



Report

Downtown Traffic Study Project File Report

Schedule B Municipal Class Environmental
Assessment

Submitted to The Corporation of the City of Sault Ste. Marie
by IBI Group Professional Services (Canada) Inc.

November 16, 2018

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Executive Summary

The City of Sault Ste. Marie has conducted a study of its downtown examining the potential to improve downtown traffic operations, including the possible conversion of the one-way street system to two-way operation. The study was conducted as a Schedule B project in accordance with the province's Municipal Class Environmental Assessment (Class EA) process (2015).

Recent Studies have identified an Opportunity for Improvements to Downtown Sault Ste. Marie through Changes to the Road Network

Vehicular traffic has shifted away from the downtown in recent years due to changes in socioeconomic conditions and improvements to transportation infrastructure, such as new "big box" retailers opening north of downtown and the introduction of Carmen's Way as a bypass of downtown. There is interest in changing the road network through conversion of one-way streets to two-way traffic to improve accessibility to and within the downtown. The City is also examining need and opportunities to improve the walking and cycling realm.

The issue has been much studied and a focus of significant local debate. A comprehensive review of previous local studies was completed for this study to gain an understanding of known operational issues, previous decision making, and the recommendations which led to this study. The review included:

- The City of Sault Ste. Marie Transportation Master Plan;
- The Sault Ste. Marie Downtown Strategy 2016;
- Queen Street Urban Design Guidelines; and,
- Bay Street Corridor Improvements Environmental Study Report.

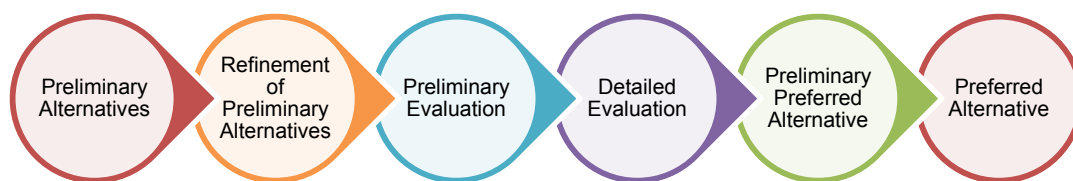
Many cities have considered converting one-way streets to two-way operation for a variety of reasons, including the potential for improved walkability, business access, and redevelopment. A best practices review of other cities that have considered two-way conversion was completed, and identified cities that have converted to two-way, and other cities which have decided to remain one-way. Cities reviewed include:

Hamilton, Ontario	London, Ontario	Edmonton, Alberta
Kitchener, Ontario	Oshawa, Ontario	Green Bay, Wisconsin
Cambridge, Ontario	Kingston, Ontario	Lansing, Michigan
Brantford, Ontario	Ottawa, Ontario	

This Study Focuses on One-Way Streets in the Downtown

The study focuses on all of the one-way streets in the downtown core, bound by Wellington Street to the North, Church Street to the East, the Waterfront to the south and Gloucester Street/Huron Street to the west. The main corridors through the area are Bay Street (four lanes one-way eastbound) and Queen Street (two lanes one-way westbound).

Alternative Solutions were Developed and Evaluated through a Six Step Process that included Public Input



Six alternatives were evaluated:

- **Alternative 1:** Base Scenario – Implement Bay Street EA (Three Lanes One-Way and Multi-Use Path)
- **Alternative 1A:** Modified Base Scenario – Implement Bay Street EA (Two Lanes One-Way and Multi-Use Path)
- **Alternative 2:** Convert all roads to two-way operation (including Multi-Use Path on Bay Street)
- **Alternative 3:** Convert Bay Street and Queen Street to Two-Way Operation (including Multi-Use Path on Bay Street)
- **Alternative 4:** Convert Bay Street to Two-Way Operation (including Multi-Use Path)
- **Alternative 5:** Convert Queen Street to Two-Way Operation (as well as the Base Scenario)

The six alternatives were evaluated against criteria that examine the potential impacts of each alternative on the surrounding environment, including considerations identified at Public Information Centre #1. The criteria included:

Vehicular Transportation	Active Transportation	Socioeconomic	Economic Development	Cultural	Natural	Engineering and Cost
Traffic Level-of-Service	Pedestrian Space	Access to Parking	Wayfinding	Heritage Features	Air Quality	Capital Cost
Potential to Reduce Traffic Speed	Cycling Facilities	Access to Transit	Development		Landscape and Vegetation	Maintenance
Traffic Circulation / Ease-of-Routing	Accessibility for Persons with Disabilities	Business Visibility				Property Acquisition
		Construction Impacts				

Public input was collected through two Public Information Centres and a Workshop with the Downtown Association.

Public Information Centre #1 was held on December 6th, 2017 in the Russ Ramsay Board Room at the Sault Ste. Marie Civic Centre, and offered information on the study and its purpose, preliminary alternative solutions, and preliminary evaluation criteria. It also provided contact information for the City and consultant project leads, the study's website address, and information on how to actively participate in the study.

Public Information Centre # 2 was held on July 25th, 2018 in the Russ Ramsay Board Room at the Sault Ste. Marie Civic Centre, and offered information on the study and its purpose, input received at Public Information Centre #1, alternative solutions considered; refined evaluation criteria, the evaluation of alternative solutions and the preliminary preferred solution. Contact information for the City and consultant project leads, the study's website address, and information on how to actively participate in the study were also provided.

The **Workshop with the Downtown Association** was held on September 20th, 2018 at the GFL Memorial Gardens, and offered examples of street conversion studies in other cities, status of the study and public input to date and advantages and disadvantages of street conversion. Attendees were asked to identify the positive and negative impacts of one-way versus two-way traffic in the downtown.

The key messages heard through consultation were:

- A desire to support downtown businesses;
- A mix of opinions in support of or opposed to two-way conversion;
- A need improve active transportation, including diversion of eastbound cyclists from Queen Street; and
- A set of location-specific concerns and suggestions relating to traffic operations.

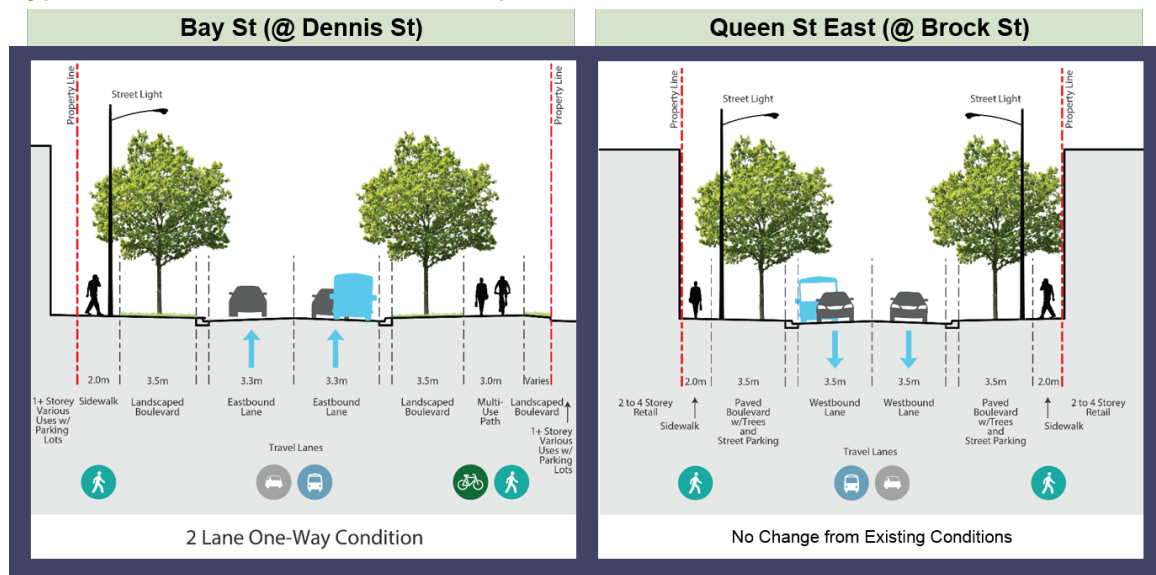
Public consultation on the existing conditions and potential changes were a key component of this study. The input received throughout the study was used to shape and refine the analysis and findings.

Alternative 1A: Modified Base Scenario – Implement Bay Street EA (Two Lanes One-Way and Multi-Use Path) is the Preferred Alternative

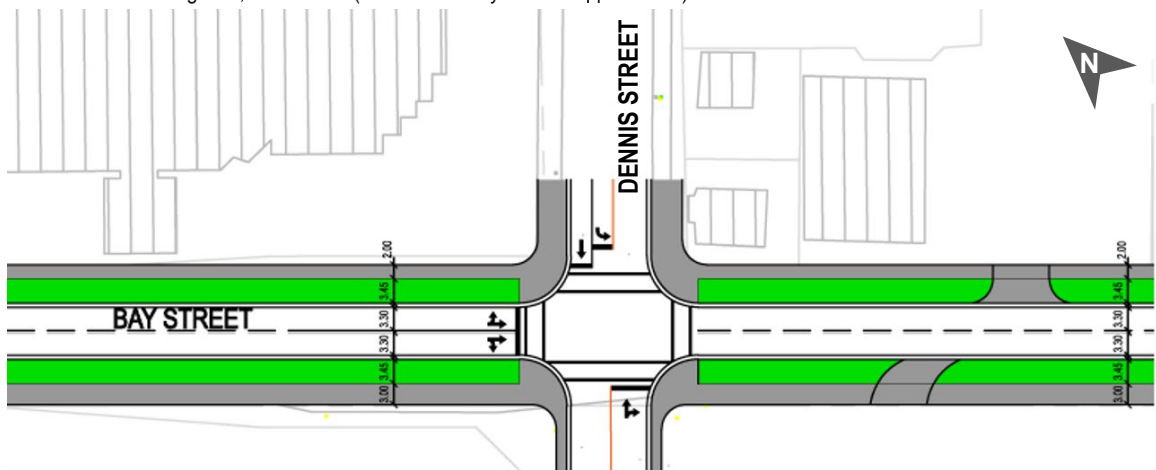
Alternative 1A was selected as the preferred alternative based on the evaluation process because it:

- Maintains sufficient capacity for eastbound traffic;
- Offers landscaped boulevards on both sides of Bay Street;
- Offers narrower crossings for pedestrians on Bay Street;
- Does not require the reduction of pedestrian space, on-street parking, planters or trees on Queen Street; and,
- Offers a comparably high level of benefits at the lowest cost of the alternatives considered.

Typical Cross-Sections and Concept Plan for Alternative 1A



Notes: Views facing east, not to scale (dimensions vary and are approximate)



Note: Not to scale, dimensions vary and are approximate

1 Introduction

1.1 Study Background

The City of Sault Ste. Marie has conducted a new traffic study of its downtown examining the potential to improve downtown traffic operations, including the potential conversion of the one-way street system to two-way operation. The study was conducted as a Schedule B project in accordance with the province's Municipal Class Environmental Assessment (Class EA) process (2015). In response to the city's Request for Proposal (RFP) included in **Appendix 1**, the study addressed the following key questions about the downtown traffic system:

- How could the one-way streets be physically converted to two-way operation;
- How would this conversion impact downtown traffic conditions, adjacent streets and other transportation services including transit, cycling; pedestrians, on-street parking, EMS, loading/unloading and traffic management;
- What would be the cost to implement the conversion options;
- How would conversion impact other features of the downtown including retailing and other land uses, tourism, heritage features, streetscapes/urban design, special events, sidewalks/walking, barrier-free accessibility, air quality and road safety;
- How will the community respond to potential conversion;
- How has one-way pair conversion worked in other cities;
- What are Class EA requirements for potential conversion, and most important;
- Should conversion be recommended for Sault Ste. Marie, and if so, where.



Queen Street Court House and Cenotaph

As noted in the RFP, the downtown and the entire city have changed over the past 60 years since the downtown's one-way street system was put in place. At that time, the downtown was the centre of the community and one-way streets were needed to serve traffic volumes to, from and through the area.

Today’s conditions have changed. Commercial traffic patterns have shifted away from the downtown to suburban locations. International bridge traffic can now bypass the downtown via the new Carmen’s Way route. With these and other changes, the question now is whether one-way streets are still needed. If not, then how can the one way street system be changed to better serve the long term needs of the downtown? Other impacts of conversion also need to be considered, not just vehicular traffic circulation. This includes business exposure and accessibility, along with pedestrian movement and streetscape quality.

1.2 Best Practices Review Summary

Many cities have considered converting one-way streets to two-way operation for a variety of reasons, including the potential for improved walkability, business access, and redevelopment. A Best Practices review was conducted, as reported in **Appendix 2**, of some cities that have considered converting one-way streets to two-way operations, including:

Hamilton, Ontario	London, Ontario	Edmonton, Alberta
Kitchener, Ontario	Oshawa, Ontario	Green Bay, Wisconsin
Cambridge, Ontario	Kingston, Ontario	Lansing, Michigan
Brantford, Ontario	Ottawa, Ontario	

Cities that have completed conversions have generally found it to be successful. Common findings from these examples include:

- Conversion was planned or implemented primarily in response to downtown revitalization objectives;
- Conversions most commonly involved signal and signage adjustments, as well as capital works within the street right-of-way;
- Some staff concerns about resulting traffic changes were noted, but in each case the traffic level of service remained at acceptable levels (i.e. no congestion);
- In each case, the public eventually accepted the conversion with minimal problems;
- In each case, response from the business community was positive (more business exposure and accessibility); and
- No economic analysis of business conditions before and after a conversion has been noted.

The Best Practices review also included some cities that opted to retain their one-way streets due specific constraints, including:

- A limited right-of-way, which would require significant road alterations potentially requiring property acquisition or cause significant impacts to sidewalks and on-street parking;
- A limited number of businesses on the streets considered, limiting the potential for improvements to business conditions; and
- High capital costs for the conversion.

Cities that did convert included Hamilton (partial / incomplete), Kitchener, and Cambridge. Cities that did not convert included Brantford, London, Oshawa, and Kingston.

1.3 Supporting Local Studies

The City of Sault Ste. Marie has recently conducted the following three studies that include consideration of one-way street conversion in the downtown:

1.3.1 Transportation Master Plan

The City's Transportation Master Plan (HDR Corporation, January 2015) includes the following recommendation regarding one-way streets in the downtown:

Due to the change in role and function of the one-way streets through downtown and the potential benefits noted, it is recommended to study in further detail the potential conversion of Bay, Queen, Albert, and Wellington Streets to two-way streets. A feasibility study may be the first step to determine the costs and benefits of conversion should there be sufficient public interest in the conversion.

This Schedule B Class EA was conducted as the recommended feasibility study.

1.3.2 Our Downtown – City of Sault Ste. Marie Downtown Strategy 2016

This strategy prepared by the City in 2016 includes the goal to enhance mobility and connectivity in the downtown. One of the recommended actions to do this is:

Evaluate our downtown streets through a Complete Streets lens ... represents an opportunity to develop our streets to focus on the pedestrian experience. The Complete Streets model treats streets as places rather than thoroughfares and considers the safety and comfort of all road users, not just drivers.

This part of the City's downtown strategy has been incorporated as an important evaluation consideration in this EA.

1.3.3 Queen Street Urban Design Guidelines

This study conducted by IBI Group in 2006 includes an important recommendation to:

Focus on pedestrian improvements from Queen Street to the Waterfront, and linking the Gateway development and Casino.

(Note: The Gateway Project is a pending major tourism development on 14-acres of waterfront land, located on the south side of Bay Street between Huron Street and St. Mary's Drive.)

This recommendation is reflected in the EA Terms of Reference and evaluation of planning alternatives.

1.3.4 Bay Street Corridor Improvements Environmental Study Report

This study was conducted for the City in 2015 to examine potential improvements to the Bay Street Corridor. The preferred alternative identified by the study is:

Reduction of Bay Street to Three Lanes with Incorporation of a Multi-use Path...this alternative takes advantage of the reduced traffic volumes along the corridor and involves the reduction of Bay Street from four through lanes to three. It is proposed that the pedestrian sidewalk would remain adjacent to the north side of the corridor and a multi-use path will be constructed on the south side from Andrew Street to the existing path at East Street. A landscaped boulevard would separate the multi-use path from the traffic corridor.

This recommendation is considered in the development of alternative solutions for this study, as discussed in Section 4.

