



Cooper Jones Active Transportation Safety Council

Discussion Paper Title: Automated Traffic Enforcement Systems (ATES): A Key Component for Increasing Safe Walking and Biking to Schools

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Abstract:

This report explains why expanding authority for use of Automated Traffic Enforcement Systems (ATES) around schools is timely and vital for safety of students who walk or bicycle to and from school.

Vehicle drivers continue to put public and private school students at risk through dangerous driving practices near schools. There are thousands of people cited for speeding and other traffic offenses in school zones in Washington every year.

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Disclaimer:

This document presents recommendations for improving safety for active transportation users and represents the views and opinions of the Cooper Jones Active Transportation Safety Council (ATSC), RCW 43.59.155. It is not intended to represent or imply the endorsement or support from state agencies or other entities with an interest in active transportation.

Automated Traffic Enforcement Systems (ATES): A Key Component for Increasing Safe Walking and Biking to Schools

Prepared by

**Cooper Jones Active Transportation Safety
Council**

For

Washington State Legislature

October 16, 2020

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I. Introduction – Purpose of this Discussion Paper

This report explains why expanding authority for use of Automated Traffic Enforcement Systems (ATES) around schools is timely and vital for the safety of students who walk or bicycle to and from school.

Drivers continue to put public and private school students at risk through dangerous driving practices near schools. There are thousands of people cited for speeding and other traffic offenses in school zones in Washington every year.¹

A few key considerations regarding expanded authorization for use of ATES:

- The students most at risk are those who are walking and/or bicycling to school.
- Increasing walking and bicycling to and from school is a goal of Governor Jay Inslee to improve student health.
- Implementation of ATES in 14 school zones in the City of Seattle reduced overall vehicle operating speeds in school zones, the number of vehicle crashes, and virtually eliminated crashes involving vehicles and walkers or bicyclists.
- Speeding violations captured on ATES are treated like parking violations and are not reflected on the vehicle owner's official state driving record, meaning their insurance rates are unaffected.

ATES is an educational and enforcement tool aimed at changing driver behavior and reducing traffic speeds, thereby decreasing the number and the severity of collisions. ATES enforces the law universally for all drivers and allows police officers more time for other crime prevention activities.

Although effective, ATES is an after-the-fact intervention that holds drivers accountable for driving dangerously. It would be preferable to have drivers not drive dangerously in the first place.

¹ Law enforcement agencies that demonstrate school zone enforcement efforts can apply to Washington Traffic Safety Commission to access funds from the School Zone Safety Account for equipment (e.g. radar and LIDAR) to increase the effectiveness of their school zone enforcement. The 30 applicant agencies issued a total of 3,200 citations for traffic safety violations in school zones in 2018-19. Annually, only about 11 percent of the 260 law enforcement agencies in the state applies for this funding.

This can be accomplished in a number of ways. For "green field" development - where structures will be built on undeveloped land - one of the best ways to avoid speeding is for local jurisdictions to require developments to build new streets that maximize safety for walkers/pedestrians, bicyclists, and other active transportation users and to reduce the potential for speeding.

In areas that are already developed – the existing "built" environment – it may be necessary to incorporate physical changes to roadways, such as traffic calming measures, to make permanent the speed changes caused by ATES. Decisions regarding which interventions are implemented need to be based on professional traffic analysis that considers the roadway's context and the constraints of the built environment. For example, interventions to make permanent speed reductions on residential streets will differ from those needed on arterial roads. Once the speed reductions have been made permanent, the ATES installations can be moved to another roadway in the school walk area to reduce vehicle operating speeds.

Who is making the recommendations for the expansion of automated enforcement technologies?

In 2019 the Washington State Legislature passed Substitute Senate Bill 5710, creating the Cooper Jones Active Transportation Safety Council (ATSC).

The purpose of the ATSC is to review and analyze data to identify patterns and programs related to fatalities and serious injuries involving people who walk, ride bicycles, or use other forms of active transportation, and to identify points at which the transportation system can be improved, including privately owned areas of the system (e.g., parking lots).

The council may also:

- (a) Monitor progress on implementation of existing recommendations from the Pedestrian Safety Advisory Council and Cooper Jones Bicyclist Safety Advisory Council. (Both groups ended on June 30, 2019).
- (b) Seek opportunities to expand consideration and implementation of the principles of systematic safety, including areas where data collection may need improvement.

What is the recommendation from the ATSC for expanding use of automated enforcement technologies?

A. Expand authorization for Automated Traffic Enforcement Systems (ATES) to operate on all roads in school walk areas.

There are three components of this recommendation.

1. Change RCW 46.63.170 to allow placement of ATES on any roadway identified in a school's walk area (RCW 28A.160.160). This would be an extension of an existing authority supported by state law. Currently, placement is limited to officially designated school zones.
2. According to their local needs, allow local jurisdictions to set the operating times and days for ATES in school walk areas. Schools frequently serve as community resources throughout the day, where residents go for childcare, sports, community gatherings and meetings, and recreational opportunities. This means that the need for speed control cannot be concentrated only on the school delay. Moreover, each local jurisdiction implementing ATES under this expanded authority should consider that children are present each day – and throughout the day – on or near the roadways in school walk areas.
3. Change two Washington Administrative Codes - *WAC 392-141-340 - Determination of the walk area*, and *WAC 392-151-025 – Route Plans* – that guide how school districts develop and design resources to promote students walking or bicycling to school.

WAC 392-141-340 - Determination of the walk area could be clarified to require: 1) reporting on the implementation of school walk areas from all districts as a part of their annual student transportation report and charter schools; 2) preparation of an annual report by the Office of Superintendent of Public Instruction regarding the district and charter information regarding school walk area implementation; and, 3) identification of ATES funds and funds from the School Zone Safety Account as sources that can help districts and charter school pay for the costs of developing, updating, and promoting school walk areas.

The WAC currently states that each "...district or charter school shall determine the walk area for each school building or learning center where students are enrolled, attend class, and transportation is provided."

