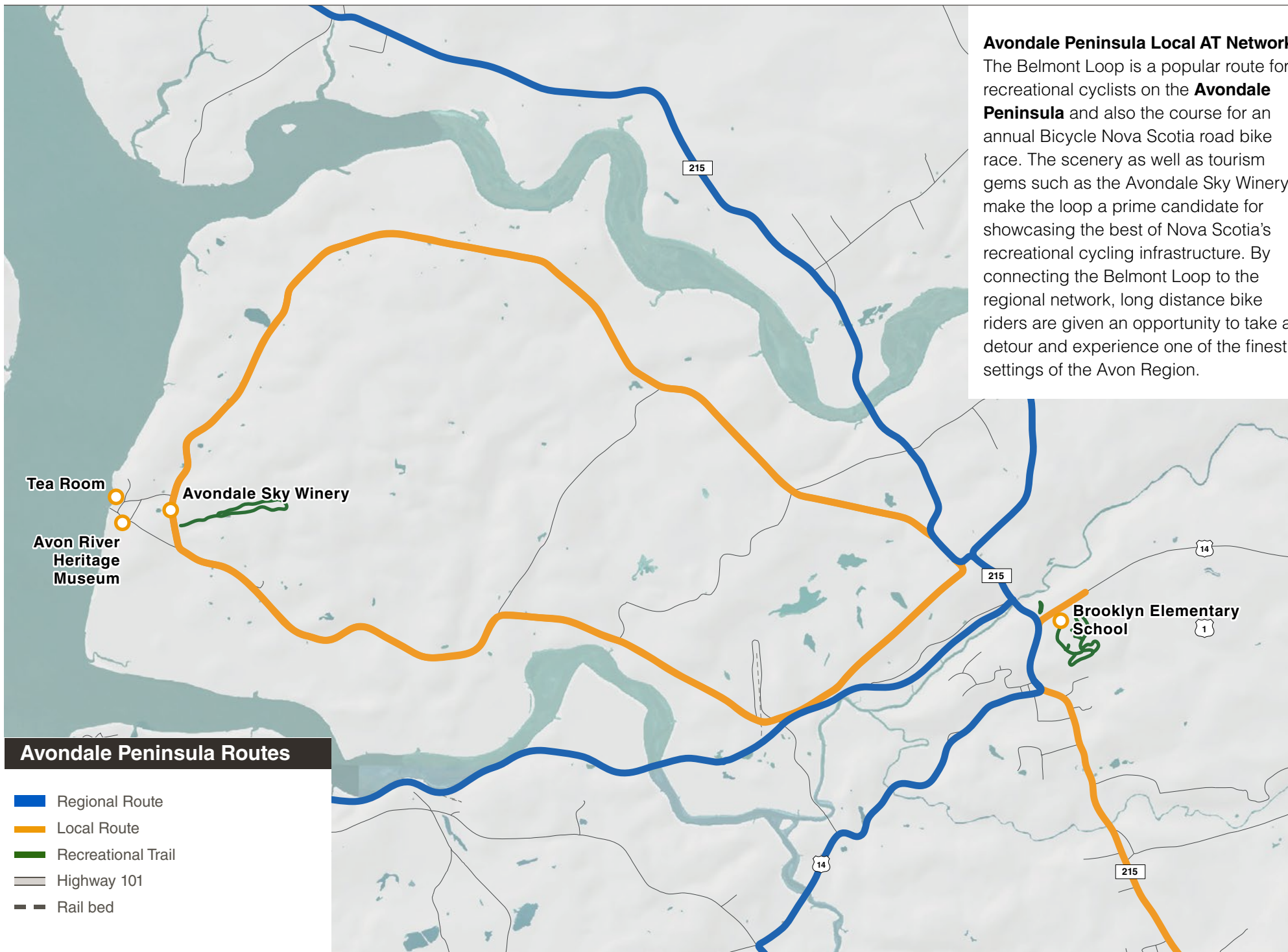
At Garlands Crossing, local routes are closely aligned with the recommendations of the Garlands Crossing Transportation Study (Griffin, 2013). The primary objective of these routes are to

provide safe and enjoyable cycling and walking infrastructure that connects new residential development, with retail and commercial areas and the Avon View High School. A number of local route connect into regional routes to allow for quick and easy access to Windsor.

Routes in Hantsport

In the Town of Hantsport, the local network expands on a trails initiative by the Town, which uses painted footprints to mark and promote a walking route through the Town. A recently developed trail connects the Tourist Bureau at Willow Street with the sports fields at the Hantsport Memorial Community Centre (HMCC) and continues onto Porters Avenue, Prince Street, Foundry Road, via Fundy Centennial Park and Avon Street. The proposed local network would complete the walking loop via Tannery Road and Main Street and connect Hantsport School to the active transportation system.





Recreational Trails

Recreational trails are dispersed throughout the Avon Region and are integrated, where ever possible, into the AT Network. The vast majority of trail are linked directly to the active transportation network, with the exception of trail at Smiley's Provincial Park.

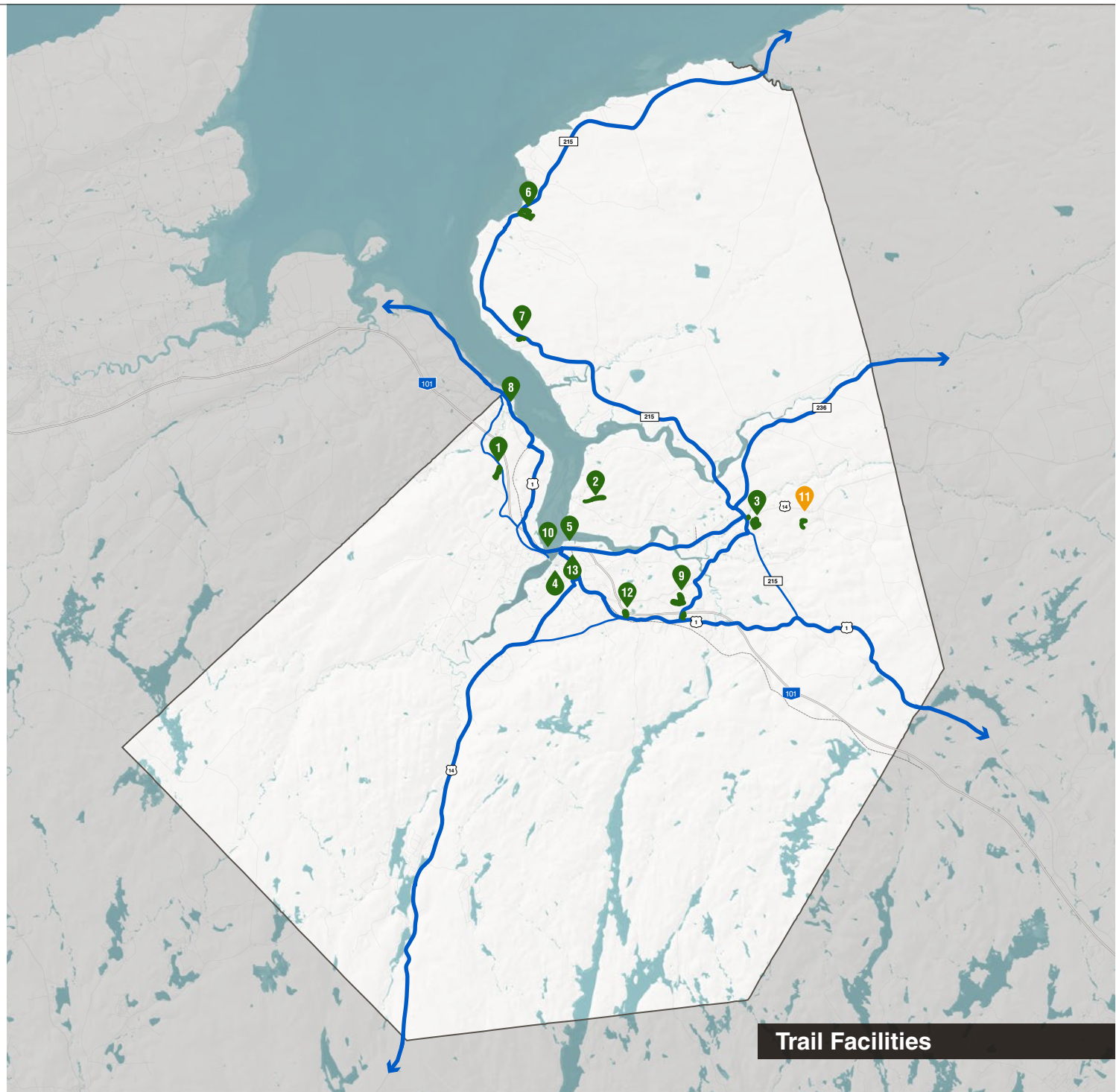
Trail development and maintenance of unconnected trails should nevertheless become part of the overall regional active transportation strategy. Work is underway to add more trails to the network throughout the region. For more information on these potential trails, read the West Hants Trail Inventory report.

Directly Connected Trails:

- 1 Aikins Marsh Trail / Laurie Saulnier Memorial Trail
- 2 Avondale Trail
- 3 Brooklyn Elementary School Trail
- 4 Haliburton Trail
- 5 Shell Conservation Trail
- 6 Cheverie Salt Marsh Restoration Trail
- 7 Dr. Arthur Hines Elementary School Trails
- 8 Hantsport Walking Trail
- 9 Irishman's Road Recreation Site
- 10 Lake Pisiquid Trail
- 12 Three Mile Plains Elementary School
- 13 Fort Edwards Trail Loop

Indirectly Connected Trails:

- 11 Smiley's Provincial Park Trail



4 Design

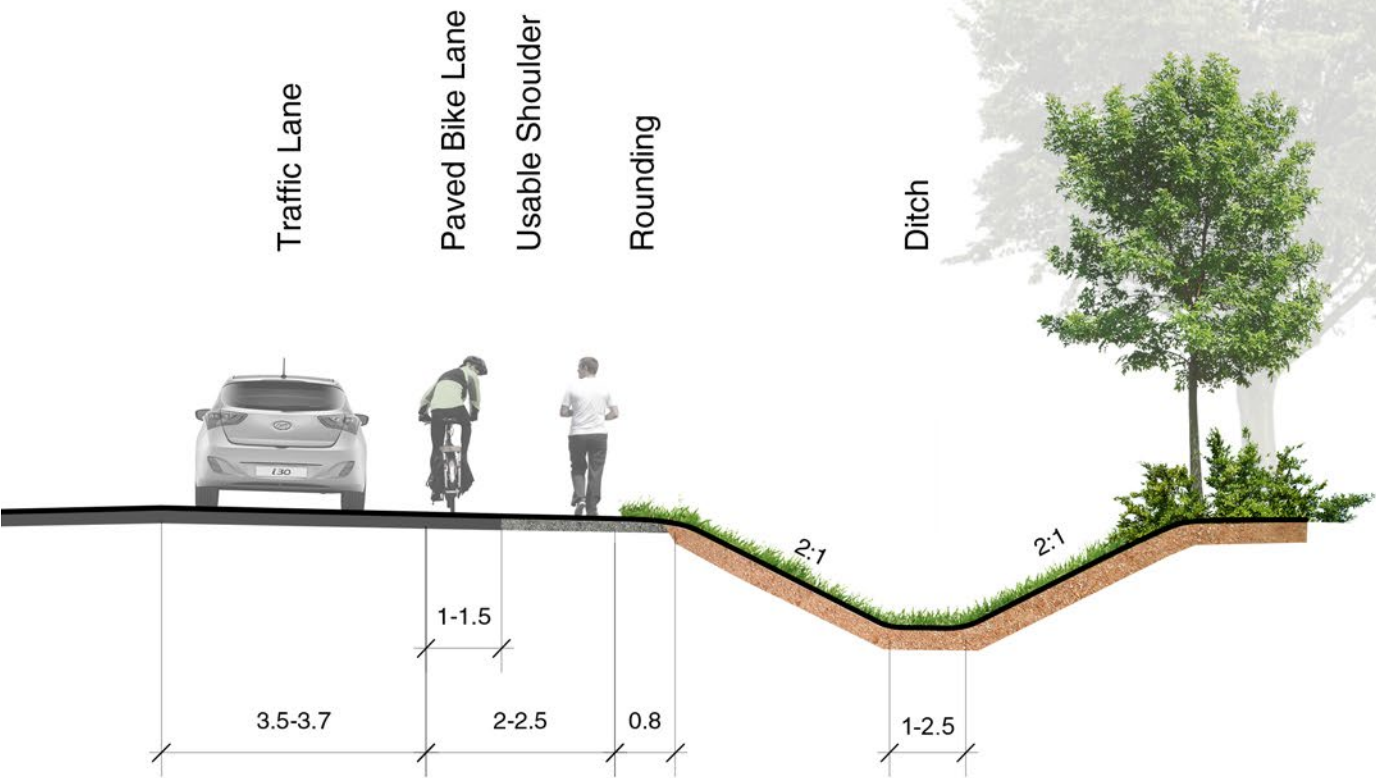
4.1 Cross Sections

The Avon Region features a wide variety of urban and rural road types. The following section provides technical design standards for all active transportation routes proposed in the network plan. Maps identifying which cross section applies to what route can be found at the end of this section.

The technical design standards are based on guidelines from the Nova Scotia Department of Infrastructure Renewal and the Velo Quebec Technical Guide for Pedestrian and Cycling Planning.

POSTED SPEED (km/h)	AADT <1000	PAVED SHOULDER WIDTH (m)			
		AADT 1000–2000		AADT >2000	
		NEW CONSTRUCTION/ RECONSTRUCTION ¹	REPAVING ²	NEW CONSTRUCTION/ RECONSTRUCTION	REPAVING
50	NA	1.2	1.0	1.2	1.0
60–70	NA	1.2	1.0	1.5	1.0
80	NA	1.5	1.0	1.75	1.5 ³

Paved Shoulder Width for Active Transportation (Source: NSTIR, 2011)



Rural Arterial with Paved Shoulder

Paved shoulders on provincial Routes and Trunks should be the primary measure to improve cyclists’ and pedestrians’ safety in the Avon Region. These shoulders create a lane adjacent to automobiles in which cyclists travel in the same direction. Shoulders should be paved on both sides to avoid cyclists traveling against the flow of traffic. No parking signage should be installed to prevent parked cars from blocking the bike lane.

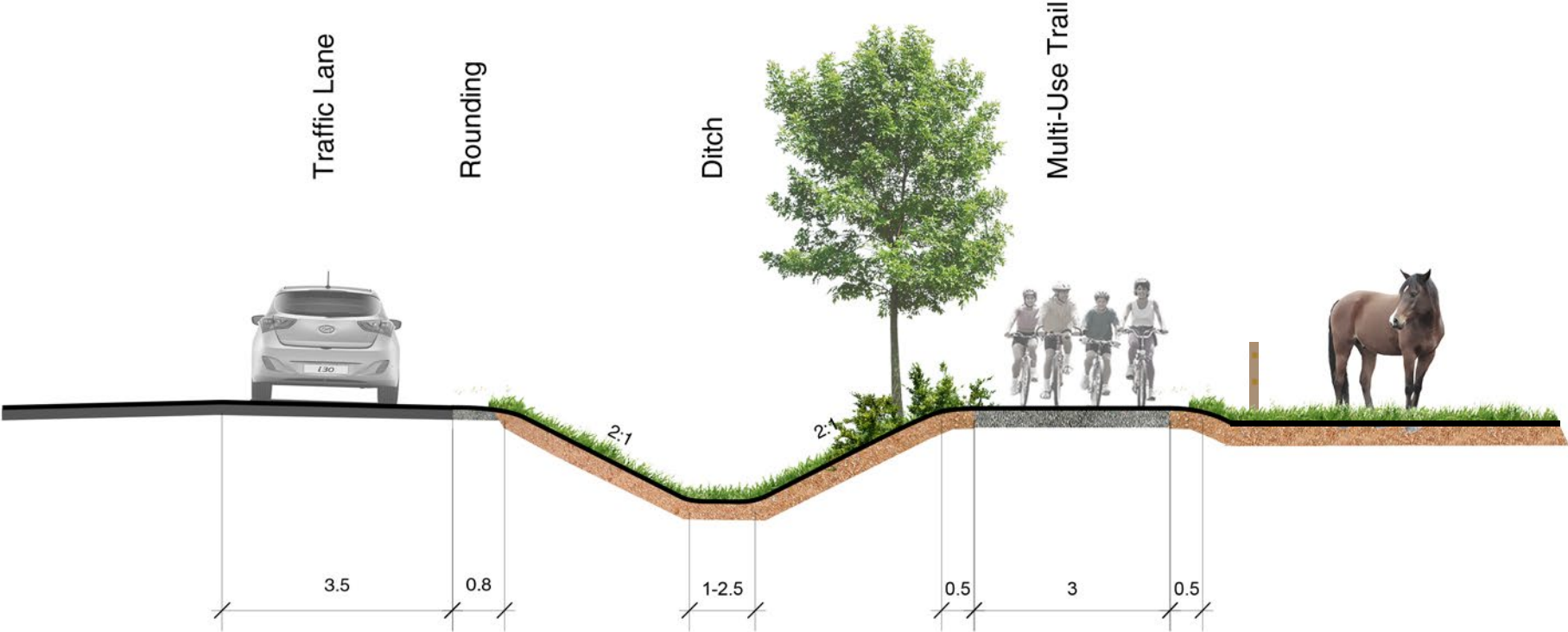
Usually provincial roads in Nova Scotia are ineligible for shoulder paving when the Annual Average Daily Traffic (AADT) is less than 1000 vehicles per day (vpd). However, provincial roads where the AADT is not greater than 1000 vpd maybe considered for paved shoulders where the section of a road is a known cycling route or part of an approved AT Plan. (Paved Shoulder Widths for Active Transportation Policy, NSTIR).

Rural Arterial with Off-Road Multi-Use Trail

Rural Arterials with Off-Road Multi-Use Trails are a longer term option for the provision of safe cycling infrastructure along rural roads. As often seen in countries with advanced cycling networks, these trails, which are offset from the roadbed, replace on-road cycling lanes and function as attractive tourism

cycling routes. Because these trails are typically outside the public road right-of-way, their implementation requires either property acquisitions or easements on private property. Even though this Plan does not pre-scribe routes for Rural Arterials with

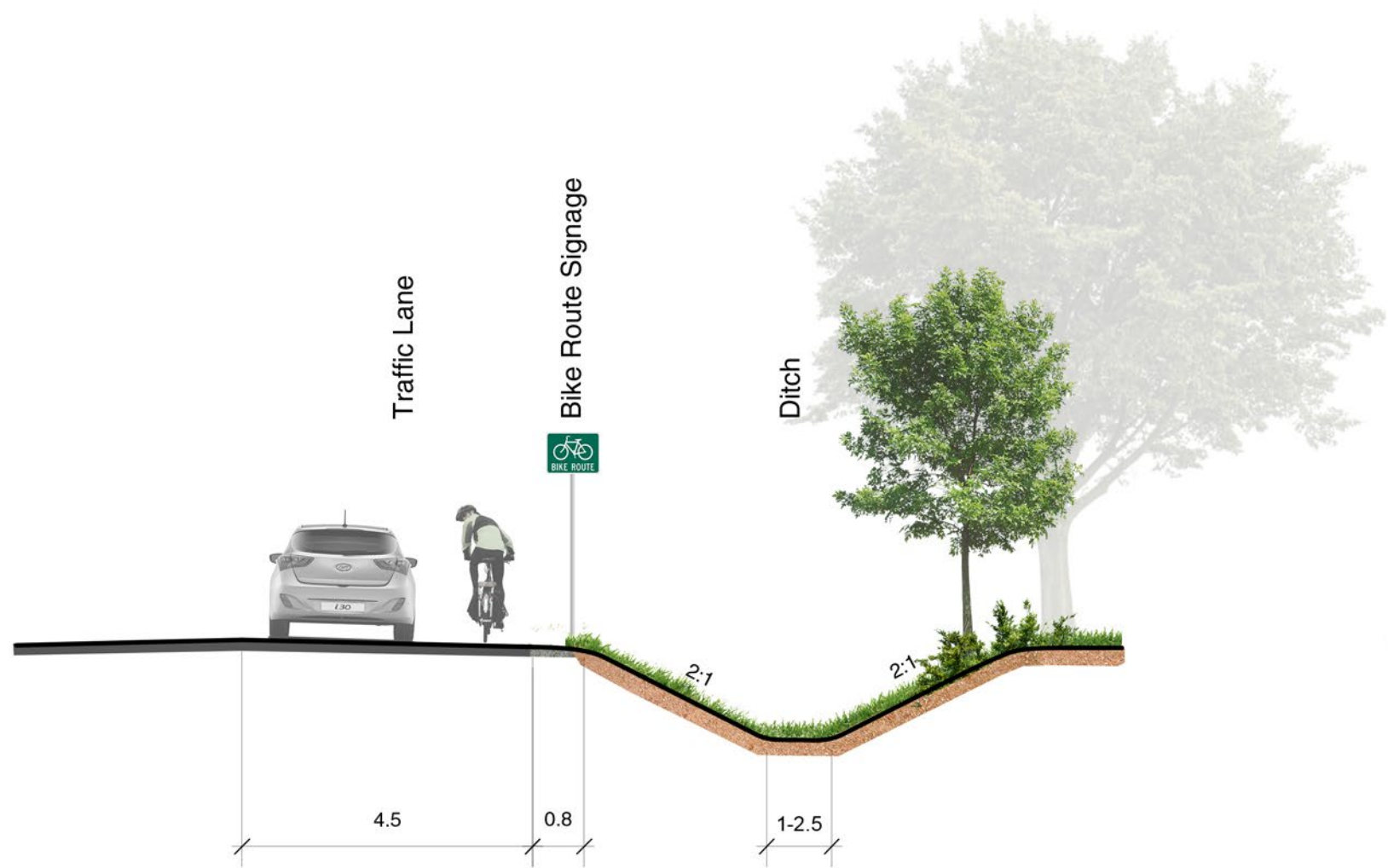
Off-Road Multi-Use Trails, this route type should be considered as an option for the mid to long term future, as it provides a superior cycling experience (and tourism marketing feature) regardless of traffic volumes.



**Rural Connector with
Signed Bike Route**

A number of rural roads connecting communities in the Avon Region have relatively low vehicular traffic and are therefore popular with local cyclists (e.g. Bog Road). These Rural Connector roads should be designated as signed

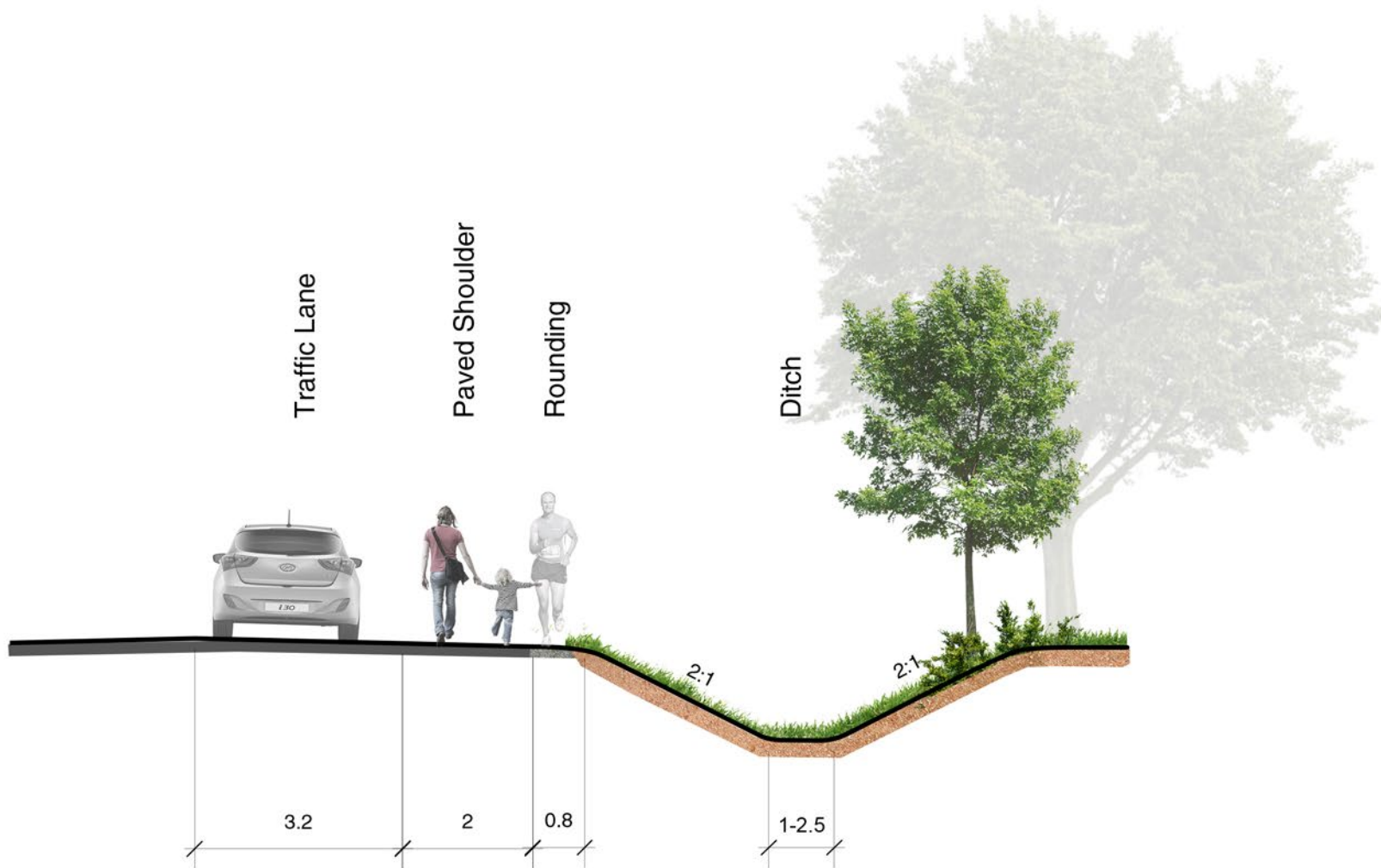
bike routes. Signed Routes are shared roadways suitable for roads with light automobile traffic of up to 1000 vehicles per day in rural areas. Share the Road signage should be installed.



Rural Local with Paved Shoulder

Similar to Rural Arterials, local roads in rural areas should have a paved shoulder in areas with proven or foreseeable demand for active transportation usage. Unlike shoulders on Rural Arterials,

shoulders on Rural Local roads are paved across the entire shoulder width to allow an informal sharing between cyclists, runners, pedestrians and other active transportation user groups.

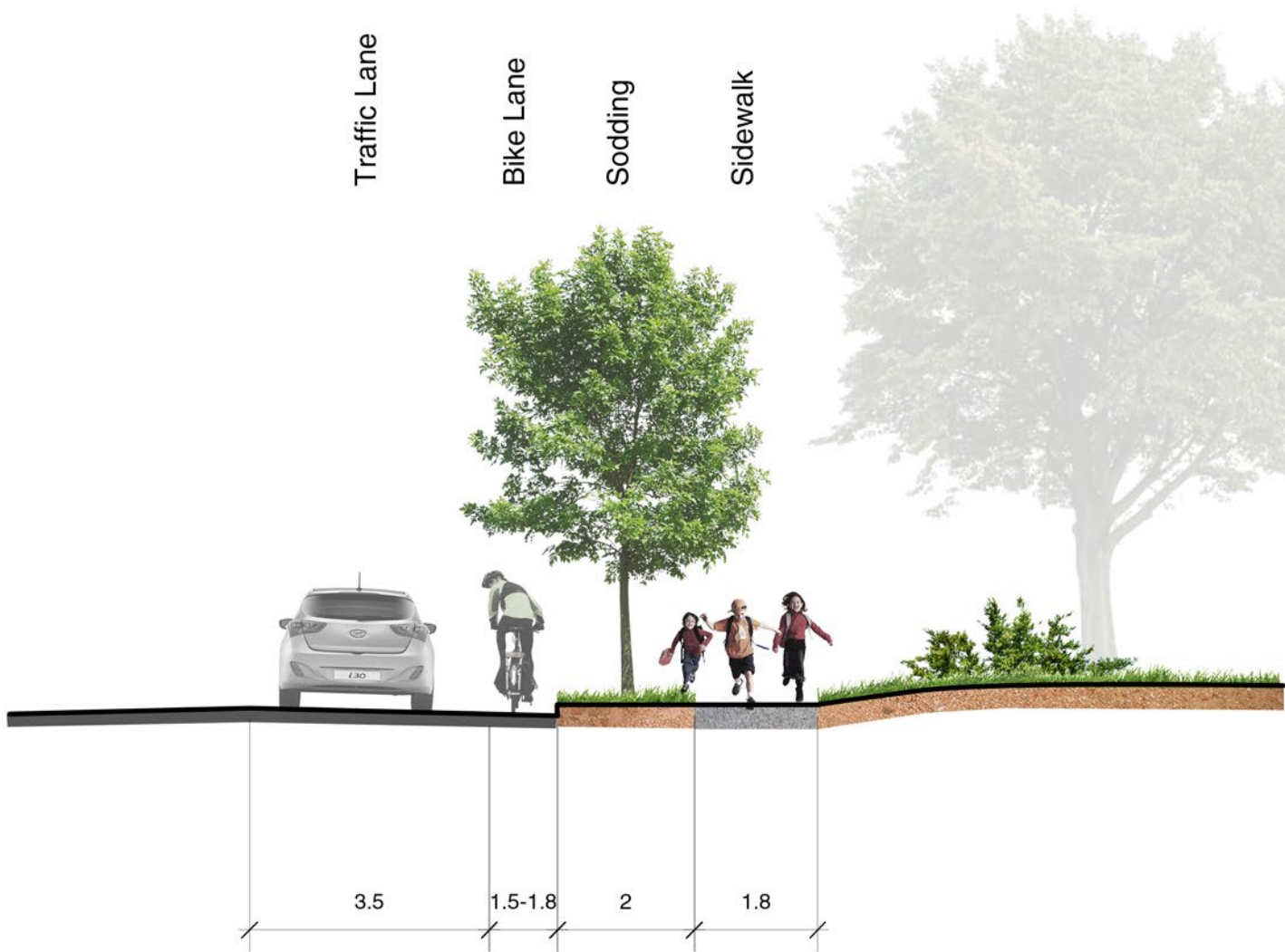


**Urban Collector with Bike Lane,
Curb and Sidewalk**

Collector roads in the urban areas of the Town of Windsor which are identified in the active transportation route plan, should be equipped with a bike lane. Bike lanes are reserved parts of the road bed to the right of vehicular traffic.

Preferably, the speed limit on these collector roads should be 50 km/h but can be greater when the bike lane width is increased to 1.8 meters. Bike lanes should never be bi-directional unless they are separated by barriers from

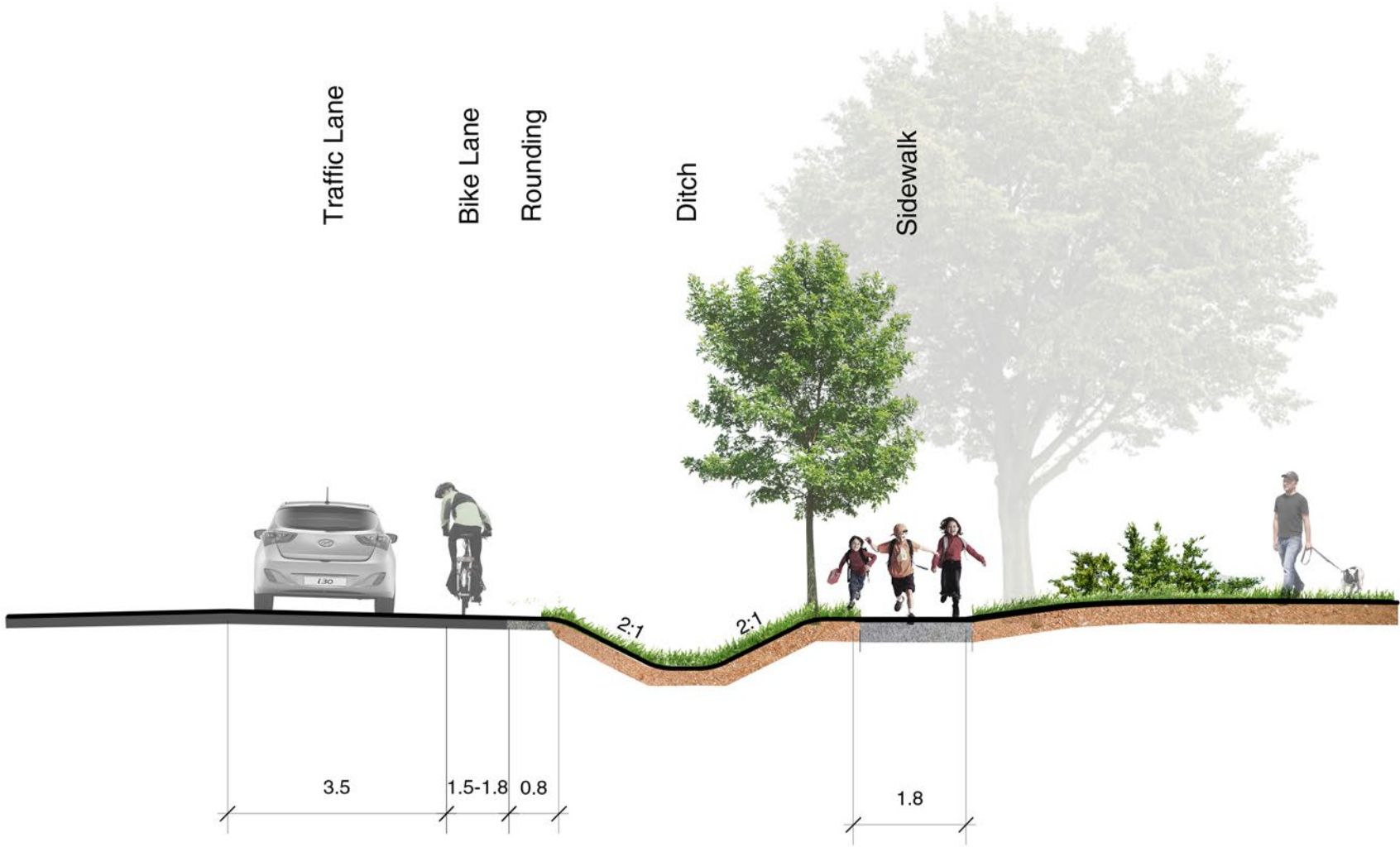
automobile travel lanes. Bike lanes can be either marked by a lane line or by colored pavement surface. On Urban Collectors with bike lanes, on-street parking should not be permitted.



**Urban Collector with Bike Lane,
Ditch and Sidewalk**

Some Urban Collectors in the Town of Windsor are not curbed. Stormwater runoff is collected in a ditch between the roadbed and the sidewalk. In order to improve cycling safety along these roads, paved shoulders should be added when repaving occurs.

New Urban Collector roads planned for Garlands Crossing and other growth areas should be designed with bike lanes and sidewalks.



**Urban Local with Curb, Sidewalk
and Signed Bike Route**

Signed routes are shared roadways
suitable for roads with light automobile
traffic of up to 3000 vehicles per day
in urban areas and 1000 vehicles per

day in rural areas . Maximum allowable
speeds should be 50 km/h. Share the
Road signage should be installed.



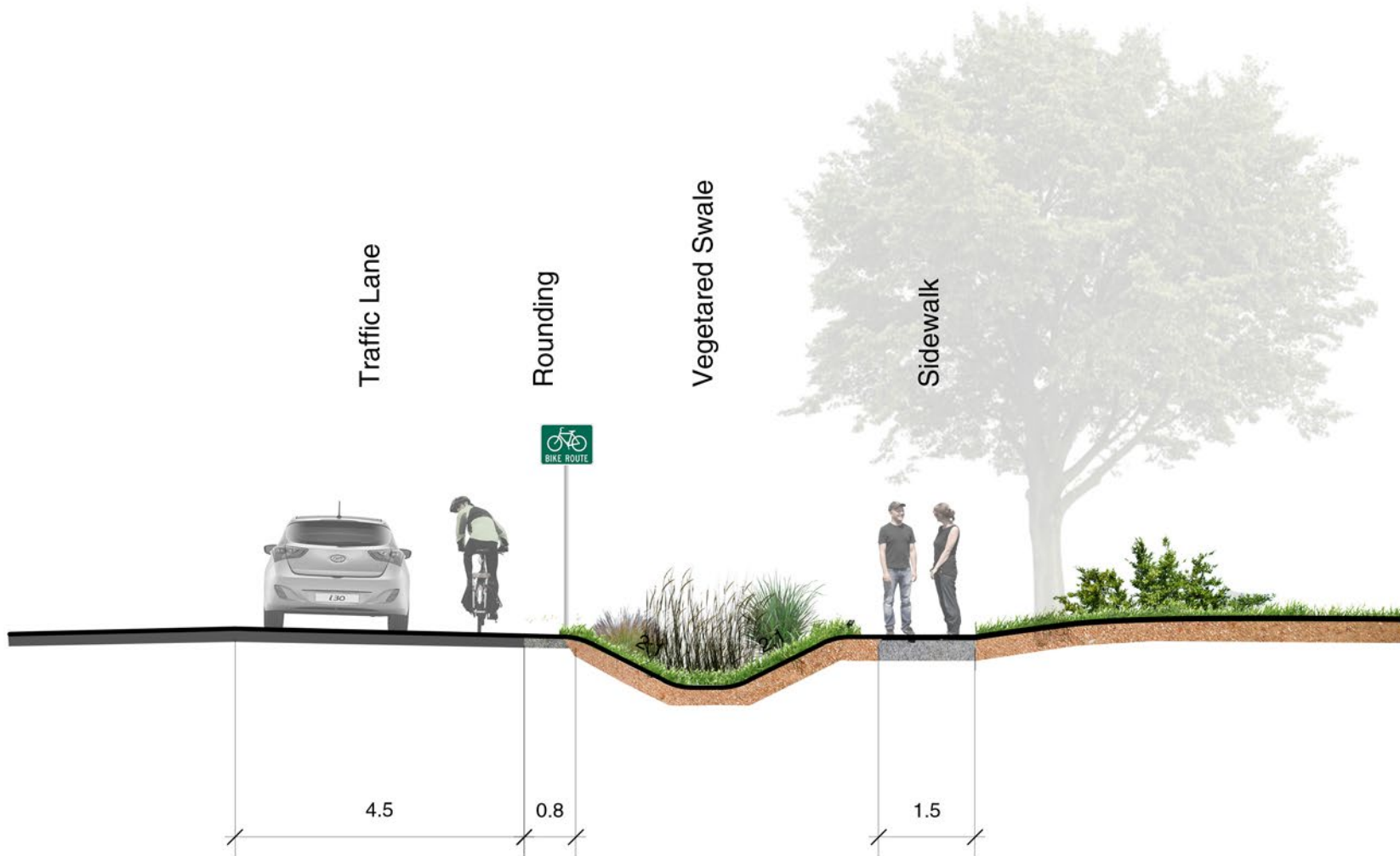
Urban Local with Vegetated Swale, Sidewalk and Signed Bike Route

New local roads in growth areas could potentially feature vegetated swales instead of curbs. Roadways would function as signed routes and sidewalks would be offset from the road. Vegetated swales create visually interesting streetscapes and typically have several advantages over conventional storm water management practice, such as

storm sewer systems, including the reduction of peak flows, the removal of pollutants, runoff infiltration, and lower capital costs.

A vegetated swale is a broad, shallow channel with a dense stand of vegetation covering the side slopes and bottom. Vegetated swales can serve as

part of a storm water drainage system and can replace curbs, gutters and storm sewer systems. Vegetated swales can be used wherever the local climate and soils permit the establishment and maintenance of a dense vegetative cover. Vegetated swales are easy to design and can be incorporated into a site drainage plan.

