

## PSRC's 2026 Rural Town Centers & Corridors Program Application

The following application must be submitted to PSRC using this online form by **11:59pm on April 17, 2026**.

For information related to the Rural Town Centers and Corridors program, contact:

Doug Cox, AICP

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### Project Identification and Description

#### Project Title

S. Machias Rd and Three Lakes Rd Intersection Improvements

Indicate below whether this project is for a standalone planning project (such as a corridor study or master plan) or a capital project.

Capital Project

#### Regional Transportation Plan Consistency:

N/A

Lead Agency	List Applicable Partnership Agencies Involved
Snohomish County	N/A

Does the sponsoring agency have "Certification Acceptance" (CA) status from WSDOT?

Yes

If not, which agency will serve as your CA sponsor?

N/A

### Contact Information

Primary Contact Name	Alternate Contact Name
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### **Project Description and Location**

**Project scope: Please describe clearly and concisely the individual components of the project. What will be the specific outcome of this project? What will be built, purchased or provided with this grant request? For example, if this is part of a larger project, please be specific as to what portion on which the grant funds will be used.**

Snohomish County Public Works proposes to construct intersection improvements at S. Machias Rd and Three Lakes Rd. The primary component of this project is a compact roundabout, designed to reduce vehicle speeds, minimize conflict points, and improve traffic flow, particularly for left-turn movements. The roundabout will accommodate heavy truck traffic along S. Machias Rd while maintaining efficient operations. The project also includes improvements to the Centennial Trail crossing, sight distance, roadway illumination, and intersection visibility to further reduce collision risks. Grant funds will be used specifically for right-of-way to support the proposed improvements, including acquisition of parcels.

The expected outcome is a safer, more efficient intersection for motorists, pedestrians, and Centennial Trailer users that mitigates collision risk, enhances trail user protection, and improves future Level of Service (LOS). The project directly addresses documented safety concerns, including left turn collisions and sight distance limitations, while ensuring sustainable traffic operations for projected growth through 2049.

**County Location:**

*Please identify the county(s) in which the project is located. Check all that apply.*

Snohomish County

**Project Location:**

*For example, please include street, route or trail name, or other identifiable location.*

S. Machias Rd and Three Lakes Rd

**Crossroad/landmark nearest to the beginning of the project:**

S. Machias Rd

**Crossroad/landmark nearest to the end of the project:**

Three Lakes Rd

**Please identify the center the project is supporting. Projects may be located within a center or along a corridor serving one or more centers.**

The S. Machias Rd & Three Lakes Rd Intersection Improvement Project is a vital investment in rural connectivity and safety that directly supports the rural community of Machias in unincorporated Snohomish County. Machias is a locally recognized rural community with approximately 1,264 residents as of the 2020 Census (Source: U.S. Census Bureau, 2020). The town center serves as a hub for surrounding rural households and businesses.

This intersection is a critical connection point along the corridor linking Machias to nearby regional centers, including Snohomish (population ~10,700) and Monroe (population ~19,700), which provide employment, healthcare, education, and commercial services for rural residents (Source: U.S. Census Bureau, 2020). By improving safety, traffic flow, and multimodal access at this location, the project strengthens rural-urban connectivity, allowing residents to reach jobs, schools, and essential services efficiently and safely.

The corridor also links Machias to nearby industrial and business areas, supporting workforce mobility and freight access critical to regional economic activity. Within a 3-mile radius, roughly 25,600 residents rely on this corridor for daily travel, and within 5 miles, more than 63,800 people traverse the roads connecting rural areas to urban centers (Source: Snohomish County travel demand model or regional transportation plan.) Intersection improvements will reduce congestion and enhance safety for all users, including school buses, freight vehicles, emergency services, and pedestrians.

Beyond transportation, this project enhances access to regional recreation opportunities, including the Pilchuck River, Machias Park, and the Centennial Trail, which attract hikers, cyclists, equestrians, and tourists (Source: Snohomish County Parks Department). The non-motorized recreational trail system developed by Snohomish County Parks is a major County asset, with the Centennial Trail alone attracting over 400,000 users annually and supporting both local and tourism-based use. Supporting safe and reliable access to these recreational assets promotes healthy lifestyles, encourages outdoor activity, and generates economic benefits for local businesses in the Machias town center and surrounding areas. Trails are a major part of Snohomish County Parks' future, and preservation of existing regional trails, as well as development of new opportunities – including tourism - remains a priority. Future development of all regional trail corridors will depend upon local resources as well as funding from state and federal grant opportunities (Source: Snohomish County 2021–2026 Capital Improvement Program, Page 56).

By addressing a key safety and mobility constraint at this major crossroads, the project aligns

directly with PSRC's Rural Town Centers & Corridors (RTCC) program. It strengthens the connectivity of rural residents to urban centers, employment hubs, recreation, and commercial opportunities, fostering community vitality, economic development, and equitable access across the region.

### **Federal Functional Classification**

**Please select the appropriate functional classification.**

Minor Arterial

### **Bicycle and Pedestrian Accommodations**

**Which pedestrian and/or bicycle features already exist in the project area? Please select one or more types below:**

Sidewalks, Other pedestrian and bicycle amenities (street, intersection and crossing design elements)

**Which pedestrian and/or bicycle features are included in the project scope? Please select one or more types below:**

Sidewalks, Other pedestrian and bicycle amenities (street, intersection and crossing design elements)

**If you indicated above that the project does not include existing or planned pedestrian and/or bicycle features, please indicate one of the following reasons per the guidance above:**

N/A

**If you selected "Other", please expand on why the project is exempt from providing pedestrian or bicycle features.**

N/A

### **Plan Consistency**

**Is the project specifically identified in a local comprehensive plan?**

Yes

**If yes, indicate 1) plan name 2) relevant section 3) page number.**

S. Machias Rd and Three Lakes Rd Intersection Improvements listed in the 2024 Snohomish

County Comprehensive Plan as project number IN-013 in Chapter 9. System Improvements and Financing on pg. 112

(<https://www.snohomishcountywa.gov/DocumentCenter/View/133282/Exhibit-F-Transportation-Element---Amended>). This project is listed as “short term” meaning the estimated completion is by 2030. The project is also listed in the six-year Snohomish County Transportation Improvement Program (TIP) as project number D.69

(<https://www.snohomishcountywa.gov/DocumentCenter/View/112612/2024-2029-Adopted-TIP>).

The planned improvements to the S. Machias Rd/Three Lakes intersection will improve the intersection by adding turn lanes and pockets which are necessary for future growth. Improvements are expected to reduce traffic delays during morning and evening peak hours, increase protection for Centennial Trail users crossing at Three Lakes Rd, improve sight distance, and improve traffic safety for left-turn movements.

**If no, describe how the project is consistent with the applicable local comprehensive plan, citing specific local policies and provisions the project supports. Please include the actual text of all relevant policies or information on where it can be found, e.g. the policy document name and page number.**

N/A

### **Local and Regional Policy Support**

**Describe how the project will help the rural town center develop in a manner consistent with the adopted policies or comprehensive plans of the respective local jurisdiction(s). Please provide citations and a copy of the appropriate page(s) from the plan or policies with your application.**

This project directly advances Puget Sound Regional Council (PSRC) Rural Town Center (RTCC) priorities by improving safety, enhancing multimodal access, and supporting resilient, context-sensitive transportation infrastructure that sustains rural community vitality while preserving rural character.

The S. Machias Road and Three Lakes Road Intersection Improvements project supports development of the rural town center in a manner fully consistent with adopted Snohomish County policy by implementing planned transportation improvements that address documented safety needs, improve system performance, and enhance access for all users.

The project is explicitly identified in the Snohomish County Comprehensive Plan, Transportation Element (TE), as Project No. IN-013 in Chapter 9: System Improvements and Financing (pg. 112), with a short-term completion horizon (by 2030), demonstrating that it is a county-prioritized investment aligned with planned growth and infrastructure needs.

Citation:

Snohomish County Comprehensive Plan, Transportation Element (TE), Chapter 9, pg. 112

(Project IN-013)

<https://www.snohomishcountywa.gov/DocumentCenter/View/133282/Exhibit-F-Transportation-Element---Amended>

The project is also included in the adopted 2024–2029 Snohomish County Transportation Improvement Program (TIP) as Project No. D.69, confirming consistency with the county’s financially constrained near-term implementation plan.

Citation:

Snohomish County 2024–2029 Transportation Improvement Program (TIP), Project D.69

<https://www.snohomishcountywa.gov/DocumentCenter/View/112612/2024-2029-Adopted-TIP>

The project advances key Transportation Element policies:

**Safety:** Consistent with Policy T 1.1 and T 1.3, which prioritize reducing fatal and serious injury collisions and addressing high-risk locations. The TE states the county will “improve safety for all system users, with an emphasis on reducing serious and fatal collisions.” The proposed roundabout reduces conflict points, lowers speeds, and improves sight distance.

TR 2.A.5 The county shall require that safe, accessible, and direct pedestrian facilities for all users are constructed along and from public rights-of-way to adjacent structures and developments.

TR 2.B.1 A high priority shall be given to improvements that enhance the safety of county transportation facilities and services.

TR 2.D.2 Planning and programming for active transportation facilities within the unincorporated county shall include considerations for minimizing conflicts with vehicle traffic, conflicts between bicycles and pedestrians, and the security and safety of adjacent residences and businesses.

TR 2.D.3 Evaluate the county’s transportation system to identify effective ways to reduce the frequency and severity of crashes involving pedestrians or bicyclists.

TR 5.A.1 The county shall maintain an active transportation program that will manage the planning and programming of pedestrian and bicycle facilities, coordinate maintenance of active transportation facilities, and collaborate on Americans with Disabilities Act (ADA) transition planning.

TR 5.A.11 The county shall prioritize active transportation investments that improve safety and complete the pedestrian and bicycle transportation networks.

**System Efficiency and Mobility:** Advances Policy T 2.1 and T 3.2, which support efficient system performance and freight mobility. The TE calls for “improving intersection operations and maintaining level of service standards” and facilitating “efficient movement of freight and goods.” The project improves traffic flow and reduces delay, particularly for left-turn and freight movements.

TR 8.A.1 The county's LOS shall be used in a manner that is consistent with growth management tools, which manage the rate of growth in rural areas and offer incentives to encourage more intense development within existing urban areas.

TR 8.A.7 The county shall designate Rural Arterials with Urban Traffic where the arterial provides direct connections between UGAs, rural areas of more intensive commercial development, or between UGAs and Highways of Statewide Significance, and where they exhibit ADTs higher than the thresholds for urban arterials.

Multimodal Access: Implements Policy T 4.2 and T 4.4, supporting safe and connected pedestrian and bicycle facilities. The TE emphasizes "safe, convenient, and continuous facilities for non-motorized users." Improvements to the Centennial Trail crossing enhance safety along a key regional active transportation corridor.

TR 4.A.2 A countywide network of county arterials shall be identified that provide for multimodal transportation services between centers designated on the Future Land Use Map.

TR 4.A.3 Principal and minor county arterial roadways serving centers designated on the Future Land Use Map shall be redesigned, improved, and maintained for multimodal transportation.

TR 4.A.4 Future roadways and improvements of existing roads within unincorporated Snohomish County shall be planned to enhance multimodal traffic flow and the connectivity of countywide arterial roadways.

TR 4.A.7 The county shall incorporate complete streets approaches in transportation planning to emphasize safe mobility for transportation system users of all ages and abilities.

TR 4.A.10 Roadway design standards within unincorporated Snohomish County shall be developed, revised, and implemented to ensure safe and efficient flow of traffic.

TR 4.A.11 Existing roadways within unincorporated Snohomish County shall be improved to meet adopted design standards for the safety and mobility of pedestrians, public transit users, bicyclists, and motorized traffic as part of construction of frontage improvements by developments and by the county, as funding allows within the county's Capital Improvement Program.

TR 4.A.12 To improve connectivity for all modes of transportation within unincorporated UGAs, the county should plan for a network of non-arterial roads that will improve safety, help address congestion

Rural / Context-Sensitive Design: Consistent with Policy T 6.1, which calls for transportation improvements that "are compatible with rural areas while meeting safety and operational needs." The compact roundabout provides a context-appropriate solution without introducing urban-style infrastructure.

TR 3.A.3 The transportation facilities within unincorporated Snohomish County, including circulation roadways and driveways, shall be located and designed to minimize the disruption of

shorelines, critical areas, resource lands, and other environmentally sensitive areas.

TR 4.A.8 Necessary improvements on rural roads shall be designed to maintain rural character, discourage unplanned rural growth, provide safe and efficient travel for residents of the rural area, and provide connectivity between urban areas.

The Transportation Element is adopted under the Growth Management Act (RCW 36.70A.070(6)), requiring transportation investments to align with land use and provide safe access for all users. This project fulfills that requirement by integrating multimodal safety improvements within a rural context.

At the regional level, the project is consistent with PSRC's VISION 2050, which calls for rural town centers to have safe, multimodal transportation systems that support local vitality and regional connectivity. By improving a key intersection serving the rural center and the Centennial Trail, the project enhances safety, supports equitable access, and strengthens system resilience—core RTCC priorities.

Consistency Statement:

As a project identified in the Transportation Element (IN-013, pg. 112) and included in the adopted TIP (Project D.69), this project represents direct implementation of adopted county and regional policy. It advances goals for safety, mobility, multimodal access, and rural context-sensitive design, while supporting planned rural development and transportation system needs through 2049.

**Describe how the project fits the intended character of the center or area in which the corridor is located to help better define or provide a clear distinction between rural corridors and rural centers. For instance, does the project include context sensitive design elements that consider preserving the aesthetic, cultural and environmental resources of the subject area?**

This project is designed to keep the rural character of the area while making the intersection safer and easier for everyone to use. The compact roundabout slows traffic and reduces conflict points without adding urban-style signals that wouldn't fit the setting. Its size and layout reflect the rural look and feel of the town center and clearly mark the difference between the rural corridor and the center.

Other improvements, like better sight lines, targeted lighting, and clearly marked Centennial Trail crossings, make the intersection safer for drivers, pedestrians, and bicyclists while minimizing impacts to the environment. The project avoids widening the road more than necessary and keeps the design consistent with the surrounding landscape. It focuses on improving traffic operations within the existing rural context, supporting future growth without changing the area's rural identity. The design follows the Snohomish County Transportation Element, Policy T 6.1, which calls for transportation projects that protect rural character, cultural and environmental resources, and keep users safe. By following these guidelines, this project reinforces the identity of the town center while improving safety, access, and overall usability for all users.

Citation:

Snohomish County Comprehensive Plan, Transportation Element, Chapter 2: Transportation Goals, Policies, and Strategies, Policy T 6.1

<https://www.snohomishcountywa.gov/DocumentCenter/View/133282/Exhibit-F-Transportation-Element---Amended>

**If the project is interjurisdictional in nature, describe the partners that have been identified and the actions developed to work together and coordinate on project components**

N/A

### **Circulation, Mobility, and Accessibility**

**Describe the issue(s) being addressed by the project and the impact it is intended to have on the center(s). Describe how the project will provide better access to the center(s) from adjacent communities or significantly improve circulation within a center by filling a missing link and/or removing barriers to community mobility.**

The project addresses safety and operational deficiencies at the intersection of S. Machias Road and Three Lakes Road, including a history of left-turn collisions, limited sight distance, and inefficient traffic flow. These issues create barriers to safe and reliable access for motorists, freight, and non-motorized users.

By replacing the existing intersection with a compact roundabout, the project will improve circulation by reducing delay, simplifying turning movements, and maintaining continuous traffic flow. This will enhance connectivity between surrounding rural communities and improve overall access along this corridor.

**Describe whether the project is multimodal in nature and how it will benefit a range of travel modes and user groups either accessing the center(s) or using the corridor**

The project is inherently multimodal, benefiting motorists, freight, pedestrians, and trail users. The roundabout design improves vehicle safety and operations while reducing conflict points. Roundabouts, by their very design, function as inherently multimodal intersections that enhance mobility for people walking, rolling, and biking while also improving overall safety. At the same time, enhancements to the Centennial Trail crossing improve safety and accessibility for these nonmotorized users traveling through the intersection.

**Describe how the project will enhance opportunities for active transportation, such as improving or enhancing a pedestrian-oriented environment in the center or along the corridor to the center(s).**

The project enhances active transportation by improving the safety and visibility of the Centennial Trail crossing at the intersection. Upgrades to sight distance, illumination, and crossing design will create a safer and more comfortable environment for pedestrians and bicyclists.

These improvements reduce barriers for non-motorized users and support continued use of the Centennial Trail as a key regional active transportation facility.

**Describe how the project contributes to transportation demand management and commute trip reduction opportunities.**

While this project is not a traditional Transportation Demand Management (TDM) initiative, it supports the County's commute trip reduction and efficiency goals by keeping traffic moving smoothly and reducing delays. The compact roundabout minimizes stop-and-go conditions, which lowers vehicle idling and improves travel time reliability for drivers and freight.

By improving intersection operations, the project also indirectly supports alternative travel modes. Safer, clearly marked Centennial Trail crossings encourage walking and biking, and the improved intersection layout makes it easier for all users to navigate without conflict. These enhancements help people choose non-motorized options when possible and reduce overall congestion in the corridor.

Overall, the project contributes to Snohomish County and regional goals for efficient, safe, and lower-emission travel, complementing TDM and commute trip reduction programs while maintaining the rural character of the area.

**System Performance and Innovative Solutions**

**Describe how the project will result in more reliable and efficient travel flows in the center, along a corridor, or both, and how it will provide for time savings for moving freight and goods.**

The compact roundabout will improve travel reliability by reducing delay and eliminating the need for stop-and-go signal control. Continuous traffic flow benefits all users, including freight and heavy vehicles along S. Machias Road, by reducing wait times and improving predictability of travel. The design specifically accommodates large trucks and other freight movements, ensuring that commercial traffic operates safely and efficiently. By smoothing traffic operations and minimizing conflict points, the project provides tangible time savings for both daily commuters and goods movement, supporting regional and local economic activity while maintaining the rural character of the corridor.

**Describe how the project provides a long-term solution to maximize the efficiency of the transportation system within the rural center or along the connecting rural corridor.**

The project provides a long-term solution by addressing both current and projected traffic conditions through 2049. Roundabouts are proven to handle a wide range of traffic volumes more efficiently than traditional signalized intersections, reducing delays, stop-and-go traffic, and the need for future signalization. By minimizing conflict points, improving flow, and accommodating all vehicle types, including freight, the project enhances both the resilience and operational efficiency of the rural transportation system. These improvements ensure that the corridor and town center can safely and efficiently support future growth while maintaining the rural context.

**Describe any particularly innovative facilities or traffic operational concepts included in**

**this project.**

The use of a compact roundabout in a rural setting is an innovative approach to improving both safety and operational efficiency. Unlike typical rural intersections, the roundabout slows traffic naturally, reduces conflict points, and supports continuous flow for all users, including heavy vehicles. The project also integrates multimodal safety enhancements, particularly at the Centennial Trail crossing, providing safe, accessible connections for pedestrians and bicyclists. This combination of traffic efficiency, freight accommodation, and multimodal safety demonstrates a holistic, forward-thinking design that balances mobility, safety, and rural context.

## **Community Support**

### **Section 1. Addressing Population Groups, Benefits and Disparities**

**Please identify the different population groups within the project area, and describe any disparities or gaps in the transportation system being experienced. Describe how the planning study will address these disparities or gaps and provide an improvement.**

The project area serves several key population groups, including rural residents, daily commuters, freight operators, and recreational users of the Centennial Trail, including children, seniors, and people with mobility challenges. Existing disparities in the transportation system include limited safe pedestrian and bicycle crossings, high-speed vehicle movements, and restricted sight lines at the intersection, creating elevated safety risks for vulnerable users.

Using the Sandy Williams Connecting Communities (SWCC) Viewer (Sandy Williams Connecting Communities Viewer), the surrounding block groups are identified as areas with moderate-to-high transportation need, reflecting barriers in access to safe travel, services, and connectivity for populations experiencing environmental, economic, and health disparities. These indicators highlight the disproportionate risks faced by pedestrians and bicyclists in the area.

The planning study and proposed project directly address these disparities by:

- Constructing a compact roundabout to reduce vehicle speeds and conflict points;
- Enhancing the Centennial Trail crossing with improved visibility and illumination;
- Improving sight distance and intersection geometry to reduce crash risk; and
- Maintaining safe operations for freight and commuter traffic.

These improvements remove barriers to mobility, improve safety for all users, and provide equitable benefits to vulnerable populations, aligning with both Snohomish County Transportation Element policies.

**Note: Coordinates (47.948° N, -122.015° W) used are near the center of the Three Lakes area where S. Machias Rd meets Three Lakes Rd, based on local geographic data and approximate location references.**

Race & Ethnicity (Area Context):

The surrounding area near the S. Machias Rd & Three Lakes Rd intersection lies within a region that is predominantly White, with Hispanic/Latino, Asian, Black, and multiracial populations present at smaller proportions. Regional census data shows that non Hispanic White residents make up the majority, with other racial and ethnic groups comprising the remainder of the community. (From The Demographic Statistical Atlas of the United States - Statistical Atlas)

## Pedestrian & Bicycle Safety Context:

Snohomish County crash trends indicate that pedestrian and bicyclist serious injury and fatal crashes remain a significant concern, especially where high speeds and limited active transportation facilities coincide. Efforts to improve crossings and reduce vehicle speeds are essential to address documented collision patterns. (From In Snohomish County, pedestrian fatalities continue a troublesome trend | HeraldNet.com; check w/ Traffic and WSDOT crash data).

## Equity Need Indicators (SWCC Viewer ID:7):

According to the Sandy Williams Connecting Communities equity scoring methodology, communities like those around this intersection are evaluated based on transportation barriers, safety data, health and economic indicators, and environmental justice factors. Block groups scoring in moderate to high need reflect real inequities in connectivity, access, and safety.

## Section 2. Addressing Outreach

**Please describe the public outreach process that led to the development of the project. This could be at a broader planning level (comprehensive plan, corridor plan, etc.) or for the specific project. Include specific outreach or communication with the population groups identified in the previous section.**

The outreach process that contributed to the development of the S. Machias Road and Three Lakes Road Intersection Improvements project was conducted in conjunction with broader transportation and planning efforts at Snohomish County, particularly related to the 2024 Comprehensive Plan Update and associated planning activities spanning 2022–2023.

In 2022, Snohomish County Planning and Development Services (PDS) conducted a robust series of public engagement events — a total of 31 outreach activities — across unincorporated Snohomish County. These events were designed to engage community members in conversations about transportation needs, safety priorities, and planned updates to the Comprehensive Plan, including areas that intersect with future road improvement projects.

In 2023, PDS expanded outreach with tabling and pop up events at key community locations, such as the Mariner Library and the Mariner Fest back to school event at the Mariner Park & Ride, where staff engaged residents directly about the 2024 Plan Update and upcoming Draft Environmental Impact Statement (DEIS). Overall, County staff hosted 10 pop up events, intentionally scheduled in diverse locations and at varying times (weekdays, weekends) to increase accessibility.

These engagement activities were widely advertised through the 2024 Update project website and distributed via newsletters to key parties throughout the County — including in English, Spanish, Korean, and Vietnamese — addressing language access barriers for people with limited English proficiency.

The County's outreach approach was grounded in equitable engagement practices consistent with PSRC's Equitable Engagement Guidance, emphasizing proactive engagement in community spaces rather than expecting residents to seek out the County. Efforts intentionally included historically underserved populations, such as BIPOC communities, renters, youth, and individuals with LEP.

Outreach also included relationship building with community organizations, schools, and school districts, including coordination with Snohomish County Public Works traffic investigators and school district transportation directors. These connections helped clarify safety concerns near

school zones, trail crossings, and key travel corridors.

Throughout the process, crucial project notices, background materials, and the DEIS notice of availability were translated into multiple languages and posted to the County project website. Childcare was provided at select events to help reduce participation barriers for families. In addition to formal County outreach, community groups and neighborhood organizations disseminated information via newsletters and social media platforms about the Plan update and transportation needs. Local media coverage and library event promotions helped broaden awareness of transportation priorities, including pedestrian and bicycle safety improvements — a theme frequently raised in community conversations.

**Please describe how this outreach influenced the development of the project, e.g., the location, scope, design, timing, etc.**

Although the 2022 and 2023 outreach focused on the broader Comprehensive Plan Update rather than this specific intersection, feedback from these processes helped shape the development of the S. Machias Road and Three Lakes Road project. Participants consistently emphasized safety, connectivity, and multimodal access, including safer pedestrian and bicycle crossings, reduced vehicle speeds, and improved visibility—particularly where regional trails like the Centennial Trail intersect roadways. Improving bike and pedestrian facilities throughout the county was a key theme.

These community priorities aligned with documented collision patterns and contributed to prioritizing the intersection in the Transportation Element (Project IN-013). Input from diverse communities—supported through translated materials in Spanish, Korean, and Vietnamese—reinforced the importance of multimodal improvements across rural and semi-rural areas.

As a result, the project scope incorporates enhanced trail crossings, improved illumination, sight distance upgrades, and a roundabout that balances vehicle efficiency with safety for all users. Ongoing coordination with school districts, community organizations, and transportation stakeholders continues to refine design details and timing.

In summary, while outreach was not project-specific, it provided broad guidance on safety and multimodal priorities, which directly informed design decisions and the emphasis on active transportation features in this rural intersection.

## **Safety**

**Please describe the safety and/or security issue(s) that the project will address.**

The S. Machias Road and Three Lakes Road intersection is part of a corridor that Snohomish County has identified for targeted safety improvements based on systemwide crash risk and operational concerns. Crash history along the S. Machias Road corridor has been well documented through both the S Machias Rd Corridor Safety Study (2019) and the Snohomish County Road Safety Plan (2022), which together show a consistent pattern of safety concerns over roughly a decade of data.

The corridor-specific analysis in the 2019 study examined crashes occurring between 2010 and 2018 along a defined 4.36-mile segment of S. Machias Road between OK Mill Road and Three Lakes Road. During this nine-year period, a total of 198 crashes were recorded along the corridor, averaging approximately 20 crashes per year. The broader countywide Road Safety Plan (2010–2019) similarly identifies corridors such as S. Machias Road as part of the County’s higher-risk roadway network.

