

**THE CORPORATION OF THE TOWNSHIP OF ESSA
COMMITTEE OF THE WHOLE MEETING
WEDNESDAY, SEPTEMBER 4, 2024
6:00 p.m.**

AGENDA

Members of the public wishing to attend can do so by attending in person to the Council Chambers in the Administration Centre located at 5786 County Road 21, Utopia.

1. OPENING OF MEETING BY THE MAYOR

The Township of Essa acknowledges that we are situated on land within the area of Treaty 18, also known as the Lake Simcoe-Nottawasaga Treaty, signed on October 17, 1818 between the Government of Upper Canada and the Anishinaabe Indigenous peoples. The Anishinaabe include the Ojibwe, Odawa and Pottawatomi Nations collectively known as the Three Fires Confederacy. We are dedicated to honouring Indigenous history and culture and committed to moving forward in the spirit of reconciliation and respect with all First nation, Metis and Inuit People.

2. DISCLOSURE OF PECUNIARY INTEREST

3. DELEGATIONS / PRESENTATIONS / PUBLIC MEETINGS

a. Presentation

Stevenson Memorial Hospital Foundation - Darlene Mcleod and Kara Harris Row
Re: Donation from Essa Golf Tournament

STAFF REPORTS

4. PLANNING AND DEVELOPMENT / BUILDING

- p. 1 a. **Staff Report PD011-24 submitted by the Manager of Planning, re: Deeming By-law – Lots 2, 3, 4 and 5 South Side of Margaret Street, Plan 160A.**

Recommendation: **BE IT RESOLVED THAT** Staff Report PD011-24 be received for information; and
That Council direct Staff to prepare a deeming by-law to be adopted at a future date that would have the effect of removing Lots 2, 3, 4 and 5 South Side of Margaret Street of Plan 160A from the provisions of Section 50 (3) and (5) of the Planning Act, R.S.O. 1990, c.P.13.

5. **PARKS AND RECREATION / COMMUNITY SERVICES**

- p. 5 a. **Staff Report PR013-24 submitted by the Manager of Parks and Recreation, re: Award of Tender – Supply and Install Playground Equipment 83-84 Greenwood Drive.**

Recommendation: **BE IT RESOLVED THAT** Staff Report PR013-24 be received; and **THAT** the quotation received from **Park N Water** in the amount of **\$68,666.48 (\$67,478.85 plus 1.76% applicable tax)** be accepted as per Township specifications, contingent upon WSIB Clearance Certificate and a copy of Insurance being provided to the Municipality; and **THAT** Council authorize staff to utilize the remaining budget for fencing and play structure removal from 152 Greenwood Drive.

6. **FIRE AND EMERGENCY SERVICES**

7. **PUBLIC WORKS**

- p. 7 a. **Staff Report PW13-24 submitted by the Manager of Public Works, re: .Bridge No. 9 Design (5th Line).**

Recommendation: **BE IT RESOLVED THAT** Staff Report PW013-24 be received; and **THAT** Council authorize Staff to proceed with Bridge no.9 (5th Line Bridge) detailed design as contained in this report; and **THAT** Council direct Staff to initiate a special reserve fund as per the construction funding strategy contained in this report to **minimize/eliminate** the financial impact on the Essa Taxpayers in 2026 (construction year) to include all net revenues collected from Automated Speed Enforcement, Joint Data Processing Center and special funding related to the aggregate act.

8. **FINANCE**

9. **CLERKS / BY-LAW ENFORCEMENT / IT**

- p. 67 a. **Staff Report C012-24 submitted by the Deputy Clerk, re: Delegation of Authority – Records Retention.**

Recommendation: **BE IT RESOLVED THAT** Staff Report C012-24 be received; and **THAT** Council delegate authority to the Clerk to administer the Records Management By-law and make modification to the Retention Schedule from time to time as may be required; and **THAT** Council direct Staff to prepare the appropriate By-law to be presented to Council for consideration at its regular meeting on September 18, 2024.

10. **CHIEF ADMINISTRATIVE OFFICER (C.A.O.)**

11. OTHER BUSINESS

12. ADJOURNMENT

Recommendation: **BE IT RESOLVED THAT** *this meeting of Committee of the Whole of the Township of Essa adjourn at _____pm., to meet again on the 18th day of September, 2024 at 6:00 p.m.*

4a



TOWNSHIP OF ESSA STAFF REPORT

STAFF REPORT NO.: PD011-24

DATE: September 4, 2024

TO: Committee of the Whole

FROM: Samuel Haniff, Manager of Planning

SUBJECT: Deeming By-law
Lots 2, 3, 4 and 5 South Side Margaret Street, Plan 160A

RECOMMENDATION

That Staff Report PD011-24 be received; and

That Council direct Staff to prepare a deeming by-law to be adopted at a future date that would have the effect of removing Lots 2, 3, 4 and 5 South Side of Margaret Street of Plan 160A from the provisions of Section 50 (3) and (5) of the Planning Act, R.S.O. 1990, c.P.13..

BACKGROUND

Section 50 (4) of the Planning Act allows a local municipality to designate by by-law any plan of subdivision, or part thereof, that has been registered for 8 years or more, not to be a registered plan of subdivision for purposes of purchase, sale or transfer, etc., which are matters governed by subsections 3 or 5.

Planning Act applications have been processed by and are in the process of being submitted to the Township for lands municipally known as 14 & 18 Margaret Street in Angus for the purpose of residential development. Through a legal review, Lots 2, 3, 4 and 5 South Side of Margaret Street have been observed to still be part of Plan 160A, which was registered on December 16th, 1871.

To process the Planning Act applications (namely an intended Plan of Condominium), Lots 2, 3, 4 and 5 South Side of Margaret Street cannot be bound by sections 50 (3) and (5) of the Planning Act. A deeming by-law would rectify this.

COMMENTS AND CONSIDERATIONS

Council may pass a deeming by-law specific to Lots 2, 3, 4 and 5 South Side of Margaret Street of Plan 160A. The lands are designated Residential in the Township Official Plan and are intended to be developed for medium density residential purposes.

4a

FINANCIAL IMPACT

Any costs associated with registering the deeming by-law on title will be borne by the applicant, with no cost to the Township.


per: _____
Manager of Finance

SUMMARY/OPTIONS

Council may:

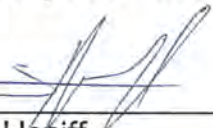
1. Take no further action.
2. **Direct Staff to prepare a deeming by-law which would be presented to Council for adoption at a future date, and have the effect of removing Lots 2, 3, 4 and 5 South Side of Margaret Street of Plan 160A from the provisions of Section 50 (3) and (5) of the Planning Act, R.S.O. 1990, c.P.13.**
3. Direct staff in another manner.

CONCLUSION

Option #2 is recommended.

Respectfully submitted by:

Reviewed by:



Samuel Haniff
Manager of Planning



Michael Mikael
Chief Administrative Officer

Attachments:

1. Attachment 1 – Satellite Imagery of 14 & 18 Margaret Street
2. Attachment 2 – Plan of Survey for 14 & 18 Margaret Street

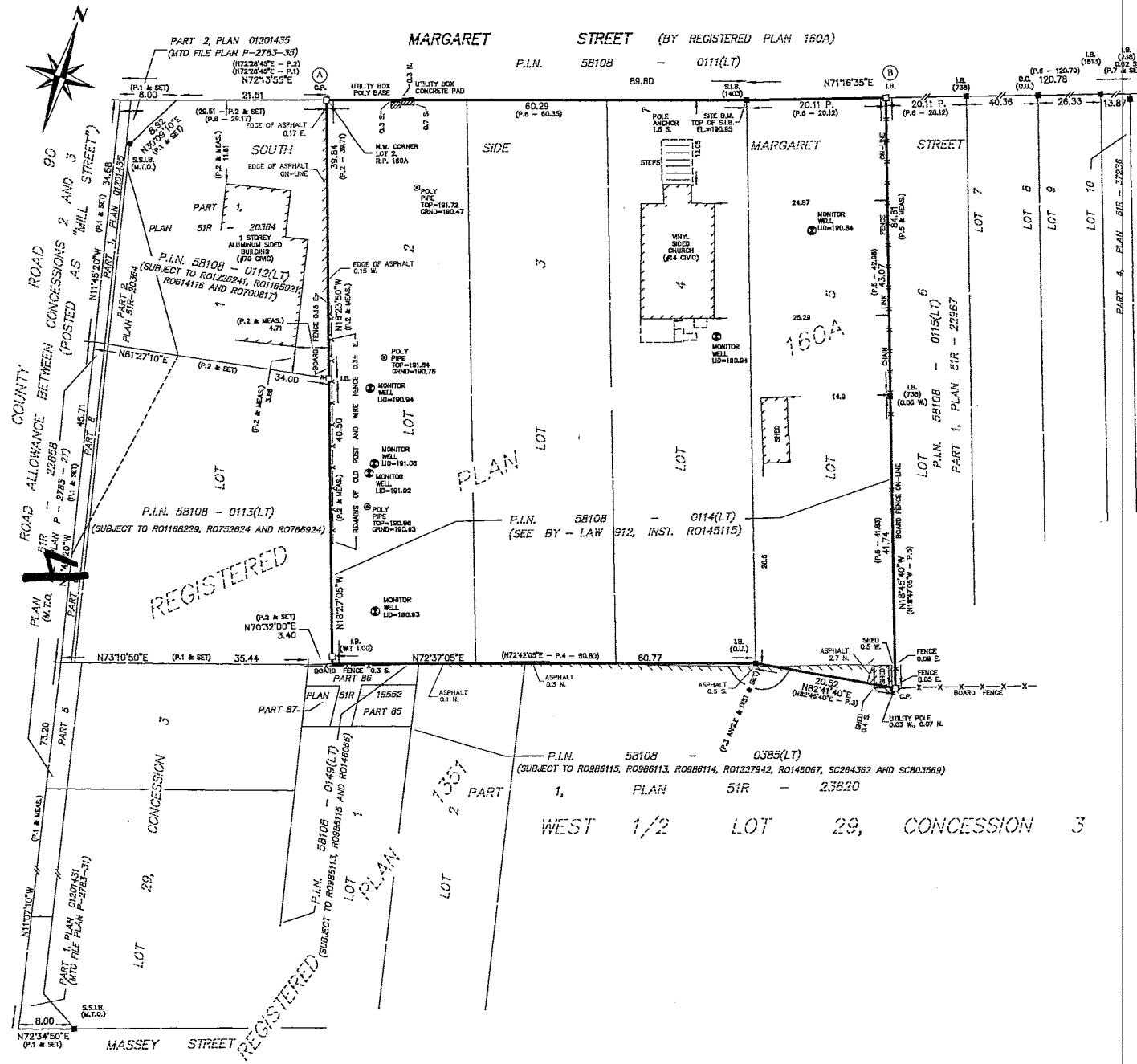
Attachment 1
Satellite Imagery of Subject Lands: 14 & 18 Margaret Street



3

4a

140



**PLAN OF SURVEY
OF LOTS 2, 3, 4 AND 5
SOUTH SIDE MARGARET STREET
REGISTERED PLAN 160A
TOWNSHIP OF ESSA
COUNTY OF SIMCOE**

SCALE 1:400
© C.A. MACDONALD SURVEY INC., 2019.

SURVEYOR'S CERTIFICATE

I CERTIFY THAT:
(1) THIS SURVEY AND PLAN ARE CORRECT AND IN ACCORDANCE WITH THE SURVEY ACT, THE SURVEYORS ACT AND THE LAND TITLES ACT AND THE REGULATIONS MADE UNDER THEM.
(2) THE SURVEY WAS COMPLETED ON JULY 9, 2019.
JULY 12, 2019. DATED
C.A. MacDONALD
ONTARIO LAND SURVEYOR

LEGEND

- DENOTES SURVEY MONUMENT FOUND
- SURVEY MONUMENT SET
- S.I.B. STANDARD IRON BAR
- I.B. IRON BAR
- S.S.I.B. SHORT STANDARD IRON BAR (SET DUE TO PROXIMITY OF BURIED SERVICES OR OTHER OBSTRUCTIONS)
- C.C. CUT CROSS
- C.P. CONCRETE PIN
- P.I.N. PROPERTY IDENTIFICATION NUMBER
- (O.U.) ORIGIN UNKNOWN
- (738) R.C. KIRKPATRICK O.L.S.
- (1483) W.D. SMITH O.L.S.
- (1813) A.J. WOROBEC O.L.S.
- (MTO) MINISTRY OF TRANSPORTATION OF ONTARIO
- (WT) WITNESS
- P.1 PROPORTIONED
- P.1 PLAN 51R-22858
- P.2 PLAN 51R-23364
- P.3 PLAN 51R-23820
- P.4 PLAN 51R-17007
- P.5 PLAN 51R-22987
- P.6 REGISTERED PLAN 160A
- P.7 PLAN 51R-37236

ELEVATION NOTES:

ELEVATIONS ARE GEODETIC AND ARE DERIVED FROM GPS OBSERVATIONS AND ARE RELATED TO THE CAN-NET RTK NETWORK CALIBRATED TO NAD 83 (CSRS) AND CGVD-1928:1978. SITE BENCHMARK - TOP OF S.I.B. AT N.E. CORNER OF LOT 4, ELEVATION = 190.95

BEARING NOTE:

BEARINGS ARE UTM GRID BEARINGS AND ARE DERIVED FROM OBSERVED REFERENCE POINTS A AND B, BY REAL TIME NETWORK OBSERVATIONS, USING THE CAN-NET NETWORK, UTM ZONE 17, NAD83 (CSRS) (2010).

DISTANCE NOTE:

DISTANCES SHOWN ON THIS PLAN ARE GROUND DISTANCES AND CAN BE CONVERTED TO GRID DISTANCES BY MULTIPLYING BY A COMBINED SCALE FACTOR OF 0.998700

ROTATION NOTE:

FOR BEARING COMPARISONS A COUNTER CLOCKWISE ROTATION OF 0°53'20" WAS APPLIED TO PLAN P.1
0°51'20" WAS APPLIED TO PLAN P.2
0°49'15" WAS APPLIED TO PLANS P.3, P.4 AND P.5 TO CONVERT TO UTM GRID BEARINGS.

OBSERVED REFERENCE POINTS:
UTM ZONE 17, NAD83 (CSRS) (2010)
COORDINATES TO URBAN ACCURACY PER SEC.14(2) OF O.REG. 216/10

STATION	NORTHING	EASTING
DRP A	4907604.24	588889.52
DRP B	4907629.09	588965.95

COORDINATES CANNOT, IN THEMSELVES, BE USED TO RE-ESTABLISH CORNERS OR BOUNDARIES SHOWN ON THIS PLAN.

ASSOCIATION OF ONTARIO
LAND SURVEYORS
PLAN SUBMISSION FORM
20B3979

THIS PLAN IS NOT VALID UNLESS IT IS AN EMBOSSED ORIGINAL COPY ISSUED BY THE SURVEYOR
In accordance with Regulation 102R, Section 28(2).

C.A. MacDONALD SURVEYING Inc.
204 Blake Street, Barrie, ON L4M 1K3
TEL (705) 730-6893 FAX (705) 730-0653
email macdonaldsurvey@bellnet.ca

PROJECT: 19-2980
CAD FILE: \SURVEYS\REG\PLAN\RP160A\LOT2-5\19-2980\RP16DAL2-5-19-2980(SITE-PLAN).DWG



TOWNSHIP OF ESSA STAFF REPORT

STAFF REPORT NO.: PR013-24

DATE: September 4th, 2024

TO: Committee of the Whole

FROM: Chris Rankin – Manager of Parks and Recreation

SUBJECT: Award of Tender - Supply and Install Playground Equipment
83 - 84 Greenwood Drive

RECOMMENDATION

That Staff Report PR0013-24 be received; and

That the quotation received from **Park N Water** in the amount of **\$68,666.48 (\$67,478.85 plus 1.76% applicable tax)** be accepted as per Township specifications, contingent upon WSIB Clearance Certificate and a copy of Insurance being provided to the Municipality and;

That Council authorize staff to utilize the remaining budget for fencing and play structure removal from 152 Greenwood Drive.

BACKGROUND

There currently is no park on Greenwood Drive as the Stonemount Park has closed due to the school purchasing the land. It was deemed there was demand for a mini park in the area.

The Request for Tender to supply and install a playground on Greenwood Drive was posted on Biddingo, the Township's website, digital board, and circulated in accordance with Essa's Procurement Policy on July 8th, 2024. The closing date for the Request of Tender was July 26th, at 2:00 pm. One Addendum was issued during the bidding process.

COMMENTS AND CONSIDERATIONS

The following is a summary of the Tender results:

Tender Submission	Total Tender (excluding HST)
Park N Water	\$67,478.85
Play Power Canada	\$59,985.04
ABC Recreation	\$69,714.59

FINANCIAL IMPACT – FUNDING STRATEGY

The 2024 approved Parks and Recreation prioritized Capital Budget included **\$120,000.00** for the Greenwood Parkettes (83-84 Greenwood Drive) Project (**\$120,000.00 Parks and Recreation Obligatory Reserve**).

The accepted bid for this Capital Project is **\$68,666.48** (\$67,487.85 plus 1.76% applicable tax) resulting in a surplus of \$51,333.52 (assuming no change orders). Of this surplus, \$18,000 of the funds will be utilized to create an off-leash dog area which includes fencing and a gated access for Township vehicles on 84 Greenwood proposed Dog Park.

The remaining \$33,333.52 will be utilized to remove existing equipment (play structures, arena boards, metal structure) that is sitting in Stonemount Park (152 Greenwood) to be utilized at other playground locations in Essa.



per Manager of Finance

SUMMARY/OPTIONS


Council may:

1. Take no action.
2. Award the Quotation to **Park N Water** in the amount of **\$68,666.48 (including 1.76% applicable tax)**
3. Authorize Staff to utilize the remaining budget for fencing and play structure removal from 152 Greenwood Drive.
4. Direct Staff in another course of action


CONCLUSION

Options 2 & 3 were approved by our CAO during Council summer recess, given that the contractor is in a good standing with the Township and with no known past performance problems.

Respectfully submitted,



Chris Rankin
Manager of Parks and Recreation



Michael Mikael, P, Eng
CAO (Interim)/ Manager of Public Works



TOWNSHIP OF ESSA STAFF REPORT

STAFF REPORT NO.: PW013-24

DATE: September 4th, 2024

TO: Committee of the Whole

FROM: John Kolb – Manager of Public Works

SUBJECT: Bridge No.9 Design (5th Line Bridge)

RECOMMENDATION

That Staff Report PW013-24 be received; and

That Council authorize Staff to proceed with Bridge no.9 (5th Line Bridge) detailed design as contained in this report; and

That Council direct Staff to initiate a special reserve fund as per the construction funding strategy contained in this report to **minimize/eliminate** the financial impact on the Essa Taxpayers in 2026 (construction year) to include all net revenues collected from Automated Speed Enforcement, Joint Data Processing Center and special funding related to the aggregate act.

BACKGROUND

Bridge No. 9 and the 5th Line (over the Nottawasaga River) provide a key transportation link between the communities of Angus, Baxter, and Alliston. This route is also frequently used to access Canadian Forces Base Borden and the Honda of Canada Manufacturing Plant. Bridge No. 9 is located on the 5th Line, north of 20th Sideroad and south of Sideroad 25 (fig.1)



Fig.1

The existing bridge structure is estimated to have been constructed circa 1950, making it older than 75 years (end of life cycle) at the present time. The bridge currently operates as a single-lane structure (6.1 m width), with sightlines on the north and southbound approaches being below standard requirements for the posted speed limit. Ongoing erosion and sediment deposition is creating a restriction in the Nottawasaga River at the Bridge No. 9 location resulting in ice and debris jams causing flooding and further scour of the south embankment to the point of instability.

Since the bridge is reaching the end of its life cycle there is an immediate need to rehab or replace or eliminate the bridge structure.

A Municipal Class Environmental Assessment (EA_ Schedule C) was completed by Ainley Group and approved by all stakeholders identifying the preliminary preferred design option to replace the bridge with the lowest vertical road alignment and a three- span structure configuration.

Worth to mention that; the rehabilitation option was explored both as part of the EA and prior to the EA. Given concerns associated with the age of the structure (approx. 75 years old) and functional deficiencies (bridge width, road alignment, sight lines, erosion and sedimentation of the watercourse, ongoing log jams, etc.) that could not be addressed through rehabilitation, it was determined that rehabilitation of the bridge structure was not the best solution nor was it economically viable, given the much higher cost per year for the expected service life extension.

OPTIONS AND CONSIDERATIONS

Option 1 – Full Bridge Replacement: The Construction cost estimate for the Preferred Design Solution (Fig.2) is \$8,664,000 (excluding HST). This estimate includes a 15% contingency (approximately \$1,300,000) to account for the fact that it is based on a preliminary Design. Costs will be refined during the detailed design process and explore options for cost savings opportunities where possible.

In terms of schedule, Staff anticipate that preliminary design refined and property/easement drawings ready this fall and having design completed by second quarter of 2025 which would allow for construction to commence in 2026.

