



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.

1.1 Trail and Cycling Planning Background

In 1987, the City of Sault Ste. Marie commissioned Marshall Macklin Monaghan Limited (MMM) as consultants to devise a master plan, which would lay out the frame work for a boardwalk along the St. Mary’s River. The boardwalk follows the St. Mary’s River from the Great Lakes Power generation station to City Hall. The boardwalk has become a key feature of the recreational fabric of the City’s core and major destination for both residents and visitors to Sault Ste. Marie.

In June 2005, MMM was commissioned to prepare a Trail Concept and Design Study for Sault Ste. Marie focusing on the development of a multi-use Hub Trail facility that would link significant destination areas across the City, and connect the existing boardwalk to other walking and cycling trails within the community. Following a perimeter loop, the Hub Trail comprises of both on and off-road facilities that accommodate a wide range of users including pedestrians, cyclists, in-line skaters and skateboarders. Since the completion of the Hub Trail Master Plan in 2006, segments of the Hub Trail have been planned and constructed, effectively setting the stage for the Cycling Master Plan.

The Sault Ste. Marie Cycling Master Plan will expand upon the Hub Trail, existing facilities, and original Master Plan prepared in 1995 through development and implementation of a series of cycling routes occurring outside and within the Hub perimeter loop to create a comprehensive trail network. The Cycling Master Plan Route will highlight key destination areas and create linkages between various recreational, commercial, industrial and institutional facilities throughout Sault Ste. Marie. The Route will serve both recreational and commuter cyclists, encouraging healthy and sustainable outdoor activity, and providing a safe and enjoyable means for local residents and visitors to explore and travel about Sault Ste. Marie.

The origins of the Cycling Master Plan date back to the establishment of the Cycling Advisory Committee by Council in 1991. During this time, the primary focus of the Committee was to review and assess cycling issues as they arose. As such, the Committee proceeded to undertake a review of various cyclist concerns and prepare their Terms of Reference. Developments ensued in the following years lending further support towards cycling initiatives and development of cycling related infrastructure. Specifically:

“In 1992, the Provincial Government began a process of public hearings on amending their bicycle policy. A significant portion of this policy change involved recognizing bicycles as a viable means of transportation and allowing bicycle facilities to be considered for funding through municipal transfer payments. One of the requirements of Provincial review for cycling projects involves municipalities preparing a Cycling Master Plan. The Cycling Advisory Committee’s Terms of Reference fit within the Provincial change in policy and the process of preparing the Master Plan was initiated.”¹

¹ City of Sault Ste. Marie, Cycling Master Plan, July 19, 1995, p.1.



In 1995, the Cycling Master Plan – Background Report and Master Plan was prepared for the Council of the City of Sault Ste. Marie. Following on October 27, 1995, Council accepted the Cycling Advisory Committee’s recommendation that the Cycling Master Plan be adopted. In 2003, staff of the City updated the Cycling route map.

In 2005, Council directed staff to proceed with the Hub Trail Master Plan Report which would provide the City of Sault Ste. Marie with detailed planning and design guidelines concerning preferred trail routes and possible alternatives for the Hub perimeter loop, as well as recommendations and strategies to develop the trail over a period of five to six years. On April 10, 2006, the Report was presented to Council and since then, components of the Hub Trail have been planned in projects by the City’s Public Works. This includes construction of trail segments along Carmen’s Way which was originally designed as ‘the Truck Route’. As well, the Five Year Capital Road Reconstruction Plan (2007 - 2011) provides opportunities to further incorporate the Hub Trail into road construction projects.

As outlined, several project initiatives have been carried out since 1991 heralding the establishment of multi-use trail facilities and alternative transportation routes in Sault Ste. Marie that accommodate a wide range of users including cyclists. The Sault Ste. Marie Cycling Master Plan Route will expand upon the original 1995 Cycling Master Plan, Hub Trail and existing facilities to create a safe and accommodating network of on and off-road trails that connect destination points throughout the City. The Cycling Master Plan will provide planning and design solutions, as well as recommendations and strategies to develop, implement, maintain and support the City’s cycling infrastructure, amenities and cycling community.

