



CITY OF KIRKLAND
Police Department
11750 NE 118th Street
Kirkland, WA 98034-7114 · 425.587.3400
www.kirklandwa.gov

MEMORANDUM

To: Kurt Triplett, City Manager

From: Cherie Harris, Police Chief
Kathy Brown, Public Works Director
Marilynne Beard, Deputy City Manager

Date: June 7, 2018

Subject: AUTOMATED TRAFFIC SAFETY CAMERAS IN SCHOOL ZONES

Speeding in school zones continues to be a safety concern as traffic volume grows as well as a consistent complaint from the community. The Police Department, in coordination with the City Manager's Office, the Municipal Court and Public Works was asked to research photo enforcement of school zone speeding violations. These automated systems were recommended in the Police Strategic Plan as ..."*an aid to calming traffic with a relatively less intensive use of Officer resources...*" (Recommendation 9c, page 25)

The following memo summarizes the research to date and includes:

- Legal basis for photo enforcement in school zones
- Results of traffic studies conducted to determine the frequency and speed of school zone offenses
- Background information on vendors that provide the equipment and monitoring
- Operational considerations and implementation steps including experiences from other cities that have implemented school zone photo enforcement
- Financial analysis regarding the relative cost versus revenue
- Policy issues that will need to be resolved
- Communications plan

RCW 46.63.170 -- Automated Traffic Safety Cameras

The following bullet points summarize the main provisions of state law governing the use of automated traffic safety cameras. The full text of RCW 46.63.170 is included as attachment A.

- The City must prepare an analysis of locations where automated traffic safety cameras are proposed
- Automated traffic safety cameras can be used to detect compliance at:
 - Stoplights (at intersections of two arterials with yellow signals)
 - Railroad crossings
 - School speed zones

- The enabling ordinance must require public notice and signage regarding where cameras are located 30 days prior to activating cameras
- The City must post an annual report on its website
 - Number of traffic accidents at camera sites
 - Number of notices of infractions per camera
- The camera may only take pictures of the vehicle and license plate (only when an infraction is occurring) and may not reveal the face of the driver or passengers
- The City must minimize the impact of photo flash on drivers
- A notice of infraction must be mailed:
 - To the registered owner of vehicle within 14 days of the violation
 - To the renter of a vehicle within 14 days if renter's name and address are known
 - The notice must include an affidavit from a law enforcement officer based on photos or other images stating the facts supporting the notice (the notice is admissible in court proceedings)
- Recipients of notices may respond by mail
- The registered owner of a vehicle is responsible for the infraction and presumed to be the driver however *"This presumption may be overcome only if the registered owner states, under oath, in a written statement to the court or in testimony before the court that the vehicle involved was, at the time, stolen or in the care, custody, or control of some person other than the registered owner."*
- Rental companies may use similar affidavits
- Photos or other images produced by cameras are not subject to public disclosure nor are they admissible in court unless the court action is related to the violation
- If renting equipment, compensation to the vendor may not exceed the actual value of equipment and services (e.g. vendor payments may not be based on a percentage of the fine)
- Infractions from cameras are processed the same as a parking ticket
 - The infraction does not become part of driver's record
 - Amount of fine is determined by the City but may not exceed the amount of a fine for parking tickets within the jurisdiction
- Fines for infractions generated by the use of cameras may be mitigated by the court;
- 100% of the payment of fines for automated camera systems is retained by the City

Traffic Study Results

As noted above, the City must prepare an analysis of locations where automated traffic safety cameras may be deployed. The Public Works Department Traffic Engineering staff conducts traffic speed studies as needed or requested by City staff. This includes speed studies in school zones. The Police Department requested general speed and accident rates in school zones. Some data was already available and additional studies were conducted at two schools where data was not available. Based on this preliminary data, two schools were recommended as sites for automated traffic safety cameras – John Muir Elementary and Rose Hill Elementary. These two locations had the highest traffic volumes and incidence of excessive speed. A second study was conducted in May by an outside consultant that was specifically focused on the time periods before and after school hours when speed restrictions are in place.