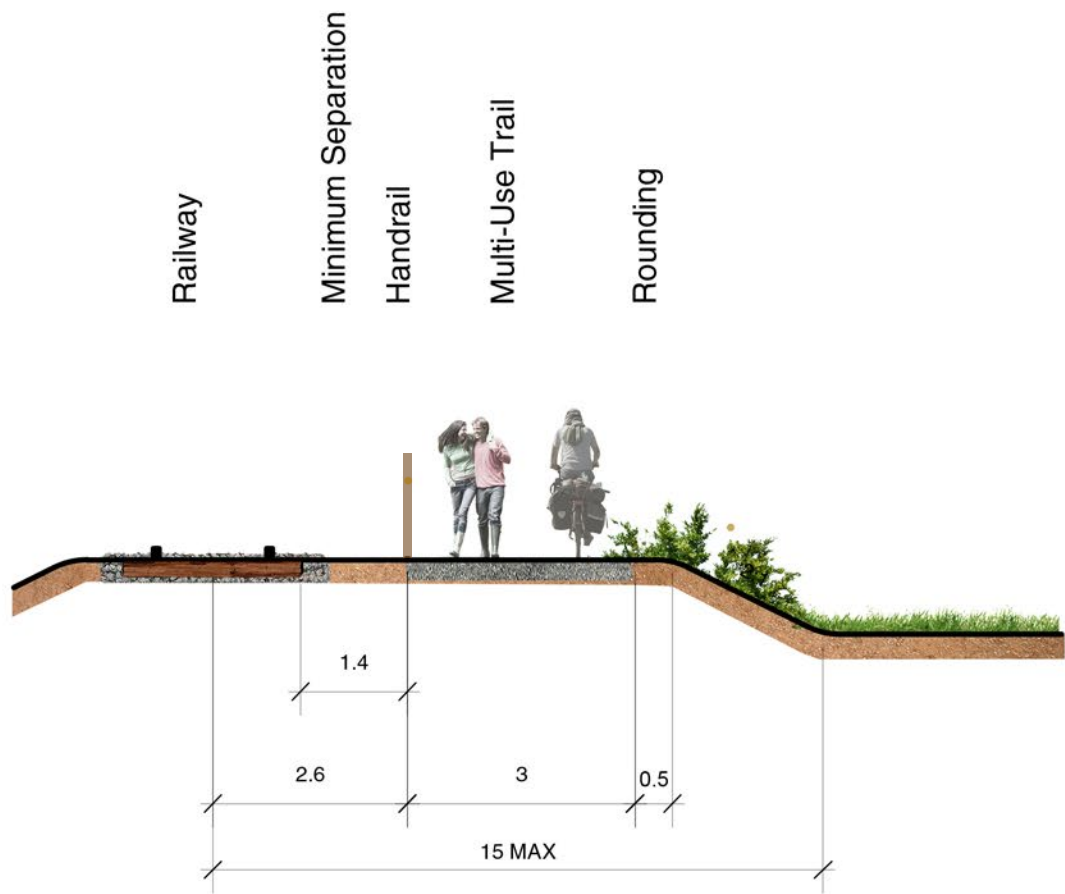


Rail with Trail

Rails with Trails present a unique opportunity to utilize currently unused right of ways traversing through the heart of several communities. Because of long term ownership interests, trails cannot be constructed on the rail bed

until a lease agreement with the rail line owners is negotiated - similar to what has occurred recently in Kings County, where the 30 metre wide rail right-of-way allows for construction of comfortable multi-use trails. In some instances

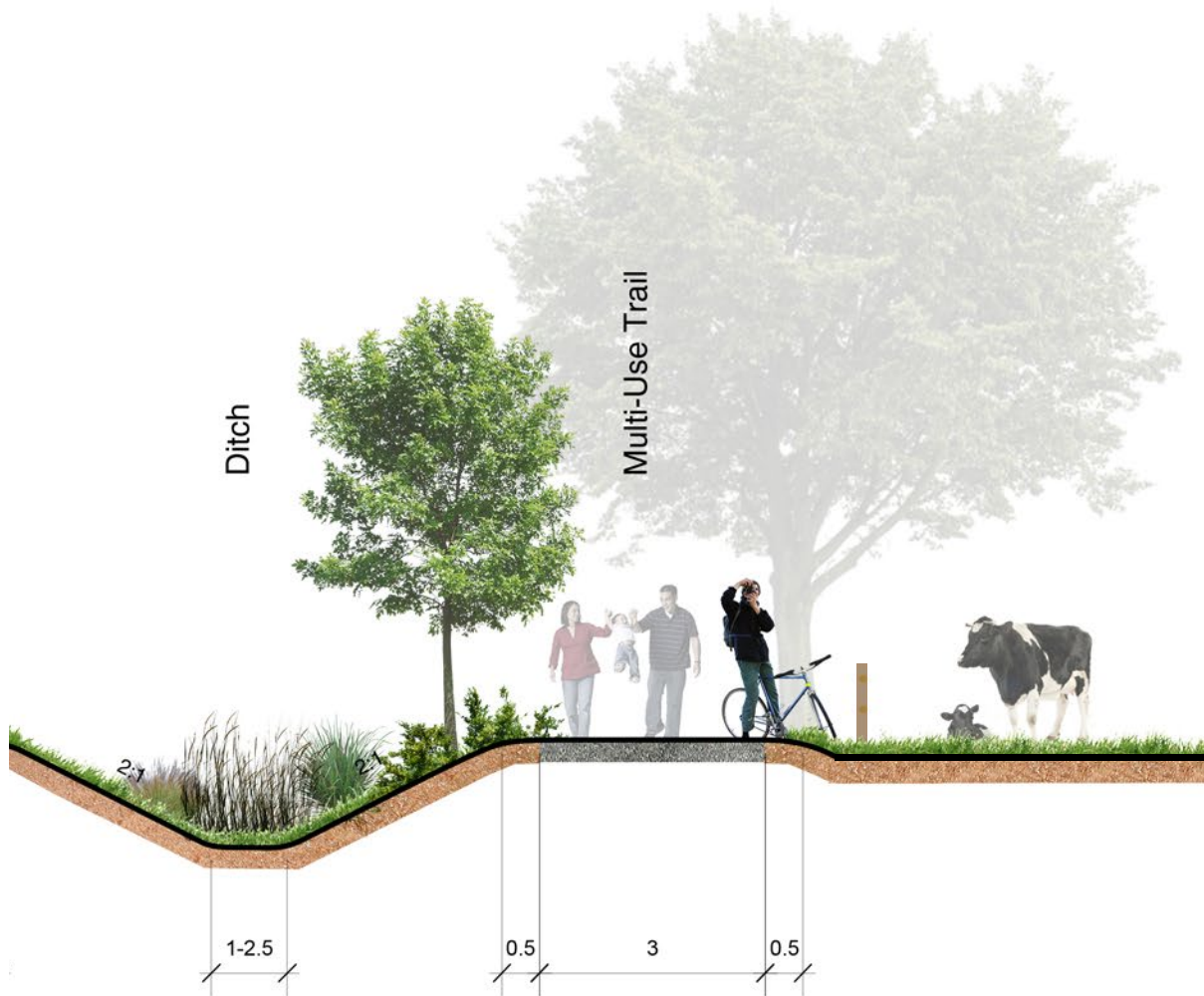
the grading of the existing rail corridor cross section may prove challenging but not insurmountable for the construction of the trail.



Multi-Use Trail

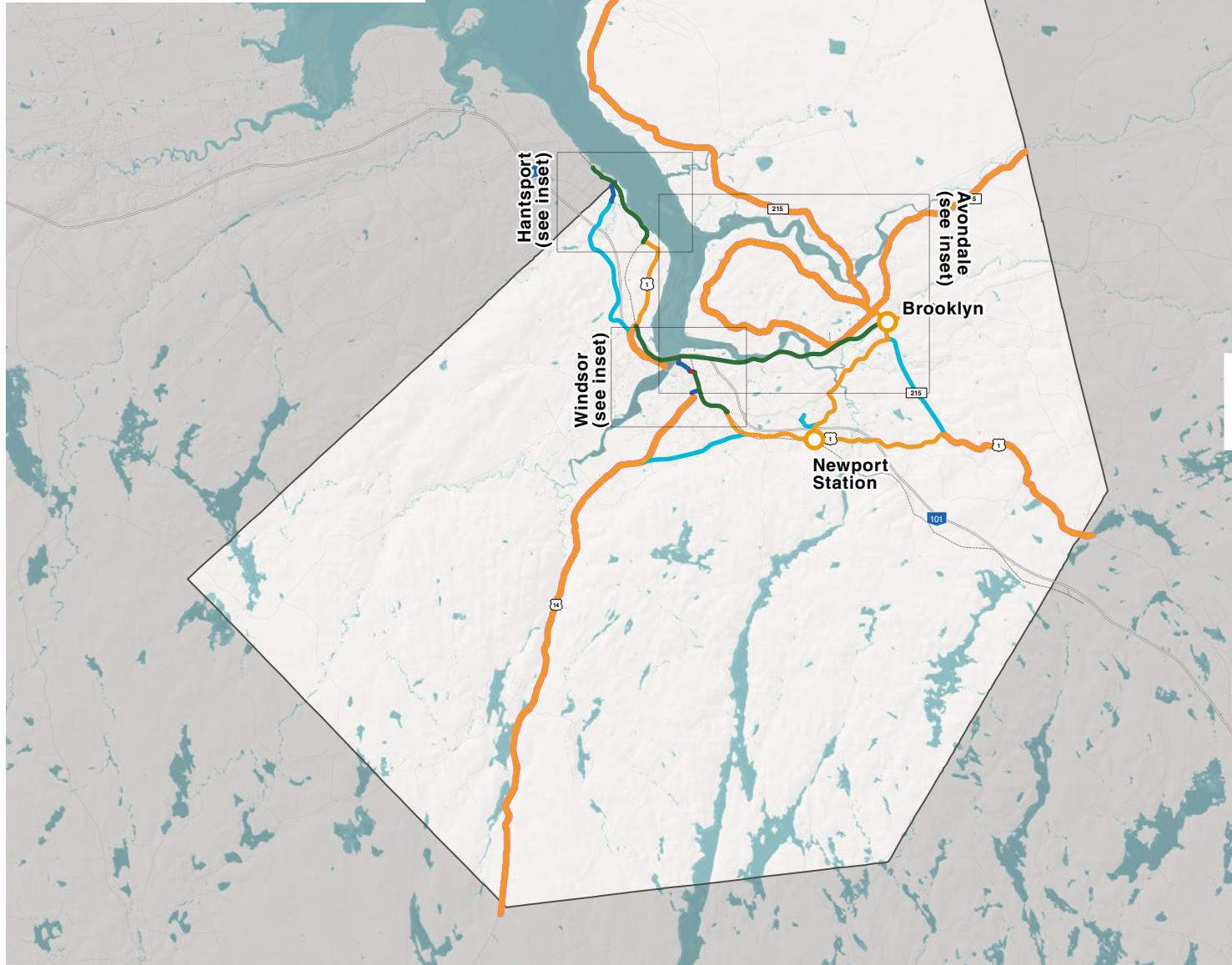
Multi-Use Trails can accommodate a variety of active transportation users, either at the same time or seasonally. Primarily used by pedestrians and cyclists in the summer, they can accommodate cross country skiers, snowshoers, snowmobilers and ATV drivers in the winter.

Cyclists and pedestrians can usually share these trails without conflict, however if the number of users grow, the trail width should be increased to 4.0 m and pedestrian and bike paths should be separated by a line.



Route Types

- Rail with Trail
- Rural Collector with Signed Route
- Rural Arterial with Paved Shoulder



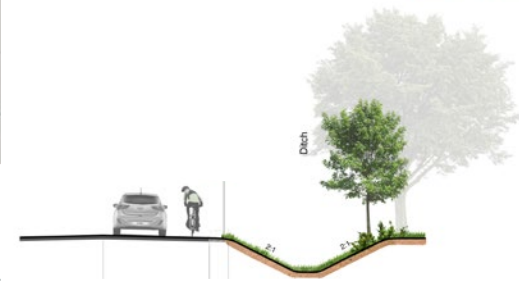
Cross section

Rural Arterial with Paved Shoulder



Cross section

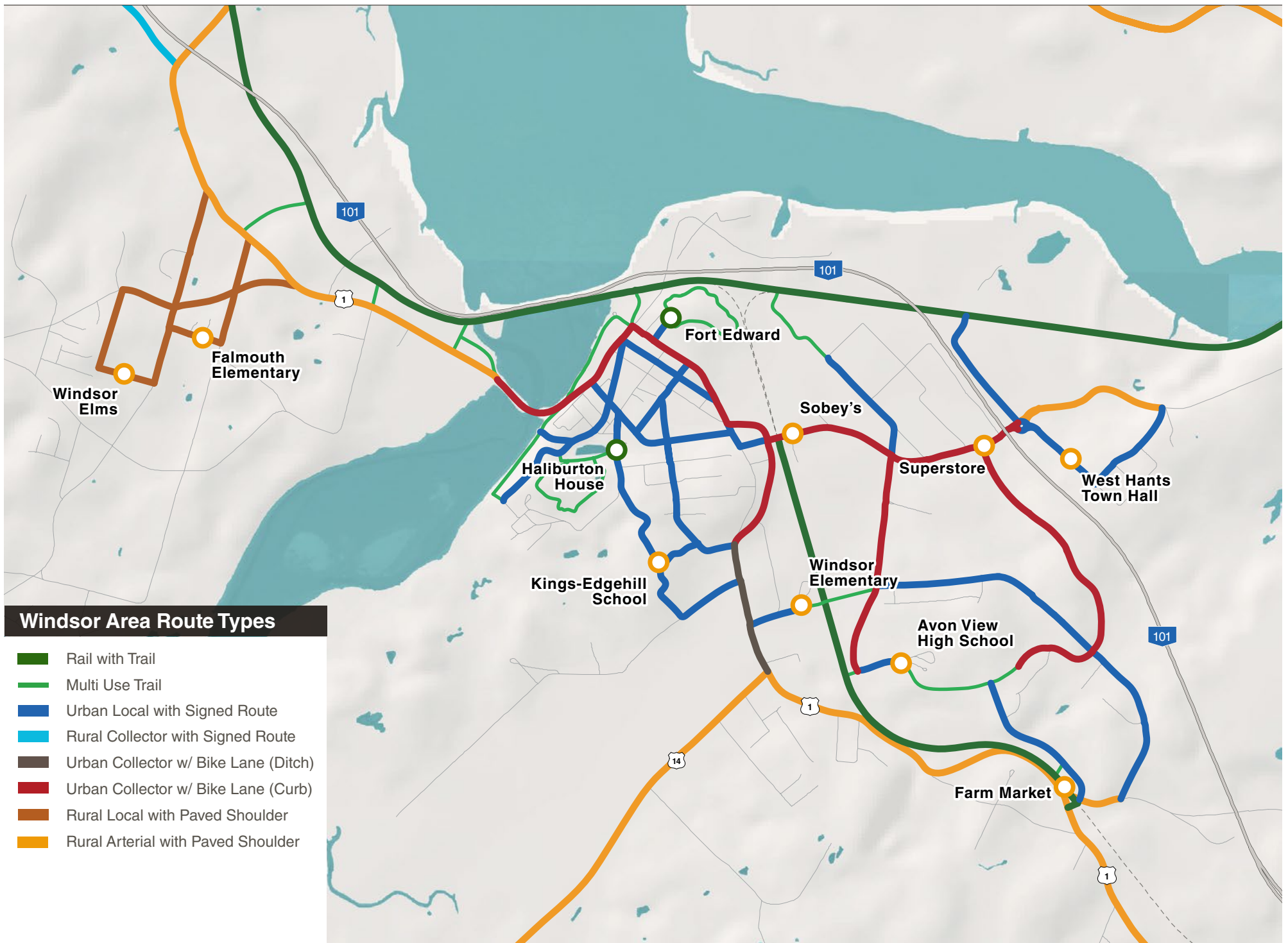
Rural Collector with Signed Route



Cross section

Rails with Trails



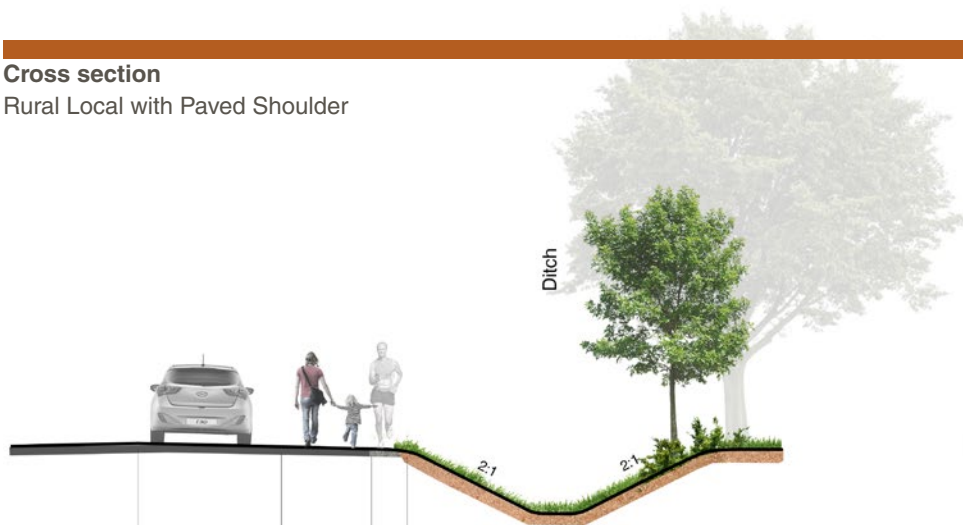


Windsor Area Route Types

- Rail with Trail
- Multi Use Trail
- Urban Local with Signed Route
- Rural Collector with Signed Route
- Urban Collector w/ Bike Lane (Ditch)
- Urban Collector w/ Bike Lane (Curb)
- Rural Local with Paved Shoulder
- Rural Arterial with Paved Shoulder

Cross section

Rural Local with Paved Shoulder



Cross section

Urban Collector w/ Bike Lane (Curb)



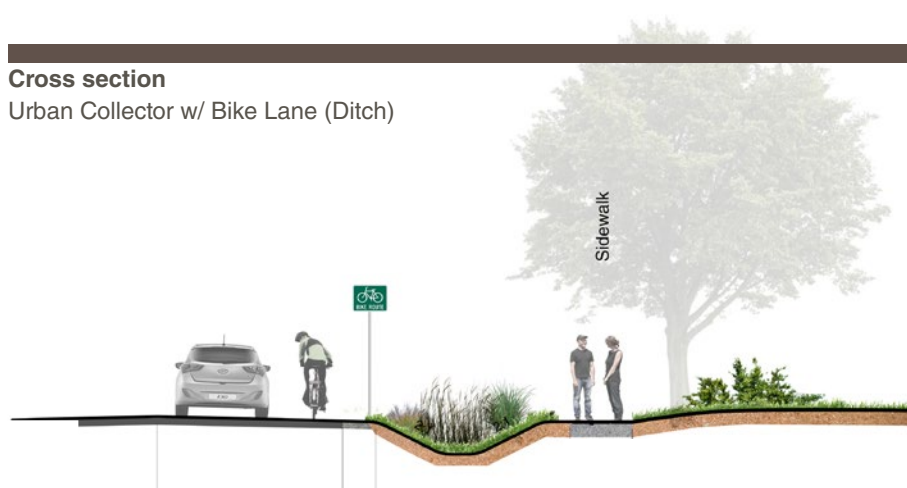
Cross section

Multi Use Trail



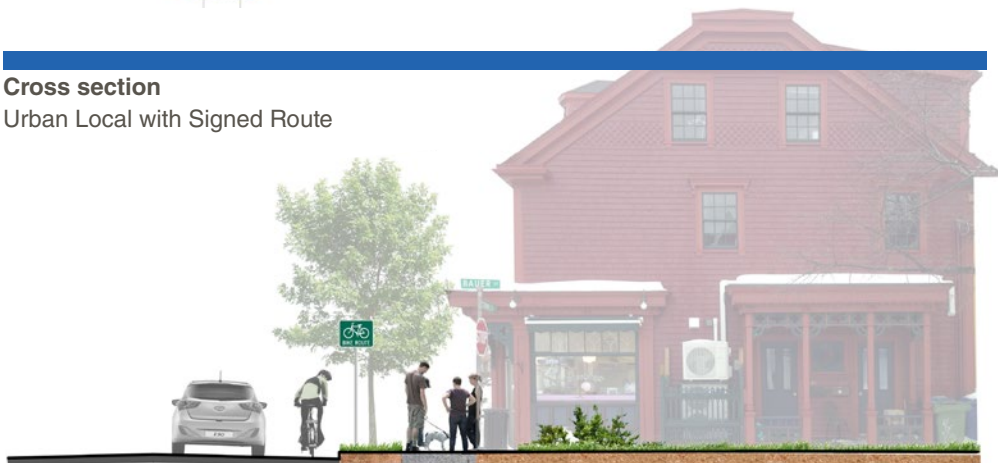
Cross section

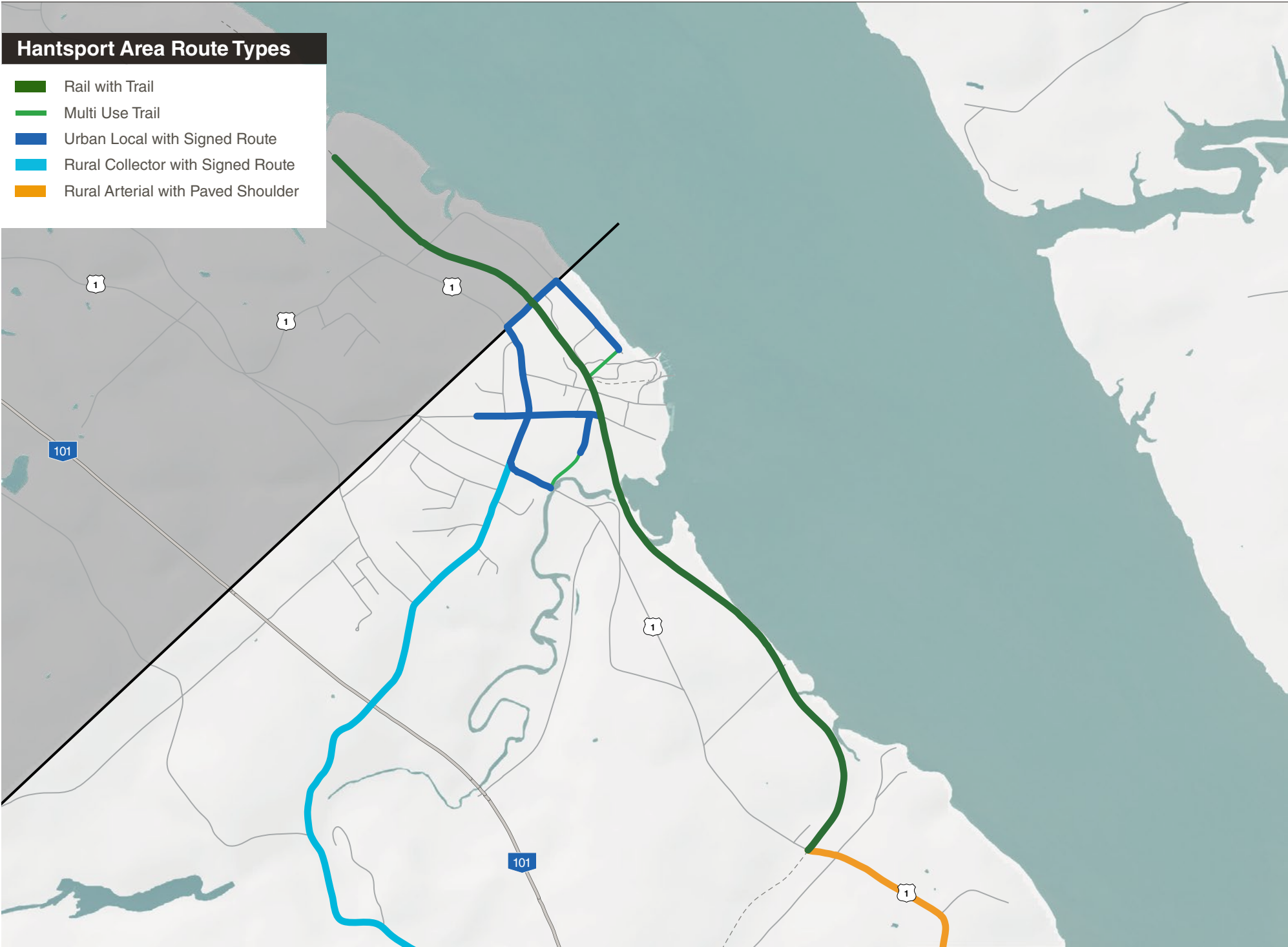
Urban Collector w/ Bike Lane (Ditch)



Cross section

Urban Local with Signed Route







Avondale Peninsula Route Types

-  Rail with Trail
-  Multi Use Trail
-  Rural Collector with Signed Route
-  Rural Arterial with Paved Shoulder

4.2 Intersection Improvements

During the consultation sessions, a number of intersections were repeatedly identified for their unsafe conditions, particularly for AT users. For two of these problem intersections possible redesigns have been developed with AT users in mind.

Junction of Trunk 14 and Route 215 in Brooklyn

The intersection alignment at Trunk 14 and Route 215 has several issues for all road users. While traveling northbound on Highway 14, the road forks off in two directions by the Petro Canada in

Brooklyn. The road forks to the north-east where it continues on as Trunk 14 to Truro, and also splits off to the northwest as Route 215 to Summerville and Cheverie. Officially, road users on Trunk 14 have the right-of-way, however, the wide corners, a lack of signage and



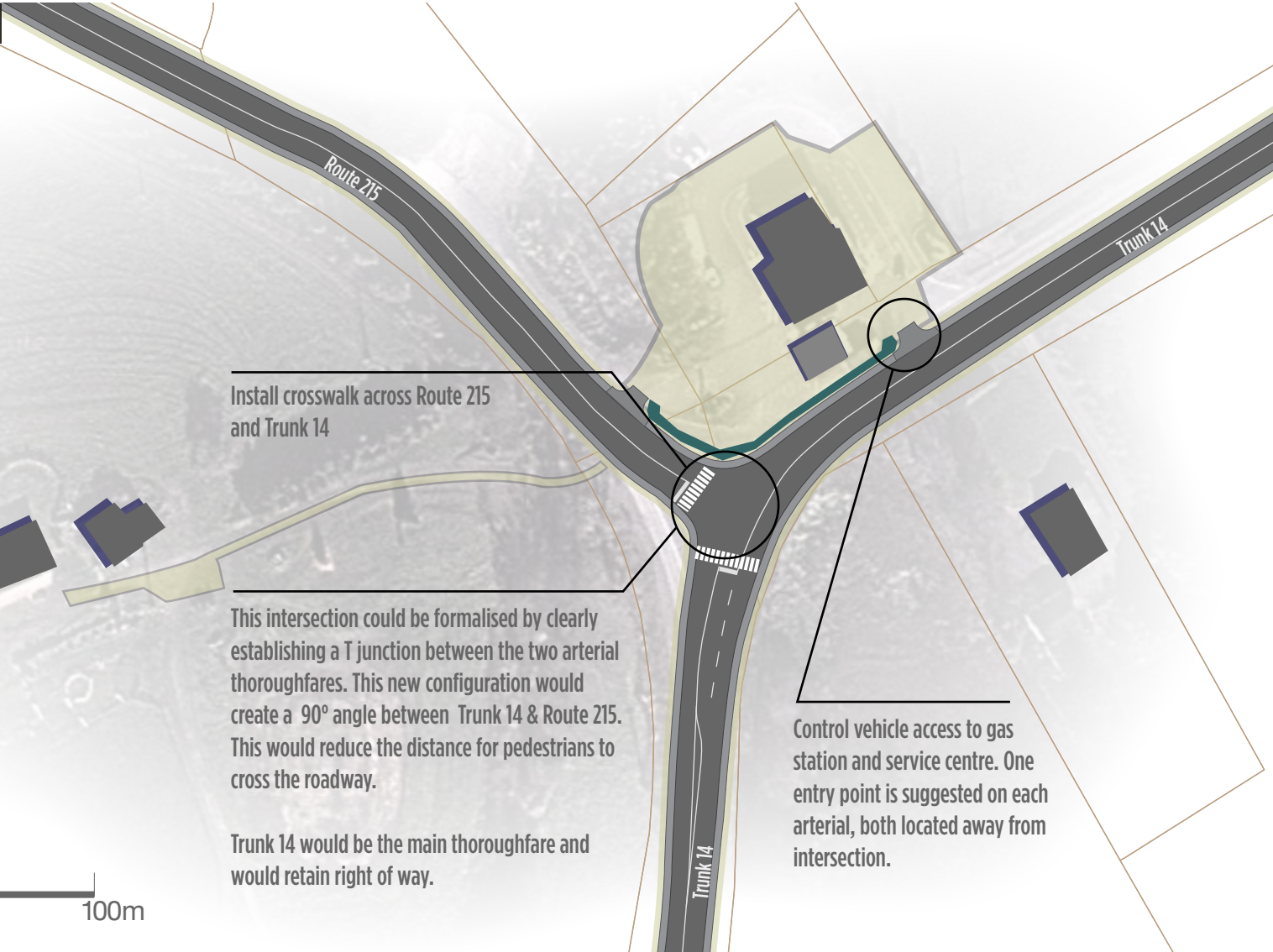
Existing Conditions

faded road markings have resulted in confusion as to who has the right-of-way. Quite often, road users turn onto Route 215 assuming they have the right-of-way without realizing oncoming traffic from Trunk 14 could result in a serious collision.

By realigning the intersection to more of a T-junction, introducing a new left hand turning lane on Trunk 14, and providing clear signage and road markings, road users would much better understand who has the right-of-way.

Possible Improvements

This drawing depicts only one potential design solution for addressing current safety issues for active transportation users. NSTIR’s planning and design group is currently reviewing this intersection to determine the preferred upgrade/improvement solution.



Junction of Trunk 14
& Route 215
Brooklyn



Junction of Trunk 14 and Trunk 1 at Garlands Crossing

High traffic volumes and speed limits, and the lack of access control to several businesses along Trunk 1 all contribute to safety issues near Garlands

Crossing. The overabundance of driveways along a busy right-of-way creates many potential conflict points and free flowing traffic, which is a particularly daunting environment for vulnerable active transportation users.

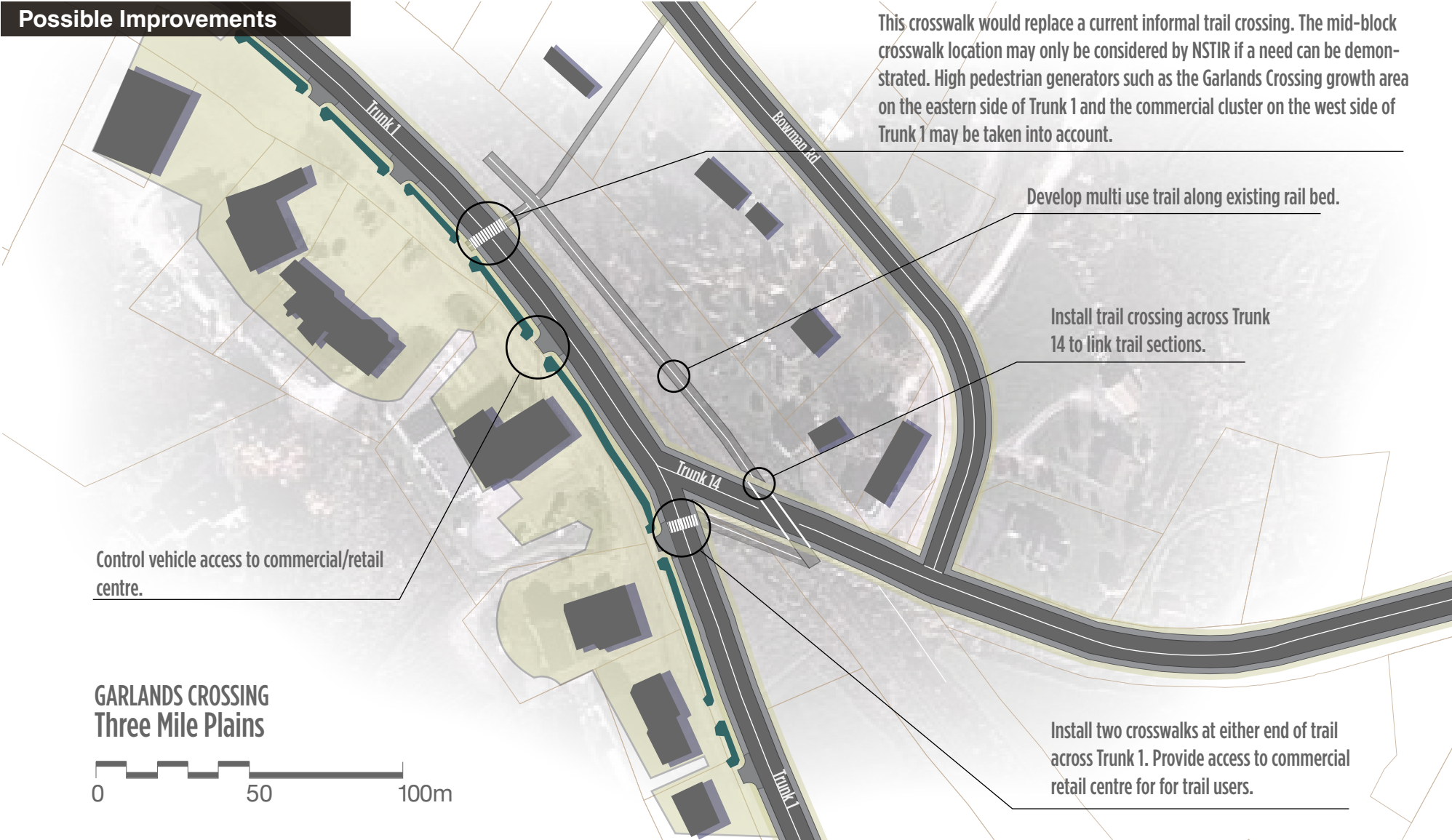
The AT Network identifies Trunk 1 as a regional route until it reaches a crosswalk just before the intersection at Trunk 14. At this crosswalk, the regional route switches onto a new AT trail along the former railbed, which runs parallel to

Trunk 1. From here, AT users can safely and conveniently get to Windsor and other destinations. A new crosswalk across Trunk 14 would allow AT users to safely cross the busy highway.



Finally, improved access control to the businesses along Trunk 1 would reduce potential conflict points and help create a more safe environment for AT users who travel along the roadway instead of the railbed trail.

Possible Improvements





4.3 Wayfinding

The Need for Wayfinding

A well designed wayfinding system can make navigating and locating facilities/amenities more easy and convenient for active transportation users, particularly for those who are not familiar with the area or aware of existing facilities. Signage can also be a useful platform to indicate rules and regulations of parks and/or trail networks.

The Avon Region has a handful of trail facilities that are not used as much as they could be because visitors and even residents are not aware of their existence. The need for signage and wayfinding was repeatedly identified to improve the navigability and sense of safety.

A new signage system for Avon Region trails would result in several benefits, such as:

- An improved awareness of underexposed trail facilities by installing

- off-site directional signs;
- Improved internal navigability for trail users;
- Improved linkages between trail or park facilities and adjacent community amenities; and
- Improved sense of arrival for AT users and visitors by installing trailhead or park signs at entrances to AT facilities.

Proposed Wayfinding Concept

The following wayfinding concept recommends signposts that will be predominantly placed within trail networks and parks, i.e.; not within the road right-of-way. The road network already features an abundance of directional and regulatory signs accommodating motorists, which can in some areas result in sign clutter.

If another directional signage regime for just AT users is introduced into the right-of-way it will compound sign pollu-

tion issues, which would be a negative environment for all road users.

Nevertheless, there are conditions where on-road directional and regulatory signage are necessary, such as at confusing or important decision-making points, areas with unique safety conditions (such as school zones, trail crossings, etc), and where signage would direct AT users to underexposed trails or parks. Bicycle Nova Scotia is also currently working with NSTIR to develop on-road route markers along the Blue Route.

Recognizing these needs and issues, the following family of themed signs have been developed for the Avon Region Active Transportation Network:

- Trail Markers;
- Entrance Signs;
- Trail Directional Sign Posts; and
- Off-Site Directional Sign Posts.

Brand

All signs feature a similar theme or aesthetic that revolves around a concept brand or logo for the AT Network. The purpose of incorporating a brand or identity into the signage is to build on and improve region-wide recognition amongst AT trail users.

The “Active Avon” brand is a simple, succinct description of the network. The Active Avon wordmark is highly legible and recognizable, and can be displayed in a two-tone green, or in white when displayed on a dark background. If another brand or logo is preferred by the Avon Region AT Committee, it can easily replace the concept brand and be incorporated into the signage.



Typeface

Sign messaging is displayed in the typeface DIN Pro, which is frequently used in directional signage due to its high legibility.

DIN Pro

ABCDEFGHIJKLMNOPQRSTUVWXYZ
abcdefghijklmnopqrstuvwxyz
1234567890



Colours

The wayfinding concept utilizes universal colour coding for different sign messaging. Similar to Parks Canada and most standardized signage systems, red is used for prohibition or warning signs, blue is used for conveying information messages, green is used for directional or identification messages, and black is used to indicate a mandatory rule for obligatory action.

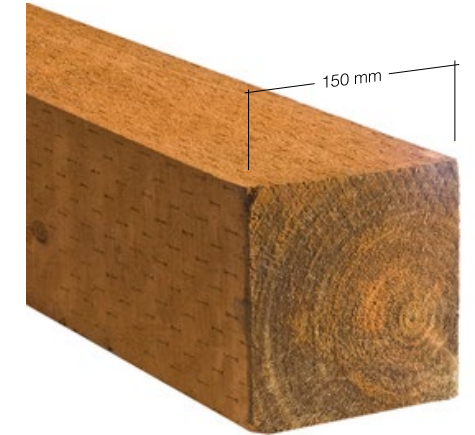
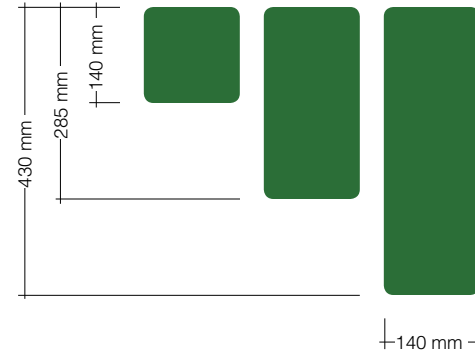
Occasionally, a two-tone colour palette is employed when messaging and pictograms are both required on a sign panel.

	Guidance and Information C: 0% M: 30% Y: 0% K: 20% C: 90% M: 60% Y: 25% K: 10%
	Prohibition and Warning C: 0% M: 100% Y: 65% K: 15% C: 15% M: 90% Y: 65% K: 5%
	Directional and Identification C: 60% M: 0% Y: 55% K: 80% C: 80% M: 0% Y: 90% K: 0%
	Mandatory C: 0% M: 0% Y: 0% K: 100% C: 70% M: 60% Y: 50% K: 60%

Post Layout

The majority of sign panels are to be affixed to 6x6 posts (150 mm by 150 mm) of various heights. Three sign panels are derived from a 140 mm grid (with a 5mm gutter) and feature a uniform width of 140 mm to fit within the 6x6 post.

- The three different sign panels are:
- single pane sign panel (140 mm high)
 - double pane sign panel (285 mm high)
 - triple pane sign panel (430 mm high)



Example Single Pane Sign
Panels with Pictograms



Sample Sign Panel (actual size)

Prohibition Symbols

No smoking.

No motorized vehicles on trail.

No swimming.

No parking. 6-10 pm

No cycling on trail.

Mandatory Symbols

Dogs must be on leash.

Please use waste bins

Cyclists dismount.