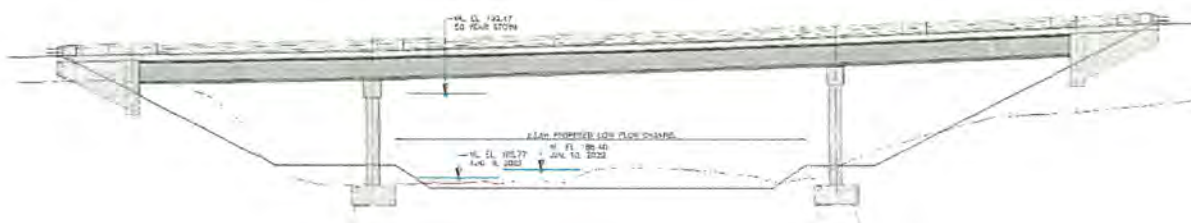


Fig.2

Option 2 – Eliminating the Bridge Structure (closing the 5th Line) : Staff also investigated an option to eliminate the bridge and create two Cul-de-sac on the 5th Line (Fig.3 & Fig.4 & Fig.5). A traffic removal analysis was conducted by WSP to provide analysis of impacts to vehicular traffic circulation with and without the 5th Line Bridge (Bridge No.9) between 25th Sideroad and 20th Sideroad (attachment no.1) for the following horizon years:

- Immediate/Short term (Existing Conditions)
- Medium term planning horizon (year 2033)
- Long term planning horizon (year 2043).

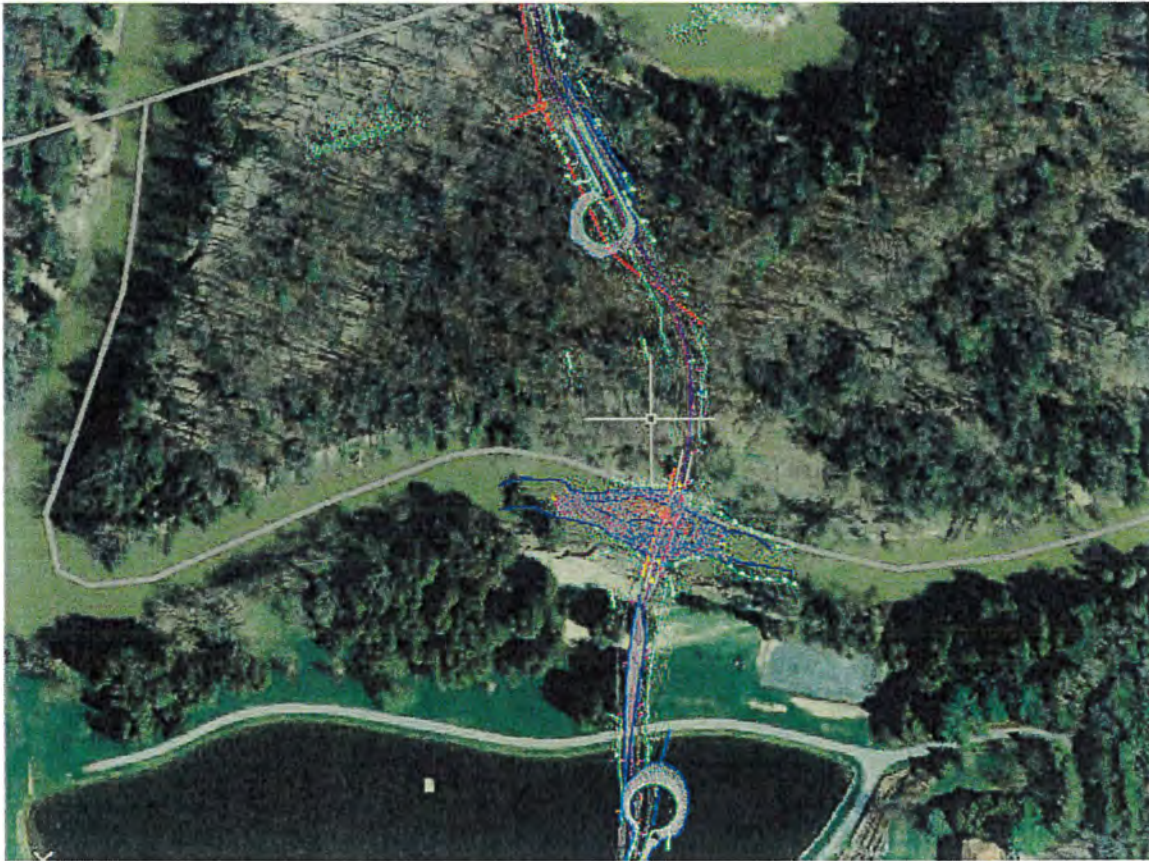


Fig.3

7a

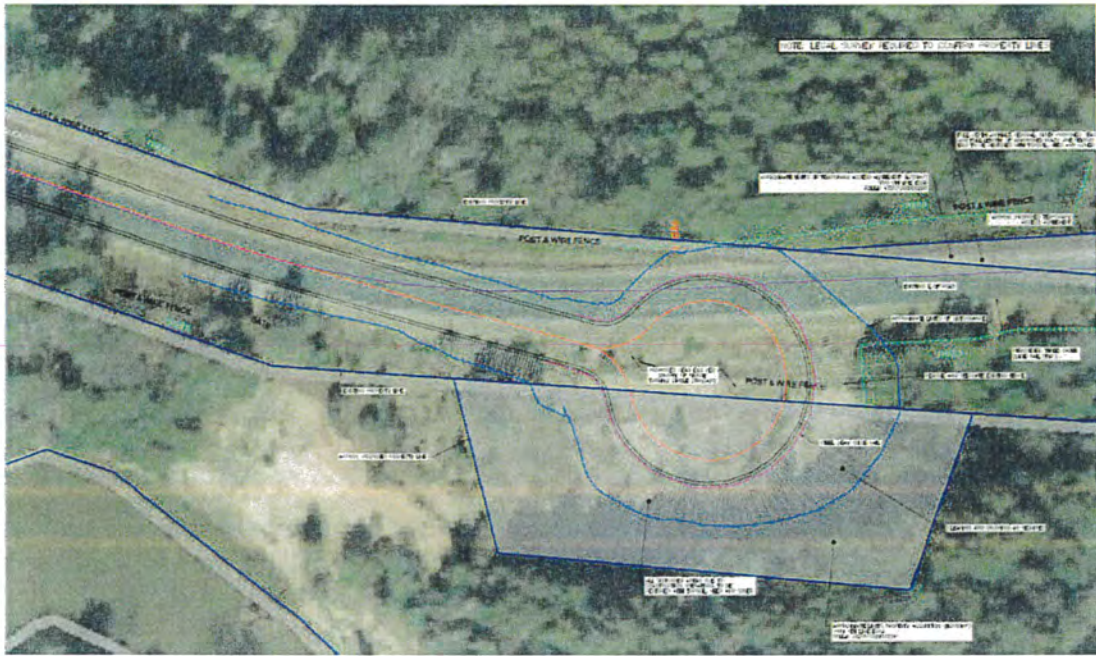


Fig.4

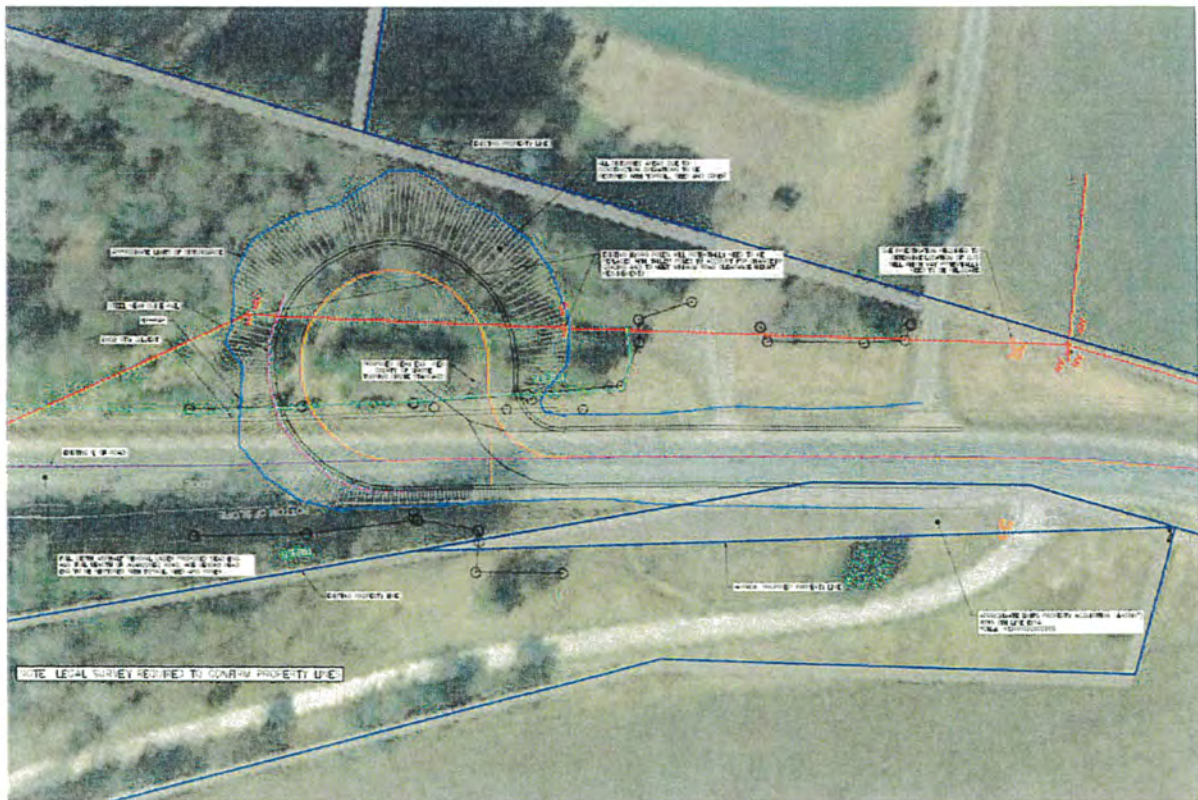


Fig.5

The Synchro analysis outcome:

1. **In the immediate and short term (existing conditions)**, there is minimal impact to traffic operations on the study roadway network and study intersections, whether the bridge on 5th Line is closed or not.
2. **In the medium-term conditions, during the AM peak hour**, the bridge closure slightly increases the traffic along County Road 10/Mill Street through Angus, which is true for both with and without the 25th Sideroad Extension. There is little change in the roadway network performance in any of the AM peak hour medium-term scenarios.
3. **In the medium-term conditions, during the PM peak hour**, 5th Line between Willoughby Road and County Road 90, as well as Willoughby Road itself, are performing under congested conditions due to the increase in traffic on these roadways in the year 2033 across all the medium-term scenarios. However, the study area roadway network and the study intersections are not significantly impacted without the bridge in any of the PM peak hour medium-term scenarios when compared to those scenarios with the bridge still open.
4. **In the long-term conditions, during the AM peak hour**, the bridge closure does not have a noticeable impact on traffic operations both with and without the 25th Sideroad Extension. However, during the PM peak hour, there is an increased congestion along County Road 10 due to the bridge closure since County Road 10 is already operating at close to capacity in the year 2043 conditions.

The cost for this option is \$6,500,000 (including allowance for land acquisition, 25th sideroad connection between 5th Line & CR10 – Excluding HST).

CONCLUSION

Staff recommends a full bridge replacement as per the EA Preferred Design Solution in order to maintain / improve the level of service while ensuring connectivity between the communities of Angus, Baxter.

This option will also support the anticipated growth and growing number of residential developments in both communities.

CONSTRUCTION FUNDING STRATEGY (YEAR 2026)

Development Charges (nontax source): The bridge replacement cost was included in the 2023 Development Charges Study at a total cost of \$6,000,000 (50% growth & 50% Benefit to Existing) which translate into a total available fund **in the amount of \$3,000,000 from development charges (nontax source)**. Staff may also explore the option to proceed with a change of purpose order to increase the allowance from DC's due to construction cost inflation (this procedure is permitted under the development charges act).

Provincial and Federal Funding (nontax source): In 2026 the Township will have the opportunity to utilize combination of OCIF and CCBF (provincial & federal stacking is permitted), **approximately \$1,500,000.**

7a

Automated Speed Enforcement Revenues & Special Reserve funding (nontax source):

Council directed staff to invest all the revenues from the Automated Speed Enforcement program (ASE) and the Joint processing data centre (other municipalities using Essa for their ASE program) in road construction and road safety measures.

It is anticipated that both programs will generate net revenue in the amount of \$1,400,000 (Year 2026).

A Special funding will also be available in the amount of \$2,000,000 for a matter related to the aggregate act and approximately \$700,00 in interest fund.

Federal and Provincial Grant opportunities (nontax source):

Staff is working on a grant application for the 2025 intake which shall cover up to 70% of the total bridge cost.

Available Nontax Source Revenues (Year 2026)	
DC's	\$3,000,000.0
OCIF/CCBF (Stacking)	\$1,500,000.0
ASE/JPC	\$1,400,000.0
Interest Fund	\$700,000.0
Special Ag. Fund	\$2,000,000.0
Total Available fund	\$8,600,000.0

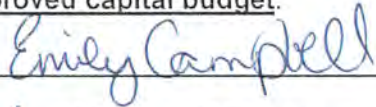
The above construction funding Strategy (high level) has zero impact on the Taxpayers.

Staff recommends creating a new special reserve to fund the 5th Line bridge replacement in 2026 to include all revenues from ASE, JPC and aggregate act special funding to minimize/eliminate the financial impact on the taxpayers in 2026.

FINANCIAL IMPACT

Council approved \$400,000 for the bridge design (\$200,000 Development Charges - \$200,000 EST* Interest Fund) in the 2024 Roads/Public Works prioritized Capital Budget.

Ainley Group total fee structure (Confidential attachment no.2) (**Design Stage** – excluding HST) is \$124,900 which is \$275,100.00 less than the approved capital budget.


per: Manager of Finance

12

SUMMARY/OPTIONS

Council may:

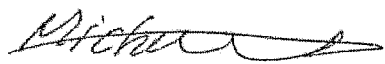
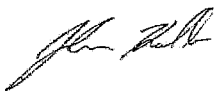
1. Take no action.
2. Authorize Staff to proceed with Bridge no.9 (5th Line Bridge) detailed design as contained in this report
3. Direct Staff to initiate a special reserve fund as per the construction funding strategy contained in this report to minimize/eliminate the financial impact on the Essa Taxpayers in 2026 to include all net revenues collected from Automated Speed Enforcement, Joint Data Processing Center and special funding related to the aggregate act.
4. Direct Staff in another course of action

CONCLUSION

Staff recommends that Options 2,3 be approved, given that the bridge has reached the end of its life cycle and its economically viable to proceed with the replacement option.

Respectfully submitted,

Reviewed by,



John Kolb
Manager of Public Works (Interim)

Michael Mikael, P. Eng
CAO

Attachment:

Attachment No.1 (WSP Traffic Removal Analysis)

Attachment N0.2 Confidential Attachment

7a

ATTACHMENT NO.1

(WSP TRAFFIC REMOVAL ANALYSIS)

14

TOWNSHIP OF ESSA

5TH LINE BRIDGE (BRIDGE NO.9) REMOVAL ANALYSIS TRANSPORTATION IMPACT STUDY

March 2024

Image: Bridge No.9. Source: Google. Image Capture Date: May 2023.



7a

ATTACHMENT NO.1

(WSP TRAFFIC REMOVAL ANALYSIS)

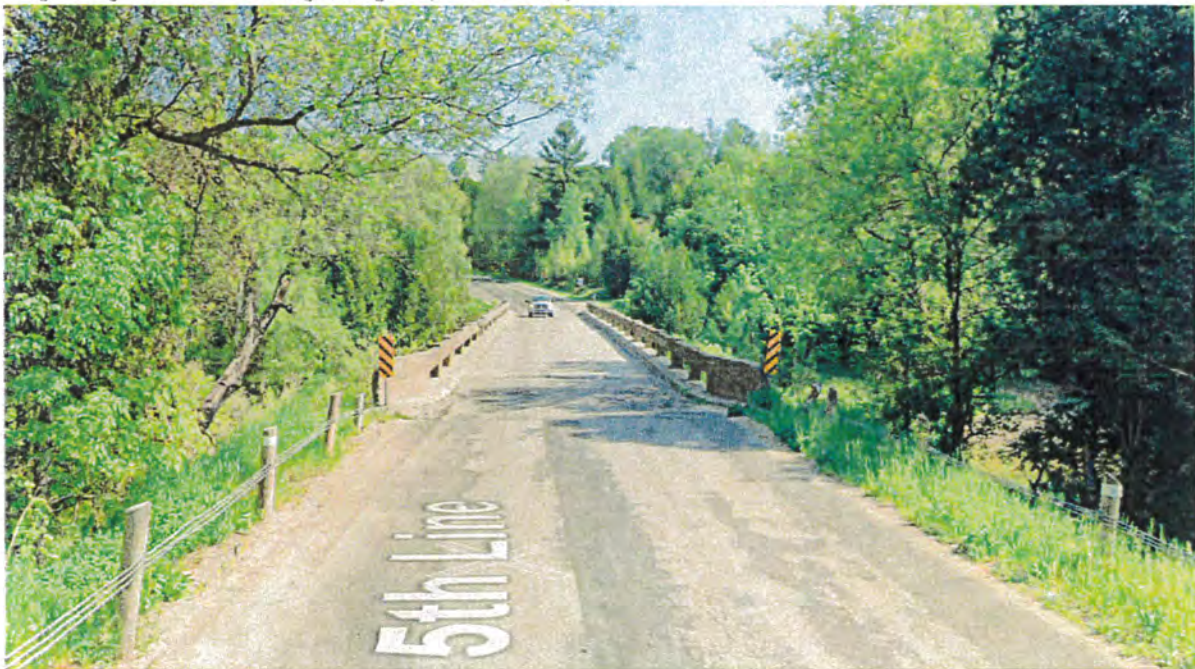
16

TOWNSHIP OF ESSA

5TH LINE BRIDGE (BRIDGE NO.9) REMOVAL ANALYSIS TRANSPORTATION IMPACT STUDY

March 2024

Image: Bridge No.9, Source: Google, Image Capture Date: May 2023



7a



5TH LINE BRIDGE
(BRIDGE NO.9)
REMOVAL
TRANSPORTATION
IMPACT STUDY
TOWNSHIP OF ESSA

PROJECT NO.: OUR REF. NO. CA0000395
DATE: MARCH 07, 2024

WSP CANADA INC.
100 COMMERCE VALLEY DRIVE WEST
THORNHILL, ON
CANADA L3T 0A1

T: +1 905 882-1100
F: +1 905 882-0055
WSP.COM

18

SIGNATURES

PREPARED BY

Praveen Chanda
Transportation Planner, Transportation Planning

Kartik Kumar
Transportation Planner, Transportation Planning

REVIEWED BY

Lachlan Fraser
Senior Transportation Planner, Transportation Planning

APPROVED¹ BY

Brett Sears, MCIP RPP
Senior Project Manager, Transportation Planning

Date

WSP Canada Inc. prepared this report solely for the use of the intended recipient, TOWNSHIP OF ESSA, in accordance with the professional services agreement. The intended recipient is solely responsible for the disclosure of any information contained in this report. The content and opinions contained in the present report are based on the observations and/or information available to WSP Canada Group Inc. at the time of preparation. If a third party makes use of, relies on, or makes decisions in accordance with this report, said third party is solely responsible for such use, reliance or decisions. WSP Canada Group Inc. does not accept responsibility for damages, if any, suffered by any third party as a result of decisions made or actions taken by said third party based on this report. This limitations statement is considered an integral part of this report. The original of this digital file will be conserved by WSP Canada Group Inc. for a period of not less than 10 years. As the digital file transmitted to the intended recipient is no longer under the control of WSP Canada Group Inc., its integrity cannot be assured. As such, WSP Canada Group Inc. does not guarantee any modifications made to this digital file subsequent to its transmission to the intended recipient.

¹ Approval of this document is an administrative function indicating readiness for release and does not impart legal liability on to the Approver for any technical content contained herein. Technical accuracy and fit-for-purpose of this content is obtained through the review process. The Approver shall ensure the applicable review process has occurred prior to signing the document.