Over the two study days (May 3 and May 8), 81% of drivers in Rose Hill Elementary study drivers exceeded the 20-mph speed limit and, of those, 34% of those exceeded 25 mph in the

in zones varies across Kirkland. All school zones have an advance alert sign that indicates when a driver is entering a school zone and with a posted speed limit of 20 miles per hour “when children are present.” In some cases, the sign will have flashing lights 30 minutes before school begins and 30 minutes after school ends which (Note: Time periods are established by the City for each school depending on school start and stop times). Some school zones also have a sign that indicates the end of the school zone so drivers know when they are leaving the speed-restricted area. Some school crosswalks also have rapid flashing beacons.

Neither John Muir Elementary nor Rose Hill Elementary have flashing school zone advance warning signs indicating when children may be present. To provide adequate notification to drivers where automated traffic safety cameras are used, the Police Department and Public Works Department recommend consistent signage to include flashing school zone signs at each end of the school zone along with “end school zone” signage as drivers leave the school zone. These signs are in addition to signage required by state law warning drivers that speed enforcement cameras are active in the school zone. The estimated cost of adding flashing school zone signs is estimated at \$7,000 per sign for a total of \$28,000 (if completed in house). Using an outside contractor would cost approximately \$25,000 per sign for a total of approximately \$100,000. Consistent and adequate signage not only encourages compliance but also provides more thorough case documentation for infractions that are heard by the Municipal Court Judge.

Procuring Automated Traffic Safety Cameras

All cities in Washington that use red light and school zone enforcement cameras contract with one of two vendors for the equipment and monitoring. The City’s Purchasing Agent researched two vendors that are used most frequently in Washington – Redflex and ATS (American Traffic Solutions). Both vendors are based in Arizona but serve several cities in Washington and can provide both speed zone and red-light enforcement equipment. It is likely that Kirkland will be able to piggyback on another city’s contract through a cooperative purchasing agreement.

Both vendors have similar contract provisions with some variations that can be negotiated. Both vendors operate on a “BOOM” model – whereby the vendor Builds, Owns, Operates and Maintains the equipment. Two safety cameras will be installed at each school zone (for a total of four cameras). The City pays a flat monthly fee for each camera (estimated at a range of \$4,200 to \$4,800 per month for a total cost of up to \$170,000 per year). School zone cameras can be deactivated when school is out of session for 10 days or longer (e.g. summer) and fees may be adjusted. Although fees paid to the vendor cannot be based on a percentage of the fine (per RCW), revenue generated from fines generally covers the costs of the program (“cost neutral” contract). It is expected that the vendor’s costs for providing and installing the cameras are recovered as part of the monthly fee. Therefore, the monthly fee may vary based on the length of the contract and the volume of violations that need to be reviewed. In other words, the cameras need to be in place long enough for the vendor to recoup their investment. Most contracts run at least five years (otherwise the monthly fee is higher to recoup installation expenses). Extra charges may apply for researching the names of drivers of rental vehicles. The vendor will also respond to public records requests on behalf of the City.

The cameras provide a snapshot of each vehicle’s license plate; however, images of drivers or passengers are blurred. Videos of recorded violations are sent directly to the vendor who views each video multiple times to confirm the speeding violation is valid. Valid violations are then forwarded to the Kirkland Police Department for review. In order for a notice of violation to be

issued, each violation must be viewed and validated by a commissioned police officer. Once a police officer validates the violation, the vendor sends a letter to the owner of the car that includes the notice of the violation, the issuing police officer's name and information about how to proceed. Once the notice of violation is issued, the information is downloaded directly into the Court's Judicial Information System (JIS) where the case status and payment are tracked.

The advantage of contracting is that the vendor recoups their costs over time from the City and so up-front costs to the City are minimized. The monthly fees also cover the cost of equipment maintenance and repair, initial video review of violations for validity, web hosting of violation data to include the customer's video of the infraction, assistance with public records requests and mailing infraction notices.

Experience of Other Cities Employing Automated Traffic Safety Cameras

The Kirkland Police Department and Municipal court contacted their counterparts in nearby communities to better understand the implementation and operational considerations of using safety cameras. The following cities were contacted:

- Lynnwood – Operates school zone and red-light cameras.
- Issaquah – Operates school zone cameras.
- Renton – Operates school and red-light cameras.

