



VOYAGEUR CYCLING ROUTE

Feasibility Study and Implementation Plan

Final Report | August 2015



Tourism Company

Melissa Pomeroy

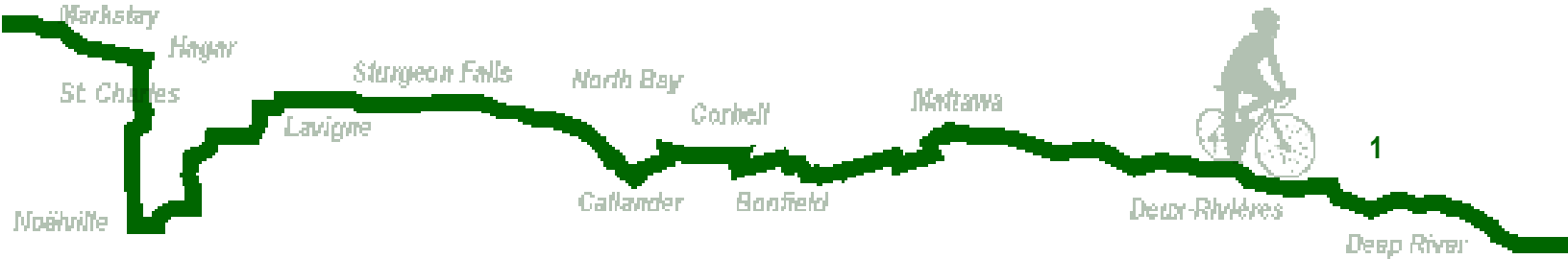
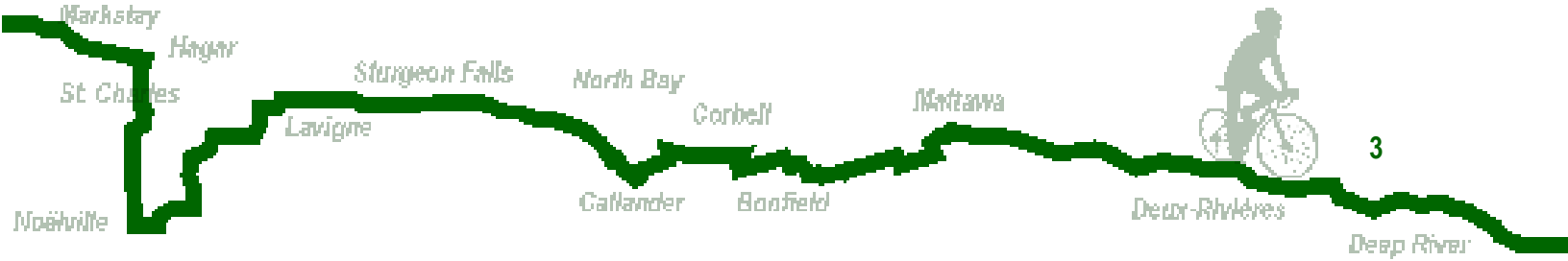


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ABBREVIATIONS

AADT	Average Annual Daily Traffic
CRST	The MTO Cycling Route Selection Tool
DRTO	Discovery Routes Trails Organization
MOA	Memorandum of Agreement
MTO	Ontario Ministry of Transportation
OTM	Ontario Traffic Manual
PIC	Public Information Centre
RTO	Regional Tourism Organization
TCT	Trans Canada Trail
TREIM	Tourism Regional Economic Impact Model
VCR	Voyageur Cycling Route

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The study team would like to express their appreciation to the following partner organizations represented in the Voyageur Cycling Route Working Group (VCRWG), as well as many other stakeholders and members of the public including representatives from the First Nations.

Members of the VCRWG

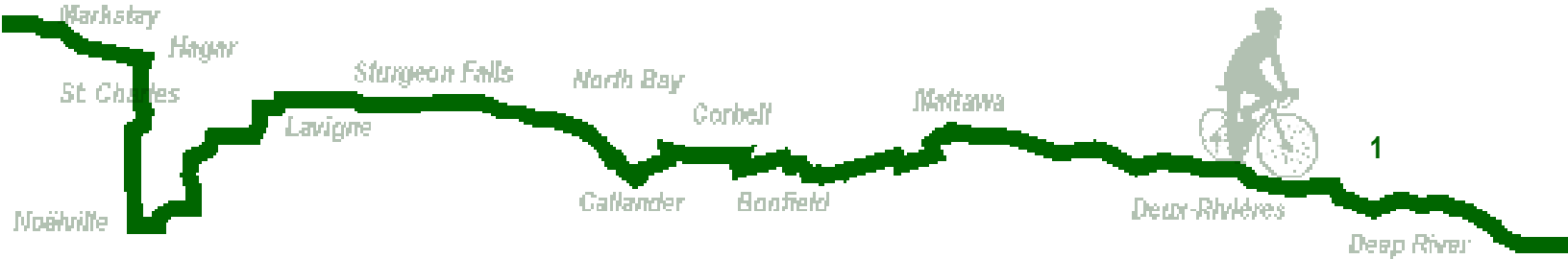
Municipality of West Nipissing
 Municipality of French River
 City of North Bay Parks & Recreation
 Town of Mattawa
 Mattawa-Bonfield EDC
 Municipality of Callander
 Municipality of East Ferris
 Nature and Outdoor Tourism Ontario (NOTO)
 Northeastern Ontario Tourism (RTO13a)
 North Bay & District Chamber of Commerce
 Discovery Routes Trails Organization
 Trans Canada Trail Foundation
 North Bay Parry Sound District Health Unit
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1.0 INTRODUCTION

1.1 Vision and Objectives

The Voyageur Cycling Route (VCR) concept was initiated by a group of local stakeholders who came together in 2013 to explore opportunities to develop a cycling route that would connect the Sudbury area to the Ottawa River. The vision for this initiative is to *create healthier, safer communities within the study area and to grow Northeastern Ontario economically as a tourism destination for cyclists by connecting to the developing provincial cycling network*. As the Province of Ontario continues to develop its cycling strategy and to build the foundation for a province-wide cycling network, a tremendous opportunity exists to bring stakeholders together from the municipal, provincial and federal level to advance the VCR. This study is the first step in realizing this vision.

This study also draws on a number of past studies that have been done in the area. In 2002, a Route Planning Study was undertaken for Trans Canada Trails to develop a route using the abandoned CN corridor between North Bay and the former Town of Field. This was followed by a 2008 business plan for a linear park that was to follow the abandoned CN rail corridor between Capreol (north of Sudbury and Crystal Falls, and then a snowmobile route between Crystal Falls and North Bay. This project experienced challenges with the acquisition of the rail corridor.

In 2012 Trans Canada Trail (TCT) developed a Concept Plan for a trail between Greater Sudbury and the City of North Bay. The VCR primarily follows the proposed TCT route in this Concept Plan, with some exceptions. One of the outcomes in the 2012 TCT study was an indication from the MTO that consideration would be given for the provision of paved shoulders where communities had developed a plan that demonstrated commitment to implementing connecting routes.

The VCR builds on the work of these past studies. The study area for this report is also considerably larger, spanning further east beyond North Bay relative to previous studies (e.g. Markstay to Deep River). Notably, the eastern portion of the VCR was not explored in any of these previous studies.

The Voyageur Cycling Route Feasibility Study report is intended to achieve three goals:

1. Identify a clear path to achieve the VCR vision. The recommended route, facility types and route characteristics are outlined in **Sections 4** and **6** of this report;
2. Help develop partnerships and ultimately secure funding to implement the VCR; and
3. Provide an outline of an organizational structure that would be well positioned to support the ongoing success of the VCR once it has been implemented.

The identification of community benefits, evaluation of trail governance models and the suggestion that the VCR form part of a future provincial cycling network are all key components of this feasibility study.

1.2 Anticipated Users

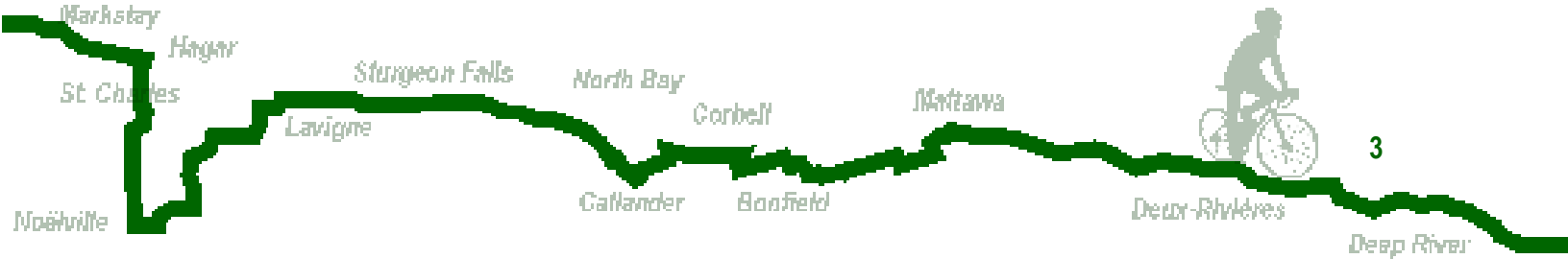
As a primarily on-road long distance cycling route, the VCR has been designed to appeal to touring cyclists though it also will appeal to local residents. As discussed later in **Section 5.0**, the cycling tourism industry is experiencing considerable growth in Ontario. In order to attract touring cyclists, the VCR has been developed to offer the following key features:

1. A smooth riding surface that avoids high volume roads and where this is not possible, provides designated bike facilities (e.g. buffered paved shoulders);
2. A continuous route with clear and consistent wayfinding signage;
3. Access to cycling amenities such as rest areas, camp grounds, other accommodations, grocery stores, cafes and restaurants, and bicycle repair shops; and
4. Scenic landscapes and experiential tourism offerings such as historic sites, wildlife viewing and cultural points of interest.

While touring cyclists are an important part of the VCR, local users – both recreational and utilitarian – have also been considered and will benefit from the implementation of the VCR. First, local cyclists also benefit from each of the four features noted above. Second, the “safety in numbers” principle suggests that as the number of cyclists increase, the relative safety of cycling also improves, as motorists are exposed to cyclists more often and learn to adjust their driving behaviour accordingly. Finally, since the VCR aims to provide touring cyclists with access to amenities, the route has been designed to pass through many of the urban / tourist areas. By travelling through the heart of the communities along the corridor, local and touring cyclists can easily access the VCR, have access to amenities and also support local businesses.



Source: MMM Group 2015



1.3 Report Structure

The Voyageur Cycling Route Feasibility Study and Implementation Plan includes the following sections:

Section 1 provides an overview of the study and its objectives, defines the anticipated users groups and outlines the report structure used by the study team to develop the Voyageur Cycling Route Feasibility Study and Implementation Plan.

Section 2 outlines the public consultation process and key information gathered at public information centres and stakeholder workshops.

Section 3 provides an overview of the route and facility selection process used to identify and confirm the preferred Voyageur Cycling Route.

Section 4 provides details on each section of the Voyageur Cycling Route including facility type recommendations.

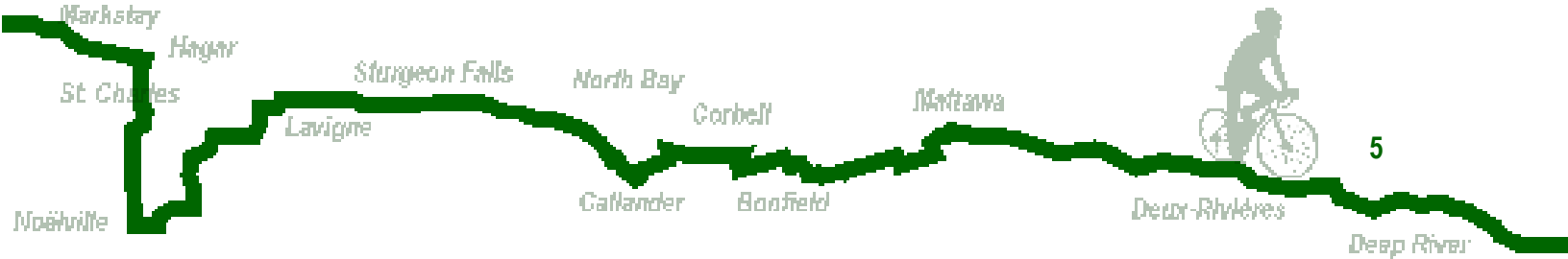
Section 5 outlines the anticipated community benefits (e.g. economic, tourism, health and fitness, safety, transportation, and environmental) related to cycling.

Section 6 provides details on trail governance issues and recommendations for the governance of the VCR

Section 7 outlines the recommended implementation plan for the VCR, including phasing and costing.

Section 8 provides concluding thoughts and next steps for the Discovery Routes Trails Organization.





2.0 STAKEHOLDER AND PUBLIC ENGAGEMENT

2.1 Engagement Strategy

A number of engagement efforts were undertaken over the course of this study. The purpose of these engagements was threefold: to gather input and local knowledge from the communities along the VCR; to increase awareness of the proposed route; and to build support for the route among community members. The engagement efforts included four public information centres (PICs) held across the VCR corridor, a webpage that posted draft route maps and an online survey (<http://discoveryroutes.ca/vcr/>), a press release and a notice of study commencement. **Figure 1** on the following page includes a graphic of the study webpage. The study team also engaged residents, trail users and stakeholders during the field investigation.

In addition to the public advertisements, stakeholders including tourism operators and municipal representatives were identified and invited by the Discovery Routes Trails Organization (DRTO) to attend the PICs. The workshops were conducted in June 2015 at the following locations:

Mattawa	Ecology Centre	Monday, June 1	4:00 p.m. to 6:00 p.m.
North Bay	City Hall	Tuesday, June 2	4:00 p.m. to 6:00 p.m.
Sturgeon Falls	Municipal Offices	Wednesday, June 3	4:00 p.m. to 6:00 p.m.
Noelville	Municipal Offices	Thursday, June 4	4:00 p.m. to 6:00 p.m.

Four items comprised the PIC agenda for each:

1. Introductions of facilitator and attendees;
2. Information about the Concept and the Proposed Route;
3. Discussion about the Concept and the Proposed Route including:
 - a. Comments / thoughts on the route and route options
 - b. Comments / thoughts on implementing the route
4. Next Steps (in the study).

The PIC included a presentation the VCR concept and showed the proposed routing (See **Appendix A**). A series of six wall-sized maps illustrating the proposed route were available for review by the workshop attendees. One map provided an overview of the entire route, while the remaining five maps provided greater detail on each segment of the overall route.

2.2 Input from Stakeholders and the Public

Workshop attendees were fully supportive of the Voyageur Cycling Route concept. Many believe it will provide economic benefits to communities and businesses along the route by encouraging and supporting cycle tourism. A number of cycling enthusiasts see the route as an important piece of a future bicycle route spanning Northern Ontario from Quebec to Manitoba as well as an important part of a future province wide cycle touring network.

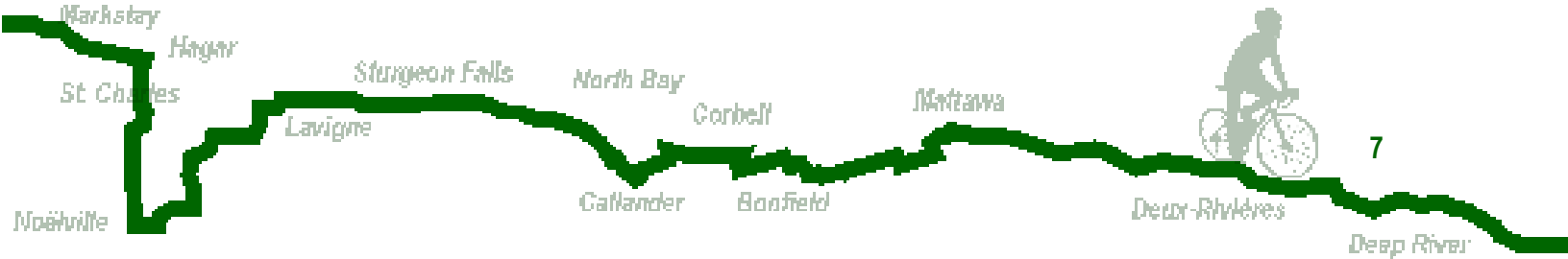
Comments regarding specific routing options in the Callandar and Noelville areas have been incorporated in **Section 4** of this report. In general, avoiding Highway 17, following the water whenever possible, and possibly using abandoned rail lines when feasible (e.g. between Deep River and Mattawa) were common themes.

Many comments received related to identification of local history, other points of interest, and links to other routes as well as the need for comprehensive route information for users – signs, maps, online information about local destinations, accommodations, washrooms, locations where bikes can be serviced and restaurants. Discussion frequently turned to encouraging businesses along the proposed route to become more cycle friendly and take advantage of the perceived business opportunities associated with cycle tourism.

Finally there was recognition by virtually all attendees that coordination and securing funding to develop and sustain the route are key challenges, and will require partnerships among municipalities and the provincial and federal governments, as well as other agencies, tourism organizations and the private sector. **Appendix B** provides a summary of public comments received over the course of this study.



Figure 1 – Study Webpage (<http://discoveryroutes.ca/VCR>)



3.0 ROUTE AND FACILITY SELECTION PROCESS

3.1 MTO Route Selection Methodology

The Ministry of Transportation of Ontario (MTO) developed a draft Cycling Route Selection Tool (CRST) that is intended to be used to assess candidate routes for inclusion into a future provincial cycling network. Criteria included in the CRST evaluate both the attractiveness of the cycling experience and also the feasibility of providing a route that is comfortable for a wide range of cyclists (see **Figure 2**). The motivation for using this tool as part of the route evaluation was twofold. First, where multiple route options were available, the criteria in the CRST were used to identify the preferred route. Second, the CRST provides information about the strengths and weakness of each route section within a structure that is consistent with MTO’s draft network methodology and comparable across the province.

Each CRST criterion is briefly outlined below along with notes about its application to the VCR. More detailed information regarding the CRST itself can be found in **Appendix C**. Most criteria were scored on a scale between 0 and 9. Results of the CRST evaluation for each route section can be found in **Appendix D**.

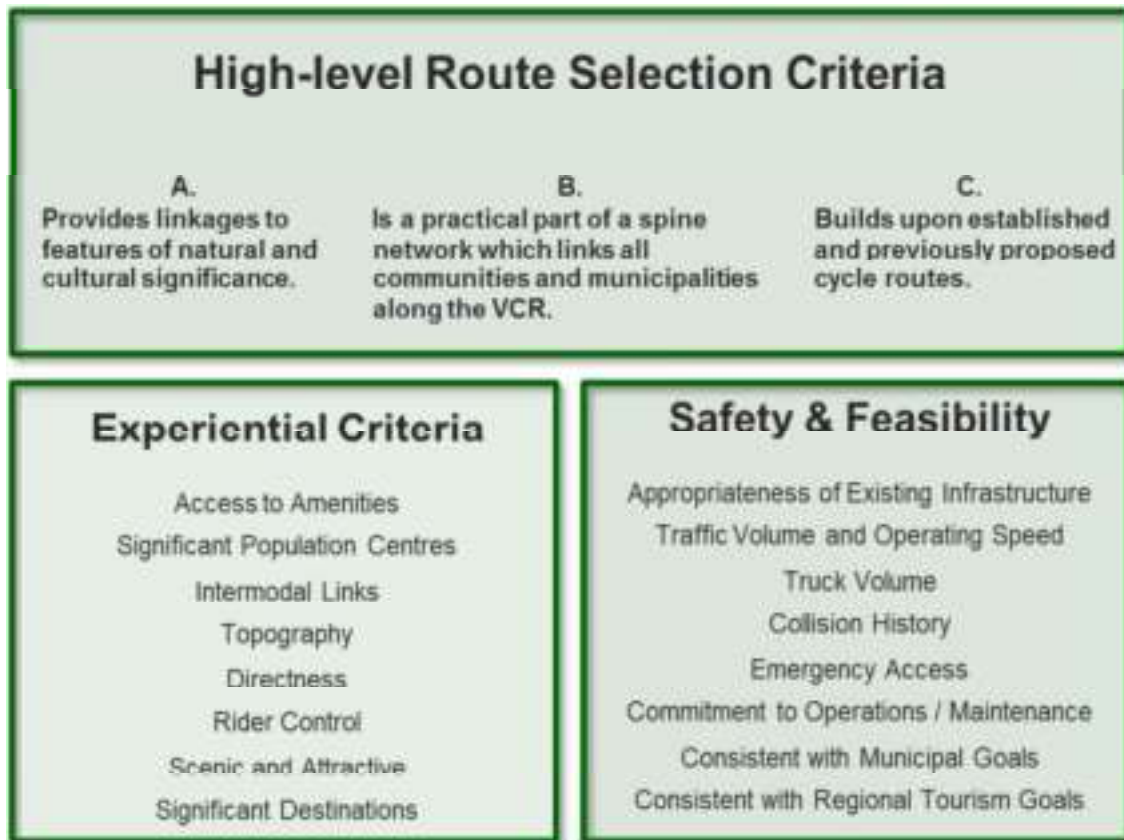


Figure 2 – Cycling Route Selection Tool Criteria

1 Experiential Criteria:

1.1 *Access to Amenities:* the focus of this criterion is on the distance between communities where basic amenities such as grocery stores / convenience stores, restaurants and some form of accommodations are available. Score is out of 9.

1.2 *Significant Population Centres:* the focus of this criterion is the overall population located in close proximity to the route and the potential for the route to attract local users. Score is out of 9.

1.3 *Intermodal Links:* this criterion evaluates the range of options available to touring cyclists to travel to and from the route. Options include bus stations, train stations, parking lots, etc. The entire route is evaluated for this criterion and each route section therefore receives the same score out of 9.

1.4 *Topography:* this criterion evaluates how challenging the topography of the route section will be for cyclists based on the grade of inclines and the length of inclines along the route. Using a GPS-enabled device, elevation data was recorded during field investigation by staff cycling the route. Score is out of 9.

1.5 *Directness:* this criterion compares the straight line length of the route section with the actual length of the route. Score is out of 9.

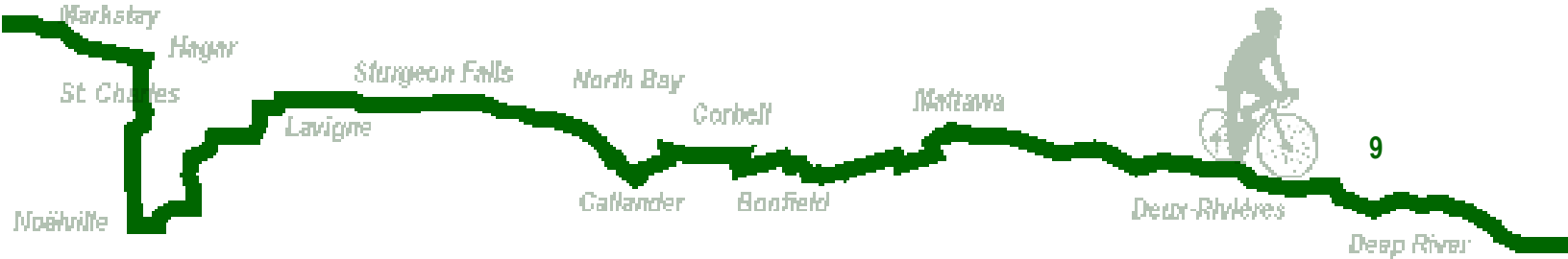
1.6 *Rider Comfort:* the focus of this criterion is on the proportion of the route segment that has a hard riding surface such as asphalt, concrete or a fine surface (e.g. limestone screening) that is in good condition. Score is out of 9.

1.7 *Scenic and Attractive:* this criterion compares a number of factors that are likely to enhance the scenic quality of the route with a number of factors that may detract from it. Score is out of 9.

1.8 *Significant Destinations:* The focus of this criterion is the number of significant destinations such as National or Provincial Parks. This criterion was applied to the entire route in the VCR study and each section therefore received the same score, which is out of 9.

2 Safety and Feasibility Criteria:

2.1 *Appropriateness of Existing Infrastructure:* this criterion evaluates whether the current cycling facility type and width are adequate based on the facility selection methodology included in Ontario Traffic Manual (OTM) Book 18: Cycling Facilities (see **Section 3.2**). The criterion is scored out of 27; however, route sections that fully satisfy this criterion are not evaluated on criteria 2.2 and 2.3.



2.2 Traffic Volume and Operating Speed: the focus of this criterion is on the degree of separation between cyclists and motor vehicles that is appropriate. Route sections with higher speeds and volumes require greater separation, and therefore greater investment, resulting in a lower score, which is out of 9.

2.3 Truck Volume: this criterion evaluates the volume of truck and bus traffic with higher truck volumes resulting in a lower score, which is out of 9.

2.4 Collision History: this criterion uses motor vehicle collision rates as a proxy to estimate the safety of the roadway for cyclists. Since this criterion is an indirect evaluation of cycling safety, it is scored out of 4. Route sections where no data were available were assigned a score of 2, as an average.

2.5 Emergency Access: the focus of this criterion is the relative ease or difficulty that would face emergency responders in accessing an incident, and is evaluated based on whether the cycling facility is on-road, in close proximity to a road or isolated. Score is out of 9.

2.6 Commitment to Operations / Maintenance: this criterion evaluates the portion of the route section that is already being maintained. Since the majority of the VCR is located on maintained roadways or trails that are seasonally maintained, all route sections received a score of 9 out of a possible 9 points.

2.7 Consistent with Municipal Goals: the focus of this criterion is whether the route is already included on a municipal cycling map or has been included in a municipal plan or has received some other municipal endorsement. Since many of the municipalities along the VCR do not have specific cycling plans, many route sections receive a low score. Note that this does not indicate that municipalities are unsupportive, but rather that their support may not yet be formalized in a specific policy or plan. Score is out of 9.

2.8 Consistent with Regional Tourism Goals: this criterion is meant to evaluate how supportive regional tourism organizations are of cycling in general and the proposed route in particular. This criterion was therefore evaluated on the basis of the level of support and involvement from tourism organizations in Discovery Routes Trails Organization and evidence of support for cycling from the two Regional Tourism Organizations (RTOs) along the VCR corridor: Northeastern Ontario (RTO 13a) and the Ontario Highlands Tourism Organization (RTO 11). Score is out of 9.

3.2 OTM Book 18 Facility Selection Process

A three step process to select the most appropriate facility type is described in OTM Book 18. The first step involves a nomograph with the Average Annual Daily Traffic (AADT) volume on the horizontal axis and the 85th percentile travel speed on the vertical axis. Refer to **Figure 3** for a graphic of the Step 1 nomograph. Based on this information, the nomograph indicates whether the appropriate facility type could be shared space, designated space or physically separated space. The nomograph is also used in the CRST for criterion 2.2.

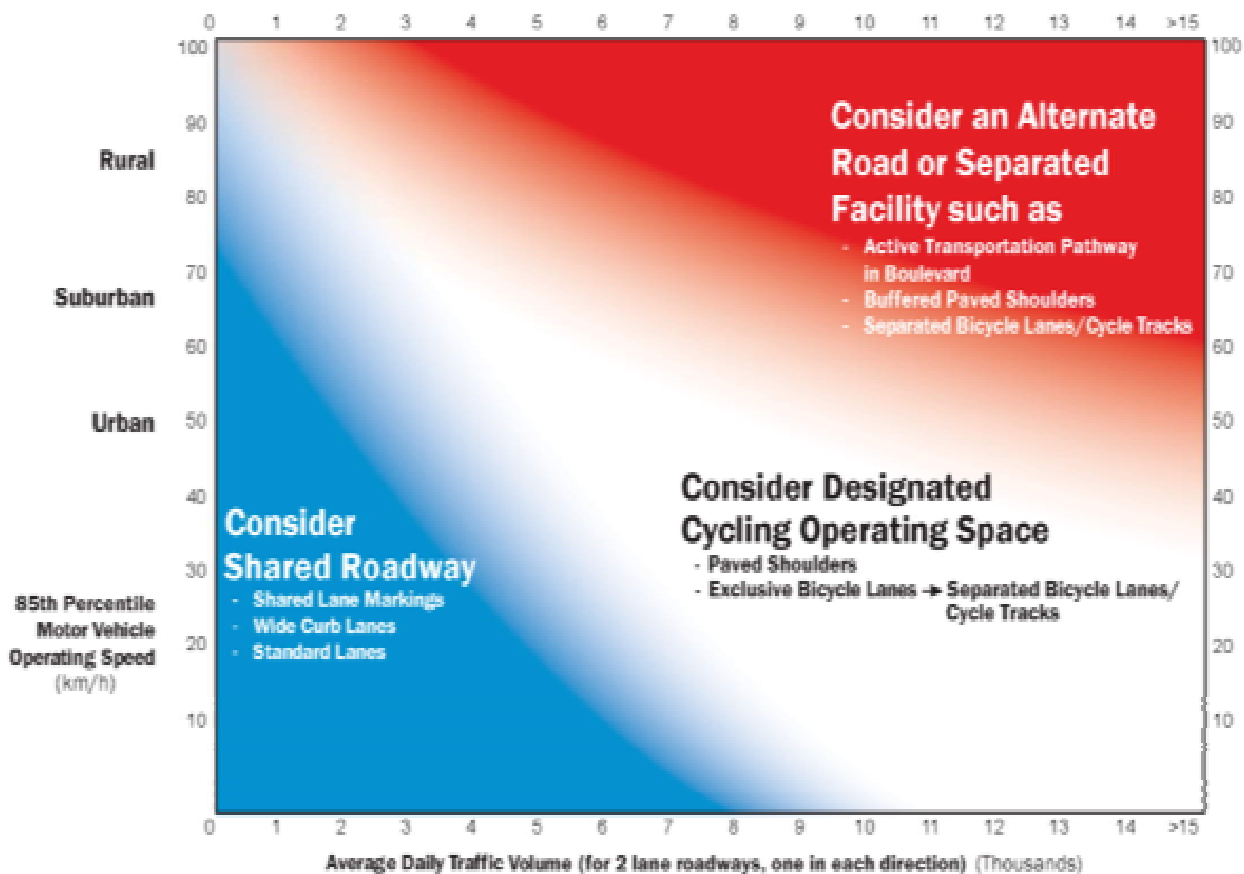
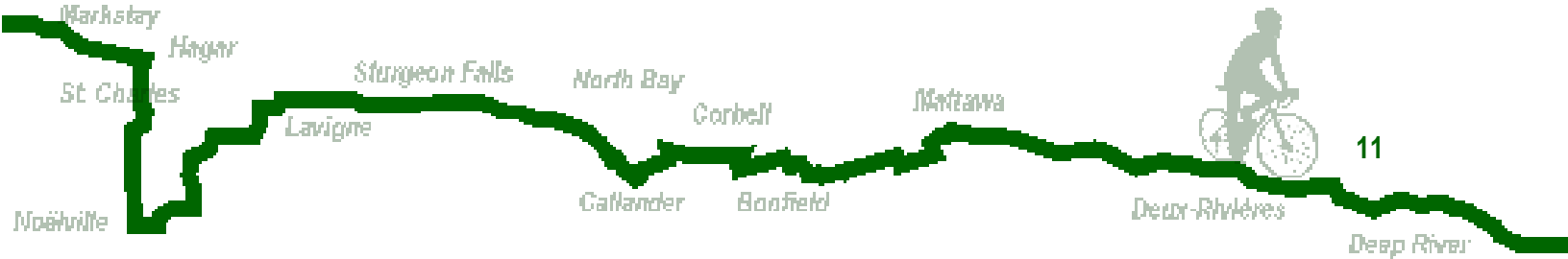


Figure 3 – Facility Selection Tool – Step 1 Nomograph

Source – OTM Book 18: Cycling Facilities

The second step of the facility selection process outlines more specific criteria. The final step involves documenting Steps 1 and 2 and providing a rationale for the preferred facility. **Figure 4** illustrates Steps 2 and 3 of the OTM Book 18 facility selection process. While many of the Step 2 criteria were taken into consideration, these final two steps were not part of the feasibility study as they typically occur during the preliminary and/or detailed design phase and when implementation is scheduled.



STEP 1:

Pre-Select Facility Type using the Nomograph

STEP 2:

Examine Other Factors & Select Appropriate Facility Type

- Inventory Site Conditions
- Review key design consideration and application heuristics
- Select appropriate and feasible bicycle facility type

STEP 3:

Justify Final Decision & Identify Potential Design Enhancements

- Justify decision and describe changes (if any) between Steps 1 and 2
 - Identify design enhancements
- Document rationale and principles used to make recommendations

Figure 4 – OTM Facility Selection Process – Steps 2 and 3
Source – OTM Book 18: Cycling Facilities

3.3 Proposed Facility Types for the Voyageur Cycling Route

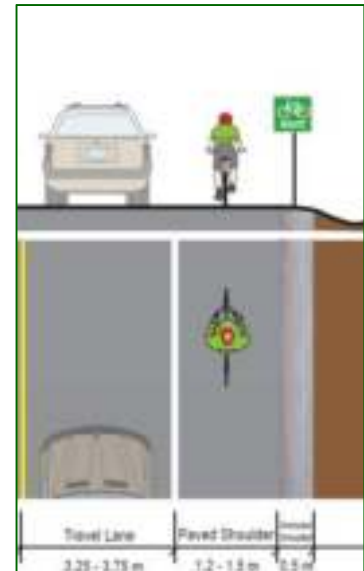
Ontario Traffic Manual (OTM) Book 18 includes a range of cycling facility types from a signed-only bike route, which is considered appropriate on lower volume / lower speed roadways to buffered paved shoulders and separated facilities such as off-road and / or in-boulevard trails. The recommended facility type for each VCR section is intended to reflect the characteristics of the roadway (urban / rural, posted speed, traffic volumes, etc.). Sections of the Voyageur Cycling Route along local roadways with low volume are intended to be implemented as signed-only bike routes. Sections of the Voyageur Cycling Route along Hwy 17 or secondary highways with higher auto and truck volumes speeds are intended to be implemented as buffered paved shoulders where practicable, or in constrained locations paved shoulders. The following provides details on the recommended Voyageur Cycling Route facility types.

Signed Cycling Routes with Paved Shoulders

Definition: A Signed Bike Route with a Paved Shoulder is a road with a rural road cross section that is signed as a cycling route which also includes a paved shoulder. A paved shoulder on a designated cycling route may include a buffer zone to provide greater separation between motorists and cyclists. A buffer made up of two edge lines with or without diagonal hatching or with a rumble strip in between can be used to provide cyclists riding on the paved shoulder with added separation.

Key Considerations:

- Provides a space for cyclists on rural road cross-sections (no curb and gutter);
- Where motor vehicle speeds or volumes are high, a wide shoulder and / or painted buffer enables more separation between the cyclists and the motor vehicle, and also reduces the impact of wind-shear on the cyclist;
- On high volume roadways e.g. Provincial highways and secondary highways the preferred width of the paved shoulder is 2.5m to 3.5m;
- The paved shoulder provides a convenient location for cyclists to travel;
- Rumble strips can be added to the painted buffer as an additional cue, provided that there are clearly marked breaks at regular intervals, allowing the cyclists to move in or out of the paved shoulder areas to overtake slower moving cyclists, safely pass stalled vehicles or to make a left turn; and
- Implement 'Bike Route Marker' signs, supplementary 'Share the Road' signs (in advance of route crossings or in locations when sightlines are obstructed) and VCR or combined VCR / Trans Canada Trail branding signs.



	Bicycle Route Marker	Share the Road sign	Supplementary Share the Road tab
Sign / Code	 M511 (TAC)	 Wc-19 (OTM)	 Wc-19t (OTM)
Size	450mm x 450mm	600mm x 600mm	300mm x 600mm

Typical Applications:

- Typically implemented on rural cross-sections where motor vehicle traffic volume and speeds are higher.

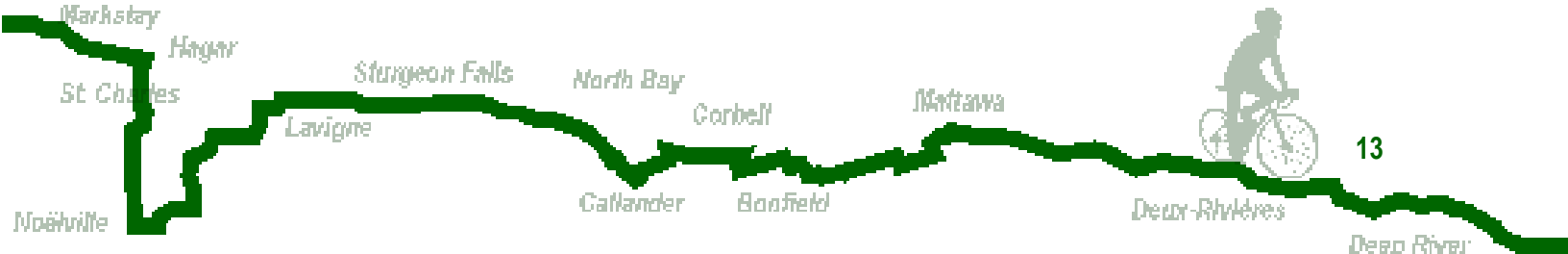
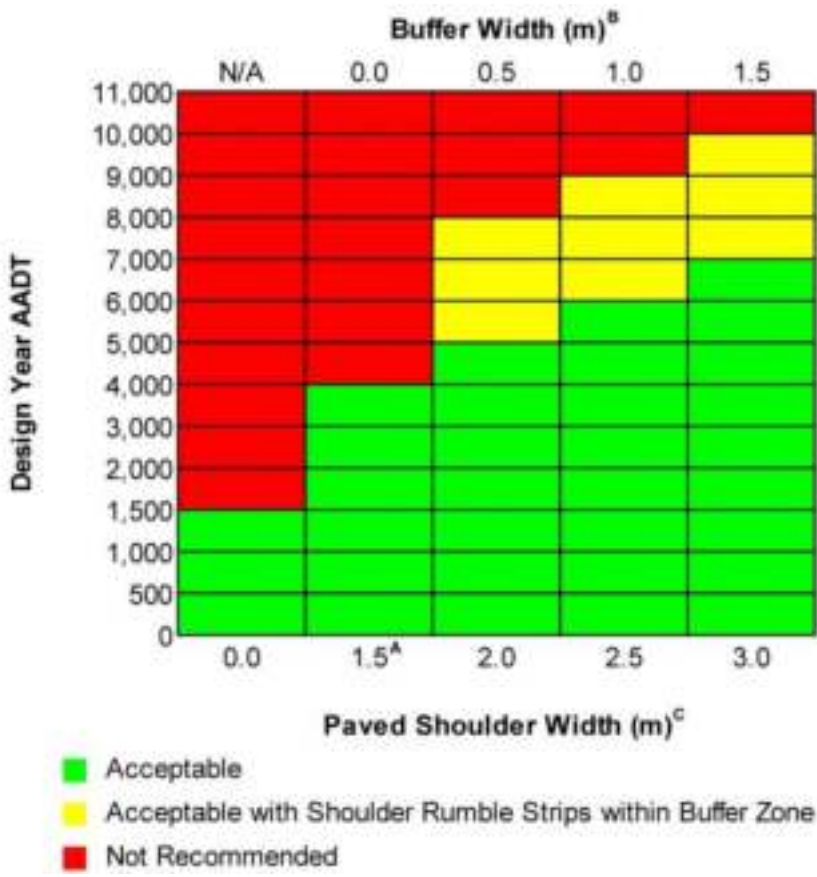


Figure 4 – Paved Shoulder Widths and Operational Buffer Zones on Rural Two-Lane Highways with 85th Percentile Operating Speeds > 70 km/h and Designated as a Cycling Route

Source – Ministry of Transportation Ontario (MTO) Bikeways Design Manual



- Notes:**
- A. In constrained corridors along the signed cycling route, designers may consider providing a minimum paved shoulder width of 1.2 m. Where barriers are present on constrained corridors and paved shoulder widths of 1.2 m are provided, a shy distance of 0.3 m minimum should be provided between edge of paved shoulder and the barrier.
 - B. Buffer zones should be considered on high speed roadways with more than 30 trucks and/or buses per hour.
 - C. Paved shoulder width includes buffer.
 - D. This Figure is intended for Rural Two-Lane Highway Conditions with 85th percentile operating speeds ≥ 70 km/h.
 - E. Some Secondary Highways may have lane widths less than 3.5 m, in which case traffic volume thresholds still apply.

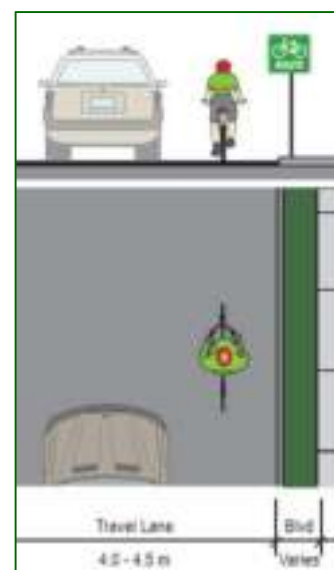
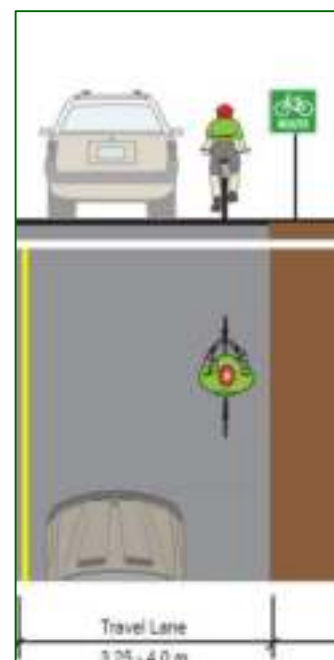
Figure 4 (MTO Bikeways Design Manual) provides guidance for the selection of paved shoulder widths and buffer zones for rural two lane highways with 85th percentile operating speeds of 70 km/h or more. Refer to MTO’s Bikeways Design Manual and OTM Book 18 for additional details on signed-only bike routes with paved shoulders (including buffered paved shoulders).

Signed-only Bike Routes on Local Roads

Definition: Signed-only Bike Routes are routes where both motorists and cyclists share the same vehicular travel lane and ‘Bicycle Route Marker’ signs are used to provide route guidance. They are typically installed on quiet, residential local roads. Aside from ‘Bicycle Route Marker’ signs, there are generally no other provisions used for this facility type.

Key Considerations:

- Bicycles and motor vehicles share the right-most travel lane, no physical space is dedicated for bicycle use only;
- Design does not include pavement markings for bicycles;
- Marked with ‘Bicycle Route Marker’ signs which may be supplemented by optional ‘Share the Road’ signs (in advance of route crossings or in locations when sightlines are obstructed) and VCR branding signs.
- Should typically only be signed as on-road bike routes where acceptable (e.g. lower) motor vehicle operating speeds and traffic volumes exist; and
- Should be supported by education programming for both cyclists and motorists.