Blue Route Indicator

Guidance and Information

Coffee cup icon

50 m →

Men and women icons

50 m ↑

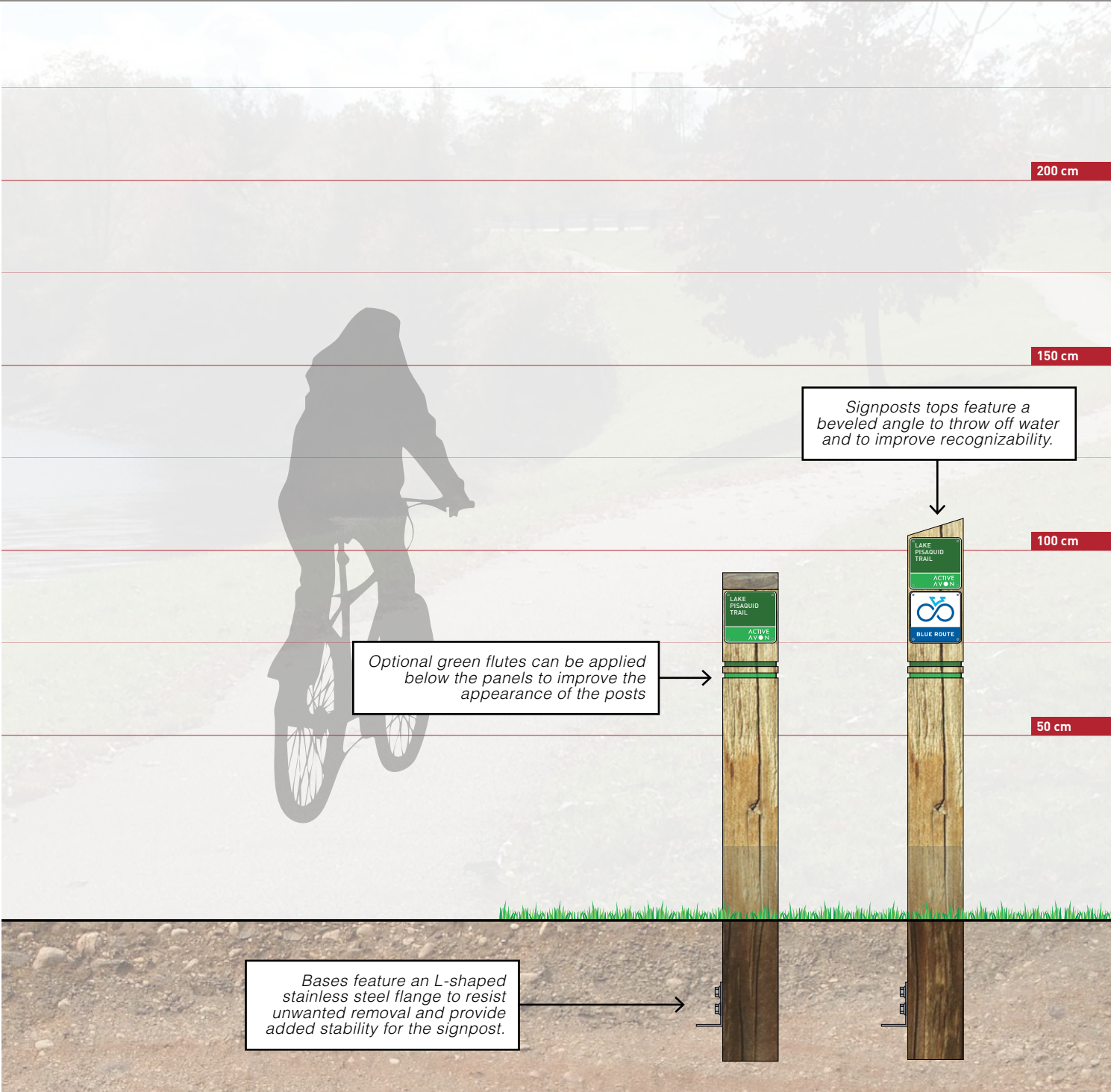
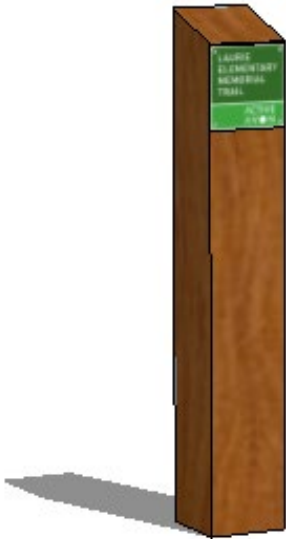
P icon

650 m →

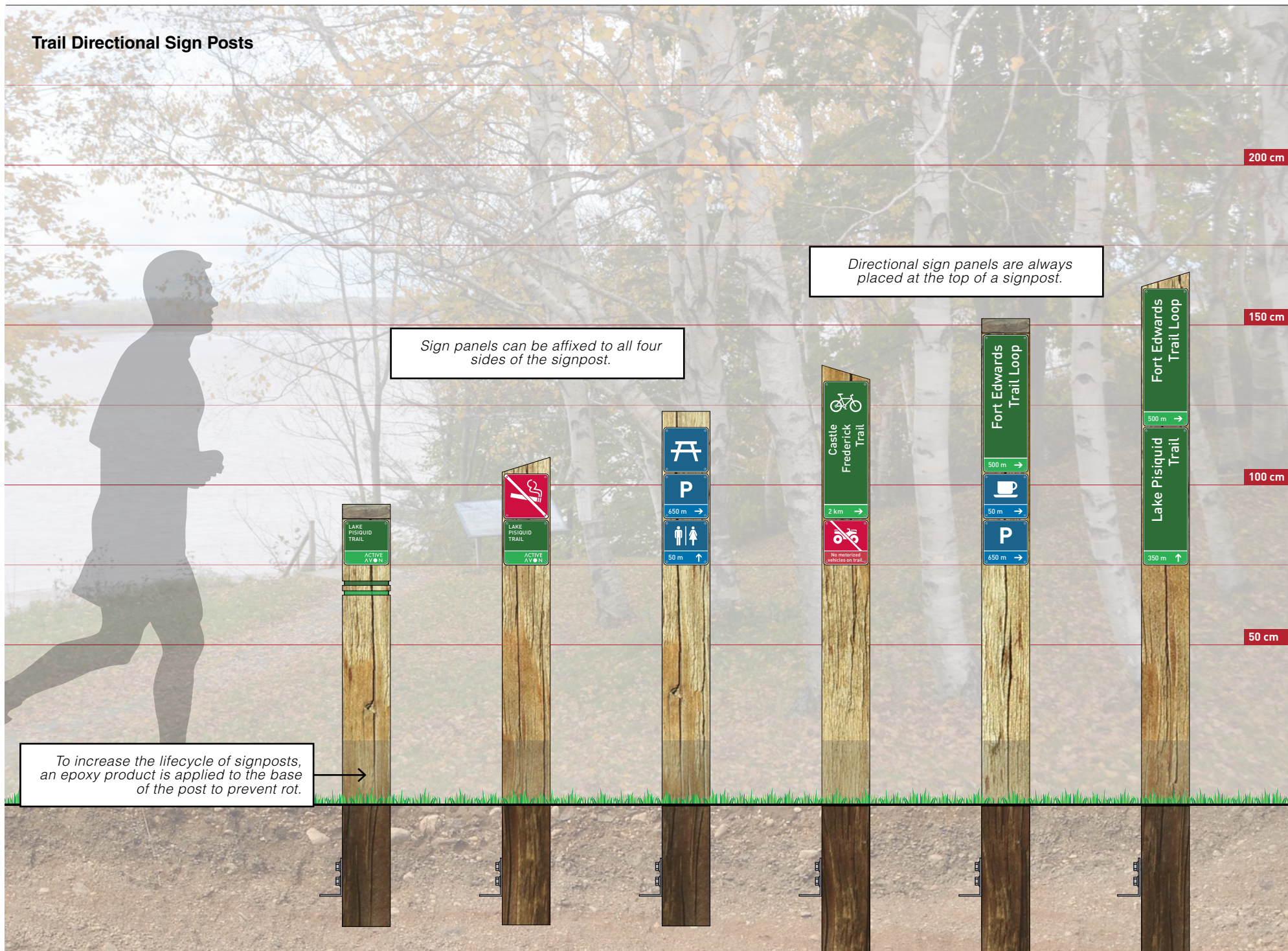
Trail Markers

Trail markers are placed alongside trails to reassure trail users that they are traveling in the right direction and that they are on the right trail. These types of signs are particularly useful on complex trail networks where there may be more than one trail name. They are also useful for long distance trails (such as the Rails with Trails line) where directional signs aren't as frequently used.

The trail marker signs consist of a single pane sign panel featuring the trail name and Active Avon logo on a 90cm tall 6x6 post. In areas where the Blue Route and Avon Region AT Network overlap, two trail markers may be used on the same signpost - one featuring the Active Avon logo and the other indicating the Blue Route logo.



Trail Directional Sign Posts

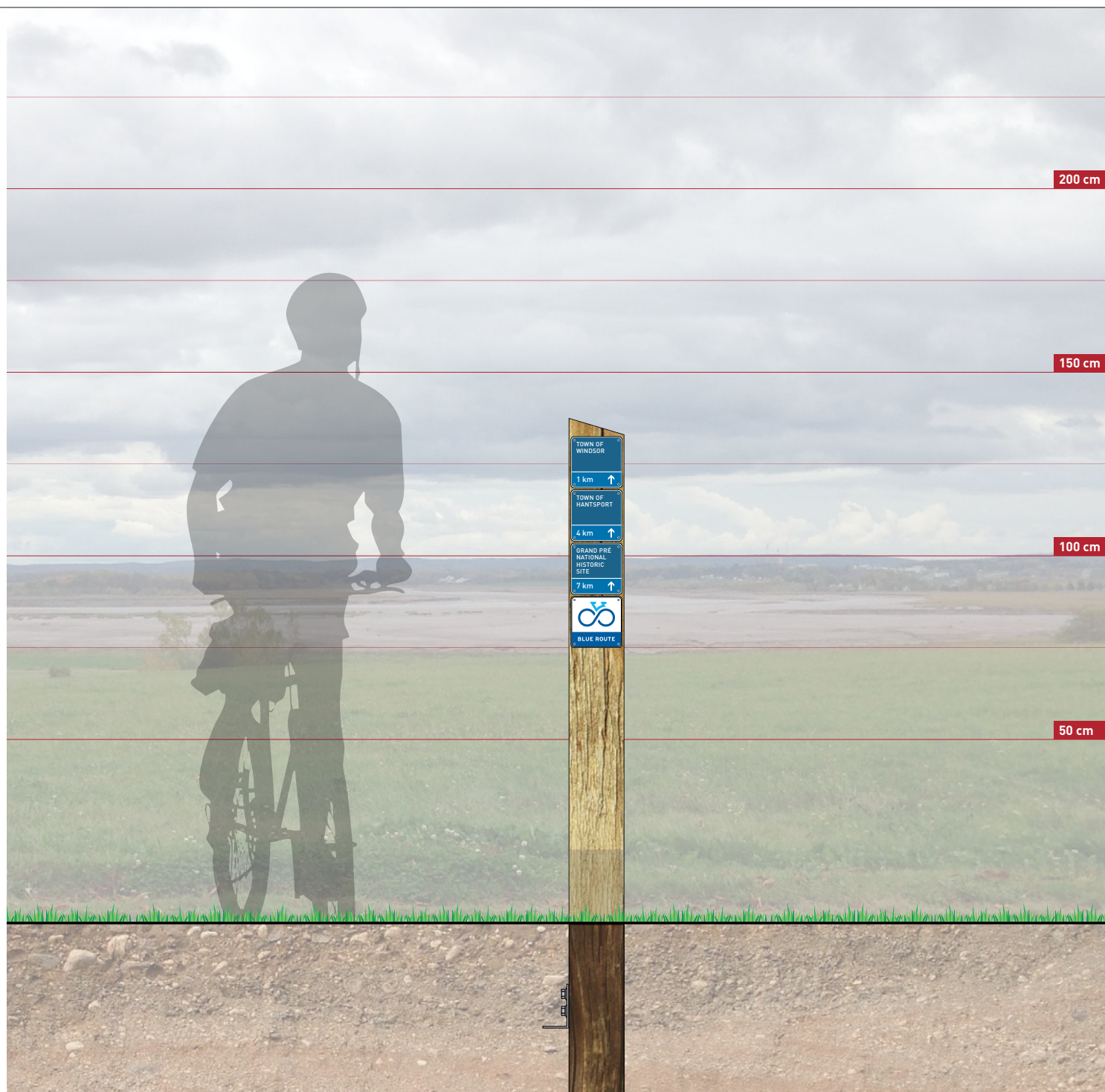


Destination Distance Markers

On long distance or linear routes, it may be useful to place sign posts indicating the distances until the next town or landmark. These types of signs would be particularly useful on the potential future railbed trail that would connect many different towns together.

Sign placement criteria:

- Sign posts should be placed along the trail approximately 1km before and after an important destination.
- Sign posts should be placed after an important junction or turning point.
- Each post should be limited to a maximum of three destinations per signpost to reduce information overload.
- The nearest destination should be placed at the top.
- Sign posts should be placed at 5 km intervals on long stretches between destinations.



Entrance Signs

Entrance signs should be placed at trailheads or park entrances to help convey a sense of arrival for AT users and to communicate park features and regulations. Useful information such as park hours of operation, permitted uses, and emergency contact information should be included on these signs.

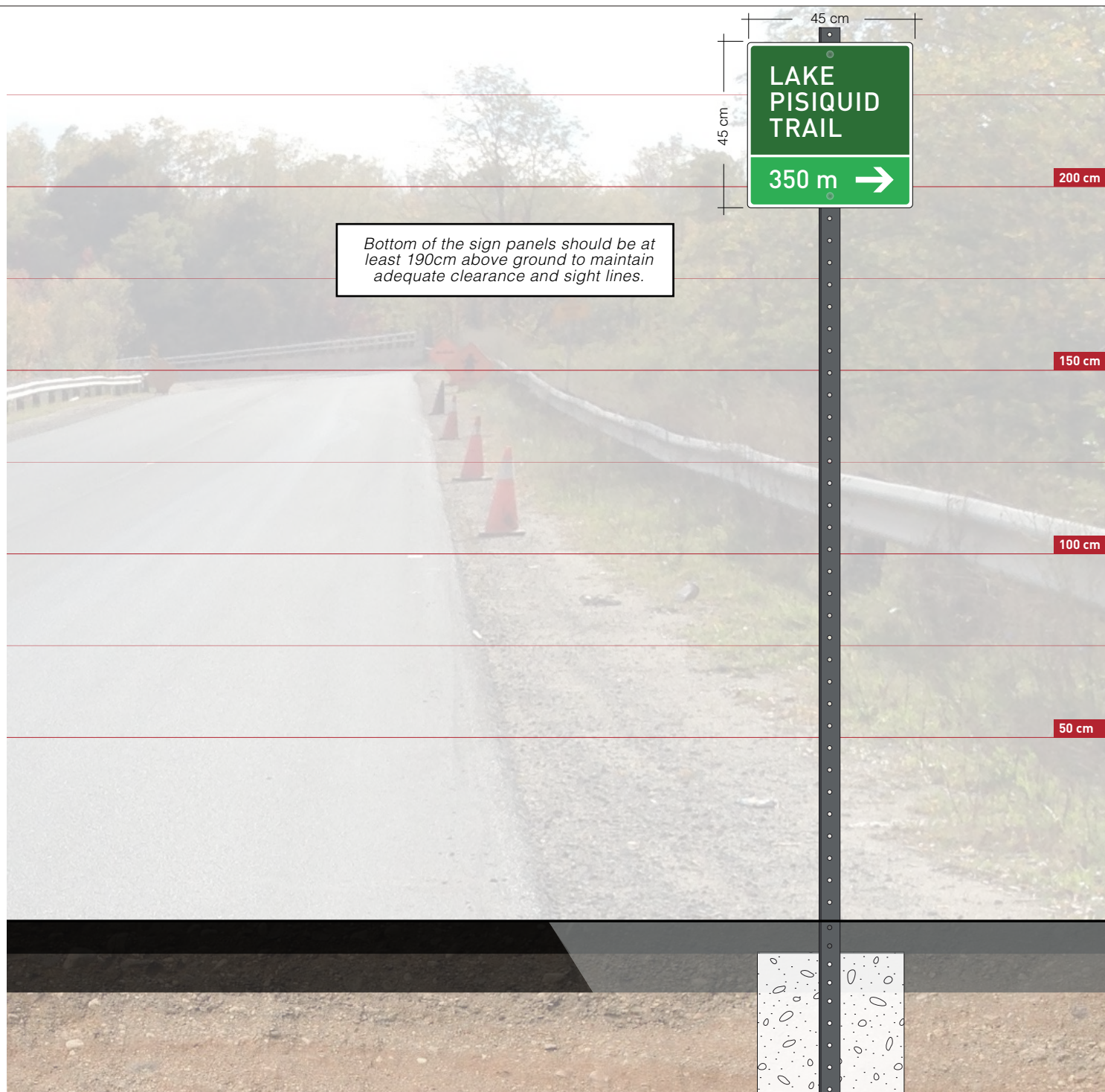


Off-Site Directional Signs

There are a handful of trail facilities and parks that are either underexposed or difficult to find for AT users. The strategic placement of off-site directional signs can help direct potential users to these hard-to-find or underexposed facilities.

Sign placement criteria:

- Sign posts should be placed along the road approximately 15-20 metres before a turning point or junction.



5 Implementation



5.1 Education and Awareness

Education and awareness is vital.

Initiatives that focus on changing the culture around mobility and establishing positive perceptions is essential to the success of the Avon Region Active Transportation Plan.

Communication Strategy

The Working Group that was formed for the creation of this plan should consider evolving into an AT Steering Committee to steward the plan into the future, create communication materials, coordinate initiatives and collaborate with other organizations.

An attractive branding strategy will bring awareness to opportunities for community members to be more active. A website and social media (Facebook, Twitter, Instagram, etc.) are great platforms for providing educational materials and celebrate successes. A variety of mediums including a maps, brochures, print ads, videos, buttons, magnets, signs, etc. could be used. Regular publications in local media can offer tips and remind the community about upcoming initiatives. It is important in any of these measures to be clear and consistent across all initiatives.

Examples

Share the Road Nova Scotia

<http://www.dal.ca/sites/share-the-road.html>

Pace Car Program

<http://saferoutesns.ca/programs/pace-car>

Cycle Nova Scotia

<http://www.cyclenovascotia.ca/>

Move On Colchester

<http://www.colchester.ca/move-on-colchester>

Town of Bridgewater interactive map

<http://bridgewater.ca/active-transportation13>

Partnerships

All initiatives become stronger when interested groups join forces. Partnerships and support of the community groups and government departments already undertaking active transportation initiatives can increase the effectiveness of existing campaigns and events.

Success will rely on involvement of the community itself. Volunteers can be utilized to distribute information, to run workshops and tours, and also to collect data for the evaluation and monitoring of this AT Plan. Developing a strategy and putting in effort toward increasing and maintaining volunteers is really important. Often this involves creating associations with membership fees that pay for special volunteer perks.

Business Development Corporations and individual business owners can be effective partners that can enhance the public realm, promote events and encourage active transportation.

Examples

Nova Scotia Trails Volunteering

http://www.novascotiatrials.com/index.php?option=com_content&view=article&id=60&Itemid=373

Friends of Taylor Head

<http://friendsoftaylorhead.com/membership/>
Halifax North West Trails Association

<http://www.halifaxnorthwesttrails.ca/Membership/HNwTA-membership-card/>

City of Toronto Cycling Ambassadors

<http://www1.toronto.ca/wps/portal/contentonly?vgnextoid=7607748b621f1410VgnVCM10000071d60f89RCRD&vgnextchannel=3904970aa08c1410VgnVCM10000071d60f89RCRD>

Active Transportation Events and Campaigns

Create one-time or reoccurring events such as Bike/Walk to Work/School Week or Active Life campaigns that highlight the potential for active mobility, and celebrate new or improved infrastructure. Friendly competition is a great way to incentivise individuals and groups to challenge active transportation perceptions, while non-competitive campaigns can include the creation of community walking, cycling, ski, or snowshoe clubs.

Collaborate on existing initiatives taking place locally, across the province or nationally to maximize organizational and promotional efforts.

Examples

Switch Open Streets

<http://switchhfx.ca/>

Victoria's Secret Mountain Bike Race, Truro

<http://www.bicycle.ns.ca/>

Winter Walk Day

<http://saferoutesns.ca/programs/winter-walk-day>
Nova Scotia Bike Week

<http://nsbikeweek.ca/>

Take the Roof off Winter Campaign <http://www.recreationns.ns.ca/take-the-roof-off-winter/>
WOW Campaign (We often Walk or Wheel)

<http://saferoutesns.ca/programs/wow>
Lets Get Active

http://www.novascotiatrials.com/index.php?option=com_content&view=article&id=82&Itemid=412

Commuter Challenge

<http://commuterchallenge.ca>

Community Events

Capitalize on existing community events that have already proven successful at attracting attendance. This is an opportunity to run an educational campaign, a workshop or a group activity, and to engage residents and visitors that might not attend an event that is centered on active transportation.

Examples

Hantsport Winter Carnival

<http://www.hantsportnovascotia.com/winter-carnival-2015.html>

Windsor-West Hants Summer Fest

<http://www.town.windsor.ns.ca/windsor-wh-summer-fest-sam-slick.html>

Education

The key to changing the culture of active transportation is through teaching safe practices and benefits of active transportation. Strategies can increase awareness about routes, teach new users about safety or how to ride a bike and can involve community groups or schools in planning how they can increase active transportation in their lives. Important safety topics include everything from proper equipment and maintenance, to etiquette on multi-use trails as well as navigating common conflicts between non-motorized transportation and ATVs, snowmobile and vehicles.

Economic benefits include the savings of decreased vehicle use, as well as the benefits to local businesses that will see increased foot traffic.

Examples

Can Bike

<http://canbikecanada.ca/media-materials/#>

School Travel Planning

<http://saferoutesns.ca/programs/school-travel-planning>

Making Tracks

<http://saferoutesns.ca/programs/making-tracks>

Youth Trans-Actions

<http://saferoutesns.ca/programs/youth-trans-actions>

Workshops

Sometimes the main barrier to using a bike is that it has a flat tire or the breaks don't work. Bicycles, skateboards, skis and other equipment repair lessons and workshops are a great way to encourage healthy activity. They can be held as independent events, have a fixed location or be part of broader community event.

Examples

Bike Again!

<https://www.ecologyaction.ca/issue-area/bike-again>

Dal Bike Centre

<http://www.dal.ca/dept/bike-centre.html>

Halifax Smart Cycle Lunch&Learn

<http://halifax.ca/smarttrip/cycle/index.php>

Ceremonies

Opening and award ceremonies are great opportunities to promote active transportation by inviting out community stakeholders and the media to reveal what has been done to promote active transportation and reward those who have worked hard to promote AT. Sometimes a little recognition can go a long way.

Examples

Recreation Nova Scotia Awards

<http://www.recreationns.ns.ca/membership/recreation-nova-scotia-awards/>

Nova Scotia Trails White Hill Summit Award

<http://www.novascotiatrials.com/index.php?op->

[tion=com_content&view=article&id=45:home&-catid=9&Itemid=375](#)

Brookfield Volunteer Recognition Awards

<http://www.colchester.ca/volunteer-recognition>

5.2 Policies and Planning

Good policy directs good planning and design of communities. For the future, it is vitally important that planning guidelines for in-fill and new development makes walkable and bikeable communities a priority. This means policy that directs growth and development in existing communities and with compact form. Not just urban but also rural municipalities can practice “smart growth” that prioritizes compact, human-scale development and that rejects developments “out in the middle of nowhere.” This is especially important in the siting of any new schools, recreation centres, health centres and similar public institutions and destinations.

The eight year outlook of the Avon Region Active Transportation Plan opens the opportunity for the three Municipalities to take a more holistic look at active transportation planning; to see beyond ordinary network design; and to achieve the integration of active transportation with other municipal policies and plans.

Administrative policy development is a critical tool in helping the three municipalities implement a realistic and highly usable active transportation system. Strong and clearly articulated policy will create a highly useable active transportation network, foster the ongoing development of new facilities, and ensure the longevity and maintenance of the system.

As a first step, an Active Transportation Policy should be developed at the municipal level for each of the three municipal units in the Avon Region. This will provide a high-level policy which outlines the commitment the three municipalities have to Active Transportation. A Draft Active Transportation Policy is provided in Appendix A.

Once adopted, the commitment to active transportation should find its way into Municipal Planning Strategies, Land Use By-Laws and Subdivision By-Laws.

5.3 Collaboration

This Plan requires a strong commitment to future collaboration between the three Municipalities and the Province of Nova Scotia – a relationship that will prove essential for the successful implementation of active transportation infrastructure in the Avon Region. The implementation of this plan can only be accomplished through coordinated actions and guidance from all three municipal councils, staff and NSTIR.

Given the number of provincial roads that are identified as active transportation links in the network plan, working closely with NSTIR transportation representatives will be the most important partnership undertaking. The three municipalities should stay up-to-date on NSTIR's Five Year Highway Improvement Plan and more importantly on the year-to-year pavement schedules as these can account for about half of the actual annual repaving work done by NSTIR.

Another critical link should be made to the provincial initiative of creating the Nova Scotia Blue Route, a province wide network of bike ways modeled on the Quebec Route Verte. Integrating West Hants, Hantsport and Windsor trails into the Blue Route could potentially have significant impact on recreational cyclists visiting the Region and would create synergies and benefits through cross-marketing by the Nova Scotia Tourism Agency.

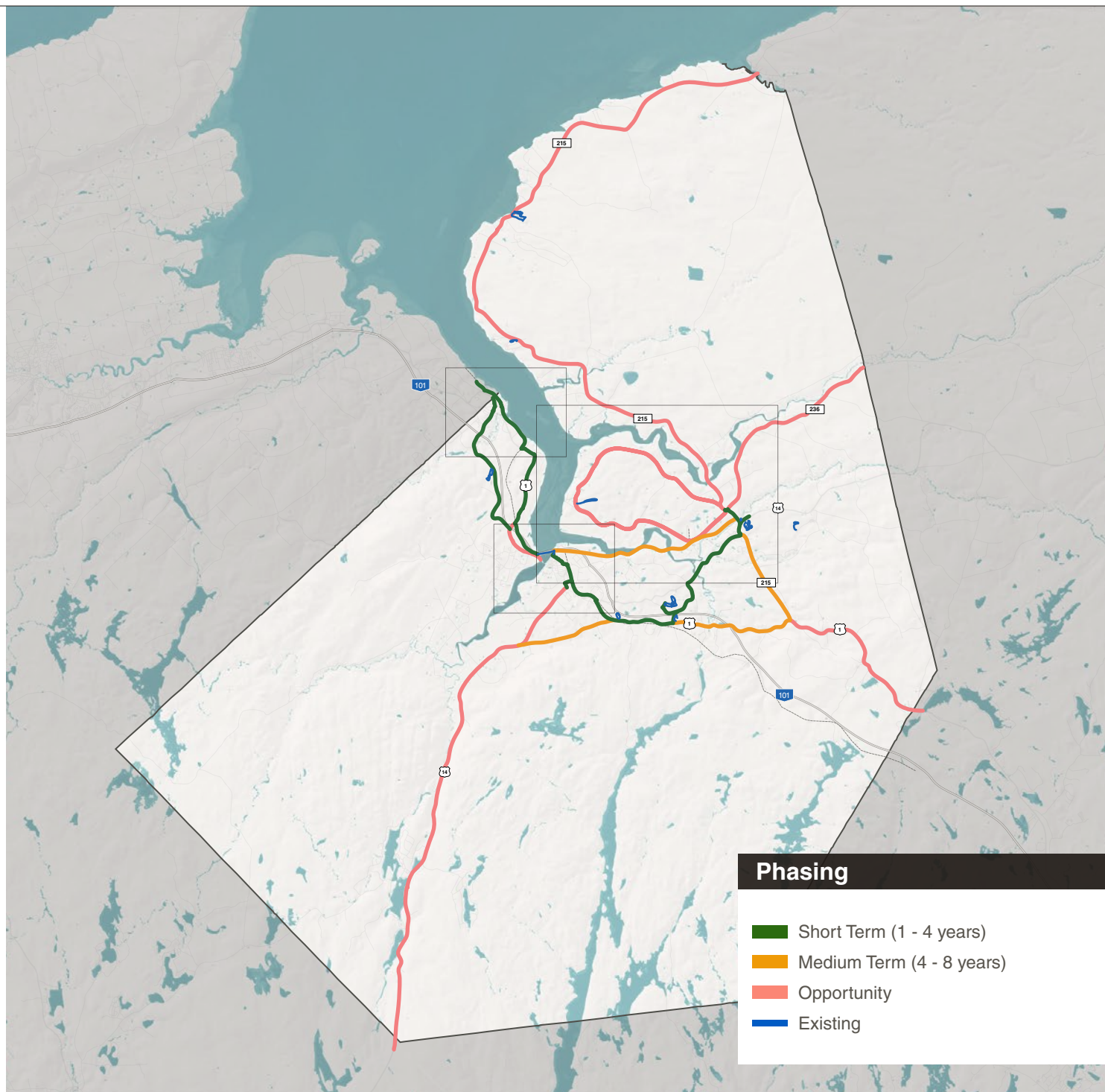
5.4 Priorities and Phasing

Achieving the goals of the Avon Region Active Transportation Plan will require setting clear priorities. As a general approach, the following road map describes the steps that should be taken to implement the plan.

1. **Formal adoption of AT Plan by all three municipal councils**
2. **Official launch of AT Plan**
3. **Start lining up financial support for AT Plan**
4. **Develop and maintain strategic partnerships**
5. **Continue public outreach**
6. **Seize every opportunity to implement AT infrastructure - pick the low hanging fruit first**
7. **Embark on regular evaluation**
8. **Encourage grassroots activism**

The phasing of new active transportation infrastructure is depicted on the following diagrams.

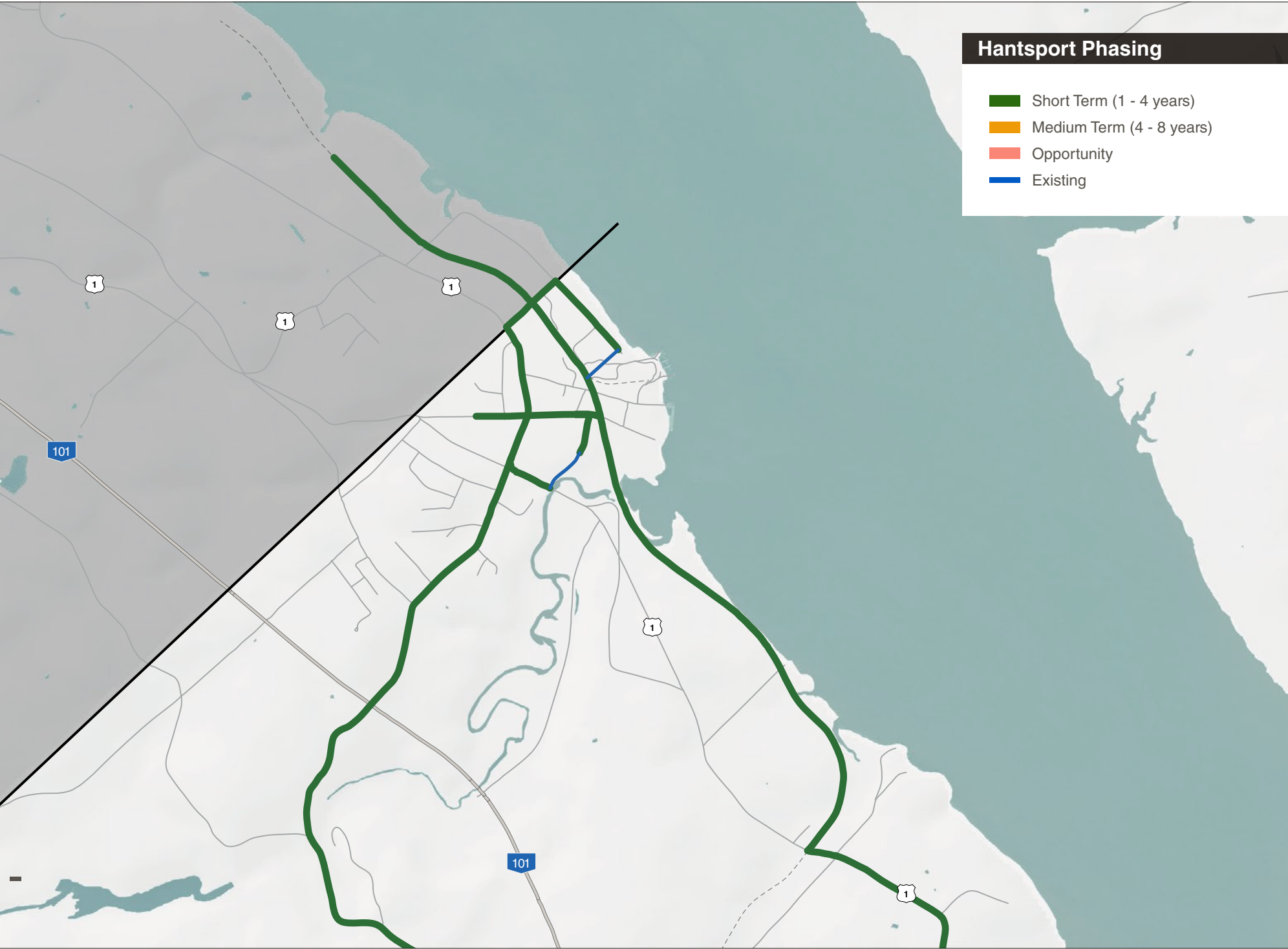
Not all elements of the future network have equal weight. In particular the more remote portions of the regional routes, called “Opportunity Routes”, should only be elevated to active transportation standards when the NSTIR capital paving program designates funding to repaving work.





Regional Core Phasing

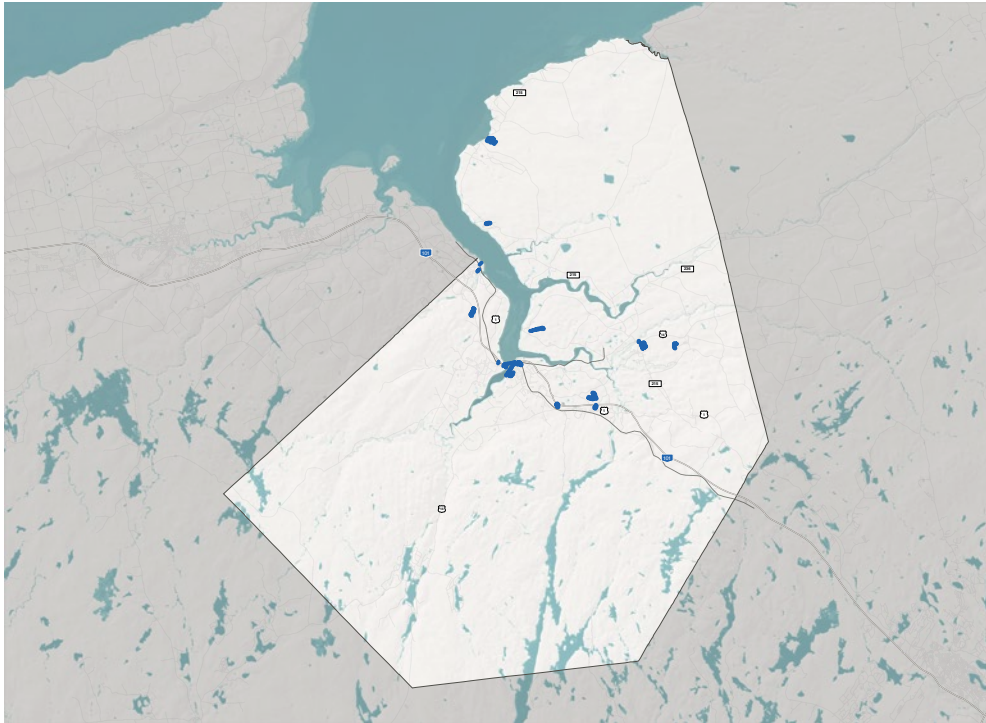
- Short Term (1 - 4 years)
- Medium Term (4 - 8 years)
- Opportunity
- Existing



Avondale Peninsula Phasing

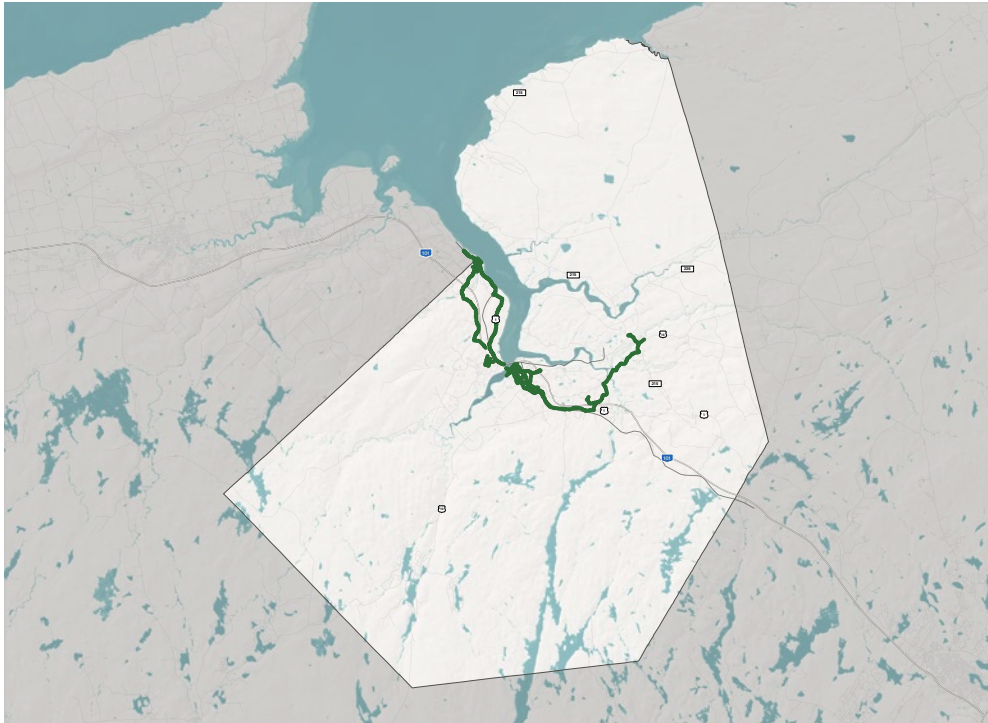
- Short Term (1 - 4 years)
- Medium Term (4 - 8 years)
- Opportunity
- Existing





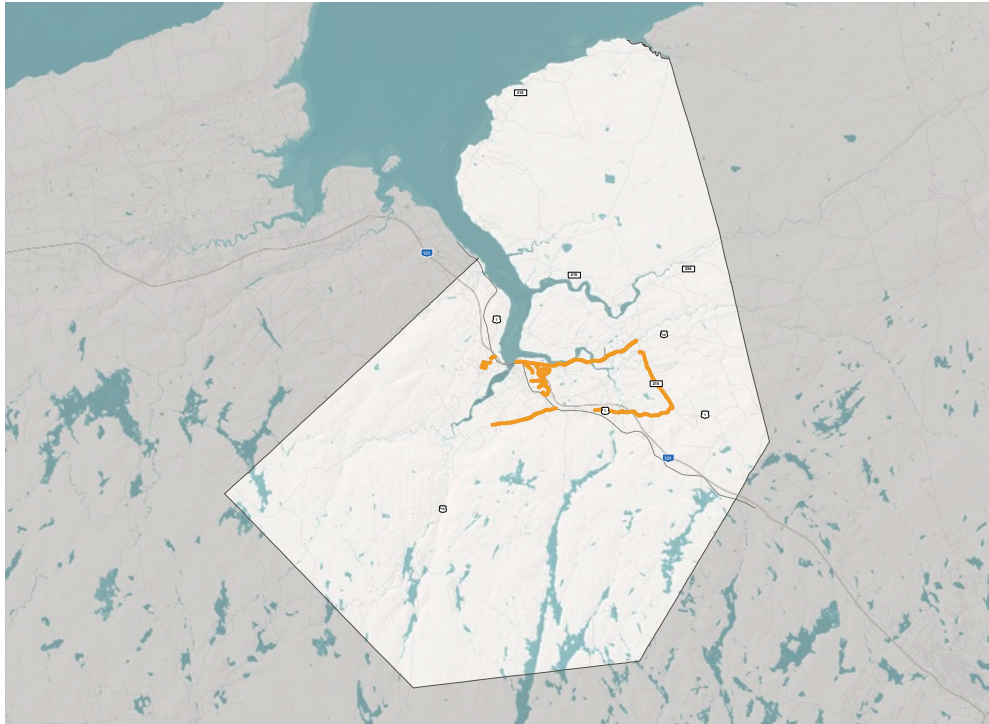
Existing

Infrastructure		
Goal	Quantity	Units
Rural Arterial with Paved Shoulder		km
Rural Connector with Signed Route		km
Rural Local with Paved Shoulder		km
Urban Collector with Bike Lane (Curb)		km
Urban Collector with Bike Lane (Ditch)		km
Urban Local with Signed Route		km
Multi-Use Trail	20.2	km
Rail with Trail	0.9	km
Total	21.1	km



PHASE 1 (Year 1-4)

Infrastructure		
Goal	Quantity	Units
Rural Arterial with Paved Shoulder	21.2	km
Rural Connector with Signed Route	9.3	km
Rural Local with Paved Shoulder	1.9	km
Urban Collector with Bike Lane (Curb)	5.1	km
Urban Collector with Bike Lane (Ditch)	0.7	km
Urban Local with Signed Route	11.4	km
Multi-Use Trail	0.6	km
Rail with Trail	9.7	km
Total	60.0	km



PHASE 2 (Year 4 -8)

Infrastructure		
Goal	Quantity	Units
Rural Arterial with Paved Shoulder	8.0	km
Rural Connector with Signed Route	10.8	km
Rural Local with Paved Shoulder	1.6	km
Urban Collector with Bike Lane (Curb)	1.8	km
Urban Collector with Bike Lane (Ditch)		km
Urban Local with Signed Route	4.6	km
Multi-Use Trail	1.2	km
Rail with Trail	10.5	km
Total	38.5	km



Opportunity

Infrastructure		
Goal	Quantity	Units
Rural Arterial with Paved Shoulder	136.4	km
Rural Connector with Signed Route		km
Rural Local with Paved Shoulder		km
Urban Collector with Bike Lane (Curb)		km
Urban Collector with Bike Lane (Ditch)		km
Urban Local with Signed Route		km
Multi-Use Trail		km
Rail with Trail		km
Total	136.4	km

Completed Network: **256 kilometers**

5.6 Evaluation

Monitoring and evaluating the impact of capital and programming initiatives is a critical component of the eight-year plan. The three Avon Region municipalities should start to collect data that lets each municipality assess the effectiveness of active transportation investments as well as their commitment to advancing active transportation in the region. The following table provides examples of data that could be collected.

