



PROTECTIVE SERVICES AUTOMATED TRAFFIC ENFORCEMENT 2018-2019 REPORT

Your City, Your Family, Our duty



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Introduction

Automated Traffic Enforcement (ATE) refers to those traffic law enforcement operations which are performed by either a fixed 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 peace officer.

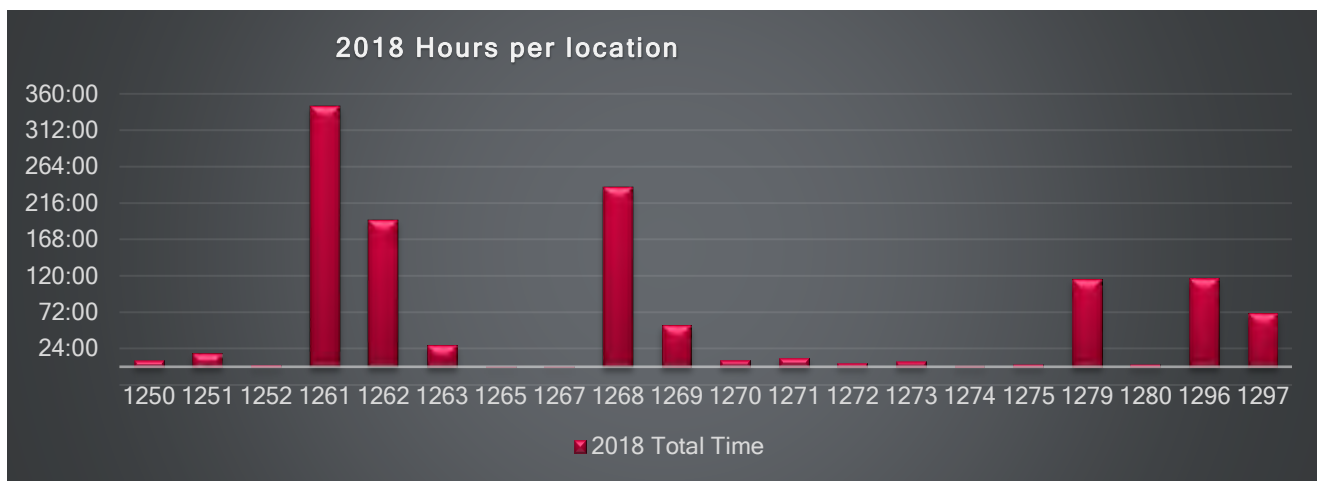
The intent of this report is not to justify the use of ATE or disprove any claims that it is not effective. The intent of this report is to increase the amount of analyzed data that is released through annual reporting for transparency in public reporting. In order to generate this report, hundreds of thousands of information cells had to be analyzed and correlated. The system is currently being overhauled and the ATE reports contained within this report will become standardized reporting; after the 2020 cycle these reports will be available on a monthly and annual basis as a self-generated report from within the system and no longer require manual calculations or analysis of this degree.

Questions about the system and data are welcome as this will help to identify the types of information sought by the public and allow the system to be developed with these types of reports in mind, thus reducing future workload.

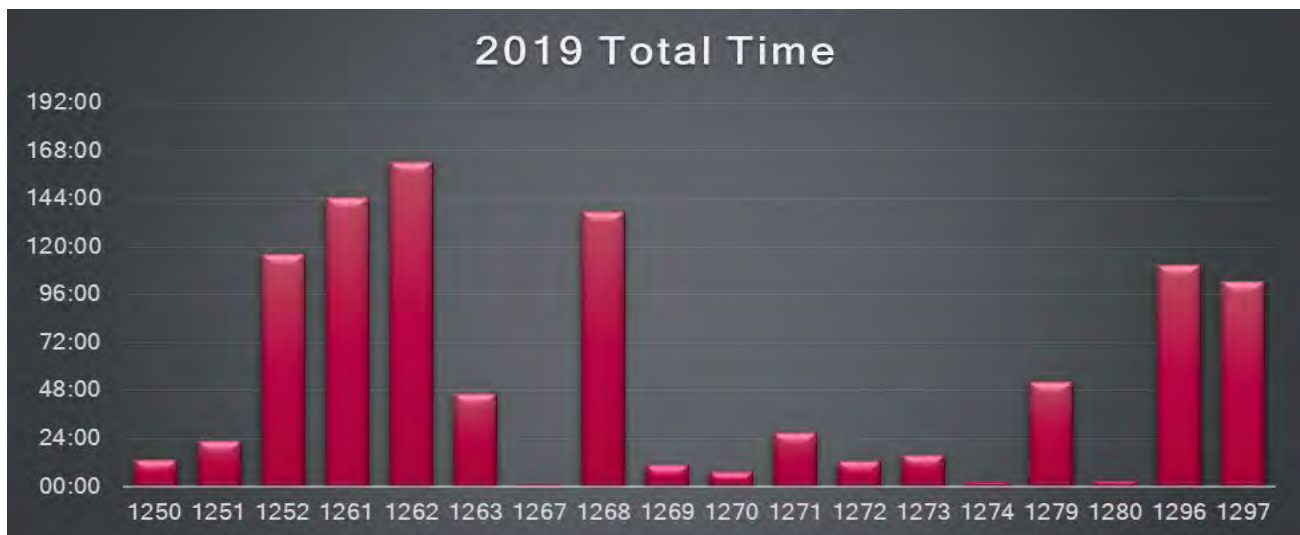
Stop Signs

Frequency of Enforcement

In 2018 there were 20 stop signs monitored for a total of 1,228 hours and 44 minutes. Stopping at a stop sign is required 24/7 therefore the maximum potential enforcement time at these sites was 175,200 hours. This means the sampling of driver behaviour was on average 0.7% based on time. Site 1261 received the most enforcement hours, at 343 hours and 53 minutes, or a 3.9% sampling based on time.



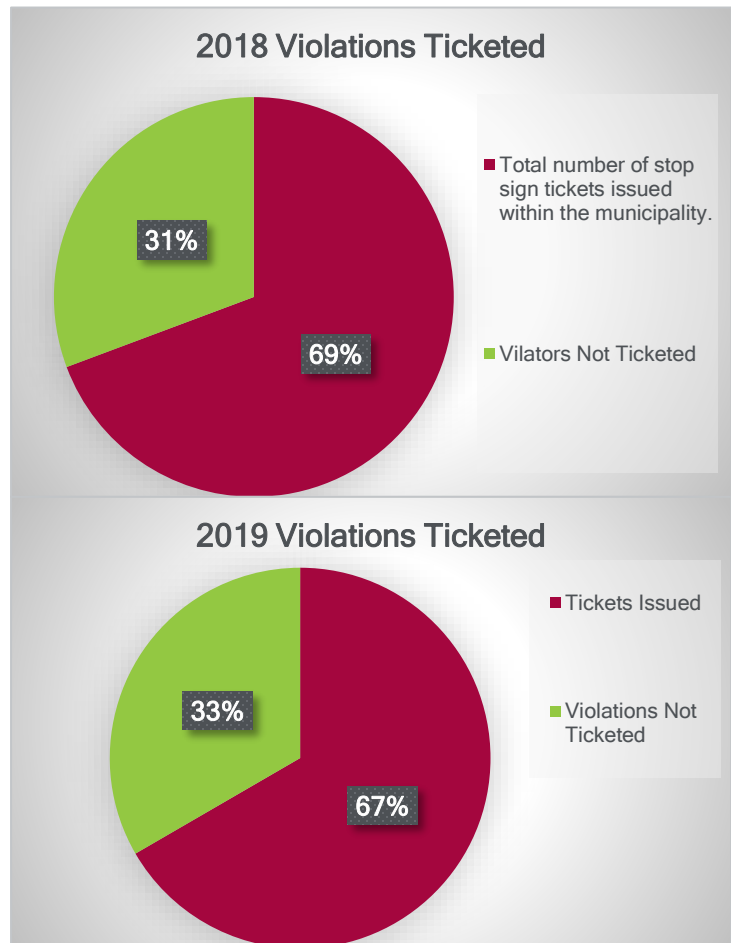
In 2019 there were 18 stop signs monitored for a total of 986 hours. As with 2018, the stop signs are enforceable 24/7 for a total of 157,680 potential enforceable hours. This means the sampling in 2019 was 0.625% of the time. Site 1262 received the most enforcement hours, at 162.5 hours or 1.85% sampling based on time.



Violations Observed vs Tickets Issued

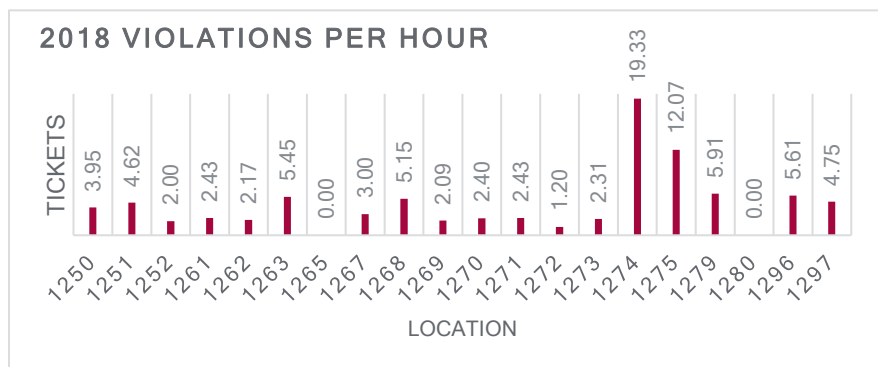
In 2018 there were 4,671 violations observed and 3,237 tickets issued. In 2019 there were 4,172 violations observed and 2,780 tickets issued.

The reasons for observed violations not being ticketed vary from obscured license plates to officer discretion. There is no fixed systems related to stop sign violations and an officer is present to observe every violation. If, in the officer's opinion, given all circumstances witnessed at the time of the offence, they form the opinion that a ticket is not warranted, then no ticket is issued.



Tickets per Hour per Site

In 2018 Site 1274 generated the most violations per hour at 19.33 violation per hour.

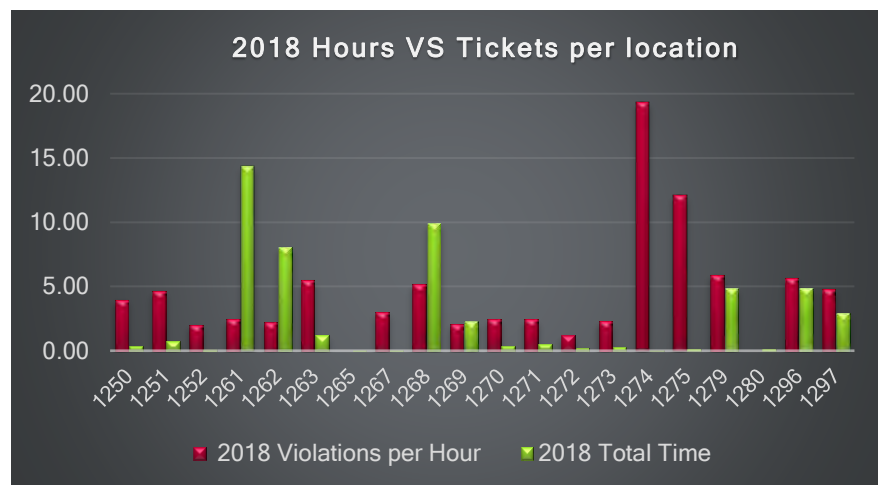


In 2019 Site 1252 generated the most violations per hour at 4.3 violations per hour.