Crashes are not evenly distributed along the corridor and are highly concentrated at key intersections and access points, with clustering observed at OK Mill Road, Dubuque Road, and Three Lakes Road. The 2019 study identifies the S. Machias Road and Three Lakes Road intersection as a safety “hot spot,” noting recurring crashes and operational indicators of conflict, including braking patterns, limited sight distance, and turning movement issues.

This project addresses similar safety concerns at the intersection, including left-turn collisions, limited sight distance, and conflict points between vehicles and trail users. Across both reports, the most common crash types along the corridor are rear-end, angle (turning), and fixed-object crashes, with intersection-related turning movements playing a significant role. Contributing factors include limited visibility, higher rural travel speeds, roadside hazards, and inconsistent or inadequate lighting and pavement markings.

The county has already advanced near-term improvements in the vicinity, including intersection warning systems and speed management strategies, and has identified this location for future capital investment.

**Please explain how the project will help protect vulnerable users of the transportation system.**

The project enhances safety for vulnerable users by improving the Centennial Trail crossing with better visibility, lighting, and crossing design. Reduced vehicle speeds through the roundabout further improve safety for pedestrians and bicyclists.

**Please describe how the project reduces reliance on enforcement and/or designs for decreased speeds.**

The roundabout is a self-enforcing design that naturally reduces vehicle speeds and eliminates high-risk conflict movements. This reduces reliance on enforcement by using geometric design to influence driver behavior and improve compliance.

**Does your agency have an adopted safety policy (e.g. Target Zero, Vision Zero, etc.)? If so, how did the policy inform the development of the project?**

Snohomish County adopted the Snohomish County Road Safety Plan (2022), which aligns with the Washington State Department of Transportation Target Zero plan. The Plan promotes a Safe System approach, emphasizing the separation of users in time and space, designing roads to reduce conflict points, and mitigating severe or fatal crashes.

The S. Machias Road and Three Lakes Road Intersection Improvements project implements these principles through the proposed compact roundabout, enhanced sight lines, improved roadway illumination, and upgraded Centennial Trail crossings. These design elements directly reflect the Safe System framework by reducing vehicle speeds, lowering conflict points, and enhancing protection for pedestrians, bicyclists, and trail users.

In addition, Snohomish County is actively developing its Safe Streets and Roads for All (SS4A) Plan, further reinforcing the county's commitment to a data-driven, multimodal safety strategy.

### **Project Readiness - PE/Design**

**Are you requesting funds for ONLY a planning study or preliminary engineering?**

No

**Is preliminary engineering/design for the project complete?**

No

**Please provide the date the preliminary engineering/design phase was completed, or the anticipated date of completion (month and year).**

January 2029

**If not complete, which best describes the CURRENT status of the project's engineering/design?**

30% complete

**Are there any other PE/Design milestones associated with the project? Please identify and provide dates of completion. You may also use this space to explain any dates above.**

2022-28: Design, survey, environmental review and right-of-way plan

2027-2028: Utility relocation

2027-2028: Right-of-way acquisition

2029: Proposed construction, subject to funding availability

### **Project Readiness - Environmental Documentation**

**What is the current or anticipated level of environmental documentation under the National Environmental Policy Act (NEPA) for this project?**

Categorical Exclusion (CE)

**Has the NEPA documentation been approved?**

No

**Please provide the date of NEPA approval, or the anticipated date of completion (month and year).**

December 2026

**Has there been a NEPA kick-off meeting with WSDOT Local Programs for this project?**

No

**If yes, is a formal consultation expected?**

N/A

### **Project Readiness - Right of Way**

**Does the project require right-of-way?**

Yes

**What is the actual or estimated start date for right of way?**

January 2027

**What is the estimated (or achieved) completion date for the right of way plan and funding estimate (month and year)?**

*If federal funds are to be used on any phase of a project, federal guidelines for acquisition of right of way must be followed, including submittal of a right of way plan and funding estimates.*

September 2028

**Has right of way certification been completed?**

N/A

**If not, what is the estimated ROW certification date (month and year)?**

*Sponsors should assume a minimum of one year to complete the ROW process, longer if there are significant or complex property purchases.*

October 2028

**Please describe the right of way needs of the project, including property acquisitions, temporary construction easements, and/or permits.**

*Refer to Chapter 25 of WSDOT's Local Agency Guidelines Manual for more information.*

4 parcels - partial acquisitions

### **Project Readiness - Construction**

**Are funds being requested for construction?**

No

**Do you have an engineer's estimate?**

N/A

**Please upload a copy of your engineer's estimate below.**

N/A

**Identify the environmental permits needed for the project and when they are scheduled to be acquired.**

N/A

**Are Plans, Specifications & Estimates (PS&E) completed?**

N/A

**Please provide the date of completion, or the date when PS&E is scheduled to be complete (month and year).**

N/A N/A

**When is the project scheduled to go to ad (month and year)?**

N/A N/A

### **Project Readiness - Other Considerations**

**If the project milestone dates specified above are less than [PSRC's Project Phase Milestone Minimum Timelines](#), please explain the project characteristics that justify the planned schedule.**

*Project schedules that do not reflect these minimum timelines will be reviewed by PSRC on a case-by-case basis, in consultation with WSDOT Local Programs, to make a determination of project eligibility.*

N/A

### **PSRC Funding Request**

*Please identify the phase(s) for which PSRC funds are being requested, the amount, and expected year of obligation. Confirm the total by pressing the calculate button.*

Phase	Year	Amount Requested (i.e - for \$1,000.00, enter "1000")
Right-of-Way	2028	\$316335

**Total PSRC Funding Request:**

\$316335

**Has the project received PSRC funds previously?**

No

**Please provide the project's PSRC TIP ID.**

N/A

**Financial Plan**

*In the table below, please provide the total estimated cost and schedule for all phases of the project, from start to finish, and indicate when each phase was, or is planned to be, completed. If a phase is not required for the project, indicate with N/A.*

*Please include all funding amounts and sources (including the requested PSRC funds) and identify whether they are secure, reasonably expected, or unsecure. PSRC's definitions and guidance for determining secure and reasonably expected funds is provided here.*

**PE/Design Phase**

Funding Source	Funding Status	Funding Amount
Local Funds	Secured	\$271000
		\$
		\$
		\$
		\$

**Total Preliminary Engineering/Design Phase Cost**

\$271000

**Actual or estimated date of completion (month and year):**

January 2029

**Right-of-Way Phase**

<b>Funding Source</b>	<b>Funding Status</b>	<b>Funding Amount</b>
STG (RTCC Request)	Unsecured	\$316335
Local Funds	Secured	\$49370
		\$
		\$
		\$

**Total Right-of-Way Phase Cost:**

\$365705

**Actual or estimated date of completion (month and year):**

October 2028

**Construction Phase**

<b>Funding Source</b>	<b>Funding Status</b>	<b>Funding Amount</b>
Local Funds	Secured	\$1517000
		\$

		\$
		\$
		\$

**Total Construction Phase Cost**

\$1517000

**Actual or estimated date of completion (month and year):**

October 2030

**Other Phase**

<b>Funding Source</b>	<b>Funding Status</b>	<b>Funding Amount</b>
N/A	N/A	\$N/A
		\$
		\$
		\$
		\$

**Total Other Phase Cost**

\$0

**Actual or estimated date of completion (month and year):**

N/A

**Project Summary**

**Total Estimated Project Cost:**

\$2153705

**Estimated Project Completion Date (month and year):**

October 2030

**Financial Documentation**

*Please provide supporting documentation using the upload function below to demonstrate that all additional funds for the phase(s) for which PSRC funds are being requested are secure or reasonably expected.*

f-150-475-21475973\_pBFOsOzD\_2026-04\_SMachiasThreeLakesRd\_2026-2031AdoptedTIP.pdf

f-150-480-21475973\_lo7WvHYG\_2026-04\_SMachiasThreeLakesRd\_RTCC-SnoCoProjectReport\_MFqL.pdf

f-150-481-21475973\_5Jq0gWba\_2026-04\_RTCC\_SMachias-ThreeLakesRd\_SnoCoEstimate\_RoW.pdf

**Please describe the secure or reasonably expected funds identified in the supporting documentation. For funds that are reasonably expected, an explanation of procedural steps with milestone dates for completion which will be taken to secure the funds for the project or program must also be included.**

Documentation:

- Snohomish County Six-Year 2026-2031 Transportation Improvement Program (TIP), Adopted 11/5/2025

- Snohomish County Project Tracker (internal report as of 4/16/2026)

*NOTE: Please contact Doug Cox (DCox@psrc.org) if you need to make updates to a submitted application prior to the deadline. After the deadline has passed, the form site will close.*



## 2. VICINITY MAP

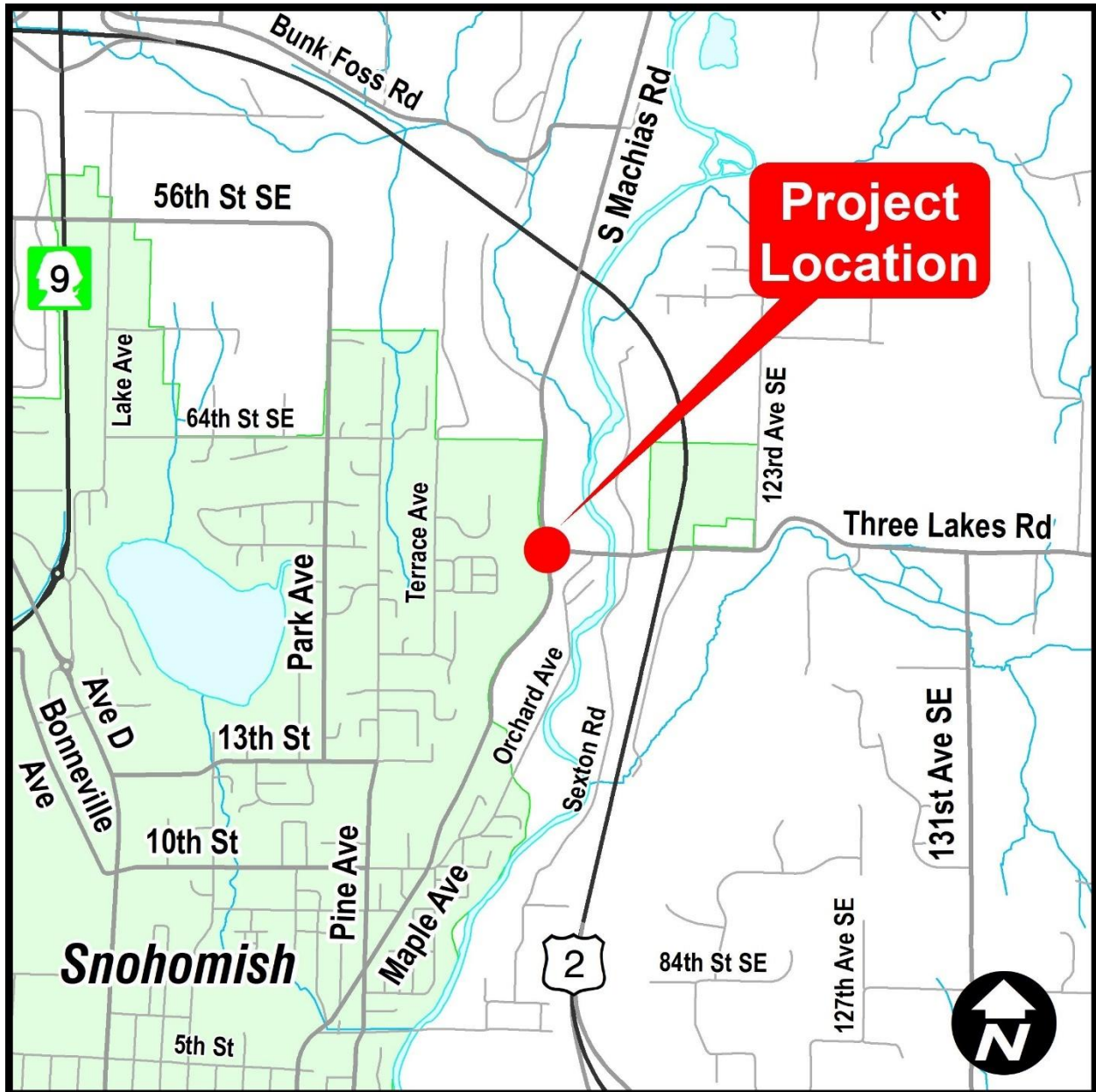


Figure 2.1: Vicinity map of the intersection at S Machias Rd & Three Lakes Rd, Snohomish WA

**Exhibit A Snohomish County 2026-2031 Six-Year Transportation Improvement Program (TIP)**

<b>Grand Totals</b>		<b>2026-2031</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029-2031</b>	<b>All projections are in \$1,000's</b>							
		169,188	31,086	35,383	43,965	58,754								
<b>A. Miscellaneous Engineering and Studies</b>														
<b>Group Totals</b>		<b>2026-2031</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029-2031</b>								
		812	207	401	51	153								
<b>A.01</b> 1660	<b>Preliminary Engineering: General</b>						TSA N/A	Cncl Dist All	Type 07	LFC All	FFC All	Mgr MCR	Preliminary engineering for unanticipated projects.	
		<b>2026-2031</b>	<b>2026</b> PE	<b>2027</b> PE	<b>2028</b> PE	<b>2029-2031</b>	PE						PE	PE
	County	90	15	15	15	45								
		90	15	15	15	45								
<b>A.02</b> XA02	<b>Right of Way: General</b>						TSA N/A	Cncl Dist All	Type N/A	LFC All	FFC All	Mgr MRP	General right of way activities.	
		<b>2026-2031</b>	<b>2026</b> RW	<b>2027</b> RW	<b>2028</b> RW	<b>2029-2031</b>	RW						RW	RW
	County	60	10	10	10	30								
		60	10	10	10	30								
<b>A.03</b> 1212	<b>Project Close Out and Funding Audit</b>						TSA N/A	Cncl Dist All	Type N/A	LFC N/A	FFC N/A	Mgr LME	Minor expenses associated with project close-out or audits.	
		<b>2026-2031</b>	<b>2026</b> CE	<b>2027</b> CE	<b>2028</b> CE	<b>2029-2031</b>	CE						CE	CE
	County	60	10	10	10	30								
		60	10	10	10	30								
<b>A.13</b> XA13	<b>Contribution to WSDOT Projects</b>						TSA N/A	Cncl Dist All	Type N/A	LFC SR	FFC SR	Mgr MAO	Contributions to and coordination with WSDOT for countywide projects.	
		<b>2026-2031</b>	<b>2026</b> PE	<b>2027</b> PE	<b>2028</b> PE	<b>2029-2031</b>	CN						PE	PE
	County	90	15	15	15	45								
		90	15	15	15	45								
<b>A.17.04</b> XA1704	<b>SR 530/Smokey Pt Blvd Roundabout</b>						TSA N/A	Cncl Dist 1	Type 12	LFC SR	FFC SR	Mgr MAO	Contribution to the City of Arlington for intersection improvements and roundabout construction.	
		<b>2026-2031</b>	<b>2026</b>	<b>2027</b> CN	<b>2028</b>	<b>2029-2031</b>								
	County	350		350										
		350		350										

D.60.01 1418	Adaptive Signal Systems Phase II		TSA	Cncl Dist	Type	LFC	FFC	Mgr	Replace signal controls with an adaptive signal control system on SR 527, SR 522, I-5, 240th St SE, 44th Ave W and 164th St SW corridors (45 signal locations).	
	2026-2031	2026 CN	N/A	3,4	12	N/A	N/A	MD		2028
	BOTHELL	2								
	County	2								
	LYNNWOOD	2								
	STP(U)	43								
	WSDOT	1								
		<u>50</u>								
D.64 1742	S Machias Rd / Dubuque Rd Intersection Improvements		TSA B	Cncl Dist 5	Type 12	LFC 06	FFC 16	Mgr MGF	Construct roundabout and re-configure Centennial Trail crossing.	
	2026-2031	2026 PE RW		2027 CE CN		2028 CE CN		2029-2031		
	HSIP	3,423	148	2,320		955				
		<u>3,423</u>	<u>148</u>	<u>2,320</u>		<u>955</u>				
D.67.02 1790	84 St NE / 123 Ave NE Intersection Safety Improvements		TSA N/A	Cncl Dist 1	Type 12	LFC 06	FFC 06	Mgr MGF	Construct full intersection improvements to improve safety.	
	2026-2031	2026 PE CE CN		2027 CE CN		2028		2029-2031		
	County	110	15	95						
	HSIP	2,946	2,027	919						
	RAP	988	131	857						
		<u>4,044</u>	<u>2,173</u>	<u>1,871</u>						
D.67.03 1801	84 St NE Corridor Spot Improvements		TSA N/A	Cncl Dist 1	Type 12	LFC 06	FFC 06	Mgr BLL	Design and construct spot safety improvements along 84th St NE including but not limited to speed radar feedback signs, advance light beacons, reflectorized sign posts, and profiled plastic line.	
	2026-2031	2026 CE CN		2027		2028		2029-2031		
	HSIP	1,292	1,292							
		<u>1,292</u>	<u>1,292</u>							
D.69 1780	S Machias Rd / Three Lakes Rd Intersection Improvements		TSA C	Cncl Dist 5	Type 04	LFC 16	FFC 16	Mgr DL	Construct major intersection improvements.	
	2026-2031	2026 PE		2027 PE RW		2028 PE RW		2029-2031 CE CN	CE CN	
	INTERLOCAL-TSA C	4	4							
	REET II	557						557		
	TDM/CC	116	6	51		9		50		
	TIF-C	1,216		89		217		910		
		<u>1,893</u>	<u>10</u>	<u>140</u>		<u>226</u>		<u>1,517</u>		

**Snohomish County**  
**S. Machias & Three Lakes Rd Intersection Improvements**  
**April 2026**  
**RoW Estimate for RTCC Application**

RIGHT OF WAY FUNDING ESTIMATE		Agency: Snohomish County Public Works Project Title: S Machias & Three Lakes Rd Intersection Improvements Date of Estimate: May 6, 2025										Year Estimate Completed: 2025		Year Acquisition to be Completed: 2028		Estimated Total: \$345,005		Inflation Factor (Calculated): 1.06		Total Right of Way Costs: \$365,705	
		Estimate Completed By: Ashley K. Zacharia Title: Lead Review Appraiser										LAC Concurrence: Name: Title:									
Select Valuation Process																					
Assessor's Tax Parcel Number	Fee TE or PE	Owner Name	Area (Sq Ft)	Assessed Value-Sq Ft (reduce for easements)	TE Total (from other sheet)	Improvement Value	Damages	Relocation	Acquisition Subtotal	Confidence Level (1 - 10)	Confidence Factor (Calculated)	Factored Subtotal	Title & Escrow Costs	Appraisal/ Appraisal Review Cost	AOS (under \$25,000) Cost	Labor	Misc. Fees (including PM)	Statutory Evaluation Allowance (SEA-\$750)	Subtotal All	Condemnation Enter Percentage	Total
28060800202100	Fee	Woodbury Hills	16851	\$0.34	\$0	\$0	\$0	\$0	\$5,729	8	0.41	\$8,078	\$6,000	\$7,000		\$8,000	\$1,000	\$750	\$30,828	10%	\$33,836.21
28060800201200	Fee	Elzea Robert & Teresa	6000	\$2.85	\$0	\$0	\$0	\$0	\$17,100	8	0.41	\$24,111	\$6,000	\$7,000		\$8,000	\$1,000	\$750	\$46,861	10%	\$51,472.10
28060500300700	Fee	American Legion Post #96	21100	\$1.16	\$0	\$50,000	\$0	\$0	\$74,476	8	0.41	\$105,011	\$6,000	\$7,000		\$8,000	\$1,000	\$750	\$127,761	10%	\$140,462.28
28050600300800	Fee	Snohomish County Fire District	10935	\$2.21	\$0	\$0	\$0	\$0	\$24,166	8	0.41	\$34,075	\$6,000	\$7,000		\$8,000	\$1,000	\$750	\$56,825	10%	\$62,432.01
28060800200200	Fee	Snoco Prop Mgmt	3240	\$0.50	\$0	\$0	\$0	\$0	\$1,620	8	0.41	\$2,284	\$6,000	\$7,000		\$8,000	\$1,000	\$750	\$25,034	10%	\$27,462.62
28060500301600	Fee	Snoco Prop Mgmt	5660	\$0.50	\$0	\$0	\$0	\$0	\$2,830	8	0.41	\$3,990	\$6,000	\$7,000		\$8,000	\$1,000	\$750	\$26,740	10%	\$29,339.33

# Project Report - Current Year Forward

TIP # D.69

RC # 1780

PM SF

Proj Name S Machias Rd / Three Lakes Rd Intersection Improvements

## Projections

Year	PE	RW	CE	CN	CF	Total
2026	210,000					210,000
2027	10,000	130,000				140,000
2028	51,000	236,000				287,000
2029			178,000	1,187,000		1,365,000
2030			20,000	132,000		152,000
<b>Totals</b>	<b>271,000</b>	<b>366,000</b>	<b>198,000</b>	<b>1,319,000</b>		<b>2,154,000</b>

## Revenue by Source 2,154,000

### INTERLOCAL-TSA C

2026	4,000
<b>Total</b>	<b>4,000</b>

### REET II

2029	557,000
<b>Total</b>	<b>557,000</b>

### TDM/CC

2026	6,000
2027	40,000
2028	9,000
2029	50,000
<b>Total</b>	<b>105,000</b>

### TIF-C

2026	200,000
2027	100,000
2028	278,000
2029	758,000
2030	152,000
<b>Total</b>	<b>1,488,000</b>

### 2029

REET II	557,000
TDM/CC	50,000
TIF-C	758,000
<b>Total</b>	<b>1,365,000</b>

### 2030

TIF-C	152,000
<b>Total</b>	<b>152,000</b>

## Revenue by Year 2,154,000

### 2026

INTERLOCAL-TSA C	4,000
TDM/CC	6,000
TIF-C	200,000
<b>Total</b>	<b>210,000</b>

### 2027

TDM/CC	40,000
TIF-C	100,000
<b>Total</b>	<b>140,000</b>

### 2028

TDM/CC	9,000
TIF-C	278,000
<b>Total</b>	<b>287,000</b>

The cover features a dark blue background with two large, semi-transparent, golden-yellow circular overlays. The left overlay shows a road winding through a forest. The right overlay shows a bus on a city street. White dashed lines with arrowheads are overlaid on these images, suggesting movement or direction. The main title is centered in white text.

Snohomish County  
**Road Safety Plan**

April 2022

**Snohomish County**

3000 Rockefeller Ave  
Everett, WA 98201

FEHR & PEERS

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Snohomish County's Road Safety Plan was developed in coordination with the Public Works Department, and supported by the following partner agencies:



# Executive Summary

In 2020, there were just over 1,400 crashes on the unincorporated roads in Snohomish County, with 50 people killed or seriously injured—nearly one person per week. Crashes can irreversibly change the course of human lives, touching victims, their families and loved ones, and society as a whole.

Snohomish County has determined that this level of damage and injury is unacceptable and must change. It is with this somber backdrop in mind that Snohomish County is preparing its first Road Safety Plan.

The Road Safety Plan (RSP) provides Snohomish County Public Works, other County departments, and partners (other government agencies, community organizations, non-profits, companies, and individuals) with a blueprint to reduce roadway crashes in an objective and data-driven way so as to bring the rate of fatalities and serious injuries down to zero. The RSP is aligned with the Washington State Department of Transportation's (WSDOT) Vision Zero plan – [Target Zero: Washington State Strategic Highway Safety Plan](#), which highlights the importance of data-driven collision reduction strategies.

Specifically, the Washington State Strategic Highway Safety Plan provides a data-driven systemic safety approach and tools to evaluate safety trends, determine where jurisdictions should invest in safety projects, and develop a plan for implementing road safety programs and external partnerships. The RSP brings the systemic safety approach to the county, recognizing the widely varying land use patterns, road users, and roadway character that define unincorporated Snohomish County.

A key element of the RSP is the collaboration with several partners including WSDOT, the Sheriff's Office, Fire Districts, the County Council, and others. These partners formed the Safety Advisory Committee which was a forum to share and learn from many perspectives. The committee discussed perceived safety issues, challenges in implementing

projects or programs, practical matters related to safety education and enforcement, and successes where the County and its partners have improved safety outcomes. Ultimately, the Safety Advisory Committee helped to refine the RSP into a framework that is practical, responsive to conditions in the field, flexible, and can be implemented by numerous agencies and partners in the years to come.

Snohomish County is prioritizing this RSP as fatal and serious injury crashes continue to affect lives across the county, especially the lives of vulnerable users such as pedestrians, bicyclists, and motorcycles. By using the data, tools, and partnerships outlined in this plan, along with a sustained commitment to fund and implement road safety strategies, the county can move toward a future with zero fatal and serious injury crashes.



# The Safe System Approach

The Safe System approach is an international movement that acknowledges the vulnerability of the human body – in terms of the amount of kinetic energy transfer a body can withstand – when designing and operating a transportation network to minimize serious consequences of crashes.

The Safe System approach is based on the collective action of all roadway system stakeholders: from system operators and vehicle manufacturers to law enforcement, emergency responders, and everyday users. A Safe System approach anticipates human mistakes, with the goal of eliminating fatal and serious injuries for all road users.

According to the World Health Organization, the goal of a Safe System is to ensure that, if crashes occur, they “do not result in serious human injury.” A Safe System approach addresses the five elements of a safe transportation system – safe road users, safe vehicles, safe speeds, safe roads, and post-crash care – in an integrated manner, through a wide range of interventions.

The Safe System approach to road safety started internationally as part of the Vision Zero proclamation that, from an ethical standpoint, no one should be killed or seriously injured on the road system. It is founded on the principle that people make mistakes, and that the road system should be adapted to anticipate and accommodate human mistakes and the physiological and psychological limitations of humans. Countries that have adopted the Safe System approach have had significant success reducing highway fatalities, with reductions in fatalities between 50 and 70%.

