Speed Safety Camera Readiness Guide

An introduction to speed safety cameras and what's involved in starting a program in your community.

WA TRAFFIC SAFETY COMMISSION

June 2024

Introduction

In 2000, Washington state wrote its first Target Zero strategic plan with the goal of eliminating traffic deaths and serious injuries. The current version of the plan integrates a Safe System Approach to reach Target Zero. Essential elements of a safe system include safe roads, safe drivers, and safe speeds.

From 2019 to 2023, traffic fatalities in Washington increased by 51 percent. During the same period, deaths involving excessive speed increased 65 percent.[1] Meanwhile, law enforcement agencies have struggled to maintain adequate staffing. As local leadership strives to change that trajectory and increase safety for road users, more local agencies are considering speed safety cameras as a potential tool to reduce crashes and save lives. The Washington Legislature made substantial changes to automated speed enforcement laws in 2022, and again in 2024, which provide additional opportunities for cities and counties to expand their use of speed safety cameras.

This guide is for local leadership, law enforcement, transportation engineers, and community members looking for an introduction to speed safety cameras (SSC) and what it takes to establish a successful program. It is a primer, intended to help local communities assess their readiness to implement a speed safety camera program. For those desiring a more in-depth understanding, additional resources and references are included at the end of this guide.

[Note: This is not a legal guide regarding state laws or local ordinances governing automated enforcement of traffic laws.]

In This Guide:

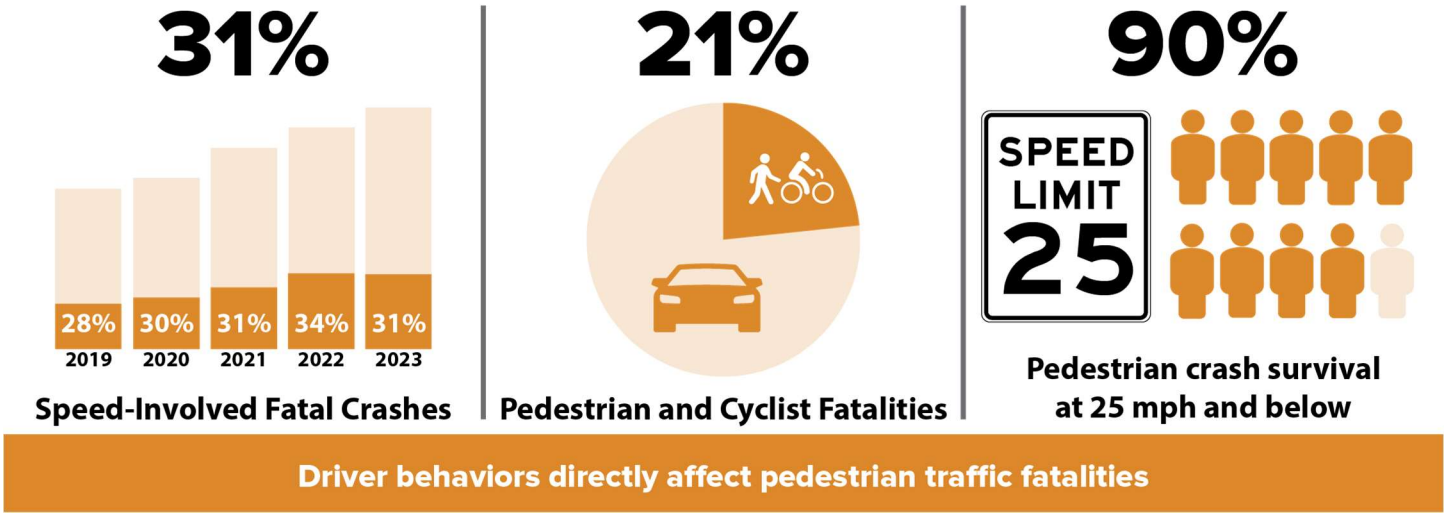
1 | Why Speed Safety Cameras?

