



PROTECTIVE SERVICES AUTOMATED TRAFFIC ENFORCEMENT 2022 ANNUAL REPORT

Your City, Your Family, Our duty



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Introduction

Automated Traffic Enforcement (ATE) refers to those traffic law enforcement operations that are performed by either a fixed Intersection Safety Device (ISD), or mobile system in which the violator is not immediately stopped, but instead the registered owner is issued a violation notice in the mail. Although the fixed systems do not have an operator present at the time of infraction, like the mobile systems, every infraction is reviewed and approved by a community peace officer.

This report and its contents are in part a requirement of the Province for those communities that operate ATE. It is also to increase the amount of analyzed data that is released through annual public reporting, thereby enabling the public to make informed opinions on the effectiveness of the ATE program in Spruce Grove.

2022 was another year marked by change. In December 2021 the Government of Alberta released the updated Automated Traffic Enforcement Technology Guideline. This guideline required numerous program adjustments to be made. These adjustments were required to be phased in and implemented by December 1, 2022. The freeze implemented in 2019 prohibiting the addition of new ATE technologies or sites was extended by the Province until November 30th, 2023. This was to allow municipalities to operate a full year under the new regime and for the government to verify compliance with the new Automated Traffic Enforcement Technology Guideline.

2022 also marked the first full year where an Enforcement Services officer, one on each watch, was dedicated to solely conduct traditional traffic enforcement duties. The RCMP also assigned a dedicated municipal traffic resource.

In October 2022, upon the video analysis of collisions and recommendations made in consultation with the Community Road Safety Advisory Committee, the traffic light sequencing at Highway 16A and Campsite Road / Jennifer Heil was changed to a protected left hand turn lane. This resulted in a notable change in collisions at that location.

Traffic volumes measured at the 10 ISD sites yielded an increase of 1,037,488 more vehicles monitored in 2022 relative to 2021. This is indicative of a post Covid pandemic rebound.

The change in collision source data from the RCMP to Alberta Transportation impacted the ability to scrutinize the veracity of the data. Consequently, to properly assess meaningful traffic safety and driver behaviour change, it may take a few years to ensure comparisons are made against a consistent data source.

Stop Signs

Frequency of enforcement

In 2022, there were eight stop sign locations (sites) approved for monitoring. Six of these sites were monitored by ATE peace officers, which is one less than the previous year. Site 1269 was monitored in 2021 while in 2022 no enforcement hours were spent at that site. A total of 261 hours and 18 minutes of enforcement was conducted, in both an overt¹ and covert² capacity, for all sites combined. This is an increase of 76 hrs and 28 minutes of enforcement relative to 2021.



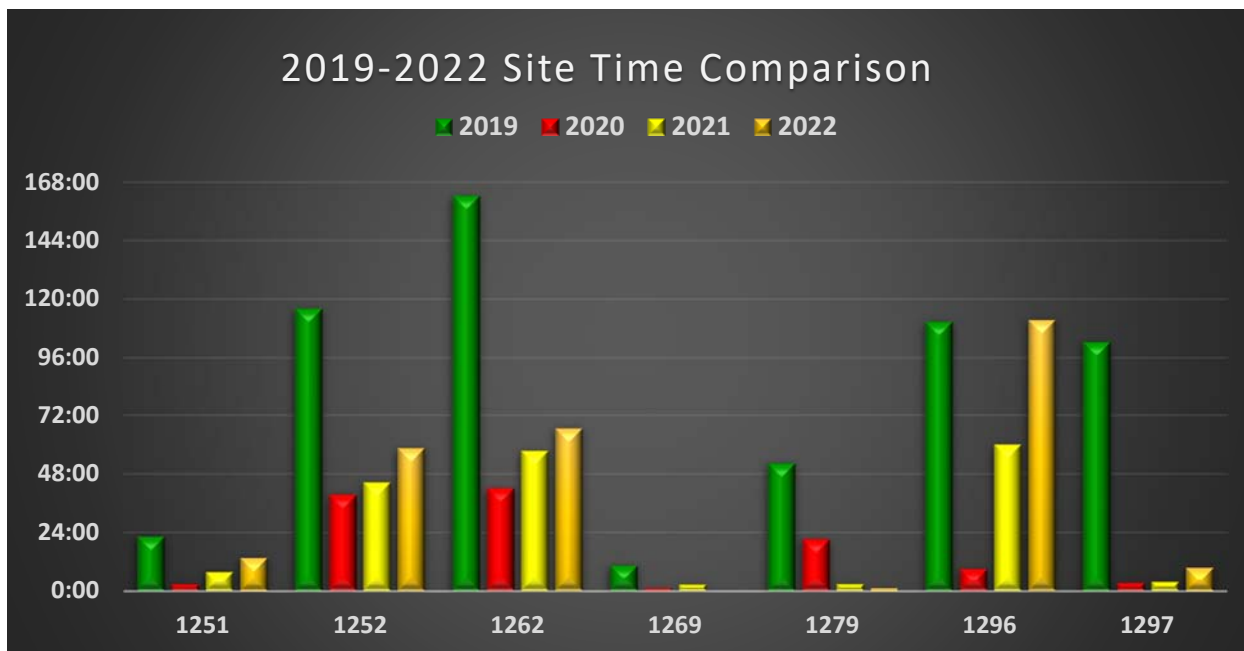
Stopping at a stop sign is required 24/7 therefore the maximum potential enforcement time for all eight sites for an entire year would equate to 70,080 hours. This means in 2022 the sampling of driver behaviour was only 0.37% of the potential time. This is a modest increase from 0.26% in 2021

A site time comparison is provided for the years 2019 to 2022 to illustrate the time spent per site during those years. It is of note that in 2020 Spruce Grove changed service providers which resulted in a transition period between different ATE providers. There was a period where no enforcement was conducted. Data in 2020 was further difficult to

¹ Overt means the ATE vehicle is clearly marked and visible to motorists.

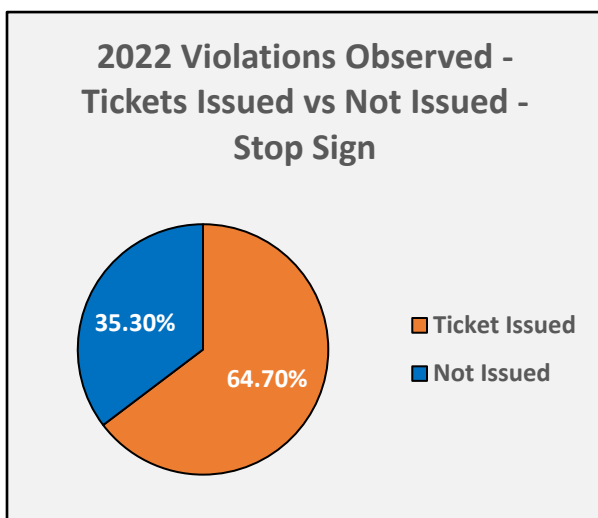
² Covert means the ATE vehicle is unmarked, hidden and not clearly visible to motorists.

collate and analyze as there were many factors impacting the operation of the ATE program which included different data sources between providers, a pandemic, warning tickets issued during the transition phase, change in fine amounts, just to detail a few challenges.



Violations observed vs tickets issued

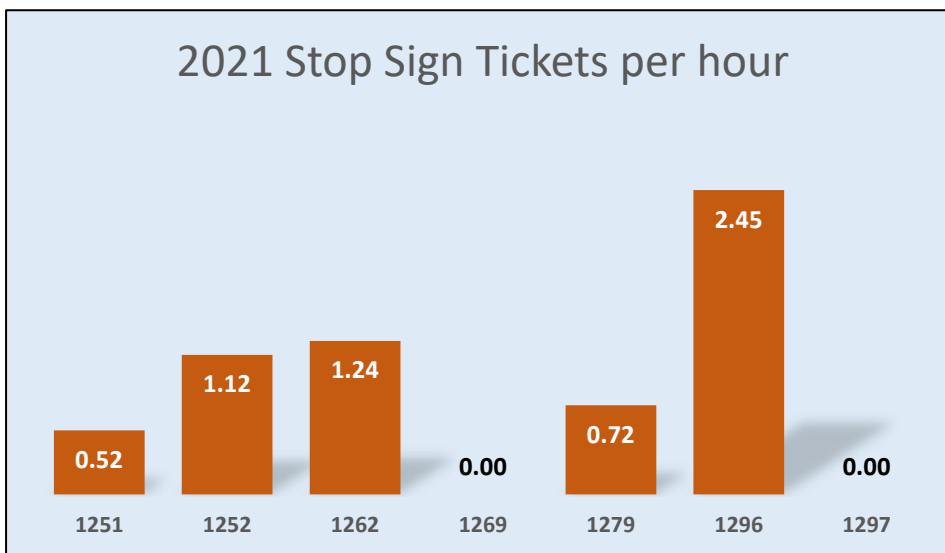
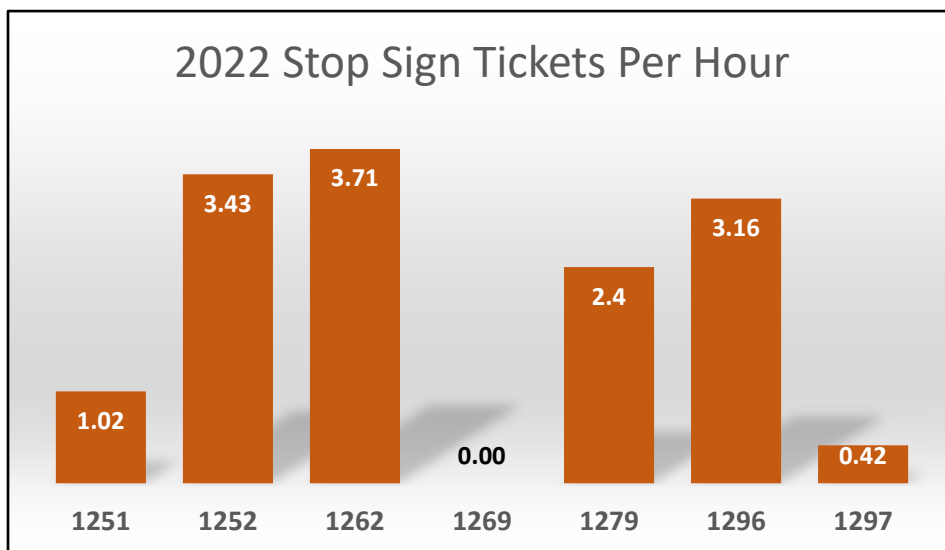
In 2022, there were 1269 violations observed and 821 tickets issued. In 2021 there were 549 violations observed and 297 tickets issued.



The reasons for observed violations not being ticketed vary from obscured license plates, license plates not matching the vehicle, poor photo or officer discretion. There are no fixed systems related to stop sign violations and an officer is present to observe every violation. A ticket is not issued if the officer forms the opinion that it is not warranted after witnessing all circumstance of the offence.

Tickets per hour per site

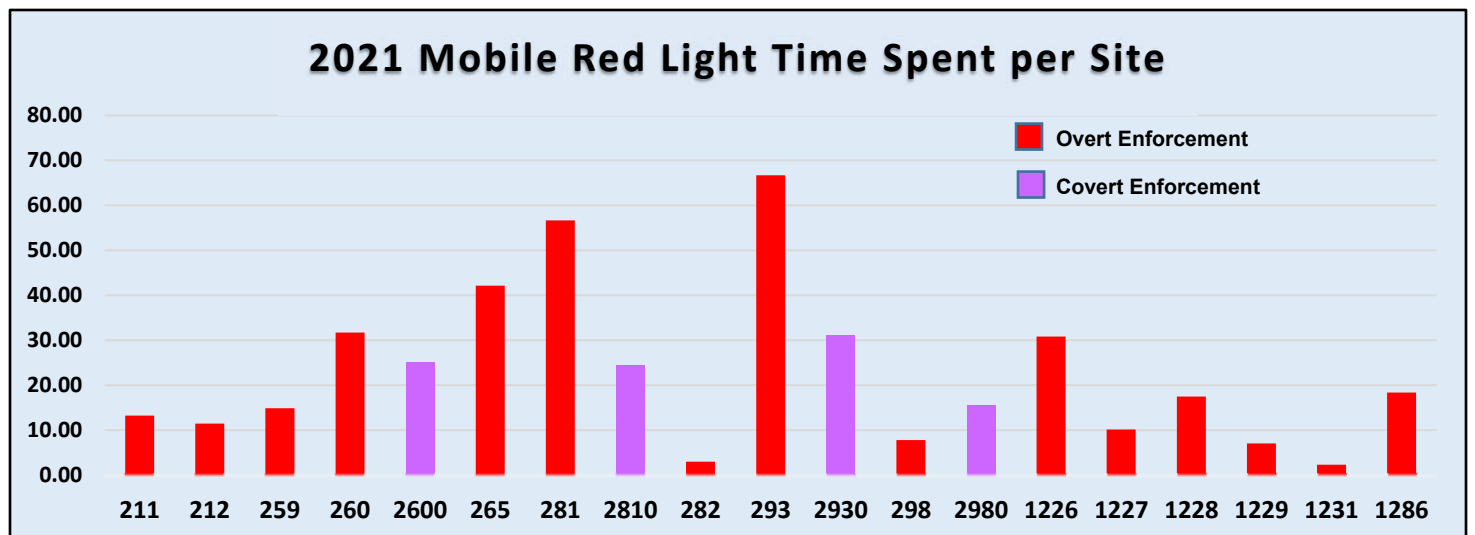
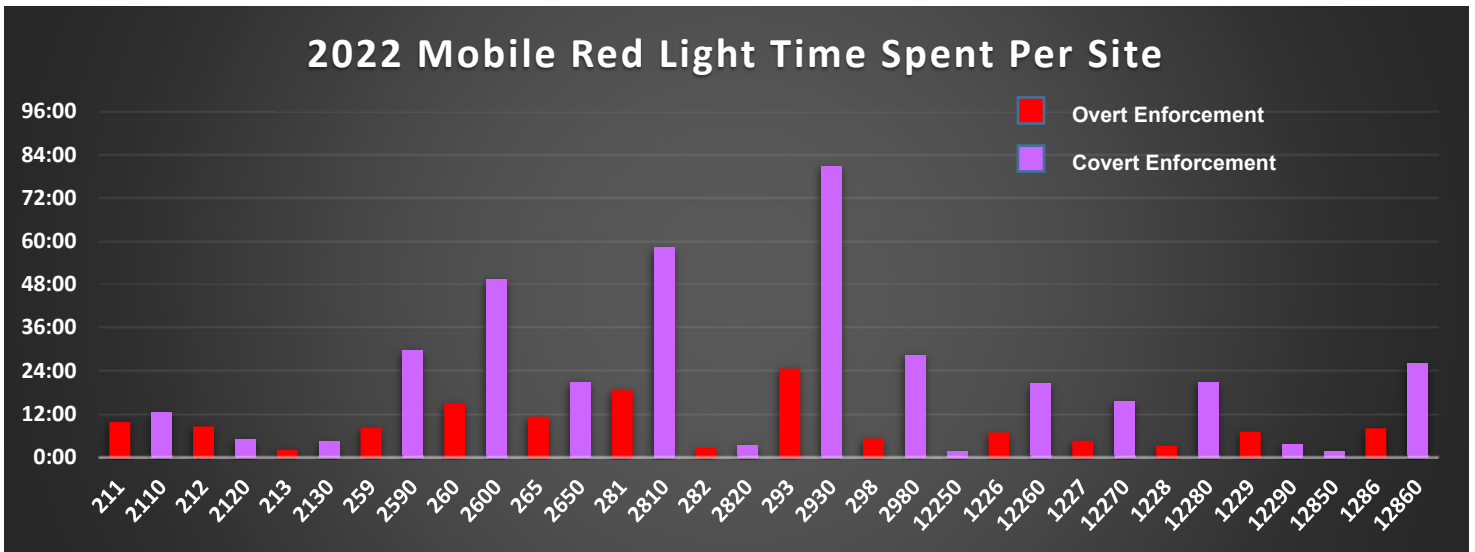
In 2022 the violation rate for tickets issued per hours of enforcement increased at all sites relative to 2021. There may be many factors which may contribute to this which could include a post pandemic environment where the economy improved whereby more people were driving, as well as conducting enforcement during peak periods. Peak periods would include, business / school commuter times, lunch hours, weekdays versus weekends or evening hours.



The greatest increases were noted at Sites 1262 and 1252, with respective increases in tickets issued per hours of 2.31 and 2.47 over 2021 rates. Site 1296 which had the highest tickets issues per hour rate in 2021, increased 0.71 tickets per hour in 2022.