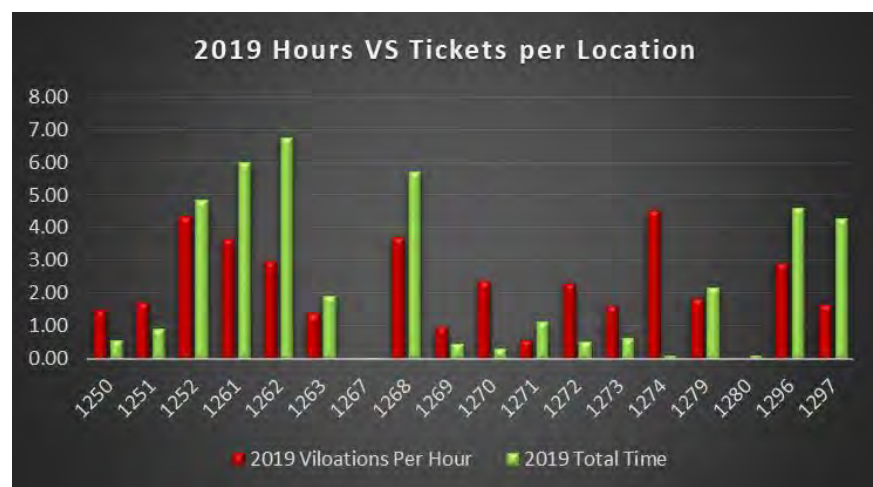


Enforcement Hours vs Tickets Issued per Hour

The highest number of tickets at a site does not equate to the largest number of hours. As an example, Site 1261 had an enforcement sampling rate of 3.9% and a ticket rate of 2.43 per hour. Meanwhile, a new Site, 1274 had 19.33 tickets per hour and received 0.12% of total enforcement time.

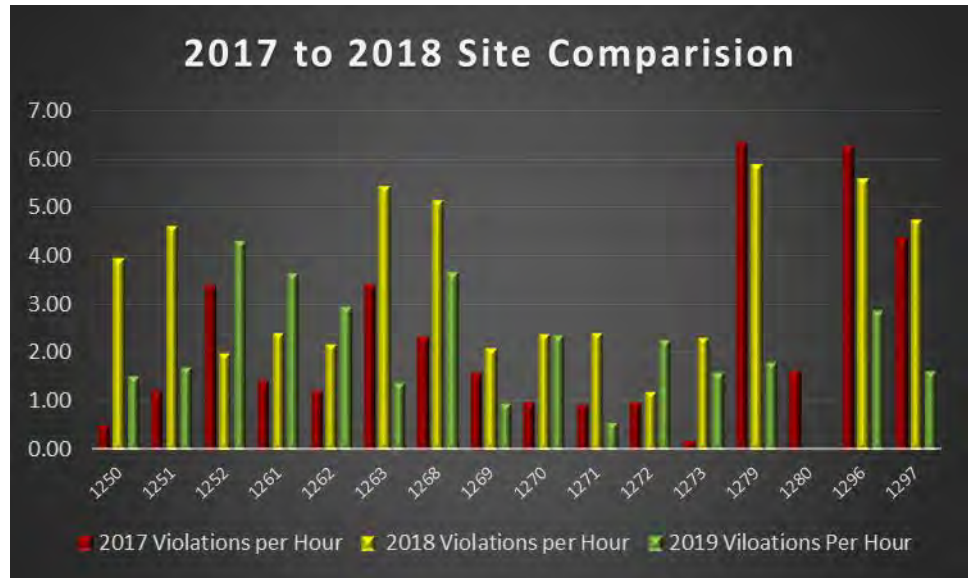


A similar chart for 2019 once again shows that there is no correlation between sites that generate the most tickets and time spent on a site.



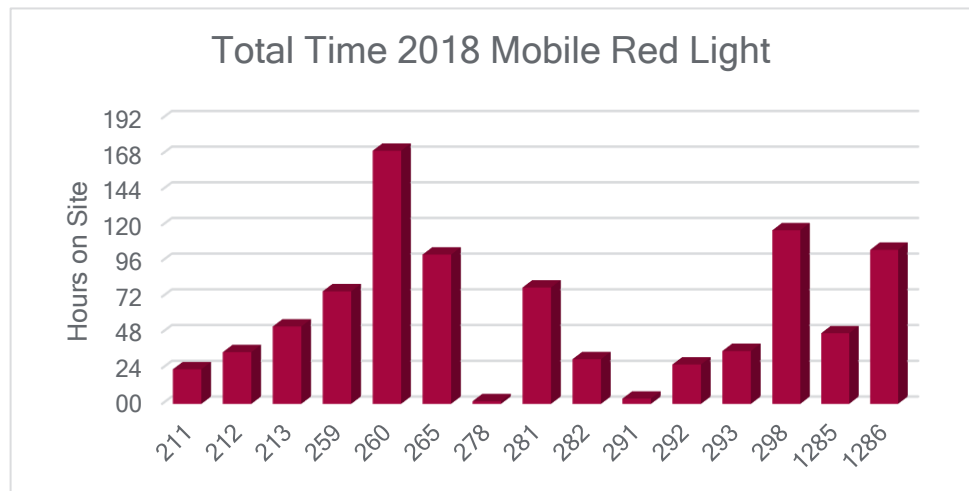
2017 – 2019 Comparison

Only sites that were active for all three years are shown on the comparison chart.

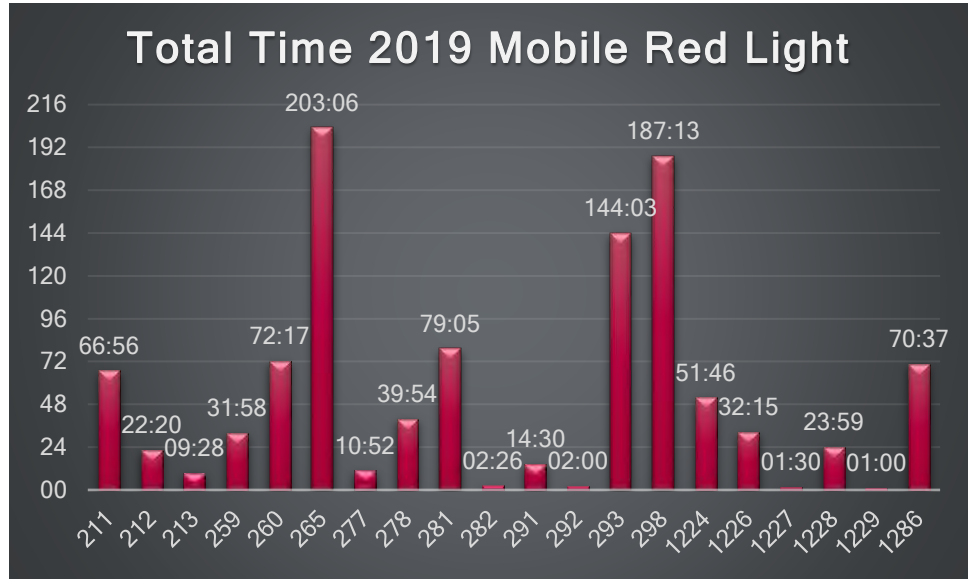


Mobile Red Light Frequency of Enforcement

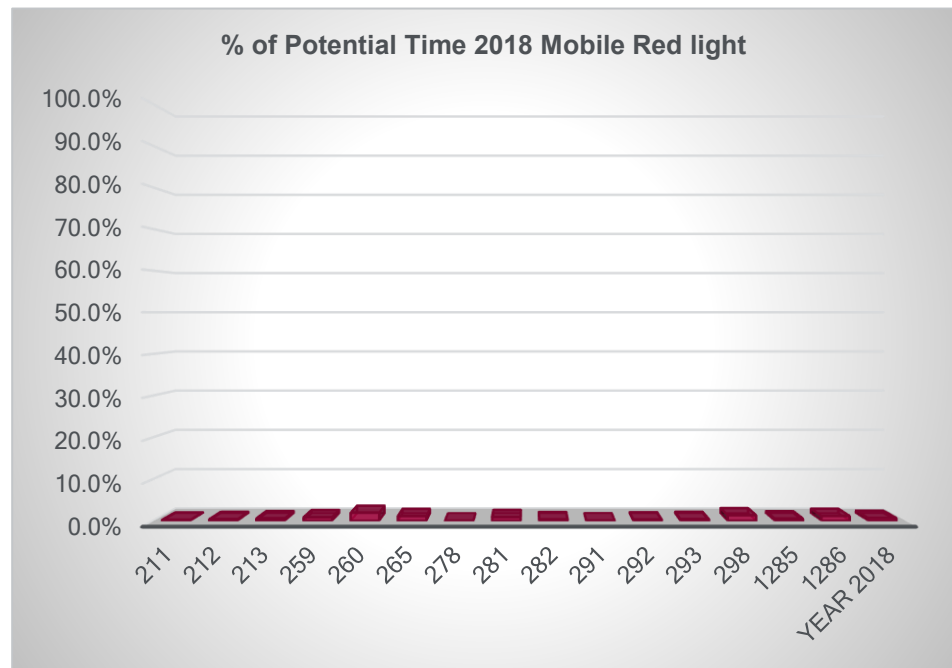
In 2018 there were 15 sites monitored. Site 260 received the most hours at 170 hours and 11 minutes. This represents 18.9% of the total enforcement time in 2018.



In 2019 there were 20 sites that received mobile red light enforcement compared to the 15 in 2018. This was a 25% increase in sites; hours of enforcement increased 18.7%.



The chart to the right shows the maximum potential enforcement hours for each site compared to actual enforcement hours. The chart is only shown for a visual representation of hours of enforcement compared to potential hours.



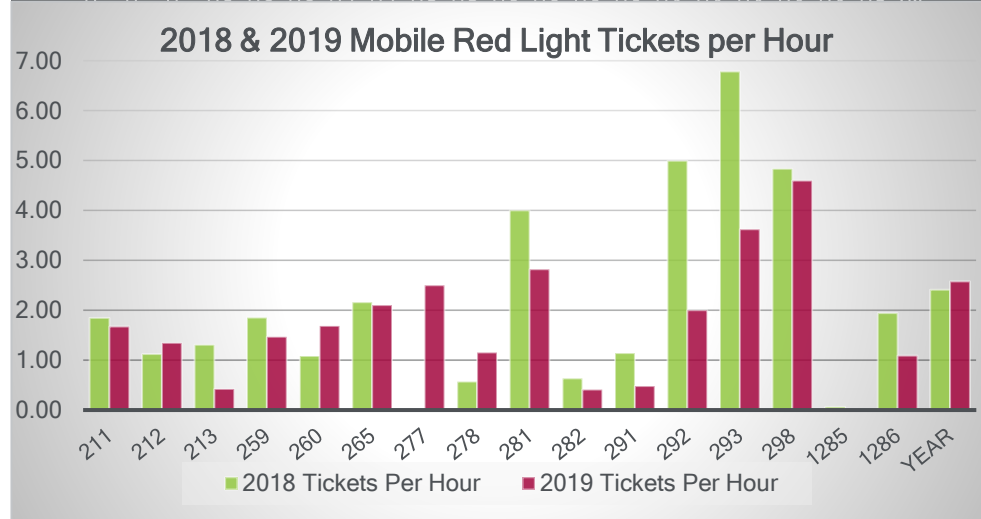
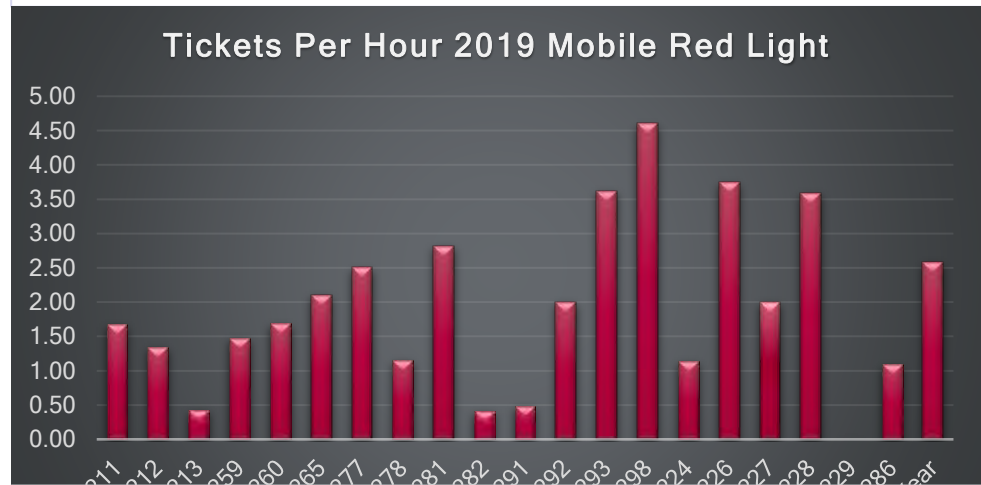
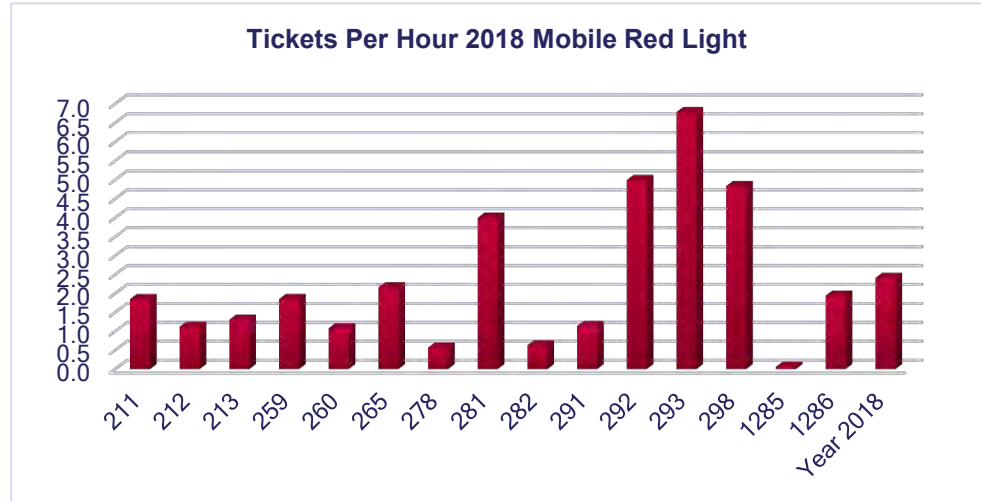
Tickets Issued