1.2 Cycling Master Plan – Planning and Design Guideline Considerations

The planning and design guidelines provided in the Cycling Master Plan focus on specific design features that should be considered in the implementation of the proposed cycling network, as well as all new cycling facilities in Sault Ste. Marie. The guidelines are intended to provide technical guidance to the City and other partners in the expansion, implementation and maintenance of a cycling network. However, they are not intended to take precedence over “good engineering judgement.”

The design guidelines in this report are recommended as the most applicable design elements for the proposed cycling route network. They are compiled from a variety of sources, and are believed to represent the “state of the art” in bicycle route and facility planning and design in Canada and the United States to date. They contain general information about cyclists, their abilities and their needs from a cycling network planning and design point of view.

These guidelines are not meant to be inclusive of all design considerations and standards. Rather, they are a carefully selected set of currently accepted design practices in North America and should be treated as a reference to be consulted during the development and construction of the cycling network. Where appropriate, references are given to the most relevant design standards and manuals, which include details on currently accepted practices. These sources are identified in *Chapter 8.0: References*, and should be assumed by the City as the primary reference for cycling facility guidelines and standards in Ontario.

As the Cycling Master Plan is implemented, the guidelines recommended in this report should be confirmed, where appropriate, to ensure that they remain current and continue to inform and guide the implementation of the proposed cycling network. When completed, the City of Sault Ste. Marie will have developed a comprehensive cycling network integrating a range of on and off-road facilities into the transportation system, and serving the urban and rural areas of Sault Ste. Marie. These include bike lanes, paved shoulders, shared roadways, and multi-use trails, alongside related cycling amenities.



1.3 Project Work Plan

City Council authorized updating of the Cycling Master Plan in the 2007 Budget thereby initializing the project work program. During the beginning stages of the work program, MMM consulted 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. The project was initiated with a two-day riding tour to review and assess the City's potential Cycling Routes. Through the tour and discussion with stakeholders, a number of barriers and challenges to establishing Sault Ste. Marie as a cycling friendly city were identified.

This report reflects on those initial reviews and discussions. The baseline for the project was set by the 1995 Cycling Master Plan and the 2003 update of the map. However, many changes have evolved since those documents were produced. *Chapter 1* provides an analysis and constraints section. User groups are also identified. The trends analysis serves to inform the development of a cycling route network that integrates the Hub Trail – the core of the cycling route plan - as intended.

Expanding upon the 1995 Cycling Master Plan, *Chapter 2* outlines the vision, goals and objectives for each of the “Four ‘E’s” of Cycling: Education, Enforcement, Encouragement and Engineering. The guiding principles underlying these four components are also defined.

Chapter 3 outlines the Cycling Master Plan Route providing an overview of the Hub Trail, and cycling routes or “spokes” connecting inside and outside of the Hub perimeter loop. The completion of the routing plan comprises of the connecting cycling links, those routes that provide for continuous and enjoyable riding for recreational cyclists and a complete circuit for cycling enthusiasts and commuters. All of the routes serve to access destinations within the City.

Chapter 4, 5 and 6 provide detailed design, signage and maintenance guidelines, respectively, and outline recommendations and strategies for the development and construction of the Cycling Routes. *Chapter 7* outlines potential partners who may be involved with the implementation of the Cycling Master Plan, and who could assist with Education, Enforcement, Encouragement and Engineering. Lastly, *Chapter 8* provides a list of references for cycling facility guidelines and standards in Ontario.

1.4 Analysis

1.4.1 Destinations (refer to Appendix A – Map 1: Destination Areas)

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.

Primary destinations located directly on the Hub may also serve as trail heads and include:

- Waterfront District (includes City Hall Civic Centre, Bush Plane Museum and Bellevue Marine Park)
- Fort Creek Conservation Area (includes shelter and parking)
- Future Hospital Site (includes school and senior's residence, and wooded areas)
- Sault College (includes recreational trails and wooded areas)
- Algoma University College (includes George Leach Centre – recreational facility)
- Bellevue Park (includes Ministry of Natural Resources (MNR) Forest Research facilities, Arboretum, existing trails and playground)



Secondary destinations that are located near or close to the Hub, but nonetheless of equal significance include:

- Downtown Queen Street (includes restaurants, retail establishments, the downtown mall, and Sports and Entertainment Centre)
- Sault Ste. Marie Canal National Historic Site (includes famous historical locks)
- Strathclair Farm Sports Complex
- Finn Hill
- Queen Elizabeth Park (includes multi-use recreation centre and soccer fields)