Mobile Red Light Frequency of enforcement

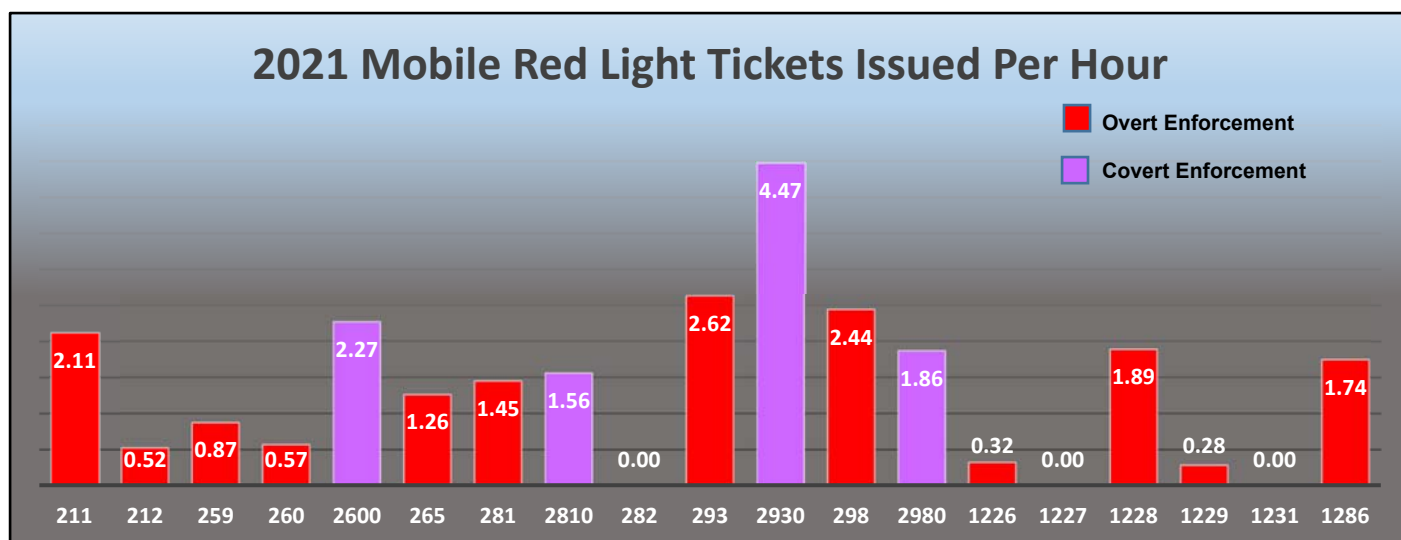
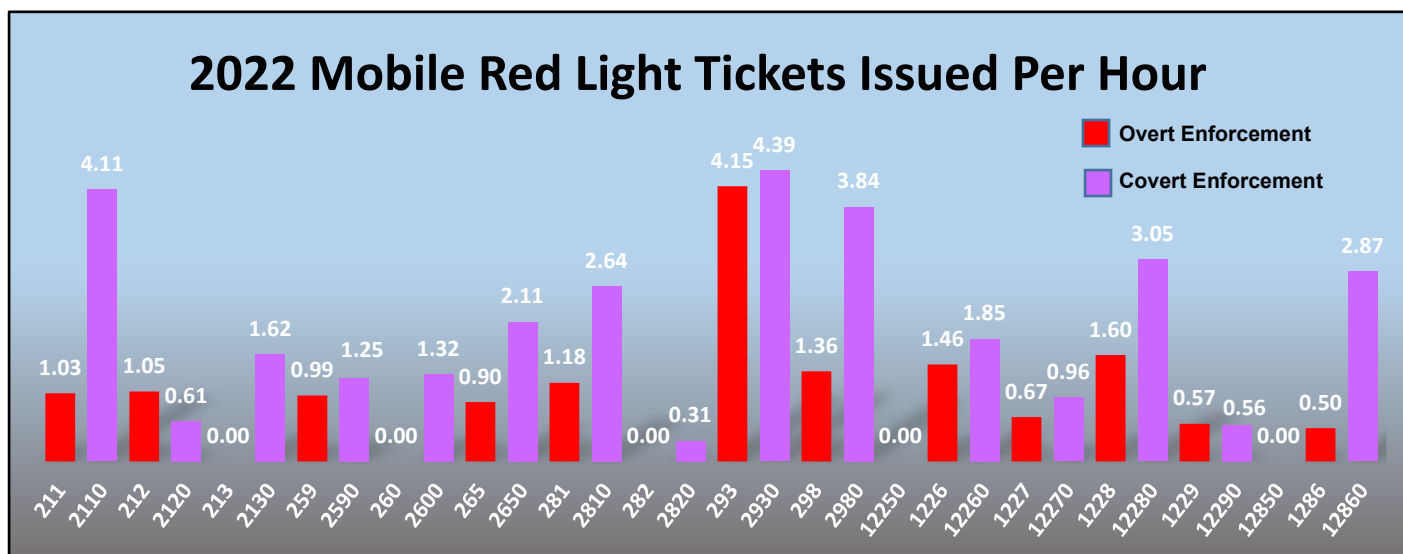
There are a total of 30 mobile red light sites that could be monitored in either an overt or covert manner. In 2022, 15 sites were monitored in an overt fashion and 17 were monitored by covert means. In 2021, 15 sites were monitored overtly and only four sites monitored covertly.



The total time conducting mobile red light enforcement in 2022 was 516 hours and 37 minutes. In 2021 mobile red light enforcement hours were 430 hours and 9 minutes. This is an increase of 86 hours and 28 minutes from 2021. Site 293 received the most enforcement hours both in 2022 and 2021 with 105 hours and 22 minutes, and 97 hrs and 48 minutes respectively. In 2022 the overt / covert hours were 24 hours, 33 minutes overt and 80 hours, 49 minutes covert; whilst in 2021 it was 31 hours, 6 minutes covert and 66 hours, 42 minutes overt monitoring.

Tickets issued

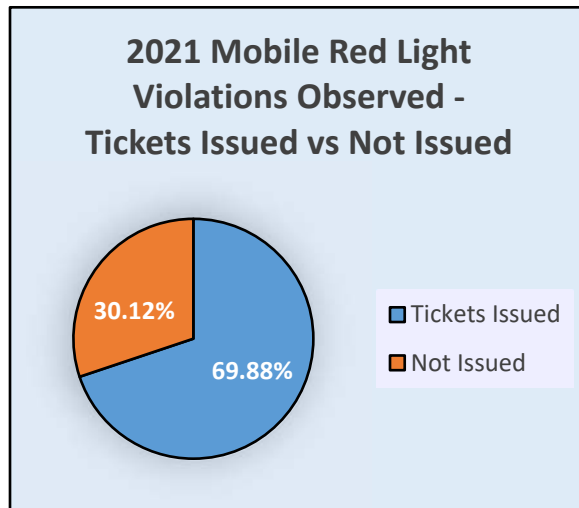
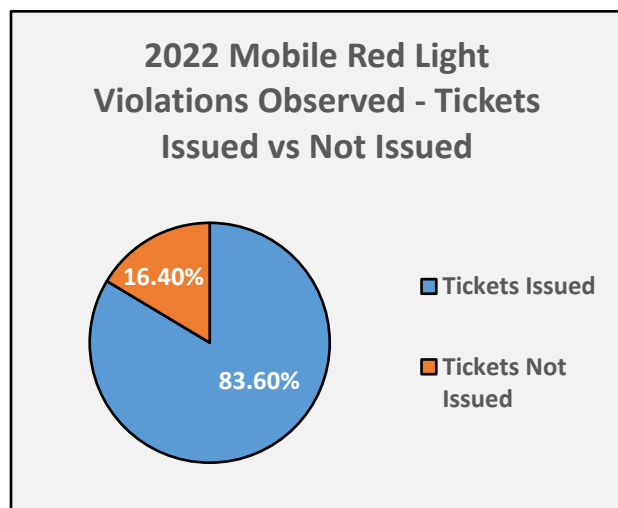
Mobile red light enforcement yielded 1213 tickets in 2022. This is an increase of 459 tickets when compared to 2021. This yields an overall average of 2.35 tickets per hour.



In 2021 the mobile red light tickets issued per hour rate was 1.71. This is an increase of 0.64 tickets per hour from 2020. In both 2022 and 2021 sites 293 (overt) and 2930 (covert) had the highest rate of tickets issued per hour. Although the rate for covert enforcement went down from 4.47 tickets per hour in 2021 to 4.39 tickets per hour in 2022, a marked increase was noted when overt enforcement was conducted. The ticket per hour rate of 2.62 in 2021, increased to 4.15 tickets per hour in 2022. This is an increase of 1.53 tickets per hour.

Violations observed vs tickets issued

In 2022 there were 1451 violations observed for all mobile red light (fail to stop) sites combined. 1,213 tickets were issued with 238 tickets not issued.



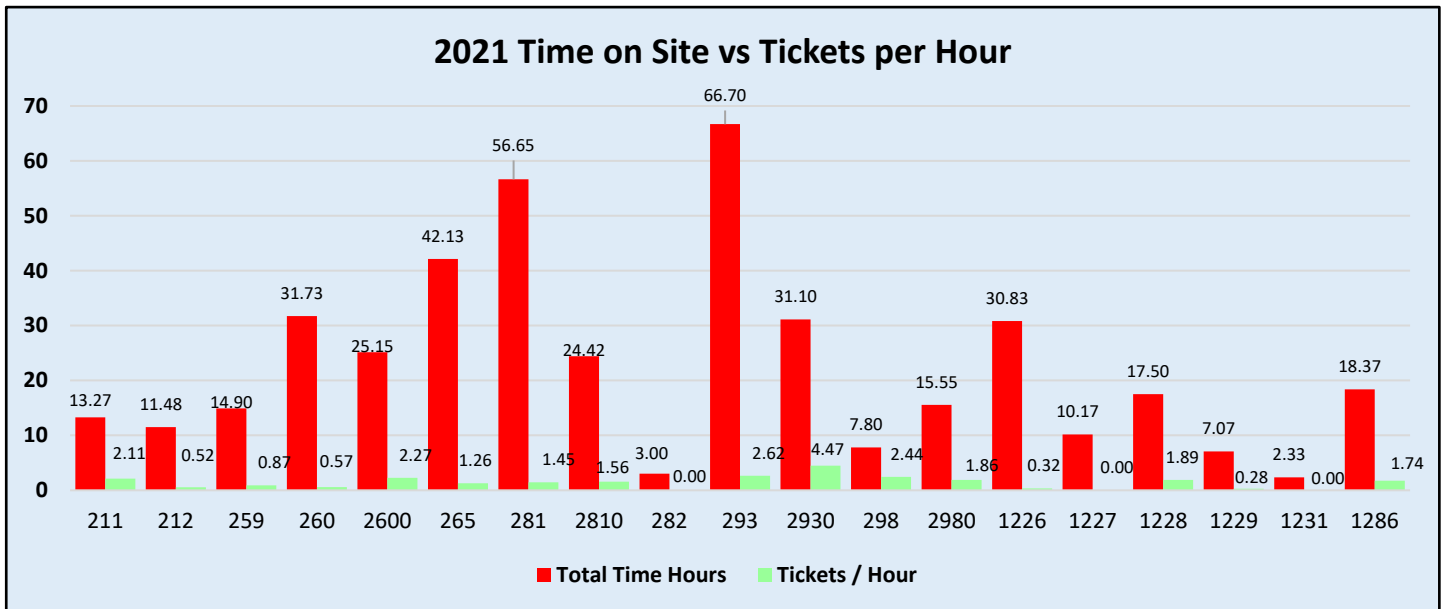
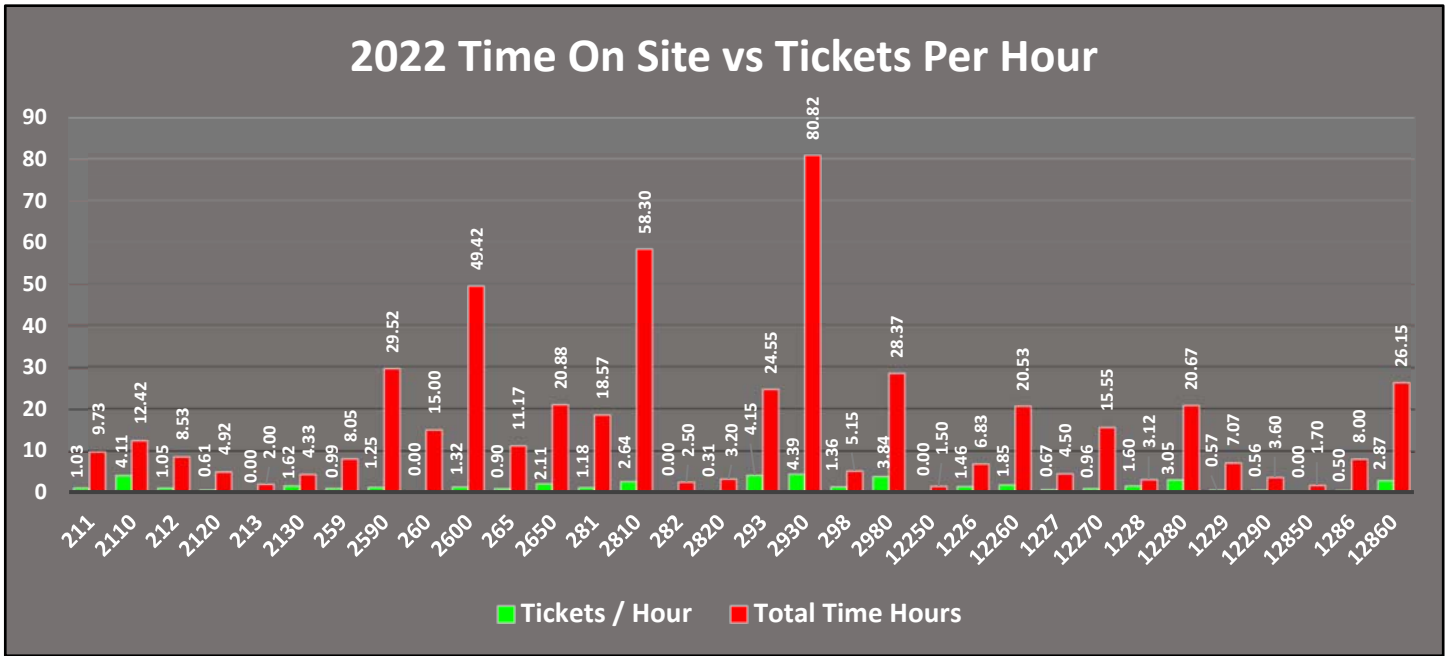
In 2021 the values were 1,079 red light violations observed, with 754 tickets issued and 325 tickets not issued.

The reasons for not issuing a ticket can vary from obscured licence plates, poor photo, the license plate not matching the vehicle, to officer discretion. In most cases, the reason is officer discretion, based on all the circumstances present when the offence was observed.

Time on site vs tickets per hour

The below chart shows the amount of time spent during the year at each site compared to the number of tickets generated per hour. The number of hours spent on site does

not necessarily equate to the highest rate of tickets per hour. Although site 2930 had the highest ticket per hour rate of 4.39 tickets per hour and 80.82 red-light mobile enforcement hours; site 2110 had a rate of 4.11 tickets per hour but only 12.42 hours of enforcement. Sites 2590 and 2600 had 29.52 and 49.42 hours of red light enforcement monitoring but only had 1.25 and 1.32 tickets issued per hour respectively.

