



## **1.0 INTRODUCTION**

Sault Ste. Marie has designed and is developing the Hub Trail for a ‘World Class Trail System’. This Cycling Master Plan builds on the successes of the Hub Trail to broaden the scope of trails in Sault Ste. Marie. Bicycles are defined as vehicles in the Highway Traffic Act. As such, all streets are cycle routes. This Cycling Master Plan endeavours to provide Education, Enforcement, Encouragement and Engineering principles by which the City will lead others in the provision of a safe and engaging model that, in turn, others can follow.

During the work program, the consultant worked with the Cycling Committee and the City staff to develop a stakeholder directed Cycling Master Plan that addresses all user groups in the City who cycle for recreational or utilitarian purposes.

### ***Destinations***

#### **Hub Trail**

The intent behind the planning of the Hub Trail was to highlight and connect trail users to key destination points within Sault Ste. Marie, thereby providing access and linkages between neighbourhoods, major recreational and institutional areas; and, tying in the existing boardwalk along St. Mary’s River with other pedestrian and cycling trails.

#### **Other Destinations**

The development and expansion of the trail system in Sault Ste. Marie to incorporate a Cycling Master Plan Route together with the Hub Trail calls attention to other significant destination points that should be recognized in addition to those identified in the Hub Trail. By linking these destination points through a comprehensive trail network, further access and connections within the community are created serving both recreational and utilitarian needs.

### ***Barriers***

- Railway Crossings
- Railway Underpasses, in particular Wellington Street at Carmen’s Way
- Truck Routes
- Steep grades which can affect the nature of the cycling routes
- Landforms such as streams and creeks
- Private Land Ownership which may inhibit development of routes
- Existing Property Use such as the municipally owned land northwest of Second Line and Carmen’s Way that currently is used for snow deposition.

### ***Challenges***

- Engineering of On and Off-Road Trails will present various challenges in terms of their design, development and implementation. Successful implementation will require balancing the preferred trail route design with real physical and environmental constraints.
- Establishment of an *East-West Corridor Route* would help integrate cycling into the City by bridging communities and providing a recognized route across Sault Ste. Marie.
- Establishment of Off-Road Trail Access / Egress and Routes through Commercial, Industrial and Employment Facilities would further help integrate cycling into the City by providing a sustainable alternative for employees commuting to and from work.
- Maintenance of On and Off-Road Trails.
- Establishment of Indirect Trail Routes may present challenges in terms of acceptance and appreciation.



***Opportunities***

- Provision of new and / or improved cycling infrastructure that builds upon the Hub, and existing on and off-road trails.
- Creation of a safe and enjoyable cycling environment and multi-modal network that accommodates a range of users, ages, skill levels and abilities, whether for recreational or utilitarian use.
- Creation of a comprehensive cycling network that is integrated into the transportation system.
- Application of sound engineering principles and practices to create a practical and intuitive cycling route network that facilitates responsible riding practices and overall traffic safety amongst all road and trail users.
- Development of partnerships with City staff, organizations, businesses, community groups, and so forth to increase support of cycling, and engage collaborative efforts towards the development and implementation of the Cycling Master Plan.
- Connection and greater access to primary, secondary, and retail / commercial destination points, as well as employment areas throughout Sault Ste. Marie.
- Increase of awareness and appreciation of the City through exploration and exposure to the culture and community of Sault Ste. Marie.
- Promotion and showcasing of Sault Ste. Marie as a cycling friendly city that houses many great attractions thereby helping support tourism and the local economy.
- Encouragement of alternative and sustainable forms of transportation that support healthy outdoor activity, the quality of life, the environment, and community-building.
- Creation of innovative programs and outreach activities to promote and encourage bicycle use in Sault Ste. Marie.

***Trends***

Cycling is increasingly recognized as a practical, cost effective, sustainable and healthy means of transportation for both recreational and utilitarian purposes across North America. The number of recreational trail users has grown significantly in recent years leading to an increased demand for cycling facilities. Cycling activity provides physiological as well as psychological health benefits. Cycling activity provides exposure to a variety of neighbourhoods and can help facilitate social interaction, and community-building activity.

It is therefore recommended that cycling routes and facilities be well planned, well developed and well maintained in order to accommodate an even greater number and variety of bicycle users, bring about further gains, and provide for further enjoyment and opportunities.

## **2.0 VISION, GOALS, OBJECTIVES AND PRINCIPLES**

Expanding upon the 1995 Cycling Master Plan, the following outlines the vision, goals and objectives of the Master Plan Update and four components of the strategic framework, namely the “Four E’s” of Cycling: education, enforcement, encouragement and engineering.