Measure	Current Year	Year 1-4 Goal	Year 5-8 Goal
Guiding Principle: Education and Awareness is Vital			
Community events			
Workshops			
Educational events			
Ceremonies			
Guiding Principle: Make it Safe.			
# of collisions, injuries and fatalities involving AT users			
Safety brochures			
Number of students participating in safety education programs			
Municipal AT policies in place			
Municipal land use by-laws in place			
Guiding Principle: Provide Connections			
Paved shoulders			
Signed routes			
Sidewalks			
Bike lanes			
Multi-use trails			
Rail with trails			
Guiding Principle: Focus the Right Interventions in the Right Places			
Local network investment			
Regional network investment			
Guiding Principle: Make it Fun and Attractive			
Promotional materials			
Promotional events			
Guiding Principle: Be Strategic and Opportunistic			
Active transportation modal share			
% of kids walking/biking to school			
Guiding Principle: Work Together			
Inter-municipal active transportation meetings			
Meetings with NSTIR			
Meetings with NSTA			
AT working group meetings			

6 Appendix A



6.1 Draft Active Transportation Policy

Avon Region Active Transportation Policy

MUNICIPALITY OF _____

ACTIVE TRANSPORTATION POLICY

POLICY _____ EFFECTIVE DATE: _____

1. Purpose

Include a short section of 3-5 sentences, including, in paragraph form why the policy is being written, the benefits of AT, a definition of AT and why the municipality wants to promote AT.

Active Transportation is a broad term that refers to all forms of human powered or non-motorized transportation, the most common modes being walking and cycling. There is clear evidence of the advantages associated with designing cycling and pedestrian friendly communities, which enable and encourage residents to be more active by walking and biking for recreation and utilitarian purposes. The Municipality of _____ recognizes the importance of providing both rural and urban residents as well as visitors with improved infrastructure for safe and enjoyable self-propelled transportation

2. Guiding Principles

The following guiding principles form the foundation of this policy:

1. Education is vital.
2. Make it safe.
3. Provide connections.
4. The right interventions in the right places
5. Make it fun and attractive.
6. Be strategic and opportunistic.
7. Work together.

3. Goals

The goal of this Active Transportation Policy is to trigger a culture shift in the Avon Region where active transportation is a safe, convenient and celebrated mode of transportation for all residents. The active transportation network will offer fun and safe opportunities, and will increase awareness of the social, economic and environmental benefits of using active modes of transportation.

4. Policy Statements

2. Education and Awareness

1. The Municipality recognizes the need to raise awareness of the Active Transportation options available to citizens in the Avon Region about the benefits of active, healthy living, recreation, and sustainable communities, through special events and promotions.
2. The Municipality recognizes that efforts to improve education and awareness amongst all road users can help improve actual and perceived safety, and will cultivate a culture that embraces active transportation by sharing the road with a positive attitude.
3. The Municipality recognized that education and awareness measures must include the needs, rights and responsibilities of active transportation users as well as of drivers.
4. The Municipality will target education efforts toward people of all ages and abilities including, but not limited to: schools, business associations, and community organizations.
5. The Municipality shall designate active transportation routes as shown on map #, The Avon Region Active Transportation Network.
6. An interactive map on the Municipality website shows routes, completed projects, proposed projects, trails and parks, share the road, bike racks, and destinations. (See Bridgewater <http://www.bridgewater.ca/active-transportation>)

3. Connectivity

1. The Municipality recognizes that reducing travel times is a crucial component to making active transportation a feasible mode of transportation.
2. Active transportation solutions shall strive to create a connected and comprehensive network with dedicated and useable space for pedestrians, cyclists and other active transportation users; protection and refuge; greater visibility; stable pathways; predictable traffic movements; more appropriate functional speeds; and options for route selection.
3. The Municipality will take advantage of opportunities to make simple connections in the existing network that would significantly improve travel times for active transportation users.
4. When land use planning policies (e.g. Land-Use Bylaw, Municipal Planning Strategies, Sub-division bylaws) are being reviewed, active transportation principles will be considered for incorporation. This includes mechanisms including but not limited to: density incentives, easements, healthy community checklists, and expanded street design guidelines.

4. Infrastructure Design and Amenities

1. The Municipality recognizes that active transportation infrastructure includes, but is not limited to: safe crossings, traffic calming measures, multi-use trails, opportunities for rest and end of trip facilities.
2. The Municipality will consider the specific active transportation needs of people of all ages and abilities in all street design, trail, parkland, public space, multi-use trails and bikeway projects.
3. All new development will incorporate active transportation in the initial phases of planning. Subdividing and developing land identified as adjacent to or integrate to the continuity of the active transportation network shall be required to provide infrastructure for active transportation that is consistent with any adjacent infrastructure.
4. The Municipality recognizes that integrating appropriate facilities into the initial design of street projects and public spaces avoids the expense of retrofits later.
5. The Municipality will install and maintain signage for all active transportation facilities.

5. Safety and Attractiveness

1. Safe, convenient, accessible pedestrian corridors, as well as appropriate landscaping and lighting shall be considered as part of any development or redevelopment in the Municipality.
2. Safe, convenient, and multi-use corridors, as well as appropriate landscaping and lighting, shall be considered as part of any development or redevelopment of trails network within the Municipality.

6. Collaboration

1. The Municipality will actively seek opportunities to partner with other levels of government, business and the community to achieve the objectives of the Active Transportation Plan, including but not limited to: bike racks on public transportation, paved shoulders, benches, waste sorting receptacles and bike locks on active transportation routes.

7. Regulation

1. The Municipality recognizes the safety benefits of reducing vehicle speeds on local streets.

8. Budget

1. The Municipality recognizes the need for sustained funding of aspects including, but not limited to: infrastructure improvements and maintenance, seasonal maintenance, staff positions for a Steering Committee, and for education and awareness initiatives.
2. The Municipality will annually review active transportation improvement opportunities as part of the Capital Improvement Plan and/or operations budgeting process.
3. Trail improvements shall be implemented as funds allow and in conjunction with implementation of the Avon Region Active Transportation Plan.

9. Measurement and Evaluation

1. The Municipality recognizes the need for the Steering Committee to establish indicators for measuring the effectiveness of all aspects of this active transportation policy.
2. The Municipality further recognizes the need for the Steering Committee to evaluate the outcomes of indicators and adjust any aspect of the Active Transportation strategy if deemed to be underperforming in accordance with the objectives of this policy.

7 Appendix B



7.1 Review of Previous Studies

There are numerous documents for the Avon Region that deal directly or indirectly with Active Transportation. These range from the Land Use By-Laws, Municipal Planning Strategies and Integrated Community Sustainability Plans for the three Municipalities to a variety of studies focused on active living, green mobility and traffic flow. A complete list of all the reports and studies we looked at is available in the table below.

The reports are rich with information on how the Municipalities of the Avon

Region want to see Active Transportation enhanced in their communities. They call for more cooperation between government bodies in the region and propose realistic actions to achieve increased Active Transportation. The documents most directly relevant to this report are the ones specifically targeted at sustainable transportation options. Brief summaries of the documents and the recommendations directly applicable to the Avon Region AT Report are included in the Appendix.

Table of Reports Containing Active Transportation Policy and Strategies for Avon Region

Title of Report	Author(s)	Date
Municipalities for Green Mobility: Town of Windsor Green Mobility Community Workshop Outcomes & Recommendations	Ecology Action Centre & Cities and Environment Unit	Aug 2009
Active Transportation 101: Windsor, West Hants & Hantsport Active Transportation Workshop Report	Ecology Action Centre	Nov 2012
Garlands Crossing / Windsor Border Area Transportation Study	Griffin Transportation Group & McCormick Rankin	Jun 2013
Active Living Strategy 2013-16: Municipality of the District of West Hants.	Nova Scotia Department of Health and Wellness	2013
Municipality of the District of West Hants Trails Plan	Cobequid Trails Consulting	Nov 2013
Municipality of West Hants: Integrated Community Sustainability Plan	Municipality of the District of West Hants	Mar 2010
Integrated Community Sustainability Plan: Town of Windsor	Town of Windsor	Mar 2010
Town of Hantsport: Municipal Planning Strategy and ICSP	Town of Hantsport	Sep 2010
Municipality of the District of West Hants: Municipal Planning Strategy	Municipality of the District of West Hants	Dec 2012
Town of Windsor: Municipal Planning Strategy	Town of Windsor	Jul 2012
Town of Hantsport: Land Use By-Law	Town of Hantsport	May 2010
Municipality of the District of West Hants: Land Use By-Law	Municipality of the District of West Hants	Apr 2012
Town of Windsor: Land Use By-Law	Town of Windsor	Jul 2010



Municipalities for Green Mobility

Report outlines results of an April 2009 community engagement in Windsor that had the stated purpose of finding ways to incorporate sustainable transportation best practices into the ICSP. The most relevant recommendations from the engagement sessions are:

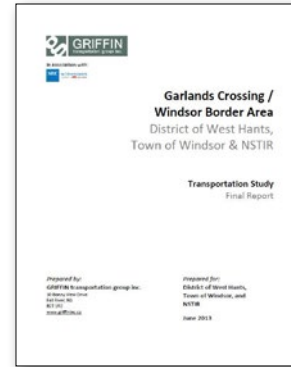
- Create safe, legal trail across railway tracks at Avon View High School
- Utilize rail beds for rails with trails or rails to trails network
- More sidewalks on main streets and bike lanes on Payzant Drive
- In collaboration with surrounding municipalities, create a 100 series bikeway
- Widen roads to accommodate bike lanes and add crosswalks at important locations
- Create an integrated biking/walking plan with connections to important destinations
- Require new developments to include connected green spaces and walk/bike paths



Active Transportation 101

Report contains information harvested from an AT Workshop in November, 2012 that involved citizens from all three municipalities and had the stated purpose of increasing Active Transportation awareness amongst participants and developing AT options for the region. From the workshop almost two dozen action items were developed, the most prescient to this report are:

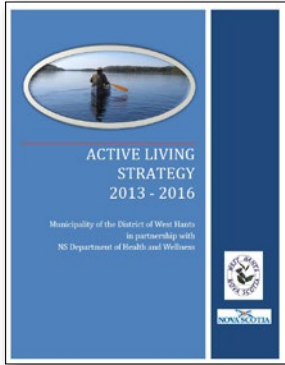
- Consider “share the road” signs for Windsor
- Continue to keep the conversation about AT open
- Recruit volunteers to help with trail maintenance
- Continue work on Avondale Peninsula trail system
- Make inventory of trails and plan for development and maintenance
- Encourage Hantsport council to keep AT in mind
- Collect and share stories and best practices around AT



Garlands Crossing / Windsor Border Area Transportation Study

This document is a traffic planning and engineering study to providing direction for transportation infrastructure in a 600 acre area that is in both Windsor and West Hants. Though primarily focused on automobile traffic, the study does make provisions for Active Transportation. In the Alternative E Network scenario, the industry guidelines (5Ds of AT) are incorporated (p.48).

Integrating the 5-D's of Active Transportation into Garlands Crossing/Windsor Border Area	
Diversity	Hospital, church, school & employment areas on Wentworth offer land use diversity, this could be improved by connecting area to the south in the vicinity of King Street, adding more commercial/employment opportunities and encouraging additional employment/cultural amenities in the future.
Density	The area has a mix of housing densities and this mix should continue to be encouraged.
Design	The street layout for Alternative E is mostly curvilinear; a function of the rolling topography. By adding trail connectivity between these curvilinear “blocks”, a grid-like functionality can be implemented offering more efficient travel routes to AT users.
Distance to Transit	Providing access to King Street, there is opportunity for both ends of development area to be served by transit. This connectivity may even allow transit to be routed through the site.
Destination Access	Addition of a multi-use AT connection through the site to Cole Rd is viewed as the main opportunity to address access. Ideally, AT infrastructure would have a 3m wide paved surface to accommodate bicycling, pedestrians, mobility challenged individuals, etc.

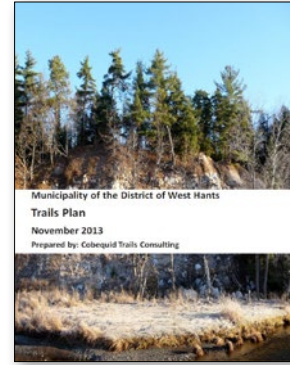


Active Living Strategy 2013-16

The report commissioned by West Hants deals with active living and active transportation trails. It utilizes information harvested from background research, community engagement sessions and an Ipsos Reid Survey to develop an action plan to increase physical activity in the Municipality.

The main goals and objectives directly related to increasing active transportation in West Hants include:

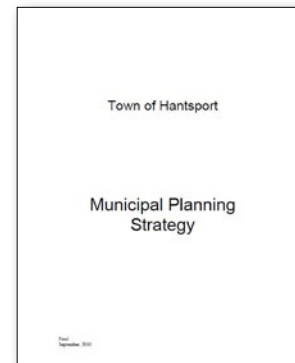
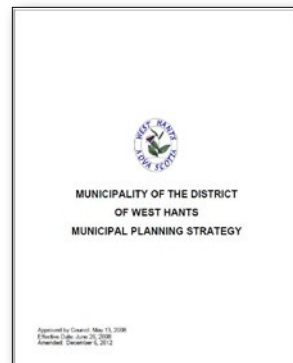
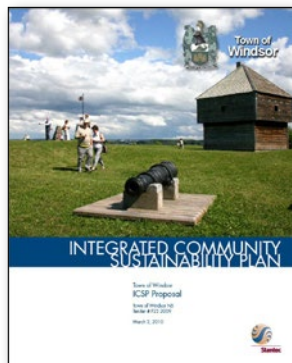
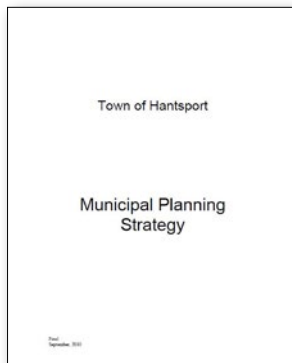
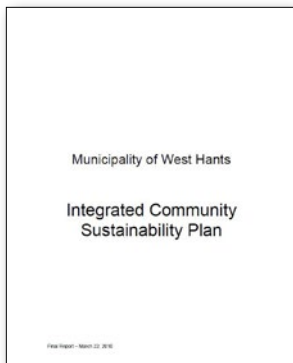
- **Goal - Public Awareness:** Educate residents about benefits of physical activity and provide information about recreation opportunities.
- **Objective:** Promote AT & create materials to identify trails/sites for outdoor recreation.
- **Goal - Supportive Social Environment:** Provide opportunities for residents to participate in a variety of physical activities.
- **Objective:** Create opportunities for spontaneous unstructured outdoor recreation
- **Goal - Supportive Physical Environments:** Create, maintain and enhance physical environment, both built and natural, that support physical activity
- **Objectives:** Develop/implement Trails Plan, AT Plan, and Parks/Open Spaces Plan.
- **Goal: Leadership, Partnerships, Sustainability:** To lead initiatives, build partnerships and develop policies to sustain physical activity opportunities.
- **Objectives:** Develop Municipal Policies that support physical activity.



West Hants Trails Plan

As a standalone follow-up to the Active Living Strategy, it provides an inventory of eighteen trails in West Hants and includes ideas for how the municipality could invest and develop these sites in order to ensure maximum use and community benefit. This includes creating a minimum standard for trails throughout the municipality with more advanced standards on important high traffic routes. In order to achieve this overarching goal the following criteria was identified as necessary:

- Volunteer community group willing to lead project
- Equitable distribution throughout Municipality
- Reasonable building costs
- Diversity of trail types and uses
- Adjacent attractions (support existing businesses and facilities)
- Low maintenance costs



Integrated Community Sustainability Plans

The Integrated Community Sustainability Plans (ICSPs) all contain important policy recommendations to promote active transportation. This ranges from sidewalk construction and maintenance to promote pedestrian safety to developing dedicated bikeways with signage and multi-use trails connecting concentrations of residential development and commercial centres or other important amenities (schools, community centres, parks, etc).

Windsor ICSP

Policy 14.6.2: incorporate sidewalks and walkways, and bike lanes and bike paths where technically and financially feasible, particularly within designated Gateway corridors, on the waterfront, and between Kings-Edgehill/Gladys Manning and the Downtown (p. 61)

West Hants ICSP

Goal 6 Response: explore the potential of designating a number of roads in the municipality as bicycle routes and promoting their use (p. 44)

Hantsport ICSP

Policy ICSP- 19: continue with a program of concrete sidewalk construction as funding becomes available.

Municipal Planning Strategies / Land Use Bylaws

The Municipal Planning Strategies (MPS) for each municipality all have policies related to active transportation with a range of general and site specific strategies. The Land Use Bylaw (LUB) for each of municipality is the legal document that implements MPS policies. Many MPS active transportation policies, however, are not often incorporated into the LUB. The following active transportation policies can be found in their respective documents:

Windsor MPS

Policy 11.0.2: promote development of multi-use trails and pathways within the Town which connect residential and commercial areas with community uses including institutional uses, recreation facilities and open space areas.
Policy 14.7.3: investigate providing bicycle pathways and bicycle lanes throughout the Town.

West Hants MPS

Policy 13.2.1: establish an Open Space (OS) zone which applies to parks and other public outdoor recreation uses, cemeteries, historic sites and similar uses.

Hantsport MPS

Goal 2: Provide parks and recreational opportunities.
Goal 2b: Encourage active transportation through construction of sidewalks.

7.2 Survey Suggestions

The table below outlines critical areas of concern and a number of reoccurring suggestions on the regional scale that were brought up during the survey.

Location	Issue	Suggested improvement
Falmouth Back Rd	Safety concerns: • <i>'unsafe to bike anywhere in Falmouth (especially along the back road)'</i> • <i>'busy road with many pedestrians'.</i>	• <i>more sidewalks..'</i> • <i>'widen road shoulders..'</i> • <i>'improve winter maintenance..'</i>
Intersection of Falmouth Back Rd and Gabriel.	Eroded side of road conditions and narrow road shoulder	<i>'add sidewalk or widen and maintain road shoulder..'</i>
Intersection of Hwys1&14 at Garland Crossing	Confusing and dangerous intersection.	<i>'the intersection at Garland's Crossing should be made more friendly to walkers..'</i>
Avondale Loop	The shoulder is usually grass or ditch and not suitable [for riding]	<i>improve shoulders and add signage to identify it as an AT route..'</i>
Brooklyn Village	High levels of truck traffic, speed limits too high... <i>'traffic is horrible, last week 42 18-wheelers in the hour that I walked'.</i>	• <i>'Brooklyn desperately needs sidewalks and cross walks..'</i> • <i>'A crosswalk is needed between the Victory Credit Union and the Post Office and between the two schools..'</i>
Hwy 1 between Windsor and Garland Crossing	Discontinuous sidewalk.	<i>'extend sidewalk or develop rail trail..'</i>
Falmouth to Three Mile Plain corridor	Roads and highways creating disconnected communities.	<i>'trails connecting different communities and facilities within communities that are [currently] separated..'</i>
Bog Rd	Road condition	<i>pave Bog Rd..'</i>
Region wide	<i>no legal or safe location for skateboarding..'</i>	Consider by-law amendment
Region wide	Shopping centres and amenities located away from urban centres	<i>'increasing density and locating amenities closer to downtown areas..'</i>
Region wide	Increasing Awareness	• Signage to indicate <i>'trails..'</i>, roads which are <i>'AT routes & for drivers to use caution'</i> in those locations. • a regional <i>'map indicating routes and level of difficulty'</i>
Region wide	Current policy	<i>An 'AT lens applied to all development that happens in the Avon Region..'</i>
Region wide	Poorly located infrastructure	<i>'look at Wentworth Rd..a crosswalk to nowhere in one instance and crosswalks missing in several others where they're badly needed..'</i>

UPLAND



MUNICIPALITY OF THE DISTRICT OF WEST HANTS RECOMMENDATION REPORT

To: Members West Hants Council

Submitted by: _____
Cathie Osborne, Chief Administrative Officer

Date: June 20, 2017

Subject: Active Transportation Policy

Origin: Active Avon – Active Transportation Plan

In May 2015, West Hants Council approved the adoption of the Active Avon Active Transportation Plan which included goals for implementation of the plan. Included in this list of goals is the Adoption of the AT Policy (Active Avon, Active Transportation Plan, page 68).

Legislative Authority:

Municipal Government Act (MGA)

PART III

POWERS

Resolutions, policies, by-laws

47 (1) The council shall make decisions in the exercise of its powers and duties by resolution, by policy or by by-law.

PART IV

FINANCE

65 (ag) playgrounds, trails[,] including trails developed, operated or maintained pursuant to an agreement made under clause 59(c), bicycle paths swimming pools, ice arenas and other recreational facilities;

Recommendation:**Committee of the Whole recommends that:**

Council approve the Active Transportation Policy.

Background:

The Active Transportation Plan was designed to improve options for safe and convenient non-motorized transportation across the Avon Region for the next 8 years. This was a collaboration between the regions three municipal units of the time; the Town of Windsor, Municipality of West Hants, and the former Town of Hantsport. It was the first time that urban and rural municipalities came together to forge an active transportation strategy spanning beyond the boundaries of individual municipalities.

Community consultation and input was critical to the process and gathering information which gave way to the final implementation goals. The nine implementation goals are:

1. Formal adoption of AT Plan by all three municipal units
2. Official Launch of AT Plan
3. Adoption of AT Policy
4. Start lining up financial support for AT Plan
5. Develop and maintain strategic partnerships
6. Continue public outreach
7. Seize every opportunity to implement AT infrastructure- pick the low hanging fruit first
8. Embark on regular evaluation
9. Encourage grassroots activism

Discussion:

The purpose of the AT Policy is to support and improve active living and wellbeing of residents, visitors, and the environment by providing alternatives to vehicular based transportation.

The goal of the AT Policy is to trigger a cultural shift in the Avon Region where active transportation is regarded as safe, convenient, and celebrated mode of transportation for all residents.

The policy references education and awareness, connectivity, infrastructure design and amenities, safety and attractiveness, collaboration, regulation, budget and measurement and evaluation.

In adopting the AT Policy, West Hants Council recognizes that planning for active transportation is vital to healthy, vibrant communities.

Financial Implications:

All financial requests would be submitted to Council for review as part of the Capital Improvement Plan and/operating budgeting process.

Alternatives:

Committee of the Whole can choose not to recommend adoption of the Active Transportation Policy to Council.

Attachments:

Active Transportation Policy – CORC-001.00

Report Prepared by: _____
Kathy Kehoe, Director of Parks & Recreation

Report Reviewed by: _____
Martin Laycock, Director of Finance

Report Approved by: _____
(Name, position)



MUNICIPALITY OF THE DISTRICT OF WEST HANTS
Active Transportation Policy

1. Policy Statement

Municipality of the District of West Hants Council hereby adopts the policies contained in the Addendum respecting active transportation within the Municipality of the District of West Hants as directed by the Avon Region Active Transportation Plan.

2. Purpose

To support and improve the active living and well-being of residents, visitors and the environment by providing alternatives to vehicular based transportation.

3. Definition

Active transportation is a broad term that refers to all forms of human-powered or non-motorized movement, including, but not limited to: walking, cycling, skateboarding/longboarding, horseback riding, roller-blading, paddling, and skiing/snowshoeing. There is clear evidence of the advantages associated with designing cycling and pedestrian friendly communities, which enable and encourage residents to be more active by walking and biking for recreation and utilitarian purposes. West Hants Council recognizes, in adopting the Avon Region Active Transportation Plan, the importance of providing both rural and urban residents, as well as visitors, with improved infrastructure for safe and enjoyable self-propelled transportation.

4. Guiding Principles

The following guiding principles form the foundation of this Policy:

1. Provide education and awareness
2. Make it safe and convenient
3. Provide community connections
4. Implement the right interventions in the right places
5. Make it fun and attractive
6. Be strategic and opportunistic
7. Work together

5. Goals

The goal of this Active Transportation Policy is to trigger a cultural shift in the Avon Region where active transportation is regarded as a safe, convenient and celebrated mode of transportation for all residents. This active transportation network will offer fun and safe opportunities for increasing awareness of the social, economic and environmental benefits of using active modes of transportation.

ADDENDUM TO THE ACTIVE TRANSPORTATION POLICY

Approaches and Procedures

1. Education and Awareness

- a) Recognize the need to raise awareness of the active transportation options available to citizens in the Avon Region. The benefits of active healthy living, recreation, and sustainable communities may be supported through special events and promotions.
- b) Recognize that efforts to raise education and awareness amongst all road users can help improve actual and perceived safety. This will foster a culture that embraces sharing of active transportation corridors with a positive attitude.
- c) Recognize that education and awareness measures must include the needs, rights, and responsibilities of all users.
- d) Active transportation routes may be designated as shown in Section 5.4 of the Avon Region Active Transportation Plan (pages 68-73).

2. Connectivity

- a) Recognize that reducing travel times is a crucial component to making active transportation a feasible mode of transportation.
- b) Active transportation solutions shall strive to create a connected and comprehensive network with dedicated and useable space for pedestrians, cyclists, and other active transportation users; protection and refuge; greater visibility; stable pathways; predictable traffic movements; more appropriate functional speeds and options for route selection.
- c) Take advantage of opportunities to make simple connections in the existing network that would significantly improve travel times for active transportation users.
- d) When land use planning documents (i.e. Land-Use By-laws, Municipal Planning Strategy, Sub-division By-law) are being reviewed, active transportation principles will be considered for incorporation. This includes mechanisms, including but not limited to: density incentives, easements, healthy community checklists, and expanded street design guidelines.

3. Infrastructure Design and Amenities

- a) Recognize that active transportation infrastructure includes, but is not limited to: safe crossings, traffic calming measures, multi-use trails, opportunities for rest and end of trip facilities.
- b) Consider the specific active transportation needs of people of all ages and abilities in all street design, trail, parkland, public space, multi-use trails, and bikeway projects.
- c) All new development may incorporate active transportation in the initial phases of planning. Subdividing and developing land identified as adjacent to or integral to the continuity of the active transportation network shall be required to provide infrastructure for active transportation.
- d) Recognize that integrating appropriate facilities into the initial design of street projects and public spaces avoids the expense of retrofits later.
- e) Install and maintain, as budgets permit, signage for all active transportation facilities.

4. Safety and Attractiveness

- a) Safe, convenient, accessible pedestrian and multi-use corridors, as well as appropriate landscaping and lighting shall be considered as part of any development or redevelopment.

5. Collaboration

- a) Actively seek opportunities to partner with other levels of government, businesses, and communities to achieve the objectives of the Avon Region Active Transportation Plan, including but not limited to: bike racks on public transportation (where applicable), paved shoulders, benches, signage, waste sorting receptacles, and bike racks on active transportation routes.

6. Regulation

- a) Acknowledge the safety benefits of following Provincial regulations as it pertains to vehicle speeds on streets.

7. Budget

- a) Recognize the need for sustained funding of active transportation, including, but not limited to: infrastructure improvements and maintenance, staff support, and for education and awareness initiatives.
- b) Annual review, by staff, of active transportation improvement opportunities as part of the budget process.
- c) Active transportation route improvements shall be implemented as funds allow and in conjunction with implementation of the Avon Region Active Transportation Plan and the West Hants Parks and Open Space Plan.



POLICY

CORC-001.00

8. Measurement and Evaluation

- a) Recognize the need to establish indicators for measuring the effectiveness of the active transportation policy.
- b) Recognize the need to evaluate the outcomes of indicators and adjust any aspect of the Avon Region Active Transportation Plan in accordance with the goals of the policy.

I, Rhonda Brown, Municipal Clerk of the Municipality of the District of West Hants, the Province of Nova Scotia, do hereby certify that this is a true copy of the policy as adopted by the Council of the Municipality of the District of West Hants at a meeting duly called and held on the ____ day of ____ (month), ____ (year).

R. N. Brown
Municipal Clerk

Adoption	
Notice to Council:	Date
Approval:	Date
Description: Initial approval of the Active Transportation Policy CORC-001.00	



Municipalities for Green Mobility

Town of Windsor
Green Mobility Community Workshop
Outcomes and Recommendations



 ecology action centre

Report prepared by:
Ecology Action Centre (TRAX)
Cities & Environment Unit

July 2009

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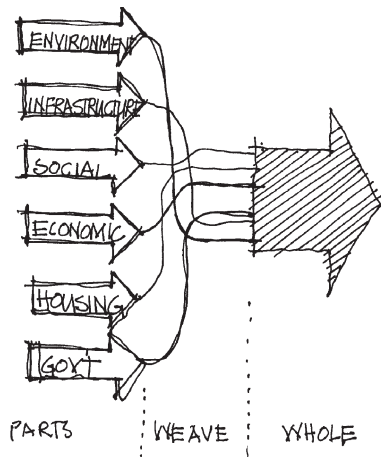
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- Appendix A – Community Workshop Schedule
- Appendix B – Participant Evaluation of Community Workshop
- Appendix C – Youth Photography Workshop

INTRODUCTION

In 2009, the TRAX Project of the Ecology Action Centre (EAC) and the Cities & Environment Unit (CEU) are spearheading Municipalities for Green Mobility, a project in which EAC and CEU are partnering with the Town of Windsor, the Town of Annapolis Royal and the District of Lunenburg. The specific goal of this project is to help these municipalities incorporate sustainable transportation best practices into their Integrated Community Sustainability Plans (ICSPs). The broader goal of the project is to create an innovative sustainable transportation best practices toolkit that all municipalities in Nova Scotia can use to increase the sustainability of their transportation system.

On April 3 & 4, 2009, EAC and CEU led sessions in Windsor to identify sustainable transportation ideas for the area. This report contains an overview of the results of the sessions and corresponding recommendations for municipal staff and council. We see this project as a significant opportunity to encourage Nova Scotian municipalities to think boldly about sustainable transportation options. The design of any transportation system requires consideration of many factors including land use, urban design principles and potential connections to regional and provincial transportation networks.



Integrated Community Sustainability Plan

All 55 municipalities in Nova Scotia are required to complete an Integrated Community Sustainability Plan (ICSP) through a public participatory process in order to receive federal gas tax allocations through the Province. Funds can be used for infrastructure projects and capacity building. Examples of eligible transportation projects include rapid transit, conventional transit, Intelligent Transportation System technologies and active transportation.

The ICSP process requires municipalities to create a 30 year community vision that addresses environmental, social, cultural and economic issues and to identify specific actions that achieve this vision. Therefore, ICSPs provide municipalities with a unique opportunity to incorporate and advance sustainable transportation within a long-term planning framework.

In Nova Scotia, the ICSP process is administered by Service Nova Scotia and Municipal Relations. Completed plans are due by spring of 2010. It is anticipated that ICSPs will build on, and enhance existing planning instruments such as municipal planning strategies and land use bylaws and strategic plans. If no planning strategy exists, the ICSP will provide that strategy. ICSPs will set the stage for growth and development of Nova Scotia municipalities over the next 30 years.

Ecology Action Centre and Cities & Environment Unit Partnership

The partnership between EAC and CEU is an exciting one that builds on our innovative approaches to sustainable planning, public education and community outreach.

Together we excel in community outreach, consultation and engagement; environmental education; research and mitigation, and comprehensive community-based planning, including land use planning and policy development. We are well versed in provincial and federal policies that have an impact on municipal planning and decision-making. Our team has experience working with rural communities, towns and cities across Canada on a variety of projects.

Cities & Environment Unit

Based in the Faculty of Architecture and Planning at Dalhousie University, CEU is a community planning action and applied research group. CEU has been in operation since 1993, and consists of community planners, architects and engineers who are committed to generating new ideas, and promoting a creative approach in all their work. International and local experience has provided CEU with both a global perspective on development issues and an understanding of the importance of local action in affecting positive change. They have built a strong reputation for developing innovative participation tools and techniques to help communities envision and realize their goals. They strongly believe that real change comes from the empowerment of community members and this belief is reflected in their work and in their unique community-based approach.

TRAX Project, Ecology Action Centre

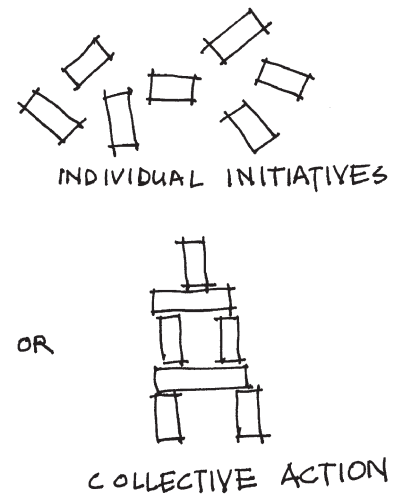
The Ecology Action Centre is one of Nova Scotia's most established and active environmental organizations. Since 1971, EAC has been building a healthier, more sustainable Nova Scotia. Their mission is to encourage a society which respects and protects nature and also provides environmentally and economically sustainable livelihoods. Today EAC has more than 1000 members, 425 volunteers, 30 employees and seven active issue committees.

TRAX is one of EAC's sustainable transportation projects. Over the past ten years, TRAX has successfully spearheaded a variety of projects, including: a Green Mobility Strategy for Nova Scotia, the Green Mobility Capital Grant Program, university and employer transit pass programs, the Association of Doctors for the Advancement of Physically-active Transportation (ADAPT) and events such as Bike Week and Open Streets.

Community Sessions

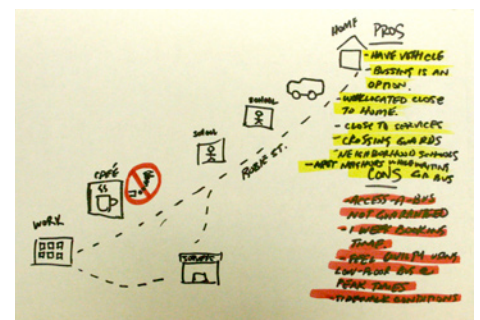
In order to gain an understanding of the transportation issues, needs and desires in Windsor and the surrounding area, three community sessions were held between April 3 and 4, 2009.

During the morning of April 3, EAC and CEU facilitated a two-hour consultation session on freight transportation with invited stakeholders representing the Town of Windsor, Select Transport, Canadian Gypsum Company, West Hants Chamber of Commerce, Hants RDA and Minas Basin Pulp and Power. The following questions



Memory Mapping Story

I travel from Union Corner to my office in downtown Windsor everyday. For work, I travel throughout West Hants County to visit clients. When I have training for work in Halifax or St. Croix, I carpool with my colleagues to save money. Once a week, I travel to New Ross to visit my mom and once a month, I travel to the valley.

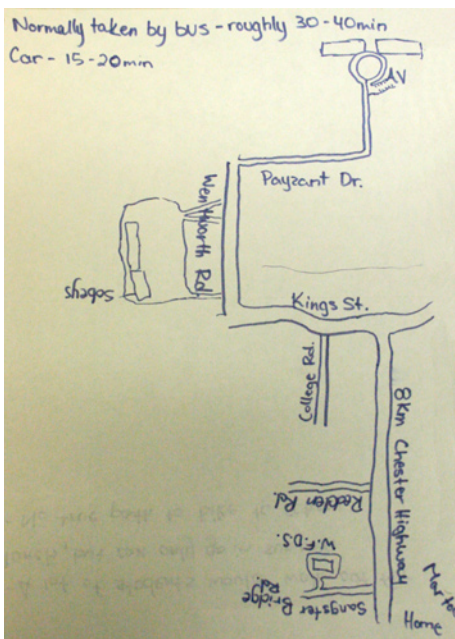


Memory Mapping Story

I need my truck for volunteer work at the Lion's Club and dropping off clothes for Diabetes Association. I make four or five trips per day to places like Home Hardware, Sobeys, Superstore and the Lion's Den. Three times a week, I drive to jam sessions. Once in a while, I drive to Belmont for a card party. Sometimes I carpool but it is hard because I live alone and so I tend to travel alone.

Memory Mapping Story

I live in Cheverie and work for West Hants Dial-A-Ride on Water Street in Windsor. I leave home with my own car by myself. I used to travel from Cheverie to Clayton Park and I would meet someone to carpool in St. Croix. Now, in my new job, I do more promoting on my own time and it is inconvenient for me to not have my own car. I do my errands and groceries after work and then I don't have to come back to Windsor on the weekend.



were used to guide the session:

1. How are freight currently moved into and out of Windsor? What are the strengths and weaknesses of these transportation modes?
2. In the long-term, what changes would you like to see to freight movement in Windsor, West Hants and Nova Scotia?
3. What needs to happen at the municipal, provincial and federal levels to implement these changes?

During the afternoon of April 3, two students from Avon View Education Centre led EAC and CEU staff on a town tour and completed a photomap exercise to identify transportation-related strengths and weaknesses in Windsor through the eyes of young residents. The information gathered was used the next day at the community workshop.

On April 4, EAC and CEU facilitated a day-long community workshop on green mobility at the Royal Canadian Legion Branch 255. Fifteen people were in attendance including one family, two students from Avon View Education Centre, Town of Windsor staff and mayor, the Kings Transit General Manager, the West Hants Dial-a-Ride Coordinator, a resident of Centre Burlington, a volunteer with the Lion's Club and staff from the local Community Health Board and Department of Community Services. The day-long session involved:

1. Memory Mapping

Goal: brainstorm strengths and weakness of the current transportation system.