According to the 2023 Annual Statewide Traffic Safety Survey of nearly 11,000 adults in Washington, only one-third of drivers reported that they have not driven 10 miles over the posted speed limit within the last 30 days.[2] Observation surveys have shown that speed compliance is not evenly distributed. Non-compliance ranged from 14 percent to 100 percent, depending on the road surveyed.[3] A problem area may be addressed in the long term through redesigning the roadway to encourage slower speeds, but in the short-term, enforcement may be the most appropriate tool to reduce speeding and crashes. The goal of SSC programs is increased safety. Speed is a contributing factor in 31 percent of fatal crashes in Washington.[4] Excessive speed increases the risk and severity of a crash; for every 1 percent increase in speed there is a 4 percent increase in traffic fatalities.[5]

Pedestrians and cyclists are disproportionately represented in serious traffic crashes. From 2014 to 2023, 21 percent of traffic fatalities in Washington were pedestrians and cyclists.[6] Vehicle speed plays a major role in the severity of a crash involving a vulnerable road user. Washington's Target Zero plan encourages enforcement of speed limits, and reduction of speed limits where appropriate, to reduce high-risk driving behaviors that contribute to traffic crashes involving vulnerable road users. State law allows the state transportation secretary or local authorities to reduce speed limits on non-arterial highways to 20 mph.[7]

The National Transportation Safety Board recommends the use of SSC as an effective countermeasure for reducing the frequency and severity of speed-related crashes, reducing excessive speeding, and maximizing safety improvements with the most efficient use of resources.

Nationwide and around the world, speed safety cameras are being used effectively to change behaviors and reduce crashes. There are numerous examples already in Washington. The City of Kirkland deployed speed cameras at three schools and reduced the number of vehicles exceeding the speed limit by nearly half in just two years.[8] In the first two years that Seattle used automated speed cameras, violations dropped from over 45,000 to under 20,000 at the eight locations where cameras were installed.[9]



2 | Authorized Speed Safety Camera Locations

Washington law determines the types of locations where speed safety cameras can be used.[10] Consistent with the goal of protecting vulnerable road users, automated speed cameras are authorized in the following locations:

School speed zones: 20 mph zones within 300 feet of a school or playground border.

School walk zone: Roadways within a one-mile radius of a school that students use to travel to school by foot, bicycle, or other means of active transportation.

Public park speed zones: The marked area within public park property and extending 300 feet from the border of the park consistent with active park use.

Hospital speed zones: The marked area within hospital property and extending 300 feet from the border of hospital property consistent with hospital use.

Roadway work zones: A roadway with construction, maintenance, or utility work with a duration of 30 days or more, identified by the placement of temporary traffic control devices.

State highways that function as city streets[11]: These are legacy highways designed to carry larger volumes of vehicle traffic quickly that now run through population centers with walker, roller, and transit use.

Other locations: Cities may operate one automated speed camera, plus one additional camera for every 10,000 residents. This includes state highways that are also classified as city streets. (Cameras may not be used on freeway on-ramps.) These cameras must be placed in locations deemed by the local legislative authority to experience higher crash risks due to excessive vehicle speeds. Cameras used under this provision must complete an equity analysis (see section 5: Equity and Enforcement) and meet the general requirements for automated enforcement: travel by vulnerable road users, evidence of vehicles speeding, rates of collision, reports showing near collisions, or anticipated or actual ineffectiveness or infeasibility of other mitigation measures.

Effectiveness of Automated Speed Safety Cameras

When properly implemented, automated speed cameras can have a significant positive effect on driver behavior. Across the US and in many countries around the world, studies reviewing the effectiveness of speed safety cameras have consistently found positive results. The National Highway Traffic Safety Administration (NHTSA) evaluated eight speeding countermeasures and gave SSC its highest rating for effectiveness.[12]

As cities in Washington have begun deploying speed safety cameras, local assessments have proved effective as well. The cities of Seattle and Kirkland have used speed safety cameras for several years, and have seen the following outcomes:

90%

Seattle drivers who receive a ticket do not receive a second one[13]

67%

Seattle - Reduction in tickets issued by cameras since 2012[14]

89%

Kirkland drivers who receive a ticket do not receive a second one[15]

47%

Kirkland – Reduction in speeding vehicles[16]