The Institute of Transportation Engineers (ITE) and the Road to Zero Coalition’s Safe Systems

Explanation and Framework articulate that to anticipate human mistakes, a Safe System seeks to:

- Separate users in a physical space (e.g., shoulders, sidewalks, dedicated bicycle facilities)
- Separate users in time (e.g., leading pedestrian intervals, dedicated turn phases)
- Alert users to potential hazards (e.g., appropriate signage, lighting, and good roadway design)
- Accommodate human injury tolerance through interventions that reduce speed or impact force

Creating a Safe System means shifting a major share of the responsibility from road users to those who design the road system. Individual road users have the responsibility to abide by laws and regulations and do so by exhibiting due care and proper behavior on the transportation system. While road users are responsible for their own behavior, this is a shared responsibility with those who design, operate, and maintain the transportation network, including the automotive industry, law enforcement, elected officials, educational organizations, and government bodies. In a Safe System, roadway system planners, designers, and operators take on the highest level of ethical responsibility.



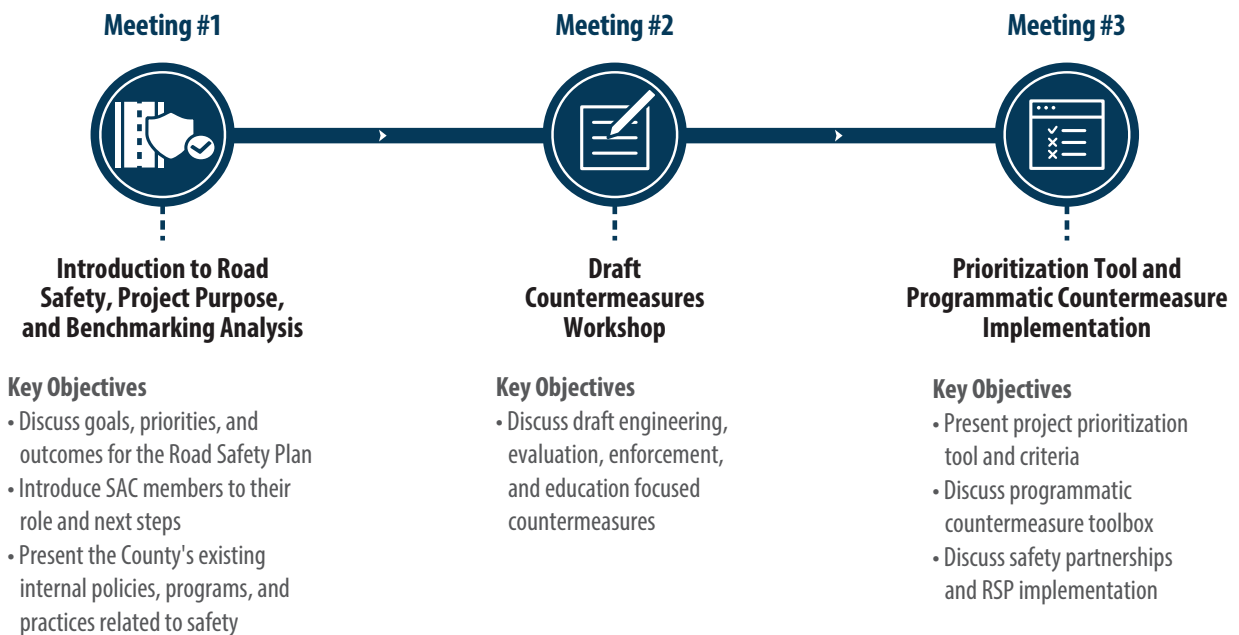
# Snohomish County Safety Partners

As noted in the Executive Summary, stakeholder engagement was critical to the development of the Road Safety Plan and was facilitated through a Safety Advisory Committee (SAC). The SAC focused on key external stakeholders, elected officials, and County staff to work towards a common safety goal.

The goal of the SAC was for participants to influence the development of the Road Safety Plan; become safety champions; and integrate safety policies, programs, and practices into their own work and that of their colleagues. For internal stakeholders, having a senior department head or senior staff member encourage participation is an important starting point for safety work within the county. The agencies and safety partners that participated in the SAC include:

- Snohomish County Public Works
- County Executive's Office
- County Council
- Sheriff's Office
- Washington Department of Transportation (WSDOT)
- Washington State Patrol (WSP)
- Washington Traffic State Safety Commission
- Snohomish County Health District
- Fire Districts
- Snohomish County Court

**Figure 1. Snohomish County Safety Partners**



# Snohomish County Safety Guiding Principles

The first SAC meeting focused on developing guiding principles for the Road Safety Plan; these principles form the foundation on which the County will conduct its safety work.



## **Traffic deaths and serious injuries are unacceptable and preventable.**

The County commits to taking steps to reduce fatal and serious injury collisions on county roads through implementation of the engineering, policy, partnership, and program strategies laid out in the Road Safety Plan.



## **Safety is a top priority and will be balanced with other transportation priorities.**

The County commits to prioritizing transportation safety projects, along with other transportation priorities and programs within the constraints of available funding and other resources. The County also commits to evaluating traffic safety as part of all projects to clearly and quantitatively highlight safety benefits and impacts as part of a balanced decision-making process. By investing in stand-alone safety projects/actions/programs and incorporating safety enhancements in other capital and development projects, the County will aggressively advance the safety outcomes outlined in this plan.



## **A multi-departmental, comprehensive approach to safety is essential.**

The County commits to engaging multiple stakeholders and departments in a collaborative process to develop and implement the Road Safety Plan. Specific actions could include coordinated budgeting, collaborative grant pursuits, and linking actions across multiple departments and agencies. Remediation measures will include but not be limited to Engineering, Enforcement, and Education.



## **Speed is a fundamental component of crash survival and speed management should be prioritized.**

Excessive speed is a component of most collisions, especially serious and fatal injury collisions. The County will proactively identify and implement programs, projects, and partnerships that result in safe speeds on county roads.



## **Decision-making should be data driven, transparent, and focused on an equitable approach.**

The County commits to a data-driven approach to road safety decision-making processes and transparency in reporting on progress towards its safety goals. In addition, the County commits to an equitable approach as it recommends, prioritizes, and monitors the outcomes of road safety projects and programs.



## **Roadway safety is a sustainable commitment of the County, through ongoing implementation and updates that will evolve with changing times and technologies.**

The County commits to identifying sustained safety funding for projects and programs and to periodic evaluation and updates of the Road Safety Plan to keep it up to date with changing trends and technologies. The County commits to monitoring actions, projects, and priorities to determine the effectiveness of remediation measures.

# Existing Conditions for Safety in Snohomish County

## Existing Plans and Policies

The County has taken steps over the past few years to understand collision trends and implement safety strategies. Most notably, Public Works developed a five-year strategic plan with seven goals that address the County's immediate transportation needs; the first goal focuses on safety, with the primary objective to reduce the number of collisions in the County. While three safety corridor studies have been performed for County roadways, no comprehensive analysis has been done to study crash trends across the entire County or to support Washington State's safety objectives and targets.

This RSP is a direct outcome of Public Works strategic plan and will align Snohomish County's safety data and analysis methods with those suggested by Washington State. The RSP also establishes clear objectives, identifies a "high injury network," and defines a targeted set of countermeasures and programs to address the most common and impactful crashes in the County. Ultimately, the RSP provides the data and rationale to help Snohomish County secure safety grant funding. **Appendix A**

contains a policy review that outlines key points from each Snohomish County plan as they relate to safety and highlights existing policies that may impact safety recommendations.

## Data Sources and Overview

10 years of the most current crash data available (January 1, 2010 – December 31, 2019) were extracted through WSDOT's Crash Data Request Form to develop the summary of existing conditions in Snohomish County. The datasets include extensive collision detail such as collision type (e.g., hit pedestrian, rear end, hit fixed object); roadway characteristics (e.g., roadway curvature, lighting, posted speed limit); and contributing circumstances to the collisions (e.g., inattention, failure for pedestrian to use crosswalk, under the influence of alcohol or drugs). Snohomish County also shared their GIS databases of contextual information, such as sidewalks, bike lanes, number of travel lanes, and schools. The collision and contextual analysis helped to identify crash typologies through the comparative analysis of crash data and contextual data.

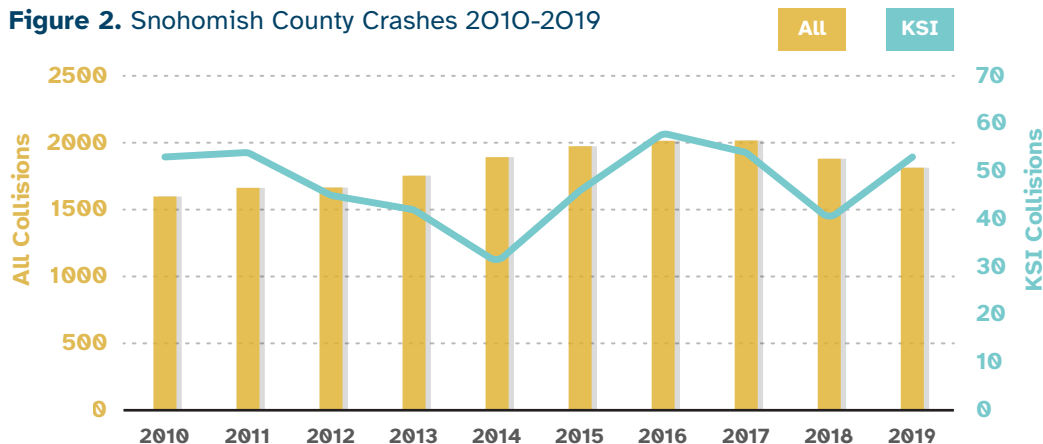
## Key Crash Trends

This section summarizes the results of a broad collision analysis for Snohomish County, which will inform project prioritization and countermeasures identification. This analysis considers collisions from 2010 through 2019 on all County-owned roadways within unincorporated Snohomish County.

Within the 10-year study time period, there were 18,282 collisions on roadways within unincorporated Snohomish County; 478, or 2.6%, of those collisions resulted in a serious injury or fatality (KSI). This is slightly higher than the 2019 average of 2.2% for fatal and serious injury collisions across the State of Washington.

**Figure 2** shows the trend of collisions over time within Snohomish County. All collisions reached a peak in 2016-2017 and have remained fairly flat in recent years. KSI collisions have varied between 30 to 60 per year, but do not follow a notable trend over the past 10 years. Note that between 2010 and the end of 2019, Snohomish County has grown by 106,600 residents to a total population of 822,100.

**Figure 2.** Snohomish County Crashes 2010-2019

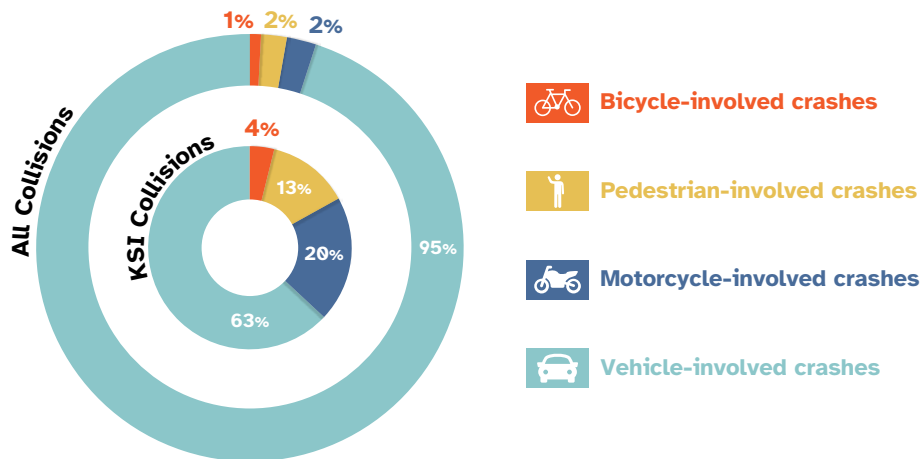


Snohomish County has a diverse mix of land use; the southwestern portion surrounds the largest cities in the County, is generally urban in character, and is well integrated as part of the larger Puget Sound metropolitan region. The urban area of Snohomish County has more signalized intersections, pedestrian and bicycle activity, and commercial activity. The remainder of the

County is rural; most roadways have higher speeds, and there are fewer intersections to break up roadway segments. Over the past 10 years, 56% of KSI crashes have occurred in the rural part of Snohomish County compared to 44% in the urban areas. However, 75% of all KSI pedestrian and bicycle crashes occurred in the urban area.

Of all collisions between 2010-2019, about 95% were vehicle-vehicle crashes, with the remaining 5% of collisions involving pedestrians, bicycles, or motorcycles. However, looking at the modes involved with KSI collisions during the same time period, vehicles comprise a much smaller share of fatal or serious injury collisions.

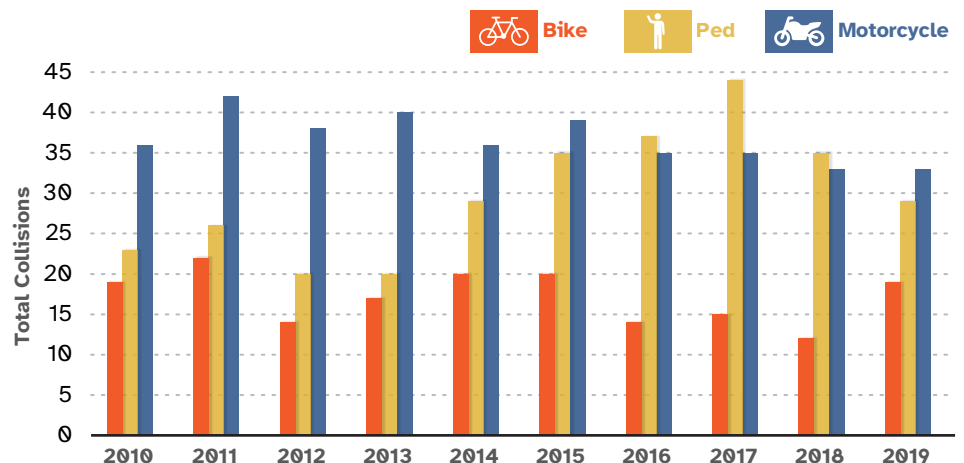
**Figure 3. Collisions by Mode (2010 - 2019)**



Motorcycle-involved collisions make up only 2% of all collisions but comprise almost 20% of all KSI collisions in Snohomish County. Similarly, pedestrian- and bicycle-involved collisions are more likely to result in fatalities or serious injuries than vehicle-vehicle collisions.

**Figure 4** shows how bicycle-, pedestrian-, and motorcycle-involved collisions change year to year in Snohomish County.

**Figure 4. Bicycle, Pedestrian, & Motorcycle-Involved Collisions (2010-2019)**



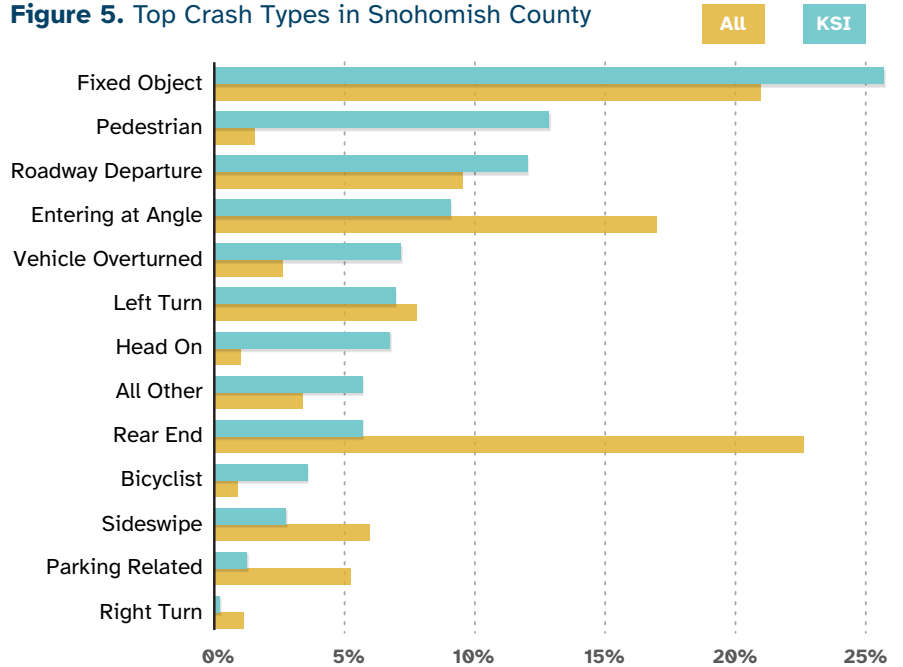
Pedestrian-involved collisions increased from 2010 to 2017, with decreases in both 2018 and 2019. However, pedestrian crashes still remain historically elevated. This trend of increasing pedestrian-involved crashes over the past 3-5 years is reflected in both statewide and national traffic safety statistics. Bicycle- and motorcycle-involved collisions have remained fairly steady over the last 10 years. However, about 17% of the KSI crashes in 2019 involved pedestrians and bicyclists, mirroring the nationwide trend of increasing vulnerable user fatalities.

**Figure 5** shows the top crash types in Snohomish County for all collisions and KSI collisions. In the last 10 years, 26% of KSI crashes in Snohomish County were fixed object crashes, and another 12% of KSI crashes were roadway departure. These two crash types make up 31% of all crashes, but 38% of all KSI crashes across the county.

Pedestrian-involved collisions make up over 13% of all KSI crashes within the County. Although crosswalks are designated locations for pedestrians to safely cross streets, about a third of pedestrian-involved crashes (29%) occurred when people were in a marked crosswalk. The majority of pedestrian-involved crashes occurred in the roadway but outside of a crosswalk (40%) or on the shoulder (10%).

The Crash Profiles described in pages 14-33 capture the majority of KSI crashes in the County; each Crash Profile includes tags to show which KSI crash trends from **Figure 5** are being analyzed.

**Figure 5. Top Crash Types in Snohomish County**



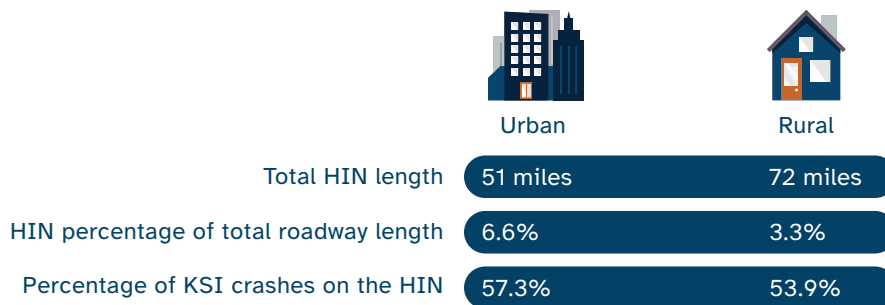
## High Injury Network

The High Injury Network (HIN) identifies corridors in Snohomish County that account for a disproportionate share of fatal and serious injury crashes based on historic frequency and can serve as an important tool in project prioritization, education, and enforcement efforts. As part of the RSP, two HINs were developed, urban and rural, to ensure that rural areas that have smaller travel volumes and fewer crashes are not overshadowed by the larger travel volumes and total number of crashes characteristic of the more developed urban areas. The boundary for the urban and rural areas was estimated using household and employment density data for unincorporated Snohomish County.

The concept of a HIN is relatively new in Washington State and no other county has developed a similar emphasis on the portion of the network with the highest severity of crashes. In research of HIN development in communities across the country, there is no “standard” weight for KSI crashes and there is also no specific guidance from agencies or industry groups (e.g., WSDOT, FHWA, ITE, NACTO). Some communities focus only on KSI crashes for HINs, but the County and the SAC felt that approach could downplay some areas of systemic risk that have not yet had a KSI crash. However, the reason that a KSI weight makes sense is that it can help eliminate areas that have

a high number of low-intensity crashes that have inherently less risk (roundabouts where there are many low-speed crashes, business districts with on-street parking, etc.). After several rounds of testing and reviewing the data with a team at the County, the HINs shown in **Figure 7** and **Figure 8** were finalized. These represent the urban and rural HIN, respectively. **Appendix B** provides more detail on how the HINs were developed for Snohomish County, and Table 1 summarizes the HIN statistics.

**Figure 6.** High Injury Network Statistics



**Figure 7. Urban HIN**

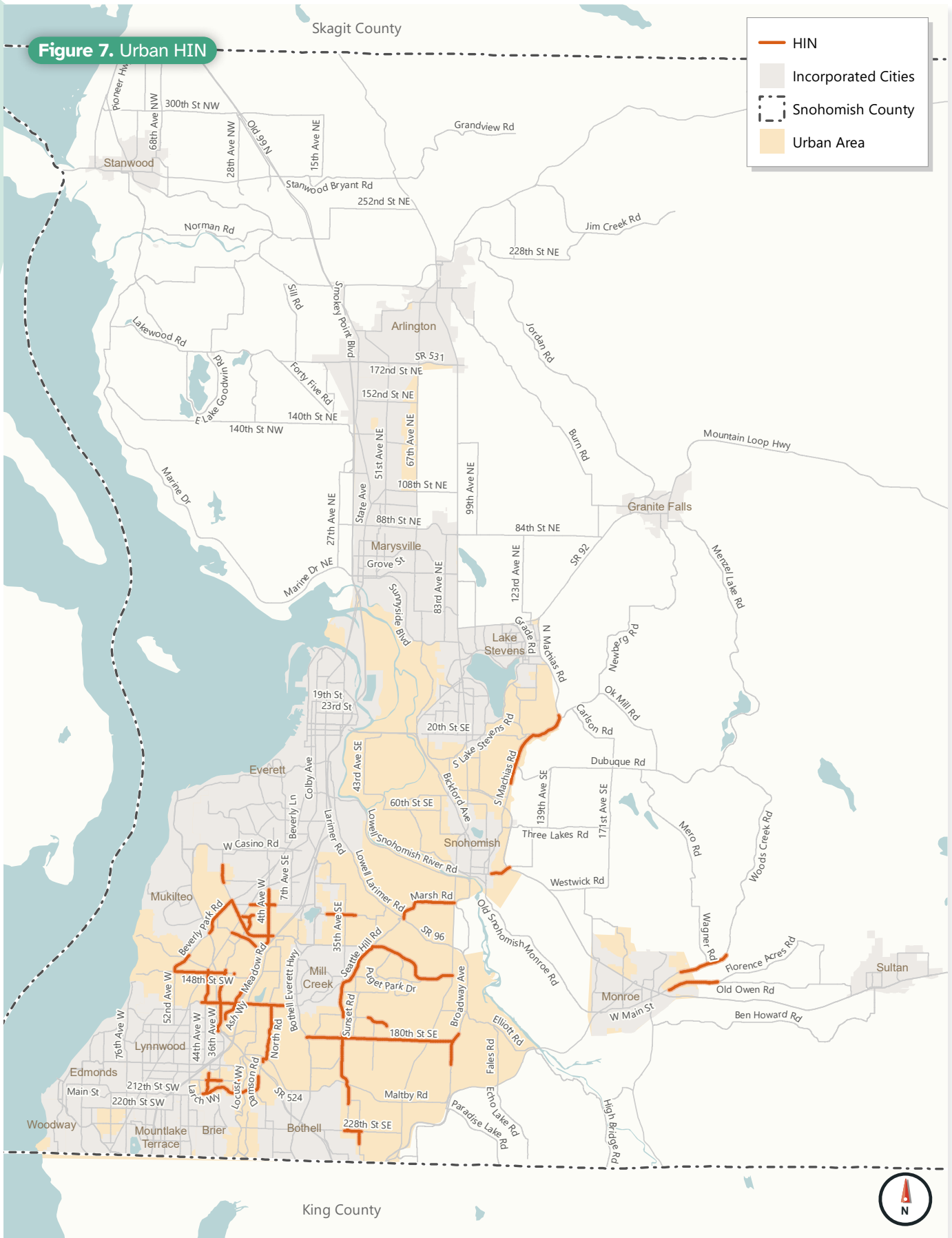
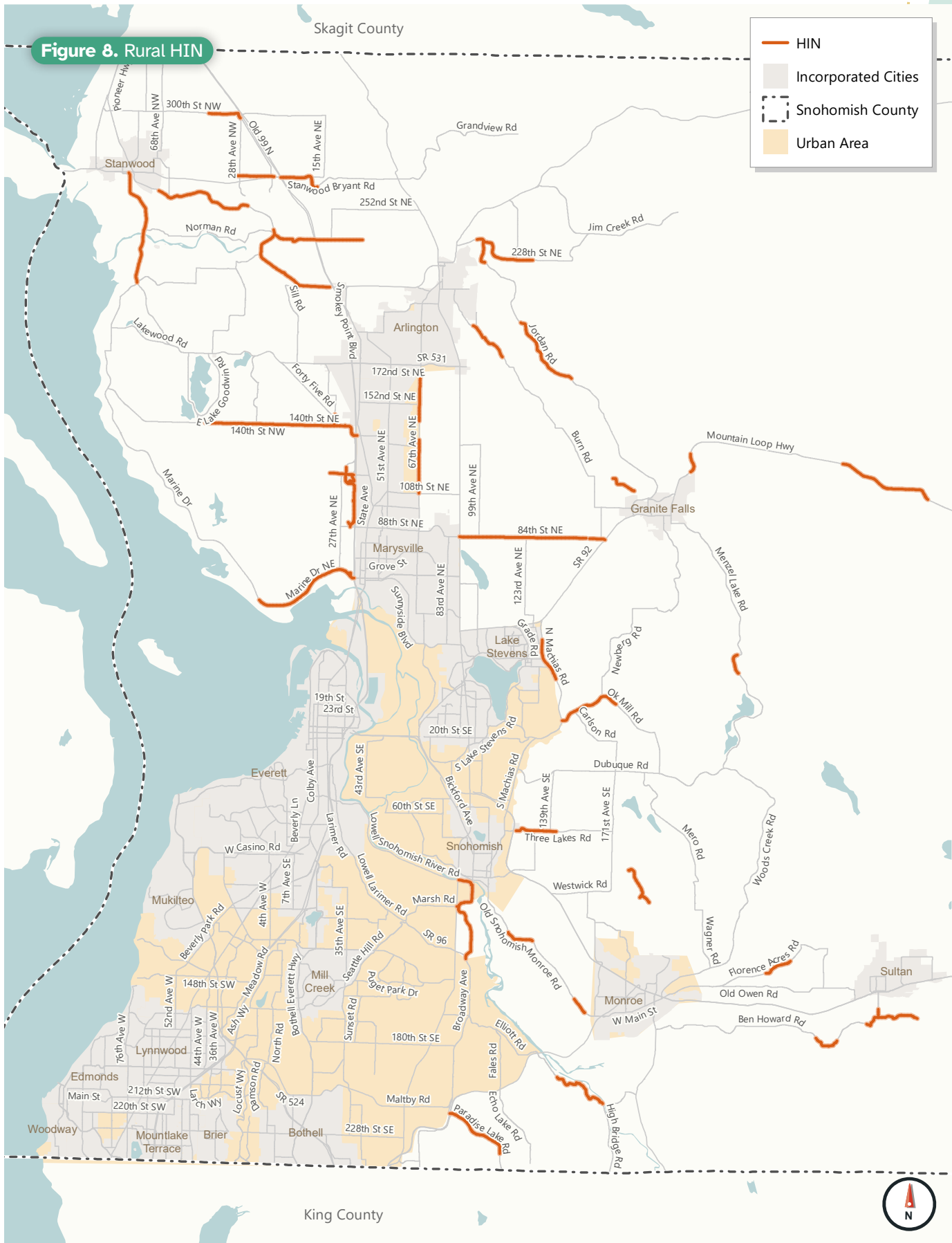


Figure 8. Rural HIN



## Safety Data Dashboard

An online, interactive safety data dashboard was built for this RSP to facilitate information sharing, discussion of crash trends, and provides an easy method to analyze key data for safety grant funding. Snohomish County provided insights as to what data is typically used in their grant applications, and how this tool may best serve the needs of all strategic safety partners, including Snohomish County departments such as Public Works, Traffic Operations, as well as the Sheriff's Office and Target Zero Task Force. Stakeholders from each department were engaged in the dashboard development process to ensure the longevity and applicability of the tool.