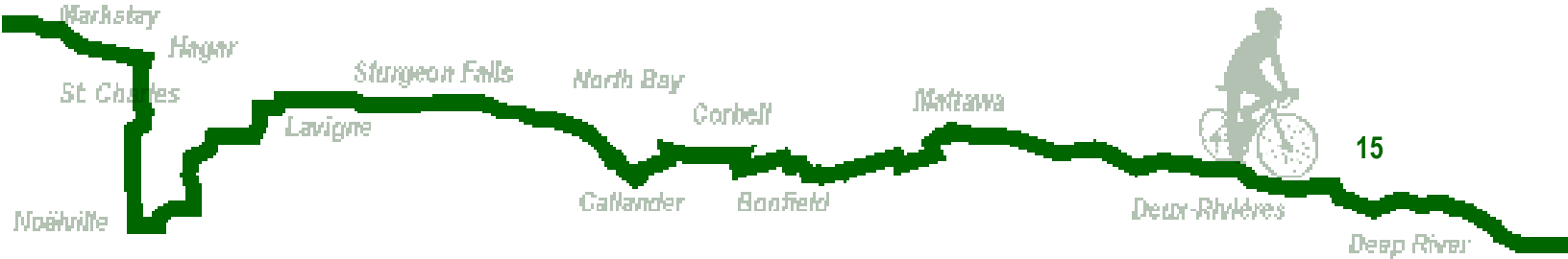


	Bicycle Route Marker	Share the Road sign	Supplementary Share the Road tab
Sign / Code	 M511 (TAC)	 Wc-19 (OTM)	 Wc-19t (OTM)
Size	450mm x 450mm	600mm x 600mm	300mm x 600mm

Typical Applications:

- Typical for residential streets where motor vehicle traffic volumes and speeds are low, and rural roads where traffic volumes are low and adequate sightlines exist.
- Adding edge lines in urban areas may be a suitable where a road segment has insufficient width or where the removal of on-street parking to implement a designated bike lane is not supported by area residents.

Refer to OTM Book 18 and MTO Bikeways Design Manual for additional details on the proposed facility types for the VCR.



Based on criteria included in the CRST (see **Section 3.1**) and Step 1 of the OTM Book 18 Facility Selection Tool and field investigations, a recommended facility type was selected for each section of the Voyageur Cycling Route. **Table 1** provides a summary of the recommended roadway improvements for each section of the VCR. The table includes a column ‘Condition’ that contains a colour that corresponds to the existing roadway characteristic or recommended improvement for each particular route section. A description of each colour is provided at the bottom of **Table 1**. The colours identified for each road section in the ‘Condition’ column corresponds to the exact route section and segment displayed on **Maps 1 to 6**.

Table 1 – Recommended Facility Types and Improvements

Route Section	Road / Street	From	To	Segment Length (km)	Current Condition	Recommended Improvements by Length (km)			Upgrade Roadway Surface
						Install Signage	Add Paved Shoulder with Buffer (priority)	Add Paved Shoulder (when feasible)	
A	Hwy 17	Second Ave. (Coniston)	Glenbower Cres. (Wahnapiatae)	4.4	Red	4.4	4.4		
	Hwy 17	Glenbower Cres. (Wahnapiatae)	Robinson Dr.	1.1	Green	1.1			
	Hwy 17	Robinson Dr.	Pioneer St. W.	18.6	Red	18.6	18.6		
	Pioneer St. W.	Hwy 17	Main St. S.	1.5	Green	1.5			
	Main St. S.	Pioneer St. W.	Hwy 17	1.5	Green	1.5			
Hwy 17	Main St. S.	Hwy 535	10.5	Red	10.5	10.5			
B	Hwy 535	Hwy 17	St Charles Northern Limits	10.3	Orange	10.3		10.3	
	Main St.	St Charles Northern Limits	King St	0.3	Green	0.3			
	King St	Main St.	Musky Bay Rd.	4.5	Green	4.5			
	Musky Bay Rd.	King St	Victoria Rd.	1.6	Green	1.6			
	Victoria Rd. / Lake Rd.	Musky Bay Rd.	Hwy 535	8.2	Green	8.2			
Hwy 535	Victoria Rd. / Lake Rd.	Noelville Northern Limits	14.9	Orange	14.9		14.9		
C	St Davids St.	Noelville Northern Limits	Noelville Southern Limits	1.2	Green	1.2			
	Hwy 64	Noelville Southern Limits	Hwy 528	2.7	Orange	2.7		2.7	
	Hwy 528	Hwy 64	Montee Guerin Rd.	4.3	Green	4.3			
	Montee Guerin Rd.	Hwy 528	Houle Rd.	1.6	Green	1.6			
	Montee Guerin Rd.	Houle Rd.	Viau Rd.	1.5	Yellow	1.5			1.5
	Montee Guerin Rd.	Viau Rd.	Hwy 64	0.4	Green	0.4			
Hwy 64	Montee Guerin Rd.	Hillman Rd.	33.0	Orange	33.0		33.0		
D	Hwy 64	Hillman Rd.	Lavigne Northern Limits	1.7	Green	1.7			
	Hwy 64	Lavigne Northern Limits	LeClair Rd.	8.1	Orange	8.1		8.1	
	LecClair Rd. / Levac Rd. / Drive-In Rd. / Cache Bay Rd.	Hwy 64	Pine St.	14.1	Green	14.1			
	Cache Bay Rd. / John St.	Pine St.	King St.	1.2	Green	1.2			
	King St.	John St.	(Private Road)	0.5	Green	0.5			
	(Private Road)	King St.	Main St.	0.4	Green	0.4			
	Main St.	(Private Road)	Salter St.	0.1	Green	0.1			
	Salter St.	Main St.	Dutrisac Rd.	2.0	Green	2.0			
Salter St. / Golf Course Rd.	Dutrisac Rd.	Hwy 17	1.7	Yellow	1.7			1.7	
E	Hwy 17	Golf Course Rd.	Gormanville Rd.	31.5	Red	31.5	31.5		



Route Section	Road / Street	From	To	Segment Length (km)	Current Condition	Recommended Improvements by Length (km)			
						Install Signage	Add Paved Shoulder with Buffer (priority)	Add Paved Shoulder (when feasible)	Upgrade Roadway Surface
F	Gormanville Rd.	Hwy 17	Main St. W.	1.0		1.0			
	Main St. W.	Gormanville Rd.	Nipissing St.	0.7		0.7		0.7	
	Nipissing St.	Main St. W.	Gorman St.	0.2		0.2			
	Gorman St.	Nipissing St.	Timmins St.	0.1		0.1			
	Trail	Timmins St.	Memorial Dr.	1.1		1.1			
	Memorial Dr.	Trail	Kate Pace Way	1.7		1.7			
	Kate Pace Way	Memorial Dr.	Marshall Ave.	3.1		3.1			
	Marshall Ave.	Kate Pace Way	Booth Rd.	0.1		0.1			
	Booth Rd.	Marshall Ave.	Lakeshore Dr.	3.2		3.2			
	Lakeshore Dr.	Booth Rd.	Kate Pace Way	0.9		0.9			
	Kate Pace Way	Lakeshore Dr.	Cranberry Rd.	3.1		3.1			
	Cranberry Rd.	Kate Pace Way	Fairway Dr.	0.5		0.5			0.5
	Fairway Dr.	Cranberry Rd.	Kilby Lane	0.8		0.8			
	Kilby Lane	Fairway Dr.	Golf Course Rd.	0.2		0.2			
Golf Course Rd.	Kilby Lane	Main St.	0.7		0.7				
G	Main St.	Golf Course Rd.	Terrace Rd.	2.8		2.8			
	Terrace Rd.	Main St.	Callander Bay Rd.	1.3		1.3			
	Callander Bay Rd.	Terrace Rd.	Lake Nosbonsing Rd.	0.2		0.2		0.2	
	Lake Nosbonsing Rd.	Callander Bay Rd.	Northbound On-Ramp for Hwy 11	0.5		0.5	0.5		
	Lake Nosbonsing Rd.	Northbound On-Ramp for Hwy 11	Astorville Rd.	5.2		5.2		5.2	
	Astorville Rd. / Corbeil Rd.	Lake Nosbonsing Rd.	Quae Quae Rd.	5.8		5.8			
	Quae Quae Rd.	Astorville Rd. / Corbeil Rd.	Quae Quae Rd. at Palangio Rd.	4.5		4.5			
	Quae Quae Rd. / Sunnyside Rd.	Quae Quae Rd. at Palangio Rd.	Mark St.	7.2		7.2			
H	Mark St.	Sunnyside Rd.	Church St.	0.2		0.2			
	Church St.	Mark St.	Gagnon St.	0.3		0.3			
	Gagnon St.	Church St.	Development Rd.	1.0		1.0			
	Development Rd.	Gagnon St.	Mount Pleasant Rd.	10.2		10.2			
	Mount Pleasant Rd. / Peddlers Dr.	Development Rd.	Beckett Lane	9.2		9.2			9.2
	Peddlers Dr.	Beckett Lane	Boundary Rd.	9.7		9.7			
	Boundary Rd.	Peddlers Dr.	Papineau Rd.	2.0		2.0			2.0
	Papineau Rd.	Boundary Rd.	Chenier Rd.	6.2		6.2			6.2
I	Chenier Rd.	Papineau Rd.	South of Richards Rd.	2.0		2.0			2.0
	Chenier Rd.	South of Richards Rd.	Hwy 17	2.9		2.9			
I	Hwy 17	Chenier Rd.	Louis St.	0.5		0.5	0.5		
	Louis St. / James St. / Mattawan St.	Hwy 17	Main St.	1.9		1.9			
	Main St.	Mattawan St.	McConnell St.	0.3		0.3			
	Valois Dr.	McConnell St.	East of Brook St.	0.7		0.7			
J	Hwy 17	East of Brook St.	Bissett Creek Rd.	53.8		53.8	53.8		
	Hwy 17	Bissett Creek Rd.	Wylie Rd. / Banting Dr.	50.5		50.5	50.5		
Total				379.4		379.4	170.2	75.1	23.0

 Existing Trail / Cycle Track

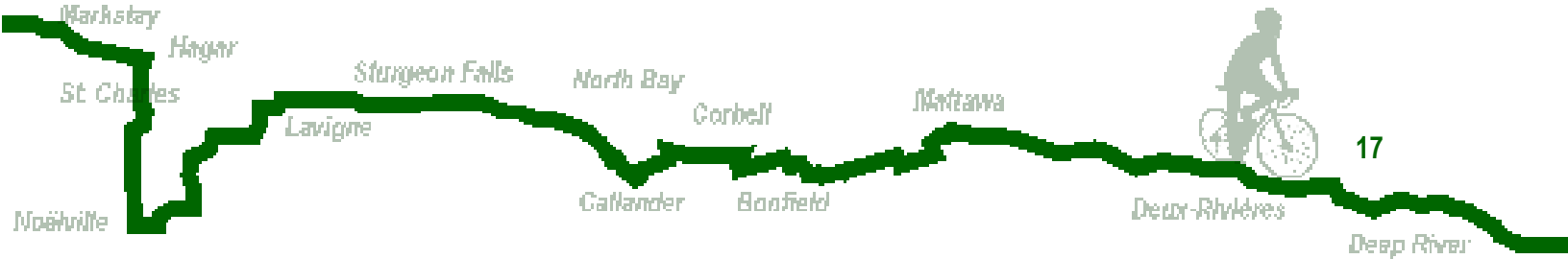
 Existing Paved Shoulder

 Add Signed Route

 Improve Granular Surface

 Add Paved Shoulders on Medium Volume Roadway

 Add Buffered Paved Shoulders on High Volume Roadway



3.4 Data Sources

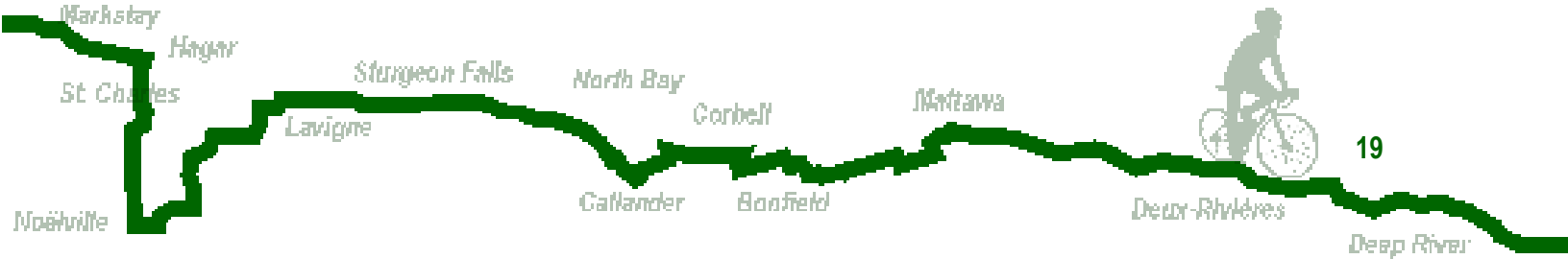
This study draws on a broad range of available data sources. An overview of the sources and how they were used is provided below:

- Public consultation – comments were received at four Public Information Centre events, through email to members of the study team and through the online survey posted on the VCR webpage. These comments were used to inform all aspects of the study.
- Field investigation – study team members travelled along the corridor by bicycle and by car to capture photos, waypoints, make notes, and create an elevation profile of the route. The observations made in the field also informed all aspects of this study. **Figure 5** shows a sample of the photos and waypoints taken during field investigation.
- Organizational interviews – a study team member conducted multiple interviews with other trail organizations to develop recommendations for the governance structure of the VCR.
- Spatial data – obtained through Natural Resources Canada GeoGratis website, including road and railway networks, water bodies, campgrounds, picnic areas, points of interest, Aboriginal lands, provincial parks and municipalities. This information was used to generate maps and to support the route selection process.
- Ontario Ministry of Transportation data including Average Annual Daily Traffic (AADT) volume and commercial vehicle volumes and collision data for Ministry highways which were used for route and facility selection processes.
- Strava Metro data – is an online route tool generated by users of a fitness app (Strava) and indicates how many Strava cycling trips have been logged on a roadway (<http://labs.strava.com/heatmap/#11/-79.23428/46.25776/blue/bike>). This information was used to inform the route selection process.
- Municipal collision data – was available for Sturgeon Falls and North Bay and was reviewed during the route selection process (no collision analysis was undertaken) to indicate whether there might be any patterns that suggested a particular road may be less appropriate for cycling. None were flagged.
- Municipal plans – where available, municipal transportation and active transportation/trail plans were reviewed to determine how the VCR might align with pre-existing or previously proposed transportation initiatives.
- Ontario by Bike – information was reviewed from this popular and informative cycling tourism website (<http://ontariobybike.ca/>) and used to inform the route selection process (criterion 1.1).



Figure 5 – Photo Inventory & Field Investigations

Blue pins represent locations where a waypoint was recorded using a GPS-enabled unit and corresponding photo(s) were taken.



4.0 THE VOYAGEUR CYCLING ROUTE

In this section of the report, the recommended VCR is introduced. The entire Voyageur Cycling Route is displayed in an **Overview Map** (see following page). The route has been divided into 10 sections which are presented on **Maps 1 to 6**. Section divisions are located in small and medium sized centres, and wherever possible a division was created at approximately 25 km intervals, as recommended in the MTO route selection tool. In some cases the distance between centres was more than 25 km, and the route therefore includes several longer sections.

The route section is described in greater detail below. The alignment of the route is discussed and where multiple alignment options exist, a rationale for the recommended alignment is provided. Some of the amenities located within the corridor of each route section are noted. The anticipated cycling experience is also described with respect to topography and landscape. Finally, any roadway modifications that would be required to implement the preferred facility type are noted. The preferred facility type is also noted in **Table 1** (see **Section 3.2**), and additional details such as AADT volumes (where available) can be found in the CRST results tables in **Appendix D**.

The majority of route sections A through F overlap with the planned Trans Canada Trail (TCT) route. The preliminary alignment of the TCT was determined before this study was undertaken, and due to the benefits of combining the TCT and the VCR through these sections, the TCT alignment had a significant influence on the recommended VCR alignment through these sections. The TCT extends to the west of section A and to the south of section F, which will also further improve connectivity to the VCR, though not all sections of the TCT are suitable for on-road cyclists.

The study team reviewed current and on-going Ministry of Transportation Ontario (MTO) route planning studies for sections of Highway 17 between Sudbury and Deep River. Two route studies for Highway 17 – Sudbury to Markstay and Mattawa to Nipissing District / Renfrew County Boundary – were assessed since the Voyageur Cycling Route is proposed to use sections of Highway 17 in these locations. **Appendix E** includes drawings of the preferred design alternatives included in the route planning studies noted above.

The Highway 17 route planning studies identify alignments for a new four-lane Highway 17 corridor parallel or along the current Highway 17. We understand that these future multi-lane highway alignments are planned to be limited access and likely not permit cycling (e.g. 400 series Highway). The studies also provide a long term implementation horizon for the new Highway 17 alignments – 20 to 30 years. When the new Highway 17 alignment is constructed, it is expected that traffic volumes, including the number of trucks will significantly decrease on the current Highway 17 corridor. Users on the VCR will benefit from this decrease in traffic.

It is recommended that the VCR be implemented on current Highway 17 sections that form part of the route and that the VCR remain on this corridor after the new multi-lane highway is constructed in the 20 to 30 year horizon. In addition DRTO and its partners should use the VCR implementation plan provided in this report (see **Section 7.0**) to guide the development of the Voyageur Cycling Route.

A summary of MTO's route planning studies is provided in **Section 4.1** below.

4.1 Ministry of Transportation Ontario (MTO) Route Planning Studies

Highway 17 Route Planning Study – Sudbury to Markstay

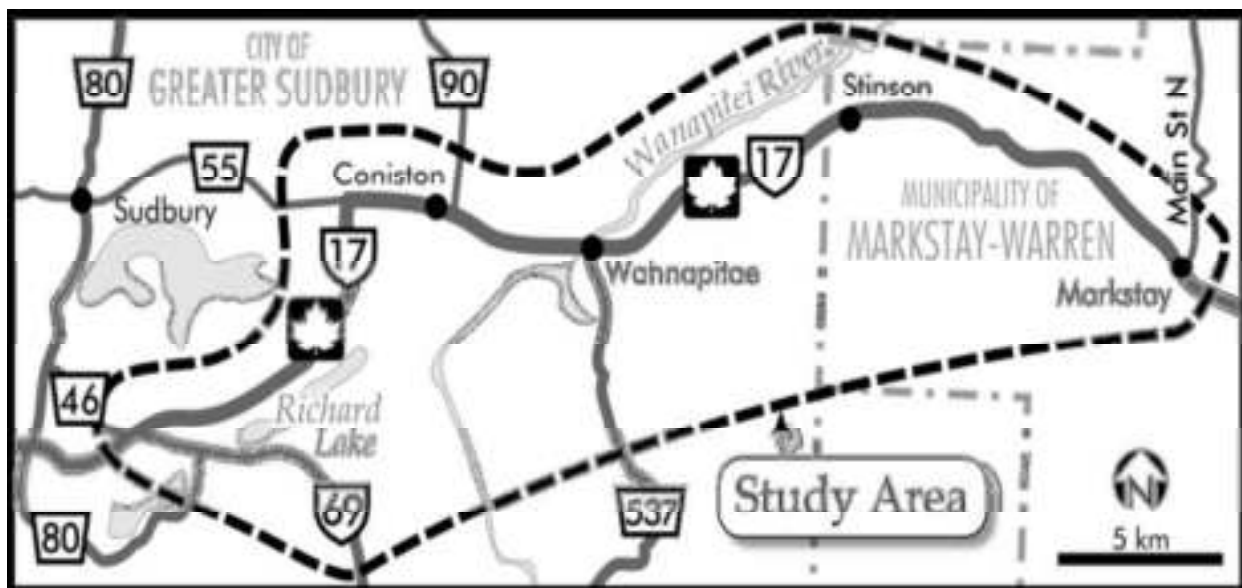


Figure 6 – Sudbury to Markstay Highway 17 Study Area

Source – <http://highway17sudburytomarkstay.ca/>

MTO has initiated a long-term (20-30 years) route planning, preliminary design and environmental assessment for Highway 17 from the existing Highway 69 interchange (Sudbury) to Markstay. Refer to **Figure 6** for a graphic of the study area. The purpose of the study is to identify a recommended alignment for a new four-lane controlled access Highway 17 with access restricted to interchange locations only, and to protect for lands needed for implementation. The preferred design identifies a new four-lane Highway 17 parallel to the current Highway 17 corridor (see **Appendix E** for route details). The Voyageur Cycling Route is proposed on Highway 17 from Coniston to Markstay.

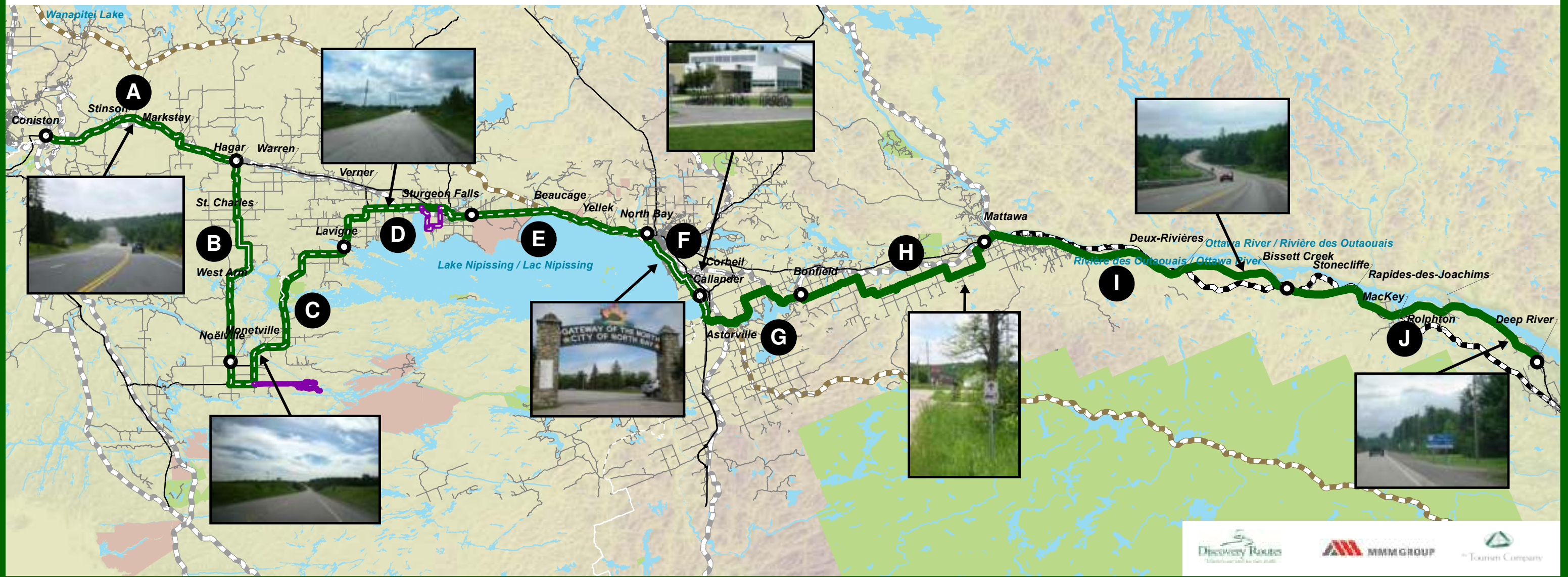
It is recommended that the VCR be implemented on current Highway 17 sections that form part of the route (between Coniston and Markstay) and that the VCR remain on this corridor after the new multi-lane highway is constructed since the new alignment will not permit cycling.

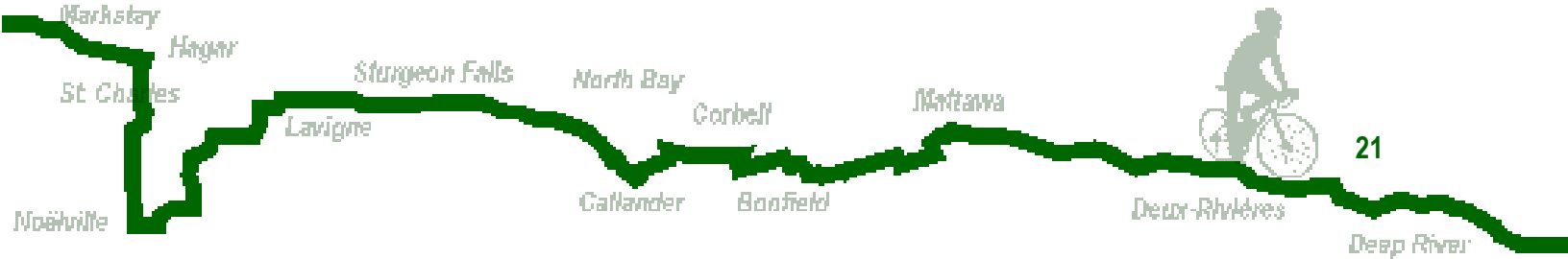
OVERVIEW MAP

VOYAGEUR CYCLING ROUTE Feasibility Study and Implementation Plan



●	Route Section Division	—	Highway	—	Active Railway	■	Aboriginal Lands
Ⓐ	Route Section	—	Road	—	Abandoned Railway for Further Investigation	■	Water
—	Proposed VCR	—	Trans Canada Trail - Operational (white line)	—	Abandoned Railway	■	Provincial Park
—	VCR Extension / Connection	—	Trans Canada Trail - Proposed (white line)	—	—	—	Municipality





The route planning study for this portion of Highway 17 is still on-going.

Highway 17 Route Planning Study – Mattawa to Nipissing District / Renfrew County Boundary

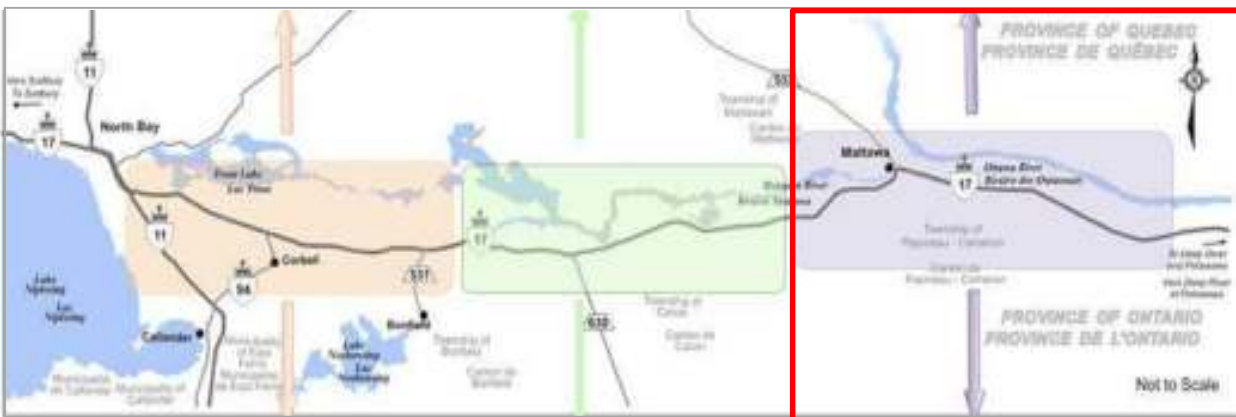


Figure 7 – Mattawa to Nipissing District / Renfrew County Boundary Highway 17 Study Area (Red Outline)

Source – <http://www.highway17routeplanning.ca/highway17routeplanning/index.html>

The MTO route planning study for Highway 17 east of North Bay contains three different sections as shown in **Figure 7**. The route planning study recommends the alignment of a new multi-lane Highway 17 parallel to the current Highway 17 from Mattawa east to Klocks Road. Similar to the study noted above, the new Highway 17 corridor will be limited access and not permit cycling. Highway improvements are also recommended on the current Highway 17 from Klock Road east to the Nipissing / Renfrew boundary. Sections of the VCR are located along the current Highway 17 between Klock Road and the municipal border.

The new Highway 17 corridor is expected to be constructed in the long-term – 20 to 30+ years. During this time the current Highway 17 corridor will require roadway improvements (e.g. resurfacing). The DRTO should use the VCR Implementation Plan to develop cycling facilities along sections of Highway 17 within a 10 to 15 year horizon, or earlier if feasible. It is also recommended that the Ministry not delay implementing cycling facilities in locations where the VCR uses sections of the current Highway 17, until the Ministry implements the new multi-lane highway.

Sections 4.2 to 4.11 provide details on each section of the Voyageur Cycling Route. Please refer to **Maps 1 to 6** for the location of each section of the VCR.

4.2 Section A: Coniston to Hagar (Map #1)

Route and Amenities: This 37.6 km section is entirely on Hwy 17 and begins at the western terminus of the VCR in Coniston and passes through Stinson, Callum and Markstay with the eastern boundary located at the intersection with Hwy 535 in Hagar. The route includes a short detour from Hwy 17 to pass through Markstay. This detour provides access to some amenities in Markstay and also allows cyclists to avoid a long and narrow highway bridge over a railway at Hwy 17. Both Coniston and Wahnapiatae provide basic amenities for cycling tourists, with some amenities also available in Markstay and Hagar. A campground also exists on the Wahnapiatae River near Stinson.

Cycling Experience: Following the Wahnapiatae River and the Veuve River, this section passes through scenic landscapes including forests, exposed rock faces and views of the Veuve River. The topography through this section is generally rolling with 2-4 steep climbs.

Roadway Considerations: As a consequence of the high volume of motor vehicle and truck traffic along this section, buffered paved shoulders are strongly recommended, consistent with OTM Book 18 and MTO's Bikeway Design Manual. Only a few short sections currently feature paved shoulders. The railway overpass bridge between Coniston and Wahnapiatae is scheduled for rehabilitation between 2015 and 2017 by MTO. It currently features a paved shoulder that, with the addition of Share the Road signage could accommodate cyclists in the interim. The bridge over the Wahnapiatae River also features a narrow paved shoulder that could accommodate cyclists in the interim. A third bridge near Markstay (railway overpass), which is not on the currently recommended VCR, includes very narrow partially paved shoulders.

It is recommended that the MTO consider widening all three of these bridges to accommodate buffered paved shoulders when these bridges are rehabilitated or replaced in the future. Moreover, Bicycle Crossing signs should be located 395 m (as per OTM Book 6 Warning Signs) in advance of the intersection with Pioneer Rd. (westbound only) and Main St. S. (both directions) in Markstay to alert motorists to the possibility of cyclists crossing. See OTM Book 6 for further details on the placement of warning signs.



























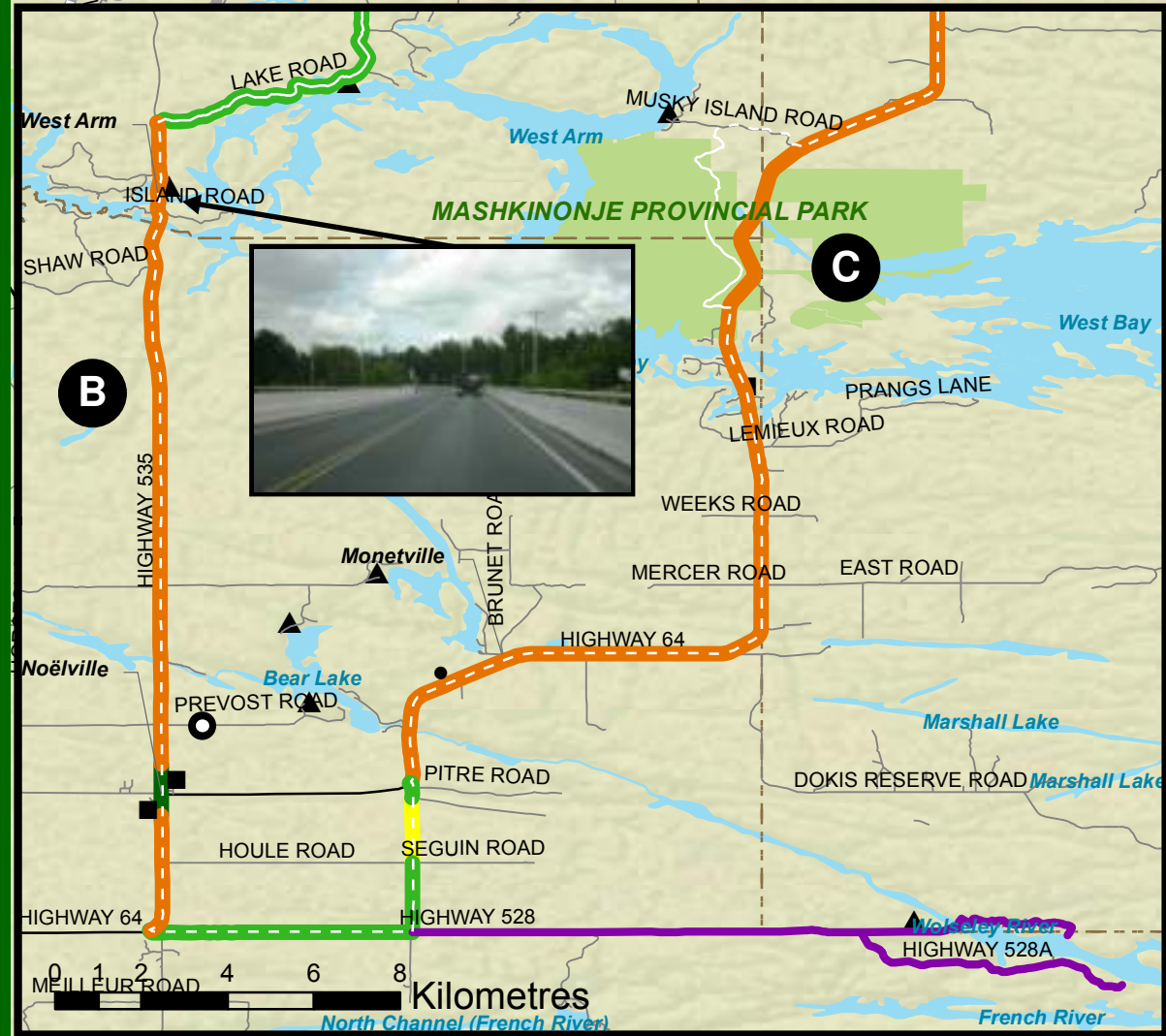
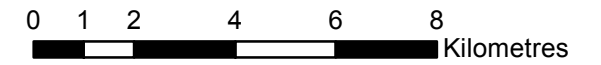
MAP #1

Route Sections: A, B, C

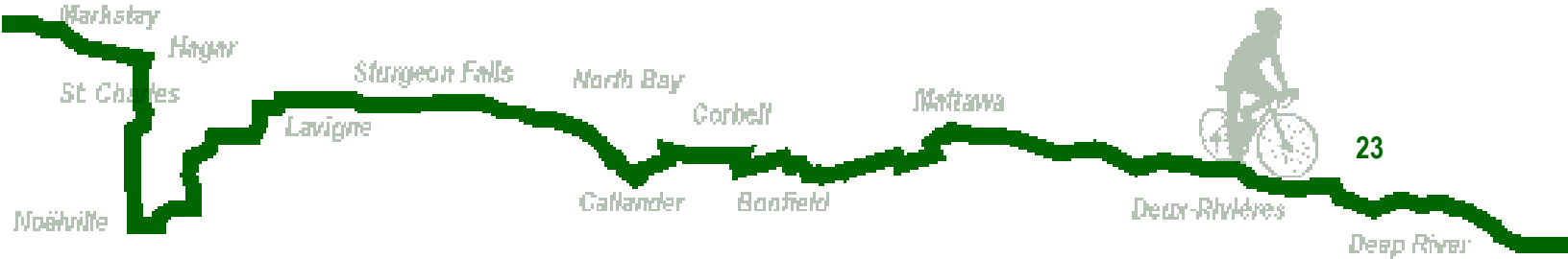
VOYAGEUR CYCLING ROUTE Feasibility Study and Implementation Plan

LEGEND

-  Route Section Division
-  Route Section
-  Existing Trail / Cycle Track
-  Existing Paved Shoulder
-  Add Signed Route
-  Improve Granular Surface
-  Add Paved Shoulder on Medium Volume Roadway
-  Add Buffered Paved Shoulder on High Volume Roadway
-  VCR Extension / Connection
-  Highway
-  Road
-  Active Railway
-  Abandoned Railway for Further Investigation
-  Abandoned Railway
-  Green Canada Best Water Transportation
-  Operational (solid white line)
-  Proposed (dashed white line)
-  Campground
-  Picnic Site
-  Historic Site / Point of Interest
-  Aboriginal Lands
-  Water
-  Provincial Park
-  Municipality



see inset map



4.3 Section B: Hagar to Noelville (Map #1)

Route and Amenities: This 40.2 km section begins at Hagar and continues through St. Charles and West Arm with its southern terminus in Noelville. Approximately 65% of this section is on Hwy 535, with the remaining distance located on secondary roads. The secondary road routing was selected due to the lower traffic speeds and volumes on these roads relative to Hwy 535, the scenic landscape along this route and the campground, accommodations and amenities that are located along this route. Full amenities are available in Noelville with limited amenities in St. Charles, Hagar and along Lake Rd. This section of the route is also included in the Trans Canada Trail route.

Cycling Experience: This section passes through a varied landscape including agricultural areas and forested areas and provides views of several rivers along the way. The relatively straight route along Hwy 535 contrasts with the winding route along Lake Road. Overall the route covers gently rolling terrain with 1-2 steep climbs.

Roadway Considerations: The Nepewassi Bridge is sufficiently wide to accommodate cyclists, whereas the two bridges near West Arm and the Wolseley River Bridge would benefit from Share the Road signage and potentially a speed limit reduction. Paved (and preferably buffered) shoulders are desired for the segments along Hwy 535. Since the traffic volume along this section is comparatively low (relative to the volume along Hwy 17), these sections could function as signed routes in the interim, until paved shoulders can be implemented with future roadway resurfacing projects. Bicycle crossing signs (should be located 335 m in advance of the intersection with Lake Rd. (both directions) on Hwy 535 to alert motorists to the possibility of cyclists crossing. A signed route is appropriate for the segments that are not on Hwy 535.



Hwy 535, St. Charles



King St. E, St. Charles



Hwy 64, Noelville

4.4 Section C: Noelville to Lavigne (Map #1)

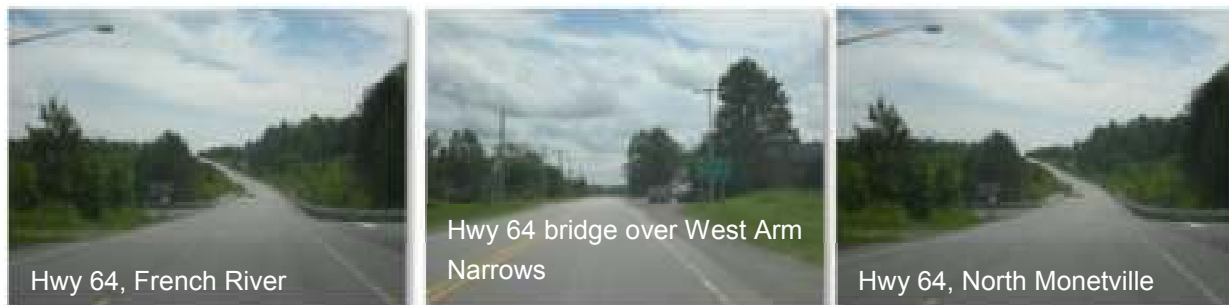
Route and Amenities: After passing through Noelville, this 44.7 km section travels south along Hwy 64 to Hwy 528, then east along Hwy 528 before turning north on Montee Guerin Rd. From there, the route rejoins Hwy 64 and continues north along the highway to Lavigne. Full amenities are available in Noelville and Lavigne, with limited amenities available in Monetville and at other locations along this section. The southern portion of this segment provides access

to the future Scollard Discovery Park as well as several campgrounds on Wolseley Bay and the French River.

Cycling Experience: This route travels through a primarily forested landscape on rolling topography with 1-2 steep climbs. Mashkinonje Provincial Park is located directly on Hwy 64 southwest of Lavigne. The Trans Canada Trail, which follows the same route as the VCR for the majority of this section, diverts into Mashkinonje Provincial Park and follows a spectacular hiking trail through a series of wetlands, which may be a point of interest for many cyclists.

Roadway Considerations: A segment at Monet Lake includes a guide rail with a narrow shoulder, which would benefit from Share the Road signage and potentially a speed limit reduction. The two bridges over the West Arm Narrows have narrow paved shoulders; these bridges should be further evaluated to determine whether the lane widths can be adjusted or whether Share the Road signage and a potential reduction in the speed limit could be implemented. Paved shoulders are desired for the segments along Hwy 64. Since the traffic volume along this section is comparatively low (relative to the volume along Hwy 17), these sections could function as signed routes in the interim, until paved shoulders can be implemented with future roadway resurfacing projects. A signed route is appropriate for the segments on Hwy 528 and Montee Guerin Rd.

Route Extension: A number of lodges and campgrounds are located on Wolseley Bay, and a route extension has been indicated on Hwy 528 east of Montee Guerin Rd. for cyclists who wish to visit this area or stay at these accommodations.



4.5 Section D: Lavigne to Sturgeon Falls (Map #2)

Route and Amenities: This 29.8 km section begins in Lavigne, which features a small selection of eateries and campgrounds and continues north and east on Hwy 64 before connecting with lower volume rural roads that lead into Sturgeon Falls. The route passes through downtown Sturgeon Falls on King St. which features a full range of amenities. The route passes through a marina and then travels along Salter Street, which runs parallel to Hwy 17, before returning to the highway near the urban periphery. The route uses Golf Course Rd. to rejoin Hwy 17 to avoid using Hwy 17 through the urban area.