7a

WSP

TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	Study Purpose and Objectives	1
1.2	Description of Analysis Scenarios	1
1.3	Roadway Network	2
1.4	Study Intersections	2
2	TRAFFIC IMPACT ANALYSIS	3
2.1	Methodology	3
2.2	Traffic Volumes at the Bridge for Various Scenarios	3
2.3	Scenario 1 – Immediate/Short Term Conditions Analysis	4
2.3.1	Scenario 1A.....	4
2.3.2	Scenario 1B.....	9
2.4	Scenario 2 – Medium Term Analysis	14
2.4.1	Scenario 2A.....	14
2.4.2	Scenario 2B.....	18
2.4.3	Scenario 2C.....	23
2.4.4	Scenario 2D.....	26
2.5	Scenario 3 – Long Term Analysis.....	29
2.5.1	Scenario 3A.....	30
2.5.2	Scenario 3B.....	33
2.5.3	Scenario 3C.....	35
2.5.4	Scenario 3D.....	38
3	CONCLUSION	42

TABLES

TABLE 2-1. HIGHWAY CAPACITY MANUAL 2010, LOS CRITERIA FOR INTERSECTIONS	3
TABLE 2-2. TRAFFIC VOLUMES AT THE 5 TH LINE BRIDGE FOR VARIOUS SCENARIOS	3
TABLE 2-3. SCENARIO 1A - INTERSECTION CAPACITY ANALYSIS.....	4
TABLE 2-4. SCENARIO 1B - INTERSECTION CAPACITY ANALYSIS.....	9

TABLE 2-5. SCENARIO 2A - INTERSECTION CAPACITY ANALYSIS..... 14

TABLE 2-6. SCENARIO 2B - INTERSECTION CAPACITY ANALYSIS..... 19

TABLE 2-7. SCENARIO 2C - INTERSECTION CAPACITY ANALYSIS..... 24

TABLE 2-8. SCENARIO 2D – INTERSECTION CAPACITY ANALYSIS..... 27

TABLE 2-9. SCENARIO 3A - INTERSECTION CAPACITY ANALYSIS..... 30

TABLE 2-10. SCENARIO 3B - INTERSECTION CAPACITY ANALYSIS..... 33

TABLE 2-11. SCENARIO 3C - INTERSECTION CAPACITY ANALYSIS..... 36

TABLE 2-12. SCENARIO 3D – INTERSECTION CAPACITY ANALYSIS..... 39

FIGURES

FIGURE 1-1. STUDY ROADWAY NETWORK AND INTERSECTIONS..... 2

FIGURE 2-1. SCENARIO 1A - AM PEAK HOUR TRAFFIC VOLUME DISTRIBUTION OF THE 5TH LINE BRIDGE TRAFFIC..... 5

FIGURE 2-2. SCENARIO 1A - PM PEAK HOUR TRAFFIC VOLUME DISTRIBUTION OF 5TH LINE BRIDGE TRAFFIC..... 6

FIGURE 2-3. SCENARIO 1A - AM PEAK HOUR VOLUME TO CAPACITY RATIOS..... 7

FIGURE 2-4. SCENARIO 1A - PM PEAK HOUR VOLUME TO CAPACITY RATIOS..... 8

FIGURE 2-5. SCENARIO 1B - AM PEAK HOUR TRAFFIC VOLUME DISTRIBUTION OF THE 5TH LINE BRIDGE TRAFFIC..... 10

FIGURE 2-6. SCENARIO 1B - PM PEAK HOUR TRAFFIC VOLUME DISTRIBUTION OF THE 5TH LINE BRIDGE TRAFFIC..... 11

FIGURE 2-7. SCENARIO 1B - AM PEAK HOUR VOLUME TO CAPACITY RATIOS..... 12

FIGURE 2-8. SCENARIO 1B - PM PEAK HOUR VOLUME TO CAPACITY RATIOS..... 13

FIGURE 2-9. SCENARIO 2A - AM PEAK HOUR TRAFFIC VOLUME DISTRIBUTION OF THE 5TH LINE BRIDGE TRAFFIC..... 15

FIGURE 2-10. SCENARIO 2A - PM PEAK HOUR TRAFFIC VOLUME DISTRIBUTION OF THE 5TH LINE BRIDGE TRAFFIC..... 16

7a

115/1

FIGURE 2-11. SCENARIO 2A - AM PEAK HOUR VOLUME TO CAPACITY RATIOS.....17

FIGURE 2-12. SCENARIO 2A - PM PEAK HOUR VOLUME TO CAPACITY RATIOS18

FIGURE 2-13. SCENARIO 2B - AM PEAK HOUR TRAFFIC VOLUME DISTRIBUTION OF THE 5TH LINE BRIDGE TRAFFIC20

FIGURE 2-14. SCENARIO 2B - PM PEAK HOUR TRAFFIC VOLUME DISTRIBUTION OF THE 5TH LINE BRIDGE TRAFFIC21

FIGURE 2-15. SCENARIO 2B - AM PEAK HOUR VOLUME TO CAPACITY RATIOS.....22

FIGURE 2-16. SCENARIO 2B - PM PEAK HOUR VOLUME TO CAPACITY RATIOS.....23

FIGURE 2-17. SCENARIO 2C - AM PEAK HOUR VOLUME TO CAPACITY RATIOS.....25

FIGURE 2-18. SCENARIO 2C - PM PEAK HOUR VOLUME TO CAPACITY RATIOS.....26

FIGURE 2-19. SCENARIO 2D – AM PEAK HOUR VOLUME TO CAPACITY RATIOS.....28

FIGURE 2-20. SCENARIO 2D – PM PEAK HOUR VOLUME TO CAPACITY RATIOS.....29

FIGURE 2-21. SCENARIO 3A - AM PEAK HOUR VOLUME TO CAPACITY RATIOS.....31

FIGURE 2-22. SCENARIO 3A - PM PEAK HOUR VOLUME TO CAPACITY RATIOS.....32

FIGURE 2-23. SCENARIO 3B - AM PEAK HOUR VOLUME TO CAPACITY RATIOS34

FIGURE 2-24. SCENARIO 3B - PM PEAK HOUR VOLUME TO CAPACITY RATIOS.....35

FIGURE 2-25. SCENARIO 3C - AM PEAK HOUR VOLUME TO CAPACITY RATIOS.....37

FIGURE 2-26. SCENARIO 3C - PM PEAK HOUR VOLUME TO CAPACITY RATIOS.....38

FIGURE 2-27. SCENARIO 3D – AM PEAK HOUR VOLUME TO CAPACITY RATIOS.....40

FIGURE 2-28. SCENARIO 3D – PM PEAK HOUR VOLUME TO CAPACITY RATIOS.....41

APPENDICES

A SYNCHRO ANALYSIS REPORTS

22

1 INTRODUCTION

1.1 STUDY PURPOSE AND OBJECTIVES

WSP was retained by the Township of Essa to provide analysis of impacts to vehicular traffic circulation with and without the 5th Line Bridge (Bridge No. 9) between 25th Sideroad and 20th Sideroad. This work is in support of an ongoing Municipal Class Environmental Assessment (EA) for the 5th Line Bridge Improvements.

The overall scope of this study is to analyze the traffic impacts which include the following:

- impacts on traffic volumes on the surrounding road network of the 5th Line Bridge, if it were closed;
- impacts on study intersections evaluated in the Township’s Transportation Master Plan (TMP); and
- to identify and recommend appropriate infrastructure improvements necessary for potential transportation issues, if applicable.

The traffic operational analysis has been conducted for the following horizon years and scenarios:

1. Immediate/Short term (Existing Conditions), with and without 5th Line Bridge;
2. Medium term planning horizon (Year 2033) with and without 5th Line Bridge;
3. Medium term planning horizon (Year 2033) with and without 5th Line Bridge and 25th Sideroad connection between 5th Line and County Road 10; and
4. Long term planning horizon (Year 2043) with and without 5th Line Bridge; and
5. Long term planning horizon (Year 2043) with and without 5th Line Bridge and 25th Sideroad connection between 5th Line and County Road 10.

The traffic analysis was performed for both the AM and PM weekday peak hours. Corresponding to typical commuter hours, the AM peak hour was considered as the one hour of highest traffic volumes occurring between 7.00 AM and 10.00 AM, while the PM peak hour was considered as the one hour of highest traffic volumes occurring between 3.00 PM and 6.00 PM. This is in consistent with the peak hours analyzed in the Township’s TMP.

1.2 DESCRIPTION OF ANALYSIS SCENARIOS

The following are the various scenarios analyzed for this study:

Scenario 1: In this scenario, the bridge closure impacts were evaluated for the immediate/short term analysis using the existing volumes and roadway network without the proposed 25th Sideroad extension between County Road 10 and 5th Line. The two sub scenarios in this scenario are:

- Scenario 1A – with the Bridge
- Scenario 1B – without the Bridge

Scenario 2: In this scenario, the bridge closure impacts were evaluated for the medium term horizon period, year 2033. The year 2033 traffic volumes were obtained by interpolating the year 2043 traffic volumes and the existing volumes of the TMP. In this scenario, the roadway capacity improvements by roadway strengthening projects and improvements made to Highway 89 by making it into a 4-lane roadway are included. The scenario is also analyzed with and without the 25th Sideroad extension between 5th Line and County Road 10. The four sub scenarios in this scenario are:

- Scenario 2A – with the Bridge and with 25th Sideroad extension between 5th Line and County Road 10
- Scenario 2B – without the Bridge and with 25th Sideroad extension between 5th Line and County Road 10

7a

- Scenario 2C – with the Bridge and without 25th Sideroad extension between 5th Line and County Road 10
- Scenario 2D – without the Bridge and without 25th Sideroad extension between 5th Line and County Road 10

Scenario 3: In this scenario, the bridge closure impacts were evaluated for the long term - future analysis period, year 2043. The year 2043 traffic volumes from the TMP were used for analysis of this scenario. This scenario includes all the roadway capacity improvements by roadway strengthening projects as well as the roadway widening projects identified for long term implementation in the Transportation Master Plan. The scenario is also analyzed with and without the 25th Sideroad extension between 5th Line and County Road 10. The four sub scenarios in this scenario are:

- Scenario 3A – with the Bridge and with 25th Sideroad extension between 5th Line and County Road 10
- Scenario 3B – without the Bridge and with 25th Sideroad extension between 5th Line and County Road 10
- Scenario 3C – with the Bridge and without 25th Sideroad extension between 5th Line and County Road 10
- Scenario 3D – without the Bridge and without 25th Sideroad extension between 5th Line and County Road 10

1.3 ROADWAY NETWORK

The roadway network in the vicinity of the 5th Line Bridge is assessed for traffic impacts for this study. The study roadway network includes:

- 5th Line from County Road 90 to south of County Road 21 to Highway 89
- County Road 10/Mill Road from County Road 90 to south of County Road 21 to Highway 89
- King Street and Centre Street between County Road 10/Mill Road and 5th Line
- Willoughby Road between County Road 10 and 5th Line
- 25th Sideroad
- 20th Sideroad between County Road 10 and 5th Line
- County Road 21 between County Road 10 and 5th Line

1.4 STUDY INTERSECTIONS

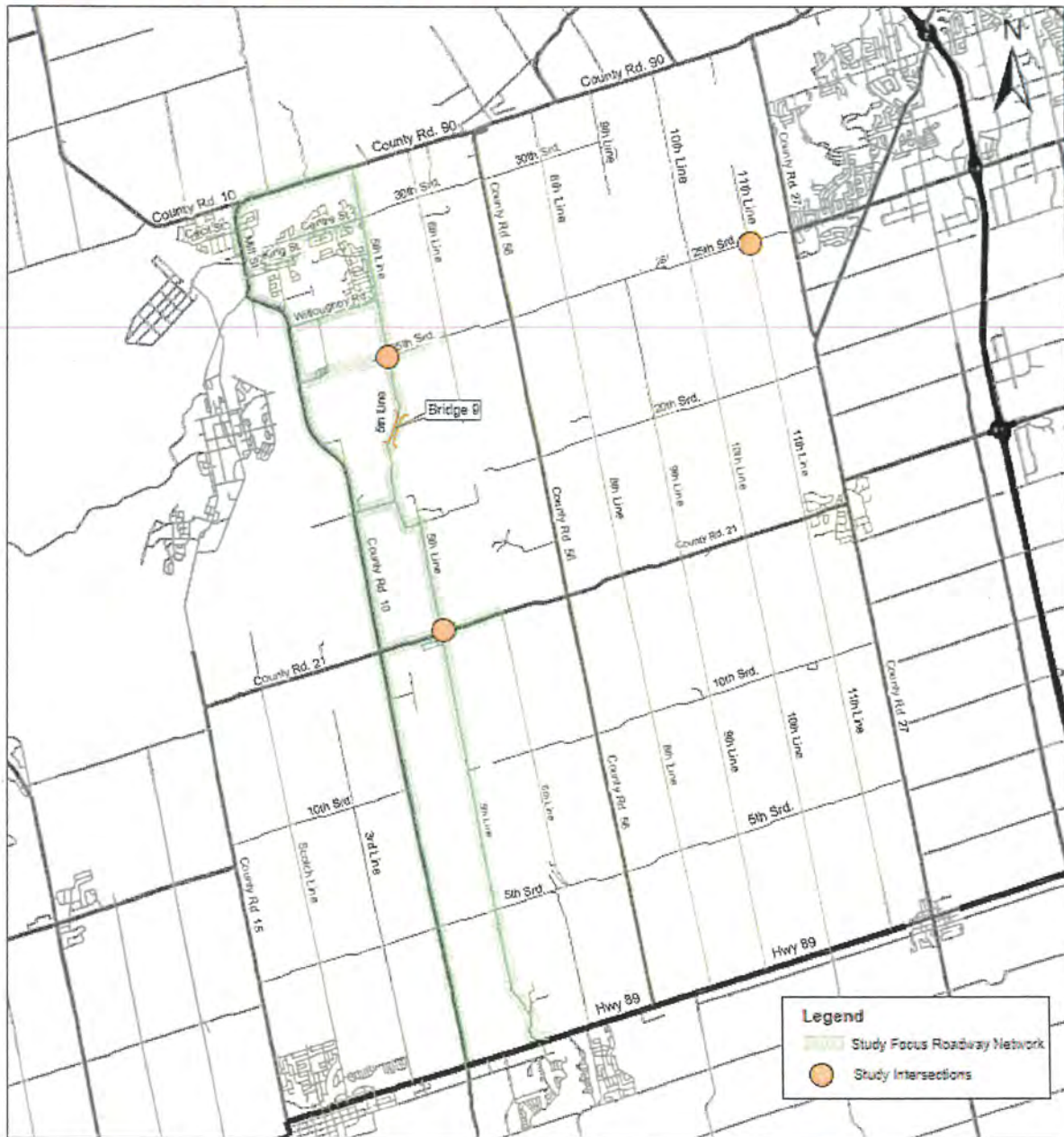
The following three intersections were considered to assess the impacts to traffic operations from the study intersections analyzed in the TMP.

6. 5th Line and 25th Sideroad
7. 5th Line and County Road 21
8. 25th Sideroad and 11th Line

The roadway network assessed, and the study area intersections are shown in **Figure 1-1**.

24

Figure 1-1. Study Roadway Network and Intersections



7a

2 TRAFFIC IMPACT ANALYSIS

2.1 METHODOLOGY

The traffic impacts to the roadway network due to the bridge closure are evaluated by using the capacity analysis spreadsheet tool developed as part of the Transportation Master Plan. This tool was used to estimate the volume to capacity ratios of the impacted roadway links. For the bridge closure scenarios, the traffic volumes are rerouted onto the adjacent street network by redistributing the traffic in the scenarios using the Travel Time Survey (TTS) data, which is incorporated within the capacity analysis spreadsheet tool.

In this study, the roadway links are classified as operating under free flow conditions when v/c is between 0.0 and 0.6, moderately congested conditions with v/c between 0.61 and 0.9 and congested conditions with v/c greater than 0.9. The intersection capacity analysis was completed using the traffic modeling software program Synchro (Version 11), a macroscopic traffic analysis software based on Highway Capacity Manual (HCM) methodology. The Level of Service (LOS) of a transportation facility is a performance measure that represents quality of service from the vehicle user's perspective. The Highway Capacity Manual (HCM) defines six levels of services, ranging from A to F where 'A' represents the best operating conditions and 'F' represents the worst. The assigned LOS is based on the ranges of delay identified in Table 2-1. Generally, LOS D or better is considered acceptable in urban conditions.

Table 2-1. Highway Capacity Manual 2010, LOS Criteria for Intersections

LEVEL OF SERVICE	SIGNALIZED INTERSECTION DELAY (S)	STOP CONTROLLED INTERSECTION DELAY (S)
A	≤10	≤10
B	>10-20	>10-15
C	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

2.2 TRAFFIC VOLUMES AT THE BRIDGE FOR VARIOUS SCENARIOS

Table 2-2 shows the traffic volumes at the 5th Line bridge for various years and scenarios based on the traffic volumes developed as part of the existing and future conditions analysis in TMP.

Table 2-2. Traffic Volumes at the 5th Line Bridge for Various Scenarios

SCENARIO	AM PEAK		PM PEAK	
	NB	SB	NB	SB
Immediate /Short Term (Existing)	21	30	56	35
Medium Term - without 25 th Sideroad Extension (2033)	41	81	62	71
Medium Term - with 25 th Sideroad Extension (2033)	63	146	95	162
Long Term - without 25 th Sideroad Extension (2043)	64	141	168	112
Long Term - with 25 th Sideroad Extension (2043)	98	253	256	255

26

2.3 SCENARIO 1 – IMMEDIATE/SHORT TERM CONDITIONS ANALYSIS

This scenario represents the existing volume and lane configuration in the immediate or short-term conditions.

2.3.1 Scenario 1A

Scenario 1A represents the existing conditions with the 5th Line Bridge. **Figure 2-1** and **Figure 2-2** show the traffic volume percentage distribution at the 5th Line Bridge along the adjacent street network for AM and PM peak hour, respectively. The trip distributions are based on the TTS data incorporated in the capacity analysis spreadsheet tool of the TMP.

Figure 2-3 and **Figure 2-4** shows the volume to capacity ratio maps of the existing conditions for the AM and PM peak hours, respectively. As shown in the figures, the roadway network in the vicinity of the 5th Line Bridge is performing with free flow or moderately congested conditions during both AM and PM peak hours.

Table 2-3 shows the performance of the study intersections in this scenario. As shown in the table, all the study intersections are performing well at LOS A.

Table 2-3. Scenario 1A - Intersection Capacity Analysis

INTERSECTION	CONTROL TYPE	AM PEAK HOUR		PM PEAK HOUR	
		LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)	LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)
5th Line and 25th Sideroad	TWSC	A (2)	EBLTR (0.01)	A (9)	EBLTR (0.01)
			WBLTR (0.11)		WBLTR (0.34)
			NBLTR (0.00)		NBLTR (0.00)
			SBLTR (0.11)		SBLTR (0.13)
11th Line and 25th Sideroad	TWSC	A (1)	EBLTR (0.00)	A (1)	EBLTR (0.00)
			WBLTR (0.02)		WBLTR (0.02)
			NBLTR (0.03)		NBLTR (0.06)
			SBLTR (0.02)		SBLTR (0.02)
5th Line and County Road 21	TWSC	A (2)	EBLTR (0.00)	A (4)	EBLTR (0.01)
			WBLTR (0.02)		WBLTR (0.05)
			NBLTR (0.04)		NBLTR (0.31)
			SBLTR (0.06)		SBLTR (0.21)

Note:

1. TWSC – Two way Stop Control
2. NBLTR – Northbound left-through-right, SBLTR – Southbound left-through-right, EBLTR – Eastbound left-through-right, WBLTR – Westbound left-through-right.

7a

Figure 2-1. Scenario 1A - AM Peak Hour Traffic Volume Distribution of the 5th Line Bridge Traffic



28

7a

Figure 2-2. Scenario 1A - PM Peak Hour Traffic Volume Distribution of 5th Line Bridge Traffic