3 | Building the Team

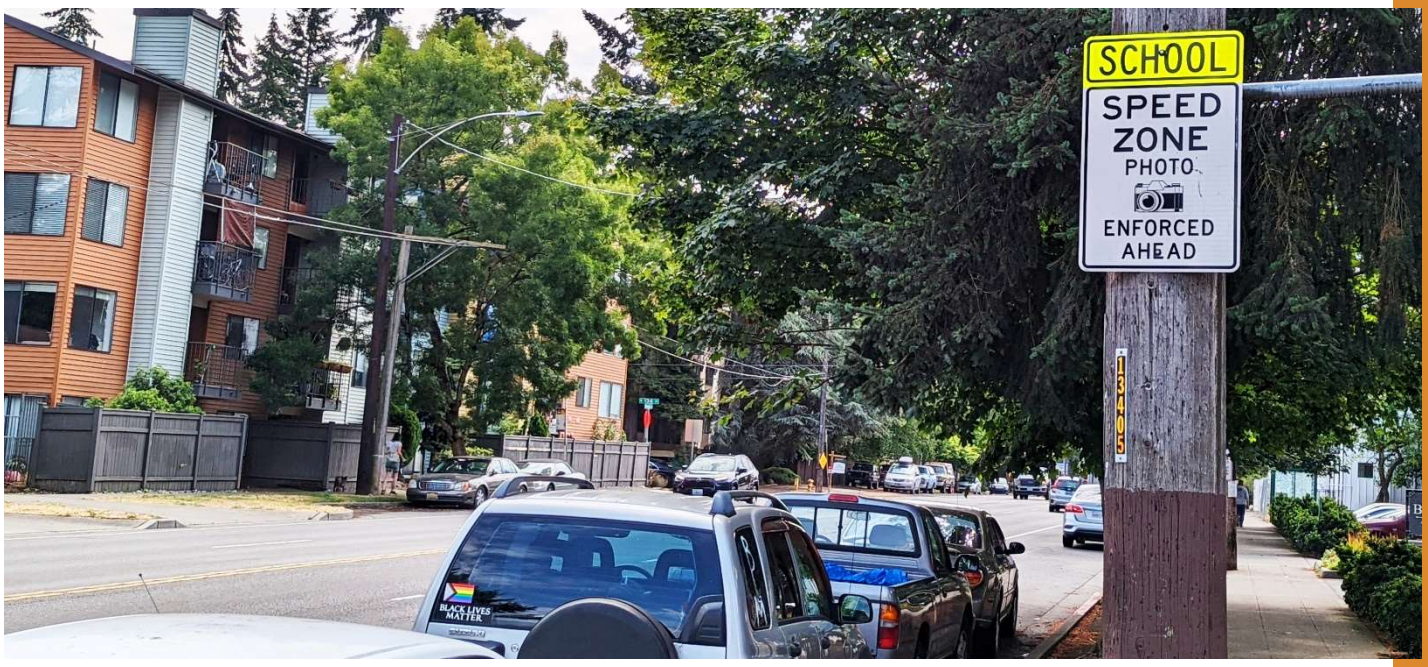
Although not required, creating a team of community representatives may increase the likelihood of a successful SSC program. This team can serve in an advisory role when developing the program and when expanding speed safety cameras to additional locations.

When creating an advisory team, include representation from groups that will be involved with the planning and operation of speed safety cameras, as well as groups that will be impacted by it. Examples of advisory group members include:

- Elected officials
- Traffic engineers
- Law enforcement
- Diversity, Equity, and Inclusion (DEI) professionals
- School officials
- Public health
- Community residents
- Courts

The success of a SSC program, and the community's acceptance of the program, is greatly increased when both city leaders and citizens understand how the program works and have a voice in how it is deployed. The advisory team may be responsible for establishing guiding principles for the SSC program, such as safety, equity, and transparency. The team plays a critical role in building understanding and providing input.

The advisory team may also provide input when choosing the safety projects that will be paid for with revenue from the SSC program. Input from a diverse group of stakeholders can help to align the priorities identified by local public works roads department with the perceived needs of the community.



4 | Crafting an Ordinance

Before a city or county can implement a speed safety camera program, the local legislative authority must enact an ordinance authorizing the use of speed cameras. Prior to developing an ordinance, the law requires an analysis of the proposed location of cameras. For what to include in a location analysis, see section 7: Choosing Camera Locations.