Mobile red light enforcement produced on average 2.41 tickets per hour in 2018 and 2.58 in 2019. Site 293 had the highest number of tickets per hour, in 2018, at 6.78 while Site 298 had the most tickets per hour in 2019 at 4.6.

The sites with the lowest tickets per hour were Site 1285 in 2018 with 0.6 and in 2019 it was site 1229 with 0.0 tickets issued per hour.

In 2018 there were a total of 2,169 red light failing to stop tickets issued from mobile enforcement and 2,753 in 2019.

The majority of sites that were enforced in 2018 and 2019 saw a reduction in tickets in 2019.

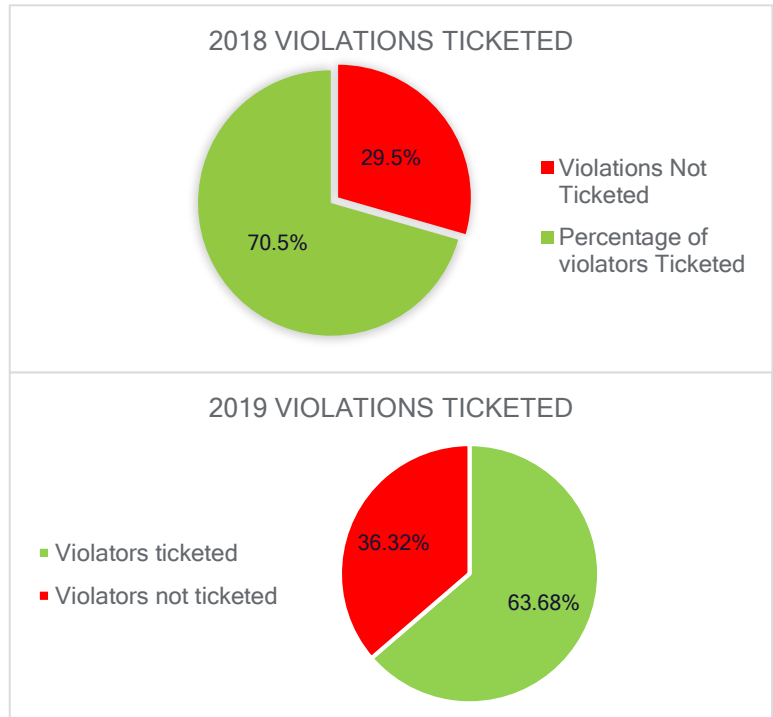


Violations Observed vs Tickets Issued

2018 mobile red light failing to stop violations for all sites combined totaled 3,075, with 2,169 tickets issued.

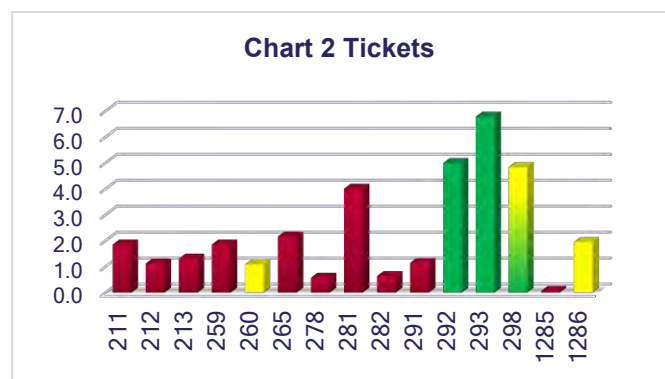
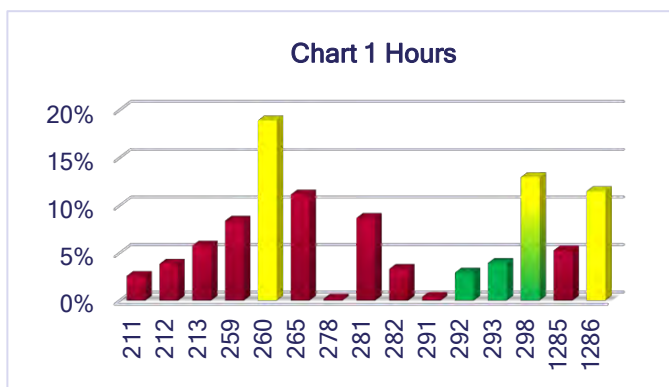
2019 mobile red light failing to stop violations for all sites combined totaled 4,323 with 2,753 tickets issued.

The reasons for not issuing a ticket range from obscured licence plates, to officer discretion. In most cases the reason is officer discretion, based on all the circumstances present when the offence was observed.



Percentage of Time vs Tickets per Hour

The 2018 charts below demonstrate that there is no correlation between a site that generates more tickets per hour and hours on that site. In other words, enforcement activities are not based on revenue generation capabilities. The yellow graph bars in Chart 1 indicates the three locations that saw the largest number of enforcement hours while the yellow graph bars in Chart 2 show the number of tickets issued per hour at these sites. Similarly, the green graph bars in Chart 2 indicate the areas with the highest number of tickets per hour, Chart 1 green graph bars are these same sites. There is only one overlap when the three highest ticket producing sites are identified against the three highest enforced sites.

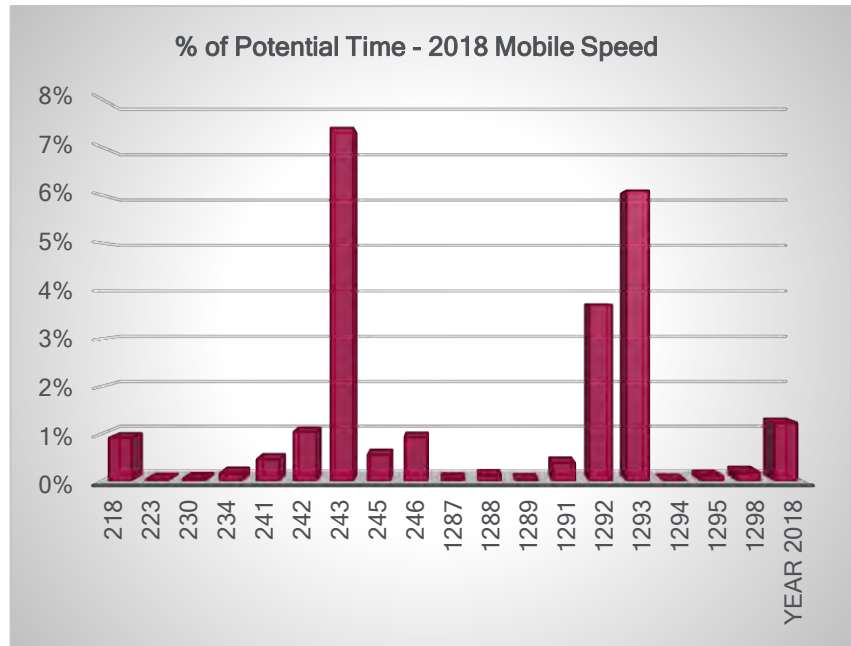


Mobile Speed

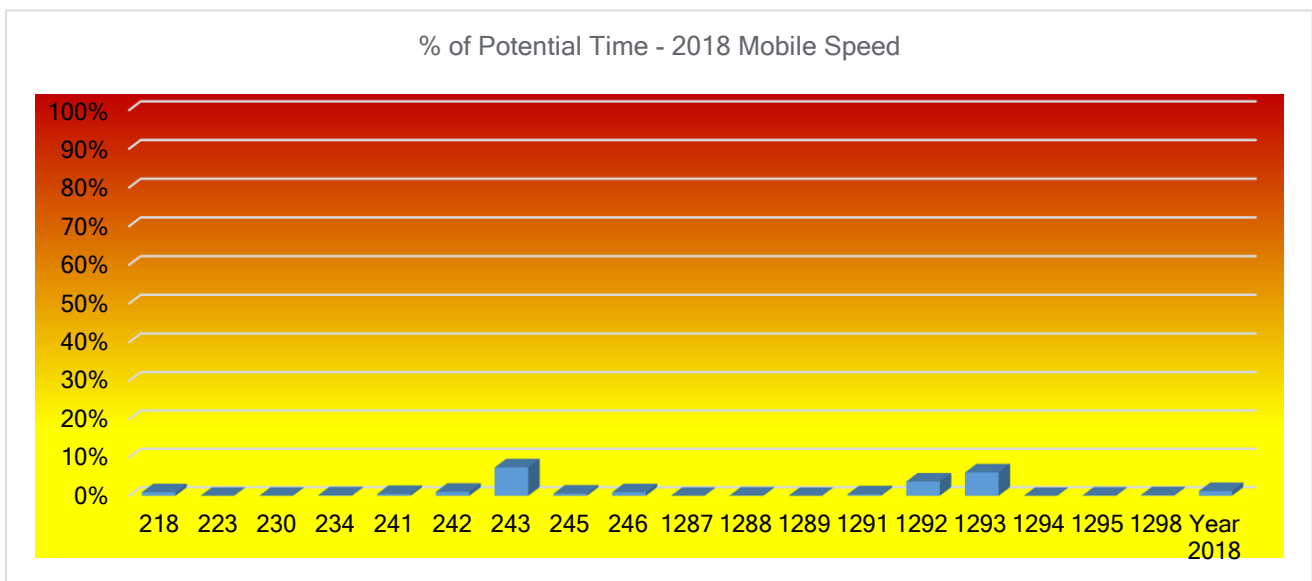
Frequency of Enforcement

In 2018 there were 18 sites monitored for speed with ATE mobile enforcement. Site 243 had the highest amount of potential enforcement time with 7.4% of total time or 648 hours and 14 minutes out of a potential 8,760 (24*365).

Of the total potential enforcement time combined, enforcement activity was 1.2%. In other words, less than 1 hour and 15 minutes were enforced out of every one hundred potential hours.