Other Destinations

The Cycling Master Plan Routes develop and expand the trail system in Sault Ste. Marie. Together with the Hub Trail, the Cycling Master Plan 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. Other destinations include:

- Public Parks and Playgrounds
- Outdoor Recreation and Sports Facilities / Complexes
- Community / Recreation Centres (YMCA)
- Public / Private Schools (note: the Cycling Master Plan Route accounts for schools that are currently open as the School Report concerning the creation of “Superschools” has not yet been approved by the Ministry of Education)
- Government / Public Facilities
 - Public Library
- Tourism / Cultural Attractions
 - Heritage homes
- Retail / Commercial Areas
 - Downtown commercial core
 - Shopping areas (malls, strips, complexes)
- Employment areas
 - Industrial facilities (includes Algoma Steel)
 - Government offices (includes MNR)
 - Non-government offices
 - Health Units (includes long-term care facilities in addition to the new hospital)
- Residential Areas and Neighbourhoods
 - The “P Patch”
 - Around future hospital site
- City Transit (Sault Ste. Marie Transit Services)



1.4.2 Barriers, Challenges and Opportunities

Barriers (refer to Appendix A – Map 3: Barriers and Challenges)



CP Railway crossing at Black Road



CN Railway underpass at Wellington Street West



CN Railway crossing at Conmee Avenue



CN Railway crossing at Conmee Avenue



Signed Trail off McNabb Street heading to Trunk Road

- *Railway Crossings* can be hazardous for on-road cyclists and off-road trail users. Extra caution should therefore be applied to assure their safe operation. The Canadian Pacific (CP) Railway travels along the east-west corridor of Sault Ste. Marie south of the Korah Bench, while the Canadian National (CN) Railway extends west from the waterfront and continues north through the City. It is strongly recommended that appropriate traffic control devices be installed at the intersections of railway tracks and trails where cycling routes crossover.

Railway crossings that need to be addressed in the development of the Cycling Master Plan Route may include the following:

- Black Road crossing of CP Railway
- Lake Street crossing of CP Railway
- Pine Street crossing of CP Railway
- Pim Street crossing of CP Railway
- North Street crossing of CP Railway
- Church Street crossing of CP Railway
- Bruce Street crossing of CP Railway
- Queen Street crossing of CN Railway
- Wellington Street West underpass of CN Railway
- Conmee Avenue crossing of CN Railway west of Carmen's Way (part of Hub Trail)

It should also be noted that the signed trail existing between the Hub Trail on McNabb Street and Trunk Road, and crossing over the CP rail may subject trail users to hazard or risk as the route terminates at Trunk Road where no crossing is available and traffic is high.

- *Railway Underpasses* may also be hazardous for cyclists and trail users who must share confined travel space with other vehicles, and contend with restricted visibility. Wellington Street West underpass is a case in point that needs to be addressed. The rail underpass along Highway 17 North is also frequented by cyclists and may be addressed in the future when reconstructed.
- *Truck Routes* leading to industrial / commercial facilities across the City may affect the design of the cycling routes as they must accommodate heavy vehicles and high traffic use. This may also affect the condition of the route surface. Large vehicles making right-hand turns are also a concern as they require more space to manoeuvre.



- *Steep grades* can affect the nature of the cycling routes. Routes ascending and / or descending steeper grades may pose a challenge for inexperienced cyclists. In planning and designing trail routes, the steepness or grade needs to be taken into consideration in order to accommodate a broad range of cycling levels and abilities. Many areas in Sault Ste. Marie that encounter steeper grades are associated with the Korah Bench and include the following:

- McNabb Street between Lake Street and Black Road
- Lake Street south of MacDonald Avenue
- Pim Street south of Summit Avenue
- MacDonald Avenue east of Bruce Street
- North Street north of Byrne Avenue
- Landslide Road between Old Garden River Road and Fourth Line East
- Fourth Line East, west of Landslide Road
- Third Line East, west of Old Garden River Road
- Goulais Avenue south of Third Line West

- *Landforms* such as streams and creeks may also affect the design of the routes. In some cases, a bridge may be required to enable a trail crossing. In other cases, the trail route may be designed to skirt around the water body. Specific areas that need to be considered include:

- Travel across East Davignon Creek between Cooper Street and Goulais Road through Sault Ste. Marie Region Conservation Authority (SSMRCA) and onto Korah School property
- Routes within Fort Creek Conservation Area

- *Private Land Ownership* may inhibit development of routes unless an agreement can be made with the landowner of the property. Areas that need to be considered include the following:

- East Davignon Creek between Cooper Street and Goulais Road through SSMRCA and Korah School property
- YMCA parking lot between McNabb Street and Smale Avenue / Poplar Road
- Algoma Steel property west of Huron Street
- Residential area near Cedar Heights Park
- Waterfront lands
- Residential areas in P-Patch

- *Existing Property Use* may also inhibit development of routes. This is the case with municipal property located east of Churchill Avenue and People's Road which is currently being used as a snow dump area.



Goulais Avenue south of Third Line West and north of Rushmere Drive



Goulais Avenue south of Third Line West and north of Rushmere Drive



Approaching YMCA north of McNabb Street on Willow Avenue



View south of YMCA parking lot to Smale Avenue



View of City snow dump area from Churchill Avenue east across People's Road



View of Queen Street West towards North Street



North Street crossing south over Wellington Street West



North Street crossing south over Wellington Street West



View north on Andrew Street to Queen Street West



View along Queen Street West looking east to Gore Street

Challenges

Engineering of on and off-road trails will present various challenges in terms of their design, development and implementation. On-road trail alignments or improvements designed to accommodate cyclists within roadway rights-of-way or influenced to some degree by proximity to motorized vehicles may require reconstruction or retrofitting of roads in addition to signing. Similarly, off-road trail alignments or improvements may require reconstruction to formalize an existing trail, or full construction to establish a new trail as well as signing. Ultimately, industry accepted traffic engineering principles and best practices will need to be reviewed and applied in order to provide for a safe and effective cycling network. Any decision to implement a solution that may not exactly meet the preferred and recommended conditions must still be supported by “good engineering judgment”.

Successful implementation will require balancing the preferred trail route and design with real physical and environmental constraints, as well as the resources available from public and private interests. Planners, designers, engineers, and other associated bodies will have to work with what they now have in the short term, maintaining some flexibility in their interpretation and application, and establishing a hierarchy and prioritization / phasing of routes to be implemented.

- *Reconstruction or Retrofitting* of on-road routes that need to be considered include:
 - Third Line East (reconstruction to accommodate future hospital site and related developments; currently under Environmental Assessment (EA) and review of proposed 5m right-of-way on south side)
 - Queen Street East and Queen Street West
 - North Street crossing south over Wellington Street West into downtown core encounters one-way streets of Andrew Street (southbound) and Gore Street (northbound)
 - Wellington Street West underpass of CN railway



- *Reconstruction or Full Construction* of off-road routes that need to be considered include:
 - Connecting between Village Court and the Hub Trail
 - Connecting between Lake Street and Princeton Drive through residential lots and Cambrian Heights Park in P-Patch
 - Connecting between Panoramic Drive north to Northern Avenue East
 - Connecting between Willow Avenue and Old Garden River Road
 - Connecting between the YMCA parking lot off Willow / McNabb Street and Smale / Poplar Avenue (needs to be co-ordinated with YMCA)



View from Lake Street west through Cambrian Heights Park



View south from Northern Avenue East towards Panoramic Drive



View south towards Willow Avenue where it meets and ends at Northern Avenue East





View east of Sackville Road
towards Industrial Park Crescent



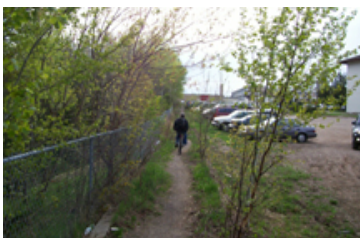
View on Sackville Road north to Mary
Avenue



View on Sackville Road north from
Mary Avenue



View of informal trail running south of
Kiwedin School and heading west
towards Fort Creek Conservation Area



View of informal trail running south of
Kiwedin School property and heading
east towards North Street

- Connecting between the lower end of Industrial Park Crescent and Sackville Road