MAP #2

Route Sections: D, E

VOYAGEUR CYCLING ROUTE

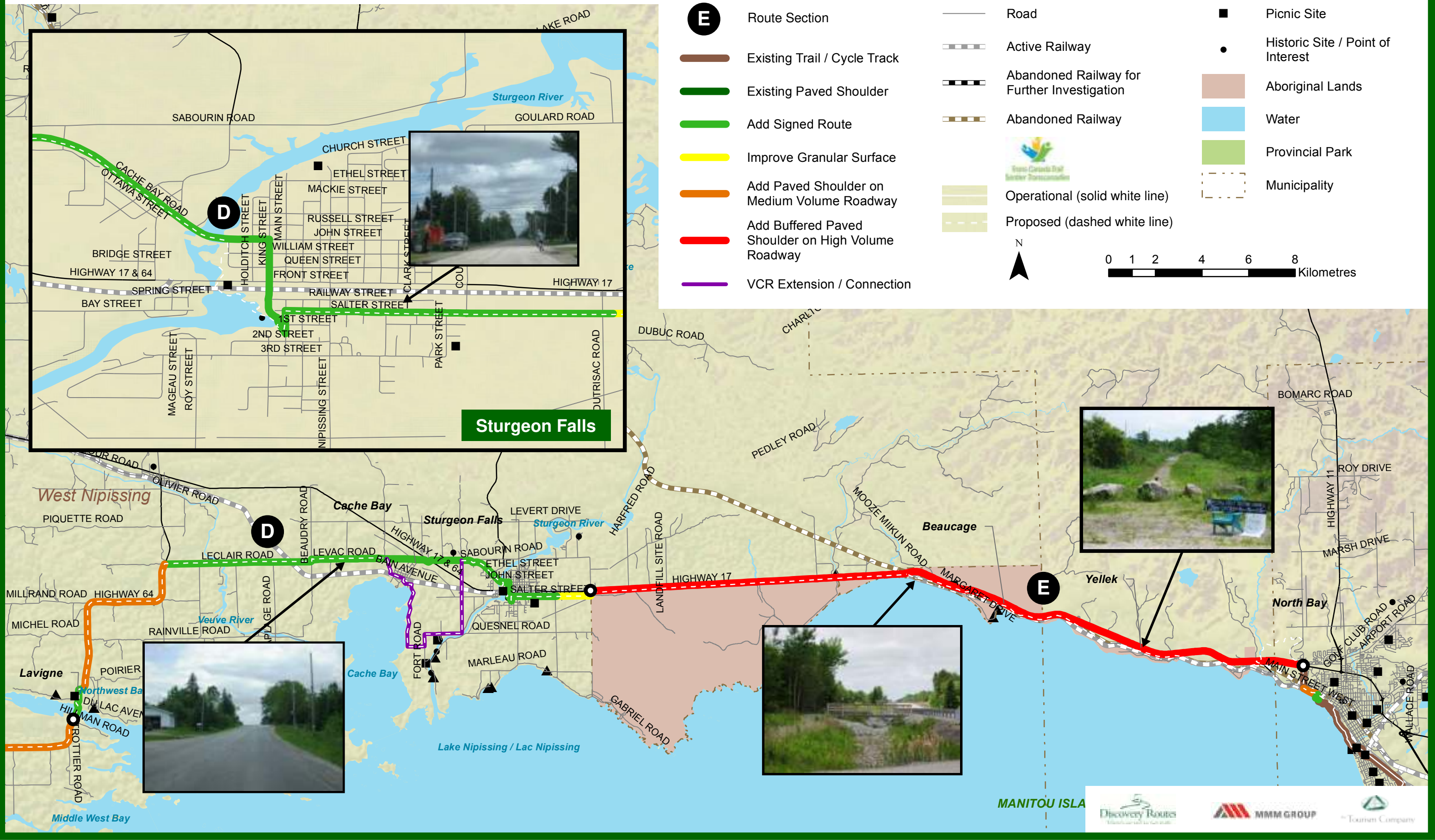
Feasibility Study and Implementation Plan

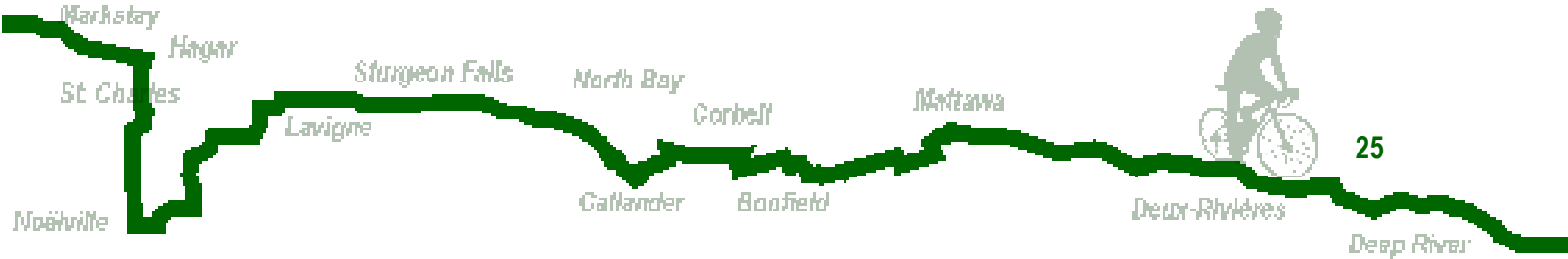
- Route Section Division
- E Route Section
- Existing Trail / Cycle Track
- Existing Paved Shoulder
- Add Signed Route
- Improve Granular Surface
- Add Paved Shoulder on Medium Volume Roadway
- Add Buffered Paved Shoulder on High Volume Roadway
- VCR Extension / Connection

LEGEND

- Highway
- Road
- Active Railway
- Abandoned Railway for Further Investigation
- Abandoned Railway
- ▲ Campground
- Picnic Site
- Historic Site / Point of Interest
- Aboriginal Lands
- Water
- Provincial Park
- Municipality
- Operational (solid white line)
- Proposed (dashed white line)

0 1 2 4 6 8 Kilometres





Cycling Experience: The route crosses through primarily agricultural landscapes with generally flat terrain. This section passes directly by a marina, which has a restaurant and a lookout point over the Sturgeon River that would offer cyclists an excellent stopping point. The Veuve River is also visible where it crosses Leclair Rd.

Roadway Considerations: The bridge over the Northwest Bay of Lake Nipissing already includes paved shoulders and likely would not require modification beyond the addition of Share the Road signage. Paved shoulders are desired for the segments along Hwy 64. Since the traffic volume along this section is comparatively low (relative to the volume along Hwy 17), these sections could function as signed routes in the interim, until paved shoulders can be implemented with future roadway resurfacing projects. A signed route is appropriate for the segments that are not on Hwy 64.

The segment along Cache Bay Rd. between Pine St. and King St. features a sufficiently wide roadway that the Municipality of West Nipissing could consider implementing bicycle lanes or simply add edge line pavement markings (e.g. rural shoulders) to create paved shoulders along this segment. Optional sharrow pavement markings (see OTM Book 18) could also be implemented along King St. to encourage cyclists to take the lane along this segment in order to avoid cycling in the “door zone” of parked cars. An one way exemption should also be provided for cyclists at the entrance and exit of the marina in Sturgeon Falls.

Route Extension: This section includes an extension that, once fully implemented, would provide access to the Sturgeon River House Museum located approximately 6 km southwest of Sturgeon Falls and Fort Rd. A pathway that would generally follow the eastern shore of Cache Bay is currently in the planning stages, with an estimated completion date in 2017.



Source: MMM Group 2015

4.6 Section E: Sturgeon Falls to North Bay (Map #2)

Route and Amenities: This 31.5 km section follows Hwy 17 between Golf Course Rd. in Sturgeon Falls and Gormanville Rd. in North Bay. Eloy Rd. was considered as a possible alternative for the eastern segment of this section entering North Bay, though is not recommended at this time. The primary reason for this is that a signalized intersection would likely be required at the intersection of Eloy Rd. and Gormanville Rd. Furthermore, paved shoulders along Hwy 17 that connect to Gormanville Rd. provide better network connectivity for local cyclists who may be travelling north or south of Hwy 17 on Gormanville Rd. Full amenities are available at both ends of this section, and a few roadside amenities and campgrounds are available along the way.

Cycling Experience: This section passes through a primarily forested landscape and features occasional views of Lake Nipissing, including a lookout point. The eastern segment of this section includes 2-4 moderately steep climbs, while the western half of this section is generally flat.

Roadway Considerations: As a consequence of the high volume of motor vehicle and truck traffic along this section, buffered paved shoulders are strongly recommended. The bridge over the Little Sturgeon River already features paved shoulders, while the bridge over Laronde Creek could accommodate eastbound cyclists through an existing pedestrian bridge on the south side of the roadway; it is recommended that the MTO consider options for accommodating westbound cyclists including lane width modifications, Share the Road signage, and consider a speed limit reduction in the immediate vicinity, or the addition of a separate cycling/trail bridge.



Hwy 17, Sturgeon Falls



Hwy 17, Yellek



Hwy 17, Crystal Falls

4.7 Section F: North Bay to Callander (Map #3)

Route and Amenities: This 17.6 km section generally follows either low volume urban streets or multi-use pathways located either in roadway boulevards or off-road. A full range of amenities including campgrounds and hotels are available in North Bay, and there are approximately 4 businesses in the vicinity of this section that have been certified by *Ontario by Bike*. The Kate Pace Way includes resting areas that also feature trail maps. Nipissing St. is chosen as the preferred connection between Main St. and Gorman St. because Nipissing intersects Main St. at a four way stop controlled intersection. The route along Fairway Dr. at the southern end of this section was chosen to avoid the higher volume Callander Bay Rd. The

MAP #3

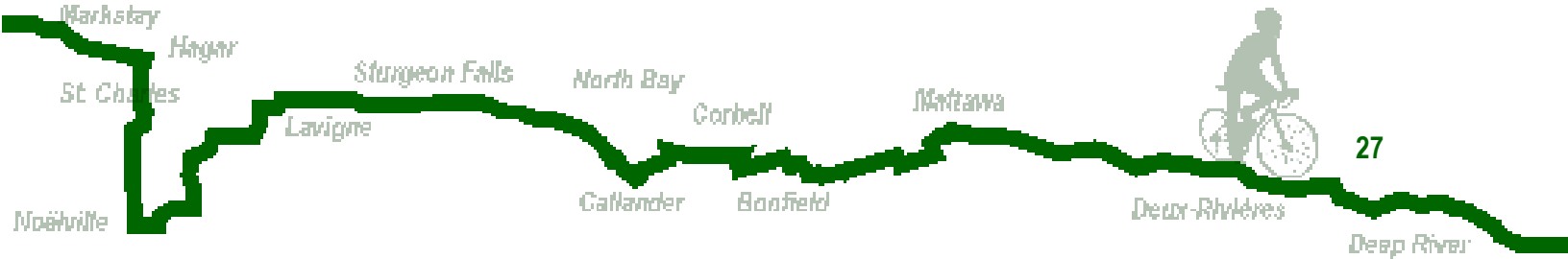
Route Sections: F

VOYAGEUR CYCLING ROUTE Feasibility Study and Implementation Plan

LEGEND

- Route Section
 - Existing Trail / Cycle Track
 - Existing Paved Shoulder
 - Add Signed Route
 - Improve Granular Surface
 - Add Paved Shoulder on Medium Volume Roadway
 - Add Buffered Paved Shoulder on High Volume Roadway
 - VCR Extension / Connection
 - Highway
 - Road
 - Active Railway
 - Abandoned Railway for Further Investigation
 - Abandoned Railway
 - Operational (solid white line)
 - Proposed (dashed white line)
 - Campground
 - Picnic Site
 - Historic Site / Point of Interest
 - Aboriginal Lands
 - Water
 - Provincial Park
 - Municipality
- Scale: 0 0.3 0.6 1.2 1.8 2.4 Kilometres





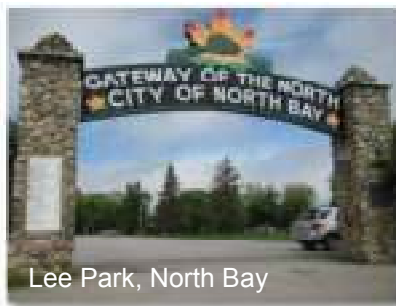
routing also follows the TCT route for this section. As part of the ongoing development of the TCT, the City of North Bay is currently exploring options to improve these segments with a target of completion in 2017.

Cycling Experience: This section is primarily flat and features a varying landscape that is alternately urban and rural. A view of the Lake Nipissing waterfront and scenic trails result in a very pleasant cycling experience.

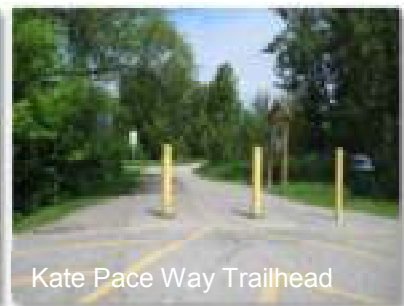
Roadway Considerations: The City of North Bay should consider implementing paved shoulders or another designated cycling facility along the Main St. segment when road rehabilitation is scheduled in the future, due to the moderately high traffic volume along this segment. Crossrides could also be implemented at the intersection of Gormanville Rd. and Hwy 17 to improve the cycling environment at this location, recognizing the proximity to Canadore College/Nipissing University and the North Bay Regional Health Centre. Finally, the Municipality of Callander in partnership with DRTO is currently designing a separated pathway along Cranberry Rd. between Kate Pace Way and Fairway Dr., and seeking funding from the TCT and the Municipal Cycling Infrastructure Program.



Kate Pace Way, North Bay



Lee Park, North Bay



Kate Pace Way Trailhead

4.8 Section G: Callander to Bonfield (Map #4)

Route and Amenities: This 27.9 km section begins in Callander and crosses Hwy 11 before heading eastward along local roads to Bonfield. The routing through Callander follows Main St., providing cyclists with access to several amenities and avoiding higher traffic volumes on Callander Bay Dr. The routing on this segment through Callander also aligns with the TCT route. The alignment of the eastern portion of this section was determined through field work observations, input received at the public consultation sessions and supported by Strava data, all of which suggest that many cyclists are already using this route. Part of this section is already signed as a bicycle route and is known as the *Inland Water Route*, and has a rich local history dating back to the early 20th century.

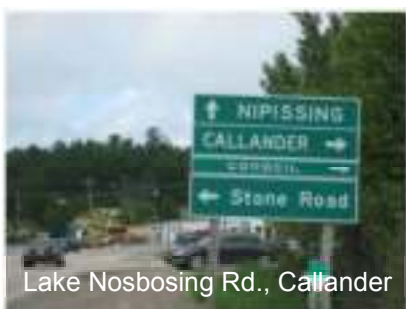
Cycling Experience: This section is characterized by gently rolling terrain, forested landscapes and in some cases winding roads. Callander Bay and Lake Nosbonsing can be seen from multiple locations along the route.

Roadway Considerations: The Municipality of Callander may wish to provide bicycle lanes along Main St., a recommendation that is supported by the Callander Active Transportation Plan. In the interim, this segment can also function as a signed route.

The short segment of Callander Bay Dr. along this section could be improved by providing a two-way cycling facility on east side of the roadway, where a very wide shoulder currently exists. This strategy would allow eastbound cyclists to avoid crossing Callander Bay Dr. Finally, paved shoulders are recommended for Lake Nosbosing Rd., particularly the segment between Callander Bay Dr. and the northbound ramps to / from Hwy 11. This segment would benefit from a designated cycling facility such as paved shoulders, due to the curve in the roadway, reduced visibility under the overpasses and high volume of turning motor vehicles. Intersection treatments across the ramps such as crossrides or green coloured pavement would also serve to increase motorists' awareness of cyclists in this section. The remaining segments of Lake Nosbosing Rd. could function as a signed route in the interim. Astorville-Corbeil Rd. would also benefit from paved shoulders if it were feasible to implement them, though Lake Nosbosing Rd. is thought to be a higher priority.



Main St. N., Callander



Lake Nosbosing Rd., Callander



Sunnyside Rd., Bonfield

4.9 Section H: Bonfield to Mattawa (Map #4)

Route and Amenities: This 43.1 km section begins in Bonfield and follows secondary roads to Mattawa. As with part of Section G, the alignment of Section H was determined through input received at the public consultation sessions and field work observations which suggest it is already a popular route among local cyclists. Some limited amenities are available in Bonfield and Eau Claire, and the route also provides access to the Eau Claire Gorge and indirectly to Samuel de Champlain Provincial Park.

Cycling Experience: This section features gently rolling terrain with a few steeper climbs. Forested and agricultural landscapes dominate the scenery along this section.

























Roadway Considerations: Gravel roads constitute approximately 45% of this section, and if possible should be upgraded to a hard surface treatment. Given this may not be possible in the foreseeable future, prior to the implementation of the cycling route along this segment it is important that existing road maintenance practices be reviewed to take cyclists into consideration.

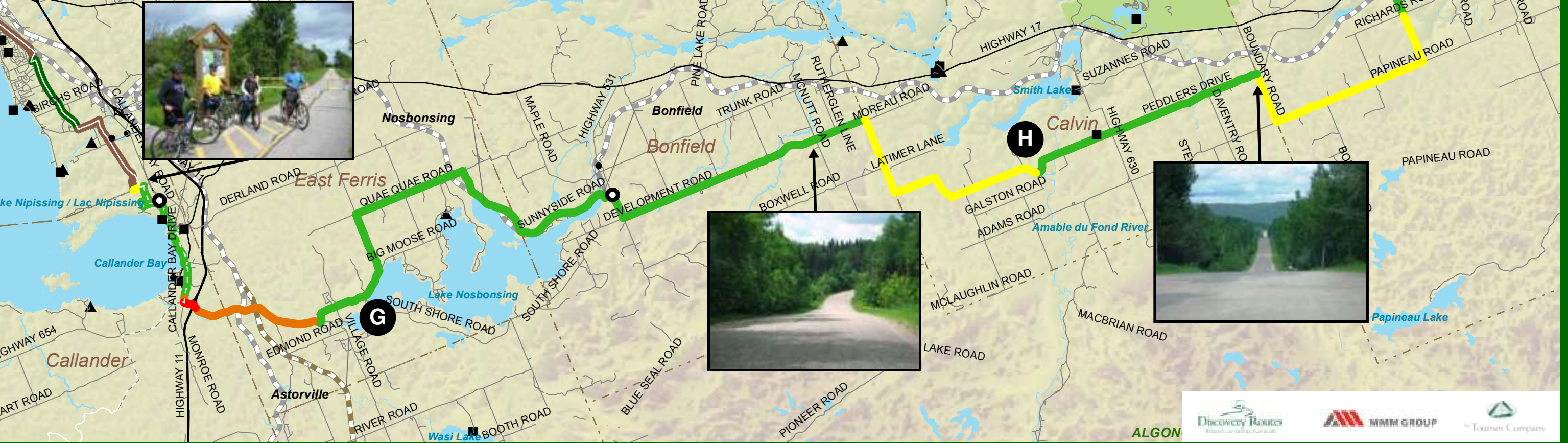
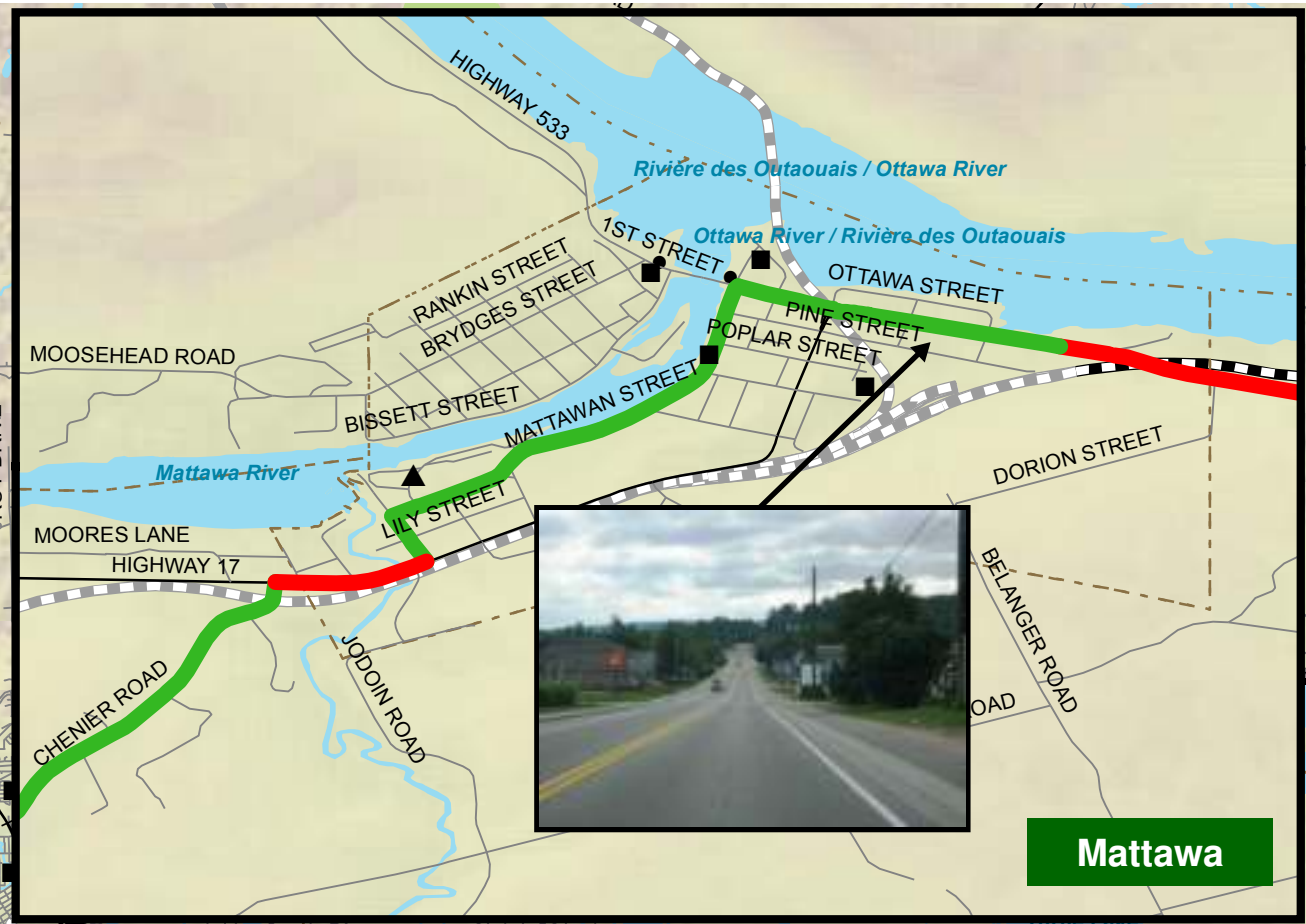
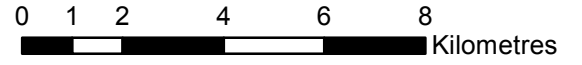
MAP #4

Route Sections: G, H

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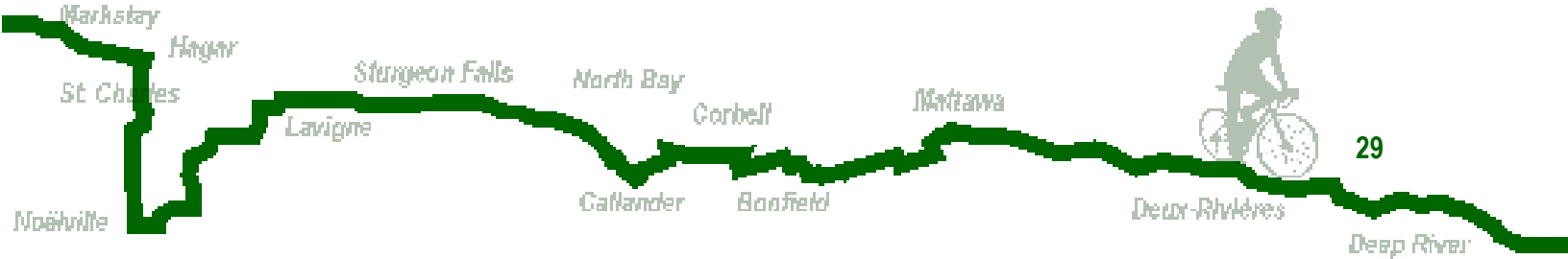
LEGEND

-  Route Section Division
-  Route Section
-  Existing Trail / Cycle Track
-  Existing Paved Shoulder
-  Add Signed Route
-  Improve Granular Surface
-  Add Paved Shoulder on Medium Volume Roadway
-  Add Buffered Paved Shoulder on High Volume Roadway
-  VCR Extension / Connection
-  Highway
-  Road
-  Active Railway
-  Abandoned Railway for Further Investigation
-  Abandoned Railway
-  Provincial Park
-  Operational (solid white line)
-  Proposed (dashed white line)
-  Campground
-  Picnic Site
-  Historic Site / Point of Interest
-  Aboriginal Lands
-  Water
-  Provincial Park
-  Municipality



ALGON





Development Rd., Bonfield



Peddlers Dr., Calvin



Homestead Rd., Calvin

4.10 Section I: Mattawa to Bissett Creek (Map #5)

Route and Amenities: This 57.3 km section begins in Mattawa and then travels eastward along Hwy 17 in the Ottawa River valley. Through Mattawa, this section makes use of low volume streets which also provide a view of the Mattawa River. Main St. is used to connect back to Hwy 17 at the roundabout. A full range of amenities are available in Mattawa, but the remainder of the route provides very limited access to amenities.

Cycling Experience: The terrain for this section is quite hilly with a number of long climbs. The landscape is primarily forested with frequent views of the Ottawa River. Higher elevation points provide scenic vistas of the surrounding landscape.

Roadway Considerations: The half kilometre segment of Hwy 17 that connects Chenier Rd. to Louis St. should be improved for cyclists. The MTO should consider implementing Share the Road signage along this segment and adding a paved shoulder to the eastbound lanes once the curb lane has been discontinued. The MTO may also wish to consider adding sharrows to the curb lane to indicate to motorists that cyclists are entitled to take this lane (see page 4-7 of the MTO Bikeways Design Manual for further information about the use of sharrows on MTO highways). Bicycle crossing signs (OTM Wc-14 with OTM Wc-32t) should be located 225 m in advance of the intersection with Chenier Rd. It is also recommended that the introduction of the 60 km/h speed limit be shifted to a point west of Chenier Rd. The Municipality of Mattawa may also wish to consider implementing sharrows along Main St.

Heading east from Mattawa, buffered paved shoulders are strongly recommended due to the high volume and speed of traffic along Hwy 17. During field investigations it was observed that approximately 25% of this section already features a paved shoulder on at least one side of the highway, typically along inclines where the paved shoulders have been implemented to improve drainage and reduce erosion. It is also recommended that the 50 km/h zone in Mattawa be extended a short distance to include the railway underpass, as there is limited space to implement paved shoulders through the underpass. The railway underpass in Deux-Rivieres includes a paved shoulder for eastbound cyclists; the westbound lane has a narrow shoulder and a sidewalk. One option to improve cycling conditions at this location would be to slightly extend the sidewalk and sign it as a multi-use path.

The railway overpass near the eastern end of this section features narrow paved shoulders. Modified lane widths, a reduction in the speed limit and Share the Road signage should be explored as options to improve cycling conditions at this location.



Hwy 17, Mattawa



Hwy 17, Papineau-Cameron



Hwy 17, Deux-Rivières

4.11 Section J: Bissett Creek to Deep River (Map #6)

Route and Amenities: This 50.5 km section follows Hwy 17 for its entire length from Bissett Creek to Deep River. This section also provides direct access to Driftwood Provincial Park, and a number of campgrounds exist in and near the park. Full amenities are available in Deep River, however other amenities are very limited through most of this section.

Cycling Experience: This section offers a similar cycling experience to Section I, with hilly terrain and a number of long climbs. The forested landscape together with frequent views of the Ottawa River provides excellent scenery throughout this section.

Roadway Considerations: Buffered paved shoulders are again strongly recommended for the entire length of this section due to the high speed and volume of traffic on Hwy 17. As with Section I, it was observed that approximately 25% of this section already features paved shoulders on at least one side of the highway. The railway underpass near Driftwood Provincial Park already features paved shoulders that appear to be of an adequate width to accommodate cyclists, though Share the Road signage would be beneficial in this location since the roadway curves on the approach to the underpass, somewhat restricting sightlines. All other bridges / water crossings along this section either have paved shoulders or have sufficient width to implement paved shoulders without significant reconstruction. Through Deep River, buffered paved shoulders should be implemented due to the high volume of motor vehicle traffic.



Hwy 17, Deep River



Hwy 17, Rolphton



Hwy 17, Deep River

MAP #5

Route Sections:

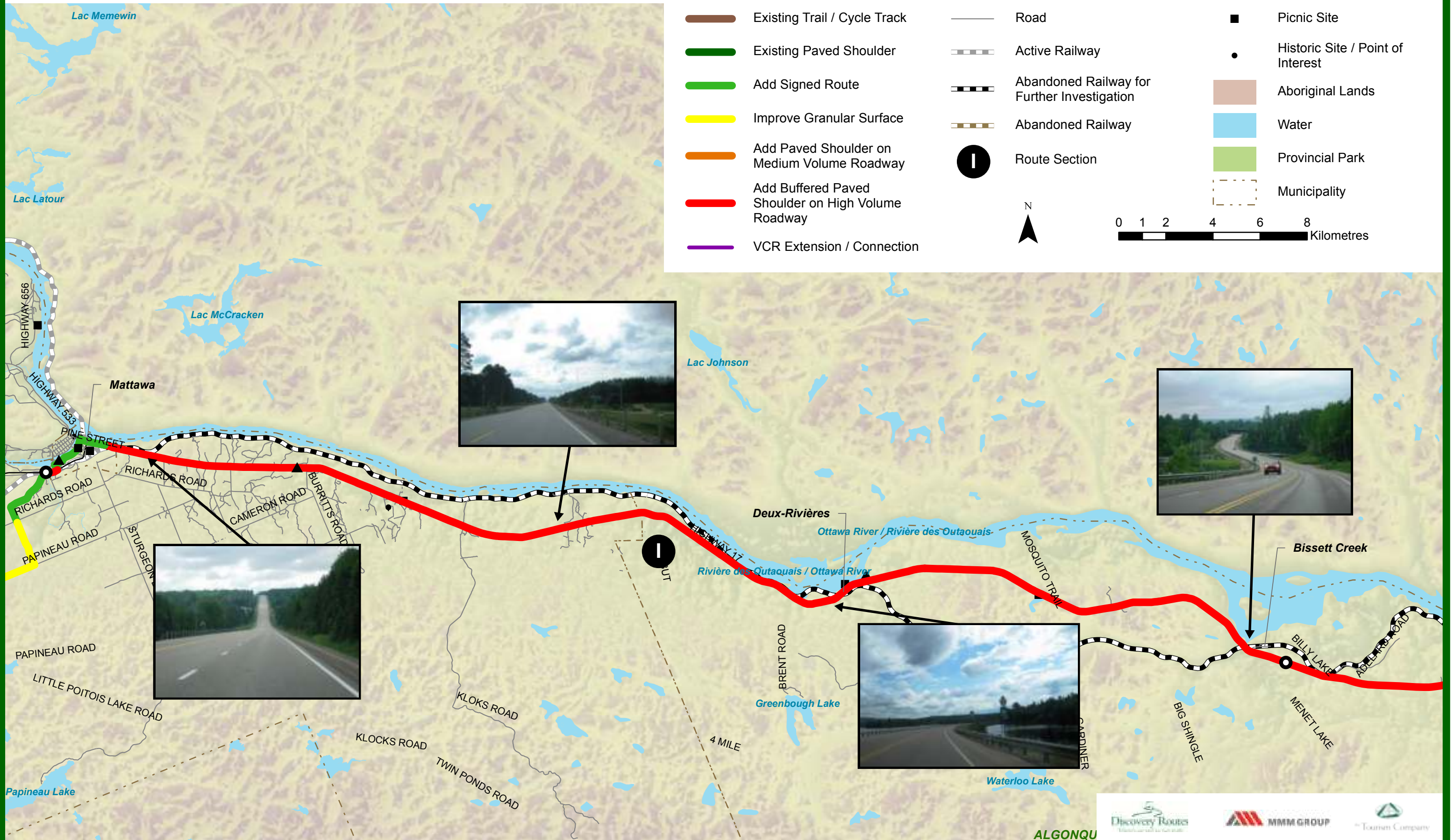
VOYAGEUR CYCLING ROUTE Feasibility Study and Implementation Plan

LEGEND

- | | | | | | |
|--|--|--|---|--|-----------------------------------|
| | Route Section Division | | Highway | | Campground |
| | Existing Trail / Cycle Track | | Road | | Picnic Site |
| | Existing Paved Shoulder | | Active Railway | | Historic Site / Point of Interest |
| | Add Signed Route | | Abandoned Railway for Further Investigation | | Aboriginal Lands |
| | Improve Granular Surface | | Abandoned Railway | | Water |
| | Add Paved Shoulder on Medium Volume Roadway | | Route Section | | Provincial Park |
| | Add Buffered Paved Shoulder on High Volume Roadway | | | | Municipality |
| | VCR Extension / Connection | | | | |



0 1 2 4 6 8 Kilometres



ALGONQU
























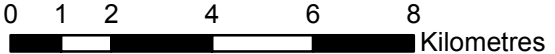


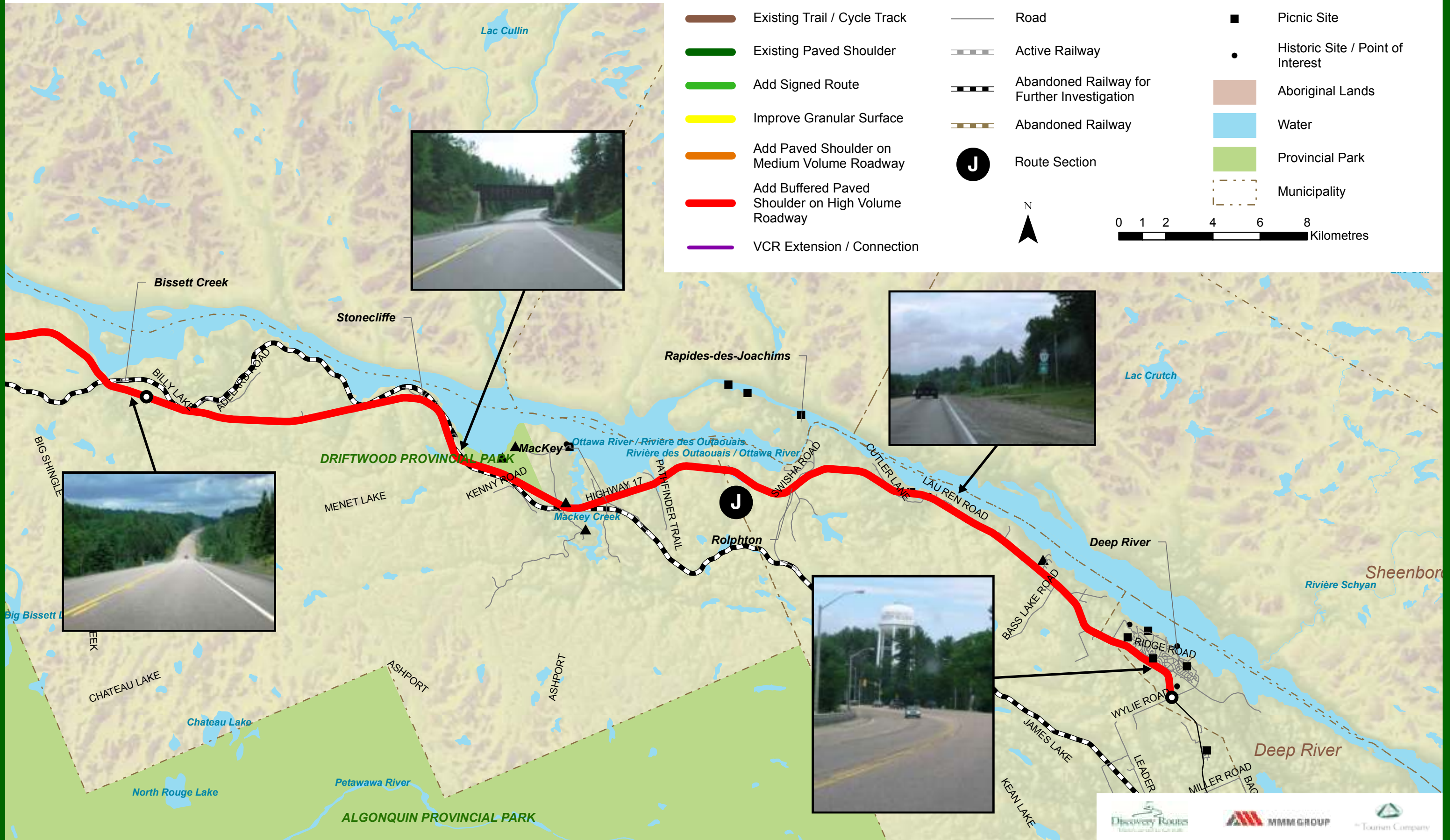
MAP #6

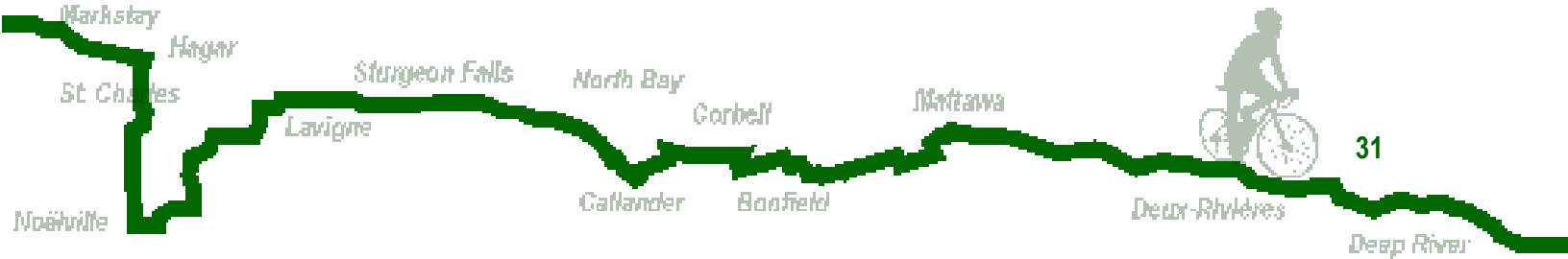
Route Sections: J

VOYAGEUR CYCLING ROUTE Feasibility Study and Implementation Plan

LEGEND

- | | | | | | |
|---|--|---|---|---|-----------------------------------|
|  | Route Section Division |  | Highway |  | Campground |
|  | Existing Trail / Cycle Track |  | Road |  | Picnic Site |
|  | Existing Paved Shoulder |  | Active Railway |  | Historic Site / Point of Interest |
|  | Add Signed Route |  | Abandoned Railway for Further Investigation |  | Aboriginal Lands |
|  | Improve Granular Surface |  | Abandoned Railway |  | Water |
|  | Add Paved Shoulder on Medium Volume Roadway |  | Abandoned Railway |  | Provincial Park |
|  | Add Buffered Paved Shoulder on High Volume Roadway |  | Route Section |  | Municipality |
|  | VCR Extension / Connection |  | |  | |





4.12 Summary of Existing Conditions

The total length of the recommended VCR is 379 km. Approximately 111 km of the VCR travels along roadways that either have very low traffic volumes or already have an appropriate facility type. Along these sections, the VCR can be implemented now through the addition of wayfinding signage and where appropriate, Share the Road signage. Approximately 23 km of the route is currently unpaved. It is recommended these segments be hard surfaced, either by paving them or by applying a chipseal surface treatment, which is typically more affordable than paving. If the VCR is implemented without hard surfacing these sections, it is important that cycling tourist information used to promote the VCR notes that these segments are granular surface. In addition the responsible road authority for these roads should maintain these roads with cyclists in mind. Approximately 75 km of the VCR is on roadways that would benefit from the addition of paved shoulders, though this may not be essential for initial implementation. Many experienced touring cyclists may feel comfortable enough travelling along these roadways in their current condition, and as an interim measure the VCR could be implemented through the addition of signage. When these roadways are scheduled to be improved/ resurfaced, every effort should be made to provide a paved shoulder.

For approximately 170 kilometres of the route, buffered paved shoulders are strongly recommended. These sections are almost exclusively on Hwy 17, which has high volumes of motor vehicle traffic travelling at high speeds. It is important to note that since there are many short sections of Hwy 17 that already have paved shoulders, the total length of new paved shoulder to be constructed will be less than 170 km.

It is recommended that MTO be requested to consider the addition of buffered paved shoulders when road improvements are scheduled on those segments of Hwy 17 that are proposed to be included in the VCR route.

Many sections of Hwy 17 feature rumble strips to alert motorists should they leave the travel lane. When rumble strips exist in the absence of a wide paved shoulder, they may pose a risk to cyclists, as they will have to either ride on a narrow shoulder with inadequate width or ride in the motor vehicle lane. As noted in OTM Book 18, rumble strips can be designed to accommodate cyclists if a sufficiently wide paved shoulder is provided, and if the rumble strips are implemented with a skip pattern, this allows cyclists to manoeuvre onto the roadway if necessary, without travelling over the rumble strips. Where a sufficiently wide paved shoulder and buffer zone can be added, existing rumble strips should be updated to the bike friendly design when the road is next resurfaced.

4.13 Alternatives to Hwy 17

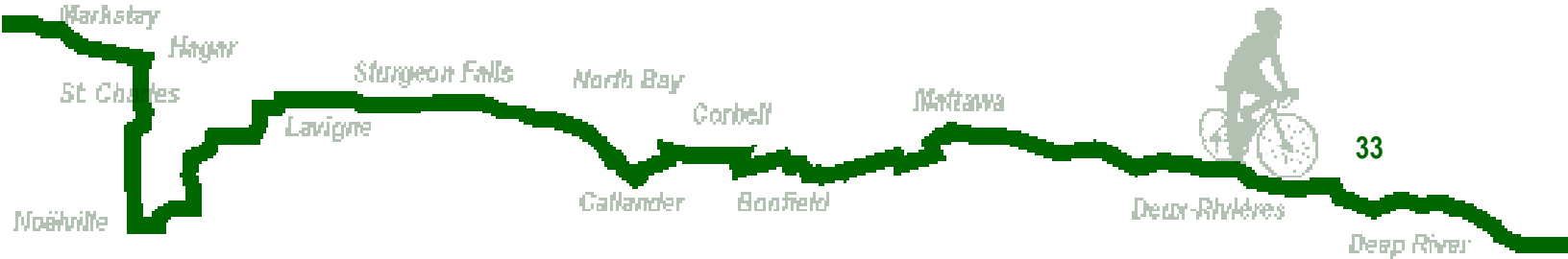
East of Mattawa, the abandoned CP railway corridor could be investigated as a possible alternative to Highway 17. The study team understands that area municipalities are currently in discussion with CP regarding acquisition of these lands for potential conversion of the abandoned rail line to a multi-use recreational trail (i.e. would include ATVs/Snowmobiles). It is recommended that these municipalities continue to work towards acquiring the abandoned rail corridor. Interest to convert the abandoned railway corridor was also echoed in the feedback received at the four PIC events.

The potential use of the rail corridor for the VCR could present some challenges including:

- Sharing the multi-use trail with other user groups such as ATV users;
- Lack of year-round maintenance on off-road multi-use trails;
- Emergency access;
- Wildlife encounters;
- Greater isolation; and
- Fewer amenities along the corridor (e.g. the rail corridor does not pass through all communities the on-road route connects to).

Given the above reasons and the fact that the VCR is expected to form part of a larger provincial primarily on-road cycling touring network, the proposed VCR route in this section is recommended to follow the Hwy 17 alignment. However, the former rail corridor should be further investigated to form part of a future recreational multi-use trail and to expand the area's snowmobile/ATV network in this part of the province.

A comment received through the public consultation process suggested investigating *Old Highway 17* as a possible route alternative. Unfortunately there are only a few disconnected segments of Hwy 17, and these are relatively short segments. Due to the cost of providing a quality riding surface on these abandoned segments and the inconvenience and risk of requiring cyclists travelling in one direction to cross Hwy 17 twice, these segments are not recommended for the VCR. Considering the short length of these segments, it is preferable to maintain a consistent cycling facility along the present alignment of Hwy 17.



5.0 COMMUNITY BENEFITS

Cycling touring routes provide significant community benefits. For host communities, tourism, including cycle tourism is an economic activity that provides economic benefits in the form of contribution to gross domestic product, generation and support of jobs, and taxes paid to municipal, provincial and federal governments.

