

## 2023 Road Safety Assessment

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## Report Summary

This report provides information regarding collision statistics and trends for roadways in the City of Greater Sudbury and outlines steps that have been taken to improve road safety for all users. In addition, the report provides an update on the status of the network screening program.

## Relationship to the Strategic Plan, Health Impact Assessment and Community Energy & Emissions Plan (CEEP)

This report refers to initiatives that support goal 6.1 - Advance Population Health of the Strategic Plan by further advancing the Healthy Streets goal by improving road safety for all users.

## Financial Implications

The review of previously identified locations for potential safety improvements was completed within existing approved budgets and staff complement. Any additional funding required to implement identified countermeasures will be included as Road Safety item within the 2024 Capital Budget prioritization process.

## Background

The Transportation and Innovation Support section is responsible for the safe and efficient movement of people and goods on the City of Greater Sudbury's transportation network. Road jurisdictions have found that the most successful way to improving road safety is through the 3 Es; Engineering, Enforcement and Education. Over the last number of years, the City of Greater Sudbury has implemented a variety of initiatives to improve safety for cyclists, pedestrians, and motorists.

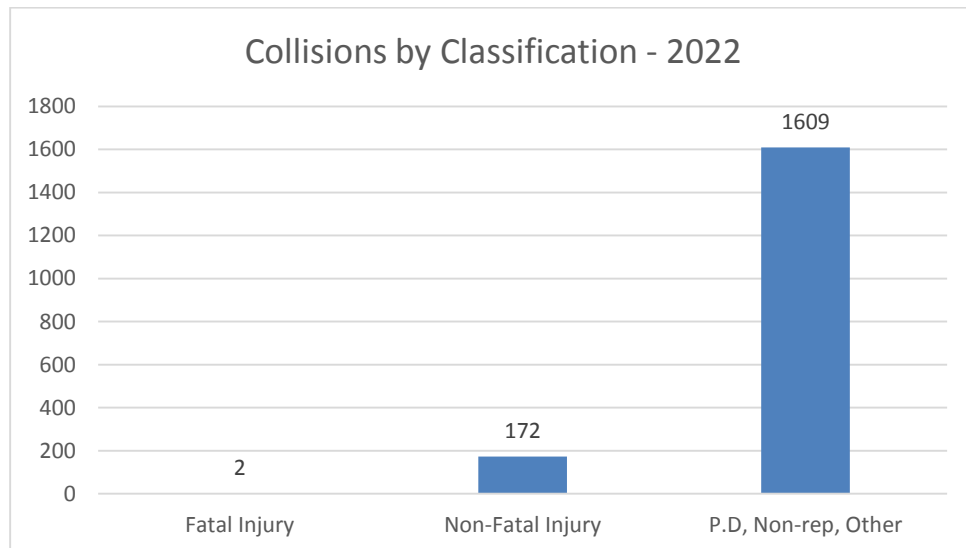
In 2018, staff presented the first [Road Safety Assessment](#) of all roads under the jurisdiction of the City of Greater Sudbury and outlined a network screening process. The 2023 Road Safety Assessment will focus on the following areas:

- 1) Provide collision statistics and trends over the past 5 years.
- 2) Identify improvements that have been undertaken to enhance safety for road users.
- 3) Present countermeasures to improve safety for the top five locations outlined in the 2023 Road Safety Assessment.
- 4) Outline planned safety improvements for the next five locations.
- 5) Identify next steps in the network screening process.