***Education Vision:***

An informed community that appreciates safe and responsible cycling activities.  
A community that evidences increasing co-operation amongst all road and bicycle users.

***Enforcement Vision***

An informed community that respects the rules and rights of cyclists.

***Encouragement Vision***

A community that encourages alternative transportation and cycling as a means of commuting and / or recreation.



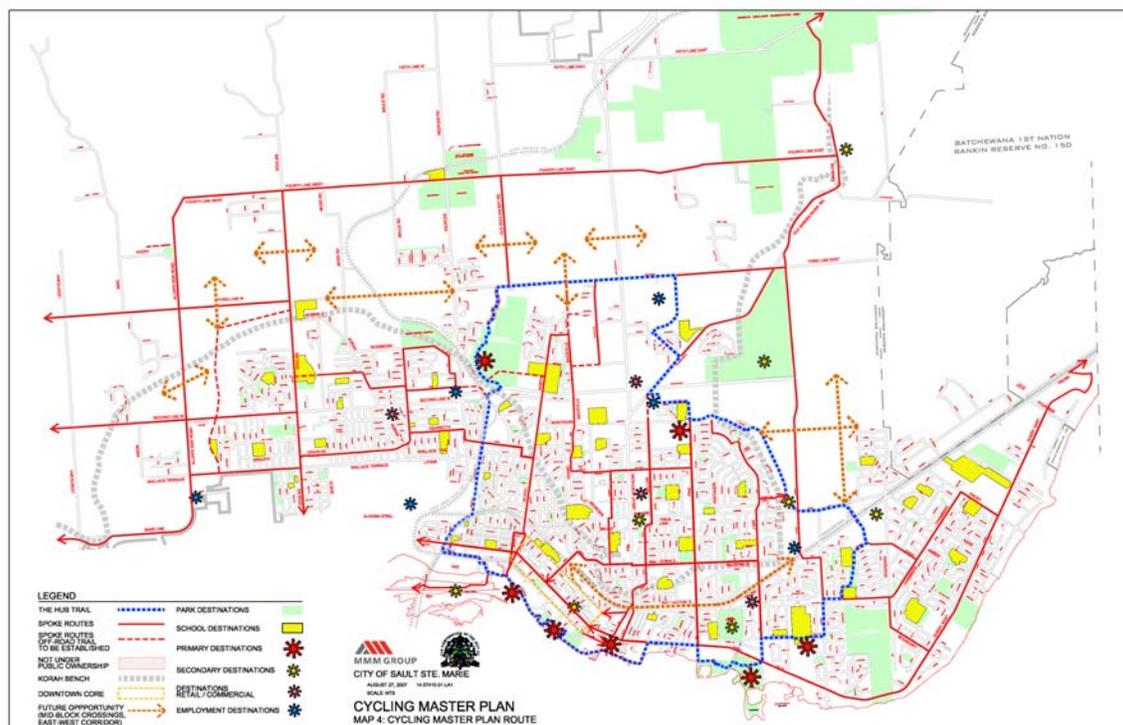
### Engineering Vision

A set of standards and construction from those standards that establishes cycling as an integral part of the transportation system of Sault Ste. Marie.

### Principles

- All traveled roadways are cycle routes and cycling should be accommodated for any reconstruction.
- The Cycling Master Plan facilitates safe and responsible cycling practices amongst all ages, skill levels and abilities
- The Cycling Master Plan facilitates Creation of Partnerships
- The Cycling Master Plan is Destination Oriented
- The Cycling Master Plan Supports the Quality of Life: recreation, health and fitness benefits. It provides a sustainable transportation alternative that is practical, energy efficient, cost-effective and non-polluting
- The Cycling Master Plan Supports the Tourism and Economy of Sault Ste. Marie
- The Cycling Master Plan Inspires Innovations: in programs, events, marketing, and so forth

### 3.0 THE ROUTE – Overview of the Hub Trail, Spokes and Cycling Master Plan



The Sault Ste. Marie Cycling Master Plan Route will combine the 2006 Hub Trail with a series of cycling routes occurring outside and within the perimeter loop to create a comprehensive network of on and off-road trails connecting destination points throughout the City. The concept behind the Cycling Route is to integrate and link exterior routes or “spokes” stemming from the Hub, together with interior routes or “spokes”, which represent the inner workings of the Hub. Through analysis and identification of destination points and appropriate trail connections, the Cycling Master Plan will recommend a construction methodology and hierarchy of trails to be developed, implemented and / or maintained.



