Appendix A

Truck Haulage Routes Map

Ore and Slurry Haul Routes

0 1.5 3 6 9 12

Kilometers

- Major Road
- Local Road
- Private Road
- Railway
- Lake
- CGS Boundary
- KGHM Haul
- First Nickel Haul
- Vale Haul
- Xstrata Haul
- Xstrata Slurry Haul

Site Owner

- KGHM
- First Nickel
- Vale
- Xstrata

* Trucks haul approx.80,000 lbs. of ore / load.

* Trucks weigh empty approx. 26,000 lbs.

* Total weight of loaded trucks - approx. 106,000 lbs.

Paul Reid / David Grieve
September, 2014

*** All loads on internal - private roads**

Podolsky
(25 loaded trips/day)

Capreol

Lower Coleman Mine

McCreedy East Mine

Strathcona Mill
(35 loaded slurry trips/day)

Fraser Mine

Fraser Morgan

McCreedy West Mine
(25 loaded trips/day)

Levack

Craig Mine

Onaping Mine

Onaping Depth

Onaping

Dowling

Chelmsford

HIGHWAY 144

Azilda

Lake Whitewater

Lake Vermilion

Lake Fairbank

Windy Lake

Victor Main/Deep

Nickel Rim

Nickel Rim Depth

Nickel Rim South
(100 loaded trips/day)

Skead

Val Therese

M.R. 80

Hanmer

M.R. 84

RADAR

Nickel Rim Day Trips

Nickel Rim Night Trips

SR 640

Blezard Valley

Val Caron

M.R. 15

Whitson Lake

Falconbridge

Smelter

Garson Mine
(100 loaded trips/day)

Garson

FALCONBRIDGE

GARSON-COMISTON

MALEY

LASALLE

NOTRE DAME

Lindsley Mine
(Presently Closed)

(35 loaded trips/day)

Stobie Mine
(by rail)

NORTHWEST BYPASS

* Copper Cliff North Mine

Clarabelle Mill

Copper Cliff Smelter

Copper Cliff

Creighton Mine
(by rail)

Gertrude Mine
(Presently Closed)

(by Truck & Rail)

* Copper Cliff South Mine

Nickel Refinery

Lively

Kelley Lake

Ramsey Lake

Long Lake

Sudbury

ELM

LORNE

REGENT

PARIS

17E KINGSWAY

17 EAST

Coniston

Wahnapitae

BANCROFT

SOUTHWEST BYPASS

HIGHWAY 69 S

OLD HIGHWAY 537

Wanup

Lockerby Mine
(12 loaded trips/day)

FAIRBANK LAKE/M.R. 04

HIGHWAY 17 WEST

M.R. 55

Worthington

Naughton

Whitefish

Totten
(55 loaded trips/day
commencing Late 2012)

****NOTE: URSA Major Minerals' Shakespeare Nickel Copper Project, Shakespeare Twp., located outside of map**

Appendix B

Traffic Signal Warrant Analysis

Input Data Sheet

Analysis Sheet | Results Sheet | Proposed Collision | GO TO Justification:

What are the intersecting roadways? Regent/Douglas

What is the direction of the Main Road street? North-South

When was the data collected? 2010-06-29

Justification 1 - 4: Volume Warrants

a.- Number of lanes on the Main Road? 1

b.- Number of lanes on the Minor Road? 1

c.- How many approaches? 4

d.- What is the operating environment? Urban **Population >= 10,000** **AND** **Speed < 70 km/hr**

e.- What is the eight hour vehicle volume at the intersection? (Please fill in table below)

Hour Ending	Main Northbound Approach			Minor Eastbound Approach			Main Southbound Approach			Minor Westbound Approach			Pedestrians Crossing Main Road
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
7:00	8	146	21	27	161	34	105	170	22	20	45	45	23
8:00	12	133	14	29	99	35	88	191	17	16	46	49	8
9:00	22	145	21	23	98	24	63	163	26	14	53	58	13
12:00	23	177	17	30	92	21	80	168	26	17	80	64	31
13:00	1	141	19	28	97	27	107	210	31	32	100	286	18
16:00	1	51	10	33	65	25	111	149	29	24	83	273	27
17:00	8	83	23	37	89	29	81	161	30	20	159	311	15
18:00	8	146	21	27	161	34	105	170	22	20	45	45	23
Total	**83**	**1,022**	**146**	**234**	**862**	**229**	**740**	**1,382**	**203**	**163**	**611**	**1,131**	**158**

Justification 5: Collision Experience

Preceding Months	Number of Collisions*
1-12	0
13-24	0
25-36	0

* Include only collisions that are susceptable to correction through the installation of traffic signal control

Justification 6: Pedestrian Volume

a.- Please fill in table below summarizing total pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Factored 8 hour pedestrian volume	20,005		25		0		0		
% Assigned to crossing rate	23%		34%		30%		100%		
Net 8 Hour Pedestrian Volume at Crossing									4,610
Net 8 Hour Vehicular Volume on Street Being Crossed									2,000

b.- Please fill in table below summarizing delay to pedestrians crossing major roadway at the intersection or in proximity to the intersection (zones). Please reference Section 4.8 of the Manual for further explanation and graphical representation.

	Zone 1		Zone 2		Zone 3 (if needed)		Zone 4 (if needed)		Total
	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	Assisted	Unassisted	
Total 8 hour pedestrian volume	10,000	5	10	5	0	0	0	0	
Total 8 hour pedestrians delayed greater than 10 seconds	10	10	1	6	2	4	0	0	
Factored volume of total pedestrians	20,005		25		0		0		
Factored volume of delayed pedestrians	30		8		8		0		
% Assigned to Crossing Rate	23%		34%		30%		100%		
Net 8 Hour Volume of Total Pedestrians									4,610
Net 8 Hour Volume of Delayed Pedestrians									12

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Regent/Douglas Count Date: 2010-06-29

Justification 1: Minimum Vehicle Volumes

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 Lanes		2 or More Lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☑	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
1A	480	720	600	900	804	729	710	795	1,079	854	1,031	804		
	COMPLIANCE %				100	100	99	100	100	100	100	100	799	100
1B	120	170	120	170	332	274	270	304	570	503	645	332		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
Restricted Flow Signal Justification 1:					Both 1A and 1B 100% Fullfilled each of 8 hours — Yes ☐ No ☑									
					Lesser of 1A or 1B at least 80% fulfilled each of 8 hours — Yes ☑ No ☐									

Justification 2: Delay to Cross Traffic

Restricted Flow Urban Conditions

Justification	Guidance Approach Lanes				Percentage Warrant								Total Across	Section Percent
	1 lanes		2 or More lanes		Hour Ending									
Flow Condition	FREE FLOW ☐	RESTR. FLOW ☑	FREE FLOW ☐	RESTR. FLOW ☐	7:00	8:00	9:00	12:00	13:00	16:00	17:00	18:00		
2A	480	720	600	900	472	455	440	491	509	351	386	472		
	COMPLIANCE %				66	63	61	68	71	49	54	66	497	62
2B	50	75	50	75	231	152	148	170	178	167	231	231		
	COMPLIANCE %				100	100	100	100	100	100	100	100	800	100
Restricted Flow Signal Justification 2:					Both 2A and 2B 100% Fullfilled each of 8 hours — Yes ☐ No ☑									
					Lesser of 2A or 2B at least 80% fulfilled each of 8 hours — Yes ☐ No ☑									

Justification 3: Combination

Combination Justification 1 and 2

Justification Satisfied 80% or More				Two Justifications Satisfied 80% or More	
Justification 1	Minimun Vehicular Volume	YES ☑	NO ☐	YES ☐	NO ☑
Justification 2	Delay Cross Traffic	YES ☐	NO ☑		NOT JUSTIFIED

Justification 4: Four Hour Volume

Justification	Time Period	Total Volume of Both Approaches (Main)	Heaviest Minor Approach	Required Value	Average % Compliance	Overall % Compliance
		X	Y (actual)	Y (warrant threshold)		
Justification 4	7:00	472	222	275	81 %	81 %
	12:00	491	161	266	61 %	
	13:00	509	418	258	100 %	
	18:00	472	222	275	81 %	

Analysis Sheet

Input Sheet | Results Sheet | Proposed Collision

GO TO Justification:

Intersection: Regent/Douglas

Count Date: 2010-06-29

Justification 5: Collision Experience

Justification	Preceding Months	% Fulfillment	Overall % Compliance
Justification 5	1-12	0 %	0 %
	13-24	0 %	
	25-36	0 %	

Justification 6: Pedestrian Volume

Pedestrian Volume Analysis

8 Hour Vehicular Volume V_8		Net 8 Hour Pedestrian Volume				
		< 200	200 - 275	276 - 475	476 - 1000	>1000
Justification 6A	< 1440					
	1440 - 2600					Justified
	2601 - 7000					
	> 7000					

Pedestrian Delay Analysis

Net Total 8 Hour Volume of Total Pedestrians		Net Total 8 Hour Volume of Delayed Pedestrians		
		< 75	75 - 130	> 130
Justification 6B	< 200			
	200 - 300			
	> 300	Not Justified		

Results Sheet

Input Sheet | Analysis Sheet | Proposed Collision

Intersection: Regent/Douglas

Count Date: 2010-06-29

Summary Results

Justification			Compliance		Signal Justified? YES	Signal Justified? NO
1. Minimum Vehicular Volume	A	Total Volume	100	%	☐	☑
	B	Crossing Volume	100	%		
2. Delay to Cross Traffic	A	Main Road	62	%	☐	☑
	B	Crossing Road	100	%		
3. Combination	A	Justificaton 1	100	%	☐	☑
	B	Justification 2	62	%		
4. 4-Hr Volume			81	%	☐	☑
5. Collision Experience			0	%	☐	☑
6. Pedestrians	A	Volume	Justification met		☐	☑
	B	Delay	Justification not met			

Appendix C

Online Survey

City of Greater Sudbury – Transportation Study Questionnaire

The City of Greater Sudbury has initiated a study to develop a Transportation Plan to guide development of the multi-modal transportation system to the year 2032. This Plan will address networks and policies, and provide support to the Official Plan update. The Transportation Plan will build upon work completed to-date on cycling, pedestrian and sustainability planning initiatives.

The City's most recent Transportation Study was updated in 2005. The 2005 update included the larger City boundaries, and anticipated the impacts of new retail "big box" developments, educational institutions, and hospital expansion on the transportation network. Since 2005, Greater Sudbury has witnessed these and other changes, which must be addressed in the comprehensive Transportation Study. The Plan will account for the shift from transporting goods by rail to a focus on truck transportation, and how this will impact Greater Sudbury's streets. It will also recognize economic activity and travel demands associated with new mining activity in Greater Sudbury. The Transportation Plan will ultimately provide a multi-modal vision of "sustainable mobility" that can accommodate vehicles, transit, cyclists and pedestrians in a healthy community.

The primary goal of this study is to produce a Transportation Study Report that defines a comprehensive, fully integrated and sustainable transportation network which accommodates projected transportation demands to the year 2032.

Please take a few moments to complete the following questionnaire. Your comments are important to us as we develop a Transportation Plan for Greater Sudbury!

City of Greater Sudbury – Transportation Study Questionnaire

1. Where, and how often, do you travel most?

	Every day	A few times a week	A few times a month	A few times a year	Never
Northwest (Azilda, Chelmsford, Dowling)	◯	◯	◯	◯	◯
North (Val Caron, Val Therese, Capreol)	◯	◯	◯	◯	◯
Northeast (Garson, Falconbridge)	◯	◯	◯	◯	◯
Southwest (Mikkola, Lively, Naughton)	◯	◯	◯	◯	◯
Downtown Sudbury	◯	◯	◯	◯	◯
New Sudbury	◯	◯	◯	◯	◯
South end of Sudbury / Four Corners	◯	◯	◯	◯	◯
Other locations within Greater Sudbury	◯	◯	◯	◯	◯
Outside of Greater Sudbury	◯	◯	◯	◯	◯

If Other (please specify)

2. How often do you use the following transportation options to reach your destination? (Select one of the following frequencies for each mode)

	Every day	A few times a week	A few times a month	A few times a year	Never
Drive a car	◯	◯	◯	◯	◯
Passenger in a car	◯	◯	◯	◯	◯
School Bus	◯	◯	◯	◯	◯
City Bus	◯	◯	◯	◯	◯
Bicycle	◯	◯	◯	◯	◯
Walk	◯	◯	◯	◯	◯
Taxi	◯	◯	◯	◯	◯
Other	◯	◯	◯	◯	◯

If Other (please specify)

3. What level of importance would you assign to each of the following improvements that might encourage you to use alternative modes of transportation instead of driving? Rank all that apply.

	Most Important	Important	Somewhat Important	Least Important	Not Important At All
More sidewalks	◯	◯	◯	◯	◯
More multi-use hiking and cycling trails	◯	◯	◯	◯	◯
Bike lanes or paved shoulders on roads	◯	◯	◯	◯	◯
Improve bike, walk or transit connections to key destinations (schools, work, shopping, community centres)	◯	◯	◯	◯	◯
Maps identifying cycling, trail and pedestrian routes	◯	◯	◯	◯	◯
Shower/change facilities at schools/places of employment	◯	◯	◯	◯	◯
Secure bicycle parking	◯	◯	◯	◯	◯
Improvements to bus stops - shelters, benches, route information	◯	◯	◯	◯	◯
Improved and expanded bus routes	◯	◯	◯	◯	◯
Snow removal	◯	◯	◯	◯	◯
Other	◯	◯	◯	◯	◯

If Other (please specify)

4. Please rank what you think are the most important objectives for a Transportation Master Plan for Greater Sudbury:

	Most Important	Important	Somewhat Important	Least Important	Not Important At All
Improve the quality of life and health of Sudbury residents	◯	◯	◯	◯	◯
Improve connections between the communities in Greater Sudbury	◯	◯	◯	◯	◯
Improve walking and cycling as transportation options	◯	◯	◯	◯	◯
Provide better access to commercial areas (e.g. retail shopping areas, etc.)	◯	◯	◯	◯	◯
Support employment activity, including mining	◯	◯	◯	◯	◯
Enhance the sustainability of the transportation system	◯	◯	◯	◯	◯

5. What do you think are barriers to use of alternative transportation modes (walking, cycling and transit) in Greater Sudbury?

- ☐ Limited transit service area/distance between home and destinations
- ☐ Lack of sidewalks
- ☐ Limited hours of bus service
- ☐ Weather
- ☐ The cost
- ☐ Distance
- ☐ Safety
- ☐ Other

If Other (please specify)

6. In your opinion, what are the top three issues of concern regarding transportation?
(Enter up to three responses in order of importance - maximum 100 characters for each response)

1
2
3

7. In your opinion, what are the top three transportation improvements you would like to see?
(Enter up to three responses in order of importance - maximum 100 characters for each response)

1
2
3

8. In your opinion, what are the top three biggest challenges or constraints to providing greater transportation choices?
(Enter up to three responses in order of importance - maximum 100 characters for each response)

1
2
3

9. If you would like to receive notices regarding meetings and other information related to this study, please provide your name and contact information.

Name:
Address:
Postal Code:
Email Address:

Please note that all information submitted will become part of the public record with the exception of personal information. Name, address, postal code and email address will not be traded or sold for any reason.

City of Greater Sudbury – Transportation Study Questionnaire

Thank you very much for participating in this questionnaire!

Upon submitting your survey, you will be re-directed to the City of Greater Sudbury website.

Appendix D

Notice of Study Commencement / Public Information Centre #1

NOTICE OF STUDY COMMENCEMENT

Class Environmental Assessment
City of Greater Sudbury Transportation Study

We Value Your Input

The City of Greater Sudbury welcomes public input to create a Transportation Plan for vehicles, public transit, cyclists and pedestrians in our community. Learn more and submit comments at a public information centre on Wednesday, January 11, in Room C-12 at Tom Davies Square, 200 Brady Street, Sudbury. You are welcome to attend anytime between 4 p.m. and 7 p.m.

Background

The City's most recent Transportation Study was updated in 2005. The current study will address policies to guide the development of a comprehensive and sustainable network that will accommodate all modes of transportation, including cycling and walking, in a healthy community. The final Transportation Plan will be incorporated into the City of Greater Sudbury's Official Plan to establish goals, objectives and policies that will manage and direct physical change throughout the community for the next 20 years.

Complete an Online Survey

Everyone is welcome to share views about the future of transportation in Greater Sudbury. A confidential online survey is available at www.greatersudbury.ca/officialplan

Municipal Class Environmental Assessment

This study is being conducted in accordance with the requirements of Schedule 'B' of the Municipal Class Environmental Assessment (Class EA) process, an approved planning document that describes the process that a municipality must follow to meet the requirements of the Environmental Assessment Act.

For more information or to be included on a mailing list for future Transportation Study events, please contact:

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Greater | Grand Sudbury
www.greatersudbury.ca

Appendix E

Public Information Centre #1 Presentation Boards

WELCOME TO THE
Public Information Centre
City of Greater Sudbury
Transportation Study



January 11th, 2012

MMM GROUP

Greater Grand Sudbury

What is this project about?

Purpose

"Produce a Transportation Plan that defines a comprehensive, fully integrated and sustainable transportation network that accommodates projected transportation demands to the year 2032 for the City of Greater Sudbury"

Principles

The **three** main principles, which are guiding the development of the future transportation network:

Healthy Communities
To create complete streets that are designed, constructed and maintained to support all users and all modes of transportation

Sustainability
To limit the vehicle kilometers travelled per year through integrated transportation and land use planning

Economic Vitality
To ensure that the transportation network supports mobility so that people and freight can access destinations with limited delay

Process Overview

Project Schedule

	Fall 2011	Winter 2012	Spring 2012	Summer / Fall 2012
Phase 1: Project Initiation and Baseline Assessment	- Project kickoff - Review Existing Transportation Data, Reports and policies - Develop Analysis / Evaluation Framework			
Phase 2: Develop Transportation Plan		- Develop Traffic forecasts for Future Horizons - Define and Assess Network Alternatives - Develop Cycling / Pedestrian Network and Design Guidelines		
Phase 3: Define Implementation Strategy and Short-Term Initiatives			- Identify and Recommend Transportation Improvements - Develop Supportive Cycling and Pedestrian Network Policies & Implementation Strategy	
Phase 4: Complete the Report				- Prepare Draft Transportation Study Report - Staff Review of Report - Finalize Report - Submit Report to Ministry of Environment (MOE)

Public Information Centre

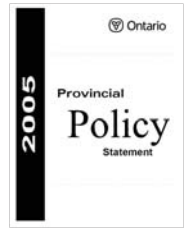
Environmental Assessment Process

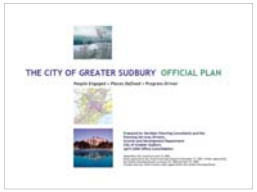
The **Municipal Class Environmental Assessment** (October 2000, amended in 2007), provides a process in accordance with the EA Act for municipal infrastructure projects. Master plans, such as this Transportation Study Report, are required to complete Phases 1 and 2 of the five phases of the Municipal Class EA process. These required phases include:

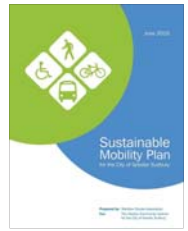
- Phase 1 – Identify the problem (deficiency) or opportunity; and
- Phase 2 – Identify alternative solutions to address the problem or opportunity by considering the existing environment and establishing the preferred solution.

What is the City's Direction?

Relevant Documents







Provincial Policy Statement
All municipal Official Plans (OP) in Ontario are required to be consistent with the policies set of in the Provincial Policy Statement (PPS). Specific policy sections include direction for municipalities to plan for transportation systems that are safe, efficient and that facilitate movement of people and goods.

Growth Plan for Northern Ontario
Released in 2011, the plan recognizes the need for an integrated system through efficient and sustainable modes of transportation that "responds to open markets, seamless borders, and just-in-time delivery to markets around the world".

City of Greater Sudbury Official Plan
Adopted by City Council on June 14, 2006, this Plan establishes goals, objectives and policies to manage and direct physical change and its effects on the social, economic and natural environment. Four key principles of the plan are: A Healthy Community, Economic Development, Sustainable Development; and Focus on Opportunities. Transportation plays an important role in achieving all four of these principles.

Sustainable Mobility Plan and Bicycling Technical Master Plan
These plans are focused on transportation modes other than the private automobile. In developing these plans, public input was sought and best practices were reviewed from other cities in Ontario and other parts of North America. These plans have been submitted to Council but have not yet been adopted.

Sudbury is already moving towards greater sustainability

myBus
Is a service which provides real-time transit service arrival information. Riders can access the information through the City of Subdury's website from their computer of smart phone.

SMAP
The Sustainable Mobility Advisory Panel is mandated to assist staff and Council in implementing a vision for a holistic approach to a multi-modal transportation system where citizens can walk, cycle and/or use public transit efficiently and safely to get to their destinations. SMAP will be working closely with the project team throughout the project to ensure this vision is carried forward through the Master Plan.

Become the Most Pedestrian Friendly City in Ontario
On May 23, 2007 the Greater City of Sudbury Council unanimously passed the following resolution; to accept the challenge to become the most pedestrian friendly city in Ontario by 2015.

Existing Transportation - Corridors & Intersections of Concern

On this map we have identified the intersections of concern, corridors of concern and the ore/ slurry haul routes.

These three elements represent the potential for significant impact on the transportation network.

Please take a moment to review the maps and identify additional items of concern by writing the concerns down on the provided post-it notes and attaching them to the map in the appropriate location.

Intersections of Concern

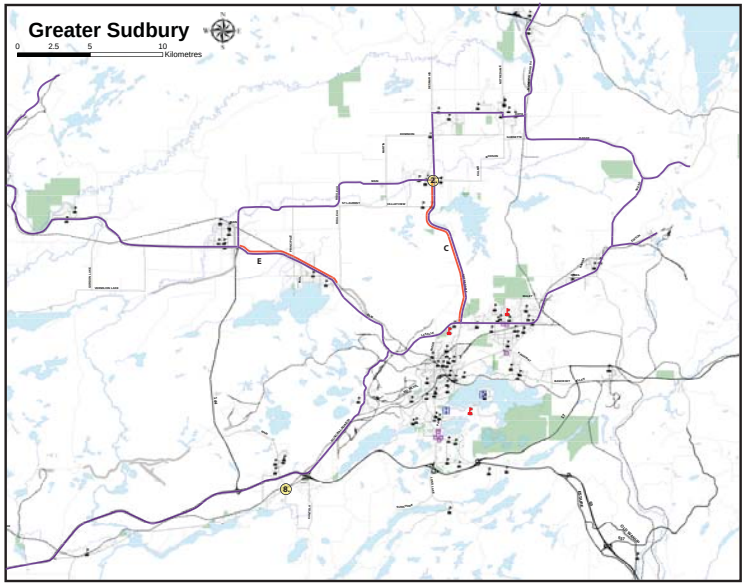
1. Paris St. / Long Lake Rd. / Regent Rd. ("The Four Corners")
2. MR 80 / MR 15 / Main St.
3. LaSalle Blvd. / Barry Downe Rd.
4. Kingsway / Barry Downe Rd.
5. Kingsway / Lloyd St.
6. Kingsway / Bancroft Drive
7. Kingsway / New Collector Rd. (at Chapter's)
8. MR 24 / MR 55
9. Bancroft Dr. / Second Ave.
10. Paris St. / Brady St.
11. Paris St. / Elm St.
12. Regent St. / Douglas St.
13. Ramsey Lake Rd. / Paris St.
14. La Salle Blvd. / Notre Dame Ave.