At a minimum, a local ordinance must include the restrictions and requirements for SSC described in the law. A summary of the requirements in the law include:

- Use of SSC is limited to authorized locations (see section 2: Authorized Speed Safety Camera Locations).
- Cameras may only take pictures of the vehicle and the license plate, and only while the infraction is occurring.
- A notice of infraction must be mailed to the owner of the vehicle within 14 days of the violation.
- All locations where speed safety cameras are used must be clearly marked at least 30 days prior to activation.
- Must complete an equity analysis for new camera locations.
- Compensation to the SSC equipment vendor must be based only on the value of the equipment and services and may not be based on a portion of the fine imposed or revenue generated.

Jurisdictions may consider including additional restrictions or requirements in their ordinance. For example, a city could choose to limit SSC operation in school zones to specific times and days or to complete an equity analysis for all camera locations.

Examples of ordinances from cities in Washington are included in section 10: Additional Resources.

Considerations Before Locating Speed Cameras

Automated speed safety camera programs are useful and effective, but it may not be the right tool in some situations. Before installing cameras in specific locations, ask:

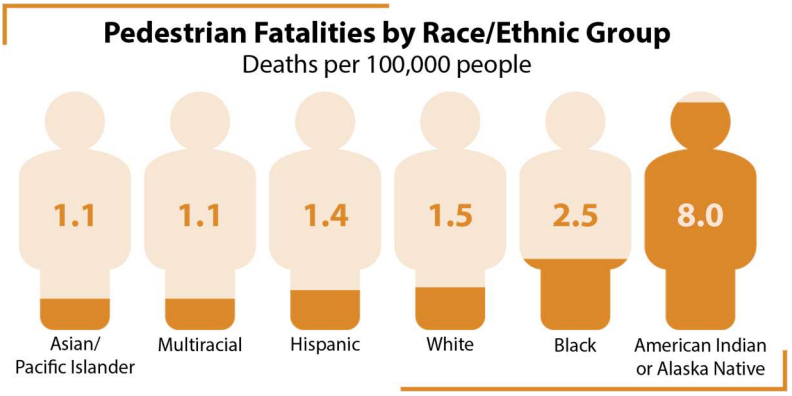
- Why use SSC in this location?
- What problem are we solving?
- What are the other options?
- What other measures have been tried? Some examples:
  - Closing streets during school
  - Extra enforcement
  - Modal traffic filtering*
  - Local access streets
  - Walk/bike pathways
- What are the equity implications of using SSC in this location? Would proposed locations adversely impact communities of color or those with lower median incomes, and does this outweigh the potential safety benefit to the surrounding community?
- What education is needed in advance of implementation?
- Do you have the support of your community? If not, are there steps you can take to gain support? (See section 6: Partnering with the Community.)

*Modal traffic filtering:
A road design that restricts the passage of certain types of vehicles.

5 | Equity Analysis

At first glance, a speed safety camera program appears to be a more equitable system, as cameras initiate enforcement action objectively based on vehicle speed. However, camera placement can have a disproportionate impact on low-income and other historically marginalized communities. Careful consideration of camera placement is important to avoid unintended consequences.

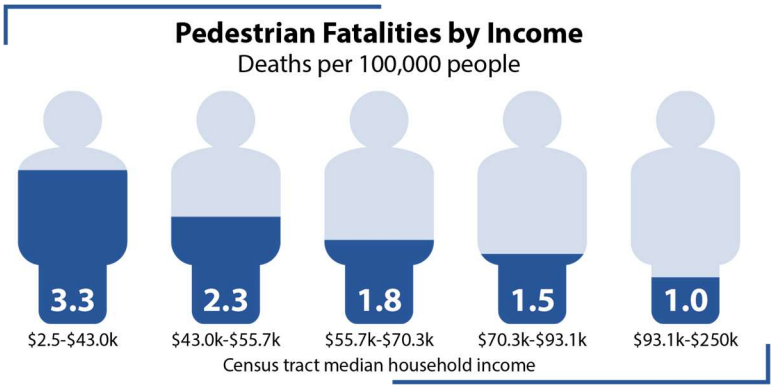
Context: In many cities, there is a history of under-investment in transportation infrastructure in low-income communities and communities of color. Higher-income and predominately white neighborhoods are more likely to have better road engineering that naturally moderates vehicle speed. Legacy systems that didn't fully consider environmental or community impact, on the other hand, have resulted in highways and other arterial roads with higher speeds running through historically marginalized communities. In these communities, installing a speed safety camera may further penalize the residents for the city's lack of investment in road engineering in that neighborhood.