The Cycling Master Plan Route will highlight destination areas and create linkages between neighbourhoods and facilities reflecting the culture and community of Sault Ste. Marie. The Route will serve both recreational and utilitarian cyclists, encouraging healthy, sustainable outdoor pursuits and community building activity. When complete, the Route will provide an enjoyable and safe opportunity for local residents and visitors to travel, explore and commute to the many attractions, features, commercial and recreational facilities offered in the City of Sault Ste. Marie.

#### **4.0 DESIGN GUIDELINES - Development**

##### ***Route Considerations***

Cycling facilities have been divided into three main facility types:

- Bike Lanes
- Paved Shoulders; and
- Shared Roadway Facilities

*Spoke routes* will consist of cycling facilities designed to provide direct connections and access to primary, secondary, retail / commercial and employment destinations, as well as park and school destinations.

*Connecting link routes* will provide ties between local destinations in a specific neighbourhood and “feed” into the spoke system.

##### ***Design Parameters***

The Ontario Ministry of Transportation (MTO) *Geometric Design Standards for Ontario Highways (GDSOH, 1994)* and the Transportation Association of Canada (TAC) *Geometric Design Guide for Canadian Roads (GDGCR, 1999)* are the primary provincial references for roadway design. The following is a summary of the design guidelines proposed for Sault Ste. Marie:

##### ***Guidelines:***

- 4.1: Provide an operating envelope design width of 1.8 m wide x 3.0 m height for a cyclist on one-way routes and 2.5 m x 3.0 m on two-way routes.*
- 4.2: Widen roads or trails with steep grades to provide extra space for cyclists to either make corrections to their trajectory at higher speeds going downhill, or to maintain their balance at lower speeds heading uphill. Widen cycling facilities on grades shorter than 75 m or shallower than 6%.*
- 4.3: When conditions permit, add 0.5 m where possible in the width of the paved shoulder or bike lane for on-road facilities where the grade of the road approaches or exceeds 8%.*
- 4.4: Add motor vehicle passing prohibition (descent), Share the Road (ascent) signs and a combination of edge lines when grades exceed 8% and sufficient facility width is not available. On roads where sight lines are also an issue because of the horizontal or vertical curvature of the road, additional cautionary signs may be warranted to restrict passing manoeuvres.*
- 4.5: Reduce the posted speed limits on steep road segments where motor vehicle volumes or the percent of commercial traffic exceed a desirable threshold for a cycling facility.*
- 4.6: Design multi-use pathways that are part of the Sault Ste. Marie Cycling Route Network with grades less than 10%.*
- 4.7 Although new or improved City roads will typically be designed to the roadway standard and thus exceed the minimum design parameters related to speed for cycling facilities, some existing roads may not. In these cases, additional signing and / or pavement markings to caution motorists and cyclists should be considered when implementing or updating cycling facilities.*
- 4.8: Design off-road cycling facilities to minimum design speed of 40 km/h to ensure that the network is safe for all users.*
- 4.9: Design both on and off-road cycling facilities with a minimum stopping sight distance for both motor vehicles and bicycles using Geometric Design Guide for Canadian Roads, TAC, 1999. In constrained conditions, add signing to caution both motorists and cyclists.*