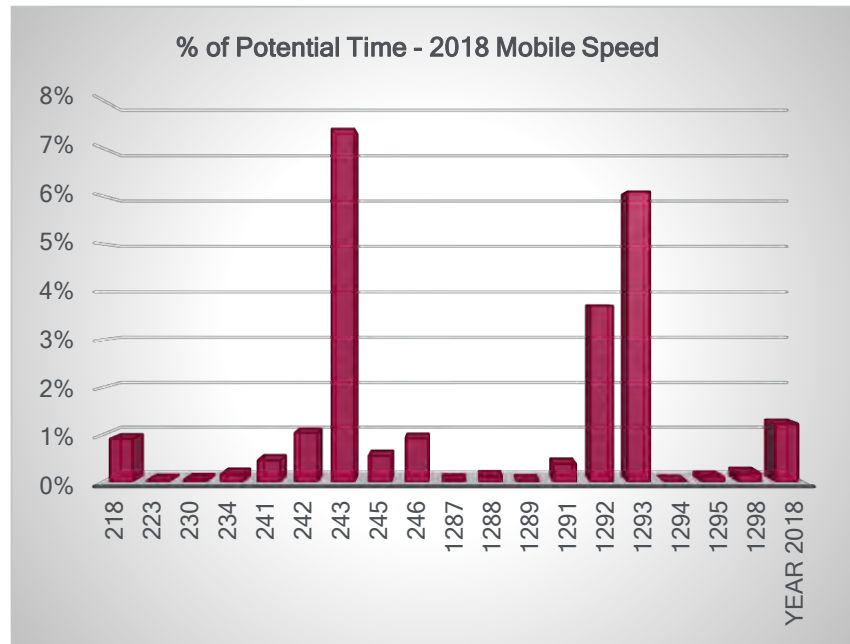


To better demonstrate the frequency of ATE mobile speed enforcement at these locations, the following chart shows enforcement activity per site vs hours in the day.

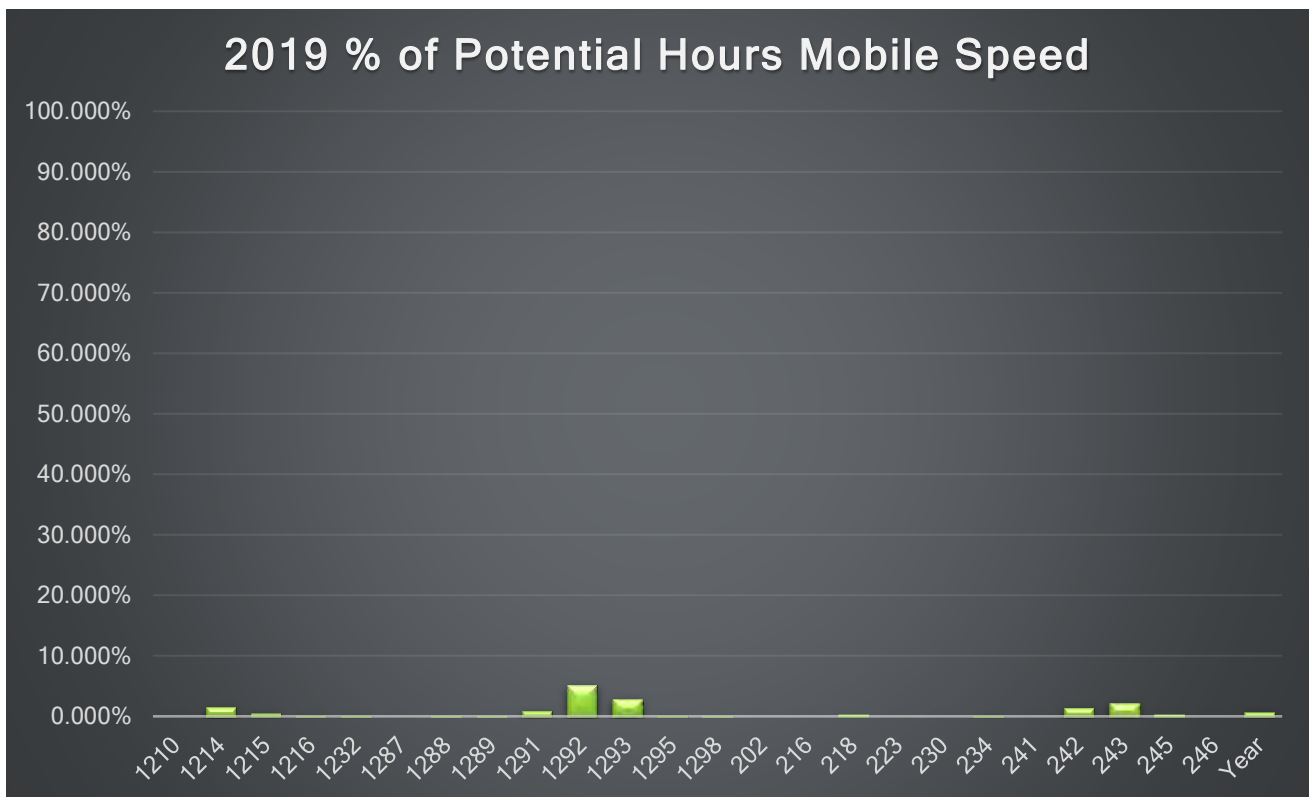


In 2019 there were 24 sites monitored for speed with ATE mobile enforcement. Site 1292 had the highest amount of potential enforcement time with 5.2% of total time or 454 hours and 43 minutes out of a potential 8,760 (24*365).

Of the total potential enforcement time, all sites combined totaled enforcement activity 0.682%, which is almost half of 2018. In other words, 41 minutes were enforced out of every one hundred potential hours.

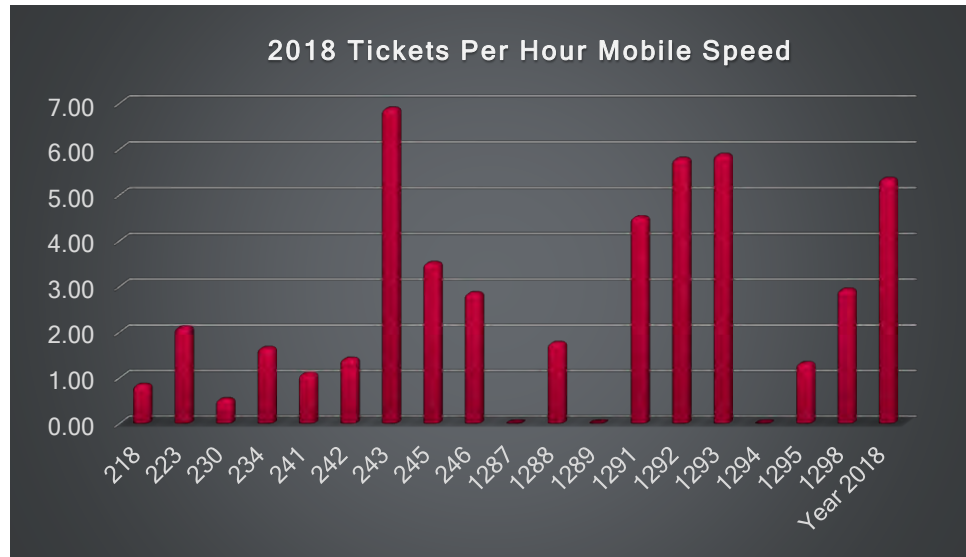


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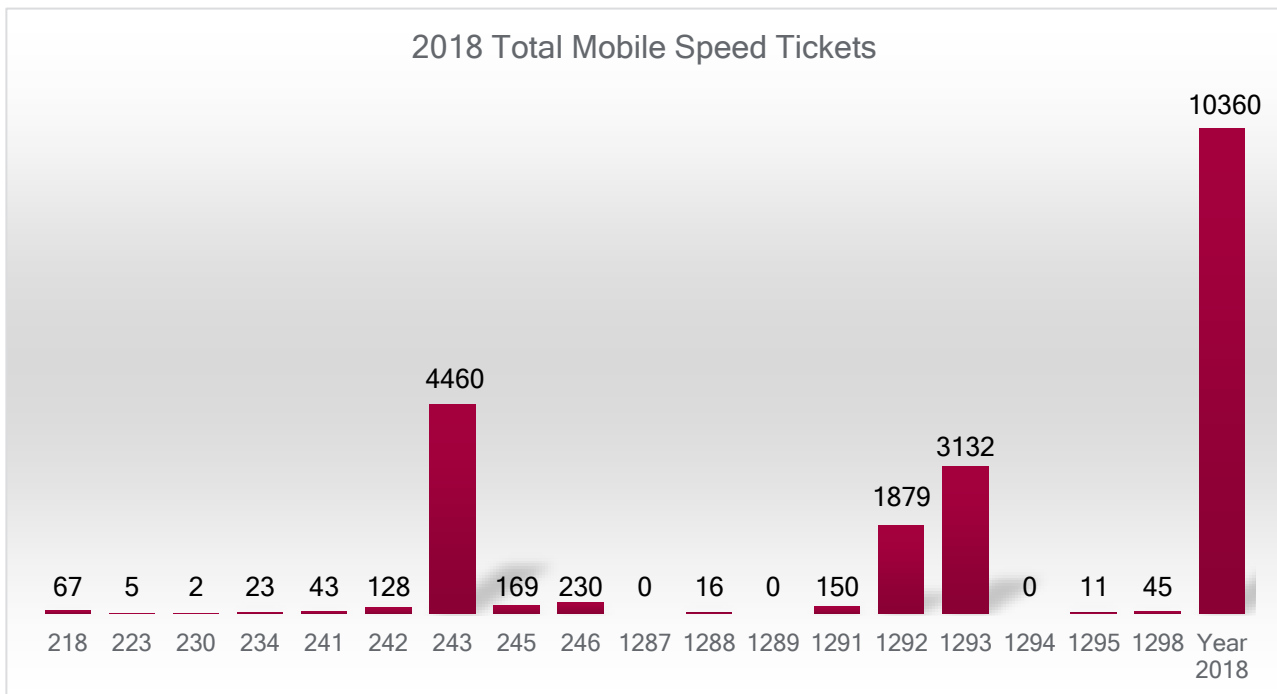


Tickets Issued

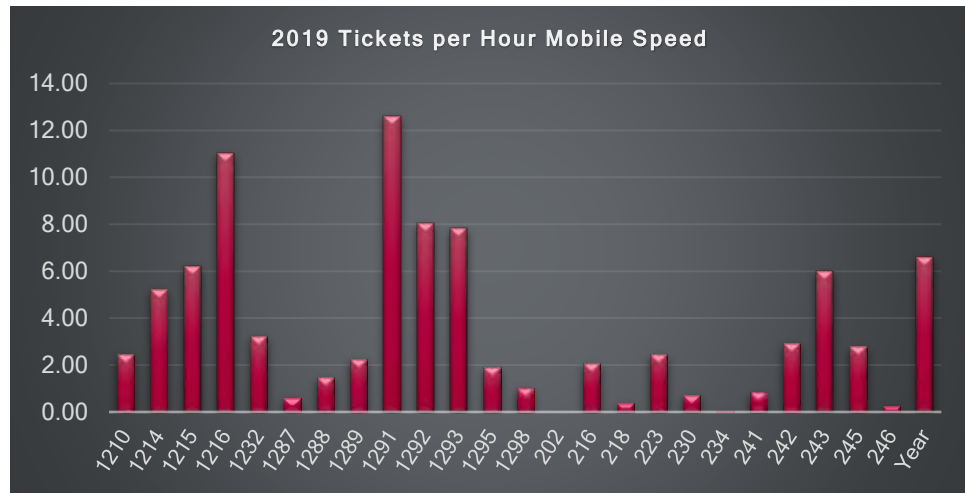
With regard to tickets issued per hour, Site 243 had the highest number of tickets per hour in 2018 with 6.88 tickets per hour. The average number of tickets per site in 2018 was 5.35 per hour.