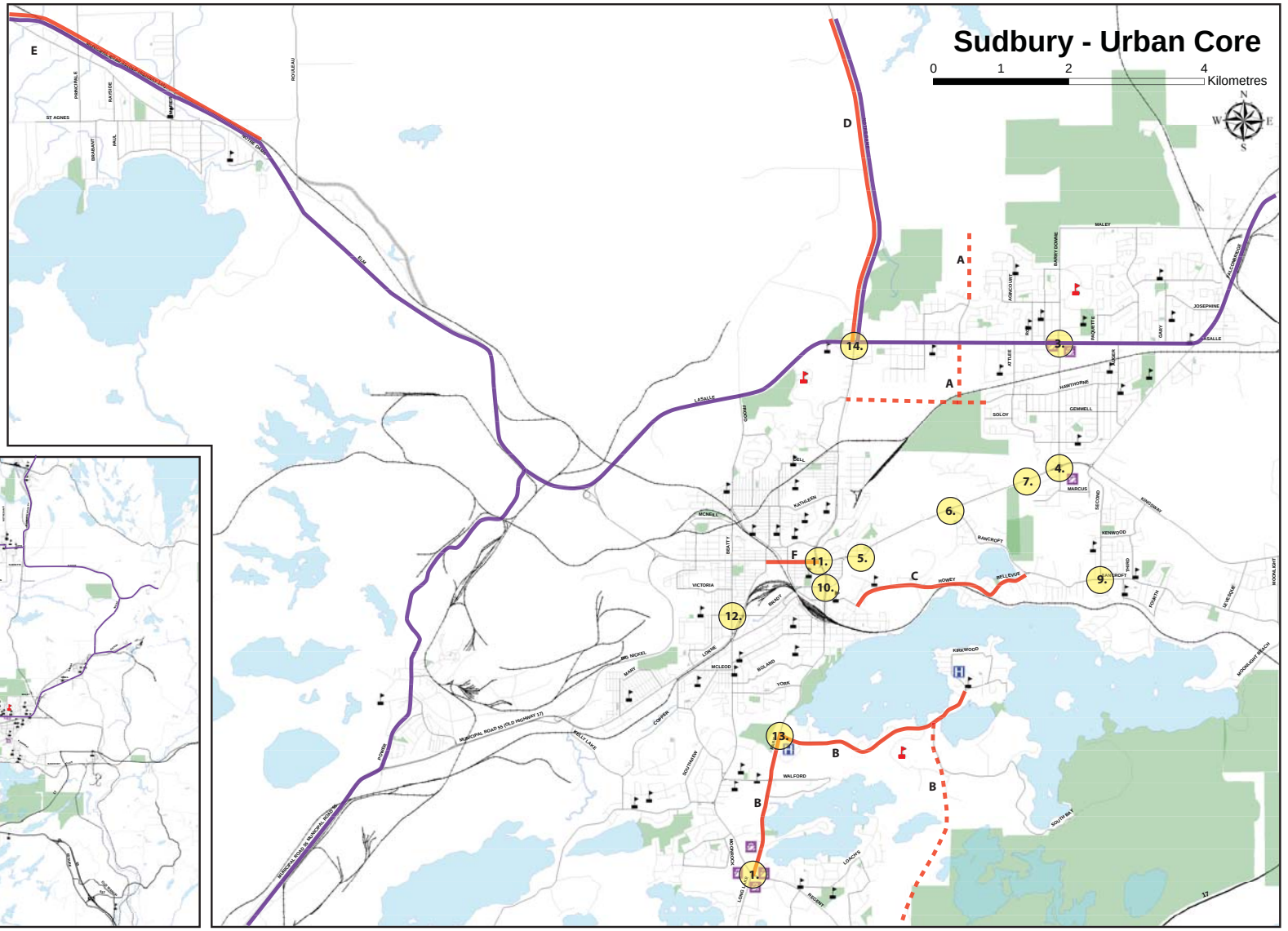
Corridors of Concern

- **A** Montrose Ave. / Hawthorne Dr. extension
- **B** Paris St. / Ramsey Lake Rd. area (Laurentian University, Laurentian Hospital, including extension of South Bay Rd. to Regent St.)
- **C** Howey Dr. / Bellevue Ave. / Bancroft Dr. Area
- **D** MR 80 between LaSalle Blvd. and Main St.
- **E** MR 35 between Azilda and Chelmsford
- **F** Elm St. from Paris St. to Lorne St.

LEGEND

- Intersections of Concern
- Corridor of Concern
- Corridor of Concerns (extensions)
- Ore and Slurry Haul Route
- Hospital
- Primary / Secondary School
- University / Colleges
- Shopping Mall

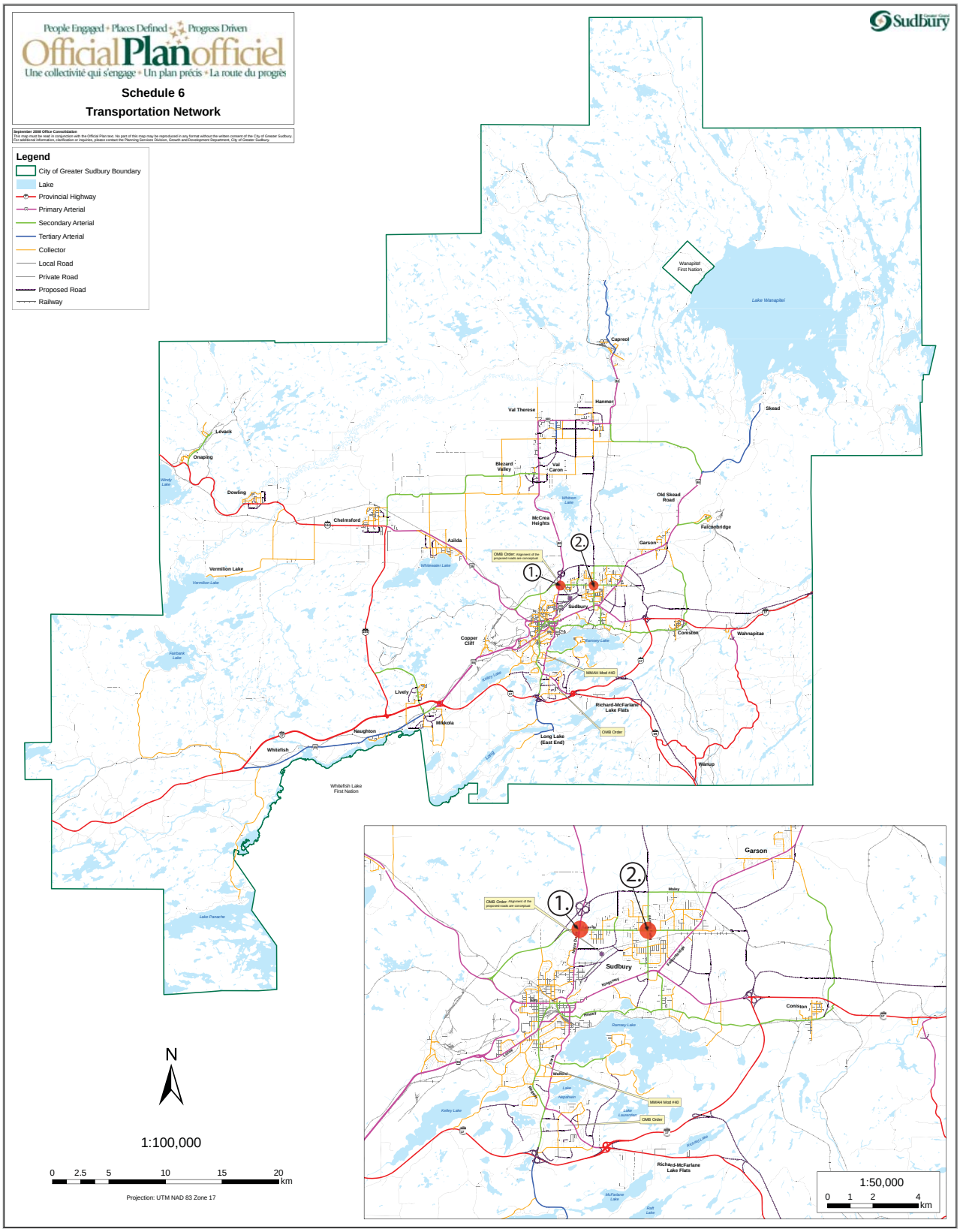




MMM GROUP

Sudbury

Currently Proposed Improvements



On this map we have identified projects which have been approved and budgeted for by Council.

Other Improvements

1. Lasalle Blvd. / Notre Dame Ave. - Intersection Improvements
2. Lasalle Blvd. / Barry Downe Rd. - Intersection Improvements

Intersections

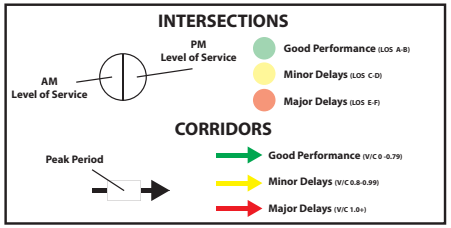
Existing Traffic Operations

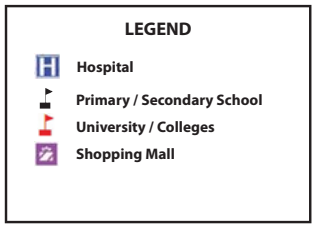
On this map we have identified the current Level of Service for both the intersections and corridors of concerns.

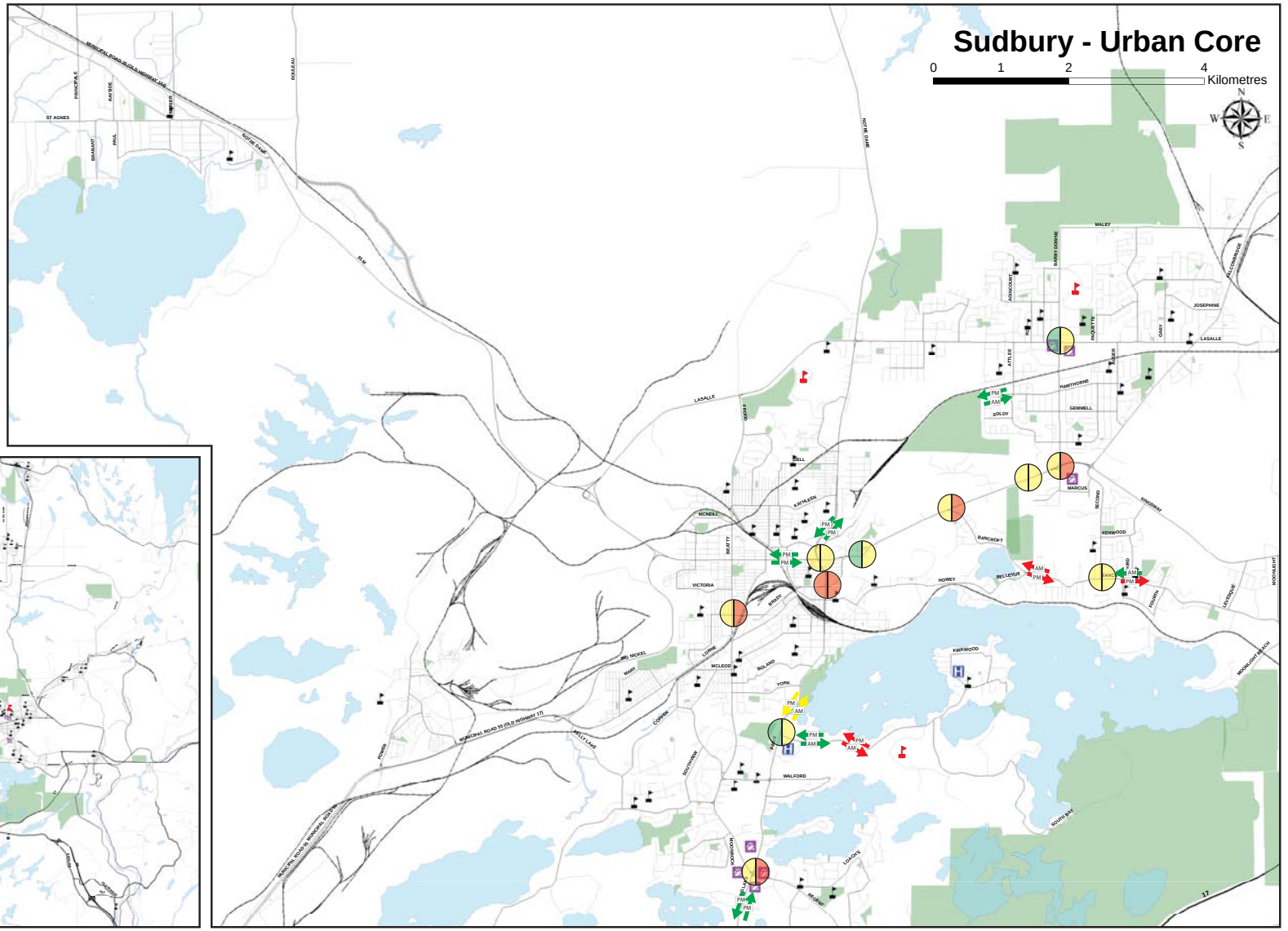
The Level of Service (LOS) at an intersection is a standard measure of the performance of an intersection. The performance can range for Level A which is virtually no delay, to Level F which represents high levels of delay.

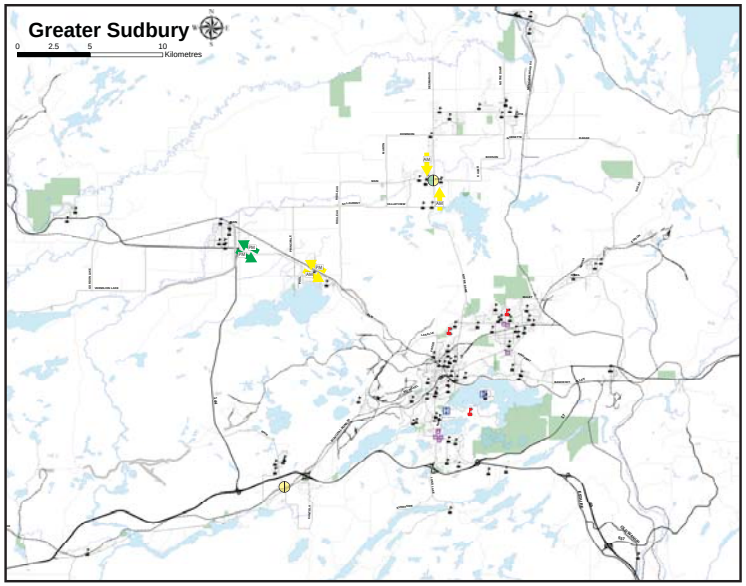
To measure the Level of Service along the corridors we took the current demand along the corridor and compared it to the theoretical capacity. As the demand approaches the capacity the Volume to Capacity Ratio (v/c) will approach 1.0.

We will be reviewing signal timings, phasings, lane configurations and other improvements to address congestion.









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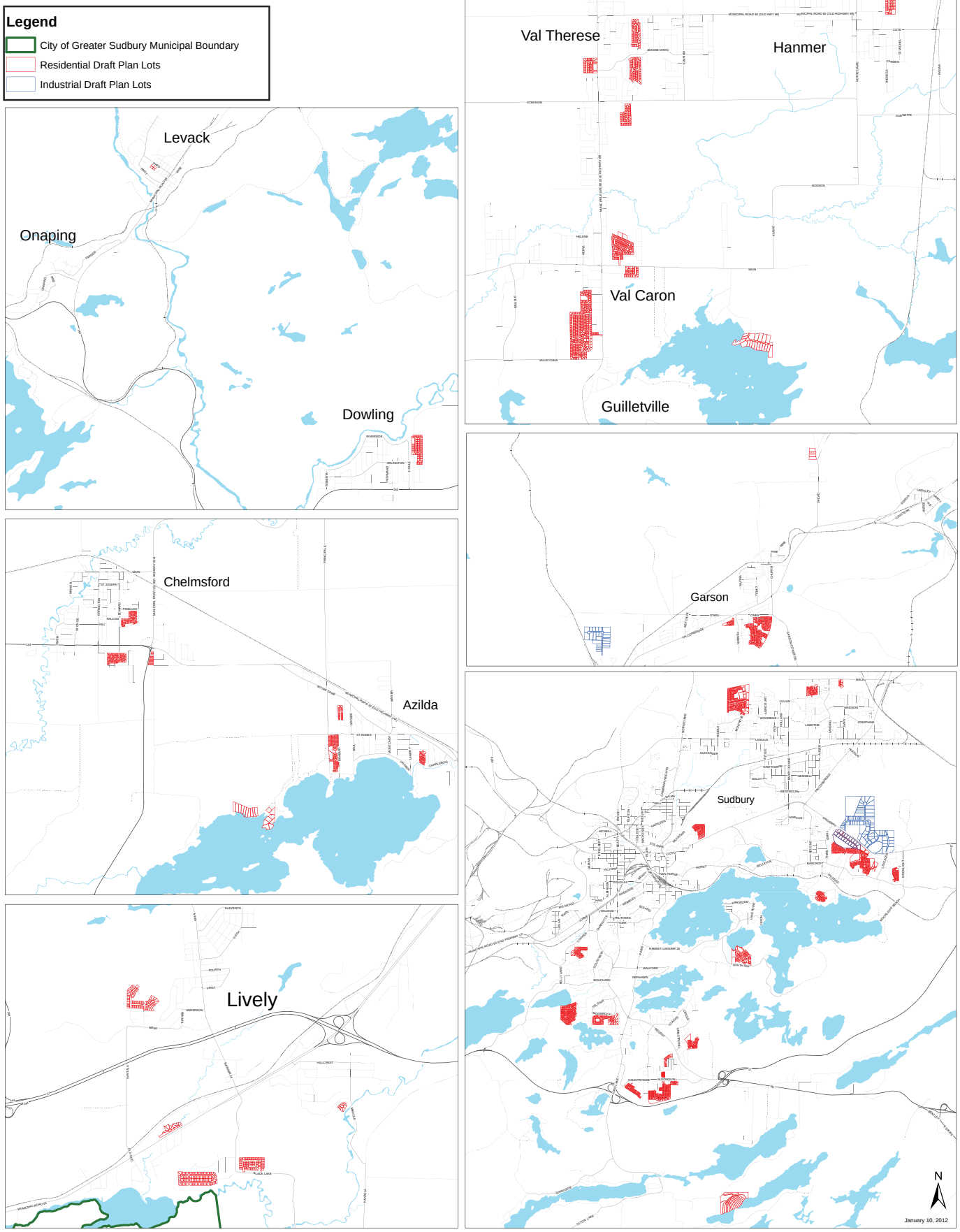
Sudbury

Proposed Growth



What should we focus on in the evaluation?

This table lists potential elements in the analysis. We want you to tell us which are most Important to you.

Please use the dots provided to indicate which three considerations you consider most important in this process. If you have an idea that is not listed, please write it on a post-it note and place it in the "other" section at the end of the table

Three Most Important Considerations	Potential Considerations	Potential Changes/Effects to be Considered
	Enhancements to the bike network* * See Active Transportation Facility Matrix for descriptions	• On-road bike lanes • On-road cycle paths • Shared auto / bike routes • Off-road trails
	Enhancements to the sidewalk network	• New sidewalk links • Expansions of sidewalks • Addition of pedestrian signals at signalized intersections
	Accommodation of freight movements by truck	• Expanding or improving the truck route network • Improving key intersections that trucks use
	Transit service levels	• Enhancement to transit frequencies (considered at a strategic level)
	Intersection Improvements	• Optimize signal timings • Increase intersection capacity • Address safety concerns
	Reduction in the amount of auto travel per person in Sudbury, to increase sustainability and community health	• Changes to land use allocations • Network improvements for walking, cycling and transit
	Improved road access to outlying areas (Val Caron, Hanmer, Chelmsford, Lively, Coniston, Garson, etc.)	• Road widenings • New road links
	Improved road connections that can provide opportunities for better transit service	• Road widenings to 4-lane cross-section • Queue jump lanes at intersections • Transit priority traffic signals
	Improved road connections around the Four Corners	• Road widenings • Changes to traffic signal timings • New road connections
	Improved access to Laurentian University / College Boreal / Cambrian College	• Road improvements • Bike access enhancements • Transit service improvements • Sidewalk enhancements
	Improved access into downtown	• Road improvements • Bike access enhancements • Transit service improvements • Sidewalk enhancements
	Air quality effects	• Network improvements for walking, cycling and transit • Road network changes to reduce congestion
	Natural environment	Amount of natural area affected (wetlands, areas of natural and scientific interest, watercourses)
	Cost	Capital and operating cost
Your Ideas:		

Active Transportation Route Selection Principles

The plan involves defining enhancements to the bike and sidewalk networks, the "Active Transportation" modes. To begin this process, we need to define principles appropriate for Sudbury.

Visible: Active transportation routes should be a visible component of the transportation system.

Connected/Linked: The Active Transportation network should link communities and important destinations throughout Greater Sudbury such as commercial, employment and residential areas, community centres, leisure, recreation and tourist destinations, parks, schools (including colleges). The Active Transportation network should be seamlessly connected to neighbouring municipalities. Active Transportation routes should provide crossings of major barriers (e.g. railways, highways, major arterial roads, valleys and rivers etc.) at appropriate locations.

Easy to Access: Active Transportation routes should be easily accessible from local neighbourhoods within Greater Sudbury.

Integrated: The Active Transportation network should be integrated with other modes of transportation, particularly public transit. Routes will provide access to existing and future/planned transit stations and hubs (e.g. Greater Sudbury Transit, Greyhound etc.).




Attractive and Interesting: Active Transportation routes should take advantage of attractive and scenic areas, views and vistas. Routes should provide users with the opportunity experience and appreciate the natural and cultural heritage assets throughout Greater Sudbury.

Diverse: The Active Transportation network should provide a diverse on and off-road walking and cycling experience throughout the municipality. The system should appeal to a range of user abilities and interests, which implies a variety or hierarchy of route types.

Comfortable: Active Transportation route and facility solutions should be based on the goal of reducing risks to users and providing facilities that people are comfortable using. The confidence and acceptance of the network can be instilled in users by reducing real and perceived risk.