- Connecting between Sackville Road / Mary Avenue and Hub Trail at Third Line; and between this route connection to Industrial Court "A"

- Connecting trail running east-west between Finnish Rest Home and south side of Kiwedin School property between North Street and Hub Trail at west end of Fort Creek Conservation Area



- Connecting between Cooper Street and Goulais Road over East Davignon Creek through SSMRCA and Korah School property (needs to be co-ordinated with SSMRCA and Algoma District School Board)



View west across East Davignon Creek and SSMRCA property to Korah School

- Connecting through municipal property east of Churchill Avenue and People's Road, which is currently used as snow dump area, to Hub Trail at Carmen's Way



View of City snow dump area from Churchill Avenue east across People's Road

- Connection between Wallace Terrace and Second Line West along Brookfield Avenue and St. Francis School property



View north along Brookfield Avenue from Wallace Terrace toward St. Francis School



View along Brookfield Avenue toward St. Francis School



View south from Second Line West along Brookfield Avenue toward St. Francis School property



Goulais Avenue heading north up Korah Bench – SSMRCA property at left



Goulais Avenue heading south down Korah Bench – SSMRCA property at right near bottom of Bench



View west from Chippewa Street towards SSMRCA property



View west from Arden Street towards SSMRCA property

- Connection between Goulais Avenue north of Chippewa Street and Brookfield Avenue / Second Line West (needs to be co-ordinated with SSMRCA who has ownership of land)



Challenges (continued)

- *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. Developing and designating an appropriate route indeed presents a challenge and various factors must be taken into consideration. The following route options have been identified and need to be further explored:

- Trunk Road / CP Railway along right-of-way sections. Currently the CP Railway is under the operation of the Huron Central Railway (HCR). Construction is not permitted in the railway right-of-way “in the interest of safety” unless property is under ownership of the municipality and the municipality wishes to do so. An east-west corridor route located within the CP Railway right-of-way and adjacent to Trunk Road would establish a highly valued and highly recognizable route across the City. As such, it is recommended that the City of Sault Ste. Marie continue to investigate the feasibility of implementing this route option in the future.
- Trunk Road / Wellington Street provides a direct east-west route, however, heavy traffic use and high traffic speeds can discourage sharing of roadway; an alternative route such as Wellington Street / Bennett Boulevard / Chambers Avenue provides a relatively direct route across the City, however, is less traveled by cyclists, less scenic, bypasses the downtown core and leads vehicles directly to the Wellington Street West underpass.
- Queen Street East and West provide a direct scenic route to and from the downtown core. It is well known and well used by both motor vehicles and cyclists, however, one-way sections, parking, lane width and busy traffic can discourage sharing of roadway.



CP Railway right-of-way between rail line and Trunk Road looking south from Lake Street

- *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. The challenge will be to gain support from landowners who may have concerns over liability, privacy and / or trespassing issues. Facilities that should be considered include:
 - Shopping areas (malls, strips, complexes)
 - Industrial facilities (includes Algoma Steel)
 - Government and non-government offices
 - Health units (hospitals, long-term care facilities)
- *Maintenance of On and Off-Road Trails* can present various challenges. Whether keeping the trail route free of debris, vegetation, and / or snow, or undertaking repairs to trail route surfaces, major roads tend to receive priority for maintenance services over minor roadways and trails. Though good trail design and construction can help lessen maintenance issues, priority for services should be given to those routes recognized as providing key connections or links within the trail network. In addition, trail users should be made aware that they can submit a request to the City for maintenance services. Areas in the City that were observed and exhibited problem conditions requiring maintenance services include:
 - Boulevard trail alongside Carmen’s Way on the east side right-of-way exhibited salt and sand build-up from winter season
 - Wellington Street West underpass onto Lyons Avenue exhibited uneven / broken pavement due to heavy traffic
 - Wallace Terrace also exhibited uneven / broken pavement due to heavy traffic



- *Establishment of Indirect Trail Routes* may present challenges in terms of acceptance and appreciation. Direct routes provide for more efficient travel however, such routes may present riding conditions that are less accommodating / less desirable for recreational or inexperienced cyclists with regard to heavier traffic, resulting surface conditions, and / or other barriers or challenges. On the other hand, routes that are less direct may provide for more scenic views and a more enjoyable riding experience. Examples of indirect trail routes include:
 - Conmee Avenue railway at grade crossing (less direct than the Wellington Street West underpass however, less hazardous)
 - “P-Patch” route between Lake / McNabb Street and Panoramic Drive / Northern Avenue which is less direct however, has lighter traffic and provides opportunity for connection and experience of neighbourhood.