The final interactive tool allows users to quickly discover problem areas, high-risk corridors, and temporal trends that can be easily input into a grant application. The dashboard will be updated annually or as new data are available to support the County in obtaining grants for safety projects, quickly analyze and visualize

crash data, and in the future, monitor the effect of safety improvements across the County.

To meet the County's needs, four separate tabs of the dashboard were prepared to summarize the historical collision data over different time periods. Each tab includes historical crash data on every roadway in unincorporated Snohomish County. The preliminary data in the dashboard includes::

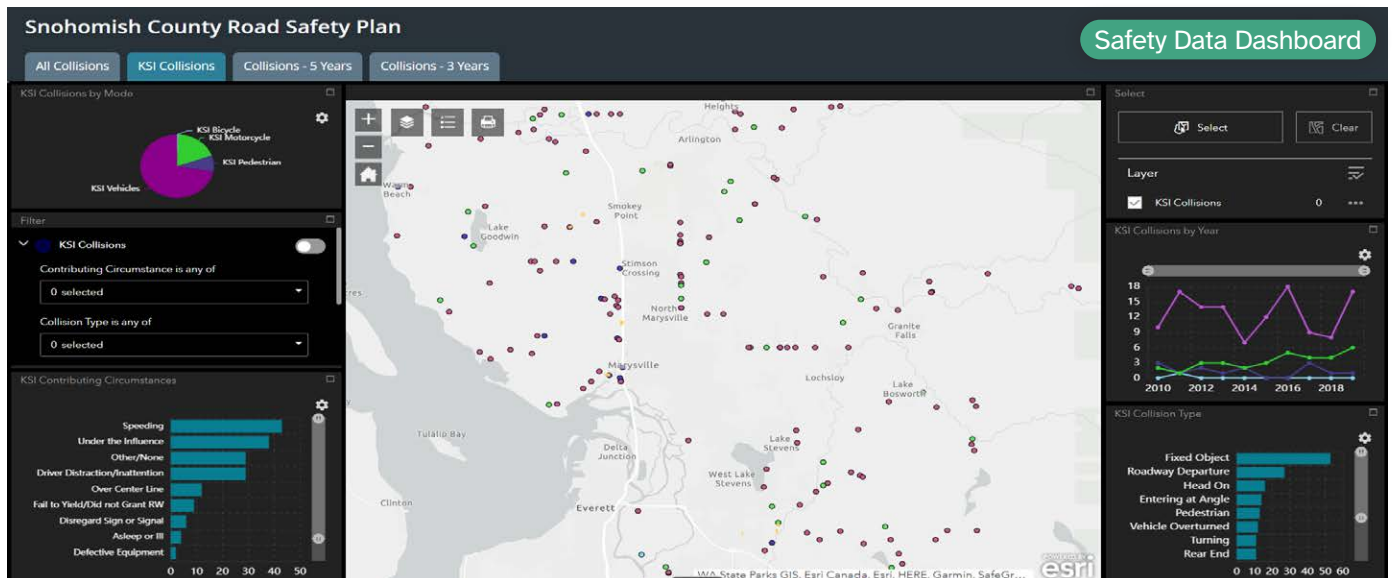
- 10 years of collision data from WSDOT
- High injury network
- Roadway characteristics, such as ADT, speed limits, functional classification, and intersection locations
- Charts of crashes by mode, severity, and a trend-line over time

Each dashboard tab includes a number of infographics and charts that display summary information for the data shown on the screen. As the map is moved or

zoomed, the infographics filter based on the map extent shown. The dashboard tabs are:

- All Collisions – 10 Years
- KSI Collisions – 10 Years
- All Collisions – 5 Years
- All Collisions – 3 Years

The photo below shows an example of the KSI Collisions tab of the dashboard.



# Crash Profiles and Countermeasures

Crash profiles were developed to highlight the ten most significant types of crashes that lead to people being killed or severely injured in Snohomish County. The crash profiles are based on an analysis of crash data and related environmental factors and are then paired with safety countermeasures most relevant for the crash and location context.

Countermeasures are actions that the County can take to potentially reduce the number and severity of fatal and serious injury crashes. These include a variety of roadway, lighting, and pedestrian facility changes, but also include programmatic actions such as education and


enforcement strategies. Together, these engineering, education, and enforcement countermeasures make up a toolbox of safety interventions the County will utilize to implement projects tailored to unique safety issues. The RSP evaluated over 60 countermeasures for Snohomish

County, and focused on those that are most effective in addressing the 10 crash profiles. **Appendix C** provides a full list of the countermeasures, including countermeasure descriptions and effectiveness.



# Crashes involving roadway departure in rural areas

# 01

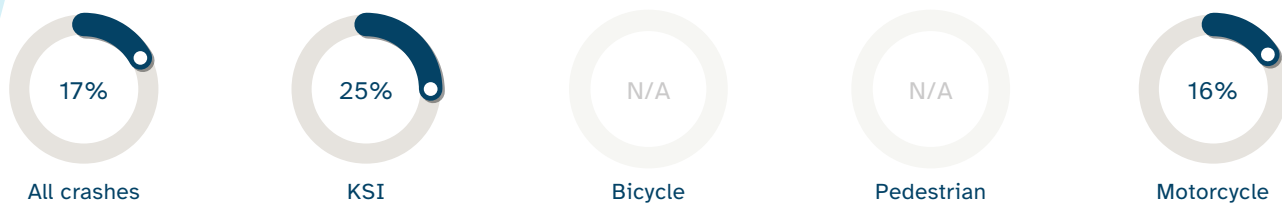


Urban **0%**  
Rural **100%**

Crashes where a driver departed the roadway or hit a fixed object on rural roads.

## Crash Profile as a Share of Crashes Countywide

Fixed object and run off the road crashes in rural areas are over-represented in fatal and severe injury crashes in the County.



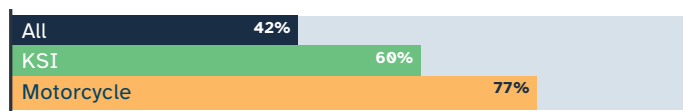
## Notable Statistics Within Crash Profile

Fixed object and run off the road crashes are most common under challenging driving conditions, such as low visibility and curved roadways.

**55%** 

of crashes within this profile occur outside of daylight hours.

### Crashes within this profile occurring on a curve:



## High Effectiveness Countermeasures



- Adding Rumble Strips
- Install a Safety Edge
- Add Paved Shoulder



- Install Post Mounted Delineators (Spot Posts)

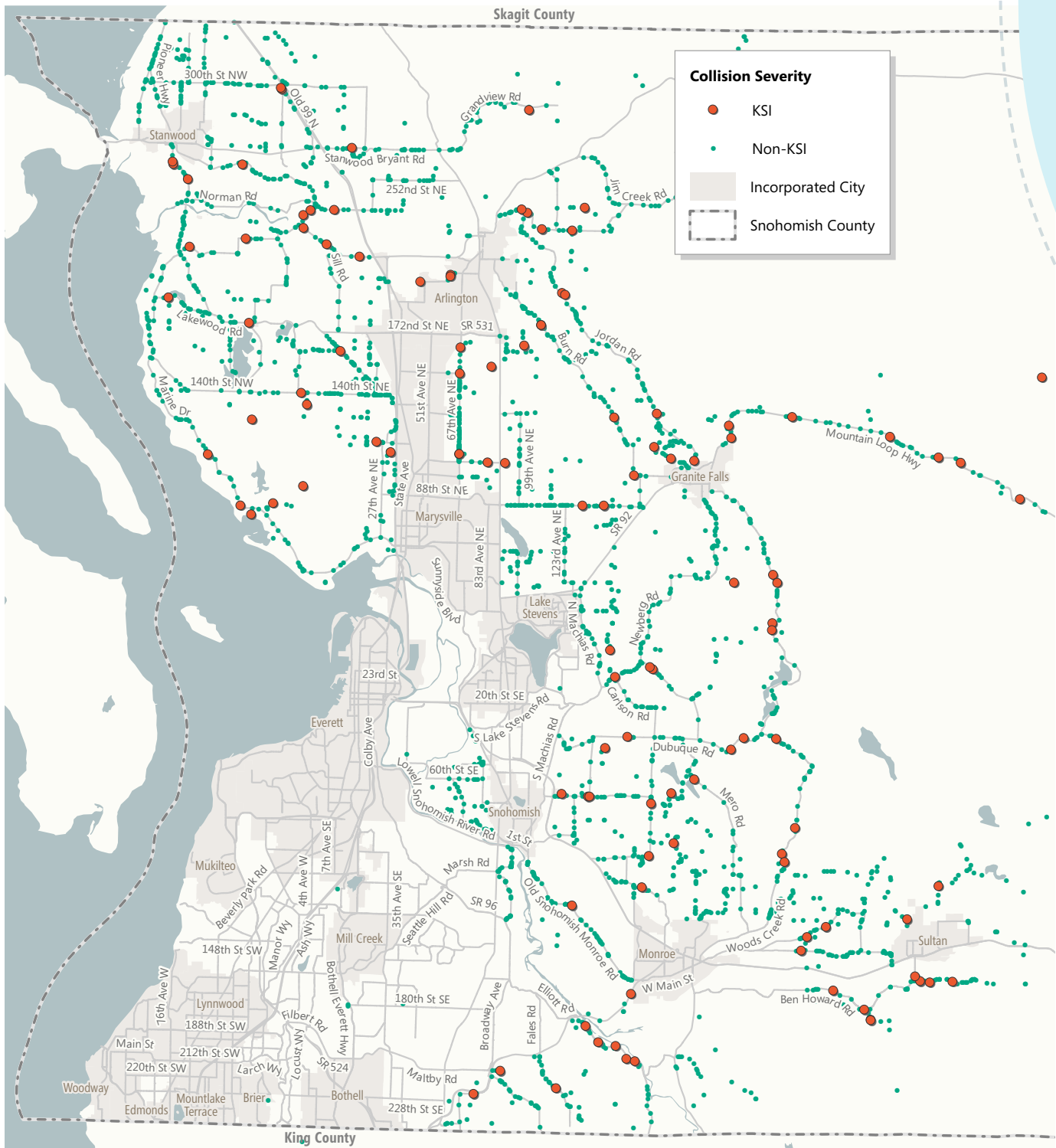


- Road Widening in Key Locations for Enforcement



- Install Impact Attenuation Devices at Select Roadside Hazard Locations
- Create or Increase Clear Zone
- Reduce Speed Limits
- Relocate Utility Poles from Clear Zone

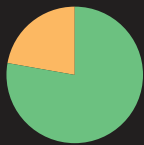




**Figure 9.** Crashes involving roadway departure in rural areas

# Vehicle turning crashes involving pedestrians and bicyclists

# 02

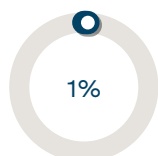


Urban **78%**  
Rural **22%**

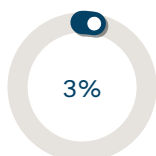
Crashes where a turning driver hit a pedestrian or bicyclist, also referred to as right-angle or T-bone crashes.

## Crash Profile as a Share of Crashes Countywide

While intersections and driveways represent a relatively small proportion of the overall transportation network, almost one-third of all pedestrian crashes and almost two-fifths of all bicycle crashes occur at these locations.



All crashes



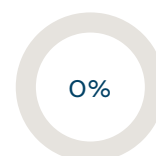
KSI



Bicycle



Pedestrian



Motorcycle

## Notable Statistics Within Crash Profile

Of all the vehicle turning crashes involving pedestrian and bicyclists, most occurred at intersections rather than driveways. Most pedestrian crashes occurred at night, even though pedestrian travel typically occurs during daylight hours.

**49%**



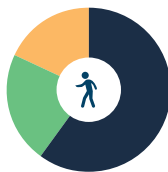
of pedestrian crashes within this profile occur at night.



**28%** of crashes occurred at signalized intersections

**39%** of crashes occurred at unsignalized intersections

**33%** of crashes occurred mid-block



**60%** of crashes occurred at signalized intersections

**22%** of crashes at unsignalized intersections

**18%** of crashes occurred mid-block

## High Effectiveness Countermeasures



- Add Curb Extensions
- Add Green Conflict Striping
- Restrict Left Turns
- Consolidate Driveways

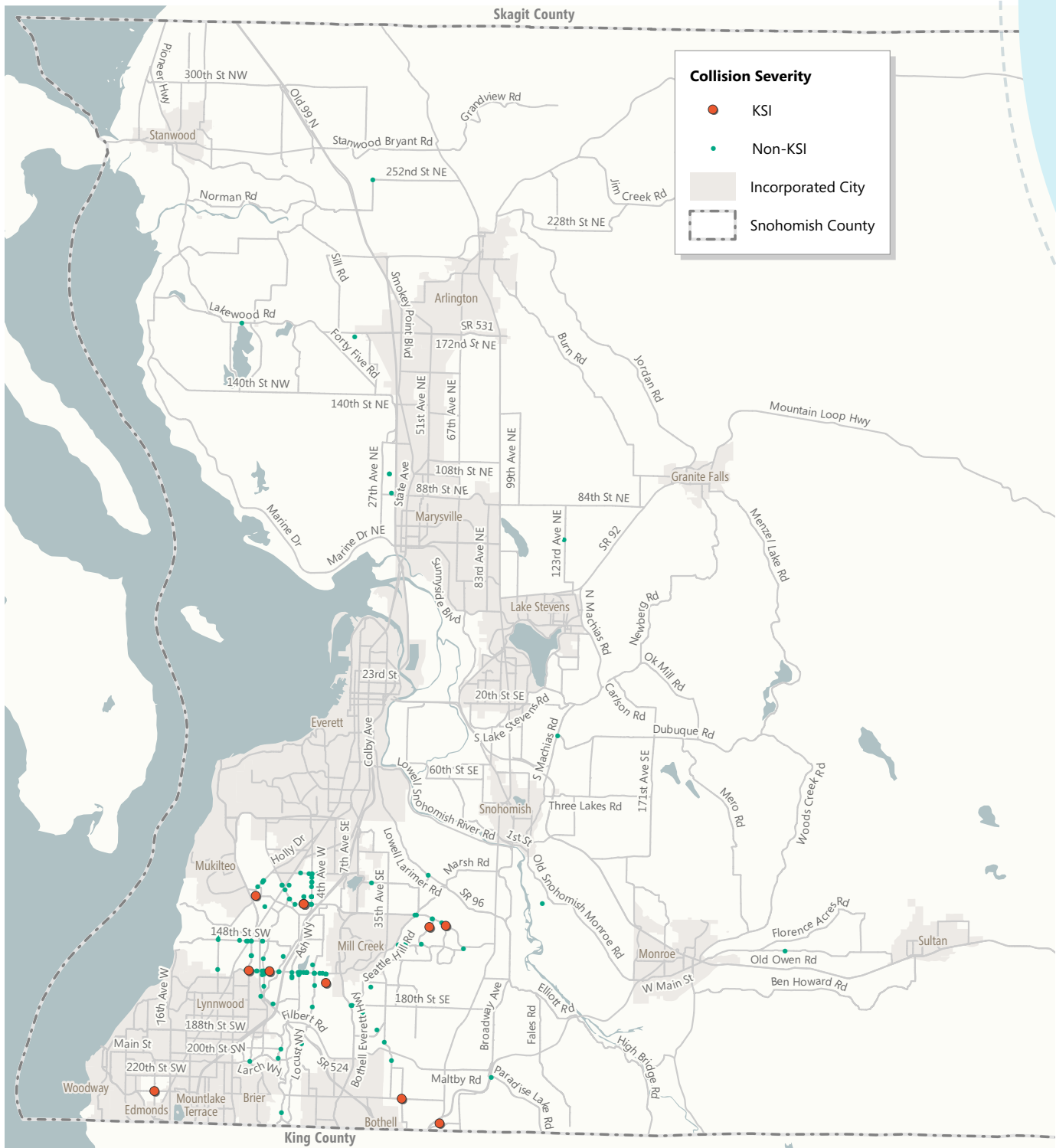


- Implement Leading Pedestrian Interval
- Install New Traffic Signal or Roundabout
- Implement Protected Left Turn Phasing and No Right Turn on Red Restrictions



- Improve Sight Distance
- Add Lighting





**Figure 10. Vehicle turning crashes involving pedestrians & bicyclists**

# Crashes on high speed roads in rural areas

# 03



Urban 0%

Rural 100%

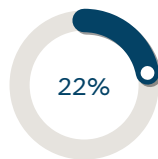
Crashes on roads with speed limits greater than 40 MPH in rural areas of the County.

## Crash Profile as a Share of Crashes Countywide

High speed roadways are more common in the rural areas of the county, and on these roadways, the rate of KSI crashes is nearly twice as high as an average road in the County.



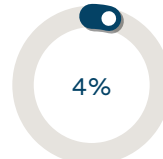
All crashes



KSI



Bicycle



Pedestrian



Motorcycle

## Notable Statistics Within Crash Profile

On high-speed rural roads, most crashes are related to vehicles hitting a fixed object and roadway departure. Moreover, a substantial proportion of crashes on these roads also are related to vehicles exceeding the speed limit.

### 39%



of crashes on rural high-speed roads are fixed object or roadway departure crashes.

### 17%



of crashes in this profile are primarily due to speeding.

## High Effectiveness Countermeasures



- Add Paved Shoulder
- Add Rumble Strips
- Install a Safety Edge
- Install a Roundabout



- Install Post Mounted Delineators (Spot Posts)
- Upgrade Signs with Fluorescent Sheeting

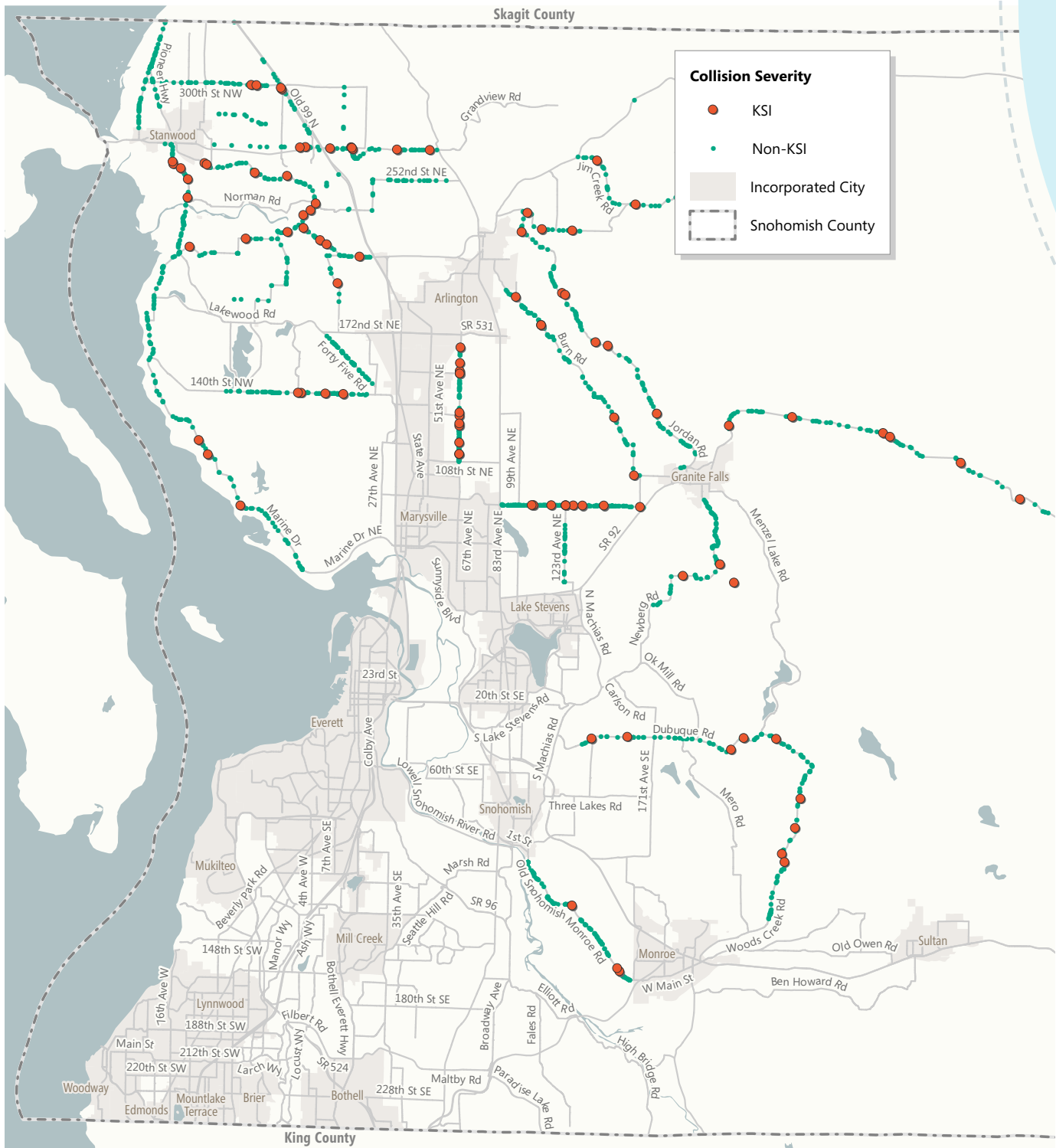


- Lobby to Change State Policy on Enforcement Cameras
- Road Widening in Key Locations for Enforcement



- Create or Increase Clear Zone
- Install Impact Attenuation Devices at Select Roadside Hazard Locations
- Reduce Speed Limits
- Relocate Utilities Poles from Clear Zone

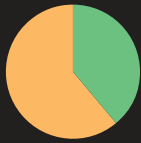




**Figure 11. Crashes on high speed roads in rural areas**

# Crashes occurring at nighttime with no streetlights

# 04



Urban **39%**  
Rural **61%**

Crashes that occur outside of daylight hours and further than 100 feet from a streetlight.

## Crash Profile as a Share of Crashes Countywide

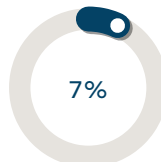
Fatal and severe injury crashes are over-represented in this crash profile relative to all crashes. One fifth of pedestrian crashes fit this profile, which is notable since locations without streetlights tend to be more rural and have lower overall pedestrian activity. Many of these crashes involve turning vehicles.



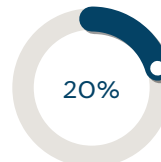
All crashes



KSI



Bicycle



Pedestrian



Motorcycle

## Notable Statistics Within Crash Profile

Of this crash profile, a high proportion of severe and fatal injury crashes include pedestrians. Of all pedestrian fatal and severe injury crashes almost three quarters occur outside of daylight hours.

### 88%



of KSI crashes that fit this profile are vehicle crashes.

### 11%



of KSI crashes that fit this profile are pedestrian crashes.

### 73%



of pedestrian KSI crashes occur outside of daylight hours.