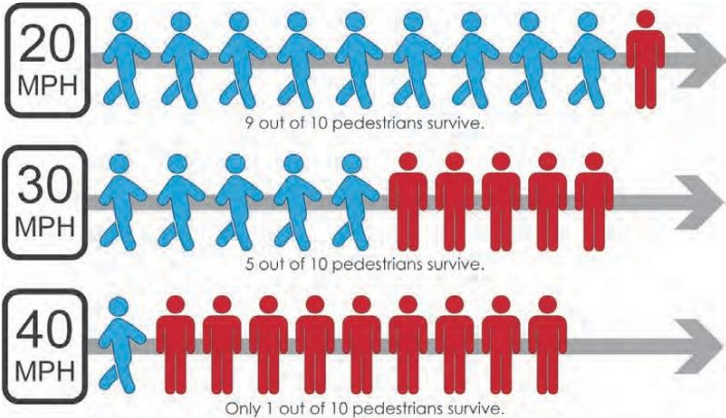
School districts are required to develop and have available school walk area maps and other informational materials about school walk areas following the publication of the final WAC rule in 2015. Most school districts attempt to keep their school walk area maps current.. The amount of coordination with local planning and engineering departments that can implement improvements to physical roadways also varies. Specific counts about which districts are doing what with regard to school walk areas are lacking because there is currently no central source for that information. Most of the information available currently about school walk areas is anecdotal and experiential and does not involve city planners and engineers.

WAC 392-151-025 – Route Plans could be changed to require identification and promotion of recommended walk and ride routes for all district or charter schools, rather than the currently limited focus on elementary students. Each school's route plan would then need to be based on considerations of traffic patterns, existing traffic controls, and other crossing protection aids such as school patrols. This WAC also requires that the walking route plans are to be distributed to all students.

B. Vehicle speed is the primary threat to the safety of children walking or bicycling to and from school.

Children – and even adults – sometimes make bad decisions. Crossing a road in unsafe conditions could be an example of a bad decision, but that one bad decision should not cost them their life.

A 1997 study by *Anderson, R, et al.*, demonstrated a 90 percent survival rate when a walker is hit by



Anderson, R., Mclean, A., Farmer, M., Lee, B., & Brooks, C., 1997.

a vehicle traveling at 20 miles per hour, compared to a 50 percent survival rate if a walker is hit at 30 miles per hour. ATES in school zones is intended to reduce the speed of vehicles to reduce the possibility of a collision and the severity of injuries if there is a collision.

The effect of the disproportionality of size and speed between a child and a moving vehicle is extremely important to understand. The reason for the difference in lethality is that there is a doubling of destructive energy at impact with a vehicle traveling 30 mph compared with a vehicle traveling at 20 mph. The larger the vehicle traveling at that same 30 mph, the more destructive energy is brought to a crash between a walker/pedestrian and a vehicle.

Drivers are frequently traveling at 30 mph or more through official school zones and on roads within the school walk area where children are walking and bicycling to school. There are thousands of citations issued each year for this offense. Speeds averaging 30 mph or more are commonplace on streets within school walk areas and place children walking and bicycling to school at risk. A recent speed study for the City of Olympia showed that speeds averaged more than 32 mph on five of seven streets near one of the city's middle schools. One of the streets had an average speed of 36 mph in a 25 mph zone.

Getting drivers to slow down is not easy. Posting a lower speed limit sign alone can result in a small change of vehicle operating speeds but is only one step in achieving the desired operating speed (*Hu, W, and Cicchino, F, 2018*).

B. Protecting student's journeys to and from school has long been a priority in Washington.

For nearly 70 years, Washington has had specific laws regulating speeds of vehicles near schools and playgrounds. The Legislature first took action to protect children's safety walking or bicycling to and from schools and playgrounds in 1951. At that point, a 20 mph speed limit zone was created for drivers of vehicles passing any marked public school or playground crosswalk when such marked crosswalk is fully posted with standard portable school or speed control signs."

Concerning school and playground speed zones, the Legislature went on to say, "... the crosswalk shall extend three hundred feet in either direction from the marked crosswalk." The Legislature again showed its concern over the safety of children walking or bicycling to school while sharing roadways with

vehicles in 1971 when they required standardized signs to identify school or playground crosswalks, and in 1996 when they doubled the fine for violations in school or playground crosswalk safety zone and established the school zone safety account.

Current law allows for the establishment of 20 mph speed zones in two instances:

- [RCW 46.61.440 \(1\)](#) establishes a 20 mph speed zone at a marked school or playground crosswalk when the marked crosswalk is posted with standard school speed limit or playground speed limit signing.
- [RCW 46.61.440 \(2\)](#) allows a county or incorporated city or town to establish a 20 mph speed zone on a roadway bordering a marked school or playground. The speed zone may only include area consistent with active school or playground use. A marked crosswalk is not necessary to establish a 20 mph speed zone under RCW 46.61.440(2).