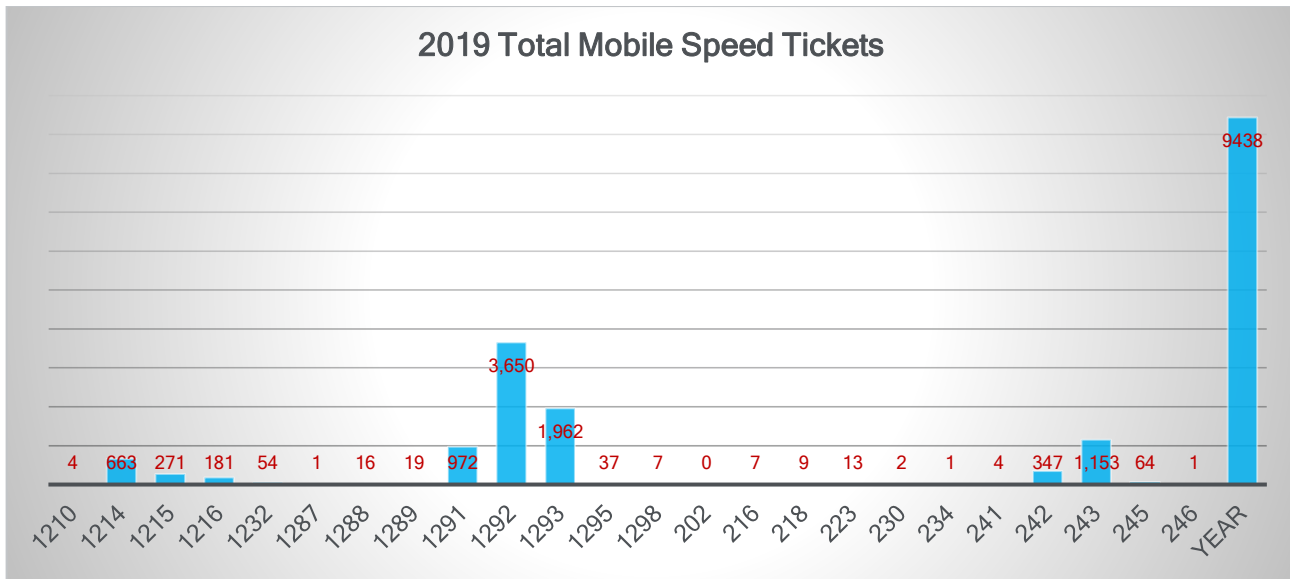
There was a total of 10,360 ATE Mobile Speed tickets issued in 2018. Site 243 had the highest number of tickets issued with 4,460.



With regard to tickets issued per hour, Site 1291 had the highest number of tickets per hour in 2019 with 12.61 tickets per hour. The average number of tickets per site in 2018 was 6.58 per hour.

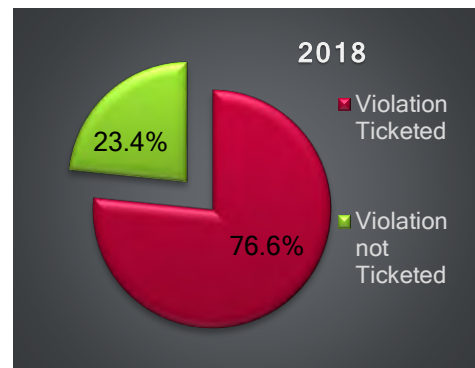


There were a total of 9,438 ATE Mobile Speed tickets issued in 2019. Site 1292 had the highest number of tickets issued with 3,650.



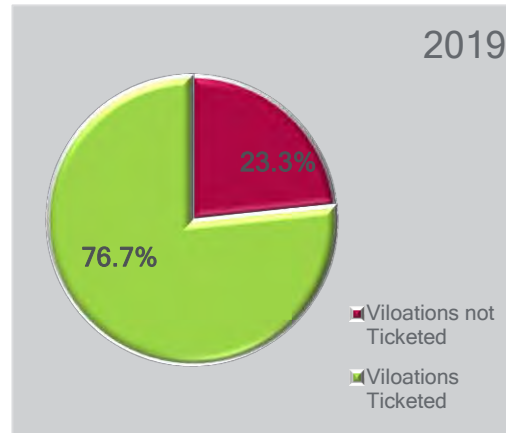
Violation Observed vs Tickets Issued

In 2018 there were 13,517 speeding offenses observed with 10,360 tickets issued.



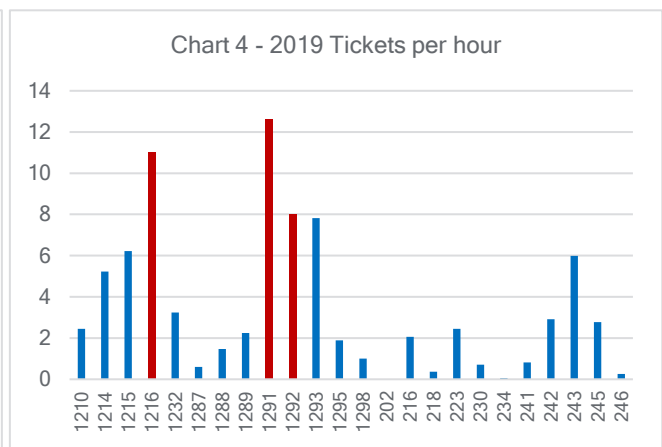
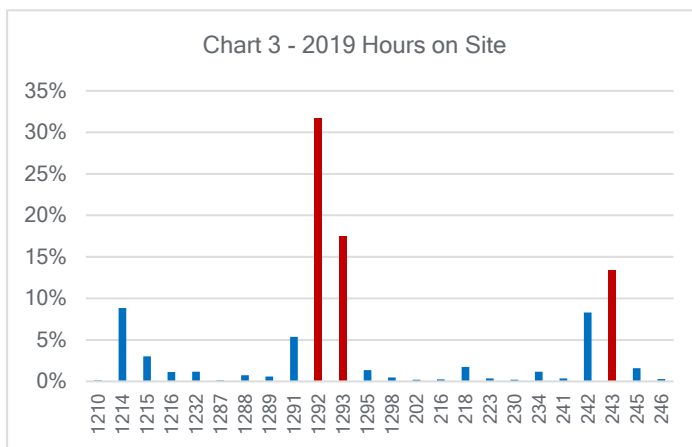
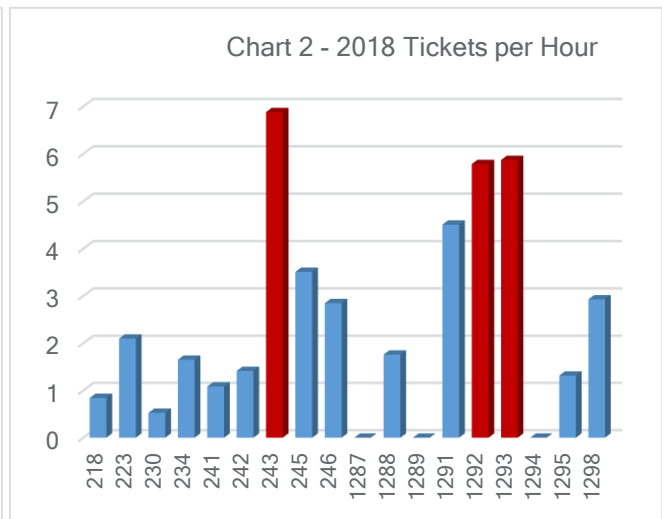
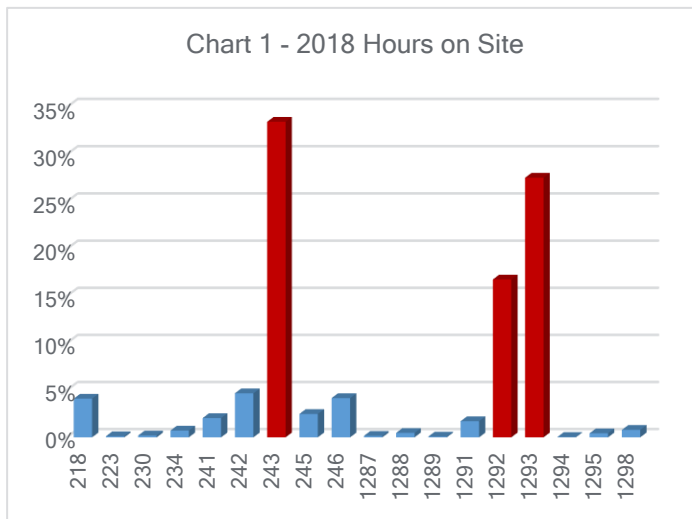
In 2019 there were 12,312 speeding offences observed with 9,438 tickets issued.

The reasons for not issuing a ticket range from obscured license plates to officer discretion. Unlike other mobile ATE, mobile speed may also be affected by multi-lane roads in which vehicles are traveling too close together or alongside each other, thus preventing the operator from capturing the offending vehicles license plate.



Percentage of Time vs Tickets per Hour

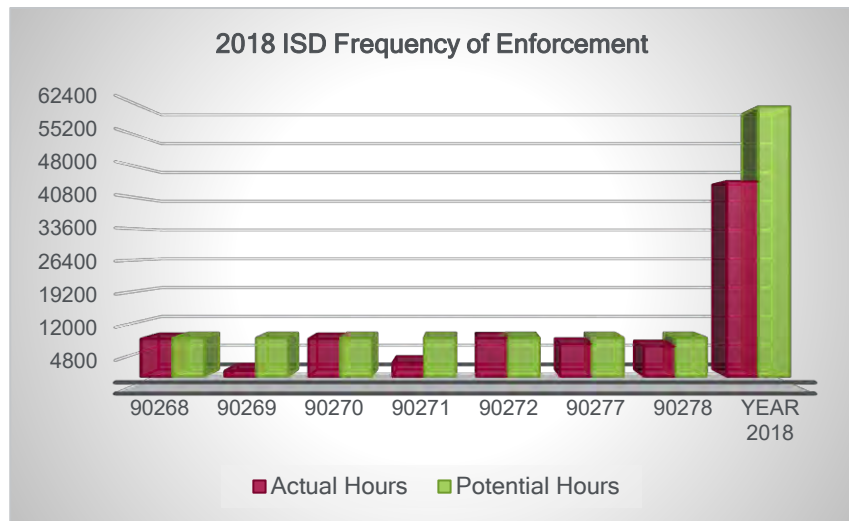
The four charts below show a correlation between the three sites that had the highest number of hours of enforcement (Chart 1 - 2018) (Chart 3 – 2019) and the highest number of tickets per hour each year (Chart 2 - 2018) (Chart 4 – 2019).



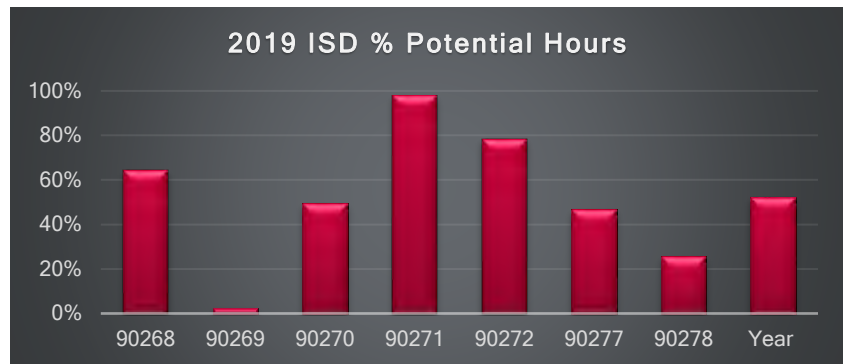
Fixed (ISD)

Frequency of Enforcement

In 2018 there were seven Intersection Safety Devices (ISD) or Fixed Systems. These sites are designed for use 24 hours a day, 365 days a year for a total of 8,760 hours per site or a total of 61,320 hours for the system. As these systems simultaneously monitor speed and red light infractions, the frequency is the same for both red light and speed enforcement.