### 1) Collision Statistics and Trends

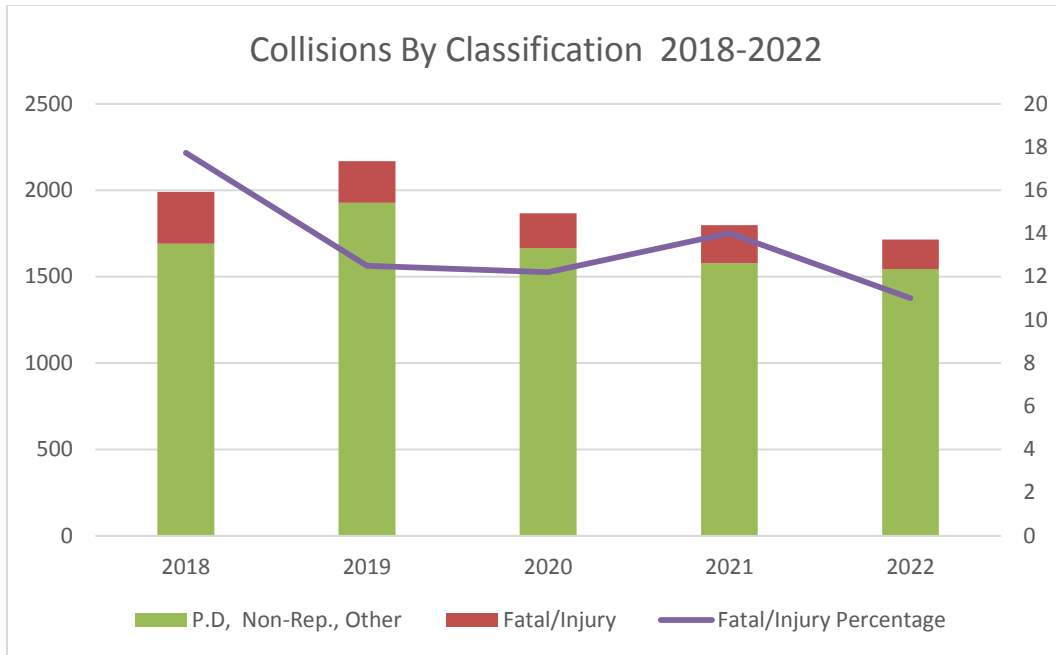
The City of Greater Sudbury receives copies of collision reports from Greater Sudbury Police Services. These reports are received on a regular basis and data entry is completed to enter the records into the City's database. It is not unusual for the City to receive a copy of a report 3 to 6 months after a collision has occurred. As such, the statistics provided below represent the data the City has available as of April, 2023 and these statistics will be updated as more reports are received by the City. In addition, the statistics below do not include collisions which have occurred in parking lots or on off road trails.

In 2022 there were a total of 1,783 reported collisions on roadways in the City of Greater Sudbury. Figure 1 illustrates the breakdown of collisions by the classification of the collision.



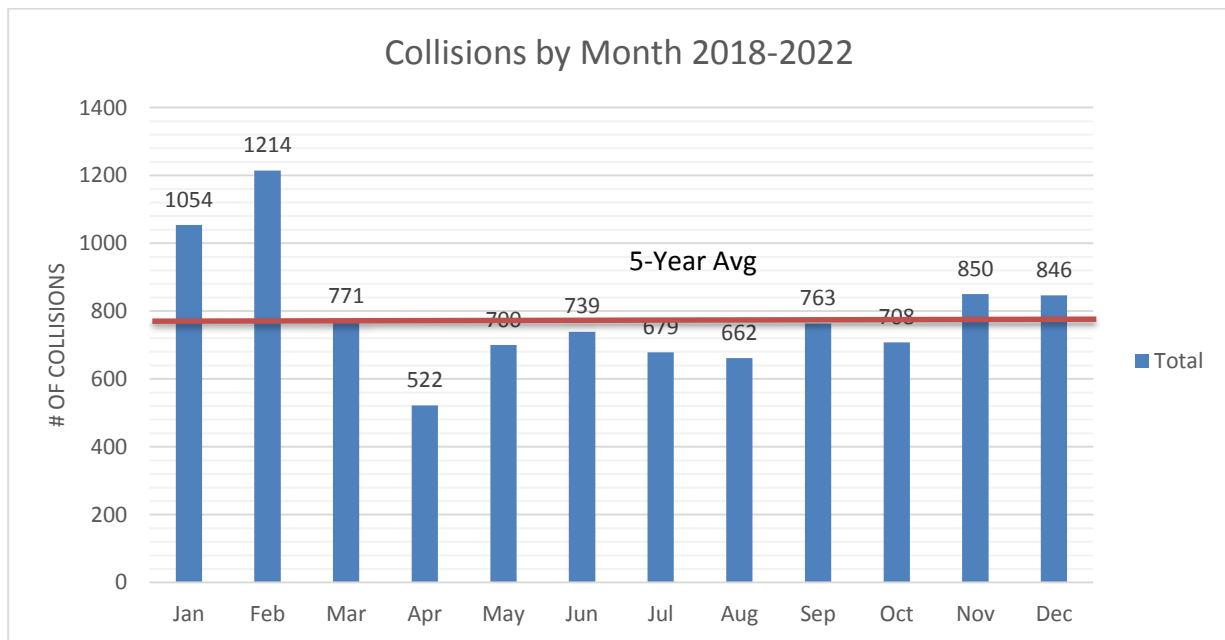
**Figure 1: 2022 Collisions by Classification**

When looking at a five-year trend from 2018 to 2022, the total number of collisions has decreased (Figure 2). In addition, the total number of fatal and injury collisions as a percentage of total collisions has continued to decline after a temporary increase in 2021.