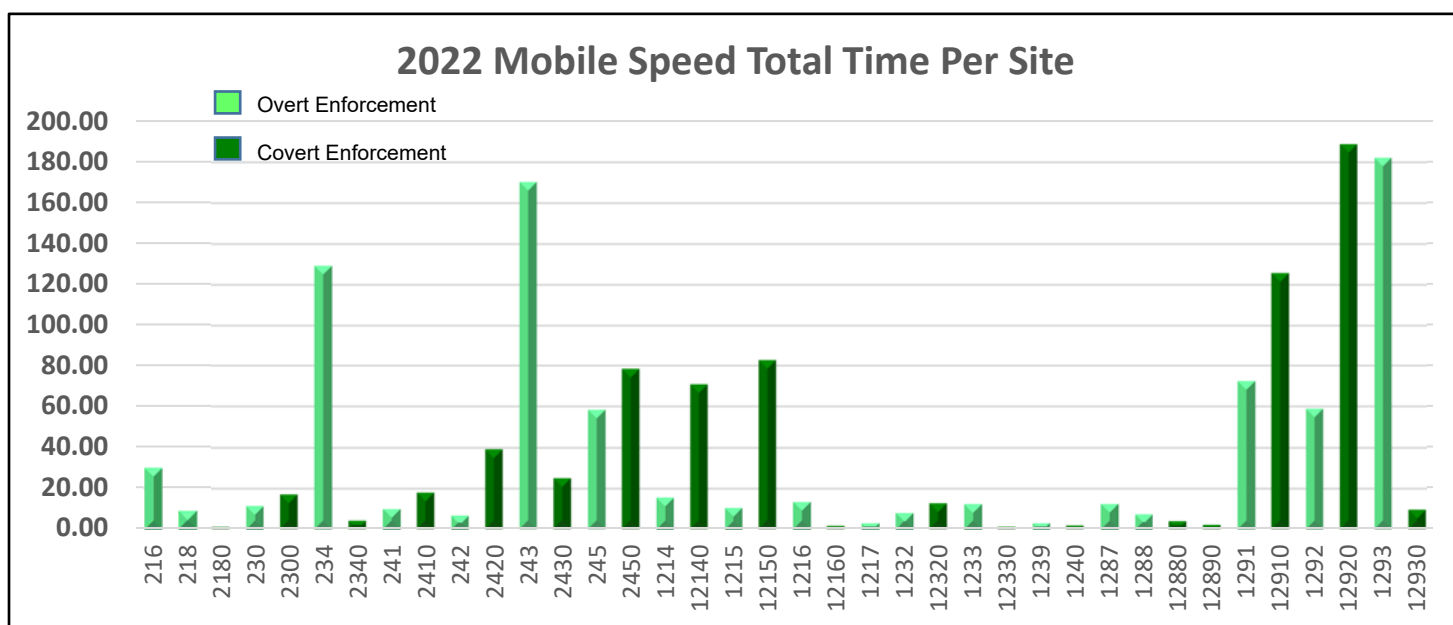


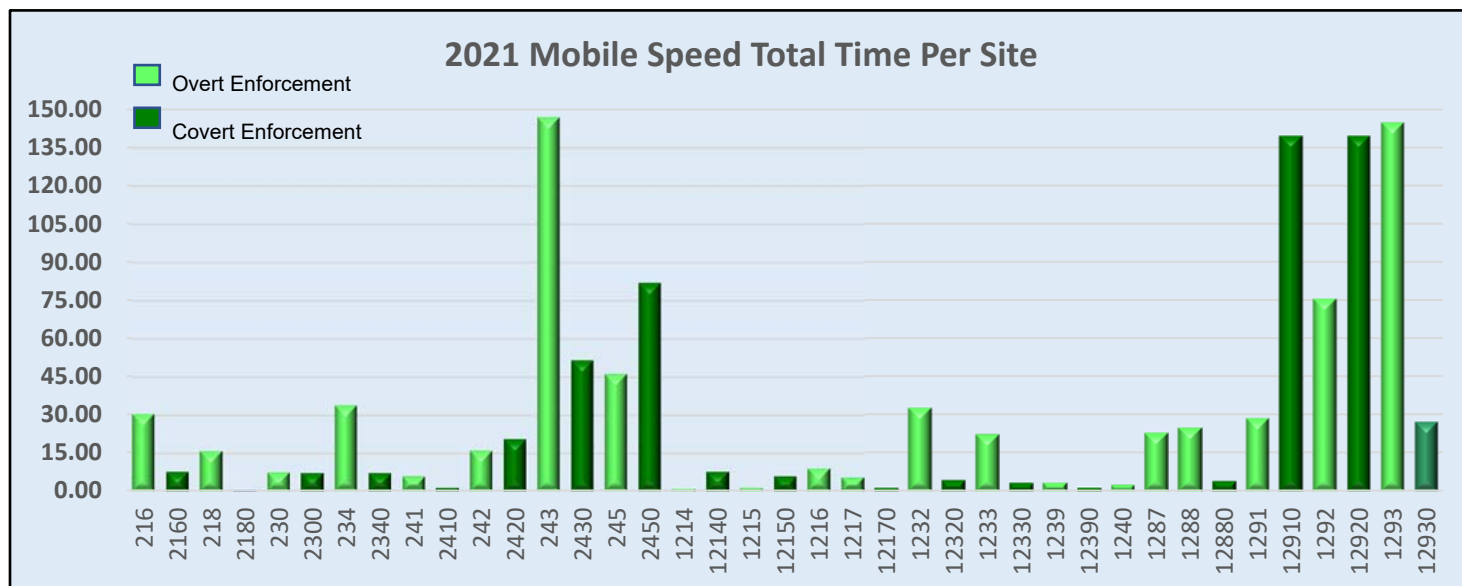
Efforts are made to move around the city and conduct enforcement activities throughout the municipality.

Mobile Speed

Frequency of enforcement

In 2022, there were a total of 56 sites that could be monitored for speed with ATE mobile enforcement. Many of these sites are duplicated sites. This is due to reporting requirements for overt vs covert enforcement. There were also several sites that became inactive mobile sites with the installation of fixed intersection safety device (ISD) systems during the transition to the current service provider. In 2022 a total of 38 sites were monitored. 21 sites were monitored in an overt fashion and 17 in a covert manner. In 2021 there were a total of 39 sites monitored with 18 sites monitored covertly and 21 sites monitored overtly. The total number of hours devoted to mobile speed enforcement in 2022 was 1,503.48 hours (679.62 hours covert and 823.87 hours overt). This is a total increase of 316.20 hours of mobile speed enforcement monitoring, with respective increases of 168.64 hours for covert mobile speed enforcement and 147.57 hours for overt speed enforcement compared to 2021 figures. 2021 total mobile speed enforcement hours were 1,187.28 hours; 510.98 hours covert and 676.30 hours being overt.

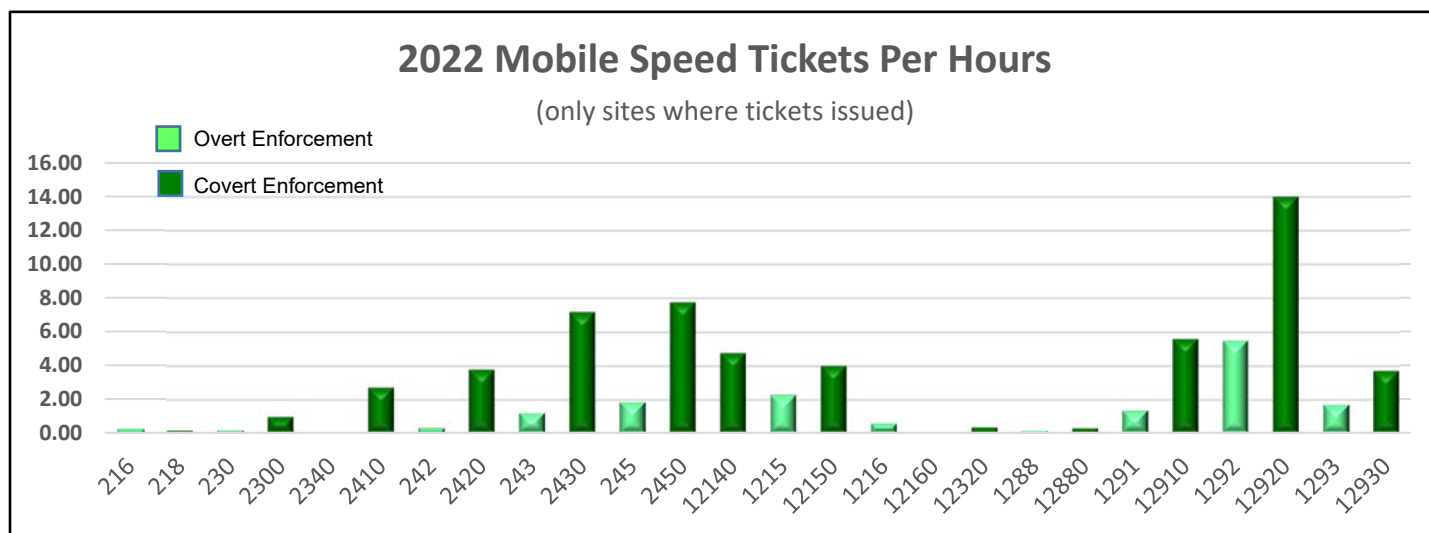


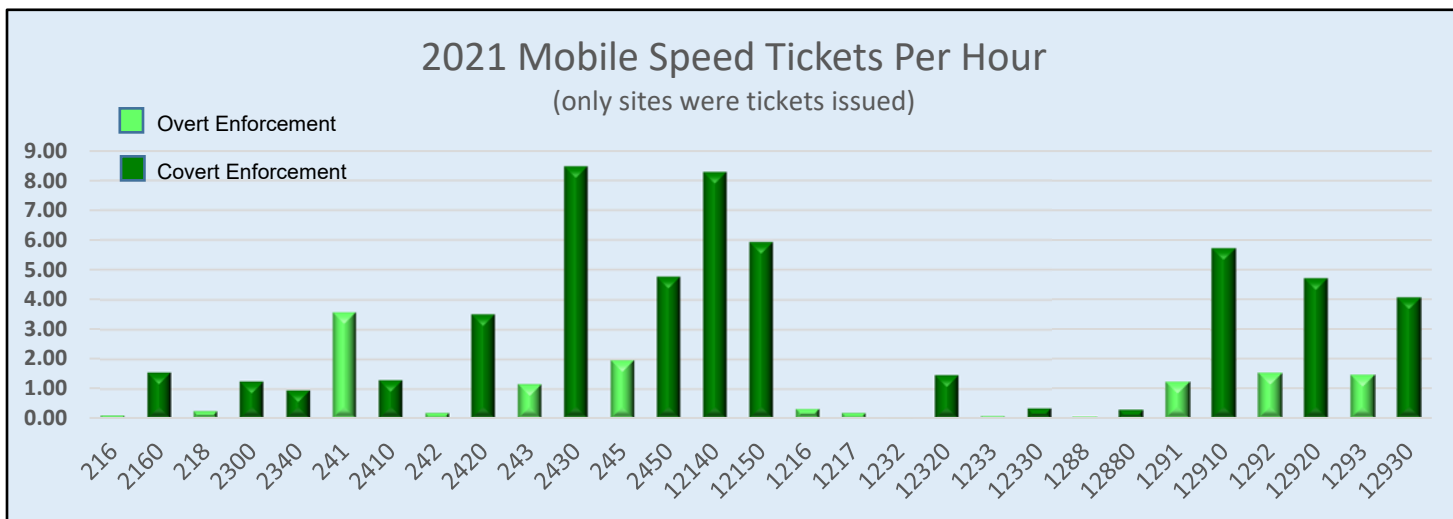


In 2022, sites 12920, 1293 and 243 had the most mobile speed enforcement hours with 188.77 hours or 12.56% of the time, 182.12 hours or 12.11% of the time, and 170.18 hours or 11.32% of the time respectively. In 2021, the sites monitored the most were sites 243, 1293 and 12920 with 146.90 hours (12.37%), 144.87 hours (12.20%), and 139.77 hours (11.77%). The percentages have remained relatively similar.

Tickets issued

The following charts below show the number of tickets issued per hour. In 2022 sites 12920, 2450 and 243 had the highest rate of tickets issued per hour at 14.02 tickets per hour, 7.73 tickets per hour and 7.14 tickets per hour of mobile speed enforcement.

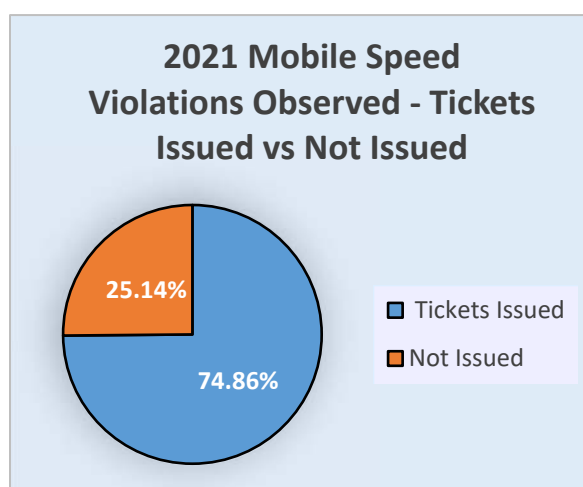
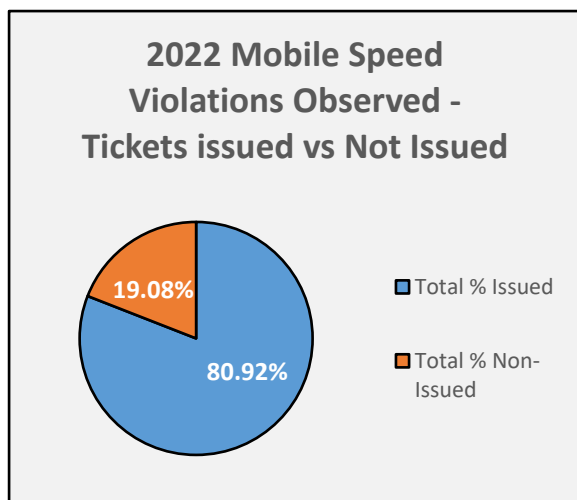




In 2021 the top 3 sites which had the highest rates of tickets issued per hour were sites 2430, site 12140 and site 12150. The tickets per hour rate for these sites were 8.47, 8.28 and 5.92 tickets per hour of mobile speed enforcement.

Violation observed vs tickets issued

In 2022 there were 7,604 mobile speed violations observed. 6,153 tickets were issued, and 1,451 tickets were not issued; or a percent ratio of 80.92% issued and 19.08% not issued.

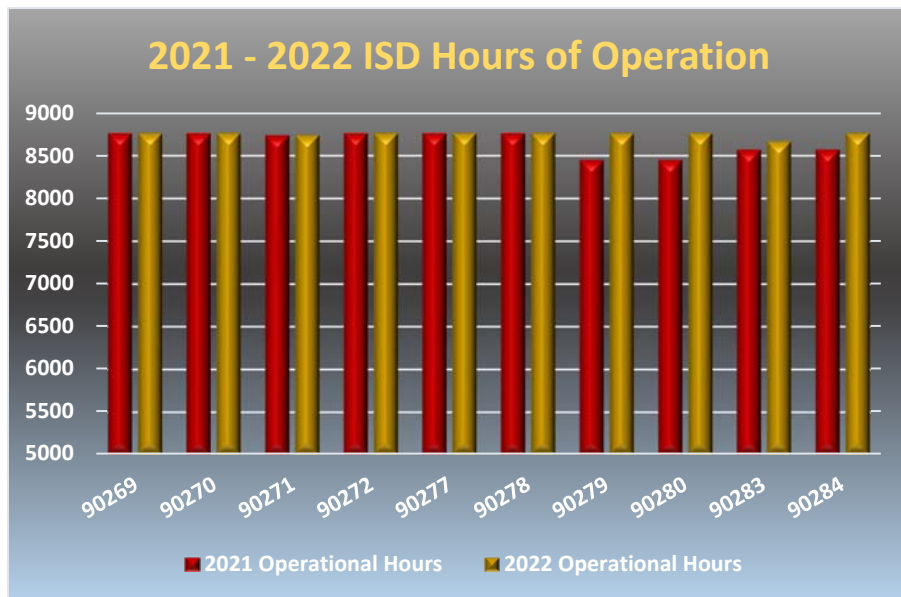


In 2021, there were 4,400 Mobile Speed Violations observed with 3,294 tickets issued and 1,106 tickets not issued.

Fixed (ISD)

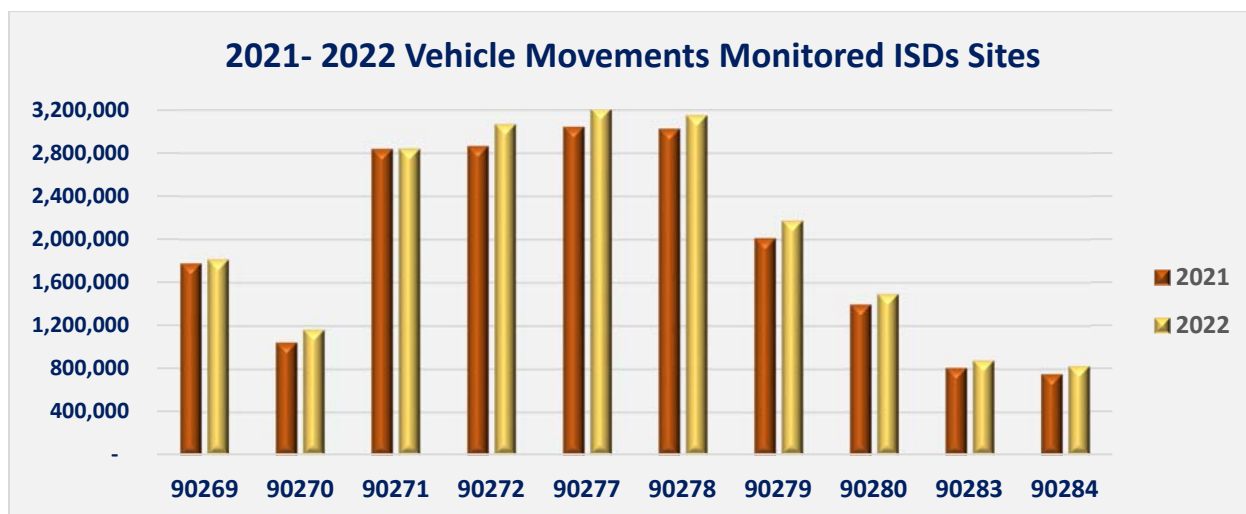
Frequency of enforcement

In 2022, there were 10 Intersection Safety Devices (ISD) or Fixed Systems. These devices are designed for use 24 hours a day, 365 days a year. They monitor both speed and red light infractions. In total, the sites were operational for 87,480 hours out of a potential 87,600 hours. This is an increase of 912 hours from 2021. In 2021 the resurfacing of Grove Drive effected the hours of operation.