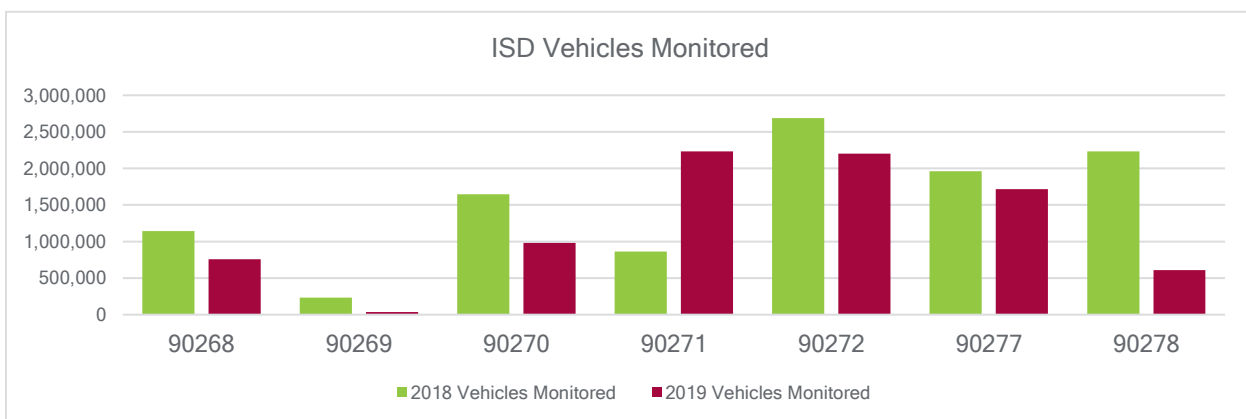


In 2019 there were also seven Intersection Safety Devices active in Spruce Grove. Total operational hours were 9,366 hours or 15.27% of the total 61,320 potential enforcement hours.



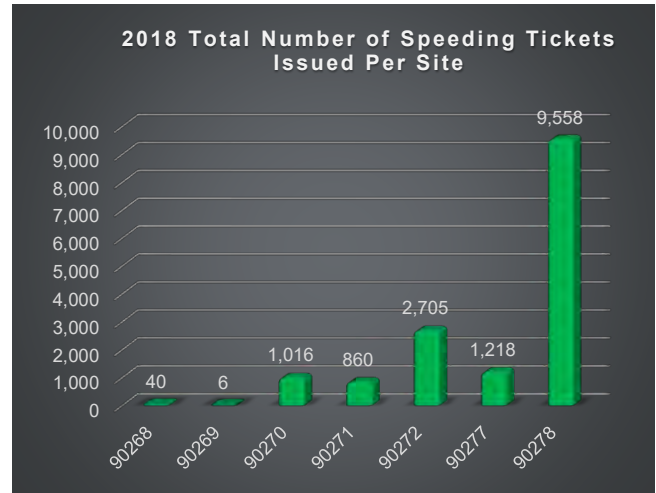
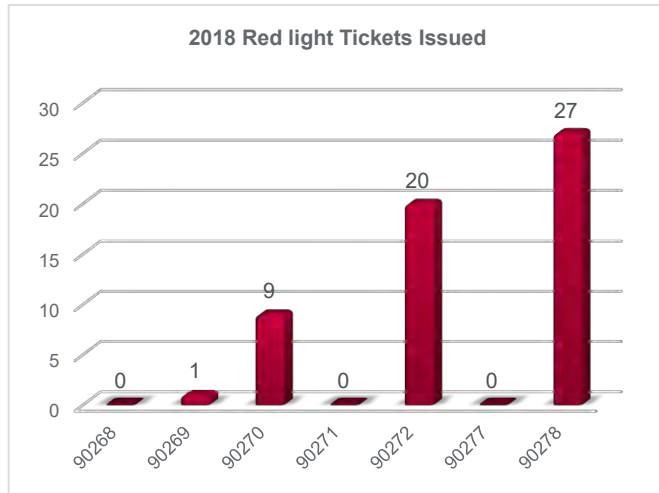
Number of Vehicles Monitored - ISD

In 2018 there were a total of 10,770,380 vehicles monitored at the ISD sites with another 8,539,378 in 2019.

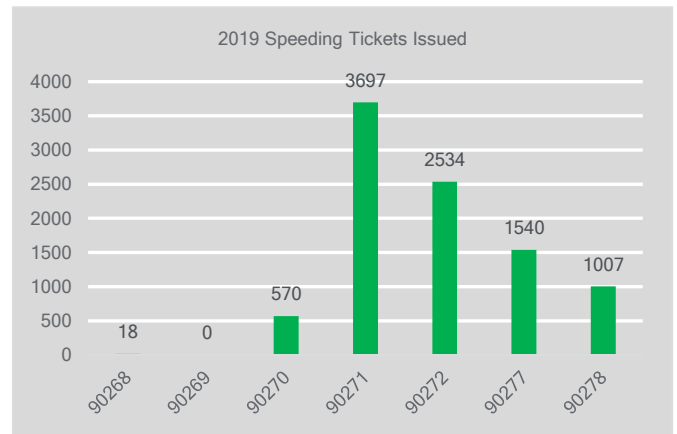
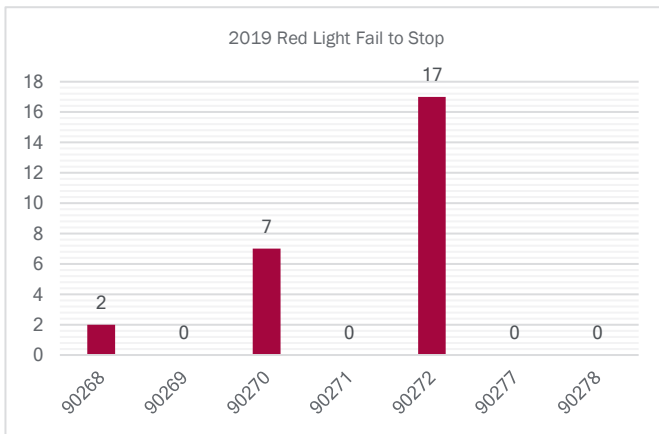


Tickets Issued

In 2018 there were 15,403 speeding tickets issued and 57 Red Light tickets issued at the ISD sites.

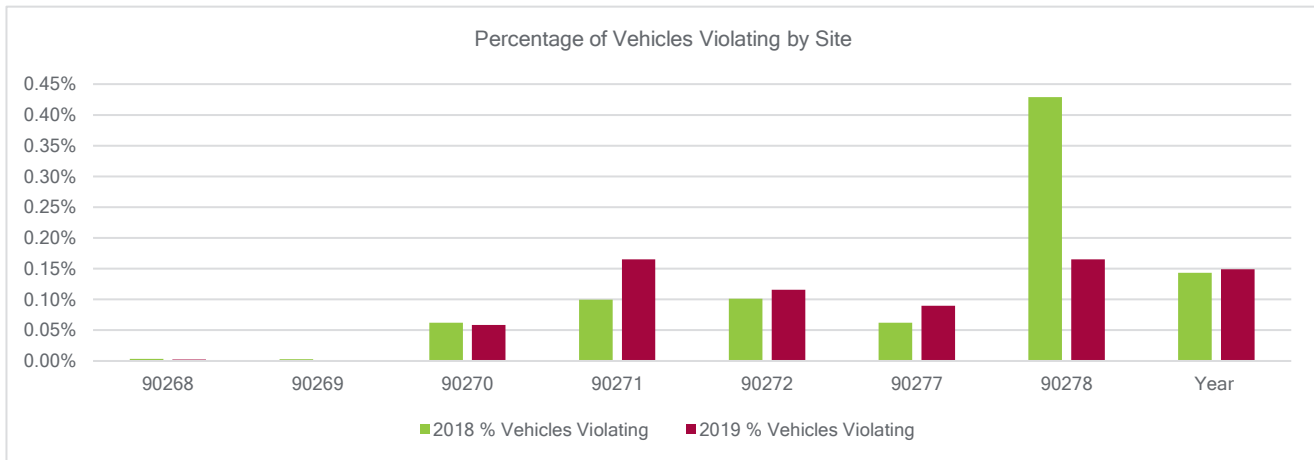


In 2019 there were 9,366 speeding tickets issued and 26 red light fail to stop tickets issued at these sites.



Tickets Issued - Percentage of Total Traffic Volume

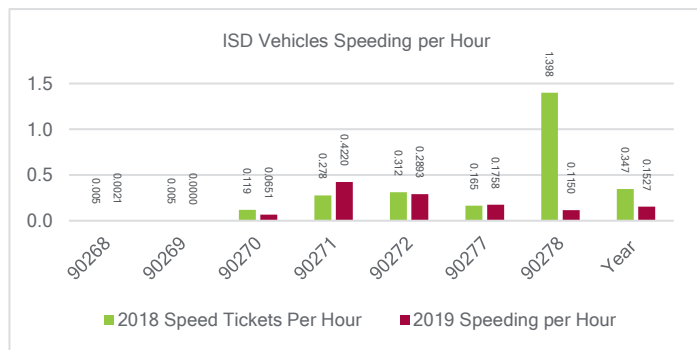
As a percentage of traffic that are being ticketed for either speeding and failing to stop, Site 90278 (in 2018) had the highest number of tickets issued at just under ½ a percent of total vehicles. This site saw a drastic reduction in 2019 to 0.1653% of vehicles being ticketed.



Tickets Issued - Per Hour of Operation

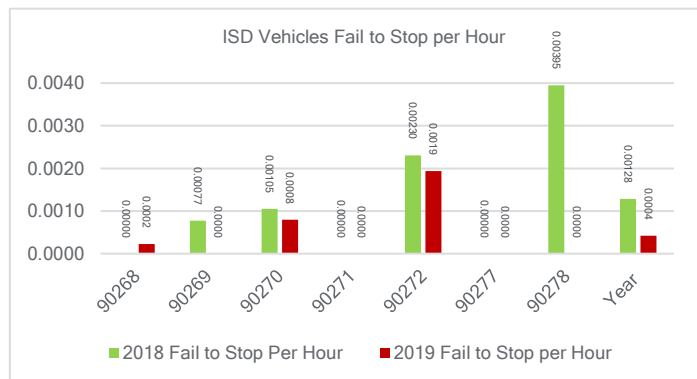
Site 90278 had the most speeding tickets issued per hour with 1.398 tickets (2018) issued per hour.

Overall there was a large decrease in yearly speeding tickets per hour from 0.347 in 2018 to 0.153 in 2019.



Failing to stop at the ISD sites remains very low, Site 90278 having the most tickets issued 0.00395 (2018) per hour.

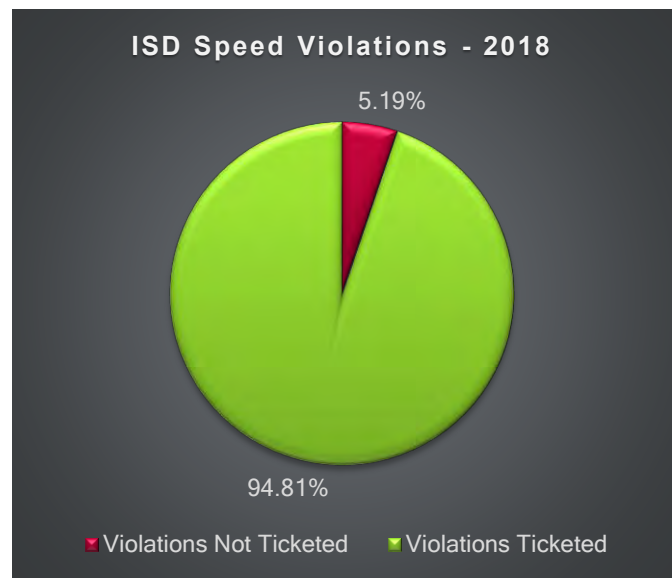
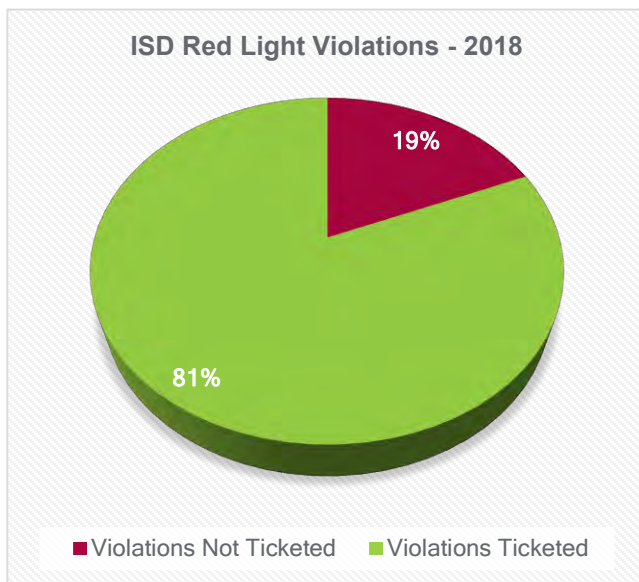
Overall, failing to stop was reduced from 0.00128 in 2018 to 0.0004 per hour in 2019.