When tourism is sustainable, the economic benefits are realized in combination with environmental and social/cultural stewardship. This “triple bottom line” results in an enhanced quality of life for host community residents as well as an authentic visitor experience for tourists.

The proposed Voyageur Cycle Route represents a sustainable tourism development initiative that will benefit tourists and residents across a wide swath of Northern Ontario, from Greater Sudbury to Deep River generally following (and sometimes using) the Trans-Canada Highway 17 corridor. These benefits will include:

- Establishment of an international cycle tourism destination – link the communities of Greater Sudbury, French River, West Nipissing, North Bay, Callandar, Mattawa and Deep River in a shared tourism development initiative with the potential to brand the region as an international cycling touring destination. With the planned development of the Lake Huron North Shore Cycling Route from Sudbury to Sault Ste. Marie, development of the Voyageur Cycling Route would establish a route of more than 800 km from the Ottawa Valley to Sault Ste. Marie.
- Increased regional tourism economic benefits – as a branded international cycle tourism destination, new cycle tourist spending will be attracted to the region.
- Expansion of existing (the Kate Pace Way in North Bay) cycling infrastructure allowing for the hosting of regional, provincial and possibly national level cycling events.
- Increased safety of cycling -- by providing an attractive, compelling cycling experience that redirects cyclists off the main Trans-Canada Highway corridor, and when that is not possible, provides appropriate cycling facilities along this corridor.
- Enhanced regional quality of life – use of the route by area residents for recreation and for transportation between communities would facilitate increased physical activity and its related health and fitness benefits, while replacing some motorized travel with bicycles thus reducing air pollution and greenhouse gas emissions.
- Contribution to a regional Northern Ontario economic development strategy – success from implementing this shared, regional economic development initiative bringing together cities, towns, townships and First Nation communities can provide a model and platform for additional projects and initiatives. The VCR is also well aligned with the tourism development recommendations in Section 2.3.10 of the 2011 Growth Plan for Northern Ontario. The shared alignment with the TCT provides further benefits by

increasing connectivity to the route, giving the route a national profile and improving the potential for funding and investment into the route.

Who are the Existing & Expected Route Users?

In order to fully understand the potential community benefits, it is important to define the user groups and types of activity that is expected to take place along the route. Some of this activity is currently occurring as evidenced by:

- On-line blogs reporting on cross Canada cycling that goes through the VCR region, even in the absence of designated cycling infrastructure throughout much of the region;
- Sharing of cycling activity reports by attendees at the community consultation workshops (see **Section 2.2**);
- Informal discussions and interviews with owners of businesses in the study area including convenience stores, bicycle shops, restaurants and lodging; and
- Observations made by the study team while conducting fieldwork for this study.

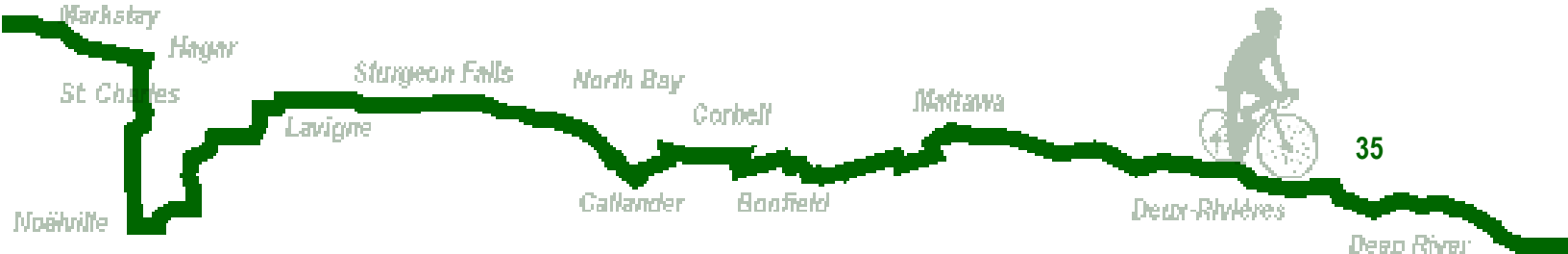
Cycling tourists are generally defined as “someone who has travelled greater than 40km from their place of residence and includes cycling as either their main trip purpose or as a secondary activity on their trip. These can be day trips or overnight stays and are enjoyed by a variety of types of cyclists”¹. The cycling activity includes both long distance and short distance cycling. A 2011 study completed by the Province of Ontario outlined a set of defining characteristics for long and short distance touring cyclists based on consultation with stakeholders and interest groups². **Table 2** outlines these user groups.

Table 2 – Recreational and Touring Cyclist Groups

Characteristics	Long Distance Recreational Touring Cyclists	Short-Distance / Local Community Recreational Touring Cyclists
Type of User	Long-distance recreational touring cyclists are engaged in multi-day touring trips and are willing to spend money on accommodations and food. These cyclists are typically avid riders who are generally receptive to exploring new routes and trails, although often will seek the most direct route from point A to point B.	Short-distance recreational touring cyclists are typically interested in undertaking trips that provide access to scenic attractions, points of interest, historical sites and recreational destinations such as community centres or local parks. These cyclists are typically interested riders who often cycle but are wary of the route and terrain on which they ride. Cyclists are often looking to rent / borrow bicycles at their destination.

¹ Pg. 3, “From Niche to Now: Cycle Tourism in Ontario”, Transportation Options, February 2015.

² Data Inventory of Cycling Routes throughout Ontario. Ministry of Transportation Ontario (MTO). 2011.

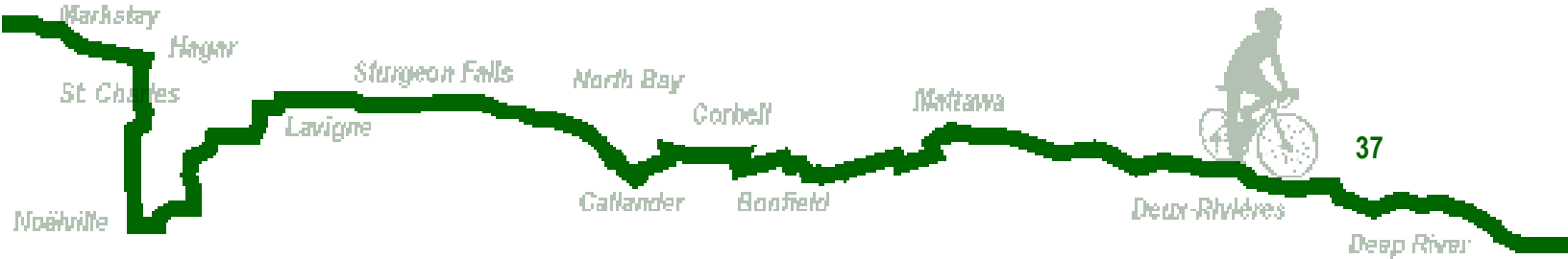


Characteristics	Long Distance Recreational Touring Cyclists	Short-Distance / Local Community Recreational Touring Cyclists
Trip Length	Multi-day trips of 2 days or more.	1 day or less (typically do not stay overnight). Sometimes multiple excursions of less than a day each during extended stays at a destination.
Type of Routes Used	<ul style="list-style-type: none"> • Connecting Key Geographic Areas; • Long Distance Routes (e.g. Waterfront Trail); • Loop or Circle Routes; and • Routes which facilitate cross provincial touring routes and access to bordering Provinces (e.g. Quebec and Manitoba). 	<ul style="list-style-type: none"> • Connections to local destinations (i.e. community centres or schools); • Connections to segments of existing cycling routes (i.e. the Waterfront Trail); and • Areas of Local Natural Beauty.
Amenities Accessed (note: not all amenities are accessed by all cyclists)	<ul style="list-style-type: none"> • Daily Food and Drink; • Housing / Accommodations for multi-night stays; • Complementary transportation (i.e. public transit or the Bike Train); • Destination signage and Distance Markers; • Local Maps and Touring Information; • Detailed information on trail / route conditions, such as surface type, physical barriers, trail width, etc., for trip planning; • Emergency Response Providers; • Guides and trip support such as luggage transfer; • Secure bicycle storage at overnight stays; and • Bike / Repair Shops. 	<ul style="list-style-type: none"> • Food and Drink; • Signage and destination markers; • Emergency Response providers; • Local Maps and touring information; • Rental or loaner bicycles; and • Access to alternatives modes of transportation (i.e. public transit or parking).

In the February 2015 report entitled “From Niche to Now: Cycle Tourism in Ontario” prepared by Transportation Options and based on research from a number of Ontario studies, characteristics of cycle tourists and cycle tourism were identified, including the following:

- “85% of visitors in Ontario are residents from Ontario, 5% are from other Canadian provinces, 8% from the USA, 2% are from overseas.
- With Ontario residents being the most frequent visitor it is interesting to note that the majority of Ontarians (54%) indicated that they would prefer to cycle more.
- 96% who want to cycle more said yes to more recreational cycling activities, 48% said yes to cycle tourism in Ontario.
- 66% of cyclists travel in groups of two to four people.
- 59% participated in events with friends or family.
- Average group size participating in events ranges from three to seven people.
- 69% of cyclists have taken overnight or day trips in Ontario within the past two years -- 49% in 2010.
- 70% of experienced cyclists took cycling trips in Ontario vs. 30% of recreational / leisure cyclists. This holds true for cycling trips taken outside of Ontario too (75% vs. 25%).
- In 2014, cyclists took an average of 3.1 cycling trips in Ontario and an average 1.9 cycling trips outside of Ontario.
- 72% of bike club road cyclists have taken self-guided trips in the past 24 months.
- 69% of road cyclists would be most interested in self-guided road tours from community to community and 62% interested in self-guided day trips from a central hub, both higher than in 2013.
- 24% of all cyclists had an interest in a guided tour, similar to 2013.
- Top activity preferences are culinary experiences, visiting cultural sites and museums, hiking, camping, wine tasting and shopping.
- 67% of cycling event participants took part in other non-cycling activities including visits to museums, breweries/wineries, kayaking.
- Cyclists in Québec rank the following as most popular activities while on overnight trips: hiking, experiencing nature, dining out, visiting local wineries, visiting historic sites.”³

³ Pgs 4-5, “From Niche to Now: Cycle Tourism in Ontario”, Transportation Options, February 2015.



5.1 Community Benefits & Impacts

Cycling activities provide significant health and fitness, transportation, environmental, economic and tourism benefits. Municipalities throughout Ontario are implementing initiatives to promote and encourage active transportation including cycling activities as a viable alternative to the private automobile for short-distance trips and as a method of promoting a more active and healthy lifestyle.

The following provides an overview of some of the key benefits associated with the development of active transportation including cycling and is organized to highlight current research and trends in the field of active transportation (pedestrian and cycling). Best practices and lessons learned are presented to demonstrate specific benefits which have been experienced by communities throughout Canada. Refer to **Appendix F** for additional case studies regarding the benefits of cycling and active transportation.

5.2 Economic Benefits

Active transportation reduces expenditures related to automobiles and in some cases can reduce the need for residents to own a vehicle, where savings can total hundreds or thousands of dollars annually per capita⁴. Active transportation provides benefits to the local economy during both construction and operation. The construction of these active transportation facilities results in direct benefits such as jobs, including the supply and installation of materials. Following construction, benefits emerge in the form of expenditures by active transportation facility users.

Published by the Go for Green in March 2004 *The Economic Benefits of Walking and Cycling*, the economic benefits outlined include:

- Reduction in road construction, repair and maintenance costs;
- Reduction in costs due to air pollutants and greenhouse gas emissions;
- Reduction in health care costs due to increased physical activity and reduced respiratory and cardiac disease;
- Reduction in fuel, repair and maintenance costs to users;
- Reduction of costs due to increased road safety;
- Reduction in external costs due to traffic congestion;
- Reduction in parking subsidies;
- Reduction of costs due to air pollution;
- Reduction of costs due to water pollution;

⁴ Litman, T. "Evaluating Non-Motorized Transportation Benefits and Costs". Victoria Transport Policy Institute. www.vtpi.org. 2005.

- The positive economic impact of bicycle tourism;
- The positive economic impact of bicycle sales and manufacturing;
- Increased property values along greenways and trails; and
- Increased productivity and reduction of sick days and injuries in the workplace.

Non-automotive expenditures are estimated to have a regional impact of \$0.219 per dollar more than automobile expenditures⁵. In 2002, Canadian households spent an average of \$42 on bicycles, parts and accessories for a total of nearly \$500 million.

Studies estimate that over 40 years Portland Oregon's \$138 to \$605 million bicycle facility investments will provide the following positive net economic benefits⁶:

- Healthcare savings of \$388-\$594 million
- Fuel savings of \$143-\$218 million
- \$7-\$12 billion in longevity value



Gearing Up Family Cycling Club
Source: Discovery Routes Trails Organization (<https://www.flickr.com/photos/discoveryroutes/>)



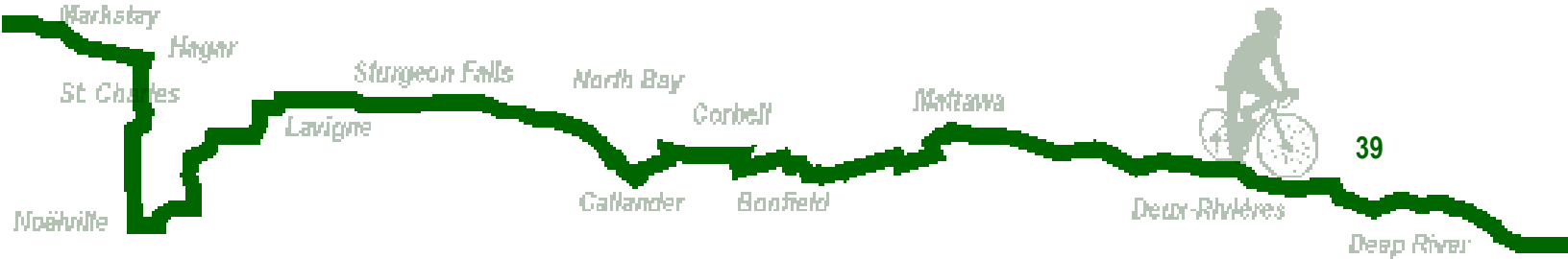
Trans Canada Trail
Source: Discovery Routes Trails Organization (<https://www.flickr.com/photos/discoveryroutes/>)



Existing Kate Pace Way in North Bay
Source: Discovery Routes Trails Organization (<https://www.flickr.com/photos/discoveryroutes/>)

⁵ The Business Case for Active Transportation, Better Environmentally Sound Transportation - BEST, Go for Green, March 2004

⁶ Litman, T. "Evaluating Non-Motorized Transportation Benefits and Costs". Victoria Transport Policy Institute. www.vtpi.org. 2005.



Estimated Study Area Economic Benefits

Quantifiable study area economic benefits generated directly or indirectly by the Voyageur Cycle Route will arise from three sources:

- Capital investment in bicycle infrastructure along the route;
- Spending by visitors engaged in using the Voyageur Cycle Route; and
- Ongoing spending by Discovery Routes and its partners in operating the Route, including marketing and maintenance.

The potential or expected amounts of these benefits can be estimated using the Ontario Ministry of Tourism’s Tourism Regional Economic Impact Model (TREIM), an input-output economic model which reports on contribution to gross domestic product, labour income, jobs and taxes collected by each of the three levels of government based on planned investment and projected annual spending.

Table 3 summarizes the potential economic benefits associated with developing and operating the Voyageur Cycle Route.

Table 3 – Potential VCR Economic Benefits

Inputs	Outputs			
	Gross Domestic Product (Annual)	Employment Income (Annual)	Jobs (Person years)	Tax Revenues Collected
Capital Investment in VCR Development – \$28 Million	\$10,900,000	\$7,100,000	105	Federal -- \$2,700,000 Provincial -- \$2,400,000 Municipal – 63,600
Visitor Spending – \$352,900 for 2,000 Visitors Staying 2 Nights Each	\$201,600	\$135,000	3	Federal -- \$53,400 Provincial -- \$43,400 Municipal -- \$560
VCR Operations Spending – \$250,000/Year	\$267,900	\$195,600	5	Federal -- \$63,900 Provincial -- \$42,000 Municipal -- \$6,000

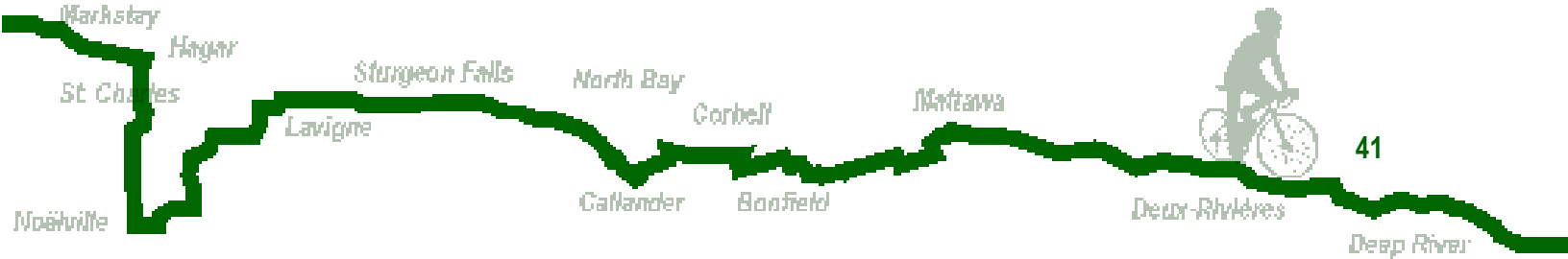
Source: The Ontario Ministry of Tourism, Culture and Sport, Tourism Regional Economic Impact Model (TREIM), July 2015

As illustrated in **Table 3** and detailed in **Appendix G – Ontario’s Tourism Regional Economic Impact Model**:

- In 2017, the estimated capital development investment of approximately \$28 million has the potential to generate approximately \$10,900,000 in contribution to regional gross domestic product, approximately \$7,100,000 in employment income for regional residents, and sustain approximately 105 jobs. In addition, potential tax revenues of approximately \$2,700,000 are projected to accrue to the Federal Government, approximately \$2,400,000 to the Provincial Government, and approximately \$63,600 in total to municipal governments within the region.
- In 2018, if approximately 2,000 cycle tourists visited the region to use the Voyageur Cycle Route and stayed an average of 2 nights each, their estimated total spending of \$352,900 would generate approximately \$201,600 in contribution to regional gross domestic product, approximately \$135,000 in employment income for regional residents, and sustain approximately 3 jobs. In addition, potential tax revenues of approximately \$53,400 are projected to accrue to the Federal Government, approximately \$43,400 to the Provincial Government, and approximately \$560 in total to municipal governments within the region. Benefits at or above these levels would be realized annually as long as the number of cycle tourists remained at or exceeded 2,000 and they stayed on average 2 nights each while using the Voyageur Cycle Route.
- Additional economic benefits would accrue in 2018 if spending on marketing and maintaining the Voyageur Cycle Route totalled approximately \$250,000. The amount of operational expenditures would generate approximately \$274,100 in contribution to regional gross domestic product, approximately \$195,600 in employment income for regional residents, and sustain approximately 5 jobs. In addition, potential tax revenues of approximately \$63,900 are projected to accrue to the Federal Government, approximately \$42,000 to the Provincial Government, and approximately \$6,000 in total to municipal governments within the region. Benefits at or above these levels would be realized annually as long as operational expenditures remained at or exceeded \$250,000 annually.

The potential economic benefits identified in **Table 3**, are based on the following key assumptions:

- The region where the spending occurs and the benefits will accrue is the Census Division of Nipissing District as defined by Statistics Canada. The Voyageur Cycle Route as planned is located almost entirely within this geographical area. The exception is the far western section of the Route that is located within the Greater Sudbury municipal boundary.



- The total capital investment of approximately \$28 million represents the estimated cost of improvements to cycle infrastructure along the Voyageur Cycle Route as recommended and detailed in this report. For the purpose of illustrating potential economic benefits, this spending is assumed to occur in 2017, and is assigned to “building & renovation” (5%), “other supplies (35%), and other services (60%) categories;
- An average level of use of 10 cycle tourists/day for a 200-day period (mid-April through end of October) has been assumed and assigned to 2018. A ratio of 85% Ontario residents, 5% other Canadian residents, 8% US residents and 2% overseas residents, consistent with the ratio reported above, was assumed. and
- Operations spending comprising marketing (\$50,000 budget) and infrastructure maintenance and repair (\$200,000 budget) was assumed to occur annually beginning in 2018.

5.3 Tourism Benefits

It has been shown that there is a growing demand for cycling and eco-tourism throughout Ontario and North America. Studies indicate that economic benefits of tourism related to active transportation infrastructure will continue to grow⁷. The demand stems from an increasing desire to explore new areas though an active mode of transportation and experience one’s natural surroundings.

The largest beneficiaries of cycling and eco-tourism are eating/drinking establishments, retail and lodging services. The following are examples of significant benefits tourism has upon a City, Town, County or Region’s economy⁸:

- The Riverwalk in San Antonio, Texas contributes \$1.5 billion to the local economy;
- In 2002, Quebec hosted 190 000 bicycle tourists, who spent a daily average of \$112, as compared to other tourists who spent \$52 daily;
- In 2000, annual expenditures associated with La Route Verte rose to \$95.4 million, equating to 2000 jobs and \$15.1 million and \$11.9 million for the governments of Quebec and Canada; and
- The bicycle retail and tourism industry in Ontario is worth at least \$150 million annually.

Though tourism benefits from AT and trail facilities provide an injection into the local economy there are also a wide range of social, environmental and health benefits associated with AT and trail tourism. As people become increasingly more aware of the benefits to trail use and pedestrian and cycling activities there tends to be a continuous increase in the number of

⁷ The Business Case for Active Transportation, Better Environmentally Sound Transportation - BEST, Go for Green, March 2004

⁸ The Business Case for Active Transportation, Better Environmentally Sound Transportation - BEST, Go for Green, March 2004

cycling tourists who will provide further benefits to their communities and the communities to which they visit. In a study completed by Ryerson University these benefits are documented for potential implementation in Southern Ontario's Greenbelt Region⁹. Findings from a number of recent studies such as a 2009 study completed for the "Bike Train" by the Cycle Tourism based organization Transportation Options¹⁰ indicate an increase in business and employment opportunities and health and environmental benefits associated with cycle tourism. Key highlights include:

- "As the demand for cycle tourism increases, cyclists' spending on food, drinks, entertainment and other expenses related to the sport will also increase at travel destinations."¹¹
- "There are many employment opportunities with the growth of cycle tourism. The Bicycle Trade Association of Canada (BTAC) suggests that an annual requirement between 50 and 100 new mechanics in the GTA, and as many as 1000 in other major cities in Canada, will be demanded as cycling continues to gain popularity."¹²
- "Cycle tourism has become an increasingly important component within rural sustainable development projects because of its contribution to eliminating greenhouse gas emissions. Cycle tourism plays a part in eliminating the use of motorized travel (e.g. for sightseeing purposes)."¹³

Similarly, Transportation Options also developed and initiated the "Welcome Cyclists" program in 2009, rebranded "Ontario by Bike Network" in 2014. The Ontario by Bike Network is a program certifying and promoting bicycle friendly businesses and cycle tourism in a growing number of regions across Ontario.

The Network is open to accommodations, food services, attractions, cycling related businesses and organizations interested in cycle tourism. The Ontario by Bike Network is launched in each region with an informative workshop, after which local businesses may register on-line, at



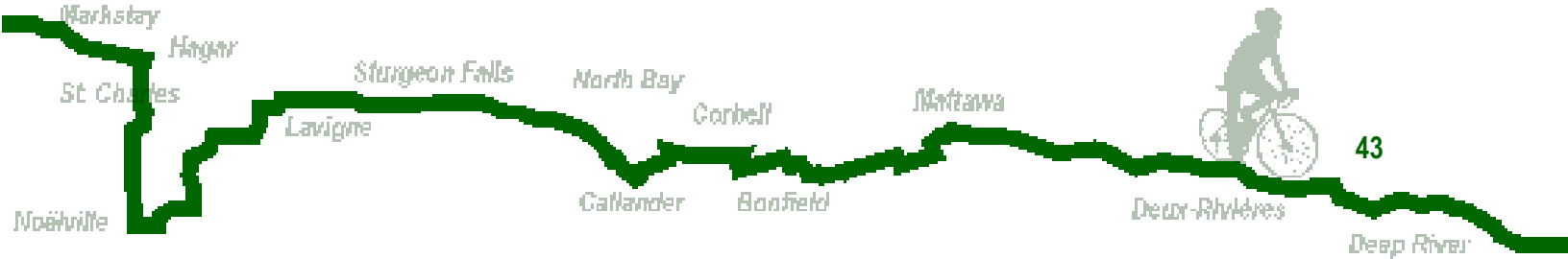
9 Gal, D., Kamal, M., Lopez Silveira, M.A., Naccarato, G., Scott, S., and Dodds, R. "The Demand for Cycle Tourism in Ontario's Greenbelt Region". Ryerson University, Toronto, ON Canada. Ted Rogers School of Hospitality and Tourism Management. December 2010.

10 Lafontaine, J. "2009 Bike Train Final Report". Transportation Options. 2009.

11 BTAC – Bicycle Trade Association of Canada. "2009 Data Capture". Retrieved September 2010 from http://www.btac.org/files/BTAC-2009_Data_Capture-Media.pdf. (2009)

12 BTAC – Bicycle Trade Association of Canada. "2009 Data Capture". Retrieved September 2010 from http://www.btac.org/files/BTAC-2009_Data_Capture-Media.pdf. (2009)

13 BTAC – Bicycle Trade Association of Canada. "2009 Data Capture". Retrieved September 2010 from http://www.btac.org/files/BTAC-2009_Data_Capture-Media.pdf. (2009)



no charge, to participate and ultimately reach the growing number of cycle tourists in Ontario¹⁴. DRTTO hosted Ontario By Bike workshops in North Bay and Mattawa in May 2015, and promoted the network to local businesses. As a result of these workshops, Northeastern Ontario is recognized as a great place to cycle in the Ontario By Bike Network.

The cycle tourism and economic benefits realized by this program have grown as the program is implemented in new communities. A linked system / database of cycle touring supporters as well as local businesses helps to boost the local economy with cycle tourism dollars while increasing local awareness about safe practices of cycle touring.

5.4 Health & Fitness Benefits

Municipalities in southern Ontario and throughout North America are implementing initiatives to promote and encourage active transportation activities as a method of promoting a more active and healthy lifestyle. Studies have shown that people who use active transportation are, on average, more physically fit, less obese and have reduced risk of developing cardiovascular disease. Physical activity such as walking and cycling is further noted to reduce the symptoms of mental illnesses. Similar to meditation or relaxation, physical activity may reduce the symptoms of depression, anxiety and panic disorders¹⁵.

- In 2001, approximately \$2.8 billion was spent on health care due to physical inactivity in Canada, which could be reduced by \$280 million if physical activity was increased by 10%¹⁶.
- If all Canadians followed the current recommendations for physical activity, it is estimated that 33% of all deaths related to coronary heart disease, 25% of deaths related to stroke, 20% of deaths related to Type 2 diabetes and 20% of deaths related to hypertension could be avoided¹⁷. (Warburton DER et al. 2007)
- Increase physical activity such as walking and cycling may reduce the obesity rates in Canada. Low physical activity rates are a key factor in Canada's high overweight and obesity rates, as nearly 60% of adults and 26% of children are currently overweight or obese¹⁸. (Ottawa: Statistics Canada 2005).
- Research has shown that the risk of obesity goes up 6% for every hour spent in a car each day, while the risk of obesity goes down by almost 5% for every kilometre walked every day¹⁹. (McCann, Barbara, et al. 2003)

14 Welcome Cyclists. Retrieved from: www.welcomecyclists.ca/network. July 26, 2012.

15 Toronto Public Health. Road to Health: Improving Walking and Cycling in Toronto. 2012

16 The Business Case for Active Transportation, Better Environmentally Sound Transportation - BEST, Go for Green, March 2004

17 Heart and Stroke Foundation. Shaping Active, Healthy Communities.

18 Heart and Stroke Foundation. Shaping Active, Healthy Communities

19 Heart and Stroke Foundation. Shaping Active, Healthy Communities

A 2012 report from the City of Toronto's Public Health Division concluded that the implementation of active transportation routes and facilities has very important health benefits to improve quality of life²⁰. Some of the key findings include:

- Reduced risk of cardiovascular disease, incident coronary heart disease, stroke and hypertension;
- Prevention of the occurrence of Type 2 Diabetes;
- Reduced overall risk of cancer, particularly colon cancer and breast cancer. Physical activity has been found to reduce the overall risk of colon cancer by 24%; and
- Reduced rates of motor-vehicle collisions.

It is important to note that the development of Towns, Cities and Counties / Regions that promote walking and biking tend to be healthier, more user-friendly and efficient for individuals of all ages, specifically children. Active Transportation (AT) friendly communities tend to be "better places to grow up in that they allow children a certain degree of autonomy essential to their development. Being able to go to daily destinations like school on foot or by bike allows young people to discover and experience their neighbourhoods" in a more active and health oriented manner²¹.

5.5 Safety Benefits

With regard to cycling and pedestrian safety, a report completed by Bueler & Pucher (2011) states that "cycling safety is an important determinant of cycling levels. The causation probably goes in both directions. Several studies confirm that increased cycling safety encourages more people to cycle. Conversely, the concept of 'safety in numbers' proposes that, as more people cycle, it becomes safer because more cyclists are more visible to motorists and an increasing number of motorists are also cyclists, which probably makes them more considerate of cyclists when driving"²².

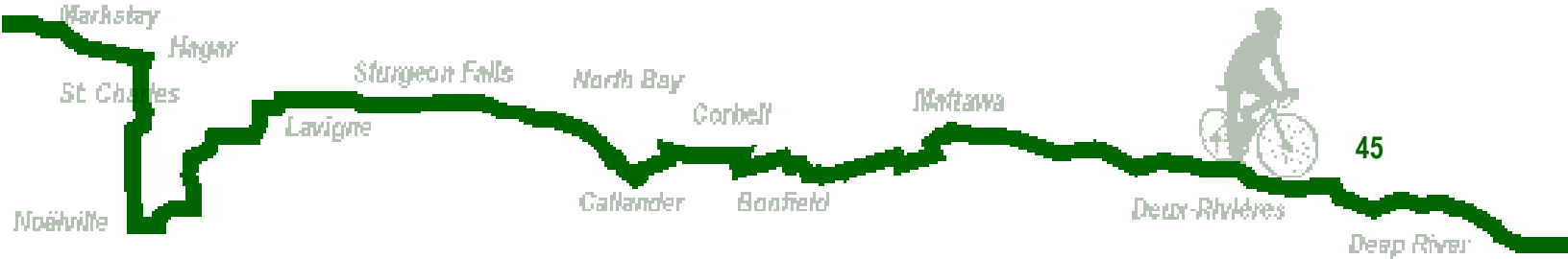
In another study completed by the Thunderhead Alliance, collision data was compared to the presence of bicycle and pedestrian fatalities and active transportation mode share. Results indicated a positive correlation between the levels of cycling and walking and increased safety of users. Cities with the highest raw numbers of walking and cycling also had the lowest per capita fatality rates for pedestrians and cyclists²³. Substandard infrastructure can also enhance the safety concerns of pedestrians and cyclists. Inadequate hard infrastructure sidewalks and bicycle paths, dangerous intersections and crosswalks and poor lighting were found to be

20 Toronto Public Health. Road to Health: Improving Walking and Cycling in Toronto. 2012

21 Bassett, D.R., et al. "Walking, Cycling and Obesity Rates in Europe, North America and Australia." Journal of Physical Activity and Health. 2008 (5): p. 795 - 814

22 Buehler, R. and Pucher, J. "Cycling to Work in 90 Large American Cities: New Evidence on the Role of Bike Paths and Lanes". Sprinter Science+Business Media, LLC. (2011)

23 Thunderhead Alliance. "Bicycling and Walking in the US; Benchmarking Report, 2007". Prescott, AZ: Thunderhead Alliance. 2007.



significant contributors to increased fatality and injury rates among pedestrians and cyclists²⁴. Another study (2001) notes the following factors which tend to impact the safety of pedestrians²⁵:

- Presence of a sidewalk;
- Lateral separation from motor vehicle traffic;
- Barriers and buffers between pedestrians and motor vehicle traffic;
- Motor vehicle volume and composition;
- Effects of motor vehicle traffic speed; and
- Driveway frequency and access volume.

Public opinion research indicates that with the development and / or enhancement of hard infrastructure, such as the implementation of separated bike lanes, bike boxes and cycle tracks, application of the complete street design principles and improved signage along designated cycle routes, many pedestrians and cyclists report that they feel safer and thus participate more frequently in active transportation activities. It is also important to complement the hard infrastructure with soft infrastructure such as education and awareness campaigns and pedestrian and cycling safety initiatives. Examples of these include:

- Canby (2003) recommends the creation of a strong education and advocacy program. European cities have experienced widespread change in pedestrian and cyclist safety with the implementation of traffic safety education program for children at an early age continued through into their teens.
- Zuks (2002) notes that programming related to bicycle handling, road sense, route selection and road rules should be developed to enhance the user's perception of safety while increasing physical safety on and off the roadways.

5.6 Transportation Benefits

Walking and cycling are both popular recreational activities and a means of transportation that are efficient, affordable and accessible. These are the most energy efficient modes of transportation that do not directly generate pollution (with the exception of bicycle manufacturing). The transportation benefits of walking, cycling and other active transportation modes include reduced road congestion (e.g. move more people by AT along a road compared to moving the same number of people by car), reduced maintenance costs, less costly

²⁴ Zeeger, C.V. "Designing for Pedestrians". In the Traffic Safety Toolbox: A primer of Traffic Safety. Washington D.C.: Institute for Transportation Engineers. (1993)

²⁵ Buehler, R. and Pucher, J. "Cycling to Work in 90 Large American Cities: New Evidence on the Role of Bike Paths and Lanes". Sprinter Science+Business Media, LLC. (2011)

infrastructure, increased road safety and decreased user costs²⁶. In general, cycling is nearly as fast as driving for trips of 7 kilometres or less in urban areas and walking is as fast as driving for trips of 500 metres or less²⁷. Studies estimate that the construction of sidewalks on all city streets could increase non-motorized travel 0.16 km and reduce automobile travel 1.84 vehicles-kilometres per capita²⁸.

A 2012 report from the City of Toronto's Public Health Division concluded that the implementation of active transportation has very important transportation benefits. Some of the key findings include:

- Reduced traffic and road congestion;
- Reduced delays from collisions;
- Reduced unreliability of travel time;
- Reduced fuel and transport costs; and
- Improved residents' ability to access facilities and services.

Congestion costs in Ontario were estimated at \$6.4 billion annually and could grow by an additional \$7 billion annually by 2021 without increased investment in alternative modes of transportation²⁹. Studies have shown that walking and cycling improvements may reduce personal expenditures on taxi costs and public transit fares³⁰. Reducing automobile ownership and usage may further contribute to lower parking costs and fewer parking spaces required at a place of employment. Some of the key findings to encourage active transportation include:

- Reduction in roadway costs (maintenance, safety and enhancement costs);
- Less damage to road surfaces; and
- Lower space requirement than motor vehicles.

Surveys indicate that 66% of Canadians would cycle more than they presently do. Seven in ten Canadians say they would cycle to work if there "were a dedicated lane which would take me to my workplace in less than 30 minutes at a comfortable pace"³¹.

5.7 Environmental Benefits

Active Transportation activities are energy-efficient, non-polluting modes of travel. Promoting the bike as a clean and efficient alternative to the personal automobile is a practical way for

26 Reynolds, M., Winters, M., Ries, F. & Gouge B. "Active Transportation in Urban Areas: Exploring Health Benefits and Risks". National Collaborating Centre for Environmental Health. June 2010.

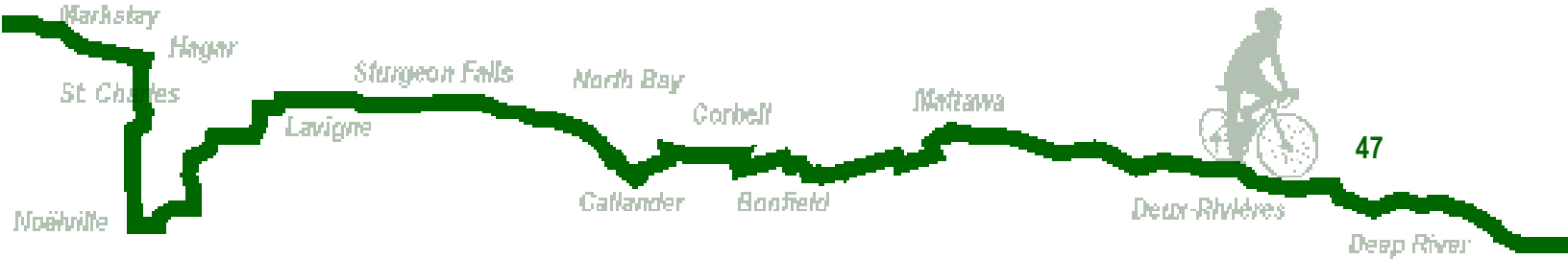
27 Toronto Public Health. Road to Health: Improving Walking and Cycling in Toronto. 2012

28 Litman, T. "Evaluating Non-Motorized Transportation Benefits and Costs". Victoria Transport Policy Institute. www.vtpi.org. 2005.

29 Transportation Demand Management Strategy, City of Ottawa - TravelWise (Transportation, Utilities and Public Works), April 2003

30 Litman, T. "Evaluating Non-Motorized Transportation Benefits and Costs". Victoria Transport Policy Institute. www.vtpi.org. 2005.

31 Ontario Trails Strategy. Ministry of Health Promotion. 2005



cities to reduce traffic congestion and smog³². Short distance motor vehicle trips are the least fuel efficient and generate the most pollution per kilometre. These trips have the greatest potential of being replaced by walking or cycling trips and integrated walking-transit and cycling-transit trips. It is estimated that each 1% shift from automobile to non-motorized travel typically reduces fuel consumption 2-4%³³.

Initiatives to promote and encourage active transportation are a viable option to reducing discretionary motor vehicle usage and promoting environmental benefits. Some of the key environmental benefits include³⁴:

- Resource conservation (less dependency on natural resources such as petroleum and coal);
- Pollution reduction such as noise, carbon monoxide and particulates; and
- Integration of compact mixed development due to reduced transport land requirements.

Active transportation activities may provide large energy savings as they replace motor vehicle short trips that have high emission rates per mile capita³⁵. Planning and constructing communities in a more sustainable way so as to be less vehicle dependant by providing infrastructure for alternative transportation modes, such as walking, cycling and public transit can reduce the amount of land required to construct new communities, thus creating more compact subdivisions that make more efficient use of available land. This will also mitigate the fact that motor vehicles, roads and parking facilities are major sources of water pollution and hydrologic disruptions due to such factors as road de-icing, air pollution settlement, roadside herbicides, road construction along shorelines and increased impervious surfaces.

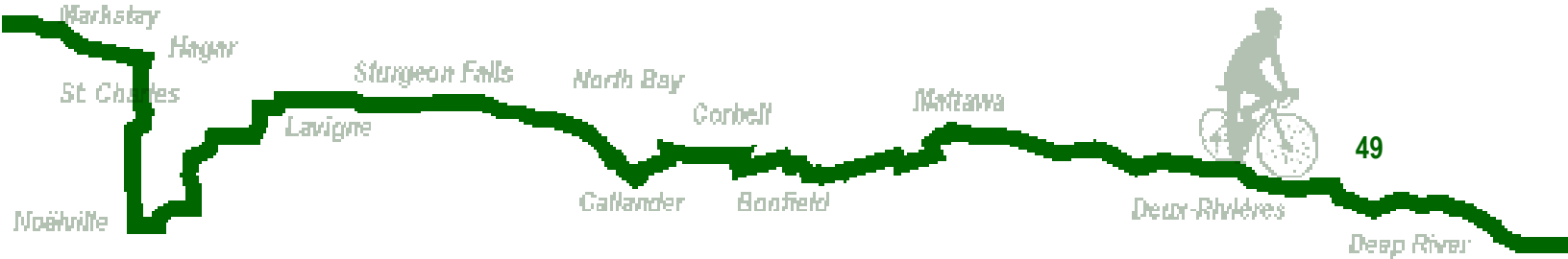
32 Roney, Matthew J. Bicycles Pedaling Into the Spotlights. 2008. Earth Policy Institute

33 Litman, T. "Evaluating Non-Motorized Transportation Benefits and Costs". Victoria Transport Policy Institute. www.vtpi.org. 2005.

34 Litman, T. "Evaluating Non-Motorized Transportation Benefits and Costs". Victoria Transport Policy Institute. www.vtpi.org. 2005.

35 Litman, T. "Evaluating Non-Motorized Transportation Benefits and Costs". Victoria Transport Policy Institute. www.vtpi.org. 2005.





6.0 GOVERNANCE STRUCTURE

As part of this study, a review of potential organizational structures was completed to support the development, coordination, and management for implementation and promotion of the VCR. The outcome of this review includes some potential changes to Discovery Routes' (DRTO) governance model that may improve long-term sustainability for the implementation of the VCR. This section presents a discussion of current, feasible and best practices related to relevant trail organization sustainability, with a focus on funding.

Although the research undertaken and information presented identifies potential gaps in the current DRTO structure and provides recommendations suggested to achieve a more sustainable governance model, it is DRTO's leadership in the end that must consider their options and strategically determine how to operate long-term. It is also worth acknowledging the fact that any non-profit organization, especially one operating out of northern Ontario and undertaking activities often considered by some to be the responsibility of local governments, will find identifying definitive, sustainable sources of funding and revenue to be an ongoing challenge. Nonetheless, the study team is confident that the information presented here will be valuable to DRTO and the VCR Working Group in determining how to best implement and sustain the VCR.

As part of this governance review, interviews using 10 standard questions were held with five organizations. Four of these organizations have direct experience developing and managing trails and/or bicycle routes in northern Ontario. A profile of four of these organizations is included in **Appendix H**; additional resources have also been included at the end of this section.

6.1 Implementation and Operation Models

Regional routes and trails, such as the planned VCR, require coordination among user groups, local governments, businesses, provincial and federal government departments (e.g. MTO, FedNor), and other agencies, making necessary an organization to coordinate, oversee and promote the route. Non-profit trail organizations in northern Ontario often exist to oversee routes that are multi-jurisdictional; as it is only the largest northern towns and cities that can afford the responsibility of extensive trail building, management and/or promotion.

Over the long-term, trail organizations can survive and function sustainably with little more than time and resources provided by volunteers and staff of municipal partners. This model is often used where resource availability, including ongoing municipal or provincial government support, is unavailable or sparse. When overseeing routes/trails, there will be times when large inputs of resources will be required, such as the creation and production of maps, or the organization of an event; these are activities that can be undertaken by a Committee of the Board.

Using a low-cost, volunteer-based model, while sustainable once a route is operational, will not be possible to establish a multi-jurisdictional cycling route. In the case of route establishment, substantial time will be required to mobilize roadway owners, undertake engineering or feasibility studies as required, have signage installed, develop coordinating organization capacity, design and print maps, manage communications, manage grants, organize a launch event, etc.. This amount of work requires paid staff.