Location: As part of an equity analysis, consider who is impacted by fines and who benefits from the chosen location for a speed camera. The analysis must include equity considerations including the impact of the camera placement on livability, accessibility, economics, education, and environmental health.

The assessment should extend beyond the location of the camera to consider who is using the roadway and for what purpose. In such instances, a speed camera may be an appropriate and effective measure until other speed calming measures can be implemented.

Where appropriate, self-enforcing roadways* are a preferred strategy for reducing vehicle speeds. In those locations, speed cameras may provide an immediate solution until the roadway is redesigned.



Fines: Traffic enforcement should balance community safety and individual financial burden. A traffic fine should be designed to change behavior, but not to inflict financial hardship. The maximum fine for an infraction generated through an SSC is $145 but may be doubled for school zone infractions.

Drivers who receive an infraction and who receive state public assistance can request a 50 percent reduction for their first SSC violation. A city or county may use an online ability-to-pay calculator to process requests for reduced fines.

Jurisdictions may also consider other options and alternatives for low-income violators not receiving state assistance:

- Due date extensions
- Payment plans
- Community service
- Traffic safety education

Part of planning an SSC program should include evaluating ways to reduce burdens and advance equity. Additional resources can be found in section 10.

*Self-enforcing roadway: A roadway that is planned and designed to encourage drivers to select operating speeds consistent with the posted speed limit.

6 | Partnering with the Community

Community members will have opinions about speed safety cameras. Some will see the value of a properly established and operated program. Others will have experienced or heard of automated enforcement done poorly or used for the wrong reason.

Local jurisdictions should reach out to stakeholders including residents near the proposed camera sites, others who frequently use the site (e.g., school or park), and road users who regularly travel on that route. There are likely to be different perspectives among these groups. These perspectives may also be influenced by misinformation or previous experiences of misapplied automated enforcement.

However, when done properly SSC has consistently proven to be constitutional, effective, respectful of privacy, and an economically prudent strategy in reducing crashes. By clearly communicating the requirements of Washington law and demonstrating that the program will follow best practices, misperceptions can be addressed.

Before launching an SSC program, engage in outreach to inform the community about the new program and give people an opportunity to have their questions answered. The following approaches can help build community confidence in the program:

Pilot Project: To allay concerns, consider launching speed safety cameras as a pilot program. Let the community know that the team managing the program will assess impacts, collect collision data, and determine if the cameras have been effective. Demonstrate that cameras will be removed if either they aren't effective at a particular location, or if they've achieved the goal of reducing speeds and have been replaced with more permanent measures.

Justification: Be clear that speed safety cameras are one component in the solution to create safer streets, and that they will only be used in locations where it is appropriate and effective. SSC also provide additional data and, potentially, revenue that will help develop longer-term solutions. (See Revenue, page 11)

Community Input: Center community engagement on people most affected by the implementation of SSC. For example, parents of students who regularly travel through a school speed zone, or residents who live near a park or hospital speed zone.

Data and Transparency: Before the program launches, have a plan for transparency. Let the community know what data you'll be tracking and how you'll share it. Include crash data, the number of infractions issued, revenue generated, how the revenue is being used, year-to-year trends, and any other relevant information appropriate to your community.

Public Reporting: Jurisdictions using automated traffic safety cameras are required to post an annual report on their website. The report includes:

- Number of crashes at camera locations
- Infractions issued for each camera
- Percentage of revenue from fines used to pay costs of the program (starting 01/01/26)
- Use of revenue that exceeds the cost of operating the program (starting 01/01/26)

7 | Choosing Camera Locations and Systems

Law enforcement and community leaders may intuitively have a good idea of where to put their first speed safety cameras based on a history of crashes, observing speeding vehicles, and input from the community. While initial intuition might be correct, the final selection of a camera location is a more comprehensive process.