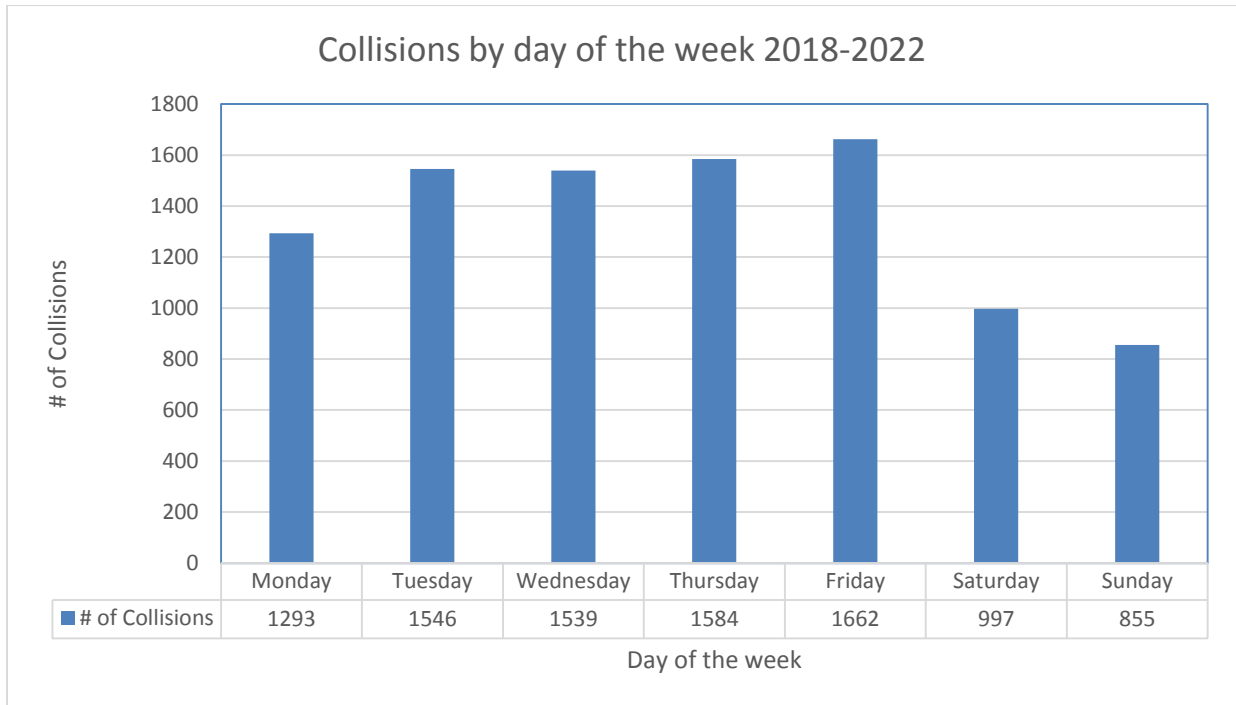
**Figure 2: 2018-2022 Total Collisions by Classification**

Total collisions per month from 2018 to 2022 shows an above average number of collisions during the winter months while spring and summer months are below average (Figure 3).



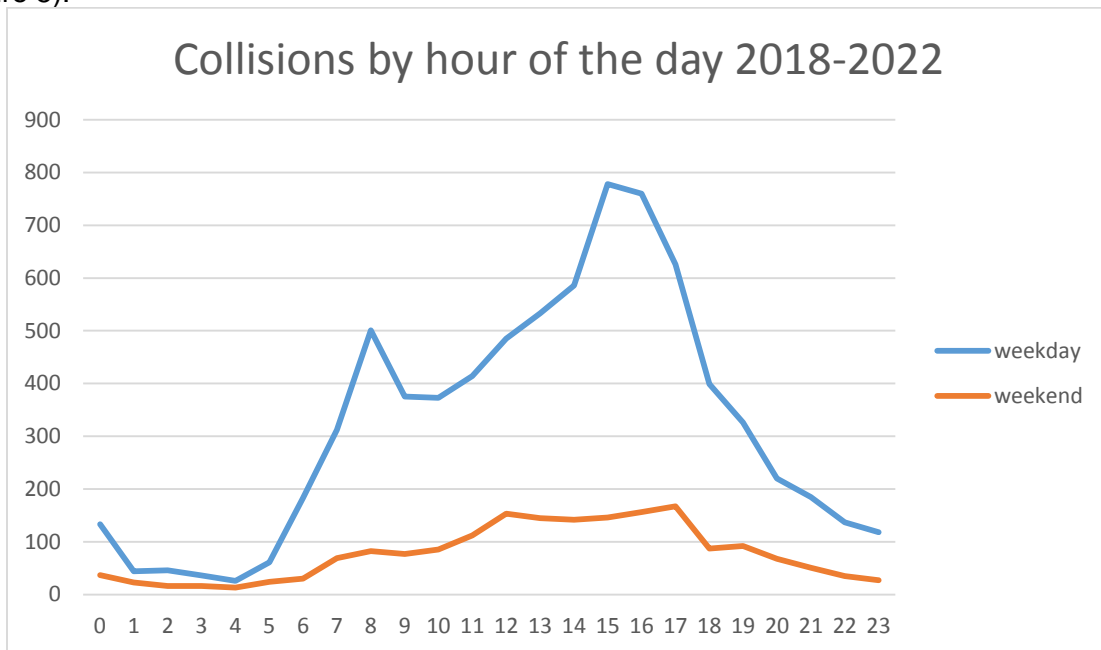
**Figure 3: 2018-2022 Total Collisions by Month**

Over a five-year period, the number of collisions taking place during weekdays exceeds those on the weekend, with Friday experiencing the most collisions overall (Figure 4).