1.3.5 Cycling Master Plan

The City's Cycling Master Plan (MMM Group, August 2007) identified the primary destinations located along the Hub Trail and secondary destinations located near or close to the Hub Trail, both considered of equal importance. Secondary destinations require connections from the trail, which are identified as "Spoke Routes". Downtown Queen Street is identified as one of the secondary destinations for the Hub Trail, with the following recommended Spoke Route:

Route 14A: Waterfront, Residential, School and Park areas via Queen Street East

- *From Hub Trail at Queen Street East and Lake Street, east along Queen Street East to Fournier Road*

This recommendation is considered in the development of alternative solutions for this study, as discussed in Section 4.

1.4 Municipal Class Environmental Assessment Process

The Ontario Municipal Engineers Association (MEA) developed the Municipal Class Environmental Assessment as a parent Class EA to streamline the planning process for municipal infrastructure projects. The Class EA has five phases:

- Phase 1: Problem or Opportunity

- Phase 2: Alternative Solutions
- Phase 3: Alternative Design Concepts for Preferred Solution
- Phase 4: Environmental Study Report
- Phase 5: Implementation

As illustrated in Exhibit 1.1, the Class EA defines four schedules of applicable projects based on scale and potential for adverse environmental impact, identifying which of the five phases are required.

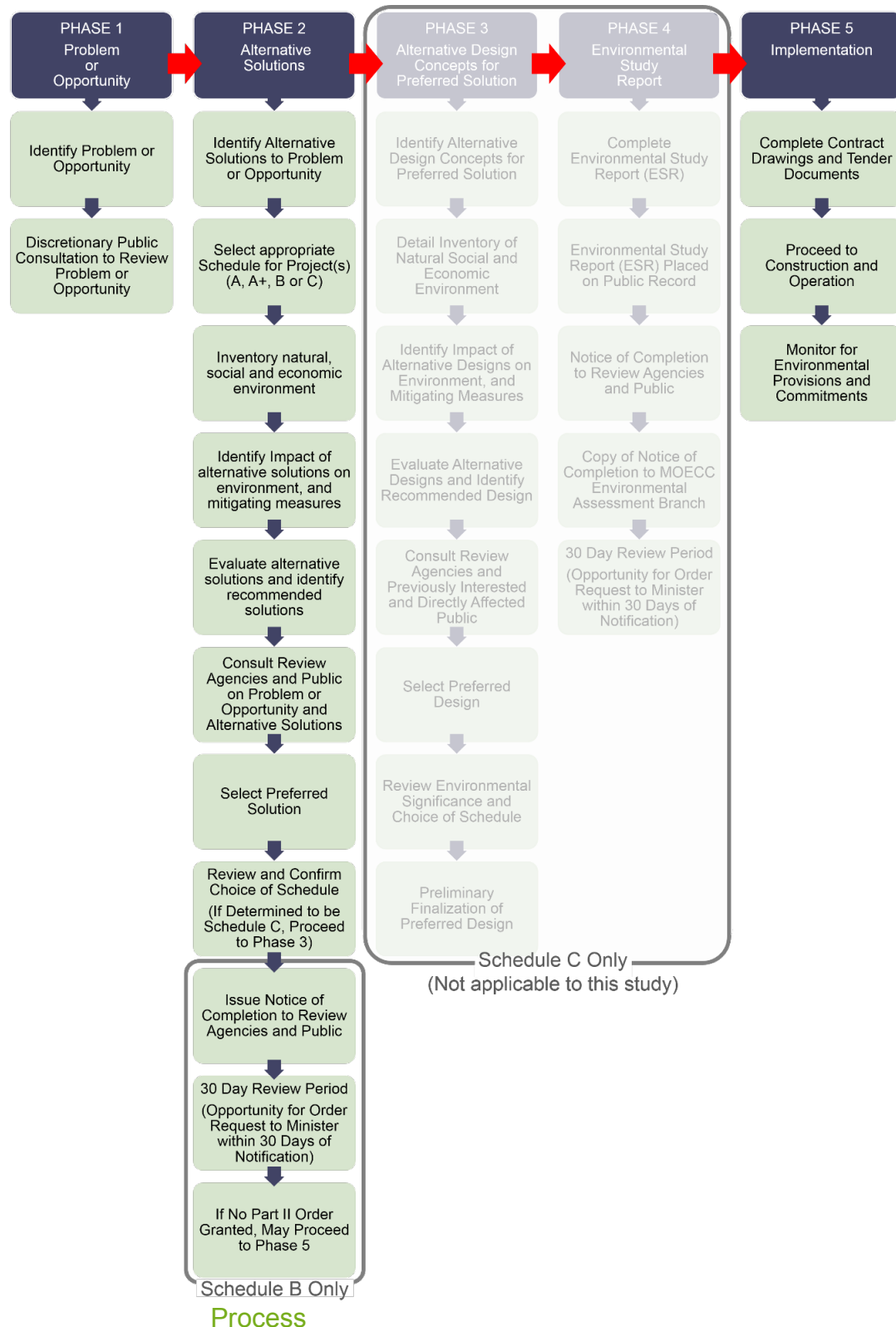
Exhibit 1.1: Municipal Class Environmental Assessment Project Schedules and Applicable Phases

		Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Schedule A	<ul style="list-style-type: none"> • Minimal and predictable adverse environmental impacts – easily mitigated (i.e. emergency operational and maintenance activities) • Pre-approved to proceed to Phase 5 	✓				✓
Schedule A+	<ul style="list-style-type: none"> • Similar to Schedule A, but required to notify public prior to Phase 5 • No ability for public to request Part II order – comments directed to municipal council 	✓				✓
Schedule B	<ul style="list-style-type: none"> • Some potential for adverse environmental impacts (i.e. improvements or minor expansions to existing facilities) • Must include evaluation of alternative solutions and public consultation 	✓	✓			✓
Schedule C	<ul style="list-style-type: none"> • Potential for significant environmental impacts (i.e. construction of new facilities and major expansion of existing facilities) • Must include evaluation of alternative solutions, evaluation of alternative designs for the preferred solution, and public consultation 	✓	✓	✓	✓	✓

Each of the five defined phases has specific steps and requirements, as illustrated in Exhibit 1.2. As noted in Section 1.1, this study falls within Schedule B and requires the completion of Phases 1, 2 and 5 only, which is reflected in Exhibit 1.2. The Class EA process includes the requirement for consultation with the public and other interested

stakeholders. This offers those who may be affected by or have interest in the proposed project the opportunity to participate in the study.

Exhibit 1.2: Steps for each Phase of Municipal Class Environmental Assessment



2 Problem / Opportunity

Through the project terms of reference and input from the public at Public Information Centre 1, a problem / opportunity statement was developed for the EA as follows:

The City is exploring opportunities to support and improve the downtown, building on its Our Downtown improvement strategy in 2016, as discussed in Section 1.3. There is interest in changing the road network through conversion of one-way streets to two-way traffic to improve accessibility to and within the downtown. The City is also examining need and opportunities to improve the walking and cycling realm. This Class B Environmental Assessment provides an assessment of two-way conversion and other potential improvements to the road, walking, and cycling network.

Exhibit 2.1: Bay Street at Elgin Street/St. Mary's Drive (Facing West)



Image Capture: Aug 2018 ©2018 Google

Exhibit 2.2: Queen Street at Elgin Street (Facing West)

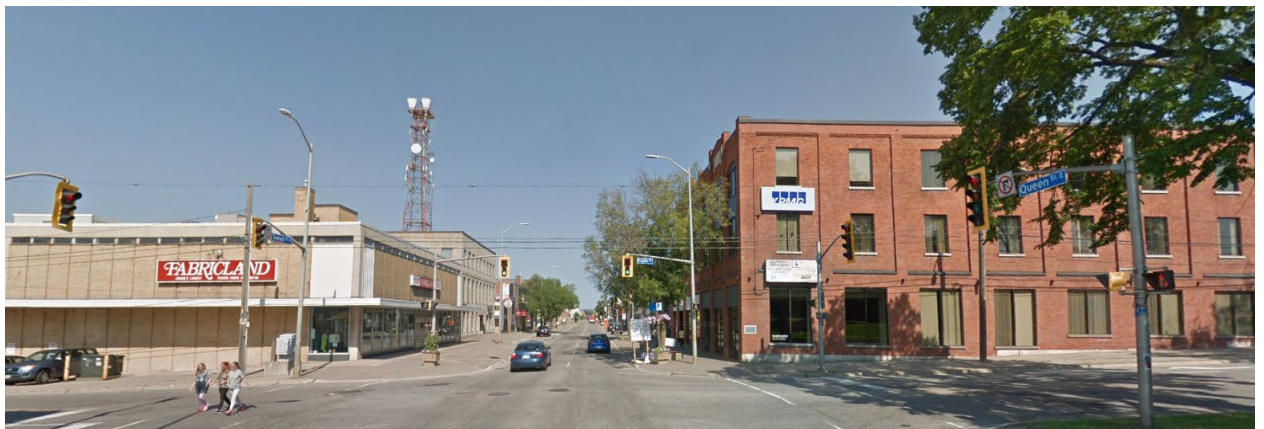


Image Capture: Aug 2018 ©2018 Google

3 Study Area and Existing Environment

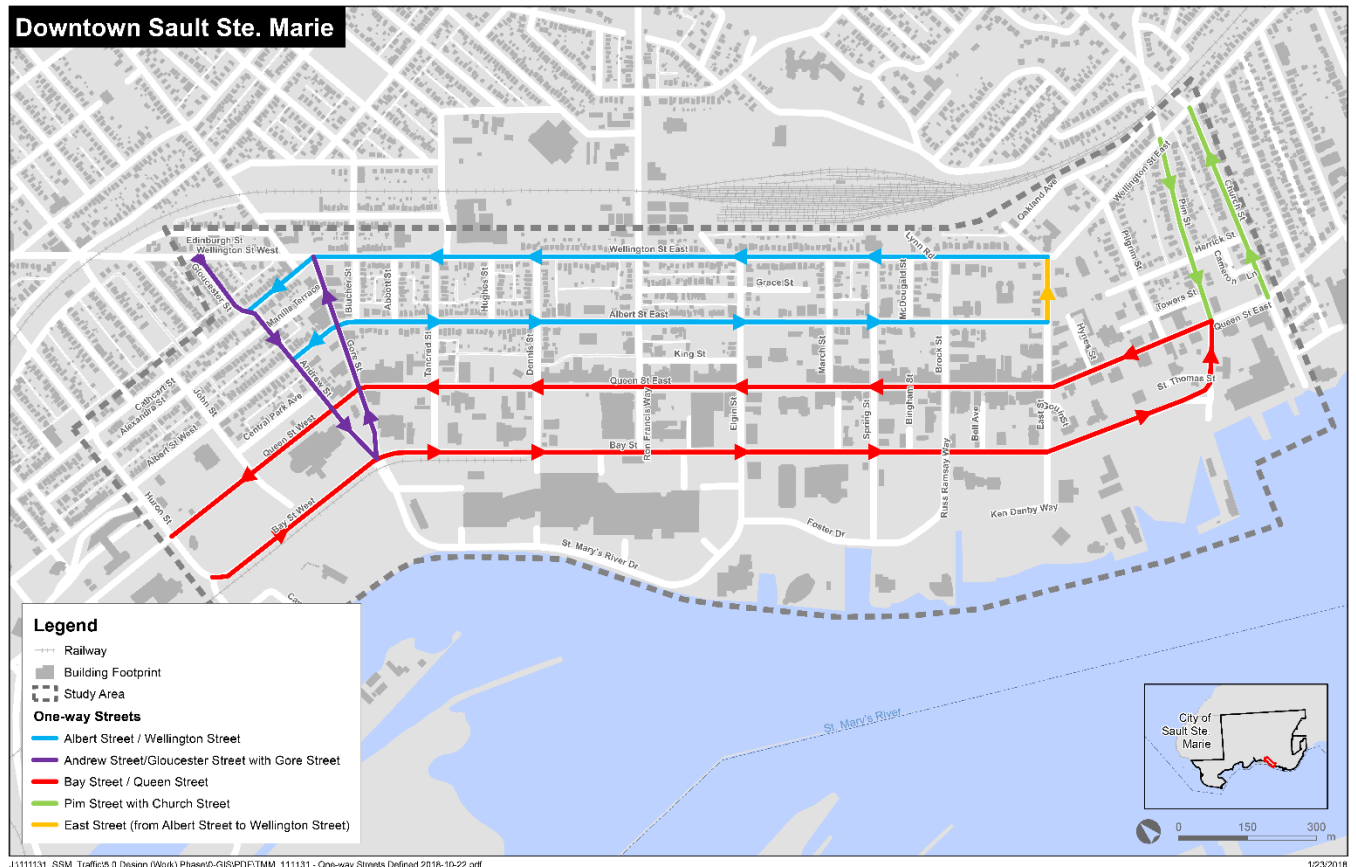
3.1 Study Area

The study area was determined by the City and includes all one-way streets in the downtown core. These streets are all grouped in one-way couplets for opposing direction of travel, with the exception of East Street. The streets within the study area include:

- Bay Street (eastbound) and Queen Street (westbound),
- Albert Street (eastbound) and Wellington Street/Cathcart Street (westbound),
- Pim Street (southbound) and Church Street (northbound),
- Andrew Street/Gloucester Street (southbound) and Gore Street (northbound), and
- East Street (northbound from Albert Street to Wellington Street).

A map of the full study area is shown in Exhibit 3.1 with arrows showing the locations of the one-way couplets.

Exhibit 3.1: Map of Study Area



3.2 Vehicular Transportation

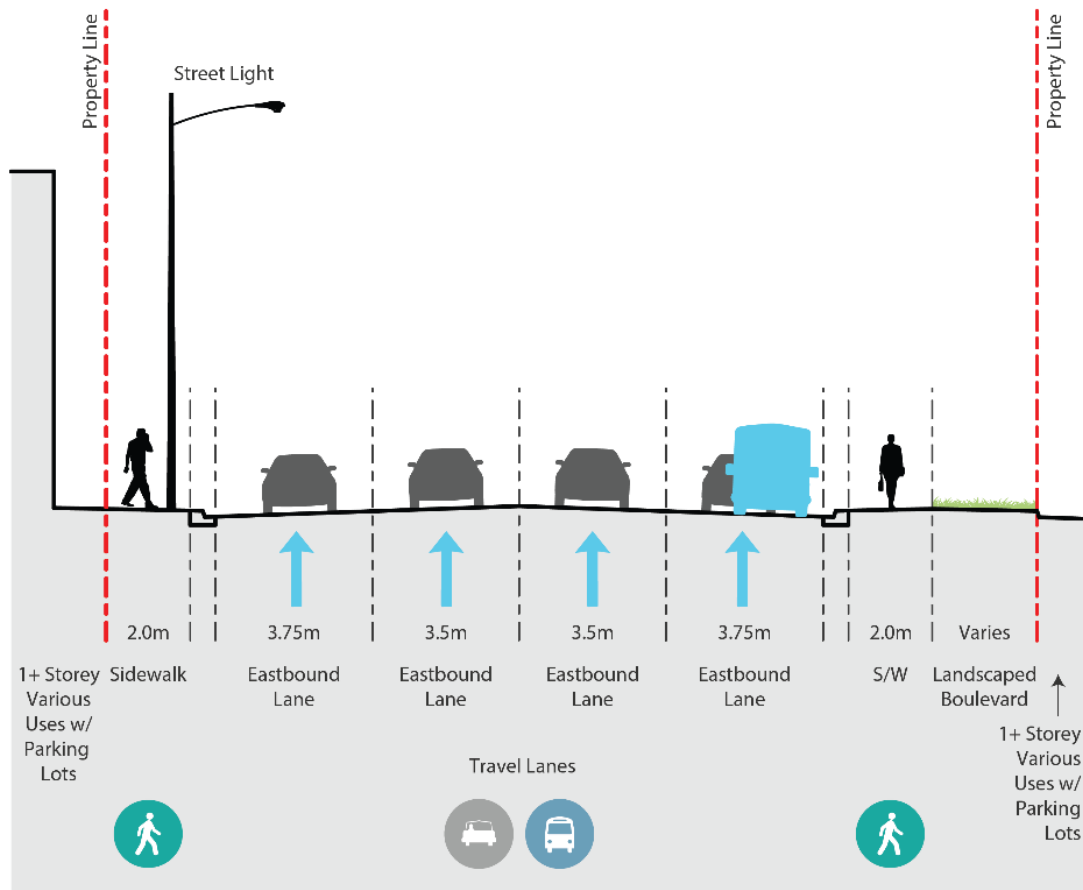
Traffic analysis was completed on the following main east-west corridor pairs through the study area to provide a sample of existing conditions:

- Bay Street and Queen Street; and,
- Albert Street and Wellington Street.