Location Analysis: In addition to the location types and safety criteria outlined in state law, each potential camera location requires an analysis. The analysis must include equity considerations including the impact of the camera placement on:

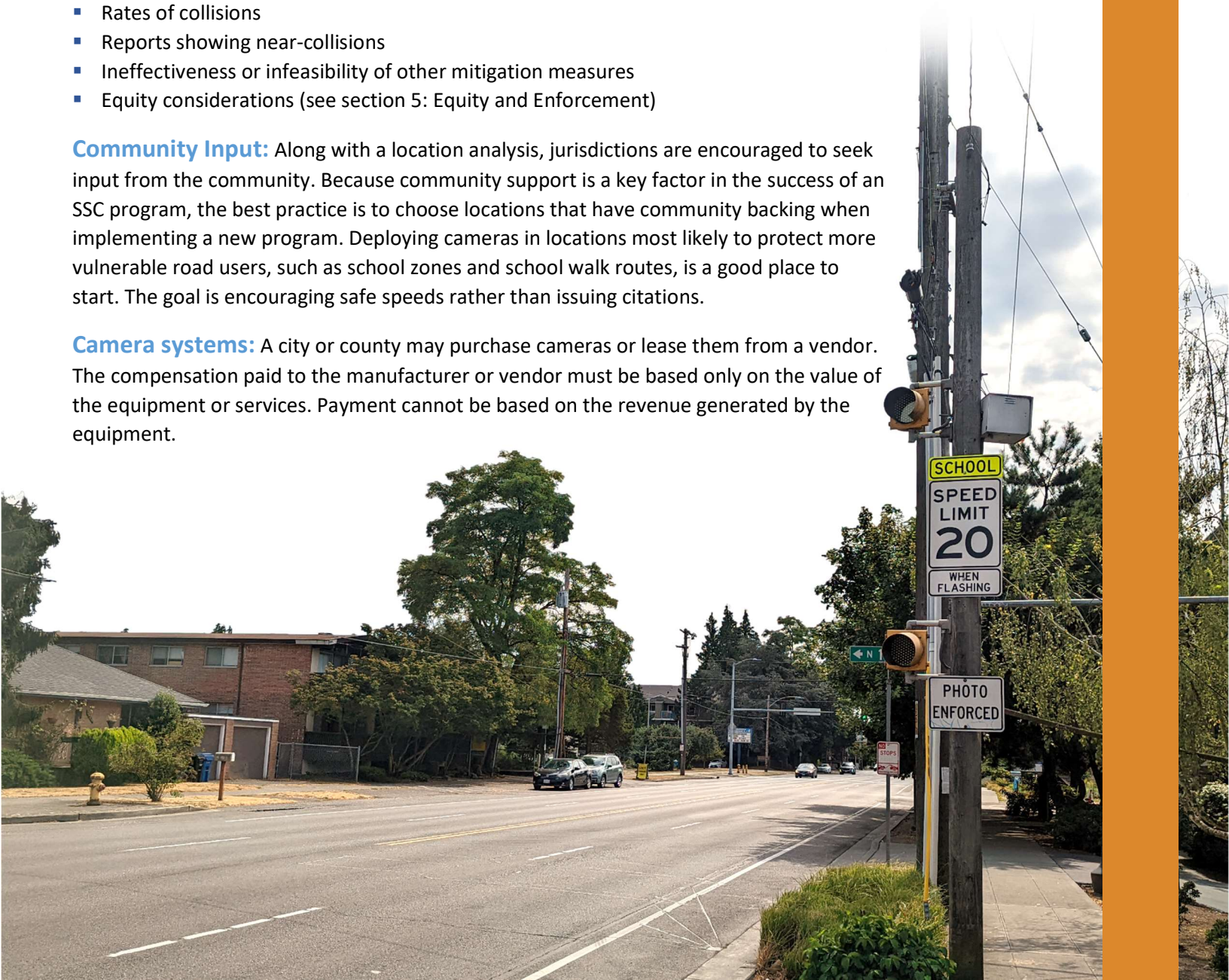
- Livability
- Accessibility
- Economics
- Education
- Environmental health

The analysis must also show a demonstrated need for traffic cameras based on one or more of the following in the vicinity of the proposed location:

- Travel by vulnerable road users (walkers and rollers)
- Evidence of speeding vehicles
- Rates of collisions
- Reports showing near-collisions
- Ineffectiveness or infeasibility of other mitigation measures
- Equity considerations (see section 5: Equity and Enforcement)

Community Input: Along with a location analysis, jurisdictions are encouraged to seek input from the community. Because community support is a key factor in the success of an SSC program, the best practice is to choose locations that have community backing when implementing a new program. Deploying cameras in locations most likely to protect more vulnerable road users, such as school zones and school walk routes, is a good place to start. The goal is encouraging safe speeds rather than issuing citations.