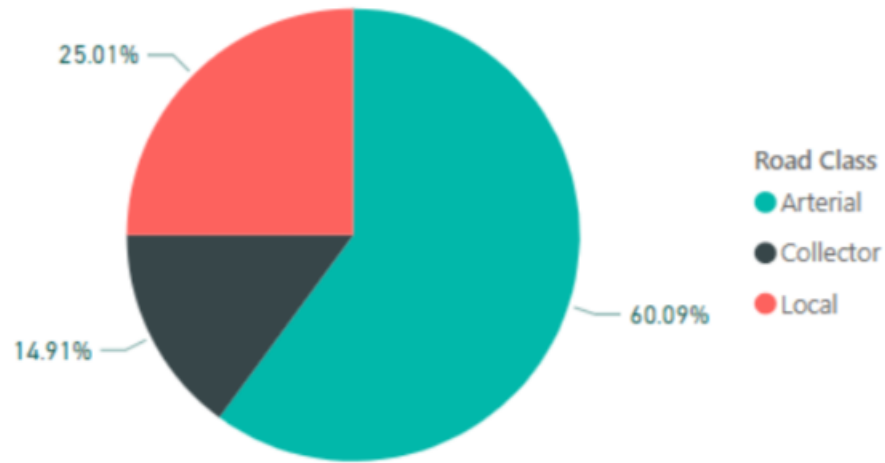
**Figure 4: 2018-2022 Collisions by Day of the Week**

The number of collisions by hour of the day shows that there is a spike in collisions between 8:00 and 9:00 in the morning ) and throughout the afternoon rush hour from 3:00 pm to 6:00 pm (Figure 5).



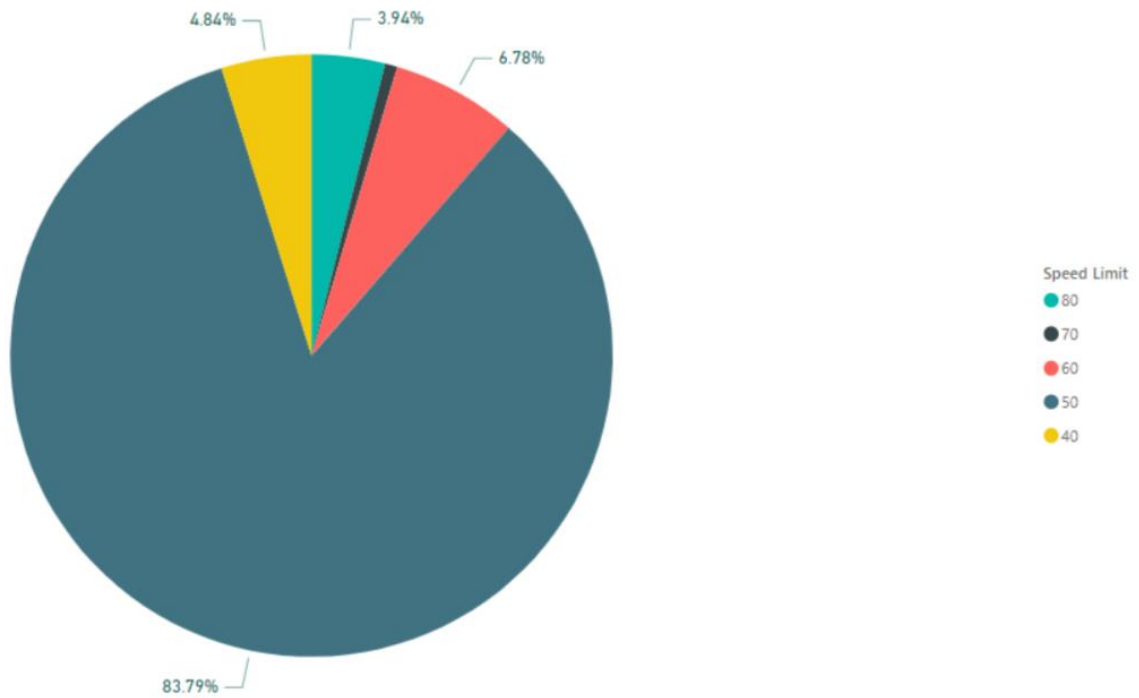
**Figure 5: Collisions by Hour of the Day**

The number of collisions by road classification highlights that 60 per cent of collisions occur on arterial roads, which are typically higher volume, higher speed roads than collector or local roads (Figure 6).