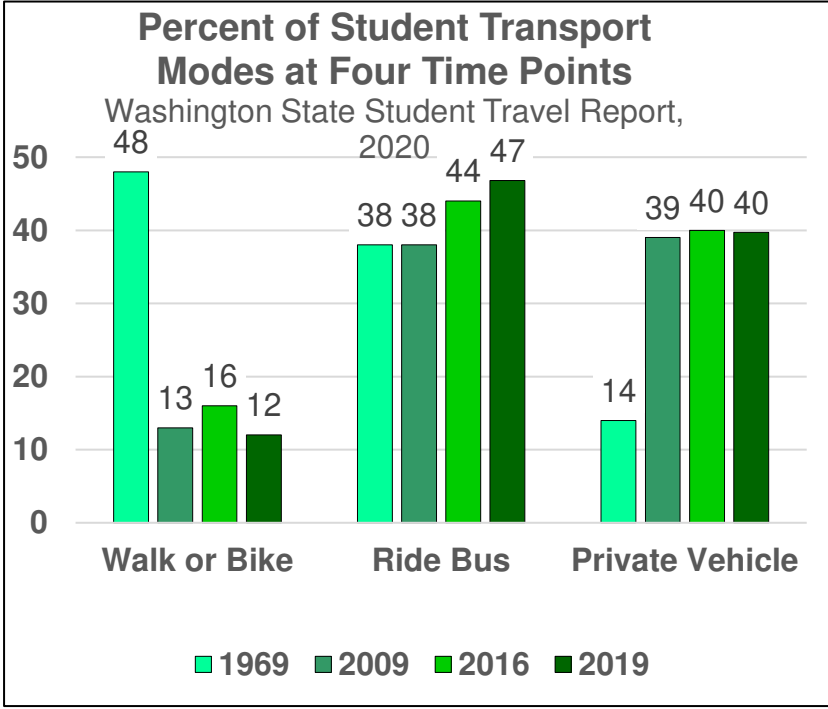
Where school crosswalks serve an elementary school, the law also instructs that the engineering and design of the 20 mph school zone should consider the school's Walk Route Plan. The Superintendent of Public Instruction limits the number of school crossings and allows only one entrance-exit from each block to and from the school.

By creating school safety zones and authorizing the use of automated traffic enforcement systems in those school safety zones, the Legislature has saved lives and reduced serious injuries through its decisions to control speeds in areas where children walk or ride bikes. Twenty-three children younger than age 17 died in walker/vehicle crashes between 2014 - 2018, but only one of those occurred in a school safety zone during school hours. Similarly, there were 242 children younger than age 17 seriously injured in collisions between walkers and vehicles during that same time period. Still, only five occurred in designated school safety zones during school hours.

According to the Washington State Student Travel Report (2020), fewer than 12 percent of elementary and middle school students in Washington reported walking or bicycling to school in 2019. That is a 50 percent drop from the same measurement in 2016.

- Children who lived within one mile of school were more likely to walk or bike to school than children who lived one mile or more from school, with 36.1 percent walking and 2.1 percent biking to school.

- Among schools with a lower relative income, 14.3 percent of children walked to school in 2019, compared with 8.8 percent of children in schools with a higher relative income. Both figures are down from 2016, where 17.4 percent of students from lower-income schools and 14.9 percent of students from higher-income schools walked from home to school.
- A greater percentage of students who lived in urban areas reportedly walked to school, compared with students who lived in non-urban areas (11.7 percent vs. 6.4 percent). Those numbers are down considerably from 2016, where 18.2 percent of students living in urban areas and 11.2 percent of students living in non-urban areas reported walking to school.



As schools start to open again, it is likely that student transportation provided by school districts will change to provide social distanced transportation. This will most likely result in fewer available seats for bus riders. Students walking and riding bicycles will likely become a more important component of the student transportation mix. And it will be necessary for the Legislature to further ensure the safety of these children.

Having students walk or ride bicycles to school is an excellent way for them to get the recommended 60 minutes of daily activity described in Washington Governor Jay Inslee's Healthiest Next Generation Initiative. The initiative was launched in 2014, and in its first report, identified a recommendation to implement complete streets strategies statewide to allow people of all ages and abilities the opportunity to move safely along a street." The report defined

complete streets as containing, sidewalks, bike lanes, bus shelters, pedestrian signals, median islands and more."

The safety of children walking or bicycling to school is the main concern among parents. Automated traffic enforcement systems within the school walk areas can increase the sense of safety and potentially contribute to an increase in walking and bicycling to school, especially for those children living within one mile of their school.

C. Designate specific uses for revenues from ATES.

In changing RCW 46.63.170, the Legislature should stipulate that revenues generated from the operation of ATES can only be used to support improvements that make walking or biking to school safer for children, including:

- 1) Support of enforcement of traffic laws in school walk areas.
- 2) Changes in physical infrastructure to improve safety for walking and biking students.
- 3) Implement safety improvements such as school crossing patrols and increased signage and warning beacons, including identification of school walk areas and maintenance of school walk area maps and materials.
- 4) Provide education to improve safety for students walking and biking and for parents/guardians to ensure instruction about safe walking and bicycling is supported at home.
- 5) Changes to improve accessibility to walking and biking for students with mobility, sight, or other disabilities.

Details of the types of investments associated with each of these categories are available in Appendix 3, Page 27.

