

SPEED STUDY

Final

MERRICKVILLE-WOLFORD

January 31, 2025

Jp2g Project # 23-5108C





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Appendix 1 – Recommended Speed Maps

 Overall Municipal Map

 Urban Area of Merrickville

 Other Urban Areas: Easton’s Corners, Jasper, and Carley’s Corners

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Appendix 3 – Sample Evaluation of Posted Speed Limit

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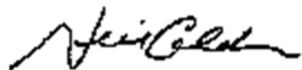
Author and Review Panel

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CEO

1 Introduction

Jp2g Consultants Inc. (Jp2g) was retained by Merrickville-Wolford to conduct a Speed Study for the purposes of:

- reviewing existing posted speed limits
- setting criteria for posted road speeds
- considering revising posted speed limits

The analysis and reporting will follow the Canadian Guidelines for Establishing Posted Speed Limits, Speed Management Guide, Geometric Design Guide for Canadian Roads, and applicable legislation including the Highway Traffic Act.

1.1 Design Speed and Posted Speed

The design speed is the speed selected for the purposes of determining the various geometric design features of a roadway during a design process. Faster vehicles require more distance to stop, have less time to maneuver, and drivers have less time to react to avoid collision. Faster roads are flatter, wider, have less curves, greater visibility, and what curves they do have are longer. For a designed road, the posted speed limit will typically be lower than the design speed by 10 km/hr.

Speeding is a contributing factor to injury and fatal collisions. As speed increases, the chance of accident and serious injury increase. The maximum safe speed is a product of road geometry, traffic, and the road environment.

The posted speed is the maximum lawful vehicular speed for a particular location as displayed on a regulatory sign. Regardless of the posted speed, drivers are expected to adjust their speeds and drive according to the road conditions such as weather, visibility, and traffic volumes.

Simple reductions of posted speed limits, without changing the characteristics of the roadway to encourage reduced speeds may have minimal impact on vehicle operating speeds.

The Guidelines for Establishing Posted Speed Limits are a best practices guidelines used to provide objective and reliable assessments of speed limits based upon road classification, function, and physical characteristics.

1.2 Study Limitations

The provided study was developed using publicly available sources of information, including Ontario Roads Network (ORM) GIS layers to build the mapping. This was supplemented with consultants prior knowledge of the municipal road network. Limited speed and traffic volume data is available for the overall roads network, but it is understood that the municipality is continuing to collect traffic volume data.

1.3 Existing Signage and Required Signage

A review of all posted signage throughout the municipality was conducted as part of this work. The noted existing signs are identified on the Maps in Appendix 1:

- Overall Municipal Map
- Urban Area of Merrickville
- Other Urban Areas: Easton's Corners, Jasper, and Carley's Corners

In some areas, warning signage was lacking to identify roadway curves where motorists should reduce speed. These suggested signs as well as the signage identifiers have been provided on the Maps in Appendix 1 in a different colour.

2 Highway Traffic Act

2.1 Posted Speed Limits in Rural, Urban, and built up areas

The Highway Traffic Act (HTA) of Ontario defines that the speed limit is 50km/hr in urban (or built-up) areas and 80 km/hr in rural areas unless otherwise posted. Merrickville-Wolford has a combination of rural and urban areas. Each road requires consideration as to the appropriate posted speed limit.

Merrickville-Wolford has three urbanized or built-up areas including: Merrickville, Jasper, and Easton's Corners. Merrickville is currently posted 50km/hr at the boundaries. Easton's Corners is posted to 40 km/hr and Jasper is unposted and therefore the default speed limit of 50 km/hr.

On rural roads the speed limit is 80 km/hr unless posted otherwise. Example of rural roads posted to 50 km/hr includes:

- Collar Hill Road
- Corktown Road
- HF McLean Road
- Montague Road

Built up areas are defined by the HTA as those that have greater than 50% of frontage along one side of a 200m stretch of road occupied by dwellings, buildings, schools, or churches, OR 50% of frontage along both sides of a 100m stretch of road occupied by the same. In Merrickville-Wolford, the following areas are considered to be built-up and subject to a 50km/hr speed limit:

- Aaron Merrick Drive
- Charles Holden Ave
- Colonel By Way
- Scotch Line Road

2.2 School Zones

The HTA also permits council to set speeds lower for roads within 150m adjacent to schools property, these areas are called School Zones. School Zones can be subject to time limited reductions in speed limits (say 8am-5pm, Monday-Friday) or at all times.

In implementing a School Zone, an important consideration is that reduced speed school zones require additional police enforcement and communication/coordination with the schoolboard and local community in order to be successful.

Merrickville-Wolford has two (2) public schools, one on Drummond Street and one on Read St, neither of which are subject to any existing reduced speed limits. An example of RB-6 School Zone Speed Limit signage is provided below.



2.3 Reduced Speed Limits

Council may, through by-law, set the statutory speeds on roads under municipal jurisdiction to less than the 50 km/hr urban statutory speed under the Highway Traffic Act. Within the designated urban areas, speeds on roads can be set to less than 50km/hr with gateway signage. Gateway signage does needs to be provided at the entry and exit points to the area.



RB-003 40 km/h Begins & Ends Sign

2.4 Community Safety Zones (CSZs)

Community Safety Zones permit the council of a municipality to designate part of a highway under its jurisdiction as a community safety zone, if in council's opinion, public safety is of special concern on that part of the highway. This could include schools, playgrounds, recreational facilities, or other areas of public interest. The community safety zones areas are subject to enhanced fines.



RC-9 Community Safety Zone Sign

2.5 Other Highway Traffic Act Provisions

Under the Highway Traffic Act (HTA) Council may also, through their by-laws

- Reduce speeds at bridge crossing points, and
- Reduce speeds at locations where road profile grades are 6% or greater.

3 Selecting Speeds

Selecting a posted speed limit requires consideration of legislation, enforcement, public understanding, implementation, costs, including capital and maintenance, as well as engineering principals, and municipal guidelines. The selected speed limits should be in close accordance to both the 85th percentile speed and the TAC guidelines so that driver expectations are met and matched to the road design.

3.1 85th Percentile Speed

The 85th percentile speed is the speed at or below which 85 percent of drivers travel along a road under free flowing conditions. The 85th percentile is regarded as the safe or reasonable speed to be travelling along a road. Motorists traveling above the 85th percentile speed are considered to be exceeding the safe and reasonable speed for road and traffic conditions.

The 85th percentile can be used to help set speed limits. If a well travelled road was posted to 50 km/hr and evaluated for motorist speed of travel and the results indicate that 60 km/hr is the 85th percentile, the municipality could consider raising the posted limit if the TAC guidelines are in agreement that the road is low risk.

The 85th percentile speed can be measured using automated traffic devices and calculated from their summary statistics. It is an important benchmark to evaluating if the posted speed limit is appropriate for the travelling public. Properly signed roads should closely match the 85th percentile speed statistics, alternatively there may be a speed issue. The criteria for determining if there is a speed issue is outlined in the Speeding Policy.

3.2 Transportation Association of Canada (TAC) Guidelines for Establishing Posted Speed Limits

Within the TAC Guidelines for Establishing Speed Limits various geometric, roadside environment, and other factors are considered with respect to the design speed including:

- Roadway geometry
- Road platform and/or Pavement width
- Roadside hazards
- Non-vehicular traffic volumes (pedestrian, cycling, and off road vehicles) and their interaction with vehicles
- Intersection numbers and types,
- Presence of on-street parking

For local, rural roads, the expected minimum travelled lane width is 3.0m / lane, equaling a 6.0m minimum width, not including shouldering, for a two-lane road. This permits vehicles to pass by each other safely and provides pedestrian/cyclist space on the platform as well.