Cities were asked about the volume of violations generated by cameras, the percentage of violations that are valid, the amount of time police officers spend reviewing videos, the volume of violations sent to the Court, the percentage that are paid, contested or mitigated and the impact on Judicial hours and court staff time. Each city's experience will vary based on the type of camera enforcement they are using and the volume of violations. For instance, Issaquah has one high school zone equipped with cameras with two "approaches" – one camera on either side of the school zone. They received 9,183 violations to review in 2017 and issued 7,530 violations. They review videos daily (state law requires the notice of violation to be mailed within 14 days of the violation). Most cities estimated video reviews required approximately 3 minutes per video. Issaquah's fine is \$124 for any violation.

Lynnwood has both multiple school zone and red light cameras and estimates video review require .75 FTE of police officer time. School zone violation fines are set at \$124 for speeds between 6 and 15 mph over the limit and \$250 for 16 mph over and greater. Renton has a similar fine as Lynwood, graduating with speed.

Once an individual receives a notice of violation, they can either pay the fine by mail or in person, request a hearing or submit an affidavit swearing that they were not driving the vehicle at the time of the violation. Affidavits result in a dismissal of the violation. One Court estimated that approximately 10% of violations have affidavits submitted or are dismissed. Another percentage are paid and the remaining violations are scheduled for a hearing. The Presiding Judge for each Municipal Court establishes their own rules for processing safety camera violations.

Lynnwood Municipal Court processes safety camera cases somewhat differently than other infractions. At the time of the hearing, the Judge asks everyone who received a safety camera violation to raise their hand. They then have the choice of settling the violation without a hearing by paying a \$50 fine (mitigating the full fine by over half) or staying for a hearing.

Lynnwood has a kiosk available in their lobby and individuals can view the video at the kiosk or on their phone and decide whether to pay the lower fine. If they decide to stay for a hearing, the video is reviewed by the Judge who then imposes a fine (potentially not mitigated at all).

Other experiences shared by one or more cities include:

- Initial public reaction to photo enforcement was negative but was mitigated when the City announced that the revenue from safety camera violations is dedicated to pedestrian and traffic safety improvements.
- One City initially scheduled cameras to be active all day, but received sufficient negative feedback to roll back active camera time to coincide with time periods when children are arriving at and leaving school.
- One City was sued for failing to post the required annual report on their website.
- One City noted that about 85% of violations were issued to people that did not live in the immediate vicinity or in the city where it was issued. This statistic may be influenced by the location of the school zone and whether it is located on a street that is a commuter route or that connects communities.
- The number of public records requests increased at the beginning of the program but eventually tapered off.
- Thorough research about vendors and their contract provisions is necessary since their contracts vary by jurisdiction and the jurisdiction's experience of working with the vendor can be informative.

Financial Analysis

The Financial Planning staff prepared an analysis of the potential costs and revenue related to automated traffic safety cameras in school zones. Based on input from other cities, the analysis assumes 12,667 violations per year would be generated by the cameras in the two school zones. The analysis also took into consideration a factor for case dismissals, fine mitigations, Police and Court staff and judicial time, number of operational school days per year and cost per approach (paid to the vendor). 100% of the payment collected is retained by the City (in contrast, the City must share fees collected for infractions written by Officers with the State of Washington). The tables on the next page summarize the results and net revenue after costs to include the estimated staffing impacts.

Annual Citation Volume Estimate	
Gross Citations	12,667
Less Officer Dismissals	(633)
Net Volume Estimate	12,034
Fully Paid Citations	7,303
Mitigated	1,444
Dismissed by Affidavit	1,444
Dismissed by Contested Hearing	38
Sent to Collections	1,805

Annual Revenue and Cost Estimates			
Annual Revenue Estimate		Annual Cost Estimate	
Gross Fees	\$ 1,722,712	Equipment Rental Charges	\$ 233,760
Less Mitigations	\$ (108,300)	Rental Car Processing Fees	\$ 120
Less Dismissals	\$ (201,552)	Staff Time	\$ 162,356
Less Citations going to Collections	\$ (220,864)	Prosecutor Expenses	\$ -
Total	\$ 1,191,996	Total	\$ 396,236