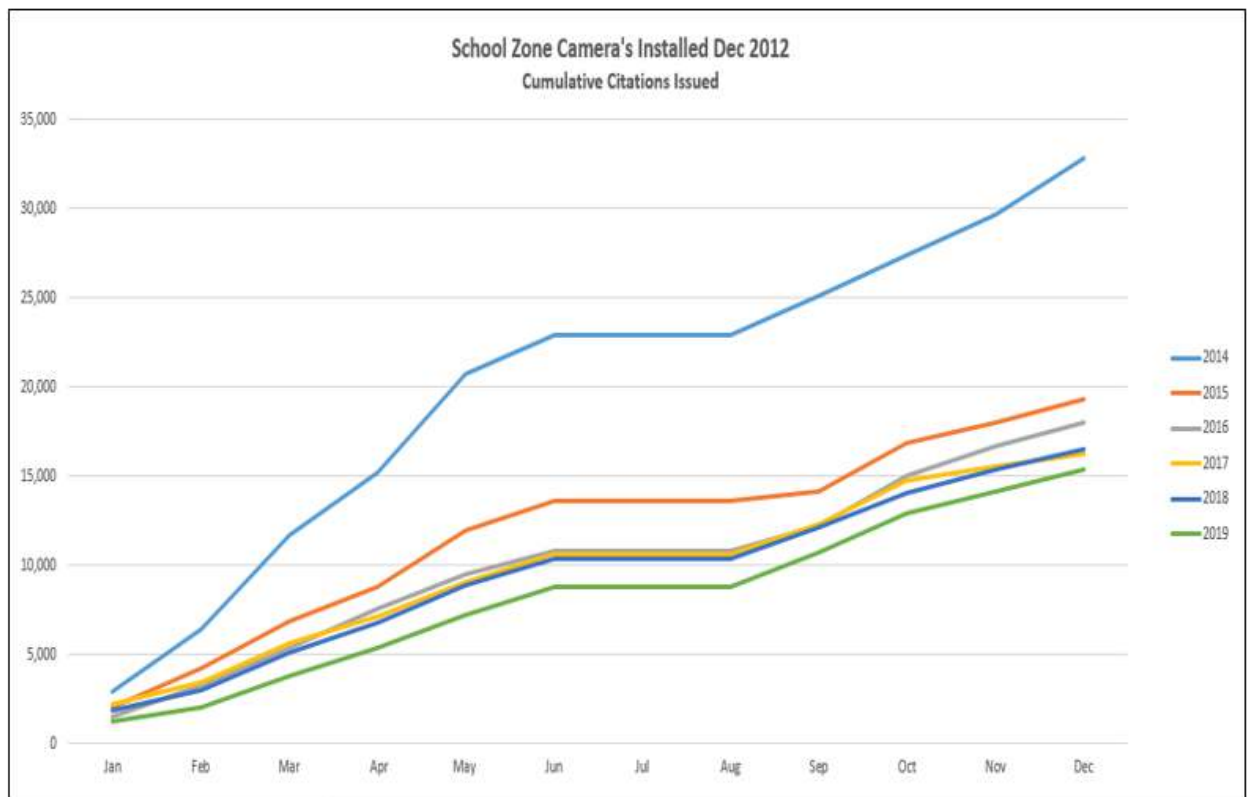
D. ATES reduces the speed of vehicles – the number one threat for walkers and bicyclists.

The speed at which drivers travel must be a focus in creating a road environment where people are not killed or seriously injured. Slowing vehicles down increases the chances for lesser injuries if a crash does occur. Additionally, when drivers slow down, they have more time to pay attention to what is going on around them.

Automated traffic enforcement has demonstrated success at reducing speeds. Once speeds are reduced, the physical environment for roadways can be changed, and the reduced speeds made permanent. At that point, the automated traffic enforcement systems can be moved to other locations where they can be used to reduce operating speeds.

City of Seattle ATES Case Study

The City of Seattle has demonstrated a reduction in vehicles operating speeds and crashes near the schools where they operate their 14 ATES devices. As shown in the following graphic, there has been a reduction in the number of speeding violations issued from the automated traffic enforcement systems over time. This reduction corresponds to a gradual decrease in speed (miles per hour) per month overtime over the 26 mph trigger speed" as drivers adjust their speed because of automated traffic enforcement.



Provided by Seattle Police Department

A speed reduction analysis was completed in March 2019 by American Traffic Solutions (ATS), the vendor who supplies and operates Seattle's ATES equipment. Two key measures of success were reported: vehicle speed changes and recidivism rate. Based on these four school zones (eight ATES

cameras in total) since December of 2013, the total number of citations issued has decreased from 47,348 in 2012 to 16,536 in 2018. This is an overall decrease of 30,812 citations – or a 65 percent reduction - since 2013. (*Seattle Department of Transportation, 2019*).

Montgomery County, Maryland ATES Case Study

As shown in a 2015 study by the Insurance Institute for Highway Safety (IIHS) from ATES in Montgomery County, Md., as of 2014, the county had 56 fixed ATES cameras, 30 portable ATES cameras, and six mobile speed vans. The ATES cameras are used in school zones and on residential streets with speed limits of 35 mph or less. IIHS found that during the program's first year, the proportion of drivers traveling at least 10 mph over the speed limit had declined on streets with ATES cameras. In 2014 researchers found that camera programs' use resulted in a 59 percent reduction in the likelihood of a driver exceeding the speed limit by more than 10 mph, compared with similar roads in two nearby Virginia counties that do not have ATES cameras. The researchers also looked at crashes on camera-eligible roads in Montgomery County and compared them to other similar roads in Virginia. They found that the camera program resulted in a 19 percent reduction in the likelihood that a crash would involve a fatality or an incapacitating injury, as reported by a police officer on the scene. (*Insurance Institute for Highway Safety, 2015*).

City of Bellevue Case Study

Although not specifically about ATES, a 2019 study called "[Video-based Network-wide Conflict and Speed Analysis to Support Vision Zero in Bellevue \(WA\) United States](#)" demonstrates how frequently near-miss conflicts between vehicles and walkers/pedestrians and bicyclists occur.

The study analyzed some 4,500 hours of video footage taken by 360-degree video cameras across 40 intersections, taking in more than 8 million road users and observing some 20,000 near-misses in the City of Bellevue. The city adopted its Vision Zero policy in 2015, and video analytics is part of that effort, say officials.

Cyclists in Bellevue were 10 times more likely to be involved in a traffic conflict than motorists at several key intersections. The study found that 10 percent of

motorists are speeding and motorcycles "traveled at higher speeds and generated more critical conflicts than any other road user." One exceptional occurrence captured on video was a vehicle that was traveling at 63 mph in a 35 mph zone that accelerated to 68 mph to zoom through an intersection on a yellow light.