Activity: Each individual drew a picture of their daily, weekly and monthly transport patterns (e.g., home to school, school to work, work to a friend's house, friend's house to home) to highlight the strengths and weaknesses of these routes.

2. Guiding Principles

Goal: establish guiding principles for sustainable transportation projects in the municipality.

Activity: In small groups, community members used the strengths and weaknesses to brainstorm principles that could guide decisions about future sustainable transportation projects and policy changes in Windsor.

3. Best Practices Presentation

Goal: inspire participants with images and stories of sustainable transportation best practices to get them thinking about project ideas for Windsor.

4. Project mapping

Goal: identify ideas for sustainable transportation infrastructure

projects, policy initiatives and education programs.

Activity: In small groups, community members used the strengths and weaknesses along with the guiding principles to determine project ideas or actions that would make a sustainable transportation system a reality.

On May 11, 2009 EAC and CEU returned to Windsor to present this report to the public in the form of an open house. As the report is largely based on public input, the purpose of the open house was to provide local residents with an opportunity to comment on or make changes to the report, prior to it being finalized and presented to council. Comments from the open house are included in this report and indicated with a citation.

CONTEXT

FREIGHT TRANSPORTATION

Transportation systems are essential for industry to move its products to market and for individuals to access the products they have come to rely on. While it has become standard routine to distribute goods throughout international networks, the most fuel-efficient means of production and distribution would require little or no transportation. This would demand local production of goods and the local provision of services. Communities would have to become much more self-reliant. This is a worthy long-term goal, although it may be difficult to achieve unless global economics change. In the short-term, municipalities and provinces in Canada must develop more economically and environmentally sustainable means for transporting goods.

National

Over the period 1990 to 1999, transportation energy use increased

Regional Transportation Infrastructure



source: Kings County Rail Line Study, 2008

Memory Mapping Story

I work at Town Hall. It is a short distance and easy walk to work. But, twice a week, I drive to the West Hants Office, once a week to Hantsport, twice a week to Halifax and twice a month to Wolfville and Kentville.

Memory Mapping Story

I live in Windsor and work in Halifax. It is five minutes by car from my door to the 102/101 intersection. It takes me 33 minutes to drive to Sackville and 50 minutes total from door to door, home to work. It is a beautiful drive and if I drive at 100km/hr or 90km/hr, rather than 110km/hr, I can save money.



by 20.3 per cent. Energy use in freight transport increased by 30.6 per cent. Also, the freight market shifted to less energy-efficient modes, for example truck grew faster than rail or marine. This “structural” shift increased freight energy use by 13.9 per cent, and it nullified the effect of freight energy efficiency improvements (Railway Association of Canada, 2001).

In Canada during 1999, trucks accounted for 27.1 per cent, rail for 44.1 percent and marine for 28.8 percent of freight activity. In contrast, the energy consumed by trucking accounted for 77.3 percent, rail for 9.2 percent and marine for 13.5 percent of the total freight energy use (Railway Association of Canada, 2001). In other words, moving just one-quarter of all freight activity by truck required three-quarters of the total freight energy consumed whereas moving almost half of all freight activity by rail consumed less than ten percent of the total freight energy consumed.

Table 1. Percent freight activity and energy use by transportation mode

Mode	Freight Activity % of total	Energy Use % of total	Ratio of Energy Use to Freight Activity
Truck	27.1	77.3	3.0
Marine	28.8	13.5	0.5
Rail	44.1	9.2	0.2



Photo: Steve Arnot

Although rail transportation is the most efficient, Canada has allowed its rail infrastructure to be removed or fall into disrepair. Instead, heavy investments have been made into roads and highways. Nova Scotia has emulated this spending pattern in its recently released economic stimulus package, in which one billion dollars was committed to roads and bridges over the next three years (CBC,2009). Rail was not a line item.

In 1996, the volume of freight on Canada’s roads was over 181.9 million metric tons. A minimum of 3.8 million six-axle tractor trailers¹ are required to carry this load, resulting in a lot of damage to the environment and provincial coffers: 3.8 million trucks emitting carbon dioxide and 3.8 million trucks causing wear and tear on highway and road infrastructure (Railway Association of Canada, 2001).

The inefficiency of the trucking industry presents a challenge to Canada’s (and Nova Scotia’s) commitment to reduce greenhouse gas (GHG) emissions. The Railway Association of Canada states, “The shift in the freight market to trucking is working against policies to reduce GHG emissions such as the Government of Canada Action Plan 2000 and the National Action Program on Climate Change”

¹ This figure assumes that every tractor trailer on the road would be carrying its maximum load and the biggest vehicles would be used for every trip. It does not account for the number of kilometers traveled. The figure is based on 2009 weight allowances. In 1996, the figure would have been higher because tractor trailers had a lower hauling capacity.

(Railway Association of Canada, 2001).

Local

In Windsor, most freight is moved by tractor-trailer. A limited amount of freight is shipped via a shunt to the main rail line, and some cargo is shipped through marine transport.

Windsor's location along a 100-series highway has helped the trucking industry. Cutbacks at CN and minimal provincial investment in rail have diminished the viability of the rail industry. With the exception of long-haul service, marine transportation is generally ignored; Windsor is no longer considered a port city because it built a fixed causeway. Some industry and town officials in Windsor would like to reverse the reliance on moving freight by truck and increase the number of transportation options available to local industry.

PASSENGER TRANSPORTATION

According to the 2006 Statistics Canada Census, 81% of town residents drive to work, 6.8% carpool and 8.9% walk. Transit and bicycling each have 0.3% of the modal split. There are a few public transportation options currently available connecting Windsor, the Annapolis Valley and Halifax. Kings Transit service to West Hants, Windsor and Hantsport began in September 2007.

Public Transportation

As alternatives to private automobile travel, Town of Windsor residents have access to the following transportation services:

Kings Transit

Provides public bus service from Windsor to destinations in West Hants, Kings, Annapolis and Digby counties.

West Hants Dial a Ride

Accessible, affordable transportation to seniors, persons with disabilities, persons of low or fixed income and youth.

Acadian Lines

Private bus service to major destinations in Nova Scotia, connecting to Greyhound in New Brunswick.

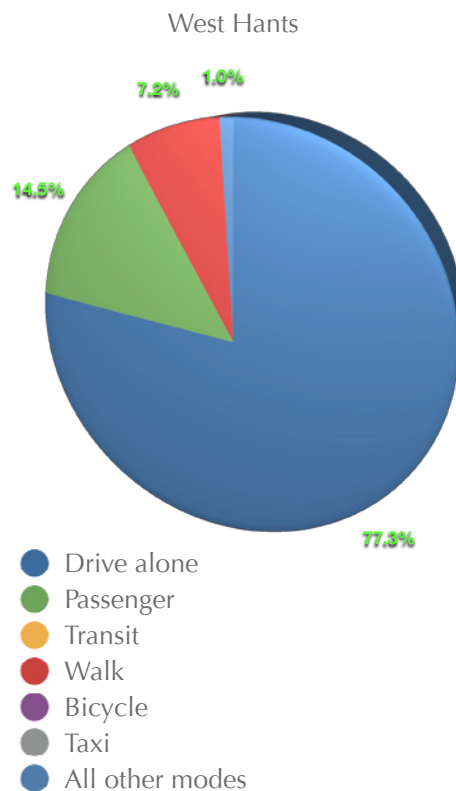
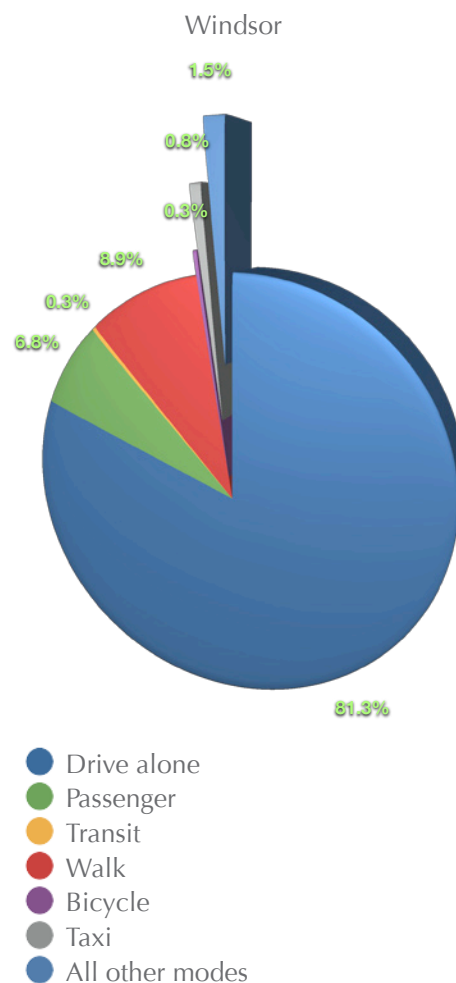
Green Rider

Private van shuttle service connects West Hants commuters (pick-up in Hantsport, Windsor and at Exit 4) with the downtown core of Halifax and Dartmouth.

Planning Context

The Town of Windsor has a Municipal Planning Strategy and Land Use Bylaw, and is working to develop an Integrated Community Sustainability Plan (ICSP). The Town has completed the following toward the development of its ICSP:

Mode of Transportation to Work



(Statistics Canada, 2006)

Windsor's Municipal Planning Strategy Concept Statement

Emphasize and strengthen the role of Windsor as the best place to live in Nova Scotia and a thriving business and service centre for the region by protecting and enhancing the residential and commercial environments.

source: Windsor MPS, section 3.1

Pedestrian Traffic

As part of promoting healthy living in Windsor, the maintenance and improvement of existing sidewalks and the creation of new sidewalks is an important goal. A vital part of creating a pedestrian network in the Town is providing well-marked and safe crosswalks. In addition, Council will work to ensure that sidewalks and crosswalks are accessible to disabled residents.

source: Windsor MPS, section 14.6

Bicycle Routes

Policy 14.7.3 It shall be the intention of Council to investigate providing bicycle pathways and bicycle lanes throughout the Town.

source: Windsor MPS, section 14.7

Intermodal

The European Commission sees promise in intermodality. In its White Paper, the Commission wrote:

Shifting the balance between modes involves looking beyond... each particular mode and securing intermodality. The biggest missing link is the lack of a close connection between sea, inland waterways and rail. For centuries, sea and river dominated goods transport in Europe. Major towns were built on rivers or on estuaries and the large trade fairs in the Middle Ages were always held at river or sea parts. Nowadays, despite a light revival, water transport is the poor relation even though it is a mode which is not expensive and does less damage to the environment than road transport (European Commission, 2001).

- Held several town hall sessions
- Developed a multi-year finance strategy and an asset management plan
- In collaboration with other municipalities, hired a consultant to develop *A Background Study for Integrated Community Sustainability Plans: Annapolis Valley Municipalities* (completed in February, 2008)
- Partnered with EAC and CEU in the Municipalities for Green Mobility project to generate ideas for the ICSP's sustainable transportation section

Relevant Planning Documents

- Town of Windsor Municipal Planning Strategy (MPS)
- Town of Windsor Land-Use By-law (LUB)

Windsor is in the process of hiring a consulting firm to integrate the work listed above and develop its ICSP plan. Windsor's Municipal Planning Strategy and all Town policies will be revised to align with the ICSP.

STRENGTHS AND WEAKNESSES

FREIGHT TRANSPORTATION

The stakeholders who attended the consultation session on April 3, 2009 responded to the following questions:

- How are freight currently moved into and out of Windsor? What are the strengths and weaknesses of these transportation modes?
- In the long-term, what changes would you like to see to freight movement in Windsor, West Hants and Nova Scotia?
- What needs to happen at the municipal, provincial and federal levels to implement these changes?

The following list of freight-related strengths and weaknesses were drawn from the group's discussion.

Strengths

Tractor Trailer/Truck

- Flexibility in the volume of goods that are shipped; a shipper does not need to fill an entire truck
- One truck can start at one end of the valley and make deliveries in each community along the length of the corridor
- Less damage to goods when moved by truck than when moved by rail due to differences between the forward and back motion of truck movement and the side-to-side motion of train movement
- Trucks are faster than other modes especially when only hauling a short distance
- Newer trucks are more efficient; computer technology exists to regulate speed and idling time (Select Transport uses this to save money)
- New devices help increase fuel efficiency, such as Fuel Star out of New Zealand Fuel surcharge is an expected business practice

- Low cost

Rail

- Ideal for the transport of bulk commodities and large loads
- When traveling longer distances, very economical
- Uses less energy; low carbon footprint
- Safer than road transportation

Weaknesses

Truck/tractor-trailer

- A restricted volume can fit in a single container
- Lack of nationalized regulations
- Inconsistency of regulations between provinces and the US
- Rising fuel prices
- Spring weight restrictions
- Heavy truck traffic in downtown Windsor is a problem for merchants
- Fog and other weather conditions impact safety and travel time needed
- Loss of land, particularly agricultural land to roads
- Places great strain on highway infrastructure

Rail

- No viable link between Windsor and Halifax
- Lack of federal and provincial government investment and effort
- Poor conditions of infrastructure; slow speed due to condition of track
- Possibility that rail service may disappear completely

Intermodal

- Increased delay
- Packaging requirements are different between modes

PASSENGER TRANSPORTATION

Strengths

- Overall, Windsor is a great little town
- Semi-urban areas like Windsor, New Minas and Kentville
- Some sidewalks in town
- Crosswalks at busy intersections on Gerrish Street and most drivers respect it
- Existing sidewalks are in good condition
- Good, wide sidewalks on part of Wentworth Road
- Route to school is scenic
- Carpooling is cheaper
- Convenient to carpool when traveling with work colleagues for training in Halifax
- Carpool parking lot by tourist bureau
- Informal carpool lots by Union Corner, Tim Horton's in Windsor (Dufferin Place at Exit 6)
- Kings Transit buses are accessible and drivers are compassionate
- 20 km drive to work is important quiet time
- #14 highway has good roads and is a good route for driving





We provide transportation through volunteer drivers to medical appointments and social and educational outings. We use volunteer drivers and try to group people together as much as possible but it is not always convenient to do so. For example, if someone has to leave at 6:30am to go for dialysis and does not finish until 1pm, someone who doesn't have an appointment until 10am will not join the first person as it is not convenient.

West Hants Dial-a-Ride Coordinator



- Windsor to Halifax is a short, easy and beautiful drive; can save money by driving more slowly on the highway
- Highway 101 is twinned, with access to everything
- Price of parking can influence choice of travel
- Can use technology for video conferencing
- With access to a computer and phone, don't need to drive to work
- Safer routes for bikes by Oulton fuels and along Water Street (from open house)
- Neighbourhood schools; meet neighbours while waiting for bus

Weaknesses

- Rigid commuter options; lack of viable options for commuting outside of Windsor
- Inconvenient for running errands without car when living outside of Windsor
- Cross jurisdictional issues between Town and Municipality; affects sustainable planning
- Land use planning decisions are made based on dollars, e.g., Super 8 and high school, instead of good planning ideas.
- Wentworth Road is a very busy street with no sidewalks, very bumpy shoulder and speeding cars, nowhere for people to stop and safely wait for buses and not enough crosswalks
- There is no sidewalk or crosswalk on Wentworth Road to connect bus stop on south side to adult high school and alternative school
- Biking on Wentworth Road is unsafe on south side
- A lot of deer cross on Wentworth Road, which is dangerous
- No sidewalks on College Road and lots of people and students walk here. No sidewalk along lane into mall
- Lack of sidewalk on Clifton and Ferry Hill
- No sidewalks on Stannus Street; this is very dangerous in the winter
- Dangerous crosswalks, sometimes in spite of clear markings: at Royal Bank, Windsor Mall, Belaroma Pizza, Exhibition Grounds
- Cars parked on street blocks drivers' views of pedestrians crossing the street
- Poor water runoff and huge puddles on King St. and at Stannus and Victoria, Victoria and Wiley and Albert and Wiley; pedestrians get splashed by passing cars
- Walking and biking on Route 215 is unsafe; the road is flat and drivers tend to speed and the shoulder is very uneven with dips and hollows
- Bus to school is very long with lots of stops (30 to 40 minutes for 15km)
- Takes 30 minutes to get from school to somewhere to eat (by foot) and this is not enough time to leave for lunch, unless you drive
- No safe and convenient walking route to school; no legal paths or trails; unsafe routes take about as long as taking the bus
- Two lane entrance into mall is busy and dangerous and is a common route for students walking to school
- Transit is not convenient in rural places. Getting to work, dropping

kids off, etc... is easier with a car

- Kings Transit service is infrequent (every 2 hours) and service stops some days before end of workday
- Bus doesn't service Falmouth
- No public transport from Cheverie to Clayton Park
- College Road not suitable for transit right now
- Access-a-bus is not guaranteed and requires booking one week ahead
- Cost of car ownership and cost of fuel is expensive
- Lots of pick-up vehicles; perception of bigger vehicles being safer
- Awkward streets, can't make a left on King Street
- Parking lot at Scotia Bank has potholes and is in disrepair; it is a one-way loop but do not enter signs are not prominent so drivers go both ways
- Carpooling is dependent on knowing people's schedules
- Carpooling is inconvenient, e.g., not having own car to do stuff at the end of the day
- Erratic work schedules makes carpooling difficult
- Loss of parking spots at Park and Ride Lot at Exit 4 (1/3 smaller); the lot is often full
- Green Rider vanpool – fixed time, fixed point – your loss if the time doesn't work for you; can't decide to take it at the last minute - (have to book 48 hours ahead of time); can't take bicycle on it
- Green Rider only goes from St. Croix to Halifax, so would have to bus back out to Clayton Park if needing to get there
- Payzant is a narrow street, no bike lanes along the road to school
- No bike parking in Brooklyn and Windsor
- Biking makes it hard to be presentable at work; especially when snowy and icy
- Potholes and blowing snow at Mantua on Lawrence Road
- Corner of Avondale Road and Lawrence Road is dangerous
- Lack of driver understanding of protocol at particular intersections
- Lack of access points for all transport modes to hospital and new high school
- Duplication of routes in Windsor; East and Westbound services each spend 25 minutes in Windsor (at even hours) rather than serving Kendall Heights low income and senior's housing or Manning Senior's Residence (from open house)
- Payzant Drive has too many potholes, the sidewalk is very narrow and falling apart, and the road itself is too narrow, which is unsafe, especially with ambulances, a helipad, a high school and apartment buildings (from open house)





GUIDING PRINCIPLES

The Guiding Principles articulate what workshop participants agreed were fundamental aspects of good transportation planning. These principles will help the Town of Windsor make decisions about future transportation options; they are filters through which proposed infrastructure projects, transportation services and policy initiatives can be tested for sustainability. Guiding Principles also inspire best practices and innovative policy changes.

In the morning, participants brainstormed Guiding Principles in small groups. Over lunch, EAC and CEU identified common themes across the groups and prepared a consolidated list of Guiding Principles.

After lunch the consolidated Guiding Principles were presented back to the participants and the afternoon discussion focussed on how to implement these principles.

In order to build a sustainable transportation system, the Town of Windsor will adhere to the following Guiding Principles:

SAFETY

- » Provide safe routes for all transportation modes.

CONVENIENCE

- » Encourage a transportation system that provides a variety of choices and is competitive with travel by private vehicles.

CONNECTIVITY

- » Build and improve connections within Windsor and West Hants, and between Windsor and Halifax. Ensure integration of different transportation modes.

COLLABORATION

- » Work with other jurisdictions to connect and extend transportation networks and improve the sustainability of the system.

ACCESSIBILITY

- » Consider all ages, abilities and transportation modes when designing and building the community.

COMMUNICATION

- » Facilitate communication among people to share resources, e.g., carpooling.

COMMUNITY ENGAGEMENT

- » Use local knowledge to create a system that is unique to the community of Windsor.

LAND USE PLANNING

- » Base land use decisions on good planning ideas, not just cost. Get the most from our infrastructure investments, e.g., solve all the problems at once.



PROVIDE INCENTIVES

- » Encourage more sustainable transportation choices through programs, incentives, etc.

ACCESS TO SERVICES

- » Improve local access to services. Bring services to Windsor; take services to people, rather than people going to services, e.g., telehealth.

SUSTAINABLE TRANSPORTATION GOALS

During the afternoon portion of the community workshop, participants referred to the guiding principles to determine specific infrastructure projects, policy initiatives, programs and services that would improve sustainable transportation in Windsor. Based on the participants' ideas, we have identified four Sustainable Transportation Goals for Windsor:

GOAL #1: *Build on existing infrastructure to improve safety and create connected, continuous routes for all users.*

GOAL #2: *Work with regional partners to provide alternatives to private vehicles within West Hants, and between West Hants and bordering counties.*

GOAL #3: *Direct development to existing infrastructure and/or new investments in public transit and active transportation infrastructure.*

GOAL #4: *Work with regional, provincial and federal stakeholders to improve existing rail infrastructure and increase the efficiency of freight transportation services in the region.*

For each goal, we list participants' corresponding ideas. Participants' ideas are categorized into new infrastructure, improvements to existing infrastructure, policy, transportation services and education programs. For each goal, we also explain the environmental, social, cultural and economic rationale, and include examples of relevant best practices.



GOAL #1

Connections to Sustainability Pillars

Environmental

Walking and biking may not be feasible modes of travel for everyone in the Town of Windsor, but when well integrated with public transportation, these modes will be more accessible to a greater variety of people; people can walk and bike shorter distances and combine the use of public transit with walking and biking for longer distances. In the long term, changes in travel behaviour will reduce greenhouse gas emissions, air pollution and the space needed for transportation infrastructure.

Social

Approximately 30% of Nova Scotia residents do not drive or do not have access to a car (Transport 2000 Atlantic). Prioritizing active transportation ensures a diversity of ages and abilities can independently access amenities, services and social opportunities – for example, that children and youth can safely use their modes of transportation, such as skateboards and scooters. Pedestrian and active transportation-friendly neighbourhoods improve public health by increasing opportunities for physical activity and creating more social capital (Leyden, 2003). Local schools, small stores, local streets, trails and public spaces become meeting grounds for community members and allow for spontaneous interaction and gathering.

Economic

Prioritizing pedestrians and cyclists will enhance Windsor's draw as a tourist destination and reap economic benefits. For example, investment in cycling infrastructure and promotion, especially in collaboration with neighbouring municipalities, will increase bicycle tourism. On average, cyclist tourists spend more money in the province than visitors on cruise ships or bus tours and tend to prefer local artisans and specialty shops (Eastwind Cycle, 2008).

GOAL #1: Build on existing infrastructure to improve safety and create connected, continuous routes for all users.

During the community workshop, participants related stories about incomplete systems that make it difficult for residents to choose active transportation options. Safe walking routes were described as circuitous and inefficient, resulting in people choosing to drive instead of walk. The Town of Windsor must ensure that existing and new sidewalks, walking trails and bike paths are well maintained, connected and continuous.

Project Ideas

New Infrastructure

- Create safe, legal trail across railway tracks from Avon View High School to Chakers
- Connections to and between important destinations, e.g., Farmer's Market, the mall, town hall, schools, hospitals, King's Edgehill, Chaker's
- Sidewalks, bike lanes and crosswalks on Wentworth Road, e.g., to connect bus stop on south side to adult high school and alternative school; and to connect Hants Learning Network Association to adult and alternate schools
- Sidewalks on College Road, along lane into mall, on Clifton, Ferry Hill and Stannus St.
- Develop walking trails in Windsor that are safe and away from car traffic (opportunity to utilize rail beds – rails with trails or rails to trails)
- Provide bike parking
- Bike lanes on Payzant Drive
- In collaboration with surrounding municipalities, create a 100 series bikeway (from open house)

Improvements to Existing Infrastructure

- Upgrades to Wentworth Drive from Payzant Drive to O'Brien (in the town budget for 2009/2010)
- Additional access points to Payzant Drive (at school and hospital)
- Lights at Wentworth and O'Brien
- Stop sign in front of KFC to allow a left turn lane – cut $\frac{3}{4}$ blocks off making it shorter for going to Albert and Wile St.
- Improve safety at dangerous crosswalks, e.g., Royal Bank, Windsor Mall, Belaroma Pizza, Exhibition Grounds
- Improve safety at corner of Avondale Road and Lawrence Road
- Repair potholes on streets and in parking lots, e.g., at Scotia Bank
- Ensure proper water drainage on streets that flood, e.g., King Street
- Repair shoulders on Highway #215 for cyclists
- Improve safety of two lane entrance into mall as it is a common route for students walking to school
- Fix-up Payzant Drive: fix potholes, put a sidewalk on both sides and widen road (from open house)

- Plow rail trails in winter (from open house)
- Widen roads to accommodate bike lanes (from open house)

Policy

- Require new development agreements to provide walking and biking paths

Education Programs

- Adult tricycle program, e.g., to help adults and seniors use tricycles for local errands such as grocery shopping
- Promote proper driving habits at tricky places, e.g., no turning left on King Street, through television or radio
- Promote already existing walking paths, e.g., Haliburton, Blockhouse, Gladys-Manning (from open house)
- Promote biking to Avon View High School, e.g., incentives (from open house)

Best Practice - Share the Road Education

The Marin County Bicycling Coalition in Fairfax, California includes both the general hospital and the police department in their efforts, making the critical link between safety, health, and enforcement. The website states, "The Share the Road campaign is educating bicyclists and motorists to share the road courteously and safely" (Marin County Bicycle Coalition, 2008). The share the road campaign contains three major elements including Checkpoints, Basic Street Skill classes and Riding with Youth. The program demonstrates that in order to reach all riders and drivers a multi-faceted campaign is needed.

Best Practice - Bicycling

The City of Whitehorse in the Yukon Territory may seem like an unlikely place for a cycling culture to develop given that the average temperature is above 5 degrees Celsius for only three months of the year. However, the city encourages cycling. Transport Canada recounts:

Over the past three years, the City of Whitehorse has made numerous improvements to its cycling network, including: upgrading several multi-use paths from outlying residential areas into the downtown; new lighting along selected pathways; a new bicycle/pedestrian bridge over the Yukon River to better connect a major residential neighbourhood with the downtown, a new staircase with bike-ramp, a new roundabout providing a safer connection from the river rail to the bike lanes along 4th Avenue and; improved bicycle infrastructure in the downtown, including artisan-designed bicycle racks, on-street bicycle lanes and markings and improved safety signage for bicycles along major arterials (Transport Canada, 2008).

These infrastructure investments encourage citizens to cycle. In Whitehorse, 3% of employed residents bicycle to work, compared to less than 1% in Halifax (Statistics Canada, 2006).

GOAL #1

Connections to Sustainability Pillars cont.

Cultural

In the short term, active transportation networks can connect areas of cultural and historical significance, such as Fort Edwards, the Birthplace of Hockey Museum, Long Pond and King's-Edgehill School and Haliburton House. In the long term, improving safety and creating connected, continuous routes for pedestrians and cyclists could result in a culture of biking and walking in Windsor. In the Netherlands, when other European countries were shifting their focus from bicycle to car infrastructure in the 1960's, the government kept the bicycle as a priority. Now, almost every Dutch person has a bicycle and 30% of all trips are made by bicycle (Mannak & Jennings, 2008).

GOAL #2

Connections to Sustainability Pillars

Environmental

When public transportation services are competitive with travel by private vehicle, they tend to be well utilized and contribute to a reduction of greenhouse gas emissions from the transportation sector. On average, people who opt to travel by public transit two days out of five create 25% fewer greenhouse gas emissions than those who opt to travel by car everyday (Canadian Urban Transit Association, 2002a).

Social

All members of the community deserve adequate and efficient transportation systems that meet their specific needs. In order to drive, one must be able to afford a vehicle and have a driver's permit. This excludes people of lower income levels, the young, the old, and often persons with disabilities. Public transportation is inclusive and affordable, providing access to employment, education, and the freedom to shop, play and socialize. From a safety perspective, trip for trip, car occupants are twenty times more likely to be killed than are transit passengers (Canadian Urban Transit Association, 2002b).

From a public health perspective, active transportation and public transportation complement each other in encouraging physical activity, as many people walk and/or bike to and from transit stops.

Economic

A strong network of transportation options is vital to the economic health of a community. Public transportation provides access to employment, education, services and amenities. It brings potential employees, students and clients to businesses and institutions.

GOAL #2: Work with regional partners to provide alternatives to private vehicles within West Hants, and between West Hants and bordering counties.

Public transportation helps attract residents and businesses to communities. Municipal, provincial and federal governments must collaborate to create a sustainable transportation system that really works. In Nova Scotia, it is important for regional partners – such as Windsor and West Hants - to work together to make sustainable transportation options more convenient and appealing to residents.

Project Ideas

New Infrastructure

- New sidewalk, safe space to wait and crosswalk to get across to services at bus stop on Wentworth
- Service to major destinations, e.g., Farmer's Market, the mall, town hall, schools, hospitals, King's Edgehill, Chaker's
- Cluster developments - cluster of houses in rural areas make connections and carpooling a lot easier

Policy

- Encourage Nova Scotia government to allow telecommuting
- Implement employer flex time policies to allow for easier commute

Transportation Services

- Bus service to south shore
- Passenger rail to Halifax
- More public transit routes, e.g., service to Falmouth, later stops, more hours
- Ride share website serving all of Nova Scotia
- Improve connections to Halifax and other employment centres, e.g., Kings Transit link with Metro Transit at Irving in Mt. Uniacke; to Beavertown (connect to existing MetroLink service); start with commuter route and as it grows, add mid-day route - good prelude to passenger rail
- Green Rider-type service from St. Croix to Clayton Park
- Make all transportation accessible to everyone (from open house)

Best Practice - Public Transit

Kings Transit runs services along the Fundy Shore of Nova Scotia from Weymouth to Hants County. It is one of only three transit systems in Nova Scotia and has been frequently recognized as an excellent example of a small-scale transit service. In 2005 the service was awarded the National Transit Corporate Innovation Award (Ecology Action Centre, 2008).

Best Practice - Freight Service with Passenger

Many countries have developed 'postbuses' in rural areas where there is no other form of transportation. On these services, mail delivery vehicles also carry passengers. In the case of the Royal Mail Postbus in the UK there is a network of postbuses across England and Scotland. As of 2006 more than 200 services are operated by Royal Mail, often only once or twice a day, but in some areas is the only form of public transport available (Transport 2000 Atlantic, 2008).

Best practice - Empty Seats on School Buses

Examples exist within Canada and the United States of jurisdictions that integrate school bus and public transportation services. About 25 years ago, the Province of Québec was faced by requests from teachers and parents that wanted to use school buses to get into town, so the Province passed a regulation to allow this. There was resistance from a few school boards, which stemmed from parents fears of the co-mingling of their children with strangers. In practice however, problems arising from the co-mingling of students and adults have been non-existent. One school board, la Commission Scolaire des Chênes, has carried 200 adults per day for 20 years without one complaint (Personal communication, September, 2008, Harry Gow, President, Transport 2000 Canada). In South Carolina, Chesterfield County Coordinating Council (CCCC) worked with the local school district to implement a program where parents, school volunteers, and school employees can request to ride on regular high school bus routes. School bus drivers were supportive because they were glad to have an extra adult on the bus to help them keep an eye on the students (Personal communication, November, 2008, Margaret Mitchell, Coordinator, CCCC; National Research Council, 1999).

GOAL #2

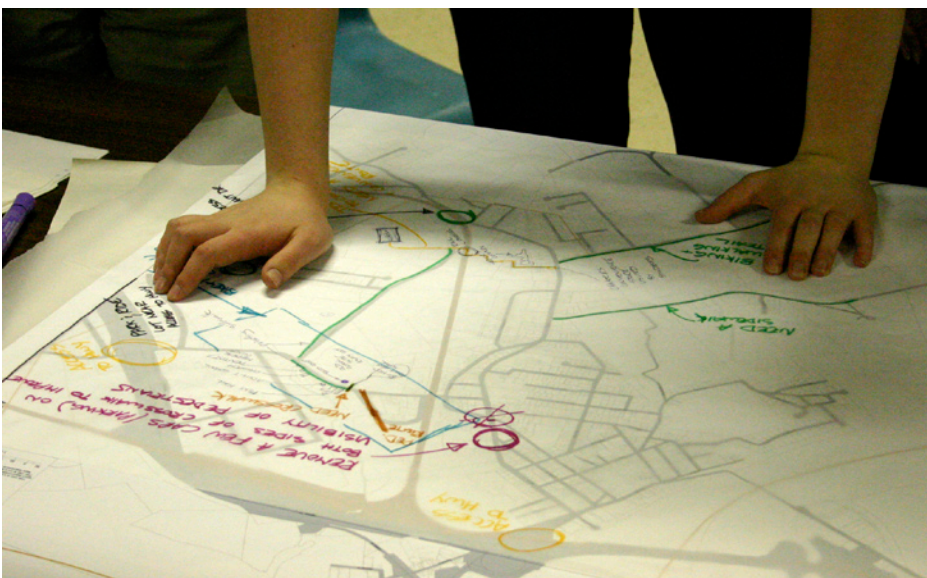
Connections to Sustainability Pillars cont.

Cultural

Convenient public transportation options would help all residents, especially those who do not or can not drive, participate in their community and would increase the draw of the area to tourists (e.g., an express service from Halifax to Windsor). Town marketers, event coordinators and transit providers could work together to provide specials on transit during town festivals and events, such as the local farmers market, the Hants County Agricultural Exhibition, the pumpkin weigh-off and regatta, plays at the Mermaid Theatre, the Wine Fest at Ste. Famille Winery and the Festival of Colours at Ski Martock.

Green Transportation Hierarchy

A green transportation hierarchy ranks modes of travel based on their benefits and costs to society. It puts pedestrians and other active transportation users first, rewarding their low-cost infrastructure requirements, minimal environmental impact and efficient use of space. When institutionalized, municipal planning, decision-making, allocation of road space, project funding and resources reflect the green transportation hierarchy. Note that because commercial trucks and vehicles deliver necessities and goods for local residents, they are not last in the hierarchy (Transportation Alternatives, 2001).



GOAL #3

Connections to Sustainability Pillars

Environmental

Minimizing new road construction preserves green space and ecological health and reduces energy consumption and pollution.

Social

Land use and transportation patterns affect public health and safety, community cohesion and social inclusion. Focusing new development along existing road infrastructure and next to future active transportation routes and transit services will promote denser development and better access to more affordable travel options (walking, cycling, and public transit). This will increase accessibility – the ability to independently reach desired activities and destinations like local schools, small stores and public places where people gather and interact - for all ages and abilities. Increased accessibility will improve public health by increasing opportunities for physical activity; and it will help create more social capital, increasing the “frequency of positive interactions [among people in Windsor], the number of neighborhood friends and acquaintances, and their sense of community connections, particularly among people of different economic classes and social backgrounds” (Victoria Transport Policy Institute, 2009).

Economic

More accessible, compact, mixed, connected land use patterns tend to increase employment, economic productivity, land values and tax revenues and reduce infrastructure and public service costs (Victoria Transport Policy Institute, 2009). More efficient land use also reduces individual travel expenses by locating goods, services and residents more closely together.

GOAL #3: Direct developments to existing infrastructure and/or new investments in public transit and active transportation infrastructure.

Land use planning and transportation planning must be integrated. The Town of Windsor can plan future developments to get the most out of current infrastructure and community investments. Directing new development to existing infrastructure will save the Town money and will result in the most efficient use of land. For example, directing development to areas where investments in active transportation infrastructure have already been made will make it easier for residents to choose active transportation options over the private vehicle. As more people choose to live in Windsor and commute to Halifax and development pressures increase, committing to this goal will become even more important.

The Victoria Transport Policy Institute (2009) explains,

Transportation planning decisions influence land use directly, by affecting the amount of land used for transport facilities, and indirectly, by affecting land use accessibility and therefore development location and design... For example, expanding urban highways increases pavement area, and by improving automobile access to urban fringe areas, encourages more dispersed, automobile-oriented development..., while public transit [and active transportation] improvements encourage more compact, infill development.

These relationships are sometimes complex... There may be several steps between a planning decision, its impacts on urban form and travel behavior, and its ultimate economic, social and environmental impacts.

Project Ideas

New Infrastructure

- Promote cluster developments - cluster of houses in rural areas make connections and carpooling a lot easier; “[this] would work if we could persuade real estate boards not to overprice properties in and around town” (from open house)
- Create and implement a connected and integrated biking and walking plan

Policy

- Engage all stakeholders impacted by new development; speak to many people and stakeholders before making land-use decisions
- Work to resolve jurisdictional issues between Town and Municipality to effect better planning
- Require new developments to include green spaces and walking and biking paths (that connect with and/or build on Town’s biking and walking plan)
- Strengthen land use bylaws and zoning requirements that maximize the efficiency of land use

Education Programs

- DriveWiser campaign to promote fuel efficiency and change residents' perception that bigger vehicles are safer

Best Practice - Location Efficient Mortgages

These mortgages encourage people to buy homes in location efficient communities, where residents are within walking distance of stores, schools, recreation, employment and public transit services. They offer low down payments (3%), competitive interest rates and more flexible criteria for financial qualification than standard mortgages (Institute for Location Efficiency, 2002). Currently, these are available in large cities in the United States, including Seattle and Chicago.

Best Practice - Mixed-use Community Centres

The communities of Canton, Bedford, Millis, Southborough, Stoughton, and Stow are examples of rural towns in Massachusetts that have focused on developing vibrant mixed-use downtowns. Mixed-use development ensures that people can work, live and play all within walking distance. Higher density around these vibrant downtowns supports a transit system. Some benefits of mixed-use “include the preservation of undeveloped or environmentally sensitive land elsewhere in the community, opportunities for more or different housing, bicycle and pedestrian-friendly destinations, and an enhanced sense of place or sense of community” (Metropolitan Area Planning Council, 2009).

GOAL #3

Connections to Sustainability Pillars cont.

Cultural

Minimizing new road construction and supporting development of brownfield sites and underused buildings can enhance the vitality of existing developments, e.g., the downtown, and preserve cultural resources such as heritage buildings, historical landmarks and neighbourhood parks.

GOAL #4

Connections to Sustainability Pillars

Environmental

Rail transportation is the most efficient means of moving freight. In 1999, moving just 1/4 of all freight activity in Canada by truck required three-quarters of the total energy consumed whereas moving almost half of all freight activity by rail consumed less than ten percent of the total freight energy consumed (Railway Association of Canada, 2001). Opus Consultants (2008) calculated that the annual increase in greenhouse gas emissions due to increase in truck traffic since the closure of rail service into New Minas Hantsport is 158 tonnes.

Social

Social sustainability relates to the potential for continued rail service to provide employment and more transportation options and freight rate savings for shippers. The Windsor and Hantsport Railway Company is a service provider for shippers in the goods-producing sector and employs 15 full time equivalent positions. Currently, 95% to 98% of movements on the Hantsport to Windsor Junction rail line are carrying gypsum (Opus International Consultants, 2008). The social sustainability of the rail service is dependent on investments in rail infrastructure to make the line a viable service for other shippers in the region.

Economic

"Approximately 60% of the total retail trade activity occurring in the West Hants area takes place in Windsor" (Windsor-West Hants Planning Department, 2006). A strong network of transportation options is vital to the economic health of a community. As a regional service centre, Windsor is fortunate to have rail as an option; however, the economic sustainability of this rail line will require infrastructure investment to attract new customers. Both the provincial and federal governments have set precedents for investing in capital improvements to short-line railways.

GOAL #4: Work with regional, provincial and federal stakeholders to improve existing rail infrastructure and increase the efficiency of freight transportation services in the region.

GPI Atlantic reports: "...a mode mix of 77% rail and 23% truck freight...is recommended as the best modal mix for decreasing total costs and decreasing CO2 emissions" (1999). Windsor is situated next to one of only two existing short haul rail lines in Nova Scotia. Jurisdictional issues and traditional funding patterns will be challenges in ensuring the survival of the existing rail infrastructure. Increasing the use of the Windsor-Hantsport Railway will require all levels of government to promote a business environment in which rail is viewed favorably. Still, as a major service centre and nucleus of the region, the Town of Windsor is in a position to be a leader in promoting upgrades to the Windsor-Hantsport Railway. The Town of Windsor can collaborate with other stakeholders to influence the efficiency of freight movement. Some of the following project ideas relate specifically to the Windsor-Hantsport Railway and some more broadly to the efficiency of freight transportation.