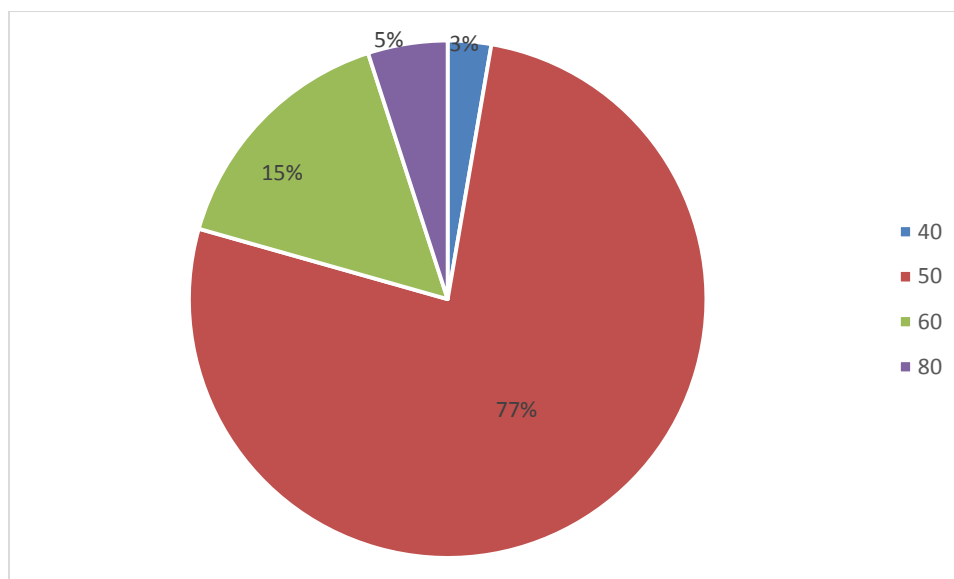
**Figure 6: Collisions by Road Classification Type**

Over 80% of collisions in Greater Sudbury occur on roadways where the posted speed limit is 50 km/h or 60 km/h (Figure 7).



**Figure 7: 2018-2022 Collisions by Posted Speed Limit**

The numbers remain consistent for fatal and injury collisions by posted speed limit with 92% of collisions occurring when the speed limit is 50 km/h or 60 km/h (Figure 8).



**Figure 8: 2018-2022 Fatal/Injury Collisions by Posted Speed Limit**

## 2) Improvements for Road Users

### **Pedestrian and Cyclist Infrastructure Improvements**

In 2022, the City has taken many steps to improve road safety for pedestrians and cyclists through the construction of new infrastructure. This includes 1.0 km of new sidewalk and 1.3 km of cycling infrastructure. As well, the City continues to take steps to improve the safety of pedestrians and cyclists as part of capital projects. The addition of a paved boulevard between the sidewalk and road which acts as a buffer zone, and the installation of tactile warning strips at sidewalk ends, and 1.0 m painted buffer between parking lane and bike lane are examples of active transportation safety enhancements that have been incorporated into capital projects like the Lively Infrastructure Upgrades. More information on these improvements can be found in the [2022 Active Transportation Annual Report](#).

### **Education Campaigns**

During the month of June, the City released a series of social media content reminding citizens about safe cycling and the responsibilities of both cyclists and motorists when sharing the road with all users. A new education message was released every week during the month. The average views throughout the campaign were approximately 1,300 per post.

On October 27 the Sudbury Road Safety Committee, a partnership of the City of Greater Sudbury, Greater Sudbury Police Services, Public Health Sudbury & Districts, Ontario Provincial Police, and the Ministry of Transportation held its first annual “Bike Bright” campaign on the streets of Greater Sudbury. Teams spread out throughout Greater Sudbury to inform cyclists of important of being seen at night and handed out over 70 sets of free bicycle lights to riders who needed them.

### **Motorist Improvements**

The City continues to take measures to remain up to date with changes to provincial standards and guidelines to maintain a current. In 2022, the City has begun to replace the numbered tabs at All-way Stop Signs with the updated All-Way Stop Tab as outlined in the Ontario Traffic

Manual.

### Gateway Speed Limits

At the September 2019 Operations Committee meeting, Transportation and Innovation Support staff brought a report which outlined a change in the Highway Traffic Act (HTA) to allow municipalities to post a lower speed limit for large sections of the municipality using Gateway Speed Limit signs. With the amendment to the HTA, a municipality is now only required to post a new type of speed limit sign (Figure 1 below) at all the entrance/exit points to the area they have designated, and the speed limit would apply to all roadways within the area.