II. Advantages of Automated Traffic Enforcement Systems (ATES)

- A. Officer Safety** – Officers are hurt and killed, conducting traffic stops in the field. The state's "move over law" was created specifically for this reason. When an officer makes a traffic stop for speeding, he/she must pull out into a traffic lane and then accelerate to catch up with the violator. These maneuvers – even for highly trained officers – create an increased risk of crashes, death, and injury—especially for walkers and bicyclists in the area. ATES mitigates this concern.
- B. Officer Efficiency** – ATES needs to be considered like it is an additional patrol officer; where a single officer might be able to issue a couple hundred tickets in a year, ATES allows more efficient and focused speed enforcement. ATES in Spokane issued 19,769 citations for running red lights and 15,496 citations for speeding in 2019. ATES catches most violations. An officer conducting a traffic stop cannot enforce violations that are occurring in the area while he is issuing a citation. By deploying ATES, departments can re-deploy officers to other essential tasks, including responding to citizen calls for service.
- C. ATES citations do not appear on driving record** – Under current state law, ATES citations do not go on an individual's driving record. That means that once they pay the fine for the offense, they are done with consequences. And, from both Spokane and Seattle's experience, very few people re-offend.
- D. ATES changes dangerous driving behaviors** – Very few people re-offend after receiving an ATES citation. And Seattle's experience demonstrates that ATES can result in an actual reduction in vehicle speed.
- E. ATES can be used to incentivize desired driving behavior** – A recent webinar highlighted a Swedish approach to create a lottery to distribute

part of the revenues collected from speeding offenders with individuals who *have not* received a speeding citation in the past year. This incentivizes people to obey the posted speed limits. Sweden also limits the number of ATES citations an individual can receive in a given period of time. According to Philip Witjers, Chair of the International Road Federation's Enforcement Committee, "This shows very clearly that you are not after money, you are after road safety."

III. Concerns About ATES

- A. **Invasion of privacy** – ATES takes a picture of the license plate of the vehicle, and then the registered owner of the vehicle is mailed a citation. State law prohibits cameras from capturing the face of the vehicle operator or any passenger.
- B. **Issue about who is driving** – The owner of the vehicle can contest a citation issued through ATES for any number of reasons, including that the vehicle was being driven by someone other than the registered owner.
- C. **ATES causes initial changes to driving behavior, but traffic calming may be necessary to make those changes permanent** – ATES can reduce vehicle speeds. But physical changes to roadways are often needed to make the reduction in vehicle speed permanent. And those changes can be challenging to implement due to issues such as cost, adjacent land use, roadway geometry, or topography. Under this recommendation, local jurisdictions would be encouraged to designate revenues from ATES citations to make reductions in speed permanent by implementing physical changes to roadway such as traffic calming measures when they can be appropriately applied.
- D. **Enforcement equity** – Installation of ATES in lower-income neighborhoods may create a disparity in enforcement. Where individuals in more affluent communities might be more likely to challenge an ATES-issued citation, individuals in lower-income neighborhoods might not have the resources, knowledge, or language skills to do that. Any update to the RCW should provide flexibility for courts to waive infraction fees from ATES in favor of other sanctions – including community service – at the Judge's discretion.

Even though ATES enforces laws equally, there is a potential for overrepresenting marginalized populations (e.g., people of color, lower-

income populations) because many of the roads where speeding occurs are in neighborhoods that have not been improved with traffic calming interventions that permanently reduce vehicle speed. Traffic calming interventions used successfully in Washington include roundabouts, chicanes, and lane narrowing or lane elimination. The revenues from ATES could be used to come back into these very same neighborhoods and install the traffic calming measures that reduce vehicle speeds.

- E. Economic equity** – Installation of ATES in lower-income neighborhoods can result in violations being issued to individuals who are least able to pay the fine.

One option to mitigate any disproportionality of impact from ATES would be to require people who receive citations through ATES to participate in driver improvement/defensive driving courses. The courses are available through most municipalities in the state and allow for dismissal of citations for successful completion of the course. Many of the courses have costs, but ATES's revenues could be used to help with any costs. If directed by the jurisdiction, ATES revenues could be directed to create an online version of driver improvement/defensive driving courses to minimize the amount of work time potentially lost from attending an in-person course.

A second option is to base the fine on the individual's ability to pay, so an individual who earns \$100,000/year who receives an ATES speeding violation pays more than an individual who earns \$30,000/year.

- F. Cost of using commissioned law enforcement officers to review ATES citations** – Under current law, ATES photos may only be reviewed by fully commissioned police officers, even though they are treated similarly to parking infractions and do not go on driving records. This would be similar to how parking enforcement is currently dealt with; a designated non-commissioned police department employee would review and certify the citations and that would free up fully commissioned police officers to return to other duties that only they can do and where they are needed most, rather than having fully commissioned officers spending their valuable time reviewing photos. Revenues from ATES can also be used to support hiring additional law enforcement to attend to the tasks and duties that only they can do. (Information in this section came from *Peterson, C., 2017, Police Dashboard - City of Kirkland Memorandum, 2020, and, Conner, M., 2016.*)

IV. Implementation of ATES in Washington – Already Here, Already Working, Already Showing Benefits, Interest in Expanding

A. Early history of ATES in Washington.

Washington first authorized the use of ATES in 2005 with the Legislature's passage of ESSB 5060, which allowed for the use of ATES at stoplights, railroad crossings, and in school zones.

In 2009 the Legislature authorized a very limited pilot project to test the efficacy of using ATES beyond those three original uses. Only two areas of the state – Seattle, and Tacoma – were eligible to participate in the pilot, and each city was authorized to operate only one camera. The City of Tacoma was allowed to install one fixed automated traffic enforcement camera on Bay St. that is still operating. The City of Seattle used mobile ATES cameras that encountered mechanical and technical problems, and Seattle did not continue the operation of their pilot project. The City of Tacoma demonstrated ongoing speed and crash reductions and continues to operate the location that was part of the pilot on State Route 167.

B. There is existing interest from cities in having expanded authority to implement ATES in school walk areas.

In fall 2019, four Washington cities – two in Western Washington and two in Eastern Washington - agreed to participate in a federal demonstration project to reduce speeds on city streets that would have featured ATES deployed across the school walk area. The Washington Traffic Safety Commission and Washington State Department of Transportation were planning to jointly apply to be part of the study, with the assumption that permission could be obtained for the four cities to utilize expanded ATES authority in school walk areas. Ultimately, the two agencies decided to wait to apply to be part of the national program. But the four cities had expressed their support for the implementation of ATES across their school walk areas.

C. Current state of ATES affairs

As part of its requirements from the federal Highway Safety Block Grant, the Washington Traffic Safety Commission is annually required to compile

and report on ATES in Washington. (*Washington Traffic Safety Commission, 2020*).