29

7a

Figure 2-3. Scenario 1A - AM Peak Hour Volume to Capacity Ratios

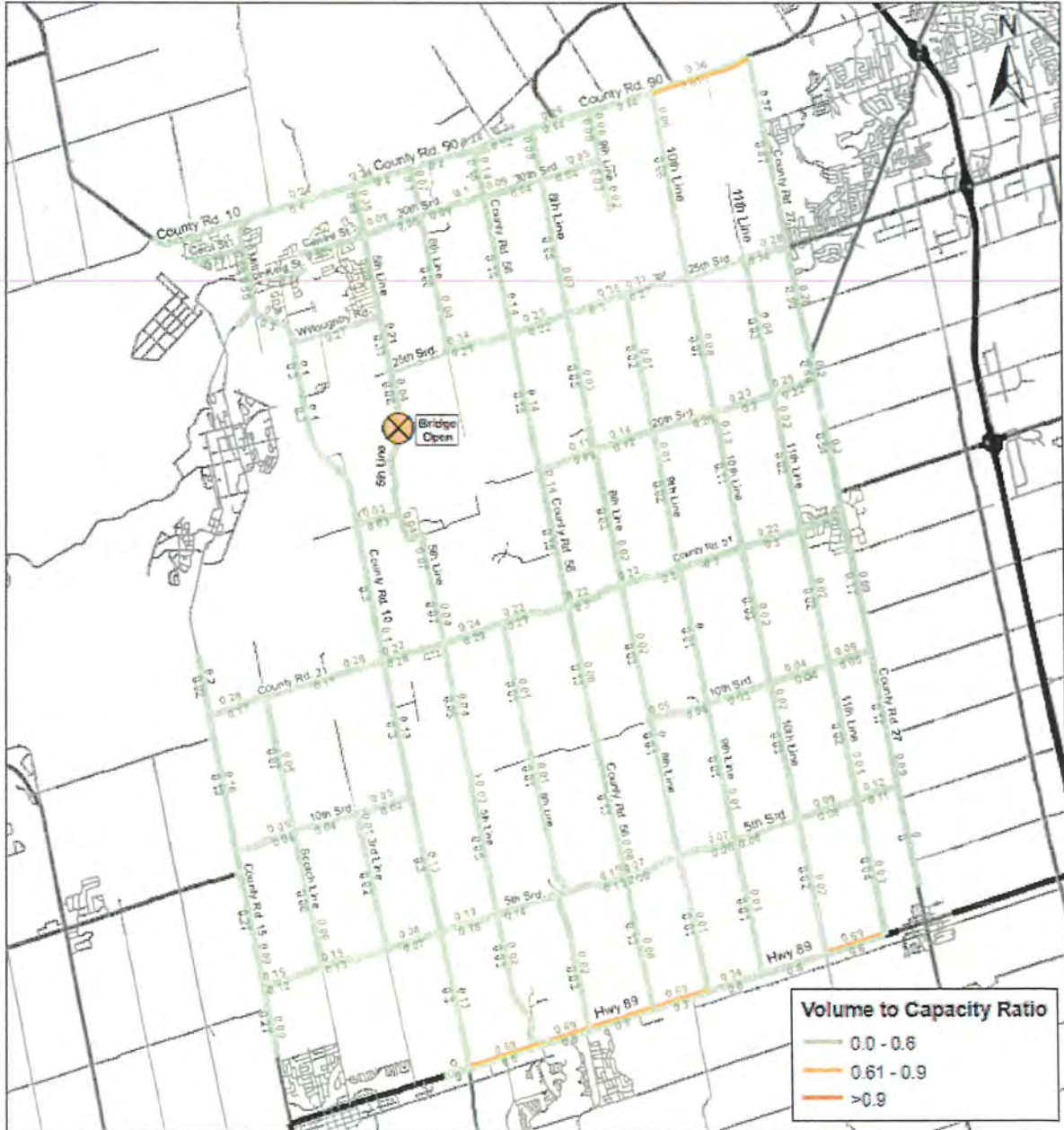
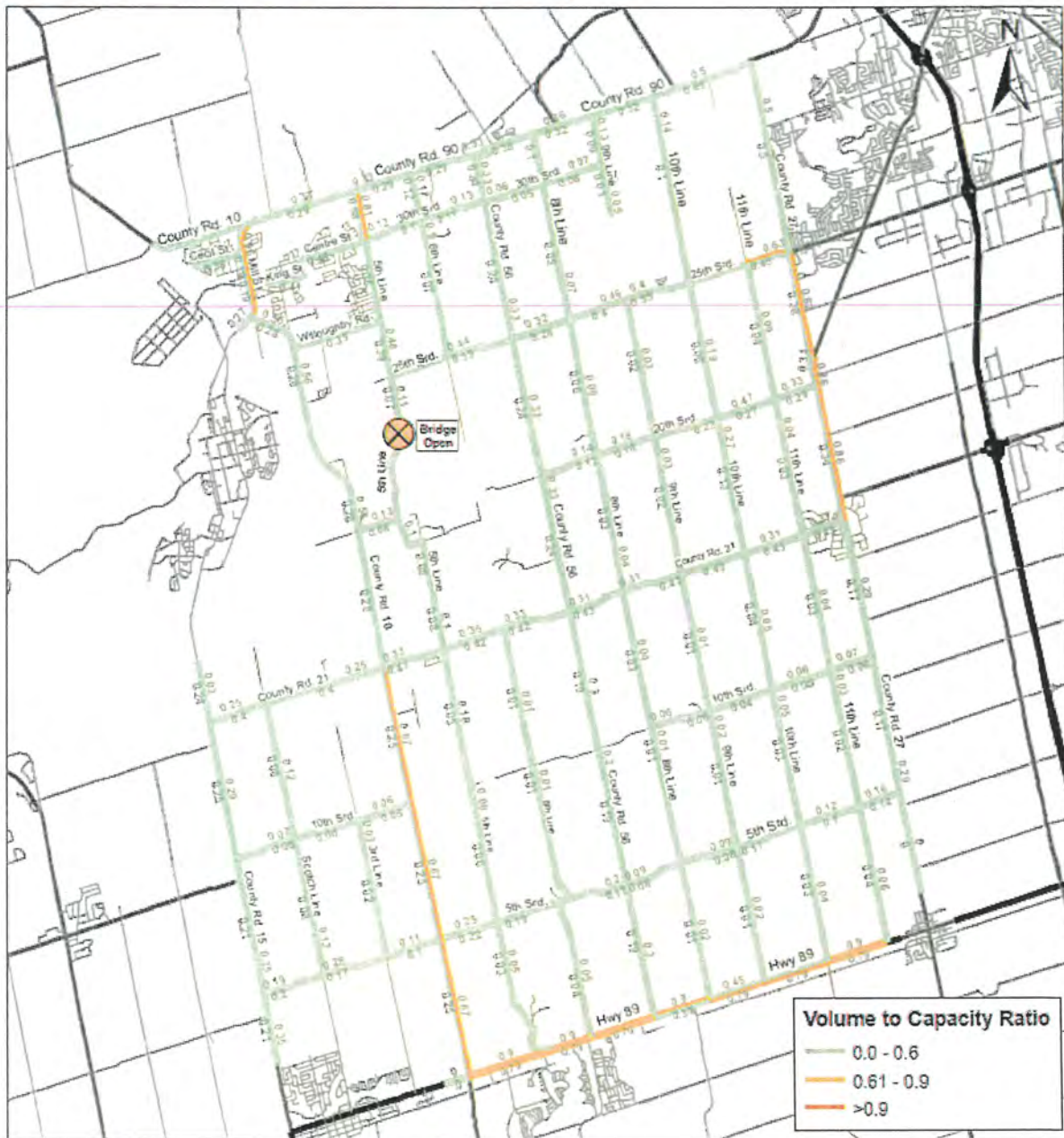


Figure 2-4. Scenario 1A - PM Peak Hour Volume to Capacity Ratios



7a

2.3.2 Scenario 1B

Scenario 1B represents the existing conditions without the 5th Line Bridge. Without the 5th Line Bridge, the traffic is rerouted along the adjacent road network as shown in the **Figure 2-5** and **Figure 2-6** for AM and PM peak hours, respectively.

Figure 2-7 and **Figure 2-8** show volume to capacity (v/c) ratio maps of the existing conditions without the 5th Line Bridge for the AM and PM peak hours, respectively. As shown in the figures, the roadway network in the vicinity of the 5th Line Bridge are performing similar to the existing conditions with the bridge with minimal increases in the v/c ratios, especially along County Road 10 through the Angus area during both the AM and PM peak hours. The traffic flow conditions in general remain the same as in Scenario 1A.

Table 2-4 shows the performance of the study intersections in this scenario. As shown in the table, all the study intersections are performing well at LOS A, similar to scenario 1A indicating that the bridge closure will not impact the study intersections and has sufficient capacity to handle the detoured traffic.

Table 2-4. Scenario 1B - Intersection Capacity Analysis

INTERSECTION	CONTROL TYPE	AM PEAK HOUR		PM PEAK HOUR	
		LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)	LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)
5th Line and 25th Sideroad	TWSC	A (8)	EBLTR (0.01)	A (9)	EBLTR (0.01)
			WBLTR (0.09)		WBLTR (0.27)
			NBLTR (0.00)		NBLTR (0.00)
			SBLTR (0.11)		SBLTR (0.07)
11th Line and 25th Sideroad	TWSC	A (1)	EBLTR (0.00)	A (1)	EBLTR (0.00)
			WBLTR (0.02)		WBLTR (0.01)
			NBLTR (0.03)		NBLTR (0.06)
			SBLTR (0.02)		SBLTR (0.02)
5th Line and County Road 21	TWSC	A (2)	EBLTR (0.00)	A (4)	EBLTR (0.01)
			WBLTR (0.02)		WBLTR (0.05)
			NBLTR (0.04)		NBLTR (0.33)
			SBLTR (0.08)		SBLTR (0.22)

Note:

1. TWSC – Two way Stop Control
2. NBLTR – Northbound left-through-right, SBLTR – Southbound left-through-right, EBLTR – Eastbound left-through-right, WBLTR – Westbound left-through-right.

32

Figure 2-5. Scenario 1B - AM Peak Hour Traffic Volume Distribution of the 5th Line Bridge Traffic



7a

Figure 2-6. Scenario 1B - PM Peak Hour Traffic Volume Distribution of the 5th Line Bridge Traffic

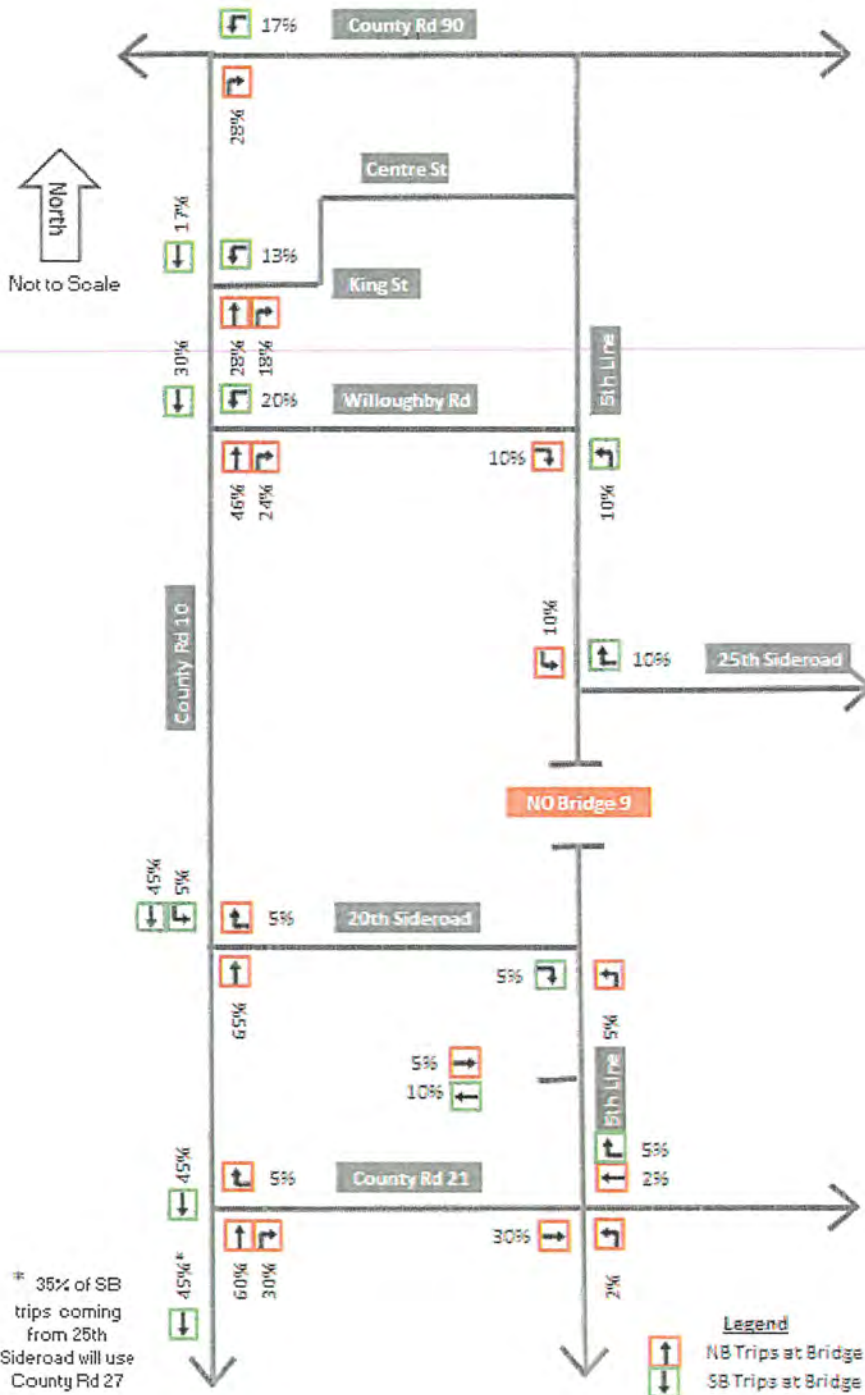
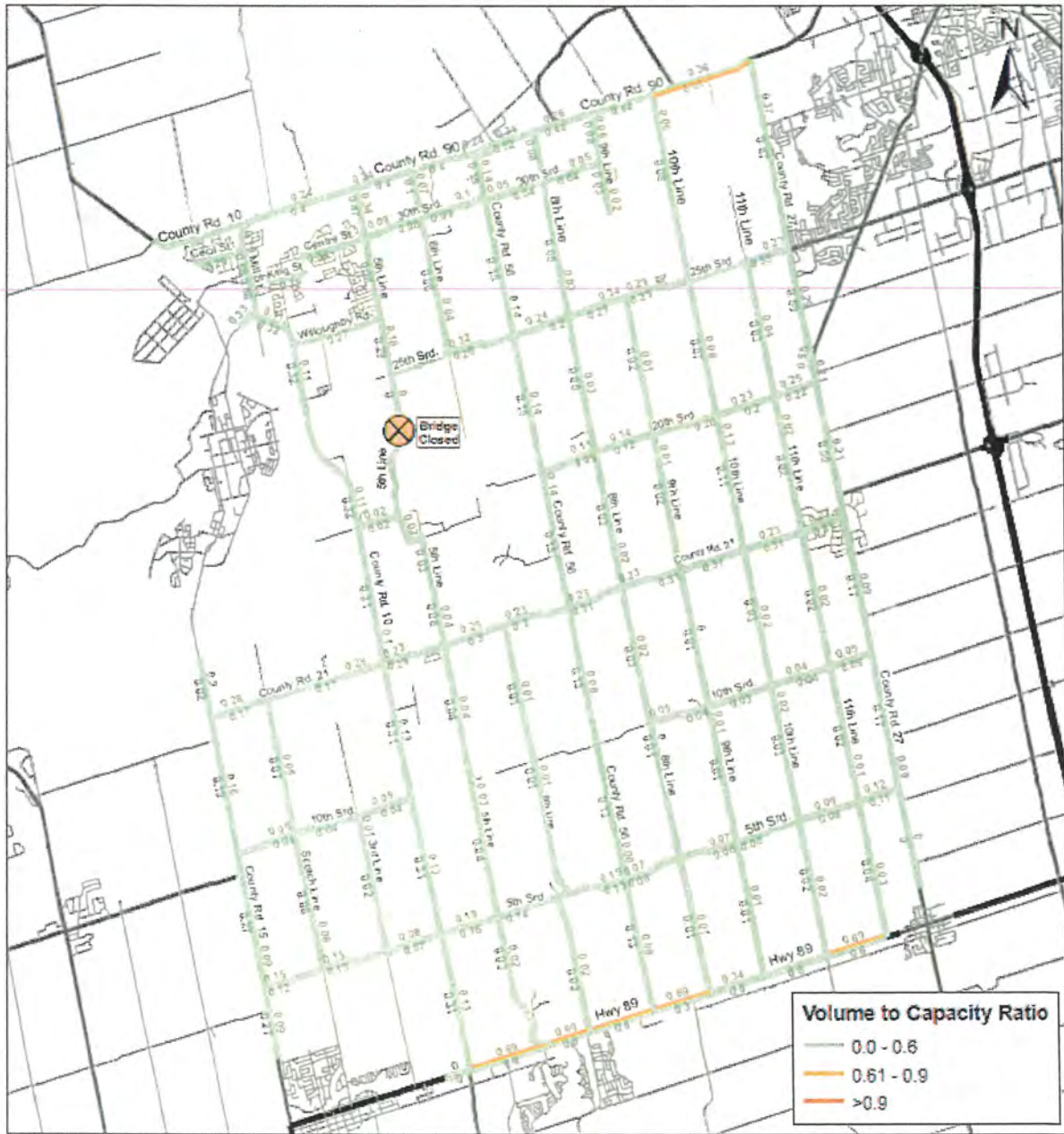
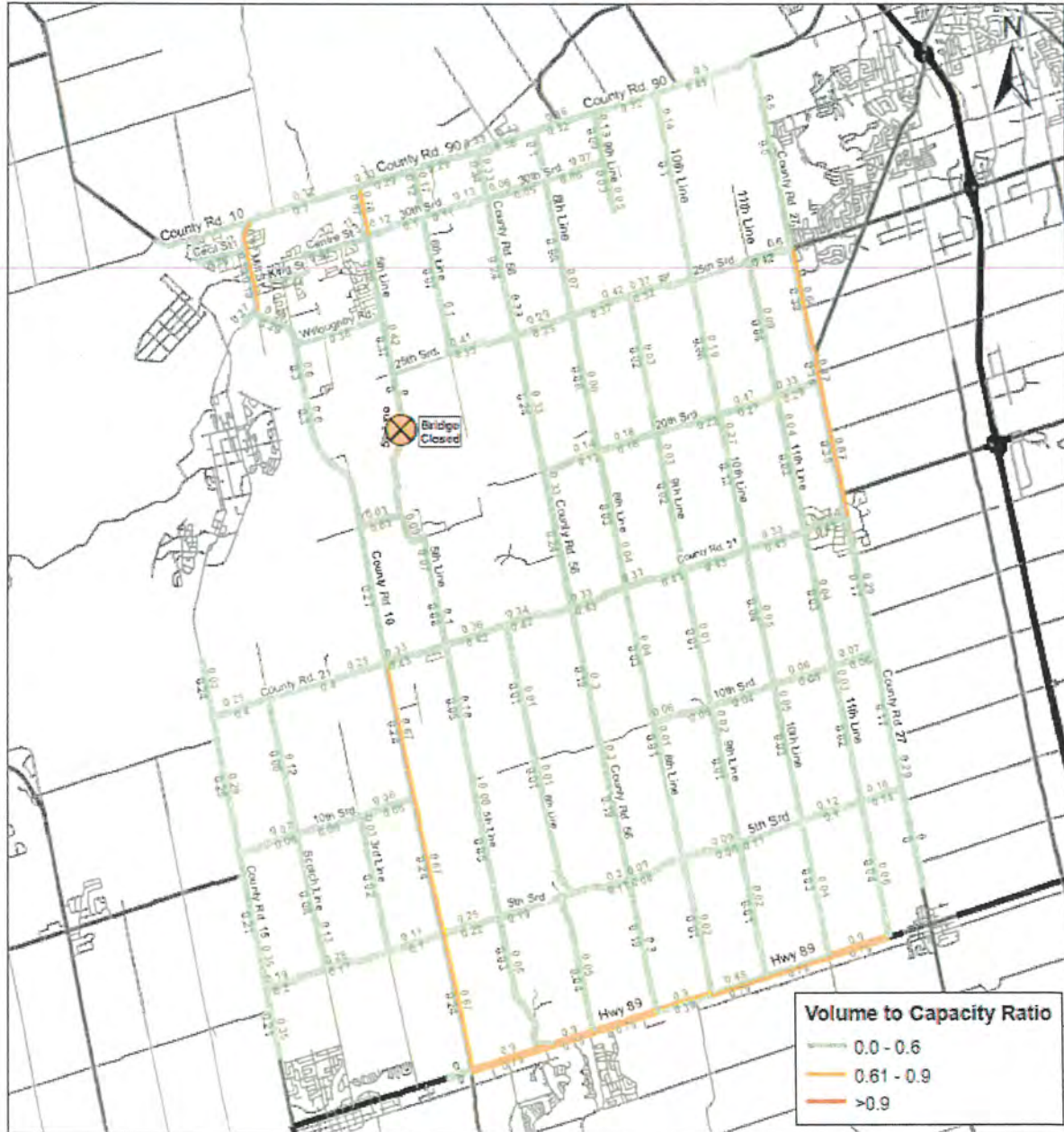


Figure 2-7. Scenario 1B - AM Peak Hour Volume to Capacity Ratios



7a

Figure 2-8. Scenario 1B - PM Peak Hour Volume to Capacity Ratios



36

2.4 SCENARIO 2 – MEDIUM TERM ANALYSIS

This scenario represents the year 2033 traffic volume and lane configurations in the medium-term conditions. In this scenario, the traffic conditions with and without the 5th Line Bridge are analyzed for both the with and without the 25th Sideroad extension between the 5th Line and County Road 10.

2.4.1 Scenario 2A

Scenario 2A represents the year 2033 conditions with the 5th Line Bridge and the 25th Sideroad extension. In this scenario, all the capacity improvements achieved through reconstruction and strengthening projects along with the widening of Highway 89 to 4-lanes, at places where there are currently 3-lanes, are included. **Figure 2-9** and **Figure 2-10** show the traffic volume percentage distribution at the 5th Line Bridge along the adjacent street network with 25th Sideroad extension for AM and PM peak hour, respectively.

Figure 2-11 and **Figure 2-12** show volume to capacity ratio maps of the year 2033 conditions with the bridge for the AM and PM peak hours, respectively. As shown in the **Figure 2-11**, in the AM peak hour there is a change of free flow conditions for the southbound traffic along 5th Line between Centre Street and Willoughby Road and on County Road 27 between County Road 90 and County Road 21, when compared to the existing conditions (Scenario 1A). **Figure 2-12** shows that during the PM peak hour, there is increased congestion in the roadway network due to traffic growth in the year 2023. 5th Line between County Road 90 and Willoughby Road and County Road 27 from County Road 21 to Essa Road operate at congested conditions.

Table 2-5 shows the performance of the study intersections in this scenario. The intersection at 5th Line and County Road 21 is analyzed as a signalized intersection consistent with the recommendations in the TMP. As shown in the table, all the study intersections will operate at an acceptable LOS C or better.

Table 2-5. Scenario 2A - Intersection Capacity Analysis

INTERSECTION	CONTROL TYPE	AM PEAK HOUR		PM PEAK HOUR	
		LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)	LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)
5th Line and 25th Sideroad	AWSC	C (18)	EBLTR (0.34)	C (16)	EBLTR (0.33)
			WBLTR (0.46)		WBLTR (0.66)
			NBLTR (0.13)		NBLTR (0.12)
			SBLTR (0.76)		SBLTR (0.57)
11th Line and 25th Sideroad	TWSC	A (2)	EBLTR (0.00)	A (2)	EBLTR (0.01)
			WBLTR (0.04)		WBLTR (0.03)
			NBLTR (0.07)		NBLTR (0.16)
			SBLTR (0.05)		SBLTR (0.06)
5th Line and County Road 21	Signal	A (8)	-	A (9)	-

Note:

1. TWSC – Two way Stop Control
2. AWSC – All way Stop Control
3. NBLTR – Northbound left-through-right, SBLTR – Southbound left-through-right, EBLTR – Eastbound left-through-right, WBLTR – Westbound left-through-right.