Camera systems: A city or county may purchase cameras or lease them from a vendor. The compensation paid to the manufacturer or vendor must be based only on the value of the equipment or services. Payment cannot be based on the revenue generated by the equipment.



8 | Deploying the Cameras

Signage: The purpose of SSC is to encourage safe speeds, and the law requires that signs notifying drivers of speed safety cameras be installed at least 30 days prior to activation of the camera. The signs must inform drivers that they are entering an area where speed violations are enforced by an automated traffic safety camera and must follow the specifications of the Manual of Uniform Traffic Control Devices.

Warnings: When launching a new SSC program, consider including a plan for issuing warnings to violators. Some programs establish a period of time after activation (typically 30 days) when all violators receive a warning. As an alternative, some programs issue warnings to all first-time violators.

Enforcement tolerance threshold: As a matter of fairness, it is important that the threshold for issuing an infraction from an automated system is consistent with in-person enforcement. The local law enforcement agency should provide input when setting the enforcement threshold. As a reference, NHTSA recommends a threshold of up to 11 mph on most roads, and no less than six mph in school zones and other locations with lower speed limits where pedestrians and children might be present, such as neighborhoods, playgrounds, and parks.[17] Setting the threshold too high can reinforce speeding behaviors, while setting it too low can be perceived as unjust and prioritizing revenue over safety.

Authorized review of infractions: In addition to review by law enforcement officers, appropriately trained and certified civilian employees of a law enforcement agency or a public works or transportation department are permitted to review infractions detected through the use of an SSC.

Due process: Ensure that the agency managing the SSC program has adequate staffing to send out timely notice. The law requires that a notice of infraction be mailed to the registered owner within 14 days of the violation. Minimizing the number of days between the violation and the mailing of the notice contributes to a more effective speed safety camera program.

9 | Program Evaluation

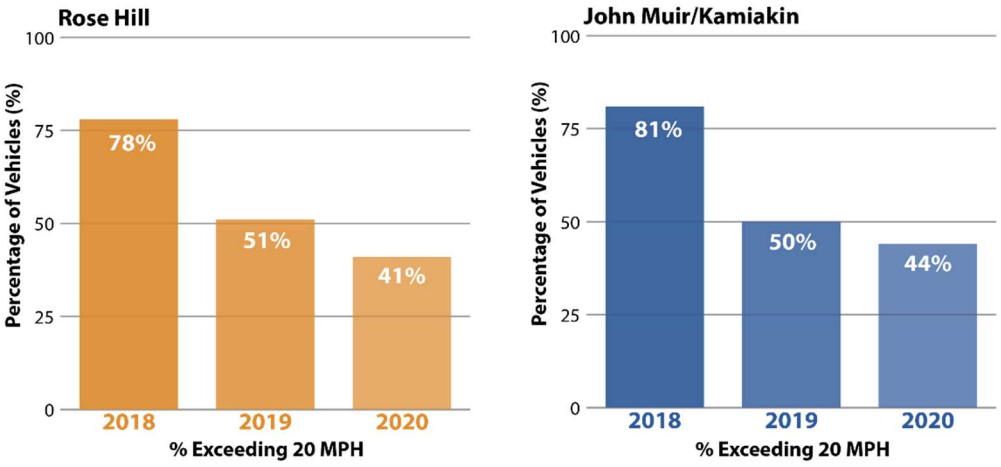
A speed safety camera program should be regularly evaluated to validate its effectiveness. Evaluation should include:

- Analysis of vehicle speeds
- Crash statistics in SSC locations and jurisdiction-wide
- Changes in public awareness and acceptance
- Data on citations issued, including disaggregation of demographic data on drivers receiving citations and patterns regarding times and days when citations are issued

When properly implemented, SSC is an effective tool for changing driver behavior. Speed Safety Camera programs typically see a decrease in speeding drivers in the first year of implementation, with additional decreases in following years. If driver speeds do not decrease after implementation of the program, there may be factors contributing to speeding that SSC can't solve. When speed cameras aren't achieving the goals of the program, it may not be the right tool in that situation.