General Statistics			
Additional FTE Equivalence		Annual Citation/Workload Totals	
Police Officer	0.38	Citations Reviewed	12,667
Court Clerk	0.74	Complaints/Calls	4,813
Judge/Court Commissioner	0.13	Contested Hearings	481
		Mitigation Hearings	1,444

Net Annual Revenue Estimate:	\$ 795,760
-------------------------------------	-------------------

Policy Issues

State law dictates some restrictions and requirements but others are left to the local jurisdiction. Some decisions will be within the purview of the Municipal Court, Police Department or Public Works Department while others will be decisions of the City Council with recommendations provided by staff. Policy issues are described below:

- Hours of Camera Operation – The traffic study captured data from 8:00 am to 9:00 am and 2:30 pm to 3:30 pm, one hour before the start of school and after dismissal. The Police Department recommends that these be the hours of operation for the cameras since this is the peak time for school-related traffic.
- Fines – The City Council establishes the amount of fines for school zone speed violations. State law limits the amount of the fine to the “amount issued for other parking infractions within the jurisdiction.” The maximum parking fine issued within the City of Kirkland is \$450 for Handicapped Parking. Other cities contacted that issue automated traffic speed tickets base fines range from \$124 to \$136. In some cases, the fine is graduated based on the miles per hours in excess of the posted speed limit.

- The City of Renton fine is \$124 for speeds of 26 to 31 mph, increasing to \$250 for speeds of 32 mph and greater. Staff recommends that a fine of \$136 be issued for any violation exceeding 25 mph and only use a single violation rate at this time. Violations should be monitored and a second tier with a higher fine considered, if the speeds in the school zone consistently exceed 30 mph.
- Use of Revenue – The first priority for the revenue should be to fully cover all of the costs (police, court, vendor, etc.) of implementing the program. After considering the likely costs and revenue generated by the program, any net amount can legally be used for any municipal purpose. In keeping with the overall goal of safety, staff recommends that net revenue to be dedicated to supplement the neighborhood safety program project funds and safe routes to school investments such as sidewalks, crosswalks and flashing beacons. The City Council’s supplementary contribution to the neighborhood safety program expires in 2021 and this is one possible source to continue this important partnership with the community.
- As an example, initial revenue should be invested to update all school zones in the City with flashing school zone signs upon entering the school zone and end of school zone signs. Since the net revenue is based on estimates, it is further recommended that actual net revenue be made available to capital improvements when the amount is known. Once the program is operational, staff will monitor revenues and expenses to gain a better understanding of the amount and timing of net revenue generation as actual costs and revenue are based on conservative estimates. It is also possible that the incidence of speeding in school zones may decrease once drivers are aware of the program.
- Violations Issued to Public Entity Vehicles – Like rental cars, “e-plates” or vehicles owned by a public agency are driven by multiple drivers (e.g. cities, counties, public utilities, school districts). Public vehicles also include first responders that may be responding to a call for service. Follow-up research is needed to determine who was driving the vehicle, what the nature of the travel was and the jurisdiction’s policy for responsibility for fines. The City of Kirkland’s policy is that any employee that receives a parking or traffic violation is responsible for the payment of the fine. Staff recommends that the Kirkland Police Department conduct follow-up to identify and issue the driver of public vehicles the infraction.
- Signage – Staff recommends consistent and adequate signage be installed in the two school zones identified for the automated traffic safety camera program to include advance warning signs that a school zone is photo enforced, flashing school zone signs upon entering the school zone and end of school zone signs. An additional signage option is to include a speed indicator sign on or before the flashing school zone sign so drivers are aware of their speed as they approach the zone.

Verbiage on the school zone signs can be modified. Lynnwood’s school zone signs read “Slow down when lights are flashing or when children are present.” It is important to have signs with messaging that is brief enough for the driver to read while they are driving without being distracted. Excessive signage can also be confusing. Staff recommends “school zone when flashing” be consistently placed throughout the City but certainly in those areas in which automated cameras are installed.