All four roads are under the jurisdiction of the City of Sault Ste. Marie. With no signage present, a speed limit of 50 km/h is assumed for all four roads. These roads are also divided in to East and West at Gore Street (e.g. Queen Street West and Queen Street East are west and east of Gore Street, respectively), with the exception of Bay Street.

Bay Street is a four lane major arterial road that operates as a one-way street servicing eastbound traffic. Bay Street runs from Huron Street east to Pim Street. The Bay Street corridor, in addition to being an important transportation route is a major commercial area and provides access to roadways and commercial properties throughout the downtown core. Exhibit 3.2 displays the existing cross section of Bay Street at Dennis Street.

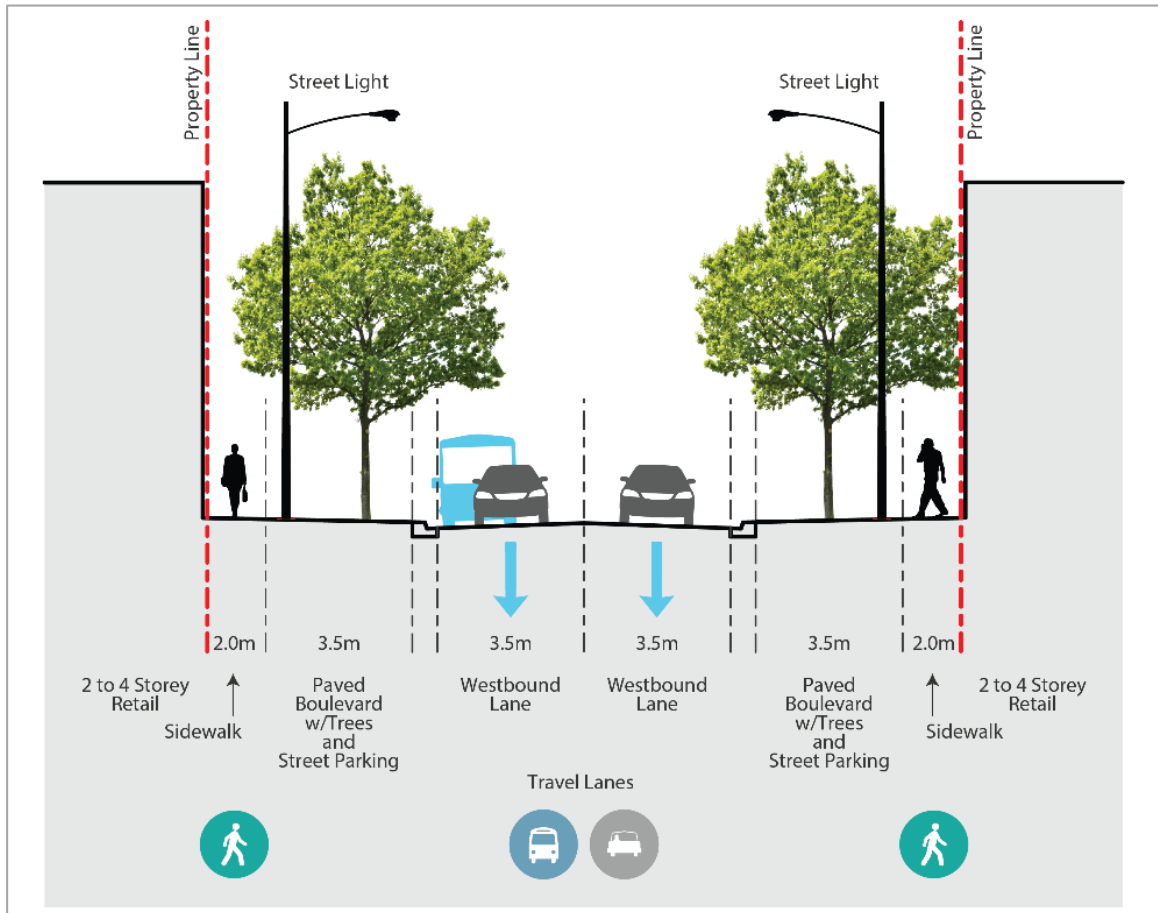
Exhibit 3.2: Existing Cross Section of Bay Street



Queen Street is a major arterial road that runs through downtown, and continues beyond the east and west limits of the study area. Queen Street operates as a one-way

street between Pim Street and Huron Street, servicing westbound traffic within downtown. The Queen Street corridor, in addition to being an important transportation route is a major commercial area and provides access to roadways and commercial properties throughout the City's downtown core. Sault Ste. Marie's traditional main street shopping area is located along Queen Street. Exhibit 3.3 displays the existing cross section of Queen Street East at Brock Street.

Exhibit 3.3: Existing Cross Section of Queen Street



Albert Street is a collector road that runs through downtown, and continues beyond the western limit of the study area. Albert Street operates as a one-way eastbound street from Andrew Street to East Street. Land uses along Albert Street are predominately residential with some commercial.

Wellington Street is an arterial road that runs through downtown, and continues beyond the east and west limits of the study area. Wellington Street operates as a one-way westbound street from East Street to Gloucester Street. Land uses along Wellington Street are predominately residential with some commercial.

The volumes of vehicles and capacities for each of the four main east-west corridors were analysed to determine current traffic conditions. The analysis found that these roads generally have more than sufficient capacity to accommodate current and future (beyond 20 years) vehicular traffic demand. The detailed findings of this analysis can be found in the Downtown Traffic Study Report, in Appendix 3.

3.2.1 Other Corridors

Other streets considered in this study include:

Cathcart Street is a two lane collector road under the jurisdiction of the City of Sault Ste. Marie. The one-way portion of the street begins at Wellington Street and ends at Gloucester Street/Andrew Street. With no signage present, a speed limit of 50 km/h is assumed.

Gore Street is two lane one-way collector road under the jurisdiction of the City of Sault Ste. Marie. Gore Street serves northbound traffic and is bounded by small businesses. The corridor diverges from St. Mary's River Drive/Andrew Street south of Bay Street and ends at Cathcart Street. With no signage present, a speed limit of 50 km/h is assumed.

Andrew Street is a two lane collector road under the jurisdiction of the City of Sault Ste. Marie. Andrew Street corridor serves southbound traffic and is bounded by residential areas and OLG Casino north and south of Queen Street, respectively. The corridor begins from Cathcart Street and converges with Gore Street and turns into St. Mary's River Drive. With no signage present, a speed limit of 50 km/h is assumed.

Gloucester Street is a two lane arterial road under the jurisdiction of the City of Sault Ste. Marie. Gloucester Street serves southbound traffic and is bounded by residential areas. The corridor begins at Wellington Street and ends at Cathcart Street. With no signage present, a speed limit of 50 km/h is assumed.

East Street is primarily a two lane collector road under the jurisdiction of the City of Sault Ste. Marie. The one-way portion of the street serves northbound traffic which connects Albert Street to Wellington Street with a three lane configuration. With no signage present, a speed limit of 50 km/h is assumed.

Pim Street is a two lane collector road under the jurisdiction of the City of Sault Ste. Marie. Within the study limits, Pim Street serves southbound traffic and is bounded by residential areas. The one-way portion of the corridor begins at Church Street and ends at Queen Street. With no signage present, a speed limit of 50 km/h is assumed.

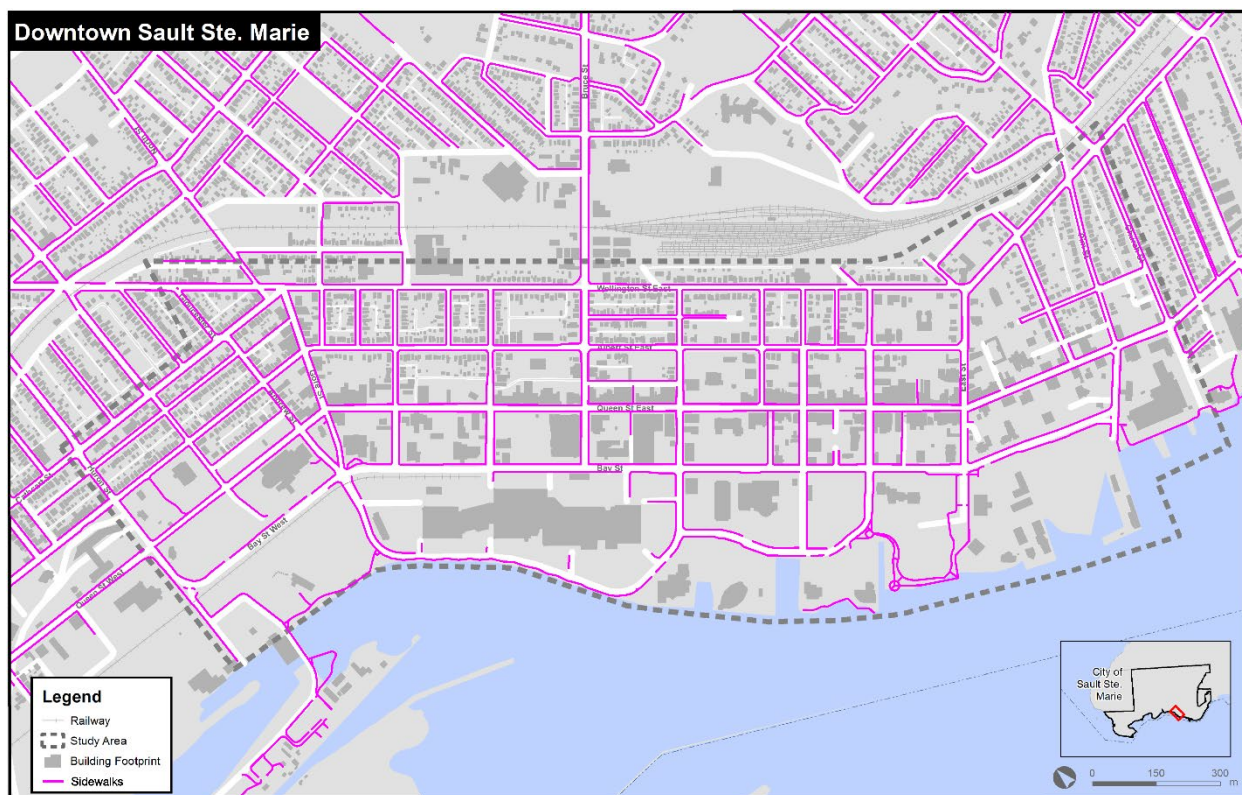
Church Street is a two lane collector road under the jurisdiction of the City of Sault Ste. Marie. Within the study limits, Church Street serves northbound traffic and is bounded by residential areas. The one-way portion of Church Street begins at Queen Street and ends at Pim Street. With no signage present, a speed limit of 50 km/h is assumed.

3.3 Active Transportation

Active transportation is any form of transportation that uses human power for motion (i.e. non-motorized). Active transportation is important in shaping a healthy and accessible community, that encourages walking, cycling and other types of physical activity.

The existing sidewalk network is shown in Exhibit 3.4.

Exhibit 3.4: Existing Sault Ste. Marie Sidewalk Network



The majority of downtown streets have sidewalks, many of which are on both sides of the street, including Queen Street, Albert Street and Wellington Street. The central portion of Bay Street has sidewalks on both sides, with eastern and western extents on the north side only.

Sidewalks along Bay Street, Albert Street and Wellington Street are generally directly adjacent to vehicular traffic, with limited or no buffer or streetscaping. This is of particular concern along Bay Street (as shown in Exhibit 3.5), where there are currently four lanes of one-way traffic, often travelling at high speeds. The width of Bay Street also presents longer crossings for pedestrians, with no median refuge.

Exhibit 3.5: Bay Street at Brock Street/Russ Ramsay Way



Image Capture: Aug 2018 ©2018 Google

In comparison, Queen Street (as shown in Exhibit 3.6) offers a more comfortable pedestrian environment with wider sidewalks, planters, trees, and benches. Pedestrian crossings are generally limited to two lanes on the west leg of intersections, and two or three lanes on the east leg.

Exhibit 3.6: Queen Street at Brock Street

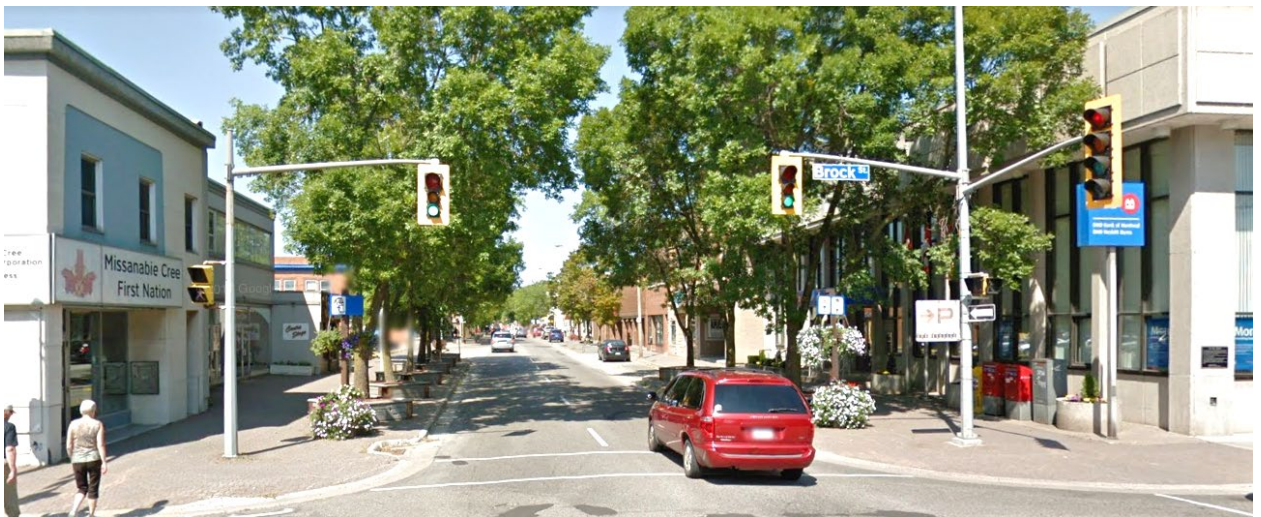


Image Capture: Aug 2012 ©2018 Google

Infrastructure for cyclists within the study area is generally limited to the John Rowswell Hub Trail (Hub Trail). The Hub Trail is a 22.5 km multi-use trail system that wraps around the city. As illustrated in Exhibit 3.7, a portion of this system runs through the study area, primarily along the waterfront, parallel to St Mary's River Drive and Foster Drive. A portion of the system also runs along the south side of Bay Street between East and Pim Street.

Exhibit 3.7: The John Rowswell Hub Trail - Downtown Waterfront Section¹



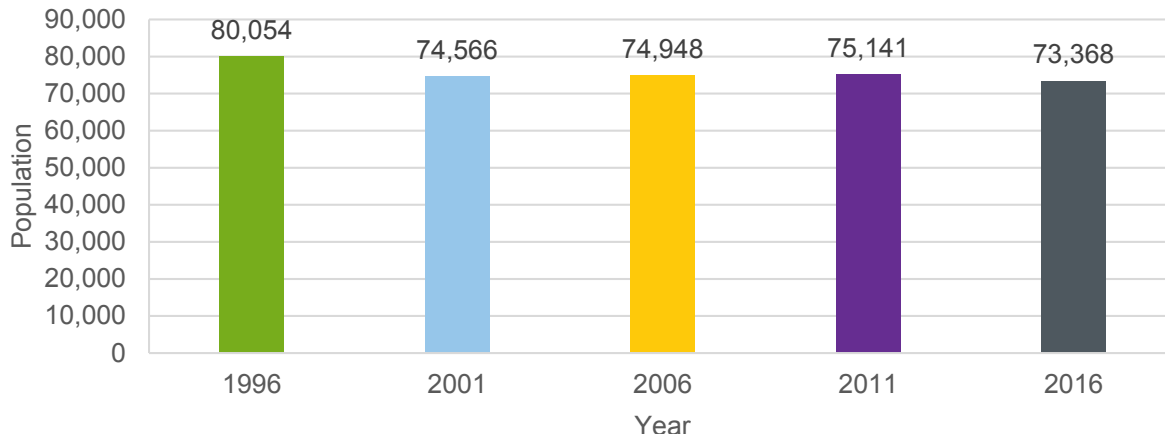
3.4 Socioeconomic Environment

3.4.1 Population and Demographics

The population of the City of Sault Ste. Marie, as illustrated in Exhibit 3.8, has generally remained consistent since the early 2000's. The current population is 73,368 based on 2016 census data from Statistics Canada. The Official Plan Review Population and Household Projections Presentation of Council in September 2008 forecasted a population of 82,500 in the year 2026. Given the stability of the population and low variations in background traffic observed on arterial roads across the City, this study has assumed background traffic growth to be 0.5% compounded annually.