For local, urban roads, the expected minimum travelled lane width is 3.0 m / lane, equaling a 6.0m minimum width, for two lane roads without curb and gutter. If curb and gutter are present, the typical width of the road, measured from curbface to curbface is approximately 3.25m for a 6.5m wide travelled roadway. On-street parking combined with narrow roadways create hazardous conditions to drivers, pedestrians, and cyclists, while wider roadways, including sidewalks or grade separated pathways enforce a separation between vehicles, pedestrians, and cyclists.

A sample evaluation sheet has been provided for Read St. This street includes areas of on street and adjacent parking, the École catholique Sainte-Marguerite-Bourgeoys, municipal facilities, and recreational facilities, and a number of entrances and intersections. The sheet outcomes indicate that there is justification for reducing the speeds to 40km/hr.

The rest of the urban road areas in the municipality has been evaluated based upon the TAC “Automated Speed Limit Guidelines Spreadsheet”, and the results reflected in Appendix 1 - Recommended Speed Maps.

3.3 OPP Accident Statistics

The municipality requested and received OPP accident statistics, which are included as Appendix 2. These statistics were provided for the years 2019-2024 and include personal injury and fatality occurrences. Of the 233 reported incidences: 22 resulted in personal injury, with no fatalities. It is also important to note that most of the reported accidents occur on County Roads, outside of these roads the following areas have the greatest number of reports:

- North End of Read Street
- Brock Street

Other areas of interest include:

- Drummond St E
- Armstrong Road near CR 15

The results of the OPP reporting have been considered as part of the speed limit evaluation spreadsheet.

4 Speed Policy

As part of evaluating changes in posted speed, Jp2g and Public Works have prepared a draft policy for Council consideration. The policy includes the starting point for all posted speeds throughout the municipality. When requests regarding speed limits changes are received by municipal staff, the policy outlines the steps staff should take to make appropriate recommendations. Staff should review the request, gather any required information, and then evaluate the request in accordance with the Speed Policy. The Speed Policy is included as Appendix 4. Once finalized and approved by council, Maps 1-3 will be added to the Speed Policy.

5 Recommendations

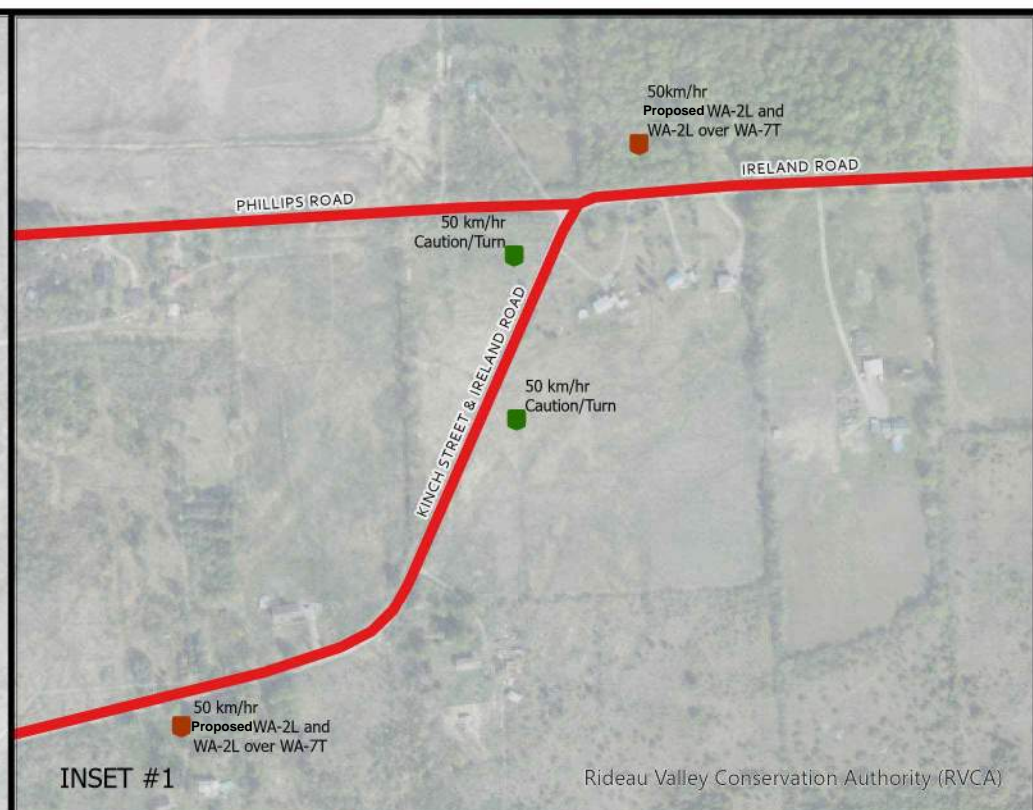
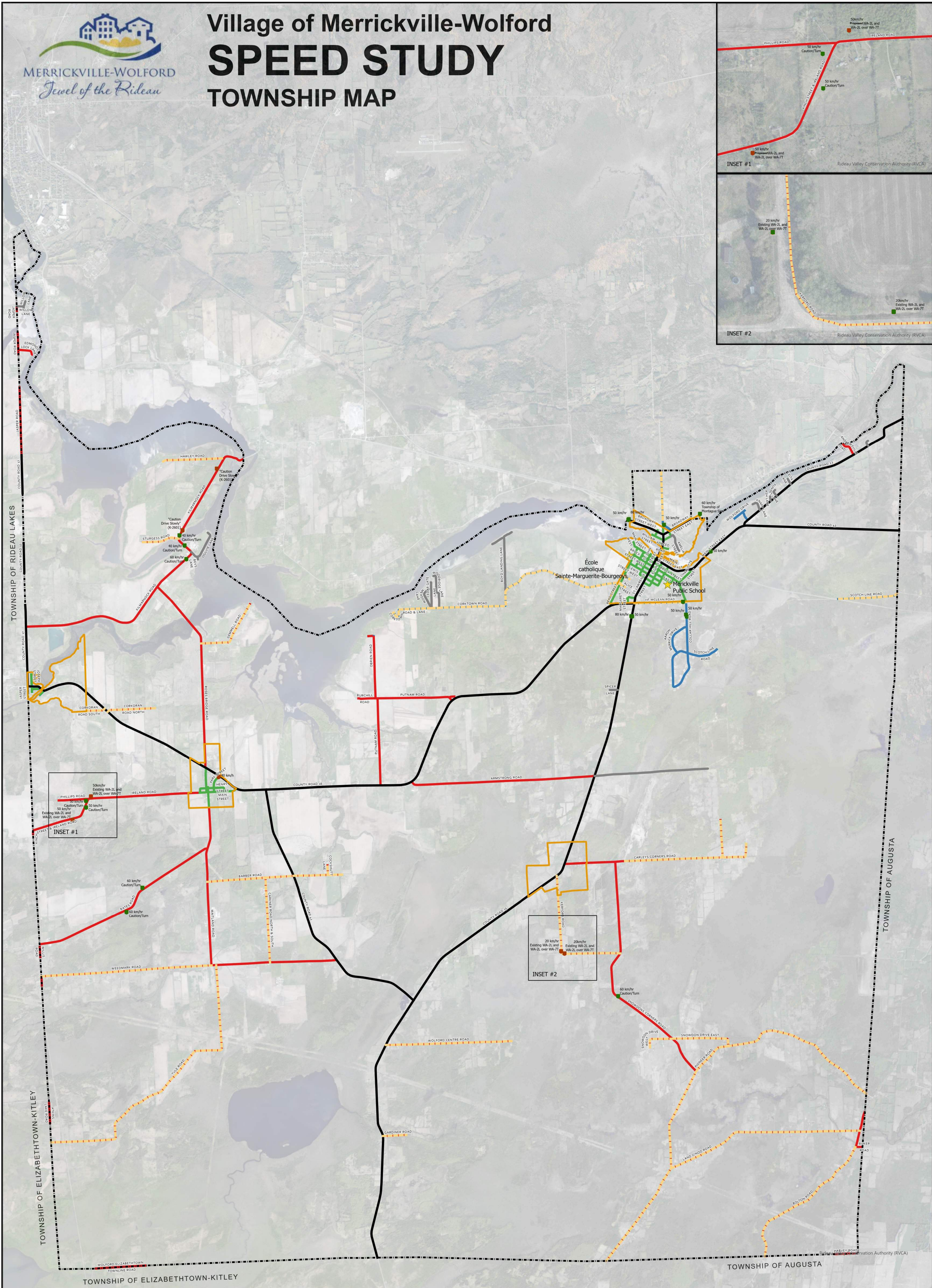
Staff are encouraged to implement the following measures.