Violation Observed vs Tickets Issued

In 2018 the ISD system observed 16,247 speeding violations resulting in 15,403 speeding tickets being issued. There were 70 red light failing to stop violations observed with 57 tickets being issued.

In 2019 the ISD system observed 10,265 violations and 9,366 speeding tickets were issued. There were 34 red light failing to stop violations observed and 26 tickets issued.



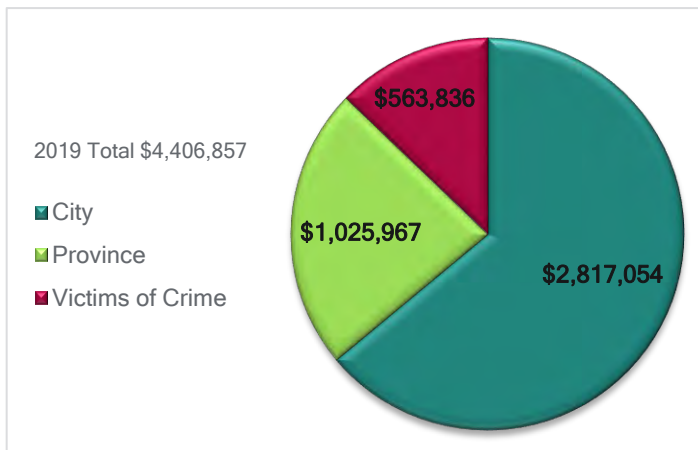
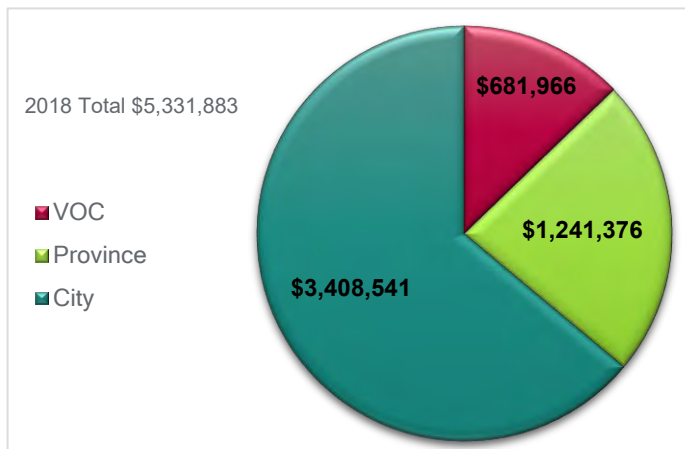
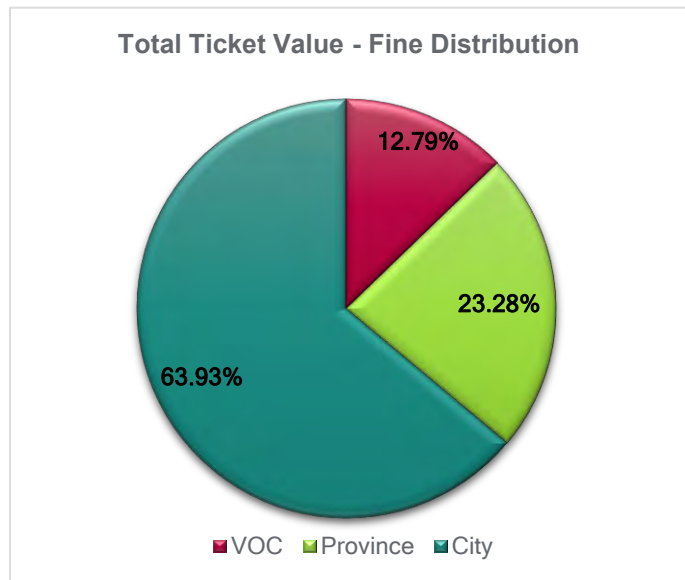
Fines Issued

Fine revenue is divided between the provincial Victims of Crime Fund, the Province of Alberta, and the City of Spruce Grove.

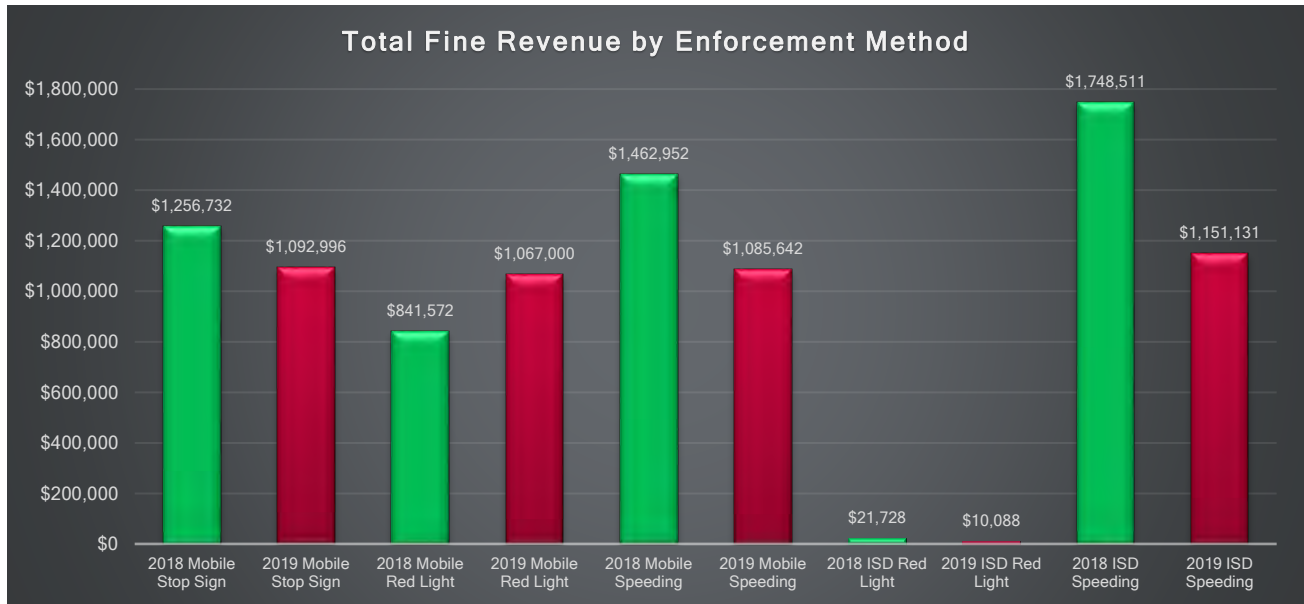
For clarity, the Victim of Crime Fund or VOC is a 15% surcharge on top of a fine. So a \$100.00 fine would be written as \$115.00.

Fines are generated from speeding offences, fail to stop at stop signs, and red light failure to stop. In 2018 ATE was responsible for a total of \$5,331,883 in fines issued.

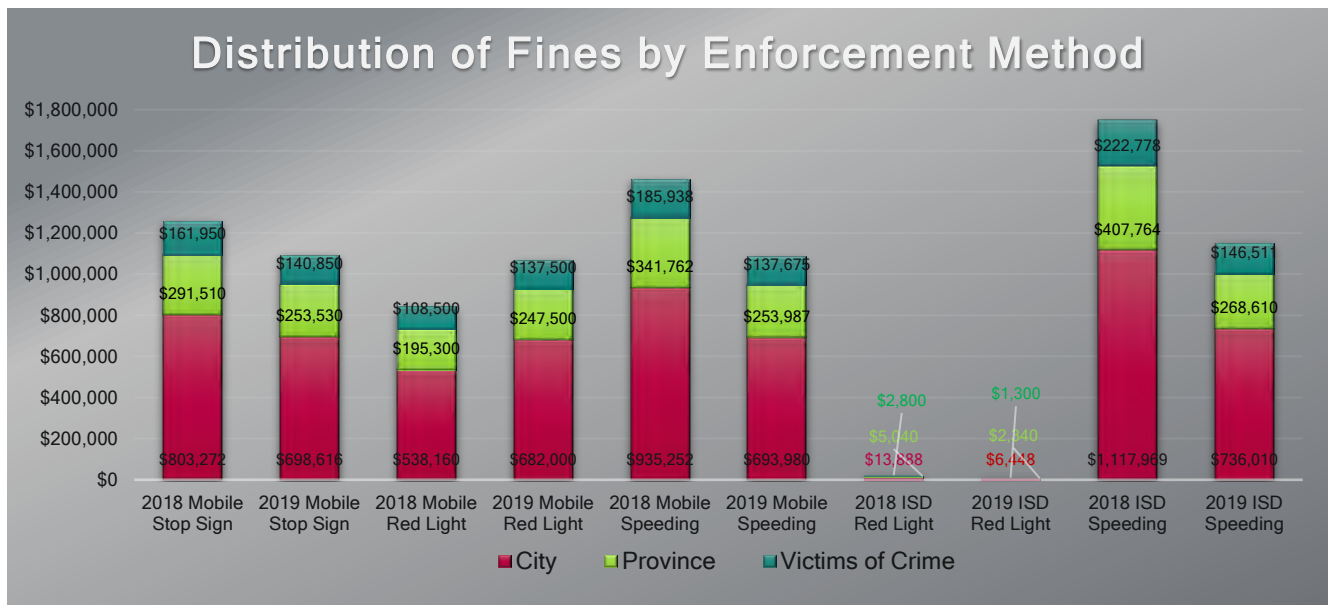
In 2019, there were a total of \$4,406,857 in fines written.



Fines may be further broken down between speeding, red light, and stop signs, as well as between mobile and ISD.



As previously mentioned, the fines generated are distributed between the City, the Province, and the Victims of Crime Fund. The chart below shows the distribution of these fines via each method of enforcement.



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 and may be paid, paid when one goes to register a vehicle or renew a driver’s license, move to provincial enforcement, written off by the province, or 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 2018 the City of Spruce Grove received \$3,644,476 in revenue and in 2019 the city received \$3,172,307 in revenue.

Use of ATE Funds

In 2018 the city received \$3,644,476 in ATE fines. These funds are allocated to general revenues as are all revenues received within Protective Services. However, the net cost of operating each area of Protective Services in 2018 were as follows:

Fire Services	.....	\$4,129,691.80
Police Services	.....	\$4,224,186.41
Enforcement Services	.....	\$945,640.77
Safe City (includes ATE)	.....	<u>-\$1,752,459.06</u>
Total	.....	<u>\$7,547,059.92</u>

In 2019 the city received \$3,172,307 in revenue with operating costs in each of the Protective Services areas as follows:

Fire Services	.....	\$5,343,239.29
Police Services	.....	\$5,343,285.13
Enforcement Services	.....	\$988,950.45
Safe City (includes ATE)	.....	<u>-\$1,624,256.01</u>
Total	.....	<u>\$10,051,218.86</u>

Overt vs Covert

In 2018 and 2019 there was no tracking of Overt versus Covert operations. The 2020 contract for services addresses this and tracking will begin in the 2020 ATE year.