- 4.10: *Horizontal curves of roads proposed for on-road cycling facilities must conform to roadway design standards set out in the MTO Geometric Design Standards for Ontario Highways or the TAC Geometric Design Guide for Canadian Roads. When this condition cannot be met, additional cautionary signing should be introduced to advise the cyclist to slow down and caution that they are approaching a sharp curve(s) ahead.*
- 4.11: *Provide additional width on off-road cycling segments at curves that have less than a 32 m radius.*
- 4.12: *On roads where sight lines are an issue because of the horizontal or vertical curvature of the road, additional cautionary signs may be warranted to restrict passing maneuvers.*
- 4.13: *On steep grades, provide cyclists the extra space needed to either make corrections to their trajectory at higher speeds going downhill, or to maintain balance at lower speeds heading uphill.*
- 4.14: *Bicycle routes should have a minimum 1.5% crown or continuous cross slopes. Balanced cross slopes for two-way paths should be used for drainage purposes and to direct cyclists to the right side of the cycling facility.*
- 4.15: *Continue the City of Sault Ste. Marie’s “cycling-friendly” roadway policy ensuring that all new roads constructed have sufficient rights-of-way for designated on-road cycling facilities, whether they are part of the cycling network or not.*
- 4.16: *Cyclists have the right to be present on all classes of roadways, including arterials, collectors and local streets, with the exception of controlled access highways or roads designated by the City that prohibit bicycles.*
- 4.17: *Design width for a bike lane in an urban area without on-street parking will be 1.2 m from the face of curb. Bike lanes that are 1.5 m wide are recommended as a standard, while a preferred width of 1.8 m should be considered on roadways with high AADT’s, speed limits, and truck volumes such as those on busy arterial roadways.*
- 4.18: *Bike lanes should be clearly identified on roadways through bicycle route signing, edge lines, bicycle symbol pavement markings and bike lane signs.*
- 4.19: *Bike lanes are typically recommended where feasible for collector and arterial roads designated to have cycling facilities. In locations where a bike lane is not deemed feasible following a review, consideration should be given to providing a wide curb lane. If this is not possible, as a minimum, a signed-only route cycling facility should be provided if thresholds permit.*
- 4.20: *Bike Lanes are recommended on several spoke routes including North Street, Willow Street, Poplar Street, Pine Street, Lake Street, Third Line East and Queen Street east of Pim Street, as well as several connecting cycling links.*
- 4.21: *On existing or proposed cycling routes in Sault Ste. Marie where bike lanes are proposed and where on-street curb parking exists, undertake an assessment to determine whether the parking can be removed or relocated. In the event that on-street parking is seen as a priority, parking bays should first be considered as a preferred design.*
- 4.22: *Where the road right-of-way or other factors limit the opportunity to provide parking stalls / bays, standard on-street curb parking widths should be assumed. For both applications, the desired width of the parking lane should be a minimum of 2.2 m, with the adjacent bike lane 1.8 m.*
- 4.23: *Bikeway boulevards must be separated from regular motor vehicle travel lanes through either a change in roadway elevation and / or by concrete barriers, medians or bollards. They are generally not recommended except in locations where there is no other alternative.*
- 4.24: *The installation of Raised Bike Lanes is not recommended for the City of Sault Ste. Marie due to the confusion caused over the proper right-of-way for cyclists and pedestrians at intersections.*
- 4.25: *Paved shoulders are the preferred facility for creating connections amongst rural areas, and between rural and urban areas.*
- 4.26: *Paved shoulder bicycle routes in the City of Sault Ste. Marie have a preferred design width of 2.5 m (including a gravel shoulder). In locations where this lane width for paved shoulders cannot be achieved, especially in constrained rights-of-way, provide a minimum paved shoulder width of 1.2 m with an adjacent granular shoulder of at least 0.5 m.*



- 4.27: *Paved shoulder facilities should always be separated from the motor vehicle travel portion of the road by an edge line (pavement marking), and should be clearly identified through bicycle route signing. Edge lines should only be used on rural roads where there are no curbs, and should be a single line placed on the right side of the travel lane closest to the paved shoulder.*
- 4.28: *Edge lines are only recommended for paved shoulders in rural areas as these roads typically have a gravel shoulder beyond the paved shoulder for a cyclist to recover should they be forced off of the paved section of the roadway.*
- 4.29: *Paved shoulders on rural roads should not be denoted as reserved bicycle lanes since they should still be used as a refuge for disabled vehicles. Paved shoulder cycling routes should only be signed as bicycle routes.*
- 4.30: *Signed-only cycling routes are appropriate for the community system that consists of cycling routes that are “local” in nature and feed into the spine network.*
- 4.31: *Streets with signed-only cycling routes should only be signed as on-road bike routes if there is adequate pavement width to safely accommodate both motor vehicles and cyclists, and when adequate sight lines and acceptable AADT volumes exist.*
- 4.32: *On low volume rural roads with limited truck traffic, good sight lines and sometimes physically constrained ROW’s, the existing travel lane may be designated as a cycling route, with cyclists and motorists expected to share the same lane. In these cases, “Share the Road” signs should be erected at strategic locations to communicate this message to all road users.*
- 4.33: *The preferred width for a wide curb lane is 4.25 m with a minimum of 3.75 m.*
- 4.34: *In urban areas, proposed signed-only cycling routes should be implemented along roads with wide curb lanes (< 4.0 m) and bicycle route signs where possible.*
- 4.35: *Where the width of a wide curb lane exceeds 4.0 m along a designated cycling route, the application of pavement markings such as a bicycle stencil should be considered to indicate the presence of cyclists on the roadway to motorists.*
- 4.36: *Cycling routes along streets with edge lines applied to wide curb lanes should be signed as signed-only cycling routes and never as bike lanes.*
- 4.37: *Off-road multi-use trails should be considered as part of the Sault Ste. Marie Cycling Network.*
- 4.38: *Construct off-road multi-use trails in Sault Ste. Marie to a minimum width of 3.0 m to accommodate two-way travel. On trails that may experience high demand or a significant percentage of pedestrian and / or in-line skating traffic, a width of 3.5 to 4.0 m is recommended.*
- 4.39: *Trail surface types are dependent on the requirements of the planned trail users (e.g. accommodating in-line skaters) and can vary from asphalt to granular surfaces (stone-dust).*
- 4.40: *In locations where a trail may intersect with more than four vehicle driveways or intersections per kilometre, consideration should be given to implementing an on-road bicycle facility. For road segments where 10 or more crossings of an off-road bicycle route could occur per kilometre, the preferred cycling facility for the network should be a Shared Road or Paved Shoulder / Bike Lane on-road cycling facility.*
- 4.41: *Adopt the retrofitting guidelines recommended in Tables 4.12 and 4.13 of the Planning and Design Guidelines in Chapter 4 of the Sault Ste. Marie Cycling Plan.*
- 4.42: *If thresholds recommended in this Plan determine that the preferred standard for a cycling facility cannot be accommodated, then the minimum or interim solution should be considered. If a bike lane, for example, cannot be installed, then consideration should be given to installing a wide curb lane or at a minimum a signed-only cycling route if thresholds permit and no other alternate routes are available.*
- 4.43: *Adopt the modified TAC pavement marking standard, including the diamond symbol and excluding the “ONLY” text, for new bike lanes in the City with the exception of those where parking is permitted.*
- 4.44: *Lane lines for bikeway facilities in Sault Ste. Marie should conform to the requirements of the Ontario Traffic Manual or the TAC Bikeway Traffic Control Guidelines for Canada.*
- 4.45: *Design cycling facilities at intersections to encourage safe and predictable movement of pedestrians, motorists and cyclists.*