- Continue measuring speeds on municipal roads and evaluating the 85% percentile across the municipality, recording these results against the assigned speed limits.
 - Prioritization should be given to roads with higher traffic levels and/or a history of accidents.
- Based upon the results of the speed review, in the urban areas of Merrickville, Jasper, and Easton's Corners the speeds limits can be justified to be reduced to 40km/hr. The recommendation is that the municipality pass the attached Speed Policy as a by-law and provide gateway speed signage as noted on the maps at key entry points.
- Read Street, from the public school to Main St West is of special concern, and recommendations follow:
 - The municipality should consider exploring options for providing pedestrian walkways, sidewalks, or other means of separating pedestrians from the public parking spaces next to the community hall. Currently there are no defined pedestrian paths north of Rideau Community Health Services.
 - Consider reconfiguring parking in that area to provide a separation of parked vehicles from the travelled road. This could include removable plastic delineators or even a concrete boulevard.
- On Kilmarnock, there is heavy seasonal tourist traffic due to the adjacent orchards. It is recommended that warning signs be posted to let travellers know to expect slow moving traffic. The recommended signage is indicated on the maps in Appendix 1.

Appendix 1

Mapping

Village of Merrickville-Wolford SPEED STUDY TOWNSHIP MAP



LEGEND

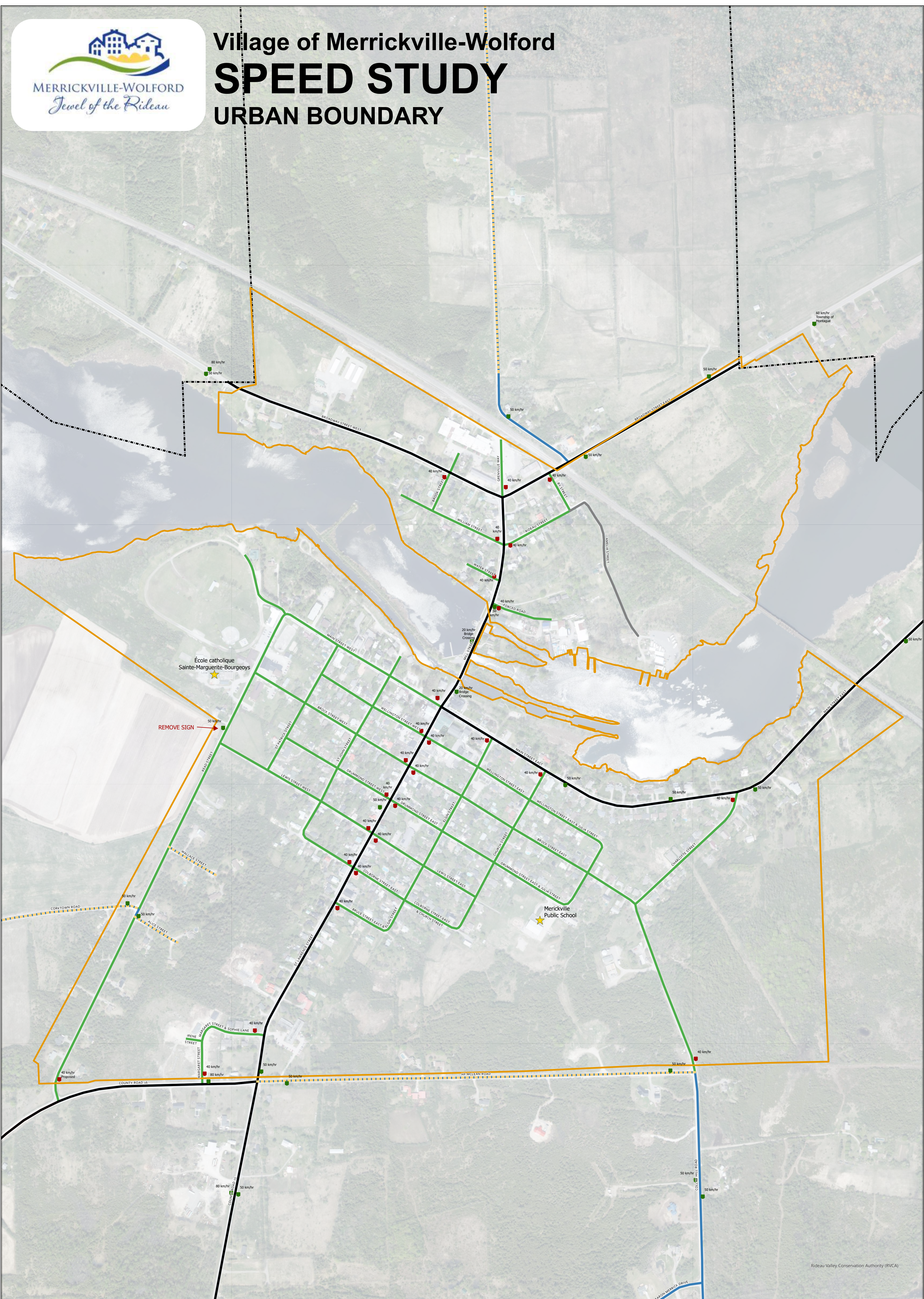
- 80 km/hr
- 50 km/hr
- 40 km/hr
- COUNTY ROADS
- PRIVATE ROADS
- GRAVEL ROADS
- URBAN BOUNDARIES
- ★ Significant Features
- Proposed Road Signs
- Existing Road Speeds



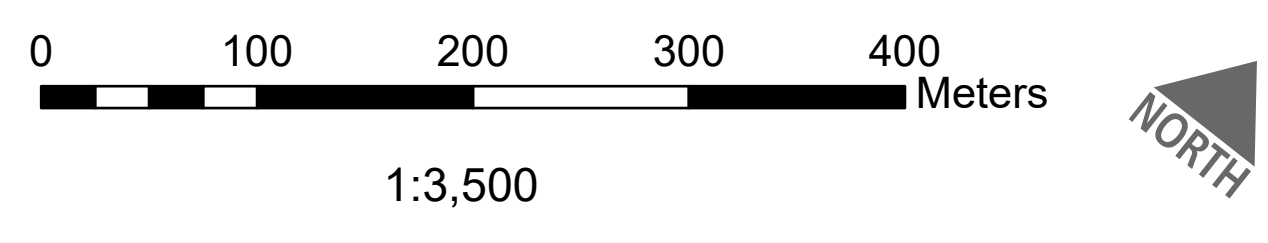
Village of Merrickville-Wolford

SPEED STUDY

URBAN BOUNDARY



Rideau Valley Conservation Authority (RVCA)