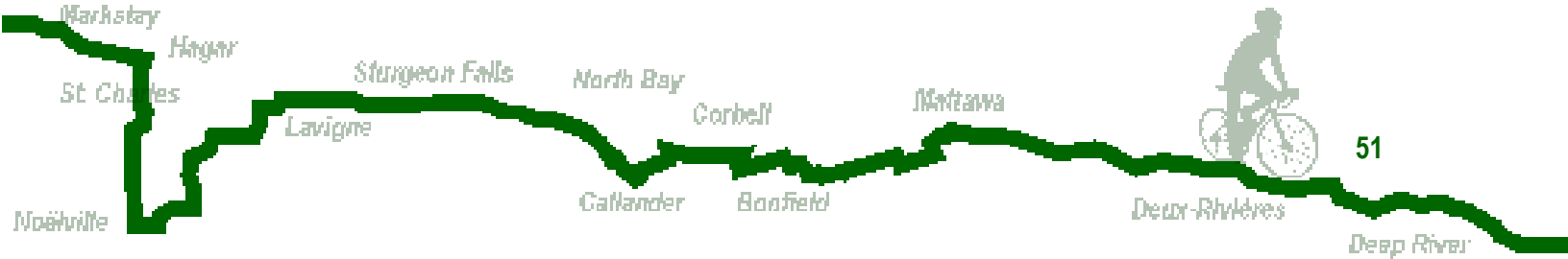
Once the route is operational, the organization may plan to shift to a more volunteer-based model, and can reduce reliance on paid staff by fostering an active and/or strategic board, and by strengthening sub-groups/clubs of volunteers. Board members and volunteers can support fundraising and/or take on some of the organization's work, once the major route establishment work is done. However, it is noted that organizations with staff are able to accomplish much more.

To maintain one chief staff person and have additional staff, interns, and/or labour join as projects allow, the organization would need multiple ongoing income streams and/or constantly be seeking grants that include staff costs. Adding various streams of income together, such as municipal contributions, selling website or map advertising, providing services for a cost, holding events, offering memberships, online donations, and private sector contributions/sponsorships, still may not provide enough funding for a full-time staff person; even though undertaking the work to obtain these resources would be time consuming on its own.

Diverse and numerous income streams improve sustainability by reducing dependence on one single funder. However, the organization will need to weigh how stable the income streams are, with how much they contribute to achieving the goals of the organization to determine how to prioritize staff/volunteer time. Substantial project / program grants and corporate donations are ideal funding sources because they are large enough to enable the organization to increase staff numbers and allow that staff focus on specific outcomes and results.

Becoming more service-oriented and having self-generated revenue makes an organization very independent; should the organization not want to rely on grants and donations. Organizations can act as a non-profit business undertaking work relevant to their mandate - at cost-recovery, or at profit that is used to run the non-profit work. This is a model used by Velo Quebec, a provincial organization that has three arms/divisions. Two of these arms are businesses that generate revenue to support the non-profit cycle route development and coordination work. Running a profit-making arm may not be a feasible model for a regional organization.

According to research on Regional Trail Committees in Ontario, "All volunteer groups raise most of their budget through memberships (35% of their budget) and donations (22% of their budgets) with the balance raised through grants, events, earned income or national office allocations. Groups with staff have a different mix of funding sources. Staffed organizations of small, medium and large sizes raised 50%+ of their budgets through grants. These groups have



the staff resources to write these grants as well as have a greater chance of being incorporated which opens more avenues of funding usually unavailable to volunteer groups. Membership revenues for these staffed groups fell to less than 20% of their annual budget. The largest groups (with 15+ staff) raise their budget revenues mainly through fee for services.”

Based on research and advice received in preparing this study, the most stable situation is when an organization obtains steady ongoing funding from governments to ensure that the chief staff person can always work at least part-time. To achieve this, the following actions may be considered: lobby municipalities for a small annual, ongoing operations budget, as a deliverer of public services; and lobby the provincial government for a small annual, ongoing operations budget as a deliverer of provincial cycling network management services.

6.2 How Trail Organizations Raise Resources

Volunteer time

Volunteer board members, in addition to time undertaking the governance functions of the non-profit, may provide strategic/important contacts in the private sector, foundations, media, government agency, etc. They may be a ‘working board’ and/or take part on sub-committees that do operational work. Board members often contribute professional expertise and advice in areas such as accounting, legal, or land use planning, to name a few. At the local level, volunteers often build and maintain trails, and in the case of cycling routes using roadways, they may gather information from local business and check up on the state of signage and cycling infrastructure.

Donations of Supplies, Materials, and Equipment

Donations are most often made by businesses or corporations and can include donations for the trail/route itself or for the organization’s operations. Donations of items that can be provided to event registrants or new/renewed members is a nice touch and can be an incentive. Pro-bono expertise such as in engineering or services such as printing may also be donated. Donations can also be made by individuals or government agencies.

Individual Donations/Memberships

This could include an online button to donate and memberships/subscriptions. Some groups sell ‘trail passes’, offer a newsletter, or organized local trail events as part of a membership. If businesses offered special discounts or coupons that could be included as a perk of membership, that could prove a good incentive to purchase a membership, and a way to increase clientele for the businesses.

Club support

Memberships paid by local trail user groups. They could benefit by being offered insurance under the umbrella of the regional organization. Local clubs can also provide in-kind services such as volunteer time.

Merchandising

Most organizations did not have success with merchandizing. Some have tried to sell hats, cycle jerseys, t-shirts, etc. Calendars, photo art and/or coffee table books on the trails and featuring stunning photos are other examples of merchandise that could be sold.

Maps and Guidebooks

This is the most common way to generate money - through sales and advertising. Maps and guidebooks are considered a critical part of overseeing a regional route therefore this activity is a good fit between mandate and revenue generating activity.

Government Support – Provincial and National

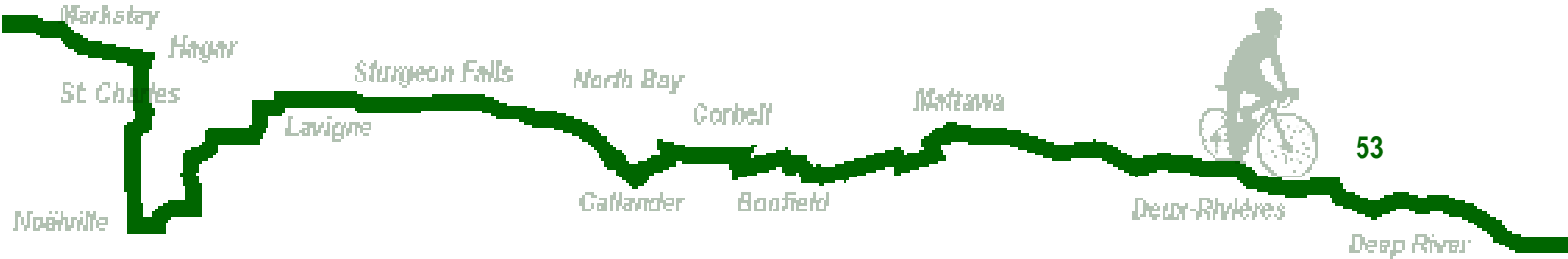
Government support is most often provided through grants. In the future, trail groups could advocate for more consistent funding using a non-grant model from governments at all levels.

Municipal Support

This can come in many forms, from ongoing annual budget-line allocations, in-kind time, to grants. Some of the most sustainable trail organizations receive both office space and operating funds from a municipal government. It can be argued that the service provided by the non-profit trail group is a cost saving and is value-added, compared to maintaining additional municipal staff.

Services

The amount of tools, resources and/or services that can be provided at cost or profit are endless. Ideas include: setting up a program to accept bequests; installing and running bike parking and security at local festivals; holding educational/interpretational school or special public events on trails for a fee; or providing cards recognizing a donation-made-on-behalf-of-recipient for occasions such as funerals, weddings, mother's day, Christmas, etc.. Other ideas might include: producing and selling a guidebook, magazine or other publication; web resources downloaded for a cost, like detailed educational trail guides or a trail fitness program; or training or consulting services performed by staff.



Corporate Sponsorships to Events

This is a great opportunity for a company to get exposure and positive brand association. Corporate donations are often able to be spent with flexibility.

Naming Rights to Trails, Events or Publications

Naming rights to a trail/route would represent a large investment at the outset, for example, in southern Ontario a major trail was named Chrysler Greenway with a major investment. Naming rights to ongoing publications or events, e.g. “Canadian Tire Annual Geocache Event”, “Scotiabank Annual Fireflies Night Hike”, or “Redpath Trail Guide” may mean ongoing corporate support. Corporate sponsorship to events or resources may require banners, posters and social media, which would generate promotions for the company.

Advertising

Advertising can be on guidebook pages, maps, in a trail magazine publication, on trailheads or on the website. If the website generates enough traffic, advertising can bring in revenue. A snowmobile association generates revenue by allowing the placement of actual billboards along the trail/route, providing direction to trail users, e.g. 2 km to Tim Hortons.

6.3 Recommendations

Based on a review of DRTO, other trail organizations operating in northern Ontario, and some research on non-profit sustainability, the study team presents the following recommendations for consideration. Given the current scope and mandate of DRTO, it is recommended that DRTO coordinate the establishment of the VCR; and subsequently oversee ongoing marketing, promotion and coordination among roadway owners to improve and/or maintain the cycling infrastructure. As coordinating agency for the implementation of the VCR, DRTO may consider the following:

1. Seek a substantial grant to fund the establishment of the VCR, ideally covering all four years of Phase 1 Implementation (see Section 7), and begin implementation with a launch event. Specifically, consider developing a funding application for the CycleON municipal infrastructure program with partner municipalities. Additional funding can complement anticipated funding from the Trans Canada Trail Foundation.
2. Incorporate the VCR working group as an official part of the DRTO; potentially as a specific subcommittee or special council responsible for the VCR.
3. Have the DRTO’s VCR committee/council explore cost-recovery and revenue generating activities to support the VCR’s ongoing promotion and coordination.

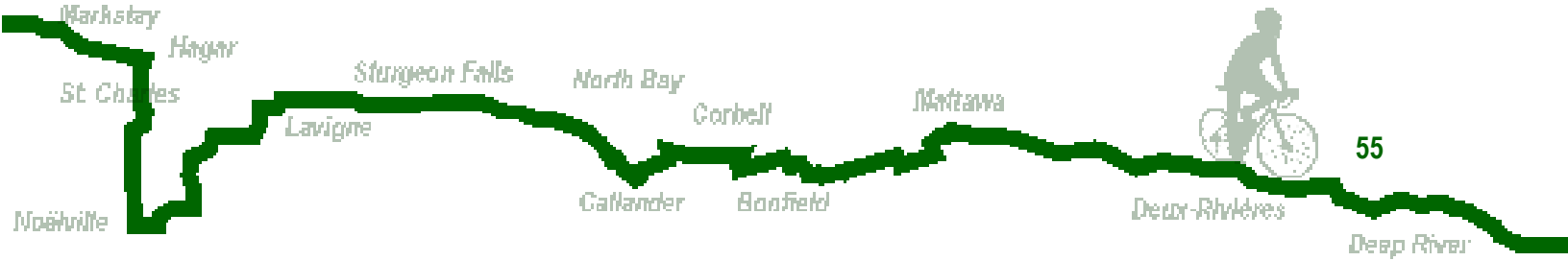
4. As part of an organizational strategic planning process, DRTO can determine ways to operate sustainably over the long-term; this could mean fundraising, self-generating revenue, and/or reducing operating costs.
5. Increase responsibility of volunteer board members and sub-regional clubs to reduce the requirement for, and/or pressure on DRTO staff. Increased volunteer responsibility should strategically and/or operationally support fundraising.
6. Foster municipal ownership and championship of the route. It is anticipated that over time, the VCR will drive tourism dollars into the municipalities along the route. Once the route is established, the increased tourism revenue should result in annual municipal support to the DRTO.

6.4 Sample Organizational Scenario

Considering DRTO's structure and the experience of other trail organizations, the following scenario suggests, for illustrative purposes only, a diversified strategy to maintain core operations without grant funding; although grant funding is required to support salaries in this scenario. Without grant monies or meaningful ongoing government support, core operations would need to be undertaken by volunteer board members.

1. A municipal partner along the VCR corridor provides office, equipment, utilities, and services such as IT.
2. Advertising on maps and on the website covers cost of map/guide production, and website upgrades and maintenance.
3. Municipal contributions and to a lesser extent local club fees, cover insurance, signage, and an annual VCR coordinating and development meeting.
4. An annual cycling event, if pursued, recovers its costs through sponsorship and registration fees.
5. Volunteers and municipalities provide in-kind labour/time including updated information for website and maps, and signage maintenance.
6. Project grants primarily cover Chief Staff Officer costs and consultants, in compliment to potential small regular ongoing operational support provided by the province and municipalities.

Substantial self-generating revenue is not included in this scenario only because it has not proven to be feasible for other similar regional organizations or non-profits in general. However, DRTO may want to explore ways to raise funds through fees for services/sales. With creative thinking, opportunity assessment, profitability analysis, board support and staff effort, DRTO may be able to raise funds through additional services/sales; and subsequently become a leader in innovating ways to develop and sustain trail organizations.



6.5 Additional Considerations

As the province moves forward with a Province-wide cycling network, it will be important for regional trail groups to consider how they will be included and supported as a partner. In Quebec's experience, funding from the province was provided to municipal governments and coordinating organizations at the outset to build the provincial cycling network. Once the infrastructure was put in place, funding did not continue to flow to local or regional government/organizations from the province. One regional trail organization in Quebec is contracted by 5 municipal governments directly to promote their regional route.

DRTTO may benefit from working to establish an active volunteer board that brings diverse skills and a willingness to take on some operational responsibility such as assisting with grant applications, producing newsletters, leading event organization, etc.

Furthermore it will be useful to develop and maintain a larger database of volunteers to draw on when required, such as running an event, or lobbying governments for improved facilities.

The following are tips taken from The Sustainability Formula, a resource listed in **Appendix G**.

1. First, organizations that have the capacity to raise funds from institutional grant makers such as foundations, corporations, and/or government agencies are more sustainable...receiving more grants is a clear measure of sustainability.
2. Second, leaders of sustainable organizations build long-term relationships with key funders by sharing results at a level that resonates with them in order to inspire long-term commitments.... leaders must achieve credibility and community support to develop or strengthen long-term funding relationships.
3. Third, the board must be actively, intentionally, and formally engaged in the process of persuading others in the community to invest time, money, and other resources in the organization.
4. Fourth, organizations that effectively manage resources are more sustainable...while financial management is important to sustainability in and of itself; it is furthered by the ability to confidently and validly communicate financial health and stability to funders.
5. Fifth, with respect to fundraising and finances, sustainable organizations are more deliberate, intentional, and deep in their efforts to remain informed of local, regional, and national trends that affect funding.

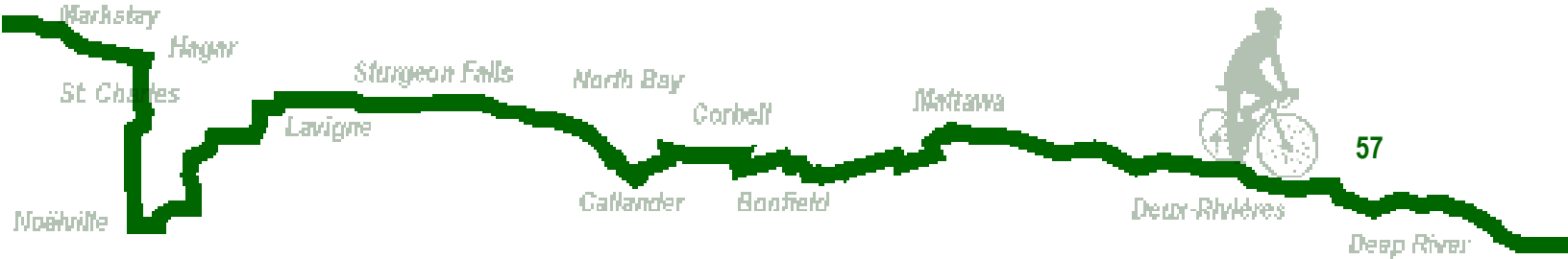
According to the document Financial Sustainability for Non-profit Organizations, “establishing financial sustainability should be viewed by non-profits as a dynamic and continual process. Creating a clear strategic plan that defines the social mission and builds programs, community support, and collaborative partnerships that closely align with the mission may help non-profits overcome the challenge of establishing sustainability in the short and long term”³⁶.

6.6 Funding Sources

Funding for cycling and tourism initiatives may be available from a broad range of sources, including:

- Ontario Municipal Cycling Infrastructure Program (OMCIP)
- Ministry of Transportation of Ontario (for provincial highway segments)
- Ontario Community Infrastructure Fund, Ministry of Economic Development, Employment and Infrastructure
- FedNor, Government of Canada’s economic development organization for Northern Ontario
- Trans Canada Trail
- Local Municipalities (may include road maintenance and other in-kind support)Programs;
- Federal / Provincial Gas Tax;
- Transport Canada’s ecoMobility (TDM) grant program;
- Federation of Canadian Municipalities Green Municipal Fund;
- Ontario Ministry of Tourism, Culture and Sport – trail funding;
- Ontario Ministry of Health and Long Term Care grant programs and partnership streams;
- Ontario Ministry of Environment Community Go Green Fund (CGGF);
- The Ontario Trillium Foundation that was recently expanded in response to the money collected throughout the Province by casinos;
- Human Resources Development Canada program that enables personnel positions to be made available to various groups and organizations;
- Corporate Environmental Funds such as Shell and Mountain Equipment Co-op that tend to fund small, labour-intensive projects where materials or logistical support is required;
- Corporate donations which may consist of money or services in-kind, and have been contributed by a number of large and small corporations over the years;

³⁶ Non-Profit Financial Sustainability - Protecting the Missions and Mandates of Non- Profit Organizations: Research and Presentation (2014) K.Williams. Canada. <http://csc-ns.ca/wp-content/uploads/2014/05/Non-Profit-Financial-Sustainability.pdf>



- Potential future funding that might emerge from the Province in rolling out the Ontario Trails Strategy;
- Service Clubs such as the Lions, Rotary and Optimists who often assist with high visibility projects at the community level; and
- Private citizens' donations/bequeaths, which can also include a tax receipt for the donor where appropriate.

Specific to growth and development within Northern Ontario, the following funding partnerships could be explored:

- Northern Ontario Heritage Fund Corporation which provides funding support to help build strong, prosperous northern communities. There are a number of potential funding programs available which are designed to help local businesses and municipalities grow through strategic economic development. Relevant programs for the VCR include:
 - Northern Community Capacity Building Program;
 - Northern Community Capacity Building Program – Event Partnership;
 - Northern Ontario Internship Program;
 - Strategic Economic Infrastructure Program.

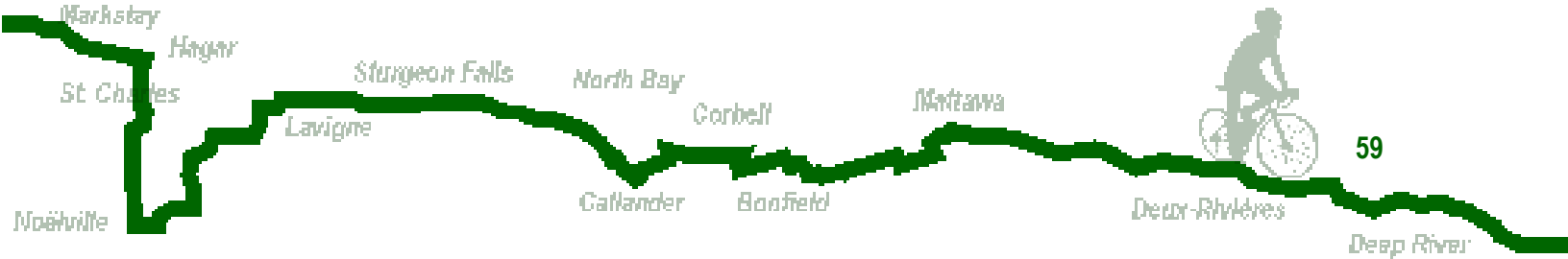
Opportunities under the Infrastructure and Community Development funding program include:

- The Northern Ontario Development Program (FedNor) which invests in projects that support community economic development, business growth and competitiveness and innovation. The goal of the program is to encourage economic growth, diversification, job creation and self-reliant communities within Ontario. Support for internships in Northern Ontario is also available through this program.

Opportunities for DRTO to receive additional funding from FedNor for the VCR should be explored.



Hwy. 17 near Bissett Creek; Source: MMM Group 2015



7.0 IMPLEMENTATION PLAN

7.1 Phase 1: Coniston to Mattawa

Implementation of the VCR has been divided into two phases. The first phase is proposed to take place over 4 years and includes implementation of about two thirds of the VCR from Coniston to Mattawa. This phase includes all of the signed route and moderate traffic volume sections of the VCR, as well as two high traffic volume sections. Since the cost of implementation is much lower along signed route segments and moderate traffic volume segments which can initially function as signed routes, focusing on these sections in Phase 1 is a cost effective approach to project delivery. The noted overlap with the Trans Canada Trail for the majority of the Phase 1 route sections is another advantage from a cost effectiveness perspective. Additionally, the Phase 1 sections connect the larger population centres along the VCR including Greater Sudbury, Sturgeon Falls, North Bay and Mattawa. Finally, this portion of the VCR also provides access to significant destinations including the French and Ottawa Rivers and Lake Nipissing.

A significant amount of organizational and preparatory work is also required in Phase 1 to ensure that both phases can be implemented successfully. The governance recommendations made in **Section 6** should therefore be implemented during Phase 1. Further tasks for Phase 1 are outlined in the following subsections.

MTO Memorandum of Agreement (MOA)

A MOA with the province of Ontario through the Ministry of Transportation (MTO) is recommended for the implementation of the VCR. It is recommended that the MOA with MTO:

- Describe the vision for the VCR and the regional economic benefits that are expected to accrue from its development and operation;
- Describe and illustrate the overall proposed routing as well as the detailed routing on provincial Highways 17, 64, 528 and 535;
- Identify the estimated capital costs for recommended upgrades on Highways 17, 64, 528 and 535 and seek a commitment from the MTO, in principle, to undertaking the recommended upgrades consistent with the Ministry's Bikeway Design Manual in a timely fashion as provincial budgets allow.

As a priority initiative, it is recommended that the DRTO meet with the Northeastern Region branch of the MTO located in North Bay and the MTO head office to discuss the Ministry's upcoming plans to resurface Hwy 17 between Greater Sudbury and Hagar, as this project is scheduled in the MTO's Northern Highways Program between 2016 and 2018. This resurfacing project is an important opportunity that could be used to demonstrate the feasibility and benefits

of providing buffered paved shoulders along all the VCR sections where this is the recommended facility type.

Municipal Memoranda of Agreements and #CycleON Municipal Cycling Infrastructure Program Application

The roads, streets and cycle / multi-use paths that comprise most of the recommended VCR are to be owned and maintained by municipalities and the MTO. The experience of other long distance regional cycle routes, particularly the Waterfront Trail in Ontario, is that a formal commitment from each of the municipalities in the form of a Memorandum of Agreement (MOA) is an essential foundation for a successful cycling route.

It is recommended that the MOA with each municipality:

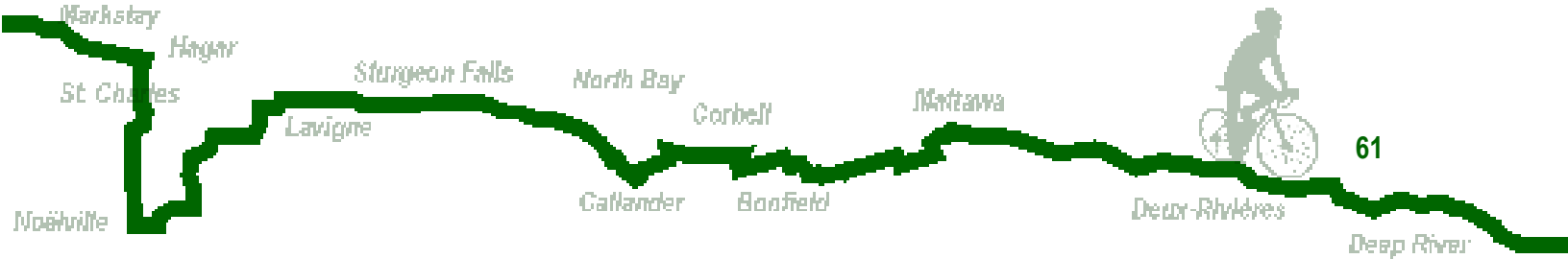
- Describe the vision for the VCR and the regional economic benefits that are expected to accrue from its development and operation;
- Describe and illustrate the overall proposed routing as well as the detailed routing through the particular municipality named in the MOA;
- Identify the estimated capital costs for recommended upgrades in the particular municipality named in the MOA and commit the municipality, in principle, to undertaking the recommended upgrades in a timely fashion as municipal budgets allow; and
- Commit each municipality, in principle, to contributing funds to support the operation of the Coordinating Agency to be established (see below). The MOA would allow for the amount of contribution to be negotiated at a later date once the expected operating costs for the organization and other sources of revenue/funding have been identified.

While the DRTO is engaging each municipality to arrive at an MOA, it should also support any municipalities who are applying for funding under the current #CycleON Municipal Cycling Infrastructure Program, as well as other annual provincial and federal funding programs.

Trans Canada Trail Memorandum of Agreement

The majority of route sections A through F are also designated as the future Trans Canada Trail. It is recommended that the MOA with the TCT:

- Confirm the overlapping alignment of the TCT and the VCR;
- Outline the division of responsibility for implementing, maintaining and monitoring overlapping routes;
- Identify TCT funding opportunities, the process necessary to access these funds and the implementation components that are eligible to receive funding; and
- Contain a coordinated strategy for working with the MTO and municipalities.



Investigate the Potential for a Recreational Rail Trail East of Mattawa

During Phase 1 the DRTO should engage with local municipalities and stakeholders who are currently in discussion with CP regarding acquisition of the 302 km abandoned CP rail corridor between Mattawa and Smith Falls (see **Maps 5** and **6** for the portion of this corridor within the VCR study area). This will allow the DRTO to be aware of any developments that could influence cycling along this corridor, and whether any segments of the abandoned rail corridor should be investigated for possible inclusion as part of the VCR or as part of a circle route with the primary on-road VCR route that is recommended in this study.

Phase 1 Route Implementation Costs

A high-level cost estimate for implementation of the VCR is provided in **Table 4**. The estimate is based on unit costs for similar projects in Ontario. At a minimum, this Phase involves adding paved shoulders on Hwy 17 between Coniston and Hagar and from Sturgeon Falls to North Bay and adding wayfinding and where appropriate Share the Road signage along the entire route between Coniston and Mattawa. The cost for this is estimated to be \$7.4 million. This estimate is based on a unit cost of \$110,000 for the addition of paved and buffered paved shoulders (includes both sides of the road). The cost of adding paved shoulders typically ranges between \$100,000 and \$200,000, depending on the existing road platform width and condition and other design considerations (e.g. sightlines, impact to culverts and bridges).

Since the addition of paved shoulders is more cost effective when combined with roadway resurfacing or rehabilitation projects, it is recommended that paved shoulders be added to the moderate volume route segments along Hwy 535, Hwy 64 and Hwy 17 east of Mattawa during Phase 1 for any segments that are being resurfaced or rehabilitated between 2015 and 2019 by MTO. Where municipal budgets allow, roadways with granular surfaces should also be considered for hard surfacing during this period. Road authorities should undertake further assessments and, where appropriate, preliminary or detailed design in order to identify and confirm the expected implementation cost for each of these projects.

Table 4 – Estimated Implementation Cost for the Voyageur Cycling Route

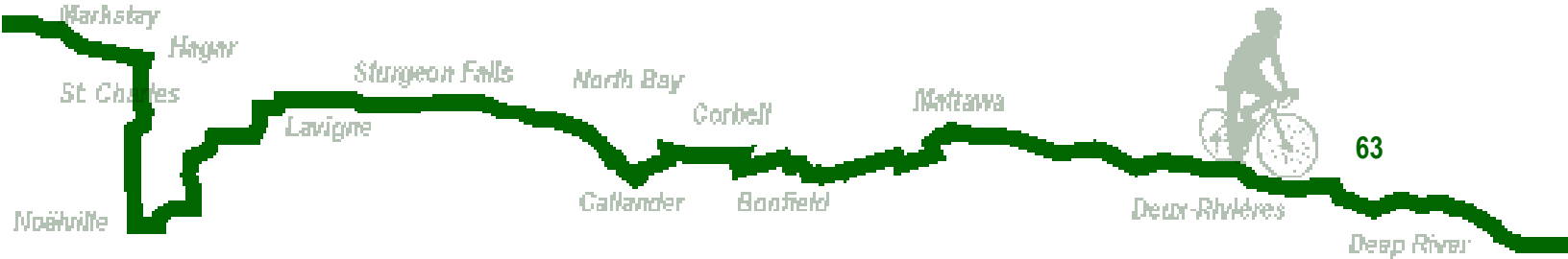
Phase	Facility Type	Unit Cost per km	Length (km)	Total Cost
Phase 1 Projects	Signed Route	\$1,000	111.8	\$111,070
	Paved Shoulder <ul style="list-style-type: none"> High volume roadways west of Mattawa 	\$110,000	66.0	\$7,256,700
Phase 1 Subtotal			176.7	\$7,367,770
Phase 2 Projects	Paved Shoulder <ul style="list-style-type: none"> High volume roadways east of Mattawa 	\$110,000	104.3	\$11,467,500
	Paved Shoulder <ul style="list-style-type: none"> Moderate volume roadways 	\$110,000	75.1	\$8,264,300
	Improve Granular Surface Roadways	\$42,000	23.0	\$964,740
Phase 2 Subtotal			202.4	\$20,696,540
Total Estimated Cost (Phase 1 and Phase 2)			379.1	\$28,064,310
Recreational Rail Corridor Construction Cost		\$130,000	104.3	\$13,552,500

The estimate presented in Table 4 does not include expenses for Project Management during the implementation of the VCR. The VCRWG estimates these expenses to be \$75,000 annually during Phase 1. A breakdown of the Project Management estimated expenses are outlined in **Appendix J**. It is further noted that expenses related to Marketing have not been estimated as part of this study. Early in Phase 1, it is recommended that DRTO and the VCRWG establish a brand identity to ensure signage design is consistent with roadway standards. A budget of \$5,000 to \$15,000 should be allocated to this activity. A formal Marketing Plan should be undertaken during the latter part of Phase 1.

7.2 Phase 2: Mattawa to Deep River

Phase 2 implementation should commence in 2019 and be complete by 2025. Ideally over these six years, the DRTO should work together with the MTO to implement route sections I and J. This phase would involve the MTO adding more than 100 km of buffered paved shoulders on Hwy 17 between Mattawa and Deep River. In addition, any resurfacing work that is being undertaken along route segments on Hwys 64 and 535 during Phase 2 should involve the addition of paved shoulders.

By 2025, the 23 km of gravel surface road segments should also be upgraded to a hard surface. The total cost for this is estimated to be approximately \$20.7 million, which includes the addition



of paved shoulders for all sections on Hwy 64 and Hwy 535 and the improvement of all granular surface roadways. In the event that a recreational rail trail using the abandoned CP corridor has been demonstrated to be a feasible option for the VCR, Phase 2 may also involve the implementation of this trail. Were this trail to be implemented for the entire length of the corridor east of Mattawa, the cost of construction (not including acquisition and / or maintenance costs) is estimated to be at least \$13.5 million.

Maintenance

As implementation of the VCR progresses, maintenance of the cycling facilities will become an increasingly important task. Maintenance and upkeep of the VCR -- including riding surfaces, signs, and destination bicycle racks – will be the responsibility of the respective road authority (e.g. MTO or municipalities). The DRTO, in coordination with TCT (where applicable) will be responsible for coordinating this maintenance and upkeep through:

- Regularly scheduled inspection, recording and reporting on maintenance and upkeep requirements;
- Provision of route signage to the road authority; and
- Where possible, assisting host municipalities to apply for funding from provincial and federal programs to undertake or assist with the costs of maintenance and upkeep.

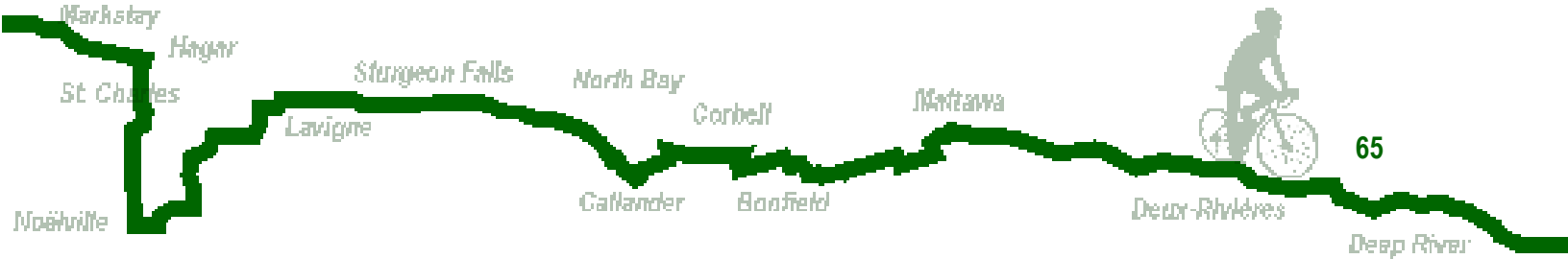
7.3 Risk Management and Liability

Exposure to potential lawsuits and concerns from private landowners who grant easements or who are located adjacent to off-road pedestrian and cycling facilities are sometimes perceived as liability concerns. Bike lanes, paved shoulder bikeways and signed only routes generally fall into the same liability pattern as roadways and sidewalks, meaning that the MTO or Municipality under whose jurisdiction the segment may fall generally only becomes liable if the facility is improperly designed, constructed, or maintained.

Even though multi-use trails are separated from the roadway, they may still legally fall under the definition of a “highway”, since bicycles are legally defined as vehicles. This is an important point because if the courts make this interpretation, it means that cycling facilities are covered under many of the same basic immunities as other highways. It also illustrates the importance of adhering to provincial, national or other established design and construction guidelines, as this will provide the greatest legal protection. Aside from proper design and operation of pedestrian and cycling facilities, potential hazards associated with these facilities including accidents, theft, vandalism, and other problems should be addressed. This becomes much more acute when these facilities are located along waterways and residential backyard fences.

The following methods of reducing risk are proposed to help minimize the liability associated with providing designated cycling facilities:

- Improve the physical environment, increase public awareness of the rights and obligations of cyclists and pedestrians and improve access to educational programs in order to demonstrate that efforts are being taken to reduce the likelihood of accidents occurring and lawsuits being initiated by injured parties;
- Select, design and designate facilities in compliance with the highest prevailing standards. Regulatory signs, as identified in OTM Book 5: Regulatory Signs, should be used to indicate the applicability of legal requirements that might not otherwise be apparent;
- Design concept(s) should comply with all applicable laws and regulations (e.g. Ontario Highway Traffic Act, current by-laws etc.);
- Maintenance operations should conform to acceptable standards. If a hazard cannot be removed, it must be isolated with barriers or notified by clear warning signage;
- Monitor on a regular basis the physical conditions and operations of roadways and pathway facilities. All reports of hazardous conditions received from cyclists, pedestrians, police or others should be promptly and thoroughly investigated;
- Keep written records of monitoring and maintenance activities;
- Avoid describing or promoting routes or pathways as “safe” or “safer” than alternatives. Industry practices suggest that it is preferable for facility users to assess their capabilities themselves and govern their choices accordingly; and
- Maintain proper insurance coverage as a safeguard against having to draw payment for damages from the public treasury.



8.0 CONCLUSION

The Voyageur Cycling Route is an important legacy opportunity both for economic development in the north and for cycling in Ontario. The route offers a variety of cycling experiences from scenic local roads to buffered paved shoulders on the Trans-Canada and other secondary highways to off-road trails. This is complemented by the picturesque landscape of the region, which is also home to numerous provincial parks and communities.

As the Province begins to invest more significantly in a provincial cycling network, the VCR is a logical choice for early implementation. With the implementation of the Lake Huron North Channel Route and parts of the Georgian Bay Cycling Route underway, the VCR will be a significant addition to a provincial cycling touring network. It also shares much of its alignment with the planned route for the Trans Canada Trail in this part of Ontario. With the eastern portion of the route located in close proximity to the Quebec border, the VCR also has potential to form an inter-provincial cycling network linking Ontario to La Route Verte in Quebec.

This feasibility study and implementation plan includes recommendations for the DRTO and its partners to develop the Voyageur Cycling Route. A summary of these recommendations is provided below:

- It is recommended that the Voyageur Cycling Route be implemented on current Highway 17 sections that form part of the route. The VCR is proposed on sections of Highway 17 that are identified in MTO's route planning studies and should remain on this current corridor after the new multi-lane Highway 17 is constructed in 20 to 30 years.
- Sections of the Voyageur Cycling Route along Hwy 17 or secondary highways with higher volumes and speeds are intended to be implemented as buffered paved shoulders, or in in constrained locations paved shoulders
- It is recommended that area municipalities continue to work with CP to acquire an abandoned rail corridor (east of Mattawa) for conversion to an off-road multi-use recreational trail that could form part of a larger provincial-wide cycling touring network of routes.
- The DRTO should encourage and support municipalities to apply for the CycleON Municipal Cycling Infrastructure Program with partner municipalities to fund establishment of the VCR.
- It is recommended that the DRTO explore opportunities to apply for additional funding from FedNor.

This feasibility study is intended to provide a clear path forward for the formal adoption and subsequent staged implementation of the VCR. The evaluation of the route and facility types, analysis of benefits and recommendations for governance provide a comprehensive foundation for the development of this exciting project.

APPENDIX A:

PUBLIC CONSULTATION MATERIALS

NOTICE OF STUDY COMMENCEMENT: VOYAGEUR CYCLING ROUTE STUDY

The Voyageur Cycling Route Working Group (VCRWG) in association with Discovery Routes has developed a concept for a cycling route that will connect communities between Sudbury and Deep River including French River, West Nipissing, North Bay and Mattawa. The purpose of the study is to identify potential benefits to local communities such as increased tourism, infrastructure investment, improved recreational opportunities and greater community connectivity. It will also confirm the preferred route alignment, seek local municipal, provincial and agency support and estimate the level of funding that will be required to implement the route. The proposed route is intended to be primarily on-road.

WE WANT YOUR FEEDBACK

- Attend a Public Information Centre in one of the four communities along the corridor during the first week of June:
 1. Canadian Ecology Centre, #6905 Hwy 17, Mattawa, Mon, June 1, 2015, 4:30-6:30pm
 2. City Hall Main Foyer, 200 McIntyre Str E, North Bay, Tues, June 2, 2015, 4:30-6:30pm
 3. Town Hall, 255 Holditch Street, Sturgeon Falls, Wed, June 3, 2015, 4:30-6:30pm
 4. French River Council Chambers, 44 St Christophe St, Noëlville, Thurs, Jun 4, 2015, 4:30-6:30pm
- Contact a study team member listed below to ask questions or provide comments
- Visit the project website: <http://discoveryroutes.ca/vcr>



Jennifer McCourt
Executive Director
Discovery Routes Trails Organization
1375 Seymour Street
North Bay, ON P1B 9V6
Phone: 705-472-8480
Email: [REDACTED]

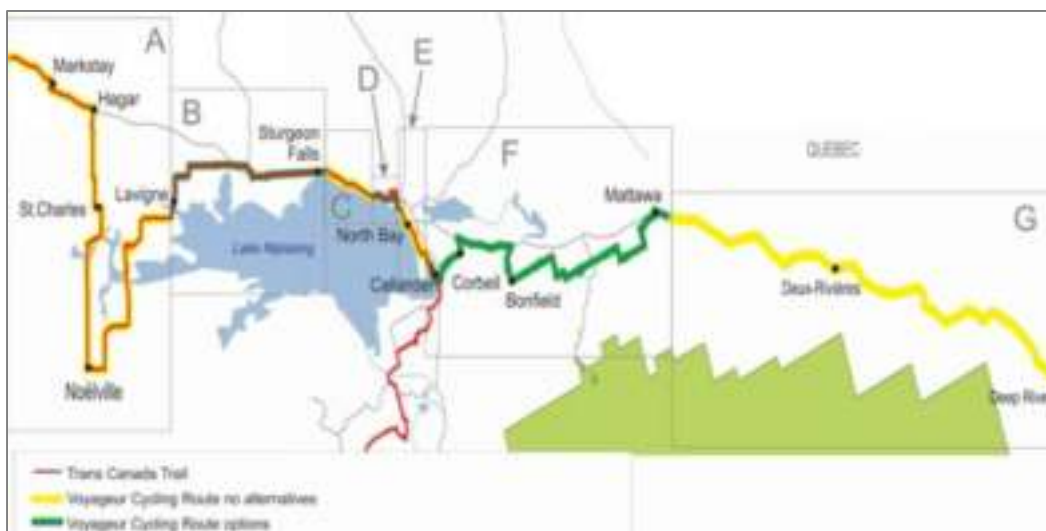
Dave McLaughlin
Senior Project Manager & Partner
MMM Group Limited
100 Commerce Valley Drive West
Thornhill, ON L3T 0A1
Phone: 905-882-7306
Email: [REDACTED]

AVIS DE LANCEMENT D'ÉTUDE: ÉTUDE DU SENTIER DE VELO VOYAGEURS

Le Voyageur Cycling Route Working Group (VCRWG) en collaboration avec Discovery Routes a conçu un sentier de vélo qui s'étendra de Sudbury jusqu'à Deep River, et ainsi, reliera d'avantage les communautés de La Rivière Des Français, West Nipissing, North Bay et Mattawa, parmi d'autres. Le but de cette étude est de mieux comprendre les bénéfices que le sentier de vélo pourra apporter à ces communautés, tels qu'une hausse en tourisme et en investissement d'infrastructure, une amélioration dans l'offre d'activités de loisirs et de sport, et un renforcement des liens communautaires. Cette étude aussi servira à concevoir et à sélectionner l'alignement de sentier préféré, à la recherche de soutien d'agences, des municipalités et de la Province, et à souligner les coûts nécessaires pour la mise en oeuvre du sentier. Nous prévoyons que le sentier sera principalement sur route.