¹ Downtown Waterfront, NORDIK Institute <http://www.hubtrail.com/maps/trail-section-maps/>, accessed 2018-10-23

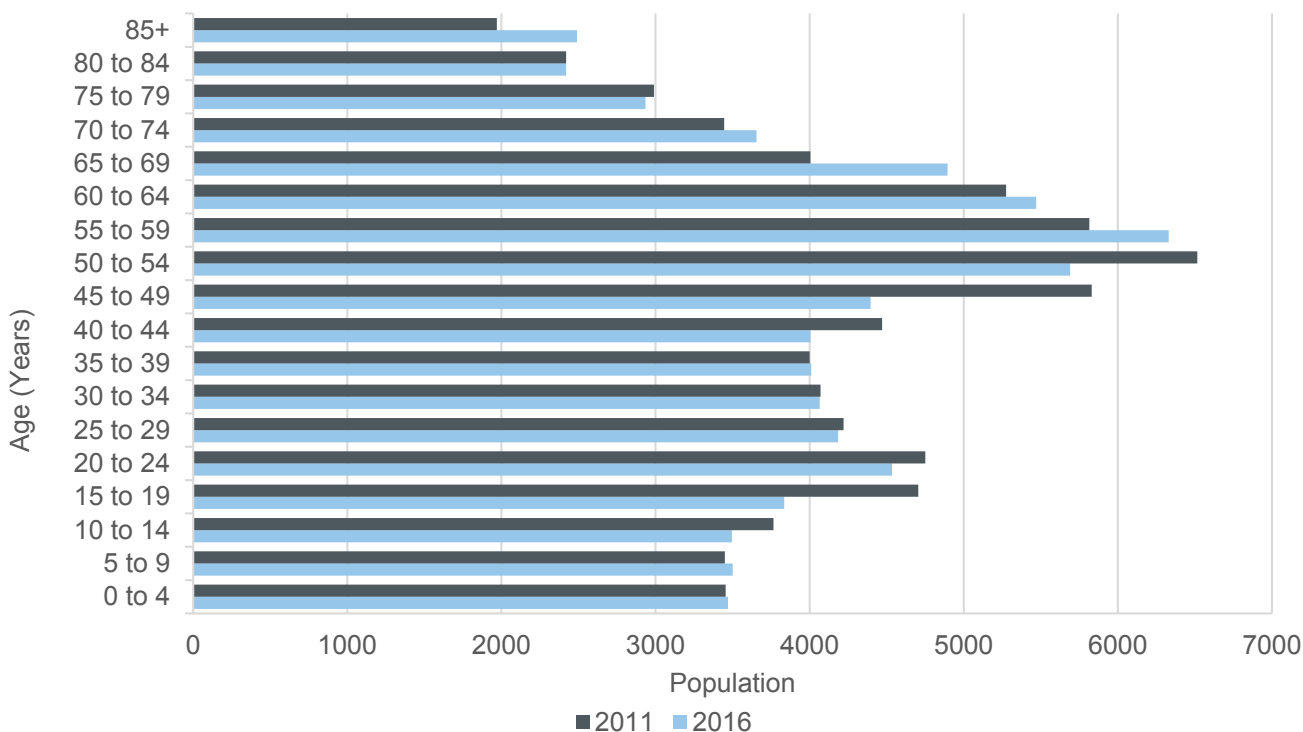
Exhibit 3.8: Historical Population Trends for Sault Ste. Marie



Source: Statistics Canada

The demographic breakdown of Sault Ste. Marie by age for 2011 and 2016 is illustrated in Exhibit 3.9. As can be seen, there is a substantial proportion of the population that is within or approaching retirement age, with a distinctive trend towards aging over this five-year period. The Official Plan Review Population and Household Projections Presentation of Council in September 2008 also identified that this group is increasing, while birth rates are decreasing, leading to population growth being dependent on the attraction of migrants. Development, new career opportunities, and a vibrant urban centre are important factors in attracting new residents.

Exhibit 3.9: City of Sault Ste. Marie Age Structure



Source: Statistics Canada

3.4.2 Land Use and Zoning

Schedule C of the Sault Ste. Marie Official Plan (included in Appendix 4 for reference) designates land uses in the city. The study area is predominantly made up of commercial uses, with some residential uses north of Queen Street, as well as some institutional uses.

Sault Ste. Marie's Zoning By-Law (2005-150) identifies zoning within the study area:

- **Bay Street and Queen Street** are generally bound by
 - Commercial zones throughout;
 - Some parks and recreation zones along the waterfront and Esposito Park at Queen Street and Andrew Street; and,
 - Some institutional uses, mostly on Queen Street.
- **Albert Street** is generally bound by
 - Commercial and commercial transitional zones east of Bruce Street;
 - Primarily low-density residential zones, with some medium- and high-density zones, west of Bruce Street; and,
 - Some institutional uses east of Bruce Street.
- **Wellington Street** is generally bound by
 - Commercial and commercial transitional zones east of March Street, and at Bruce Street and Gore Street;
 - Low-density residential zones west of March Street;
 - Institutional zones at Tancred Street and East Street.

In light of the noted uses, Bay Street and Queen Street have been identified as the two primary downtown corridors. Improvements to these streets will play an important role in the look and feel of the downtown core.

3.4.3 Recreation and Tourism

There are several recreational and tourism attractions within the study area, as summarized in Exhibit 3.10. The majority of the sites are located along Bay Street and Queen Street, which serve as the primary routes for individuals accessing these sites.

Exhibit 3.10: Attractions within the Study Area

Attraction	Location	Description
Parks and Trails		
Roberta Bondar Park and Pavilion	Along waterfront between St Mary's River Drive and Spring Street	Hosts concerts and events
John Rowswell Hub Trail	Wraps around city, with portion running through study area, primarily along waterfront, parallel to St Mary's River Drive and Foster Drive	22.5 km multi-use trail for walking and cycling
Esposito Park	Queen Street W @ Andrew Street	Park with outdoor rink, and skateboard/bike track (Pump Track) ²
Museums, Galleries and Historic Sites		
Sault Ste. Marie Museum	Queen Street East @ East Street	Contains local historical artifacts and interactive exhibits ³
Canadian Bushplane Heritage Centre	Pim Street @ Bay Street	Contains vintage aircrafts and interactive exhibits ⁴
Entomica	Along waterfront between Canal Drive and St Mary's River Drive	Insectarium that contains live insects and interactive exhibits ⁵
Ermatinger Clergue National Historic Site	Bay Street @ Pim Street	National Historic Site that includes: <ul style="list-style-type: none"> Heritage Discovery Centre with historical artifacts and interactive exhibits Two of the oldest stone buildings northwest of Toronto - Ermatinger Old Stone House and Clergue Blockhouse⁶
Sault Ste. Marie Canal National Historic Site	On St Mary's River (Canal Drive @ Huron Street)	National Historic Site that features lock system built in 1895 ⁷
M.S. Norgoma	Docked in Roberta Bondar Transient Marina (along waterfront near Spring Street)	Historic supply ship docked on the waterfront, used as museum with tours and exhibits ⁸ (Note: the M.S. Norgoma is scheduled to be relocated from the marina by Spring 2019)
Art Gallery of Algoma	Along waterfront near East Street	Art gallery with exhibition spaces, Ken Danby Education Studio, and Gallery Café ⁹
Other attractions		
Agawa Canyon Tour Train	Departs from Station Mall (along Bay Street between Tancred Street and Dennis Street)	Guided train tour from Sault Ste. Marie through Agawa Canyon to Canyon Park ¹⁰
GFL Memorial Gardens	Between Bay Street and Queen Street E @ Ron Francis Way	Multi-sport complex, hosts Soo Greyhounds hockey games, concerts and event ¹¹

² Parks and Playgrounds, City of Sault Ste. Marie, <http://saultstemarie.ca/>, accessed 2018-10-24

³ Sault Ste. Marie Museum, <http://www.saultmuseum.ca/>, accessed 2018-10-24

⁴ Canadian Bushplane Heritage Centre, <http://www.bushplane.com/>, accessed 2018-10-24

⁵ Entomica, <https://www.entomica.com/>, accessed 2018-10-24

⁶ Ermatinger Clergue National Historic Site, City of Sault Ste. Marie, <http://saultstemarie.ca/>, accessed 2018-10-24

⁷ Sault Ste. Marie Canal National Historic Site, Parks Canada, <https://www.pc.gc.ca/en/lhn-nhs/on/ssmarie>, accessed 2018-10-24

⁸ The Museum Ship Norgoma, <http://norgoma.org/>, accessed 2018-10-24

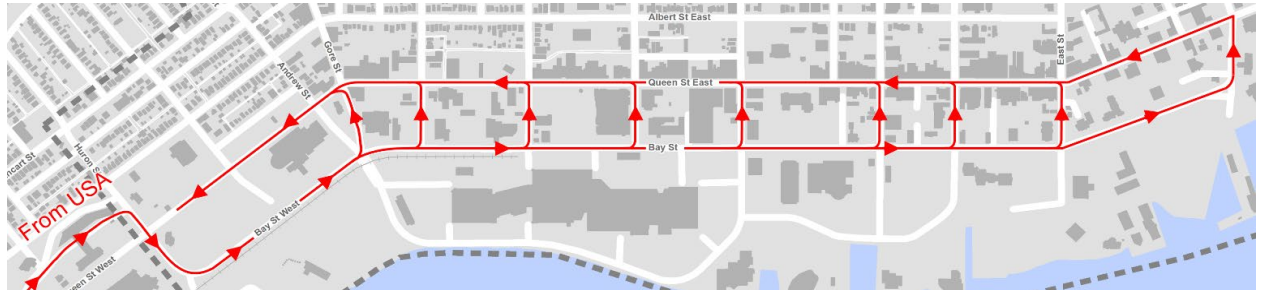
⁹ Art Gallery of Algoma, <http://www.artgalleryofalgoma.com/>, accessed 2018-10-24

¹⁰ Agawa Canyon Tour Train, <http://www.agawatrain.com/>, accessed 2018-10-24

¹¹ GFL Memorial Gardens, <http://gflgardens.ca/>, accessed 2018-10-24

The one-way road network downtown presents some navigation challenges for visitors who are unfamiliar with the area. Under the current configuration, the International Bridge directs incoming visitors toward Bay Street, requiring two left turns off of Bay Street to get to Queen Street, as illustrated in Exhibit 3.11.

Exhibit 3.11: Challenging Routing from the International Bridge to Queen Street



3.4.4 Street Parking and Loading

Businesses within the downtown rely on easily accessible parking for customers and on-street loading for the delivery of goods.

Within the study area, paid street parking is currently permitted on Queen Street and Gore Street. Non-paid street parking is available on Albert Street, Pim Street, and Church Street. There are also several paid and non-paid parking lots generally in proximity to Bay Street and Queen Street.

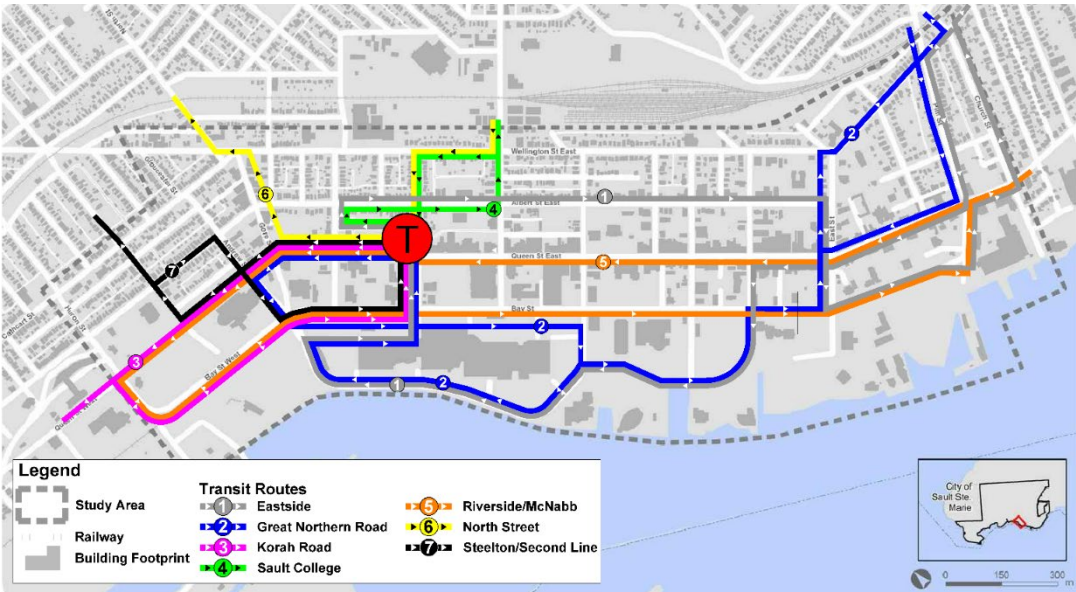
Loading for business is conducted in a variety of manners including on-street, parking lots and loading bays. On-street loading activities are generally limited to Queen Street.

3.4.5 Transit

There are several transit routes that operate through the study area, as illustrated in Exhibit 3.12. These routes generally use single direction loops due to the one-way operation of downtown streets. There is also a downtown bus terminal located at Queen Street and Dennis Street.

The one-way loops, frequent stops and turning radius for transit buses need to be considered for any proposed changes to the downtown road network.

Exhibit 3.12: Transit Routes in Downtown Sault Ste. Marie



3.4.6 Business

Development of “big box” retail stores north of the downtown have directed retail traffic away from the study area over the past few decades.

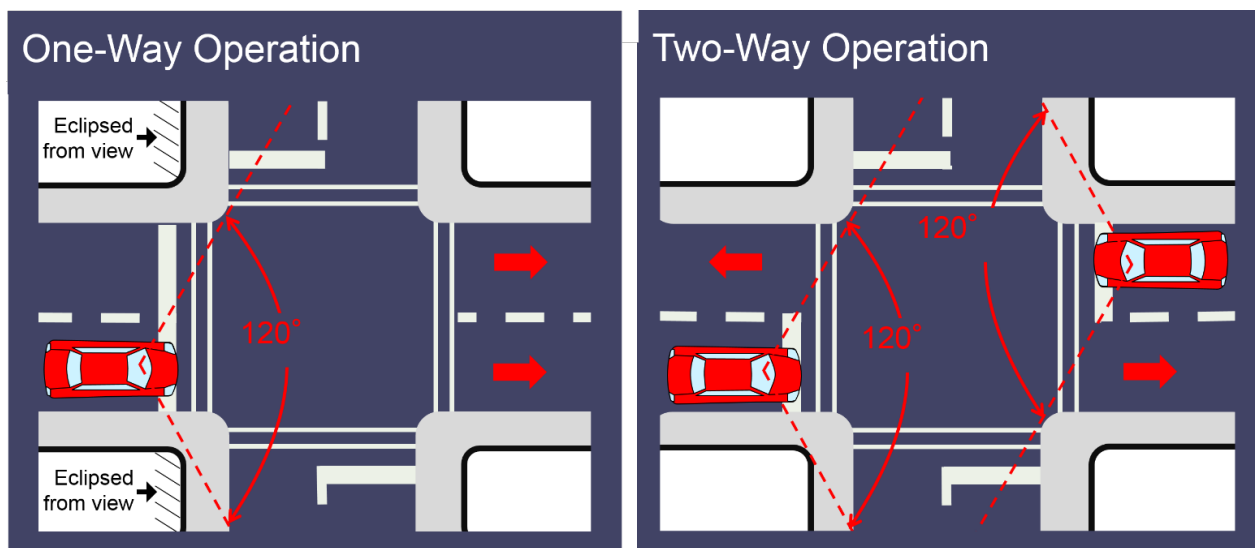
The existing downtown one-way network also presents some additional potential challenges for business, including:

- Routing;
- Eclipsing of retail spaces; and,
- Access and comfort for pedestrians and cyclists.