Provincial Guideline Adherence

In 2018 Spruce Grove was audited by the Solicitor General's Office and was found to be in compliance with the provincial guidelines.

Other Traffic Safety Initiatives

Staffed Enforcement

In an effort to maximize visibility, enforcement services conducted high visibility operations in 2019:

- 49 joint forces traffic safety operations were conducted. This is an increase of 23 over 2018.
- 355 School Zone and School Area patrols in 2019.
- 668 dedicated traffic operations conducted.



Data Collection

Data collection occurs via the Houston Radar boxes which are moved throughout 20 primary zones in the city, speed display monitoring signs which are located through the city, and a Vermac speed display sign.

The display signs are designed to instantly remind traffic of the correct speed limit and advise motorists that they are speeding, while the Houston Radar boxes are covert and designed to identify areas of the city where speeding is an issue.

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

Collision Statistics (2019)

A total of 742 collisions were reported into the system with five being duplicated files, 26 were not in Spruce Grove, and five were not collisions at all. Therefore the correct total is 706. These may be broken down as follows:



- Parking lot and driveway 236
- Vulnerable¹ road user 18
- Intersection 140
- Rear end collisions 124
- Other causes 188

Top ten collision intersections²

1. Hwy 16A at Jennifer Heil Way/Campsite Road	.....	33
2. Hwy 16A at Century Road	.....	23
3. Grove Drive at Jennifer Heil Way	.....	21
4. Hwy 16A at Golden Spike/Calahoo Rd	.....	16
5. Jennifer Heil Way at McLeod Ave	.....	16
6. Jennifer Heil Way at Tri-Leisure Way/Nelson Drive	.....	15
7. Hwy 16A at Westgrove Drive / Nelson Drive	.....	14
8. Grove Drive at King Street	.....	14
9. McLeod Avenue at Nelson Drive	.....	13
10. McLeod Avenue at Calahoo Road	.....	12

Primary route collision data

1. Hwy 16A	.....	117
2. Jennifer Heil Way	.....	82
3. McLeod Avenue	.....	81
4. Century Road	.....	72
5. Grove Drive Corridor	.....	69
6. Calahoo Road Corridor	.....	44

¹ Cyclists, pedestrians, wheel chairs.

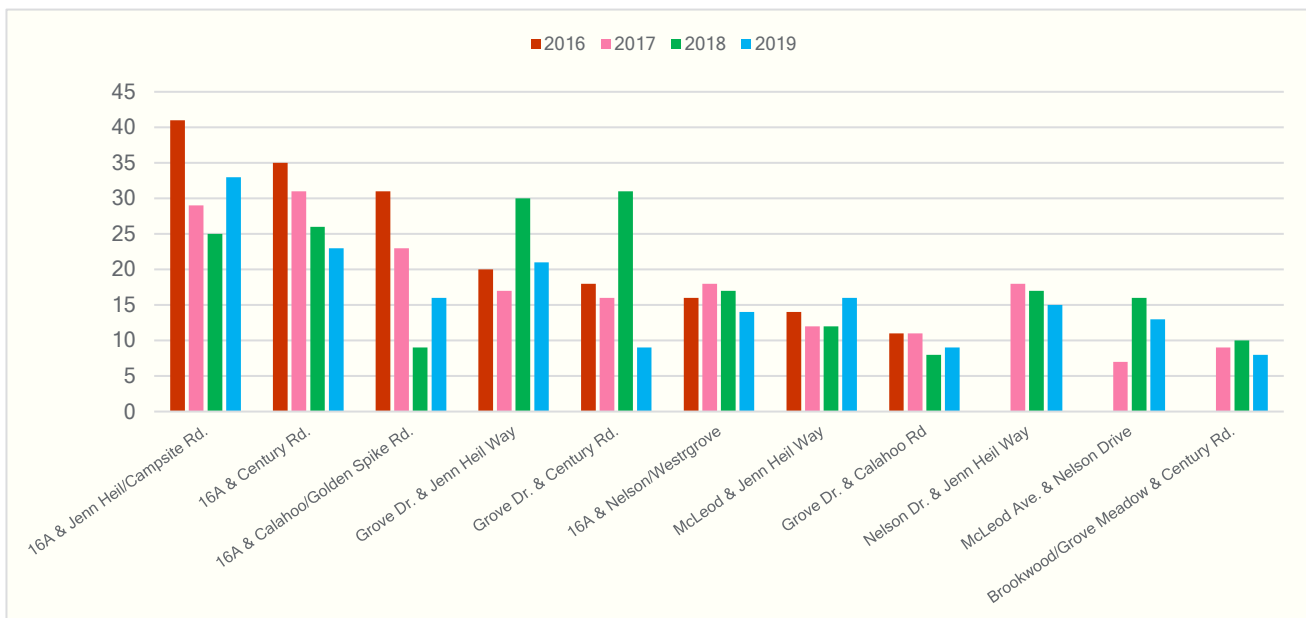
² Table excludes collisions in parking lots, alleys or in a driveway (If backing onto street the collision was included).

There were no fatal collisions in 2019 and there were 128 collisions with injuries. Of these 128 injury collisions, they may be broken down as follows:

- Intersection 46
- Rear End 35
- Pedestrian 14
- Driveway/Parking Lot 16
- Other 17



The total of 706 collisions represents a decrease of 8.07% from 2018. The following chart provides a year over year comparison relative to intersection performance from 2016 to 2019. Enhancements in data collection have been made, however it should be noted that 2016 data was not available for three of the intersections.



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/>

Staffed Enforcement versus ATE Balance

The intent is to balance hours of ATE with hours of staffed or traditional enforcement. This has proven difficult to determine actual hours of staffed enforcement across the city as RCMP and enforcement services are responsible for traffic enforcement. In 2020 we will be doing some analysis to determine a formula that can be applied to time per ticket. It is then hoped that this formula may be applied to the number of tickets issued to determine the time equivalent.

Overt versus Covert

Overt versus covert was a main topic in the new ATE contract for 2020. In 2020 one will see a marked Community Peace Officer patrol vehicle used for 50% of mobile ATE operations. This has been a struggle as there is no consensus as to what overt means. A vehicle wrapped in a bright colour with ATE markings is considered overt by some, even when sitting on an overpass out of sight. Others believe in order to be overt it must be obvious to anyone what the vehicle is, what it is doing, and used in plain sight.

The Solicitor General's office is currently working with Spruce Grove Safe City to approve a separate peace officer identification for Spruce Grove that will be used exclusively for ATE.

Education Initiatives

Spruce Grove is a member of the Capital Region Intersection 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 also 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/>

Advisory Committee Comments

In March 2019, Spruce Grove City Council approved the formation of a Community Road Safety Advisory Committee. The mandate of the advisory committee is to provide advice and recommendations to Council for all methods of transportation, including pedestrian, cyclist, and vehicular traffic, including but not limited to automated traffic enforcement.

This committee will hold its first meeting in 2020.

Recommendations

In 2019 a Request for Proposals (RFP) was issued to analyze bringing ATE in house and operate it from within Protective Services versus a contract for services, a RFP was also done for service providers to propose systems for Spruce Grove. Finally the same consultant that did the in house review was engaged to assist in the service provider review and RFP. During this process a review was also conducted on a hybrid solution with partial in house operations and partial contracting services. It was determined that the services should be contracted out.

The only recommendation for 2020 is to continue with this identified system that includes:

- 50% overt for mobile ATE.
- Detailed reporting.
- Real time site mapping and ATE location usage.
- Public access to information from all monitoring systems.

Appendix A (Site Identifiers)

202	Highway 16A west bound at Century Road
211	Highway 16A west bound at Nelson Drive
212	Highway 16A east bound at Nelson Drive
213	Nelson Drive south bound at Highway 16A
216	Century Road north bound at or near Grove Meadow Drive
218	Century Road south bound at or near Kings Link
223	Grove Drive east bound at or near Fieldstone Drive
229	Grove Drive west bound at or near Deer Park Drive
230	Grove Drive east bound at or near Hilldowns Drive
234	Jennifer Heil Way south bound at or near Tri Leisure Centre
241	Grove Drive east bound at or near Jubilee Park
242	Grove Drive west bound at or near Jubilee Park
243	Highway 16A west bound at or near King Street
245	Golden Spike Road south bound at or near Diamond Avenue
246	Calahoo Road north bound at or near Jespersen Avenue
259	Brookwood Drive east bound at Century Road
260	Grove Meadow Drive west bound at Century Road
265	McLeod Avenue east bound at Century Road
277	Highway 16A east bound at Campsite Road
278	Highway 16A east bound at Century Road
281	Calahoo Road north bound at Grove Drive
282	Calahoo Road south bound at Grove Drive
291	Highway 16A west bound at Calahoo Road
292	Highway 16A east bound at Golden Spike Road
293	Calahoo Road south bound at Highway 16A
298	McLeod Avenue west bound at Jennifer Heil Way
1210	Jennifer Heil Way north bound at Grove Drive
1214	Harvest Ridge Drive east bound at Heron Crescent
1215	Harvest Ridge Drive west bound at Heron Crescent
1216	Grove Drive east bound at Spring Gate
1224	Calahoo Road north bound at Woodhaven Drive
1226	Millgrove Drive east bound at Calahoo Road
1227	Woodhaven Drive west bound at Calahoo Road
1228	Spruce Ridge Drive at Jennifer Heil Way
1229	Hawthorne Gate west bound at Calahoo Road

- 1232 Grove Drive east bound at Grove Senior Village
- 1250 Alberta Avenue east bound at Golden Spike Road
- 1251 Diamond Avenue east bound at Golden Spike Road
- 1252 Diamond Avenue west bound at Golden Spike Road
- 1261 south Avenue west bound at Golden Spike Road
- 1262 south Avenue east bound at Century Road
- 1263 Diamond Avenue east bound at Century Road
- 1265 Oswald Drive south bound at Alberta Avenue
- 1267 Oswald Drive south bound at Diamond Avenue
- 1268 Diamond Avenue west bound at Campsite Road
- 1269 Madison Crescent west bound at Campsite Road
- 1270 McLeod Avenue west bound at Queen Street
- 1271 McLeod Avenue east bound at Queen Street
- 1272 Queen Street north bound at McLeod Avenue
- 1273 Queen Street south bound at McLeod Avenue
- 1274 McLeod Avenue west bound at Main Street
- 1275 McLeod Avenue east bound at Main Street
- 1279 Spruce Ridge Drive west bound at Spruce Ridge Road
- 1280 Spruce Ridge Drive east bound at Spruce Ridge Road
- 1285 Harvest Ridge Drive SB at Grove Drive
- 1286 Spruce Ridge Road north bound at Grove Drive
- 1287 Jennifer Heil Way north bound at Tri Leisure Centre
- 1288 Grove Drive west bound at or near Hilldowns Drive
- 1289 Grove Drive west bound at or near Fieldstone Drive
- 1291 Highway 16A at or near Nelson Drive
- 1292 Highway 16A east bound at or near Westgrove Drive
- 1293 Highway 16A east bound at or near King Street
- 1294 Calahoo Road north bound at or near Marlboro Drive
- 1295 Grove Drive east bound at or near Heatherglen Drive
- 1296 Spruce Ridge Road north bound at Spruce Ridge Drive
- 1297 Spruce Ridge Road south bound at Spruce Ridge Drive
- 1298 Calahoo Road south bound at or near Marlboro Drive
- 90268 Grove Drive east bound at or near Century Road
- 90269 Century Road north bound at or near Grove Drive
- 90270 Century Road south bound at or near Grove Drive
- 90271 Highway 16A west bound at or near Jennifer Heil Way
- 90272 Highway 16A east bound at or near Campsite Road
- 90277 Highway 16A at or near Century Road
- 90278 Highway 16A east bound at or near Century Road