NOUS AVONS BESOIN DE VOS REACTION ET IMPRESSIONS

- Nous vous encourageons d'assister aux consultations publiques suivantes qui auront lieu tout au long de la route du sentier à vélo, pendant la première semaine de juin:
 1. **Centre Écologique du Canada, 6905, autoroute No. 17, Mattawa, Lundi Juin 1, 2015, 16:30-18:30**
 2. **Foyer Principal, Hôtel de Ville, 200, rue McIntyre Est, North Bay, Mardi Juin 2, 2015, 16:30-18:30**
 3. **Mairie, 255, rue Holditch, Sturgeon Falls, Mercredi, Juin 3, 2015, 16:30-18:30**
 4. **Municipalité De La Rivière Des Français, 44, rue St Christophe, Noëlville, Jeudi, Juin 4, 2015, 16:30-18:30**
- Veuillez contacter un membre de l'équipe de projet si vous avez des questions ou des remarques
- Visitez le site web du projet: <http://discoveryroutes.ca/vcr>



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VOYAGEUR CYCLING ROUTE

Feasibility Study and Implementation Plan

JUNE 1-4, 2015 | MATTAWA, NORTH BAY,
STURGEON FALLS, NOELVILLE



OUTLINE

- About the study
- Route selection criteria
- Preliminary route
- Facility design
- Field investigation
- Your thoughts & comments
- Next steps
- Feedback

ABOUT THE STUDY

- The Voyageur Cycling Route Working Group (VCRWG)
- Opportunity to enhance local tourism and quality of life
- Important to not only understand the route alignment and design but to look beyond to the feasibility of implementing the route and the economic impacts it can generate
- Another important component of the project is to engage communities and incorporate local knowledge and insights

The goal of this study is to develop a comprehensive understanding of the feasibility and associated economic benefits of the route and to outline a clear path for implementation

ROUTE SELECTION CRITERIA

- Some route segments have already been determined; for other segments, route alignment options are still being considered
- West of Callander the route is proposed to follow the Trans Canada Trail
- Criteria to select a route alignment are based on an MTO cycling route selection tool
- Data for the route selection tool will be gathered through field investigations (by bike and car) of proposed route and options

ROUTE SELECTION CRITERIA

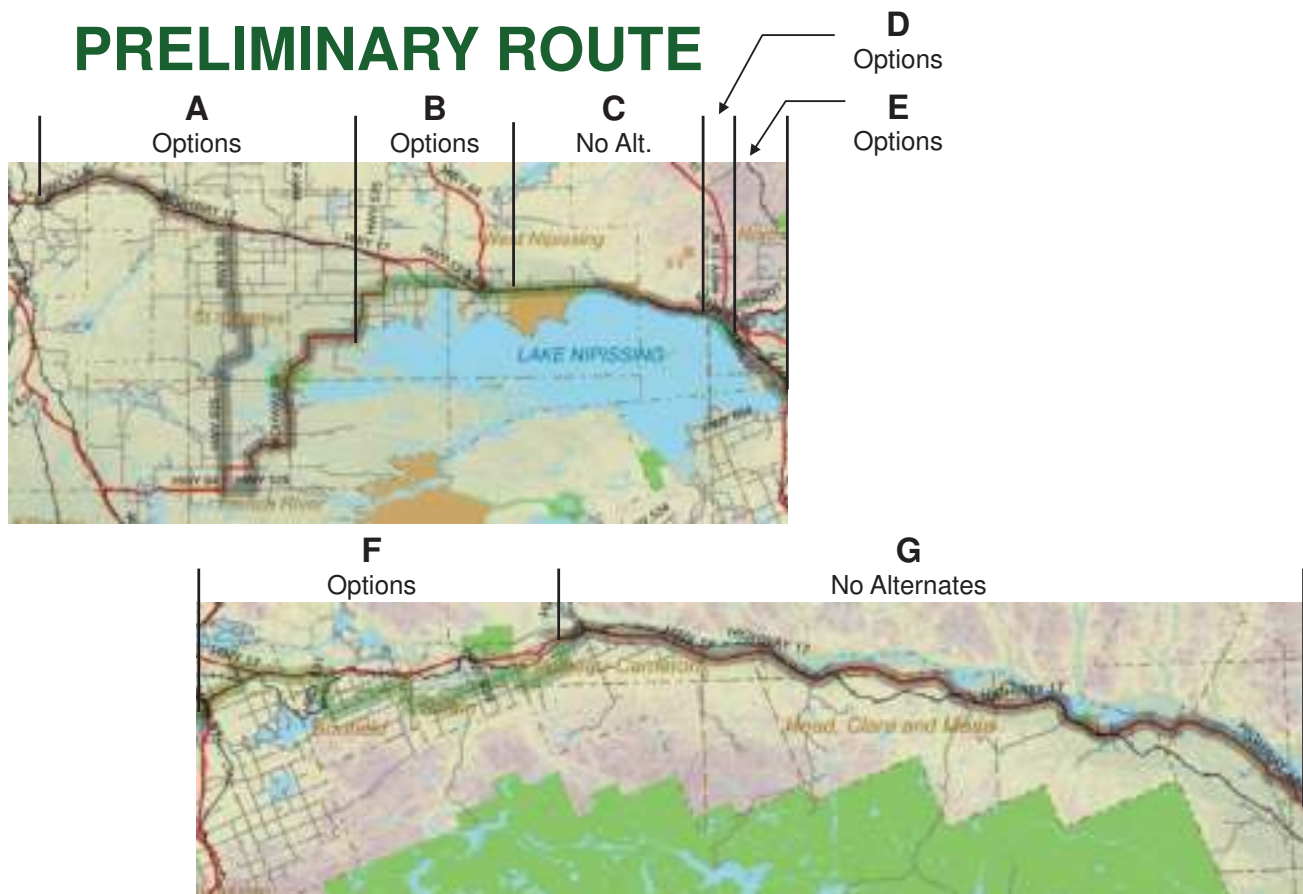
Experiential Criteria

- 1.1 Access to Amenities
- 1.2 Significant Population Centres
- 1.3 Intermodal Links
- 1.4 Topography
- 1.5 Directness
- 1.6 Rider Comfort
- 1.7 Scenic & Attractive
- 1.8 Significant Destinations

Safety & Feasibility Criteria

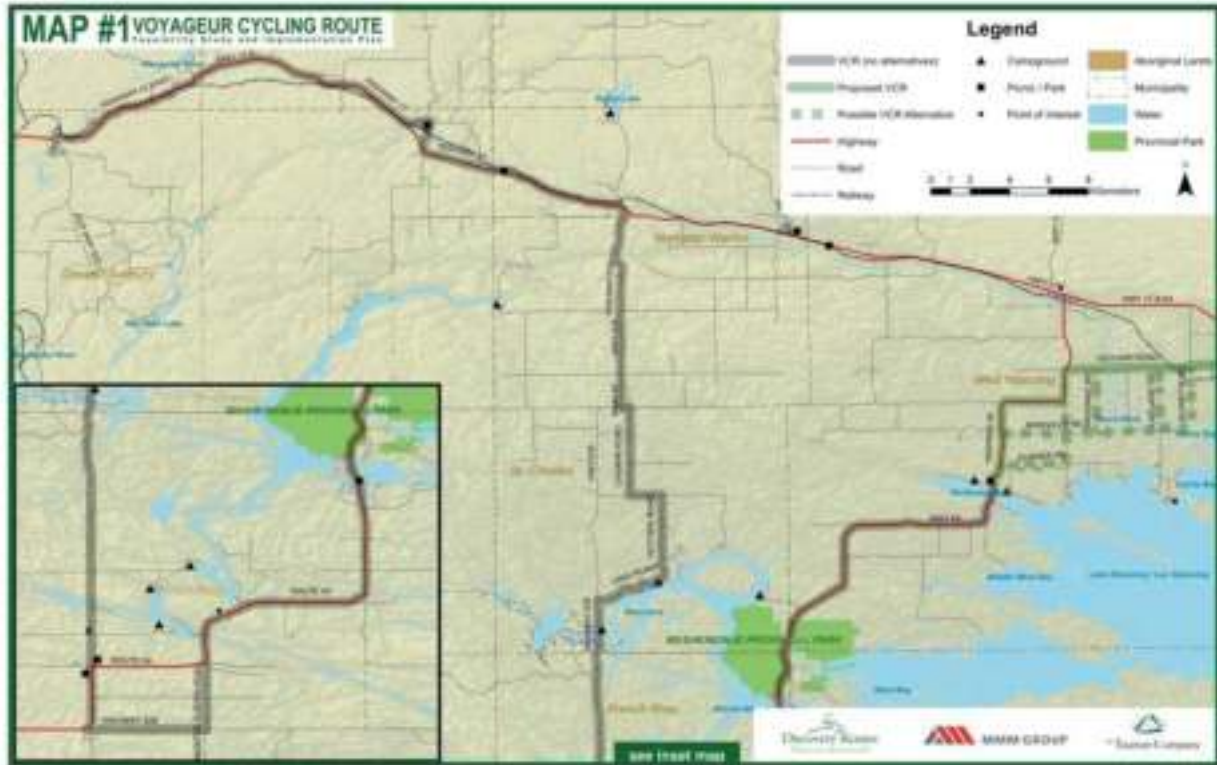
- 2.1 Appropriateness of Existing Infrastructure
- 2.2 Traffic Volume and Operating Speed
- 2.3 Truck Volume
- 2.4 Collision History
- 2.5 Emergency Access
- 2.7 Consistent with Municipal Goals
- 2.6 Commitment to Operations/ Maintenance
- 2.8 Consistent with Regional Tourism Goals

PRELIMINARY ROUTE



PRELIMINARY ROUTE:

GREATER SUDBURY – CACHE BAY



7 | JUNE 2015 | VOYAGEUR CYCLING ROUTE
Feasibility Study and Implementation Plan



PRELIMINARY ROUTE:

CACHE BAY -- CALLANDER

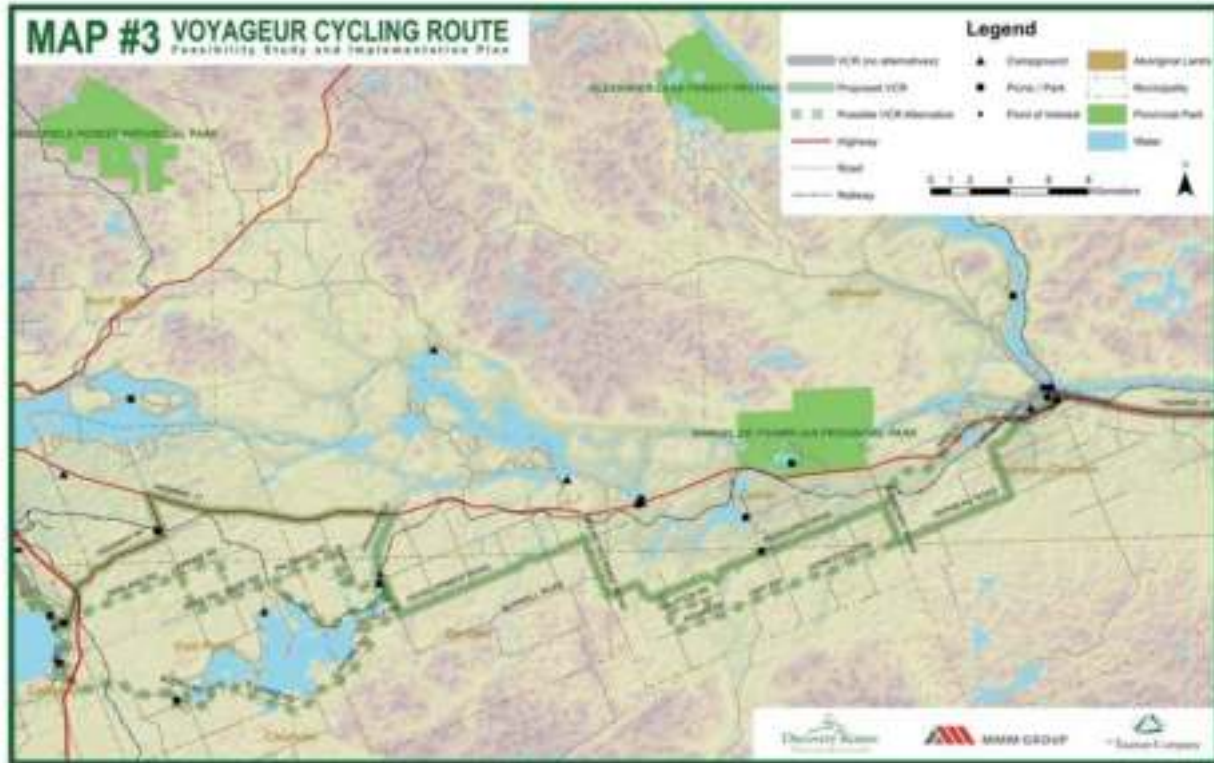


8 | JUNE 2015 | VOYAGEUR CYCLING ROUTE
Feasibility Study and Implementation Plan



PRELIMINARY ROUTE:

CALLANDER -- MATTAWA



9 | JUNE 2015 | VOYAGEUR CYCLING ROUTE
Feasibility Study and Implementation Plan



PRELIMINARY ROUTE:

MATTAWA – HEAD, CLARA & MARIA TP.



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Feasibility Study and Implementation Plan



PRELIMINARY ROUTE:

HEAD, CLARA & MARIA
TP. – DEEP RIVER



INVESTIGATION RESULTS

Deep River
(McCauley Road) to
Bissett Creek Road

- Approx. 47 km
- Hwy 17
- No (few?) alternatives

[http://www.gmap-
pedometer.com/?
r=6624325](http://www.gmap-
pedometer.com/?
r=6624325)

Scenery	High quality – Ottawa River views & N. Ontario woodlands; sweeping vistas; wildlife
Services	Limited after Deep River – Driftwood Prov. Park, roadside rest areas, some commercial lodges & campgrounds
Signs	No cycling or cycling route signs; signs for services, intersecting roads, points of interest
Surface	Paved, mostly narrow paved shoulders then gravel
Slope	Very hilly – approx. 1,000 m. of elevation between Deep River & Mattawa; long climbs
Safety	Busy commercial route; 90 km. speed limit regularly exceeded

INVESTIGATION RESULTS

<p>Bissett Creek Road to Mattawa (round about)</p> <ul style="list-style-type: none"> • Approx. 54.5 km • Hwy 17 • No (few?) alternatives <p>http://www.gmap-pedometer.com/?r=6624334</p>	Scenery	High quality – Ottawa River views & N. Ontario woodlands; sweeping vistas; wildlife
	Services	Limited until Mattawa – roadside rest areas, Mattawa Golf & Ski Resort, lodges, campgrounds
	Signs	No cycling or cycling route signs; signs for services, intersecting roads, points of interest
	Surface	Paved, mostly narrow paved shoulders then gravel
	Slope	Very hilly – approx. 1,000 m. of elevation between Deep River & Mattawa; long climbs
	Safety	Busy commercial route; 90 km. speed limit regularly exceeded

INVESTIGATION RESULTS

<p>Mattawa (round about) to Bonfield</p> <ul style="list-style-type: none"> • Approx. 45.6 km • Mostly secondary roads • Many alternatives <p>http://www.gmap-pedometer.com/?r=6624348</p>	Scenery	Town, rural farmland & woodland; historical statues in Mattawa; Eau Claire Gorge; wildlife; intersects Algonquin Park access road (Brain Lake)
	Services	Complete in Mattawa, fewer in Bonfield (& vicinity), food & drink in Eau Claire;
	Signs	Cycling route signs on part of route; signs for intersecting roads, points of interest
	Surface	Mostly paved without shoulders; gravel on portions of Chenier Road, Boundary Rd, Peddlers Road & Mount Pleasant Rd (approx. 21 km)
	Slope	Generally rolling hills, some steep climbs; approx. 300 m. of elevation
	Safety	Low traffic, minimal commercial; max. 80 km. speed limit, some sections 70 km.

INVESTIGATION RESULTS

<p>Bonfield to Callander</p> <ul style="list-style-type: none"> • Approx. 27.2 km • Mostly secondary roads • Many alternatives <p>http://www.gmap-pedometer.com/?r=6624360</p>	Scenery	Village, rural farmland & woodland, Lake Nosbonsing views; wildlife
	Services	Some in Bonfield, Corbeil & Callander,
	Signs	No cycling signs or cycling route signs; signs for intersecting roads, points of interest, water access
	Surface	Paved without shoulders
	Slope	Generally rolling hills, a few steep climbs; approx. 150 m. of elevation
	Safety	Low traffic – heaviest on Corbeil Road and Lake Nosbonsing Road, minimal commercial; max. 80 km. speed limit, some sections 70 km.

INVESTIGATION RESULTS

<p>Callander through North Bay to Hwy 17</p> <ul style="list-style-type: none"> • Approx. 19.8 km • Secondary roads, streets, off-road bicycle path • Some alternatives <p>http://www.gmap-pedometer.com/?r=6625461</p>	Scenery	Village, rural woodland, Lake Nipissing, city-life, parkland; wildlife
	Services	Some in Callander, many in North Bay
	Signs	Cycling signs and cycling route signs on Kate Pace Way; signs for intersecting roads, points of interest, water access
	Surface	Paved, some shoulders, some off-road
	Slope	Mostly flat -- minimal elevation gain
	Safety	Low to moderate traffic – heaviest on Hwy 94, some North Bay streets; 90 km speed limit on Hwy 94, 60 km on City streets

INVESTIGATION RESULTS

<p>North Bay to Sturgeon Falls</p> <ul style="list-style-type: none"> • Approx. 29.4 km • Hwy 17 • No alternatives <p>http://www.gmap-pedometer.com/?r=6625464</p>	Scenery	Rural, some Lake Nipissing views & vistas; wildlife
	Services	many in North Bay and Sturgeon Falls, some along Hwy 17 including picnic/scenic lookout stop
	Signs	No cycling signs or cycling route signs; signs for intersecting roads, points of interest
	Surface	Mostly narrow paved shoulders
	Slope	Reasonably flat – approx. 200m elevation gain
	Safety	Heavy automobile and commercial

INVESTIGATION RESULTS

<p>Sturgeon Falls to Lavigne</p> <ul style="list-style-type: none"> • Approx. 28.6 km • Secondary roads & Hwy 64 • Many alternatives, including Cache Bay loop • http://www.gmap-pedometer.com/?r=6625477 	Scenery	Town, Sturgeon River falls, rural farmland, some Lake Nipissing views; wildlife
	Services	Many in Sturgeon Falls, limited in Lavigne & Cache Bay
	Signs	No cycling signs or cycling route signs; signs for intersecting roads, points of interest
	Surface	Mostly paved without shoulders; narrow shoulders on Hwy 64
	Slope	Mostly flat – approx. 60m elevation gain
	Safety	Moderate to light automobile traffic, minimal commercial

INVESTIGATION RESULTS

Lavigne to Noelville

- Approx. 38 km
- Hwy 64
- No alternatives,
- <http://www.gmap-pedometer.com/?r=6625488>

Scenery	Villages of Lavigne & Noelville, rural woodland, Lake Nipissing views; Mashkinonje Provincial Park; wildlife
Services	Limited in Lavigne & Noelville; scenic picnic/rest stop midway on shore of Lake Nipissing
Signs	No cycling signs or cycling route signs; signs for intersecting roads, points of interest
Surface	Paved with narrow shoulders
Slope	Rolling – 200 m elevation gain, 1-2 long climbs
Safety	Moderate to light automobile traffic, minimal commercial on Hwy 64

INVESTIGATION RESULTS

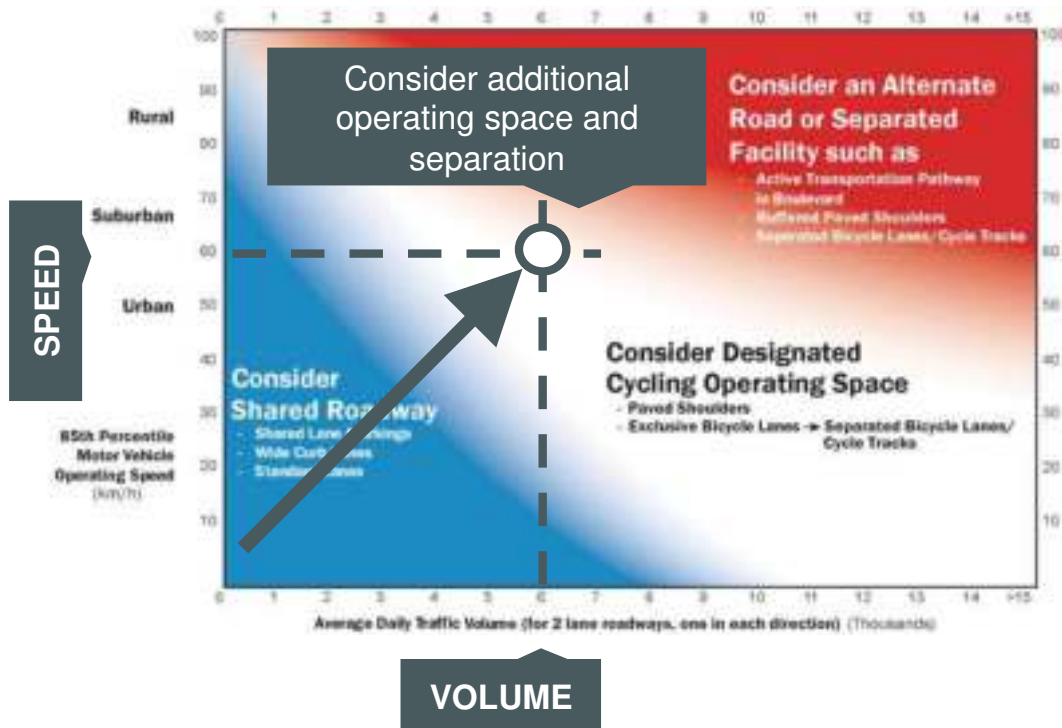
Noelville to Wahnapiatae

- Approx. 69 km
- Hwy 17 & 535
- Some alternatives at St. Charles,
- <http://www.gmap-pedometer.com/?r=6627410>

Scenery	Villages of Noelville, St. Charles, Hagar, Markstay & Wahnapiatae; rural woodland and farmland, Lake Nipissing and Veuve River views; wildlife
Services	Complete in Wahnapiatae, St. Charles; limited in Hagar, Markstay, Noelville; picnic/rest stop on Hwy 17 west of Markstay
Signs	No cycling signs or cycling route signs; signs for intersecting roads, points of interest
Surface	Paved with narrow shoulders
Slope	Rolling – approx. 400 m elevation gain, 1-2 long climbs
Safety	Heavy traffic on Hwy 17; moderate to light automobile traffic, minimal commercial on Hwy 64

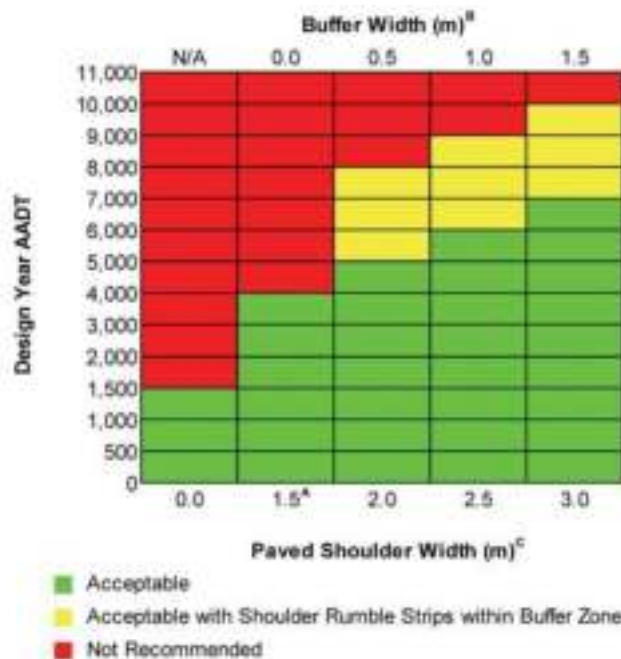
FACILITY SELECTION TOOL

Ontario Traffic Manual Book 18: Cycling Facilities



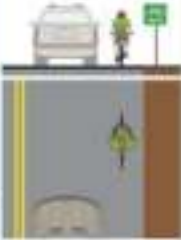





MTO BIKEWAYS DESIGN MANUAL

- Tool to assist MTO in selecting paved shoulder type to accommodate cycling on Secondary Highways
- Design year AADT is the primary factor



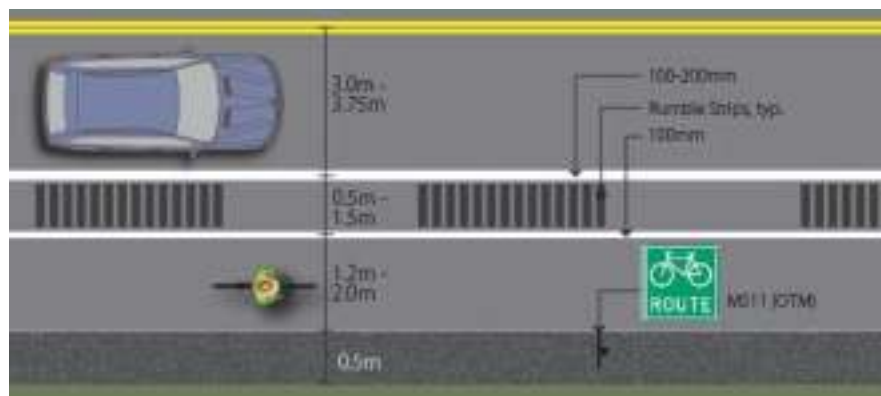
MTO BIKEWAYS DESIGN MANUAL

ON-ROAD FACILITIES:

	Signed Bike Route ¹	Signed Bike Route with a Paved Shoulder	Signed Bike Route with a Buffered Paved Shoulder	Bicycle Lane	Separated Bicycle Lane	Raised Cycle Track
Example Cross-Section						
	Example of Narrow Signed Bike Route on a Rural Cross-Section	Example of a Signed Bike Route with a Paved Shoulder	Example of a Signed Bike Route with a Paved Shoulder including Buffer	Example of a Conventional Bicycle Lane	Example of Buffered Bicycle Lane	Example of a One-Way Raised Cycle Track
Width	4.0 – 4.5 m (Shared travel lane)	1.2 – 1.5 m (Paved Shoulder only)	2.0 – 3.0 m (Paved Shoulder with 0.5 – 1.5 m buffer)	1.5 – 1.8 m (Bicycle Lane & gutter)	1.5 – 2.0 m (Bike Lane & gutter) 0.5 – 1.2 m (Separation width)	1.5 – 2.0 m (One-way Cycle Track) 3.0 – 4.0 m (Two-way Cycle Track)

PAVED SHOULDER

- Bicycle friendly rumble strips use a skip pattern, which allows cyclists to manoeuvre onto the roadway if necessary



VCR ONGOING CO-ORD. & PROMOTION

- Operationalizing VCR can involve: installation of signage, branding, map creation/availability, information collected and posted on goods/ services along route, etc..
- Ongoing work may include: annual events, lobbying for improved infrastructure, maintaining internet information, coordinating cycle safety education and sign maintenance, etc..
- There are numerous ways to support DRTO to undertake this work, some examples:
 - Local volunteer cycle clubs that check signage and gather information
 - Regular annual support from municipalities and/or Province
 - Fundraising events
 - Grant-making
 - Advertising fee to small businesses along route
 - Sale of maps, application or merchandise

YOUR THOUGHTS & COMMENTS ... PLEASE

- What do you **like** about the route(s)?
- What **concerns** you about the route(s)?
- What **suggestions** do you have for route(s) options?
- What **ideas** do you have about how the Cycle Route can be administratively sustained?
- What **opportunities** do you foresee for implementing the Voyageur Cycling Route?
- What **issues** do you foresee in implementing the Voyageur Cycling Route? How can they be overcome?

NEXT STEPS

- Review Public and Local Stakeholder Input
- Confirm the Route Alignment (further field investigation)
- Estimate community benefits
- Identify Cost Estimate for Infrastructure Improvements
- Develop an Implementation Plan
- Document the Study in a final report

WE WANT YOUR FEEDBACK!

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<http://discoveryroutes.ca/vcr/>

APPENDIX B:

INPUT RECEIVED THROUGH PUBLIC CONSULTATION

Mattawa Workshop June 1

Participants

Jacques Begin, Mattawa
Mary MacCafferty, Deep River
Larrie Thomson, Deep River
Keith Barrer, MBEDC
Darcy Watson, Bonfield

What Suggestions do you have for Route Options?

- Contact business stops en-route to welcome and provide facilities.
- Connect with snow mobile association of Ontario. Excellent network, very organized, good trails, significant tourist dollars.
- Railway lines east of Mattawa all the way to Ottawa are empty. Wide interest in seeing them converted into cycling- skiing trails.
- Work with OVTA and other partners to raise awareness and gather ideas/input.

What do you like about the Route(s)?

- Wonderful scenery (one of the most exciting routes in the area).
- Cycling is a growing area of interest and many people would enjoy using this route.
- Would help towns with their tourism, advertising and economic development efforts.
- Allow access to rural and natural areas that cyclists may not otherwise experience.
- Great scenery.
- Nice route options except Hwy 17.
- Good opportunities for breaks.
- Northern connection to the provincial cycling network and integration of regional cycle tourism.

What opportunities do you foresee for implementing the Voyageur Route?

- Parts of the Ottawa River are already called “the Voyageur Route” for canoeists. The VCR would follow/parallel some of these parts.
- Explore alternative route on rail line (work with partners already looking into this) shared interest.
- Run session in Deep River with cyclists for more ideas/input via Mayor/Larrie and Mary.
- Giving areas another way to connect to one another.
- Would open additional cycling opportunities (other trails would join up).
- “Welcome cyclists” signs would be popular with businesses, even before the VCR is implemented. (Might provide incentives to MTO to increase support/funding to the project.)

What issues do you foresee in implementing the route? How can they be overcome?

- Making Hwy 17 safer in some parts. Work with MTO.
- Moving on rail line use which may take a long time (ownership, etc.) work with partners down the valley.
- Operating costs and municipal agreements for funding.
- 4 lanes of hwy... how to deal with it?
- Rail bed, what if ownership isn't determined when we are ready and Hwy is only option?
- Is economic impact worth the costs?
- Long-term maintenance and ongoing administrative funding.

What concerns you about the route(s)?

- Lack of Bike Shops at this time.
- Highway 17 Re: rail bed as alternative – costs associated with rail bed development and land ownership concerns.
- Big education efforts needed for Highway 17 driver to heed cyclists.
- Highway 17 busy and currently not safe for cyclists (gravel shoulders).
- Rail line near park - make sure there are no sales. Please speak to Mayor Bob Corriveau, Papineau / Cameron.

Additional Meeting Notes / Comments

- Participants would like a copy of the route selection criteria.
- Connect trails, ex. 'Peddle and paddle' idea.
- Does the traffic volume data look at Time of Use? Summer / winter, weekdays / weekends, etc. Answer – the data available is Average Annual Daily Traffic and it has 5 categories.
- Is the bike lane the shoulder? Answer – no, it is an expanded roadway.
- Highway 17 is always busy and dangerous; so do we decide it isn't feasible?
- Many passing lanes between Mattawa and Deep River.
- Between North Bay and West Nipissing may have less volume since passenger cars use this stretch and trucks may split off to Hwy 11.
- Why are we not considering the rail line? We should consider focusing on the rail line. Answer – MMM will consider the rail line in terms of feasibility, cost, ownership, etc.
- If the route is finalized, will businesses be engaged to make water available?
- History of fatalities on that Hwy 17 stretch is high (vehicular as well as non-vehicular).
- Deep River has an active cycling community. Cycle shops in Pembroke and Petawawa.

North Bay Workshop June 2**Participants**

David Weiskopf, Century 21
 Pascal Laperriere, Laperriere-Rochefort law Office
 Pauline Rechfort, Deputy Mayor East Ferris
 Lucie Laperriere, Laperriere-Rochefort Law Office
 Mike Purcell, Callander
 Siobhan O'Leary, Ministry of Northern Development and Mines
 Troy Storms, North Bay-Mattawa Conservation Authority (NBMCA)
 Arne Schmidt, North Bay resident

What Suggestions do you have for Route Options?

- Cell coverage? Identify where this may be cost.
- Keep off highway as much as possible.
- Include inland water route – Callander.
- Booth Track, Lake Nosbonsing, Corbeil Rd. over to Quae Quae to Bonfield.
- From Callander, go through Astorville – Lake Nosbonsing Rd to Astorville Rd to Corbeil Rd to Quae Quae Rd.
- I would like to see 'loops' so that I don't come back on my steps – from North Bay, Callander, Astorville, Corbeil and North Bay.
- Going from Corbeil to North Bay via Centennial Crescent and Hwy 17 – would like to see this section improved.

- From Kate Pace Way to Callander, go through Osprey Links subdivision. Most people zigzag through there to avoid the highway connection at the north end of Callander.
- A good way to see what roads are well travelled by local cyclists, given the small lack of attendance from these, is to visit [strava.com](https://www.strava.com) and access a feature called heatmap, which plots the most commonly used roads in various levels of popularity.
- Callander is supportive of either option of using Hwy 94 or Booth Rd (Lake Nosbonsing Rd). Booth Road option uses more of the Trans Canada Trail and passes (sunbeam bungalows, Terrace Suites and a B&B) a few tourist accommodation businesses.

What do you like about the Route(s)?

- Good mix of highway and rural.
- You can choose to stay off the challenging sections.
- Linking town Bonfield, Astorville, Corbeil, Callander, north shore of Lake Nosbonsing
- Everything, improving cycling safety.
- Going through Astorville, Lake Nosbonsing.

What opportunities do you foresee for implementing the Voyageur Route?

- Possible historical 'vignettes' to add interest to some of the rural/highway routes (could be digital only).
- encourage tourism operators to offer cycling packages.
- Local food ex. Leisure farms could be promoted.
- Longer term – natural gas coming into Astorville along Lake Nosbonsing Rd – Booth Track – opportunity to share cost of adding a 'bike line' as people would go along Booth Track.
- Provincial Government has rural gas grant program and so East Ferris is a contender.
- Municipal support.
- Link to North Bay cyclists and advocates.
- Events to build awareness, and signage.

What issues do you foresee in implementing the route? How can they be overcome?

- I think that there are rural broadband projects that are improving cell coverage – Blue Sky Net.org, they have maps of cell coverage.
- The hills will scare off family cyclists – maybe create routes for different groups, ex. Families, road warriors.
- Cost.
- Educating the public to awareness.
- Signage, educating.
- I would like loops I can do in 1 day from North Bay to Astorville/Callander/Bonfield.
- Circle loop Mattawa – North Bay on 535 Highway.
- Need signs, approvals, and education for the public.
- Speed limits on Kate Pace Way.
- Signage, Remember – Share the Way, bells (on bikes), etc.
- Provincial buy-in. Need this, small towns have no cash.

What concerns you about the route(s)?

- Some areas are too far to ride for 'tourists' ex. More than 25 km.
- Some areas have few services – water.
- Trucks – speed and safety.

- Not easy to plan an easy day route in most of the areas, ex. Low kms and points of interest.
- The Hwy 17 sections.
- Concerns over municipal liability, especially when signs are put up – seen as promotion, which is risky when the facilities are not great.

Additional Meeting Notes/Comments

- Attitudes toward cyclists – not appreciated in some places, need to educate motorists to ensure a welcoming experience for cyclists.
- Is data based on actual speed travelled or posted speed limit?
- Would you put two-way (contra flow) path/lane on one side of the street?
- What is the municipal buy in? Answer – municipalities did contribute to the feasibility study and most are participating on the steering committee. All of the municipalities between North Bay and Sudbury provided letters of support for the initial routing work by Trans Canada Trail.
- Lots of people use Hwy 17, including pedestrians and equestrians.
- How can this be built financially? It is difficult for municipalities to find the funding to create the shoulders.
- Improved signage for cyclists and pedestrians.
- Desire for province to provide support to municipalities to improve infrastructure.
- Interest in seeing Hwy 17 improved.

West Nipissing / Sturgeon Falls Workshop June 3

Participants

Jolene Lisk, WN Chamber of Commerce
 Clement Morin, Cross Country Ski Club
 Huguette Morin, WN Nordic Ski Club
 Roland Larabie, West Nipissing Ward 6 Councilor
 Evelyne St. Jean, retired
 Carole Lafremiere-Noel, retired
 Jay Barbeau, CAO Municipality of West Nipissing
 Julie LaBrosse-Landry, Municipality of West Nipissing
 Allison Roy, WN Tribune

What Suggestions do you have for Route Options?

- Second option from Hwy 17 bridge to 64 to Field to Hwy 575 to Verner to Lavigne.
- If someone repairs bicycles, they should be in the information book.
- Agree with route between Noelville and Sturgeon.
- I hope it will become a reality soon since I want to enjoy a safe bicycle ride before I'm too old.
- Sturgeon to Field to Verner (Riverview Market and chip stand in Field) then 575 to Verner (Hidden Lake Restaurant).
- The Hill museum will connect the trailer park with a trail next year, this will provide a connection between the museum and the cycle route.

What do you like about the Route(s)?

- The fact that you take the side roads to smaller communities is awesome.
- Ability to ride my bike without being worried about cars and transports being so close to me.
- The route is for West Nipissing is good since it tries to avoid the hwy.
- Scenic access is kept in consideration.
- Especially like the route between Sturgeon and Noelville – very scenic and safe.

What opportunities do you foresee for implementing the Voyageur Route?

- Businesses.
- Bed and Breakfasts.
- Heritage and local history.
- Finally we could cycle without putting our lives in jeopardy.
- Tourism to get to know our area.
- Historical areas would be discovered.
- Benefits for business section, specifically tourism.
- Encourage business community to become bicycle friendly.

What issues do you foresee in implementing the route? How can they be overcome?

- Mostly safety issues regarding space for bicycles.
- Expenses for paving, signage infrastructure, bridges, etc.
- To overcome: lobby provincial government.
- Try to find alternate routes as much as possible where high traffic.
- Lack of food, water, rest stops.
- Have possible portable caterers on weekends at certain stops. ex. Bears fishing.

What concerns you about the route(s)?

- The shoulders need to be wider.
- The poor shoulders on most of the designated routes.
- Rough edges, little space.
- Safety issues, make sure routes are well indicated.
- Safety, especially along highways. Will avoid if not safe.

What ideas do you have to administratively sustain the route?

- Local Champions influence municipal investments.
- Local groups should get together and share their resources and volunteers to maintain part of the route.
- Business yearly fee for selling food/water at different selected isolated spots.
- Work with municipality and clubs.
- Get sponsored by trailer parks, trailer retailers, cycle shops, Canadian Tire.
- Donations from cyclists in different spots if they wish to do some

French River / Noelville Workshop June 4

Participants

Trista Verbiwski, Municipality of French River
Bernadette Lindsay, Northeastern Ontario Tourism (RTO3A)
Harold Lutte, Wolseley Lodge
J.P. Morin, cyclist
Guy Paquette, FedNor

What Suggestions do you have for Route Options?

- Route needs to include Hwy 528 and Montee Gerin (?) Rd.
- Town owns property on Hwy 528, E Falcon French River (?)
- It would be ideal if the route could join up going south to Georgian Bay.

What do you like about the Route(s)?

- Like that it connects northern Ontario.
- It is a completely new idea with a lot of potential to drive tourism dollars into the French River area.

What opportunities do you foresee for implementing the Voyageur Route?

- To connect to Sudbury.
- Develop the VCR in French River.
- Opportunity to highlight historical sites along the route, as an attraction, since it is the Voyageur Route.
- Businesses must get 'on the map' at the beginning to ensure the route goes to their venues and signage includes them.
- For businesses to be reflected on maps and trailheads.
- Interested in promoting the idea of 'cycle northern Ontario'.

What concerns you about the route(s)?

- Safety of Hwy 17.
- MTO, Province, FedNor, etc.. will all need to be involved to make this happen.
- Local champions and businesses should lobby local government to implement the route.

What ideas do you have to administratively sustain the route?

- French River multi-use trails association (FRMUTA) could become sub-committee/member of DRTO, they have insurance, organizational incorporation, etc..

Additional Meeting Notes / Comments

- There is a desire for wayfinding signage to drive cycle traffic to rural businesses and/or tourist attractions that are off the route.
- Spurs and loops off of the main route will need to be paved.
- Some rural roads will need to be improved to enable cyclist to get to accommodation.
- Tourist businesses in French River are struggling, since 'traditional' (fishing and hunting) customer numbers are swindling; this route offers a completely new demographic of potential customers.
- Does Hwy 64 have traffic levels high enough to need the route to be put off-road?
- The benefits of a 100 km loop trail with a 1.5 meter shoulder through the area could be advertised itself and would attract cyclists.

- Once it is mapped and signed, then are the municipalities and businesses responsible to promote and develop the route? Answer – Yes, DRTO makes the trunk/spine and from there, communities/local trail partners make their own efforts to develop spurs and loops, and to promote their local attractions.
- Once the feasibility study is done, it strengthens the ‘ask’ and allows the local government to cash plan for upgrades and prioritize infrastructure improvements.

APPENDIX C:

CYCLING ROUTE SELECTION TOOL

CYCLING ROUTE SELECTION TOOL – USER’S GUIDE

This document is a guide on how to use the Cycling Route Selection Tool (CRST) to evaluate potential routes and route segments¹ for inclusion in the province-wide cycling network.

The CRST evaluates options on their potential attractiveness for cycling as well as the feasibility of making them comfortable and safe for cyclists of all skill levels.

The criteria contained in the CRST are summarized in Figure 1 below.

Figure 1: The Criteria in the Cycling Route Selection Tool

Experiential Criteria	Safety & Feasibility Criteria
1.1 Access to Amenities	2.1 Appropriateness of Existing Infrastructure
1.2 Significant Population Centres	2.2 Traffic Volume and Operating Speed
1.3 Intermodal Links	2.3 Truck Volume
1.4 Topography	2.4 Collision History
1.5 Directness	2.5 Emergency Access
1.6 Rider Comfort	2.6 Commitment to Operations/Maintenance
1.7 Scenic & Attractive	2.7 Consistent with Municipal Goals
1.8 Significant Destinations	2.8 Consistent with Regional Tourism Goals

Development and Testing

The CRST was patterned after a route selection tool created by MMM Group for MTO in 2012. It was also informed by a variety of bikeway planning and design guidelines including Ministry of Transportation, *Ontario Traffic Manual Book 18 - Cycling Facilities* (2014) and SuisseMobile, *Conception d'itinéraires cyclables manuel* (2008).

An earlier version of the tool, intended for use only with data that is available to the general public via the internet, was tested by MTO staff. The key finding of the test was that cooperation with municipalities and access to traffic data for municipal roads was crucial to achieving meaningful results.

Application

In this document, the details listed with each of the criteria are intended to guide the scoring of routes or route segments against the individual criteria, and to assist with documentation of the rationale for the score assigned.

The justification for each criterion is provided, along with guidelines on how routes/segments should be scored and where information to support the analysis may be found.

Every effort has been made to develop criteria that are specific (i.e. quantifiable) and objective.

¹ A “route segment” is part of a route.

Most criteria are scored out of 9, with 9 points for options that categorically meet the criterion, 6 points for options that generally meet the criterion, 3 points for options that generally do not meet the criterion, and 0 points for options that do not meet the criterion at all.

One notable exception is (2.1) Appropriateness of Existing Infrastructure, which is scored out of 27 to compensate for the fact that routes/segments where the infrastructure is already meets design standards for cycling are not assessed against criteria 2.2-2.3.

This tool is best used to evaluate alternatives for connecting specific origins and destinations: to help make a decision when there is a difference of opinion about which of two different routes between the same two towns is better, for example.