Routing, as discussed in Section 3.4.3, also presents challenges to businesses in attracting both visitors and locals. The addition of Carmen’s Way in 2006 as a truck route has also diverted visitors heading towards Highway 17 away from downtown by providing a more direct route.

As presented in Exhibit 3.13, the visibility of retail spaces on nearside corners can be diminished under existing one-way operations. Motorists also generally drive faster on one-way streets due to the lack of visual “friction” from oncoming vehicles – further reducing the opportunity for drivers to observe retail spaces.

Exhibit 3.13: Eclipse Effect of One-way Streets on Retail Spaces



Accessibility and comfort for pedestrians and cyclists can also prove challenging under current one-way operations. This is particularly evident on Bay Street, where motorists travel at higher speeds and pedestrians have to cross four lanes of traffic.

3.4.7 Utilities

The utilities and services within the study area, as summarized in Exhibit 3.14, must be considered in any changes to infrastructure.

Exhibit 3.14: Utility and Service Providers in Sault Ste. Marie

Utility/Service	Provider/Authority	Description
Water	City of Sault Ste. Marie	Underground distribution of municipal water
Sewage	City of Sault Ste. Marie	Underground collection of storm and sanitary sewage
Electricity	Sault Ste. Marie Public Utilities Commission	Distribution grid made up of overhead and underground lines
Natural Gas	Union Gas	Underground distribution of natural gas
Telecommunications	Bell Canada	Telephone and internet services
	Shaw Cable	Cable and internet services

3.5 Cultural Environment

3.5.1 Archaeological Resources

Several locations within the study area have been identified as having archaeological potential in the Sault Ste. Marie Official Plan, Schedule E (included in Appendix 4 for reference). The potential sites are located within properties beyond the rights-of way of the streets examined in this study. Further, the streets and municipal infrastructure have previously disturbed the lands beneath through their construction, maintenance and reconstruction/repair. As such, archaeological potential is expected to be low with no differences among alternatives.

3.5.2 Cultural Heritage Resources

There are 28 sites/properties and 16 plaques/memorials of cultural heritage significance that have been identified in the Sault Ste. Marie Transportation Master Plan (Exhibit 4-5 of the Transportation Master Plan, included in Appendix 4 for reference). These sites have been designated under the Ontario Heritage Act based on the advisement of the Sault Ste. Marie Municipal Heritage Committee to City Council.

The majority of these resources are located within the study area. However, similar to the archaeological resources discussed in Section 3.5.1, the identified cultural heritage resources are located beyond the rights-of-way of the streets examined in this study and so would not be impacted by the alternatives under consideration.

3.6 Natural Environment

The study area is located within an urbanized area, which has been highly disturbed through past development/redevelopment. While the study area does include the downtown waterfront along the St Mary River, the streets examined are setback from the waterfront, with limited exposure to water crossings. As such, trees and vegetation, terrestrial wildlife and birds, and aquatic species and habitat within the study area are limited.

3.6.1 Geology and Physiography

The bedrock in the region is generally made up of Precambrian granite and Migmititic rocks overlain by Jacobsville Sandstone. Surficial geology within the Study Area is made up of human deposits, including fill, slag, and waste rock.¹²

The study area falls within the lowlands of the Nipissing ecoregion, where moderate to strongly broken sandy loam till plains are characteristic. The study area itself is made up of Newmarket Till.¹²

3.6.2 Trees and Vegetation

There are limited areas where there are trees and vegetation, primarily in parks and open spaces along the waterfront, Central Park, the Sault Ste. Marie Courthouse, landscaping along Queen Street, and landscaping at residences throughout downtown. The following trees are native to Sault Ste. Marie and the surrounding region¹³:

Alternate-Leaf	Eastern White Cedar	Red Maple
Dogwood	Eastern White Pine	Red Oak
American Beech	Green/Red Ash	Serviceberries
American Elm	Hawthorns	Silver Maple
Balsam Poplar	Ironwood	Sugar Maple
Basswood	Large-tooth Aspen	Tamarack
Black Ash	Peachleaf Willow	Trembling aspen
Bur Oak	Pin Cherry	White Ash
Chokecherry	Pin Oak	Yellow Birch

Red Maple, Yellow Birch, White Pine and Red Oak trees have been observed within the study area¹⁴.

¹² Assessment Report - Sault Ste. Marie Region Source Protection Area, Sault Ste. Marie Region Conservation Authority, Updated January 2017.

¹³ The Tree Atlas: Northeast Region 5E-1, Queen's Printer for Ontario, 2012-18

¹⁴ Bay Street Corridor Improvements Environmental Study Report, Kresin Engineering Corporation, 2015.

3.6.3 Terrestrial Wildlife and Birds

Given the lack of natural habitat, the potential for encountering species within the study area is limited. Chipmunks and squirrels have been previously identified as species that could potentially be found within in the study area, typical of urbanized areas.¹⁴

There are 136 breeding bird species that could potentially be found within and around the study area, as listed in Appendix 7. Potential habitat for birds is limited in the study area, given the limited number of trees. American Crow, Black-Capped Chickadee, Downy Woodpecker and White-Throated Sparrow have been previously identified as species that could potentially be found within in the study area.¹⁴

3.6.4 Aquatic Species and Habitat

The southern extent of the study area is bound by St. Mary's River, approximately 80m south of Bay Street at its closest point. St. Mary's River has been identified by the Official Plan as a Type 1 fish habitat, requiring a high level of protection. Species observed in St. Mary's River include¹²:

Chinook Salmon	Yellow Perch	Carp
Coho Salmon	Small Mouth Bass	Burbot
Pink Salmon	Walleye	America Eel
Northern Pike	Sturgeon	Silver Lamprey
Whitefish	White Suckers	

Fort Creek runs through the western end of the study area. The creek originates north of 4th Line East and runs south approximately 7.5 km towards St. Mary's River. A portion of the creek runs underground through a concrete culvert, from Carmens Way and Wellington Street West, to Queen Street West and John Street. South of Queen Street the Creek runs in an open channel, which is crossed by Bay Street. The open portions of Fort Creek have been identified by the Official Plan as a Type 2 fish habitat, requiring a moderate level of protection. The underground portion of Fort Creek has been identified as a Type 3 fish habitat, requiring a low level of protection. There are limited species observed in Fort Creek, likely due to the buildup of sediment and temperature fluctuations.¹²

3.6.5 Species at Risk

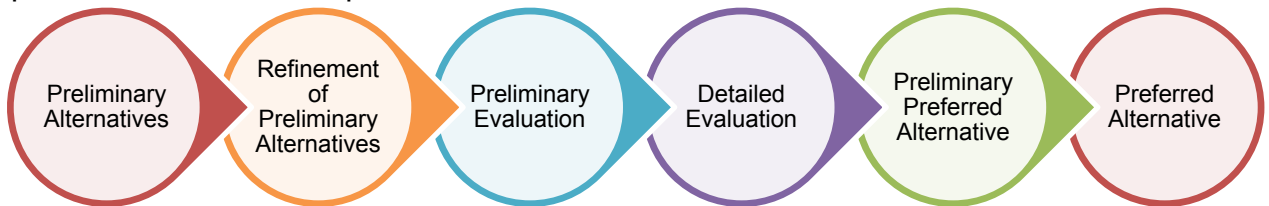
The Ministry of Natural Resources have previously identified the following Species at Risk within Sault Ste Marie and immediately neighbouring communities¹²:

American White Pelican (Threatened)	Lake Sturgeon (Threatened)
Bald Eagle (Special Concern)	Milksnake (Special Concern)
Golden-winged Warbler (Special Concern)	Monarch Butterfly (Special Concern)
	Peregrine Falcon (Threatened)

A complete list of Species at Risk in the Ministry of Natural Resources Sault Ste Marie District is included in Appendix 7.

4 Alternative Solutions

Alternatives to the address the problem/opportunity statement (Section 2) were developed, which varied in scale. These alternatives then went through a six stage process to arrive at the preferred solution.



4.1 Preliminary Alternatives

Six preliminary alternatives were developed for the identified roads in the study area in coordination with City staff, and presented to the public at Public Information Centre No. 1 (discussed in Section 6.2):

Preliminary Alternative 1: “Do Nothing” – Keep all Roads in their Existing Form

The Class EA process requires that a “do nothing” alternative be considered to provide a benchmark by which to evaluate the other alternatives.

Preliminary Alternative 2: Convert all roads to two-way operation

This alternative would convert all of the roads examined in the study area to two-way operation. Existing road widths would generally be maintained, except at busier intersections where turning lanes would be needed, requiring localized widening.

Preliminary Alternative 3: Convert Bay Street and Queen Street to Two-Way Operation

This alternative would convert the two main corridors downtown, Bay Street and Queen Street, to two-way operation, including the portion of Pim Street between Queen Street and Bay Street. Existing road widths would generally be maintained, except at busier intersections where turning lanes would be needed, requiring localized widening.

Preliminary Alternative 4: Convert Bay Street to Two-Way Operation

This alternative would convert the one of the two main corridors downtown, Bay Street, to two-way operation, including the portion of Pim Street between Queen Street and Bay Street. This alternative was also considered in the Bay Street Class EA.

Preliminary Alternative 5: Convert Queen Street to Two-Way Operation

This alternative would convert the one of the two main corridors downtown, Queen Street, to two-way operation. Existing road widths would generally be maintained, except at busier intersections where turning lanes would be needed, requiring localized widening.

Preliminary Alternative 6: Active Transportation and Traffic Common Core Improvements

This alternative would add active transportation infrastructure to roads within the study area, identify intersections where traffic lights should be added or removed, and identify roads where speed limits could be reduced.

4.2 Refinement of Preliminary Alternatives

The preliminary alternatives were refined to account for:

- A detailed review of existing conditions, as discussed in Section 3.
- The Bay Street EA, which was completed in 2015 and accepted by City Council as discussed in Section 1.3.4. Without the completion of the Downtown Traffic Study, the recommendations of the Bay Street EA would proceed, effectively making it the “Do Nothing” alternative. This is identified as the “Base Scenario”.
- Active transportation and traffic common core improvements can be added to the design of any of the alternatives considered. Notably, the multi-use path (MUP) recommended in the Bay Street EA has been incorporated into all of the alternatives considered. The Downtown Traffic Study Report, included in Appendix 3, has also examined potential common core improvements for the preferred alternative. The recommended improvements are summarized in Section 4.7.

The six preliminary alternatives were refined to be:

Alternative 1: Base Scenario – Implement Bay Street EA (Three Lanes One-Way and MUP)

This alternative would maintain one-way operation on Bay Street, but reduce the number of lanes from four to three. In place of the removed lane, a MUP would be constructed along the south side of the street, with a landscaped boulevard between it and the traffic lanes. The estimated capital cost for this alternative is \$2.8 million.

Alternative 1A: Modified Base Scenario – Implement Bay Street EA (Two Lanes One-Way and MUP)

This alternative would be a variation of Alternative 1, and would further reduce the number of traffic lanes, from four to two. In place of the removed lanes, a MUP would be constructed along the south side of the street, with landscaped boulevards on both sides of the traffic lanes. The two landscaped boulevards would separate the MUP on the south side and sidewalk on the north side from the traffic lanes between. The estimated capital cost for this alternative is \$2.7 million.

Alternative 2: Convert all roads to two-way operation

This alternative would convert all of the roads examined in the study area to two-way operation. Existing road widths would generally be maintained, except at busier intersections where turning lanes would be needed, requiring localized widening. The MUP on Bay Street would also be included in this alternative. The estimated capital cost for this alternative is \$17.2 million.

Alternative 3: Convert Bay Street and Queen Street to Two-Way Operation

This alternative would convert the two main corridors downtown, Bay Street and Queen Street, to two-way operation, including the portion of Pim Street between Queen Street and Bay Street. Existing road widths would generally be maintained, except at busier

intersections where turning lanes would be needed, requiring localized widening. The MUP on Bay Street would also be included. The estimated capital cost for this alternative is \$9.2 million.

Alternative 4: Convert Bay Street to Two-Way Operation

This alternative would convert one of two main corridors downtown, Bay Street, to two-way operation, including the portion of Pim Street between Queen Street and Bay Street, and was previously considered in the Bay Street Class EA. The MUP on Bay Street would also be included in this alternative. The estimated capital cost for this alternative is \$ 3.8 million.

Alternative 5: Convert Queen Street to Two-Way Operation

This alternative would convert the one of the two main corridors downtown, Queen Street, to two-way operation. Existing road widths would generally be maintained, except at busier intersections where turning lanes would be needed, requiring localized widening. The Base Scenario (Implement Bay Street EA with three lanes one-way and MUP) would also be included in this alternative. The estimated capital cost for this alternative is \$ 2.7 million.

4.3 Preliminary Evaluation

A preliminary evaluation was completed to eliminate alternatives that would not be feasible based on two factors: vehicular traffic operations and capital cost. As a result, the **following alternatives were eliminated**:

Alternative 2: Convert all roads to two-way operation

This alternative was eliminated due to the estimated capital cost of \$17.2 million. This would amount to more than the entirety of the City's annual capital budget for road projects for 2019 and beyond. (The City's Capital budget summary can be found here: <http://saultstemarie.ca/Cityweb/media/Finance/Budget/2018-22CapitalBudgetSummary.pdf>)

Alternative 4: Convert Bay Street to Two-Way Operation

This alternative would leave only one eastbound lane between the two main downtown corridors, Queen Street and Bay Street. As a result, screenline analysis of this alternative indicates that the single eastbound lane on Bay Street would operate over its available capacity during evening rush hour. This would result in localized traffic delays. Details on this analysis are included in the Downtown Traffic Study Report in Appendix 3.

Alternative 5: Convert Queen Street to Two-Way Operation

This alternative would leave only one westbound lane between the two main downtown corridors, Queen Street and Bay Street. As a result, screenline analysis of this alternative indicates that the single westbound lane on Queen Street would operate near to its available capacity during morning and evening rush hour. This would result in localized delays. Details on this analysis are included in the Downtown Traffic Study Report in Appendix 3.

4.4 Detailed Evaluation

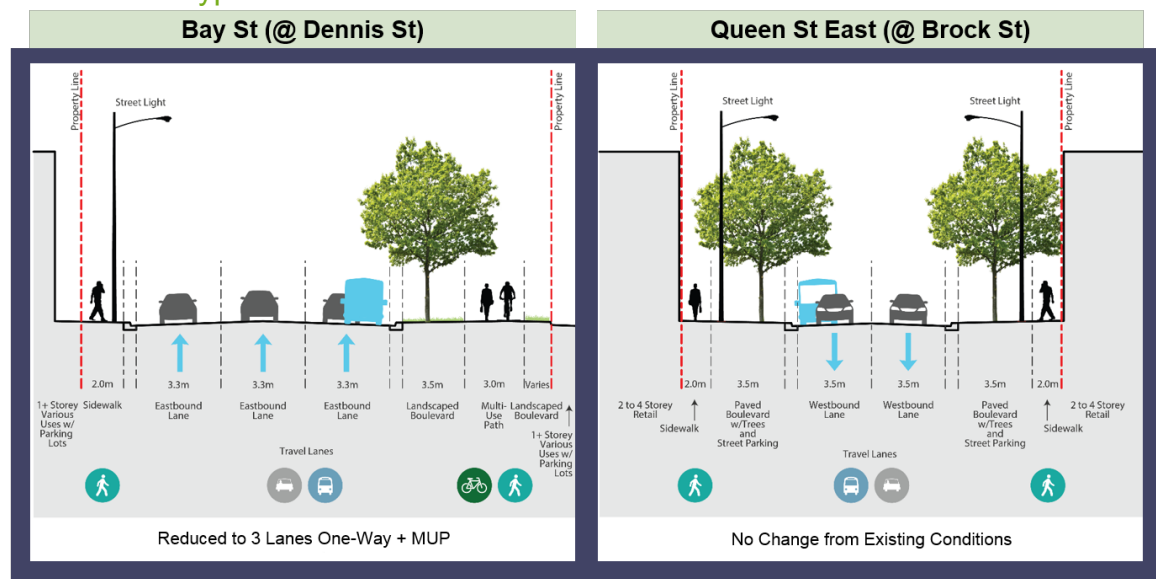
4.4.1 Alternatives for Detailed Evaluation

Following the preliminary refinement and evaluation discussed in Sections 4.2 and 4.3, respectively, the alternatives 1, 1A and 3 remain for detailed evaluation. The remaining alternative focus on the two main downtown corridors, Queen Street and Bay Street.