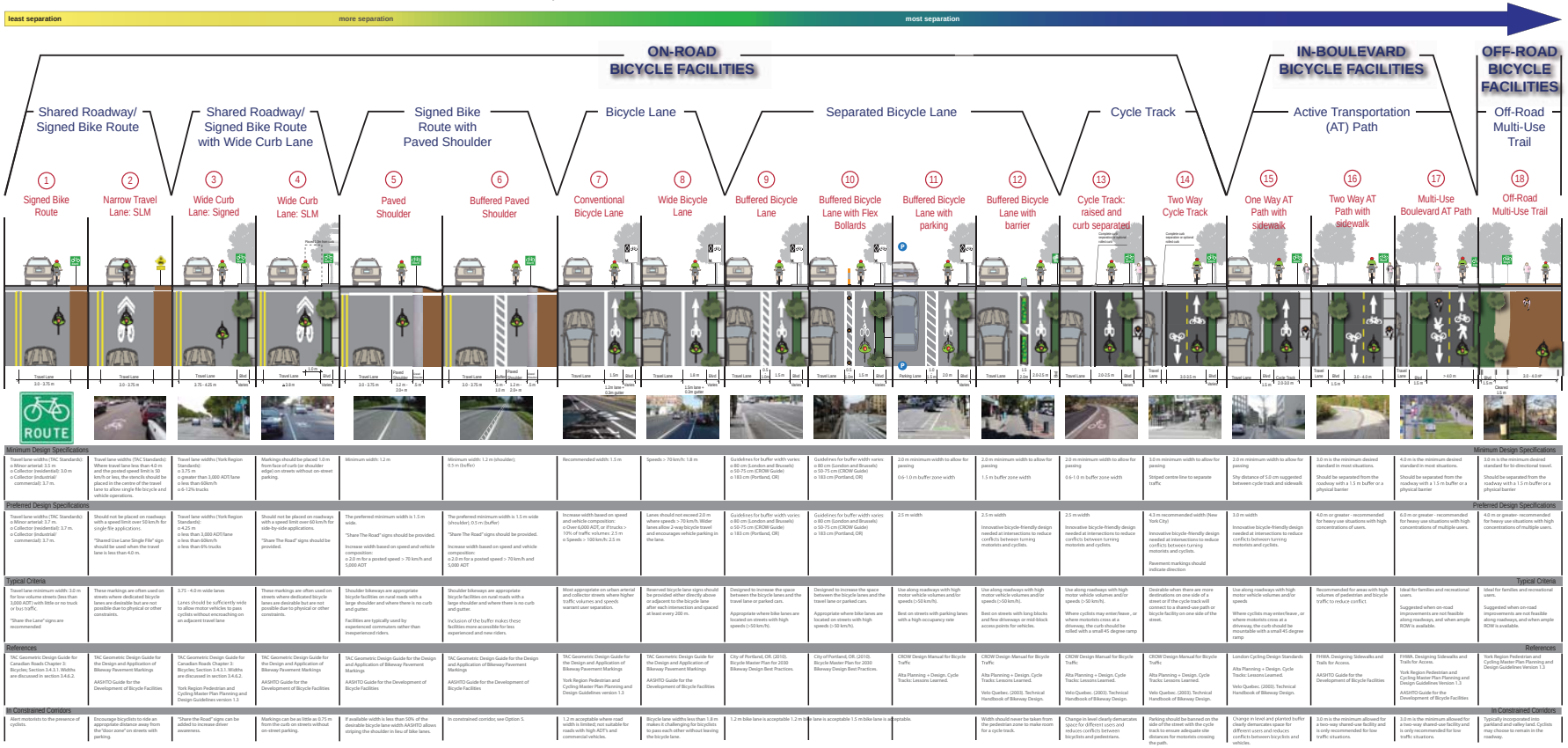
Accessible: Where possible and practical, off-road Active Transportation routes will be accessible. It is recognized however that not all off-road Active Transportation routes will be accessible in all locations. Routes should be appropriately signed to communicate the level of accessibility so that users can make their own decision about use based on their personal level of mobility.

Context-Sensitive: Off-road Active Transportation routes should be appropriately located when associated with natural heritage features. Each site's characteristics should be carefully considered when the alignment and design details are being developed for routes in natural heritage features.

Sustainable: Sustainability will be a key consideration in the alignment, design and selection of materials for on and off-road Active Transportation routes.

Cost-effective: The cost to implement and maintain the Active Transportation network and supporting facilities/amenities should be phased over time and designed to be affordable and appropriate in scale for Greater Sudbury. User safety will not be compromised in the interest of minimizing initial construction or ongoing operational costs. Opportunities for partnerships with other levels of government and outside organizations should be pursued wherever possible.

Active Transportation Facility Options: What kind of facilities are possible?



This document is for information purposes only.

MMM GROUP

Sudbury

What Active Transportation Options do you prefer?

In the table below we have listed the different types of active transportation facilities. With the dots provided, please indicate your level of comfort with each choice.

For a more detailed description of each type please refer back to the Active Transportation Facility Options board

Potential Active Transportation Facility Types	My Level of Comfort		
	1 (Most Comfortable)	2 (Comfortable)	3 (Least Comfortable)
Bike Lanes and Shoulder Bikeways			
Separated Bike Lanes and Cycle Tracks			
Multi-use Trails (off-road)			
Sidewalks			
Signed Only Bike Route			
Other			

Active Transportation Opportunities and Challenges

Challenges

- Creating a connected and destination oriented network
- Lack of connected facilities to, and within outlying communities
- Gaps in sidewalk network
- Physical barriers such as railways, hilly topography, lakes and rivers
- Lack of a "grid" road network in many areas
- Large and complex intersections
- Truck Traffic
- Accommodating the needs of a range of skill levels among users (e.g. experienced vs. casual cyclists)
- Maintenance, including winter snow clearing and snow storage




Opportunities

- Abandoned railway lines, low volume railway lines and other linear corridors
- Grade-separated crossings already in place in several locations
- Some on and off-road facilities already in place, with plans to upgrade and complete other routes
- Potential expansion of Rack and Roll program
- Targeted education initiatives (drivers, cyclists and pedestrians)




Greater Sudbury Transportation Study
Candidate Active Transportation Routes Being Considered

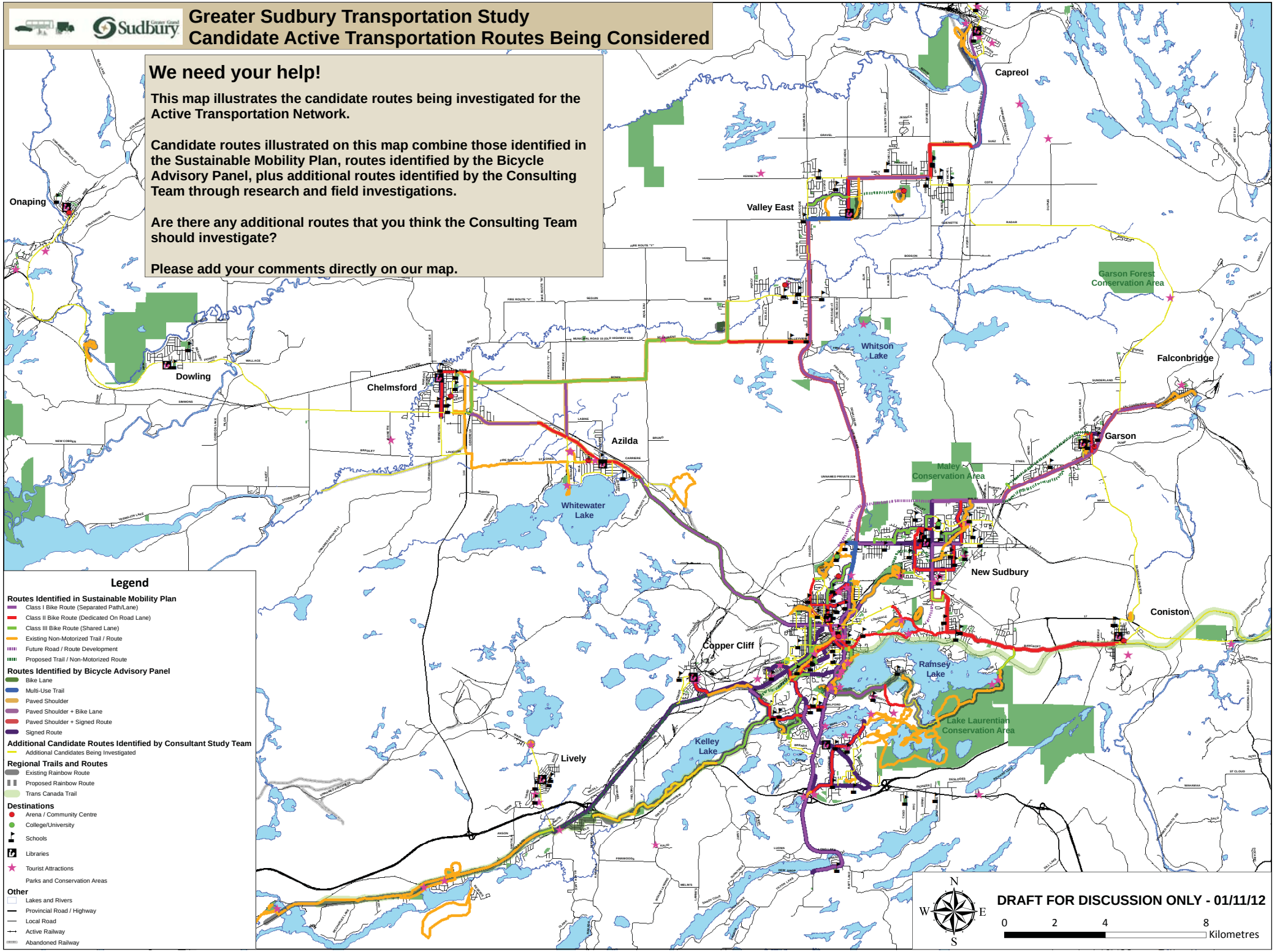
We need your help!

This map illustrates the candidate routes being investigated for the Active Transportation Network.

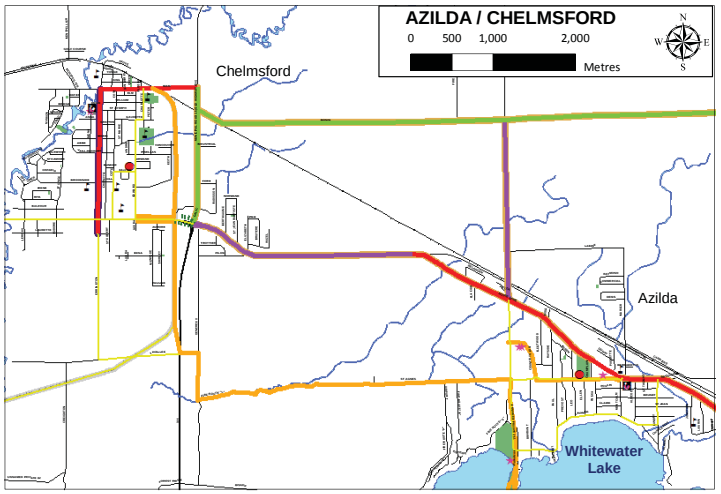
Candidate routes illustrated on this map combine those identified in the Sustainable Mobility Plan, routes identified by the Bicycle Advisory Panel, plus additional routes identified by the Consulting Team through research and field investigations.

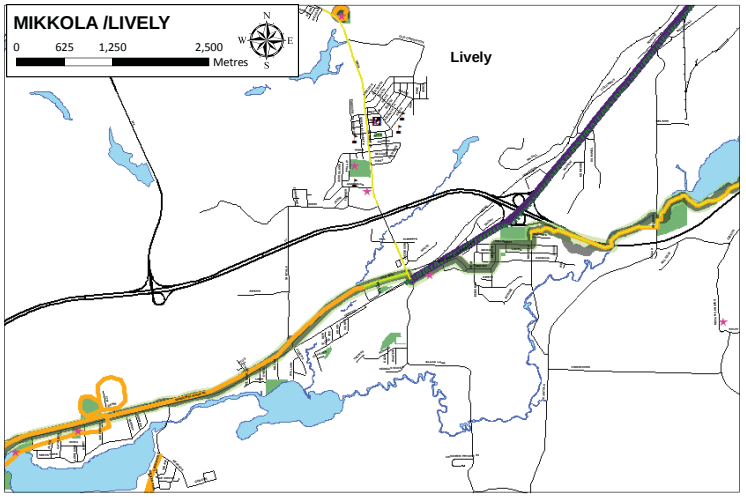
Are there any additional routes that you think the Consulting Team should investigate?

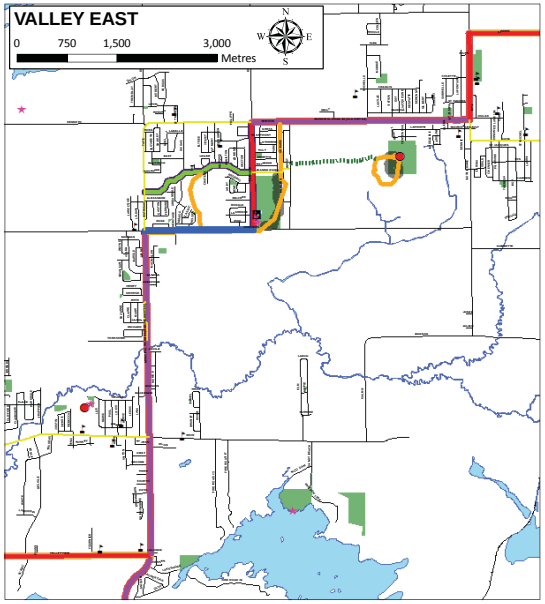
Please add your comments directly on our map.



Greater Sudbury Transportation Study
Candidate Active Transportation Routes Being Considered - ENLARGEMENTS







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Are there any additional routes that you think the Consulting Team should investigate?

Please add your comments directly on our map.

Legend

Routes Identified in Sustainable Mobility Plan
- Class I Bike Route (Separated Path/Lane)
- Class II Bike Route (Dedicated On Road Lane)
- Class III Bike Route (Shared Lane)
- Existing Non-Motorized Trail / Route
- Future Road / Route Development
- Proposed Trail / Non-Motorized Route

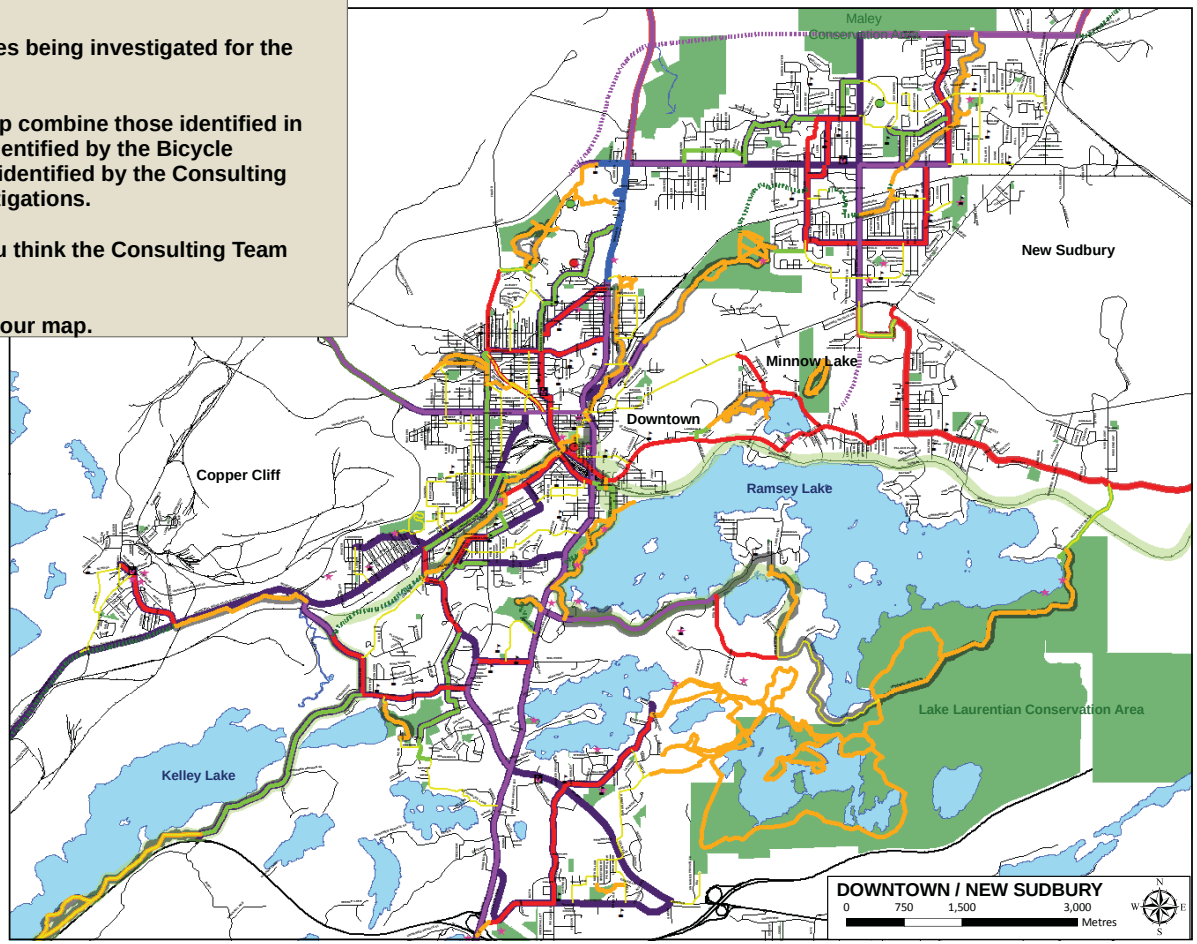
Routes Identified by Bicycle Advisory Panel
- Bike Lane
- Multi-Use Trail
- Paved Shoulder
- Paved Shoulder + Bike Lane
- Paved Shoulder + Signed Route
- Signed Route

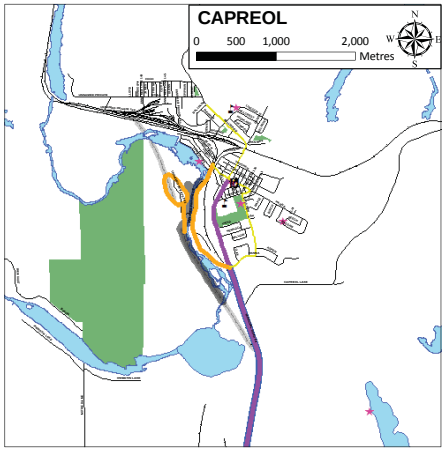
Additional Candidate Routes Identified by Consultant Study Team
- Additional Candidates Being Investigated

Regional Trails and Routes
- Existing Rainbow Route
- Proposed Rainbow Route
- Trans Canada Trail

Destinations
- Arena / Community Centre
- College/University
- Schools
- Libraries
- Tourist Attractions
- Parks and Conservation Areas

Other
- Lakes and Rivers
- Provincial Road / Highway
- Local Road
- Active Railway
- Abandoned Railway





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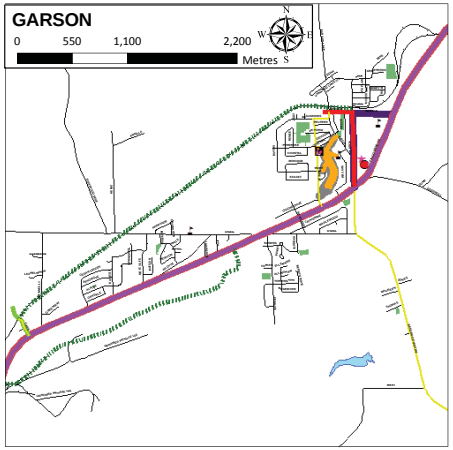


Developing the Active Transportation Route Network

1. Assemble and Review Background Materials

- Routes identified in the Sustainable Mobility Plan (SMP)
- Routes identified by the Bicycle Advisory Panel (BAP)
- List of Capital Projects for 2011 and 2012
- Updated Sidewalk Inventory
- Preliminary input from staff and stakeholders

2. Prepare List of Route Selection Principles

3. Prepare Candidate Route Network

- Prepare base network map by combining layers of information from review of background materials
- Review combined layers using GIS and high resolution aerial imagery (Google Earth)
- List and map potential additional routes for field review

4. Field Review

- Initial field review Fall 2011
- Using **Candidate Active Transportation Routes Being Considered**
- Some routes were removed, some additional were added

5. Prepare Draft Active Transportation Network Concept

6. Initial Public Review of Draft Active Transportation Network Concept

Please review the Draft Active Transportation Network Concept Maps and provide us with your comments by adding them directly on our maps :

- Are there routes that should be added?
- Are there additional opportunities the Study Team should review?
- Are there routes that should be eliminated ?

7. Recommended Active Transportation Network

- Refinement of Active Transportation Network Concept based on input received and select additional field investigations

8. Recommend Facility Types

Refine initial assessment based on criteria such as

- Existing and future traffic volume
- Motor vehicle operating speed
- Number of travel lanes
- Existing lane widths
- Available right-of-way/availability of public land or potential agreements for access on other linear corridors
- Adjacent land uses
- Types of destinations along the route
- Anticipated types of users (e.g. skilled commuters vs. casual/recreational)
- Capital improvement plans (where applicable)
- Maintenance and Operations
- Etc.

9. Prepare Implementation Plan

- Prepare an Opinion of Cost to construct the network (based on unit costing)
- Identify priorities
- Identify maintenance strategies
- Develop phasing strategy and strategy to prioritize sidewalk improvements
- Identify potential funding strategies and partnership opportunities
- **Public Review**

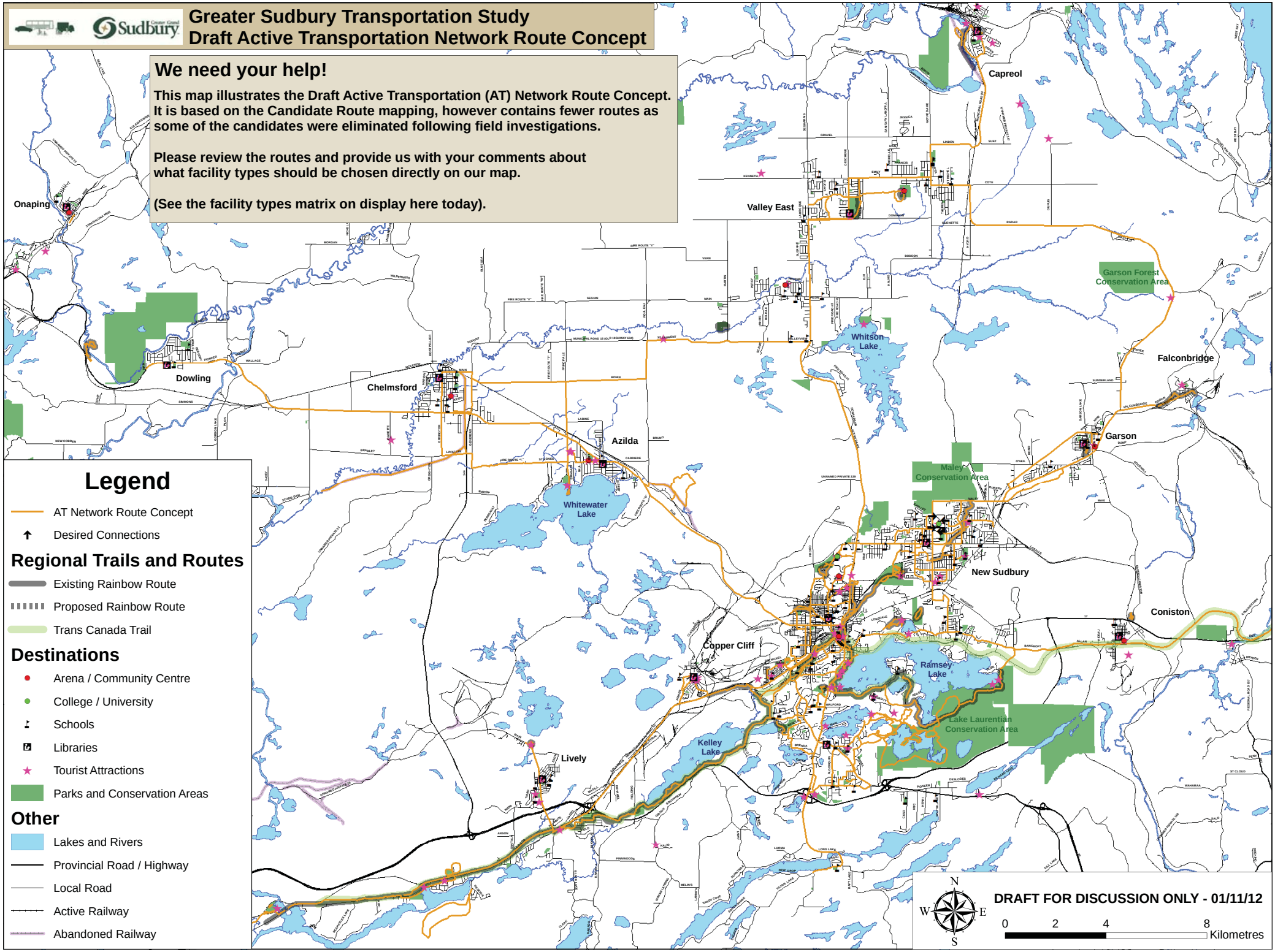
Greater Sudbury Transportation Study
Draft Active Transportation Network Route Concept

We need your help!