Project ideas

The following project ideas are a mix of participant suggestions and suggestions from EAC and CEU. "EAC/CEU" indicates suggestions from the Ecology Action Centre and Cities & Environment Unit.

New Infrastructure

- Develop an inland waterway shipping route
- Establish a passenger and cargo link through valley to Halifax with centralized terminal for both, including rail, bus and truck; "We have Acadian Lines now, but frequencies are only one half to one third of those in 1990. The province could support a regional bus network across Nova Scotia for the cost of a few kilometers of new road (cost of \$4 million/km)" (from open house)
- Build a new transfer station at the edge of town limits where long combination vehicle loads can be transferred to smaller trucks for in-town deliveries
- Build regional and provincial transload facilities for intermodal operations, where numerous carriers and clients can come together
- Build new spur lines between industry and the main Windsor-Hantsport rail line: Minas Basin Pulp and Power, for example, has no choice but to ship their product by truck. Their product would be a perfect candidate for rail transport, but the company does not have access to a viable link. The expense of a link is too great for the company itself, but would allow for better access to markets in Ontario, Quebec and beyond

Improvements To Existing Infrastructure

- Upgrade the Windsor & Hantsport Railway between Windsor Junction and Windsor, and between Hantsport and New Minas (EAC/CEU). The portion of rail line between Windsor Junction and Windsor has deteriorated to such an extent that a train came off the tracks in 2009. The portion between Hantsport and New Minas has lost all its traffic, but passes very close to the Acadia University campus, a new condominium development – Railtown - in downtown Wolfville and historic Grand-Pre, and ends a mile short of downtown Kentville. The commuter and tourist train possibilities of this line are exciting (Personal communication, Marcus Garnet, Transport 2000 Atlantic, 2009)

Policy

- Collaborate with stakeholders at all levels of government to bring about new policies or changes to existing policies that will improve the efficiency of freight transportation
- Standardize policies between nations and provinces for trucking; comments from open house: 1. “Standardized policies will not work nationwide and provincially as the geographic areas are different;” and 2. “Heavy trucks (much bigger than on US Interstates) are breaking up our roads”
- Maintain spring weight restrictions year round; when trucks carry smaller loads, the viability of rail increases and excessive damage to the highways is prevented; “Spring weight restrictions in Nova Scotia year round would kill NS based transport companies and cost the industry millions of dollars” (comment from open house)
- Promote federal accountability of all environmental costs and benefits in their freight transport policies (EAC/CEU): “Absent an integrated policy to address both GHG and smog emissions from heavy trucks, the federal government’s approach has had the unintended effect of increasing GHG emissions since the new tractors are less fuel efficient than equipment already in operation” (Atlantic Provinces Trucking Association, 2007)
- Advocate for a federal carbon emissions trading system, which would ensure that efficient means of transportation like rail and marine are not penalized (EAC/CEU)
- Develop policies that encourage local production and distribution of goods (EAC/CEU): “... there are not enough options in the freight transport industry to reduce GHG emissions to a degree that would offset increased emissions from projected increases in traffic growth” (Walker, S., Hilburn, R. & Colman R., 1999). Reducing GHG emissions in the freight transport industry may therefore require more regionalized production facilities, leading to a lower demand for freight transport
- Implement a road use charge to encourage a switch from truck freight to more sustainable modes (EAC/CEU): No Canadian jurisdiction has yet specifically implemented a fee for environmental reasons or to encourage use of rail freight over truck freight (GPI Atlantic, 1999); Nova Scotia could be the first

GOAL #4

Connections to Sustainability Pillars cont.

Cultural

Nova Scotia’s railway heritage is a cultural and historic attraction and is worthy of investment. The railway between Windsor junction and New Minas was originally part of the Canadian Pacific Railway (Opus International Consultants, 2008). The railway line to Windsor was opened in June of 1858. Farmers in the Windsor area used to drive their teams of horses and loaded wagons onto railway cars and ride into Halifax to sell their loads, returning to Windsor the same day (Wikipedia, Dec. 31, 2008). The Evangeline Express, a seasonal tourist train operated by Windsor Hantsport Railway Company, was discontinued but the Tregothic Creek & Windsor Railway offers visitors a ride on a miniature working steam or diesel powered train.

Inland Waterway Shipping

“Thought should be given to bringing together all the links in the logistics chain (consignors, ship-owners and any others involved in the shipping industry, plus road, rail and inland waterway operators) in a one-stop-shop to make intermodal transport by sea and inland waterway as reliable, flexible and easy to use as road transport” (European Commission, 2001).

Best Modal Mix

“...a mode mix of 77% rail and 23% truck freight...is recommended as the best modal mix for decreasing total costs and decreasing CO2 emissions. This modal shift will bring about a decrease in overall employment remuneration, however. Total remuneration is reduced by 12.3%, and trucking remuneration is reduced by 30%.” (GPI Atlantic, 1999).

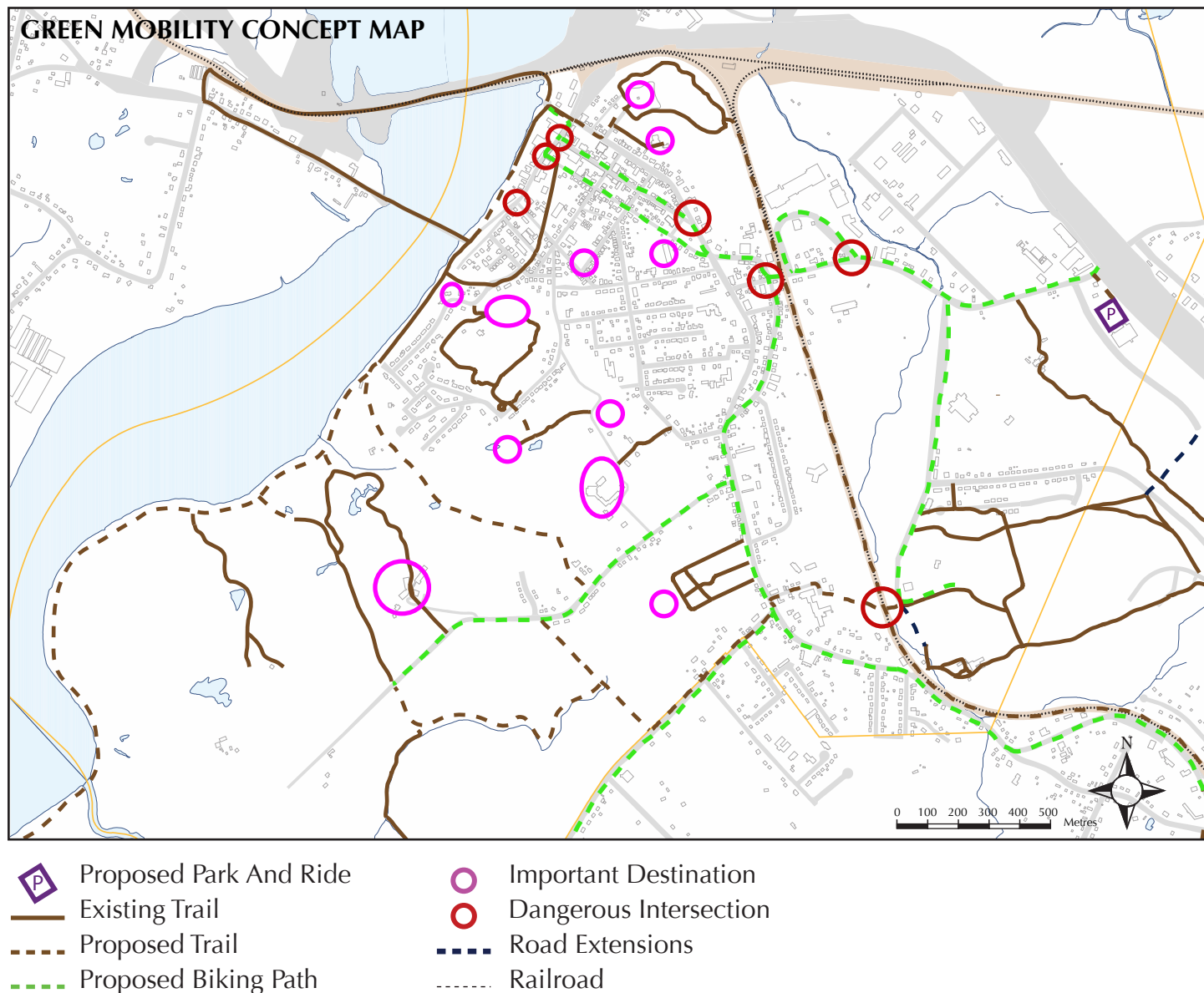
- Work with other NS municipalities to hold the provincial government accountable to their transportation commitments in the 2009 Climate Change Action Plan (EAC/CEU)

Education

- Maintain a registry of transportation options available to local businesses so that they can match their needs to the services that exist in the area
- Promote citizen purchase of locally produced and distributed goods

CONCEPT MAP

The Green Mobility Concept Map consolidates project ideas discussed during the afternoon of the community workshop. The Concept Map reflects the *Guiding Principles* and *Sustainable Transportation Goals*, and includes new infrastructure projects and improvements to existing infrastructure.



Integration is Key

Connectivity between transportation modes and infrastructure projects is essential. One cannot propose a new sidewalk without considering what would happen when a pedestrian traveling along the sidewalk comes to an intersection or wants to connect to a trail or catch a bus. The modes of transportation and the users of these modes cannot be placed into separate “silos”. Just as a community is an integrated whole so are the transportation options.

RECOMMENDATIONS

- » The Ecology Action Centre and Cities & Environment Unit encourage Windsor Town Council to adopt this report and incorporate the Guiding Principles, Sustainable Transportation Goals and Concept Map into the Municipality’s Integrated Community Sustainability Plan.
- » To further the implementation of Sustainable Transportation Goal #4, EAC and CEU recommend that the Town of Windsor coordinate with neighbouring municipalities that would benefit from renewed investments in rail to spearhead the formation of a commuter and freight rail task force. The task force would provide a forum for staff, council, and interested citizens to build a movement for rail transportation in the region, and across the province, and would be responsible for:
 - Developing a commuter and freight rail strategy that would outline a long-term vision for the future of rail service in Nova Scotia, and identify the steps required to achieve that vision. This work could be used to inform NS Transportation and Infrastructure Renewal’s sustainable transportation plan, due in 2010.
 - Generating awareness of rail’s potential while lobbying governments and agencies with access to major transportation funding.

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Appendix A – Community Workshop Schedule

10:00 – 10:30 Welcome and Introductions

- » Explain goal of MGM project
- » Review schedule of project
- » Review schedule for the day and the objectives of each activity
- » Introduce participants

10:30 – 12:00 Small groups

- » Memory Mapping - each individual draws a picture of their daily, weekly and monthly transport patterns (e.g., home to school, school to ballet, ballet to friends' house and friends' house to home) and highlights the strengths and weaknesses of their routes
- » Create Guiding principles (the filters for project ideas)
- » Small groups report back on their guiding principles to large groups

12:00 – 1:00 Lunch

- » Consolidate guiding principles

1:00 – 1:30 Presentations

- » Guiding principles
- » Sustainable transportation best practices

1:30 – 2:30 Small groups

- » Action mapping - small groups brainstorm project ideas that will help to create a sustainable transportation system for the Town of Windsor (keeping in mind the Guiding Principles established in the morning)

2:30 – 3:00 Large group report back, evaluations & wrap up

Appendix B – Participant Evaluation of Community Workshop

Who was missing?

- Other families who may have other needs than we expressed; we were the only family
- More average citizens of the community; perhaps members of various emergency services (fire, police, EHS)
- More councilors, department of transportation and provincial members
- West Hants Middle School (if we had known) could have sent someone to learn about this. I will let the Environment Facilitators know and I hope to see you in the future
- Laura Haywood; Laura_haywood@hotmail.com
- I feel there should have been more members of the rural community present; I feel the majority of the group present was from the Windsor area
- More municipal and town representatives
- Municipality of West Hants
- Planners; people from surrounding communities immediately adjacent to Windsor
- Highway and Traffic division; RCMP

How to reach them?

- More publicity (we found out about this by accident)
- Posters at post offices, stores, malls, radio ads perhaps even insert with weekly sales flyers
- More advertising to get more people to attend
- You can reach us at our website; you can find it by Googling West Hants Middle School it will come up saying Home of the Sabers

What did you like?

- Diversity of people and organizations present (wish there were more) and ability to brainstorm and be heard
- Opportunity to participate in affecting future; realizing that things are actually happening in our community
- Good input, informative and good venue (legion)
- I like the presentation in general; I liked meeting new people, doing new things; I liked the activities and the few second long chats with everyone
- Nice, friendly people; everyone is easy to talk to and there were a lot of great ideas discussed; I liked the fact that I had an opportunity to be involved with my own community
- The small groups where everyone was very open minded and full of ideas
- The presenters were very thorough and informative; you did a wonderful job at the presentation and getting everyone's input
- Youth thoughts; great lunch
- Good information
- Home-made food; it was great to have high school students

participate

- Linking all the ideas

What did you learn?

- More aware of other concerns rather than my own, what is already “out there” (groups and programs) and what we are lacking
- That ICSP is in the works for Windsor
- I learned so much I can’t list it in words; I will use what I have learned as much as I can
- Reinforced issues already aware of
- Learned about people’s different perspectives, e.g., parents, children, people affected by disabilities
- More simple methods to be environmentally aware and to safely get around Windsor
- I learned a lot! Met people, learned about Kings Transit, Dial a Ride, Windsor issues
- Some things are already in planning stage

What would you change or improve?

- Next time we need more butts in the seats, more professional and general public
- Fine as presented but I would like to have seen more people attend
- More different interactive activities
- More public engagement, shorten session
- More time would have been nice but it was manageable
- I was disappointed there was not more focus on the rural communities as a whole; though the rural communities did not attend
- It is easy for individuals to criticize the transportation services we do have in a rural area but when it comes to acting on their thoughts people won’t take the initiative
- Less background (incorporate it into working groups); 1/2 day plenty for Saturday
- Nothing; it was great
- Convince people that their input might count

Appendix C - Youth Photography Workshop

Municipalities for Green Mobility

Photography is a fun and creative way to engage youth in community planning and encourage them to look closely at characteristics of the natural and built environment in their community. The participant's photos help to reveal perceptions and opinions about various elements that make up their community. Presenting the photos to their peers can stimulate discussion about what young people like and dislike in their community, and what they hope for in the future.

Participants:

Junior High and High school students

Objectives:

- To involve youth in and generate excitement in thinking about sustainable transportation and planning in their community.
- To produce photographs of the community that will be displayed at the community workshop.
- To understand the different parts of the community and how they fit together.
- To identify positive and negative qualities of the community's built and natural environment.
- To understand that community planning can influence these qualities in the future.

Cameras:

- Digital or disposable cameras

How to do it:

- Arrange to visit high school students in their classrooms or arrange an after school meeting
- Introduce objectives of the meeting and the overall *Municipalities for Green Mobility* project
- Brainstorm ideas with students about what makes a "community".
- Possible discussion questions: What in your community is special to you? What problems do you think need to be addressed? Why is it important to plan for the future?
- Discuss with different photography techniques (close up, low light, low angles, etc.).
- Ask students to lead a tour of the community.
- During the tour ask students to capture community strengths and issues using photography.
- After the tour, display and discuss photos through a slide show.
- Students will continue to work with their photographs to create a "photo map" of their community at the community workshop.
- Once complete, ask students to present and explain their photos and photo map to the larger group
- Encourage a discussion about the group's work and their perceptions of strengths and issues in their community. Photos can be sorted according to general themes that emerge. Record themes on a flip chart or white board.
- Ask the students for permission to collect and use digital copies of all their photos in project materials and documents.



Municipality of the District of West Hants

Active Living Strategy 2018-2022



WEST HANTS
NOVA SCOTIA

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Section 1

INTRODUCTION & RATIONALE

In 1971, ParticipAction launched its campaign to encourage Canadians to be more physically active. Yet, almost 50 years later, physical activity levels are not improving, regardless that everyone knows that physical activity is an important part of a healthy lifestyle; so why has it? Personal challenges, socioeconomic barriers, and not prioritizing personal health all add up to explain what is limiting us from getting active.

With the crisis of physical inactivity, the provincial government of Nova Scotia decided in 2006 to partner with municipal units through Nova Scotia's *Municipal Physical Activity Leadership* program. By 2013, the *Municipal Physical Activity Leadership* program had been launched with 36 of the 55 municipal governments in Nova Scotia. During a review of the program, the provincial research team concluded the following:

The Province's Role:

1. Continue to support *Municipal Physical Activity Leadership* program through cost sharing between the Communities Culture and Heritage Department and the Municipal units and First Nations Communities
2. Continue to provide supports (e.g. data, professional development, etc.) to the Municipal units through the Communities Culture and Heritage Department

The Municipal Unit's Role:

1. Continue to support the *Municipal Physical Activity Leadership* coordinator role
2. Continue to build and strengthen partnerships (e.g. community groups, regional associations, etc.) at the local level
3. Build support for policy development and active transportation

West Hants is well positioned to be a leader in outdoor physical activity. We are fortunate to have access to beaches, lakes, woodland, hills and farmland. Already, many residents walk, swim, fish, hike, canoe, snowshoe, and cross country and downhill ski. Provincial associations are available to provide skill development, and our proximity to Halifax allows us to attract more people to make use of our recreation sites. Through a provincially funded citizen survey, residents expressed a desire for improved accessibility of community-based physical activity opportunities by offering flexible, non-competitive, and family-friendly opportunities that incorporate social interactions.

This plan outlines the steps to be taken to provide communities and residents with the opportunities and knowledge needed to participate in more physical activities more often. At the public policy level, physical activity can be used as a tool to achieve healthy, vibrant communities with broad community benefits (such as increased community cohesion, economic development, and productivity). As outlined throughout this document, there appears to be growing support for increased physical activity across all governmental and socio-ecological levels.

Section 2

BACKGROUND & STRATEGY DEVELOPMENT PROCESS

In 2011, the Municipality of the District of West Hants partnered with the Nova Scotia Department of Health and Wellness (now the Department of Communities, Culture and Heritage, Communities, Sport & Recreation Division) to bring the Municipal Physical Activity Leadership Program to West Hants. An Active Living Coordinator (now called the Active Communities Programmer) position was established in the municipal unit and began the work of creating “strategic planning documents identifying and outlining the municipalities’ comprehensive, whole of community approach for increasing and sustaining physical activity levels in local communities” (Nova Scotia Health and Wellness, 2011).

In creating this Strategy, West Hants joined municipalities around the province that have partnered with the Communities Culture and Heritage Department through the Municipal Physical Activity Leadership program to develop an action plan to get people moving. While all strategies share the common goal of increased physical activity, each one identifies actions specific to their own municipality. The 2013 Active Living Strategy goals (found in Appendix D, Page 48) have since been updated to align with the Shared Strategy for Advancing Recreation in Nova Scotia (2015). This organizational format was chosen in order to join the national and provincial movement towards coordinating policies and practices in physical activity and related jurisdictions in Canada. The five goals include: *Active Living*, *Inclusion & Access*, *Connecting People & Nature*, *Supportive Environments*, and *Recreation Capacity*. For full details, see Figure 7 for a summary of the situation analysis, vision, values & operating principles, and the five goals.

We know that a comprehensive approach, one that is mindful of the five socio-ecological levels (individual, interpersonal, organizational, community, and public policy) and seeks to include strategic community partners, while challenging, is recognized to have the greatest potential for changing a population’s level of physical activity (Figure 6). Moving forward, multiple concurrent strategies will need to be employed in order to ensure the best chance to positively influence physical activity behavior choices. The following principles have guided the selection of the Action Plan’s physical activity interventions (Figure: 1).

A. Whole of Government Approach	Integrate physical activity and the creation of active communities into the existing planning and decision making processes of all relevant operational areas of the government.
B. Comprehensive	Use multiple strategies and multi-level interventions of the socio-ecological model to address factors affecting physical activity behavior. This includes physical activity in settings other than recreation.
C. Partnerships	Meaningfully collaborate with public, private, and volunteer sector community partners to promote physical activity and create an active community.
D. Sustainable	Seek long-term political, financial, and organizational commitments from active community partners for long-term physical activity strategies.
E. Community Involvement	Involve local residents in creating active communities and make it easy for people to participate in community consultations, planning, and implementation activities.
F. Evidence Informed and Effective	Use the best available evidence and proven best practices to inform decisions in policy, planning, program development, practice, and evaluation.
G. Tailored to the Community	Adapt physical activity interventions to the local context and ensure that existing community assets are used where appropriate
H. Maximum Population Reach	Design physical activity interventions and approaches to reach a wide audience, but pay special attention to population sub-groups that face the greatest barriers.
I. Equity	Eliminate disparities in access to physical activity opportunities, and reduce inequities that result from geography, ethnicity, gender, and/or socio-economic status by focusing on the most inactive groups and groups with inequitable access to physical activity resources.
J. Capacity Building	Build the commitment, skills, and knowledge of active community leaders and partners at all levels through training in physical activity interventions.
K. Inactive to Moderately Active	Moving sedentary people from light or no activity to a point where they accumulate 30 minutes of moderately intense activity on 3-4 days/week is the best gain from a population perspective.

Figure 1: Guiding Principles (West Hants Municipal Physical Activity Leadership program MOU, 2017)

STRATEGY DEVELOPMENT PROCESS

2013 STRATEGY PROCESS: (IPSOS REID SURVEY & COMMUNITY CONSULTATIONS)

The Active Living Strategy 2013-2016 was developed through a series of consultations with individuals and groups representing a range of ages, interests and geographic communities. The consultations were led by the Active Living Coordinator with advice and guidance from the West Hants Active Living Advisory Committee. The Advisory Committee was established in recognition of the importance of partnerships in developing and implementing the action

plan. Since the issues causing the crisis in physical inactivity are many and varied, the combined effort, expertise and resources of a variety of organizations was needed to develop the interventions.

The goals and actions described in the Active Living Strategy 2013-2016 support Municipal priorities as identified in the Integrated Community Sustainability Plan (ICSP), the Municipal Planning Strategy and the Municipal Council Policy. They also support priorities identified by the Department of Health and Wellness' Thrive! Strategy (which is not being used as a guiding strategy within the current provincial government. However, there is still access to a few funding programs initiated by the Thrive! Strategy which continue to support active living priorities).

2017 STRATEGY PROCESS: (CITIZEN SURVEY & COMMUNITY CONSULTATIONS)

Prior to updating the Active Living Strategy, the province completed a Random Digit Dialing Telephone Sampling Citizen Survey between November 3 and December 7, 2016. There were 202 telephone interviews conducted for three key reasons:

1. To further the development, implementation, and continued evaluation of physical activity in the Municipality of the District of West Hants.
2. To provide local data to inform strategies on physical activity – and the extent to which these align with physical activity opportunities within West Hants.
3. To inform the former provincial Active Living Branch of the Department of Health and Wellness (now the Communities Culture and Heritage Department of the Community Sport and Recreation Branch) policy and decision making.

The results of this survey are highlighted in more detail in Section 4, page 17.

Additionally, the Active Communities Programmer examined the emerging landscape of physical literacy and health promotion, the newly released national (*The Framework for Recreation in Canada*, 2015) and provincial (*The Shared Strategy for Advancing Recreation in Nova Scotia*, 2015) recreation strategies, and a provincially run *Municipal Physical Activity Leadership* program evaluation to develop a framework upon which an informed and collaborative action plan is based.

The goals and actions described in the 2018 Active Living Strategy Action Plan have been adjusted from the 2013 Active Living Strategy to align with the five goals outlined in the *Shared Strategy for Advancing Recreation in Nova Scotia* (2015). This was done in order to join the national and provincial movement towards coordinating policies and practices in physical activity and related jurisdictions in Canada.

Section 3

MUNICIPAL PROFILE

DEMOGRAPHICS

According to the 2016 Canadian Census, the total population of West Hants was 15,368. The population has remained fairly stable over the past 20 years (see Table 1). As the former Town of Hantsport joined West Hants in 2015, Table 1 presents the historic population for each community as well as the combined change between 1996 and 2016. Figure 2 captures the population change between 1996 and 2016 by age and gender in a population pyramid.

Table 1: West Hants historical population data

Year	Hantsport ¹	West Hants ²	Total Population	% Change
1996	1,252	13,792	15,044	
2001	1,202	13,780	14,982	-0.4%
2006	1,191	13,871	15,062	0.5%
2011	1,159	14,165	15,324	1.7%
2016	n/a	n/a	15,368	0.3%

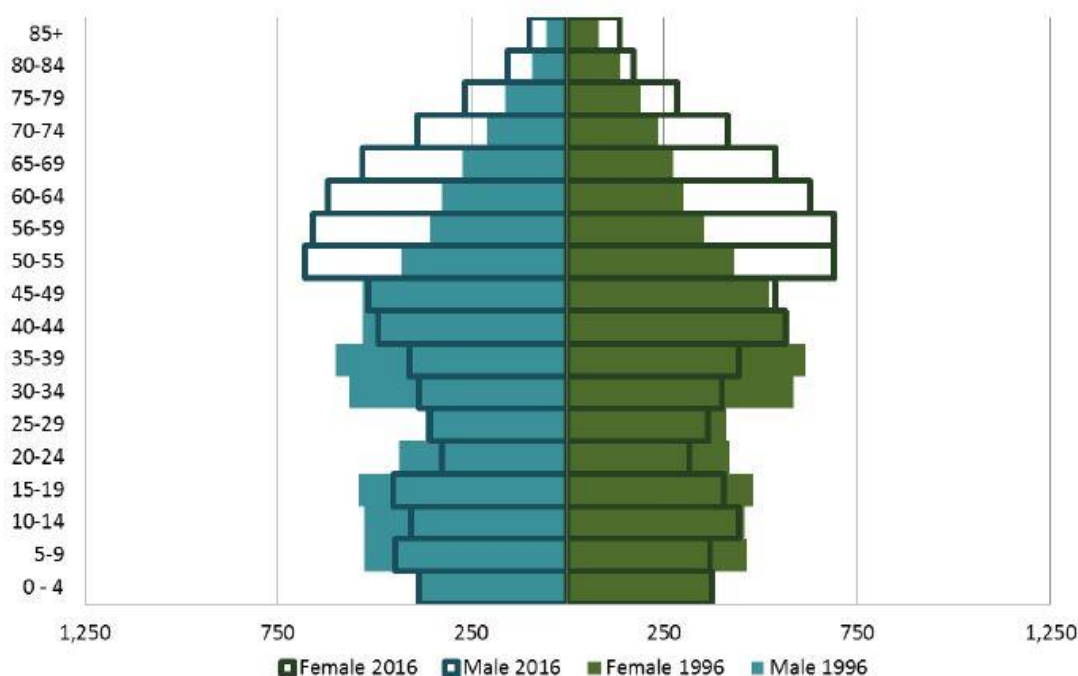


Figure 2: Population change between 1996 and 2016

West Hants Planning and Development staff completed a population projection in 2017 using average birth rates and three migration scenarios (low, average and high). The

projection resulted in the total population increasing in the near term under the average and high migration scenarios but decreasing under the low migration scenario. Exploring the average scenario in more detail reveals trends in three main age ranges, youth (0-19), working ages (20-65) and seniors (65+). As demonstrated in Figure 3, the senior population is forecasted to grow dramatically over the next two decades, while the other two groups decrease over time. This scenario also depicts the loss of youth as they move to pursue secondary education or look for work in other areas of Nova Scotia and Canada.

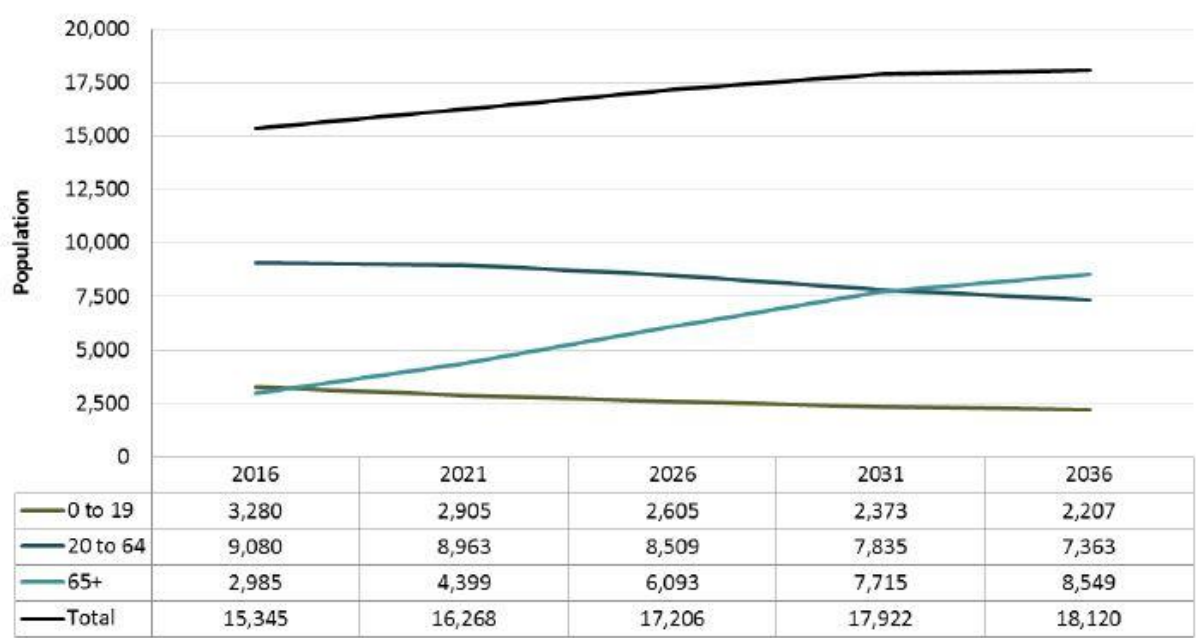


Figure 3: Population projection from 2016-2036

In 2016, youth accounted for 21% of the total population, working ages accounted for 59% and seniors accounted for approximately 20%. Under the average scenario, by 2036, the senior population is projected to increase to 47%, while youth and working ages reduce to 12% and 40% of total population respectively. The population projection demonstrates the significant aging trend within the Municipality, one that has a substantially higher projected percentage of seniors in West Hants than for the rest of Nova Scotia. By 2038, seniors (65+) are anticipated to account for 30% to 32% of the total population.

WEST HANTS VITAL SIGNS REPORT

In 2016, Community Foundations of Canada gathered and compiled data to release a Vital Signs Report which took a pulse on all levels of socio-economic welfare from across the West Hants and Hants County Regions. Below is a simplified overview on the report's findings (Figure 4):

At a Glance West Hants has experienced slight increases in population, but the percentage of young people continues to drop. Economy & Work The employment rate in West Hants (50%) is lower than provincial (57%) and national rates (61%). Getting Around The median commuting time for residents of West Hants (15 minutes) is lower than the national average. While West Hants residents enjoy walking, most do not feel that the infrastructure (road shoulders or sidewalks) are safe. Belonging Seventy-two percent (72%) of West Hants citizens report a "strong" or "somewhat strong" sense of belonging. Only 3% of the population belongs to a visible minority. Learning The rate of achieved post-secondary education is 59%, which is lower than the provincial and national rates.	Health & Mental Health Travel distances present a barrier for some residents to access health services. For example, the centre that supports youth is located in Sackville. Recreation Many area residents make use of the outdoors for recreation activities and 81% of West Hants' residents believe that more money should be spent on parks and open space. Arts and Culture In 2011, there were 120 citizens in West Hants who had jobs in fields related to arts, culture, recreation, and sport. Environment West Hants has taken proactive steps to deal with climate change and reduce greenhouse gases.
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Figure 4: Vital Signs Report Summary Findings, 2016

These trends, both the aging population and loss of youth, present a number of challenges and opportunities and highlight the importance of developing physical activity opportunities which appeal to all ages and create a vibrant and sustainable culture of life and work in West Hants.

PHYSICAL ASSETS: PARKS AND OPEN SPACE

West Hants covers 124,200 hectares of land. Within the Municipality, the Avon River empties into the Minas Basin where the world's highest tides rise and fall along 160 km of shoreline and the banks of tidal rivers. Thirty km of dykes protect 2436 hectares of land. A variety of lakes and rivers provide opportunities for swimming, canoeing, kayaking, fishing and boating. There are two provincial parks, two park reserves, wilderness areas, 12% protected lands (as identified by Environment Nova Scotia), and Crown land within the Municipality. Along the borders with Kings and Lunenburg counties, as well as the Glooscap First Nations,

the land rises in low hills and here the mountain bikers are building trails to pursue their passion.

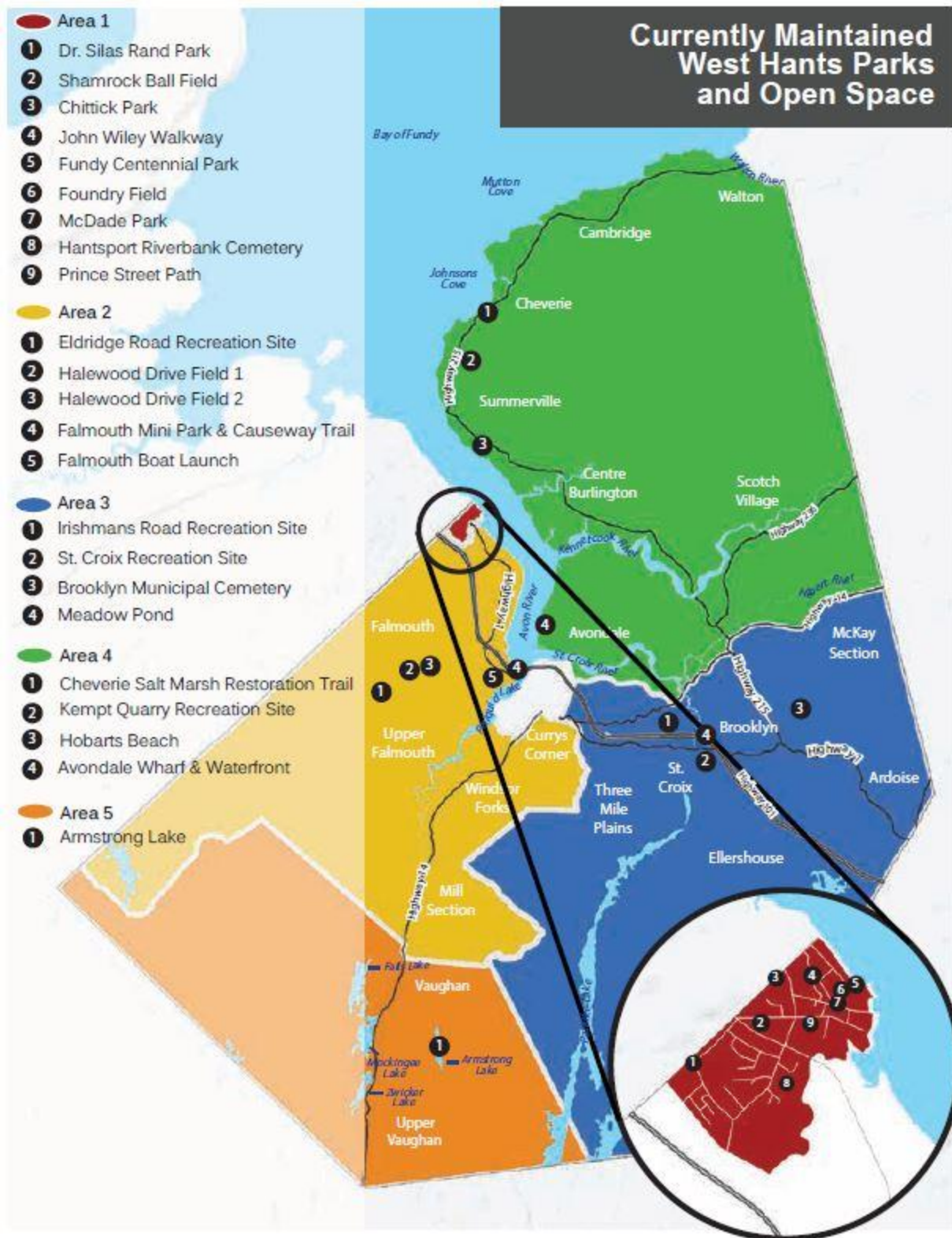
In 2016, the ten-year Parks and Open Space Plan was developed which reviewed and inventoried approximately 165 municipally-owned parcels of land, 73 of which were zoned for parks and open space (TEAL, 2016). Currently 24 sites* are developed and maintained as recreation sites (Map 1) (see the West Hants Parks and Open Space plan for full details on all municipally-owned parks and open space parcels):

- | | |
|--|-------------------------------------|
| 1. Armstrong Lake Park | 13. Halewood Drive Field 1 & 2 |
| 2. Avondale Wharf & Waterfront | 14. Hantsport Riverbank Cemetery |
| 3. Brooklyn Municipal Cemetery | 15. Hobarts Beach |
| 4. Cheverie Salt Marsh Restoration Trail | 16. Irishmans Road Recreation Site |
| 5. Chittick Park | 17. John Wiley Walkway |
| 6. Dr. Silas Rand Park | 18. Kempt Quarry Recreation Site |
| 7. Eldridge Road Recreation Site | 19. McDade Park |
| 8. Falls Lake Municipal Land Trail | 20. Prince Street Path |
| 9. Falmouth Boat Launch | 21. Shamrock Ball Field |
| 10. Falmouth Mini Park & Causeway Trail | 22. St. Croix Recreation Site |
| 11. Foundry Field | 23. Upper Burlington Planters Trail |
| 12. Fundy Centennial Park | |

The West Hants Parks and Open Space Plan – developed in 2015-16 – details an inventory and recommended prioritized opportunities for creating a better Parks and Space Network for the Region. Some land parcels, acquired through the parkland dedication provisions of the Subdivision By-law, may be unsuitable for development due to location, land cover, or topography. These have been recommended in the Parks and Open Space Plan Inventory for divestment.

For the next ten years, decision-makers, community groups, and other stakeholders will be able to use this plan to deliver a parks and open space network that will meet the needs of citizens in West Hants.

*The Meadow Pond property was purchased after the Parks and Open Space Plan was completed. As such, it was not included in the Plan, but is currently a municipally owned and maintained recreation site. For more information about the Meadow Pond property, please contact the West Hants Parks and Recreation Department.



PARTNERSHIP ASSETS: TOWN OF WINDSOR

Residents of West Hants have access to facilities located in the Town of Windsor, including an outdoor and an indoor swimming pool, an arena, tennis courts, canoe club, curling club, skate park, baseball fields, community centre, parks, playgrounds and trails; some are owned by the Town and some by non-profit or for-profit organizations. The Hants Aquatic Centre is overseen by a pool governance committee composed of both Windsor and West Hants council and staff with both municipal units cost sharing in the yearly operating deficit. The Windsor Recreation Department offers year-round programs which are open to residents of West Hants; the reverse is also true, with Windsor residents welcome at West Hants programs and recreation sites. West Hants also applies for grants on behalf of both municipal units to enable the Town of Windsor to access provincial funding, such as Facility Access and the After-School Program grants. Both recreation departments work closely together in a mutually beneficial and positive, collaborative relationship.

OTHER PHYSICAL ACTIVITY OPPORTUNITIES

There are several commercial sport, recreation and physical activity opportunities within the Municipality, including (but not limited to) a considerable number of equestrian and trail riding ventures, several golf clubs, Ski Martock and On-Tree Adventure Park.