Number of vehicles monitored - ISD

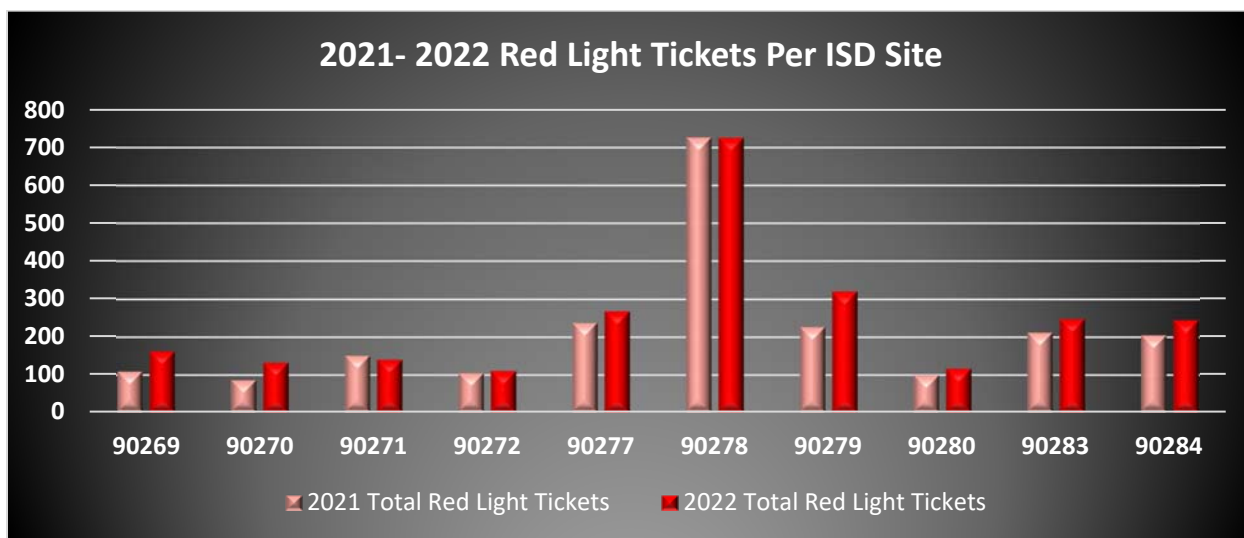
In 2022, there were a total of 20,609,866 vehicle movements monitored at the ISD sites. This is an increase of 1,037,488 vehicle monitored over 2021. In 2022, site 90278 had



the most vehicles monitored at 3,149,099. Relative to 2021, sites 90272, 90277 and 90279 saw the greatest increase in the number of vehicles monitored in 2022. The increases in vehicles monitored were 201,626 for site 90272, 167,934 for site 90277 and 161,710 at site 90279.

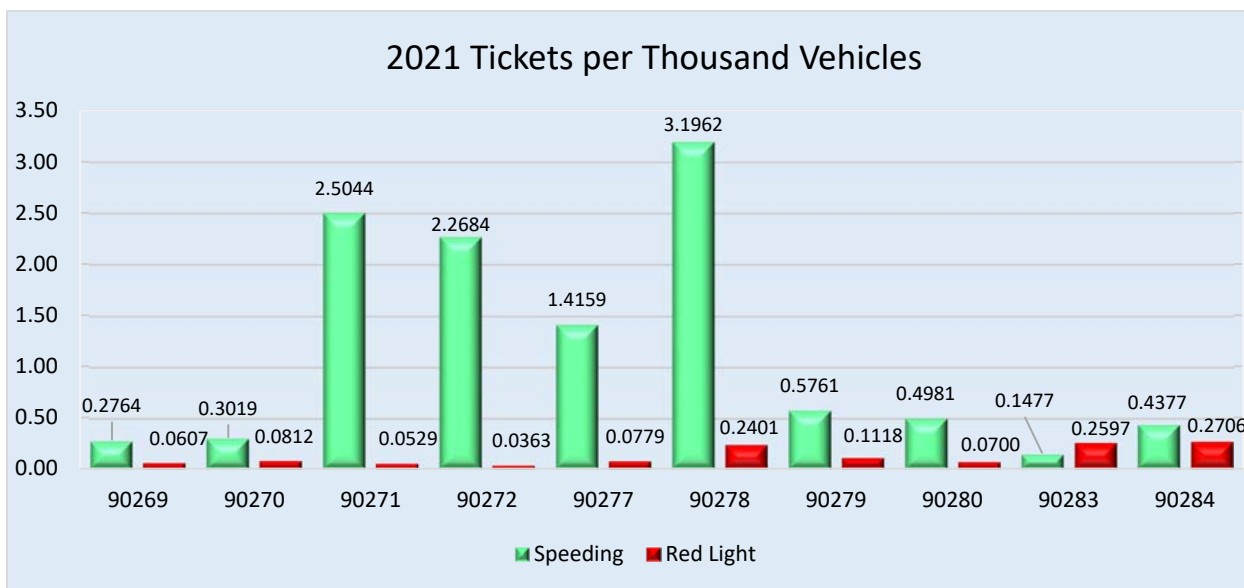
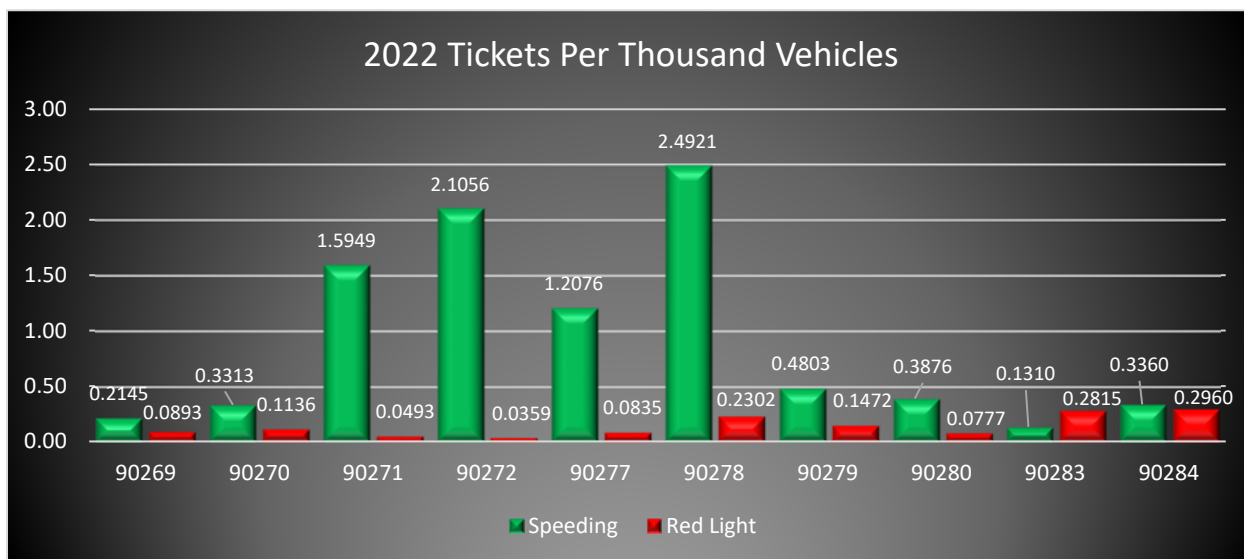
Tickets issued

In 2022, there were 25,497 ISD speeding tickets and 2,464 ISD red light tickets issued. These numbers yield a decrease of 16.92% in ISD speeding tickets, but an increase of 14.66% in ISD red light tickets issued. In 2021, it was 30,689 speeding tickets and 2,149 red light tickets issued at the ISD sites.



Tickets issued vs total traffic volume

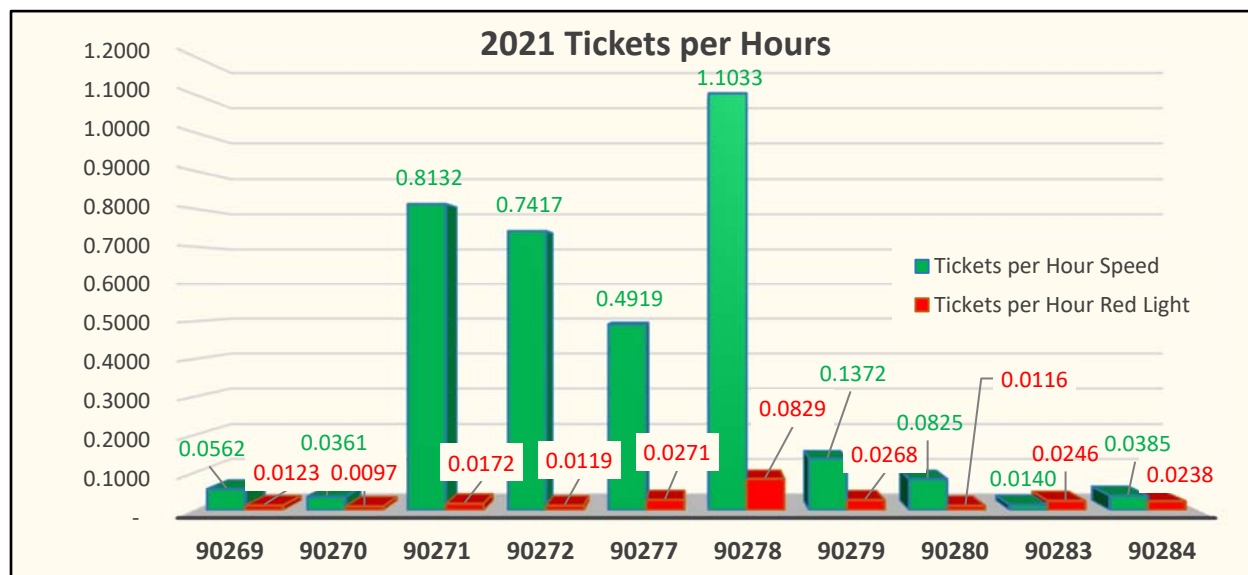
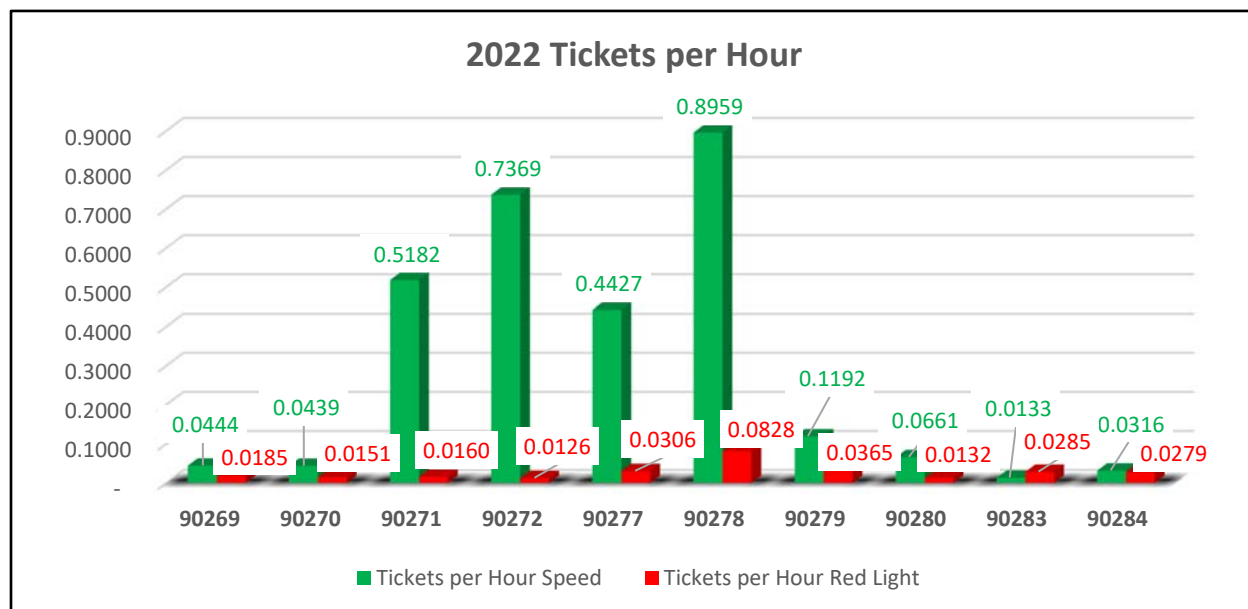
In 2022 the total number of vehicles monitored at ISD sites was 20,609,866. The total number of tickets issued at all these sites combined was 27,961 tickets. This represents only 0.1357% of vehicles monitored were ticketed.



In 2021 there were 19,572,378 vehicles monitored at ISD sites and a total of 32,838 tickets issued, or 0.1678% of vehicles ticketed. Relative to 2021, more vehicles were monitored and less tickets issued in 2022.

Tickets issued - per hour of operation

In 2022, site 90278 continued to have the most speeding tickets issued per hour at 0.8959 tickets issued per hour. Likewise this site had the most red light tickets issued at 0.0828 tickets issued per hour.

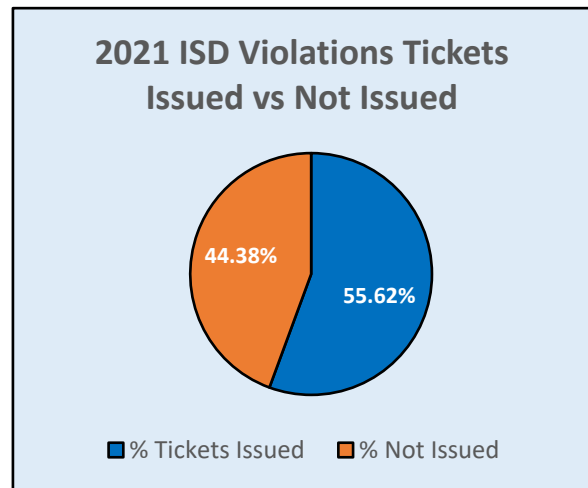
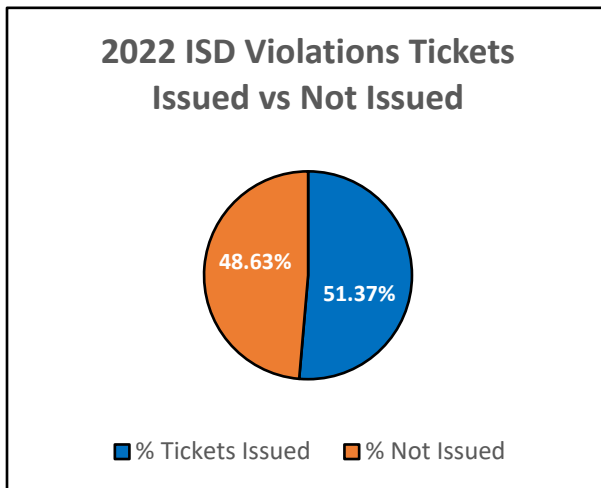


In 2021, Site 90278 had the most speeding tickets issued per hour with 1.1033 tickets issued per hour. In 2022 speeding tickets issued per hour rates decreased at all sites relative to 2021 data.

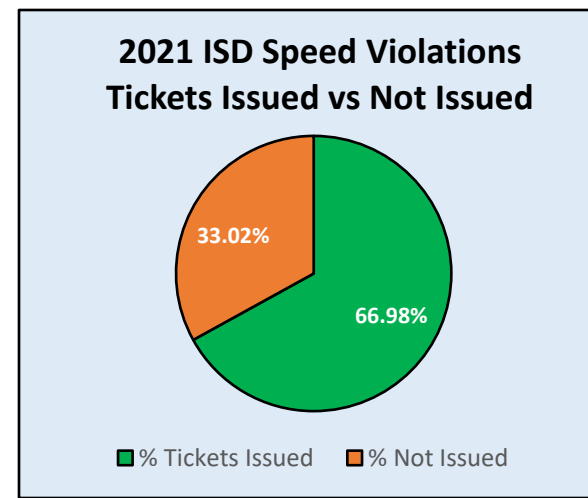
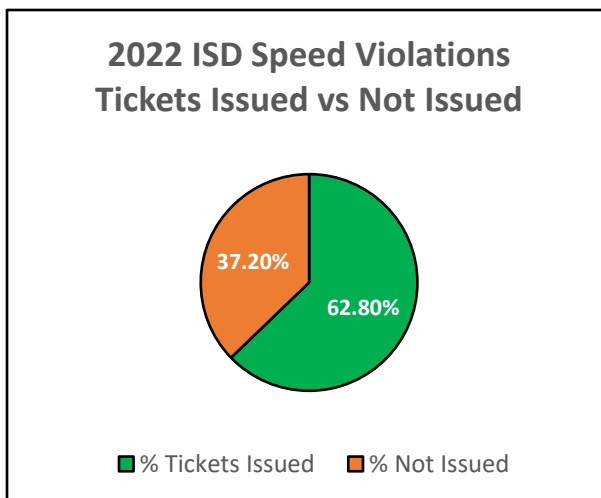
The opposite trend is noted with red light (fail to stop) tickets issued per hour. In 2021 site 90278 had the most red light, fail to stop tickets issued at 0.08929. In general terms the rate of red light ISD tickets issued in 2022 increased at 8 of the 10 sites.

Violation observed vs tickets issued

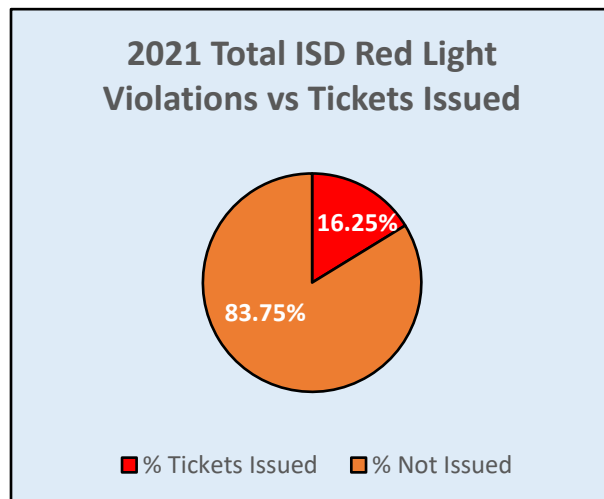
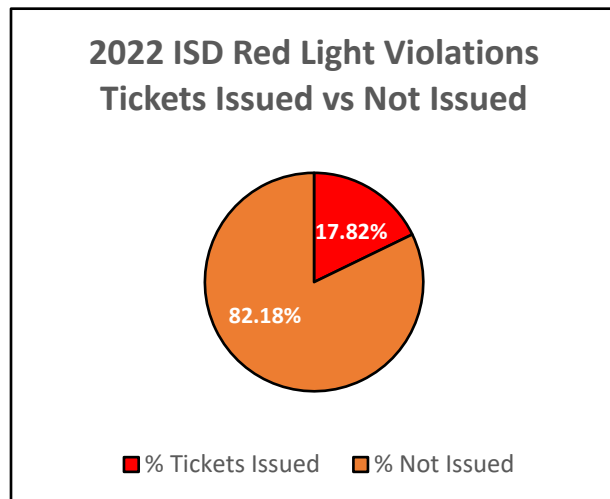
In 2022, the ISD system observed 54,429 violations, which yielded 27,961 tickets issued or 51.37% tickets issued, and 48.63% tickets not issued. To summarize, in 2022 the ISD system monitored 1,037,488 more vehicles, and operated 912 more hours, however issued a total of 4,877 less tickets than in 2021.