This map illustrates the Draft Active Transportation (AT) Network Route Concept. It is based on the Candidate Route mapping, however contains fewer routes as some of the candidates were eliminated following field investigations.

Please review the routes and provide us with your comments about what facility types should be chosen directly on our map.

(See the facility types matrix on display here today).



Legend

- AT Network Route Concept
- Desired Connections

Regional Trails and Routes

- Existing Rainbow Route
- Proposed Rainbow Route
- Trans Canada Trail

Destinations

- Arena / Community Centre
- College / University
- Schools
- Libraries
- Tourist Attractions
- Parks and Conservation Areas

Other

- Lakes and Rivers
- Provincial Road / Highway
- Local Road
- Active Railway
- Abandoned Railway

N W E S

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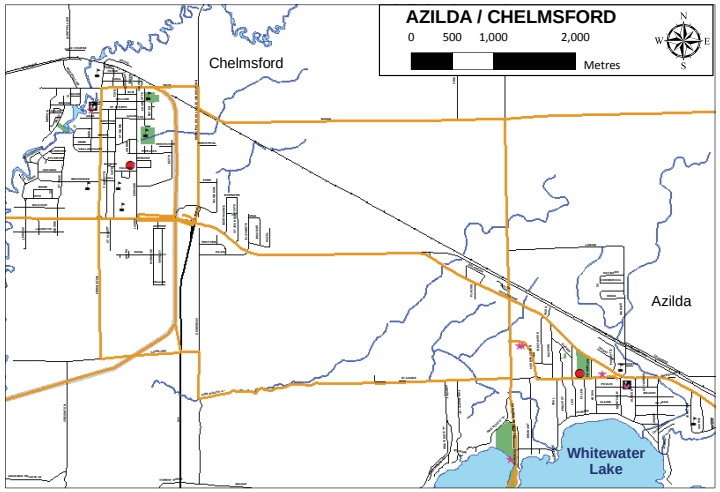
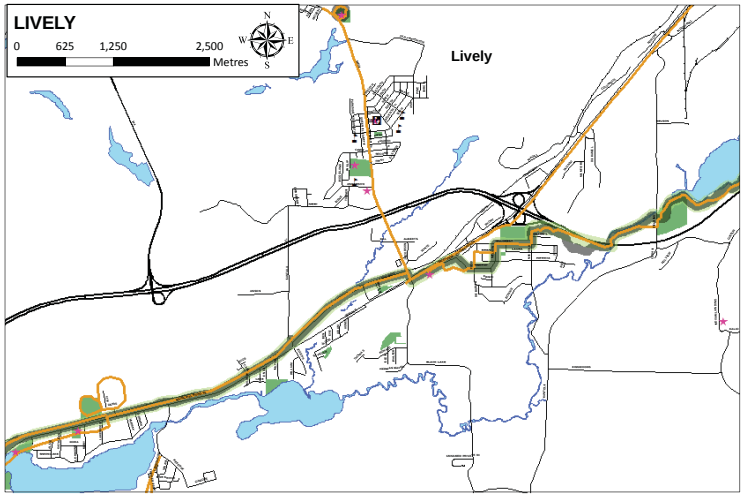
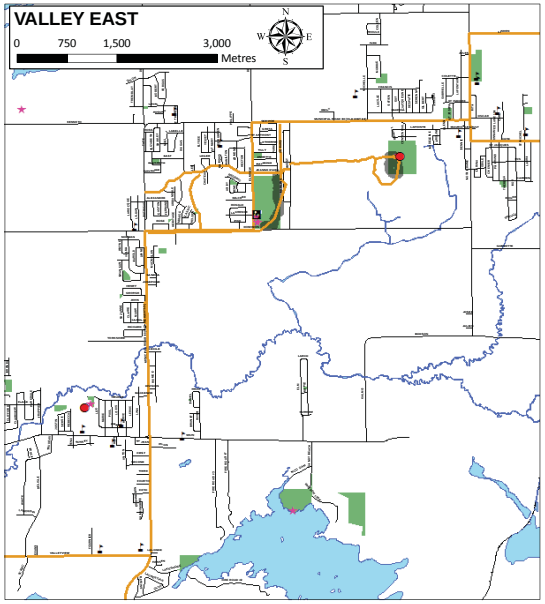
0 2 4 8 Kilometres

Greater Sudbury Transportation Study
Draft Active Transportation Network Route Concept - ENLARGEMENTS







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Legend

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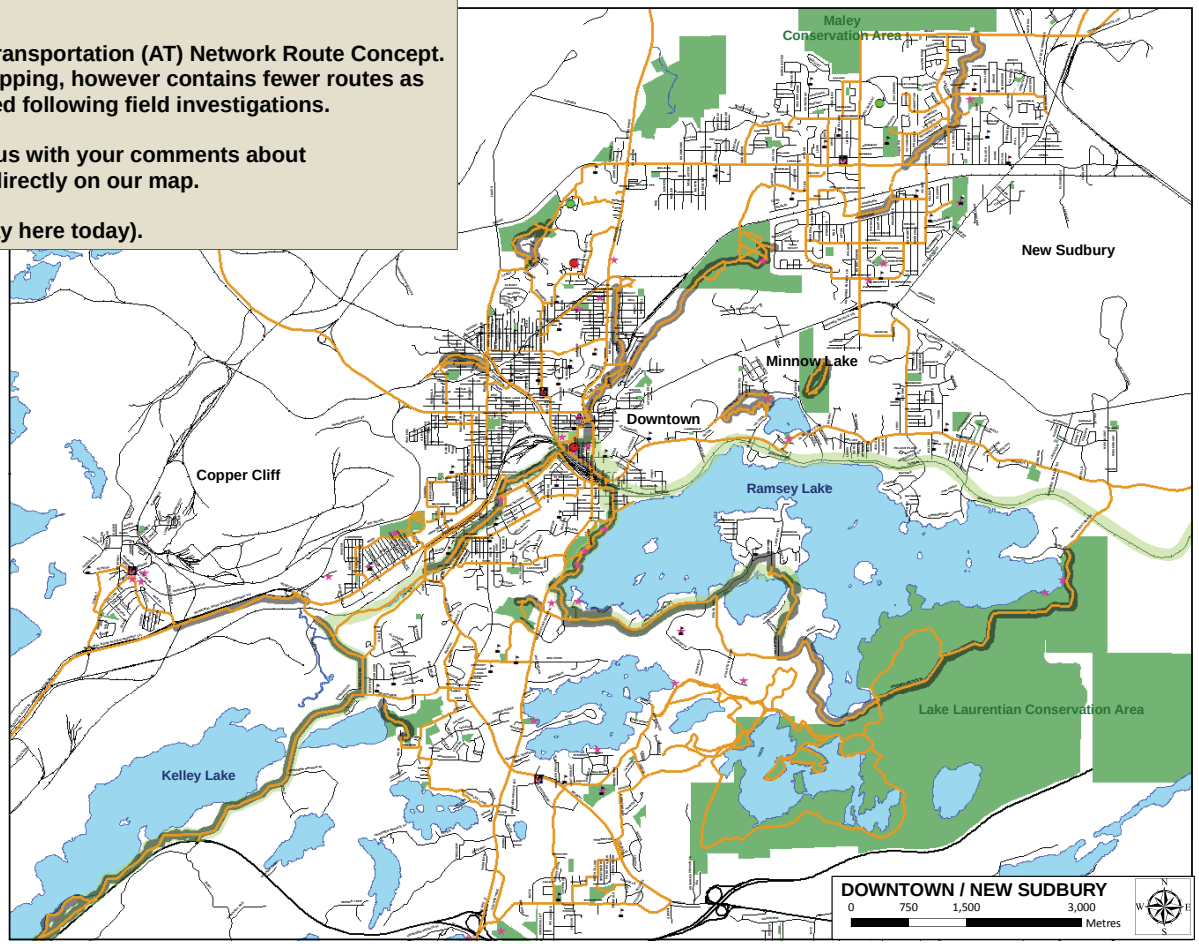

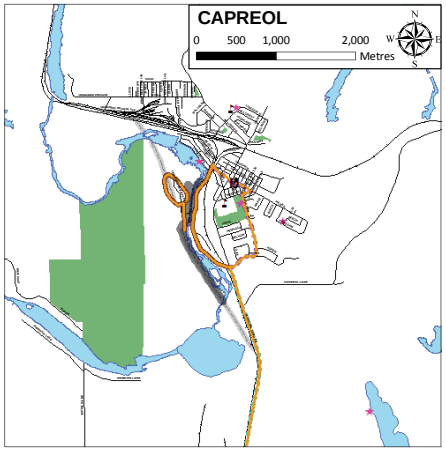

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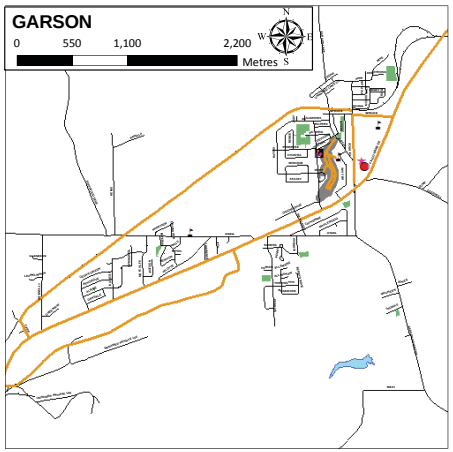

Problem and Opportunities Statement

The EA process requires us to define a **"problem statement"** in Phase 1, as we start to assess the long-term improvements. In this case, the problem statement also includes opportunities to make Sudbury a more sustainable city in terms of transportation, environment and costs.

Sudbury's current transportation system needs to be enhanced to address current deficiencies, and to accommodate growth in population, employment and commercial activity to the horizon of 2032. Developing a multi-modal system is a key component of that change; multi-modal mobility is also needed to address the directions set by the Province and by City Council, reflecting greater sustainability and intensification. Sustainability must encompass the goals of an active community, a healthy environment and economic vitality.

Key opportunities in Sudbury related to these needs include:

- Creating transportation choices to better support biking, walking, and transit
- Implementing short-term solutions for intersections and corridors of traffic congestion
- In the longer term, creating a transportation network which offers more direct routings
- Providing the transportation network needed to support intensified land use in designated growth areas.

THANK YOU FOR ATTENDING

Please take a moment to fill out the comment sheet and provide us with your feedback

More information on the project can be found on the City's website:

www.greatersudbury.ca

If you have any other questions please contact:

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City of Greater Sudbury
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PO BOX 5000, STN A
Sudbury, ON P3A 5P3
Tel: 705-674-4455 ext. 3688
Fax: 705-560-6109
Email: david.shelsted@greatersudbury.ca

Jim Gough
MMM Group Limited
100 Commerce Valley Drive W
Thornhill, ON L3T 0A1
Tel: 905-882-7283
Fax: 905-882-0055
Email: goughj@mmm.ca

MMM GROUP

Greater Grand Sudbury

Appendix F

Notice for Public Information Centre #2

City of Greater Sudbury Transportation Study

GIVE US **YOUR** INPUT ON SUDBURY'S FUTURE TRANSPORTATION PLAN

Public Information Centre 2

June 19, 2013
4:00 p.m. to 7:00 p.m.

Main Foyer at Tom Davies Square, 200 Brady St.

We Value Your Input

The City of Greater Sudbury welcomes public input to review the draft future transportation strategy and network that will be part of the Transportation Plan for vehicles, public transit, cyclists and pedestrians in our community.

Purpose of the Meeting

1. To learn more about the draft transportation strategy and network
2. To have the opportunity to submit comments

Municipal Class Environmental Assessment

This study is being conducted in accordance with the requirements of Schedule 'B' of the Municipal Class Environmental Assessment (Class EA) process, an approved planning document that describes the process that municipalities must follow to meet the requirements of the Environmental Assessment Act.

For more information or to be included on a mailing list for future Transportation Study events, please contact:

Jim Gough, P.Eng.
Senior Project Manager and Partner
MMM Group Limited

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Thornhill, ON L3T 0A1

Tel: 905-882-7283
Fax: 905-882-0055
Email: goughj@mmm.ca

David Shelsted, MBA, P.Eng.
Director of Roads and Transportation
City of Greater Sudbury

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Fax: 705-560-6109
Email: david.shelsted@greatersudbury.ca

For more information, visit **www.greatersudbury.ca/officialplan**

Greater Grand Sudbury

Appendix G

Public Information Centre #2 Presentation Boards

WELCOME TO THE
Public Information Centre 2
City of Greater Sudbury
Transportation Study


June 19, 2013

MMM GROUP

Greater Grand Sudbury

Revisit. Review. Revise.
Revisitez. Réexaminez. Révisez.
Official Plan Review • Revision du Plan officiel

What is this project about?

Purpose

"Produce a Transportation Plan that defines a comprehensive, fully integrated and sustainable transportation network that accommodates projected transportation demands to the year 2031 for the City of Greater Sudbury"

Principles

The **three** main principles, which are guiding the development of the future transportation network:

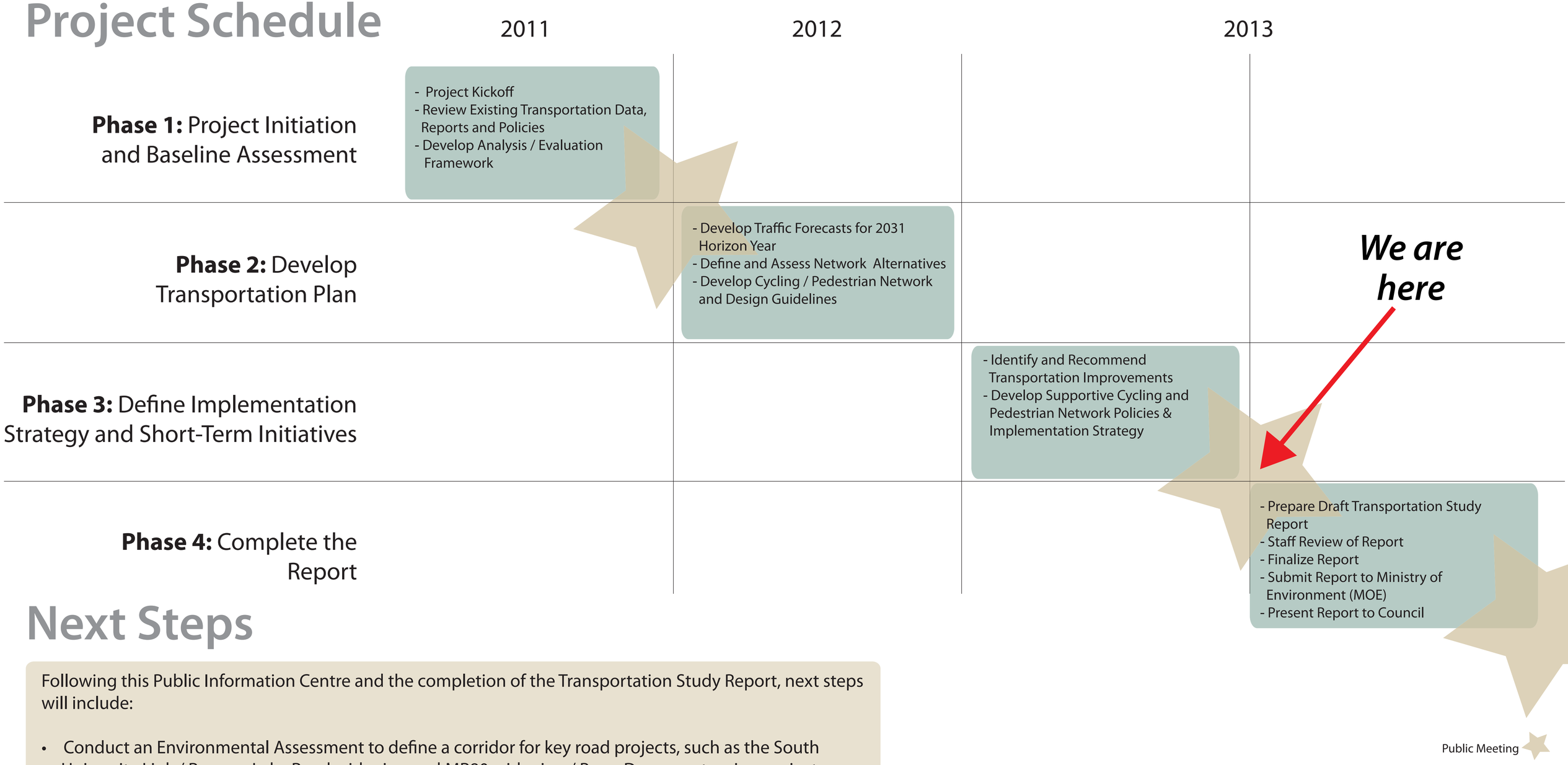
Healthy Communities
To create complete streets that are designed, constructed and maintained to support all users and all modes of transportation

Sustainability
To limit the vehicle kilometers travelled per year through integrated transportation and land use planning

Economic Vitality
To ensure that the transportation network supports mobility so that people and freight can access destinations with limited delay

Process Overview

Project Schedule



Next Steps

Following this Public Information Centre and the completion of the Transportation Study Report, next steps will include:

- Conduct an Environmental Assessment to define a corridor for key road projects, such as the South University Link / Ramsey Lake Road widening and MR80 widening / Barry Downe extension projects
- Conduct a design feasibility study for any active transportation facility type, which is selected for implementation

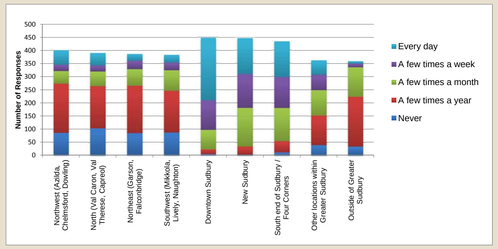
What you told us last time

The first public information center was held on January 11, 2012 from 4pm to 7pm at City Hall on Tom Davies Square. It was estimated that approximately 100 residents attended. Attendees were encouraged to actively participate in the development of the TMP through comment sheets, poster board polls and an online survey. The following is a summary of the input that we have received to this point in the project through the public meeting, an online survey and other comments received from stakeholders and the public.

Online Survey

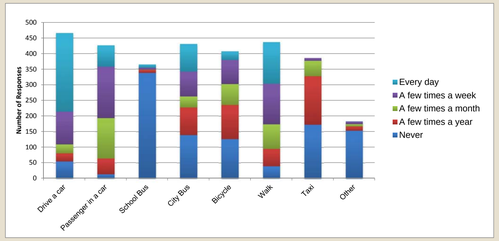
Over 520 online surveys have been received as of May 2013. The survey included five questions where respondents were asked to rank several criteria and three opinion based questions. The following summarized the responses received on the five rank questions.

Q1: Where, and how often, do you travel most?



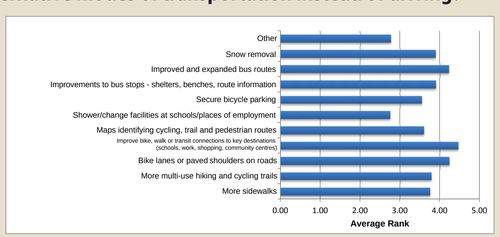
The most traveled destinations are Downtown Sudbury, New Sudbury and the South End (e.g. Four Corners)

Q2: How often do you use the following transportation options to reach your destination?



The majority of trips that are made ever day are in an automobile, followed by walking and city buses

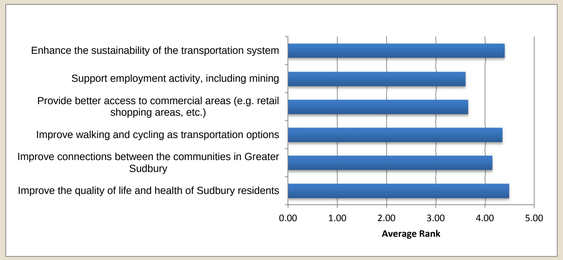
Q3: What level of importance would you assign to each of the following improvements that might encourage you to use alternative modes of transportation instead of driving?



The three improvements which were seen as most important included:

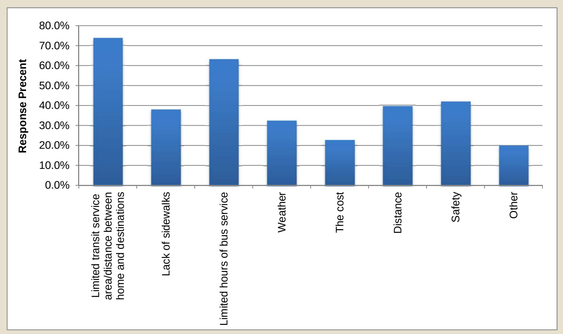
1. Improve bike, walk or transit connections to key destinations
2. Bike lanes or paved shoulders on roads
3. Improve and expand bus routes

Q4: Please rank what you think are the most important objectives for a Transportation Master Plan for Greater Sudbury.



According to the respondents, the most important objective of the Greater Sudbury Transportation Master Plan should be to **"Improve the quality of life and health of Sudbury residents"**

Q5: What do you think are barriers to use of alternative transportation modes (walking, cycling and transit) in Greater Sudbury?



There were eight options presented to respondents. All eight received a minimum response rate of 20%. However, there were two barriers which received a significantly higher proportion compared to the others. They were:

1. Limited transit service area/distance between home and destinations (74%)
2. Limited hours of bus service (64%)

Poster Board Polls

The first interactive poster board poll asked attendees to identify what they felt should be focused on in the evaluation of the TMP. Each attendee was given three dots in which they were instructed to choose the three most important considerations in their mind. The following are the three considerations which received the most votes:

1. Reduction in the amount of auto travel per person in Sudbury, to increase sustainability and community health - ***19%***
2. Enhancements to the bike network - ***17%***
3. Transit Service Levels (enhancements to transit frequencies) - ***13%***

The second interactive poster board poll asked attendees to identify which active transportation options they preferred and were most comfortable with. The following table summarizes their responses:

	My Level of Comfort					
	1 (Most Comfortable)		2 (Comfortable)		3 (Least Comfortable)	
	#	%	#	%	#	%
Bike Lanes and Shoulder Bikeways	10	37%	8	30%	9	33%
Separated Bike Lanes and Cycle Tracks	30	91%	2	6%	1	3%
Multi-use Trails (off-road)	21	81%	2	8%	3	12%
Sidewalks	15	68%	3	14%	4	18%
Signed Only Bike Route	8	44%	3	17%	7	39%
Other (Transit)	6	67%	3	33%	0	0%

Separated facilities provide the greatest level of comfort for cyclists

Comments Received

Below is a list of the major themes and topics that were present in the comments we have received:

- Increase connections between neighbourhoods and downtown
- Improve pedestrian and cyclist safety
- Improve connections between existing trail and cycling facilities
- Consider the needs of the trucking industry
- Improve bicycle access/facilities along La Salle Boulevard, Municipal Road 80
- Implement transit priority along Copper Street and Kelly Lake Road

Policy Initiatives

Road Classifications

Historically, the criteria for road classifications have been based on three main elements; **the function** of the road and its role in facilitating vehicle travel between points of origin and destination (roadway service function), **land access** and **vehicle traffic flow characteristics.**

In line with the vision for complete streets we recommend that these existing classifications be modified and expanded to include the following three criteria:

Transit Provision: Consideration for either a rapid bus service or a local bus service for each class of road.