Communication and Education

If the Council elects to proceed with a school zone camera pilot program, positive communications about the purpose of the automated traffic safety camera program should focus on safety and the prevention of crashes. Fortunately, the volume of speeding has not yet resulted in many accidents occurring in school zones, but the purpose of the program is to prevent accidents and injuries. It is well-documented that speed is a key factor in the severity of injuries and damage occurring in crashes between vehicles and pedestrians, bicyclists and stationary objects.

Chief Harris and other Police Department staff met with Lake Washington School District's head of security, Scott Emery. Mr. Emery is familiar with school zone cameras since the City of Redmond used them. The District's focus is on student safety and they hold a neutral position about school zone cameras. They will work with the City to include information about the school zone cameras in their communications with the public.

Staff also recommends a robust communication strategy that describes the purpose of the program and how it works. Information on the City's web page, "This Week in Kirkland" and media releases will be prepared. A video about the program could also increase awareness of the program. Social media will also be an important source of information at the inception of the program.

Timing and Funding Considerations

Based on initial direction from the City Council, a service package will be prepared for the 2019-2020 Budget to provide funding for the initial start-up costs and ongoing revenue and expenses related to the program. City funds may be needed to cover the cost of signage and monthly fees that are due prior to the time revenue is received from violations. Staff recommends that the target date for activation of the automated traffic safety cameras coincide with the beginning of the 2019-2020 school year in September.

RCW 46.63.170**Automated traffic safety cameras—Definition.**

(1) The use of automated traffic safety cameras for issuance of notices of infraction is subject to the following requirements:

(a) The appropriate local legislative authority must prepare an analysis of the locations within the jurisdiction where automated traffic safety cameras are proposed to be located: (i) Before enacting an ordinance allowing for the initial use of automated traffic safety cameras; and (ii) before adding additional cameras or relocating any existing camera to a new location within the jurisdiction.

Automated traffic safety cameras may be used to detect one or more of the following: Stoplight, railroad crossing, or school speed zone violations; or speed violations subject to (c) of this subsection. At a minimum, the local ordinance must contain the restrictions described in this section and provisions for public notice and signage. Cities and counties using automated traffic safety cameras before July 24, 2005, are subject to the restrictions described in this section, but are not required to enact an authorizing ordinance. Beginning one year after June 7, 2012, cities and counties using automated traffic safety cameras must post an annual report of the number of traffic accidents that occurred at each location where an automated traffic safety camera is located as well as the number of notices of infraction issued for each camera and any other relevant information about the automated traffic safety cameras that the city or county deems appropriate on the city's or county's web site.

(b) Except as provided in (c) of this subsection, use of automated traffic safety cameras is restricted to the following locations only: (i) Intersections of two arterials with traffic control signals that have yellow change interval durations in accordance with RCW **47.36.022**, which interval durations may not be reduced after placement of the camera; (ii) railroad crossings; and (iii) school speed zones.

(c) Any city west of the Cascade mountains with a population of more than one hundred ninety-five thousand located in a county with a population of fewer than one million five hundred thousand may operate an automated traffic safety camera to detect speed violations subject to the following limitations:

(i) A city may only operate one such automated traffic safety camera within its respective jurisdiction; and

(ii) The use and location of the automated traffic safety camera must have first been authorized by the Washington state legislature as a pilot project for at least one full year.

(d) Automated traffic safety cameras may only take pictures of the vehicle and vehicle license plate and only while an infraction is occurring. The picture must not reveal the face of the driver or of passengers in the vehicle. The primary purpose of camera placement is to take pictures of the vehicle and vehicle license plate when an infraction is occurring. Cities and counties shall consider installing cameras in a manner that minimizes the impact of camera flash on drivers.

(e) A notice of infraction must be mailed to the registered owner of the vehicle within fourteen days of the violation, or to the renter of a vehicle within fourteen days of establishing the renter's name and address under subsection (3)(a) of this section. The law enforcement officer issuing the

notice of infraction shall include with it a certificate or facsimile thereof, based upon inspection of photographs, microphotographs, or electronic images produced by an automated traffic safety camera, stating the facts supporting the notice of infraction. This certificate or facsimile is prima facie evidence of the facts contained in it and is admissible in a proceeding charging a violation under this chapter. The photographs, microphotographs, or electronic images evidencing the violation must be available for inspection and admission into evidence in a proceeding to adjudicate the liability for the infraction. A person receiving a notice of infraction based on evidence detected by an automated traffic safety camera may respond to the notice by mail.