Alternative 1: Base Scenario – Implement Bay Street EA (Three Lanes One-Way and MUP)

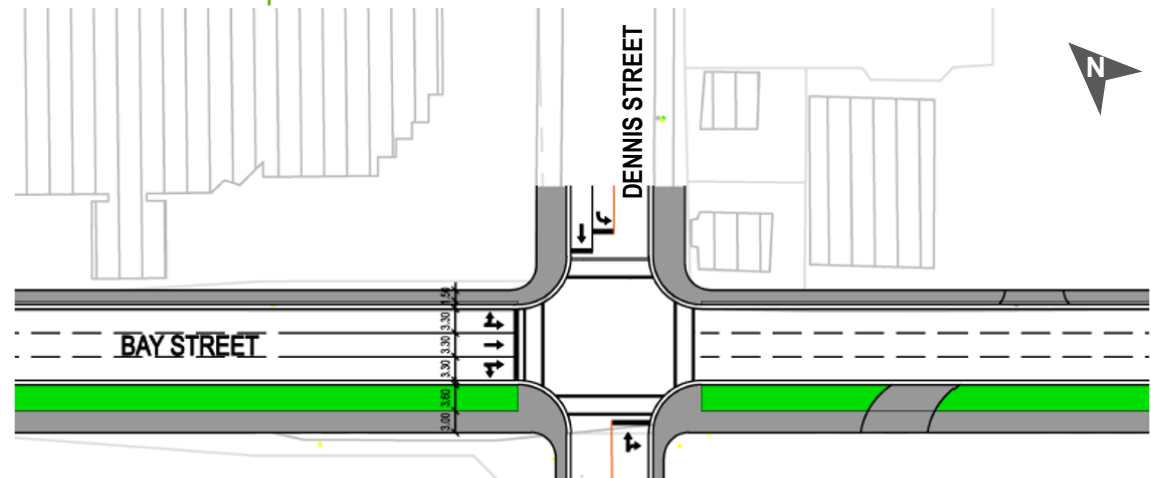
Exhibit 4.1 and Exhibit 4.2 illustrate the typical cross-sections and plan view for Alternative 1.

Exhibit 4.1: Typical Cross-Sections for Alternative 1



Notes: Views facing east, not to scale (dimensions vary and are approximate)

Exhibit 4.2: Concept Plan for Alternative 1

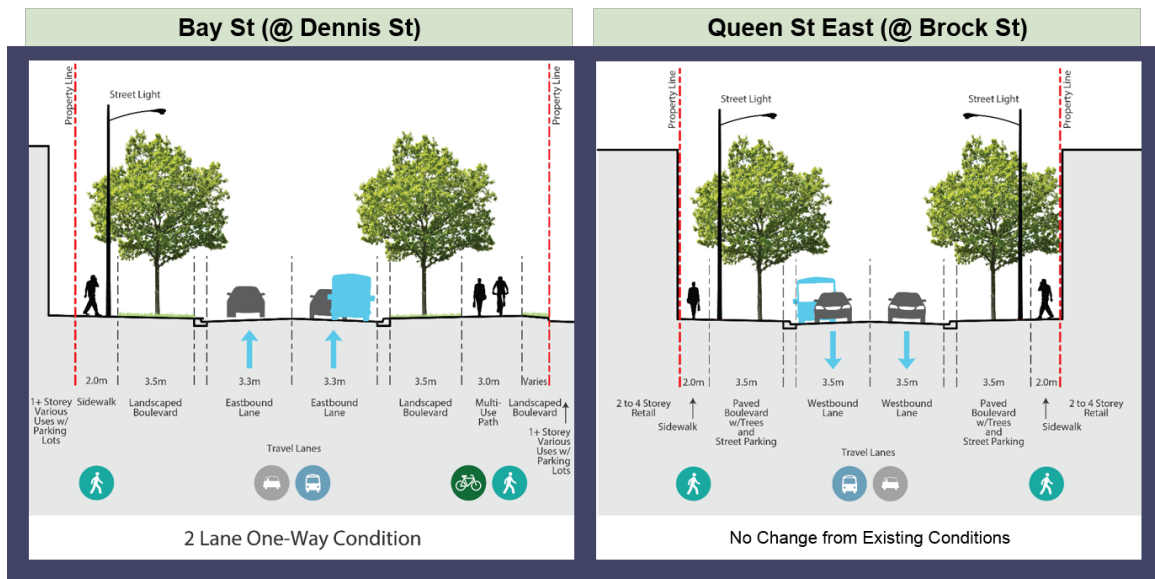


Note: Not to scale, dimensions vary and are approximate

Alternative 1A: Modified Base Scenario – Implement Bay Street EA (Two Lanes One-Way and MUP)

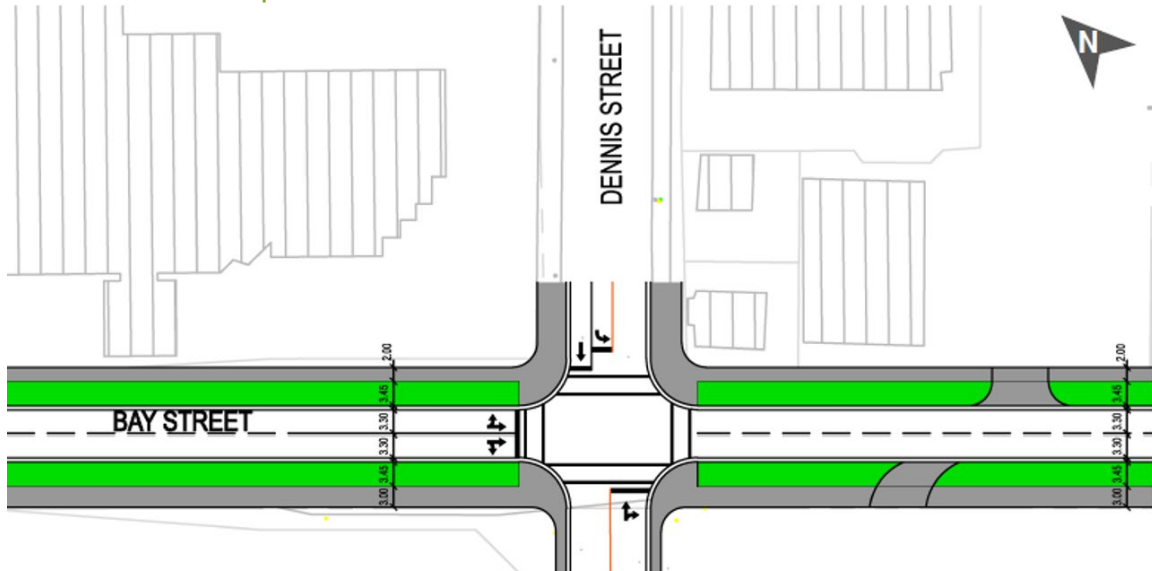
Exhibit 4.3 and Exhibit 4.4 illustrate the typical cross-sections and plan view for Alternative 1A.

Exhibit 4.3: Typical Cross-Sections for Alternative 1A



Notes: Views facing east, not to scale (dimensions vary and are approximate)

Exhibit 4.4: Concept Plan for Alternative 1A

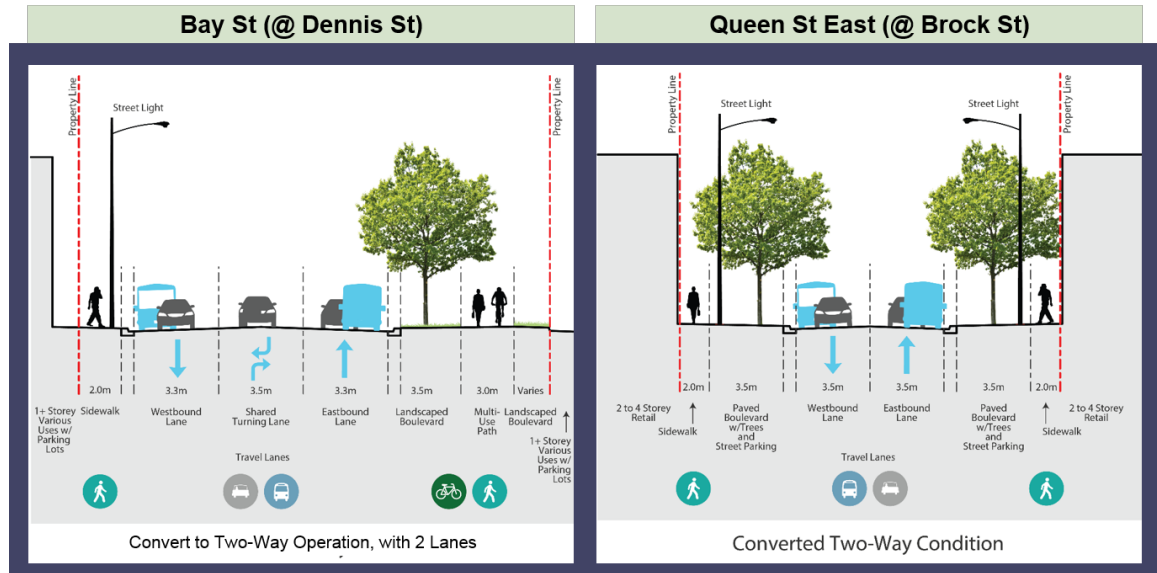


Note: Not to scale, dimensions vary and are approximate

Alternative 3: Convert Bay Street and Queen Street to Two-Way Operation

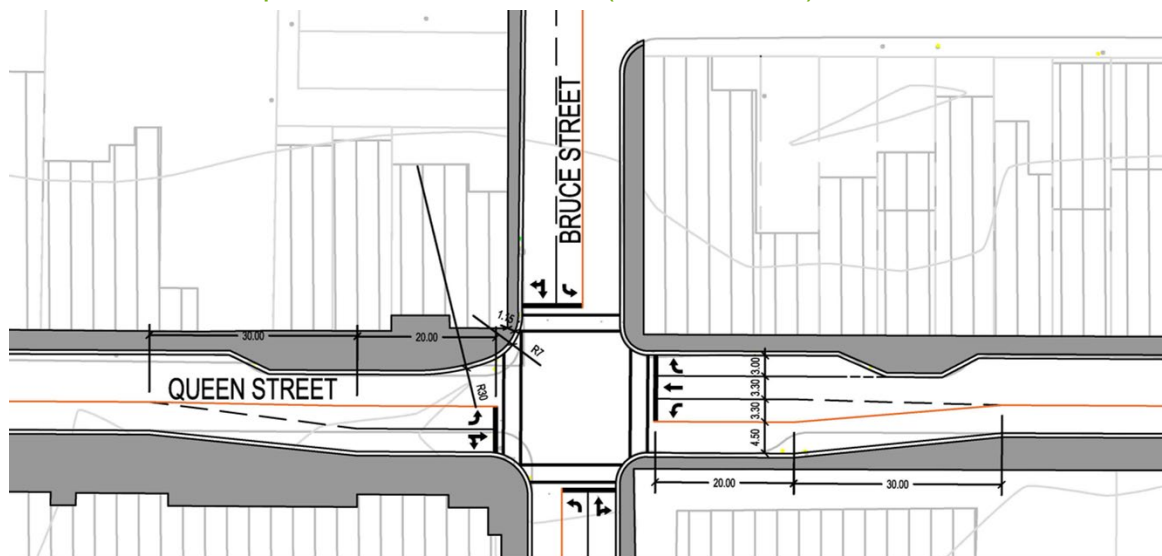
Exhibit 4.5 to Exhibit 4.7 illustrate the typical cross-sections and plan views for Alternative 3.

Exhibit 4.5: Typical Cross-Sections for Alternative 3



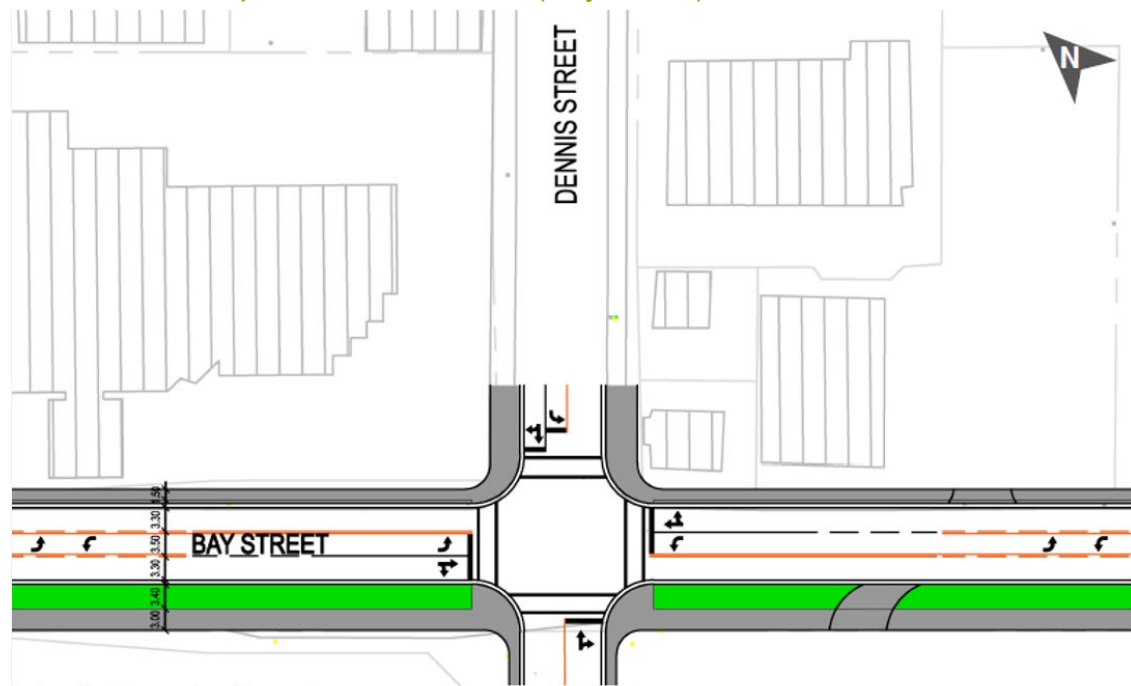
Notes: Views facing east, not to scale (dimensions vary and are approximate)

Exhibit 4.6: Concept Plan for Alternative 3 (Queen Street)



Note: Not to scale, dimensions vary and are approximate

Exhibit 4.7: Concept Plan Alternative 3 (Bay Street)



Note: Not to scale, dimensions vary and are approximate

4.4.2 Detailed Evaluation Criteria

A set of detailed criteria were developed to evaluate the potential impacts of each alternative on the surrounding environment, including considerations identified at Public Information Centre #1 (Section 6.2). A guide was then developed to define scores for each criterion from one (least preferred) to five (most preferred), relative to the Base Scenario (Alternative 1) which was assigned a score of three (neutral) for all categories. The detailed Scoring Guide is included in Appendix 5, and summarized in Exhibit 4.8.

Two-way conversion can cause short-term increases in accidents, while drivers adjust to the new conditions, and can increase the number of accidents from left turns in front of on-coming traffic and drivers attempting to get around stopped or slow moving vehicles. However, under two-way operation vehicles typically travel at slower speeds due to the visual “friction” from oncoming traffic, which can reduce the number and intensity of accidents. As a result, the potential impact on safety is considered a draw, and excluded from the evaluation.