Figure 1 – Gateway Speed Limit Signs

In 2022, Staff began a Gateway Speed Limit Pilot Project in the neighbourhood bound by Lasalle Boulevard to the North, Barry Downe Road to the West, Auger Avenue to the East and Kingsway to the South. In 2023 a business case entitled “Implement Gateway Speed Limits in Residential Areas” was passed during the 2023 budget process to expand the pilot project to one location in each ward. A report on the new locations and updated bylaws will be submitted at the June Operations Committee Meeting. Once approved the additional signs will be installed in July. An update on the pilot project will follow in Q3 of 2024 once all areas have been evaluated.

### Red Light Cameras

In 2018, the Transportation and Innovation Section completed a city-wide Road Safety Assessment (RSA). The overall object of the RSA was the development of a coordinated and strategic road safety plan to provide direction for future road safety projects, programs and investments with the primary goal of reducing the number and severity of motor vehicle collisions on the City’s roads.

As part of the RSA, motor vehicle collision data was analyzed based on injury and fatal collision occurrence to identify potential causes and solutions with respect to road safety strategies.

Through this analysis, it was identified that red-light running was a contributor to causing serious collisions in Greater Sudbury and it was further identified for targeted safety programs. Intersection safety is achieved through a combination of engineering, education, and enforcement. A Red Light Camera program (RLC) is one of the countermeasures available to municipalities to improve intersection safety by decreasing the incidence of red light running at intersections. Collisions resulting from red-light running tend to be more severe than other intersection collisions as they usually involve at significant differences in travel speed between vehicles involved in the collision. In the most serious red-light running collisions, the vehicles hit each other at right angles. The resulting side-impact collisions cause severe injuries which sometimes lead to death.

In the September of 2022, City staff worked with the red-light camera vendor to have six red light cameras installed as per the prioritized list of locations outlined in the report titled Red Light Camera Program Update. The locations of the current location of red-light cameras are:

- Paris Street at Cedar Street
- Regent Street at Loach’s Road/Algonquin Road
- M.R. 80 at Dominion Drive
- Lasalle Boulevard at Montrose Avenue
- Paris Street at Centennial Drive
- Lasalle Boulevard at Roy Avenue

Table 1 below shows the number of offenses at each of the 6 locations from September 2022 to February 2023.

Location	2022				2023	
	Sept	Oct	Nov	Dec	Jan	Feb
Paris Street @ Cedar Street	47	181	197	128	81	73
Paris Stret @ Centennial Drive	19	65	45	31	9	16
Regent Street at Loach’s Road/Algonquin Road	44	96	48	24	7	16
Lasalle Boulevard at Montrose Avenue	85	187	112	31	0	34
Lasalle Boulevard at Roy Avenue	29	77	37	47	34	19
M.R. 80 at Dominion Drive	9	26	15	21	13	17
<b>Total Tickets Issued</b>	<b>233</b>	<b>632</b>	<b>454</b>	<b>282</b>	<b>144</b>	<b>175</b>

Table1: Number of Red Light Camera offenses from September 2022 to February 2023

While it is too early to see the effects the red light cameras are having, staff will continue to monitor collisions at these intersections.

### Temporary Traffic Calming Program

The City receives numerous requests each year to install traffic calming measures such as speed humps, pavement markings and additional signage to reduce speeding and improve safety on its roadways. In 2022, after a two-year pilot project, the City established a Temporary Traffic Calming Program. This program evaluates traffic calming requests using the warrant process outlined in the report titled “Traffic Calming Policy” and ranks locations that pass the initial screening against each other. In 2022, the top 10 locations identified on the traffic calming ranked list received temporary traffic calming bollards. In 2023 a business case entitled “Expand Temporary Flexible Bollard Traffic Calming Program” was passed during the 2023



budget process to expand the program from 10 locations to 28 locations In the Traffic Calming Ranking List over a two year period. In 2023 temporary bollards will be installed at nine new locations bringing the total to nineteen. In 2024 the remaining nine locations will be installed.

### **CARSP Road Safety Conference and OTC/CARSP Vision Zero Symposium**

In June, 2022, the City hosted the Canadian Association of Road Safety Professionals Conference (<https://carsp.ca/en/events-and-training/carsp-conference/past-conferences/carsp-conference-2022/>). The conferences theme was “Collaborating on the United Nations’ (UN) Decade of Action for Road Safety” and focused on priority road safety issues such as Speed Management, Rural Road Safety, Vulnerable Road Users (including Active Transportation), and Traffic Safety Culture.

In addition, the Ontario Traffic Council Vision Zero Symposium (<https://otc.org/events/vision-zero-online-symposium-2/>) was hosted in Greater Sudbury. As part of the symposium, City staff hosted a workshop with attendees to review the Regent Street corridor from Telstar Avenue to Paris Street. The attendees applied principles learned from the conference and symposium to evaluate the corridor and apply different solutions to the challenges of this corridor.