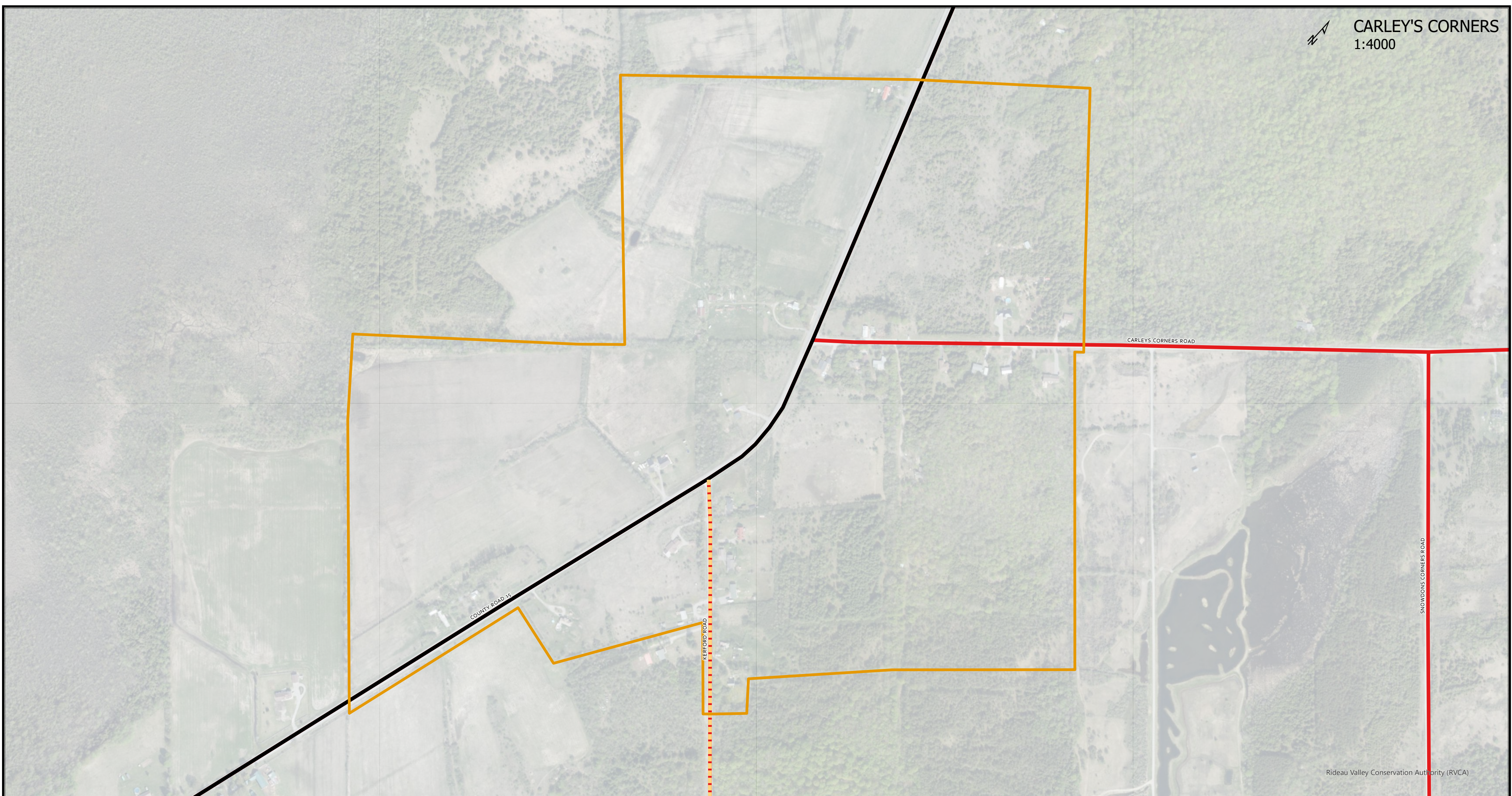
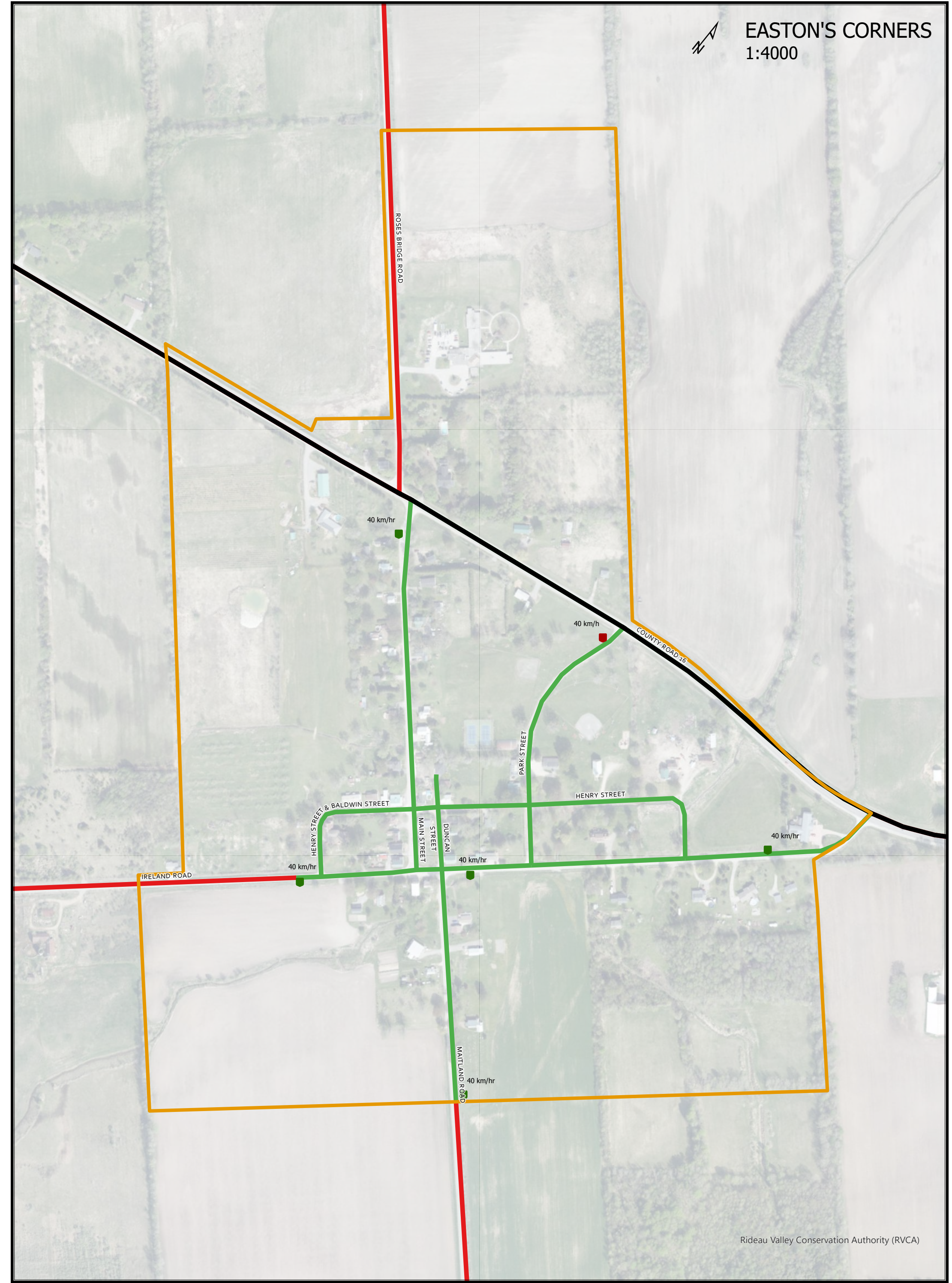
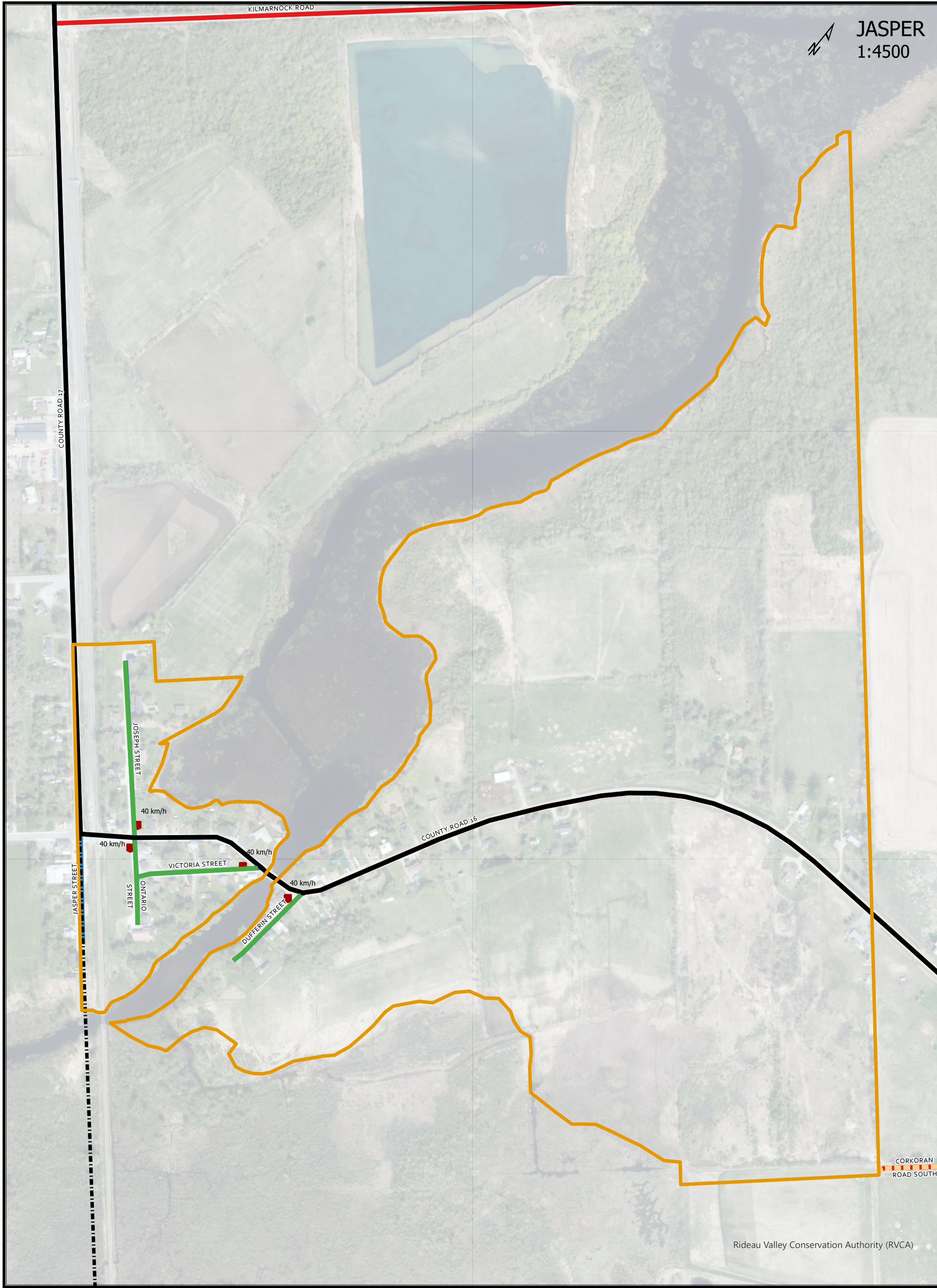
LEGEND