The 2019 report shows that 29 Washington cities and one county already have local ordinances authorizing ATES, although 10 of these jurisdictions have not implemented ATES at this time.

Jurisdiction	Type	Jurisdiction	Type
Auburn	City	Longview	City
Bellevue	City	Lynnwood	City
Bellingham	City	Monroe	City
Bonney Lake	City	Moses Lake	City
Bremerton	City	Pasco	City
Burien	City	Pierce	County
Des Moines	City	Puyallup	City
Federal Way	City	Redmond	City
Fife	City	Renton	City
Issaquah	City	SeaTac	City
Kent	City	Seattle	City
Kirkland	City	Spokane	City
Lacey	City	Tacoma	City
Lake Forest Park	City	Vancouver	City
Lakewood	City	Wenatchee	City

The following chart details which of the 19 jurisdictions currently using automated enforcement have only red-light enforcement, only speed enforcement, or both.

Jurisdiction	Red Light	Speed	Both
Bellevue			✓

Bremerton	✓		
Des Moines			✓
Federal Way			✓
Fife			✓
Issaquah		✓	
Kent		✓	
Kirkland		✓	
Lake Forest Park			✓
Lakewood			✓
Lynnwood			✓
Moses Lake			✓
Pasco	✓		
Puyallup	✓		
Renton			✓
Seattle			✓
Spokane			✓
Tacoma			✓
Wenatchee	✓		

C. “Block the Box”

In the 2020 session, the Legislature passed (and Governor Inslee signed) HB 1793 – a bill that will allow the City of Seattle to ticket drivers who block crosswalks and use bus-only lanes. This will be a demonstration project in a portion of the city. The City of Seattle is currently developing protocols for the implementation of this project.

D. City of Seattle experience

As part of the School Road Safety Initiative, the Seattle Department of Transportation (SDOT) has partnered with the Seattle Police Department (SPD) to install and operate ATES in school zones to enforce the 20 mph

speed limit in effect while school zone beacons are flashing. (*Seattle Department of Transportation, March 2019, and, Quistberg, D., 2018*).

Each year more than 150 people sustain life-changing serious injuries, and approximately 20 people die on Seattle streets. Traffic collisions are a leading cause of death for Seattle residents. When SPD records a collision, the data is provided to SDOT as part of the city’s Vision Zero High Collision Program.

ATES is an educational and enforcement tool aimed at changing driver behavior and reducing traffic speeds, thereby decreasing the number and the severity of collisions.

Success Metrics

Safety is SDOT’s primary goal. ATES's success in school speed zones is measured by an overall reduction in vehicle speeds and speeding violations in the school zones. According to a 2019 study by American Traffic Solutions (ATS), the vendor that operates Seattle’s ATES equipment, the average speed over the 26 mph “trigger speed” has decreased over time because drivers have adjusted their speeds.

E. Spokane experience

The City of Spokane’s program started in 2016 with two locations. The City uses American Traffic Solutions (ATS). Three more locations were installed and operational in 2019. The 2018 ATSC annual report indicates a 5 percent recidivism for the two initial locations. While this tool is widely popular from council members to the police department, more review (and data) is needed to understand if this tool is reducing speeds and increasing safety as intended. To date, this program has generated approximately \$7.4M in revenue and approximately \$2M goes to ATS. (*Spokane Police Department Traffic Unit, 2018 and 2019 Annual Reports – Photo Red and Photo Speed School Zones*).

Citations				
Years	Longfellow Elementary	Finch Elementary	Ridgeview Elementary (two locations)	Willard Elementary
2016	7,286	2,330		

2017	5,769	2,212		
2018	6,306	2,135		
2019	5,796	1,972	3,585	4,143
Crashes				
Years	Longfellow Elementary	Finch Elementary	Ridgeview Elementary (two locations)	Willard Elementary
2016	1	0		
2017	3	0		
2018	1	1		
2019	0	0	1	0

F. City of Kirkland experience

The City of Kirkland started ATES in September 2019. The city has closely documented the start-up phase for its ATES program, and that recent experience provides valuable insight for other jurisdictions about the effect of ATES on driving behavior, revenues, and expenses. (*Police Dashboard, City of Kirkland Memorandum, 2020, and, Kirkland, WA Safety Camera Program Analysis, 2020*).

The city started with a warning period from September 3, 2019 to October 13, 2019 where 5,639 warning notices were mailed to owners of vehicles that were photographed speeding within the school zones. There were 29 school days within this period and an average of 185 warnings per day.

On October 14, 2019, ticketing of those vehicles speeding through the school zones commenced and will continue through the end of the school year. As of December 31, 2019, a total of 5,567 citations have been issued, which includes each direction in both school zones. There were 50 school days during this period and approximately 111 citations issued per day. That means 74 fewer citations per day than during the warning period, demonstrating the effectiveness of the warning period and communications outreach. The chart below depicts the number of citations issued in each camera location.

Vehicle Speed in 20 mph school zone	Number of Citations Through 12/31/2019
26-30 mph	4,212
31 mph and faster (45 mph was the fastest speed for a ticketed vehicle)	1,355

Recidivism Rate - 97.2 percent of violators received only one citation, 2.7 percent of violators received two citations, and 0.2 percent of violators received three or more citations.

Mitigations and Hearings - As of January 1st, 2020, there are 312 people who received citations and have requested a mitigation hearing (5.8 percent of total) and 162 people have requested a contested hearing (3 percent of total). Currently there are two half-day court calendars scheduled to handle the hearing requests, but the court will be adding a third half-day calendar for increased hearing volumes. In addition to hearing requests, 291 registered owners of vehicles receiving citations have submitted affidavits that they were not driving the vehicle and their citations have been dismissed (5.4 percent of total citations).