Cycling Provision: Implementation of one of three categories (Separate Facility or Alternate Routes; Cycling Operating Space; or Shared Roadway) for each road classification.

Pedestrian Provision: All road classifications should include sidewalks. On higher order roads, such as a primary arterial, sidewalks may not be appropriate. However, the specific conditions should be considered in each case and where sidewalks can provide improved links they should be implemented.

Class of Road	Function	Access	Right-of-Way Width	Daily Traffic Volume	Design Speed	Minimum Intersection Spacing	Other Regulations	Transit Provision	Cycling Provision	Pedestrian Provision
Primary Arterial	• Connects the City with other major centres and/or separate communities within the City • Facilitate long distance person or goods movement travel through the City or between major activity areas within the City • Traffic movement the primary consideration	• Intersections with other arterial or collector roads • Driveways to major regional activity centres	35m - 45m (urban areas) 45m - 90m (rural areas)	15,000 to 50,000	60 km/hr to 100 km/hr	400m	• No on-street parking • Buffers between the roadway and adjacent uses in rural areas	Bus Service	• Separated Facility or Alternate Routes in urban areas • Buffered paved shoulders in rural areas	Sidewalks on both sides of the road in urban areas
Secondary Arterial	• Connect two or more communities or major activity centres • Connect two primary arterial roads • Connect a community or activity centre with a primary arterial road • Traffic movement primary consideration	• Intersections with other roads • Access from adjacent property strictly regulated and kept to a minimum	26m - 35m (urban areas) 30m - 45m (rural areas)	5,000 to 20,000	50 km/hr to 80 km/hr	200m	• No on-street parking	Bus Service	• Separated Facility or Alternate Routes for roads with AADT greater than or equal to 15,000 • Cycling Operating Space for roads with AADT less than 15,000[2]	Sidewalks on both sides of the road in urban areas
Tertiary Arterial	• Connect small / rural communities • Connect communities to primary or secondary arterial roads	• Intersections with other roads • Access from adjacent property strictly regulated and kept to a minimum	26m - 35m (urban areas) 30m - 45m (rural areas)	5,000 to 15,000	50 km/hr to 80 km/hr	200m	• No on-street parking	Bus Service	• Cycling Operating [1]	Sidewalks on both sides of the road in urban areas
Collector	• Connect properties within neighbourhoods • Connect a neighbourhood with an arterial road • Provide direct access to adjacent lands	• Intersections with other roads • Regulated access from adjacent property	20m - 35m	1,000 to 12,000	50 km/hr to 70 km/hr	60m	• On street parking may be permitted	Bus Service	• Cycling Operating [2]	Sidewalks on both sides of the road in urban areas
Local	• Provide direct access to adjacent lands • Connect properties within a neighbourhood to collector roads	• Intersections with other collectors or other local roads • Access from adjacent property permitted	+ / - 20m	Less than 1,000	30 km/hr to 50 km/hr	60m	• On-street parking is generally permitted • Goods movement restricted except for that having origin or destination along the road	Generally no regularly scheduled transit service	• Shared [3]	Sidewalk on at least one side of the road in urban areas

1. Options may include: buffered paved shoulders in rural areas; active transportation paths in rural or urban areas; separated bicycle lanes / cycle track in urban areas; or alternate route
2. Options may include: paved shoulders or buffered paved shoulders in rural areas; exclusive bicycle lanes or separated bicycle lanes / cycle tracks in urban areas
3. Options may include: shared lane markings (rural or urban areas); standard or wide curb lanes (rural or urban areas)

Rural to Urban Cross-Sections

To conform to the Official Plan, the conversion of rural to urban cross sections only should be implemented for areas designated as "communities" and should not be implemented for "non-urban settlements" or "rural and waterfront areas".

Criteria Used to Identify High Priority Road Links for Rural to Urban Conversion
To help determine the most appropriated road segments for conversion from rural to urban cross sections, a series of criteria have been established. Applying these criteria will result in a priority ranking of road segments. The criteria for the conversion rural to urban cross section include:

- Designation in the Official Plan as a Community;
- Average annual daily traffic (AADT);
- Link identified in the Active Transportation Master Plan;
- Proximity to land uses that generate pedestrian trips (schools, hospitals, community centres);
- Presence of bus routes;
- Proximity to existing sidewalks;
- Proximity to existing curbed road segment;
- Condition of pavement; and
- Existence of sewer lines.

Process
The City could apply these informally or adopt a formal threshold (e.g. a street must meet two-thirds of the criteria).

Criteria	Description	Threshold for Conversion
Designation in Official Plan as a Community	Communities are fully-serviced by municipal sewer and water. These areas are the primary focus of residential development and also include the majority of the designated employment areas.	Designated as a Community
Average Annual Daily Traffic (AADT)	As traffic volumes increase, the likely hood of pedestrian traffic also increases. The increasing traffic volumes can pose a safety concern for pedestrians, making road segments with high traffic volumes generally a higher priority for conversion from a rural to an urban cross section.	1,000 AADT volume or greater
Link Identified in the Active Transportation Master Plan	The Active Transportation Master Plan (AT Plan) is one component of the Transportation Study. The AT Plan nominates links for cycling and pedestrian improvements. These recommendations should be prioritized in determining road segments for conversion from rural to urban cross sections.	Identified as a recommended improvement in the Active Transportation Plan
Proximity to Land Uses that Generate Pedestrian Trips	Certain land uses are expected to be key generators of pedestrian trips. These include schools, hospitals and community centres. A road segment's proximity to these land uses is a good determinant of the demand for sidewalks and the appropriateness of the conversion from rural to urban cross section.	Within 500 metres of land uses that generate pedestrian trips
Bus Route	Bus routes generate pedestrian activity with riders walking to and from the bus stops. The conversion of rural to urban cross sections would provide greater safety for riders.	Bus route present
Road Segments with Proximity to Existing Sidewalks	A road segment's proximity to existing road segments with sidewalks makes it a candidate for rural to urban conversion. Cross section conversion of road segments near existing sidewalks would help eliminate gaps and provide linkages in the sidewalk network.	Within 500 metres of existing sidewalks
Proximity to Existing Curbed Segment	Existing curbs along portions of a road segment suggest that some work already has been completed to convert from a rural to an urban cross section. Cross section conversion of road segments already with partial curbs would help eliminate gaps in the network.	Curb constructed along a portion of the road segment
Condition of Pavement	A road segment that is scheduled to be re-surfaced or refurbished in the near future could be a candidate for rural to urban conversion as it would be more economical to convert the cross section when scheduled maintenance is being conducted than to initiate road works solely for the purpose of cross section conversion.	Road segment scheduled for re-surfacing / refurbishment in the next five years
Existence of Sanitary Sewer Lines	The existence of sanitary sewer lines in a road segment is an essential precursor to conversion from a rural to urban cross section.	Sewer lines present

Policy Initiatives

What are Complete Streets?

Roadways that are planned, designed, constructed, operated, and maintained to safely and comfortably provide for the needs of all users, including, but not limited to motorists, cyclists, pedestrians, transit and school bus riders, movers of freight, persons with disabilities, seniors, the young and emergency users.

What are the benefits of Complete Streets?

Although the benefits of a complete street vary by travel mode and user, generally the overall benefits are see as:

- Provide appropriate facilities for cars, trucks, transit, cyclists and pedestrians
- Can be safer for all users
- Support liveable communities
- Positive impacts on public health
- Economic benefits - people want to be there

Goals of Sudbury's Complete Street Policy

When developing a complete street policy for Sudbury, the following goals should be kept in mind:

- Ensure that the needs of all transportation users are balanced throughout the surface transportation network to the greatest reasonable measure
- Create a balanced, comprehensive, integrated fully interconnected, functional and visually attractive surface transportation network
- Support the use of the appropriate complete streets design standards, principles, policies and guidelines within the context of the community

Sidewalk Priority Policy

This sidewalk priority policy has been adapted from the City of Victoria's "Pedestrian Master Plan" and the City of Peterborough's "Sidewalk Strategic Plan"

The policy awards points based on specific criteria for each area. The highest priority is given to those areas with the highest total score

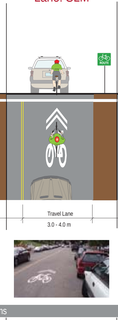
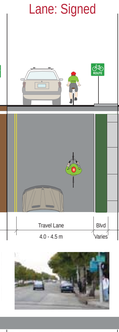
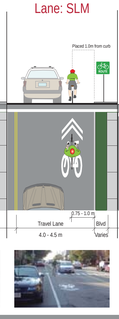
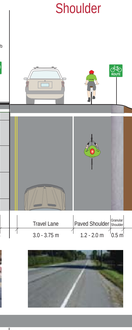
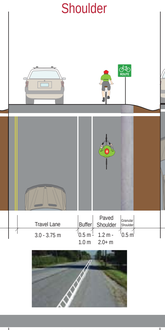
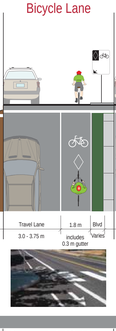
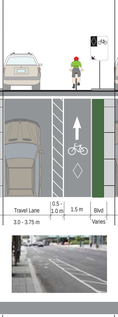
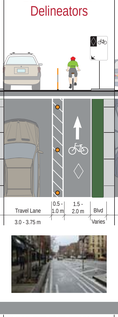
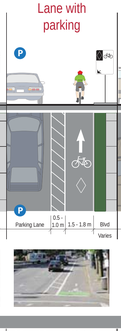
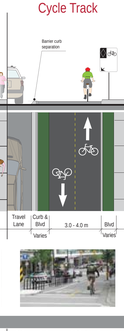
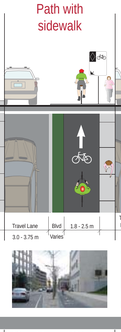
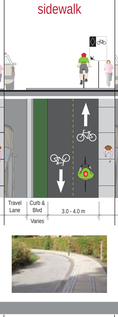
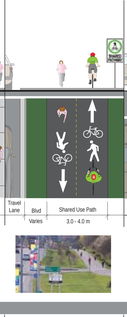
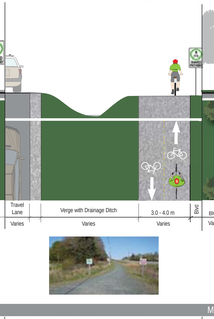
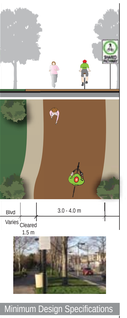
Criteria	Description	Threshold for Conversion
Road Type	Arterial Collector Local	10 5 1
Pedestrian Generators	Within 500 m of a hospital, library, place of work, arena, etc.	7
Commercial Land Use	Downtown Commercial Area	10 7
Transit	Along Transit Route	5
School Proximity	< 0.5km 0.5km to 1.4km 1.5km to 2.0km	6 3 1
Road Width	Number of lane	1 - 6
Existing Pathways	None Informal Path Trial (within 500m)	10 7 5
Public Concerns	Number of formal requests received	1 - 7

Active Transportation Facility Options: What kind of facilities are possible?

least separation → more separation → most separation

ON-ROAD BICYCLE FACILITIES

OFF-ROAD BICYCLE FACILITIES

	Shared Roadway/ Signed Bike Route	Shared Roadway/ Signed Bike Route with Wide Travelled Lane	Signed Bike Route with Paved Shoulder	Bicycle Lane	Separated Bicycle Lane			Cycle Track		Active Transportation (AT) Path				Off-Road Multi-Use Trail
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Signed Bike Route	Narrow Travel Lane: SLM	Wide Travelled Lane: Signed	Wide Travelled Lane: SLM	Paved Shoulder	Buffered Paved Shoulder	Conventional Bicycle Lane	Buffered Bicycle Lane	Buffered Bicycle Lane with Flex Delineators	Buffered Bicycle Lane with parking	Cycle Track: raised and curb separated	Two Way Cycle Track	One Way AT Path with sidewalk	Two Way AT Path with sidewalk	Shared Use AT Path	Two Way In-Boulevard AT Path	Off-Road Multi-Use Trail
Cross-section																	
Minimum Design Specifications	Travel lane widths (TAC Standards): o Minor arterial: 3.5 m o Collector (residential): 3.0 m o Collector (industrial/ commercial): 3.7 m.	Travel lane widths (TAC Standards): Where travel lane less than 4.0 m and the posted speed limit is 50 km/h or less, the stencils should be placed in the centre of the travel lane to allow single file bicycle and vehicle operations.	Travel lane widths: o 4.0 m o greater than 3,000 ADT/lane o less than 60km/h o 6-12% trucks	Markings should be placed 1.0 m from face of curb (or shoulder edge) on streets without on-street parking.	Minimum width: 1.2 m For partially paved shoulders, the gravel portion should not be less than 0.5 m wide. If the gravel portion is less than 0.5 m wide then the entire shoulder should be paved.	Minimum width: 1.2 m (shoulder); 0.5 m (buffer) For partially paved shoulders, the gravel portion should not be less than 0.5 m wide. If the gravel portion is less than 0.5 m wide then the entire shoulder should be paved.	Recommended width: 1.5 m	Guidelines for buffer width varies: o 80 cm (London and Brussels) o 50-75 cm (CROW Guide) o 183 cm (Portland, OR)	Guidelines for buffer width varies: o 80 cm (London and Brussels) o 50-75 cm (CROW Guide) o 183 cm (Portland, OR)	1.5 m minimum width to allow for passing 0.5-1.0 m buffer zone width	1.8 m minimum width to allow for passing 0.5-1.0 m buffer zone	3.0 m minimum width to allow for passing Striped centre line to separate traffic	1.8 m minimum width to allow for passing Shy distance of 5.0 cm suggested between cycle track and sidewalk	3.0 m is the minimum desired standard in most situations. Should be separated from the roadway with a 1.5 m buffer or a physical barrier	3.0 m is the minimum desired standard in most situations. Should be separated from the roadway with a 1.5 m buffer or a physical barrier	3.0 m is the minimum desired standard in most situations.	3.0 m is the minimum desired standard for bi-directional travel. Should be separated from the roadway with a 1.5 m buffer or a physical barrier
Preferred Design Specifications	Travel lane widths (TAC Standards): o Minor arterial: 3.7 m. o Collector (residential): 3.7 m. o Collector (industrial/ commercial): 3.7 m.	Should not be placed on roadways with a speed limit over 50 km/h for single file applications. "Shared Use Lane Single File" sign may be used in conjunction with Bike Route Sign when the travel lane is less than 4.0 m.	Travel lane widths: o 4.5 m o less than 3,000 ADT/lane o less than 60km/h o less than 6% trucks	Should not be placed on roadways with a speed limit over 60 km/h for side-by-side applications. "Share The Road" signs should be provided.	The preferred minimum width is 2.0 m wide. "Share The Road" signs should be provided. Increase width based on speed and vehicle composition: o 2.0 m for a posted speed > 70 km/h and 5,000 ADT	The preferred minimum width is 2.0 m wide (shoulder); 0.5 m (buffer) "Share The Road" signs should be provided. Increase width based on speed and vehicle composition: o 2.0 m for a posted speed > 70 km/h and 5,000 ADT	Increase width based on speed and vehicle composition: o Over 6,000 ADT, or if trucks > 10% of traffic volumes: 2.5 m o Speeds > 100 km/h: 2.5 m	Guidelines for buffer width varies: o 80 cm (London and Brussels) o 50-75 cm (CROW Guide) o 183 cm (Portland, OR)	Guidelines for buffer width varies: o 80 cm (London and Brussels) o 50-75 cm (CROW Guide) o 183 cm (Portland, OR)	1.8 m width	2.5 m width Innovative bicycle-friendly design needed at intersections to reduce conflicts between turning motorists and cyclists.	4.3 m recommended width (New York City) Innovative bicycle-friendly design needed at intersections to reduce conflicts between turning motorists and cyclists. Pavement markings should indicate direction	2.5 m width Innovative bicycle-friendly design needed at intersections to reduce conflicts between turning motorists and cyclists.	4.0 m or greater - recommended for heavy use situations with high concentrations of users.	4.0 m or greater - recommended for heavy use situations with high concentrations of multiple users.	4.0 m or greater is the preferred design specifications.	4.0 m or greater- recommended for heavy use situations with high concentrations of multiple users.
Typical Criteria	Travel lane minimum width: 3.0 m for low volume streets (less than 3,000 ADT) with little or no truck or bus traffic. "Share the Lane" signs are recommended	These markings are often used on streets where dedicated bicycle lanes are desirable but are not possible due to physical or other constraints.	4.0 - 4.5 m wide lanes Lanes should be sufficiently wide to allow motor vehicles to pass cyclists without encroaching on an adjacent travel lane.	These markings are often used on streets where dedicated bicycle lanes are desirable but are not possible due to physical or other constraints.	Shoulder bikeways are appropriate bicycle facilities on rural roads with a large shoulder and where there is no curb and gutter. Facilities are typically used by experienced commuters rather than inexperienced riders.	Shoulder bikeways are appropriate bicycle facilities on rural roads with a large shoulder and where there is no curb and gutter. Inclusion of the buffer makes these facilities more accessible for less experienced and new riders.	Most appropriate on urban arterial and collector streets where higher traffic volumes and speeds warrant user separation.	Designed to increase the space between the bicycle lanes and the travel lane or parked cars. Appropriate where bike lanes are located on streets with high speeds (>50 km/h).	Designed to increase the space between the bicycle lanes and the travel lane or parked cars. Appropriate where bike lanes are located on streets with high speeds (>50 km/h).	Use along roadways with high motor vehicle volumes and/or speeds (>50 km/h). Best on streets with parking lanes with a high occupancy rate	Use along roadways with high motor vehicle volumes and/or speeds (>50 km/h). Where cyclists may enter/leave , or where motorists cross at a driveway, the curb should be rolled with a small 45 degree ramp	Desirable when there are more destinations on one side of a street or if the cycle track will connect to a shared-use path or bicycle facility on one side of the street.	Use along roadways with high motor vehicle volumes and/or speeds Where cyclists may enter/leave , or where motorists cross at a driveway, the curb should be mountable with a small 45 degree ramp	Recommended for areas with high volumes of pedestrian and bicycle traffic to reduce conflict.	Ideal for families and recreational users. Suggested when on-road improvements are not feasible along roadways, and when ample ROW is available.	Ideal for families and recreational users. Suggested when on-road improvements are not feasible along roadways, and when ample ROW is available.	Ideal for families and recreational users. Suggested when on-road improvements are not feasible along roadways, and when ample ROW is available.
References	OTM Book 18: Bicycle Facilities TAC Geometric Design Guide for Canadian Roads Chapter 3: Bicycles; Section 3.4.3.1. Widths are discussed in section 3.4.6.2.	OTM Book 18: Bicycle Facilities TAC Geometric Design Guide for the Design and Application of Bikeway Pavement Markings AASHTO Guide for the Development of Bicycle Facilities	OTM Book 18: Bicycle Facilities TAC Geometric Design Guide for Canadian Roads Chapter 3: Bicycles; Section 3.4.3.1. Widths are discussed in section 3.4.6.2. York Region Pedestrian and Cycling Master Plan Planning and Design Guidelines version 1.3	OTM Book 18: Bicycle Facilities TAC Geometric Design Guide for the Design and Application of Bikeway Pavement Markings AASHTO Guide for the Development of Bicycle Facilities	OTM Book 18: Bicycle Facilities TAC Geometric Design Guide for the Design and Application of Bikeway Pavement Markings AASHTO Guide for the Development of Bicycle Facilities	OTM Book 18: Bicycle Facilities TAC Geometric Design Guide for the Design and Application of Bikeway Pavement Markings AASHTO Guide for the Development of Bicycle Facilities	OTM Book 18: Bicycle Facilities TAC Geometric Design Guide for the Design and Application of Bikeway Pavement Markings York Region Pedestrian and Cycling Master Plan Planning and Design Guidelines version 1.3	OTM Book 18: Bicycle Facilities City of Portland, OR, (2010). Bicycle Master Plan for 2030 Bikeway Design Best Practices.	OTM Book 18: Bicycle Facilities City of Portland, OR, (2010). Bicycle Master Plan for 2030 Bikeway Design Best Practices.	OTM Book 18: Bicycle Facilities CROW Design Manual for Bicycle Traffic Alta Planning + Design, Cycle Tracks: Lessons Learned.	OTM Book 18: Bicycle Facilities CROW Design Manual for Bicycle Traffic Alta Planning + Design, Cycle Tracks: Lessons Learned. Velo Quebec, (2003), Technical Handbook of Bikeway Design.	OTM Book 18: Bicycle Facilities CROW Design Manual for Bicycle Traffic Alta Planning + Design, Cycle Tracks: Lessons Learned. Velo Quebec, (2003). Technical Handbook of Bikeway Design.	OTM Book 18: Bicycle Facilities London Cycling Design Standards Alta Planning + Design. Cycle Tracks: Lessons Learned. Velo Quebec, (2003). Technical Handbook of Bikeway Design.	OTM Book 18: Bicycle Facilities FHWA, Designing Sidewalks and Trails for Access. AASHTO Guide for the Development of Bicycle Facilities	OTM Book 18: Bicycle Facilities FHWA, Designing Sidewalks and Trails for Access. York Region Pedestrian and Cycling Master Plan Planning and Design Guidelines Version 1.3 AASHTO Guide for the Development of Bicycle Facilities		OTM Book 18: Bicycle Facilities York Region Pedestrian and Cycling Master Plan Planning and Design Guidelines Version 1.3
In Constrained Corridors	Alert motorists to the presence of cyclists.	Encourage bicyclists to ride an appropriate distance away from the "door zone" on streets with parking.	"Share the Road" signs can be added to increase driver awareness.	Markings can be as little as 0.75 m from the curb on streets without on-street parking.	If available width is less than 50% of the desirable bicycle lane width AASHTO allows striping the shoulder in lieu of bike lanes.	In constrained corridor, see Option 5.	1.2 m acceptable where road width is limited; not suitable for roads with high ADT's and commercial vehicles.	1.2 m bike lane is acceptable.	1.2 m bike lane is acceptable.	1.5 m bike lane is acceptable.	Change in level clearly demarcates space for different users and reduces conflicts between bicyclists and pedestrians.	Parking should be banned on the side of the street with the cycle track to ensure adequate site distances for motorists crossing the path.	Change in level and planted buffer clearly demarcates space for different users and reduces conflicts between bicyclists and vehicles.	3.0 m is the minimum allowed for a two-way shared-use facility and is only recommended for low traffic situations.	3.0 m is the minimum allowed for a two-way shared-use facility and is only recommended for low traffic situations.	3.0 m is the minimum allowed for a two-way shared-use facility and is only recommended for low traffic situations.	Typically incorporated into parkland and valley land. Cyclists may choose to remain in the roadway.

This document is for information purposes only.