## High Effectiveness Countermeasures



- Add Rumble Strips
- Install a Safety Edge

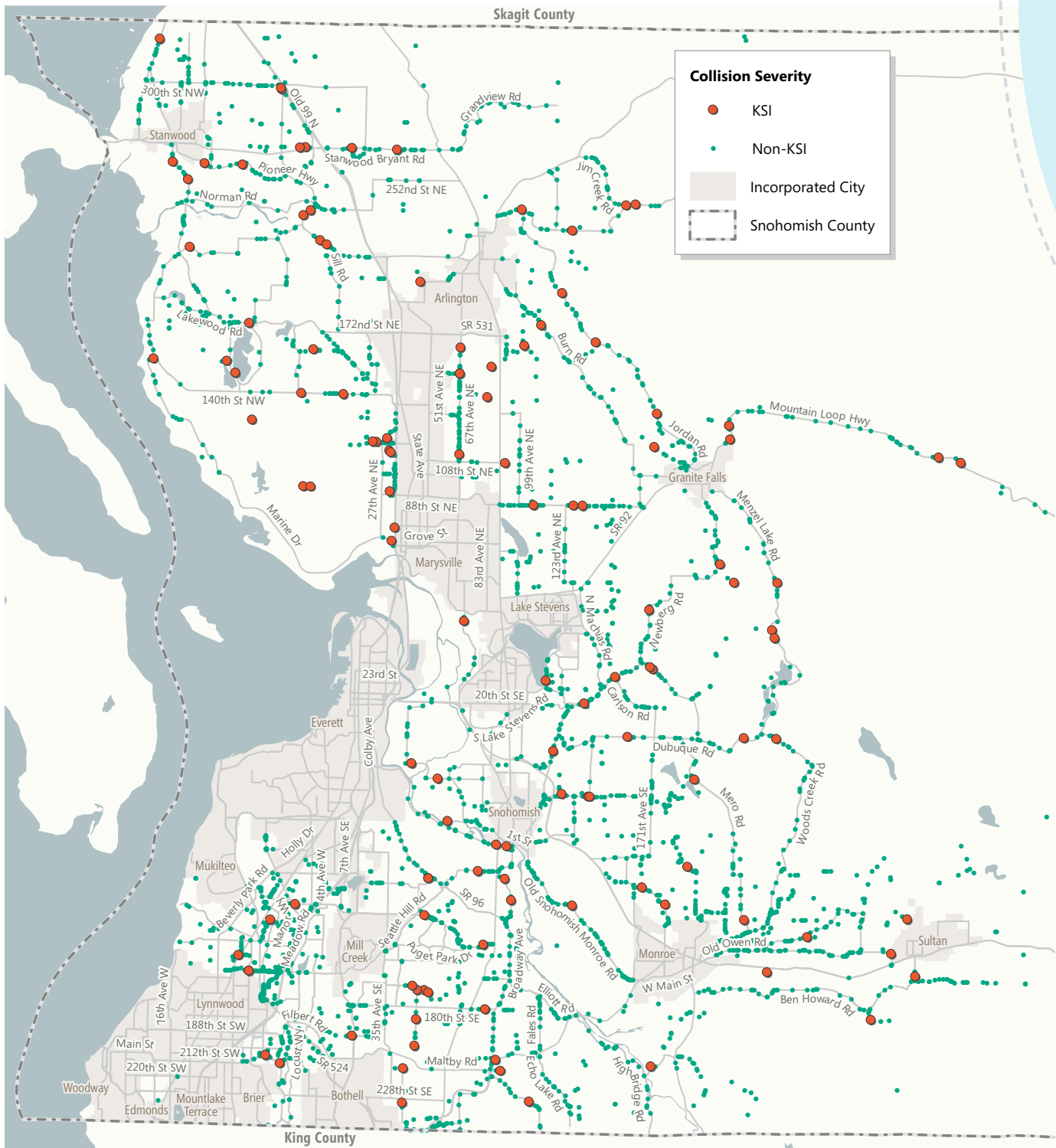


- Install Post Mounted Delineators (Spot Posts)
- Implement MMA Road Paint



- Add Lighting

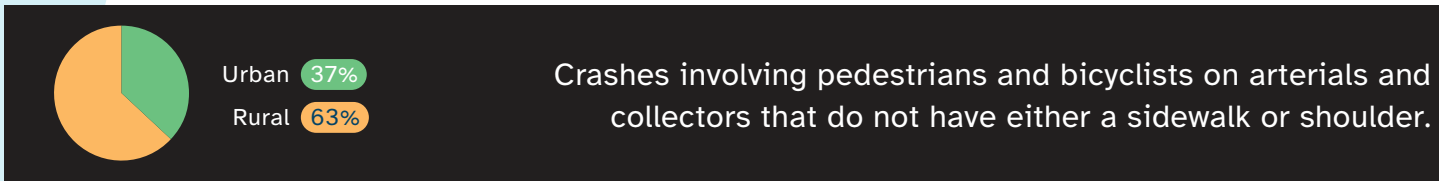




**Figure 12. Crashes occurring at nighttime with no streetlights**

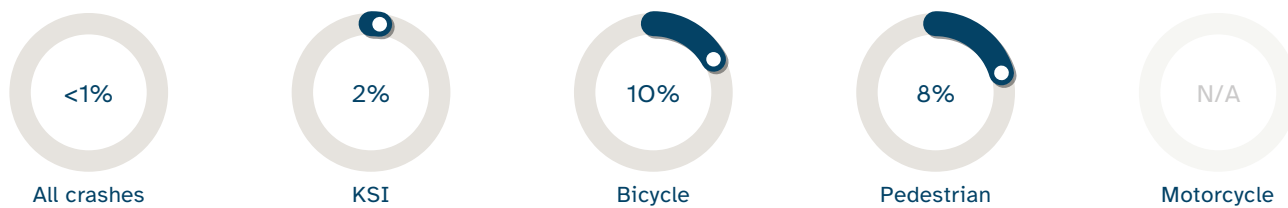
# Pedestrian & bicyclist crashes on arterials & collectors (no sidewalk, no shoulder)

# 05




## Crash Profile as a Share of Crashes Countywide

Nearly one-tenth of bicycle and pedestrian crashes in the County occur on arterials or collectors that lack both a sidewalk and shoulder. These crashes are predominately in the rural area of the County, which is expected since these roads have less pedestrian and bicycle infrastructure.




## Notable Statistics Within Crash Profile


More than two-thirds of rural arterials and collectors and nearly one-third of urban arterials and collectors have no sidewalk and no shoulders, resulting in pedestrians and bicyclists having to walk or bike along the roadway. Of these crashes, almost four-fifths of bicycle crashes were not on a designated bicycle route, indicating that arterials that are not bicycle routes could benefit from basic bicycle safety improvements.

**30%** 

of urban arterials and collectors have no sidewalk and no shoulders, resulting in pedestrians and bicyclists having to walk along the roadway.

**68%** 

of rural arterials and collectors in the County do not have a sidewalk or a shoulder.

**80%** 

of bicycle crashes on these corridors were not on a designated bicycle route, indicating that arterials that are not bicycle routes could benefit from basic bicycle safety improvements.

## High Effectiveness Countermeasures



- Implement a Road Diet



- Install Bike Lanes
- Install Sidewalk

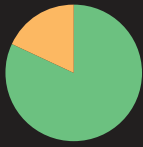




**Figure 13. Pedestrian & bicyclist crashes on arterials and collectors (no sidewalk, no shoulder)**



## Midblock crashes involving crossing pedestrians

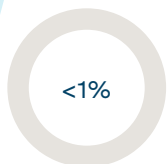


Urban **82%**  
Rural **18%**

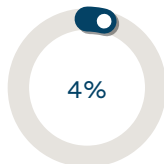
Vehicle-pedestrian crashes that occur primarily on arterials between intersections. This includes jaywalking and use of legal but unmarked crossings.

### Crash Profile as a Share of Crashes Countywide

This crash type is most commonly found in the urban areas of the county.



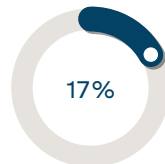
All crashes



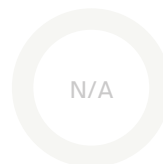
KSI



Bicycle



Pedestrian



Motorcycle

### Notable Statistics Within Crash Profile

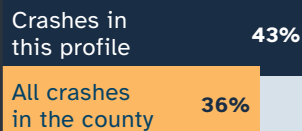
Most pedestrian midblock crossing crashes are happening on roadways with no crosswalk and speeds greater than 35 mph. This crash profile is over-represented on roadways with 3 or more lanes within the County. These are typical of areas with large distances between signalized crossings of large arterials or marked crosswalks on collectors and smaller arterials. Many of these crashes are occurring in overcast or rainy conditions.

## 57%



of pedestrian midblock crossing crashes are happening on roadways with no crosswalk and speeds greater than 35 MPH.

Crashes occurring during **overcast or rainy conditions**



## 31%



of the crashes in this crash profile occur on roadways with 3 or more lanes which account for only **2%** of all the centerline miles in the County

Even though fewer people walk in incimate weather, this crash profile shows more collisions during overcast or rainy conditions than typical of all crashes in the county.

### High Effectiveness Countermeasures



- Install Raised Medians/Refuge Islands
- Install a Raised Marked Crosswalk



- Add a Rectangular Rapid Flashing Beacon
- Add a Stop for Pedestrian Sign in Existing Crosswalks



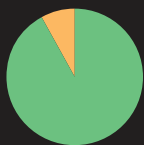
- Improve Sight Distance





# Rear-end crashes

# 07

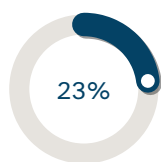


Urban **84%**  
Rural **16%**

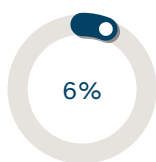
All rear-end crashes in the County.

## Crash Profile as a Share of Crashes Countywide

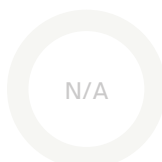
Rear-end crashes are the most common crash type in the County, and are especially overrepresented in the urban area of the County. Rear-end crashes tend to not be fatal or severe injury crashes but do result in substantial delays and property damage to County residents.



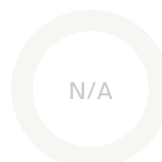
All crashes



KSI



Bicycle



Pedestrian



Motorcycle

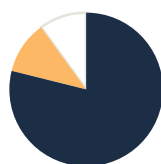
## Notable Statistics Within Crash Profile

Rear-end crashes are typical of congested traffic conditions and driver inattention. They tend to have lower injury and fatality rates than other crashes, but can be problematic where there is a transition from high speed to low speed traffic.



**59%** occur at intersections

**8%** occur at driveways



**79%** occur on roadways with posted speed limits of 35-40MPH

**11%** occur on roadways with posted speed limits of 45MPH or higher

## High Effectiveness Countermeasures



- Consolidate Driveways



- Adding Two Way Left Turn Lane (TWLTL)



- Lobby to Change State Policy on Enforcement Cameras
- Implement Neighborhood Slow Zones
- Greater Enforcement of Distracted Driving Laws

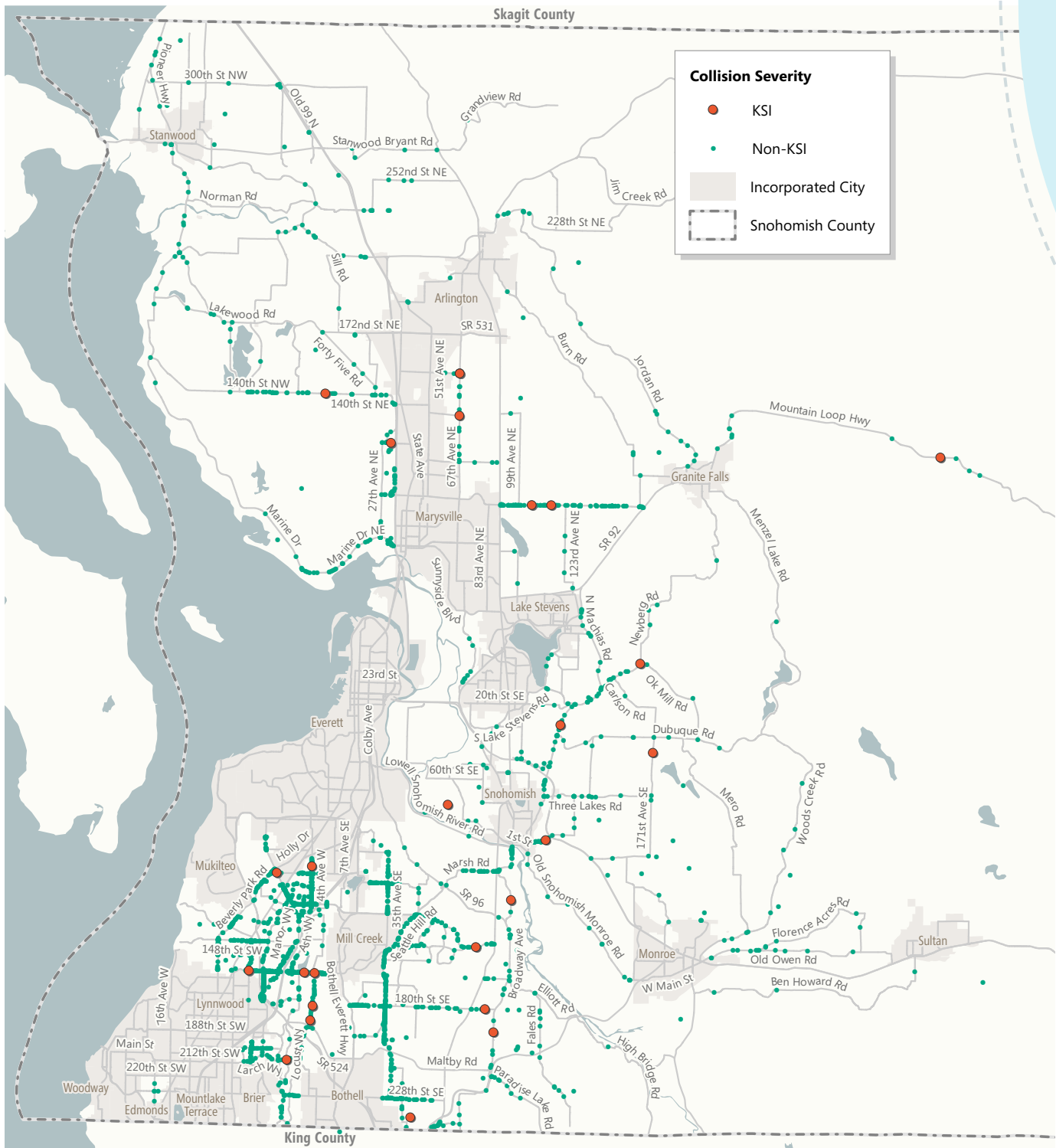


- Reduce Speed Limits



- Provide Flashing Beacons at Intersection Approaches

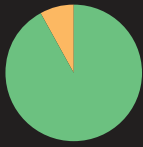




**Figure 15. Rear-end crashes**

# Pedestrian and bicyclist crashes within a 1/2 mile of a school

# 08

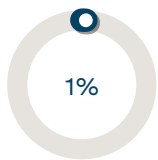


Urban 92%  
Rural 8%

Pedestrian and bicycle crashes within a 1/2 mile of a school.

## Crash Profile as a Share of Crashes Countywide

Near schools, there tends to be greater bicycle and pedestrian activity and more vulnerable users (youth). This crash profile primarily occurs in the urban area of the county (which has a higher concentration of schools), and significantly, almost half of all bicycle and pedestrian crashes are occurring within half a mile of a school. Areas within 1/2 mile of a school include nearly a third of all crashes, but less than a quarter of KSI crashes, likely reflecting lower speeds near schools and potentially more driver awareness.



All crashes



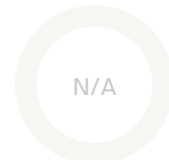
KSI



Bicycle



Pedestrian



Motorcycle

## Notable Statistics Within Crash Profile

Near schools, many crashes are due to distracted drivers, or drivers failing to yield right of way to bicycles and pedestrians.

### 71%



of pedestrian KSI crashes in this profile are due to drivers going straight ahead and striking a pedestrian in the roadway or crosswalk.

### 40%



of bicycle and pedestrian crashes within a 1/2 mile of a school are due to distracted driving or drivers failing to yield right of way.

## High Effectiveness Countermeasures



- Add Curb Extensions
- Add Green Conflict Striping
- Install Raised Medians/Refuge Islands
- Install Raised Marked Crosswalk



- Implement a Rectangular Rapid Flashing Beacon
- Implement School Speed Zone Cameras

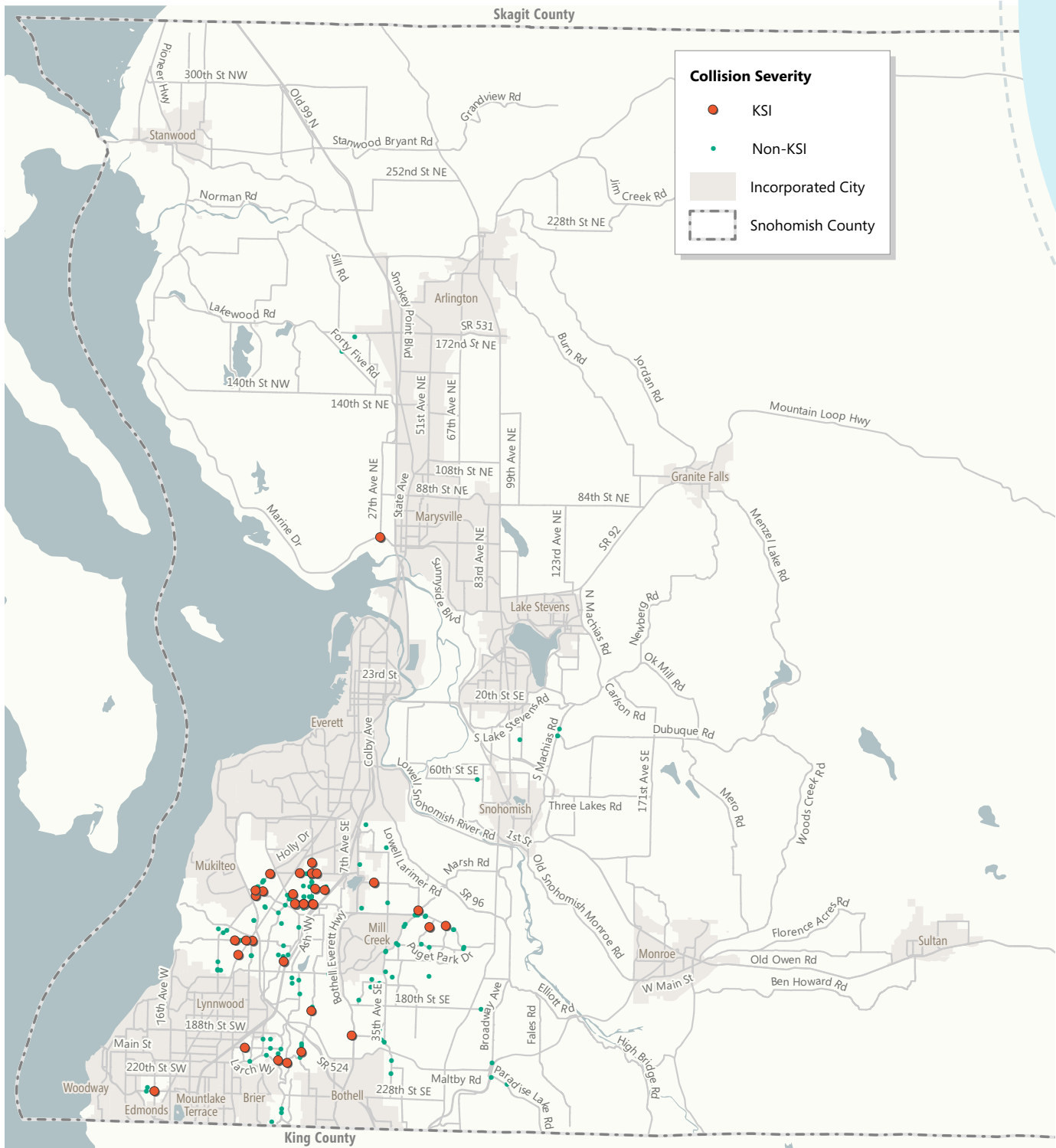


- Develop a Formal Safe Routes to School Program



- Add Bike Lanes
- Reduce Speed Limits

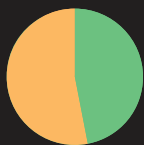




**Figure 16. Pedestrian and bicyclist crashes within a 1/2 mile of a school**



# Crashes on curved roadway segments



Urban 47%

Rural 53%

Crashes that occur on a curved road, defined as a horizontal curved roadway segment in the crash report.

## Crash Profile as a Share of Crashes Countywide

Crashes on curved roadway segments have a much higher rate of serious injury or fatality than other types of crashes in the County. Additionally, nearly 41 percent of motorcycle crashes are in this crash profile, even though as a travel mode, motorcycling represents a relatively small share of overall travel.



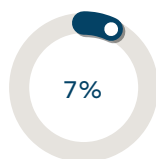
All crashes



KSI



Bicycle



Pedestrian



Motorcycle

## Notable Statistics Within Crash Profile

Most crashes on curved roadway segments are fixed object or roadway departure crashes, and many occur in challenging conditions such as at night or on wet or icy pavement. Two-fifths of motorcycle crashes occur on curves.

### 49%

of all crashes on curves occur outside of daylight hours even though less than half of all driving occurs in the night.



### Fixed object or roadway departures:

63% of all crashes

58% of KSI crashes



### Crashes on steep grades:

8% of all all crashes

15% of KSI crashes



### Crashes with wet/icy pavement:

46% of all crashes

28% of KSI crashes



### Head-on crashes:

2% of all crashes

8% of KSI crashes

This indicates that head-on crashes on curved segments, while a small proportion of total crashes represent a high risk to drivers

## High Effectiveness Countermeasures



- Improve Pavement Friction
- Add Rumble Strips
- Install a Safety Edge
- Add a Paved Shoulder

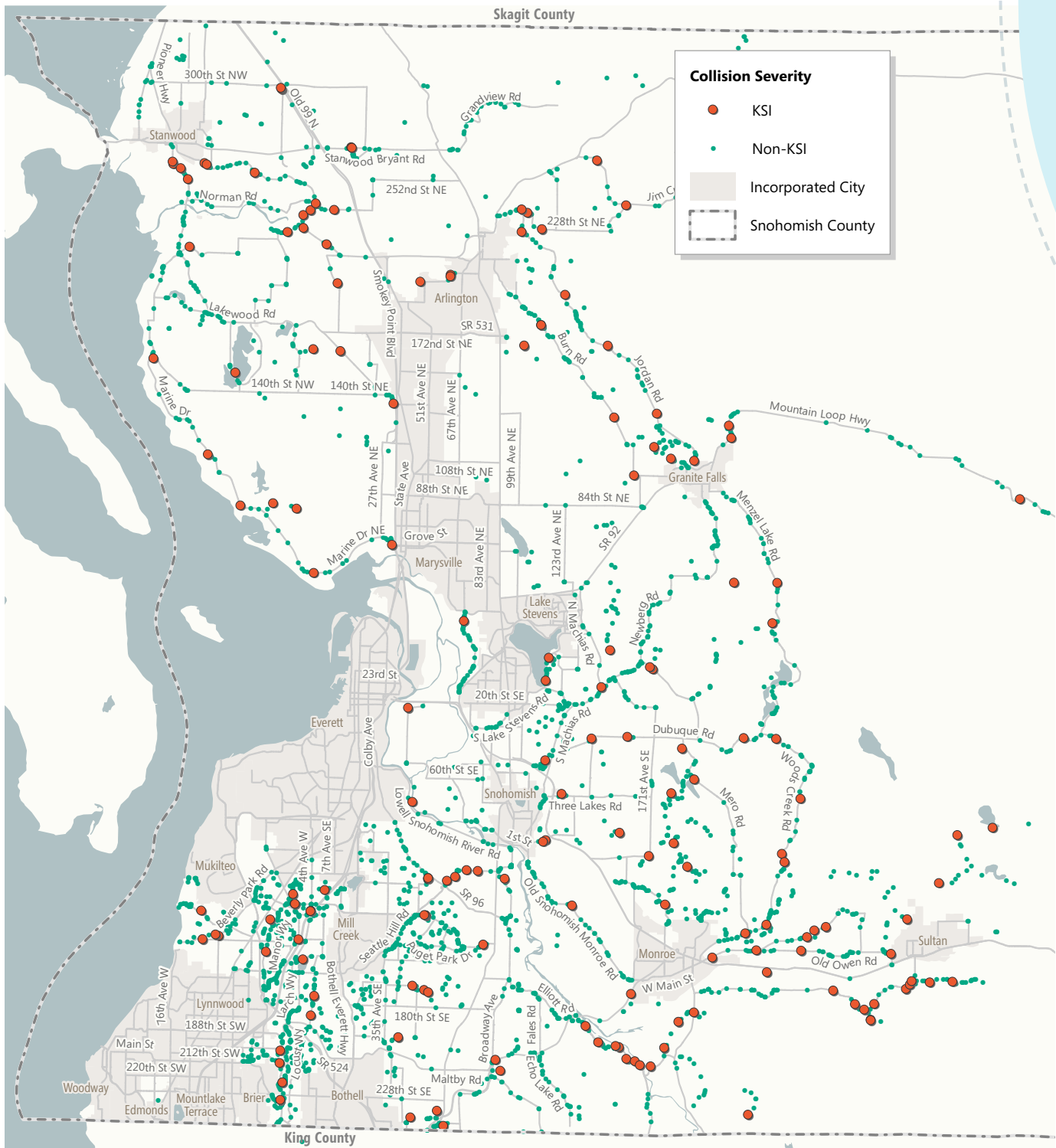


- Upgrade Curbe Warning Signs with Fluorescent Sheeting
- Install Post Mounted Delineators (Spot Posts)
- Install Curve Warning Signs
- Install Chevron Signs
- Install Speed Feedback Signs before Curves



- Reduce Speed Limits





**Figure 17. Crashes on curved roadway segments**

# Crashes with driver under the influence

# 09

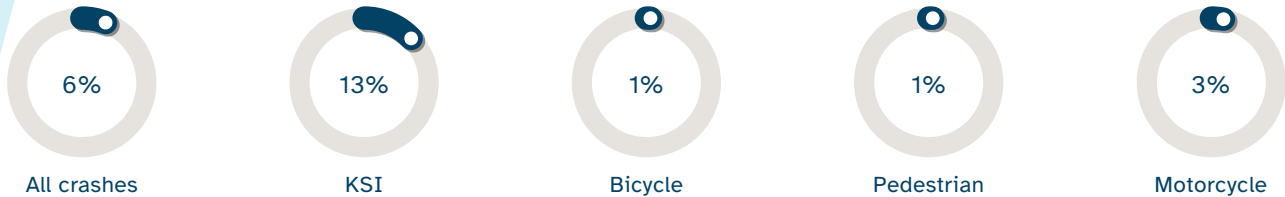


Urban **53%**  
Rural **47%**

Crashes where the driver was under the influence of alcohol or drugs.