### **3) Review of Network Screening Process**

In 2018, the city adopted a network screening program, based on the Highway Safety Manual (HSM), as a proactive way to analyze areas that have higher than expected number of collisions. The network screening tools and methodology in the HSM identify and prioritize locations in the City’s road network that have a high potential for safety improvements (PSI). This proactive approach will allow staff to better prioritize resources for road safety based on a ranking of locations based on its Potential for Safety Improvement (PSI).

The network screening process is as follows:

1. Conduct a network screening on all intersections and roads in the city network and ranking them based on the PSI score.
2. Once the ranking is complete, the top 20 locations are selected for review by staff and community partners.
3. On an annual basis, five locations plus upcoming capital projects will be reviewed. Each location will have a series of countermeasures selected to address the number of severity of collisions. This will continue for three years.
4. Provide an annual update to Operations Committee showing locations that have been selected for review and the countermeasures that have been identified.
5. At the end of the three year period, the network screening will be refreshed and locations that have already been reviewed will not be looked at for another three years so that the effectiveness of the countermeasures can be analyzed.

#### 4. Recommendations for Safety Improvements

In 2022, staff completed reviewing the remaining locations in the top 20 list that was produced in 2018. As per the network screening process, staff have refreshed the network screening resulting in a new top 20 list as shown in Table 2 below.

PSI Rank	Location	Year of Improvement	Analysis	Recommendation
1	Regent Street between Caswell Drive and Paris Street/Long Lake Road	2023	In 2018, this area was on the initial top 20 list. This area of Regent Street is a busy thoroughfare with a significant number of private driveways on both sides of the road. The collision history in this area showed a number of areas where collisions are occurring. In 2022 staff recommended engaging a consultant as part of the South End Study to analyze the collisions in this area.	The business case for the South End Study was not funded as part of the 2023 Budget. Transportation and Innovation Support Services staff will add this project to their 2024 work plan and seek funding for the implementation of improvements as part of the 2025 Budget.
2	Long Lake Road at Paris Street / Regent Street	2023	The collisions occurring at this intersection are distributed over a number of collision types and directions. The one trend that stands out is the number of collisions that occur when motorists are disobeying traffic signals. This is not happening in one particular direction but at all approaches to the intersection. Between 2020 and 2022 there were 11 collisions where motorists disobeyed traffic signals.	Staff is recommending that the intersection be considered for the next phase of red light camera installations. In the meantime staff will work with Greater Sudbury Police Services to have increased enforcement at the intersection.
3	Kingsway at Falconbridge Road / Second Avenue	2023	The majority of incidents are rear end collisions occurring during ideal driving conditions. In most instances the number one driver behaviour is distracted driving or follow too close to another vehicle. There is also a noticeable increase in rear end collisions in 2020 and 2021 when traffic volumes were lower due to Covid-19 and speeds approaching the intersection would have been higher than normal.	Staff will continue to work with community partners to address distracted driving. As part of the ongoing capital project work at this location staff will also look at asphalt friction.
4	Barry Downe Road at Kingsway	2023	There is also a noticeable increase in rear end collisions in 2020 and 2021 when traffic volumes were lower due to Covid-19 and speeds	Staff will continue to work with community partners to address distracted driving. As part of the ongoing capital project work at this location staff

PSI Rank	Location	Year of Improvement	Analysis	Recommendation
			approaching the intersection would have been higher than normal.	will also look at asphalt friction.
5	Brady Street at Paris Street	2023	In 2018, Brady Street at Paris Street ranked first in the top 20 list. In 2019 countermeasures we introduced to reduce the number of turning movement and angle collisions. When analyzing the collisions data from 2020-2022 staff have found the number of collisions has reduced but there are still some angle and turning movement collisions resulting from motorists disobeying traffic signals.	At the end of 2022 a red light camera was installed at the intersection of Paris Street and Cedar Street. As detailed in the Red Light Camera study from AECOM, staff anticipate the halo effect of installing a Red Light Camera system at Paris and Cedar Street will reduce the number of angle collisions at this intersection. Staff will closely monitor this intersection to see if these expected safety benefits materialize.
6	Lasalle Boulevard at Notre Dame Avenue			
7	Barry Downe Road at Lasalle Boulevard			
8	Elm Street at Lloyd Street / Notre Dame Avenue			
9	Paris Street @ Van Horne Street			
10	Notre Dame Avenue at King Street			
11	Municipal Road 80 at Main Street			
12	Lorne Street at Douglas Street West			
13	Barry Downe Road at Westmount Avenue			
14	Notre Dame Avenue at Cambrian Heights Drive/Newgate Avenue			
15	Elm Street @ Elgin Street			
16	Bancroft Drive @ Kingsway			
17	Notre Dame Avenue at Kathleen Street			
18	Falconbridge Road at Lasalle Boulevard			
19	Falconbridge Road at Maley Drive			
	Lasalle Boulevard at Attlee Avenue			