In addition to these assets, there are examples of a variety of active Community Sport Organizations and Businesses (Appendix B*, page 45) and Community Hall Associations (Appendix C*, page 47) providing activities on a volunteer basis. Community groups are also responsible for the arena in Brooklyn (Newport & District Rink Commission) and several walking trails (including the West Hants Trails Association and Castle Frederick Farms). Parent support groups have revived school playgrounds and these are open to the community use after school hours. The Hants West Wildlife Association offers a variety of outdoor skills training programs along with a wetlands trail. The Rotary Club of Windsor operates Camp Mockingee where the community can enjoy the experience of year-round camping and outdoor recreation activities. Recreation departments across the Valley Region have also partnered to launch Valley Connect which is an online Recreation Guide for residents of (and visitors to) West Hants, Kings, and Annapolis Counties in Nova Scotia. Included are services that provide basic information on recreation, sport, and physical activity.

These are just some of the valuable community organizations that exist as the result of dedicated volunteers who devote an enormous amount of time and energy providing activities and facilities in our communities.

*Please note that the list in Appendix B and C is non-exhaustive and may not include all organizations, businesses or associations. As such, if one needs to be added, please contact the Parks and Recreation Department.

Section 4

THE EMERGING LANDSCAPE

MUNICIPAL PRIORITIES & POLICY CONTEXT

A particular focus for the Active Communities Programmer in the last three years has been on trail development and active transportation opportunities. Considerable progress has been made in the Active Transportation and Parks and Open Space portfolios, including a trails plan for Irishmans Road, and Inventory of West Hants Trails, and a strategic plan (*Active Living Strategy 2013-2016*) with prioritized opportunities to improve access and education of our region's assets. However, more remains to be completed, as indicated by the Vital Signs 2016 Report; "81% of West Hants' residents believe that more money should be spent on parks and open space" (Community Foundation of Nova Scotia, 2016, p. IV).

As reiterated in the West Hants Parks and Open Space Plan, "West Hants is one of the few municipal districts in Nova Scotia that is experiencing positive population growth" (Teal Architects, 2016, p. 22). To continue providing West Hants communities with health promotion and physical activity opportunities, it is important to analyze the region's vitality and put together a comprehensive support system to target "action on issues that are critical to our quality of life" (Vital Signs, 2016, p. II).

There are many strategic policies and documents that support the Active Living Strategy, and community physical activity more broadly, to position this work in the context of the broader municipal direction around physical activity (particularly in the realm of creating environments for free, accessible, unstructured physical activity). The most relevant plans for supporting this work are the Active Transportation Plan (2015), the Parks and Open Space Plan (2016) and the West Hants Strategic Plan (2017). These three plans are the most actively used in the MPAL's work and by community as a tool to further physical activity opportunities in West Hants. Here is a summary of the policies, strategies, and plans the West Hants Council has adopted which supports moving the needle towards a more active, healthy community:

Integrated Community Sustainability Plan (2010) – provides a long-range commitment "*to become more sustainable, a place where residents of all ages live active, healthy, vibrant lives and are highly engaged in their communities.*" (Municipality of the District of West Hants, 2010). Physical activity is supported by the following goals under *Economic and Social and Cultural*:

- 4.4: *Encourage backyard and community gardens;*
- 4.7: *Promote Tourism (includes bicycle routes);*
- 5.1: *Provide recreational programs and opportunities for all residents;*
- 5.2: *Support community groups;*
- 5.5: *Encourage volunteerism; and*
- 5.6: *Promote active transportation.*

Active Living Strategy (2013) – a plan of action to support active living within the Municipality. The 2013-16 plan recognized that our community does not single out the needs of a particular age group or gender, but rather envisions families and friends being active together, often in the outdoors, with parents providing the active living role model, access, and opportunities for their children. Therefore, the actions to be provided by West Hants Parks and Recreation Department are aimed to support life-long active living with a focus on outdoor recreation.

Municipal Trails Plan (2013) – a complete inventory of existing trails on Municipal and Crown lands and those developed (or under development) by community groups. The plan provides an inventory of eighteen trail sites across the Municipality, and includes recommendations for investment and development of these sites in order to ensure maximum use and community benefit.

Climate-Wise & Weather Prepared (2013) – serves as the Municipal Climate Change Action Plan in fulfillment of the 2010-2014 Canada-Nova Scotia Municipal Funding Agreement. It functions as an amendment to the Integrated Community Sustainability Plan of the Municipality of the District of West Hants. The Climate Change Action Plan also updates West Hants' inventory of greenhouse gas emissions, sets targets for further emissions reductions, and outlines actions that would achieve set targets.

Active Transportation Plan (2015) – designed to improve options for safe and convenient non-motorized transportation across the Avon Region. This plan addresses both tangible infrastructure improvements and ushering in a cultural shift towards an increased awareness and acceptance for Active Transportation as a practical alternative to using personal automobiles. The Active Transportation Plan was a collaboration between the region's three municipalities - the Municipality of West Hants, the Town of Windsor, and the former Town of Hantsport.

Parks and Open Space Plan (2016) – a complete inventory of all municipally-owned parks and open space land within West Hants. The plan is the primary document that contains a framework and standard to guide staff and council in managing and developing a comprehensive parks and open space network to serve the needs of West Hants residents.

Municipal Planning Strategy (2016) - provides the framework to guide growth and development in West Hants. Physical activity is supported in Section 13.0 of the Strategy, which deals with community use areas including parks, open space and municipal recreation facilities.

- Policy 13.2.1 establishes an Open Space zone which applies to parks and other public outdoor recreation uses.
- Policy 13.2.3 permits parks and playgrounds in any zone.

- Section 13.3 (Recreation Commercial) informs us that *"Council wishes to encourage the provision of a variety of recreation facilities in West Hants, both public and private."*
- Policy 13.3.2 sets out criteria for establishment of new recreation commercial uses. (Municipality of West Hants, 2008)

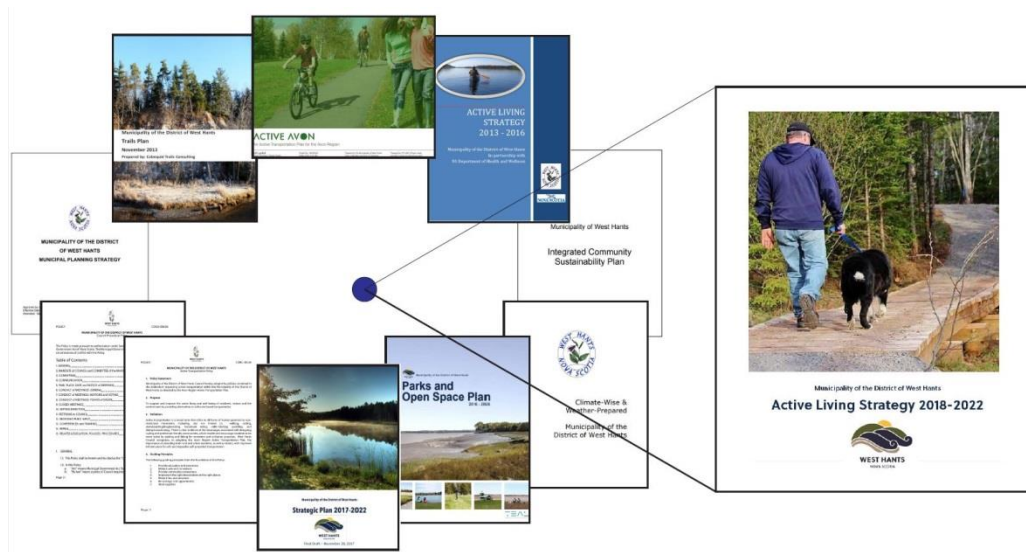


Figure 5: Policy Documents

West Hants Active Transportation Policy (2017) – directs Council and staff to support and improve the active living and well-being of residents, visitors and the environment by providing alternatives to vehicular based transportation. The following guiding principles form the foundation of the Policy:

1. Provide education and awareness
2. Make it safe and convenient
3. Provide community connections
4. Implement the right interventions in the right places
5. Make it fun and attractive
6. Be strategic and opportunistic
7. Work together

West Hants Strategic Plan (2017) – establishes a vision for the future of West Hants and creates goals to achieve that vision. It assigns specific actions to specific individuals or groups as components of the overall goals, breaking them into smaller, more manageable pieces. The West Hants Strategic Plan will guide the Municipality's direction for the future. It's a roadmap to the future for West Hants and will provide a means to measure the progress of the Municipality in achieving the desired goals.

Municipal Council Procedural Policy (2017) – outlines how Council is to function. Section 2.2.1.b states that The mandate of Council is *“to provide strategic planning for the Municipality with the goals: (ii) to provide services, facilities and other things that, in the opinion of Council are necessary or desirable for all parts of the Municipality.”* The Active Living Strategy addresses the provision of recreational services and facilities.

CITIZEN SURVEY

“More citizens may be engaged by improving accessibility of community-based physical activity opportunities by offering flexible, non-competitive, and family-friendly activities.”

- Paul Desbarres (2017)

Having conducted 202 telephone interviews, the province compiled the results for the municipality to integrate into the Active Living Strategy. The key findings and conclusions are as follows:

1. With walking as the most popular activity for future participation in general as well as for Active Transportation, there is a significant opportunity to increase activity in this community by prioritizing support for walking.
2. Swimming is also mentioned as a wish list item for increased participation, but to a far lesser degree than walking.
3. Infrastructure for walking and cycling is a clear need based on identified physical activity challenges in general and Active Transportation facilitators.
4. Interventions to support social connections are important. They address significant barriers and garner significant interest among programming concepts.
5. Time (availability of residents, scheduling of programs) is an important barrier to consider in planning interventions.
6. There may be a role for health care providers in supporting participation in physical activity given the proportion who perceive their current health status as a challenge.



Figure 6: Physical Activity Citizen Survey Infographic

BEST PRACTICES & EVIDENCE

Over the past five years, the amount of literature and organizations concerned about the physical inactivity crisis has increased exponentially. Having conducted a literature review, the Active Communities Programmer has compiled the most relevant and recent research to provide insight into where the field of physical activity and health promotion is heading. The primary recommendation, from the best practices and evidence, outlines a necessity for pursuing change at all levels of the Socio-Ecological Model in order to achieve sustainable changes in physical activity behavior (see Figure 7). This means cross collaborating across the sectors which typically operate in silos, such as health, transport, environment, physical activity, education, urban design and planning, as well as, government, civil society and the private sector.



Figure 7: A Socio-Ecological Model for Physical Activity

All levels of government – from International (*The Toronto Charter for Physical Activity*, 2010 and *The Investments that Work for Physical Activity*, 2012) to National (*The Framework for Recreation in Canada 2015: Pathways to Wellbeing*, 2015), Provincial (*The Shared Strategy for Advancing Recreation in Nova Scotia*, 2015), Municipal (*West Hants Active Living Strategy*, 2013), and even at the community/grass-roots level (*The West Hants' Vital Signs Report*, 2016) – have developed guides to stimulate coordinated policies, influence and unite decision makers, support with evidence of effective best practices, and facilitate even richer opportunities for collaboration and resource sharing with the aim of improving and advancing the well-being of individuals, communities, and the built and natural environment.

With an even closer look at the individual sectors, we can see similar trends of identifying physical activity as a method of making our communities more vibrant. Methods recommended include unstructured physical opportunities, active transportation, getting enough sleep, limiting sedentary time across all age groups by getting activity in 10 minute bouts, physical literacy, and providing fun, engaging, flexible (yet practical) approaches to physical activity that help individuals remain resilient to injury and illness.

To clearly plan for change on all levels of the socio-ecological model, an action plan has been developed to guide the work of physical activity promotion in West Hants that will be facilitated by the Active Communities Programmer in collaboration with internal and external partners.

The Action Plan aims to

1. Outline the five goals and the priority areas of each goal;
2. Detail what actions will be undertaken and what the indicators of success will be;
3. Indicate the potential partnerships that can be made; and
4. Identify how each action fits within the socio-economic model and the guiding principles.

This work will be undertaken with a collaborative and holistic approach, uniting across municipal departments, reaching out to the community, and partnering with other health and wellness sectors (both public and private).

Section 5

Action Plan

INTRODUCTION

The Action Plan defines the work to be done to increase physical activity levels in the Municipality of the District of West Hants. It is based on the research, reports, consultations and surveys discussed previously. It recognizes that our community did not single out the needs of a particular age group or gender but rather envisioned families and friends being active together. Therefore, the actions to be provided by West Hants Parks & Recreation are aimed to support community-based physical activity opportunities by offering flexible, non-competitive, and family-friendly activities that incorporate social interactions. While West Hants Parks & Recreation will take the lead in the actions identified below, it is understood some of the implementation will be undertaken through collaboration with partners in other departments and sectors. Actions have also been developed to target all levels of the Socio-Ecological Model for Change (Figure 7) and many actions are aimed at impacting multiple levels at once.

The goals and actions described in the 2018 Active Living Strategy (ALS) Action Plan have been adjusted from the 2013 ALS to align with the five goals outlined in the *Shared Strategy for Advancing Recreation in Nova Scotia* (2015). This organizational format was chosen in order to join the national and provincial movement towards coordinating policies and practices in physical activity and related jurisdictions in Canada. Figure 8 summarizes the Strategy.



Figure 8: Summary of the Strategy for Advancing Recreation in Nova Scotia.

GOAL 1

ACTIVE LIVING

To foster active, healthy living through recreation



PRIORITY AREA #1

ACTIVE FOR LIFE

GOAL #1		ACTIONS	SOCIO-ECONOMIC LEVELS					OUTCOMES
			Individual	Interpersonal	Organizational	Community	Public Policy	
To foster active, healthy living through physical recreation	a.	Work with communities and partners to advance recreation competencies and physical literacy and align program offerings with the interests of community members						✓ There is a common understanding of the role of recreation in promoting physical literacy needed to be active for life ✓ Programming meets the needs and interests of WH citizens and allows them to become more active year round ✓ WH citizens are aware of and are utilizing the free loan and donation programs
	b.	Continue existing and consider developing new free equipment loan programs that have a low competency entrance point						
	c.	Connect to CHB and community health-care providers/stakeholders to support education about community physical activity outcomes as a tool to design and implement interventions for priority populations who face barriers to participation: (e.g. children, youth, families, newcomers, older adults, persons with a disability, females, Mi'kmaq, and African Nova Scotians).						

POTENTIAL PARTNERS

Active Avon Active Transportation Committee, Annapolis Valley Mountain Bike Association, Association of Geocaching NS, Bike Nova Scotia, Canoe/Kayak Nova Scotia, Communities Culture & Heritage Department, Community Halls, Community Partnership Network, Community Walking Groups, Hants West Wildlife Association, Healthy Schools Community Committee, Heart & Stroke WalkAbout, High Five, Hike Nova Scotia, Newport and District Rink Commission, RCMP, Recreation Nova Scotia, Senior Safety Officer, Sport Nova Scotia, Town of Windsor, Valley Active Communities Committee, West Hants Family of Schools, West Hants Family Resource Centre, West Hants Health & Wellness Team, West Hants Trails Association, West Hants/Uniacke Community Health Board, West Hants-based Care Homes

PRINCIPALS in ACTION

- ☐ Whole of Government
- ☒ Comprehensive
- ☒ Partnerships
- ☒ Sustainable

- ☒ Community Involvement
- ☒ Evidence Informed & Effective
- ☒ Tailored to the Community
- ☒ Maximum Population Reach

- ☒ Equity
- ☒ Capacity Building
- ☒ Inactive to Moderately Active

PRIORITY AREA #2

CHILDREN & FAMILIES

GOAL #1	ACTIONS	SOCIO-ECONOMIC LEVELS					OUTCOMES
		Individual	Interpersonal	Organizational	Community	Public Policy	
To foster active, healthy living through physical recreation	a. Provide easily accessible and navigable resources that						✓ Children and their families are physically active, playing in a variety of settings with an emphasis on engaging in the outdoors.
	1. promote the value/benefits of family recreation						
	2. outline safety considerations and management strategies						
	3. help families engage in PA and play						
	b. Work in collaboration with schools to support AT opportunities						

POTENTIAL PARTNERS

Active Avon Active Transportation Committee, Annapolis Valley Regional Center for Education, Association of Geocaching NS, Bike Nova Scotia, Canoe/Kayak Nova Scotia, Castle Frederick Farms, Communities Culture & Heritage Department, Community Halls, Community Partnership Network, Ecology Action Centre, Healthy Schools Community Committee, HeartWood Centre for Youth Leadership, Hike Nova Scotia, Newport and District Rink Commission, RCMP, Recreation Nova Scotia, Sport Nova Scotia, Town of Windsor, Valley Active Communities Committee, West Hants Family of Schools, West Hants Family Resource Centre, West Hants Health & Wellness Team, West Hants Trails Association, West Hants/Uniacke Community Health Board

PRINCIPALS in ACTION

- ☐ Whole of Government
- ☒ Comprehensive
- ☒ Partnerships
- ☒ Sustainable

- ☒ Community Involvement
- ☒ Evidence Informed & Effective
- ☒ Tailored to the Community
- ☒ Maximum Population Reach

- ☒ Equity
- ☒ Capacity Building
- ☒ Inactive to Moderately Active

PRIORITY AREA #3

OLDER ADULTS

GOAL #1	ACTIONS	SOCIO-ECONOMIC LEVELS					OUTCOMES
		Individual	Interpersonal	Organizational	Community	Public Policy	
To foster active, healthy living through physical recreation	a. Support those involved in the provision of services to older adults who promote, provide and lead active and passive forms of recreation						✓ Older adults are regularly engaged in recreation
	b. Promote socialization by continuing to support seniors groups with collaborative advertising and joint events between the municipality and senior groups. Education (e.g. bike week), infrastructure (e.g. trails and bike routes), and capacity building (e.g. bike rodeos)						
	c. Support easily accessible, user-friendly resources that enable individuals to connect with others who share their recreation interests, find appropriate programs or plan self-directed activities						
	d. Seek interventions and supports to enable citizens to "age in place" (Age Friendly Community Planning)						

POTENTIAL PARTNERS

Active Avon Active Transportation Committee, Association of Geocaching NS, Canoe/Kayak Nova Scotia, Castle Frederick Farms, Communities Culture & Heritage Department, Community Halls, Community Partnership Network, Community Walking Groups, Hants West Wildlife Association, Heart & Stroke WalkAbout, Hike Nova Scotia, Newport and District Rink Commission, RCMP, Recreation Nova Scotia, Senior Safety Officer, Sport Nova Scotia, Town of Windsor, Valley Active Communities Committee, West Hants Health & Wellness Team, West Hants Trails Association, West Hants/Uniacke Community Health Board, West Hants-based Care Homes

PRINCIPALS in ACTION

- ☐ Whole of Government
- ☒ Comprehensive
- ☒ Partnerships
- ☒ Sustainable

- ☐ Community Involvement
- ☐ Evidence Informed & Effective
- ☒ Tailored to the Community
- ☒ Maximum Population Reach

- ☒ Equity
- ☒ Capacity Building
- ☒ Inactive to Moderately Active

Action #	Action Items	Lead Partner(s), Support Partner(s) & Resources	Anticipated Timeline
5.1.a	Work with communities and partners to advance recreation competencies and physical literacy and align program offerings with the interests of community members	Active Communities Programmer, Director of Parks and Recreation. See all potential partners above	1-3 years
5.1.b	Continue existing and consider developing new free equipment loan programs that have a low competency entrance point	Director of Parks and Recreation, Active Communities Programmer, Town of Windsor, CCH	1-3 years
5.1.c	Connect to CHB and community health-care providers/stakeholders to support education about community physical activity outcomes as a tool to design and implement interventions for priority populations who face barriers to participation: (e.g. children, youth, families, newcomers, older adults, persons with a disability, females, Mi'kmaq, and African Nova Scotians).	Director of Parks and Recreation, Active Communities Programmer, Planning and Development Department, CHB, Chief Administrative Officer, WH Council	2 years
5.2.a	Provide easily accessible and navigable resources that promote the value/benefits of family recreation outline safety considerations and management strategies help families engage in PA and play	Director of Parks and Recreation, Active Communities Programmer, Parks and Recreation Administrative Assistant, Valley Connect, West Hants IT Specialist, West Hants Trails Association	Annually
5.3.b	Work in collaboration with schools to support AT opportunities. Education (e.g. bike week), infrastructure (e.g. trails and bike routes), and capacity building (e.g. bike rodeos)	Active Communities Programmer, Schools, Ecology Action Centre, VACC, CHB, AT Committee, Healthy Schools Communities Committee	Annually
5.3.a	Support those involved in the provision of services to older adults who promote, provide and lead active and passive forms of recreation	Senior Safety Coordinator, Active Communities Programmer, Windsor Elms Village, Gladys Manning Home, Dykeland Lodge, MacLeod House	Annually
5.3.b	Promote socialization by continuing to support seniors groups with collaborative advertising and joint events between the municipality and senior groups (e.g. physical activity programming such as chair yoga)	Senior Safety Coordinator, Active Communities Programmer, Valley Connect, WH Recreation Grants, WH Social Media, Community Newsletters, Community Halls, Town of Windsor	Annually
5.3.c	Support easily accessible, user-friendly resources that enable individuals to connect with others who share their recreation interests, find appropriate programs or plan self-directed activities	Senior Safety Coordinator, Active Communities Programmer, Valley Connect, WH social media, community newsletters, Community Halls, Town of Windsor	Annually
5.3.d	Seek interventions and supports to enable citizens to "age in place" (Age Friendly Community Planning)	Senior Safety Coordinator, Planning and Development Department, AT Committee, CHB, Community Halls, Community Walking Groups, WH Health & Wellness Team, RCMP, Community Partnership Network	3-5 years

GOAL 2

Inclusion & Access

To increase inclusion and access to recreation for populations that face constraints to participation



PRIORITY AREA #1

ELIMINATE CONSTRAINTS FOR CHILDREN & YOUTH

GOAL #2	ACTIONS	SOCIO-ECOLOGICAL LEVELS					OUTCOMES
		Individual	Interpersonal	Organizational	Community	Public Policy	
To increase inclusion and access to recreation for populations that face constraints to participation	a. Collaborate, develop and implement strategies and policies which ensure all children have the opportunity to fully participate in recreation. Methods may include: 1. Funding (e.g. Active Kids Healthy Kids Funding and West Hants Recreation Grants); 2. Training (e.g. High Five); and 3. Supplying resources on best practices.						✓ Constraints to participation in recreation experiences for all children and youth are managed, reduced, and ultimately eliminated
	b. Facilitate free access to facilities, programs, and equipment for priority populations in their communities, at convenient times.						
	c. Participate in HSC Family of Schools partnerships to collaborate with administrators, Schools Plus, and other support services to identify particular needs within different school communities						

POTENTIAL PARTNERS

Annapolis Valley Mountain Bike Association, Annapolis Valley Regional Centre for Education, Bike Nova Scotia, Canoe/Kayak Nova Scotia, Communities Culture & Heritage Department, Community Halls, Community Partnership Network, Ecology Action Centre, Healthy Schools Community Committee, HeartWood Centre for Youth Leadership, High Five, Hike Nova Scotia, Newport and District Rink Commission, RCMP, Recreation Nova Scotia, Sport Nova Scotia, Town of Windsor, Valley Active Communities Committee, West Hants Family of Schools, West Hants Family Resource Centre, West Hants Health & Wellness Team, West Hants/Uniacke Community Health Board

PRINCIPALS in ACTION

- | | | |
|---|---|---|
| ☒ Whole of Government | ☒ Community Involvement | ☒ Equity |
| ☒ Comprehensive | ☒ Evidence Informed & Effective | ☒ Capacity Building |
| ☒ Partnerships | ☒ Tailored to the Community | ☒ Inactive to Moderately Active |
| ☒ Sustainable | ☒ Maximum Population Reach | |

PRIORITY AREA #2

FOCUS ON THOSE FACING DISPARITY

GOAL #2	ACTIONS	SOCIO-ECOLOGICAL LEVELS					OUTCOMES
		Individual	Interpersonal	Organizational	Community	Public Policy	
To increase inclusion and access to recreation for populations that face constraints to participation	a. Collaboratively develop/strengthen and implement recreation policies, competencies, practices, and opportunities which are explicitly inclusive, respectful, and relevant for diverse population groups within community groups and WH Parks & Rec Staff						✓ Participation in recreation by West Hants residents facing disparities is significantly expanded
	b. Develop and implement strategies and policies that support participation of persons with disabilities in recreation experiences						

POTENTIAL PARTNERS

Active Avon Active Transportation Committee, Annapolis Valley Mountain Bike Association, Annapolis Valley Regional Centre for Education, Association of Geocaching NS, Bike Nova Scotia, Canoe/Kayak Nova Scotia, Castle Frederick Farms, Communities Culture & Heritage Department, Community Partnership Network, Community Walking Groups, Department of Transportation and Infrastructure Renewal, Glooscap First Nations Municipal Physical Activity Leader, Hants West Wildlife Association, Healthy Schools Community Committee, Heart & Stroke WalkAbout, HeartWood Centre for Youth Leadership, High Five, Hike Nova Scotia, Recreation Nova Scotia, Senior Safety Officer, Sport Nova Scotia, Town of Windsor, Valley Active Communities Committee, West Hants Family of Schools, West Hants Family Resource Centre, West Hants Health & Wellness Team, West Hants Planning Department, West Hants Trails Association, West Hants/Uniacke Community Health Board, West Hants-based Care Homes, WomenActive

PRINCIPALS in ACTION

- ☑ Whole of Government
- ☑ Comprehensive
- ☑ Partnerships
- ☑ Sustainable
- ☑ Community Involvement
- ☑ Evidence Informed & Effective
- ☑ Tailored to the Community
- ☑ Maximum Population Reach
- ☑ Equity
- ☑ Capacity Building
- ☑ Inactive to Moderately Active

PRIORITY AREA #3

WOMEN & GIRLS (EQUITABLE PARTICIPATION)

GOAL #2	ACTIONS	SOCIO-ECOLOGICAL LEVELS					OUTCOMES
		Individual	Interpersonal	Organizational	Community	Public Policy	
To increase inclusion and access to recreation for populations that face constraints to participation	a. Develop activities and programs that promote confidence and self-efficacy in girls and females through the lifespan						✓ More women and girls are taking part in meaningful physical activity pursuits and deriving the health benefits associated with them. ✓ All programs targeted specifically for women and girls have female leaders.
	b. Develop the leadership abilities of older girls/women so that they can act as responsible mentors and role models for younger girls and senior women						
	c. Assess equity of opportunities for females/girls to participate at facilities in WH and look for tools to overcome barriers						

POTENTIAL PARTNERS

Communities Culture & Heritage Department, Community Partnership Network, Community Walking Groups, Healthy Schools Community Committee, Newport and District Rink Commission, Recreation Nova Scotia, Sport Nova Scotia, Town of Windsor, Valley Active Communities Committee, Valley Gender Equity Committee, West Hants Family of Schools, WomenActive, Valley Female Leadership Network

PRINCIPALS in ACTION

- | | | |
|---|---|---|
| ☒ Whole of Government | ☒ Community Involvement | ☒ Equity |
| ☒ Comprehensive | ☒ Evidence Informed & Effective | ☒ Capacity Building |
| ☒ Partnerships | ☒ Tailored to the Community | ☒ Inactive to Moderately Active |
| ☒ Sustainable | ☒ Maximum Population Reach | |

Action #	Action Items	Lead Partner(s), Support Partner(s) & Resources	Anticipated Timeline
5.1.a	Collaborate, develop and implement strategies and policies which ensure all children have the opportunity to fully participate in recreation. Methods may include: 1. Funding (e.g. Active Kids Healthy Kids Funding and West Hants Recreation Grants); 2. Training (e.g. High Five); and 3. Supplying resources on best practices	Active Communities Programmer, Director of Parks and Recreation, WH Council See all potential partners above	1-3 years
5.1.b	Facilitate free access to facilities, programs, and equipment for priority populations in their communities, at convenient times	Director of Parks and Recreation, Active Communities Programmer, Town of Windsor, CCH, Community Halls, Schools, Newport & District Rink Commission, Kings Edgehill, Hants Aquatic Centre	Annually
5.1.c	Participate in HSC Family of Schools partnerships to collaborate with administrators, Schools Plus, and other support services to identify particular needs within different school communities	Active Communities Programmer, Annapolis Valley Regional Centre for Education, Communities Culture & Heritage Department, Community Partnership Network, Healthy Schools Community Committee, RCMP, Town of Windsor, Valley Active Communities Committee, West Hants Family of Schools, West Hants Family Resource Centre	Annually
5.2.a	Collaboratively develop/strengthen and implement recreation policies, competencies, practices, and opportunities which are explicitly inclusive, respectful, and relevant for diverse population groups within community groups and WH Parks & Rec Staff	Director of Parks and Recreation, Chief Administrative Officer, West Hants Council. See all potential partners above	1-3 years
5.2.b	Develop and implement strategies and policies that support participation of persons with disabilities in recreation experiences	Active Communities Programmer, Director of Parks and Recreation, VACC, CCH, Active Alliance, CHB, Community Partnership Network	1-3 years
5.3.a	Develop activities and programs that promote confidence and self-efficacy in girls and females through the lifespan	Active Communities Programmer, Network, Valley Female Leadership Network	Annually
5.3.b	Develop the leadership abilities of older girls/women so that they can act as responsible mentors and role models for younger girls and senior women	Active Communities Programmer, WomenActive, Recreation Intern, Network, Valley Female Leadership Network	Annually
5.3.c	Assess equity of opportunities for females/girls to participate at facilities in WH and look for tools to overcome barriers	Active Communities Programmer, Newport & District Rink Commission, Community Halls, Community Partnership Network, Valley Female Leadership Network	1-3 years

GOAL 3

Connecting People & Nature

To help people connect to nature through recreation



PRIORITY AREA #1

Increase Recreation Outdoors

GOAL #3	ACTIONS	SOCIO-ECOLOGICAL LEVELS					OUTCOMES
		Individual	Interpersonal	Organizational	Community	Public Policy	
To help people connect to nature through recreation	a. Create materials to identify trails, water access, & sites for outdoor physical activity in West Hants						✓ All municipal trails and sites are easily located by Municipal resources
	b. Promote & support existing outdoor network information portals (e.g. Valley Connect, WHTA website, etc.)						✓ Trails and sites are well maintained and new ones are established as recommended in the Municipal Plans
	c. Facilitate and/or promote outdoor Physical Activity programs and activities that support unstructured, family-friendly, flexible, and non-competitive physical activity opportunities						✓ The public is aware of and have access to use our facilities, equipment, and programs to enable outdoor play opportunities
	d. Utilize the Municipal Parks & Open Space Plan, Active Transportation Plan, and Trails Plan to facilitate the improvement of infrastructure and access to natural spaces						
	e. Monitor & address liability/insurance constraints and develop policies to support ongoing evaluation and safety checks to reduce barriers to participation in outdoor physical activity						

POTENTIAL PARTNERS

Active Avon Active Transportation Committee, Active Alliance, Annapolis Valley Mountain Bike Association, Association of Geocaching NS, Bike Nova Scotia, Canoe/Kayak Nova Scotia, Castle Frederick Farms, Communities Culture & Heritage Department, Community Partnership Network, Community Walking Groups, Department of Natural Resources, Department of Transportation and Infrastructure Renewal, Ecology Action Centre, Glooscap First Nations Municipal Physical Activity Leader, Hants West Wildlife Association, Healthy Schools Community Committee, Heart & Stroke WalkAbout, Hike Nova Scotia, Recreation Nova Scotia, Sport Nova Scotia, Town of Windsor, Valley Active Communities Committee, West Hants Family Resource Centre, West Hants Planning Department, West Hants Trails Association, West Hants/Uniacke Community Health Board

PRINCIPALS in ACTION

- ☒ Whole of Government
- ☒ Comprehensive
- ☒ Partnerships
- ☒ Sustainable
- ☒ Community Involvement
- ☒ Evidence Informed & Effective
- ☒ Tailored to the Community
- ☒ Maximum Population Reach
- ☒ Equity
- ☒ Capacity Building
- ☒ Inactive to Moderately Active

PRIORITY AREA #2

Minimize Negative Impact on the Natural Environment

GOAL #3	ACTIONS	SOCIO-ECOLOGICAL LEVELS					OUTCOMES
		Individual	Interpersonal	Organizational	Community	Public Policy	
To help people connect to nature through recreation	a. Develop a policy to ensure municipal programs and organizations using municipal recreation sites leave as small an environmental footprint as possible and encourage responsible use and protection of natural settings	☐	☐	☒	☐	☒	✓ All WH Rec policies, procedures, practices, and programs include ensuring stewardship of natural spaces
	b. Establish a schedule for regular inspections and maintenance of trails & recreation sites to address erosion and degradation due to weather and usage	☐	☐	☒	☐	☒	
	c. Review the Municipality's Climate Change Action Plan and consider incorporating environmentally friendly approaches to mitigation and adaption within future infrastructure development	☐	☐	☒	☐	☒	

POTENTIAL PARTNERS

Active Avon Active Transportation Committee, Active Alliance, Annapolis Valley Mountain Bike Association, Association of Geocaching NS, Bike Nova Scotia, Castle Frederick Farms, Communities Culture & Heritage Department, Community Walking Groups, Department of Natural Resources, Department of Transportation and Infrastructure Renewal, Ecology Action Centre, Hants West Wildlife Association, Hike Nova Scotia, Leave No Trace Canada, West Hants Planning Department, West Hants Trails Association

PRINCIPALS in ACTION

- ☒ Whole of Government
- ☒ Comprehensive
- ☒ Partnerships
- ☒ Sustainable

- ☒ Community Involvement
- ☒ Evidence Informed & Effective
- ☒ Tailored to the Community
- ☐ Maximum Population Reach

- ☐ Equity
- ☒ Capacity Building
- ☐ Inactive to Moderately Active

Action #	Action Items	Lead Partner(s), Support Partner(s) & Resources	Anticipated Timeline
4.1.a	Create materials to identify trails, water access, & sites for outdoor physical activity in West Hants	Active Communities Programmer, West Hants Trails Association, Planning and Development Department, Active Transportation Committee, West Hants Trails Association, Canoe Kayak Nova Scotia, other municipal units, West Hants Parks and Open Space Plan, West Hants Trails Plan, AT Plan	3-5 years
4.1.b	Promote & support existing outdoor network information portals	Active Communities Programmer, West Hants Executive Administrative Assistant Valley Connect, West Hants Trails Association website, WH social media	Annually
4.1.c	Facilitate and/or promote outdoor Physical Activity programs and activities that support unstructured, family-friendly, flexible, and non-competitive physical activity opportunities	Active Communities Programmer, Director of Parks & Recreation, Recreation Intern, Community Halls, Schools, Town of Windsor, Valley Connect, WH social media	Annually
4.1.d	Utilize the Municipal Parks & Open Space Plan, Active Transportation Plan, and Trails Plan to facilitate the improvement of infrastructure and access to natural spaces	Active Communities Programmer, Director of Parks & Recreation, Planning and Development Department, Parks and Grounds Superintendent, West Hants Council	Annually
4.1.e	Monitor & address liability/insurance constraints and develop policies to support ongoing evaluation and safety checks to reduce barriers to participation in outdoor physical activity	Active Communities Programmer, Director of Parks & Recreation, Parks and Grounds Superintendent	Annually
4.2.a	Develop a policy to ensure municipal programs and organizations using municipal recreation sites leave as small an environmental footprint as possible and encourage responsible use and protection of natural settings	Active Communities Programmer, Recreation Intern, Summer Camp Coordinator, Leave No Trace Canada	1-3 years
4.2.b	Establish a schedule for regular inspections and maintenance of trails & recreation sites to address erosion and degradation due to weather and usage	Parks and Grounds Superintendent, Active Communities Programmer, West Hants Trails Association	1-2 years
4.2.c	Review the Municipality's Climate Change Action Plan and consider incorporating environmentally friendly approaches to mitigation and adaption within future infrastructure development	Director of Parks & Recreation	1-2 years

GOAL 4

Supportive Environments

To ensure the provision of supportive physical and social environments that encourage participation in recreation and build strong, caring communities



PRIORITY AREA #1

Supportive Physical Environments

GOAL #4	ACTIONS	SOCIO-ECOLOGICAL LEVELS					OUTCOMES
		Individual	Interpersonal	Organizational	Community	Public Policy	
To ensure the provision of supportive physical and social environments that encourage participation in recreation and build strong, caring communities	a. Implement actions identified in AT Plan, Parks and Open Space Plan, and Trails Plan. Harmonize the AT Annual Planning items with DTIR's 5 Year Infrastructure Plan						✓ Physical environments meet and support the recreational needs of the citizens of West Hants
	b. Coordinate the development and implementation of a Water Ways Plan to increase water-based physical activity						
	c. Promote the incorporation and preservation of quality built environments, green space, natural settings, trails, and recreational waters into community priorities, plans and policies. Built environment improvements should be mindful of the needs of an aging population and people with disabilities.						
	d. Advocate for funding and policy changes and supports at the federal/provincial levels that will enable the municipality to make substantive changes to our built environment. Work with other municipal policies and departments to integrate PA and AT supportive policies in the whole of the municipality.						
	e. Through promotion, program development, and policy interventions maximize the use of existing natural and built assets which enable or enhance physical activity opportunities						

POTENTIAL PARTNERS

Active Avon Active Transportation Committee, Active Alliance, Annapolis Valley Mountain Bike Association, Association of Geocaching NS, Bike Nova Scotia, Canoe/Kayak Nova Scotia, Castle Frederick Farms, Communities Culture & Heritage Department, Community Halls, Community Walking Groups, Department of Natural Resources, Department of Transportation and Infrastructure Renewal, Ecology Action Centre, Hike Nova Scotia, Newport and District Rink Commission, Town of Windsor, Valley Active Communities Committee, West Hants Family of Schools, West Hants Planning Department, West Hants Trails Association

PRINCIPALS in ACTION

- ☒ Whole of Government
- ☒ Comprehensive
- ☒ Partnerships
- ☒ Sustainable

- ☒ Community Involvement
- ☒ Evidence Informed & Effective
- ☒ Tailored to the Community
- ☐ Maximum Population Reach

- ☒ Equity
- ☒ Capacity Building
- ☐ Inactive to Moderately Active

PRIORITY AREA #2

Supportive Social Environments

GOAL #4	ACTIONS	SOCIO-ECOLOGICAL LEVELS					OUTCOMES
		Individual	Interpersonal	Organizational	Community	Public Policy	
To ensure the provision of supportive physical and social environments that encourage participation in recreation and build strong, caring communities	a. Offer, and support other organizations to offer, increased facility access to community spaces, including a variety of family and community events with Social Interaction and Physical Activity as the focus through a reduction and elimination of barriers						✓ Strengthened support, partnership and collaboration with community halls, distinct cultural communities, schools, workplaces, social services groups, the arts community, law enforcement, transportation and urban planners, community organizations, and private sector. ✓ Social environments are created that encourage participation in recreation
	b. Research and develop a shared understanding of community wellbeing and how physical activity contributes to enjoyment, quality of life, and the public good						

POTENTIAL PARTNERS

Active Avon Active Transportation Committee, Annapolis Valley Mountain Bike Association, Castle Frederick Farms, Communities Culture & Heritage Department, Community Halls, Community Partnership Network, Community Walking Groups, Healthy Schools Community Committee, Heart & Stroke WalkAbout, Hike Nova Scotia, Newport and District Rink Commission, Senior Safety Officer, Town of Windsor, Valley Active Communities Committee, West Hants Family of Schools, West Hants Trails Association, West Hants/Uniacke Community Health Board

PRINCIPALS in ACTION

- ☑ Whole of Government
- ☑ Comprehensive
- ☑ Partnerships
- ☑ Sustainable

- ☑ Community Involvement
- ☑ Evidence Informed & Effective
- ☑ Tailored to the Community
- ☑ Maximum Population Reach