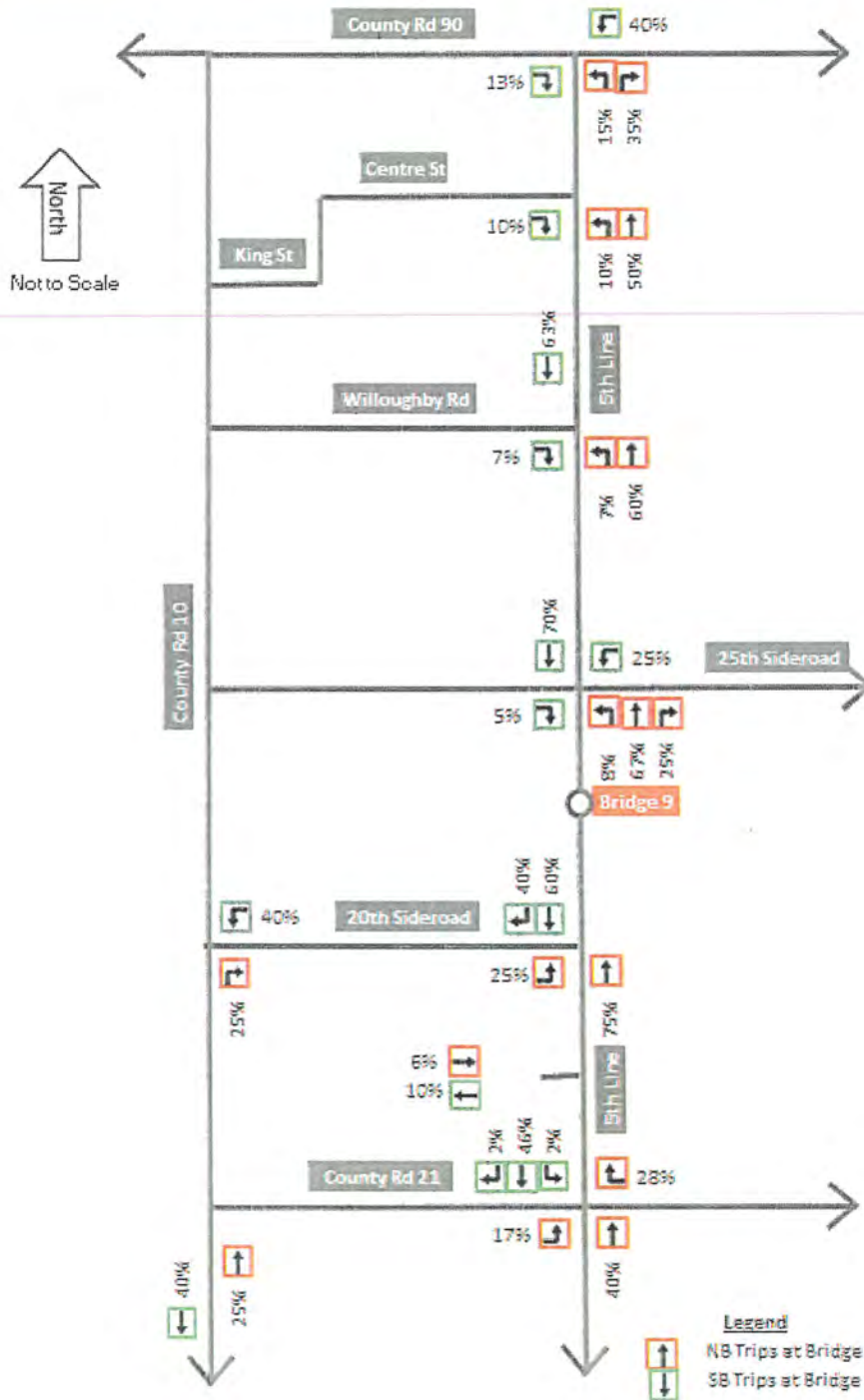
7a

Figure 2-9. Scenario 2A - AM Peak Hour Traffic Volume Distribution of the 5th Line Bridge Traffic



38

Figure 2-10. Scenario 2A - PM Peak Hour Traffic Volume Distribution of the 5th Line Bridge Traffic

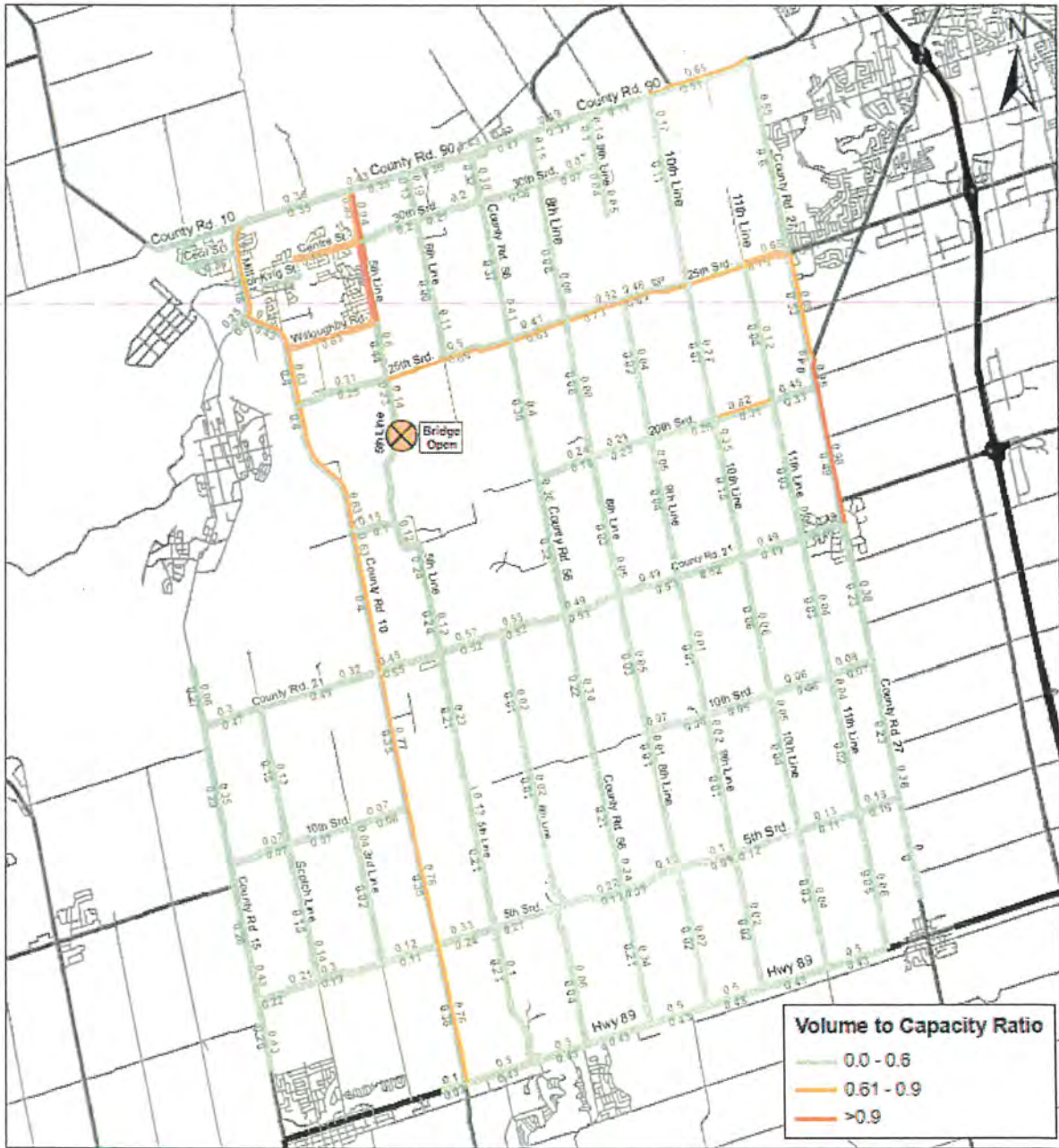


7a

Figure 2-11. Scenario 2A - AM Peak Hour Volume to Capacity Ratios



Figure 2-12. Scenario 2A - PM Peak Hour Volume to Capacity Ratios



2.4.2 Scenario 2B

Scenario 2B represents the year 2033 conditions without the 5th Line bridge and with the 25th Sideroad extension. In this scenario, all the capacity improvements are assumed the same as in Scenario 2A. Figure 2-13 and Figure 2-14 show the traffic volume percentage distribution at the 5th Line Bridge along the adjacent street network with 25th Sideroad extension for AM and PM peak hour, respectively.

7a

Figure 2-15 and Figure 2-16 show volume to capacity ratio maps of the year 2033 conditions without the bridge for the AM and PM peak hours, respectively. Compared to Scenario 2A, the congestion on 5th Line is slightly improved in Scenario 2B, due to shifting of the traffic onto the parallel roadway of County Road 10 due to the bridge closure. Likewise, it is to be noted that the congestion on County Road 10/Mill Street slightly increases through the Angus area.

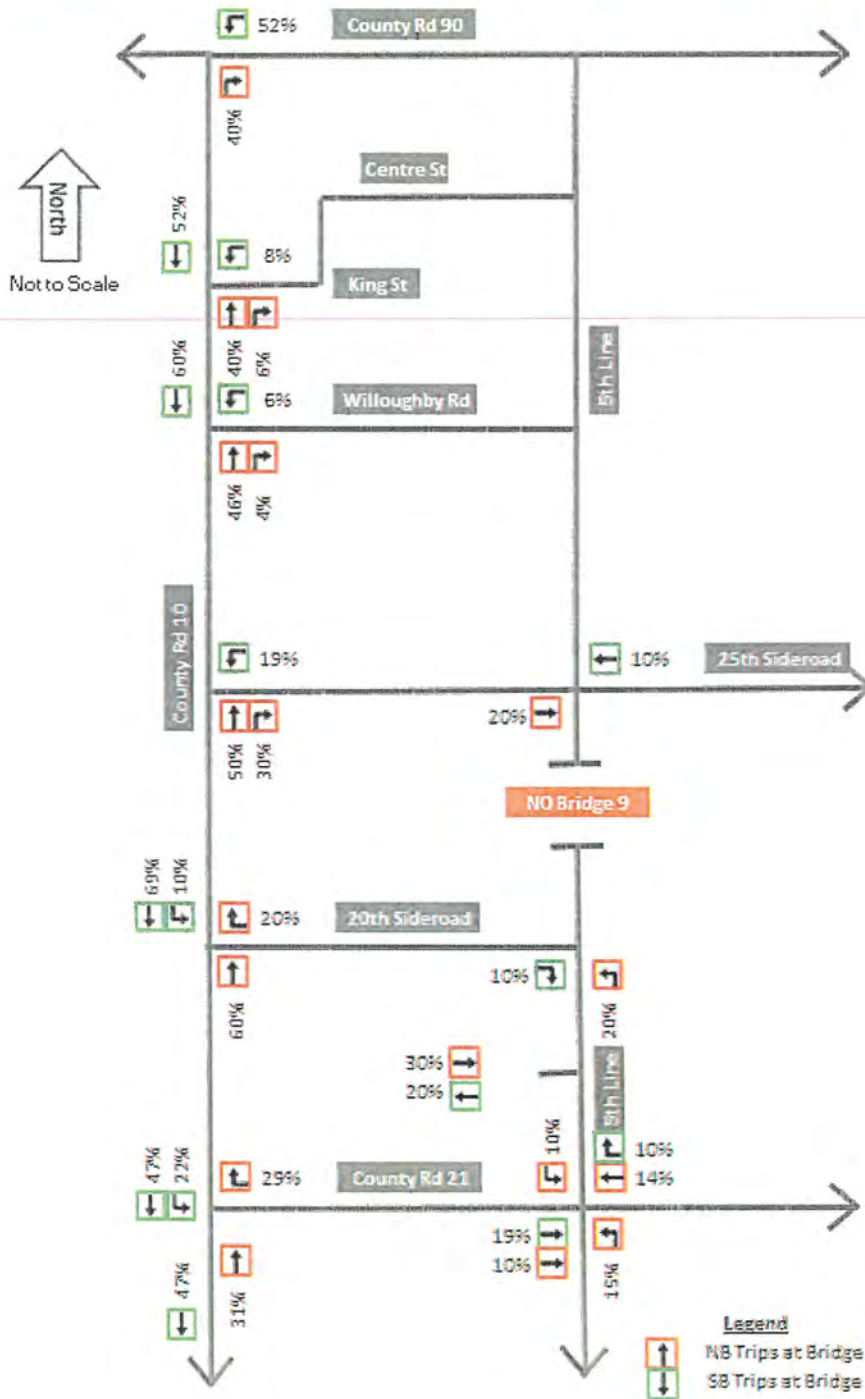
Table 2-6 shows the performance of the study intersections in this scenario. As shown in the table, all the study intersections will operate at acceptable LOS B or better. The improvement in LOS at the 5th Line and 25th Sideroad intersection (LOS B) compared to Scenario 1A (LOS C) is due to the rerouting of the 5th Line Bridge traffic.

Table 2-6. Scenario 2B - Intersection Capacity Analysis

INTERSECTION	CONTROL TYPE	AM PEAK HOUR		PM PEAK HOUR	
		LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)	LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)
5th Line and 25th Sideroad	AWSC	B (12)	EBLTR (0.31)	B (12)	EBLTR (0.31)
			WBLTR (0.40)		WBLTR (0.52)
			NBLTR (0.00)		NBLTR (0.00)
			SBLTR (0.55)		SBLTR (0.34)
11th Line and 25th Sideroad	TWSC	A (2)	EBLTR (0.00)	A (2)	EBLTR (0.01)
			WBLTR (0.04)		WBLTR (0.03)
			NBLTR (0.07)		NBLTR (0.20)
			SBLTR (0.04)		SBLTR (0.06)
5th Line and County Road 21	Signal	A (6)	-	A (8)	-

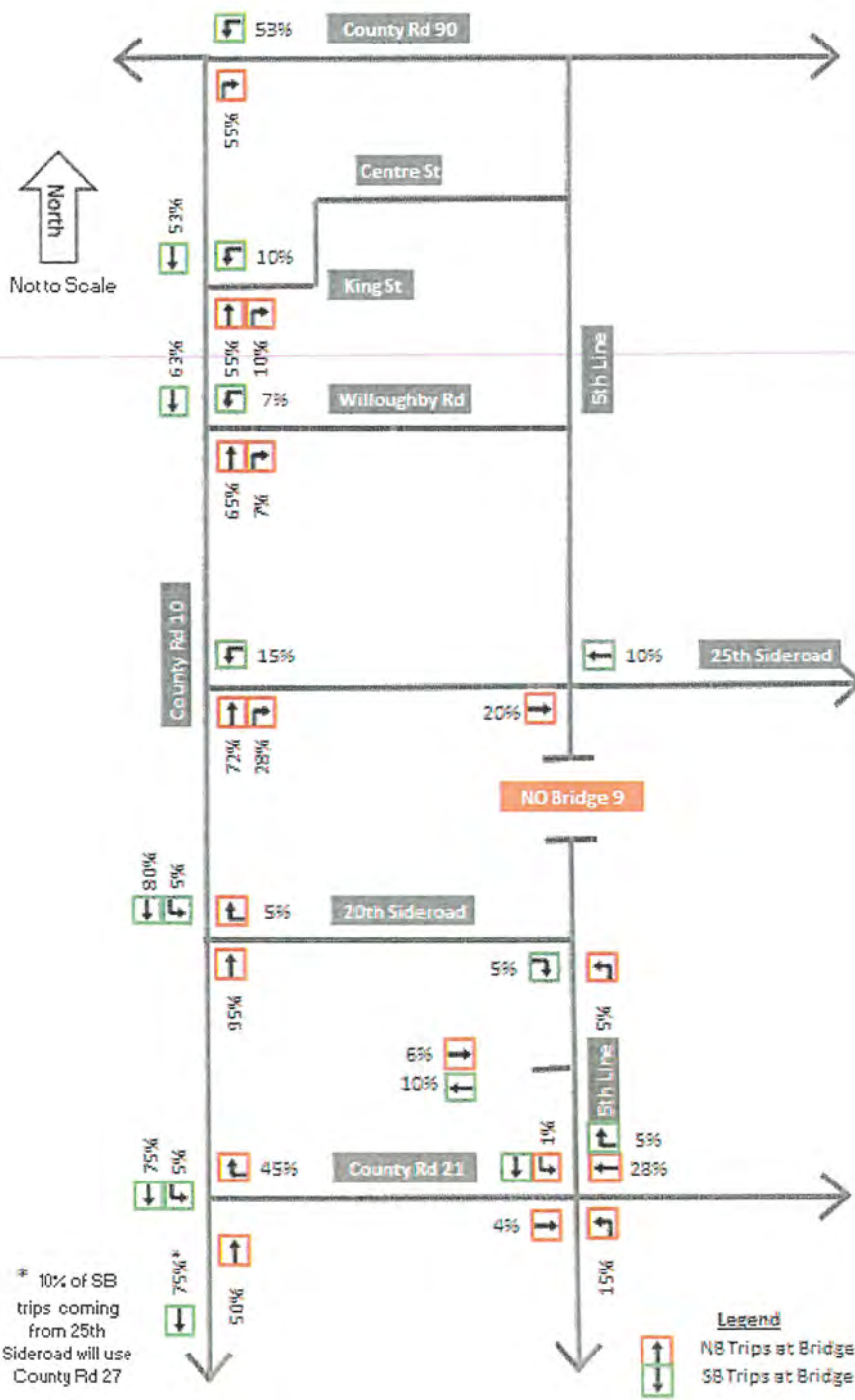
- Note:
4. TWSC – Two way Stop Control
 5. AWSC – All way Stop Control
 6. NBLTR – Northbound left-through-right, SBLTR – Southbound left-through-right, EBLTR – Eastbound left-through-right, WBLTR – Westbound left-through-right.

Figure 2-13. Scenario 2B - AM Peak Hour Traffic Volume Distribution of the 5th Line Bridge Traffic



7a

Figure 2-14. Scenario 2B - PM Peak Hour Traffic Volume Distribution of the 5th Line Bridge Traffic



7a

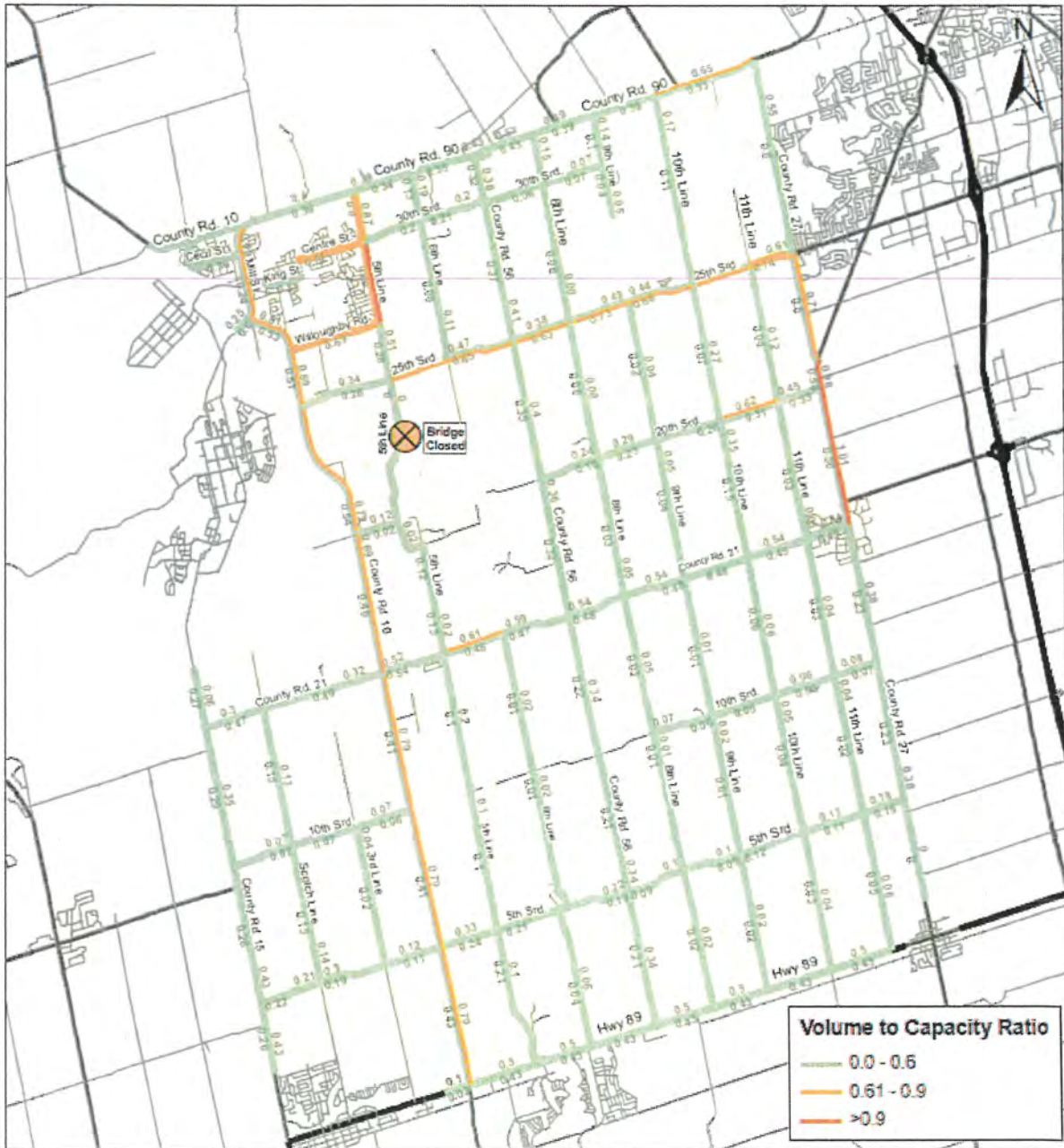
Figure 2-15. Scenario 2B - AM Peak Hour Volume to Capacity Ratios



45

7a

Figure 2-16. Scenario 2B - PM Peak Hour Volume to Capacity Ratios



2.4.3 Scenario 2C

Scenario 2C illustrates the conditions in 2033, factoring in the presence of the 5th Line Bridge but excluding the 25th Sideroad extension. This scenario mirrors the capacity enhancements of Scenario 2A, and it is assumed that the traffic volume distribution at the bridge remains consistent with the existing conditions (as per Scenario 1A) during both peak hours.