## Crash Profile as a Share of Crashes Countywide

Fatal and severe injury crashes are overrepresented in under the influence crashes.



## Notable Statistics Within Crash Profile

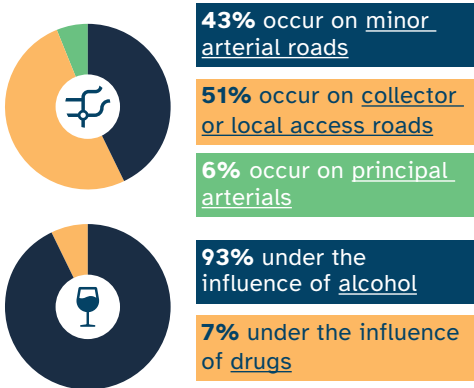
Crashes with driver under the influence are over-represented in the rural areas of the County and on local, collector and minor arterial roads. This is atypical of other crash types which are more frequent on major arterials, which carry the majority of the County's traffic. Over one-third of these crashes occur on a curved roadway. When age is reported, younger drivers are over-represented in driver under the influences crashes.

**47%** of DUI crashes are in the rural part of the County.

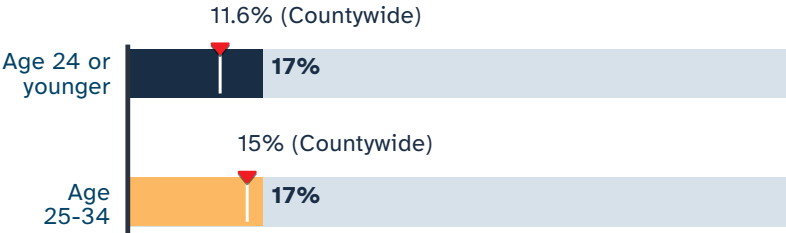
**33%** of overall crashes are in the rural part of the County.

**37%** of DUI crashes occur on a curved roadway.

### DUI crashes by roadway type:



### DUI crashes by age:



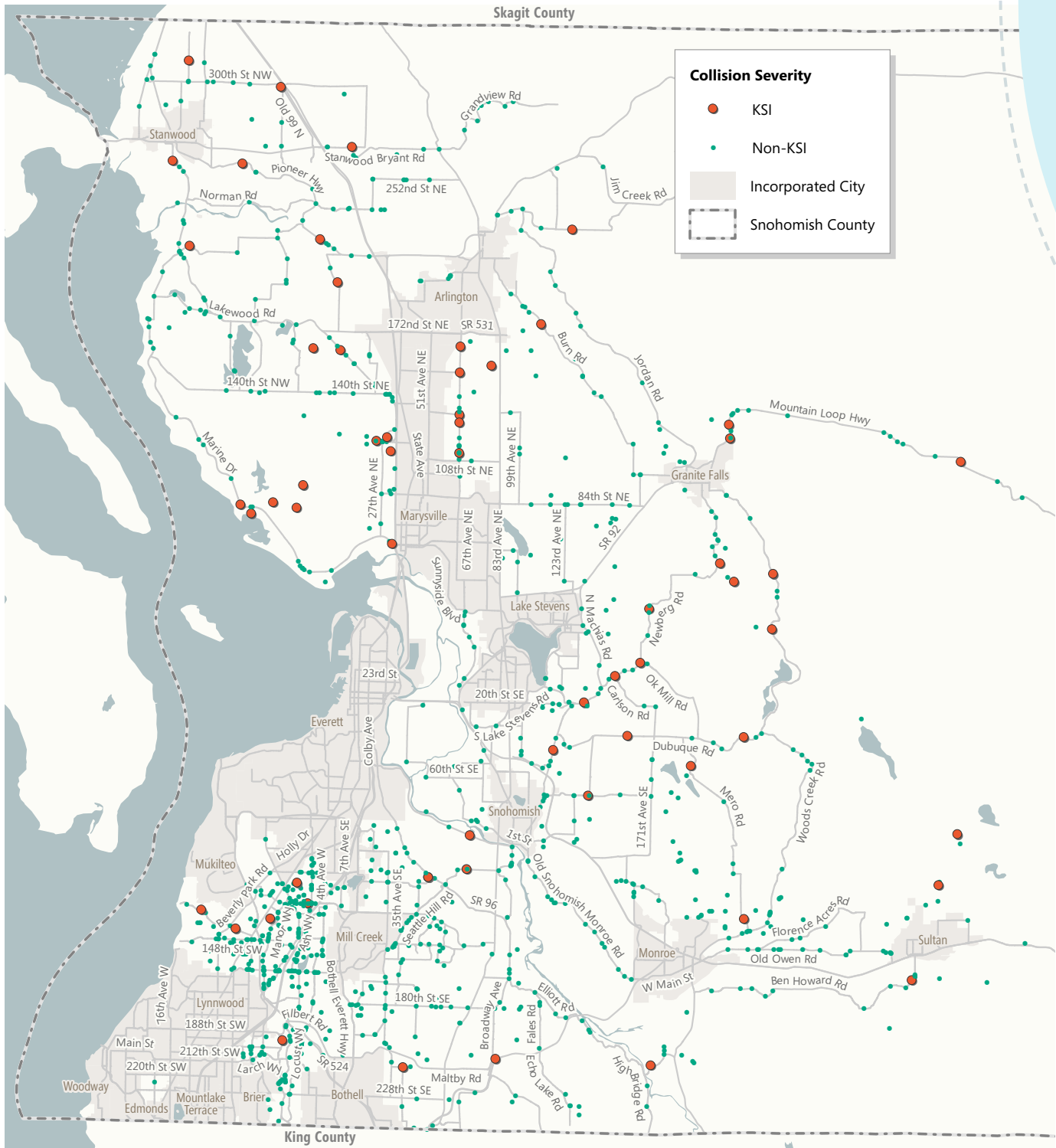
When age is reported, younger drivers are over-represented in driver under the influences crashes.

## High Effectiveness Countermeasures



- DUI Deterrence
- DUI Prevention





**Figure 18.** Crashes with driver under the influence

# Policy and Program Countermeasures

Changing roadway user behavior is an integral part of promoting safer streets. Streets are safest when a variety of approaches are used to shift user behavior. WSDOT's Target Zero program identifies five "Es": Education and Outreach, Enforcement, Engineering, Emergency Medical Services, and Evaluation, plus Leadership. While the majority of the RSP focuses on engineering countermeasures, the following section discusses the other four Es as policy and programmatic countermeasures.

Public Works is listed as a lead agency under each programmatic countermeasure and will be responsible for coordinating and communication between agencies. The programmatic

countermeasures were shared with the SAC members. The SAC helped to clarify responsibilities, shared feedback on how the countermeasures work in practice, provided refinements related to funding

and implementation, and confirmed that periodic feedback and evaluation results can be provided by the Public Works department.



# Education & Public Awareness Campaigns

Timeline: Ongoing | Context: Countywide

Focused in areas with high numbers of DUI or pedestrian and bicycle crashes

01

Establish a public education media campaign focused on safe and responsible driving, discouraging drinking and driving and/or speeding, along with encouraging increased awareness of pedestrians and bicyclists at night and appropriate crosswalk behaviors. An example of this campaign would be collaborating with local radio stations.

## Lead Agencies

- Public Works
- Sheriff's Office
- County Human Services Behavioral Health Division

## Partner Agencies

- Transit Agencies
- Chambers of Commerce
- Community-Based Organizations (Radio Stations)
- Local Police Departments
- County DUI and Target Zero Task Force
- State Highway Patrol

## Best Practices Resources

- Behavior Change Campaigns to Improve Traffic Safety Toolkit [🔗](#)

## CRF/Effectiveness

CTW (Countermeasures that Work)

Rating:



- Media Campaigns on DUI

## Safe System Element

Safe Roads **Safe Road Users** Safe Speeds Safe Vehicles

## Crash Type

Fixed Object Pedestrian Roadway Departure Entering at Angle  
Vehicle Overturned Left Turn Head On All Other Rear End  
Bicyclist Sideswipe Parking Related Right Turn

## Crash Profile

01 02 03 04 05 06 07 08 09 10

## Special Considerations

Education Emerging Technology Equity

## Funding Sources

- General and Road Funds
- Washington Traffic Safety Commission Grants

## Pair with

- 01 Education & Public Awareness Campaigns
- 02 DUI Deterrence
- 03 DUI Prevention
- 04 State Policy on Enforcement Cameras
- 05 Placemaking in Traffic Safety Initiatives
- 06 Safe Speeds Education Campaign
- 07 Neighborhood Slow Zones
- 08 Education Campaign for Youth
- 09 Educate Businesses on HIN
- 10 Driver Re-Education Course
- 11 Safe Routes to School
- 12 Enforcement Priorities Mandate



# DUI Deterrence

Timeline: Ongoing | Context: Countywide  
 Focused in urban areas on top corridors with DUI crashes

# 02

Deterrence policies focus on raising the actual and perceived risk of detection while driving under the influence. These policies should be highly visible to increase awareness of the risks of driving under the influence. While high-visibility enforcement techniques like sobriety checkpoints are not allowed under Washington State law, options like using changeable message signs and media advertizing can increase visibility. To facilitate an equitable approach to enforcement, it is recommended that this countermeasure include de-emphasizing fines and fees and focusing on education and safe rides home.

## Lead Agencies

- Sheriff's Office
- Public Works

## Partner Agencies

- Local Police Departments
- County DUI and Target Zero Task Force
- County Human Services Behavioral Health Division
- State Highway Patrol

## Best Practices Resources

- Behavior Change Campaigns to Improve Traffic Safety Toolkit [🔗](#)
- Countermeasures that Work, 9th Edition [🔗](#)

## CRF/Effectiveness

### CTW (Countermeasures that Work)

#### Rating:



- High-visibility DUI Enforcement Campaigns

### Safe System Element

- Safe Roads
- Safe Road Users**
- Safe Speeds
- Safe Vehicles

### Crash Type

- Fixed Object
- Pedestrian
- Roadway Departure
- Entering at Angle
- Vehicle Overturned
- Left Turn
- Head On
- All Other
- Rear End
- Bicyclist
- Sideswipe
- Parking Related
- Right Turn

### Crash Profile

- 01
- 02
- 03
- 04
- 05
- 06
- 07
- 08
- 09
- 10**

### Special Considerations

- Education
- Emerging Technology
- Equity**

### Funding Sources

- Washington Traffic Safety Commission Grants

### Pair with

- 01** Education & Public Awareness Campaigns
- 02 DUI Deterrence
- 03 DUI Prevention
- 04 State Policy on Enforcement Cameras
- 05 Placemaking in Traffic Safety Initiatives
- 06 Safe Speeds Education Campaign
- 07 Neighborhood Slow Zones
- 08** Education Campaign for Youth
- 09 Educate Businesses on HIN
- 10 Driver Re-Education Course
- 11 Safe Routes to School
- 12 Enforcement Priorities Mandate



Prevention and education policies focus on mobilizing and educating the community and intervening before driving under the influence takes place. According to NHTSA research, alcohol problem assessment and treatment programs, as well as alcohol intervention in settings such as a doctor's office, are highly effective strategies for improving safety outcomes. This could include the implementation of Safe Ride Home programs. Special consideration should be taken to identify and prioritize underserved communities as part of this prevention program.

## Lead Agencies

- Sheriff's Office
- Public Works
- County Human Services Behavioral Health Division
- Prosecutor's Office

## Partner Agencies

- Chambers of Commerce
- Community-Based Organizations (medical offices/organizations)
- Local Police Departments
- County DUI and Target Zero Task Force State Highway Patrol

## Best Practices Resources

- Behavior Change Campaigns to Improve Traffic Safety Toolkit [🔗](#)
- Countermeasures that Work, 9th Edition [🔗](#)

## CRF/Effectiveness

**CTW (Countermeasures that Work)**  
**Rating:**



- Alcohol Screening and Brief Intervention

### Safe System Element

- Safe Roads **Safe Road Users** Safe Speeds Safe Vehicles

### Crash Type

- Fixed Object Pedestrian Roadway Departure Entering at Angle  
 Vehicle Overturned Left Turn Head On All Other Rear End  
 Bicyclist Sideswipe Parking Related Right Turn

### Crash Profile

- 01 02 03 04 05 06 07 08 09 **10**

### Special Considerations

- Education Emerging Technology Equity

### Funding Sources

- Washington Traffic Safety Commission Grants

### Pair with

- 01** Education & Public Awareness Campaigns
- 02** DUI Deterrence
- 03 DUI Prevention
- 04 State Policy on Enforcement Cameras
- 05 Placemaking in Traffic Safety Initiatives
- 06 Safe Speeds Education Campaign
- 07 Neighborhood Slow Zones
- 08** Education Campaign for Youth
- 09 Educate Businesses on HIN
- 10** Driver Re-Education Course
- 11 Safe Routes to School
- 12 Enforcement Priorities Mandate

# State Policy on Enforcement Cameras

Timeline: Ongoing | Context: Countywide

Applied countywide based on any final adjustments to state statutes

# 04

Advocate to the Washington State Legislature to expand the use of traffic law enforcement cameras for more widespread use in reducing risky driving behavior. This may require coordination with the ACLU as it relates to road user privacy and how automated enforcement might impact underserved communities.

## Lead Agencies

- Public Works
- Sheriff's Office
- County Executive and Council

## Partner Agencies

- Local Police Departments
- County Prosecutor Office
- Washington State Department of Transportation
- Washington State Traffic Safety Commission
- ACLU
- Washington State County Road Administration Board

## Best Practices Resources

- Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), 11th Edition [🔗](#)
- FHWA Proven Safety Countermeasures [🔗](#)
- Countermeasures that Work, 9th Edition [🔗](#)

## CRF/Effectiveness

### CTW (Countermeasures that Work)

#### Rating:



- Automated enforcement for speeding. This rating is not specifically related to the advocacy for these devices.

## Safe System Element

- Safe Roads
- Safe Road Users
- Safe Speeds
- Safe Vehicles

## Crash Type

- Fixed Object
- Pedestrian
- Roadway Departure
- Entering at Angle
- Vehicle Overturned
- Left Turn
- Head On
- All Other
- Rear End
- Bicyclist
- Sideswipe
- Parking Related
- Right Turn

## Crash Profile

- O1
- O2
- O3
- O4
- O5
- O6
- O7
- O8
- O9
- O10

## Special Considerations

- Education
- Emerging Technology
- Equity

## Funding Sources

- General and Road Funds
- Citation Revenue

## Pair with

- O1 Education & Public Awareness Campaigns
- O2 DUI Deterrence
- O3 DUI Prevention
- O4 State Policy on Enforcement Cameras
- O5 Placemaking in Traffic Safety Initiatives
- O6 Safe Speeds Education Campaign
- O7 Neighborhood Slow Zones
- O8 Education Campaign for Youth
- O9 Educate Businesses on HIN
- O10 Driver Re-Education Course
- O11 Safe Routes to School
- O12 Enforcement Priorities Mandate



# Placemaking in Traffic Safety Initiatives

Timeline: Ongoing | Context: Countywide

Applied to vulnerable areas, including the HIN corridors

05

Launch a countywide initiative to treat streets as places by incorporating permanent placemaking efforts (public art, green infrastructure, and neighborhood amenities) into traffic safety initiatives. Prioritize the HIN and areas with high numbers of vulnerable users. Placemaking initiatives can include active streets, reduced speeds and other features that encourage safe driving and increase visibility of pedestrian and bicycle roadway users.

## Lead Agencies

- Public Works
- County Planning and Development Services

## Partner Agencies

- Local City Departments (Mayor's office, City Councils, etc.)
- Chambers of Commerce
- Community-Based Organizations
- Private Mobility Providers
- Community Transit
- Washington State Traffic Safety Commission

## Best Practices Resources

- Behavior Change Campaigns to Improve Traffic Safety Toolkit [🔗](#)
- Countermeasures that Work, 9th Edition [🔗](#)

## CRF/Effectiveness

### CTW (Countermeasures that Work)

Rating:



- Conspicuity Enhancement

## Safe System Element

- Safe Roads
- Safe Road Users
- Safe Speeds
- Safe Vehicles

## Crash Type

- Fixed Object
- Pedestrian**
- Roadway Departure
- Entering at Angle
- Vehicle Overturned
- Left Turn
- Head On
- All Other
- Rear End
- Bicyclist**
- Sideswipe
- Parking Related
- Right Turn

## Crash Profile

- 01
- 02**
- 03
- 04
- 05
- 06
- 07
- 08
- 09
- 10

## Special Considerations

- Education
- Emerging Technology
- Equity**

## Funding Sources

- General Funds
- Public/Private Partnerships; User Fees

## Pair with

- 01 Education & Public Awareness Campaigns
- 02 DUI Deterrence
- 03 DUI Prevention
- 04 State Policy on Enforcement Cameras
- 05 Placemaking in Traffic Safety Initiatives
- 06 Safe Speeds Education Campaign
- 07 Neighborhood Slow Zones**
- 08 Education Campaign for Youth
- 09 Educate Businesses on HIN**
- 10 Driver Re-Education Course
- 11 Safe Routes to School
- 12 Enforcement Priorities Mandate



# Safe Speeds Education Campaign

Timeline: Ongoing | Context: Countywide

# 06

Launch a public safety education campaign targeting safe speeds. This could include yard signs, wall boards/posters in prime injury-corridor neighborhoods, ads on bus exteriors, radio ads, etc. Experience in other communities shows that for this to be particularly effective, this should be an ongoing program.

## Lead Agencies

- Public Works
- Sheriff's Department

## Partner Agencies

- Community-Based Organizations (Radio Stations)
- Local Police Departments
- County DUI and Target Zero Task Force
- State Highway Patrol
- Transit Agencies
- School Districts
- Chamber of Commerce

## Best Practices Resources

- Behavior Change Campaigns to Improve Traffic Safety Toolkit [🔗](#)

## CRF/Effectiveness

**CTW (Countermeasures that Work)**

Rating:



- Communications and Outreach on Speeding

### Safe System Element

- Safe Roads
- Safe Road Users
- Safe Speeds
- Safe Vehicles

### Crash Type

- Fixed Object
- Pedestrian
- Roadway Departure
- Entering at Angle
- Vehicle Overturned
- Left Turn
- Head On
- All Other
- Rear End
- Bicyclist
- Sideswipe
- Parking Related
- Right Turn

### Crash Profile

- O1
- O2
- O3
- O4
- O5
- O6
- O7
- O8
- O9
- O10

### Special Considerations

- Education
- Emerging Technology
- Equity

### Funding Sources

- General and Road Funds
- Washington Traffic Safety Commission Grants
- Public/Private Partnerships

### Pair with

- O1 Education & Public Awareness Campaigns
- O2 DUI Deterrence
- O3 DUI Prevention
- O4 State Policy on Enforcement Cameras
- O5 Placemaking in Traffic Safety Initiatives
- O6 Safe Speeds Education Campaign
- O7 Neighborhood Slow Zones
- O8 Education Campaign for Youth
- O9 Educate Businesses on HIN
- O10 Driver Re-Education Course
- O11 Safe Routes to School
- O12 Enforcement Priorities Mandate



# Neighborhood Slow Zones

Timeline: Ongoing | Context: High Density Areas

07

Develop a neighborhood slow zone program to allow neighborhoods to request treatments to slow motor vehicles to 20 mph using traffic calming features, signs, and markings. Selected locations are typically in areas serving children, seniors, public transit users, commercial activity, and pedestrian/bicycle activity.

## Lead Agencies

- Public Works
- County Planning and Development Services

## Partner Agencies

- Local City Departments (Mayor's office, City Councils, etc.)
- Chambers of Commerce
- Community-Based Organizations
- Private Mobility Providers
- Community Transit

## Best Practices Resources

- Countermeasures that Work, 9th Edition [🔗](#)

## CRF/Effectiveness

### CTW (Countermeasures that Work)

Rating:



- Pedestrian Safety Zone

## Safe System Element

- Safe Roads
- Safe Road Users
- Safe Speeds**
- Safe Vehicles

## Crash Type

- Fixed Object
- Pedestrian**
- Roadway Departure
- Entering at Angle
- Vehicle Overturned
- Left Turn
- Head On
- All Other
- Rear End
- Bicyclist**
- Sideswipe
- Parking Related
- Right Turn

## Crash Profile

- O1
- O2**
- O3
- O4
- O5
- O6
- O7
- O8
- O9
- O10

## Special Considerations

- Education
- Emerging Technology
- Equity**

## Funding Sources

- General and Road Funds
- Public/Private Partnership

## Pair with

- O1** Education & Public Awareness Campaigns
- O2** DUI Deterrence
- O3** DUI Prevention
- O4** State Policy on Enforcement Cameras
- O5** Placemaking in Traffic Safety Initiatives
- O6** Safe Speeds Education Campaign
- O7** Neighborhood Slow Zones
- O8** Education Campaign for Youth
- O9** Educate Businesses on HIN
- O10** Driver Re-Education Course
- O11** Safe Routes to School
- O12** Enforcement Priorities Mandate



# Education Campaign for Youth

Timeline: Ongoing | Context: Countywide  
Emphasis on outreach at schools

# 08

Launch a countywide transportation safety education campaign targeting youth that covers a wide range of topics, such as alcohol and drug impairment, speeding, and potentially distracted driving. This could include media campaigns targeted at schools, or post-drivers' education courses.

## Lead Agencies

- Public Works
- County Human Services Behavioral Health Division
- Sheriff's Office

## Partner Agencies

- Community-Based Organizations (Radio Stations, Mothers Against Drunk Driving)
- School Districts
- Parent Teacher Associations
- Local Police Departments
- County DUI and Target Zero Task Force
- State Highway Patrol

## Best Practices Resources

- Behavior Change Campaigns to Improve Traffic Safety Toolkit [🔗](#)

## CRF/Effectiveness

**CTW (Countermeasures that Work)**

Rating:



- Communications and Outreach on Speeding

### Safe System Element

- Safe Roads
- Safe Road Users**
- Safe Speeds
- Safe Vehicles

### Crash Type

- Fixed Object
- Pedestrian
- Roadway Departure
- Entering at Angle
- Vehicle Overturned
- Left Turn
- Head On
- All Other
- Rear End
- Bicyclist
- Sideswipe
- Parking Related
- Right Turn

### Crash Profile

- 01**
- 02**
- 03**
- 04**
- 05**
- 06**
- 07**
- 08**
- 09**
- 10**

### Special Considerations

- Education**
- Emerging Technology
- Equity

### Funding Sources

- General and Road Funds
- Washington Traffic Safety Commission Grants

### Pair with

- 01** Education & Public Awareness Campaigns
- 02** DUI Deterrence
- 03** DUI Prevention
- 04** State Policy on Enforcement Cameras
- 05** Placemaking in Traffic Safety Initiatives
- 06** Safe Speeds Education Campaign
- 07** Neighborhood Slow Zones
- 08** Education Campaign for Youth
- 09** Educate Businesses on HIN
- 10** Driver Re-Education Course
- 11** Safe Routes to School
- 12** Enforcement Priorities Mandate



# Educate Businesses on HIN

Timeline: Ongoing | Context: High Density Areas  
Specifically along the HIN corridors

09

Conduct targeted education to businesses along the High Injury Network (HIN) corridors (e.g. watch for bicycles and pedestrians when exiting driveways). Educational materials could include pamphlets, stickers, window displays, etc. This could include materials on how businesses can help drivers be more aware of their surroundings. For drinking establishments or restaurants, this could also include information to reduce driving under the influence (e.g., safe ride home number, local taxi number, etc.).

## Lead Agencies

- Public Works
- County Human Services Behavioral Health Division

## Partner Agencies

- Community-Based Organizations (Chambers of Commerce)
- Local Police Departments
- Sheriff's Office
- State Highway Patrol
- Washington State Traffic Safety Commission

## Best Practices Resources

- Behavior Change Campaigns to Improve Traffic Safety Toolkit [🔗](#)

## CRF/Effectiveness

**CTW (Countermeasures that Work)**  
Rating:



- Awareness Campaign

### Safe System Element

- Safe Roads **Safe Road Users** Safe Speeds Safe Vehicles

### Crash Type

- Fixed Object Pedestrian Roadway Departure Entering at Angle  
Vehicle Overturned Left Turn Head On All Other Rear End  
Bicyclist Sideswipe Parking Related Right Turn

### Crash Profile

- 01** 02 03 04 05 06 07 08 09 10

### Special Considerations

- Education Emerging Technology Equity

### Funding Sources

- General and Road Funds
- Public/Private Partnerships

### Pair with

- 01** Education & Public Awareness Campaigns
- 02 DUI Deterrence
- 03** DUI Prevention
- 04 State Policy on Enforcement Cameras
- 05** Placemaking in Traffic Safety Initiatives
- 06 Safe Speeds Education Campaign
- 07 Neighborhood Slow Zones
- 08 Education Campaign for Youth
- 09 Educate Businesses on HIN
- 10 Driver Re-Education Course
- 11 Safe Routes to School
- 12 Enforcement Priorities Mandate



# Driver Re-Education Course

Timeline: Ongoing | Context: Countywide

# 10

Develop a locally sponsored driver re-education course for drivers that have received violations. Participation in the course would be a way to pardon a driver's first violation. Similar programs also exist for elderly drivers to help them improve their driving skills or recognize that they may not be advised to drive under certain conditions (e.g., at night). These programs benefit from oversight and data analysis to ensure there is equitable access and outcomes.