Revenues - The City has received \$400,884 in school zone speeding revenue through December 31, 2019:

Revenues	Oct-19	Nov-19	Dec-19	TOTAL
Citations	\$ 10,816	\$ 171,032	\$ 219,036	\$ 400,884

Excluding the partial month of October, the average monthly revenue of \$195,034 is 83 percent higher than expected in the initial analysis of the program. This increased level of revenue comes with two important notes. First, the higher volume of citations which is driving higher revenue comes with increased staffing costs for the court and police. Second, the program is still very early in its implementation, which means the ongoing volume of citations could vary dramatically over the coming months.

The revenue is currently covering the cost of the program with total revenues of \$400,884 and total expenditures of \$133,487 resulting in a remaining balance of \$267,397.

Communication - Information regarding the school traffic camera pilot program was shared multiple times through the City's communications channels including This Week in Kirkland, Twitter, YouTube, Facebook, and Nextdoor. A video was also created featuring Lieutenant Rob Saloum to expand the reach of social media posts. Staff estimates that the City reached over 20,000 individuals through our City communications channels alone.

The City also issued several press releases and the information was picked up by the Kirkland Reporter, KING, KOMO, and KIRO news, as well as the Patch and MyNorthwest.com. Information was also included by Lake Washington School District in their newsletters. Throughout the implementation process, staff maintained a FAQ with updated information for community members.

G. Where does the revenue from ATES go?

City of Seattle

In 2018 there were 50 separate safety improvements to the roadways around 42 school walking routes (with the help from the School Safety Traffic and Pedestrian Improvements fund).

New ATES locations are prioritized based on the speed and volume of traffic in 20 mph signed school zones. SDOT conducts weeklong traffic studies in all arterial school zones at least once a year in early spring. Based on these traffic studies, SDOT prioritizes traffic calming (including photo speed enforcement) in locations with the highest traffic speeds during school arrival and dismissal times.

SDOT employs an incremental approach to traffic calming in school zones, exploring other traffic calming measures first to see if speeds can be reduced without installing cameras. Traffic volumes and speed are measured again after the traffic calming is installed. If speeds are still high, then speed cameras are considered at those locations.

City of Kirkland

The City's ordinance (O-4681) requires that all revenues above operational expenses be directed to street, walker (pedestrian), bicycle and traffic improvement projects near schools that will increase safety for

students of all ages and abilities traveling, walking, and biking to school. The Public Works CIP team and the City Manager's Office are developing a list of "early action" projects to bring to the Council for review and approval to invest the initial higher-than-projected revenues.

Ongoing costs - The City pays an ongoing monthly contract fee of \$17,000 for the four camera systems. While there was a pro-rated charge for October, the monthly contract fee of \$17,000 should be consistent, barring any significant camera malfunction or other major disruption of service. Utilities are expected to cost \$140 per month.

Police staffing costs - As planned, the program has been supported by existing traffic officers and supplemented by command staff members to review the violations and approve the issuance of citations. Police estimate a staffing impact of .38 FTE for citation review (40 hours per month) and administrative burden (25 hours per month).

Since police officers are not hired in part-time increments, City Council approved the addition of 1.0 FTE on July 16, 2019, to balance the amount of time an officer can be in the field with the time needed to review citations. The new ongoing 1.0 FTE will represent a monthly cost of \$8,873 for 2020.

Court staffing costs - The Municipal Court has one full-time JSA II whose primary duties are handling school zone infractions, including processing all incoming documents, correspondence, affidavits, hearing by mail requests, and setting and clerking court hearings. The cost of this position is \$7,963 per month.

Additionally, school zone infractions account for an estimated 76 hours of staffing work per month (3.5 hours per day) in handling calls, front counter interactions, and processing payments. This expenditure is estimated at \$3,215 per month.

The Municipal Court Judge is spending an estimated 6.5 hours per month (1.5 hours weekly) on hearings processed through the mail and school zone correspondence. This expenditure is estimated at \$618 per month.

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Appendix 1 – RCWs and WACs Which Could be Changed to Expand Usage of ATES in School Walk Areas

RCW 46.63.170 - Automated traffic safety cameras.

RCW 4.22.070 - Percentage of fault—Determination—Exception—Limitations - A needed corollary to authorization of ATES is to provide liability protection for schools associated with developing school walk areas and school walk routes and funding to develop school walk area maps and safe school walk route maps).

RCW 28A.160.160 - Student transportation allocation.

RCW 46.61.440 (5) – School Zone Safety Account

WAC 392-141-340 - Determination of the walk area – could be clarified to require:

- 1) Annual reporting on the implementation of school walk areas from all districts as a part of their annual student transportation report and charter schools;
- 2) Publication of an annual report by the Office of Superintendent of Public Instruction regarding the district and charter information regarding school walk area implementation; and,
- 3) Identification of ATES funds and funds from the School Zone Safety Account as sources that can help districts and charter school pay for the costs of developing, updating, and promoting school walk areas.

WAC 392-151-025 – Route Plans could be clarified to require:

- 1) Identification and promotion of recommended walk and ride routes for all district or charter schools, rather than the current limited focus on elementary students.
- 2) Informational materials regarding school walk routes are translated into the languages spoken in the homes of the district's students.

Appendix 2 – Existing Requirements for ATES in RCW [46.63.170](#) - Automated traffic safety cameras

Washington Law - provides authorization for local jurisdictions to conduct automated traffic enforcement, provided the local jurisdiction enacts an ordinance that conforms to federal guidelines. The Revised Code of Washington (RCW) [46.63.170](#) - Automated traffic safety cameras - specifies the requirements for the use of Automated Traffic Safety Cameras (ATSC) as summarized in the following:

Analysis - The appropriate local legislative authority must prepare an analysis of the location within the jurisdiction where Automated Traffic Safety Cameras are proposed to be located:

- Before enacting an ordinance allowing for the initial use of Automated Traffic Safety Cameras.
- Before adding additional cameras or relocating any existing camera to a new location.