Exhibit 4.8: Scoring Guide Summary

Criteria	Sub-criteria	Least Preferred	Most Preferred
Vehicular Transportation	Traffic Level-of-Service	Major traffic congestion (one or more locations in network over capacity)	Free flowing traffic (all locations in network have sufficient capacity)
	Potential to Reduce Traffic Speed	Increase in vehicle speeds	Two-way traffic with reduced speed limits and traffic calming measures throughout network
	Traffic Circulation, Ease-of-Routing	One-way streets throughout network	Two-way streets throughout network
Active Transportation	Pedestrian Space	Reduced space for pedestrians on one or more streets	Increased pedestrian space throughout network
	Cycling Facilities	Cycling facilities removed	Addition of cycling facilities to match City's Bicycle Network plan
	Accessibility for Persons with Disabilities	Accessible crossings removed	Upgrades to crossings throughout network
Socioeconomic	Access to Parking	Loss of on on-street parking throughout network	No parking added - more than sufficient amount available
	Access to Transit	Delays to or loss of transit route(s)	Opportunity for two-way transit throughout network
	Business Visibility	Reduced visibility	Improved visibility throughout network
	Construction Impacts	Construction throughout network	Construction avoided
Economic Development	Wayfinding	Loss of wayfinding	Improvements to wayfinding
	Development	Impedes future development	Supports future development
Cultural	Heritage Features	Impact/removal of heritage feature	Preservation of existing heritage features
Natural	Air Quality	Reduced air quality	Improved air quality
	Landscape and Vegetation	Impact/removal of vegetation or landscaping throughout network	Improvements to landscaping throughout network
Engineering and Cost	Capital Cost	Cost > \$10 million	Cost < \$1 million
	Maintenance	Increase in maintenance costs	Decrease in maintenance costs
	Property Acquisition	Property removal required	No property removal required

4.4.3 Detailed Evaluation of Alternatives

A detailed evaluation of the three alternatives was completed using the criteria identified in Section 4.4.2, and is included in Appendix 5. The following are the findings of the detailed evaluation.

Vehicular Transportation

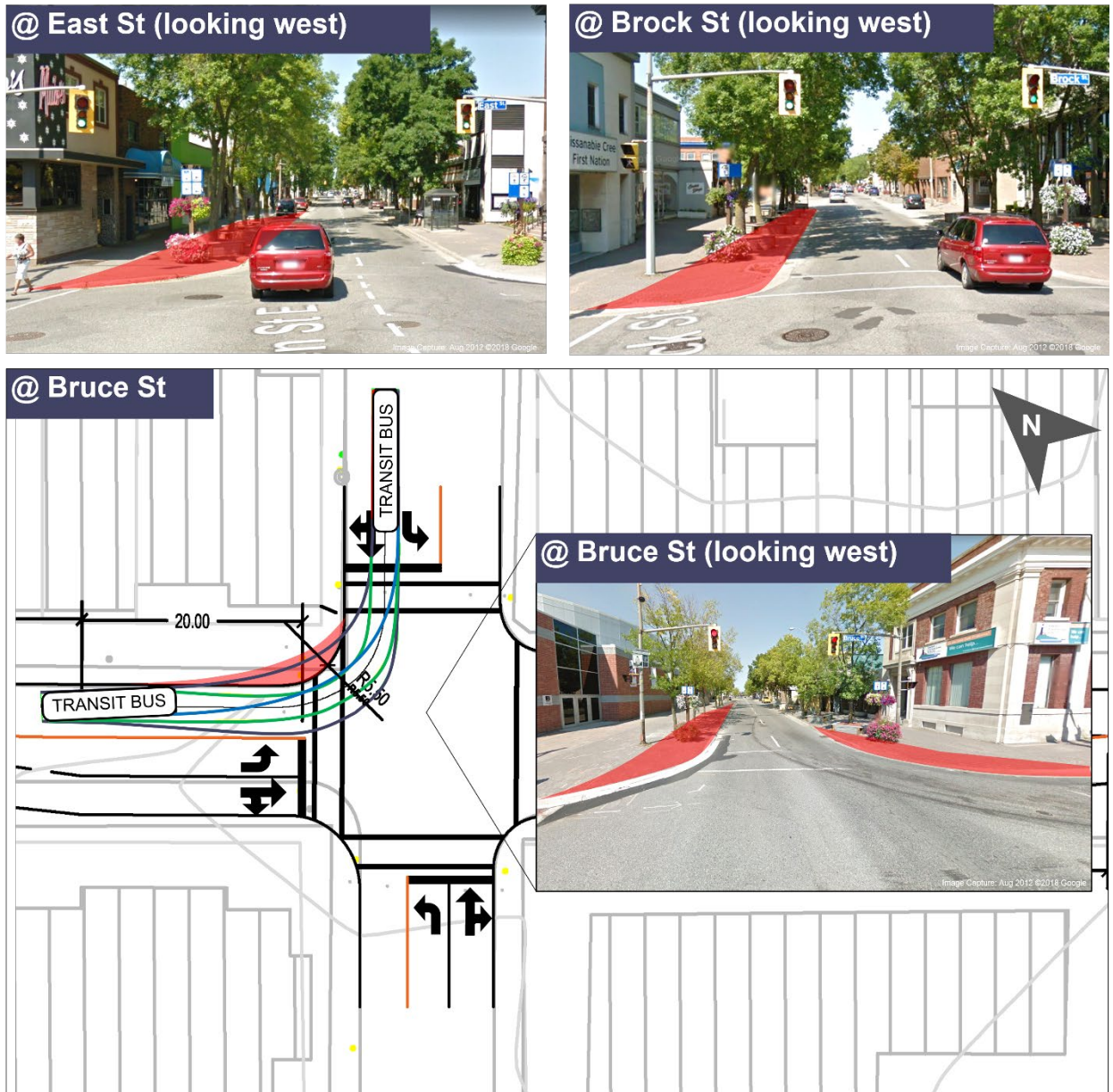
- Traffic Level of Service
 - All three alternatives have sufficient capacity to meet existing and future traffic demand.

- Two-way operation (Alternative 3) has a minor eastbound delay increase with more turning traffic. Two-way operation can also present difficulty/delays for drivers moving around stopped or slow vehicles such as buses or delivery vehicles.
- Potential to Reduce Traffic Speeds
 - Other municipalities have found two-way operation reduces speeds due to visual “friction” from oncoming vehicles.
 - The reduction of Bay Street to two lanes in Alternative 1A offers the benefit of slower driver speeds than three lanes in Alternative 1.
 - Reduced speed limits, narrowed lanes, adjusted signal timing, and other measures can also be used to influence driver behavior for all three alternatives.
- Ease of Routing
 - Two-way operation (Alternative 3) offers greater ease of routing for all drivers.
 - One-way operation (Alternatives 1 and 1A) does not provide visitors entering on the International Bridge from the US direct access to Queen Street.
 - Routing improvements can be made to the one-way network (Alternative 1 and 1A) with better wayfinding signage.

Active Transportation

- Pedestrian Space
 - The potential impacts of converting Queen Street to two-way operation are significant. Conversion would require road widening at up to 10 major intersections for left-turn lanes, buses and delivery trucks. Given the limited right-of-way, this would result in reduced sidewalk space and removal of planters and trees at these intersections. Exhibit 4.9 illustrates the potential extent of these impacts, shown in red.
 - The addition of the MUP on Bay Street for all three alternatives would provide a benefit for pedestrians.
- Cycling Facilities
 - The addition of the MUP on Bay Street for all three alternatives would provide a new east-west route through downtown for cyclists.
 - Two-way operation (Alternative 3) typically reduces vehicle speeds, improving conditions for cyclists sharing the road.

Exhibit 4.9: Potential Impacts to Sidewalks and Planters on Queen Street for Two-Way Conversion (Alternative 3)



- Accessibility for Persons with Disabilities
 - All three alternatives provide an opportunity to improve accessibility through crossing upgrades such as separated crossings, tactile plates, signals with audible tones and tactile crossing buttons. These upgrades would meet Accessibility for Ontarians with Disabilities Act (AODA) standards.
 - Alternative 1A has shorter crossings at several locations along Bay Street because there would be only two lanes to cross on the east side of every intersection.

Socioeconomic

- On-Street Parking and Loading
 - Two-way operation (Alternative 3) would require loading zones on Queen Street. This combined with widening for left turning lanes could result in the loss of approximately 30 on-street parking spaces, as illustrated in Exhibit 4.10.

Exhibit 4.10: Estimated On-Street Parking Space Removals on Queen Street



- Transit
 - Two-way traffic (Alternative 3) offers an opportunity for bi-directional transit routes, where riders arrive and depart from same street, making it easier to navigate, and reducing travel time.
- Business Visibility
 - Two-way operation (Alternative 3) offers better visibility of businesses as a result of drivers travelling in both directions and being able to see corners and side streets from both directions. This is further advanced by drivers generally traveling at slower speeds, offer more opportunity to observe storefronts.
 - All 3 alternatives include a MUP on Bay Street which offers the potential benefit of greater business exposure from more pedestrians and cyclists.
- Construction
 - All three alternatives will cause temporary impacts to drivers and businesses during construction, potentially including, but not limited to, diversions and short-term road closures. The impacts of construction for Alternative 1 and 1A would be limited to Bay Street. The impacts of construction for Alternative 3 would be include both Bay Street and Queen Street, the two main downtown corridors.

Economic Development

- The City has identified that wayfinding in the downtown is in need of improvement, and will be conducting a study to identify areas where it can be

improved. All three alternatives would similarly benefit from these improvements.

- It is anticipated that all three alternatives would have similar and limited potential for impact on development.

Cultural Environment

- All three alternatives have limited potential for the disruption of archaeological resources, as the extent of construction would be limited to the existing rights-of-way, where the streets and municipal infrastructure have previously disturbed the lands beneath through their construction, maintenance and reconstruction/repair.
- Similarly, identified cultural heritage resources are all located on properties beyond the rights-of-way for all three alternatives, and as such the potential for impact on these sites is limited.

Natural Environment

- The study area highly developed with limited potential for impact on the natural environment.
- Alternative 3 would require widening at intersections which would require the removal of planters and trees. New landscaping on Queen St could be added to mitigate these impacts, but would have less space.
- Alternative 1 and 3 would offer benefits with landscaping improvements along one side of Bay Street. Alternative 1A would offer further benefits with landscaping improvements on both sides of Bay Street.

Engineering and Cost

- Two-way conversion of two streets (Alternative 3) requires more than three times the capital investment of maintaining one-way operation with reduced lanes on Bay St (Alternative 1 and 1A).
- Landscaped boulevards and multi-use paths have higher maintenance costs than a street lanes, making Alternative 1A more expensive for ongoing maintenance.

Exhibit 4.11 summarizes the findings of the detailed alternative evaluation, identifying the best performing alternative for each sub-criteria.

Exhibit 4.11: Detailed Alternative Evaluation Summary

Criteria	Sub-criteria	Alternative 1 Base Scenario – Implement Bay Street EA (Three Lanes One-Way and MUP)	Alternative 1A Modified Base Scenario – Implement Bay Street EA (Two Lanes One-Way and MUP)	Alternative 3 Convert Bay Street and Queen Street to two-way operation
Vehicular Transportation	Traffic Level-of-Service	✓	✓	✓
	Potential to Reduce Traffic Speed		✓	✓
	Traffic Circulation, Ease-of-Routing			✓
Active Transportation	Pedestrian Space	✓	✓	
	Cycling Facilities	✓	✓	✓
	Accessibility for Persons with Disabilities		✓	
Socioeconomic	Access to Parking	✓	✓	
	Access to Transit			✓
	Business Visibility			✓
	Construction Impacts	✓	✓	
Economic Development	Wayfinding	✓	✓	✓
	Development	✓	✓	✓
Cultural	Heritage Features	✓	✓	✓
Natural	Air Quality	✓	✓	✓
	Landscape and Vegetation		✓	
Engineering and Cost	Capital Cost	✓	✓	
	Maintenance	✓		✓
	Property Acquisition	✓	✓	✓

4.5 Preliminary Preferred Alternative

Based on the detailed alternative evaluation, discussed in Section 4.4, Alternative 1A was identified as the preliminary preferred alternative, as it:

- Maintains sufficient capacity for eastbound traffic;
- Offers landscaped boulevards on both sides of Bay Street;
- Offers narrower crossings than Alternatives 1 and 3;
- Does not require the reduction of pedestrian space, on-street parking, planters or trees on Queen Street; and,

- Offers other benefits similar to Alternative 1 including engineering and cost, and reduced construction impacts.

A great deal of discussion and consultation was held with respect to the evaluation of alternatives. It was found that different members of the public or different groups would weight attributes differently, and therefore come to a different conclusion than the evaluation process used. For example, traffic circulation and ease of routing was for some individuals a sufficient benefit to warrant two-way conversion despite the drawbacks indicated.

The evaluation used above applies a fairly neutral weighting method. With this system the evaluation appeared to have several factors in favor of remaining one-way, even excluding cost which was also in favor of remaining one-way. A key factor is the reduction of pedestrian space, on-street parking, planters, or trees on Queen Street, which arises from the recommended lane configuration from the traffic study. A good peer comparison was also identified in the peer cities review, where Kingston had elected to maintain Princess Street, the City's highly successful main street, as one-way in favour of maintaining wide sidewalks rather than narrowing sidewalks and implementing turning lanes which would likely be necessary with two-way traffic.

Overall the public input was also mixed with strong opinions both in support of and in opposition to two-way conversion. However it was also found that explaining the negative trade-offs of two-way conversion would help the public understand the evaluation process.

4.6 Preferred Alternative

The preliminary preferred alternative was presented to the public at Public Information Centre #2 and the Workshop with the Downtown Association, as discussed in Section 6. While opinions were varied on which alternative should be carried forward, there was a general understanding of the potential impacts of two-way conversion of Queen Street and why the Alternative 1A was selected as the preferred alternative.

As a result, the **preferred alternative is Alternative 1A: Modified Base Scenario – Implement Bay Street EA (Two Lanes One-Way and MUP).**

4.7 Additional Recommended Improvements

During the course of the study other potential improvements were identified. These improvements have been examined for the preferred alternative, as additional refinements. The following provides a summary of additional recommended improvements with notes as to further work or study required:

4.7.1 Removal of Traffic Signals

The traffic analysis included a review of traffic signal warrants throughout the downtown. The evaluation was completed for two-way conversion of Bay Street and Queen Street,

and for keeping Bay Street and Queen Street one-way. Generally it was found that many locations were near or below the threshold for warranting signals. However, it was also noted that there are concerns with respect to public safety and driver familiarity with regards to removal of traffic signals. Therefore, only the locations with traffic volumes being far lower than thresholds to warrant signals, were flagged for future consideration by the City. The recommended intersections where the City could consider the removal of traffic signals, for the scenario maintaining one-way traffic operations, are at:

- Bay Street and Spring Street;
- Bay Street and East Street; and,
- Queen Street and Spring Street.

4.7.2 Traffic Speed

During the course of the study, it was noted that the City has timed the traffic signals along Queen Street to optimize through traffic for 40km/h. This is a positive feature of the downtown as it limits the opportunity for speeding. However based on field review and comments from the public, there are still long 'green bands' where traffic has the opportunity to travel at higher speeds, and also the continuous through nature of the green band can lead to a perception of free-flow conditions. The City should consider either a lower 30km/h green band, or discontinuing the green band at a few intermediate locations to encourage traffic to slow down along Queen Street.

4.7.3 Wayfinding and Signage

One of the issues with the one-way traffic operations in place is that it causes difficulty in navigating for unfamiliar drivers. An improved wayfinding and signage system directing the public to parking lots and the downtown core areas could improve visibility and accessibility by unfamiliar drivers. Through discussions with the public, this issue was also felt to be a concern for pedestrians and cyclists. Improved signage for cyclists and pedestrians is recommended to be included in the Wayfinding and Signage enhancements.

4.7.4 Bike Racks

During the detailed design stage for the preferred alternative, consideration should also be given to adding bike racks downtown. Bike racks allow cyclists to stop and secure their bicycles while they visit establishments, further encouraging cycling as a mode of travel to go downtown.

4.7.5 Programming and Events

Throughout the public consultation there was significant interest in the support of the downtown through programming and events. While specific programming and events were not part of the EA, it was noted that business and City support for events can contribute to the vitality of the downtown. The City has been supporting and permitting a range of events in the downtown which anecdotally have been a success. Some businesses report concerns with the closing of Queen Street during events as it can impact customer access. Generally it is recommended that the City continue to support and encourage events in the downtown including those that require road closures, and work with businesses and consider temporary signage to direct the travelling public.

4.7.6 Other Investment

Some feedback from the public received was related to other types of potential investment either tangentially related, or not related to the transportation system. These could be public parks, community centres, or public events, or other programs relating to land-use such as encouraging development. It was noted that through the downtown strategy and other initiatives the City is continually reviewing the opportunities and funding potential for these types of projects. Generally it is recommended that the City continue to review these opportunities as funds are available. The City should consider investment opportunities to encourage higher-density or new residential and commercial land-uses in and around the downtown.

5 Environmental Assessment Commitments

The City of Sault Ste. Marie will carry forward the preferred alternative, **Alternative 1A: Modified Base Scenario – Implement Bay Street EA (Two Lanes One-Way and MUP)** (as identified in Section 4.6) into functional preliminary design, detailed design and implementation.