1.4.3 Opportunities

There are many opportunities and benefits that will be gained through the development and implementation of the Cycling Route in conjunction with the Cycling Master Plan. These include:

- 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.

1.5 User Groups

1.5.1 Types of Cyclists

A successful cycling network should provide a well-defined and comfortable environment for all its anticipated users. It is therefore important to identify the primary target group for whom the cycling facility is being designed. While there is a wide range of skill and age levels and considerable variation in typical trip length and purpose, from a planning perspective, cyclists can generally be grouped according to age, skill level and trip purpose. In Sault Ste. Marie, consideration should also be given to



the needs of tourists, since the City attracts many visitors who include a bicycle trip to experience the many attractions and natural amenities that the City has to offer.

1.5.2 Age

Cyclists of all ages must be considered when developing the Sault Ste. Marie Cycling Master Plan Route since cycling skill levels tend to vary based on experience and age. Recent research has indicated major changes in cycling behaviour among children especially over the past years. The U.S. Federal Highway Administration reported that nearly half of all 5 to 18 year olds either walked or cycled to school in 1969. By 2001 nearly 9 out of every 10 children between the ages of 5 and 15 were driven to school by either a parent or a bus driver.² One cause for this can be the automobile-oriented suburbanization that has developed around many major cities around the world. The journey between one's home and school has become longer and more treacherous and in many communities, sidewalks, crosswalks, bike lanes and trails are non-existent or inadequate.³

Many transportation plans developed today disregard the requirements of children. In order to promote a more active and energy-conscious lifestyle, child-friendly sustainable transportation networks should also be developed, as these can help to reduce problems ranging from personal health to pollution and gridlock.⁴

Children who cycle on their own or with a parent may not travel as far as adults, however, they still require access to key destinations in their community, such as schools, convenience stores and recreational facilities. Residential streets with low motor vehicle speeds, and linked with multi-use pathways and busier streets with well-defined pavement markings between cyclists and motor vehicles can accommodate children without encouraging them to ride in the travel lane of major arterial roads.⁵ The route network developed for the Sault Ste. Marie Cycling Master Plan would help to address the needs of less experienced cyclists by offering a feasible transportation alternative to the automobile and encouraging a healthy and active lifestyle among young people.

1.5.3 Skill Level

Casual users typically cycle occasionally, often within their local neighbourhood or to access local community destinations. They usually avoid roads with moderate to high traffic volumes, and generally obey the rules of the road that they think are relevant and that they understand. They become easily discouraged by unfavourable cycling conditions, and typically prefer residential streets and off-road trails. Ideal off-road conditions for this user profile are wide, flat routes, which do not require a high level of skill or a high degree of attention to bicycle handling and control.

Experienced users cycle frequently (when possible) and do so for both recreational and utilitarian purposes. They generally have good bike handling skills, and are not often discouraged by traffic or adverse bicycle route conditions. In urban areas, typical utilitarian cyclists tend to prefer on-street bike lanes and wide shared curb lanes, or paved shoulders on low volume roads in rural areas. Some very experienced utilitarian cyclists also prefer to cycle in standard vehicle travel lanes with motor vehicles.

² National Center for Bicycling and Walking, Safe Routes to School: Introduction – The concept and history, www.bikewalk.org/safe_routes_to_school/SR2S_introduction.htm, 2004.

³ Ibid.

⁴ Transportation Planning Failing Children: The Kids are Not All Right, Nova Res Urbis – Greater Toronto Area Edition, June 2004.

⁵ David A. Noyce and Time J. Gates, Designing for All Users – Other Intersection Design Elements, University of Wisconsin-Madison, Janet M. Barlow, COMS, 2004.



As for off-road conditions, they prefer a wide range of trail types with some preferring challenging trails that offer a variety of topography and surface conditions.

1.5.4 Trip Purpose

Recreational cyclists will use the network most often for fitness, leisure or touring. Public opinion surveys have revealed that the number one reason that people do not cycle for utilitarian purposes is due to a perceived lack of safe and connected cycling infrastructure.