- 4.46: *Pavement markings and signing should be installed at intersections to encourage intersection crossings between right-turning motorists and cyclists proceeding straight through in advance of the intersection, rather than within it.*
- 4.47: *The “hatched” area along rural paved shoulders at intersections with right-turn lane curbs should not be designated as an on-road cycling facility unless it is greater than 1.2 m in width and it forms part of a designated cycling route.*
- 4.48: *Coloured pavement treatments should be considered at intersections with complex geometry or in areas with high conflict zones between cyclists and motorists.*
- 4.49: *Appropriate signing should be used in conjunction with the coloured pavement to identify to both motorists and cyclists the priority at an intersection.*
- 4.50: *Micro-surfacing should be considered by the City of Sault Ste. Marie as a possible option for the demarcation of bicycle lanes.*
- 4.51: *Consider bicycles in the timing of traffic signals at intersections and in the selection, sensitivity and placement of vehicle detection devices wherever there is bicycle traffic.*
- 4.52: *The addition of pavement markings is recommended to increase the efficiency of bicycle detection at intersections to actuate either a mixed traffic or bicycle signal phase. These pavement markings could also help to direct cyclists to the actuation zone and to position themselves properly in the lane.*
- 4.53: *The general countermeasures indicated in Table 4.1 should be considered for minimizing common motor vehicle and cyclist collisions.*
- 4.54: *Advanced stop bars and bike boxes should be considered at locations in the City of Sault Ste. Marie where cyclist volumes are high and measures are being considered to give cyclists more priority at intersections (e.g. adjusting signal timings or phasing sequences).*
- 4.55: *The use of bike pockets in the City of Sault Ste. Marie is recommended.*
- 4.56: *The minimum 60 m transition zone between the curbside cycling facility, and the bike pocket, left of the right turn lane / channel, should be maintained, whether the curbside facility is a bike lane, paved shoulder or signed-only route.*
- 4.57: *When a bicycle lane situated between two motor vehicle travel lanes extends for a distance greater than 240 m, consideration may be given to relocating it to the curbside of the roadway with the applications recommended by TAC for a Bicycle Lane Adjacent to a Curb Lane Transition applied at each end of the roadway.*
- 4.58: *The design of on-road cycling facilities on bridge structures should conform to the Canadian Highway Bridge Design Code, the Geometric Design Standards for Ontario Highways (revised as of 2002), and the Ontario Bikeways Planning and Design Guidelines.*
- 4.59: *The values indicated in Table 4.15 should be referenced for determining the minimum side clearances on bridges when the installation of cycling facilities on bridges is being considered.*
- 4.60: *The creation of a bike lane on a bridge may be considered if the bridge has shoulders, or if the traffic lanes are wide enough to permit the creation of a wide curb lane to accommodate bicycles on the traveled way*
- 4.61: *The City should provide measures to reduce risks to cyclists passing through construction zones, and to ensure access for cyclists during all road construction activities when practical. This should include, but not be limited to:*
- *Construction notices posted on the City’s website;*
  - *Advanced signing for construction activities;*
  - *Temporary conditions that are compatible with bicycles such as non-slip surfaces, ramped utility cuts and timber decking placed at right angles to the direction of travel; and*
  - *Bicycle specific detours where appropriate.*
- 4.62: *Bicycle route crossings of rail corridors and associated traffic control devices should be designed and installed in accordance with the Bikeway Traffic Control Guidelines (TAC 1998)*
- 4.63: *The application of shared bicycle / parking lanes is not recommended for installation in the City of Sault Ste. Marie.*
- 4.64: *Consideration should be given to prohibiting on-street parking and designating the shared lane as standard 1.5 m bicycle lane if the demand for on-street parking is low.*