(f) The registered owner of a vehicle is responsible for an infraction under RCW **46.63.030**(1)(d) unless the registered owner overcomes the presumption in RCW **46.63.075**, or, in the case of a rental car business, satisfies the conditions under subsection (3) of this section. If appropriate under the circumstances, a renter identified under subsection (3)(a) of this section is responsible for an infraction.

(g) Notwithstanding any other provision of law, all photographs, microphotographs, or electronic images prepared under this section are for the exclusive use of law enforcement in the discharge of duties under this section and are not open to the public and may not be used in a court in a pending action or proceeding unless the action or proceeding relates to a violation under this section. No photograph, microphotograph, or electronic image may be used for any purpose other than enforcement of violations under this section nor retained longer than necessary to enforce this section.

(h) All locations where an automated traffic safety camera is used must be clearly marked at least thirty days prior to activation of the camera by placing signs in locations that clearly indicate to a driver that he or she is entering a zone where traffic laws are enforced by an automated traffic safety camera. Signs placed in automated traffic safety camera locations after June 7, 2012, must follow the specifications and guidelines under the manual of uniform traffic control devices for streets and highways as adopted by the department of transportation under chapter **47.36** RCW.

(i) If a county or city has established an authorized automated traffic safety camera program under this section, the compensation paid to the manufacturer or vendor of the equipment used must be based only upon the value of the equipment and services provided or rendered in support of the system, and may not be based upon a portion of the fine or civil penalty imposed or the revenue generated by the equipment.

(2) Infractions detected through the use of automated traffic safety cameras are not part of the registered owner's driving record under RCW **46.52.101** and **46.52.120**. Additionally, infractions generated by the use of automated traffic safety cameras under this section shall be processed in the same manner as parking infractions, including for the purposes of RCW **3.50.100**, **35.20.220**, **46.16A.120**, and **46.20.270**(2). The amount of the fine issued for an infraction generated through the use of an automated traffic safety camera shall not exceed the amount of a fine issued for other parking infractions within the jurisdiction. However, the amount of the fine issued for a traffic control signal violation detected through the use of an automated traffic safety camera shall not exceed the monetary penalty for a violation of RCW **46.61.050** as provided under RCW **46.63.110**, including all applicable statutory assessments.

(3) If the registered owner of the vehicle is a rental car business, the law enforcement agency shall, before a notice of infraction being issued under this section, provide a written notice to the rental car business that a notice of infraction may be issued to the rental car business if the rental car business does not, within eighteen days of receiving the written notice, provide to the issuing agency by return mail:

(a) A statement under oath stating the name and known mailing address of the individual driving or renting the vehicle when the infraction occurred; or

(b) A statement under oath that the business is unable to determine who was driving or renting the vehicle at the time the infraction occurred because the vehicle was stolen at the time of the infraction. A statement provided under this subsection must be accompanied by a copy of a filed police report regarding the vehicle theft; or

(c) In lieu of identifying the vehicle operator, the rental car business may pay the applicable penalty.

Timely mailing of this statement to the issuing law enforcement agency relieves a rental car business of any liability under this chapter for the notice of infraction.

(4) Nothing in this section prohibits a law enforcement officer from issuing a notice of traffic infraction to a person in control of a vehicle at the time a violation occurs under RCW **46.63.030**(1) (a), (b), or (c).

(5) For the purposes of this section, "automated traffic safety camera" means a device that uses a vehicle sensor installed to work in conjunction with an intersection traffic control system, a railroad grade crossing control system, or a speed measuring device, and a camera synchronized to automatically record one or more sequenced photographs, microphotographs, or electronic images of the rear of a motor vehicle at the time the vehicle fails to stop when facing a steady red traffic control signal or an activated railroad grade crossing control signal, or exceeds a speed limit as detected by a speed measuring device.

(6) During the 2011-2013 and 2013-2015 fiscal biennia, this section does not apply to automated traffic safety cameras for the purposes of section 216(5), chapter 367, Laws of 2011 and section 216 (6), chapter 306, Laws of 2013.