The tool may also be used to evaluate routes/segments where no alternative has been identified; however for consistency and to ensure comparability, it is recommended that they be broken down and evaluated in segments of approximately 25 km in length. (Guideline is based on the concept that the distance between amenities along a route should never be more than 25km, so that cyclists to take frequent breaks rather than carry heavy supplies.)

At the end of this guide is blank scoring sheet is provided for illustrative purposes.

CRST Criteria

1. Experiential Criteria

1.1 Access to Amenities

Because bicycles are human-powered and slow-moving, a cycling route must provide frequent access to amenities such as food and accommodation. Ideally the distance between amenities along a route would be no more than 25 km apart to allow for cycling tourists to take frequent breaks rather than carrying foods and drinks.

In Ontario, communities with at least 500 residents will typically have at least one restaurant².

Suggested sources of information for presence of amenities (in order of preference):

- MTO Road Map: Communities of all sizes are listed on the MTO road map, as are National and Provincial Parks and Conservation Areas with camping sites, Travel Information Centres, National Historic Sites and other major tourist attractions.
- Statistics Canada: 2011 Census Data on the population of municipalities.
- Google Street View: Can be used to verify the range of amenities available in small communities.

Suggested source of information for cycle-friendly amenities

- The Ontario by Bike Network certifies bicycle friendly businesses, including restaurants and accommodations, in some regions of the province.

Scoring:

9	The distance between communities of at least 500 and Parks/Conservation Areas with camping along a route is always less than 20 km, and some amenities have been certified by Ontario by Bike as cycling friendly.
6	The distance between communities of at least 500 and Parks/Conservation Areas with camping along a route is never more than 20.1 to 30 km, and some amenities have been certified by Ontario by Bike as cycling friendly. OR The distance between communities of at least 500 and Parks/Conservation Areas with camping along a route is always less than 20 km but no amenities have been certified by Ontario by Bike as cycling friendly.
3	The distance between communities of at least 500 and Parks/Conservation Areas with camping along a route is never more than 30.1 to 40 km, and some amenities have been certified by Ontario by Bike as cycling friendly. OR The distance between communities of at least 500 and Parks/Conservation Areas with camping along a route is never more than 20.1 to 30 km, but no amenities have been certified by Ontario by Bike as cycling friendly.

² According to Canadian Restaurant and Food Associations there are 26,000 full- or quick-serve restaurants in Ontario, approximately 1 for every 500 residents.

0	<p>The distance between communities of at least 500 and Parks/Conservation Areas with camping along a route with cycling friendly amenities, services and accommodations is greater than 40.1 km at least once.</p> <p style="text-align: center;">OR</p> <p>The distance between communities of at least 500 and Parks/Conservation Areas with camping along is greater than 30 km and no amenities have been certified by Ontario by Bike as cycling friendly.</p>
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1.2 Connects Significant Population Centres

Because of proximity and ease of access, it is assumed that most users of the province-wide network will be Ontario residents on short trips, whether for recreation or other purposes (e.g. commuting). The potential number of route users is higher where there is a large population in close proximity. The variety of amenities also tends to be broader in larger population centres.

Suggested source of population information:

- Statistics Canada: The 2011 Census [Data](#) on population of geographic centres.

Scoring:

9	The resident population within 5 km of the route segment is 100,000 or higher
6	The resident population within 5 km of the route segment is between 50,000 and 99,999
3	The resident population within 5 km of the route segment is between 10,000 and 49,999
0	The resident population within 5 km of the route segment is less than 10,000

1.3 - Provides Intermodal Links

The route should connect cyclists to transportation hubs (regional/local bus, ferries, rail, etc.) with regularly scheduled arrival and departure times, as well as to parking lots. Intermodal links allow cyclists to access desired sections of a route by means other than bike and to avoid cycling on less-desired sections of a route, such as areas that are too hilly, too busy or too familiar.

Unlike the other criteria, this criterion applies to the entire route, not just the 25 km segment being assessed. For example, if a route is 100km long and has been divided into four 25km segments, then each of the four would receive the same 'Provincial Intermodal Links' score. The rationale for this is that an individual needs access to the origin and/or destination on the route and not necessarily access to intermodal links along the way.

Suggested sources of data for Transportation Hubs:

- [MTO Road Map](#). Some GO bus and train stations, as well as airports and carpool lots, can be found on the MTO road map.
- Google: A query such as "Tobermory bus," for example, may be the quickest way to uncover the options below as well as others.
- [Bike-Train](#): An initiative to make trains in Ontario more bike friendly. The website contains information on the trains and routes that are cycling friendly.

- ParkBus: Provides access to some Ontario Provincial Parks via motor coach. Dates and availability are on their website.
- GO Transit: The GTHA passenger train system. Some trains are equipped and able to carry bicycles. Information regarding this can be found on the GO Transit website.
- VIA Rail: Allows for transportation of bikes on trains. Information on the trains and schedule can be found on the VIA website.
- Intercity Buses: Some buses allow bicycles as luggage on their busses, often these have to be dismantled and placed in a box. Ontario bus companies include Greyhound Express, and Ontario Northland.
- Transit Systems: Some conventional transit buses are equipped to carry bicycles. Please consult the website for the transit system in question. Links to all website can be found here: <http://www.mto.gov.on.ca/english/traveller/transit.shtml>
- Google Maps: Many transportation hubs can be found on Google Maps. However, Google Maps may not indicate if the transportation hub is cycling friendly.

Scoring:

9	The total route has direct access to two or more major transportation hubs (airports, train stations, bus stations, etc.) with daily scheduled service that accommodate bicycles, or to car parking lots.
6	The total route has direct access to 1 major transportation hub with daily scheduled service or the route has direct access to transportation hubs with seasonal or occasional service that accommodate bicycles.
3	The route has indirect access to a transportation hub that accommodates bicycles.
0	The route has no access to a transportation hub or the transportation options are not bicycle friendly.

1.4 – Cycling Friendly Topography

Where vertical alignment is extreme, cyclists with less experience or lower fitness levels may be discouraged from using a route. On this basis routes that have frequent or significant changes in grade are scored lower than routes with minimal grade variations.

Suggested sources for topography data:

- Map My Ride: This site allows users to map and estimate the amount of grade variation on specific routes.

Scoring

9	The grade does not exceed 5% at any point along the route
6	The grade exceeds 5% for less than 150m
3	The grade is greater than 5% but less than 7%, for less than 300m
0	The grade exceeds 7%, or is greater than 5% but less than 7% for more than 500m

1.5 - Directness

Cycling routes, where possible, should link two points by the shortest path, avoiding unnecessary bends and changes in direction. Multiple turns can disorient a rider and unnecessarily complicate and lengthen a trip.

Road bends and changes in direction (i.e. directness) (D) are rated quantitatively on the basis of deviations from a straight path (*between two points*).

D = directness

E = actual length of the route, measured in meters (i.e 25,000m for a 25km route)

L = straight line (*between the two points*), measured in meters

Mathematically:

$$D = \frac{E}{L}$$

Suggested sources for Directness of route/segment:

- Google Maps and [Map My Ride](#): Both allow users to measure straight line distances between specific points, as well as distances along specific routes.

Scoring³:

9	D < 120%
6	120% < D ≤ 140%
3	140% < D ≤ 160%
0	D > 160%

1.6 – Rider Comfort

Rider comfort is an important aspect of cycling; roads that are smoother and easier to ride on are generally preferable to cyclists. The surface is rated quantitatively on the basis of the proportion of the route that has a hard surface.

The following characteristics will have a positive effect on the rating:

- Asphalt or concrete surface (little resistance to cycling movement, high comfort level).
- Water drainage (with no puddle formation).

The following characteristics will have a negative effect on the rating:

- Cobblestones.
- A surface that is damaged by potholes and uplifting of the surface due to tree roots.
- Long cracks or splits in the surface.
- Height differences between concrete slabs/paving stones.
- Loose gravel (risk of falling).

³ Based on SuisseMobile, Conception d'itinéraires cyclables manuel (2008).

Suggested sources of Information for Rider Comfort:

- Site Visits: Physical data from visiting sites.
- MTO Road Map. Some information about road surface can be found on the MTO road map; roads are defined as hard surface or loose gravel.
- MMM Ontario Cycling Inventory Database: In 2011, each Ontario municipality was invited to identify up to 5 major cycling routes. Information about the surfacing material used is available parts of some routes.
- Google Street View: Actual images are sometimes available on Google Maps. Some information is old and may not represent current, existing conditions.
- Road and Highway Drawings: Depending on the type of road or highway (municipal or provincial) the governing body should have as-built drawings for the Route in question. For provincial highways contact the regional office and for local municipal roads contact the local municipality engineering department.

Scoring⁴:

9	100% of the route/segment has a hard surface (i.e. asphalt or concrete paving or fine surface in excellent condition).
6	90-99.9% of the route/segment has a hard surface (i.e. asphalt or concrete paving or fine surface in excellent condition).
3	80-89.9% of the route/segment has a hard surface (i.e. asphalt or concrete paving or fine surface in excellent condition).
0	<80% of the route/segment has a hard surface (i.e. asphalt or concrete paving or fine surface in excellent condition).

1.7 - Scenic and Attractive

Routes located in natural settings generally have more tourism appeal than cycling in built-up, industrial settings. In fact, research suggests that scenic appeal and safety are the top two considerations of recreational and touring cyclists.

Switzerland's Route Planning Handbook suggests that the following criteria affect a route's scenic and attractiveness ratings.

Positive:

- An area of protected or unspoiled natural landscape or protected habitats (such as provincial or national parks).
- A variety of built-up and natural areas.
- Within 5km of a body of water.

Negative:

- High traffic volumes.
- Monotone and unchanging surroundings for the route
- Inhospitable and unwelcoming built-up or urban zones (e.g., industrial zone or small business park).

Suggested sources of Information for Scenic and Attractive:

- Site Visits: First hand data from visiting sites.

⁴ Based on SuisseMobile, Conception d'itinéraires cyclables manuel (2008).

- MTO Road Map: The MTO Road map will demonstrate the nearness to a body of water or whether a route passes through a conservation area, provincial or national park.
- Google Satellite and Street Views.

Scoring:

9	For every one negative attribute above encountered on the route/segment there are three positive ones (1:3) OR There is at least one positive attribute and there are no negative attributes.
6	For every one negative attribute above encountered on the route/segment there are two positive ones (1:2)
3	For every one negative attribute above encountered on the route/segment there is one positive attribute ones (1:1)
0	There are more negative attributes encountered than positive attributes; the area is exclusively built up urban area or high traffic area.

1.9 – Links to Significant Destinations

A route that provides access to significant destinations, such as a National or Provincial Park will have more appeal to recreational or touring cyclists than a route that does not.

Suggested sources of information:

- Official Road Map: The official MTO road map indicates the location of a wide range of destinations of national and provincial significance.

Scoring:

9	The route segment provides access to 3 or more than destinations of national or provincial significance
6	The route segment provides access to 2 destinations of national or provincial significance
3	The route segment provides access to 1 destination of national or provincial significance.
0	The route segment does not provide access to any destinations of national or provincial significance.

2. Safety and Feasibility Criteria
2.1 – Appropriateness of Existing Infrastructure for Cycling

This criterion is an indicator of how safe and comfortable a proposed route is and/or how expensive it would be to make it safe and comfortable.

The appropriateness of infrastructure for cycling is related to the volume, operating speed and composition of motor vehicle traffic when cycling occurs on the roadway and the width of

infrastructure available for cycling. On a road with a low volume of low speed traffic and few trucks or buses, bicycles can safely use the same lanes as other vehicles; however as volumes, speeds and the number of trucks and buses increase, the degree of separation between bicycles and other traffic must also increase. A separate lane for bicycles may be required; or at higher volumes and speeds, a separate lane with a buffer marked on the pavement. In even more extreme circumstances, off-road facilities may be required.

Ontario Traffic Manual (OTM) Book 18 provides guidance on the types of infrastructure that are appropriate for cycling given the volume, operating speed and composition of adjacent motor vehicle traffic. A range of options is appropriate in all but the most extreme circumstances. Book 18 also provides guidance on the width of infrastructure provided should be.

The appropriateness of the existing infrastructure for cycling is determined in two steps:

- First, using the nomograph on page 30 of OTM Book 18 for municipal roads or the MTO Bikeways Design Manual for provincial roads, determine whether the type of infrastructure is appropriate given the volume and operating speed of the traffic.
- Second, using the applicable table from tables 4.1 through 4.7, determine whether the width of the infrastructure (including any necessary buffer) is appropriate given the volume and operating speed of the traffic.

Suggested sources for information about traffic volume, speed and composition and the dimensions of the infrastructure:

- The owner of the infrastructure: e.g. municipality, Ministry or other.

Scoring:

27	The infrastructure type and width are both appropriate. Skip criterion 2.2-2.3 and continue with criterion 2.4.
9	The infrastructure type is appropriate, but not the infrastructure width. Continue with criterion 2.2 onward.
0	The current infrastructure is inappropriate. Continue with criterion 2.2 onward.

2.2 - Motor Vehicle Traffic Volumes and Operating Speeds

Lower motor vehicle volumes are more suitable and conducive to on-road cycling. In general cyclists will avoid roads and highways with high volumes of traffic, unless they are provided with a facility that offers some degree of separation from traffic. Higher motor vehicle traffic volumes can sometimes accommodate on-road cycling where vehicle speeds are low (for instance, ‘main streets’ in urban centres). Higher scores will be given to low-volume, low-speed roads or to roads with separated cycling facilities.

Suggested sources of Data for Traffic Volumes:

- Ministry of Transportation: Traffic Volumes can found on the Ministry site, Average Annual Daily Traffic (AADT).
- Manual traffic counts on local routes.
- MTO iCorridor: The Statistics Analysis Forecasting office keeps detailed records on the traffic volumes in Ontario

- **Municipal Traffic Counts:** Can sometimes be found in Transportation Master Plans online. Alternatively, contact the municipal planning and/or engineering office.

Lower motor vehicle operating speeds are more suitable and conducive to on-road cycling; cyclists tend to avoid roadways with high speeds. When motor vehicle operating speeds exceed threshold levels then it is recommended that cycling facilities be separated from motor vehicle traffic. Higher ratings will go to roads with lower operating speeds or separated cycling facilities.

Suggested sources for Operating Speed:

- The owner of the road: e.g. Ministry of Transportation or municipality.

Scoring⁵ :

9	The characteristics of the cycling facility fall in the blue area
6	The characteristics of the cycling facility fall in the white area
3	The characteristics of the cycling facility fall in the red area
0	The characteristics of the cycling facility are higher than the nomograph operating speeds and volumes.

For any route segment where AADT varies, base scoring on highest AADT encountered.

2.3 – Truck and Commercial Vehicle Volume

Routes with lower numbers of trucks and commercial vehicles are more conducive and suitable for on-road cycling; cyclists tend to avoid roads and highways with high truck and commercial vehicle volumes. Ideally, as truck and commercial vehicle percentages increase it is recommended that there is greater separation between trucks and cyclists.

Suggested sources for truck and commercial volume data:

- **MTO iCorridor:** The Statistics Analysis Forecasting office keeps detailed records on the truck and commercial traffic volumes in Ontario
- **Municipal Traffic Counts:** Can sometimes be found in Transportation Master Plans online. Alternatively, contact the municipal planning and/or engineering office.

Scoring:

9	Up to 30 trucks or buses per hour are present in a single curb lane
0	More than 30 trucks or buses per hour are present in a single curb lane

For any route segment where this varies, base scoring on highest proportion encountered.

2.4 - Collision History

A low number of bicycle-vehicle collisions can be an indication of a cycling-friendly location; however it can also be an indication of a cycling-hostile location (i.e. there are no collisions because few cyclists use the facility).

⁵ Based on the Ontario Traffic Manual Book 18 (Cycling Facilities), 2014 and the Ministry of Transportation Bikeways Design Manual 2015 Cycling Facility Pre-Selection Nomographs.

There is not a lot of data available for bike-motor vehicle accidents. However, there is significant data and analysis for motor vehicle collisions. Motor vehicle collisions will be used as an indicator for this criterion. Because of the imprecision of this indicator, it is scored on a lower scale than others in the tool.

Scoring is based on provincial averages for vehicle accidents. The latest data from 2009 has an average value for Accident Rates (AR) at 1.7 per motor vehicle kilometre (MVKM). As new data becomes available, scoring should be used on the most recent values.

Suggested sources of Data for Collision History:

1. MTO Provincial Highways Traffic Volumes 1988-2009: The Ministry has a published accident rate for all sections of its highways.
2. Local Municipal Offices: The local municipal planning and/or engineering office may have information on incidents. To calculate a municipal rate based on the MTO criteria: **AR** = the number of accidents for a given year divided by the MVKM (Motor Vehicle Kilometre)

AR = # of accidents / MVKM

The MVKM is calculated as follows:

$$\text{MVKM} = \frac{\text{AADT} \times 365 \times \text{Section Length (DIST-km)}}{1,000,000}$$

Scoring

4	0 < AR < 0.85 (The accident rate is between 0 and 0.85)
2	0.85 < AR < 1.7 (The accident rate is between 0.85 and 1.7)
1	1.7 < AR < 3.4 (The accident rate is between 1.7 and 3.4)
0	For routes/segments with no collision history or routes/segments that exceed the threshold accident rate value of 3.4.

2.5 - Emergency Access

Ideally routes would be located in areas where there is easy access by emergency service personnel. Where routes are off-road and outside of the road-right-of-way then access by emergency service personnel is typically more challenging.

Suggested sources of Information for Emergency Access:

- MTO Road Map: the MTO road map will identify roads and highways, which have easy access by emergency personnel. Trails are not included on the MTO road map
- Google Maps: All roads and some trails are identified in Google maps.
- The Ontario Trail Council: The Ontario trail Council has many of the Ontario trails mapped and listed.

Scoring

9	The route/segment is located on-road (i.e not a paved or gravel off-road trail). Or the route/segment is on a trail/shared use path that runs immediately adjacent to the road.
5	The route/segment is on an off-road trail or a paved trail. A road is close by with easy emergency access to the trail.
0	The route/segment is on off-road trail or a paved trail does not run adjacent to a road (making it difficult for emergency personnel to access the injured

	cyclist).
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2.6 - Local Commitment to Operations and Maintenance

A local commitment to maintaining a route will help ensure it remains suitable and attractive for cyclists. The route should have regular maintenance. Routes with dedicated operations and maintenance will receive a higher ranking.

Suggested sources of Information for Operation and Maintenance Plans:

- MTO Regional Offices: For provincial highways contact the regional office to find out if the Area Maintenance Contract covers cycling infrastructure.
- Local Municipal Offices: This information may be found in a Transportation Master Plan online. Alternatively, if there is an Operation and Maintenance Plan the local municipal office will have the plan.

Scoring:

9	There is regular operation and maintenance on the entire route/segment
6	There is regular operation and maintenance on 50-99% of the route/segment
3	There is regular operation and maintenance on 1-49% of the route/segment
0	There is no regular operation and maintenance on the route/segment

2.7 - Consistent with Municipal Cycling Goals

The route should be consistent with, and support, local municipal cycling goals and/or strategies and identified as a *key route* in municipal goals/strategies.

Local cycling strategies and goals, defined by the municipality, may be found in Official Municipal Plans or Municipal Master Plan Strategy documents.

A hierarchy has been established for identifying local cycling routes (planned or existing) and cycling goals and strategies. This is listed below in order of hierarchy.

Suggested sources for municipal or regional bike routes:

- Municipal bike maps
- The Ontario Bike Atlas

Suggested sources for municipal cycling plans:

- Municipal Cycling Plans.
- Municipal Transportation Master Plans.
- Recreation, trails or other municipal plans.

Scoring:

9	The route/segment already exists: i.e. it is signed as a bike route and included on maps produced by the municipality
6	The route/segment is recognized and marketed by a municipal government: i.e. it is on a map that is made available to the public; however it is not signed. or The route / segment is included in a Council approved plan and funding is

	committed to build the route within 3 years.
3	The route/segment is included in a Council approved plan
0	None of the above is true

Note: If the route/segment crosses two or more municipalities we propose to take an average score of the tourism strategies. However, if one municipality dominates the route then a single score from that municipality is acceptable.

2.8 – Consistent with Regional Tourism Goals

The Ministry of Tourism, Culture and Sport has divided Ontario into 13 Tourism Regions and created a Regional Tourism Organization (RTO) for each. The RTOs are independent, industry-led non-profits, charged with growing tourism through activities like strategic planning, research, product development, training, investment attraction and marketing.

This criterion acknowledges the degree to which the individual RTOs have prioritized cycle tourism, as evidenced by the language in their public-focused websites. Where an RTO has made cycle tourism a priority, we can make the assumption that there are already attractions and amenities for cyclists, or the intention to develop them.

This one is partly a measure of how willing other organizations, including businesses, would be to support the development and operation of province-wide network of cycling routes. In turn, this is an indication of cost-effectiveness.

Scoring⁶:

9	Route/segment is within Tourism Regions a, b, c or d
6	Route/segment is within Tourism Regions e, f, g or h
3	Route/segment is within Tourism Regions i, j, k or l
0	Route/segment is within Tourism Region k

Where a route/segment covers more than one Tourism Region, its score would be a hybrid of the above.

⁶ Scoring is based on keyword searches of the RTO websites and review of strategic plans where they exist.

SCORE SHEET

Segment Start Point: _____ Segment End Point: _____

Option 1		Criterion	Option 2	
Score	Analysis/Justification		Analysis/Justification	Score
	A. Turn-by-turn list of highways involved	1.1 Access to Amenities	A. Turn-by-turn list of highways involved	
	B. Total length in kilometres		B. Total length in kilometres	
		1.2 Significant Population Centres		
		1.3 Intermodal Links		
		1.4 Topography		
		1.5 Directness		
		1.6 Rider Comfort		
		1.7 Scenic & Attractive		
		1.8 Significant Destinations		
		2.1 Appropriateness of Existing Infrastructure		
		2.2 Traffic Volume and Operating Speed (If 2.1 Is "No")		
		2.3 Truck Volume (If 2.1 Is "No")		
		2.4 Collision History		
		2.5 Emergency Access		
		2.6 Commitment to Operations/Maintenance		
		2.7 Consistent with Municipal Goals		
		2.8 Consistent with Regional Tourism Goals		
<TOTAL SCORE			TOTAL SCORE>	

APPENDIX D: ROUTE SELECTION TOOL RESULTS

Route Selection Tool			
Segment A (37.6 km) from Coniston to Hagar http://www.gmap-pedometer.com/?r=6641512 Road Jurisdiction: MTO Land Jurisdiction: Greater Sudbury; Markstay-Warren			
Criterion		Score	Justification / Rationale
1.1	Access to Amenities	3	Full amenities in Wahnapiatae, limited amenities in Hagar & Markstay; commercial accommodation along the segment; no businesses yet certified by Ontario by Bike
1.2	Significant Population Centres	0	Population is estimated to be less than 10,000 within 5 km of corridor
1.3	Intermodal Links	6	*Access to numerous bus stops served by Greyhound and Ontario Northlander; bicycles are only accommodated as luggage; access to multiple carpool lots (e.g. hotels, lookout points, etc.)
1.4	Topography	3	Hilly, with 3-4 steep climbs; total elevation gain of 175-200m
1.5	Directness	9	D=111%
1.6	Rider Comfort	9	All hard surface in good condition
1.7	Scenic and Attractive	9	Mostly rural landscape and wooded areas with some low density built-up areas; follows Veuve River and provides scenic views
1.8	Significant Destinations	9	*Access to French River and Ottawa River (among others), Lake Nipissing and 3 Provincial Parks and indirect access to Algonquin Park
2.1	Appropriateness of Existing Infrastructure	0	Highway 17 lacks paved shoulders
2.2	Traffic Volume and Operating Speed	0	6300-7350
2.3	Truck Volume	0	836-894
2.4	Collision History	4	Accident rates range between 0.4 and 1.5 in recent years, but are typically lower than 0.85
2.5	Emergency Access	9	On Highway 17
2.6	Commitment to Operations / Maintenance	9	Cycling facility does not yet exist, but paved shoulders are typically included in MTO's maintenance operations
2.7	Consistent with Municipal Goals	0	Not in Council approved plan or signed
2.8	Consistent with Regional Tourism Goals	6	Based on: support from DRTO; a Tourism Northern Ontario Working Group dedicated to the Lake Huron North Shore Cycling Route

Strava use: 9

Route Selection Tool			
Segment B (40.2 km) from Hagar to Noelville http://www.gmap-pedometer.com/?r=6641481 Road Jurisdiction: MTO; St. Charles Land Jurisdiction: Markstay-Warren; St. Charles; French River			
Criterion	Score	Justification / Rationale	
1.1	Access to Amenities	3	Full amenities in Noelville, limited amenities in St. Charles & Hagar; commercial accommodation along the segment; no businesses yet certified by Ontario by Bike
1.2	Significant Population Centres	0	Population is estimated to be less than 10,000 within 5 km of corridor
1.3	Intermodal Links	6	*Access to numerous bus stops served by Greyhound and Ontario Northlander; bicycles are only accommodated as luggage; access to multiple carpool lots (e.g. hotels, lookout points, etc.)
1.4	Topography	3	Gently rolling, with 1-2 steep climbs;
1.5	Directness	9	D=114%
1.6	Rider Comfort	9	All hard surface in good condition
1.7	Scenic and Attractive	9	Mostly rural landscape and wooded areas with some low density built-up areas; section along west arm of Lake Nipissing (approx. 4 km)
1.8	Significant Destinations	9	*Access to French River and Ottawa River (among others), Lake Nipissing and 3 Provincial Parks and indirect access to Algonquin Park
2.1	Appropriateness of Existing Infrastructure	3	A paved shoulder is recommended along Hwy 535; However along Casimir Rd., Musky Bay Rd., Victoria Rd. and Lake Rd. a signed route would be sufficient
2.2	Traffic Volume and Operating Speed	6	960 AADT
2.3	Truck Volume	9	68 Commercial Vehicle AADT
2.4	Collision History	2	Accident rates range between 0.0 and 1.7 in recent years on Hwy 535; No data on other sections
2.5	Emergency Access	9	On Highway 535 and municipal roadways
2.6	Commitment to Operations / Maintenance	9	Cycling facility does not yet exist on Hwy 535 segment, but paved shoulders are typically included in MTO's maintenance operations; signed route facilities on local roads would be maintained through existing municipal road maintenance activities
2.7	Consistent with Municipal Goals	0	Not in Council approved plan or signed
2.8	Consistent with Regional Tourism Goals	6	Based on: support from DRTO; a Tourism Northern Ontario Working Group dedicated to the Lake Huron North Shore Cycling Route

Strava use: 1

Route Selection Tool			
Segment C (44.7 km) from Noelville to Lavigne http://www.gmap-pedometer.com/?r=6641445 Road Jurisdiction: MTO; French River Land Jurisdiction: French River; West Nipissing			
Criterion		Score	Justification / Rationale
1.1	Access to Amenities	6	Access to full amenities in Lavigne and Noelville; limited amenities in Monetville and some commercial accommodation establishments along the segment; no businesses yet certified by Ontario by Bike
1.2	Significant Population Centres	0	Population is estimated to be less than 10,000 within 5 km of corridor
1.3	Intermodal Links	6	*Access to numerous bus stops served by Greyhound and Ontario Northlander; bicycles are only accommodated as luggage; access to multiple carpool lots (e.g. hotels, lookout points, etc.)
1.4	Topography	3	Rolling with 2 or 3 steep climbs; total elevation gain of approx. 200-250m
1.5	Directness	3	D=153%
1.6	Rider Comfort	9	Mostly hard surface in good condition; gravel surface for approx.. 1.5 km on Montee Guerin Road
1.7	Scenic and Attractive	9	Mostly rural and wooded landscape with some low density built-up areas; crosses Lake Nipissing Northwest Bay once, and West Arm of Lake Nipissing twice; traverses Mashkinonge Provincial Park
1.8	Significant Destinations	9	*Access to French River and Ottawa River (among others), Lake Nipissing and 3 Provincial Parks and indirect access to Algonquin Park
2.1	Appropriateness of Existing Infrastructure	3	A paved shoulder is recommended along Hwy 64; However along Montee Guerin Road and Highway 528. a signed route would be sufficient
2.2	Traffic Volume and Operating Speed	6	880 – 1250
2.3	Truck Volume	9	80 - 126
2.4	Collision History	2	Accident rates range between 0.0 and 1.5 in recent years on Hwy 535; No data on other sections
2.5	Emergency Access	9	On Highway 64
2.6	Commitment to Operations / Maintenance	9	Cycling facility does not yet exist on Hwy 64 segment, but paved shoulders are typically included in MTO's maintenance operations; signed route facilities on local roads would be maintained through existing municipal road maintenance activities
2.7	Consistent with municipal Goals	0	Not in Council approved plan or signed
2.8	Consistent with Regional Tourism Goals	6	Based on: support from DRTO; a Tourism Northern Ontario Working Group dedicated to the Lake Huron North Shore Cycling Route

Strava Use:

Route Selection Tool			
Segment D (29.5 km) from Lavigne to Sturgeon Falls http://www.gmap-pedometer.com/?r=6625477 Road Jurisdiction: MTO; West Nipissing Land Jurisdiction: West Nipissing			
	Criterion	Score	Justification / Rationale
1.1	Access to Amenities	3	Full amenities in Lavigne and Sturgeon Falls; no businesses yet certified by Ontario by Bike
1.2	Significant Population Centres	3	Population is estimated to be between 10,000 and 50,000 within 5 km of corridor
1.3	Intermodal Links	6	*Access to numerous bus stops served by Greyhound and Ontario Northlander; bicycles are only accommodated as luggage; access to multiple carpool lots (e.g. hotels, lookout points, etc.)
1.4	Topography	9	Mostly flat to gently rolling; no significant climbs
1.5	Directness	6	D=127%
1.6	Rider Comfort	6	Mostly hard surface in good condition – section of Salter Street in Sturgeon Falls is unpaved (approx.. 600m)
1.7	Scenic and Attractive	9	Mostly rural landscape with some built-up areas; crosses Sturgeon and Veuve Rivers, passes by Cache Bay on Lake Nipissing, and begins at Northwest Bay of Lake Nipissing
1.8	Significant Destinations	9	*Access to French River and Ottawa River (among others), Lake Nipissing and 3 Provincial Parks and indirect access to Algonquin Park
2.1	Appropriateness of Existing Infrastructure	18**	Approximately 60% of this section is on low volume rural roads; 30% is on Hwy 64; and a further 10% is on low speed or low volume urban streets
2.2	Traffic Volume and Operating Speed	2**	1250
2.3	Truck Volume	3**	126
2.4	Collision History	4	Accident rates range between 0.3 and 1.0 in recent years on Hwy 64; No data on other sections
2.5	Emergency Access	9	On-road
2.6	Commitment to Operations / Maintenance	9	Cycling facility does not yet exist on Hwy 64 segment, but paved shoulders are typically included in MTO's maintenance operations; signed route facilities on local roads would be maintained through existing municipal road maintenance activities
2.7	Consistent with municipal Goals	0	Not in Council approved plan or signed
2.8	Consistent with Regional Tourism Goals	6	Based on: support from DRTO; a Tourism Northern Ontario Working Group dedicated to the Lake Huron North Shore Cycling Route

Strava use:

**2/3 of this section is evaluated based on low volume / speed roads and 1/3 of this section is evaluated based on Hwy 64 as follows:

$$\text{Score for 2.1} = (0.67 \times 27) + (0.33 \times 0) = 18$$

$$\text{Score for 2.2} = (0.67 \times 0) + (0.33 \times 6) = 2$$

$$\text{Score for 2.3} = (0.67 \times 0) + (0.33 \times 9) = 3$$

Route Selection Tool			
Segment E (31.5) from Sturgeon Falls (Coursol Rd.) to North Bay (Eloy Rd.) http://www.gmap-pedometer.com/?r=6641418 Road Jurisdiction: MTO; West Nipissing Land Jurisdiction: West Nipissing			
Criterion		Score	Justification / Rationale
1.1	Access to Amenities	3	Full amenities in both North Bay and Sturgeon Falls; some roadside snack bars, convenience stores and commercial camping along Highway 17; no businesses yet certified by Ontario by Bike
1.2	Significant Population Centres	6	Population is estimated to be between 50,000 and 100,000 within 5 km of corridor
1.3	Intermodal Links	9	*Access to numerous bus stops served by Greyhound and Ontario Northlander; bicycles are only accommodated as luggage; access to multiple carpool lots (e.g. hotels, lookout points, etc.)
1.4	Topography	3	3 or 4 steep climbs in first half of segment travelling west from North Bay
1.5	Directness	9	D=102%
1.6	Rider Comfort	9	All hard surface in good condition
1.7	Scenic and Attractive	9	Mostly rural landscape with built-up areas at either end of segment, follows shore of Lake Nipissing
1.8	Significant Destinations	9	*Access to French River and Ottawa River (among others), Lake Nipissing and 3 Provincial Parks and indirect access to Algonquin Park
2.1	Appropriateness of Existing Infrastructure	0	On Highway 17
2.2	Traffic Volume and Operating Speed	0	7100-11600 (highest near North Bay)
2.3	Truck Volume	0	660
2.4	Collision History	4	Accident rates range between 0.4 and 0.8 in recent years on Hwy 17;
2.5	Emergency Access	9	On Highway 17
2.6	Commitment to Operations / Maintenance	9	Cycling facility does not yet exist on Hwy 17 segment, but paved shoulders are typically included in MTO's maintenance operations
2.7	Consistent with municipal Goals	0	Not in Council approved plan or signed
2.8	Consistent with Regional Tourism Goals	6	Based on: support from DRTO; a Tourism Northern Ontario Working Group dedicated to the Lake Huron North Shore Cycling Route

Strava use: 10

Route Selection Tool			
Segment F (17.6 km) from North Bay at Hwy 17 to Callander at Golf Course Rd. http://www.gmap-pedometer.com/?r=6625461 Road Jurisdiction: North Bay; Callander; West Nipissing Land Jurisdiction: North Bay; Callander; West Nipissing			
Criterion	Score	Justification / Rationale	
1.1	Access to Amenities	9	Much of segment is within boundaries of City of North Bay which offers a full range of amenities; several businesses have been certified by Ontario by Bike
1.2	Significant Population Centres	6	Population is estimated to between 50,000 and 100,000 within 5 km of corridor
1.3	Intermodal Links	9	*Access to numerous bus stops served by Greyhound and Ontario Northlander; bicycles are only accommodated as luggage; access to multiple carpool lots (e.g. hotels, lookout points, etc.)
1.4	Topography	9	Mostly flat
1.5	Directness	9	D=118%
1.6	Rider Comfort	6	All hard surface in good condition except Cranberry Rd.
1.7	Scenic and Attractive	9	A mix of urban and rural landscapes with views of the Lake Nipissing waterfront and scenic off-road trails.
1.8	Significant Destinations	9	*Access to French River and Ottawa River (among others), Lake Nipissing and 3 Provincial Parks and indirect access to Algonquin Park
2.1	Appropriateness of Existing Infrastructure	27	Mostly off-road or in-boulevard multi-use path, with some shared municipal streets
2.2	Traffic Volume and Operating Speed	-	N/A
2.3	Truck Volume	-	N/A
2.4	Collision History	4	A review of North Bay data for collisions involving cyclists indicated that there was only one collision that was potentially along this route (Memorial Drive – exact location unknown) in the past three years;
2.5	Emergency Access	9	Segment mostly within City of North Bay limits
2.6	Commitment to Operations / Maintenance	9	Bicycle routes are currently maintained by City of North Bay and the Mattawa North Bay Conservation Authority (no winter maintenance for cycling)
2.7	Consistent with Municipal Goals	9	Most of the segment is on Kate Pace Way which is signed as bike route and included on maps produced by the municipality; providing a paved connection between Kate Pace Way and Fairway Dr. is also a recommended in the Callander Active Transportation Plan
2.8	Consistent with Regional Tourism Goals	6	Based on: support from DRTO; a Tourism Northern Ontario Working Group dedicated to the Lake Huron North Shore Cycling Route

Strava use: ~200

Route Selection Tool			
Segment G (27.9 km) from Callander at Golf Course Rd to Bonfield http://www.gmap-pedometer.com/?r=6641363 Road Jurisdiction: MTO; Callander, East Ferris, Bonfield Land Jurisdiction: Callander, East Ferris, Bonfield			
	Criterion	Score	Justification / Rationale
1.1	Access to Amenities	3	Full amenities in Callander, limited in Bonfield, Astorville and Corbeil; no businesses yet certified by Ontario by Bike
1.2	Significant Population Centres	0	Population is estimated to be less than 10,000 within 5 km of corridor
1.3	Intermodal Links	9	*Access to numerous bus stops served by Greyhound and Ontario Northlander; bicycles are only accommodated as luggage; access to multiple carpool lots (e.g. hotels, lookout points, etc.)
1.4	Topography	6	Gently rolling; approx.. 250m of elevation gain in total; 5-6 climbs of 20-30m
1.5	Directness	0	D=202%
1.6	Rider Comfort	9	All hard surface in good condition, but minimal shoulders
1.7	Scenic and Attractive	9	Mostly rural landscape with some low density built-up areas; sections (approx.. 11km) along Lake Nosbonsing and Wasi River;
1.8	Significant Destinations	9	*Access to French River and Ottawa River (among others), Lake Nipissing and 3 Provincial Parks and indirect access to Algonquin Park
2.1	Appropriateness of Existing Infrastructure	27	Shared road, although signage required;
2.2	Traffic Volume and Operating Speed	-	N/A
2.3	Truck Volume	-	N/A
2.4	Collision History	2	No data available; therefore average score is assumed
2.5	Emergency Access	9	Segment on-road with generally good cell phone coverage
2.6	Commitment to Operations / Maintenance	9	Signed route facilities on local roads would be maintained through existing municipal road maintenance activities
2.7	Consistent with Municipal Goals	3	Bicycle lanes are recommended for Main St. in Callander in the Callander Active Transportation Plan
2.8	Consistent with Regional Tourism Goals	6	Based on: support from DRTO; a Tourism Northern Ontario Working Group dedicated to the Lake Huron North Shore Cycling Route

Current Trail Signage: minimal – some Trans-Canada signage on Callander portion

Strava use: ~100

Route Selection Tool			
Segment H (43.1 km) from Bonfield to Mattawa (Chenier Road) http://www.gmap-pedometer.com/?r=6641376 Road Jurisdiction: Bonfield, Calvin, Papineau-Cameron Land Jurisdiction: Bonfield, Calvin, Papineau-Cameron			
	Criterion	Score	Justification / Rationale
1.1	Access to Amenities	3	Full amenities in Mattawa, limited in Eau Claire and Bonfield; no businesses yet certified by Ontario by Bike
1.2	Significant Population Centres	0	Population is estimated to be less than 10,000 within 5 km of corridor
1.3	Intermodal Links	9	*Access to numerous bus stops served by Greyhound and Ontario Northlander; bicycles are only accommodated as luggage; access to multiple carpool lots (e.g. hotels, lookout points, etc.)
1.4	Topography	3	Relatively flat, although 2-3 climbs of 7% or more; total elevation gain of approx. 300m
1.5	Directness	6	D=124.5%
1.6	Rider Comfort	0	Approx. 45% non-hard surface; range of rider comfort on these sections
1.7	Scenic and Attractive	9	Mostly natural landscapes with some built-up rural areas, rolling landscape provides periodic vistas across the landscape
1.8	Significant Destinations	9	*Access to French River and Ottawa River (among others), Lake Nipissing and 3 Provincial Parks and indirect access to Algonquin Park
2.1	Appropriateness of Existing Infrastructure	27	low traffic volumes, shared roadway
2.2	Traffic Volume and Operating Speed		N/A
2.3	Truck Volume		N/A
2.4	Collision History	2	No data available; average score used
2.5	Emergency Access	9	100% on secondary roads; generally complete cell phone coverage with some weak signal areas
2.6	Commitment to Operations / Maintenance	9	Signed route facilities on local roads would be maintained through existing municipal road maintenance activities; observed road sweeping operations during field inspections
2.7	Consistent with Municipal Goals	6	Part of route is signed as a scenic cycle route
2.8	Consistent with Regional Tourism Goals	6	Based on: support from DRTO; a Tourism Northern Ontario Working Group dedicated to the Lake Huron North Shore Cycling Route

Current Trail Signage: local share the road signs on majority of this section

Strava use: ~2

Route Selection Tool			
Segment I (57.3 km) from Mattawa (Chenier Road) to Bissett Creek Road http://www.gmap-pedometer.com/?r=6641381 Road Jurisdiction: MTO, Mattawa Land Jurisdiction: Mattawa, Papineau-Cameron, Head, Clara and Maria, Renfrew County (Upper Tier)			
Criterion		Score	Justification / Rationale
1.1	Access to Amenities	0	Full amenities in Mattawa, limited commercial accommodation and roadside restaurants and stores along the segment; 1 business certified by Ontario by Bike
1.2	Significant Population Centres	0	Population is estimated to be less than 10,000 within 5 km of corridor
1.3	Intermodal Links	6	*Access to numerous bus stops served by Greyhound and Ontario Northlander; bicycles are only accommodated as luggage; access to multiple carpool lots (e.g. hotels, lookout points, etc.)
1.4	Topography	3	Very hilly with elevation gain of 500+ metres; generally long climbs with some short, steep ones
1.5	Directness	9	D=107%
1.6	Rider Comfort	9	Provincial Highway 17, but many sections with minimal or no shoulders
1.7	Scenic and Attractive	9	Generally close to, and scenic views of Ottawa River; significant portions of natural landscape
1.8	Significant Destinations	9	*Access to French River and Ottawa River (among others), Lake Nipissing and 3 Provincial Parks and indirect access to Algonquin Park
2.1	Appropriateness of Existing Infrastructure	0	High traffic volumes; most sections with minimal or no paved shoulders; no cycle route signs
2.2	Traffic Volume and Operating Speed	0	2750-5250 (highest near Mattawa)
2.3	Truck Volume	0	700
2.4	Collision History	2	Accident rates range between 0.3 and 1.6 in recent years, but are typically higher than 0.85
2.5	Emergency Access	9	100% on Highway 17; generally complete cell phone coverage with some weak signal areas
2.6	Commitment to Operations / Maintenance	9	Cycling facility does not yet exist, but paved shoulders are typically included in MTO's maintenance operations
2.7	Consistent with municipal Goals	0	Not in Council approved plan or signed
2.8	Consistent with Regional Tourism Goals	6	Based on: support from DRTO; a Tourism Northern Ontario Working Group dedicated to the Lake Huron North Shore Cycling Route

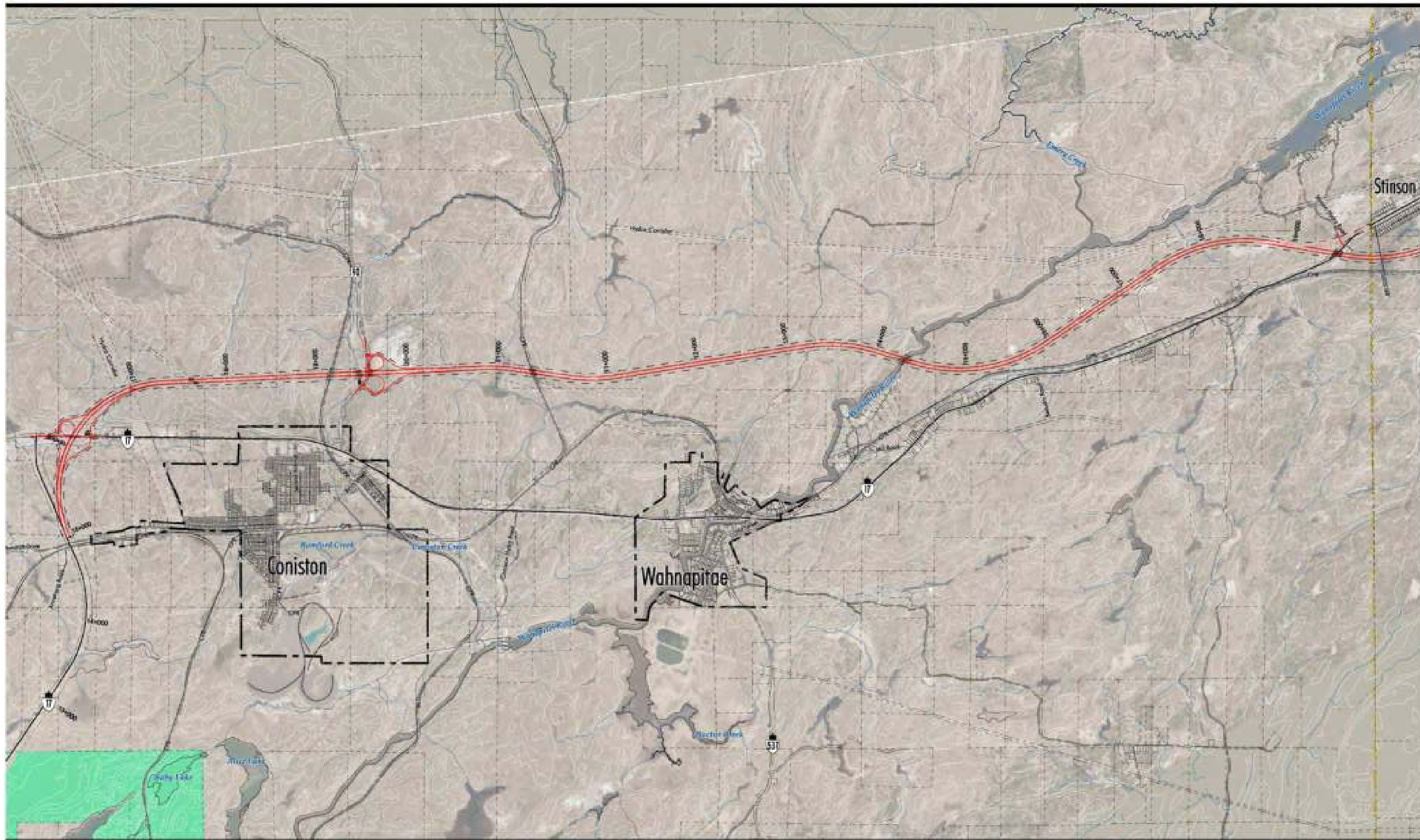
Strava use: ~9

Route Selection Tool			
Segment J (50.5 km) from Bissett Creek Road to Deep River (Wylie Rd.) http://www.gmap-pedometer.com/?r=6624325 Road Jurisdiction: MTO Land Jurisdiction: Head, Clara and Maria, Laurentian Hills, Deep River, Renfrew County (Upper Tier)			
	Criterion	Score	Justification / Rationale
1.1	Access to Amenities	0	Full amenities in Deep River; limited commercial accommodation along the route; no businesses yet certified by Ontario by Bike
1.2	Significant Population Centres	0	Population is estimated to be less than 10,000 within 5 km of corridor
1.3	Intermodal Links	6	*Access to numerous bus stops served by Greyhound and Ontario Northlander; bicycles are only accommodated as luggage; access to multiple carpool lots (e.g. hotels, lookout points, etc.)
1.4	Topography	3	Very hilly with elevation gain of 400+ metres; generally long climbs with some short, steep ones
1.5	Directness	9	D=119%
1.6	Rider Comfort	9	Provincial Highway 17, but many sections with minimal or no shoulders
1.7	Scenic and Attractive	9	Generally close to, and scenic views of Ottawa River; significant portions of natural landscape
1.8	Significant Destinations	9	*Access to French River and Ottawa River (among others), Lake Nipissing and 3 Provincial Parks and indirect access to Algonquin Park
2.1	Appropriateness of Existing Infrastructure	0	High traffic volumes; most sections with minimal or no paved shoulders; no cycle route signs
2.2	Traffic Volume and Operating Speed	0	3100-4000; 8050 going into Deep River
2.3	Truck Volume	0	670-740
2.4	Collision History	4	Accident rates range between 0.3 and 1.3 in recent years, but are typically lower than 0.85
2.5	Emergency Access	9	100% on Highway 17; generally complete cell phone coverage with some weak signal areas
2.6	Commitment to Operations / Maintenance	9	Cycling facility does not yet exist, but paved shoulders are typically included in MTO's maintenance operations
2.7	Consistent with municipal Goals	0	Not in Council approved plan or signed
2.8	Consistent with Regional Tourism Goals	6	Based on: support from DRTO; Ontario Highlands Tourism Organization features cycling on their homepage.