In 2022, the ISD system observed 40,603 speeding violations resulting in 25,497 speeding tickets being issued, or 62.80% issued and 37.20% not issued.



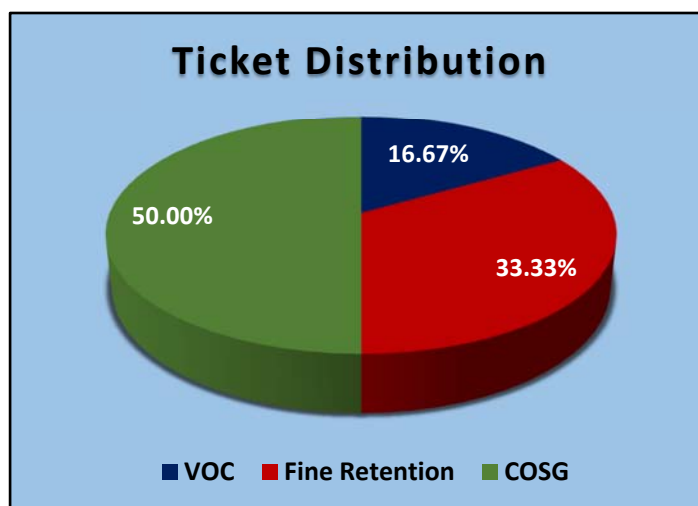
In 2021, the values were 45,821 speeding violations resulting in 30,689 speeding tickets being issued, or 55.62% issued and 44.38% not issued. In total there were 5,192 ISD less speeding tickets issued in 2022 relative to 2021.



In 2022 there were 13,826 red light (fail to stop) violations observed by the ISD system. 2,464 red light tickets were issued, or 17.82% tickets issued, and 82.18% tickets not issued. In 2021 there were 13,223 red light (failing to stop) violations observed with 2,149 tickets being issued. The number of violations observed increased by 603, and the number of tickets issued increased by 315 in 2022 relative to 2021. When examining these statistics, one must also contextualize the increase relative to the total number of vehicles monitored in 2022, which increased by 1,037,488 vehicles monitored.

Fines

Fine revenue is divided between the provincial Victims of Crime Fund (VOC), the Province of Alberta Fine Retention, and the City of Spruce Grove (COSG). For clarity, the VOC fund is a 20% surcharge on top of a fine. As a result, a \$100.00 fine would be written as \$120.00. The \$120.00 ticket would then be divided as follows: \$20.00 for VOC, \$40.00 for Provincial Fine Retention, and \$60.00 for the COSG.



Fines paid

Fines may be paid by the court date identified or after the finding of guilt. Once there is a finding of guilt, the fine then gets registered into the provincial system. It then may be paid when an individual goes to register a vehicle, renews a driver’s license, when it moves to provincial enforcement, when it is written off by the province, or dealt with by alternate measures such as community services. The City has no control over when or if a fine is paid, that authority rests with the court and the province.

In 2022, the COSG received \$2,698,986.75 in fine revenue from ATE. As the Fine Retention and VOC surcharge percentages have changed, and these changes only affect tickets written after the change date, it is nearly impossible to determine actual amounts paid to VOC and Fine Retention. However, with the changes the simple “go forward” formula is that for every dollar paid to the City of Spruce Grove, the province receives one dollar. Of that dollar, 1/3 goes to VOC and 2/3 goes to the province.

Use of ATE Funds

In 2022, the City received \$2,698,986.75 in ATE fines. These funds are allocated to general revenues as are all revenues received within Protective Services. General revenue is used to not only fund Protective Services, which in 2022 had a net cost of almost \$10.1 million, but also used to enhance traffic safety. The net cost of operating each area of Protective Services in 2022 were as follows:

Fire Services	.....	\$6,393,983
Police Services	.....	\$3,990,830
Enforcement Services	.....	\$1,173,878
Safe City (includes ATE)	.....	-\$1,487,592
Total	.....	\$10,071,009

ATE is not the only source of revenue generated by Protective Services. In 2022 each separate area of Protective Services generated the following revenues with ATE being the majority of revenue in Safe City:

Fire Services	.....	\$3,968,398
Police Services	.....	\$1,371,852
Enforcement Services	.....	\$165,646
Safe City (includes ATE)	.....	\$2,797,129
Total	.....	\$8,303,024

Investments are made towards traffic safety initiatives. Specifically, Engineering undertook measures to improve traffic safety in 2022. The initiatives included but were not limited to the following:

- Speed Study Analysis Report throughout the city to assess the viability and impact of reduced residential speeds to 40 km/hr.
- Upgrade and redesign of Jubilee Park entrance to allow for full crosswalk accessibility for pedestrians.
- Highway 16A at Jennifer Heil Way / Campsite road intersection traffic analysis.
- Highway 16A at Jennifer Heil Way / Campsite road intersection traffic light change to a protected left-hand turn
- Westwind Drive roundabout review – operational review of transit and civic centre roundabout.
- Jennifer Heil Way / Grove Drive warrant analysis.
- Jennifer Heil Way – intersection signal light timing review.
- McLeod Avenue / Oatway Street sidewalk safety and condition review and potential pedestrian / vehicle interactions.
- King Street at Brookwood Drive / Woodhaven Drive traffic and pedestrian safety analysis including traffic volumes, lane configuration, signal timing and queuing length.
- Golden Spike Road at Diamond Avenue intersection analysis which included traffic volume analysis, lane configuration, collision data review for traffic signal warrant.
- Traffic Counter analysis at over 33 intersections and roadways.

Overt vs Covert

In 2022 Spruce Grove remained current with traffic safety research. The paradigm employed is that effective traffic enforcement is best achieved with a mix of staffed enforcement, covert automated traffic enforcement and overt automated traffic enforcement. The goal is to change driver behaviour, to reinforce the sense that traffic laws are required to be obeyed 24 / 7 and that enforcement can occur anywhere at any time.

Spruce Grove reminds motorists that the City employs Automated Traffic Enforcement as one of its traffic safety tools, by using visual reminders such as signage on main throughfare roads upon vehicles entering the City's municipal boundaries. It also posts

signs at intersections and roadways where Automated Traffic Enforcement is enforced. The mobile ATE deployment goal is to achieve a balance of 50% overt and 50% covert enforcement monitoring.



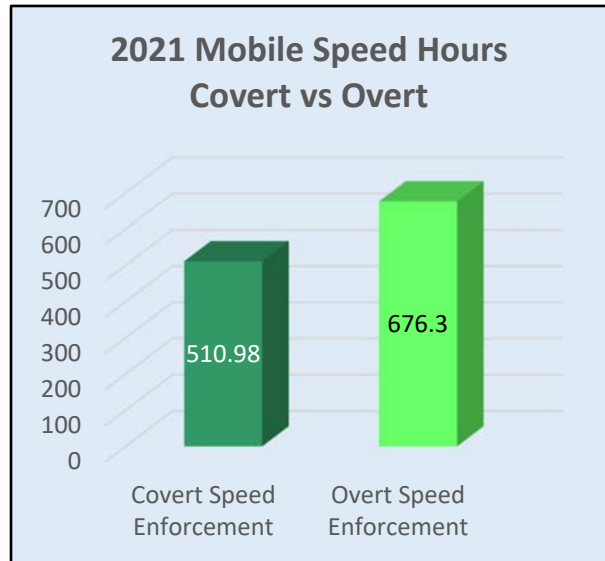
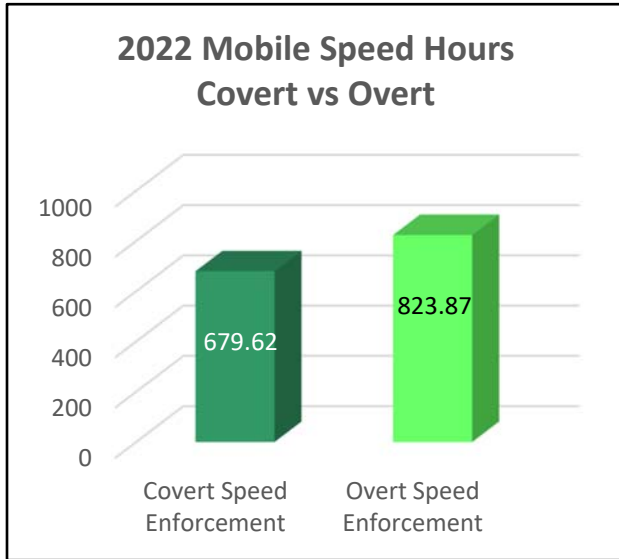
Overt enforcement is achieved when the ATE vehicle is clearly marked and visible to motorists prior to the possibility of a violation occurring. An example of this is the clearly marked ATE peace officer vehicle parked on the side of the road monitoring speeds, red lights, or stop signs. Motorist can clearly see the ATE vehicle prior to passing it and entering the area of enforcement. In theory, this visual reminder should result in no violations as the motorist is instantly reminded to obey the traffic laws.

Covert enforcement, however, occurs when an unmarked vehicle is used, the ATE vehicle is hidden, or when using remote devices. In this case, the motorist does not see the ATE vehicle. Drivers are expected to obey red light, speed limit or stop sign traffic laws as a matter of practice.

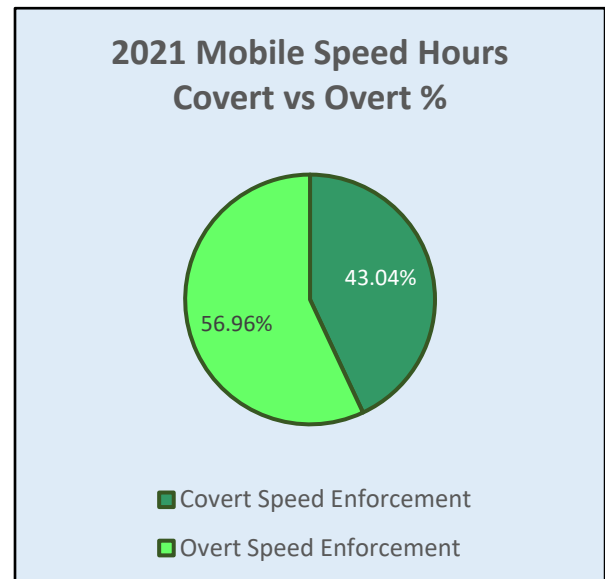
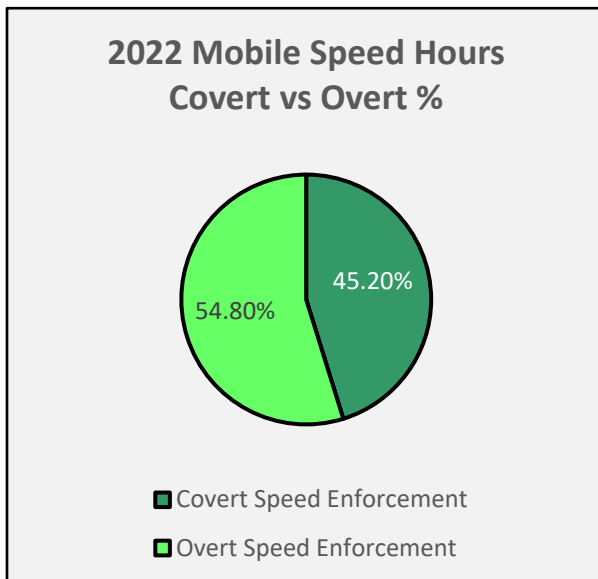
In December 2021 the provincial government released the new Automated Traffic Enforcement Technology Guideline. This new guideline required municipalities to transition and move to overt Automated Traffic Enforcement only. Programs were to ensure that all vehicles utilized for mobile ATE are clearly marked with “Drive Safe” decaling. These changes were required to be implemented by December 1st, 2022. When Spruce Grove changed ATE providers in 2020, it had already required that one of the ATE vehicles utilized be clearly marked and visible to motorists prior to the release of the Automated Traffic Enforcement Technology Guideline. Spruce Grove adheres to all legislative requirements in the operation of its ATE program and has made the required adjustments.



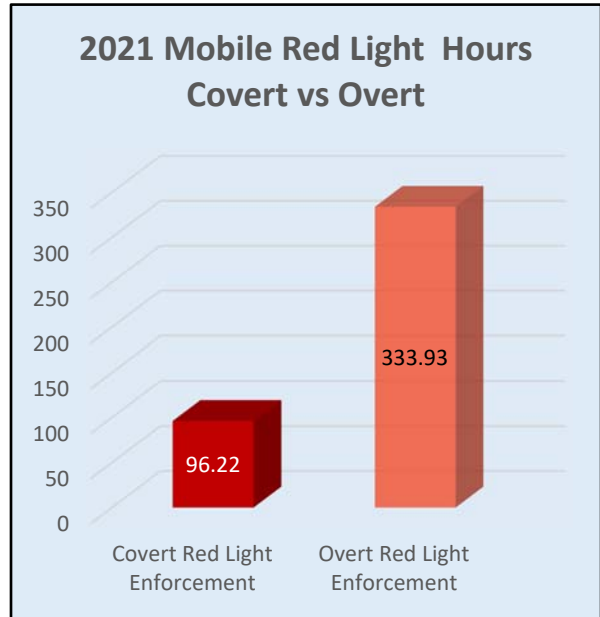
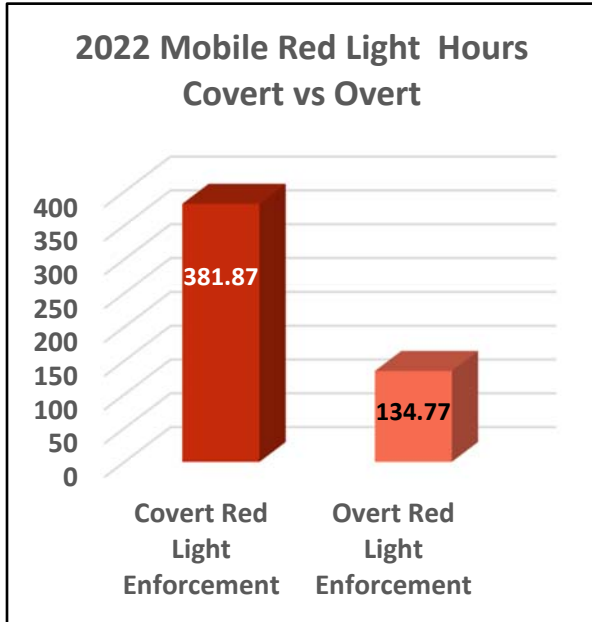
In efforts to further increase transparency respecting ATE activities, the City created an interactive map to further educate the public. This interactive digital map allows citizens to view in real time where mobile ATE is being conducted, regardless of whether the operation was covert or overt.



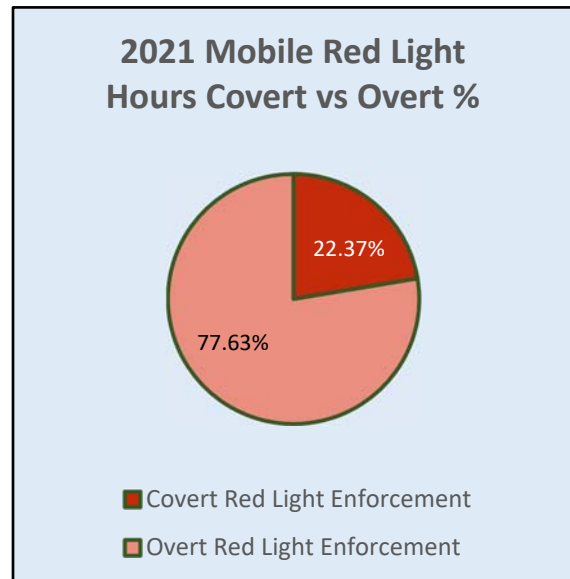
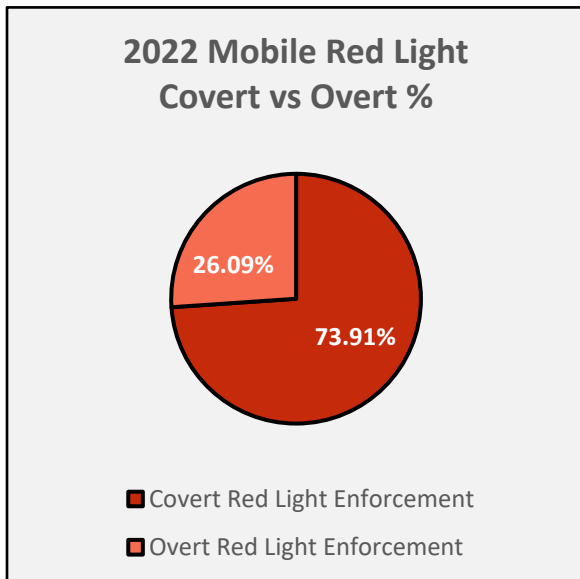
In 2022, the hours dedicated to mobile automated traffic speed enforcement was 1,503.49 hrs. This equates to 679.62 hours covert and 823.87 hours overt mobile speed monitoring. This is an increase of 316.21 hours of mobile speed enforcement from 2021.