MMM GROUP

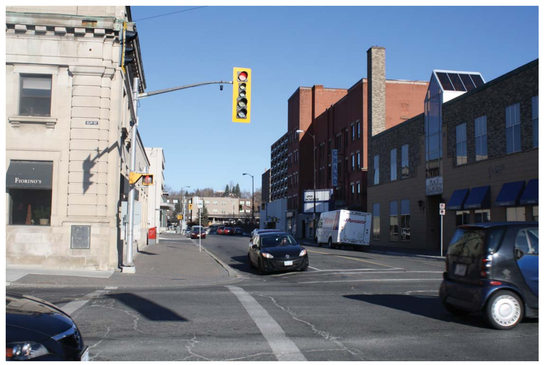
Sudbury

THANK YOU FOR ATTENDING

Please take a moment to fill out the online survey and provide us with your feedback

More information on the project can be found on the City's website:

www.greatersudbury.ca > Inside City Hall > Official Plan > Background Studies > Transportation Study



If you have any other questions please contact:

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MMM GROUP

Greater | Grand Sudbury

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Greater Sudbury Transportation Study
Draft Recommended 2031 Road Network

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List of Proposed Road Network Improvements

1. Notre Dame Ave. widening (Main St. to Kathleen St.)
2. Maley Dr. extension (Lasalle Blvd. to Barry Downe Rd.)
3. Montrose Ave. extension (Current terminus to Maley Dr. extension)
4. Maley Dr. widening (Barry Downe Rd. to Falconbridge Highway)
5. Falconbridge Highway widening (Maley Dr. to Garson Coniston Rd.)
6. Maley Dr. extension (Falconbridge Highway to Garson Coniston Rd.)
7. Second Ave. extension (Donna Dr. to Scarlett Rd.)
8. Barry Downe Rd. widening (Westmount Ave. to Kingsway)
9. Montrose Ave. South extension from Notre Dame Ave. to Lasalle Blvd.
10. Proposed road for construction in Silver Hills Development
11. Kingsway widening east of Lloyd St.
12. St. Anne Rd. extension
13. Howey Dr. widening (Elgin St. to Bancroft Dr.)
14. Larch Street extension
15. Ramsey Lake Rd. widening (Paris St. to South Bay Rd.)
16. Proposed road for construction from Alice St. and Gateway Dr.
17. Lasalle Blvd. widening (Maley Dr. extension to the south of rail corridor)
18. Municipal Rd. 35 widening (Municipal Rd. 15 to Notre Dame St.)
19. South Bay Road extension

Final alignment to be determined in conjunction with MTO.

The City should conduct an EA to define the corridor for the Southern University Link, in order to facilitate an orderly development plan which is in line with the long term road network concept for the area.

Proposed interchange improvements to Highway 17 and Maley East Bypass

Proposed interchange along Highway 17

Proposed Road Improvements to Highway 17

Proposed Road Improvements to Highway 69

Legend

Existing Road Network
- Existing Provincial Road / Highway
- Existing Roads

Proposed Road Network
- Proposed Roads for Construction
- Proposed Roadway Widening
- Proposed Road Improvements to Provincial Highways
- Potential Roads for Future Consideration (after 2031)
- Roads to be constructed as part of new developments

Regional Trails and Routes
- Trans Canada Trail

Destinations
- Arena / Community Centre
- College/University
- Schools
- Libraries
- Tourist Attractions

Other
- Lakes and Rivers
- Parks and Conservation Areas
- Active Railway
- Abandoned Railway

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N W E S

0 2 4 8 Kilometres

Greater Sudbury Transportation Study
Draft Recommended 2031 Road Network
Downtown Enlargement

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List of Proposed Road Network Improvements

1. Notre Dame Ave. widening (Main St. to Kathleen St.)
11. Kingsway widening east of Lloyd St.
12. St. Anne Rd. extension
13. Howey Dr. widening (Elgin St. to Bancroft Dr.)
14. Larch Street extension
17. Lasalle Bvd. widening (Maley Dr. extension to the south of rail corridor)

Legend

Existing Road Network
- Existing Provincial Road / Highway
- Existing Roads

Proposed Road Network
- Proposed Roads for Construction
- Proposed Roadway Widening
- Proposed Road Improvements to Provincial Highways
- Potential Roads for Future Consideration (after 2031)
- Roads to be constructed as part of new developments

Destinations
- Arena / Community Centre
- College/University
- Schools
- Libraries
- Tourist Attractions

Regional Trails and Routes
- Trans Canada Trail

Other
- Lakes and Rivers
- Parks and Conservation Areas
- In-Use Railway
- Abandoned Railway

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DOWNTOWN

0 250 500 1,000 Metres

Greater Sudbury Transportation Study
Draft Recommended 2031 Road Network
New Sudbury Enlargement

Revisit. Review. Revise.
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List of Proposed Road Network Improvements

5. Falconbridge Highway widening (Maley Dr. to Garson Coniston Rd.)
6. Maley Dr. extension (Falconbridge Highway to Garson Coniston Rd.)
7. Second Ave. extension (Donna Dr. to Scarlett Rd.)
8. Barry Downe Rd. widening (Westmount Ave. to Kingsway)
9. Montrose Ave. South extension from Notre Dame Ave. to Lasalle Blvd.
10. Proposed road for construction in Silver Hills Development

Legend

Existing Road Network
- Existing Provincial Road / Highway
- Existing Roads

Proposed Road Network
- Proposed Roads for Construction
- Proposed Roadway Widening
- Proposed Road Improvements to Provincial Highways
- Potential Roads for Future Consideration (after 2031)
- Roads to be constructed as part of new developments

Regional Trails and Routes
- Trans Canada Trail

Destinations
- Arena / Community Centre
- College/University
- Schools
- Libraries
- Tourist Attractions

Other
- Lakes and Rivers
- Parks and Conservation Areas
- In-Use Railway
- Abandoned Railway

MALEY CONSERVATION AREA
NICKELDALE CONSERVATION AREA
NEW SUDBURY CONSERVATION AREA
GRASSY HILL PARK
NEW SUDBURY

5
6
7
8
9
10

Final alignment to be determined in conjunction with MTO.

N
W E
S

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NEW SUDBURY

0 250 500 1,000 Metres

Greater Sudbury Transportation Study
Draft Recommended 2031 Road Network
South End Enlargement

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The City should conduct an EA to define the corridor for the Southern University Link, in order to facilitate an orderly development plan which is in line with the long term road network concept for the area.

Legend

Existing Road Network
- Existing Provincial Road / Highway
- Existing Roads

Proposed Road Network
- Proposed Roads for Construction
- Proposed Roadway Widening
- Proposed Road Improvements to Provincial Highways
- Potential Roads for Future Consideration (after 2031)

Regional Trails and Routes
- Trans Canada Trail

Destinations
- Arena / Community Centre
- College/University
- Schools
- Desired Connections
- Libraries
- Tourist Attractions

Other
- Lakes and Rivers
- Parks and Conservation Areas
- In-Use Railway
- Abandoned Railway

List of Proposed Road Network Improvements

15. Ramsey Lake Rd. widening (Paris St. to South Bay Rd.)
16. Proposed road for construction from Alice St. and Gateway Dr.
19. South Bay Road extension

N W E S

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SOUTH END

0 250 500 1,000 Metres

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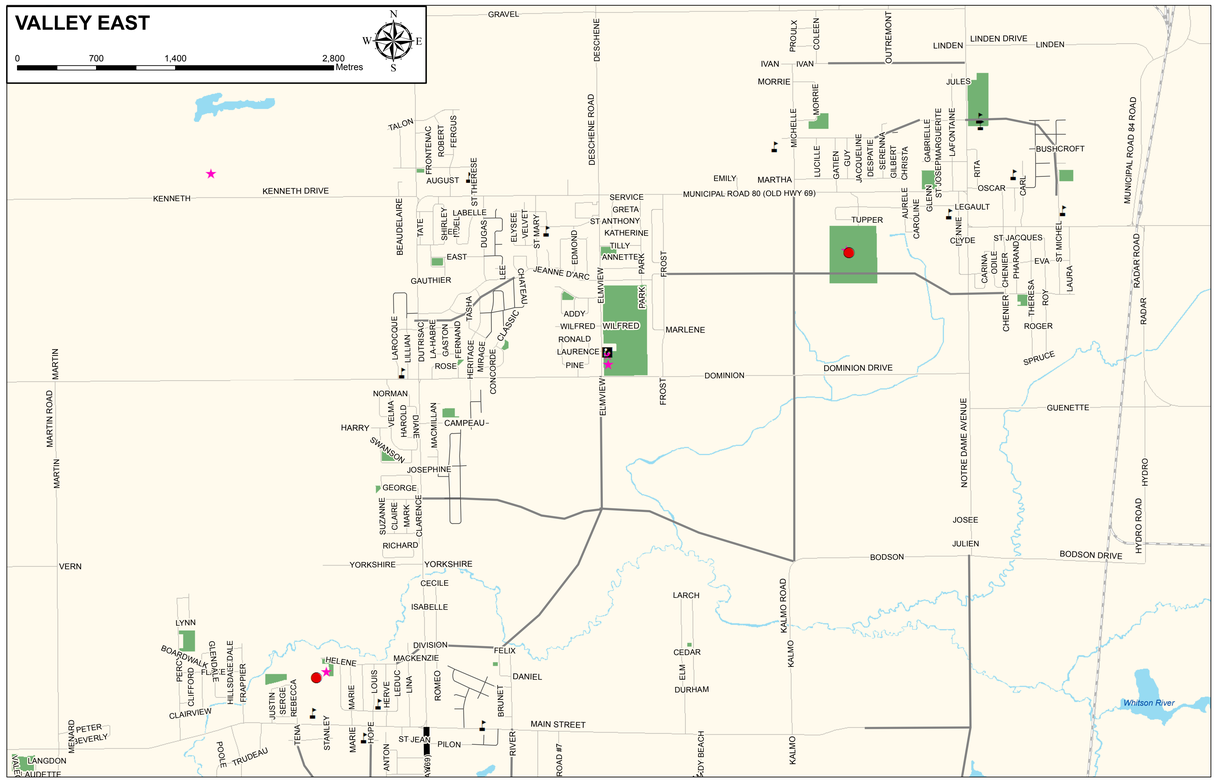
Greater Sudbury Transportation Study
Draft Recommended 2031 Road Network Enlargement Areas

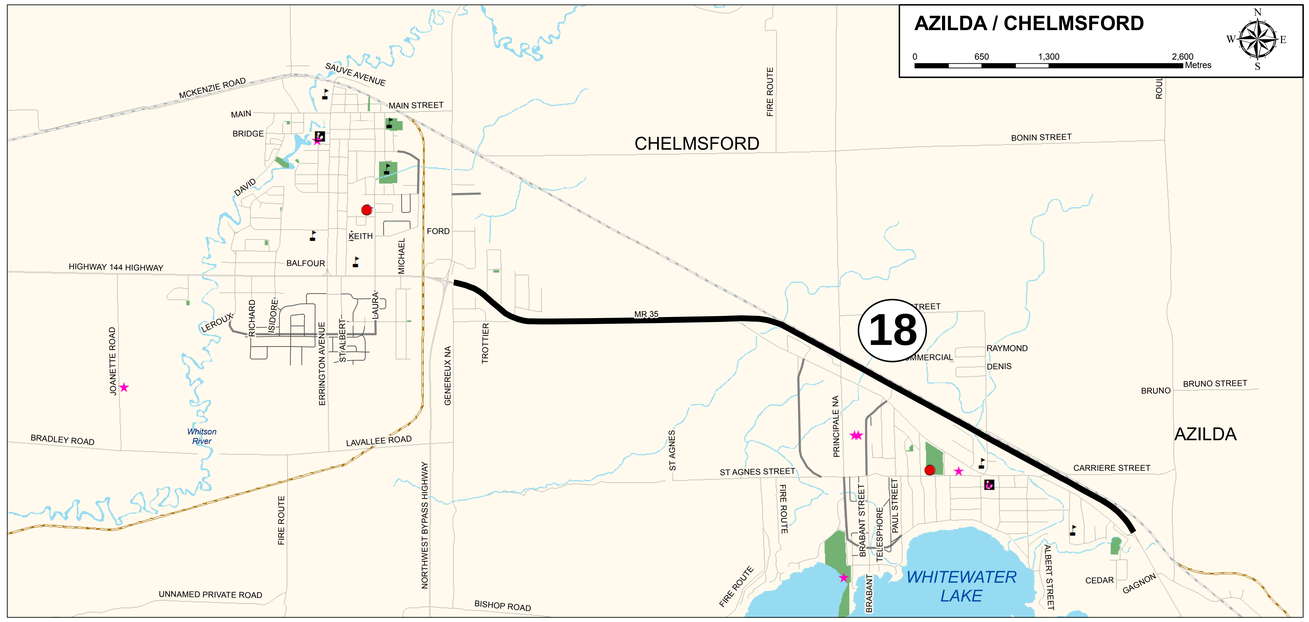
VALLEY EAST

0 700 1,400 2,800 Metres



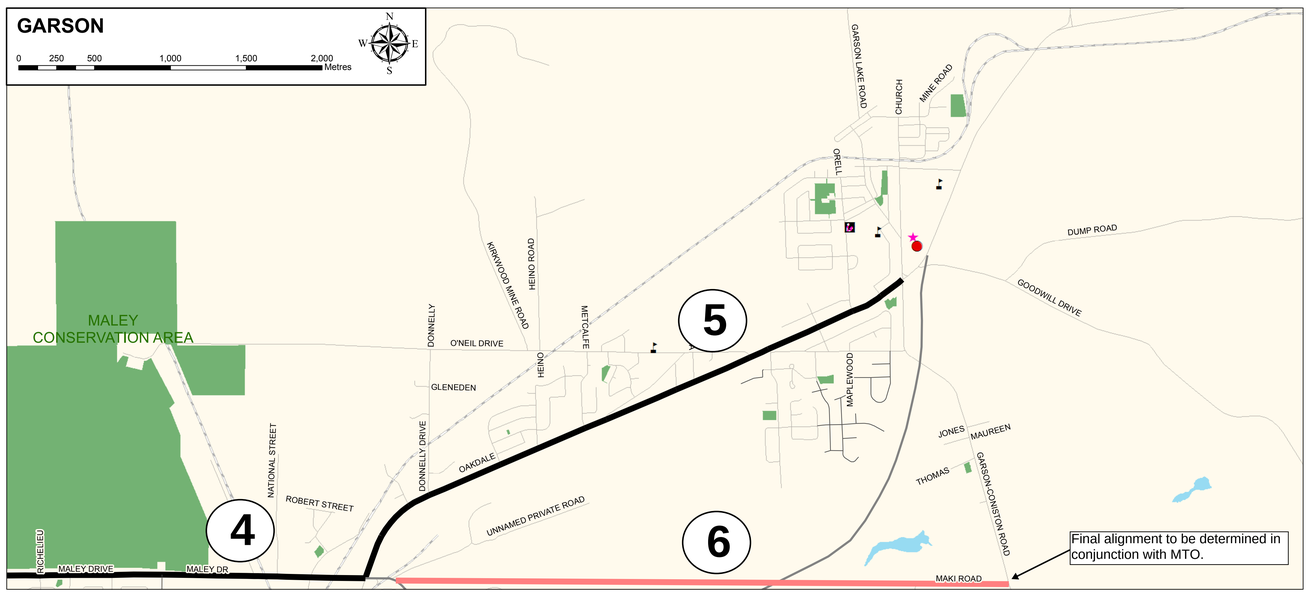
AZILDA / CHELMSFORD

0 650 1,300 2,600 Metres



GARSON

0 250 500 1,000 1,500 2,000 Metres



Legend

Existing Road Network
- Existing Provincial Road / Highway
- Existing Roads

Proposed Road Network
- Proposed Roads for Construction
- Proposed Roadway Widening
- Proposed Road Improvements to Provincial Highways
- Potential Roads for Future Consideration (after 2031)
- Roads to be constructed as part of new developments

Regional Trails and Routes
- Trans Canada Trail

Destinations
- Arena / Community Centre
- College/University
- Schools
- Libraries
- Tourist Attractions

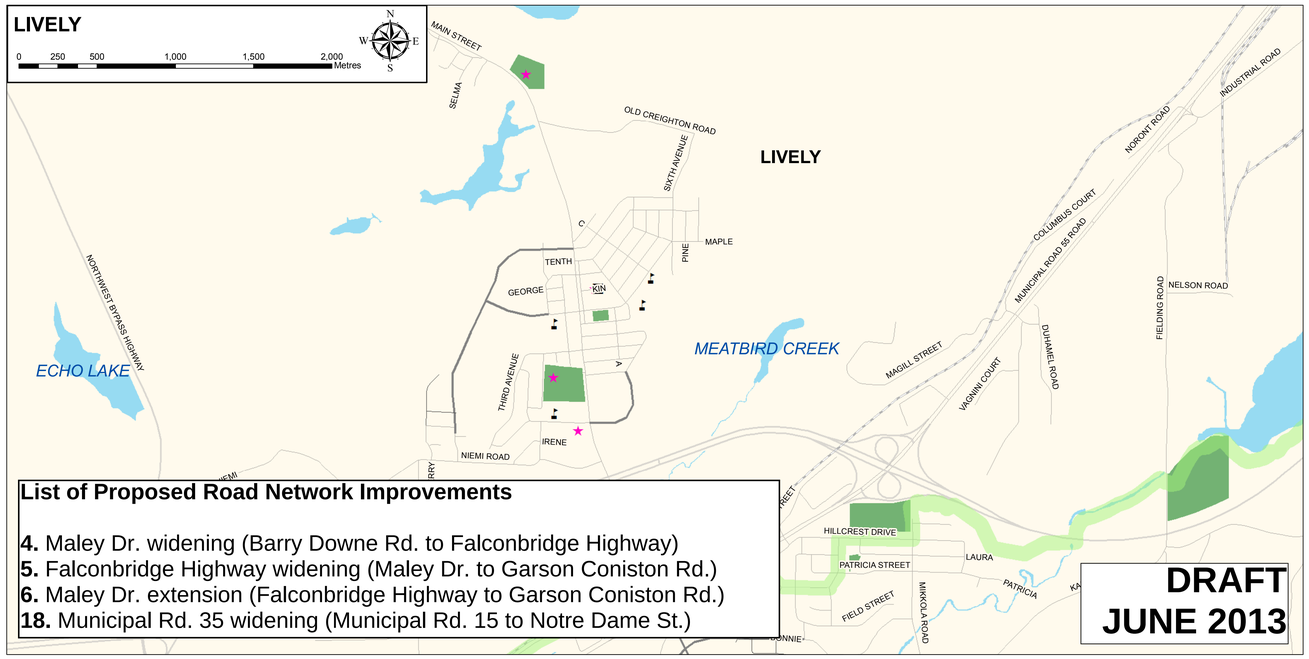
Other
- Lakes and Rivers
- Parks and Conservation Areas
- In-Use Railway
- Abandoned Railway

CAPREOL

0 125 250 500 750 1,000 Metres

LIVELY

0 250 500 1,000 1,500 2,000 Metres



List of Proposed Road Network Improvements

4. Maley Dr. widening (Barry Downe Rd. to Falconbridge Highway)
5. Falconbridge Highway widening (Maley Dr. to Garson Coniston Rd.)
6. Maley Dr. extension (Falconbridge Highway to Garson Coniston Rd.)
18. Municipal Rd. 35 widening (Municipal Rd. 15 to Notre Dame St.)

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MAP 9.1
Greater Sudbury Transportation Study
Draft Active Transportation Network Concept

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We need your help!

This map illustrates the Draft Active Transportation (AT) Network Concept. It is based on the Candidate Routes mapping, however contains fewer routes as some of the candidates were eliminated following field investigations.

The Draft AT Network Concept classifies routes by facility type (see also the facility types matrix display here today).

Please review the routes and facility types and provide us with your comments directly on our map.

Legend

On-Road Facilities
- Existing Bike Lane
- Proposed Bike Lane
- Proposed Signed Bike Route with Existing Paved Shoulder
- Proposed Signed Bike Route with Paved Shoulder*
- Existing Signed Bike Route
- Proposed Signed Bike Route
- Proposed Edgeline

Separated Facilities
- Proposed Cycle Track

Off-Road Facilities
- Existing Multi-Use Trail
- Proposed Multi-Use Trail
- Desired Connections

Existing Road Network
- Existing Provincial Road / Highway
- Existing Roads

Proposed Road Network
- Proposed Roads for Construction
- Proposed Roadway Widening
- Proposed Road Improvements to Provincial Highways
- Potential Roads for Future Consideration (after 2031)
- Roads to be constructed as part of new developments

Regional Trails and Routes
- Trans Canada Trail

Destinations
- Arena / Community Centre
- College/University
- Schools
- Libraries
- Tourist Attractions

Other
- Lakes and Rivers
- Parks and Conservation Areas
- Active Railway
- Abandoned Railway

* Consider adding rumble strip between roadway and signed bike route.

Under MTO jurisdiction

Final alignment to be determined in conjunction with MTO.

The City should conduct an EA to define the corridor for the Southern University Link, in order to facilitate an orderly development plan which is in line with the long term road network concept for the area.

A design feasibility study will be required prior to implementation of active transportation facilities in order to confirm the recommended facility type for each route segment. The outcome of the feasibility study may be a change in facility type or a recommendation to consider an alternative route.

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N W E S

0 2 4 8 Kilometres

MAP 9.2
Greater Sudbury Transportation Study
Draft Active Transportation Network Concept - Downtown Enlargement

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We need your help!

This map illustrates the Draft Active Transportation (AT) Network Concept. It is based on the Candidate Routes mapping, however contains fewer routes as some of the candidates were eliminated following field investigations.

The Draft AT Network Concept classifies routes by facility type (see also the facility types matrix display here today).

Please review the routes and facility types and provide us with your comments directly on our map.

Legend

On-Road Facilities
- Existing Bike Lane
- Proposed Bike Lane
- Proposed Signed Bike Route with Existing Paved Shoulder
- Proposed Signed Bike Route with Paved Shoulder*
- Existing Signed Bike Route
- Proposed Signed Bike Route
- Proposed Edgeline

Separated Facilities
- Proposed Cycle Track

Off-Road Facilities
- Existing Multi-Use Trail
- Proposed Multi-Use Trail
- Desired Connections

Existing Road Network
- Existing Provincial Road / Highway
- Existing Roads

Proposed Road Network
- Proposed Roads for Construction
- Proposed Roadway Widening
- Proposed Road Improvements to Provincial Highways
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Regional Trails and Routes
- Trans Canada Trail

Destinations
- Arena / Community Centre
- College/University
- Schools
- Libraries
- Tourist Attractions

Other
- Lakes and Rivers
- Parks and Conservation Areas
- Active Railway
- Abandoned Railway

* Consider adding rumble strip between roadway and signed bike route.

A design feasibility study will be required prior to implementation of active transportation facilities in order to confirm the recommended facility type for each route segment. The outcome of the feasibility study may be a change in facility type or a recommendation to consider an alternative route.

Bell Park Path - Cycling Path

Jim Gordon Boardwalk - Hiking / Walking Path

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N W E S

0 0.25 0.5 1 Kilometres

MAP 9.3
Greater Sudbury Transportation Study
Draft Active Transportation Network Concept - New Sudbury Enlargement

Revisit. Review. Revise.
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We need your help!

This map illustrates the Draft Active Transportation (AT) Network Concept. It is based on the Candidate Routes mapping, however contains fewer routes as some of the candidates were eliminated following field investigations.

The Draft AT Network Concept classifies routes by facility type (see also the facility types matrix display here today).

Please review the routes and facility types and provide us with your comments directly on our map.

Legend

On-Road Facilities
- Existing Bike Lane
- Proposed Bike Lane
- Proposed Signed Bike Route with Existing Paved Shoulder
- Proposed Signed Bike Route with Paved Shoulder*
- Existing Signed Bike Route
- Proposed Signed Bike Route
- Proposed Edgeline

Separated Facilities
- Proposed Cycle Track

Off-Road Facilities
- Existing Multi-Use Trail
- Proposed Multi-Use Trail
- Desired Connections

Existing Road Network
- Existing Provincial Road / Highway
- Existing Roads

Proposed Road Network
- Proposed Roads for Construction
- Proposed Roadway Widening
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- Potential Roads for Future Consideration (after 2031)
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Regional Trails and Routes
- Trans Canada Trail

Destinations
- Arena / Community Centre
- College/University
- Schools
- Libraries
- Tourist Attractions

Other
- Lakes and Rivers
- Parks and Conservation Areas
- Active Railway
- Abandoned Railway

* Consider adding rumble strip between roadway and signed bike route.