- 80 km/hr
- 50 km/hr
- 40 km/hr
- COUNTY ROADS
- PRIVATE ROADS
- GRAVEL ROADS
- URBAN BOUNDARIES
- ★ Significant Features
- Existing Road Signs
- Proposed Road Signs

Village of Merrickville-Wolford

SPEED STUDY

VILLAGE BOUNDARIES



LEGEND

- | | | | | |
|--|---|--|--|--|
| — 80 km/hr | — 40 km/hr | — COUNTY ROADS | URBAN BOUNDARIES | ■ Existing Road Signs |
| — 50 km/hr | — PRIVATE ROADS | GRAVEL ROADS | ★ Significant Features | ■ Proposed Road Signs |

Appendix 2

OPP 2019-2024 Accident Statistics



Protected A
Low Sensitivity

Routine Information requiring protection. This report and the information contained therein is for the attention of any law enforcement agency and may be disseminated at the discretion of the recipient.

INVESTIGATIVE QUERY REPORT – Traffic

5yr MVC locations in Merrickville Wolford Township

Region: East	File #: 2024-0541-3P-IQR-RM24003276	Author: A. Greer
Detachment: Grenville	Occurrence #: RM24003276	Report Date: 2024/10/16
Approver: D/Sgt. J. Olney		Approval Date: 2024/10/16

Overview

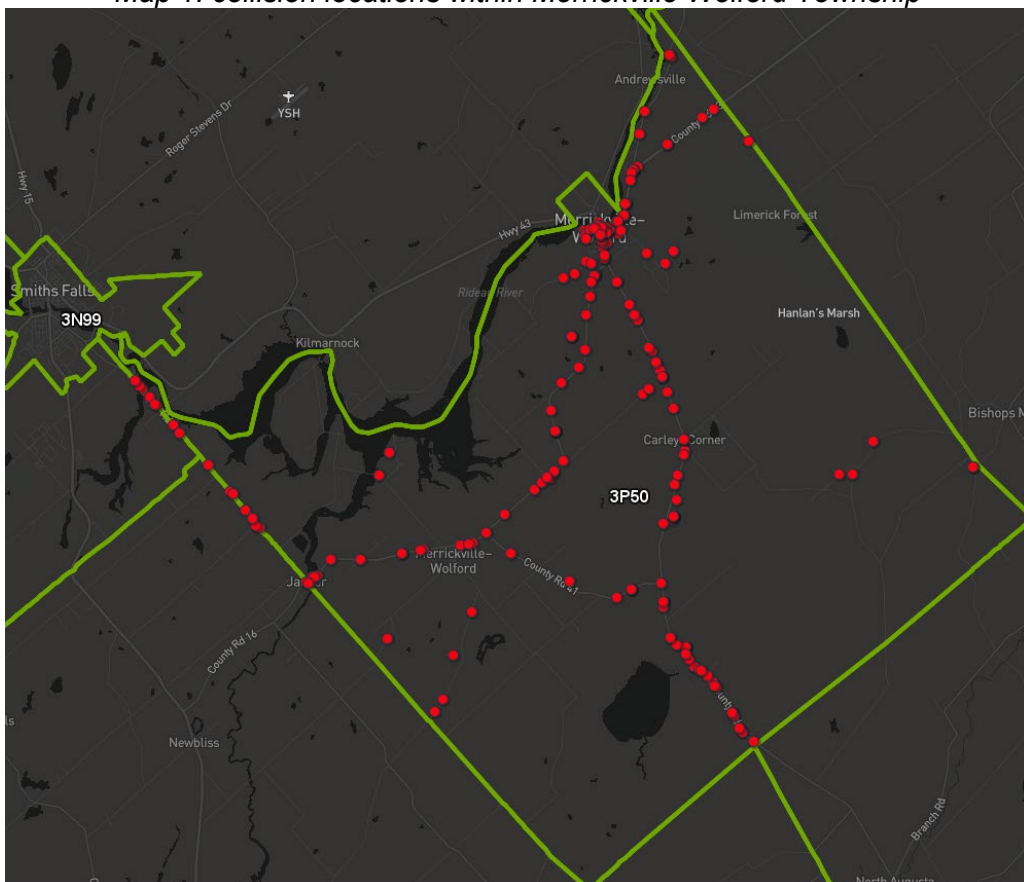
This report was prepared for PC Spencer Moore of the Grenville County OPP detachment to show 5yr motor vehicle collision locations within Merrickville WOLFORD Township. The data collected was from October 1, 2019, to September 30, 2024.