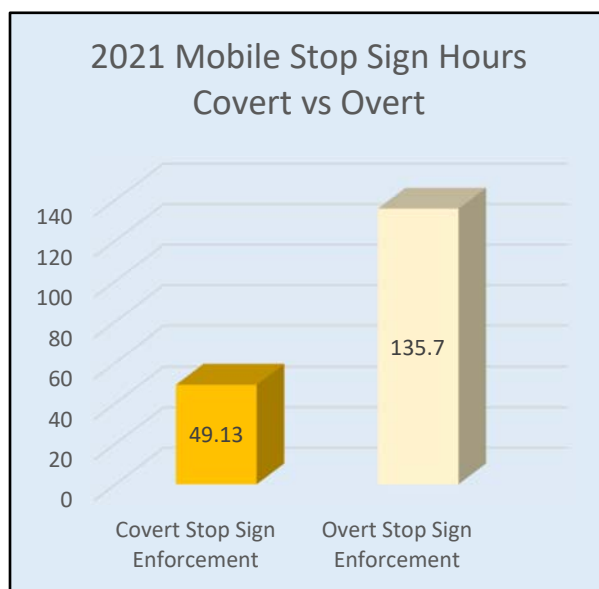
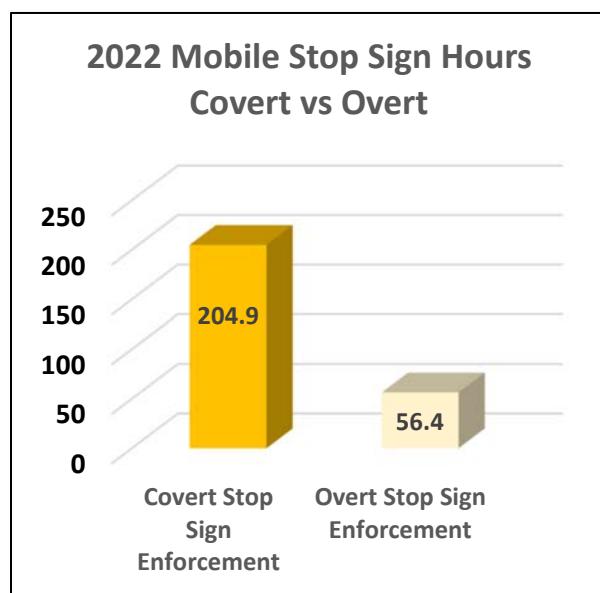
This means that 45.20% of the mobile ATE enforcement hours for speeding was conducted covertly and 54.80% was done overtly or visible. This is quite similar to 2021 ratios of 43.04% covert and 56.96% overt.



The total number of hours devoted to mobile red light enforcement in 2022 was 516.64 hours. This is an increase of 86.49 hours from 2021 which had 430.15 hours of enforcement. The number of hours conducting covert mobile red light enforcement was 381.87 hours and overt was 134.77 hours. This was almost a reversal of the previous year where the hours were 96.22 hours covert and 333.93 hours overt.

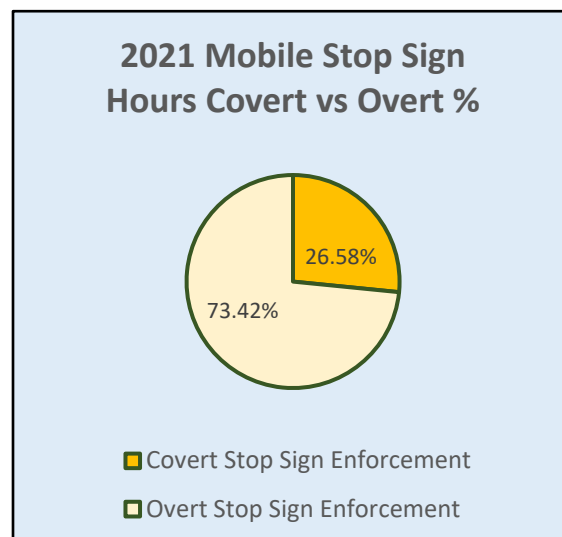
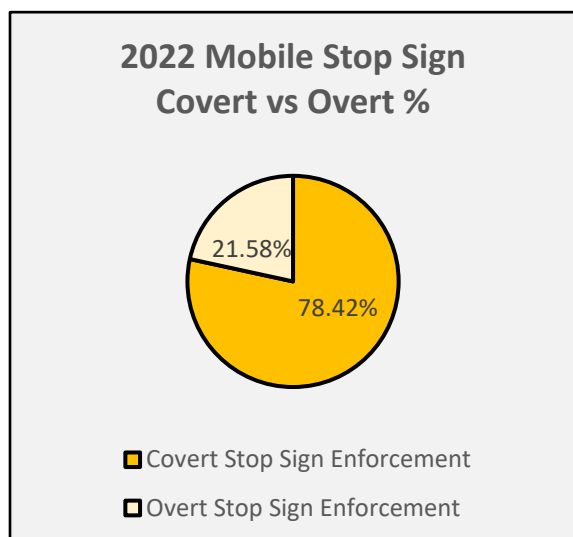


In 2022 the respective covert red light mobile enforcement compared to overt enforcement was 73.91% covert and 26.09% overt. In 2021, the percentage of mobile red light enforcement was 22.37% covert and 77.63% overt. When one combines the hours spent for both years 2021 and 2022, the ratio becomes 50.50% covert mobile red light enforcement and 49.50% overt mobile red light enforcement.

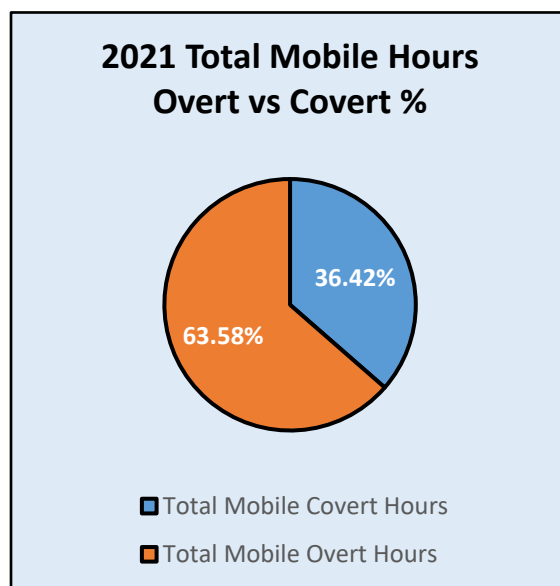
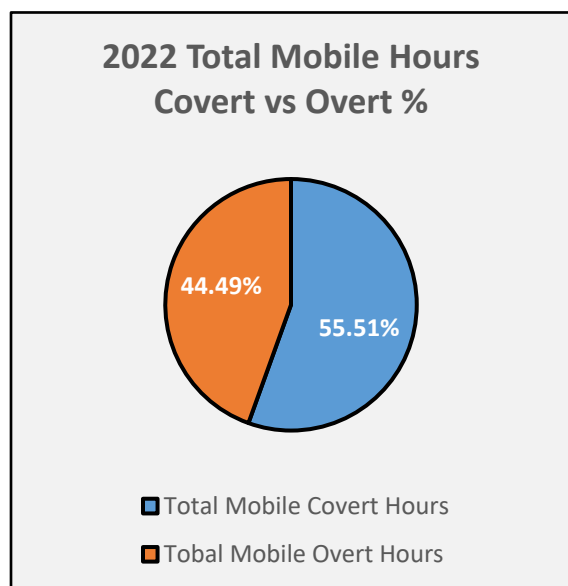


The total number of hours expended on conducting mobile stop sign enforcement in 2022 was 261.30 hours. This is an increase of 76.47 hours over 2021.

In 2022 the mobile stop sign enforcement hours resulted in 204.90 hours of covert monitoring and 56.40 hours of overt monitoring. In 2021, the hours were predominantly devoted to conducting overt stop sign enforcement, where the ratio was 49.13 hours covert and 135.70 overt enforcement.



The percentage of time spent conducting covert stop sign monitoring was 78.42% covert and 21.58% overt enforcement in 2022. In 2021, more time was spent conducting overt monitoring with a division of deployment hours being 26.58% covert monitoring and 73.42% overt monitoring. When both 2021 and 2022 deployment hours are combined, the division of deployment hours yields 56.95% covert enforcement and 43.06% overt enforcement.



The operational goal for mobile enforcement monitoring was to attain a 50/50 division of covert / overt enforcement. In 2022 the overall percentages were 55.51% covert mobile enforcement and 44.49% overt enforcement. This is closer to the 50/50 ratio than in 2021 which devoted 36.42% of the hours to covert enforcement and 63.58% overt enforcement. When both years are combined the split is 47.08% mobile covert enforcement and 52.92% mobile overt enforcement.

ATE Citizen Inquiries

The City of Spruce Grove tracks inquiries, and concerns received from the public regarding its Automated Traffic Enforcement program. In 2022 there were 76 inquires and / or concerns reported about the Automated Traffic Enforcement Program. Most of the inquiries centered around ticket inquiries, such as how to pay, dispute, obtain a copy, or obtain disclosure for a ticket. The next highest inquiry was law enforcement request for video footage, primarily collision video footage. In 2020 Spruce Grove changed its ATE service provider. Therefore, there was a period of time where the public adjusted to the flash video capture equipment being utilized.

ATE COMPLAINT TYPE / CATEGORY	2020	2021	2022
Disagree where ATE is parked	4	2	8
Wish to learn more / understand the ATE program / justify the ATE program	10	12	8
Stolen license plate / stolen vehicle	1	4	2
Dislikes the program / cash cow / private company/ ticket too expensive	4	6	3
Request for ATE to be enforced in area / praised the Program	2	2	0
Should not be enforced during inclement weather	0	3	0
Speed limit / tolerance inquiry	1	0	2
Request video / program inquiry law enforcement	4	8	15
Request video/ collision program inquiry - non law enforcement	3	5	2
ATE flash system - equipment testing - malfunction concerns / training	25	17	3
Request to withdraw ticket as staffed enforcement and ATE captured same offence		1	0
ATE vehicle obstruction - founded	1	0	0
Complaint against ATE operator	1	1	0
Ticket Inquiry - did they receive one, how to pay, how to dispute, how to obtain disclosure	11	36	29
Law enforcement in the execution of their duties	0	4	0
Compassionate reasons cited	0	1	0
Egregious offence captured - officer issued ticket	0	0	1
Ticket issued to wrong vehicle	0	0	2
ATE signage inquiry	0	0	1
TOTAL	67	102	76

In comparing 2020, 2021 and 2022 reports, one is able to see a marked decrease in ATE Flash System – Equipment Testing category complaint in 2021 and 2022.

The top three ATE citizen inquiries in 2022 were: Ticket inquiries, (total = 29); Request Video / Program Inquiry Law Enforcement (total =15) and an equal split in the number of reports recorded where people disagreed where the ATE vehicle was parked, and people wishing to learn more / understand how the ATE program operates, (total = 8 each).

Provincial Guideline Adherence

The City of Spruce Grove communicates regularly with the Solicitor General's office to ensure all ATE operations adhere to provincial guidelines. Quarterly and year-end reports are submitted, as well as traffic safety plans, site rationales and other documentation.

Effective December 1, 2019 the provincial government instituted a "freeze" on any new ATE sites or technologies. This "freeze" was to expire on November 30th, 2022. On December 3, 2021, the province released the new Automated Traffic Enforcement Technology Guideline which impacted automated traffic enforcement operations within the province. During 2022 the City was required to re-evaluated all ATE sites to ensure conformance with the new guideline. On December 1st, 2022, the provincial government extended the "freeze" for one more year. This is to allow municipalities / police services an opportunity to operate ATE under the fully implemented 2021 Guideline and allow for the provincial government to fully assess the data received from municipalities to ensure compliance with the Guideline. An audit of Spruce Grove's ATE program is scheduled for spring of 2023.

Other Traffic Safety Initiatives

Staffed enforcement

Staffed Enforcement operations are conducted throughout the City by the RCMP, Spruce Grove Enforcement Services, the RCMP Integrated Traffic Unit and other Tri-Municipal Enforcement partners through a memorandum of understanding. Aside from direct day to day enforcement responsibilities high visibility operations assist in educating the public that traffic safety laws must be obeyed throughout the City. High visibility operations also are used to address specific traffic safety issues of concern.

In 2022 Enforcement services conducted the following high visibility operations:

- 29 joint forces traffic safety operations were conducted with law enforcement partners.

- 487 school zone and school area patrols were conducted.
- 1,017 dedicated traffic operations and roving traffic patrols were conducted, resulting in 3,584 hours devoted to staffed traffic enforcement.
- 100 dedicated traffic operations were conducted for distracted driving which resulted in 50 tickets being issued.



Project Tensor

Project Tensor is a traffic safety enforcement “blitz” that is coordinated with capital region law enforcement partners to address traffic safety concerns. Spruce Grove Enforcement Services conducted five Project Tensor operations throughout the summer months, with a particular focus on vehicle noise and vehicle equipment violations. These operations resulted in a total of 57 tickets being issued, a total of 57 deficiency notices issued; 19 tests were conducted using a decibel meter, 12 tickets were issued for excessive / disturbing vehicle noise, and 11 deficiency notices issued for vehicular noise under the provincial Vehicle Equipment Regulations.

Data collection

Data collection occurs via the Houston Radar boxes (speed and traffic volume recorders), speed display monitoring signs, and a Vermac (mobile) speed display sign. These devices are rotated throughout the city. Engineering also utilizes Miovision Scout video monitoring equipment for traffic and pedestrian volume counts as well as Traffic Logix radar speed signs to monitor speed and traffic volumes.

The speed display signs are designed to instantly remind drivers of the correct speed limit, to advise motorists of their speed and to alert them if they are speeding. The Houston Radar boxes are covert and designed to identify areas of the city where speeding may be an issue.

Once data is analyzed, a corrective action is implemented that best suits the situation.

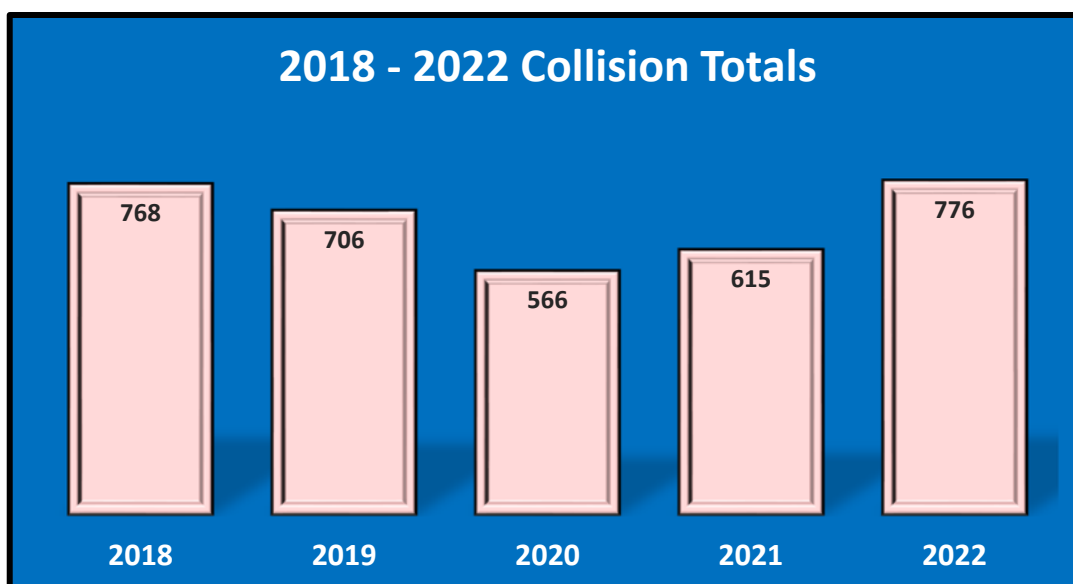
Collision Statistics (2022)

In 2022 there was a marked increase in the number of total and injury collisions noted. This increase may be attributed to a variety of factors which include: a shift from data obtained in previous years from the RCMP to Alberta Transportation; the ability to review a more detailed collision description narrative, timeliness in collision data reception, and a post pandemic environment. A pronounced spike in the number of collisions was also noted during the months of November and December 2022. This increase coincides with poor weather conditions during those months.

Collision data is now received monthly from the province. The 2022 collision statistics are accurate as of January 24th, 2023. When collision data is received, the previous months collision numbers are required to be regularly adjusted because of delayed data entry into the system. These factors make it difficult to conduct accurate data comparisons or meaningful trend analysis. Therefore, it may require a few years of consistent data to accurately assess collision trends. It can be said that Spruce Grove has continued to record zero collision fatalities for over a 10 year period.