MALEY CONSERVATION AREA
NICKELDALE CONSERVATION AREA
NEW SUDBURY CONSERVATION AREA

Final alignment to be determined in conjunction with MTO.

As an interim solution, consider a one-way cycling path in the boulevard on each side of the road, in the existing service strip. Long term, consider adding cycle tracks.

A design feasibility study will be required prior to implementation of active transportation facilities in order to confirm the recommended facility type for each route segment. The outcome of the feasibility study may be a change in facility type or a recommendation to consider an alternative route.

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NEW SUDBURY

0 0.25 0.5 1 Kilometres

MAP 9.4
Greater Sudbury Transportation Study
Draft Active Transportation Network Concept - South End Enlargement

Revisit. Review. Revise.
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We need your help!

This map illustrates the Draft Active Transportation (AT) Network Concept. It is based on the Candidate Routes mapping, however contains fewer routes as some of the candidates were eliminated following field investigations.

The Draft AT Network Concept classifies routes by facility type (see also the facility types matrix display here today).

Please review the routes and facility types and provide us with your comments directly on our map.

The City should conduct an EA to define the corridor for the Southern University Link, in order to facilitate an orderly development plan which is in line with the long term road network concept for the area.

Legend

On-Road Facilities
- Existing Bike Lane
- Proposed Bike Lane
- Proposed Signed Bike Route with Existing Paved Shoulder
- Proposed Signed Bike Route with Paved Shoulder*
- Existing Signed Bike Route
- Proposed Signed Bike Route
- Proposed Edgeline

Separated Facilities
- Proposed Cycle Track

Off-Road Facilities
- Existing Multi-Use Trail
- Proposed Multi-Use Trail
- Desired Connections

Existing Road Network
- Existing Provincial Road / Highway
- Existing Roads

Proposed Road Network
- Proposed Roads for Construction
- Proposed Roadway Widening
- Proposed Road Improvements to Provincial Highways
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Regional Trails and Routes
- Trans Canada Trail

Destinations
- Arena / Community Centre
- College/University
- Schools
- Libraries
- Tourist Attractions

Other
- Lakes and Rivers
- Parks and Conservation Areas
- Active Railway
- Abandoned Railway

* Consider adding rumble strip between roadway and signed bike route.

N
W E
S

DRAFT - JUNE 2013

SOUTH END

0 0.25 0.5 1 Kilometres

MAP 9.5
Greater Sudbury Transportation Study
Draft Active Transportation Network Concept
Enlargement Areas

We need your help!

This map illustrates the Draft Active Transportation (AT) Network Concept. It is based on the Candidate Routes mapping, however contains fewer routes as some of the candidates were eliminated following field investigations.

The Draft AT Network Concept classifies routes by facility type (see also the facility types matrix display here today).

Please review the routes and facility types and provide us with your comments directly on our map.

Legend

On-Road Facilities
- Obsolete
- Existing Bike Lane
- Proposed Bike Lane
- Proposed Signed Bike Route with Existing Paved Shoulder
- Proposed Signed Bike Route with Paved Shoulder*
- Existing Signed Bike Route
- Proposed Signed Bike Route
- Proposed Edgeline

Separated Facilities
- Proposed Cycle Track

Off-Road Facilities
- Existing Multi-Use Trail
- Proposed Multi-Use Trail
- Desired Connections

Existing Road Network
- Existing Provincial Road / Highway
- Existing Roads

Proposed Road Network
- Proposed Roads for Construction
- Proposed Roadway Widening
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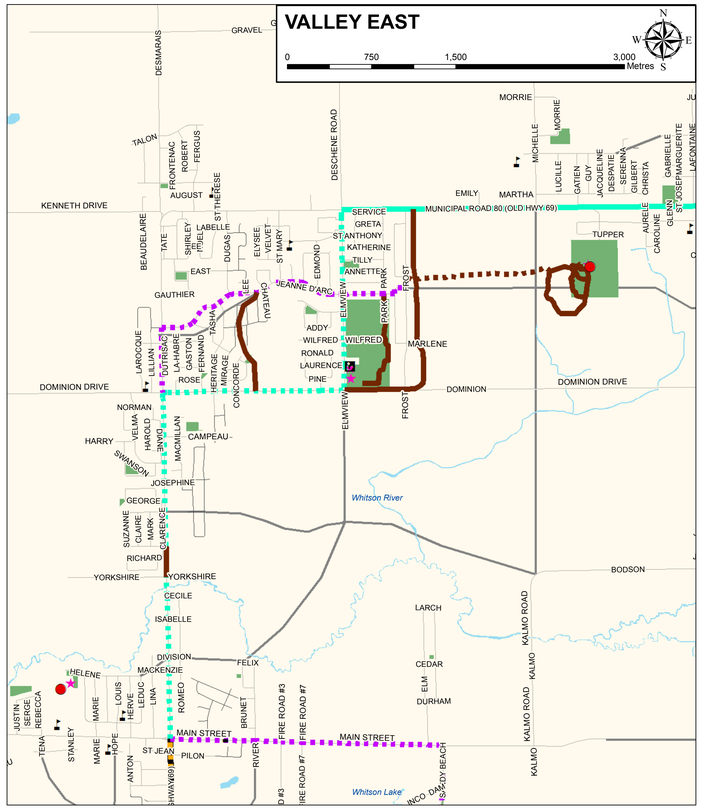
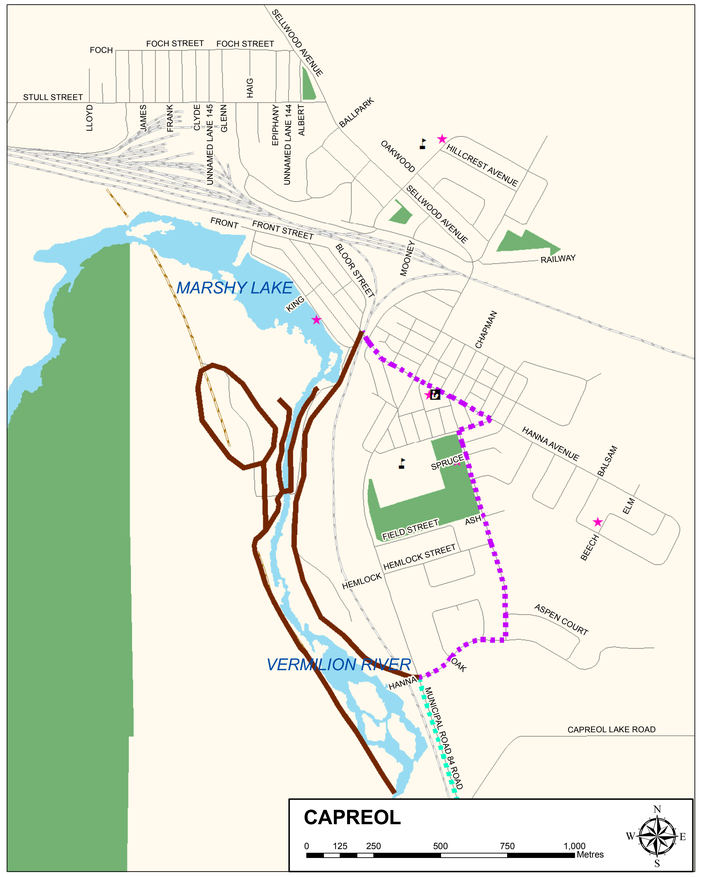
Regional Trails and Routes
- Trans Canada Trail

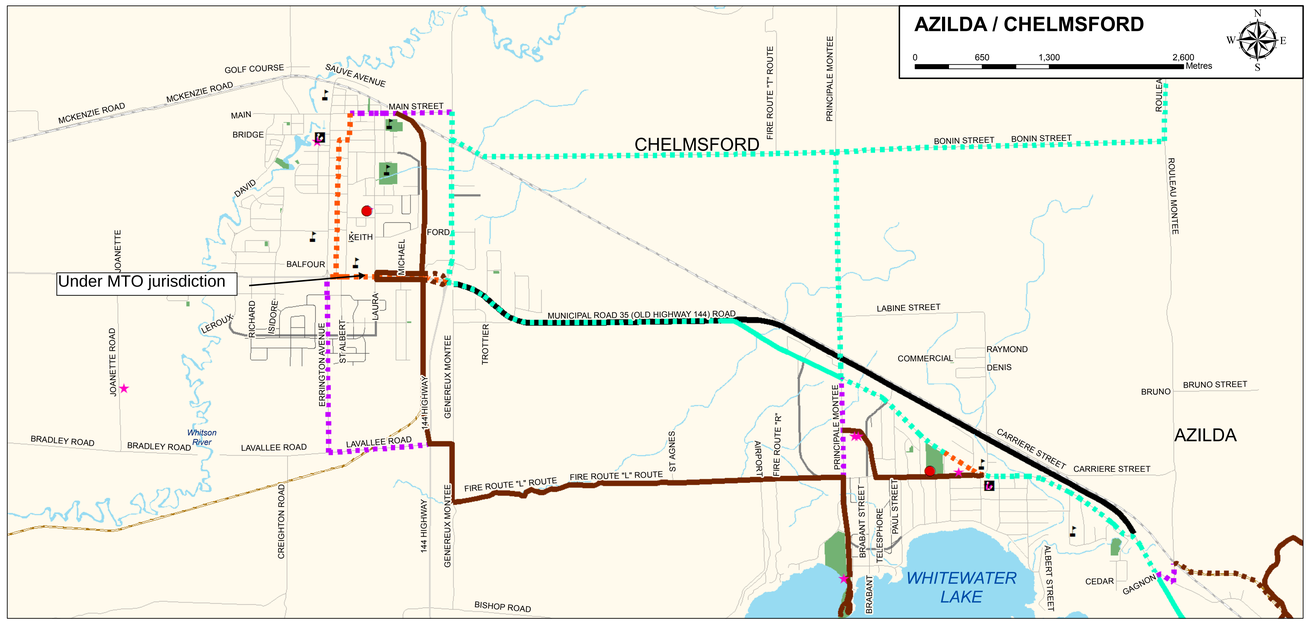
Destinations
- Arena / Community Centre
- College/University
- Schools
- Libraries
- Tourist Attractions

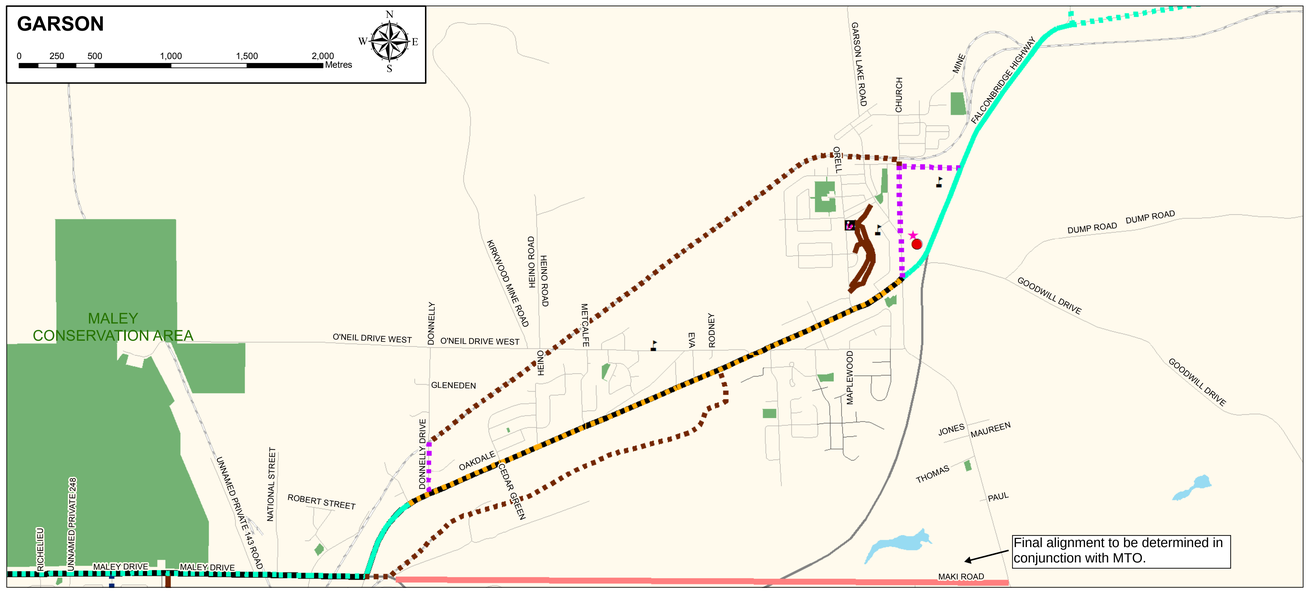
Other
- Lakes and Rivers
- Parks and Conservation Areas
- In-Use Railway
- Abandoned Railway

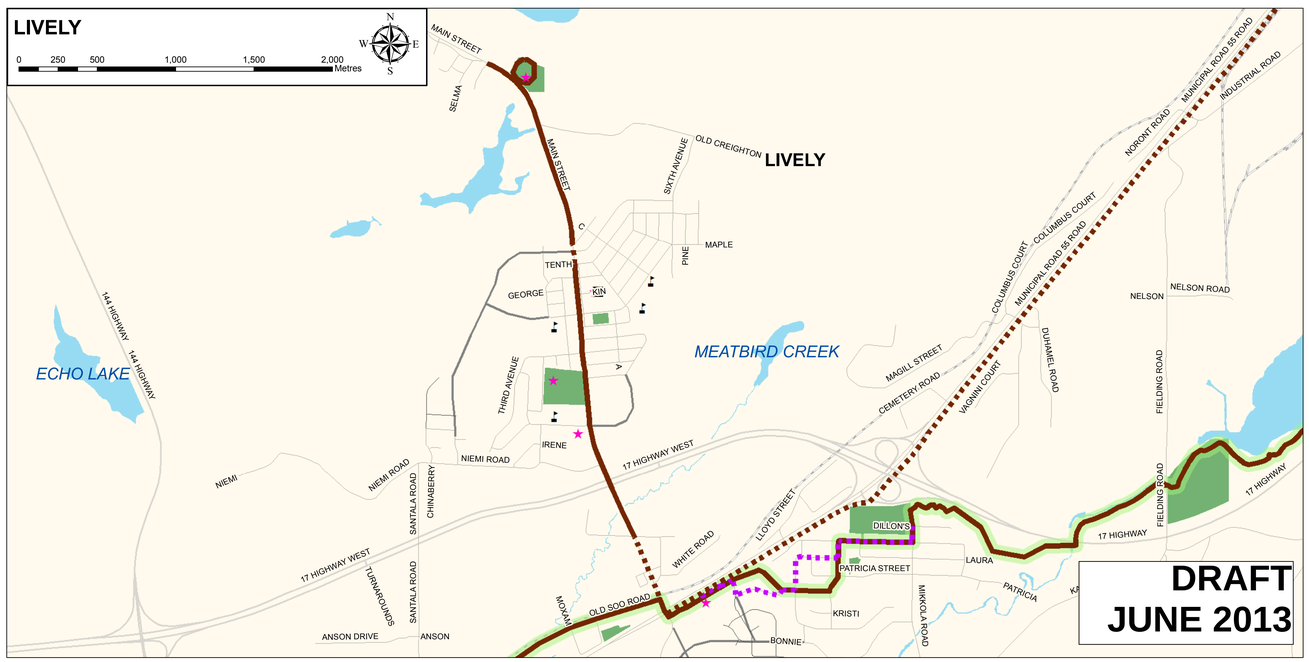
* Consider adding rumble strip between roadway and signed bike route.











Appendix H

Consultation Register

City of Greater Sudbury Transportation Study Report
Summary of Agency / Stakeholder / Public Comments
Consultation Register

Updated: February 11, 2015

No.	Date	Source	Contact	Comment Summary
1	23-Jan-12	Presentation	Bob Hanson	The proposed University Access Road (Schedule 2b South End Natural Assets) will intersect the existing ski, hiking, and walking trails at many points and therefore destroy the trails. The proposed road will increase traffic on Ramsay Lake Road at all times of the day. This new road cannot be afforded especially with all the existing roads that need maintenance. Furthermore, we must preserve the LoEllen Park area and the Ramsay Lake as all drainage from the road will end up here. The proposed route also crosses a wetland which is used for research by Laurentian University. The goal should be to enhance the existing network and not to destroy it (See Trails: A Guide to Non-motorized Trails in Great Sudbury).
2	16-Feb-12	Letter	Marc Butler, Xstrata Nickel	Xstrata has conducted internal reviews and discussions and would like to offer their support for the following priorities of the study: supporting choices for biking, walking and transit; addressing traffic congestion and solutions for corridors; a network with more direct routings; addressing growth areas to support intensified land use. Xstrata Nickel would like to point out their existence is based on the continued utilization of the existing road network (and future more direct routings) for their specialized transport trucks. Furthermore, Xstrata would like to offer the following comments: the company transports their goods to various communities in the province and therefore, the Ontario Ministry of Transportation (MTO) should be involved with the dialogue on this TMP; Xstrata supports the 4 lane project between Chelmsford and Azilda; the Coniston-Garson highway needs to be re-surfaced and a review of the total curves should be conducted; Xstrata is conducting an advanced exploration program north of Capreol and therefore it is necessary to improve maintenance of roads from Capreol through the Valley and Regional Road 15 to Chelmsford; Skead road should be widened to include a passing lane and the steepness of the hill should be considered (as both Radar and Skead roads may experience increased flow due to Vale and Xstrata operations; the Barry Downe and Maley drive extensions should be destined for truck traffic and conflicting land uses should be avoided int he city's land-use planning; the bypass on Highway 144 for Chelmsford and Dowling will warrant discussion in the future; and finally, Regional Road 8 traffic calming may need to be reviewed in the future due to the potential for increased traffic volumes from the Xstrata site.
3	3-Apr-12	Letter	Perry Sakki, Laurentian Nordic Ski Club	The club wishes to endorse the requests to remove the University Access Road from the Official Plan. The road would destroy the established ski trails and its associated skiing programs that promote a healthy lifestyle within the community.
4	17-Apr-12	Letter	Randy Crisp, Capreol Community Action Network	Reg. Rd. 80 from Hanmer into Capreol requires re-paving, line painting and a guard rail on the corner approaching the Ella lake turn-off. Reg. Rd. 80 should also be rerouted from the Suex to Hanmer on the same side of the tracks as Radar Rd. to reduce delays caused by trains and to create an escape route from Capreol in the event of an evacuation. As there is currently no escape route in the event of a natural disaster, perhaps a temporary route can be implemented from the Suez to Cote Blvd in Hanmer. Furthermore, trains passes can block at least two of the three crossings which creates a traffic flow situation. When the train is running, there is no access or exit from the downtown. It would be beneficial to have a overpass over the CNR property in case of emergencies. Finally, the Barry Downe extension is a route necessity for Hanmer and Capreol residents.
5	25-Apr-12	E-mail	Deb McIntosh, Rainbow Routes	Sudbury is working towards becoming a healthier community by looking to expand its cycling infrastructure. The smaller municipalities should work together to get their active transportation considerations reviewed by MTO.
6	21-Nov-12	E-mail	Norm Eady	A road link south from Laurentian University would benefit Mr. Eady's small development, the University, and the City as a whole.
7	26-Nov-12	Telephone	Kristi Arnold, Dalron	Dalron is not in favour of a southern university link road with a 61 metre right-of-way. Dalron would be in favour of a local road providing access to properties along the road. Dalron would also accept no road being constructed. The main objection is to a road with a 61 metre cross section.

No.	Date	Source	Contact	Comment Summary
8	27-Jul-13	E-mail	Matt Alexander	I was disappointed that the "Active Transportation" and "Road Network" plans were presented separately. It was clear from looking at the Active Transportation boards that there would be AT improvements as part of some of the road improvements, but this wasn't clear from looking at the Road Network boards. It is important that the Maley Drive extension not allow new lot creation along it. The purpose of the extension would be completely lost if it ended up having dozens of driveways and businesses located on it. The only way Maley is going to provide relief to the Kingsway or any other clogged artery is if it is a bypass. There was a new road proposed to provide a shortcut south east of the LaSalle/Notre Dame intersection. It's proposed to run along the north side of the New Sudbury Conservation Area, but not actually connect to any of the North-south streets. If this road is to be built it should provide connections to those roads. The road should not be built. If that road were to be built development could only happen along its north side. Any development on its south side would encroach on the wetlands. There is no point of building a road that doesn't serve new development. Most of the new Active Transportation improvements proposed were widened shoulders, and signed bike routes. This is not an improvement. Every route identified for wider curb lanes, or paved shoulders should be upgraded to a 1.5m wide painted bike lane at a minimum. Ideally, the most dangerous roads for cycling should be given a curb-separated cycle track that runs along with the road. The reason for using paved shoulders instead of actual bike lanes was money and space. Active Transportation improvements do as much to improve driving conditions as conventional road improvements do (actually, they do MORE because they encourage people to switch from driving to cycling), so they should be given as high a priority in the budget as road improvement. Money should not be seen as a constraint to growing the active transportation network any more than it should be for the road network. As for space, I've like to draw your attention to this: http://annarbor.com/news/washtenawavenues-future-conceptual-images-show-buffered-bikes-lanes-and-dedicated-transit-lanes/ I was very disappointed with the recommended Active Transportation network because it appeared that even with this component the priority was the convenience of drivers. Sudbury is not that big. If the roads weren't so awful this could be a very bike-friendly city. Each pocket of development (downtown, New Sudbury, Four Corners and each former town centre) could easily be transformed into a bike/pedestrian-friendly island, and each connecting road could easily be upgraded to facilitate longer bike trips from one to the other. I was very disappointed that nothing in the plan seemed to suggest this possibility. I think the policies are good. I fully support that every road improvement should be required to include active transportation improvements. However i think the words, "wherever possible" or "wherever feasible" were in there. To me, if it is not feasible to add active transportation improvements to a road improvement, then the road improvement as a whole is not feasible. Also, since there doesn't seem to be anyone at the city tasked with ensuring active transportation is a priority in development applications or road improvements, I'm very skeptical that this policy will be implemented with any enthusiasm. For some reason bike and pedestrian infrastructure is seen as an "extra". It is not "extra". It is integral, and should be treated as such. The Elgin Greenway consultation was very good. I know it's a separate project, but I want to say that every road improvement project should be done the same way.
9	29-Jul-13	Letter	General Comments	More emphasis should be placed on mass transit systems and networks as opposed to building better and bigger roads. Similarly, themes should switch from "creating roads" to "creating self-contained communities" that are self-sustaining and therefore, negate the need for long-distance travel. Currently, in order to travel to different areas, residents of outer communities have to travel through old Sudbury due to the existing road networks. As a result, more effective road planning needs to be enforced in order to avoid through traffic causing daily traffic jams. Moreover, road designations must respect the existing communities surrounding it. For instance, Road north was built anticipating residential traffic flow and it has now become a major arterial road to match Road south despite concerns from residents on the road. The road designation process should involve an open public process and should directly engage those residents who will be affected.