Detection Types Authorized - Automated Traffic Safety Cameras may be used to detect one or more of the following:

- Stoplight violations
- Railroad crossing violations
- School speed zone violations
- Speed violations

Reporting - Jurisdictions using Automated Traffic Safety Cameras must post an annual report of the number of traffic crashes that occurred at each location where an ATSC 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 on the jurisdiction's website.

Limitations - Use of Automated Traffic Safety Cameras for stop light violations are restricted to intersections of two arterials with traffic control signals that have yellow change interval durations in accordance with the Manual of Uniform Traffic Control Devices (MUTCD). Interval durations may not be reduced after the placement of the camera.

Use of Automated Traffic Safety Cameras for speed violations is limited to school zones only, with one exception: The city of Tacoma is authorized to operate one

non-school zone speed camera under the condition that it receives authorization for a one-year pilot project from the Washington State Legislature.

Picture Requirements - Automated Traffic Safety Cameras may only take pictures of the vehicle and vehicle license plate, and only while the infraction is occurring. The picture must not reveal the face of the driver or passengers in the vehicle.

Infractions - A notice of infraction (NOI) must be mailed to the registered owner of the vehicle within 14 days of the violation. The law enforcement officer issuing the NOI shall include documentation stating the facts supporting the infraction. The registered owner is responsible for the infraction unless the registered owner overcomes the presumption through a written statement to the court.

Infractions detected using ATSC are not part of the registered owner's driving record.

Advance Notice - All locations where an Automated Traffic Safety Cameras is used must be clearly marked at least 30 days prior to activation of the camera by placing signs at Automated Traffic Safety Cameras locations. Signs must follow the specifications of the MUTCD.

Compliance - A review of Washington law confirms that it complies with the U.S. Department of Transportation – Federal Highway Administration (USDOT-FHA) documents.

Appendix 3 – Examples of Projects that Could Be Funded Under Each of the Authorized Categories (Page 8)

Categories of projects recommended for funding from ATEs revenues:

1) Support of enforcement of traffic laws in school walk areas.

- Support costs associated with processing automated enforcement citations.
- Support law enforcement's traffic safety efforts in school zones and in elementary school walk areas (including allocation of FTEs to school zone enforcement, where appropriate).
- Maintain or replace automated traffic enforcement equipment.
- Pay for driver improvement/defensive driver instruction costs for individuals who received ATEs violations, based on need.

2) Change in physical infrastructure to improve safety for walking and biking students.

- Support development of infrastructure improvements that will reduce the likelihood of fatalities or injuries for people who walk or ride bicycles (e.g., accessible and appropriately sized sidewalks, bike lanes, trails and pathways that provide connectivity to destinations such as businesses and schools, and lighting and traffic-calming designs appropriate to context that support active transportation safety and mobility).

3) Implementation of safety improvements like school crossing patrols and increased signage and warning beacons.

- Develop and operate school safety patrols.
- Prepare and/or update safe routes to school "action plans" to identify and prioritize safety improvements in school walk areas.
- Identify school walk areas and maintain school walk area maps and other informational materials.
- Support development of improved and expanded signage and working beacons.
- Funding towards staffing of ongoing positions dedicated to active transportation planning or improving transportation safety.

4) Education to improve safety for students walking and biking and for parents/guardians to ensure instruction about safe walking and bicycling is supported at home.

- Provide public education and outreach to children to increase their ability to walk or bicycle to school safely.
- Educate the public to expect walkers and bicyclists and adopt safety practices to reduce crash exposure.

5) Changes to improve accessibility to walking and biking for students for individuals with mobility-, sight-, or other disabilities.

- Support planning for – and construction/installation of – improvements for accessibility, including curb ramps and walker-activated traffic signals.

Appendix 4 – Current Membership of the Cooper Jones Active Transportation Safety Council

Members identified in legislation

Association of Washington Cities - Jon Pascal, City of Kirkland Councilmember

Bicycle rider or other roadway user advocacy group - Alexandra Alston, WA Bikes

Coroner - David Delgado, King County Medical Examiner's Office

Department of Health (DOH) - Will Hitchcock

Family member of a victim - David Jones, Spokane

Law enforcement - Officer Eric Edwards, Richland Police Department, and, Officer Paul Taylor, Spokane Police Department

Traffic engineer - Dongho Chang, City of Seattle

Walker (pedestrian) advocacy group - Julia Reitan, Feet First

Washington State Department of Transportation (WSDOT) - Barb Chamberlain

Washington Traffic Safety Commission (WTSC) - Pam Pannkuk

Members identified by WTSC:

A representative from one of Washington's 29 federally recognized tribes - Portia Shields, Yakama Nation

Commission on Asian Pacific American Affairs - Harold Taniguchi

City Planner - Chris Comeau, City of Bellingham

Disability population(s) representative - Anna Zivarts, Rooted in Rights

Economic Diversity/Low income populations – Kirsten York, Community Action Council of Lewis, Mason, and Thurston Counties

Legislator or Legislative Staff - Rep. Shelley Kloba

Public Health Practitioners - Jennifer Arnold, Spokane Regional Health District, and, Dr. Amy Person, Benton-Franklin Counties Health District

Safe Routes to Schools - Charlotte Claybrooke

Target Zero Managers – Eastern and Western Washington - Annie Kirk, Seattle, Western Washington, and, Eveline Roy, Wenatchee, Eastern Washington

Traffic engineers - Katherine Miller, City of Spokane, and, Josh Diekmann, City of Tacoma

Transit Representative - Kerri Wilson, Intercity Transit, Olympia

Legal Protections for the Cooper Jones Active Transportation Safety Council (ATSC)

Per RCW 43.59.155(6)(a) information and documents prepared by or for the council are inadmissible and may not be used in a civil or administrative proceeding. Confidential information is not disclosable. No person in attendance at meetings of the Cooper Jones Active Transportation Safety Council (ATSC) or any sub-grouping of the ATSC, nor persons who participated in the compiling of information or documents specifically for the ATSC, shall be permitted to testify in any civil action as to the content of such meetings, information, or documents specific to the activities of the council.