Utilitarian cyclists may often use the streets that are a part of the cycling network, year-round and in all weather conditions as opposed to other roads that do not directly comprise part of the cycling network, although during the winter season many may switch to public transit or other modes. Many use their bicycle to commute to work or school while others choose to cycle to visit friends or to run errands. Typically, commuters have good mobility skills and are cognizant of the “rules of the road”.

The results of a profile survey of cyclists in Ottawa above the age of 16 undertaken by Decima Research (2003) revealed that the number one reason (53%) that people do not cycle for utilitarian purposes is distance; the second reason was people had too many things to carry (16%); while the third reason was that cycling was just too inconvenient and impractical (13%).⁶

Additional research from other jurisdictions has found that major obstacles that discourage recreational cyclists from becoming utilitarian cyclists include incompatibility with work clothes, plus lack of shower, change room and bicycle parking facilities. As standards for work dress have become more casual in recent years, the incompatibility with workplace dress codes has become less of an issue.

As noted by the Ottawa study, a main barrier that may deter an individual from cycling is the distance that must be traveled. Therefore, it is important to link cycling with other forms of transportation such as public transit. *Section 4.6: Network Amenities* in *Chapter 4* discusses methods of linking cycling with other modes of transportation.

1.6 Trends

As discussed in the Sault Ste. Marie Hub Trail Concept and Design Study (2006), cycling is increasingly recognized as a practical, cost effective, sustainable and healthy means of transportation for both recreational and utilitarian purposes across North America. Subsequently, it is becoming more accepted as an integral and necessary component of a balanced transportation system and alternative to the motorized vehicle.⁷

The number of recreational trail users has grown significantly in recent years leading to an increased demand for cycling facilities. Across Ontario, recreational cycling is recognized as one of the top three recreation pursuits, having a 20% participation rate and estimated annual growth rate of 2.3%.⁸ Activities such as walking, jogging and bicycling rank within the top ten most frequented recreational pursuits for Canadians with trail activities experiencing a yearly overall increase in participation.

Cycling activity provides physiological as well as psychological health benefits which include enhancement of one’s well being, mental outlook and self-image; development of one’s self-reliance

⁶ City of Ottawa 2003 Cyclist Profile Survey, Decima Research Inc., December 2003.

⁷ Marshall Macklin Monaghan Limited (MMM), Sault Ste. Marie Hub Trail Concept and Design Study, 2006.

⁸ Marshall Macklin Monaghan Limited (MMM) in Association with ESG International, Stantec Consulting Limited and Paradigm Transportation Solutions Limited, Windsor Bicycle Use Master Plan, City of Windsor, 2001.



by instilling a sense of freedom and independence; and, opportunity to interact and develop social relationships. Bicycle use also provides a positive means for physical rehabilitation. Nearly two thirds of Canadians do not participate in physical activity resulting in approximately \$2.8 billion in direct health care costs.⁹ Cycling activity can help address this issue by providing an enjoyable and opportune means of exercise and recreation that is convenient and affordable.

In addition to physical and mental-health gains, cycling activity provides exposure to a variety of neighbourhoods and can help facilitate social interaction, and community-building activity. The implementation of cycling facilities also engages partnerships between various private and public-sector groups through their development, construction, operation, maintenance and promotion. Cycling activity also provides exposure to a variety of outdoor settings helping to facilitate appreciation for nature and the environment. Moreover, by supporting self-propelled / non-motorized activity, cycling provides a sustainable means of transportation that is energy efficient and non-polluting. Finally, cycling activity can stimulate the local economy through increased tourist traffic and tourism dollars.

Ultimately, the demand for cycling facilities is significant. Within the last few decades, various organizations, and local municipal and regional governments across Ontario have been implementing cycling route networks to support and encourage recreational and utilitarian bicycle use. It is suggested that providing connections and greater access to destination points across Sault Ste. Marie through the development, improvement and expansion of a Cycling Master Plan Route will help facilitate higher levels of activity and a corresponding increase in benefits. 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.

⁹ Stantec Consulting Limited in association with Marshall Macklin Monaghan Limited (MMM), Guelph Trail Master Plan, City of Guelph, November 2005.