The right tool could be in-person enforcement, signage, striping, design changes, or some other solution. The Safe System Approach includes the concept of self-enforcing roadways which limit the ability of drivers to operate outside of design parameters. Whatever the case, continuing to use SSC in a location where it's not effective erodes public trust in the program and doesn't contribute to the goal of reducing high-risk driving behaviors that contribute to traffic crashes.

Vehicle Speed Analysis 2018-2020 Kirkland



Data showing reduced speeds in school zones due to ASE. Kirkland, WA

Revenue Generation

While the reason for establishing a speed safety camera program is to reduce high-risk driving behavior, the issuance of infractions will result in revenue. Revenue generated by a new SSC program may be used for:

- Construction, maintenance, and operations of traffic safety projects.
- The cost to install and operate the cameras and administer the program.

In jurisdictions with a population of 10,000 or more, traffic safety projects must include the use of revenue in census tracts with household incomes in the lowest quartile and areas with above-average injury crashes.

Jurisdictions with a population under 10,000 must be informed by the DOH environmental health disparities map[17] when determining where to invest program revenue.

An SSC is a short-term solution to a specific traffic safety problem. Revenue from the program is invested in permanently solving the problem through improved engineering or other long-term solutions.

*HB 2384 (2024) includes requirements for the use of revenue beyond the cost of administering the program.

10| Additional Resources and References

This Speed Safety Camera Readiness Guide is a starting point for understanding SSC. If you are part of the team in your community that plans to implement SSC, the following resources will provide in-depth guidance.

Resources:

Example Ordinances:

Des Moines: https://www.codepublishing.com/WA/DesMoines/html/DesMoines10/DesMoines1036.html
Fife: https://www.codepublishing.com/WA/Fife/html/Fife10/Fife1060.html
Kirkland: https://www.codepublishing.com/WA/Kirkland/html/Kirkland12/Kirkland1214.html
Poulsbo: https://www.codepublishing.com/WA/Poulsbo/#!/Poulsbo10/Poulsbo1010.html#10.10
Seattle: https://tinyurl.com/47nmh69b
Spokane: https://my.spokanecity.org/smc/?Chapter=16A.64
Tacoma: https://cms.cityoftacoma.org/cityclerk/Files/MunicipalCode/Title11-Traffic.PDF
Wenatchee: https://www.codepublishing.com/WA/Wenatchee/html/Wenatchee08/Wenatchee0806.html

Seattle Racial Equity Toolkit: https://www.seattle.gov/civilrights/what-we-do/race-and-social-justice-initiative/racial-equity-toolkit

Department of Health Environmental Health Disparities Map: https://doh.wa.gov/data-and-statistical-reports/washington-tracking-network-wtn/washington-environmental-health-disparities-map

MSRC Automated Traffic Safety Cameras Resource Page: https://mrsc.org/explore-topics/public-safety/traffic-safety/traffic-safety-cameras

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10. RCW 46.63.170
11. RCW 47.24

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Charts:

Speed-involved Fatal Crashes: Washington Traffic Safety Commission (2024, May). *Target Zero Performance: High-Risk Behavior.* https://wtsc.wa.gov/research-data/tz-performance-dashboard/

Pedestrian and Cyclist Fatalities: Washington Traffic Safety Commission (2024, May). *Target Zero Performance: Road Users.* https://wtsc.wa.gov/research-data/tz-performance-dashboard/

Pedestrian Crash Survival: Tefft, Brian C. (2011, September) *Impact speed and a Pedestrian's Risk of Severe Injury or Death.* AAA Foundation for Traffic Safety

Pedestrian Fatalities by Race/Ethnic Group: Washington Traffic Safety Commission (2024, May). *WTSC Coded Fatal Crash (CFC) files.*

Pedestrian Fatalities by Income: Venson, E., Grimminger, A., Kenny, S. (2022). *Dangerous By Design 2022*. Smart Growth America

Vehicle Speed Analysis 2018-2020 Kirkland: Pascal, J. (2022, April). *Automated Traffic Safety Enforcement – A Kirkland Case Study.* Washington Transportation Professionals Forum and Peer Exchange

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