- 4.65: *Should there be a strong objection to the prohibition of on-street parking, then the road should be signed as a bicycle route with accompanying “Share the Road” signing, with the lane designated as a parking lane.*
- 4.66: *Transitions between different cycling facility types should be applied between on and off-road facilities, to assist cyclists and motorists.*
- 4.67: *Appropriate signing and / or pavement markings should be installed to direct cyclists to the new cycling facility type.*
- 4.68: *Provide curb cuts at locations where pathways terminate at sidewalks on two-lane residential streets with AADT’s below 3000. Signing should be installed warning cyclists to yield to pedestrians, and pedestrians to watch for cyclists.*
- 4.69: *Where possible, pathways should be extended to the nearest intersection or crossing location where cyclists can make a safe and legal transition to another cycling facility or roadway.*
- 4.70: *At locations where pathways terminate at sidewalks and no modifications can be made, signing should be installed indicating that cyclists should dismount from their bicycles when on a sidewalk.*
- 4.71: *Whenever possible, pathways should be directed to intersections or other locations where safe and legal transitions to other on or off-road cycling facilities can be made.*
- 4.72: *Bicycle routes should be designed and signed to encourage cyclists to reduce speed and stop prior to crossing a road via a mid-block crossing. Mid-block crossing design should consider grade changes and alignment of trails in advance of the crossing as well as sight distances, signing, textural surface contrast and bollards.*
- 4.73: *When recommended mid-block thresholds are met for 2 and 4-lane roadways, consideration should be given to implementing a formal traffic signal or a pedestrian crossover.*
- 4.74: *The cross alert system may be considered for installation at locations where a pathway crossing of a road occurs and when sight lines for motorists are poor.*
- 4.75: *The yellow bicycle stencil illustrated in the cross alert system should be replaced with the bicycle and pedestrian symbol to indicate the presence of cyclists and pedestrians on a pathway. This could also be used in conjunction with the W16-7p sign to better identify the crossing location to motorists.*
- 4.76: *Upon approach to the crossing, the pathway should be “doglegged” so that pathway users are forced to angle themselves towards oncoming motor vehicle traffic in both directions.*
- 4.77: *STOP signs, smaller than the MUTCD standard, should be placed on the pathway approach to the intersection.*
- 4.78: *A solid yellow centreline should also be placed on the final approach of the pathway to the street crossing. A yellow-advanced yield line should also be placed on the vehicle lanes.*
- 4.79: *Railroads with wide enough rights-of-way can typically accommodate a multi-use trail.*
- 4.80: *Trails adjacent to active and / or under-utilized rail corridors should be separated from the rail line through the provision of a planted berm or fence.*
- 4.81: *Provide Barriers at off-road bicycle route / trail entrances to prevent access by unauthorized users such as motor vehicles, and to caution trail users that they are entering or exiting a trail environment.*
- 4.82: *Multi-use trail bridges should be designed with non-slip surfaces, have vertical railings attached to the outside of the structure and include cover plates over expansion joints.*
- 4.83: *Safety “rub-rails” may be considered along bicycle trails with railings to prevent a cyclist’s handlebars from catching the vertical supports of the railing.*
- 4.84: *The four main underlying principles of CPTED should always be considered when developing the Sault Ste. Marie Cycling Network:*
- *Natural Access Control;*
  - *Natural Surveillance;*
  - *Territorial Reinforcement; and*
  - *Maintenance.*
- 4.85: *Properly located entrances, exits, fencing, landscaping and lighting should direct both foot and automobile traffic in ways that discourage crime.*