Total Collisions

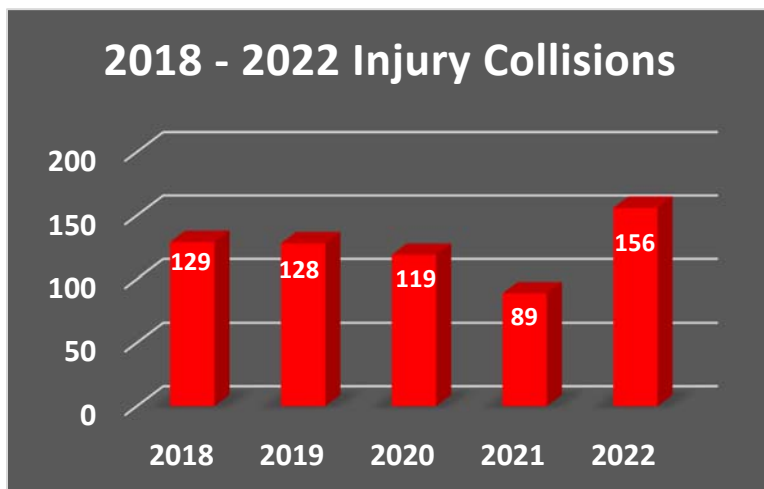
As of the production of this report, there were a total of 776 collisions recorded. There were 156 injury collisions and 630 property damage collisions. This equates to an increase of 26.18% over 2021 collisions, 37.10% over 2020, 9.92% over 2019 and 1.04% over 2018 collisions. If one conducts a population growth comparison from 2018,



(35,766⁵) to the most recent City population numbers (37,645⁶) one obtains a population growth of 5.25%.

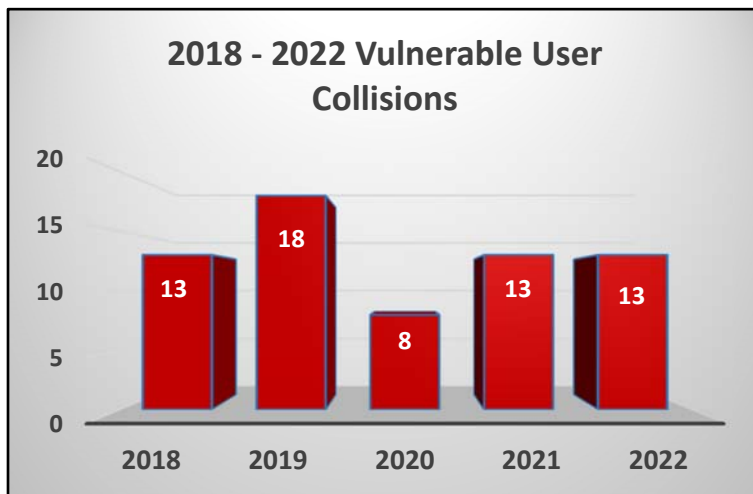
Injury Collisions

As was observed in total collisions, a similar increase was noted in injury collisions. There were a total of 156 injury collisions in 2022. This is a respective increase of 75.29% over 2021, 31.09% over 2020, 21.88% over 2019, and 20.93% over 2018 statistics.



Vulnerable User Collisions

Vulnerable user collisions are defined as a collision that involved a pedestrian, cyclist, scooter or with an individual utilizing a mobility aid. In relative terms vulnerable user collisions remained relatively flat since 2018. There was a spike in 2019 with 18 vulnerable user collisions, but then a subsequent decrease in 2020. In the late spring of 2022, the City experienced a rash of vulnerable user collisions with 6 in a one-month period. Multi-media messaging and an enforcement “blitz” was initiated to mitigate the rash of vulnerable user collisions.

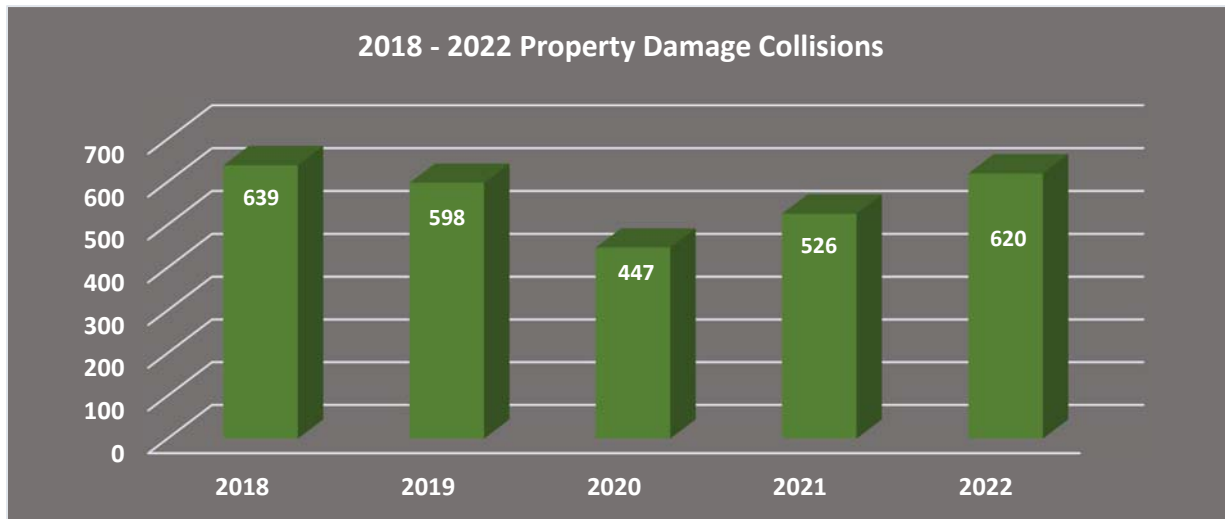


⁵ City of Spruce Grove Demographic Report 2018, July 2018

⁶ City of Spruce Grove Corporate Plan 2023-2025

Property Damage Collisions

Collision data prior to 2022 was received from the RCMP. The collision data received from the RCMP had collisions separated into property damage collisions reportable and property damage collisions non-reportable. The determination whether a collision is reportable or non-reportable was dependant upon the value of the damage incurred. The threshold for damage being reportable or non-reportable is \$2000.00. The current data received from Alberta Transportation does not have this separation.

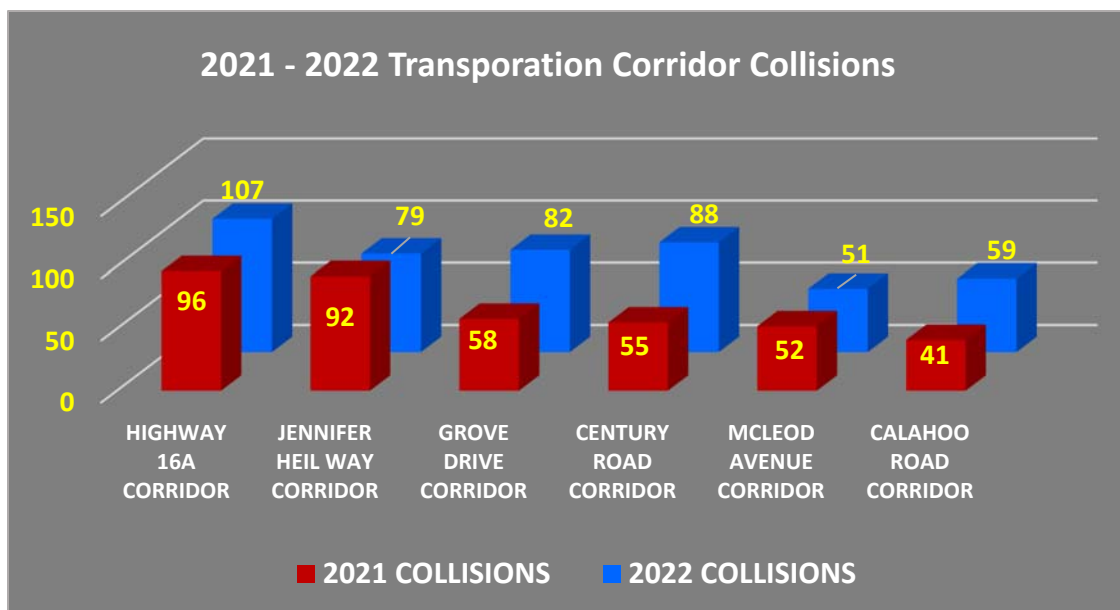


In 2018 the total number of property damage collisions was 639. 564 collisions were reportable and 75 collisions were non-reportable. In 2019 it was 598 total property damage collisions, with 513 being reportable and 85 being non-reportable. 2020 saw 447 property damage collisions with 390 being reportable and 57 being non-reportable. In 2021, the values were 526 property damage collisions, 468 reportable and 58 non-reportable collisions. 2022 saw a total of 620 reportable property damage collisions. It should be noted that many of the property damage collisions occurred in parking lots or driveways. In the 5 year period, from 2018 to 2022 the number of property damage collisions which occurred on parking lots or driveways was: 2018 = 245 parking lot collisions, 2019 = 220 parking lot collisions, 2020 = 152 parking lot collisions, 2021 = 205 parking lot collisions and 2022 had 282 property damage collisions in parking lots or driveways. A post Covid rebound is observed in property damage collisions as well.

Collisions per Traffic Corridor

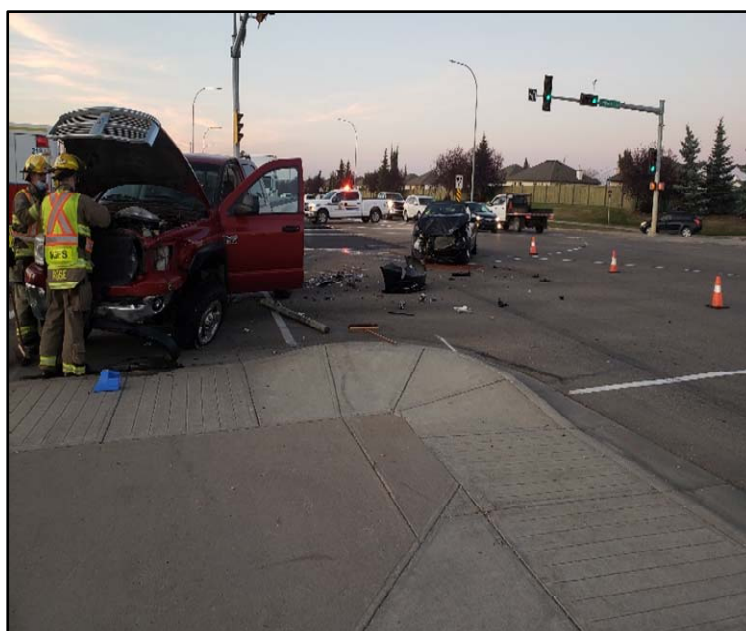
The primary traffic corridors through Spruce Grove are Highway 16A, Jennifer Heil Way, Century Road, Grove Drive, McLeod Avenue and Calahoo Road. Collision increases

were noted on a number of these transportation conduits. The greatest increases were noted along the Century Road and Grove Drive corridor with respective increases of 60% and 41.38%. Decreases were noted along the Jennifer Heil Way Corridor -14.13% and the Calahoo Road Corridor -1.92%.



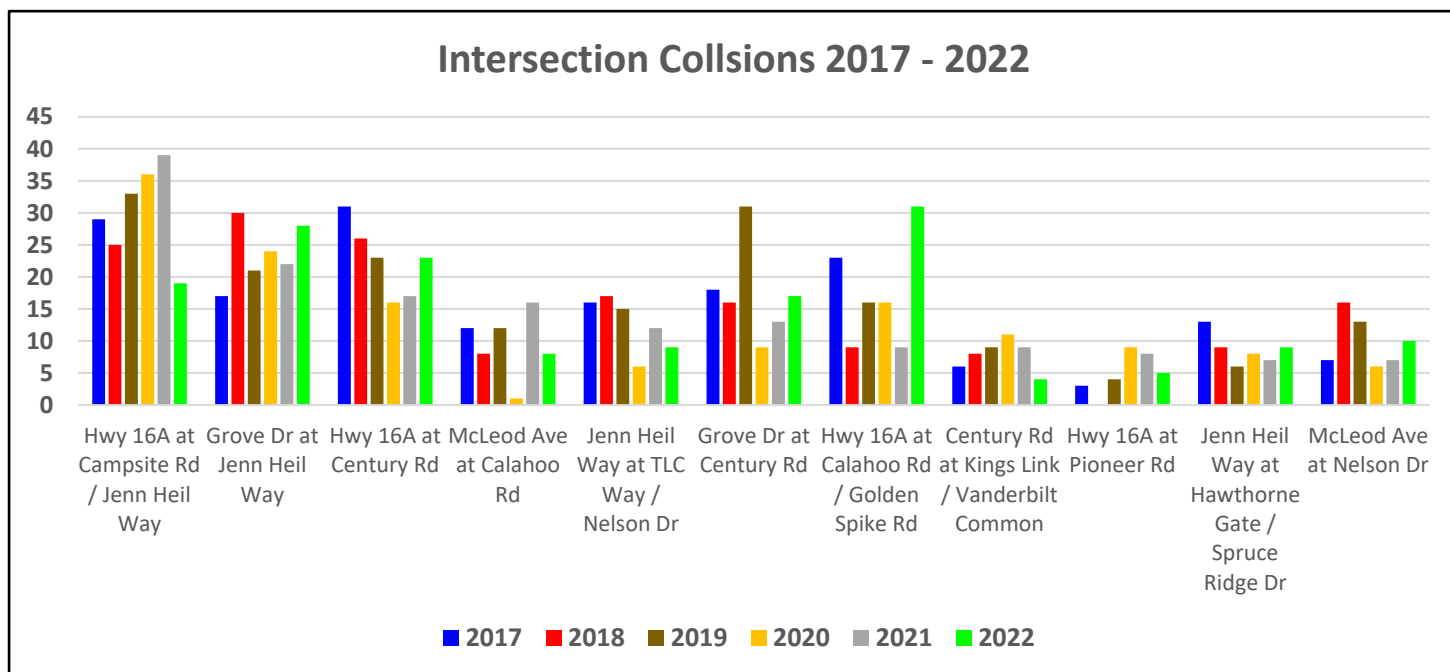
Top Ten Collision Intersections

Collision statistics detail the top ten City intersection that have recorded the greatest number of collisions. In 2022 a noticeable increase was noted at Highway 16A and Golden Spike / Calahoo Road, whereas a significant decrease was noted at Highway 16A and Campsite Road / Jennifer Heil Way. The decrease in collisions at Highway 16A and Campsite Road / Jennifer Heil Way is believed to be the result of changing left hand turn traffic light signalization into a protected left-hand turn.



Ranking	Intersection	2022 Collisions	2021 Collisions	2020 Collisions
1	Highway 16A at Calahoo Road / Golden Spike Road	31	9	16
2	Grove Drive at Jennifer Heil Way	28	22	24
3	Highway 16A at Century Road	23	17	16
4	Highway 16A at Campsite Road / Jennifer Heil Way	19	39	36
5	Grove Drive at Century Road	17	11	13
6	Jennifer Heil way at Nelson Drive / Tri-Leisure Way	12	12	6
	Century Road at Century Crossing	12	5	10
8	McLeod Avenue at Nelson Drive	10	7	6
	Century Road at Westwind Drive	10	3	8
10	Jennifer Heil Way at Hawthorne Gate / Spruce Ridge Drive	9	7	8

The chart “Intersection Collisions 2017 – 2022” provides an assessment of intersection performance. In general terms most intersections show an overall downward trend of collisions over the years. Highway 16A at Campsite Road / Jennifer Heil Way and Grove Drive at Jennifer Heil Way are habitually intersections with high collisions.



Site Rational

All sites with rational are listed on the City web page

<https://www.sprucegrove.org/services/emergency-protective-services/automated-traffic-enforcement/automated-enforcement-locations-and-rationale/>

The provincial review and subsequent release of the 2021 Automated Traffic Enforcement Technology Guidelines modified the criteria for site rational. The government required all Automated Traffic Enforcement Sites to be re-evaluated with supporting data to ensure compliance with the new site rational. In 2022 Spruce Grove evaluated all its Automated Traffic Enforcement Sites in accordance with the new criteria and data requirements.

Staffed Enforcement versus ATE Balance

The City tracks the hours devoted to staffed or traditional traffic enforcement against those expended on Automated Traffic Enforcement. It is unrealistic for staffed enforcement to compete against the efficiency of an automated system. A more appropriate comparison and its intent, is to achieve a more equitable balance of hours between the two traffic enforcement methods. In 2022, Enforcement Services tracked both the hours dedicated to specific targeted traffic enforcement operations but also those which may be attributed to roving traffic patrols. Roving traffic patrols are patrols where officers drive throughout the city, thereby enhancing their visible presence, and to search out traffic violations. Although Spruce Grove Enforcement Services tracks its staffed traffic enforcement hours, it does not have access to RCMP data associated to its traffic enforcement hours.

Spruce Grove Enforcement Services has one Peace Officer per watch, for a total of two officers, dedicated solely to traffic enforcement operations. Other Peace Officer assist in specific traffic operations, conduct roving patrols, and conduct traffic duties when not addressing complaints from the public.

In 2022, Spruce Grove Enforcement Services devoted 3,583.63 hours towards staffed traffic enforcement operations. In total Spruce Grove Enforcement Services issued 2668 traffic related tickets for 2022. Of those tickets the dedicated traffic enforcement positions issued 1,564 traffic tickets and 76 warnings. The total number of hours expended on mobile Automated Traffic Enforcement in 2022 was 2,281.42 hours. During that period, a total of 8,187 tickets were issued.