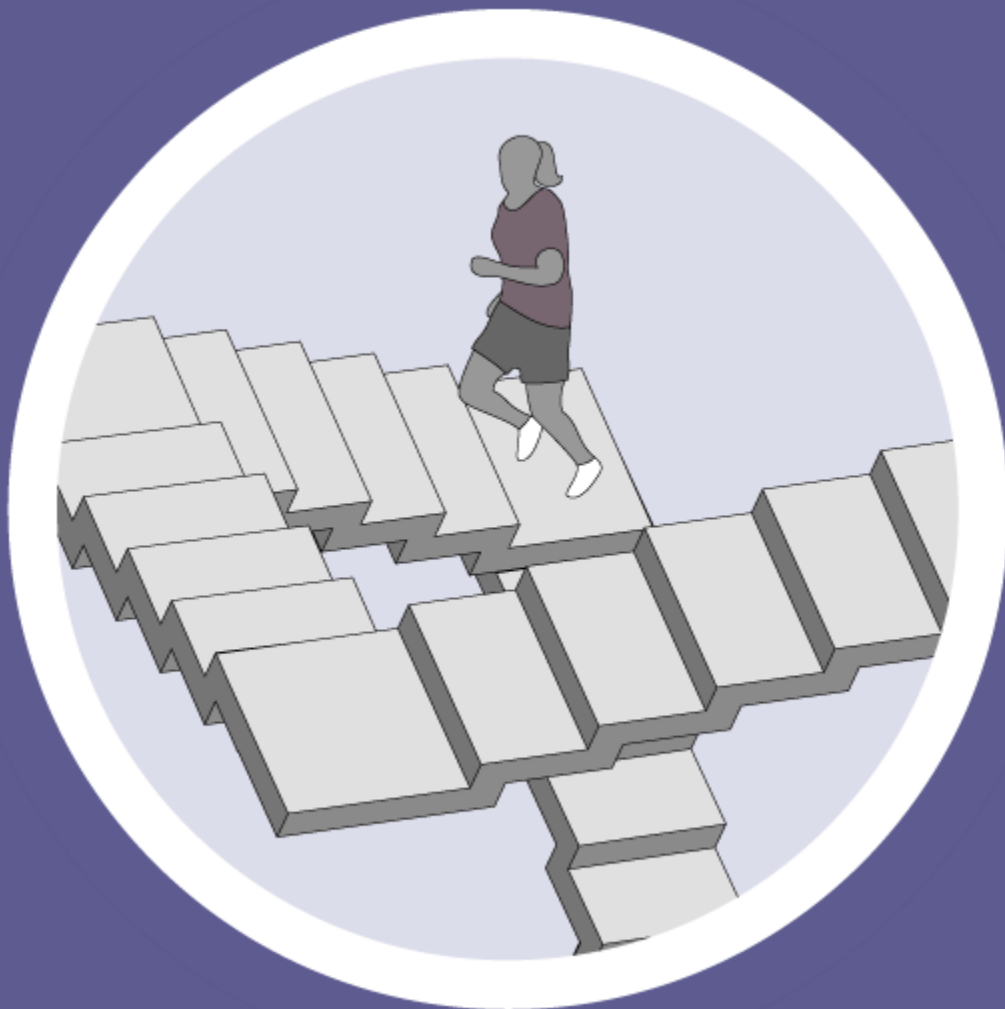
- ☑ Equity
- ☑ Capacity Building
- ☑ Inactive to Moderately Active

Action #	Action Items	Lead Partner(s), Support Partner(s) & Resources	Anticipated Timeline
4.1.a	Implement actions identified in AT Plan, Parks and Open Space Plan, and Trails Plan. Harmonize the AT Annual Planning items with DTIR's 5 Year Infrastructure Plan	Active Communities Programmer, Director of Parks & Recreation, Parks and Grounds Superintendent, Department of Transportation and Infrastructure Renewal, Active Transportation Committee, Bike Nova Scotia, West Hants Trails Association, West Hants Council	Annually
4.1.b	Coordinate the development and implementation of a Water Ways Plan to increase water-based physical activity	Active Communities Programmer, Canoe Kayak Nova Scotia, other municipal units, West Hants Council	3-5 years
4.1.c	Promote the incorporation and preservation of quality built environments, green space, natural settings, trails, and recreational waters into community priorities, plans and policies. Built environment improvements should be mindful of the needs of an aging population and people with disabilities.	Active Communities Programmer, Director of Parks & Recreation, Parks and Grounds Superintendent, Community Halls, Schools, West Hants Trails Association, Senior Safety Coordinator, CHB, West Hants Council	Annually
4.1.d	Advocate for funding and policy changes and supports at the federal/provincial levels that will enable the municipality to make substantive changes to our built environment. Work with other municipal policies and departments to integrate PA and AT supportive policies in the whole of the municipality.	Active Communities Programmer, Director of Parks & Recreation, West Hants Council, CCH, VACC, PAPE	3-5 years
4.1.e	Through promotion, program development, and policy interventions maximize the use of existing natural and built assets which enable or enhance physical activity opportunities	Active Communities Programmer, Schools, Community Halls, Recreation Intern, Parks and Grounds Superintendent	Annually
4.2.a	Offer, and support other organizations to offer, increased facility access to community spaces, including a variety of family and community events with Social Interaction and Physical Activity as the focus through a reduction and elimination of barriers	Active Communities Programmer, Director of Parks and Recreation, Recreation Intern, Town of Windsor, Community Halls, Schools,	Annually
4.2.b	Research and develop a shared understanding of community wellbeing and how physical activity contributes to enjoyment, quality of life, and the public good	Parks and Recreation Department, Planning and Development Department, Family and Community First, CHB, VACC, CCH	3-5 years

GOAL 5

Recreation Capacity

To ensure the continued growth and sustainability of the recreation field



PRIORITY AREA #1

Grow Leadership

GOAL #5	ACTIONS	SOCIO-ECOLOGICAL LEVELS					OUTCOMES
		Individual	Interpersonal	Organizational	Community	Public Policy	
To ensure the continued growth and sustainability of the recreation field	a. Explore methods of effectively communicating physical activity training opportunities	☒	☒	☐	☒	☐	✓ Recreation leadership capacity meets the program leadership demands in a sustainable manner
	b. Continue to fund community leadership training through WH Parks & Recreation grants	☒	☐	☐	☒	☐	
	c. Offer High Five, Fundamental Movement Skills, First Aid, and other relevant training to summer camp staff and program leaders. Ensure new training opportunities are considered each year	☒	☐	☐	☒	☐	
	d. Encourage public engagement from existing volunteer and community groups	☐	☐	☒	☒	☐	

POTENTIAL PARTNERS

Active Avon Active Transportation Committee, Active Alliance, Community Partnership Network, Community Walking Groups, Ecology Action Centre, Heart & Stroke WalkAbout, HeartWood Centre for Youth Leadership, High Five, Hike Nova Scotia, Recreation Nova Scotia, Town of Windsor, West Hants Trails Association

PRINCIPALS in ACTION

- ☐ Whole of Government
- ☒ Comprehensive
- ☒ Partnerships
- ☒ Sustainable

- ☒ Community Involvement
- ☒ Evidence Informed & Effective
- ☒ Tailored to the Community
- ☒ Maximum Population Reach

- ☒ Equity
- ☒ Capacity Building
- ☐ Inactive to Moderately Active

PRIORITY AREA #2

Cross Collaboration & Partnerships

GOAL #5	ACTIONS	SOCIO-ECOLOGICAL LEVELS					OUTCOMES
		Individual	Interpersonal	Organizational	Community	Public Policy	
To ensure the continued growth and sustainability of the recreation field	a. Engage with key partnerships in the WH region and communities that support the goals and actions of the ALS.	☐	☐	☐	☐	☐	✓ Existing community partnership committees have support from WH Parks & Recreation
	b. Participate in regional and provincial networks to ensure the continued sharing of resources, alignment of priorities, and access to current, relevant and quality data to inform the actions of the WH Parks and Rec Dept.	☐	☐	☐	☐	☐	
	c. Chair the Active Avon AT Committee to continue to improve options for safe and convenient non-motorized transportation across the Avon Region	☐	☐	☐	☐	☐	✓ New collaboration opportunities are taken advantage of and partnerships are developed in a sustainable manner

POTENTIAL PARTNERS

Active Avon Active Transportation Committee, Active Alliance, Annapolis Valley Mountain Bike Association, Annapolis Valley Regional School Board, Association of Geocaching NS, Bike Nova Scotia, Canoe/Kayak Nova Scotia, Castle Frederick Farms, Communities Culture & Heritage Department, Community Halls, Community Partnership Network, Community Walking Groups, Department of Natural Resources, Department of Transportation and Infrastructure Renewal, Ecology Action Centre, Glooscap First Nations Municipal Physical Activity Leader, Hants West Wildlife Association, Healthy Schools Community Committee, Heart & Stroke WalkAbout, HeartWood Centre for Youth Leadership, High Five, Hike Nova Scotia, Leave No Trace Canada, Newport and District Rink, RCMP, Recreation Nova Scotia, Senior Safety Officer, Sport Nova Scotia, Town of Windsor, Valley Active Communities Committee, Valley Gender Equity Committee, West Hants Family of Schools, West Hants Family Resource Centre, West Hants Health & Wellness Team, West Hants Planning Department, West Hants Trails Association, West Hants/Uniacke Community Health Board, West Hants-based Care Homes, WomenActive

PRINCIPALS in ACTION

- | | | |
|---|---|--|
| ☒ Whole of Government | ☒ Community Involvement | ☒ Equity |
| ☒ Comprehensive | ☒ Evidence Informed & Effective | ☒ Capacity Building |
| ☒ Partnerships | ☒ Tailored to the Community | ☐ Inactive to Moderately Active |
| ☒ Sustainable | ☒ Maximum Population Reach | |

Action #	Action Items	Lead Partner(s), Support Partner(s) & Resources	Anticipated Timeline
5.1.a	Explore methods of effectively communicating physical activity training opportunities	Active Communities Programmer, Valley Connect, West Hants Trails Association, Town of Windsor	1-3 years
5.1.b	Continue to fund community leadership training through WH Parks & Recreation grants	Director of Parks and Recreation, Active Communities Programmer, Council, Social Media, WH Website	Annually
5.1.c	Offer High Five, Fundamental Movement Skills, First Aid, and other relevant training to summer camp staff and program leaders. Ensure new training opportunities are considered each year	Active Communities Programmer, Recreation Intern, Day Camp Committee, VRCDA, Director of Parks and Recreation, VRCDA, VACC, CCH	Annually
5.1.d	Encourage public engagement from existing volunteer and community groups	Council and Chief Administrative Officer, West Hants Trails Association, CHB, Active Transportation Committee, community walking groups, Community Partnership Network, Town of Windsor, Hike Nova Scotia	Annually
5.2.a	Engage with key partnerships in the WH region and communities that support the goals and actions of the ALS.	Active Communities Programmer, Director of Parks and Recreation See all potential partners above	Annually
5.2.b	Participate in regional and provincial networks to ensure the continued sharing of resources, alignment of priorities, and access to current, relevant and quality data to inform the actions of the WH Parks and Rec Dept.	Active Communities Programmer, Director of Parks and Recreation, VACC, PAPE, CCH, Active Alliance	Annually
5.2.c	Chair the Active Avon AT Committee to continue to improve options for safe and convenient non-motorized transportation across the Avon Region	Active Communities Programmer, Active Alliance, Bike Nova Scotia, West Hants Trails Association, Heart and Stroke WalkAbout, Town of Windsor, Department of Transportation and Infrastructure Renewal	Annually

APPENDIX A

TERMINOLOGY & DEFINITIONS

Active Living: To foster active, healthy living through recreation.

Active Transportation: “Active transportation (AT) is a broad term that refers to all forms of human powered or non-motorized transportation. It typically refers to walking and cycling, but also rollerblading, skateboarding, wheelchair use, etc. There are also many seasonal activities such as canoeing, kayaking and cross-country skiing that can be defined as active transportation. Active transportation is commonly broken down into two different categories: Utilitarian active transportation includes active destination oriented trips (e.g.: commuting to work or school) and active workplace travel (e.g.: delivering materials or attending meetings). Recreational active transportation includes leisure, recreational pursuits, and fitness (e.g.: dog walking, hiking, paddling, etc.) and often takes place in off-road locations. In some cases, both utilitarian and recreational active transportation can occur at the same time.” (p.1, Active Avon: An Active Transportation Plan for the Avon Region, 2015).

Equity vs Equality: Refers to fairness. Fair does not always mean equal.

Exercise: “Exercise is a subset of physical activity that is planned, structured, and repetitive and has as a final or an intermediate objective the improvement or maintenance of physical fitness.” (Caspersen, C.J., Powell, K.E., Christenson, G.M., 1985, retrieved on Dec 28, 2017 from: <http://pubmedcentralcanada.ca/pmcc/articles/PMC1424733/pdf/pubhealthrep00100-0016.pdf>)

Inclusion & Access: To increase inclusion and access to recreation for populations that face constraints to participation.

Municipal Physical Activity Leader (MPAL): “MPAL physical activity practitioners are responsible for leading municipal efforts to develop municipal physical activity plans and create active communities.” (p. 11, Creating Active Communities: A Resource for MPAL Communities, 2017).

Physical Activity: “any bodily movement produced by skeletal muscles that require energy expenditure” (p. 4, Creating Active Communities: A Resource for MPAL Communities, 2017). Types of physical activity include leisure time activity, incidental activity, occupational or school-based activity, and active transportation activity.

Physical Literacy: “Physical literacy is the motivation, confidence, physical competence, knowledge and understanding to value and take responsibility for engagement in physical activities for life.” (The International Physical Literacy Association, 2014)

Recreation: “the experience that results from freely chosen participation in physical, social, intellectual, creative and spiritual pursuits that enhance individual and community wellbeing.” (p. 8, A Framework for Recreation in Canada 2015: Pathways to Wellbeing, 2015 & p. 4, The Shared Strategy for Advancing Recreation in Nova Scotia, 2015)

APPENDIX A

Supportive Environments: To ensure the provision of supportive physical and social environments that encourage participation in recreation and build strong, caring communities.

Recreation Capacity: To ensure the continued growth and sustainability of the recreation field.

Connecting People and Nature: to help people connect to nature through recreation.

APPENDIX B

COMMUNITY SPORT ORGANIZATIONS, CLUBS & BUSINESSES*

Alpine	Horseshoe
Archery	Karate
ATVing	Kickboxing
Badminton	Orienteering
Baseball	Rugby
Basketball	Scouts
Bicycle	Senior Games
Brownies	Snowboarding
Canoe/Kayak	Snowmobiling
Cheer	Soccer
Cricket	Softball
Cubs	Sparks
Curling	Swimming
Dragon Boat	Tai Kwon Doe
Equestrian	Tennis
Figure Skating	Theatre
Football	Tug-of-War
Girl Guides	Volleyball
Golf	Wildlife Associations
Gyms and Fitness Instructors	Wrestling
Hockey	Yoga

*This is an example of the community sport organizations, clubs, and business types as of March 2018. If you would like any added to the list, please contact the West Hants Parks and Recreation Department.

APPENDIX C

COMMUNITY HALL ASSOCIATIONS*

Ardoise Community Recreation Centre
Avondale Community Hall/Avondale Wharf Committee
Bramber New Horizons Hall
Belmont Community Hall
Brooklyn Civic Centre and Fire Hall
Centre Burlington Community Hall
Ellershouse Community Hall
Falmouth Community Hall
Hantsport Memorial Community Centre
Mt. Denson Community Hall
Newport Corner Hall
Newport Station Community Hall
Poplar Grove Community Hall
Ste Croix Community Hall
Sweets Corner Community Hall
Summerville & District Fire Hall
Three Mile Plains Community Hall
Upper Burlington Community Hall
Upper Vaughans Community Hall
Walton Shore Fire Hall Association
West Hants Ground Search and Rescue
Woodville/ Ashdale

*This is a non-exhaustive list of Community Hall Associations as of March 2018. If you would like any added to the list, please contact the West Hants Parks and Recreation Department.

APPENDIX D

ACTIVE LIVING STRATEGY 2013-2016 GOALS

West Hants action plan developed in 2013 outlined these four goals:

1. Public Awareness: To educate West Hants residents about the benefits of physical activity and to provide information about recreation opportunities.
2. Supportive Social Environment: To provide opportunities for West Hants residents to participate in a variety of physical activities in their communities, workplaces and schools.
3. Supportive Physical Environments: To create, maintain and enhance physical environments, both built and natural, that support physical activity.
4. Leadership, Partnerships and Sustainability: To lead initiatives, build partnerships and develop policies that will sustain physical activity opportunities.



**REGION OF WINDSOR AND WEST HANTS MUNICIPALITY
DECISION REQUEST FORM**

Name:	Septic Systems Loan Program		
Date:	Sept. 3, 2020	Date Submitted to CAO:	Sept. 3, 2020

Requested by : Councillor Ed Sherman

Detail	Synopsis				
Decision Requested:	Residents have asked if the Septic Systems Loan Program that was announced by the Province of NS in Oct. 2019 is one the Regional Municipality supports https://novascotia.ca/news/release/?id=20191016001 .				
	The Province of NS passed legislation to amend the Municipal Government Act (MGA) to allow all municipalities to offer loans to homeowners in their area who need to install or replace their septic systems. Residents will be able to repay their loan through their property taxes.				
Background: What? Who? How? When?	Property ☒	Public Opinion ☒	Environment ☒	Social ☐	Economic ☒
Strategic Implication: with Dashboard	Current ☐		Short Term ☐	Long Term ☒	
Budget:	Yes ☒ No ☐		Policy: MGA section	Yes ☒ No ☐	
Desired Outcome:					

Recommendation:	Report/Document: Attached ☐ Available ☐ Nil ☒
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Request for Decision – CAO Initial Review

Detail	The municipality does not have a program currently as described. The MGA was amended to allow municipalities to do so but it is not required. There are challenges as well as benefits when considering such programs. This would essentially be a loan program and not a grant. There's rarely provincial funding to offset any cashflow or debt servicing impacts on the municipal unit. This would be a primary consideration if a program were to be explored. Consideration needs to further explore the true need for such a program. What is the main benefit to a citizen to lend from the municipality and not their financial institution? Is this program warranted?
Department: select all that apply	Governance/Legislative ☒ Protective Services ☐ Administration ☒ Planning ☐ Engineering Public Works ☒ Parks and Recreation ☐ Finance ☒ Economic Development ☐
Decision Requested:	Operational Matter ☐ Decision of Council Required ☒ Policy Change ☒ Other ☐
Background:	As noted above
Budget:	Unknown currently. The minimum following factors would have to be considered:

	1. What level of cash flow / funding would have to be in place initially to prepare for the initial or upfront applications? 2. Will the loan program impact the cash flow of the Region or debt to service ratio? 3. Can funding be borrowed to reduce the burden on the Region? 4. What is the admin fee acceptable should this program be pursued?
Staff Workload:	Consideration must be given to the current workload of staff and what possible job task increases the introduction of such a program would create for our finance department. It may be advantageous to consider a third party to administer the program as have been done with other similar PACE (Property Assessed Clean Energy) Programs through municipalities. The admin fee that is assumed to be charged is built into the program cost for the property. With a third party it is utilized to pay for their services. Staff / Third party workload would be dependent on the number of applicants using the program.
Policy:	As per the MGA, S. 81(a), The council may make by-laws imposing, fixing and providing methods of enforcing payment of charges for the financing and installation of certain equipment.
Response Options:	1. Review similar programs that other municipalities have created and comment back to COTW on effectiveness and respond to other point made under the CAO section of this report. 2. Direct staff to create a Septic Systems Loan Program. 3. Decline the request for decision.
Preferred Strategy:	1. Review similar programs that other municipalities have created and comment back to COTW on effectiveness and respond to other point made under the CAO section of this report.

CAO Comments	The true need for such a program should be explored. Does the municipality want to become a lender to it's residents? If Council wishes to pursue the possibility of the program, having a third party engaged in the program's creation, application process and inspection process would be encouraged at this time to avoid an increase on staff and operations. Further, an admin fee should be considered as a core component of the program.
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Reviewed and Signed by Mark Phillips, CAO : _____



**WEST HANTS REGIONAL MUNICIPALITY
AGENDA REQUEST FORM**

Name:	Jim Ivey, Councillor, (Windsor South, District 11)		
Date:	July 24 2020 Updated Sept 3 2020	Date Submitted to CAO:	July 24 2020 Updated Sept 3 2020

Request– Initial – to be completed by Council Member

Detail	Restaurants and Mobile Canteens (Food trucks / Mobile Vending Units) in our area offer similar services. Typically, they provide cooked or pre-packaged food for those who frequent their establishments. The base of delivery operation varies between the restaurant's bricks and mortar operation in contrast to a mobile vending unit providing food service on wheels ("Mobile Food Service", "Mobile Canteen"). Resulting from Covid and perhaps the increased area construction, we have mobile canteen(s) operating on a more permanent basis in Windsor. The presence of the new entrant / competitor in the food service business has resulted in inquiries from established local restaurants as to the fairness of permitting mobile canteens to operate for a fee of \$100 per 3-month period in contrast to restaurants paying annual property taxes that are measurably greater. Three areas of our bylaws that appear to be applicable for Restaurants and Mobile Food Vendors; (a) Land Use Bylaws (b) Hawkers, Traders and Peddlers (Bylaw #15), (c) Temporary Vendors In considering this issue and the details of the bylaws, a summary report from Planning could be helpful in providing and overview of the fees and regulations. It would help to determine if changes to policies are in order and well as determining if the pricing and fees for the food services provided are in order.
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Decision Requested:	Direction staff to prepare a report for Council on the bylaws and fees applicable for restaurants (including sidewalk cafes) and mobile vending units. It would be helpful for the report to include information on location permissions as well as comparable fees in our region for similar services along with any recommendations for changes they might deem appropriate.				
Background: What? Who? How? When?	Property ✓	Public Opinion ✓	Environment ☐	Social ✓	Economic ✓
Strategic Implication: with Dashboard	Current ☐		Short Term ☐ ✓ Next Season	Long Term ☐ ✓	
Budget:	Yes No ☐		Policy: MGA section	Yes ☐ ✓ (definition only) No	
Desired Outcome:	Clear position for temporary vending and related fees, specifically for food services including mobile canteens as compared to local restaurants. As part of this exercise it might identify if an opportunity exists for aggregation of bylaws or inclusion of other areas in the region.				
Recommendation:	Report/Document: Attached ☐ Available ☐ Nil				

Request for Decision – CAO Initial Review

Detail	Synopsis
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Department: select all that apply	Governance/Legislative ☒ Protective Services ☐ Administration ☐ Planning ☒ Engineering Public Works ☐ Parks and Recreation ☐ Finance ☐ Economic Development ☐
Decision Requested:	Operational Matter ☐ Decision of Council Required ☒ Policy Change ☒ Other ☐
Background:	As noted above.
Budget:	2020 / 21 Vending Fee Revenue – unknown at time of report. Former Windsor and West Hants vending fees should be noted for past three fiscal years. A fee structure supporting the recruitment of vending and event-based food trucks should be balanced with fees that need to be structured for long-term or year-round vending.
Staff Workload:	Pending Council's direction research should be carried out and reported back to Council for discussion. This request should be discussed by Council before the end of the calendar year and rated as medium priority. Low to medium amount of staff time should be required to support the request.
Policy:	Land Use Bylaw(s) should be reviewed for the entire region vs. Windsor.
Response Options:	1. Direct staff to prepare a report for Council on the bylaws and fees applicable for restaurants (including sidewalk cafes) and mobile vending units. It would be helpful for the report to include information on location permissions as well

	as comparable fees in our region for similar services along with any recommendations for changes they might deem appropriate. 2. Decline the requested review.
Preferred Strategy:	Option 1. As noted above.
CAO Comments:	The primary fee / payment for municipal services is through property taxation. Vending and even home base businesses should be encouraged in our Region, but do not provide the traditional revenue to offset service provision. A modern system is needed to ensure we are both being consistent with our commercial taxpayer but still attracting pop-up or vendors that add to the vibrancy and economic impact of our community.

Reviewed and Signed by Mark Phillips, CAO: 



**WEST HANTS REGIONAL MUNICIPALITY
AGENDA REQUEST FORM**

Name:	Councillor Jim Ivey		
Date:	August 13, 2020 Updated: Sept 3 2020	Date Submitted to CAO:	August 13, 2020 Updated: Sept 3 2020

Request– Initial – to be completed by Council Member

	News report(s) in August relayed the story of a verbal dispute occurred between patrons in a local business establishment. During the dispute a complaint was made with the RCMP from a couple (white man and woman) alleging that a black gentleman had committed an assault in suggesting he spit on them though he was wearing a non-medical mask at the time. Generally, the black gentleman asserts that when the police arrived he was told he was being placed under arrest; his pockets were emptied; he was hand-cuffed and placed in the back of the RCMP car. He was then read his rights and asked if he understood them or wanted a lawyer. The officer then left the gentleman in the back of the car, returned to the establishment to gather details from the complainants. After a period of time the officer returned to the car and advised the gentleman that he was being released and free to go. It was explained in the news story that the investigation determined no charges were to be made and the file was closed. Upon being released the gentleman has asserted that he believes racism / racial profiling was involved in his arrest and confinement in the car.
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Decision Requested:	To be noted that it is not the Council's or Municipality's role to insert itself in policing matters, or to weigh and adjudicate facts. We do however employ and engage the RCMP to perform policing services on behalf of our residents. They are working for us in delivering services to our communities. Without drawing any conclusions the following seems appropriate: Council directs that a letter be sent to our local RCMP office as a reminder that we have collectively taken a stance against racism; that we seek to dismantle it in our communities and that we do not condone or endorse the use of racial profiling as part of the work that we collectively undertake.				
Background: What? Who? How? When?	Property ☐	Public Opinion ☒	Environment ☐	Social ☒	Economic ☐
Strategic Implication: with Dashboard	Current ☐ ☒		Short Term ☐ ☒		Long Term ☐ ☒
Budget:	Yes ☐ No ☒		Policy: MGA section		Yes ☐ No ☒
Desired Outcome:	The desired outcome and objective for everyone is that we continue moving forward together by addressing racism or its appearance, with a view to dismantling racism in all its forms and effects within our community and our spheres of influence. In addition, we may also seek to determine what might be done differently in the future to prevent an incident such as this from recurring.				
Recommendation:	Report/Document: Attached ☐ Available ☐ Nil ☒				

Request for Decision – CAO Initial Review

Detail	Synopsis
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Department: select all that apply	Governance/Legislative ☒ Protective Services ☒ Administration ☒ Planning ☐ Engineering Public Works ☐ Parks and Recreation ☐ Finance ☐ Economic Development ☐
Decision Requested:	Operational Matter ☒ Decision of Council Required ☒ Policy Change ☐ Other ☐
Background:	Noted above
Budget:	N/A
Staff Workload:	Pending Council's direction drafting a letter can be facilitated through the Mayor or CAO Office.
Policy:	
Response Options:	1. Write the letter as requested. 2. Refer the complainant to the RCMP Complaint Form attached to this report. 3. Not carry-out the requested action.
Preferred Strategy:	Carryout response options 1 and 2.
CAO Comments:	Without having the details of the file and highlighting this is also an operational policy matter for the RCMP it is important for Council and Staff to be consistent with it messaging and desire to not only have municipal services delivered in a manner that is non-discriminatory, fair and just to all residents but the same delivery model is expected of all external service providers including the RCMP. It is further important to direct individuals of our community

	to the appropriate processes for formal complaints should they choose to do so.
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Reviewed and Signed by Mark Phillips, CAO :





Civilian Review and
Complaints Commission
for the RCMP

Commission civile d'examen
et de traitement des plaintes
relatives à la GRC

PUBLIC COMPLAINT FORM GUIDE

The Civilian Review and Complaints Commission for the RCMP (CRCC) is an independent agency that reviews complaints made by the public about the on-duty conduct of RCMP members.

The CRCC is not part of the RCMP.

Anyone with concerns about the conduct of an RCMP member can visit the CRCC website at www.complaintscommission.ca or call the CRCC at 1-800-665-6878 to learn more about the public complaint process. CRCC staff will be able to describe our role and answer any questions that you may have.

CHECKLIST

Complaints must concern:

- ☐ The conduct of an RCMP officer in the performance of their policing duties
- ☐ An incident that occurred within the last 12 months*

*If the incident occurred more than 12 months ago, please provide additional information / justification for the delay. This information will be reviewed and an extension may be granted on a case-by-case basis.

Individuals making a complaint need to be:

- ☐ Directly involved in the incident
- or**
- ☐ A witness to the incident
- or**
- ☐ A person authorized to act on behalf of the person directly involved in the incident

COMPLAINTS CAN BE MADE

BY MAIL

Civilian Review and Complaints Commission
for the RCMP

P.O. Box 1722, Station B
Ottawa, ON K1P 0B3

ONLINE

www.complaintscommission.ca

BY FAX

1-613-960-6147



PUBLIC COMPLAINT FORM

PLEASE NOTE: You may file your complaint online at www.complaintscommission.ca



CONTACT INFORMATION (Required)

Family Name	Given Name	Date of birth (YEAR, MONTH, DAY)	
Street / Mailing Address	City	Province	Postal Code
Email address	Primary Telephone number	Cellphone number	



QUESTIONS (Required)

What is your preferred language for correspondence?

☐

English

☐

French

How do you want to be contacted?

☐

Email

☐

Phone

☐

Mail

Were you directly involved in the incident(s)?

☐

Yes

☐

No

Have you previously filed a public complaint about this incident with the CRCC or the RCMP?

☐

Yes

☐

No

If yes, did you sign an agreement with the RCMP to resolve this complaint informally?

☐

Yes

☐

No

Did the incident occur within the last 12 months? If not, please provide an explanation for the delay in filing in **Details of Complaint** section of this form.

☐

Yes

☐

No

PLEASE NOTE: Exceptions to the one-year time limit are reviewed & granted on a case-by-case basis.



REPRESENTATIVE AUTHORIZATION

Complete the following section **ONLY** if you want the Civilian Review and Complaints Commission for the RCMP (the CRCC) and the RCMP to communicate directly with a legal representative or an advocate *instead* of yourself.

Family Name: _____

Given Name: _____

Telephone Number: _____

E-mail Address: _____

By providing this information, you are authorizing the CRCC and the RCMP to:

- Communicate directly with a legal representative or an advocate instead of yourself; and,
- Disclose information related to your complaint to your representative.



DETAILS OF COMPLAINT (complete as much as possible)

Date of incident: _____
(Required) YEAR, MONTH, DAY

Location (city, town): _____

Time of incident: _____

Province: _____
(Required)

Please describe the circumstances that led to your complaint as completely as possible. Please include:

- Who was involved
- What was said and done
- Was there any damage or injury
- Details that you feel contributed or led to the incident
- Reason for filing past 12-month time limit (if applicable)

This box will accept a maximum of 3100 characters. If you need more space, you may attach additional sheets of paper to this form.



RCMP MEMBER(S)

List the RCMP member(s) whose conduct you are complaining about. If you are unsure, please write UNKNOWN and provide a brief, physical description of the member(s).

If you need more space, you may attach additional sheets of paper to this form.

Name	Rank	Detachment



WITNESS(ES) if applicable.

Note: Witnesses may include RCMP members you are NOT complaining about. If you are unsure, please write UNKNOWN and provide a brief, physical description of the witness(es) and/or member(s).

If you need more space, you may attach additional sheets of paper to this form.

First Name, Last Name	Contact Information (address, phone, email)

If you have provided the information requested above, your complaint should be complete.

After your submission is reviewed by an Intake Agent, you will receive correspondence on the status of your complaint, along with information explaining future steps in the complaint process. Although not necessary, should you still feel that you need to speak with an Intake Agent by phone please indicate below :

- the best number to reach you at
- a brief explanation why a call back is being requested

Please note that two attempts to contact you by phone will be made, which may take up to 15 business days. Calls will be placed during regular business hours Monday to Friday (Eastern Daylight Time) and may result in a delay in your complaint being reviewed.

Phone Number:

BREIF EXPLANATION

If you need more space, you may attach additional sheets of paper to this form.



PRIVACY & DISCLOSURE OF PERSONAL INFORMATION

By submitting a completed complaint form, you are authorizing the Commission to collect your personal information for the purposes related to Parts VI, VII, VII.1 and VII.2 of the RCMP Act. This information is held in personal information bank CRCC PPU 005, and you have a right to access this information in accordance with the *Privacy Act*.

NOTE: Completed public complaint forms, along with all other relevant documentation you provide to the CRCC will be forwarded to the RCMP for investigation pursuant to subsection 45.53(10) of the RCMP Act and an RCMP investigator may contact you to obtain a statement.



ACKNOWLEDGEMENT

PUBLIC USE ONLY (please note that complaint forms must be signed and dated)

I have reviewed this completed public complaint form and the information I have provided is true and accurate to the best of my knowledge.

Name (print): _____

Signature: _____

Date (Required): _____
(YEAR, MONTH, DAY)

RCMP USE ONLY (to be signed by RCMP members if form is completed on behalf of an individual)

I have reviewed this completed form with the individual and the information provided is true and accurate to the best of their knowledge.

Name & rank (print): _____

Signature: _____

Date (Required): _____
(YEAR, MONTH, DAY)



CONTACT INFORMATION

Completed complaint forms can be submitted

BY MAIL

Civilian Review and Complaints
Commission for the RCMP
P.O. Box 1722, Station B
Ottawa, ON K1P 0B3

Complaint forms may also be completed

ONLINE

www.complaintscommission.ca

BY FAX

1-613-960-6147



**REGION OF WINDSOR AND WEST HANTS MUNICIPALITY
AGENDA REQUEST FORM**

Name:	Jim Ivey, Councillor, (Windsor South, District 11)		
Date:	July 24 2020	Date Submitted to CAO:	July 24 2020

Request– Initial – to be completed by Council Member

Detail	At different times during the year with events and seasonal activities (sidewalk cafes, car shows, increased bicycle activity / racks, parades, regattas, tournaments) we have needs for temporary traffic / people protective barriers. To date with the bike racks and sidewalk cafes we have used "older" grey stone-style planters of differing styles with a 'construction zone's temporary checkerboard sign (yellow, black or red / white florescent markers attached.) It appears the tools we are using serve a functional importance-of-safety requirement which cannot be understated. We don't however appear to take into account a need for consistency and visual appeal along the streets and sidewalks where we invest significant tax resources.				
Decision Requested:	Direction for staff to consider future options for traffic barriers / protective pedestrian sign tools in areas that are pedestrian / tourist friendly.				
Background: What? Who? How? When?	Property ✓	Public Opinion ✓	Environment ☐	Social ✓	Economic ☐

Strategic Implication: with Dashboard	Current ☐	Short Term ☐ ✓ Next Season	Long Term ☐
Budget:	Yes ✓ No ☐	Policy: MGA section	Yes ☐ No ✓
Desired Outcome:	The barricades and protective tools used for tourist / seasonal activities receive consideration in the planning and branding cycle for the next season.		
Recommendation:	Report/Document: Attached ☐ Available ☐ Nil ✓		

Request for Decision – CAO Initial Review

Detail	Synopsis
Department: select all that apply	Governance/Legislative ☐ Protective Services ☐ Administration ☐ Planning ☐ Engineering Public Works ☐ Parks and Recreation ☐ Finance ☐ Economic Development ☐
Decision Requested:	Operational Matter ☐ Decision of Council Required ☐ Policy Change ☐ Other ☐
Background:	Noted above

Budget:	Value and budget impact unknown value at this time. Items for purchase and consideration : Planters / Traffic Calming Infrastructure / Bollards or Barricades. Operating budget considerations need to be considered if the items require ongoing maintenance such as seasonal plant materials.
Staff Workload:	As part of the budget planning and deliberations staff can research the noted items and provide cost estimates. Branding will influence the style and impact of the noted items.
Policy:	N/A
Response Options:	1. For Council to endorse the request and for staff to prepare information for the 2021/22 Capital Budget and Operating Budgets. It is possible that purchase of the items could be phased in over a period of time. Further, these items should be incorporated into our growth centers through The Region. 2. That the current planters and barriers remain.
Preferred Strategy:	Option 1.
CAO Comments:	Planters, barriers and bollards are all requirements in urban or dense traffic areas. These items serve a functional purpose I can also provide impactful beautification. As we discover a new brand in the coming months the style, colours and messaging associated with the brand should be reflected in these items if their purchase is approved by Council. It is further important to note that these items are needed in our various other growth centers as well and should all reflect our brand to promote a unified message.





West Hants Regional Municipality DECISION REQUEST FORM

Name:	Jim Ivey, Councillor, (Windsor South, District 11)		
Date:	Sept 4, 2020	Date Submitted to CAO:	Sept 4, 2020

Request– Initial – Sam Slick Metal Frame Icons

Detail / Synopsis	Sam Slick, was a fictional character born in the writings of local author, politician and judge, Thomas Chandler Haliburton (1796-1865). He was once a celebrated figure within the former Town of Windsor and the namesake of its long-running festival from the early to mid-70's through 2009. In 2009 the festival's brochure cover contained a demeaning illustration which was identified by a member of the local black community as being racist. Controversy arose when other members of the community disagreed and felt that the illustration was misunderstood – that the illustration was of a man thanking Sam Slick. While technically a “thank you” was being provided it takes little research to determine that the illustration connected to the chapter “Slavery”, in Haliburton's book (as recounted through Sam Slick) is patently racist. The chapter itself cannot get past the 2nd paragraph without presenting the disturbing imagery in which the creaking sound of a sign swinging in the wind is so natural, and then it is metaphorically compared to the ill-fated death of a man in the south. A couple of other chapters have been sourced with Slick as the protagonist in racist and misogynist roles that are equally if not more disturbing while many other chapters contain nothing of this nature. It important to point out that while the dark, disturbing side of Slick was always there to be seen, it only surfaced publicly in recent times. It is safe and more that reasonable to say that those who were the founders and volunteers of the former festival had no knowledge of the stories and social position of Slick. While we cannot undo this past innocent (unconscious) activity related to Slick, we can control the way it is addressed moving forward.
Decision Requested:	Council direct staff to undertake the immediate removal of the Sam Slick wire frame icons which remain attached the telephone poles in Windsor as well as the Sam Slick-like wind vane that sits atop the bandstand in the town and any other locations with the Sam Slick imagery that might remain on public property in public view.

	Council direct that a letter be written to the individual who identified the racist nature of the illustration, as well as providing an apology for the mis-characterization of the illustration that has been allowed to circulate uncorrected and unchallenged for the last 10 + years.				
Background: What? Who? How? When?	Property	Public Opinion ✓	Environment ☐	Social ✓	Economic ☐
Strategic Implication: with Dashboard	Current ☐ ✓		Short Term ☐ ✓ Next Season	Long Term ☐ ✓	
Budget:	Yes No ☐ ✓		Policy: MGA section	Yes ☐ No ✓	
Desired Outcome:	That we continue to dismantle racism in all it's forms and effects within our community and spheres of influence as we continue to move forward toward a more equal and just community.				
Recommendation:	Report/Document: Attached ☐ Available ☐ Nil See direction above				

Request for Decision – CAO Initial Review

Detail	Synopsis
Department: select all that apply	Governance/Legislative ☐ Protective Services ☐ Administration ☐ Planning ☐ Engineering Public Works ☐ Parks and Recreation ☐ Finance ☐ Economic Development ☐
Decision Requested:	Operational Matter ☐ Decision of Council Required ☐ Policy Change ☐ Other ☐

Background:	My office has not performed additional research but has referenced the "Detail / Synopsis" section above.
Budget:	The cost to remove the items noted in the request are negligible and manageable with the 2020/21 Operating Budget. It is anticipated that staff will carry out the process versus the use of outside contractors. It is assumed traffic control will not be required as the work can be completed from the sidewalk or park space.
Staff Workload:	The work can be carried out by the existing workforce as noted above. Recognizing the existing impact and potential future negative impact the presence of the wire icons are having within our community there removal would be prioritized within the current workplan.
Policy:	
Response Options:	1. Remove the Wire Icons and Sam Slick-like wind vane as requested. 2. Allow the Wire Icon and wind vane to remain in their current locations. 3. Write the letter of apology as requested above.
Preferred Strategy:	Executed response option 1. and 3.
CAO Comments:	It is important for staff, Council and our community to reflect on local historic community symbols, our events and our behaviors. We need to reflect our diverse community values, our sincerity though our actions and that we promote welcomeness to all. Removing these items and expressing our sincerest apologies on

	behalf of our community is a positive step towards eliminating racism.
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Reviewed and Signed by Mark Phillips, CAO : 