46

Figure 2-17 and **Figure 2-18** present maps that depict the volume-to-capacity ratio for the 2033 conditions, considering the bridge but not the 25th Sideroad extension, for the AM and PM peak hours, respectively. These figures highlight an increase in congestion along Willoughby Road due to the lack of the 25th Sideroad extension. Furthermore, the 5th Line, stretching between County Road 90 and Willoughby Road, continues to experience congestion during the PM peak hour.

Table 2-7 shows the performance of the study intersections in this scenario. All the study intersections will operate at acceptable LOS B or better conditions.

Table 2-7. Scenario 2C - Intersection Capacity Analysis

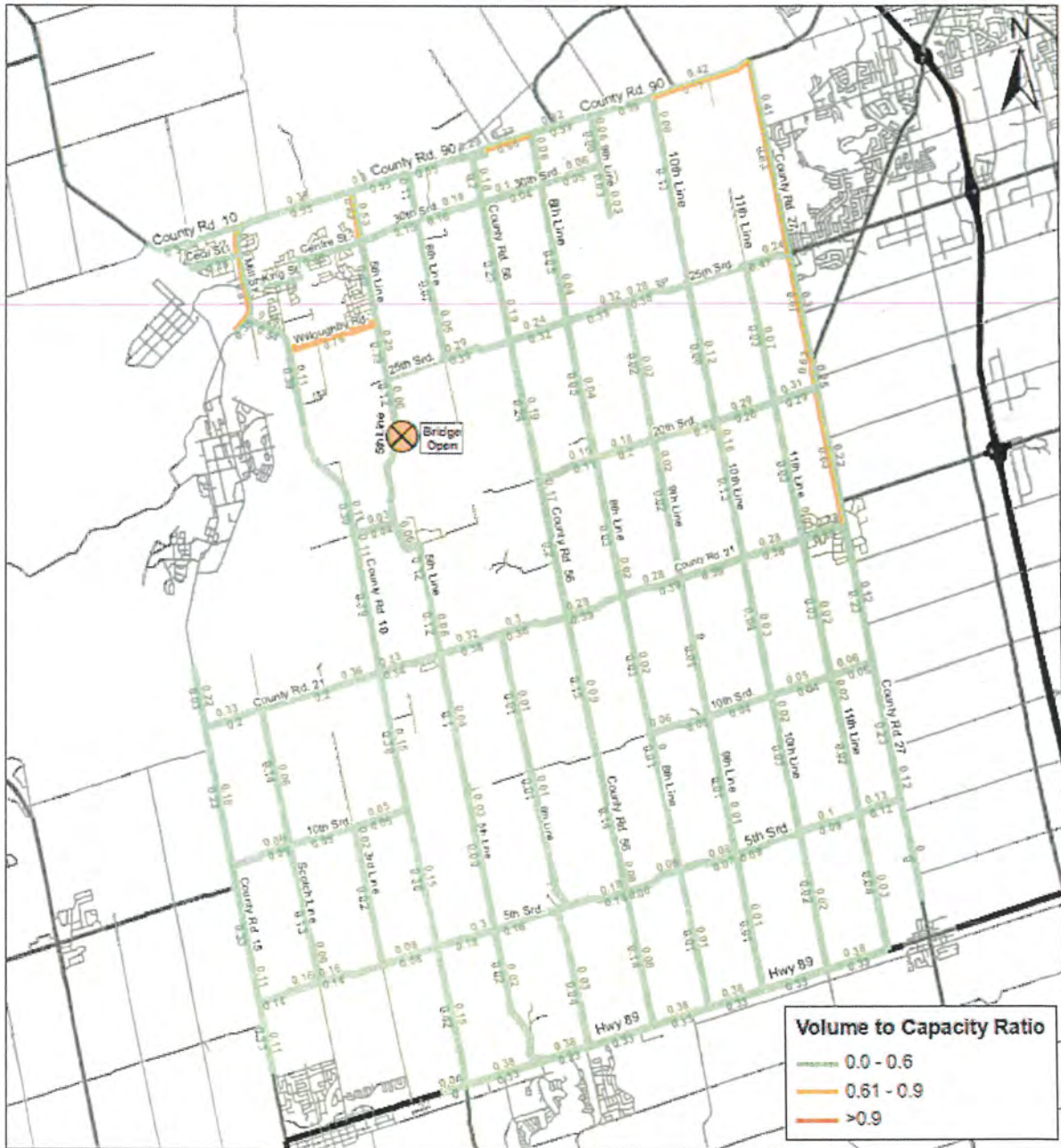
INTERSECTION	CONTROL TYPE	AM PEAK HOUR		PM PEAK HOUR	
		LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)	LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)
5th Line and 25th Sideroad	AWSC	A (10)	EBLTR (0.00)	B (11)	EBLTR (0.00)
			WBLTR (0.16)		WBLTR (0.48)
			NBLTR (0.06)		NBLTR (0.10)
			SBLTR (0.41)		SBLTR (0.42)
11th Line and 25th Sideroad	TWSC	A (1)	EBLTR (0.00)	A (1)	EBLTR (0.00)
			WBLTR (0.02)		WBLTR (0.02)
			NBLTR (0.06)		NBLTR (0.09)
			SBLTR (0.03)		SBLTR (0.03)
5th Line and County Road 21	Signal	A (7)	-	A (7)	-

Note:

1. TWSC – Two way Stop Control
2. AWSC – All way Stop Control
3. NBLTR – Northbound left-through-right, SBLTR – Southbound left-through-right, EBLTR – Eastbound left-through-right, WBLTR – Westbound left-through-right.

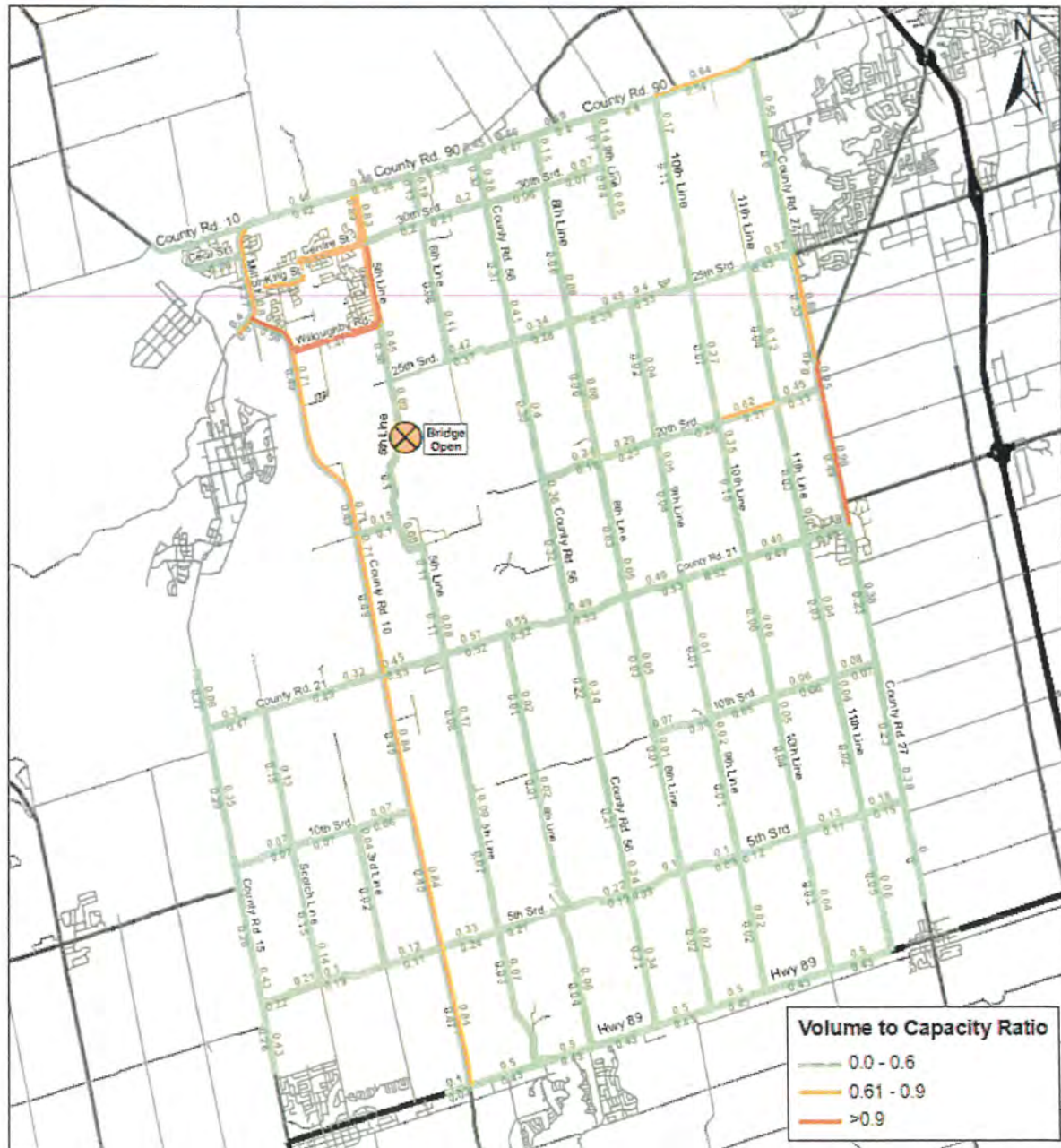
7a

Figure 2-17. Scenario 2C - AM Peak Hour Volume to Capacity Ratios



48

Figure 2-18. Scenario 2C - PM Peak Hour Volume to Capacity Ratios



2.4.4 Scenario 2D

Scenario 2D represents the year 2033 conditions without the bridge and without the 25th Sideroad extension. In this scenario, the capacity improvements remain the same as Scenario 2A and the traffic distribution at the bridge is also assumed to be the same as the existing conditions (Scenario 1B) for both the peak hours.

7a

Figure 2-19 and Figure 2-20 show volume to capacity ratio maps of the year 2033 conditions without the bridge and 25th Sideroad extension for the AM and PM peak hours, respectively. As shown in the Figure 2-19 and Figure 2-20, the roadway network performs similar to Scenario 2B, with a slightly increased congestion on Willoughby Road and 5th Line between Willoughby Road and County Road 90 due to the absence of the 25th Sideroad extension in this scenario.

Table 2-8 shows the performance of the study intersections in this scenario. All the study intersections will operate similar to Scenario 2C conditions.

Table 2-8. Scenario 2D – Intersection Capacity Analysis

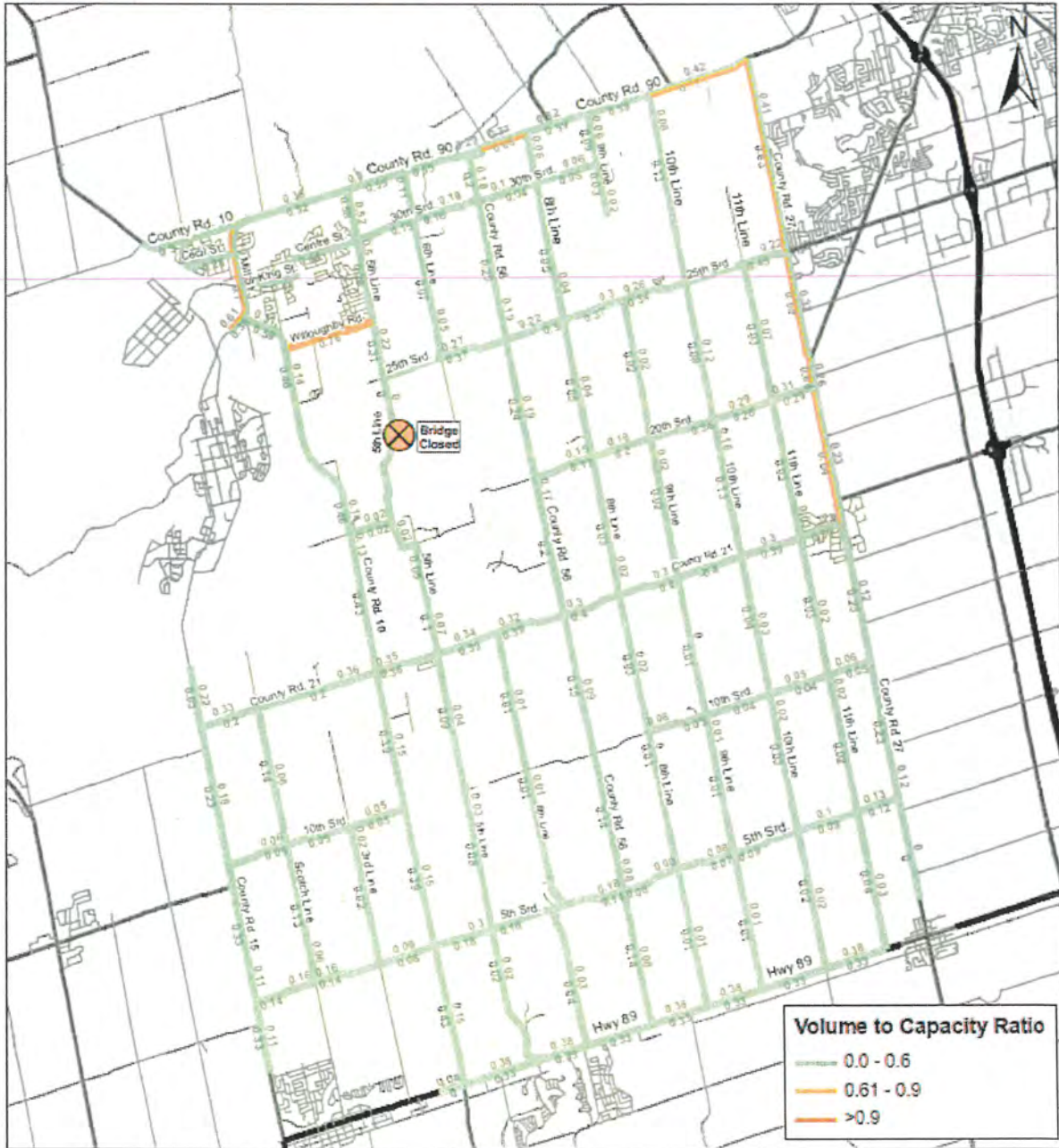
INTERSECTION	CONTROL TYPE	AM PEAK HOUR		PM PEAK HOUR	
		LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)	LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)
5 th Line and 25 th Sideroad	AWSC	A (9)	EBLTR (0.01)	B (10)	EBLTR (0.01)
			WBLTR (0.13)		WBLTR (0.40)
			NBLTR (0.00)		NBLTR (0.00)
			SBLTR (0.32)		SBLTR (0.37)
11 th Line and 25 th Sideroad	TWSC	A (2)	EBLTR (0.00)	A (2)	EBLTR (0.00)
			WBLTR (0.02)		WBLTR (0.02)
			NBLTR (0.07)		NBLTR (0.11)
			SBLTR (0.03)		SBLTR (0.04)
5 th Line and County Road 21	Signal	A (5)	-	A (7)	-

Note:

1. TWSC – Two way Stop Control
2. AWSC – All way Stop Control
3. NBLTR – Northbound left-through-right, SBLTR – Southbound left-through-right, EBLTR – Eastbound left-through-right, WBLTR – Westbound left-through-right.

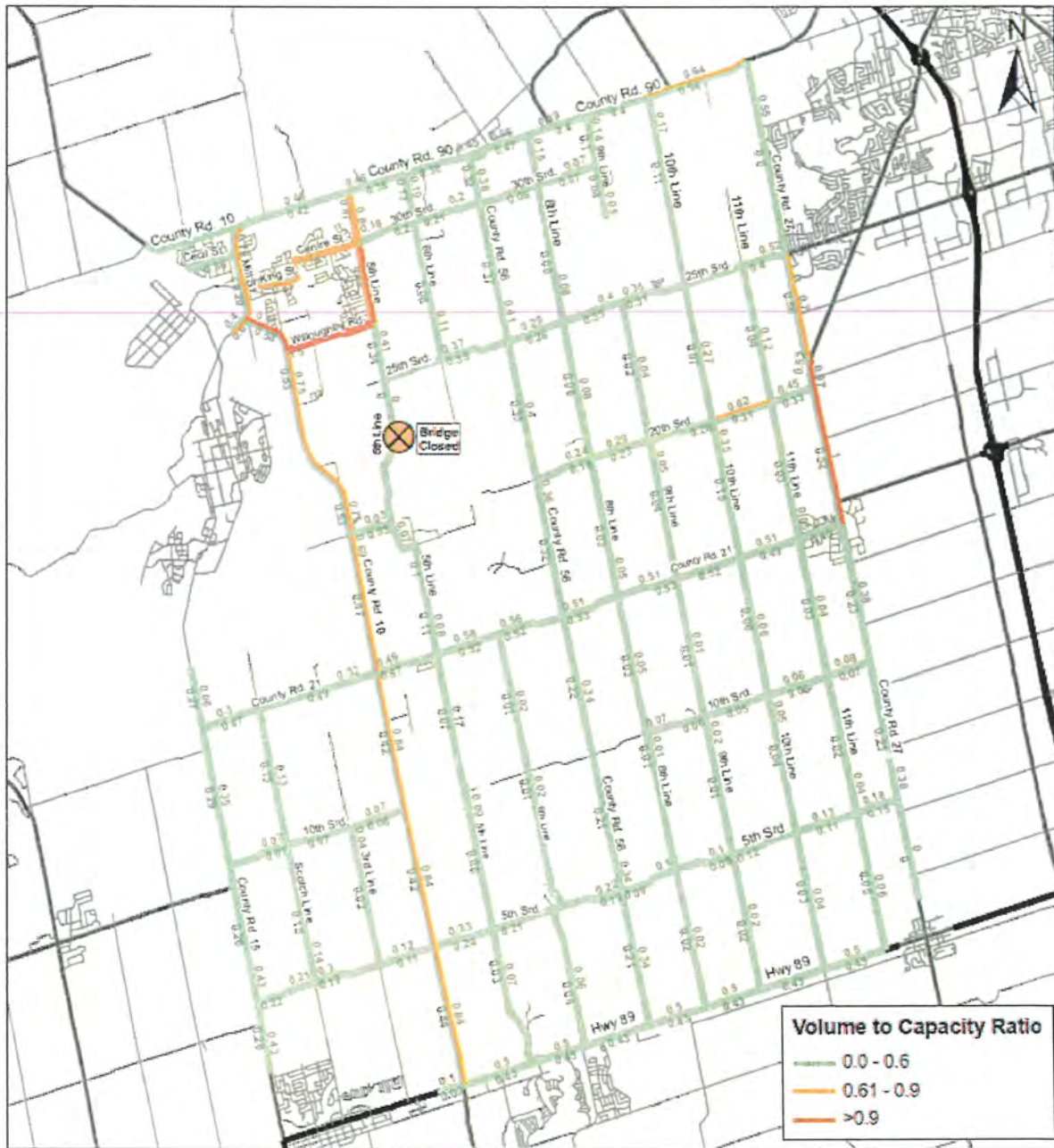
50

Figure 2-19. Scenario 2D – AM Peak Hour volume to capacity ratios



7a

Figure 2-20. Scenario 2D – PM Peak Hour volume to capacity ratios



2.5 SCENARIO 3 – LONG TERM ANALYSIS

This scenario represents the year 2043 traffic volume and lane configurations in the long-term conditions. In this scenario, the traffic conditions with and without the bridge are analyzed for both the with and without the 25th Sideroad extension between the 5th Line and County Road 10.

2.5.1 Scenario 3A

Scenario 3A represents the year 2043 conditions with the bridge and with the 25th Sideroad extension. In this scenario, all the capacity improvements in Scenario 2 and the widening of 5th Line between Willoughby Road and County Road 90 assumed in the preferred alternative of the TMP are included. The traffic volume percentage distribution at the 5th Line Bridge along the adjacent street network with the 25th Sideroad extension remain the same as in Scenario 2A for both the AM and PM peak hours.

Figure 2-21 and **Figure 2-22** show volume to capacity ratio maps of the year 2043 conditions with the bridge and 25th Sideroad extension for the AM and PM peak hours, respectively. As shown in the figures, there will be no congestion conditions during the AM peak hour, while County Road 10 between Mill Street and Willoughby Road and 25th Sideroad between 10th Line and 11th Line will operate under congested conditions during the PM peak hour.

Table 2-9 shows the performance of the study intersections in this scenario. The intersection of 5th Line and 25th Sideroad will be signalized as assumed in the preferred alternative of the TMP. As shown in the table, all the study intersections will operate at acceptable LOS B or better.

Table 2-9. Scenario 3A - Intersection Capacity Analysis

INTERSECTION	CONTROL TYPE	AM PEAK HOUR		PM PEAK HOUR	
		LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)	LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)
5th Line and 25th Sideroad	Signal	B (12)	-	B (12)	-
11th Line and 25th Sideroad	TWSC	B (2)	EBLTR (0.01)	B (2)	EBLTR (0.01)
			WBLTR (0.06)		WBLTR (0.04)
			NBLTR (0.13)		NBLTR (0.25)
			SBLTR (0.07)		SBLTR (0.09)
5th Line and County Road 21	Signal	A (10)	-	B (16)	-

Note:

1. TWSC – Two way Stop Control
2. AWSC – All way Stop Control
3. NBLTR – Northbound left-through-right, SBLTR – Southbound left-through-right, EBLTR – Eastbound left-through-right, WBLTR – Westbound left-through-right.