The design phase will specifically address the following for the entirety of Bay Street, and the intersecting streets in the immediate areas of the intersections:

- Detailed cross sections and alignments for the road (including lane widths), boulevards (including widths and lengths on both sides of the street), and MUP (including widths);
- Lane markings;
- Turning lanes;
- Pavement materials and paint selection;
- Illumination modifications;
- Crosswalk design including location of curb depressions, tactile plates, controls and lights; and,
- Modifications to signage.

An Environmental Control Plan will be prepared prior to construction to identify all of the measures which will be used to protect the existing environment, including but not limited to the prevention of sediment runoff, disruptions from noise, security fencing (where needed), etc.

A construction schedule which includes road and lane closures will be developed in advance of construction. Properties adjacent to the impacted area will be notified in advance of the work.

6 Public Consultation Program

Public consultation on the existing conditions and potential changes were a key component of this study. Two Public Information Centres (PICs) and the Workshop with the Downtown Association were held over the course of the study, offering opportunities for the public to review information, ask questions, and provide comments. This section summarizes the findings of the consultation program, which were used to shape the evaluation of alternatives, and the preferred solution.

6.1 Notice of Commencement

The Notice of Commencement was published in the Sault Star on October 21st, 2017 and posted on the City's website (<http://www.saultstemarie.ca/DowntownTrafficEA>) at approximately the same date. A copy of the notice is included in Appendix 6.

The notice invited the public to participate in the study and provided information on the:

- study and its purpose;
- study area and streets to be examined;
- project being subject to the requirements of the Class EA Schedule B;
- stages of the study, noting future PICs and where notices would be published;
- contact information for the City and consultant project leads;
- study's website address; and
- how to participate actively in the study through the planned PICs and/or requesting to be added to the project mailing list.

6.2 Public Information Centre #1

The PIC #1 was held to introduce and present information on the study, including its purpose, the scope, the Class EA process, existing traffic conditions, street conversion options and how these options will be evaluated. Information on the advantages of both one-way and two-way configurations were also presented, along with case studies for other cities where two-way conversion was considered and either completed or not completed.

The notice, materials presented, and comments received are all included in Appendix 6.

6.2.1 Notice of Public Information Centre #1

The Notice of PIC #1 was published in the Sault Star on November 22nd and posted on the City's website on December 4th, 2017.

The notice invited the public to participate in the study and provided information on the:

- study and its purpose;
- date, time and venue for the PIC;
- project being subject to the requirements of the Class EA Schedule B;
- contact information for the City and consultant project leads;
- study's website address; and
- how to actively participate in the study through the planned PIC and/or requesting to be added to the project mailing list.

6.2.2 Venue, Format and Attendance

PIC #1 was held on December 6th, 2017 in the Russ Ramsay Board Room at the Sault Ste. Marie Civic Centre (Level 3) from 3:00 p.m. to 7:00 p.m. A drop-in format was used, where members of the project team were available to speak with individuals or small groups about the study and address questions and concerns.

Information on the study was presented on 18 boards displayed around the room, which included:

- The study and its purpose;
- The requirements of the Class EA Schedule B;
- Preliminary alternative solutions considered;
- Preliminary evaluation criteria considered;
- Contact information for the City and consultant project leads;
- The study's website address; and
- How to actively participate in the study by submitting comments and/or requesting to be added to the project mailing list.

Attendees were encouraged to review the boards, interact with the project team and submit comments. A total of 30 people attended PIC #1.

6.2.3 Comments Received

A number of questions and comments were made by attendees during PIC #1, and/or submitted on comment sheets to the project team.

Attendees were provided a set of frequently asked questions and answers about the Downtown Traffic study, as well as comment sheets asked:

- Would you support conversion of some or all one-way streets in the Downtown to two-way operations? Why?
- Do you have any other comments?

A total of 13 comment sheets were submitted at PIC #1, with one received afterward via email.

From these submissions, several considerations for the study were identified:

- Improving cycling access to downtown and waterfront;
- Reducing speed limits to improve safety and business visibility;
- Directing US visitors to Queen Street from the International Bridge;
- Potential for traffic congestion with two-way conversion;
- Improving downtown infrastructure;
- Reallocating resources to:
 - More signalized pedestrian crossings on Bay Street and Wellington Street; and,
 - Paving gravel roads in other areas of the city;
- Confusion due to two-way conversion and impacts on safety; and,
- Space for snow removal and traffic to get around plows.

These considerations were taken into account when developing the evaluation criteria used for the study, identified in Section 4.4.2.

6.3 Public Information Centre #2

PIC #2 was held to present the evaluation of alternatives considered for the downtown traffic study (as discussed in Sections 4.2 to 4.4), and the preliminary preferred alternative (as discussed in Section 4.5).

The notice, materials presented, and comments received are all included in Appendix 6.

6.3.1 Notice of Public Information Centre #2

The Notice of PIC #2 was published in the Sault Star and posted on the City's website on July 19th, 2018.

The notice invited the public to participate in the study and provided information on the:

- Study and its purpose;
- Date, time and venue for the PIC;
- Project being subject to the requirements of the Class EA Schedule B;
- Contact information for the City and consultant project leads;
- Study's website address, and;
- How to actively participate in the study through the PIC and/or by requesting to be added to the project mailing list.

6.3.2 Venue, Format and Attendance

PIC #2 was held on July 25th, 2018 in Russ Ramsay Board Room at the Sault Ste. Marie Civic Centre (Level 3) from 3:00 p.m. to 7:00 p.m. A drop-in format was used, where members of the project team were available to speak with individuals or small groups about the study and address questions and concerns.

Information on the study was presented on 19 boards displayed around the room, which included:

- The study and its purpose;
- The requirements of the Class EA Schedule B;
- A summary of input received at PIC #1
- Alternative solutions considered;
- Refined evaluation criteria considered;
- A summary of the evaluation of alternative solutions;
- Identification of the preliminary preferred solution;
- Contact information for the City and consultant project leads;
- The study's website address; and
- How to actively participate in the study by submitting comments and/or requesting to be added to the project mailing list.

Attendees were encouraged to review the boards, interact with the project team and submit comments. A total of 61 individuals were in attendance according to the sign-in information.

6.3.3 Comments from the Public

A number of questions and comments were made by attendees during PIC #2, and/or submitted on comment sheets to the project team. The comment sheets had the following questions:

- Do you support the study recommendations:
 - Maintain one-way traffic flow in the downtown;
 - Enhance Bay Street with a multi-use path, landscaping and reduce travel lanes from four to two through lanes, and;
 - Improve wayfinding for drivers and active transportation (walking, cycling)
 - Continue to invest in improvements for persons with disabilities, programming events in the downtown, and landscaping.
- Do you have any other comments or suggestions?

A total of 19 comment sheets were submitted at the PIC, with 10 received afterward via email. In addition, there were a total of 26 comments received via Facebook Event. Highlights of input received are summarized in Exhibit 6.1.

Exhibit 6.1: Input from Public Information Centre #2

Comment	City Response
Vehicular Transportation	
Accidents have occurred when signals were removed in the past, and other changes to the downtown (e.g. two-way conversion) may lead to similar results.	Two-way conversion and replacing traffic signals with stop signs can cause short-term increases in accidents, while drivers adjust to the new conditions. Two-way conversion can also increase the number of accidents from left turns in front of on-coming traffic and drivers attempting to get around stopped or slow moving vehicles. However, under two-way operation vehicles typically travel at slower speeds due to the visual “friction” from oncoming traffic, which can reduce the number and intensity of accidents. This has been taken into consideration for the evaluation of alternatives and the recommendations from the signal warrant evaluation.
Some customers currently have difficulty wayfinding. It is believed this could be resolved through two-way conversion.	This study has identified routing through downtown would be improved by two-way conversion. However, conversion would also reduce pedestrian space and on-street parking on Queen Street. This has been taken into consideration for the evaluation of alternatives. The City has identified that wayfinding in the downtown is deficient, and will be conducting a study to identify areas where it can be improved. All three alternatives would similarly benefit from these improvements.
One-way traffic pushes individuals out of the area, and that trading off parking for two-way conversion would be desirable	Under the current configuration, the International Bridge directs incoming visitors toward Bay Street, requiring two left turns to get to Queen Street. While two-way conversion would provide a more direct route to Queen Street from the bridge, conversion would also reduce pedestrian space and on-street parking on Queen Street. This has been taken into consideration for the evaluation of alternatives.
Active Transportation	
The MUP would be beneficial since it would provide separation from vehicles and wider room to operate for pedestrians and cyclists	Agreed. This has been taken into consideration for the evaluation of alternatives.
Bike racks should be added downtown	Agreed. This should be taken into consideration during the detailed design stage.
The MUP / improvements to cycling facilities are unnecessary given the many existing places for pedestrians, the boardwalk nearby and the observed lack of cyclists. That space could better be used for another purpose (unspecified).	Given the lack of current infrastructure, it is difficult for cyclist to ride through downtown. The City's Cycling Master Plan includes a cycling connection from the Hub Trail to Downtown to provide access to shops, restaurants and other businesses in the core. In this study, the MUP on Bay Street has been included to serve as this connection. The MUP will provide a more comfortable and safe space for cyclists.
The use of electronic bikes (e-bike) is of concern	It is understood that the concern may be due to the higher speed of e-bikes and potential for greater conflict with traffic. The concern is noted.
Cycling and pedestrian areas should be separate and delineated along the MUP. The City should look at North Bay as a good example of this type of design.	MUPs are designed to be shared facilities for pedestrians and cyclists, and can include a centre line to separate directions of users. Much of the North Bay Trail System is made up of MUPs such as these. Pavement markings, including a centre line, will be considered during the detailed design stage.
Two-way conversion could negatively affect pedestrian safety.	There are several factors which play a role in pedestrian safety and comfort, including the speed of vehicular traffic and the length of crossings. These have been considered in the evaluation of alternatives. While two-way conversion may lead to some initial confusion for pedestrians and motorists, it also has fewer potential conflicts with turning motorists to consider (considerations for one-way streets vary with each intersection, depending on whether the intersecting street is two-way, or one-way, and which direction for one-way)
Socioeconomics	
Major construction will impact businesses in the area	Agreed. This is considered in the evaluation of alternatives.
Two-way conversion will not lead to business enhancement	While two-way conversion may have contributed to improvements to business in some cities, there are other considerations that factor into these improvements, and potential negative impacts that must also be considered. This has been taken into consideration for the evaluation of alternatives.

6.4 Workshop with the Downtown Association

In response to interest by the Downtown Association in the preliminary recommendations of this EA presented at PIC #2, all Association members were invited to a special workshop.

The invitation, materials presented, and comments received are included in Appendix 6.

6.4.1 Invitation for the Workshop with the Downtown Association

The invitation for the Workshop with the Downtown Association (the Workshop) was directly sent to members of the Downtown Association on September 6th.

The invitation invited all interested members to attend the Workshop and also provided information on:

- Alternatives considered;
- Criteria considered;
- Other cities which have either opted for two-way conversion and to remain with existing one-way configurations;
- Contact information for the City and consultant project leads; and
- How to actively participate in the study through the planned workshop.

6.4.2 Venue, Format and Attendance

The Workshop was held on September 20th, 2018 at GFL Memorial Gardens at 1:30 PM and again at 5:30 PM to encourage attendance. Information presented included examples of street conversion studies in other cities (see previous Section 1.2), status of the study and public input to date and advantages and disadvantages of street conversion. Attendees were asked to identify the positive and negative impacts of one-way versus two-way traffic in the downtown.

Five Association members attended the afternoon session of the Workshop, and eight attended the evening session.

6.4.3 Input Received at the Workshop

The Workshop included discussions, activities and comment sheets where members offered their input. Comment sheets included the following questions:

- Do you support the study recommendations to:
 - Maintain one-way traffic flow in the downtown; and,

- Enhance Bay Street with a south-side multi-use path, boulevard landscaping and reduced travel lanes from 4 to 2 through lanes.
- If you don't support the study recommendations, what should be done with Downtown traffic?
- Do you have any other comments or suggestions?

Highlights of their input are summarized in Exhibit 6.2. Several attendees of the Workshop noted that the information on the trade-off helped them understand the process and evaluation. In particular, with respect to two-way conversion, the loss of sidewalk space, loss of parking, and cost were important factors in the evaluation of alternatives. Even if their individual preference was to convert to two-way traffic, the evaluation and result was better understood.

Exhibit 6.2: Input from the Downtown Association

Comment	City Response
Why not simply reverse the one-way directions on Queen Street and Bay Street to direction eastbound International Bridge traffic to Queen Street	The two lane capacity of Queen Street would be insufficient to accommodate added bridge traffic and introduce more truck traffic to Queen Street.
Reduce posted speed on Queen Street to 40 km/h.	Owing to the visually open nature of Queen Street, speed reduction would be very difficult to enforce. Also, speed reduction may be available through alternative traffic calming measures.
Add traffic calming to Bay Street Queen Street	Traffic calming through lane reduction and addition of active transportation space is recommended on Bay Street. This can also be considered in future plans for Queen Street.
Reducing Bay Street to three lanes helps to reduce the congestion problem on Pim Street between Queen Street and Bay Street	Agreed.
The expected loss of some 30 on street parking spaces on Queen Street if it was converted to two-way operations is only about 10% of the total on street supply and may not be an issue for merchants	On street parking removal is commonly an issue with downtown businesses. The benefits of conversion against the loss of on-street parking has been considered in the evaluation of alternatives.

6.5 Notice of Completion

A copy of the notice is included in Appendix 6. Digital copies of the Project File Report are to be made available on the City's website. Physical copies were also made available at the City of Sault Ste. Marie offices and the James L. McIntyre Centennial Library.

The notice initiated a 30 day review period, and invited the public to review and submit comments on the Project File Report. The Notice of Completion also provided information on the:

- study and its purpose;
- study area and streets examined;
- project being subject to the requirements of the Class EA Schedule B;
- the City's intention to proceed with the preferred alternative, subject to comments received and necessary approvals;
- contact information for the City and consultant project leads;
- study's website address;
- location of copies of the Environmental Project Report;
- 30 day comment period; and,
- ability and how to submit a request to the Minister of the Environment, Parks and Conservation to require a higher level of assessment under an individual Environmental Assessment process (referred to as a Part II Order).

The EA Act provides an appeal mechanism that allows any person or party that feels their concerns have not been and will not be addressed through the Class EA to submit a request to the Minister of the Environment, Conservation and Parks to change the project status and require the proponent complete an individual EA (referred to as a Part II Order). Requests must be received by the Minister within the 30 day review period initiated by the Notice of Completion. Requests must be submitted in writing and include reasons for the request. The Minister will then review the request and make a decision on whether to issue a Part II Order.

7 Conclusions

The City of Sault Ste. Marie has conducted this study of its downtown examining the potential to improve downtown traffic operations, including the potential conversion of the one-way street system to two-way operation. The study was conducted as a Schedule B project in accordance with the province's Municipal Class Environmental Assessment (Class EA) process (2015).

Vehicular traffic has shifted away from the downtown in recent years due to changes in socioeconomic conditions and improvements to transportation infrastructure, such as new "big box" retailers opening north of downtown and the introduction of Carmen's Way as a bypass of downtown. Building on recent studies, this study has identified an opportunity to make improvements to the downtown road network, which take into consideration two-way conversion as well as other changes that can improve safety and comfort for all road users, including pedestrians, cyclists and transit riders.

An evaluation of six alternatives was completed which accounted for vehicular transportation, active transportation, the socioeconomic environment, economic development, the cultural environment, the natural environment, engineering and costs. The public was also consulted over the course of the Class EA process, to allow for input on the evaluation.

As a result of the evaluation and input from public consultation, it was determined that the preferred Alternative is **Alternative 1A: Modified Base Scenario – Implement Bay Street EA (Two Lanes One-Way and Multi-Use Path)**.

Alternative 1A was selected because it:

- Maintains sufficient capacity for eastbound traffic;
- Offers landscaped boulevards on both sides of Bay Street;
- Offers narrower crossings for pedestrians on Bay Street;
- Does not require the reduction of pedestrian space, on-street parking, planters or trees on Queen Street; and,
- Offers a comparably high level of benefits at the lowest cost of the alternatives considered.

The recommendations of this study have been approved by Sault Ste. Marie City Council. Subsequent to this study, the City will proceed with functional preliminary design, detailed design and implementation of the proposed project.