[**2015 3rd sp.s. c 44 § 406**; **2015 1st sp.s. c 10 § 702**; **2013 c 306 § 711**. Prior: **2012 c 85 § 3**; **2012 c 83 § 7**; **2011 c 367 § 704**; **2010 c 161 § 1127**; **2009 c 470 § 714**; **2007 c 372 § 3**; **2005 c 167 § 1**.]

NOTES:

Effective date—2015 3rd sp.s. c 44: See note following RCW **46.68.395**.

Effective date—2015 1st sp.s. c 10: See note following RCW **43.19.642**.

Effective date—2013 c 306: See note following RCW **47.64.170**.

Findings—Intent—2012 c 85: "The legislature finds that it is in the interests of the driving public to continue to provide for a uniform system of traffic control signals, including provisions

relative to yellow light durations, fine amounts for certain traffic control signal violations, and signage and reporting requirements at certain traffic control signal locations. The legislature further finds that a uniform system of traffic control signals greatly enhances the public's confidence in a safe and equitable highway network. Therefore, it is the intent of the legislature to harmonize and make uniform certain legal provisions relating to traffic control signals." [[2012 c 85 § 1.](#)]

Effective date—2011 c 367 §§ 703, 704, 716, and 719: See note following RCW [46.18.060](#).

Effective date—Intent—Legislation to reconcile chapter 161, Laws of 2010 and other amendments made during the 2010 legislative session—2010 c 161: See notes following RCW [46.04.013](#).

Effective date—2009 c 470: See note following RCW [46.68.170](#).

CITY OF KIRKLAND – PUBLIC WORKS

SPEED ANALYSIS RESULTS

Speed and volume counts were performed on two streets located within the school zones of the elementary schools listed below:

- 1) Rose Hill
- 2) John Muir

The study was performed by TCC, Inc. Thursday, May 3 and Tuesday, May 8, 2018 during the hours summarized below. The specific speed and volume count locations are shown on Figures 1 and 2.

Location	Street	Start Time Analysis Period	Dismissal Time Analysis Period	Speed Limit within School Zone
1) Rose Hill Elementary	NE 80 th Street	8:00 AM to 9:00 AM	2:30 PM to 3:30 PM	20 MPH
2) John Muir Elementary	132 nd Ave NE	8:30 AM to 9:30 AM	3:00 PM to 4:00 PM	20 MPH

Figure 1

Rose Hill Elementary School – Speed and Traffic Volume Count Locations



The percentage of drivers exceeding 25 MPH ranges from 16% to 25% on the westbound approach and from 20% to 38% on the eastbound approach, which can be characterized as a significant relative variation. On both approaches, out of a total volume of 875, 686 drivers (78%) exceeded 20 MPH and 231, about 26%, exceeded 25 MPH.

The overall combined results for both periods during the two-day study period at this location can be summarized as follows:

81% of drivers exceeded the 20 MPH school zone speed limit and 34% exceeded 25 MPH.

2) John Muir Elementary

From 8:30 to 9:30 AM, the percentage of drivers exceeding 20 MPH is 82% on the northbound approach and about 88% on the southbound approach. The percentage of drivers exceeding 25 MPH is about 43% on the northbound approach and 50% on the southbound approach. Adding the results for both approaches, 1355 drivers out of a total of 1588 (about 85%) are exceeding 20 MPH whereas 751 (47%) are driving faster than 25 MPH.

From 2:30 to 3:30 PM, the percentage of drivers exceeding 20 MPH on the northbound approach varies from 67% to 72%, but no significant relative variation is found in the results for the southbound approach where the percentage of drivers exceeding 20 MPH is 88%. Adding the results of both approaches, the percentage of drivers exceeding 20 MPH during this period is 76%, that is 1239 out of a total of 1629. Significant relative variation is observed in the 25 MPH results. On the northbound approach, for example, the percentages of drivers exceeding 25 MPH are 22% and 43%, whereas on the southbound approach these are 53% and 26%. Adding the results for both approaches during this period 554 drivers, or 34%, are found to exceed 25 MPH.