## Lead Agencies

- Public Works
- Prosecutor's Office

## Partner Agencies

- Local City Departments (Mayor's office, City Councils, etc.)
- Local Police Departments
- State Highway Patrol
- Sheriff's Department
- Community partners (e.g., AARP, AAA, senior centers)

## Best Practices Resources

- Behavior Change Campaigns to Improve Traffic Safety Toolkit 
- Countermeasures that Work, 9th Edition 

## CRF/Effectiveness

### CTW (Countermeasures that Work)

#### Rating:



- Post-Licensure Education

### Safe System Element

- Safe Roads
- Safe Road Users**
- Safe Speeds
- Safe Vehicles

### Crash Type

- Fixed Object
- Pedestrian**
- Roadway Departure
- Entering at Angle
- Vehicle Overturned
- Left Turn
- Head On
- All Other
- Rear End
- Bicyclist
- Sideswipe
- Parking Related
- Right Turn

### Crash Profile

- O1**
- O2**
- O3**
- O4**
- O5**
- O6**
- O7**
- O8**
- O9**
- O10**

### Special Considerations

- Education**
- Emerging Technology
- Equity

### Funding Sources

- Washington Traffic Safety Commission Grants
- User Fees
- Public/Private Partnerships

### Pair with

- O1** Education & Public Awareness Campaigns
- O2** DUI Deterrence
- O3** DUI Prevention
- O4** State Policy on Enforcement Cameras
- O5** Placemaking in Traffic Safety Initiatives
- O6** Safe Speeds Education Campaign
- O7** Neighborhood Slow Zones
- O8** Education Campaign for Youth
- O9** Educate Businesses on HIN
- O10** Driver Re-Education Course
- O11** Safe Routes to School
- O12** Enforcement Priorities Mandate



# Safe Routes to School

Timeline: Ongoing | Context: Countywide

All school districts within Snohomish County

11

Coordinates Safe Routes to School programs between the different districts in the County with Public Works to leverage common goals and potentially combine efforts for greater funding. SRTS programs typically entail improving route planning, providing parent/driver education, safety data collection and potentially roadway modifications to ensure safe routes for all students, particularly students in underserved areas.


## Lead Agencies

- Public Works
- School Districts
- County Planning and Development Services

## Partner Agencies

- Community-Based Organizations
- Public Library Systems
- Police or Sheriff's Office

## Best Practices Resources

- Safe Routes Partnership Best Practices, Curriculum 

## CRF/Effectiveness

### CTW (Countermeasures that Work)

Rating:



- Safe Routes to School

12% reduction in crashes around schools where improvements are made (CMF Clearinghouse)

### Safe System Element

Safe Roads Safe Road Users Safe Speeds Safe Vehicles

### Crash Type

Fixed Object Pedestrian Roadway Departure Entering at Angle

Vehicle Overturned Left Turn Head On All Other Rear End

Bicyclist Sideswipe Parking Related Right Turn

### Crash Profile

01 02 03 04 05 06 07 08 09 10

### Special Considerations

Education Emerging Technology Equity

### Funding Sources

- Safe Routes to School Funding
- Road Funds

### Pair with

- 01 Education & Public Awareness Campaigns
- 02 DUI Deterrence
- 03 DUI Prevention
- 04 State Policy on Enforcement Cameras
- 05 Placemaking in Traffic Safety Initiatives
- 06 Safe Speeds Education Campaign
- 07 Neighborhood Slow Zones
- 08 Education Campaign for Youth
- 09 Educate Businesses on HIN
- 10 Driver Re-Education Course
- 11 Safe Routes to School
- 12 Enforcement Priorities Mandate



# Enforcement Priorities Mandate

Timeline: Ongoing | Context: HIN Corridors

# 12

Use crash history and corridors on the High Injury Network as one criterion for where and for what type of behavior to concentrate enforcement efforts. For example, some communities have focused on speeding and distracted driving on the HIN as a top priority since those behaviors may represent a disproportionately high risk. This approach may require additional law enforcement funding to consistently implement.

## Lead Agencies

- Sheriff's Office
- Public Works

## Partner Agencies

- Local City Departments (Mayor's office, City Councils, etc.)
- Community-Based Organizations
- Local Police Departments
- State Highway Patrol
- County Council

## Best Practices Resources

- Behavior Change Campaigns to Improve Traffic Safety Toolkit [🔗](#)
- Countermeasures that Work, 9th Edition [🔗](#)
- Vision Zero Equity Strategies for Practitioners [🔗](#)
- Focus on the Five Safety Campaign [🔗](#)

## CRF/Effectiveness

### CTW (Countermeasures that Work)

#### Rating:



- Communications and Outreach Supporting Enforcement
- High-Visibility Cell Phone and Text Messaging Enforcement

## Safe System Element

- Safe Roads
- Safe Road Users**
- Safe Speeds
- Safe Vehicles

## Crash Type

- Fixed Object
- Pedestrian**
- Roadway Departure
- Entering at Angle
- Vehicle Overturned
- Left Turn
- Head On
- All Other
- Rear End
- Bicyclist
- Sideswipe
- Parking Related
- Right Turn

## Crash Profile

- O1**
- O2**
- O3**
- O4**
- O5**
- O6**
- O7**
- O8**
- O9**
- O10**

## Special Considerations

- Education
- Emerging Technology
- Equity**

## Funding Sources

- General and Road Funds
- Washington Traffic Safety Commission Grants

## Pair with

- O1** Education & Public Awareness Campaigns
- O2** DUI Deterrence
- O3** DUI Prevention
- O4** State Policy on Enforcement Cameras
- O5** Placemaking in Traffic Safety Initiatives
- O6** Safe Speeds Education Campaign
- O7** Neighborhood Slow Zones
- O8** Education Campaign for Youth
- O9** Educate Businesses on HIN
- O10** Driver Re-Education Course
- O11** Safe Routes to School
- O12** Enforcement Priorities Mandate



# Putting the Plan into Action

Implementation of the RSP is a vital step in the process where countermeasures are identified, prioritized, and put into action. This chapter outlines a flexible and data-driven approach to help identify the right countermeasure to address the safety concern at hand.

It is important to keep in mind that there is no framework to develop a “shovel ready” list of countermeasures that are appropriate across all contexts in Snohomish County. For example, some approaches are well suited to identifying large-scale projects that can substantially reduce all KSI crashes on a corridor. However, these projects will take time to implement and a tool that identifies just these projects might miss lower cost opportunities to improve outcomes on many more corridors. In another example, a specific analytical approach might do well at identifying solutions for rural run-off-the-road or fixed object crashes but would not address (or could even aggravate) pedestrian-involved crashes.

Thus, a multi-dimensional evaluation framework that can identify potential safety improvements from many dimensions is best for a large and diverse place like Snohomish County.

## Project Prioritization GIS Tool

To understand where specific countermeasures should be constructed and to prioritize specific locations in the county, a Safety Project Prioritization Tool was developed in ArcGIS. The key inputs to the tool were 10 years of historical crash data, crash profiles, safety countermeasures, and contextual information such as demographic data, the HIN, schools, sidewalks, and roadway ADT.

The prioritization tool consists of the following steps:

- 1 Assigns crash profiles to historic crashes using WSDOT data,

- contextual roadway, and land use data
- 2 Joins crash profiles to segmented roadway network
- 3 Assigns countermeasures to roadway segments using logic based off intersecting crash profile data and roadway characteristics
- 4 Prioritizes roadway segments and countermeasures based on user-input criteria

The project prioritization GIS tool provides a high-level snapshot of potential countermeasure locations for more detailed review by Public Works staff. Leveraging user-input prioritization criteria, the output of the tool is spatial data that can be used to identify potential project limits, narrow down possible roadway countermeasures, target specific funding programs, identify areas for programmatic countermeasures, or combine smaller scale countermeasure projects. Since the outputs of the prioritization tool are high-level and dynamic based on inputs, further engineering judgment and consideration of utility, environmental, or right-of-way conflicts may be needed to distill unique outputs into actionable project lists. Thus, the project prioritization GIS tool is not a generally accessible tool hosted on a web-platform. Rather the prioritization GIS tool is intended to be used by a limited number of trained County staff.

Countermeasure locations can be prioritized based on a combination of user-generated filters. Examples of filters include:

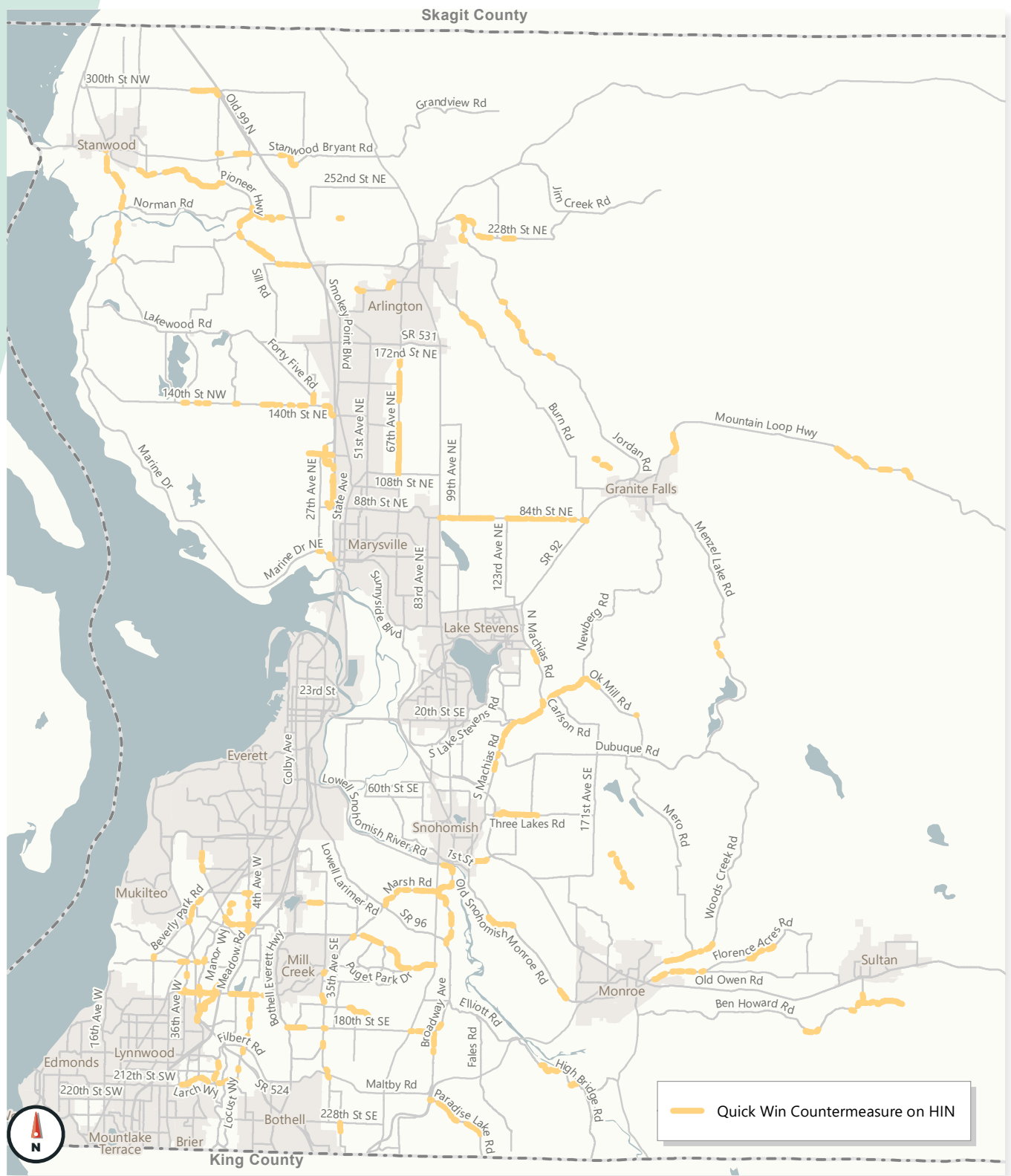
- Presence on HIN
- Rural or Urban Areas of the County
- Roadway ADT
- Roadway Speed
- Project Cost (Quick-Win/Medium/Large Scale)
- Countermeasure Type (which can be used in case there is funding

for specific countermeasures, for example, a pedestrian crossing grant)

- Density of Crashes on Roadway (which can be used to assess potential cost effectiveness)
- Project Type (Bike/Ped/Vehicle)
- Equity
- Crash Profile (which can help target countermeasures like DUI enforcement area)

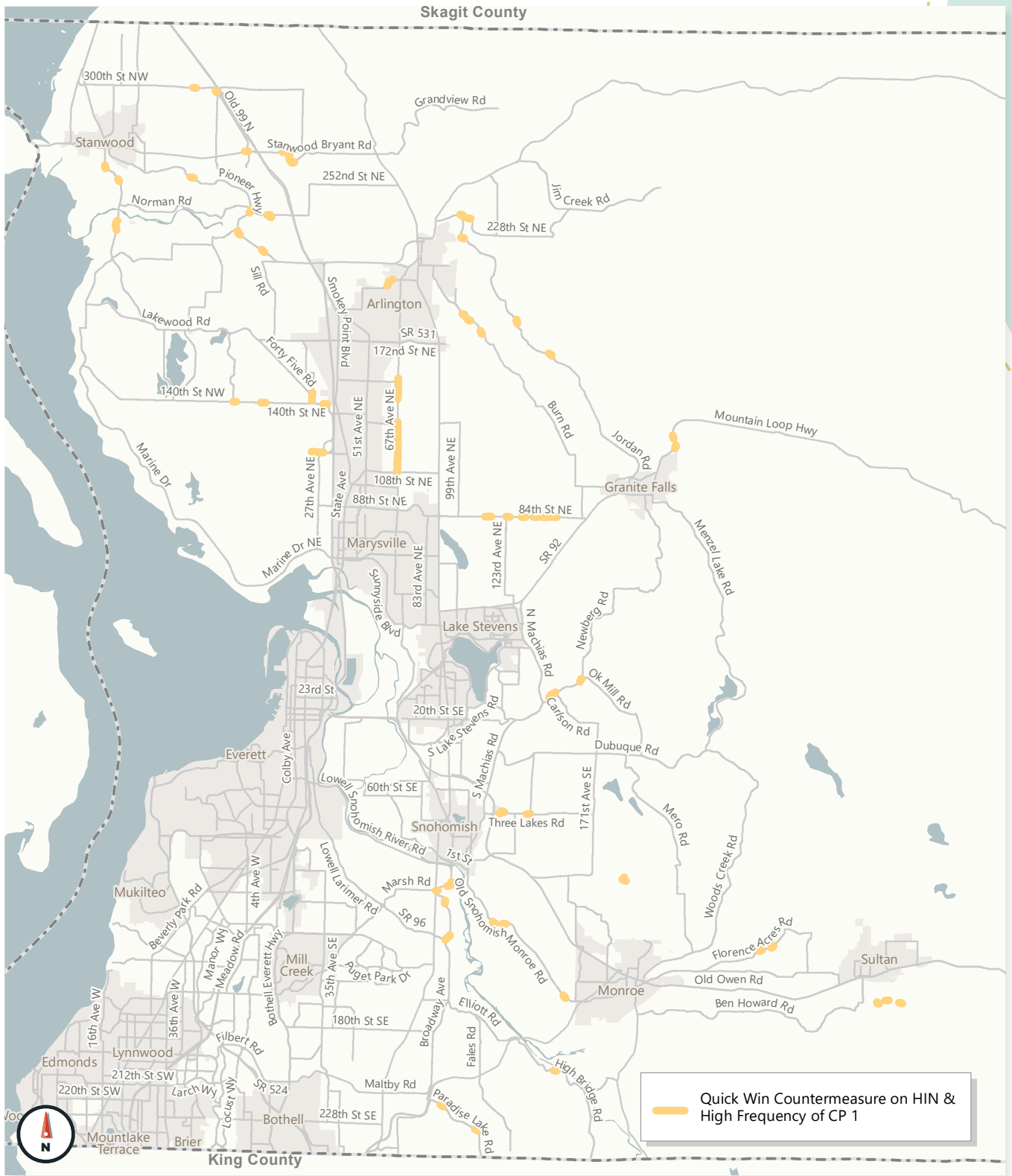
Some jurisdictions choose to focus project implementation on the HIN corridors only; however, to provide maximum flexibility for the County, the HIN is an optional filter in the GIS tool. **Figures 19 – 23** demonstrate how utilizing multiple prioritization criteria can filter down potential countermeasure locations for further project or program development. **Figure 19** shows spatial data for “quick-win” countermeasures on the HIN. Quick-wins are relatively easy and cost effective to implement; focusing on the HIN increases the cost effectiveness of the quick-win measures since the HIN has a disproportionate share of the KSI crashes. However, even with a focus on quick-win projects on the HIN, there are many potential projects to implement. Therefore, the suggested locations can be reduced by adding a third filter; **Figure 20** includes the highest crash frequency locations for Crash Profile 1 (fixed object or roadway departure crashes on rural roads), as well as the filters for quick-wins and the HIN.

Finally, to further distill potential countermeasure locations a fourth filter is added: roadways with ADT > 10k. The spatial results of these four filters, combined, highlight areas where quick-win countermeasures like spot posts or improved curbside edge markings would best address the highest risk locations. **Figure 21** shows the final spatial data with all four filters.

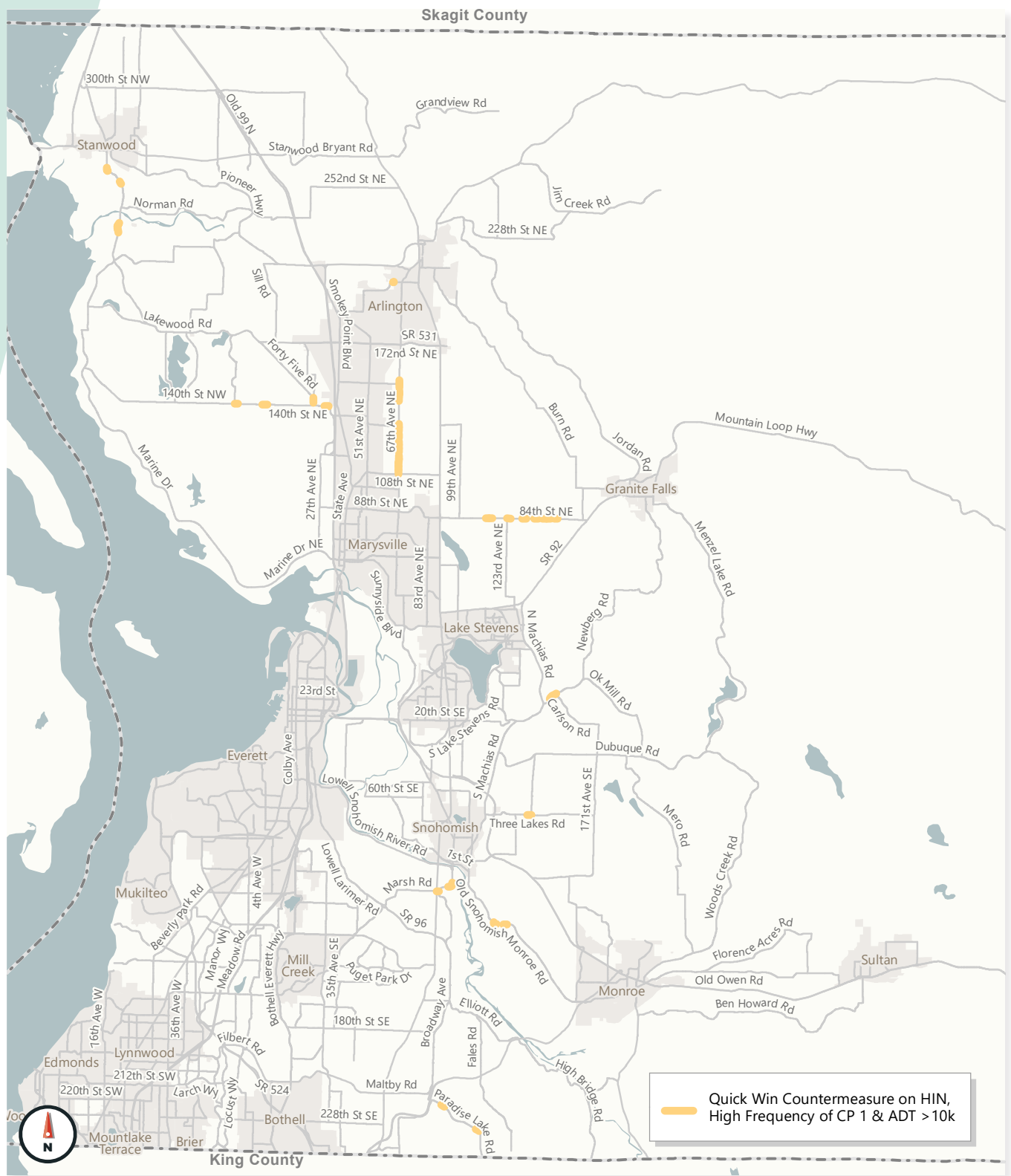


**Figure 19. Prioritizing Quick-Win Countermeasures on the HIN**



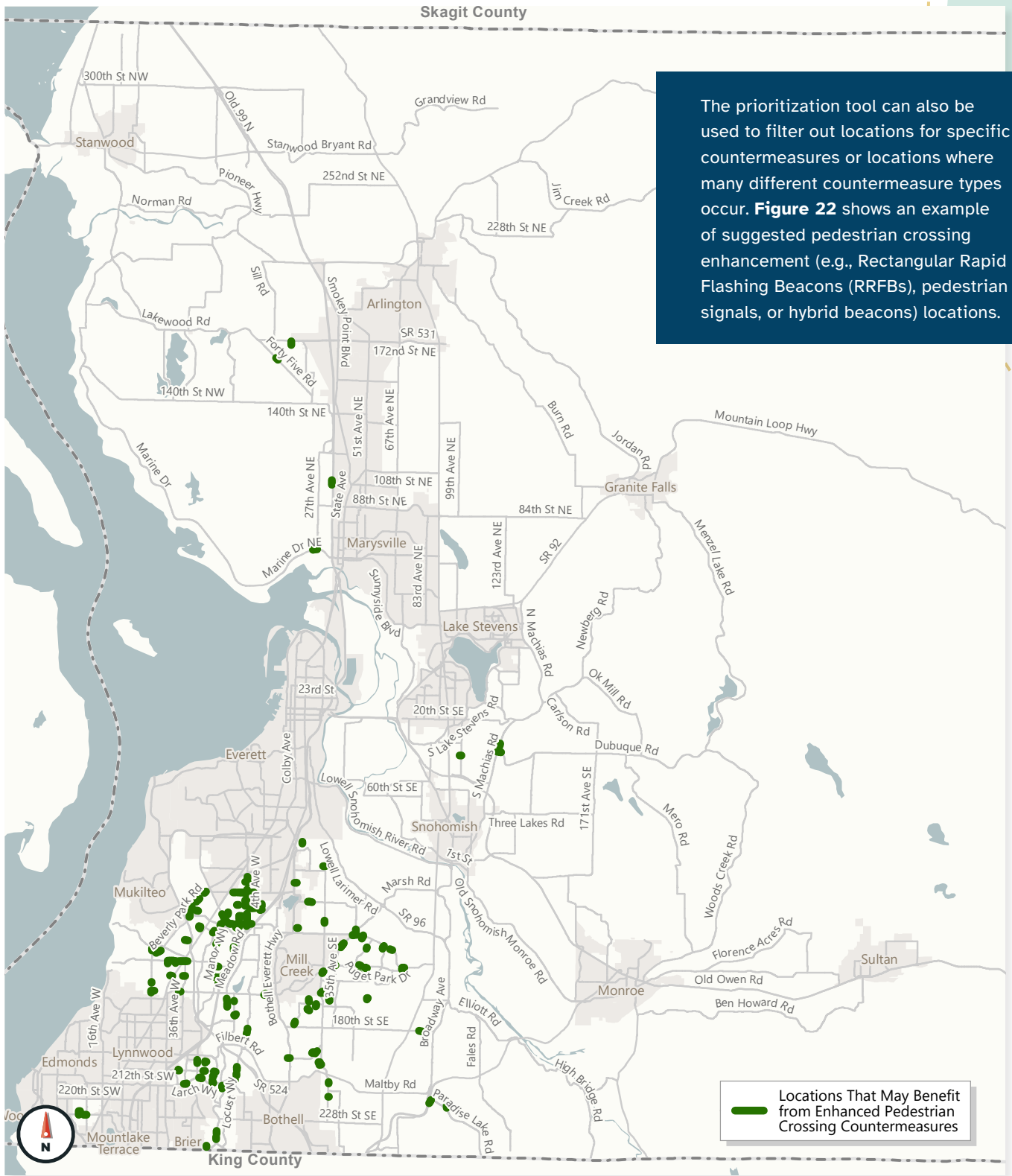


**Figure 20. Prioritizing Quick-Win Countermeasures on HIN with a High Frequency of Crash Profile 1**

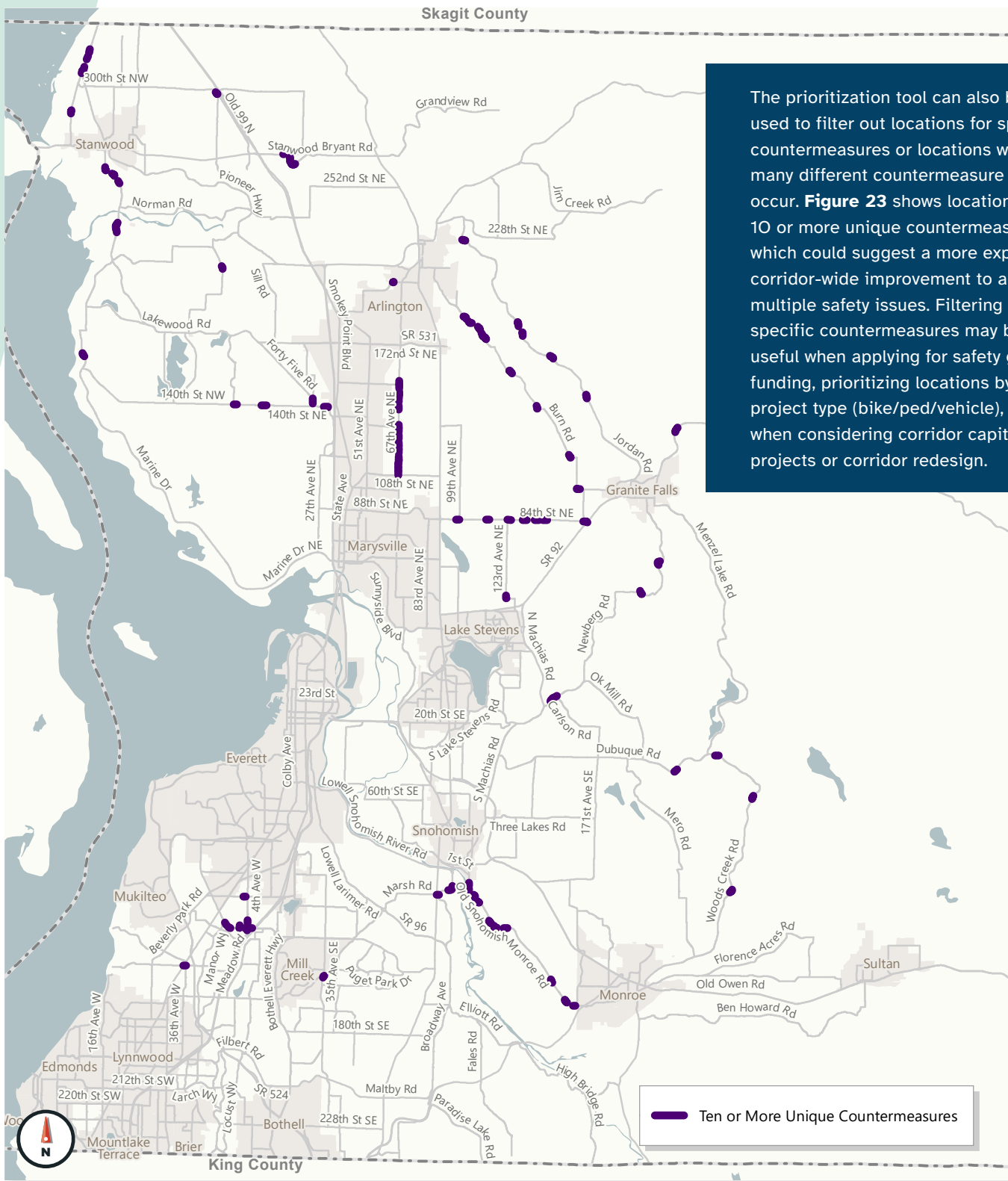


**Figure 21. Prioritizing Quick-Win Countermeasures on HIN with a High Frequency of Crash Profile 1 and ADT > 10k**





**Figure 22. Potential Enhanced Pedestrian Crossing Countermeasure Locations**



The prioritization tool can also be used to filter out locations for specific countermeasures or locations where many different countermeasure types occur. **Figure 23** shows locations with 10 or more unique countermeasures, which could suggest a more expansive corridor-wide improvement to address multiple safety issues. Filtering by specific countermeasures may be useful when applying for safety grant funding, prioritizing locations by project type (bike/ped/vehicle), or when considering corridor capital projects or corridor redesign.