- 4.86: *For each reconstruction project, the road will be analysed for the opportunity to reduce speed. Traffic calming measures will be installed on major arterial roads, where the opportunity exists and where cyclists are expected to travel.*
- 4.87: *Bicycle parking should be provided along major arterial roads, employment centres and other destinations where cyclists are expected to frequently visit.*
- 4.88: *Bicycle racks should be designed to provide lateral support to the parked bicycle and should be made from materials that can resist being cut by common hand tools such as bolt and pipe cutters, wrenches and pry bars. As such, the Welle Series Bike Rack has been identified as the preferred choice.*
- 4.89: *Racks, whether as single units or grouped together, should be securely fastened to a mounting surface to prevent the theft of a bicycle attached to a rack.*
- 4.90: *Bicycle racks should be placed adjacent to the entrance that it serves without inhibiting pedestrian flow in and out of the building. Rack areas should be no more than 15 m from an entrance and should be clearly visible along a major building approach line.*
- 4.91: *The City of Sault Ste. Marie should encourage their partners and the private sector to provide secure bicycle parking at key destinations, including public buildings. Modify Site Planning guidelines to require the provision of one bicycle parking space for every 50 parking spaces*
- 4.92: *The City of Sault Ste. Marie should use bicycle friendly catchbasin covers only.*
- 4.93: *Rest and staging areas proposed in the Hub Trail should be provided to serve the bicycle route system. The City of Sault Ste. Marie and its partners including the private sector should work together through the Sault Trails Advocacy Committee (STAC) to identify and implement other rest and staging areas.*
- 4.94: *Establish a hierarchy of City and Local Gateways that represents city-wide and local level contexts through a request for proposals.*
- 4.95: *Gateways should become a recognizable feature in Sault Ste. Marie’s landscape to both tourists and residents alike. Locations are suggested at Trunk Road near Fournier Street and near Hiawatha Park at Fifth Line.*
- 4.96: *Gateways should become an integral part of the marketing initiative and should be identified on the city map.*
- 4.97: *The City of Sault Ste. Marie should promote a Rack-and-Roll program to cover all transit routes. Quality bicycle parking facilities should also be provided at transit centres throughout the City.*
- 4.98: *In the future when bus garages are renovated, the City should take advantage of this opportunity and expand the bus garages so that they can accommodate three bike-rack-equipped fleet and make a winter “Rack & Roll” program feasible.*
- 4.99: *Provide trip-end facilities for employees and visitors to City of Sault Ste. Marie public buildings; the private sector should be encouraged to do the same.*
- 4.100: *Require that site plan approval be subject to providing cycling parking and distinct or signed access.*

## **5.0 SIGNAGE GUIDELINES**

Signs along the Sault Ste. Marie Cycling Route should communicate various kinds of information to the bicycle route user. Recommended signage has been organized according to the following six functions:

- Bicycle Route Designation signs
- Way-Finding signs
- Regulatory signs
- Warning signs
- Information signs
- Interpretative signs



**Guidelines:**

- 5.1: *Develop a formal logo for the City of Sault Ste. Marie Cycling Route Network.*
- 5.2: *Develop and implement a formal on and off-road Cycling Network Signing Plan to support the existing and proposed Sault Ste. Marie Cycling Route Network.*
- 5.3: *Develop a way-finding signing strategy for the City of Sault Ste. Marie bicycle route network. This strategy will include signs with directional arrows, route numbers and distance in kilometres to major destination areas. A pilot project will be implemented during 2007 / 2008. Review and evaluation of the pilot project will inform whether the way-finding signing should be integrated with the Sault Ste. Marie Cycling Map to assist cyclists in navigating the City.*

## **6.0 MAINTENANCE GUIDELINES**

The maintenance of cycling facilities was identified as a major priority in the Sault Ste. Marie Visioning exercise.

**Guidelines:**

- 6.1: *Establish a program of litter, debris and leaf removal for paved shoulder cycling routes and bike lanes for the Spring, Summer and Fall months.*
- 6.2: *“Spoke” routes that serve as part of the primary Sault Ste. Marie cycling network will receive priority for snow clearing and removal during the Winter months, followed by key cycling route connections or cycling links to “spoke” route segments.*

## **7.0 IMPLEMENTATION**

The implementation of the Cycling Master Plan requires a collaborative effort amongst government departments, organizations, stakeholders, key institutions and other interested parties to help support the Cycling Master Plan and “Four E’s” of cycling (education, enforcement, encouragement and engineering). The following lists the various partners involved in the development and implementation of the Cycling Master Plan, as well as programming opportunities and initiatives that should be explored under the “Four E’s”, including those that have been identified as priorities. A cost estimate for the implementation of the Cycling Master Plan routes is provided in *Appendix B*.