No.	Date	Source	Contact	Comment Summary
				Budget limitations for cycling infrastructure Comment: cycle tracks should be implemented on high volume arterial or collector roadways Suggestion/innovation: draft and implement a by-law to permit cycling on the snow storage area in the interim and to ensure cyclists are kept off of the sidewalk Complete street policy Comment: it is proposed in the study but not reflected in new road construction Suggestion: Develop and implement a policy that is reflected in road improvements and new road infrastructure Community safety zones Comment: Westmount has two elementary schools yet has no planned cycling infrastructure Suggestions: Community safety zones should be implemented in a 1km radius of all elementary schools Edge lines Comment: edge lines are too narrow to accommodate a range of bicycles and they are not a recommended "facility type" Suggestion: define clearly what an edge line is and if it is just a line differentiating between the roadway and the shoulder, this suggestion should be removed as a viable infrastructure; provide proper cycling and pedestrian infrastructure on Kelly Lake Road in between Junction Creek Waterway Park and Copper Cliff Trail Implementation plan Comment: The study does not include an implementation plan for the cycling routes and pedestrian network Suggestion: Include an implementation plan in the revisions Junction Creek Waterway Park and other Active Transportation Routes Suggestion: pave and light existing off road paths Provincial Policy Statement on Land use Planning (PPS) Suggestion: refer to 1.6.5.4 of the PPS Maley Drive Comment: some residential areas are only accessible off of Maley Drive yet there are no active transportation provisions

No.	Date	Source	Contact	Comment Summary
10	6-Sep-13	PDF File	Sustainable Mobility Advisory Panel (SMAP)	Suggestion: adopt the complete streets policy as suggested in the Transportation Study Maps Comment: the City should update their website to provide more cohesive and readily accessible information on active transportation Suggestion: maps of cycling routes should be available both online and on paper; there should be a active transportation website New Roads & Sustainability Comment: implement road diets and measure that would reduce traffic as opposed to maintaining and building new roads Suggestion: invest in transit, cycling and pedestrian infrastructure to save money as road maintenance would be less expensive and would make some road expansion redundant Public Input Suggestion: reflect the residents desire for more cycling and pedestrian infrastructure in the draft active transportation maps, the recommended 2031 transportation routes and there rest of the study Ramsey Lake Road Suggestion: implement a complete street policy Sidewalks Comment: there are no provisions for new sidewalks; the study has concentrated on a cycling network plan but not a pedestrian network plan; access to bus stops without pedestrian infrastructure is an issue Suggestion: sidewalk priority should be implemented on the north side of Kingsway (from 2nd Ave to Silver Hills); safe routes should be provided to key destinations; a pedestrian implementation plan should be developed Signed Routes Suggestion: reduce routes to 40kph; sign routes that are poorly defined transportation corridors only Transit Comment: there was not a section on an improved transit system Suggestion: the study should provide a road map to solve our transit issues The Four Corners Bypass: Four-laning Ramsey Lake Rd and Building the South Bay Extension Suggestions: improve transit service to the entire city (as well as Laurentian University) and therefore reduce the need for a 4 laning; shift the traffic to other times slots by staggering class start times; potentially open Loach's Road Extension to transit use as well as emergency vehicle use; work with Laurentian University and Health Science North to find solutions to congestion and parking - cost and savings can be shared Traffic Counts Comment: the problems are too focused on traffic counts and thus the perceived traffic congestion issues Suggestion: SMAP defines issues from an economic, health and environmental point of view Year 2031 Comment: by the year 2036, 24% of the population of the province will be over the age of 65. Suggestion: due to the aging demographic, fewer people will be driving and this should be reflected in the study; the study should consider the needs of this aging demographic (e.g. crossing medians on wider streets, increased winter sidewalk maintenance, better lighting etc.); consult with the Seniors Advisory Panel and the Accessibility Advisory Panel.
11	9-Sep-13	PDF File	Connect the Creek Partnership	There is an area of conflict between the Transportation Study and the Junction Creek Waterway Park Community Improvement Plan (CIP) as shown on Map 9.3. In addition, the proposed road between LaSalle Blvd and Notre Dame is encroaching on a wetland and flood plain. Moreover, the Partnership requests safe infrastructure for pedestrians and cyclists from the east end of the Riverside tunnel to Ray Hynatyshyn Park as a form of road crossing along the JCWP for active transportation.

No.	Date	Source	Contact	Comment Summary
12	23-Sep-13	PDF File	Rainbow Routes Association Board of Directors	1) Rainbow Routes would like to endorse the adoption of a Complete Streets Policy. 2) They hope to provide comments on the implementation plan for this transportation study when it becomes available. 3) The Study shows existing active transportation facilities - perhaps, the City should improve these before developing routes on existing roadways. 4) A Complete Streets Policy should be developed on Maley Drive as there are some residential developments that are only accessible off of Maley Drive. 5) If Ramsey Lake Road expands, it should be follow the Complete Streets Policy. 6) Kelly Lake Road should be updated to include pedestrian and cyclists facilities as it is a key connector to a number of trails. 7) A more thorough public consultation process should be conducted as there is too much information to be condensed into two public open houses. 8) The City should think about developing Context Sensitive Solution Guidelines for Regional Streets.
13	25-Sep-13	PDF File	Naomi Grant, Coalition for a Liveable Sudbury	Though the principles of the Transportation Study, "healthy communities", "sustainability", and "economic viability", sound positive in theory, the omission of public transit, and the lack of an implementation plan for active transportation undermines the principles of this study. In order to support sustainable mobility and reduce traffic as stated in the study, less emphasis should be placed on existing and new roads and should instead, include transit, active transportation networks and road diets. In addition, the University link is completely against the principles outlined in the study. CLS suggests that the Complete Streets Policy be incorporated into the Official Plan. Furthermore, any potential traffic calming projects should be consistent with the Complete Streets Policy as traffic calming measures often provide a new hazard for cyclists. Also, the study should consider reducing speed limits to make the roads safer for all users. In terms of cycling, CLS is pleased to see the suggested routes coincide with those recommended by the Sustainability Mobility Plan and the Bicycle Technical Master Plan; however, there is a lack of clarity on the types of facilities available for cyclists. Some suggestions, such as edge lines and boulevards, are not recognized cycling infrastructure and should not be an option. For some arterials, cycling infrastructures are not proposed. Moreover, some recreational trails were included in the network of cycling trails though they are not true transportation routes for cyclists. This is a little disconcerting because this might send mix messages on the true nature of these trails. These trails, along with appropriate cycling infrastructure, should be included in a Transportation Schedule of the Official Plan. These routes should be regulated using an implementation plan and should not be constructed in a piecemeal fashion during regular road work but rather through yearly investments, new developments and roadwork projects. Finally, CLS feels there is no guiding framework to ensure implementation, which is further impeded by the lack of clarity and certainty when consulting with staff. Although the study identifies consultation with key stakeholders as a part of the process, there is no real dialogue. For instance, the open house stated that SMAP would be working actively with the study team; however, the project team has only sat in with SMAP meetings twice.
14	30-Sep-13	Letter	Sudbury Cyclists Union	SCU is concerned with the lack of implementation plans. Without these, cyclists worry the plans will never come to fruition. A Sudbury Cycling Strategy needs to be created to provide a base for current and future cycling transportation infrastructure. "This strategy would provide a cycling vision, strategic directions, guiding principles, goals, and a commitment to future action plans. It would also identify areas for action that would be used to develop yearly plans and budgets." The Ontario Ministry of Transportation released its Cycling Strategy, and it would support communities that adhered to the Complete Streets principles in their Official Plans. Thus, a cycling implementation plan would position the city to take better advantage of provincial funding for cycling infrastructure. The Complete Streets Policy needs to be integrated into the Official Plan, as recommended. Sudbury should base its implementation plan on the MTO and SMP reports. Active transportation should be realized in three ways: yearly investments in the network, mandated infrastructure in new developments, and mandated infrastructure during roadwork projects. Finally, the active transportation network feasibility studies should be guided by a committee comprised of community stakeholders as well as Council and city staff. Second Ave. - the City's suggestion is that it becomes a route with paved shoulders from Bancroft to Donna. SCU thinks the reconstruction of the road in 2014 would be an excellent opportunity to put in bike lanes that will connect to the Bancroft cycling lanes.

No.	Date	Source	Contact	Comment Summary
15	7-Oct-13	Letter	Sudbury's Cycling Grannies	1) There should be a minimum amount of investment budgeted in the Infrastructure Budget for bicycle lanes. 2) Edge lines are not a viable cyclist infrastructure. 3) Roadway repairs should be taken as an opportunity to become a part of the Complete Streets Policy. 4) Ramps or cut curbs need to be provided for cyclists to access the sidewalks/cycling facilities. 5) Ditches should be filled in so they can be utilized for cycling/walking. 6) Designate some roads for "Sunday Cycling" - there will be no motorized traffic for certain hours of the day. 7) The Grannies would be willing to be consultants to the staff for no cost. Inexpensive suggestions provided could have a profound impact on cycling for that area. 8) Ramsey Lake Road should not be expanded to 4 lanes.
16	3-Nov-13	E-mail	Anita & Dave	They are requesting that the proposed road through the Laurentian University trails be taken out of the transportation plan and the Official Plan. Additionally, the Ramsey Lake multi-use trail should remain.
17	4-Nov-13	E-mail	Sophie Howe	Ms. Howe would also like to object to an University road link through the trails.
18	5-Nov-13	E-mail	Geof Knight	Mr. Knight would like to object to an extra housing estate and road through the trails in the Laurentian conservation area. Instead of focusing on vehicular traffic, greater emphasis should be placed on transit and trails for bicyclists to reduce commuter traffic. Lastly, the Transcab service needs improvement.
19	6-Nov-13	E-mail	Chuck Miller	Mr. Miller is also objecting to a link road between Regent Street South and the Laurentian University campus. If emergency access is needed to for the university, it would be more cost effective to upgrade the existing 1 km road between Loach's Road and the campus. To serve daily commuters, adding a lane to Ramsey Lake Road with traffic light controls may help accommodate the flow westward and eastward at times. One major beneficiary of the proposed link road would be a single developer with plans to build housing adjacent to Lo-Ellen - the decision to construct the road should serve the needs of many and not the few.

Appendix I

Transportation Updates to the Official Plan

Revisions to the Greater Sudbury Official Plan to Incorporate the Transportation Study Report (2015)

All revisions shown in yellow highlight.

11.0 Transportation

11.1 Objectives

It is the objective of the transportation network policies to:

a. ensure that the transportation network is a network of "complete streets" that are planned, designed, constructed, operated and maintained for all modes of transportation and all types of transportation users;
b. ensure that the existing transportation network is maintained in a state of good repair;
c. ensure that the transportation network provides safe, convenient and efficient movement for all people and goods in Greater Sudbury;
d. support the expansion of the transportation network as demand justifies and ensure that improvements occur in a safe, efficient, environmentally sound and aesthetically pleasing manner;
e. coordinate the development of Greater Sudbury in order to effectively reduce congestion and the associated environmental impacts;
f. promote all travel modes, including public transit, walking and cycling;
g. provide affordable, convenient and reliable public transit service that enhances mobility and access;
h. consider the needs of the physically challenged in the planning and design of all aspects of the transportation network;
i. support programs that aim to reduce the environmental impacts of certain modes of transportation;
j. Adopt the rural to urban road conversion criteria outlined in the Greater Sudbury Transportation Study Report (2015); and
k. Adopt the sidewalk priority policy framework outline in the Greater Sudbury Transportation study Report (2015).

11.2 ROADS

11.2.1 Road Categories

The main component of the transportation network is the road system. The criteria for classification are based on the function of the road, access, daily traffic volume, right-of-way width, design speed, and minimum intersection spacing. There are five road categories recognized by this Plan: Primary, Secondary and Tertiary Arterial, Collector, and Local. Highways 17, 69, 144 and 537 are Provincial Highways under the jurisdiction of the Province of Ontario.

Roads in the City are classified as shown on Table 1 (REPLACE WITH REVISED TABLE). *Schedule 6, Transportation Network* shows the road plan for the City, including proposed and conceptual new roads *and Provincial Highways. New Provincial Highway corridors may be planned, designed and constructed without amendment to this Plan*. Ultimate right-of-way widths required to achieve the desired road network are indicated on *Schedule 7, Road Right-of-Way Widths*. All development adjacent to Provincial Highways is also subject to the safety and geometric requirements and p permits of the Ministry of Transportation. (2007 MMAH Mod #22). Private roads provide access to residential uses in *Rural Areas,* but are not maintained by the City. *Schedule 6* indicates some but not all private roads in Greater Sudbury. It is the City's overall intention not to assume control over such roads beyond what is determined to be feasible. The following eligibility criteria have been established for the assumption of private roads:

a. a registerable survey plan(s) of the road right-of-way is produced, meeting the minimum widths and geometric design standards for private roads;
b. property ownership of the right-of-way is acquired and fully transferable to the City at no cost to the municipality;
c. roads are constructed or improved to meet the minimum maintenance standards for assumption of private roads;
d. the proposed road is continuous with and/or connects to an existing municipal road or provincial highway;
e. the road must service year-round residential properties;
f. industrial, commercial and institutional roads will not be considered; and,
g. new private roads developed after January 1, 2001 will not be assumed by the City.

11.2.2 Road Improvements

Priority will be given to the maintenance of the existing road infrastructure over the construction of new roads. Council will establish and annually update a construction program for road improvements. Pursuant to the *Planning Act*, all public works must conform to this Plan. The rehabilitation of existing roads and the construction of new roads will include provisions, where appropriate, for:

a. public transportation in the form of such elements as stopping bays and exclusive transit links or lanes;
b. b loading requirements and links to terminal facilities;
c. utility corridors and underground sewer and water services; and,
d. bicycle lanes and paths.

11.2.2.1 Road Network Improvements: Implementation Priorities

Short, medium and long-term roadway improvements are based on the recommendations of the *City of Greater Sudbury Transportation Study* (2015). All of the road improvements were assessed to determine implementation priorities based on the following factors:

a. The degree to which the improvement addressed an existing problem, indicating the relative urgency of the required improvement.
b. The extent to which the improvement contributed in terms of a transportation benefit to mobility in the 2031 horizon year.

Short-Term Roadway Improvements:

1. Extend Maley Drive to Lasalle Boulevard (four lanes).
2. Widen Maley Drive from two lanes to four lanes from Barry Downe Road to Falconbridge Highway.
3. Widen Ramsey Lake Road from two lanes to four lanes from Health Sciences North Road to South Bay Road.
4. Widen Municipal Road 35 to five lanes from Azilda to Chelmsford.
5. Widen Municipal Road 80 to six lanes from Municipal road 15 to Notre Dame Street.
6. Widen the Kingsway to five lanes from the intersection of Lloyd Street and Brady Street to 430 metres east of Kitchener Avenue.
7. Widen Second Avenue from two lanes to five lanes from Donna Drive to Kenwood Drive.

Mid-Term Roadway Improvements:

1. Widen Maley Drive from two lanes to four lanes from Lasalle Boulevard to MR 35.
2. Widen Barry Downe Road from five lanes to six lanes from Westmount Avenue to the Kingsway.
3. Widen Howey Drive from two lanes to four lanes from Elgin Street to Bancroft Drive.
4. Extend Larch Street from Elgin Street to Lorne Street.

Long-Term Roadway Improvements:

1. Widen Falconbridge Highway from four lanes to five lanes (two-way centre left turning lane) from Maley Drive to Garson Coniston Road.
2. Construct the Maley East by-pass from Falconbridge Highway east to Highway 17.
3. Extend Ste. Anne Road from MacKenzie Street to College Street.

Localized Road Improvements

- Signalize the intersection of Douglas Street at Regent Street.

11.3 PUBLIC TRANSPORTATION

Although the automobile will remain the primary mode of personal transportation for the foreseeable future, public transportation will play an increasingly important role for the municipality. Increased public transit use will help the City improve air quality and achieve Kyoto targets, as well as alleviate traffic congestion on Arterial Roads.
The provision of public transit is also closely aligned with other municipal initiatives. A new emphasis on residential intensification that encourages higher densities within existing built-up urban areas will in turn support the expansion of transit services and increased ridership.

11.3.1 Programs

This Plan establishes policies that increase the capacity, enhance the attractiveness, and improve the operational efficiency of the public transit routes that serve the City. Measures to

achieve improvements may include the preparation of a Transit Master Plan, which could address:

a. the improvement of fare collection methods;
b. the promotion of public transit use through the introduction of transit passes and other tools;
c. development of transportation solutions and fare systems that entice students;
d. expansion of surface transit routes as part of new subdivision design and in accordance with locations where intensification occurs;
e. the improvement of bus stops with shaded structures integrated into bus shelters, route information displays, bus bay construction, and the addition of bike racks on buses; and,
f. improvements to the public transit system consistent with the *Greater Sudbury Accessibility Plan.*

11.7 ACTIVE TRANSPORTATION: PEDESTRIAN AND BICYCLE NETWORK

Protecting and expanding the existing pedestrian and bicycle network in the City is essential to creating quality of place, promoting healthy lifestyles and providing an alternative transportation network. Existing and proposed components of the active transportation network developed as part of the Greater Sudbury Transportation Study Report (2015) are indicated on *Schedule 5, Active Transportation Map*.

Policies

1. The existing pedestrian and bicycle network will be maintained and expanded through the phased implementation of the active transportation plans, as laid out in the Greater Sudbury Transportation Study Report (2015).
2. Development proposals will be reviewed to ensure that there is adequate pedestrian access in new developments. The City may acquire lands to provide pedestrian facilities as a condition of approval. Wherever possible, the provision of adequate bicycle facilities will be encouraged.
3. Bicycle facilities for all new road links and road widening projects will be considered based on an assessment of safety, potential usage, cost, and linkages to major employment, educational, or recreational centres. Bicycle facility type will be based upon the nominated facility type shown in the active transportation master plan component of the Greater Sudbury Transportation Study Report (2015).
4. The maximum level of separation of pedestrians and bicyclists from motor vehicle traffic will be achieved through good road design practices.
5. Sidewalks facilitate active living and are an essential component of good neighbourhood design, providing a safe pedestrian environment and access to other transportation linkages such as transit stops and trails. Curbs and sidewalks in neighbourhoods also encourage walking and provide safety for children. It is policy of this Plan to provide the following on new and reconstructed roads, when feasible:
    a. Sidewalks on both sides of urban Arterial Roads and Collector Roads adjacent to developed lands;
    b. Sidewalks on at least one side of Local Roads;
    c. High quality pedestrian connections to transit;

d. Pedestrian connections between neighbourhoods; and
e. Pedestrian linkages to major attractions/generators.

6. Sidewalks are to be built and maintained to a standard that facilitates the mobility of persons with disabilities.
7. Barrier-free design of pedestrian facilities will be required through site plans.

Programs

1. The existing bicycle and pedestrian network will be expanded following the active transportation plans set forth in the Greater Sudbury Transportation Study Report (2015).
2. Pedestrian and bicycle safety programs within the City will be supported and coordinated.
3. Appropriate bicycle storage facilities will be provided at City-owned buildings and parks. Other public and private sector development will be encouraged to provide such facilities, especially in areas adjacent to transit corridors, institutional uses, mixed use areas and other *Employment Areas*.
4. Public awareness of the convenience, health and economic benefits of commuter cycling and walking will be promoted through educational programming and materials.
5. A comprehensive approach will be developed to encouraging students and employees to walk or cycle to school or work and combine these modes with public transit for longer distance trips.
6. Partnerships with local public and private organizations will be explored to integrate end-of-trip facilities into active transportation and trail promotional strategies and initiatives.
7. Active transportation and multimodal activities will be promoted through the production of active transportation maps that also include transit information.
8. Transportation operational measures will be implemented in the future as part of the transportation system management to support safe and convenient AT movement and trail use. These measures may include:
   a. Exempting cyclists from turn prohibitions at intersections, such as 'No Right Turn on Red';
   b. Installing bicycle detection at intersections such that traffic signals recognize and react to cyclists on sideroads, particularly where motorized traffic is infrequent; and
   c. Enforcing speed limits on roadways where observed speeds exceed acceptable levels.
9. Enforcement activities should focus on issues related to the misuse of bicycle and pedestrian facilities, particularly sidewalk obstruction and the inappropriate use of trails.
10. The development of support facilities such as bicycle parking, showers and change rooms, rest areas, washrooms and waste receptacles will be made a priority during the planning and implementation of active transportation facilities.

Active Transportation Implementation

1. Designate an active transportation coordinator
2. Schedule inter-departmental meetings to coordinate active transportation initiatives
3. Implement the Active Transportation Master Plan, as part of the Greater Sudbury Transportation Study Report (2015), per the proposed network phasing and give consideration to active transportation improvements when road improvements and other capital infrastructure projects are programmed.
4. Explore outside partnerships, cost-sharing and funding opportunities for the implementation of the active transportation network.
5. Recognize that future refinement of the proposed active transportation network will be required. This is consistent with a goal of ensuring that the plan is flexible and can respond to changes and new opportunities.
6. As an interim solution in advance of future road improvements to install cycle tracks, modify current by-laws to continue to restrict cycling on sidewalks for adults but not prohibiting cycling on paved portions of boulevards where it is safe to do so.

Table 1: Proposed Road Classifications

Class of Road	Function	Access	Right-of-Way Width (Metres)	Daily Traffic Volume	Design Speed (Kilometres per hour)	Minimum Intersection Spacing (Metres)	Other Regulations	Transit Provision	Potential Cycling Provision	Pedestrian Provision
Primary Arterial	• Connect the City with other major centres outside the City and/or separate communities within the City • Facilitate long distance person or goods movement travel through the City or between major activity areas within the City • Traffic movement primary consideration.	• Intersections with other arterial roads or collector roads • Driveways to major regional activity centres	35-45 in urban areas 45-90 in rural areas	15,000 – 50,000	60 – 100	400	• No on-street parking • Buffers between the roadway and adjacent uses in rural areas	Considered/ Reviewed for Bus service	Separated Facility or Alternate Routes[1] in urban areas Buffered paved shoulders in rural areas	Sidewalks on both sides of the road in urban areas
Secondary Arterial	• Connect two or more communities or major activity centres • Connect two primary arterial roads • Connect a community or activity centre with a primary arterial road • Traffic movement primary consideration.	• Intersection with other roads • Access from adjacent property strictly regulated and kept to a minimum	30-36	5,000 – 35,000	50 – 80	200	• No on street parking	Considered/ Reviewed for Bus service	Separated Facility / Alternate Route for roads with AADT greater than or equal to 15,000[1] Designated Cycling Operating Space for roads with AADT less than 15,000[2]	Sidewalks on both sides of the road in urban areas
Tertiary Arterial	• Connect small / rural communities • Connect communities to primary or secondary arterial roads	• Intersections with other roads • Access from adjacent property strictly regulated and kept to a minimum	30-36	5,000 – 15,000	50 – 80	200	• No on street parking	Considered/ Reviewed for Bus service	Separated Facility / Alternate Route for roads with AADT greater than or equal to 15,000[1] Designated Cycling Operating Space for roads with AADT less than 15,000[2]	Sidewalks on both sides of the road in urban areas
Collector	• Connect properties within neighbourhoods • Connect a neighbourhood with an arterial road • Provide direct access to adjacent lands	• Intersections with other roads • Regulated access from adjacent property	20 – 30	1,000 – 12,000	50 – 70	60	• On street parking may be permitted	Considered/ Reviewed for Bus service	Designated Cycling Operating Space[2]	Sidewalks on both sides of the road in urban areas
Local	• Provide direct access to adjacent lands • Connect properties within a neighbourhood to collector roads	• Intersections with collectors or other local roads • Access from adjacent property permitted	+ / - 20	Less than 1,000	30 – 50	60	• On-street parking is generally permitted • Goods movement restricted except for that having origin or destination along the road	Generally no regularly scheduled transit service	Shared Roadway[3]	Sidewalks on at least one side of the road in urban areas

1. Options may include: buffered paved shoulders in rural areas; active transportation path in rural or urban areas; separated bicycle lanes / cycle tracks in urban areas; or alternate route. 2. Options may include: paved shoulders or buffered paved shoulders in rural areas; exclusive bicycle lanes or separated bicycle lanes / cycle tracks in urban areas. 3. Options may include: shared lane markings (rural or urban areas); standard or wide curb lanes (rural or urban areas)