Strava use: ~9

APPENDIX E:

MTO HWY 17 ROUTE PLANNING STUDIES PREFERRED DESIGN DRAWINGS







APPENDIX F:

BENEFITS CASE STUDIES

Economic Case Studies

The following are a number of examples from trail investment projects found throughout Canada as well as the economic impacts / benefits which were realized from these initiatives.

- Based on a 2002 Waterfront Trail User Survey most trail users spend between \$3 and \$12 per trip with visitors / vacationers spending more than those individuals who live near the trail. Typically long distance users spent on average \$244 annually along the trail while short distance users spent on average \$182 annually³⁹;
- Trails in New Brunswick employ around 1500 people for an average of six months per year;
- 70% of Bruce Trail users cite the trail as the main reason for visiting the area, and they spend an average of about \$20.00 per user per visit within a 10 km corridor on either side of the trail;
- An Economic Benefit Data Study completed for the Explore Maine by Bike Trail System found that in 1999, direct spending in Maine by over 2 million bicycle tourists came to a total of \$36.3 million. In addition, approximately 2,100 people participated in guided bike tours which generated just under \$1 million⁴⁰;
- Annual expenditures linked to La Route Verte rose to \$95.4 million in 2000, representing 2,000 jobs and \$15.1 million and \$11.9 million for the governments of Quebec and Canada, respectively; and
- In 2002, Quebec hosted 190,000 bicycle tourists who spent an average of \$112 per day and an average of 6.5 nights compared to \$105 per day and an average of 1-2 nights spent by other tourists.

Safety Case Studies

Case Study: Province of Quebec, Canada

Evidence demonstrates that the implementation of improved and better designed hard and soft pedestrian and cycling infrastructure and programming in a community can result in a reduction in the number of collisions and injuries and thus an increase in overall safety. As documented in the TCAT/Clean Air Partnership Paper, research suggests that in the Province of Quebec between the years of 1987 and 2000 the total number of bicycles increased by a factor greater than 100%, with the number of regular cyclists increasing by 50%. At the same time, cycling fatalities fell by 42%, serious injuries fell by 56% and minor injuries fell by 38%⁴¹.

39 Waterfront Regeneration Trust. "Lake Ontario Waterfront Trail: 2002 Waterfront Trail User Survey". www.waterfronttrail.org/htm/surveyhighlights.htm. Retrieved July 26, 2012

40 Wilbur Smith Associated & Buxton Communications Bicycle Federation of America. "Bicycle Tourism in Maine: Economic Impacts and Marketing". Maine Department of Transportation. April 2001.

41 Pucher, J. and Buehler, R. "Cycling Trends and Policies in Canadian Cities". Work Transport Policy and Practice, 2005, volume 11, issue 1. (2005)

A 2010 study completed by Velo Quebec provides an “overall portrait of cycling in Quebec”. The report provides data on the safety of cyclists as well as the impact on the Quebec population with an increased investment in cycling programs and infrastructure⁴². Key findings regarding cycling safety from this report include:

- The number of cyclists who died due to an accident in Québec has remained stable for some years now. In 2005, there were 16 road fatalities; four years later, the toll was unchanged.
- From 2004 to 2009, the number of serious injuries fell by 40%, from 189 to 114. Cycling causes fewer injuries than most other physical activities.

Overall it can be concluded that based on significant research Canadian provinces that have invested in cycling have seen an increase in cyclist numbers and a decrease in cycling accident death rates. This has been the case in Quebec, a Province which has implemented a wide range of cycling programs and infrastructure including the mandatory use of lighting while riding a bike after dark⁴³.

Transportation Case Study: Portland, Oregon, Davis, California & Boulder, Colorado

There is strong evidence that given complete networks of high-quality cycling routes, a significant number of people will cycle more often. With between 10% and 20% of trips by bicycle, Portland, Oregon, Davis, California and Boulder, Colorado have the highest levels of bicycle use and are recognized as leading bicycle friendly communities in North America. This high level of cycling is facilitated by connected and signed networks, which include separated and conventional bike lanes on almost all of their arterial or collector roads and extensive off-road commuter bicycle paths as well as bike boulevards on quieter residential streets. Residents can simply get on their bicycles with confidence knowing there will always be a safe route to their destination⁴⁴.

42 Velo Quebec. “Bicycling in Quebec in 2010”. www.velo.qc.ca. (2010).

43 Velo Quebec. “Bicycling in Quebec in 2010”. www.velo.qc.ca. (2010).

44 British Columbia Cycling Coalition. “Shifting to High Gear: Realizing the Benefits of Accelerated Investment in Cycling”. Submission to the Finance and Government Services Committee. October 2007.

APPENDIX G:

ONTARIO'S TOURISM REGIONAL ECONOMIC IMPACT MODEL

The Economic Impact of Voyageur Cycle Route Investment in Nipissing District in 2017

**This report was generated by
the Ontario Ministry of Tourism, Culture and Sport TREIM model.**

July 15, 2015

Note: The Ministry of Tourism, Culture and Sport does not take any responsibility for inputs that the user has provided, nor for the interpretation of the results.

1. Introduction

This report provides an estimate of the economic impact that Voyageur Cycle Route Investment is expected to have on Ontario's economy, in terms of Gross Domestic Product, employment and taxes generated. The analysis is based on the following information the user has provided to the MTCS Tourism Regional Economic Impact Model:

Investment by category for Voyageur Cycle Route Investment in a facility (operation) type of Accommodation:

Buildings and Renovations	\$1,400,000
Machinery and Equipment	\$0
Furniture and Fixtures	\$0
Transportation Equipment	\$0
Other Supplies	\$9,800,000
Other Services	\$16,800,000
Total	\$28,000,000

The user also has selected the following parameters:

- The investment takes place in Nipissing District in 2017
- The impact is to be shown for Nipissing District and for Rest of Ontario
- Induced impacts of household spending are included
- Induced impacts of business investment are included
- The economic environment is as follows:

Baseline	2013	2014	2015	2016	2017
Ontario Real GDP (%change)	2.25%	1.81%	2.14%	2.46%	2.39%
Ontario CPI (%change)	1.69%	2.10%	2.01%	1.83%	2.10%
Ontario Population (%change)	0.73%	0.69%	0.77%	0.96%	1.00%
Ontario Unemployment Rate	7.35%	7.24%	6.89%	6.63%	6.51%
Government of Canada 3 month T-Bill Rate	1.10%	2.52%	2.91%	3.80%	4.13%

2. Summary of Findings

Table 1. Economic Impacts of Voyageur Cycle Route Investment in Nipissing District in 2017 (in dollars)

	Nipissing District	Rest of Ontario
Total Capital Spending	\$ 28,000,000	
Gross Domestic Product (GDP)		
Direct	\$ 7,546,247	\$ 927,328
Indirect	\$ 1,376,129	\$ 717,544
Induced	\$ 1,929,739	\$ 830,944
Total	\$ 10,852,115	\$ 2,475,816
Labour Income		
Direct	\$ 4,827,979	\$ 754,051
Indirect	\$ 1,011,123	\$ 525,130
Induced	\$ 1,263,724	\$ 576,742
Total	\$ 7,102,825	\$ 1,855,923
Employment (Jobs)		
Direct	70	11
Indirect	15	8
Induced	19	9
Total	105	28
Direct Taxes		
Federal	\$ 1,790,807	\$ 181,249
Provincial	\$ 1,868,150	\$ 131,529
Municipal	\$ 44,568	\$ 1,605
Total	\$ 3,703,525	\$ 314,383
Total Taxes		
Federal	\$ 2,703,666	\$ 477,843
Provincial	\$ 2,390,079	\$ 365,002
Municipal	\$ 63,548	\$ 6,844
Total	\$ 5,157,293	\$ 849,690

Table 2. Economic Impacts of Voyageur Cycle Route Investment in Nipissing District on GDP by industry (in dollars)

Industry	Impact on Nipissing District		Impact on Rest of Ontario	
	Direct GDP	Total GDP	Direct GDP	Total GDP
Crop and Animal Production	\$ 0	\$ 13,738	\$ 0	\$ 10,121
Forestry, Fishing and Hunting	\$ 0	\$ 3,549	\$ 0	\$ 3,282
Mining and Oil and Gas Extraction	\$ 0	\$ 21,916	\$ 0	\$ 11,265
Utilities	\$ 0	\$ 90,994	\$ 0	\$ 32,883
Construction	\$ 672,738	\$ 993,172	\$ 0	\$ 78,091
Manufacturing	\$ 212,917	\$ 362,972	\$ 96,958	\$ 252,745
Wholesale Trade	\$ 11,839	\$ 187,863	\$ 4,112	\$ 102,617
Retail Trade	\$ 0	\$ 293,530	\$ 0	\$ 96,683
Other Transportation and Warehousing	\$ 0	\$ 85,187	\$ 0	\$ 59,428
Ground Passenger Transportation (excl. Rail)	\$ 0	\$ 20,597	\$ 0	\$ 8,930
Information and Cultural Industries	\$ 439,765	\$ 641,073	\$ 73,232	\$ 192,582
Other Finance, Insurance, Real Estate and Renting and Leasing	\$ 879,021	\$ 1,444,300	\$ 146,379	\$ 437,007
Car Renting and Leasing	\$ 0	\$ 12,752	\$ 0	\$ 10,633
Owner Occupied Housing	\$ 0	\$ 319,282	\$ 0	\$ 70,932
Professional, Scientific and Technical Services	\$ 2,515,632	\$ 2,852,317	\$ 418,917	\$ 603,026
Other Administrative and Other Support Services	\$ 1,140,481	\$ 1,292,982	\$ 189,919	\$ 270,221
Travel Agencies	\$ 0	\$ 10,977	\$ 0	\$ 6,893
Education Services	\$ 0	\$ 11,413	\$ 0	\$ 4,135
Health Care and Social Assistance	\$ 0	\$ 54,566	\$ 0	\$ 32,386
Arts, Entertainment and Recreation	\$ 0	\$ 34,843	\$ 0	\$ 18,368
Accommodation Services	\$ 0	\$ 19,075	\$ 0	\$ 12,943
Food & Beverage Services	\$ 0	\$ 50,110	\$ 0	\$ 30,533
Other Services (Except Public Administration)	\$ 0	\$ 77,726	\$ 0	\$ 37,810
Operating, Office, Cafeteria, and Laboratory Supplies	\$ 0	\$ 0	\$ 0	\$ 0
Travel & Entertainment, Advertising & Promotion	\$ 0	\$ 0	\$ 0	\$ 0
Transportation Margins	\$ 0	\$ 0	\$ 0	\$ 0
Non-Profit Institutions Serving Households	\$ 0	\$ 78,082	\$ 0	\$ 23,154
Government Sector	\$ 0	\$ 97,184	\$ 0	\$ 44,204
Net Indirect Taxes on Production	\$ 33,460	\$ 46,502	\$ 0	\$ 2,439
Total	\$ 7,546,247	\$ 10,852,115	\$ 927,328	\$ 2,475,816

Appendix:

The Economic Impact of Investment in Nipissing District and other Ontario regions: since no Ontario region is economically self-sustaining, in order to produce the goods and services demanded by its visitors, it will need to import some goods and services from other regions. As such, some of the economic benefits of the business spending in Nipissing District will spill over to other Ontario regions, such as the one you have selected as "additional". If the second column of Table 1 contains only zeros, then that means that Nipissing District does not trade with that region.

Gross Domestic Product (GDP): value of goods and services produced by labour and capital located within a country (or region), regardless of nationality of labour or ownership. This GDP is measured at market prices. Tourism GDP refers to the GDP generated in those businesses that directly produce or provide goods and services for travelers.

Direct impact: refers to the impact generated in businesses or sectors that produce or provide goods and services directly to travelers, e.g. accommodations, restaurants, recreations, travel agents, transportation and retail enterprises etc. Direct impact on GDP, employment and tax revenues is also called tourism GDP, tourism employment and tourism tax revenues.

Indirect impact: refers to the impact resulting from the expansion of demand from businesses or sectors directly produce or provide goods and services to travelers, to other businesses or sectors.

Induced impact: refers to the impact associated with the re-spending of labour income and /or profits earned in the industries that serve travelers directly and indirectly.

Employment: refers to number of jobs, include full-time, part-time, seasonal employment, as well as both employed and self-employed.

Federal tax revenues: include personal income tax, corporate income tax, commodity tax (GST/HST, gas tax, excise tax, excise duty, air tax and trading profits) and payroll deduction that collected by the federal government.

Provincial tax revenues: include personal income tax, corporate income tax, commodity tax (PST/HST, gas tax, liquor gallonage tax, amusement tax and trading profits) and employer health tax that collected by Ontario provincial government.

Municipal tax revenues: include business and personal property taxes that collected by the municipalities. Collection, however, does not follow immediately the consumption or production of goods and services in a municipality (as is the case with HST or personal income taxes). Rather, these taxes show the percent of the total property taxes collected by a municipality that can be attributed to tourism because of tourism's contribution to the economic activity of the municipality and hence its tax base.

Industry: The industry follows Statistics Canada's North America Industry Classification System (NAICS) Input-Output small aggregation industry classification.

The Economic Impact of Voyageur Route Cycle Tourist in Nipissing District in 2018

**This report was generated by
the Ontario Ministry of Tourism, Culture and Sport TREIM model**

July 16, 2015

Note: The Ministry of Tourism, Culture and Sport does not take any responsibility for inputs that the user has provided, nor for the interpretation of the results.

1. Introduction

This report provides an estimate of the economic impact that Voyageur Route Cycle Tourist is expected to have on Ontario's economy, in terms of Gross Domestic Product, employment and taxes generated. The analysis is based on the following information the user has provided to the MTCS Tourism Regional Economic Impact Model:

Number of Visitors for Activity (or Event) of Type Festivals/Fairs

Origin	Same Day		Overnight	
	Total Number of Visitors	Percent of Visitors' Origin	Percent of Visitors' Origin	Average Length of Stay (nights)
Ontario	1,700	0.00%	100.00%	2
Rest of Canada	100	0.00%	100.00%	2
USA	160	0.00%	100.00%	2
Overseas	40	0.00%	100.00%	2
Total	2,000			

Given that the detailed breakdown of spending by the above visitors on category, such as transportation, accommodation, etc. is not available from the user, the TREIM utilized the average expenditure of visitors in Nipissing District with characteristics closest to those provided by the user from Statistics Canada's Travel Survey of Residents of Canada and the International Travel Survey to generate the detailed spending as followings (in dollars):

Travel Services	\$0
Public Transportation	\$26,854
Private Transportation - Rental	\$2,274
Private Transportation - Operation	\$84,675
Local Transportation	\$3,311
Accommodation	\$42,262
Food & Beverage - At Stores	\$58,619
Food & Beverage - At Restaurants/Bars	\$75,542
Recreation & Entertainment	\$23,760
Retail - Clothing	\$17,664
Retail - Other	\$17,935
Total	\$352,896

The user also has selected the following parameters:

- The visits take place in Nipissing District in 2018
- The impact is to be shown for Nipissing District and for Rest of Ontario
- Induced impacts of household spending are included
- Induced impacts of business investment are included
- The economic environment is as follows:

Baseline	2014	2015	2016	2017	2018
Ontario Real GDP (%change)	1.81%	2.14%	2.46%	2.39%	2.26%
Ontario CPI (%change)	2.10%	2.01%	1.83%	2.10%	2.00%
Ontario Population (%change)	0.69%	0.77%	0.96%	1.00%	1.09%
Ontario Unemployment Rate	7.24%	6.89%	6.63%	6.51%	6.52%
Government of Canada 3 month T-Bill Rate	2.52%	2.91%	3.80%	4.13%	4.24%

2. Summary of Findings

Table 1. Economic Impacts of Voyageur Route Cycle Tourist in Nipissing District in 2018 (in dollars)

	Nipissing District	Rest of Ontario
Total Visitors' Spending	\$ 352,896	
Gross Domestic Product (GDP)		
Direct	\$ 125,467	\$ 0
Indirect	\$ 42,137	\$ 18,217
Induced	\$ 33,992	\$ 10,425
Total	\$ 201,596	\$ 28,643
Labour Income		
Direct	\$ 83,387	\$ 0
Indirect	\$ 30,316	\$ 13,382
Induced	\$ 22,316	\$ 7,409
Total	\$ 136,019	\$ 20,791
Employment (Jobs)		
Direct	2	0
Indirect	0	0
Induced	0	0
Total	3	0
Direct Taxes		
Federal	\$ 30,918	\$ 0
Provincial	\$ 31,650	\$ 0
Municipal	\$ 208	\$ 0
Total	\$ 62,776	\$ 0
Total Taxes		
Federal	\$ 53,404	\$ 5,454
Provincial	\$ 43,409	\$ 4,235
Municipal	\$ 560	\$ 83
Total	\$ 97,373	\$ 9,772

Table 2. Economic Impacts of Voyageur Route Cycle Tourist in Nipissing District on GDP by industry (in dollars)

Industry	Impact on Nipissing District		Impact on Rest of Ontario	
	Direct GDP	Total GDP	Direct GDP	Total GDP
Crop and Animal Production	\$ 0	\$ 1,880	\$ 0	\$ 661
Forestry, Fishing and Hunting	\$ 0	\$ 137	\$ 0	\$ 106
Mining and Oil and Gas Extraction	\$ 0	\$ 378	\$ 0	\$ 239
Utilities	\$ 0	\$ 2,711	\$ 0	\$ 592
Construction	\$ 0	\$ 5,662	\$ 0	\$ 878
Manufacturing	\$ 0	\$ 8,121	\$ 0	\$ 6,015
Wholesale Trade	\$ 0	\$ 8,659	\$ 0	\$ 2,478
Retail Trade	\$ 17,091	\$ 23,678	\$ 0	\$ 1,387
Other Transportation and Warehousing	\$ 14,357	\$ 17,511	\$ 0	\$ 2,540
Ground Passenger Transportation (excl. Rail)	\$ 3,113	\$ 3,591	\$ 0	\$ 143
Information and Cultural Industries	\$ 669	\$ 3,822	\$ 0	\$ 1,506
Other Finance, Insurance, Real Estate and Renting and Leasing	\$ 0	\$ 12,018	\$ 0	\$ 3,966
Car Renting and Leasing	\$ 1,253	\$ 1,471	\$ 0	\$ 138
Owner Occupied Housing	\$ 0	\$ 5,863	\$ 0	\$ 720
Professional, Scientific and Technical Services	\$ 0	\$ 4,112	\$ 0	\$ 1,914
Other Administrative and Other Support Services	\$ 0	\$ 2,361	\$ 0	\$ 925
Travel Agencies	\$ 0	\$ 0	\$ 0	\$ 0
Education Services	\$ 0	\$ 247	\$ 0	\$ 51
Health Care and Social Assistance	\$ 0	\$ 1,086	\$ 0	\$ 490
Arts, Entertainment and Recreation	\$ 9,545	\$ 10,341	\$ 0	\$ 402
Accommodation Services	\$ 30,460	\$ 30,728	\$ 0	\$ 583
Food & Beverage Services	\$ 21,891	\$ 23,093	\$ 0	\$ 1,145
Other Services (Except Public Administration)	\$ 190	\$ 1,977	\$ 0	\$ 575
Operating, Office, Cafeteria, and Laboratory Supplies	\$ 0	\$ 0	\$ 0	\$ 0
Travel & Entertainment, Advertising & Promotion	\$ 0	\$ 0	\$ 0	\$ 0
Transportation Margins	\$ 0	\$ 0	\$ 0	\$ 0
Non-Profit Institutions Serving Households	\$ 671	\$ 2,154	\$ 0	\$ 285
Government Sector	\$ 797	\$ 2,765	\$ 0	\$ 617
Net Indirect Taxes on Production	\$ 0	\$ 210	\$ 0	\$ 28
Total	\$ 125,467	\$ 201,596	\$ 0	\$ 28,643

Appendix:

The Economic Impact of Visits in Nipissing District and other Ontario regions: since no Ontario region is economically self-sustaining, in order to produce the goods and services demanded by its visitors, it will need to import some goods and services from other regions. As such, some of the economic benefits of the visitors' spending in Nipissing District will spill over to other Ontario regions, such as the one you have selected as "additional". If the second column of Table 1 contains only zeros, then that means that Nipissing District does not trade with that region.

Gross Domestic Product (GDP): value of goods and services produced by labour and capital located within a country (or region), regardless of nationality of labour or ownership. This GDP is measured at market prices. Tourism GDP refers to the GDP generated in those businesses that directly produce or provide goods and services for travelers.

Direct impact: refers to the impact generated in businesses or sectors that produce or provide goods and services directly to travelers, e.g. accommodations, restaurants, recreations, travel agents, transportation and retail enterprises etc. Direct impact on GDP, employment and tax revenues is also called tourism GDP, tourism employment and tourism tax revenues.

Indirect impact: refers to the impact resulting from the expansion of demand from businesses or sectors directly produce or provide goods and services to travelers, to other businesses or sectors.

Induced impact: refers to the impact associated with the re-spending of labour income and /or profits earned in the industries that serve travelers directly and indirectly.

Employment: refers to number of jobs, include full-time, part-time, seasonal employment, as well as both employed and self-employed.

Federal tax revenues: include personal income tax, corporate income tax, commodity tax (GST/HST, gas tax, excise tax, excise duty, air tax and trading profits) and payroll deduction that collected by the federal government.

Provincial tax revenues: include personal income tax, corporate income tax, commodity tax (PST/HST, gas tax, liquor gallonage tax, amusement tax and trading profits) and employer health tax that collected by Ontario provincial government.

Municipal tax revenues: include business and personal property taxes that collected by the municipalities. Collection, however, does not follow immediately the consumption or production of goods and services in a municipality by visitors (as is the case with HST or personal income taxes). Rather, these taxes show the percent of the total property taxes collected by a municipality that can be attributed to tourism because of tourism's contribution to the economic activity of the municipality and hence its tax base.

Industry: The industry follows Statistics Canada's North America Industry Classification System (NAICS) Input-Output small aggregation industry classification.

The Economic Impact of VCR Operational Expenditures in Nipissing District in 2018

**This report was generated by
the Ontario Ministry of Tourism, Culture and Sport TREIM model.**

July 16, 2015

Note: The Ministry of Tourism, Culture and Sport does not take any responsibility for inputs that the user has provided, nor for the interpretation of the results.

1. Introduction

This report provides an estimate of the economic impact that VCR Operational Expenditures is expected to have on Ontario's economy, in terms of Gross Domestic Product, employment and taxes generated. The analysis is based on the following information the user has provided to the MTCS Tourism Regional Economic Impact Model:

User Input

Total amount of Operational Expenses	\$250,000
Facility (operation) type	Recreation & Entertainment
Number of Jobs	0

Given that the detailed breakdown of operational cost by items, e.g. cost of goods sold, other operating expenses, etc. is not available from the user, the TREIM utilized Statistics Canada's Ontario Input-Output Table to generate the distribution of operational cost of facilities with characteristics closest to those provided by the user as follows (in dollars):

Cost of goods sold	\$0
Food products	\$0
Alcoholic beverages	\$0
All other merchandise	\$0
Other operating expenses	\$244,748
Office and all other supplies	\$23,226
Salaries, wages	\$97,614
Commission paid	\$0
Employee benefits	\$9,745
Sub-contract laundry, cleaning and maintenance	\$19,274
Legal, accounting and other professional fees	\$11,532
Marketing, advertising and promotion	\$14,455
Travel (transportation, accommodation, food, entertainment)	\$433
Rent or lease	\$5,224
Repair and maintenance	\$2,274
Insurance	\$16,025
Heat, light, power and water	\$4,277
Telephone, fax and internet fees	\$2,220
Depreciation	\$12,734
Royalties and franchise fees	\$0
Property tax and business tax, licenses and permits	\$5,252
All other operating expenses	\$20,465
Non operating expenses	\$5,252
Interest expenses	\$0
Sales Taxes	\$5,252
Total operating expenses	\$250,000
Gross Output	\$274,054

Note: Gross Output (incl. imports) equals Total Revenue less Grants and Subsidies or Total Operating Expenses plus profits.

The user also has selected the following parameters:

- The operation takes place in Nipissing District in 2018
- The impact is to be shown for Nipissing District and for Rest of Ontario
- Induced impacts of household spending are included
- Induced impacts of business investment are included
- The economic environment is as follows:

Baseline	2014	2015	2016	2017	2018
Ontario Real GDP (%change)	1.81%	2.14%	2.46%	2.39%	2.26%
Ontario CPI (%change)	2.10%	2.01%	1.83%	2.10%	2.00%
Ontario Population (%change)	0.69%	0.77%	0.96%	1.00%	1.09%
Ontario Unemployment Rate	7.24%	6.89%	6.63%	6.51%	6.52%
Government of Canada 3 month T-Bill Rate	2.52%	2.91%	3.80%	4.13%	4.24%

2. Summary of Findings

Table 1. Economic Impacts of VCR Operational Expenditures in Nipissing District in 2018 (in dollars)

	Nipissing District	Rest of Ontario
Total Revenue	\$ 274,054	
Gross Domestic Product (GDP)		
Direct	\$ 142,887	\$ 0
Indirect	\$ 77,881	\$ 4,053
Induced	\$ 47,135	\$ 8,106
Total	\$ 267,903	\$ 12,159
Labour Income		
Direct	\$ 107,359	\$ 0
Indirect	\$ 57,247	\$ 2,963
Induced	\$ 30,949	\$ 5,972
Total	\$ 195,555	\$ 8,936
Employment (Jobs)		
Direct	3	0
Indirect	1	0
Induced	0	0
Total	5	0
Direct Taxes		
Federal	\$ 33,209	\$ 0
Provincial	\$ 23,012	\$ 0
Municipal	\$ 5,461	\$ 0
Total	\$ 61,683	\$ 0
Total Taxes		
Federal	\$ 63,912	\$ 2,322
Provincial	\$ 41,976	\$ 1,773
Municipal	\$ 5,979	\$ 29
Total	\$ 111,867	\$ 4,124

Table 2. Economic Impacts of VCR Operational Expenditures in Nipissing District on GDP by industry (in dollars)

Industry	Impact on Nipissing District		Impact on Rest of Ontario	
	Direct GDP	Total GDP	Direct GDP	Total GDP
Crop and Animal Production	\$ 0	\$ 243	\$ 0	\$ 107
Forestry, Fishing and Hunting	\$ 0	\$ 60	\$ 0	\$ 34
Mining and Oil and Gas Extraction	\$ 0	\$ 379	\$ 0	\$ 101
Utilities	\$ 0	\$ 4,507	\$ 0	\$ 253
Construction	\$ 0	\$ 8,306	\$ 0	\$ 241
Manufacturing	\$ 0	\$ 4,135	\$ 0	\$ 1,637
Wholesale Trade	\$ 0	\$ 5,439	\$ 0	\$ 919
Retail Trade	\$ 0	\$ 21,523	\$ 0	\$ 735
Other Transportation and Warehousing	\$ 0	\$ 2,153	\$ 0	\$ 587
Ground Passenger Transportation (excl. Rail)	\$ 0	\$ 440	\$ 0	\$ 86
Information and Cultural Industries	\$ 0	\$ 7,108	\$ 0	\$ 978
Other Finance, Insurance, Real Estate and Renting and Leasing	\$ 0	\$ 19,434	\$ 0	\$ 2,358
Car Renting and Leasing	\$ 0	\$ 280	\$ 0	\$ 71
Owner Occupied Housing	\$ 0	\$ 11,792	\$ 0	\$ 154
Professional, Scientific and Technical Services	\$ 0	\$ 12,346	\$ 0	\$ 1,159
Other Administrative and Other Support Services	\$ 0	\$ 6,568	\$ 0	\$ 539
Travel Agencies	\$ 0	\$ 216	\$ 0	\$ 66
Education Services	\$ 0	\$ 265	\$ 0	\$ 37
Health Care and Social Assistance	\$ 0	\$ 1,442	\$ 0	\$ 449
Arts, Entertainment and Recreation	\$ 135,973	\$ 138,327	\$ 0	\$ 163
Accommodation Services	\$ 0	\$ 709	\$ 0	\$ 147
Food & Beverage Services	\$ 0	\$ 1,563	\$ 0	\$ 387
Other Services (Except Public Administration)	\$ 0	\$ 5,383	\$ 0	\$ 320
Operating, Office, Cafeteria, and Laboratory Supplies	\$ 0	\$ 0	\$ 0	\$ 0
Travel & Entertainment, Advertising & Promotion	\$ 0	\$ 0	\$ 0	\$ 0
Transportation Margins	\$ 0	\$ 0	\$ 0	\$ 0
Non-Profit Institutions Serving Households	\$ 0	\$ 2,337	\$ 0	\$ 142
Government Sector	\$ 0	\$ 3,155	\$ 0	\$ 383
Net Indirect Taxes on Production	\$ 0	\$ 288	\$ 0	\$ 6
Total	\$ 142,887	\$ 267,903	\$ 0	\$ 12,159

Appendix:

The Economic Impact of Business Operation in Nipissing District and other Ontario regions: since no Ontario region is economically self-sustaining, in order to produce the goods and services demanded by its visitors, it will need to import some goods and services from other regions. As such, some of the economic benefits of the business spending in Nipissing District will spill over to other Ontario regions, such as the one you have selected as "additional". If the second column of Table 1 contains only zeros, then that means that Nipissing District does not trade with that region.

Gross Domestic Product (GDP): value of goods and services produced by labour and capital located within a country (or region), regardless of nationality of labour or ownership. This GDP is measured at market prices. Tourism GDP refers to the GDP generated in those businesses that directly produce or provide goods and services for travelers.

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Induced impact: refers to the impact associated with the re-spending of labour income and /or profits earned in the industries that serve travelers directly and indirectly.

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Provincial tax revenues: include personal income tax, corporate income tax, commodity tax (PST/HST, gas tax, liquor gallonage tax, amusement tax and trading profits) and employer health tax that collected by Ontario provincial government.

Municipal tax revenues: include business and personal property taxes that collected by the municipalities. Collection, however, does not follow immediately the consumption or production of goods and services in a municipality (as is the case with HST or personal income taxes). Rather, these taxes show the percent of the total property taxes collected by a municipality that can be attributed to tourism because of tourism's contribution to the economic activity of the municipality and hence its tax base.

Industry: The industry follows Statistics Canada's North America Industry Classification System (NAICS) Input-Output small aggregation industry classification.

APPENDIX H:

TRAIL ORGANIZATION PROFILES

Waterfront Regeneration Trust (WRT)

WRT is non-profit whose mandate extends over much of the province. Developing, coordinating and promoting a complete and connected multi-use trail is a major part of their work. WRT coordinates almost 2,000 km of signed trail at present, this includes northern Ontario, and are undertaking work to add another 800 kms. They operate with a small 4-person strategic board, 2 core staff, and 1.5 project staff on average per year. The organization has approximately 20 to 30 core volunteers who help with an annual cycle touring event and trade shows. The operating budget varies from \$100,000 to \$300,000 per year. The largest ongoing costs for organization are staff, insurance, and operating costs including rent and utilities.

WRT believes detailed maps are essential to maintain a cycling route, and the value of mapping goes beyond printed maps. The mapping process itself is used to reflect local decisions from multiple departments on route selection and is a mechanism to engage municipal and tourism partners in route development, authorization and promotions. Maps are available as PDF files, routes can be opened in Google maps, and some segments of the trails have map books. Information on attractions and facilities, and signage along the route, are two other resources that the organization considers essential to provide cyclists. Signage is often funded through grants with the organization supplying signs and the local municipality contributing the cost of installation and maintenance. Local cycle groups or volunteers have been recruited to conduct signage audits in the past.

The website is a key tool and serves as a resource hub. A large annual cycling event is run by the organization. To develop and keep the routes in good operational condition WRT regularly coordinates among, provides support to, and at times, advocates to partners who are roadway/trail owners (local and provincial government). Additionally, WRT invites the roadway/trail owning governments to participate in annual meetings to discuss the trail.

While WRT does not run a membership program, local government partners are asked to make annual contributions based on population. These contributions, in addition to online and private sector donations, and revenues from the cycling event, which generally breaks even, form a small part of the organization's revenue. The majority of their funds come from program and project grants. These grants are often provided by provincial or federal government agencies and less frequently, other non-profit organizations. The private sector may partner on these projects. Merchandising did not work as a source of revenue for WRT, and until the event registration fee was raised, the events were also a net loss. WRT is a dynamic fundraising and partnership building organization.

Looking to the future, WRT feels that sustaining the cycling routes will depend upon local commitment to maintenance, signage, and promotion. To ensure local government partners continue to have the enthusiasm and knowledge required, WRT believes that a coordinating body for multi-jurisdictional cycle routes is critically important.

Rainbow Routes Association (RRA)

RRA builds and promotes over 200 km of trail in a large northern municipality. While this number does not include cycling infrastructure on roads, which the Roads Department builds, RRA does promote these routes. They have a 9 person Board who are volunteers actively involved in the organization's work. RRA has 2 staff, with 1 staff working 60% of full-time. Operating out of an office with equipment, services and utilities provided by the municipality, their annual budget varies around \$100,000 - of which \$30,000 is an ongoing operating grant provided annually by the municipality. Their biggest costs are staff and insurance.

In overseeing operational trails, RRA considers detailed maps to be essential. Presently RRA produces one map for non-motorized multi-use trails. They list details of cycling infrastructure on their website, and feel that a stand-alone cycling map would be valuable. Showing public washrooms on maps was a request articulated in a public survey. Specific to cycling routes, RRA considers amenities and services provided by the municipality and private sector to be essential for cyclists; this could include bike storage and tune-up stations. Up kept signage is also considered key.

Fundraising success to supplement the small operating grant from the municipality comes primarily from grant projects and programs. RRA makes a limited amount from online donations, about \$300, and individual and family memberships may provide \$400 per year. They are normally able to develop partnerships with the private sector or other organizations to obtain supplies and labour for projects. Corporate donations have constituted a small percentage of budgets, and events have proven to be a lot of work with little financial return.

Working to build and promote trails, RRA has concern about the municipality's ability to maintain an ever-increasing amount of trails. Once trail building projects are exhausted, and acknowledging that trail work is dynamic, the organization accepts that it may change the way it operates.

Voyageur Trail Association (VTA)

VTA has been building, maintaining and promoting trail for over 40 years. They manage about 600 km of hiking trail across northern Ontario. They are a membership-based, volunteer-led non-profit organization that does not have paid staff. VTA has four sub-regional clubs; each club provides two members to sit on the Coordinating Council that looks after operational aspects such as guidebook production, insurance, communications, funding applications, signage, etc.. The annual operating budget is approximately \$9,000.

To maintain and promote the trails, VTA considers the following, all of which they provide, to be essential: guidebook/maps, information online, wayfinding signage, and a hiker's hotline. The biggest cost associated with maintaining and promoting the trail is insurance and the upfront cost of producing the guidebook. The guidebook does generate revenue, through ad space and guide purchasing sales. VTA has not been actively pursuing grants lately; they do receive a small amount of consistent revenue through memberships.

Looking to the future, there is some concern over the ability of the clubs to maintain all of their trails. The average age of volunteers is high and some sub-regional clubs have become inactive. On the other hand, there are some new sub regional groups getting established and becoming part of VTA. The ability to operate for more than 40 years can be attributed, in part, to having a structure that relies on and empowers volunteer board members.

Discovery Routes Trail Organization (DRTO)

DRTO is a non-profit organization whose mandate has a regional scope that includes 20-25 municipalities across north eastern Ontario. They oversee over 200 km of trail, including trail construction and then marketing and promotion. Few of the trails are presently on-road infrastructure targeted exclusively to cycling usage. DRTO has 12 board members, many of whom are long-standing. Although committed to the organization, members of the Board do not play an active role in the daily operations of the organization or long-term fundraising. The organization has an executive committee that is made up of representatives from the regions, trail user groups, and other relevant agencies who hold an advisory role. This committee has become less active over the years. One permanent position of Executive Director is part or full time depending on funding; and project-based consultants are hired when possible.

Printed and digitally available maps that describe the routes, natural attraction, services, amenities, and identify hazards are produced by DRTO and considered essential to promoting trails. The upfront cost of producing maps is a large expense for the organization, along with staff costs and operating expenses including utilities, rent and supplies. The budget has varied from \$50,000 to \$500,000 over the last decade, with the higher budget years being a result of capital projects. To raise funds, DRTO obtains project grants. Membership fees paid by local volunteer trail groups have been discontinued. Other areas of revenue include fundraising events, advertising sold on maps, signage cost recovery, and corporate donations – all of which account for a small portion of the budget. They have had some success with wage subsidies provided for administrative work, however, online donations, merchandizing and membership purchases have not been successful strategies to generate revenue.

Expanding its operational scope to develop the VCR means that DRTO will be taking on additional responsibilities. Sustaining the administration to promote and coordinate this regional route over the long-term is a concern for DRTO, since consistent funding that would allow for a full-time chief staff person has proven difficult to maintain. Thinking of the future, creating connections to Sudbury and Ottawa and being part of the province-wide cycling network will be great successes for DRTO.

APPENDIX I:

TRAIL GOVERNANCE REFERENCES

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APPENDIX J:
PROJECT MANAGEMENT

Supporting the Implementation of the Voyageur Cycling Route

The Voyageur Cycling Route Working Group and Discovery Routes Trails Organization have reviewed the Feasibility Study and Implementation Plan for the Voyageur Cycling Route.

Drawing on over 20 years of experience in trail development in Northeastern Ontario, Discovery Routes Trails Organization has assessed the tasks and responsibilities associated with the implementation of the Voyageur Cycling Route and has determined that the approximate project management expenses will be \$75,000 annually until such time as a fully operational cycling route is in place.

These expenses can be further broken down as follows:

Full-time, dedicated staff to coordinate project	\$50,000
Project Expenses	\$10,000
General Administration (15%)	\$15,000

Tasks and responsibilities during Phase 1 Implementation of the Voyageur Cycling Route:

- Develop detailed implementation and work plan
- Negotiate partnerships with road authorities
- Prepare and maintain Memoranda of Agreements with stakeholders
- Develop and implement plan to monitor use and report on economic benefits
- Oversee signage program
- Oversee marketing