Key Findings:

- 233 total occurrences
- 22 personal injury (UCR 8521.0010), 0 fatalities (UCR 8521.0060)
- 6 occurrences resulting in impaired charges

Results

Map 1: collision locations within Merrickville WOLFORD Township





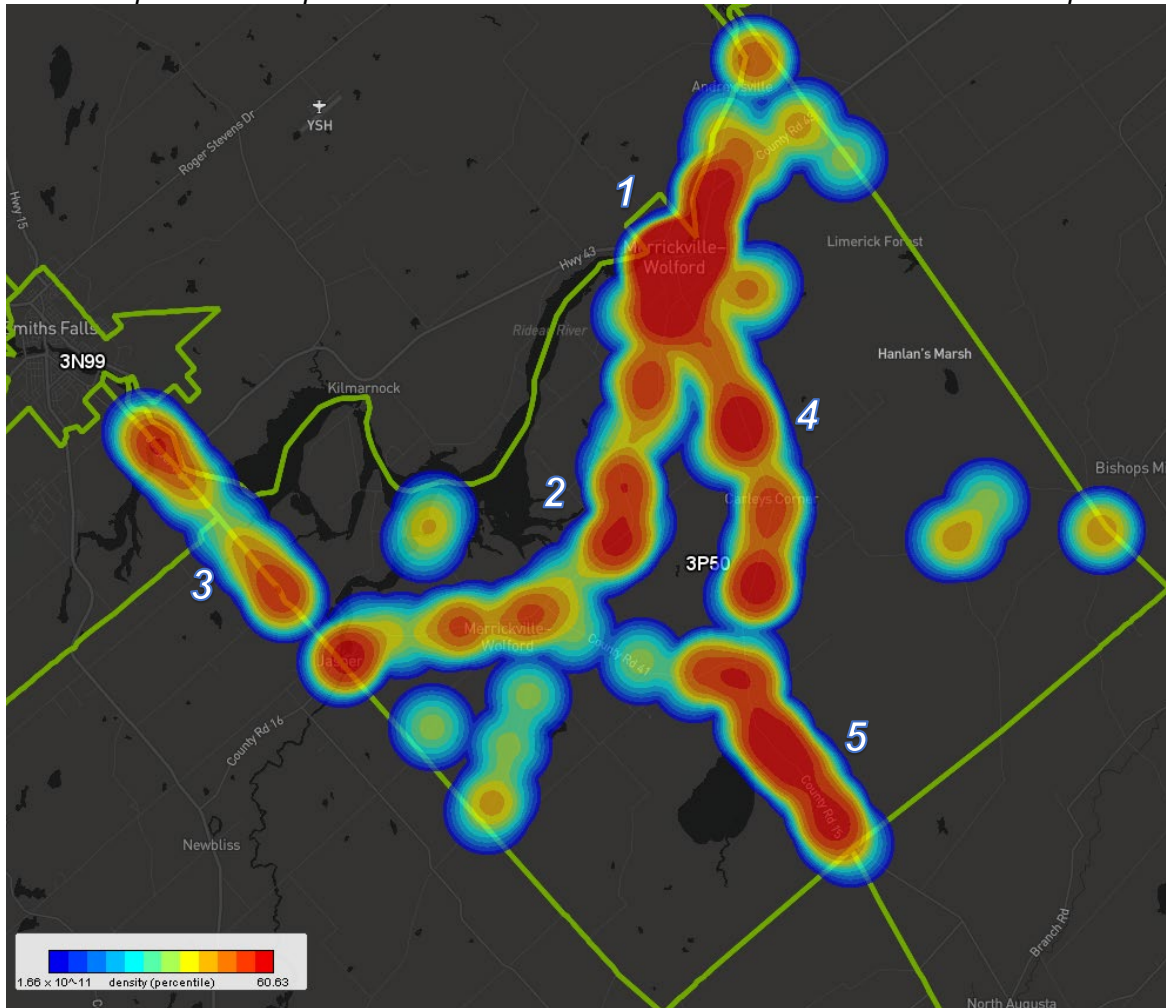
ONTARIO PROVINCIAL POLICE

Regional Operational Analyst Program

Protected A Low Sensitivity

Routine Information requiring protection. This report and the information contained therein is for the attention of any law enforcement agency and may be disseminated at the discretion of the recipient.