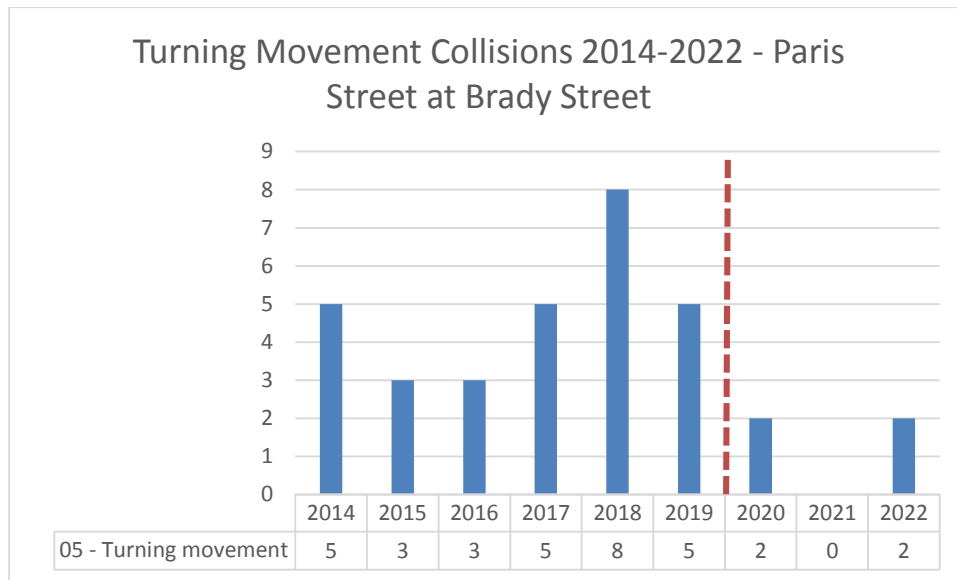
Table 2: 2022 Top 20 Network Screening List Locations

To understand how PSI results have changed at locations in the initial top 20 list, staff analyzed the difference in PSI as shown in Table 3 below.

Location	2018 PSI	2022 PSI	PSI Difference
Brady Street at Paris Street	57	37	-19
Long Lake Road at Paris Street /Regent Street	45	51	7
Falconbridge Road at Kingsway / Second Avenue	38	45	7
Lasalle Boulevard at Notre Dame Avenue	38	33	-6
Falconbridge Road at Lasalle Boulevard	33	10	-23
Paris Street at Van Horne Street	26	20	-6
Regent Street between Caswell Drive and Paris Street/Long Lake Road	23	52	29
Kingsway between the private road east of McDonalds and Silver Hills Drive	23	0	-23
Paris Street at Ramsey Lake Road	22	0	-22
Municipal Road 80 at Main Street	22	15	-7
Lasalle Boulevard at Auger Avenue	21	7	-14
Barry Downe Road at Westmount Avenue	21	14	-7
Lasalle Boulevard at Attlee Avenue	21	10	-11
Elm Street at Lloyd Street / Notre Dame Avenue	20	24	4
Notre Dame Avenue at Louis Street / Ste Anne Road	19	3	-16
Paris Street at Cedar Street	17	5	-12
Barry Downe Road at Kingsway	16	41	25
Notre Dame Avenue between Wilma Street and Cambrian Heights Drive	16	7	-9
Paris Street at Centennial Drive	16	0	-16
Lorne Street at Douglas Street	16	14	-2

Table 3: Difference in PSI scores for top 20 locations

An example of an intersection seeing improvements after countermeasures have been implemented is the intersection of Paris Street and Brady Street. Paris Street at Brady Street was ranked first in the top 20 list and saw a decline of 19 in the PSI score after countermeasures were installed at the end of 2019 to address the high rate of turning movement collisions. Figure 9 below shows the decrease in turning movement collisions after the countermeasures were installed at the intersection.



**Next Steps:**

As described in the recommended network screening process, staff will continue working with community partners to review the next five locations with the greatest potential for safety improvement along with any other locations that have a scheduled capital project. It is important to note that locations within the Top 20 presented above, which have road rehabilitation projects scheduled in the upcoming year, will be reviewed ahead of locations with a higher PSI.

**Resources Cited**

City of Greater Sudbury, 2022 Active Transportation Annual Report, Accessed online: <https://pub-greatersudbury.escribemeetings.com/filestream.ashx?DocumentId=48899>

City of Greater Sudbury, Red Light Camera Program, Accessed online: <https://pub-greatersudbury.escribemeetings.com/filestream.ashx?documentid=5097>