A summary of results for both arrival and dismissal times during the two-day study period at this location shows that 81% of drivers exceeded the 20 MPH school speed limit whereas 41% drove faster than 25 MPH.

CRASH ANALYSIS RESULTS

The crash analysis is based on crash data obtained from Kirkland Police Department. This means that crashes that have not been reported by drivers to the Police are not taken into account. In addition, the focus of this analysis is on reported crashes that occurred within the school zones identified on Figures 1 and 2 in this report, not on the entire school walk routes as was done on past crash analyses associated with Kirkland’s automated speed enforcement program/project.

The results of the analysis are shown below.

There is only one reported crash within the Rose Hill Elementary School zone (which includes segments of NE 80th Street, 128th Ave NE and 130th Ave NE) during the period from 2013 to 2017. Since it happened before 8:00 AM it cannot be attributed to school zone activity.

There are six reported crashes within the John Muir Elementary school zone. Five of these crashes occurred at the signalized intersection of NE 140th Street at 132nd Ave NE. With one exception, all crashes are rear-end and occurred at hours outside the school arrival and dismissal periods. Based on the information presented on Table 1 below, it can be concluded that crash activity within the school zones included in this analysis is not significant.

Table 1. Crash Summary (2013-2017)

Location	Streets	Total # of Crashes	PDO (Property Damage Only)	Injury	Injuries	Fatalities	Pedestrian / Cyclist Crashes
John Muir Elementary School Zone	132 nd Ave NE at/near NE 140 th Street	5	4	1	1	0	0
	132 nd Ave NE at/near NE 138 th Place	1		1	1	0	0
	Total	6	4	2	2	0	0
Rose Hill Elementary School Zone	NE 80 th Street at 128 th Ave NE	1	1	0	0	0	0
	Total	1	1	0	0	0	0

LOCATION: Rose Hill Elementary School Zone - Speed and Traffic Volume Count Summary									
Date Time Approach	5/3/2018 8:00 to 9:00 AM		5/8/2018 8:00 to 9:00 AM		5/3/2018 2:30 to 3:30 PM		5/8/2018 2:30 to 3:30 PM		Overall Results
	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound	Eastbound	
Average Speed (MPH)	23	25	23	26	22	25	22	23	
85th Percentile (MPH)	27	28	27	28	25	28	25	26	
10 Mile Pace	16-25	21-30	16-25	21-30	16-25	21-30	16-25	16-25	
% Exc. 20 MPH	73%	88%	75%	92%	74%	91%	74%	69%	81%
Hourly Volume	160	223	167	286	157	303	157	258	1711
# Veh. Exceed. 20MPH	117	196	125	263	116	276	116	178	1388
% Exc. 25 MPH	23%	61%	24%	49%	25%	38%	16%	20%	34%
# Veh. Exceed. 25MPH	37	135	40	141	40	115	25	51	584

LOCATION: John Muir Elementary School Zone - Speed and Traffic Volume Count Summary									
Date Time Approach	5/3/2018 8:30 to 9:30 AM		5/8/2018 8:30 to 9:30 AM		5/3/2018 3:00 to 4:00 PM		5/8/2018 3:00 to 4:00 PM		Overall Results
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound	
Average Speed (MPH)	25	26	25	27	23	26	23	25	
85th Percentile (MPH)	29	31	29	32	27	31	27	31	
10 Mile Pace	21-30	21-30	21-30	21-30	16-25	21-30	16-25	21-30	
% Exc. 20 MPH	82%	86%	82%	89%	72%	89%	67%	87%	81%
Hourly Volume	288	475	338	487	588	271	475	295	3217
# Veh. Exceed. 20MPH	236	409	277	433	423	241	318	257	2595
% Exc. 25 MPH	45%	51%	42%	49%	22%	53%	43%	26%	41%
# Veh. Exceed. 25MPH	130	242	142	237	129	144	204	77	1305

Daily Volume Summary								
Location	5/3/2018			5/8/2018			Average	
	WB	EB	Total	WB	EB	Total		
Rose Hill Elementary	2247	2937	5184	2541	3075	5616	5400	
John Muir	5068	6077	11145	4965	5782	10747	10946	