Map 2: Heat map of collisions locations within Merrickville Wolford Township





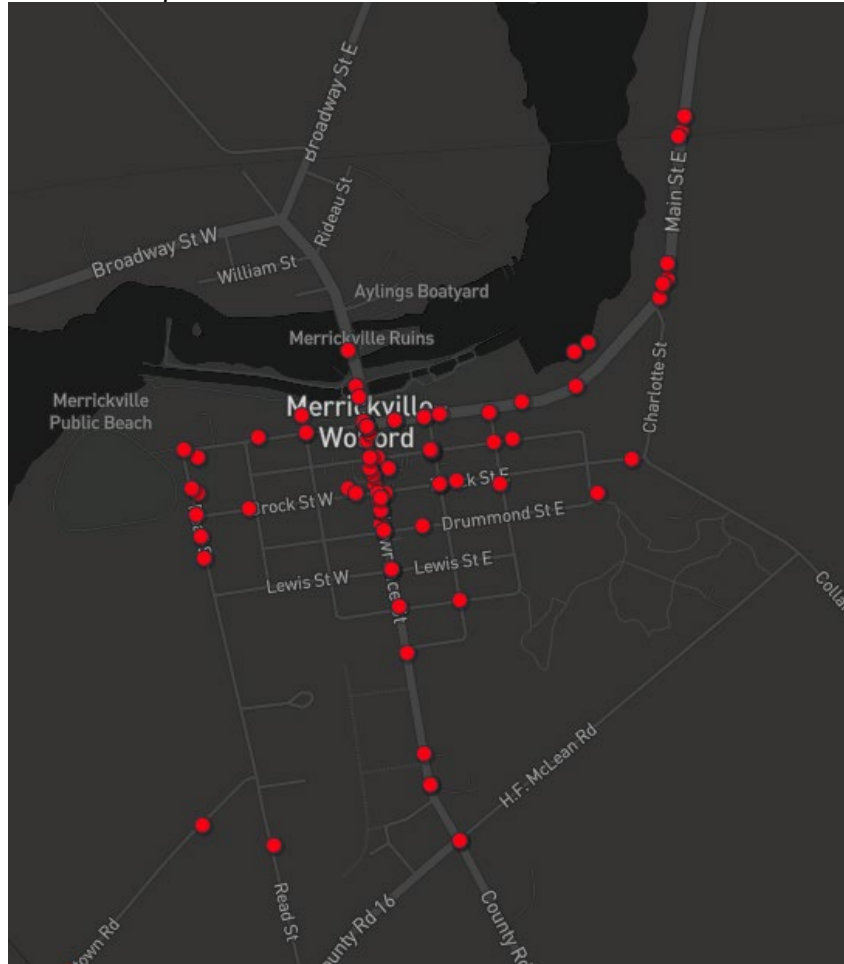
ONTARIO PROVINCIAL POLICE

Regional Operational Analyst Program

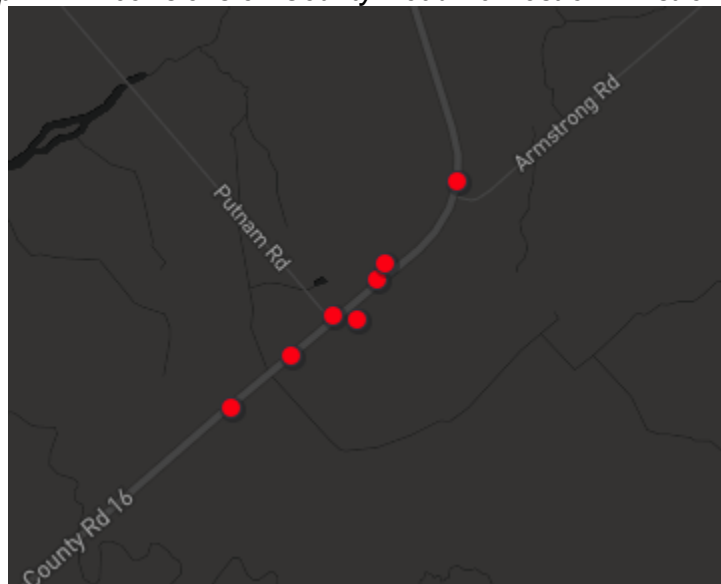
Protected A
Low Sensitivity

Routine Information requiring protection. This report and the information contained therein is for the attention of any law enforcement agency and may be disseminated at the discretion of the recipient.

Map 3: #1- collision locations within Merrickville



Map 4: #2 - collisions on County Road 16 west of Armstrong Rd





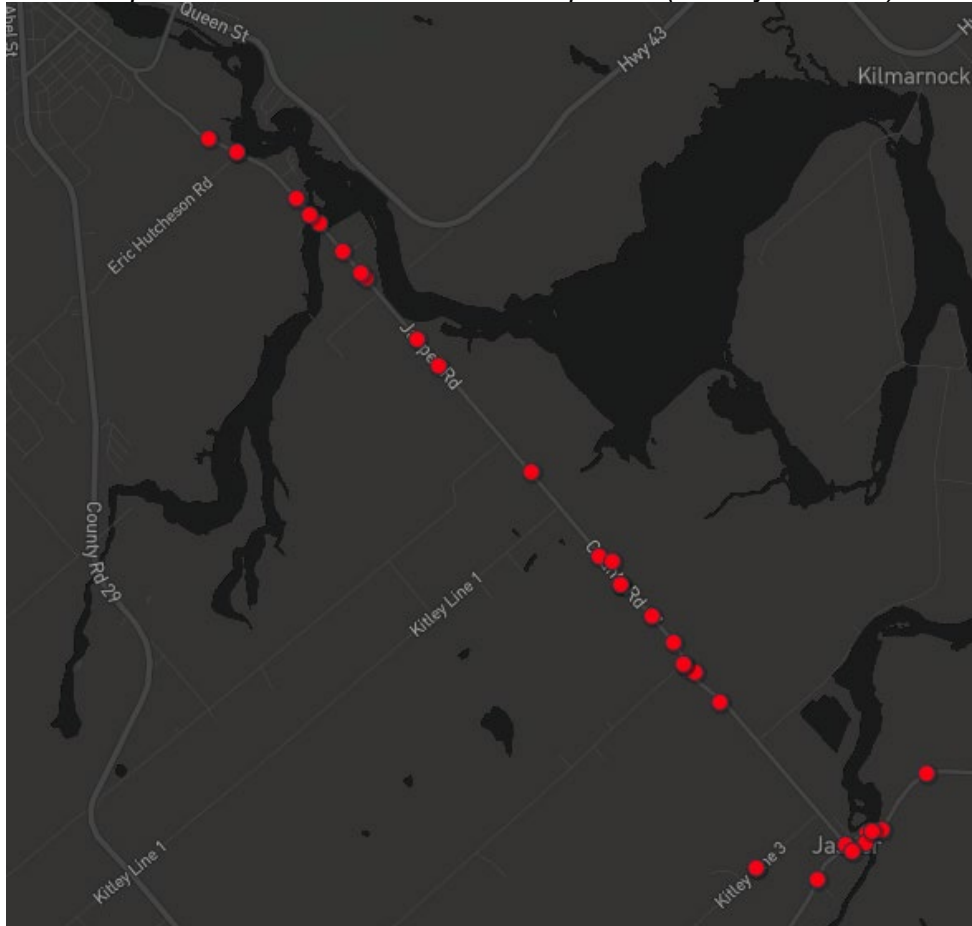
ONTARIO PROVINCIAL POLICE

Regional Operational Analyst Program

Protected A
Low Sensitivity

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Map 5: #3 - collision locations on Jasper Rd (County Road 17)





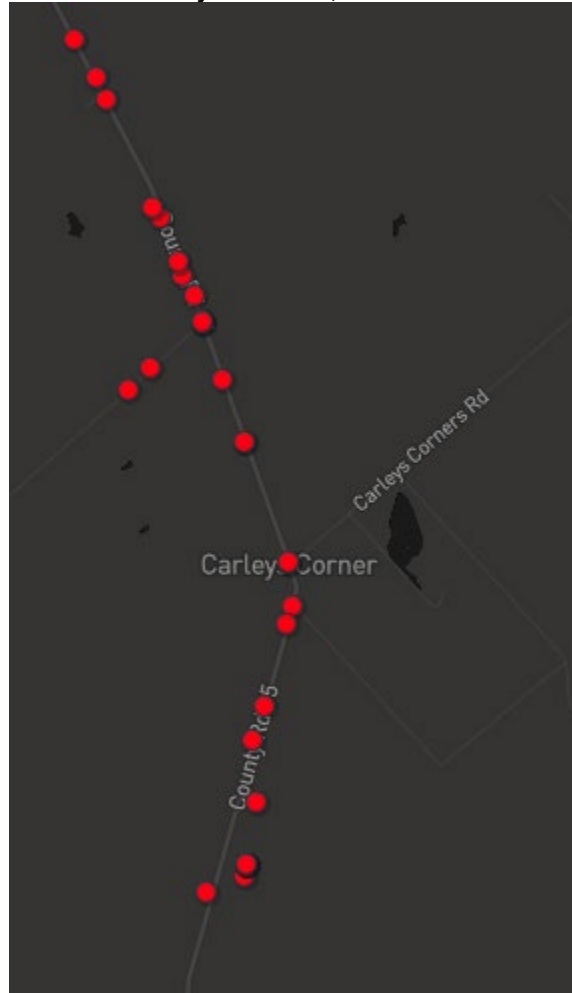
ONTARIO PROVINCIAL POLICE

Regional Operational Analyst Program

Protected A
Low Sensitivity

Routine Information requiring protection. This report and the information contained therein is for the attention of any law enforcement agency and may be disseminated at the discretion of the recipient.

Map 6: #4 - collisions on County Road 15, north and south of Carley's Corner





ONTARIO PROVINCIAL POLICE

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Protected A Low Sensitivity

Routine Information requiring protection. This report and the information contained therein is for the attention of any law enforcement agency and may be disseminated at the discretion of the recipient.

Map 7: #5 - collision locations on County Road 15 from County Road 41 to Land O Nod Rd.



Dissemination List

- PC Spencer Moore

Methodology

Using Palantir, extracted all occurrences within Merrickville Wolford Township from 2019/10/01 to 2024/09/30. I then filtered the results to only those with a dispatch type of Motor Vehicle Collision which resulted in 233 occurrences.