The City exceeded its goal of achieving an equitable ratio, 50/50 split, between staffed traffic enforcement hours with that of mobile ATE hours. In fact, the ratio is 1.57 to 1 staffed enforcement versus mobile Automated Traffic Enforcement hours. This number excludes any staffed enforcement hours conducted on the City's behalf by the RCMP.

Education Initiatives

Information regarding Automated Traffic Enforcement and traffic safety information may be found on the City of Spruce Grove's website. It includes an interactive map, ATE site rationales, monthly mobile site enforcement locations, collision data, reports, and safety tips. Additionally, educational initiatives conducted in 2022 included, electronic, social media and print messaging, educational instruction, conferences, presentations, and safety campaigns. A synopsis of these educational initiatives is provided accordingly by category.



Electronic, social media, print media

In late spring 2022 the City experienced a spike in pedestrian / cyclist versus motor vehicle collisions. Extensive efforts were made to create awareness to combat this phenomenon utilizing social media, news releases and digital sign boards. Other messaging centred around:

- Winter Advisory and Road Safety Tips
- Messaging regarding traffic impacts for the Pontiff's visit.
- School Zone and School Bus Awareness
- Traffic signalization changes
- Other seasonal traffic and road safety messages.

Educational Instruction

Educational initiatives involve an officer or in collaboration with others conducting training or instruction to groups of people. In 2022 these included:

- Point Pause Proceed /Bike Safety Rodeos and Helmet Safety
- Fall prevention and pedestrian safety presentations to seniors
- Distracted Driving train the trainer instructors training
- Car seat safety

Conferences

Spruce Grove is a member of the Capital Region Integrated Safety Partnership (CRISP). CRISP shares resources and expertise to implement on-going, collaborative, integrated traffic safety research and initiatives to reduce the frequency and severity of intersection collisions in Alberta's Capital Region. Conferences are held to engage the public, professionals and researchers on various traffic safety concerns. In the fall of 2022, CRISP held an “Unconference” – regional traffic safety session in west Edmonton.

Safety Campaigns

Spruce Grove collaborates with other organizations such as Mother’s Against Drunk Drivers – Parkland Chapter to maximize traffic safety awareness. These campaigns focus on impaired and distracted driving. In 2022 the safety campaigns included:



- Overturned motor vehicle on Jennifer Heil Way
- Signage where an impaired driver was stopped
- Candy Cane Check Stop

Presentations

The City of Spruce Grove Community Road Safety Advisory Committee is comprised of community members and council members. Presentations were made to the committee on various traffic safety topics which included:

- Provincial changes to Automated Traffic Enforcement
- City’s ATE website and mapping tool
- Traffic Bylaw and decibel meter to reduce vehicle noise disturbances
- 2021 ATE Annual Report
- Speed limit study
- Protected left hand turn signalization
- Traffic Safety Plan; priorities and community safety.
- Crosswalk safety
- E-Scooter services

Further information may be located at <https://www.sprucegrove.org/government/city-council/boards-and-committees/community-road-safety-advisory-committee/>

The City continues its involvement with the Capital Region Integrated Safety Partnership (CRISP) which provides education to motorists, engineers, and government officials. More on CRISP may be found at <https://drivetolive.ca/what-we-do/strategic-plan-2017-2021/>

The City's communications department helps with traffic safety messaging via the City's website and social media. The website information may be found at <https://www.sprucegrove.org/services/emergency-protective-services/safe-city/traffic-safety/> for more information.

Spruce Grove Protective Services has its own Facebook page where the public may find traffic safety tips. The Facebook information may be found at <https://Facebook.com/SpruceGroveProtectiveServices/>

ATE Transportation Safety Outcomes

In 2022 the City of Spruce Grove's Traffic Safety Plan that was established for 2019 - 2022 concluded. A new 2023-2025 Traffic Safety Plan was drafted. The 2023-2025 reviewed in detail the performance indicators set for that period. The review was specific to the years 2019 to 2021 as 2022 data was not completed at the time of the drafting of that report. The new 2023-2025 Traffic Safety Plan may be found on the City of Spruce Grove's website at: <https://www.sprucegrove.org/media/6044/2023-2025-traffic-safety-plan.pdf>

The 2019 – 2022 Traffic Safety Plan set targets utilizing the 5 E's approach to traffic safety which included Evaluation, Enforcement, Engagement, Engineering and Education. It set specific targets. A score of the number of goals achieved for each category is provided.

Evaluation Goals: All targets identified were achieved.

Enforcement Goals: All targets identified were achieved

Engagement Goals: Three of the four targets were achieved. The Safe City terms of reference revision was not completed.

Engineering Goals: Two of the four goals were achieved. The revision of the City's Municipal Development Standards is still in progress and will soon be completed. The

construction of roundabouts on Pioneer Road, as well as on Tonewood Boulevard was not achieved due to development delays.

Education Goals:

General / Macro Level Education Initiatives: These are broad based communication or public educational initiatives. Five of the six targets were achieved. The engagement of radio stations for radio announcements on various road safety topics for specific holiday events was limited as a result of the pandemic.

Micro / Audience Specific Level Initiatives: These are audience specific presentations on specific traffic safety topics, such as Bike Rodeos. One initiative was fully achieved while the other six had limited engagement due to the pandemic.

Knowledge Transfer / Professionals: These initiatives may involve the creation of reports, formation of committees, surveys or conferences where transportation professionals convene. Three of the four initiatives were achieved. During the 2019 – 2022 Traffic Safety Plan reporting period there was no Urban Traffic Safety Conference.

The 2023-2025 Traffic Safety Plan identifies specific Transportation Safety Outcomes these are:

1. ***Maintain the total number of fatal collisions at zero***
2. ***Decrease the total number of collisions by 3%***
3. ***Decrease the total number of injury collisions by 3%***
4. ***Decrease the total number of collisions along the Jennifer Heil transportation corridor by 3%***
5. ***Decrease the total number of collisions along the Highway 16A transportation corridor by 5%***

Positive transportation safety outcomes were noted between 2019 and 2021. It is evident that 2022 was a period where a post pandemic rebound effect was noted. A separate data source for collisions also impacted statistics however, an increase in collisions is evident regardless. Population increase, increased traffic as monitored by the number of vehicles tracked by the ISD ATE system also may have contributed to the rise in collisions. A review of collision data for November and December 2022 noted a sharp increase in collisions. This spike may be attributable to inclement weather in November and December 2022. Further monitoring is required to fully assess whether the post-pandemic rebound effect is temporary, whereby a decline in collisions will be noted, or this is part of a greater trend that needs to be further evaluated.

Community Road Safety Advisory Committee Comments

This report was submitted and subsequently presented to the Community Road Safety Advisory Committee for review on March 1st, 2023. The Committee proffered the following recommendations for consideration:

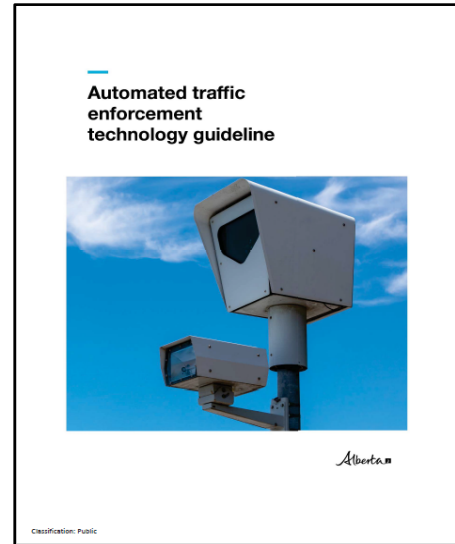
- A wider yearly comparison should be provided to identify trends as opposed to only a two-year period.
- Consideration should be given for a third party to analyze the data and make suggestions on how to normalize the data for better clarity.
- The Committee recognized that there is an identified gap between the collection of traffic data and resources to conduct appropriate analysis of the data.
- The report is important to fulfill the legislative requirements, however it should be condensed and “lifted up” so that the general public can better understand the information. This would include utilizing other communication methods or tools verses simply posting the report on the website.
- The City has experienced exceptional growth, as such a correlation should be made between collision data and the City’s growth. Raw numbers although important should be expressed relative to a per capita basis and/or per vehicle basis to portray a more accurate picture of change.
- Reporting of information should be expressed in a more positive manner instead of reactive statistical reporting. There should be greater emphasis as to the benefits of increased safety and a decrease in raw statistics. Perhaps this can be done as a FAQ on the website to ensure the “positivity” is linked to safety and how it is getting better.

Provincial Changes to the ATE Program

The City abides by all legislative requirements in its management and operation of the Automated Traffic Enforcement Program. In December 2021 the Province released the updated Automated Traffic Enforcement Technology Guideline. This guideline provides standards that must be adhered to when using Automated Traffic Enforcement.

In 2022, Spruce Grove moved forward in implementing the necessary changes required to ensure conformance with the new guidelines which were to come fully into effect by December 1st, 2022. These changes included:

- Restricting the issuance of a second or additional offence notice if the violation occurred within 5 minutes of each other;
- Elimination of “Public Concern” and “Conventional Enforcement Unsafe” as an ATE rationale criteria;
- Assess all ATE locations utilizing the new selection criteria, including requiring the rationale and supporting data to be documented on a new form.
- Local advertising for locations will include use of social media and online to increase public awareness;
- Provide a link to the municipal program website to be posted / linked on 511 Alberta.
- Ensure all mobile ATE vehicles are visible and to be “wrapped” or have signage, so Albertans know when driving if the mobile location is active.



On the date the “freeze” was to be lifted the government extended the “freeze” for one more year. This is to allow municipalities / police services to operate ATE under the fully implemented 2021 Guideline. It further allows for the provincial government to fully assess the data received from municipalities to ensure compliance with the Guideline. An audit of Spruce Grove’s ATE program is scheduled for spring 2023.

Protective Services Recommendations

The recommendations for 2022 builds upon the recommendation of 2021:

Eliminating all forms of mobile ATE.

- Require ISD (Fixed Systems) to be utilized, where possible, at any intersection that makes the top ten list of collision intersections.
- Maintain, as feasible, ISD (Fixed Systems) once installed at any intersections.

This was to move forward in 2023, however due to the extension of the “freeze” by the provincial government this was held in abeyance.

Continue to enhance intersection safety by establishing more protected left hand turn traffic light signalization, particularly at:

- Jennifer Heil Way at Grove Drive
- Highway 16A at Century Road.

Collision reporting and data analysis.

- To explore the viability of a traffic collision reporting center.

Appendix A (Site Identifiers)

NOTES: Sites in **Red** are covert sites, while all sites that start with a “9” are ISD (fixed) sites.

211	HWY 16A west bound at Nelson DR.
2110	HWY 16A west bound at Nelson DR
212	HWY 16A east bound at Nelson DR.
2120	HWY 16A east bound at Nelson DR.
213	Nelson DR. south bound at HWY 16A
2130	Nelson DR. south bound at HWY 16A
216	Century RD. north bound at or near Grove Meadow DR.
2160	Century RD. north bound at or near Grove Meadow DR.
218	Century RD. south bound at or near Kings Link
2180	Century RD. south bound at or near Kings Link
230	Grove DR. east bound at or near Hilldowns DR.
2300	Grove DR. east bound at or near Hilldowns DR.
234	Jennifer Heil Way south bound at or near Tri Leisure Centre
2340	Jennifer Heil Way south bound at or near Tri Leisure Centre
241	Grove DR. east bound at or near Jubilee Park
2410	Grove DR. east bound at or near Jubilee Park
242	Grove DR. west bound at or near Jubilee Park
2420	Grove DR. west bound at or near Jubilee Park
243	HWY 16A west bound at or near King Street
2430	HWY 16A west bound at or near King Street
245	Golden Spike RD. south bound at or near Diamond Avenue
2450	Golden Spike RD. south bound at or near Diamond Avenue
259	Brookwood DR. east bound at Century RD.
2590	Brookwood DR. east bound at Century RD.
260	Grove Meadow DR. west bound at Century RD.
2600	Grove Meadow DR. west bound at Century RD
265	McLeod Avenue east bound at Century RD.
2650	McLeod Avenue east bound at Century RD.
281	Calahoo RD. north bound at Grove DR.
2810	Calahoo RD. north bound at Grove DR.
282	Calahoo RD. south bound at Grove DR.
2820	Calahoo RD. south bound at Grove DR
291	HWY 16A west bound at or near Calahoo Road
2910	HWY 16A west bound at or near Calahoo Road
292	HWY 16A east bound at or near Golden Spike Road

- 2920 HWY 16A east bound at or near Golden Spike Road
- 293 Calahoo RD. south bound at HWY 16A
- 2930 Calahoo RD. south bound at HWY 16A
- 298 McLeod Avenue west bound at Jennifer Heil Way
- 2980 McLeod Avenue west bound at Jennifer Heil Way
- 1214 Harvest Ridge DR. east bound at Heron Crescent
- 12140 Harvest Ridge DR. east bound at Heron Crescent
- 1215 Harvest Ridge DR. west bound at Heron Crescent
- 12150 Harvest Ridge DR. west bound at Heron Crescent
- 1216 Grove DR. east bound at Spring Gate
- 12160 Grove DR. east bound at Spring Gate
- 1217 Grove DR. west bound at Hartwick Way
- 12170 Grove DR. west bound at Hartwick Way
- 1224 Calahoo Road north bound at or near Woodhaven Drive
- 12240 Calahoo Road north bound at or near Woodhaven Drive
- 1225 Calahoo Road south bound at or near Millgrove Drive
- 12250 Calahoo Road south bound at or near Millgrove Drive
- 1226 Millgrove DR. east bound at Calahoo RD
- 12260 Millgrove DR. east bound at Calahoo RD.
- 1227 Woodhaven DR. west bound at Calahoo RD.
- 12270 Woodhaven DR. west bound at Calahoo RD.
- 1228 Spruce Ridge DR. at Jennifer Heil Way
- 12280 Spruce Ridge DR. at Jennifer Heil Way
- 1229 Hawthorne Gate west bound at Jennifer Heil Way
- 12290 Hawthorne Gate west bound at Jennifer Heil Way
- 1232 Grove DR. east bound at Grove Senior Village
- 12320 Grove DR. east bound at Grove Senior Village
- 1233 Grove DR. west bound at Grove Senior Village
- 12330 Grove DR. west bound at Grove Senior Village
- 1239 Calahoo Road north bound at or near Woodhaven Drive
- 12390 Calahoo Road north bound at or near Woodhaven Drive
- 1240 Calahoo Road south bound at or near Millgrove Drive
- 12400 Calahoo Road south bound at or near Millgrove Drive
- 1251 Diamond Avenue east bound at Golden Spike RD.
- 12510 Diamond Avenue east bound at Golden Spike RD.
- 1252 Diamond Avenue west bound at Golden Spike RD.
- 12520 Diamond Avenue west bound at Golden Spike RD.
- 1262 South Avenue east bound at Century RD.
- 12620 South Avenue east bound at Century RD.
- 1269 Madison Crescent west bound at Campsite RD
- 12690 Madison Crescent west bound at Campsite RD.

- 1279 Spruce Ridge DR. west bound at Spruce Ridge RD.
- 12790 Spruce Ridge DR. west bound at Spruce Ridge RD.
- 1280 Spruce Ridge DR. east bound at Spruce Ridge RD.
- 12800 Spruce Ridge DR. east bound at Spruce Ridge RD.
- 1285 Harvest Ridge Drive south bound at Grove DR
- 12850 Harvest Ridge Drive south bound at Grove DR
- 1286 Spruce Ridge RD. north bound at Grove DR
- 12860 Spruce Ridge RD. north bound at Grove DR.
- 1287 Jennifer Heil Way north bound at Tri Leisure Centre
- 12870 Jennifer Heil Way north bound at Tri Leisure Centre
- 1288 Grove DR. west bound at or near Hilldowns DR.
- 12880 Grove DR. west bound at or near Hilldowns DR.
- 1289 Grove DR. west bound at or near Fieldstone DR.
- 12890 Grove DR. west bound at or near Fieldstone DR
- 1291 HWY 16A at or near Nelson DR.
- 12910 HWY 16A at or near Nelson DR.
- 1292 HWY 16A east bound at or near Westgrove DR.
- 12920 HWY 16A east bound at or near Westgrove DR.
- 1293 HWY 16A east bound at or near King Street
- 12930 HWY 16A east bound at or near King Street
- 1296 Spruce Ridge RD. north bound at Spruce Ridge DR.
- 12960 Spruce Ridge RD. north bound at Spruce Ridge DR.
- 1297 Spruce Ridge RD. south bound at Spruce Ridge DR.
- 12970 Spruce Ridge RD. south bound at Spruce Ridge DR.
- 90269 Century RD. north bound at or near Grove DR.
- 90270 Century RD. south bound at or near Grove DR.
- 90271 HWY 16A west bound at or near Jennifer Heil Way
- 90272 HWY 16A east bound at or near Campsite RD.
- 90277 HWY 16A at or near Century RD.
- 90278 HWY 16A east bound at or near Century RD.
- 90279 Jennifer Heil Way north bound at Grove DR.
- 90280 Jennifer Heil Way south bound at Grove DR.
- 90283 Grove DR. east bound at Calahoo RD.
- 90284 Grove DR. west bound at Calahoo RD.