7a

Figure 2-21. Scenario 3A - AM Peak Hour Volume to Capacity Ratios

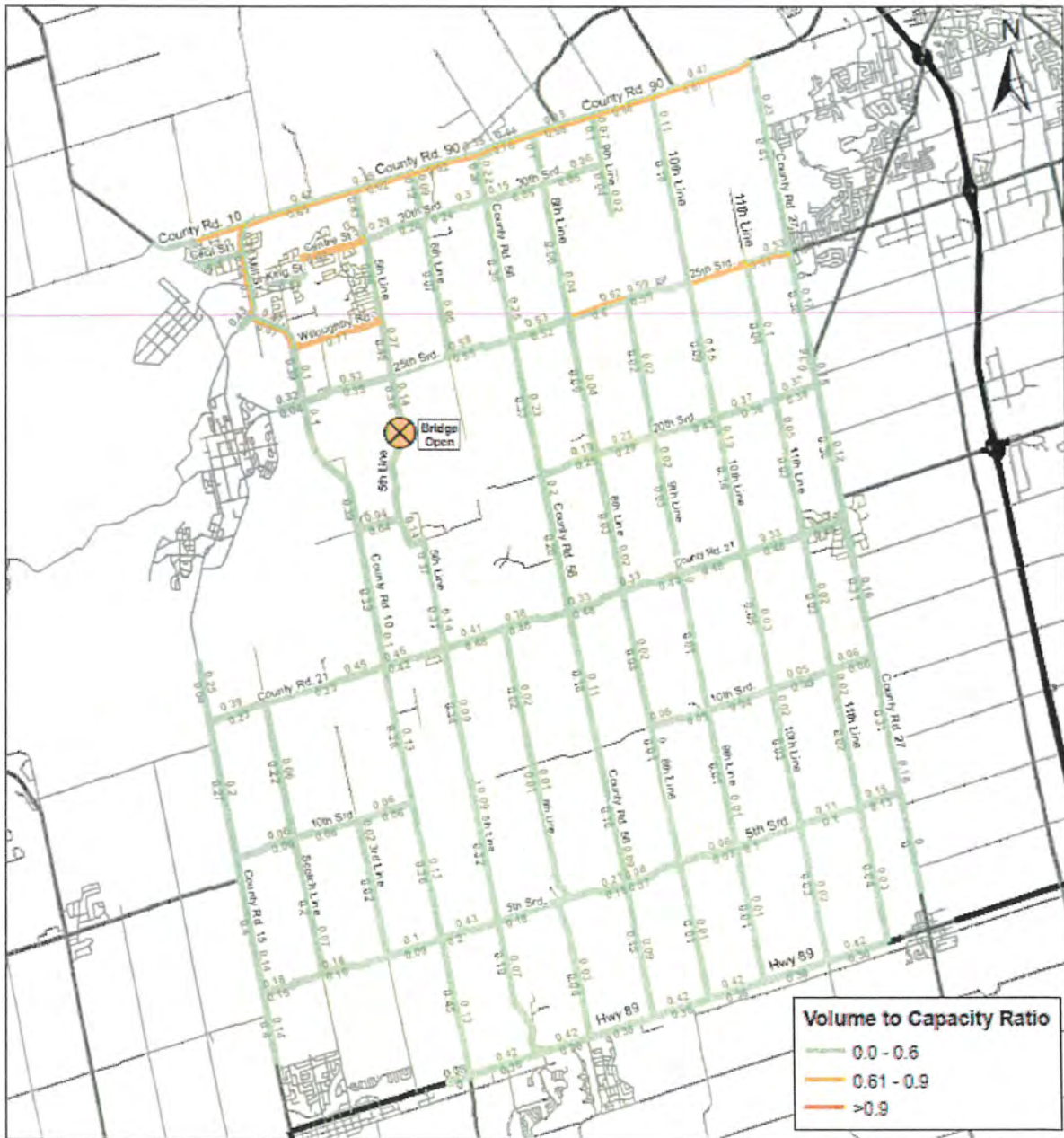
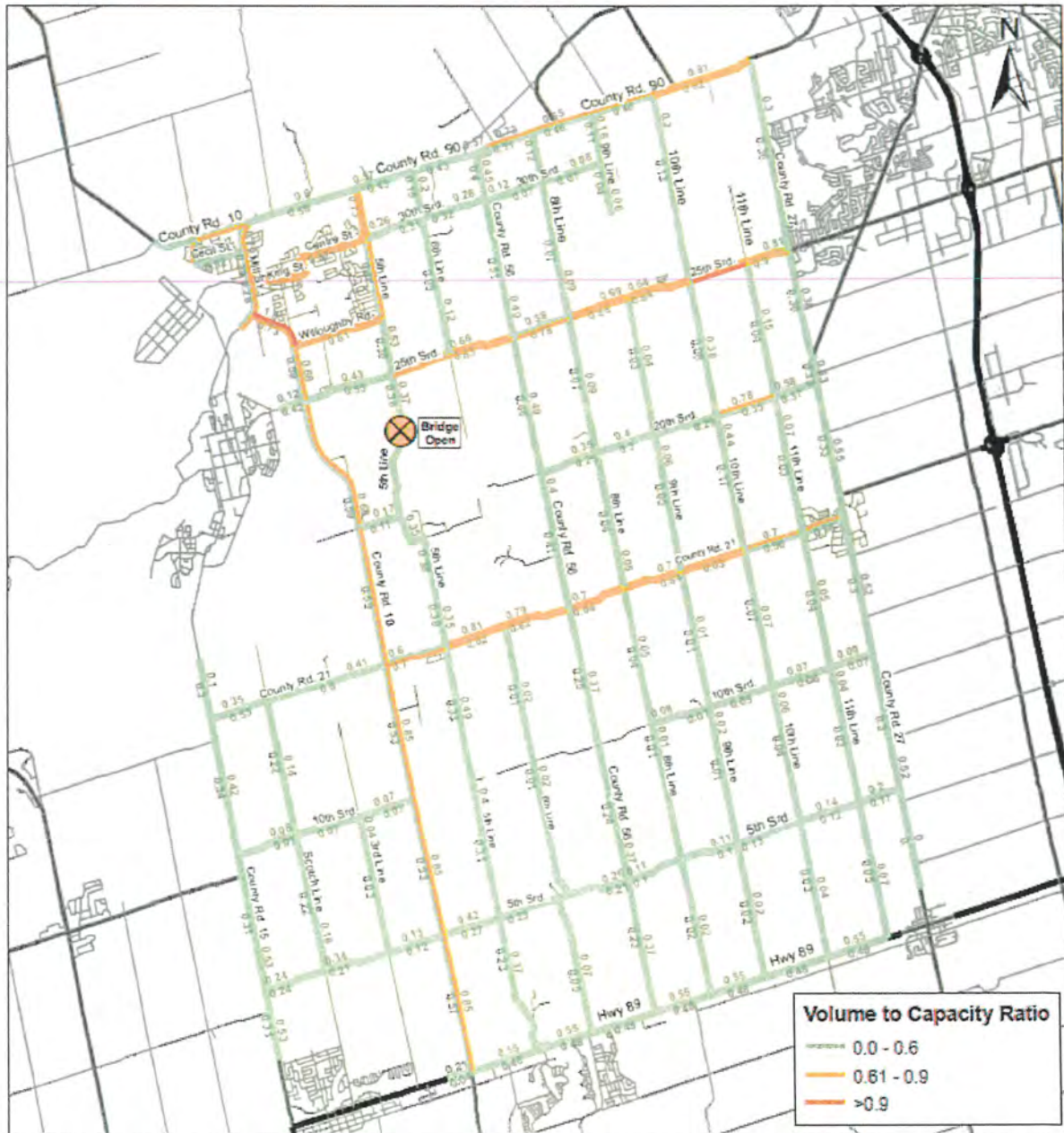


Figure 2-22. Scenario 3A - PM Peak Hour Volume to Capacity Ratios



7a

2.5.2 Scenario 3B

Scenario 3B represents the year 2043 conditions without the bridge and with the 25th Sideroad extension. In this scenario, all the capacity improvements are assumed to be the same as in Scenario 3A.

Figure 2-23 and Figure 2-24 show volume to capacity ratio maps of the year 2043 conditions without the bridge for the AM and PM peak hours, respectively. As shown in the Figure 2-23, the roadway network performance is similar to the performance of the Scenario 3A during the AM peak hour. However, no bridge on 5th Line during the PM peak hour deteriorates the level of service along County Road 10 due to increase traffic volumes.

Table 2-10 shows the performance of the study intersections in this scenario. The intersection of 5th Line and 25th Sideroad control is assumed to be AWSC intersection as under existing condition. As shown in the table, all the study intersections will operate at acceptable LOS D or better except for the 5th Line and 25th Sideroad intersection which is operating at LOS E during PM peak hour, which indicates additional capacity improvements or need for signalization at this intersection.

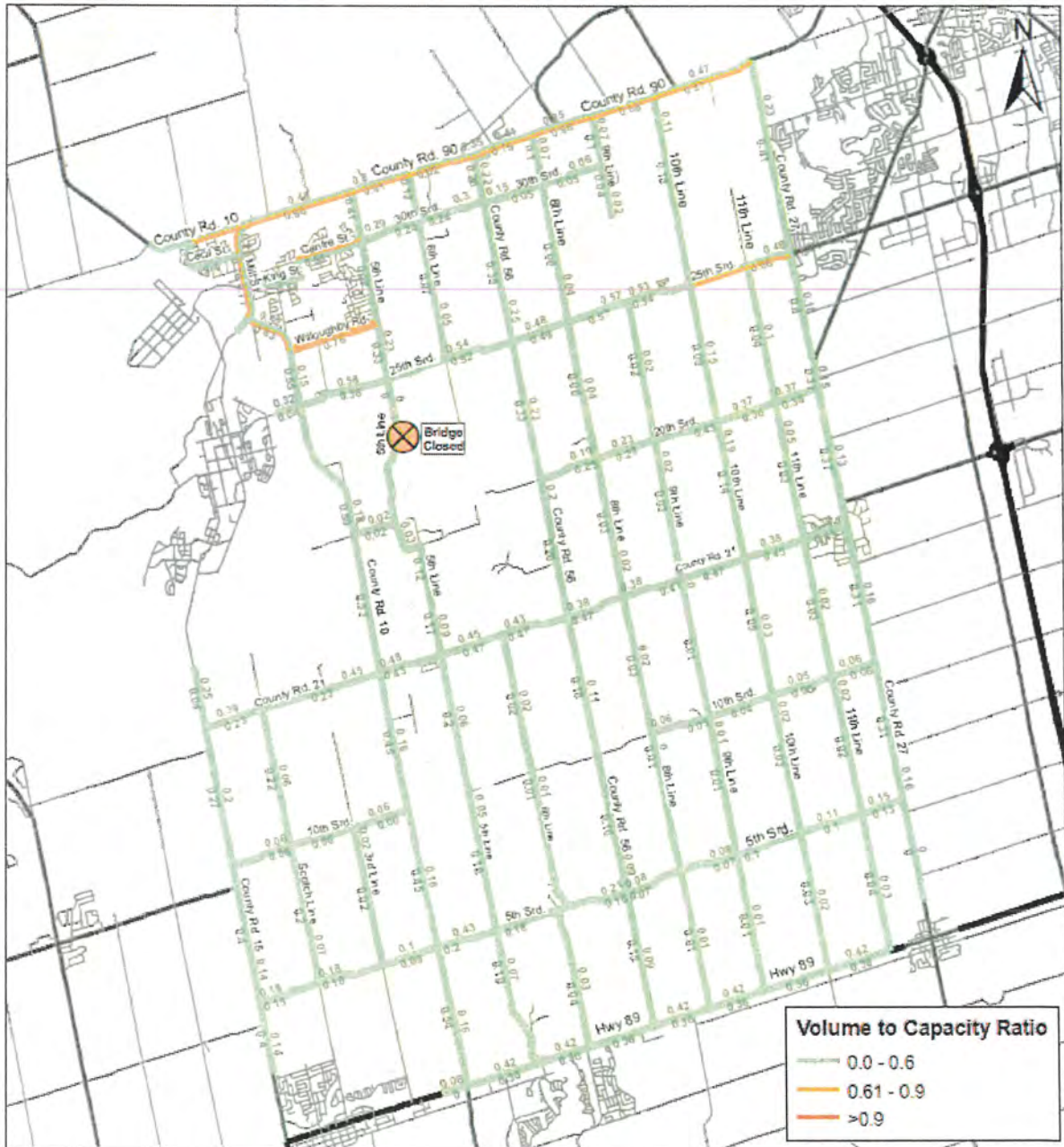
Table 2-10. Scenario 3B - Intersection Capacity Analysis

INTERSECTION	CONTROL TYPE	AM PEAK HOUR		PM PEAK HOUR	
		LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)	LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)
5th Line and 25th Sideroad	AWSC	D (29)	EBLTR (0.55)	E (37)	EBLTR (0.90)
			WBLTR (0.53)		WBLTR (0.89)
			NBLTR (0.00)		NBLTR (0.00)
			SBLTR (0.92)		SBLTR (0.76)
11th Line and 25th Sideroad	TWSC	B (2)	EBLTR (0.01)	B (2)	EBLTR (0.01)
			WBLTR (0.05)		WBLTR (0.04)
			NBLTR (0.12)		NBLTR (0.24)
			SBLTR (0.06)		SBLTR (0.09)
5th Line and County Road 21	Signal	A (7)	-	B (13)	-

Note:

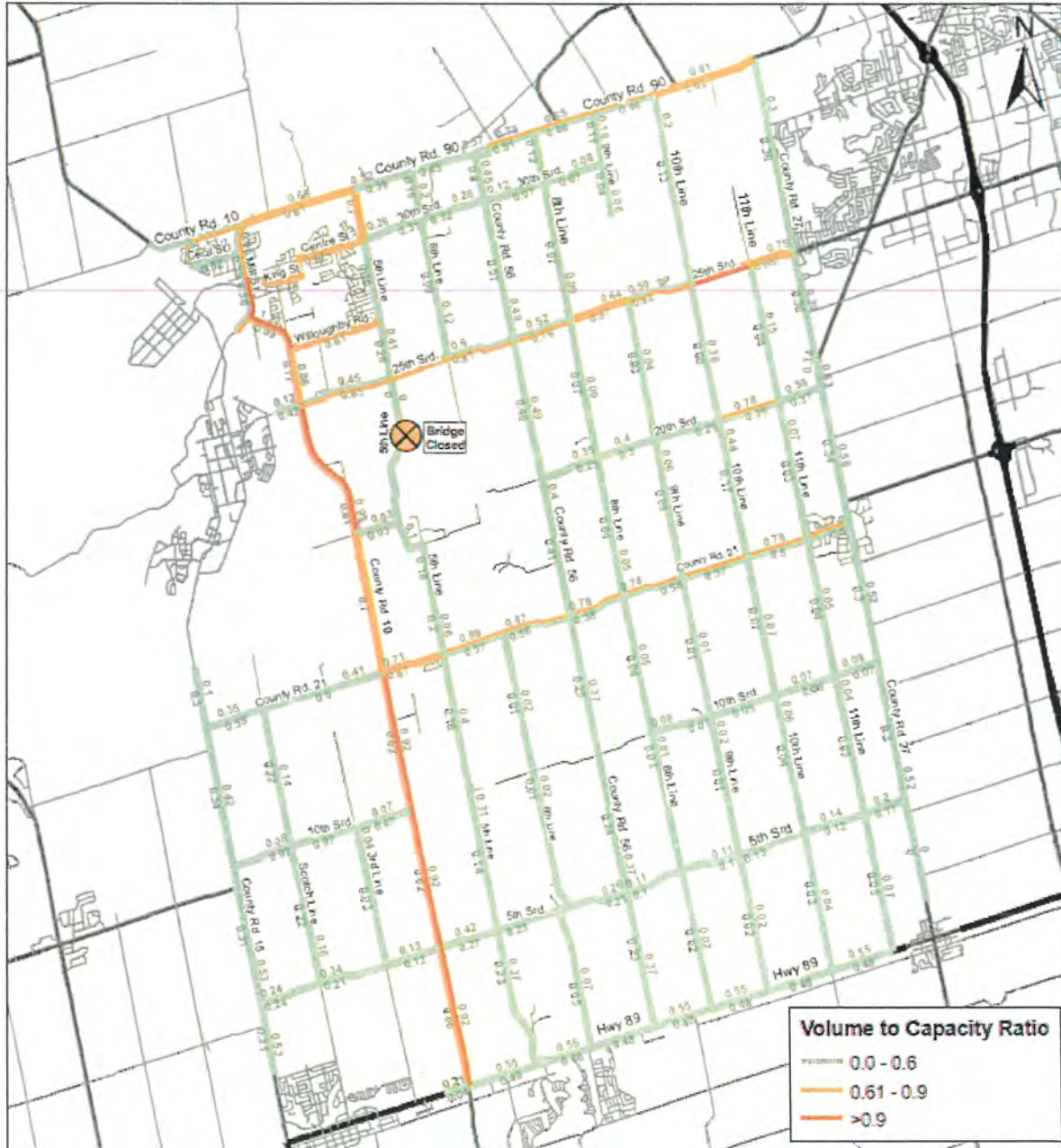
1. TWSC – Two way Stop Control
2. AWSC – All way Stop Control
3. NBLTR – Northbound left-through-right, SBLTR – Southbound left-through-right, EBLTR – Eastbound left-through-right, WBLTR – Westbound left-through-right.

Figure 2-23. Scenario 3B - AM Peak Hour Volume to Capacity Ratios



7a

Figure 2-24. Scenario 3B - PM Peak Hour Volume to Capacity Ratios



2.5.3 Scenario 3C

Scenario 3C illustrates the conditions in 2043, with the bridge and without the 25th Sideroad extension. This scenario has the same capacity improvements of Scenario 3. It is assumed that the traffic percentage distribution at the bridge remains the same as Scenario 1A during both peak hours.

7a

Figure 2-25 and Figure 2-26 show the volume-to-capacity ratio for the 2043 conditions, considering the bridge but without the 25th Sideroad extension, for the AM and PM peak hours, respectively. As shown in the Figure 2-25 and Figure 2-26, there are congested segments along 5th Line, Mill Street, Willoughby Road and 25th Sideroad during the peak hours.

Table 2-11 shows the performance of the study intersections in this scenario. The intersection of 5th Line and 25th Sideroad control is assumed to be a TWSC intersection under this scenario. As shown in the table, all the study intersections will operate at acceptable LOS C or better except the 5th Line and 25th Sideroad eastbound approach, which will operate at LOS E.

Table 2-11. Scenario 3C - Intersection Capacity Analysis

INTERSECTION	CONTROL TYPE	AM PEAK HOUR		PM PEAK HOUR	
		LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)	LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)
5th Line and 25th Sideroad	TWSC	A (8)	EBLTR (0.90)	C (19)	EBLTR (0.90)
			WBLTR (0.25)		WBLTR (0.85)
			NBLTR (0.00)		NBLTR (0.00)
			SBLTR (0.30)		SBLTR (0.32)
11th Line and 25th Sideroad	TWSC	A (2)	EBLTR (0.01)	A (2)	EBLTR (0.01)
			WBLTR (0.03)		WBLTR (0.03)
			NBLTR (0.12)		NBLTR (0.12)
			SBLTR (0.04)		SBLTR (0.04)
5th Line and County Road 21	Signal	A (7)	-	B (12)	-

Note:

1. TWSC – Two way Stop Control
2. AWSC – All way Stop Control
3. NBLTR – Northbound left-through-right, SBLTR – Southbound left-through-right, EBLTR – Eastbound left-through-right, WBLTR – Westbound left-through-right.