Sources

- OPP Niche RMS

Appendix 3

Sample Evaluation of Speed Limits



Automated Speed Limit Guidelines

FORM A - Automated Speed Limit Guidelines Spreadsheet

Version:
10-Apr-09

Name of Corridor:	Read St		
Segment Evaluated:	Main St.	to	CR16
Geographic Region:	Merrickville		
Road Agency:	Township of Merrickville Wolford		
Road Classification:	Local	Length of Corridor:	1,200 m
Urban / Rural:	Urban	Design Speed: (Required for Freeway, Expressway, Highway)	km/h
Divided / Undivided:	Undivided	Current Posted Speed: (For information only)	50 km/h
Major / Minor:	Minor	Prevailing Speed: (85th Percentile - for information only)	km/h
# Through Lanes Per Direction:	2+ lanes	Policy: (Maximum Posted Speed)	40 km/h

		RISK	Score
A1	GEOMETRY (Horizontal)	Lower	1
A2	GEOMETRY (Vertical)	Lower	1
A3	AVERAGE LANE WIDTH	Medium	4
B	ROADSIDE HAZARDS	Higher	3
C1	PEDESTRIAN EXPOSURE	Higher	9
C2	CYCLIST EXPOSURE	Higher	9
D	PAVEMENT SURFACE	Lower	1
E1	NUMBER OF INTERSECTIONS WITH PUBLIC ROADS	<i>Number of Occurrences</i>	1
	STOP controlled intersection	0	
	Signalized intersection	0	
	Roundabout or traffic circle	0	
	Crosswalk	0	
	Active, at-grade railroad crossing	0	
E2	NUMBER OF INTERSECTIONS WITH PRIVATE ACCESS DRIVEWAYS	<i>Number of Occurrences</i>	8
	Left turn movements permitted	18	
	Right-in / Right-out only		
E3	NUMBER OF INTERCHANGES	<i>Number of Occurrences</i>	0
	Number of interchanges along corridor	0	
F	ON-STREET PARKING	Higher	9

Total Risk Score:

46

Recommended Posted Speed Limit (km/h):

As determined by road characteristics

40

As determined by policy

40

The recommended posted speed limit may be checked against the prevailing speeds of the roadway and the road's safety performance.

Comments:

Read St. includes areas of on-street and parallel parking that is not separated from the main driving lanes. Public School, municipal facilities, and public parking areas for recreational facilities are also at the north end of the street.

Appendix 4

Sample Speed Policy

1.0 POLICY STATEMENT

The Village of Merrickville-Wolford is committed to promoting road safety. It is understood by municipal Staff that safe roads help promote safe and healthy communities. The purpose of this policy is to establish a procedure for speeding complaints brought forward by residents of the Village of Merrickville-Wolford. This policy outlines the steps to be taken upon receipt of a speeding complaint on a municipal road. It will help ensure that all speeding complaints are assessed, responded, and reported on with equal consideration and in a timely and effective manner. By following a systematic approach to speeding complaints, the Village can ensure that speeding issues are properly identified and effectively mitigated to ensure the safety of residents and road users.

2.0 PURPOSE

When the Village receives requests to change posted speed limits on municipal roads or a speeding complaint, this policy provides guidance to staff on the process to review and determine if the existing speed limit is appropriate or if there is justification for a change or if there is a speeding issue present. When requests regarding speed limits are received by municipal staff, the guidelines outlined in this document will be followed and make the appropriate recommendations. Staff should review the request, gather any required information, and then evaluate the request in accordance with the Speed Policy in order to communicate the results.

2.0 DEFINITIONS

Speed Limit

The maximum rate of speed that a motor vehicle can be driven on a road or portion of a road in accordance with the Highway Traffic Act (HTA).

Design Speed

The speed at which the geometric features of the roadway are acceptable to vehicle travel. The design speed is typically greater than the posted speed by 10km/hr.

85th Percentile

The speed at or below which 85% of all vehicles are observed to travel under free-flowing conditions.

Statutory speed

The speed limit on a roadway with no posted signs, according to the Highway Traffic Act (HTA):

- Urban Areas: 50 km/hr in urban areas, and,
- Rural Areas: 80 km/h.

3.0 APPLICATION

3.1 This policy applies to;

3.1.1 Speeding complaints on municipal roads owned and operated by the Village of Merrickville-Wolford.

3.2 This policy does not apply to;

3.2.1 Speeding complaints pertaining to specific drivers and/or vehicles.

3.2.2 Speeding complaints on County Roads or Provincial Highways

4.0 EXISTING POLICY REGARDING SPEED LIMITS

Unless posted otherwise, the statutory limits of the Highway Traffic Act (HTA) shall apply:

- 50 km/hr for urban areas, and
- 80 km/hr for rural areas.

Urban areas have been posted to 40km/hr by municipal bylaw, complete with gateway signage include:

- The Village of Merrickville-Wolford,
- Jasper, and
- Easton's Corners.

All other areas of the municipality are considered Rural and have a speed limit of 80 km/hr, unless posted otherwise. Individual roadways in the Rural area that have posted reductions include:

- Aaron Merrick Drive (50km/hr)
- Charles Holden Ave (50km/hr)
- Collar Hill Road (50km/hr)
- Colonel By Way (50km/hr)
- Corktown Road (50km/hr)
- HF McLean Road (50km/hr)
- Montague Road (50 km/hr)
- Scotch Line Road (50km/hr)

For greater clarity, please refer to Maps 1-4 depicting speed limits for municipal roads in Merrickville-Wolford. Roads have been colour coded to illustrate the respective speed limits.

Initial Speeding Complaint

ENFORCEMENT BASED

1. RECEIPT OF INITIAL SPEEDING COMPLAINT

All speeding complaints received by the Village will be reported to the Department of Public Works in writing. The following information is required to process the complaint:

- Name, address and contact information of complainant
- Date and time of received complaint
- Location of perceived speeding issue
- Approximate frequency of perceived speeding incidents as determined by complainant (i.e. daily occurrence, only weekends, summer months)

2. TRAFFIC MONITORING, REPORTING, AND ANALYSIS

Upon receipt of a complaint from a resident, the Department of Public Works shall schedule a time to monitor the road with a discreet monitoring device. The discreet monitoring device must be installed by a trained staff member. The road shall be monitored for a minimum of 7 days. Upon completion of the monitoring program, the following information shall be collected and recorded;

- Location of radar recorder (longitude, latitude; or specific detailed location)
- Beginning and end date of monitoring program
- Traffic counts, speeds, and calculation of 85th percentile

The reported 85th percentile speed will be reviewed against the location of the perceived speeding issue, and the current posted speed limit for that road segment. The existing “Speed Limit Guideline Spreadsheet” for that road will be reviewed for accuracy and completeness, with staff updating the fields and undertaking a risk assessment.

If the monitoring and Speed Limit Guide Spreadsheet are in agreement, a speeding concern has not been identified.

If the monitoring and Speed Limit Guide Spreadsheet results are not in agreement, a potential speeding concern has been identified. The posted speed limit may need to be changed (increased or decreased), or other mitigation measures implemented.

3. CLOSURE OF COMPLAINT AND COMMUNICATIONS

The results of the monitoring program will determine the next steps to be taken. Scenario 1 and 2 below define the possible outcomes of the monitoring program.

Scenario 1 – Speeding Concern Not Identified:

If a speeding concern is not identified as defined in the policy, no further action will be taken.

Scenario 2 – Speeding Concern Identified:

Municipal staff will also prepare a recommendation regarding if the posted speed limit is warranted to be changed using the Canadian Guidelines for Establishing Posted Speed Limits (2009) and Speed Management Guide (2016). The result of the review may be to increase or decrease the posted speed limit.

If a speeding concern is identified all reports shall be sent to the Chair of the Police Services Board who is responsible for forwarding to the O.P.P. for review and enforcement-based considerations.

Under both scenarios, the complainant will be notified and offered copies of the reports generated. The notification shall contain a summary of the measures taken and the decisions that have been made as a result of the complaint. The complaint is now considered closed.

The OPP will receive copies of all data generated.