**Partners**

- City of Sault Ste. Marie
- Cycling Committee
- YMCA
- Algoma District Health Unit
- Service Clubs
- Police
- School Boards
- Sault and Algoma Colleges
- Sault Ste. Marie Region Conservation Authority
- Batchewana First Nation
- Provincial Government – Ontario Ministry of Northern Development and Mines
- Federal Government - FedNor; Connections with Canada-wide trails programs
- Sault Ste. Marie Economic Development Corporation
- Media
- Land Development Companies



***Education***

- Can-Bike is a nationally certified program under the Canadian Cycling Association that offers in-class theory and practical training sessions to improve cycling skills, and increase awareness and appreciation of traffic safety.
- School Programs
- Driver’s Education Schools
- Recreation Programs
- Police can take part in bicycle safety education both as participants and facilitators
- The city can operate an educational seminar annually to educate the community that works with the development industry

***Enforcement***

- Review Official Plan
- Revise the site plan review requirements to indicate that bicycle parking is an important component of a site.
- Enforce the Highway Traffic Act
- Proper signing should be installed on the Cycling Master Plan Route

***Encouragement***

- Marketing Campaign
- Media and Outreach
- Conferences

***Engineering***

- Establish Engineering Standards pertaining to cycling
- Educate Staff and Partners about the standards
- Construction of Priority Projects

***Prioritization – Education***

- Partner with Driver’s Education schools
- Partner with media and develop / deliver media campaigns to promote cycling
- Tie a campaign to global warming
- Create a public awareness program for cycling
- Encourage a cycling safety program on radio or television

***Prioritization – Enforcement***

- Ticket cyclists for riding on sidewalk through police enforcement
- Charge fees for parking cars through municipal or private bodies
- Enforce wearing cycle helmets through by-laws

***Prioritization – Encouragement***

- Improve signage for cycling and information for motorists about cycling
- Create bicycle lanes
- Promote the installation of bike racks
- Create more paved shoulders
- Install pavement markings, lines and signs
- Establish cycle route maps around the city
- Create a heritage cycle tour
- Organize annual community events such as a Family Day Ride
- Consult regularly with cyclists



### *Prioritization – Engineering*

#### *Cycling Routes (refer to Chapter 3: The Route)*

- Route 14E: Establish cycling route on Queen Street East in the downtown core and employ traffic calming measures such as raised intersections and loop / cyclist activated traffic signals
- Route 11A: Improve / construct shoulder paving on Landslide Road between Third and Fifth Line East
- Route 14A, 14C & 14D: Establish cycling route on Queen Street East, east of Pim Street via three lane vehicular and two bicycle lanes
- Route 15: Establish cycling route on Bay Street between East Street to Pim Street
- Route 6: Establish cycling route from Hub Trail at Second Line and Carmen's Way to Korah Collegiate High School property and Goulais Avenue
- Route 34: Establish cycling route between Sackville Road and south end of Industrial Park Road
- Route 36: Establish cycling route through Fort Creek Conservation Area / Kiwedin School south property between Hub Trail along Carmen's Way north of Second Line East and North Street
- Route 4: Establish safe cycling route under the CN Railway between the Hub trail at Wellington Street West and Carmen's Way, and Lyons Road along Wellington Street West
- Route 20A (north section): Establish cycling route between Old Garden River Road and Willow Avenue at Northern Road
- Route 20B: Establish cycling route towards downtown via Pim / Church Streets
- Route 20A (central section): Establish cycling route between McNabb Street and Smale Avenue; and, between Smale and MacDonald Avenue via Poplar Avenue

#### *Cycling Initiatives*

- Carry out road maintenance to improve cycling conditions and opportunities
- Create connecting links
- Create shortcuts for cyclists
- Install bicycle lanes on Pine and Pim Street
- Create multi-use trails along Second Line East and West
- Construct boardwalk extension along Waterfront
- Improve Fourth Line East west of Great Northern Road
- Improve Third Line West extension
- Create 2-way bicycle lane on south side of Bay Street from the Bush Plane Museum to the Library
- Bury hydro on Queen Street
- Improve existing path from McNabb Street north to Hiawatha (currently snowmobile route east of Black Road / power line and Farquhar Street) via addition of ¾" granular to current crushed fines / stone dust

#### *Future Opportunities*

- **Mid-block crossings:** The urban boundary of development promises to expand beyond the existing limits. Cycling must be recognized as an integral component of transportation planning. Arterial roads have been defined as barriers to cycling. As land-use development is planned, mid-block crossings of existing and future arterial roads must be considered. Such crossings should be
  - Spaced no greater than 500 m apart
  - Provide separate cycling access from motorized vehicles and pedestrian crossings
- **East-West Corridor:** The urbanization of Sault Ste. Marie between the CP Rail and the waterfront, below the Korah Bench, did not consider cycling in its development. Many streets have typically narrow (3.2 m) lanes. This compares to the wide (4.5 m) curb lanes that are now part of the engineering vocabulary of Sault Ste. Marie. The Huron Central Railway has declined the City's request to construct a trail within the railway right-of-way (ROW) adjacent to Trunk Road. Nonetheless, opportunities should be sought to realize a continuous east-west cycling corridor below the Korah Bench. A possible route option that should be explored is along Trunk Road and Wellington Street.