7a

Figure 2-25. Scenario 3C - AM Peak Hour Volume to Capacity Ratios

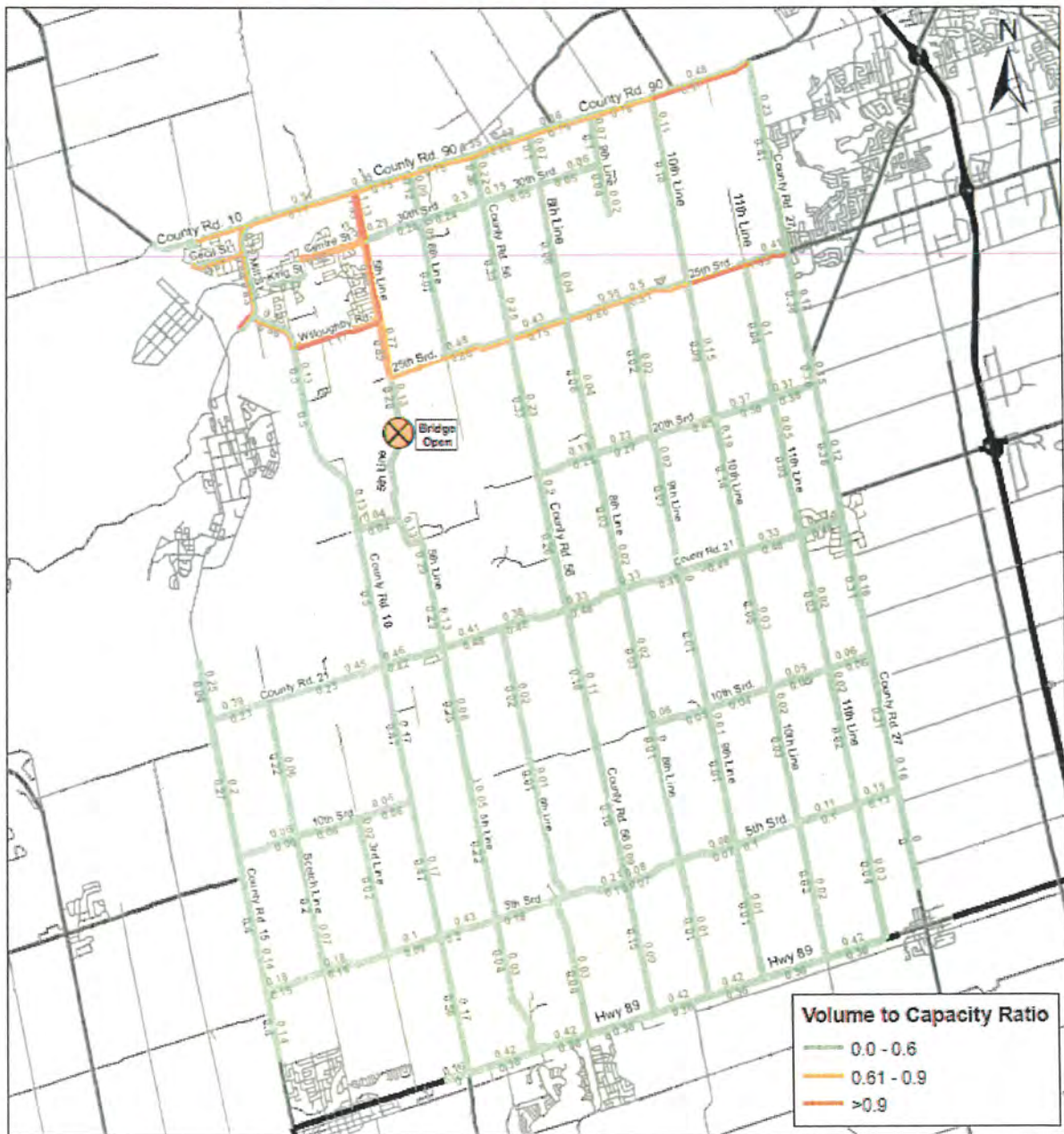
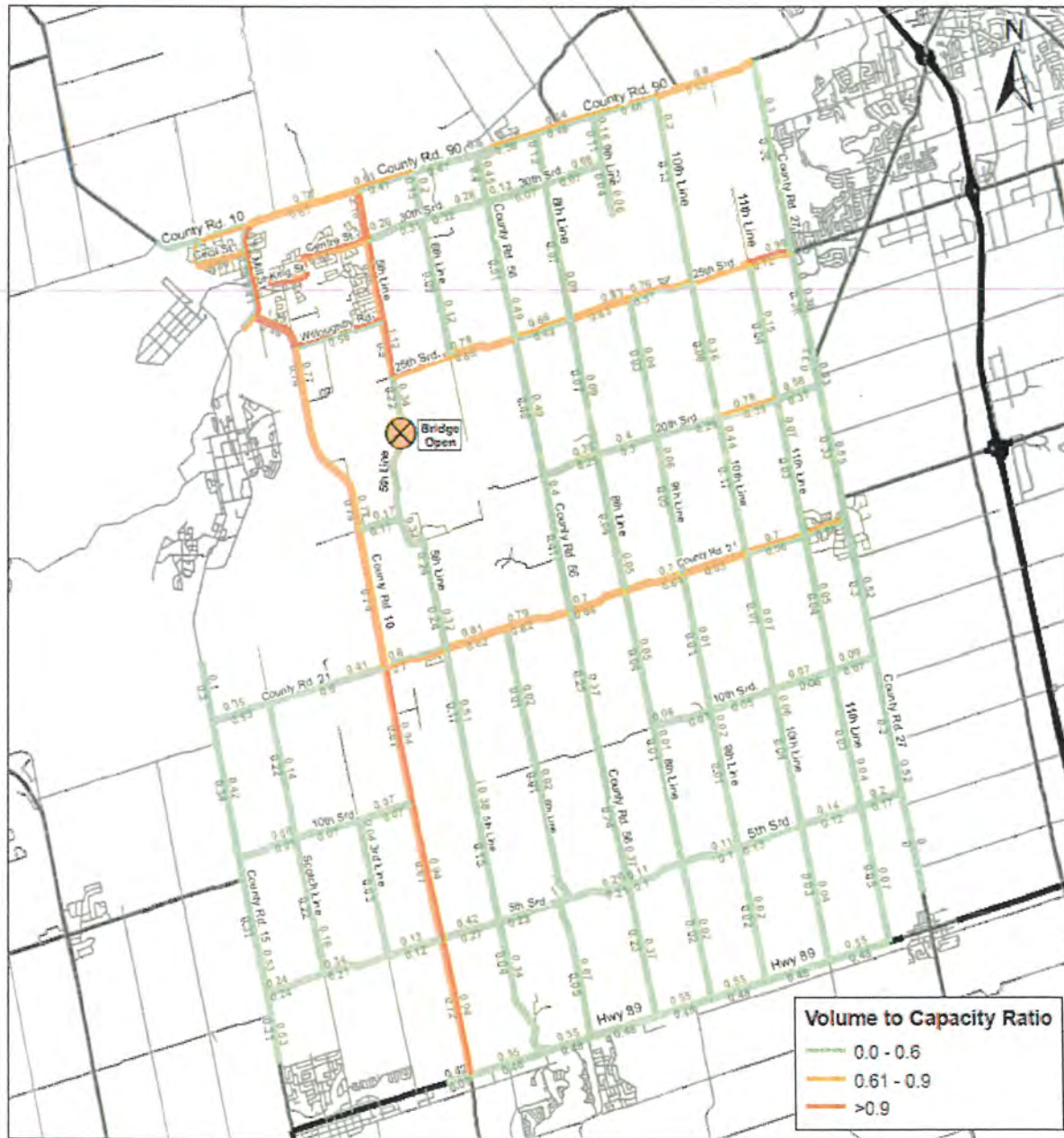


Figure 2-26. Scenario 3C - PM Peak Hour Volume to Capacity Ratios



2.5.4 Scenario 3D

Scenario 3D represents the year 2043 conditions without the bridge and without the 25th Sideroad extension. In this scenario, the capacity improvements remain the same as all other iterations of Scenario 3, and the trip percentage distribution at the bridge is also assumed to be the same as the existing conditions (Scenario 1B) for both of the peak hours.

7a

Figure 2-27 and Figure 2-28 show volume to capacity ratio maps of the year 2043 conditions without the bridge and without 25th Sideroad extension for the AM and PM peak hours, respectively. The roadway network performs similar to Scenario 3C, with a increased congestion on Willoughby Road and 5th Line between Willoughby Road and County Road 90 due to the absence of 25th Sideroad extension in this scenario.

Table 2-12 shows the performance of the study intersections in this scenario. The intersection of 5th Line and 25th Sideroad control is assumed to be a TWSC intersection under this scenario. All the study intersections will operate at acceptable LOS A, due to no traffic from the 5th Line Bridge due to closure (south approach) and without the 25th Sideroad extension.

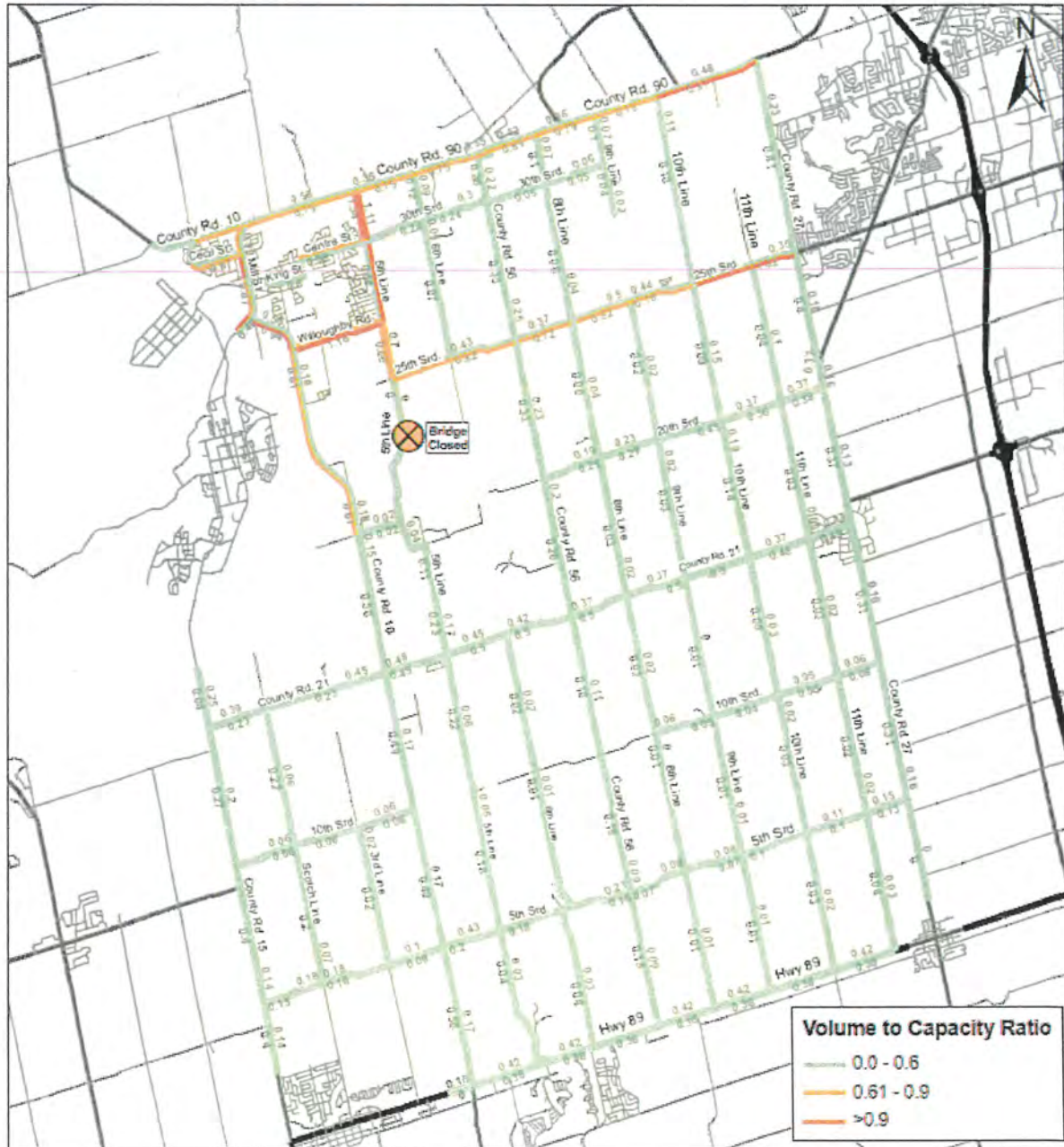
Table 2-12. Scenario 3D – Intersection Capacity Analysis

INTERSECTION	CONTROL TYPE	AM PEAK HOUR		PM PEAK HOUR	
		LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)	LOS (Delay in Seconds)	APPROACH (Volume/Capacity Ratio)
5 th Line and 25 th Sideroad	TWSC	A (8)	EBLTR (0.04)	A (10)	EBLTR (0.08)
			WBLTR (0.13)		WBLTR (0.41)
			NBLTR (0.00)		NBLTR (0.00)
			SBLTR (0.24)		SBLTR (0.29)
11 th Line and 25 th Sideroad	TWSC	A (2)	EBLTR (0.01)	A (2)	EBLTR (0.01)
			WBLTR (0.03)		WBLTR (0.02)
			NBLTR (0.12)		NBLTR (0.14)
			SBLTR (0.05)		SBLTR (0.04)
5 th Line and County Road 21	Signal	A (7)	-	B (13)	-

Note:

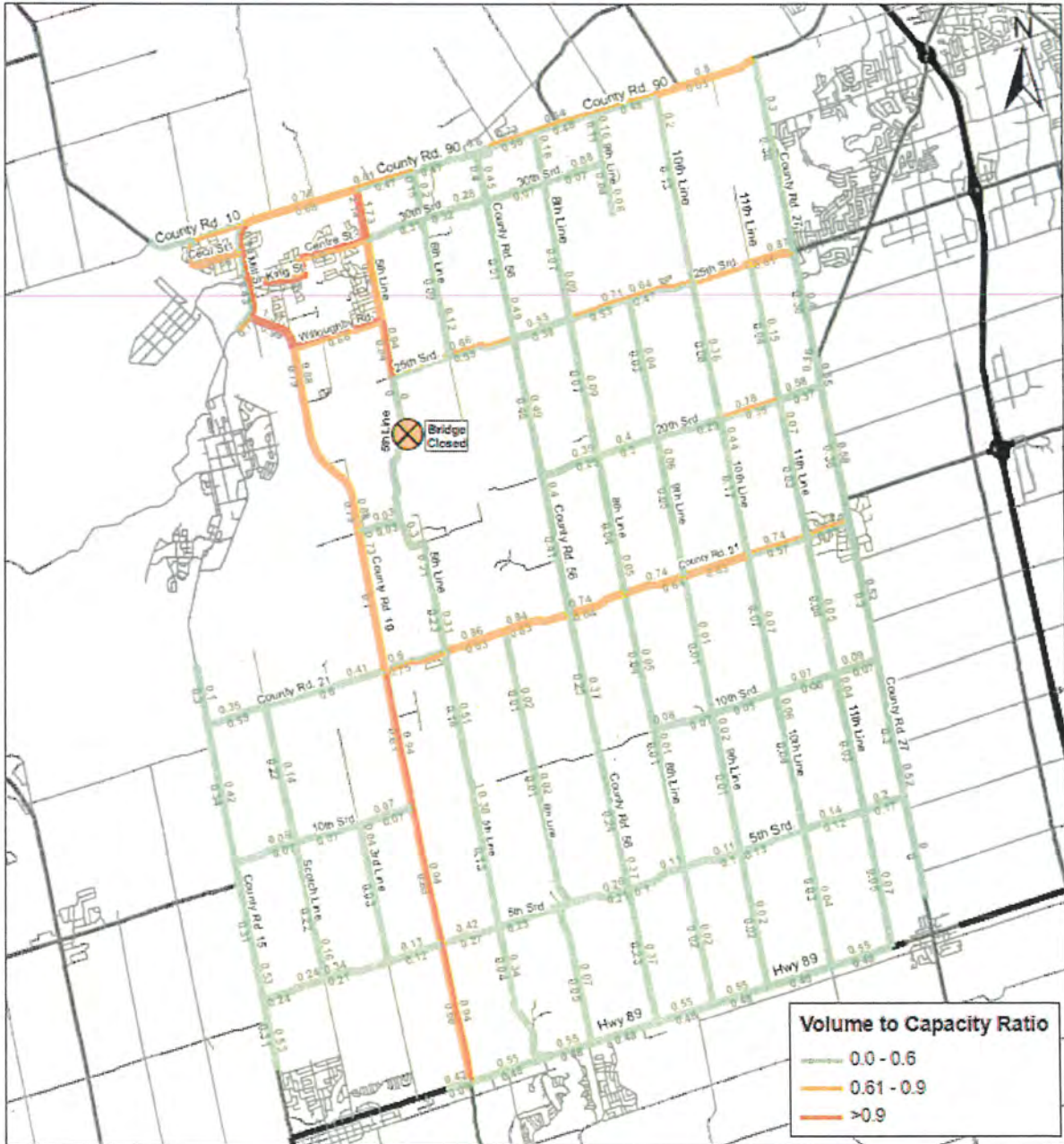
1. TWSC – Two way Stop Control
2. NBLTR – Northbound left-through-right, SBLTR – Southbound left-through-right, EBLTR – Eastbound left-through-right, WBLTR – Westbound left-through-right.

Figure 2-27. Scenario 3D – AM Peak Hour Volume to Capacity Ratios



7a

Figure 2-28. Scenario 3D – PM Peak Hour Volume to Capacity Ratios



7a

3 CONCLUSION

The findings of the analysis indicate the following:

- In the immediate and short term (existing conditions), there is minimal impact to traffic operations on the study roadway network and study intersections, whether the bridge on 5th Line is closed or not.
- In the medium-term conditions, during the AM peak hour, the bridge closure slightly increases the traffic along County Road 10/Mill Street through Angus, which is true for both with and without the 25th Sideroad Extension. There is little change in the roadway network performance in any of the AM peak hour medium-term scenarios.
- In the medium-term conditions, during the PM peak hour, 5th Line between Willoughby Road and County Road 90, as well as Willoughby Road itself, are performing under congested conditions due to the increase in traffic on these roadways in the year 2033 across all the medium-term scenarios. However, the study area roadway network and the study intersections are not significantly impacted without the bridge in any of the PM peak hour medium-term scenarios when compared to those scenarios with the bridge still open.
- In the long-term conditions, during the AM peak hour, the bridge closure does not have a noticeable impact on traffic operations both with and without the 25th Sideroad Extension. However, during the PM peak hour, there is an increased congestion along County Road 10 due to the bridge closure since County Road 10 is already operating at close to capacity in the year 2043 conditions.

Overall, it is found that the traffic control and intersection improvements identified in the TMP for the study intersections can accommodate the changes in future traffic volumes due to the bridge closure, without substantially affecting the performance of the intersections.

65

7a

APPENDIX

A SYNCHRO ANALYSIS REPORTS

9a



TOWNSHIP OF ESSA STAFF REPORT

STAFF REPORT NO.: C012-24

DATE: September 4, 2024

TO: Committee of the Whole

FROM: Sarah Corbett, Deputy Clerk

SUBJECT: Delegation of Authority - Records Retention

RECOMMENDATION

That Staff Report C012-24 be received; and

That Council delegate authority to the Clerk to administer the Records Management By-law and make modification to the Retention Schedule from time to time as may be required; and

That Council direct Staff to prepare the appropriate By-law to be presented to Council for consideration at its regular meeting on September 18, 2024.

BACKGROUND

Under Section 254 of the *Municipal Act*, 2001 states that municipalities shall retain and preserve the records of a municipality in a secure and accessible manner. The retention period for each record type is determined through various pieces of Provincial and Federal legislation, as well as internal business needs. The Township subscribes to an Ontario wide information management service which informs municipalities of annual changes to legislation which may affect the retention of municipal records. In addition, all amendments are made in collaboration with affected departments to ensure they meet administrative requirements.

In the past, the *Municipal Act* required a two-step approval process to amend Record Retention Schedules, beginning with Council reviewing the Clerks proposed changes and then the Municipal Auditor approving the Retention Schedule. Bill 68, Modernizing Ontario's Municipal Legislation Act, 2017, removed the requirement for Municipalities to obtain the Municipal Auditor's approval in effort to proceed with any required changes. In addition, in an effort to ensure that the Records Retention Schedule meets current legislation and business needs, Council may now delegate this authority to the Municipal Clerk who is responsible for the Municipality's records.

67

A current and adaptable Retention Schedule protects the Municipality by ensuring that records are retained for as long as required and disposed of routinely when no longer needed. Ensuring the timely disposal of records is as critical as retention itself. Maintaining records containing personal or confidential information longer than necessary increases risk to the Municipality.

COMMENTS AND CONSIDERATIONS

It is considered best practice for municipalities to routinely review the retention schedule, scope notes, and by-law to ensure that retention periods are sufficient and that current classification codes are capturing the records that are in the custody and/or control of the municipality.

It is recommended that a review and update of the Retention By-Law to allow for delegated authority to be assigned to the Clerk would be a key action for ensuring that the records of the Corporation are being managed appropriately and in keeping with industry best practices.

In 2024, a review of the current scope notes and retention schedule was initiated by Staff. The Deputy Clerk discussed with department managers and other key staff, and together identified changes and updates that could be made based on Essa's needs. As well, TOMRMS updates provided by The Information Professionals were reviewed and applicable changes that occurred since the approval of the last retention schedule were made, all of which are recommended to be included in the updated Records Management Scope Notes and Retention Schedule.

FINANCIAL IMPACT

None.


per: Emily Campbell
Manager of Finance

SUMMARY/OPTIONS

Council may:

1. Take no further action.
2. **Delegate authority to the Clerk to administer the Records Management By-law and make modification to the Retention Schedule from time to time as may be required and that Council direct Staff to prepare the appropriate By-law to be presented to Council for consideration at its regular meeting on September 18, 2024**
3. Direct staff in another manner.

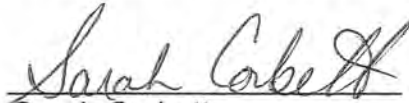
CONCLUSION

Option #2 is recommended.

Respectfully submitted by:

Reviewed by:

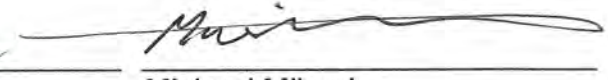
Reviewed by:



Sarah Corbett
Deputy Clerk



Lisa Lehr
Manager of Legislative
Services/Clerk



Michael Mikael
Chief Administrative Officer

Attachments:

1. Draft By-law

9a

THE CORPORATION OF THE TOWNSHIP OF ESSA

By-Law No. 2024 – xx

Being a By-Law to delegate powers and duties to the Municipal Clerk for the authority to approve and amend the Records Management Retention Schedule as required.

WHEREAS Section 23.1 (1) of the Municipal Act, 2001, S.O. 2001, c. 25, authorizes a municipality to delegate its powers and duties, subject to certain restrictions; and

WHEREAS the Council of the Corporation of the Township of Essa deems it appropriate to delegate the authority to the Municipal Clerk to approve and amend the Township of Essa's Records Retention Schedule as required from time to time.

NOW THEREFORE Council of the Corporation of the Township of Essa hereby enacts as follows:

1. THAT this By-law shall come into force and take effect immediately upon the passing thereof.

READ A FIRST, AND TAKEN AS READ A SECOND AND THIRD TIME AND FINALLY PASSED on this the 4th day of September, 2024.

Sandie Macdonald, Mayor

Lisa Lehr, Manager of Legislative Services