**Figure 23. Potential Corridor Capital Projects (roadways with 10 or more unique countermeasures)**



# Implementation and Next Steps

## Why Local Adoption?

Achieving a safe transportation system in Snohomish County will take local efforts and collaboration. Local adoption and implementation of the Snohomish County RSP is important for communities to publicly commit to eliminating serious injury and fatal crashes. These actions help member governments make the right strategic decisions to get to safer roadway systems.

## How to Use this Plan

This plan will serve as a toolkit of resources and projects for Snohomish County to work strategically towards eliminating KSI crashes. The key information in this plan includes:

- **High Injury Network** – this plan shows the 4.6% percent of roads in the region where the majority of KSI crashes occur, which can be seen as safety priorities.
- **Snohomish County Guiding Principles** – this plan identifies Guiding Principles that, if acted upon, will reduce serious injury and fatal crashes in the county. These principles should be applied by the County to the planning, design, construction, operation, and maintenance of the transportation systems to reduce serious injury and fatal crashes.
- **Crash and Behavior Profiles** – crash profiles provide information on crash types that are most frequently contributing to serious injury and fatal crashes. The crash profiles and corresponding countermeasures suggest potential projects that can be implemented to reduce these types of crashes at high priority locations. Whereas the crash profiles vary by location, the behavior profiles apply to the entire county. Education and encouragement initiatives can

target these behaviors to reduce severe injury and fatal crashes across the region.

- **Countermeasures** – engineering and programmatic actions/projects/investments that Snohomish County and its partners can undertake to reduce KSI crashes.
- **Data Dashboard** – an easy to access portal of crash data that can allow any Snohomish County staff member to explore safety data, trends, and important underlying data related to transportation safety.
- **Project Prioritization** – this plan provides data GIS tools that allow Snohomish County Public Works staff to identify countermeasures to improve safety throughout the county. Public Works is committed to partnering with other County departments and agencies to assist in reviewing data and providing analysis results to coordinate safety actions for greater effect.

## Evaluation

This evaluation step identifies possible opportunities to inform future decision-making and will allow the County to understand how it is doing with regards to meeting its safety goals. The evaluation step provides the basis for determining selection of priority areas, countermeasures, and locations to reduce crashes (and the harm resulting from them). To successfully implement safety programs and projects, partnerships, trust, funding, and coordination need to be proactively managed.

Recommendations include:

### Update the Data Regularly

WSDOT updates crash data regularly. SAC members identified that frequent data updates and access to these data are

critical in implementing safety programs and improvements.

### Update the Plan as Needed

Safety best practices are constantly evolving. In addition, Snohomish County is also in a state of flux—the county continues to grow, new residents and businesses will bring new safety perspectives, and changing transportation patterns and technologies will bring new challenges and opportunities. The RSP should be updated to account for these changes. Many communities update their safety plans every 2-7 years. At a minimum, updating the RSP in conjunction with the major Comprehensive Plan updates will ensure that the safety plan stays in sync with overall county land use and transportation goals.

### Identify Target Metrics and Measure Goal Performance in Priority Areas

In order to understand progress and safety conditions, several metrics should be used in RSP evaluation. Examples of measuring goal performance include:

- Monitoring all and KSI crashes
- Monitoring the number of safety infrastructure improvements installed
- Monitoring the number of safety partnerships and programs implemented

The next chapter provides more information on how the County could evaluate safety progress, and outlines an approach for RSP outreach and safety communication across Snohomish County.

# Communication Plan

This RSP summarizes the county's key safety challenges and presents targeted countermeasures and strategies to reduce the number of fatalities and serious injuries the county sees each year. With the RSP as a critical starting point, Snohomish County is ready to take the next step in advancing its safety program by bringing the safety data, countermeasures, and strategies to the community and stakeholders. The program's success in moving from plan to implementation relies on earning their commitment and eliciting their contributions.

Evidence shows that infrastructure improvements and ongoing safety programs combined with a consistent communications approach is the most effective combination in achieving measurable improvements in safety. Moreover, a good outreach effort can effectively challenge and shift existing norms, both among the community and among County staff, to catalyze the County's RSP investments.

Key outcomes of implementing the Snohomish County RSP Communication Plan include:

- Build an information hub for County staff, decision makers, and the public to understand the RSP and track implementation progress.
- Immediately initiate behavior-change strategies identified in the Snohomish County RSP's Programmatic Countermeasures and generate support for more long-term infrastructure projects.
- Each Programmatic Countermeasure cutsheet in the RSP provides key implementation information, such as partner agencies, key target areas and statistics, funding sources, and complementary countermeasures. These cutsheets can provide the foundation for community outreach.
- Solicit and document perceived barriers to implementation of the RSP program among County staff, decision makers, and the community, and identify steps to overcome the barriers

This three-phase approach will help launch the Snohomish County's RSP outreach effort and achieve the County's goals for the RSP program.

## **Create an Information Hub**

Before outreach can be done, Public Works should establish a Snohomish County RSP program identity. This includes a 'brand' for program recognition and consistency of messaging. It also includes educational materials to enhance understanding of the program's goals, its importance, and its safety strategies. For example, the safety program identity will raise awareness of the County's safety focus areas, such as the High Injury Network, and recommended safety countermeasures from the RSP.

The County should put time and intention behind its branding so the messages being shared by different departments and partner agencies are aligned and consistent. Consider creating an internal document that provides clear guidelines so staff are on the same page about promoting the RSP, including general points about language and terminology, frequently asked questions and answers, graphics, and more. This branded document should be continuously promoted within the County and its safety partners and undergo regular revisions as Public Works reports out their annual safety metrics.


The brand for the RSP need not be complex or expensive to generate. It could be as simple as establishing a page on the Public Works website, sharing relevant materials (like this RSP

document), and being consistent in how County departments refer to road safety in general and specific elements of the RSP, like crash profiles, the high injury network, and countermeasures.

One potential way to build the County's safety brand, promote the RSP, and encourage greater awareness of road safety amongst the community, is for Public Works to establish a safety 'information hub.' This information hub would be a way for County staff, stakeholders, and the public to learn about the RSP, hear about the County's ongoing safety efforts, discover ways to get involved, and track the County's progress towards its safety goals. The information hub would ideally be a separate safety webpage on the County's website that is easily accessible, up-to-date, and engaging. As laid out in the previous chapter, specific metrics and goals that should be reported on the website include:

- monitoring all and KSI crashes, (regular updates of the data that are used in the dashboard will automatically track ongoing KSI crash trends)
- monitoring the number of safety infrastructure improvements installed
- monitoring the number of safety partnerships and programs implemented



Additional measurement of goal progress in priority areas can be performed every year. For example, some communities develop a safety scorecard. Safety scorecards that are released annually can be a powerful tool for measuring effectiveness, highlighting areas that need further attention and resources, and identifying tasks and deadlines for responsible stakeholder parties (e.g., the County, Sheriff's Department, and Snohomish County Vision Zero Task Force), and focusing the following year's safety communications efforts for the greatest impact. Public Works already releases a **GIS StoryMap**  each year for their Annual Report, so a safety scorecard could be included as a new section into their report. This annual data reporting should be used to continuously update and evaluate the internal and external safety messaging.

### **Engage the Community**

The community is a critical audience for safety outreach. Part of the County's communication strategy related to the RSP could include bringing road safety to locations where the community already gathers, such as pop-up events at popular gathering spots throughout the County. Common pop-up opportunities include fairs, festivals, and neighborhood meetings, but could also include more typical community gathering locations like farmers markets, grocery stores, or busy parks. Each event is an opportunity to introduce more community members to the County's safety efforts and help them understand the program's goals, potentially through interactive activities or through the sharing of compelling traffic safety stories. By eliciting understanding and support for the program among the community, the community will be better positioned to champion the projects and initiatives that come

out of the RSP – a key element of successful implementation. The outreach also offers an opportunity to promote the Safe Road User element of the RSP's Safe System approach, encouraging safe travel behaviors that directly address one of the County's key safety challenges.

Pop-up events should include visuals and educational materials to help community members understand the elements of the program, its importance, and strategies the County plans to take to address safety on its streets. Events also could include one or more interactive activities that allow community members to connect with the program on a personal level, for example giving them an opportunity to express why safety is important to them or what type of safety project would be most meaningful to them. Pop-up events should be fun, so we recommend promotions like a raffle, giveaways, bicycle tune-ups, or car washes to entice people to participate (if funding allows).

Data should also inform communication strategies; in Snohomish County, late fall/early winter sees higher than average amount of bicycle and pedestrian KSI crashes. During these months, the County could conduct a more targeted communications campaign around the bicycle/pedestrian programmatic countermeasures provided in the RSP.

### **Educational Materials**

To support the RSP communications efforts, the County should design branded educational materials to equip the outreach events with key safety program facts, messages, and references to inform constituents and stakeholders and creatively engage them with the process. Materials could include:

- outreach boards and/or interactive outreach activities,

- newsletter and social media content,
- an informational brochure (or flyer)

The materials can be distributed through the program website, social media, internal County communication channels, stakeholder workshops, and pop-up community events.

### **Outreach Boards / Activities**

Outreach boards and outreach activities should be designed to present at community events or distribute to community organization leaders to share with their constituents. Topics may include background on the Safe System Approach, an overview of the RSP analysis and strategies, and/or an interactive activity that encourages people to engage with the County's safety goals. Some communities make decks of cards or other games that highlight countermeasures or best safety practices to connect with a broader swath of the population.

### **Newsletter and Social Media Content**

By leveraging the County's networks of stakeholders and community organizations, Public Works could package newsletter and social media content for County staff to share with key contacts to publish in their publications or distribute through their e-blasts and social media channels.

### **Informational Brochure**

Materials could also be developed to distribute at outreach events or share through community organizations, including a brochure/flyer with in-depth information and key messages about the targeted programmatic countermeasures and how the public can get more involved in improving safety in their neighborhood.



## Engage Stakeholders

Stakeholders are the other critical audience for safety outreach. Key stakeholders to reach through this effort include all members of the RSP's Safety Advisory Committee (SAC):

- Snohomish County Public Works
- County Executive's Office
- County Council
- Sheriff's Office
- Washington Department of Transportation (WSDOT)
- Washington State Patrol (WSP)
- Washington State Safety Commission
- Snohomish County Health District
- Fire Districts
- Snohomish County Court

In addition to SAC members, stakeholder outreach could also be expanded through new partnerships across the county (e.g., school districts, tribal governments, cities, community advocacy groups, non-profits, religious groups, major employers). Equitable and effective community engagement ensures representation of those most impacted by transportation system issues. The County should prioritize input from traditionally underrepresented communities, making sure their voices help guide RSP projects and processes. For example, engaging with community advocacy groups can give the County new perspectives on safety projects and outreach implementation, as local residents are often the best judge of investments that best meet their needs and stakeholder engagement strategies


that work in their community. Educating stakeholders about the goals and importance of the County's RSP is critical for securing their commitment, which can build political momentum and generate a greater funding priority for road safety. Input from identified partners (SAC members) and future partners, along with collected target metrics, could be used to adapt the plan based on community feedback and expert insight as projects and programs are rolled out. While Snohomish County Public Works can accomplish much on its own, the full benefits of the RSP are best achieved in partnership with a broad coalition of supporters all driving toward a goal of zero serious injury and fatality crashes in the county.

## Safety Outreach Examples

There are dozens of examples of successful road safety communication plan implementations across the country. Below we highlight three examples of road safety communications efforts that take different approaches and target different audiences. As noted in this Communications Plan, a multi-pronged approach is the best strategy and would tend to include actions like those below in addition to others as part of a complete strategy.

### City of Bellevue Vision Zero

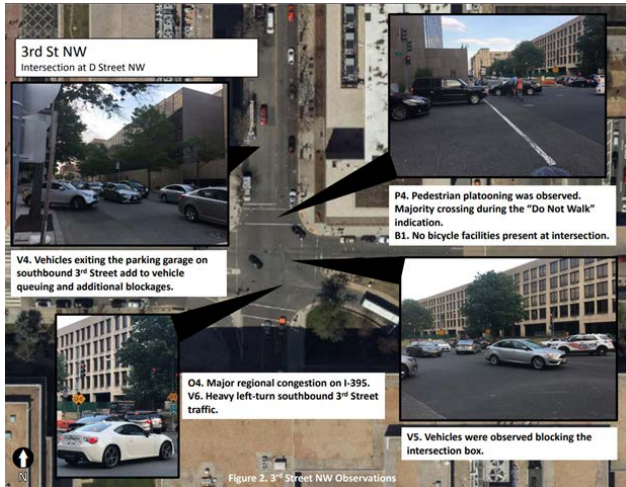


The City of Bellevue has created a pedestrian safety mascot, **Pedbee** , to help educate children on pedestrian and traffic safety in a fun and engaging way. The program includes partnerships with the school district, visits to schools and community events where Pedbee hands out educational activity books and leads safety activities.

Source: City of Bellevue Pedbee Educational Materials



## Washington DC Vision Zero



Source: DDOT 2017 High Crash Evaluation at 3rd St/D St

One unique aspect of the Washington DC Department of Transportation's Vision Zero efforts is their coordinated outreach at specific **high-crash intersections**. Each year, stakeholders such as councilmembers, local neighborhood commissions, Business Improvement Districts, and bicycle and pedestrian groups, visit five "high crash" intersections with DDOT to perform site visits, understand the collision history and risks, and discuss both short- and long-term safety improvements.

## New York City Vision Zero Street Teams

In New York City, joint police and department of transportation neighborhood street teams work throughout the City, targeting priority intersections and corridors where traffic related fatalities and pedestrian and bicyclist injury collisions are occurring. Street teams provide informational materials related to the City's Vision Zero efforts, and engage local residents in high-risk locations to learn about their safety concerns and gain feedback on potential countermeasures.



Source: NYC Vision Zero Street Team

The City has also created an extensive public advertising effort and a strong social media presence. They lead several Vision Zero campaigns, each including outdoor, radio, video, print, and digital presence:

### Was It Worth It?

Informed by comprehensive market research, **"Was it Worth It?"** is New York City's newest Vision Zero public awareness campaign. Hard-hitting and emotional imagery and messaging relies on the emotional experience of the driver to compel safer behaviors behind the wheel. If a few miles over the speed limit, a quick turn, or a text message resulted in the loss of someone's life, could you ask yourself, "Was it worth it?"

### Signs

**"Signs"** features real New Yorkers holding street signs to encourage compliance with the City's 25 MPH speed limit and yield to pedestrian law. The campaign acknowledges the complexities of driving in a busy urban environment, while recognizing that simple behaviors can ultimately save lives.

### Your Choices Matter

Through attention-grabbing graphic design, **"Your Choices Matter"** depicts the aftermath of collisions, brings to light the seriousness of traffic crashes, and identifies the key behaviors that contribute to pedestrian fatalities.

### Work Zone Heroes

**"Work Zone Heroes"** raises awareness about safety in work zones, in attempt to reduce injuries and fatalities among our City and State road crews as well as motorists.

### Choices

**"Choices"** presents New Yorkers with two options: a safe trip home or the real consequences of drinking and driving. The campaign demands personal accountability and empowers drivers to make their own choice.

### Reckless Driving Kills

Crashes resulting from speed, failure to yield to pedestrians in the crosswalk, and distracted driving have devastating effects on families. **"Reckless Driving Kills"** captures the images of grieving family members at the fatal crash sites of their loved ones, asking New Yorkers to slow down and drive with caution.

Source: NYC Vision Zero, Education



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# Appendices

## Appendix **A**

### Document Review

## Appendix **B**

### HIN Methodology

## Appendix **C**

### Glossary





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# Appendix **A**

## Document Review





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# Appendix **B**

## HIN Methodology





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# Appendix

Glossary

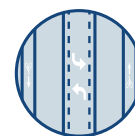


### Effectiveness

<b>Highly Effective</b>	CMF < 0.75
<b>Moderately Effective</b>	0.75 < CMF < 0.90
<b>Somewhat Effective</b>	0.90 < CMF

All CMFs evaluated from CMF Clearinghouse

## Countermeasure Category: Intersection & Roadway Design



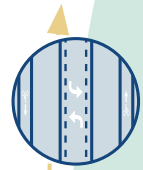
Countermeasure	Description	Effectiveness
<b>All-Way Stop Control</b>	An all-way stop-controlled intersection requires all vehicles to stop before crossing the intersection. An all-way stop controlled intersection improves safety by removing the need for motorists, bicyclists, and pedestrians on a side-street stop-controlled intersection to cross free-flowing lanes of traffic, which reduces the risk of collision.	<b>High</b>
<b>Curb Extensions</b>	A curb extension uses concrete, landscaping, or paint and plastic materials to widens the sidewalk at intersections. Curb extensions improve safety by shortening pedestrian crossing distances, improving sight lines, and reducing the speed of turning vehicles.	<b>High</b>
<b>Green Conflict Striping</b>	Green conflict striping is green markings painted in a dashed pattern on bike lanes approaching an intersection and/or going through an intersection. Green conflict striping improves safety by increasing the visibility bicyclists and identifying potential conflict points so bicyclists and motorists use caution when traveling toward and through an intersection.	<b>High</b>
<b>Lane Narrowing</b>	Lane Narrowing reduces lane widths to encourage motorists to travel at slower speeds. Lane Narrowing improves safety by lowering the risk of collision among bicyclists, pedestrians, and other motorists.	<b>Somewhat</b>
<b>Consolidate Driveways</b>	Reducing the number of driveway entrances/exits through consolidation limits the exposure of bicyclists, pedestrians, and motorists to vehicles entering or exiting driveways, reducing conflicts.	<b>Somewhat</b>
<b>Raised Medians/ Refuge Islands</b>	A Raised Median, or Refuge Island, is a raised barrier in the center of the roadway that can restrict certain turning movements and provide a place for pedestrians to wait if they are unable to finish crossing the intersection. A Raised Median improves safety by reducing the number of potential conflict points with designated zones for vehicles to turn, and a pedestrian refuge island improves safety by reducing the exposure time for pedestrians crossing the intersection.	<b>High</b>
<b>Right Turn Lane</b>	A Right-turn only lane and phase provides a green arrow phase for right-turning vehicles. A Right-turn only lane and phase improves safety by removing conflicts between right-turning vehicles and bicyclists or pedestrians crossing the intersection.	<b>Moderate</b>
<b>Road Diet</b>	A Road Diet reduces roadway space dedicated to vehicle travel lanes to create room for bicycle facilities, wider sidewalks, or center turn lanes. A Road Diet improves safety by reducing vehicle speeds and creating designated space for all road users.	<b>High</b>
<b>Convert Stop-Controlled Intersection to Roundabout</b>	Roundabouts are large circular islands, placed in the middle of an intersection, which direct flow in a continuous circular direction around the intersection. Roundabouts improve safety by reducing the number of conflict points and decreasing vehicle speeds.	<b>High</b>
<b>Convert Signal to Roundabout</b>	Roundabouts are large circular islands, placed in the middle of an intersection, which direct flow in a continuous circular direction around the intersection. Roundabouts improve safety by reducing the number of conflict points and decreasing vehicle speeds.	<b>High/Moderate</b>
<b>Raised Marked Crosswalk</b>	A raised marked crosswalk encourages motorists to slow down on long stretches of local streets. A raised crosswalk improves safety by preventing motorists from driving too fast on roadways with minimal intersections.	<b>Moderate</b>



Effectiveness	
Highly Effective	CMF < 0.75
Moderately Effective	0.75 < CMF < 0.90
Somewhat Effective	0.90 < CMF

All CMFs evaluated from CMF Clearinghouse

## Countermeasure Category: Intersection & Roadway Design



Countermeasure	Description	Effectiveness
<b>Improving Pavement Friction</b>	A roadway must have an appropriate level of pavement friction to ensure that drivers are able to keep their vehicles safely in the lane. Poor pavement conditions, especially wet pavement, have been identified as one of the major contributing factors in roadway departure crashes. When a pavement surface is wet, the level of pavement friction is reduced, and this may lead to skidding or hydroplaning. Pavement friction is critical for changing vehicle direction and ensuring the vehicle remains in its lane. Traditional friction courses or high friction surface treatments should be considered for curves with numerous wet weather crashes or severe curves with higher operating speeds.	High
<b>Adding Rumble Strips</b>	Rumble strips create noise and vibration inside the vehicle that alert a driver as they cross the center or edge line. Often this alert is strong enough to get the attention of a distracted or drowsy driver, who can quickly make a corrective steering action to return to the roadway safely. Rumble strips also alert drivers to the lane limits when conditions such as rain, fog, snow, or dust reduce driver visibility. Road widening may be necessary to install this countermeasure.	High/Moderate
<b>Install Superelevation at Horizontal Curve Locations</b>	Superelevation is the rotation of the pavement on the approach to and through a horizontal curve and is intended to assist the driver in negotiating the curve by counteracting the lateral acceleration produced by tracking. In other words, the road is designed so that the pavement rises as it curves, offsetting the horizontal sideways momentum of the approaching vehicle.	High
<b>Install a Safety Edge</b>	When a vehicle leaves the traveled way and encounters a pavement-shoulder drop-off, it can be difficult for the driver to return safely to the roadway. A safety edge is a treatment intended to minimize drop-off-related crashes. With this treatment, the shoulder pavement edge is sloped at an angle (30-35 degrees) to make it easier for a driver to safely reenter the roadway after inadvertently driving onto the shoulder. This treatment is designed to be a standard policy for any overlay project.	Moderate
<b>Add Paved Shoulder</b>	The addition of a paved shoulder to an existing road can help to reduce run-off-road crashes. Benefits can be realized for any HRRR without paved shoulders, regardless of existing lane pavement width. Adding a paved shoulder within horizontal curve sections may help agencies maximize use of the treatment while minimizing costs as opposed to adding paved shoulders to an entire corridor	Moderate
<b>Install Sidewalk</b>	Areas noted as not having adequate or no sidewalks and a history of walking along roadway pedestrian crashes. In rural areas asphalt curbs and/or separated walkways may be appropriate.	High

### Effectiveness

<b>Highly Effective</b>	CMF < 0.75
<b>Moderately Effective</b>	0.75 < CMF < 0.90
<b>Somewhat Effective</b>	0.90 < CMF

All CMFs evaluated from CMF Clearinghouse

Countermeasure Category:

## Other Enhancements



Countermeasure	Description	Effectiveness
<b>Bike Lanes</b>	A bike lane provides dedicated street space, typically adjacent to outer vehicle travel lanes, with designated lane markings, pavement legends, and signage. Bike lanes improve safety by reducing conflicts between bicycles and vehicles on the road and by creating a road-narrowing effect with buffers or vertical barriers, which may reduce vehicle speeds.	<b>Moderate</b>
<b>Reducing Speed Limits</b>	Setting speed limits to reflect the surrounding context of the roadway and that meet with driver expectations can help improve driver respect for speed limits. Speed limits that appear inconsistent may be ignored by the majority of drivers and this may contribute to lack of respect for speed limit and other traffic laws.	<b>Moderate</b>
<b>Improve Sight Distance</b>	Improving Sight Distance removes objects, such as parked vehicles or overgrown trees, that may prevent drivers and pedestrians from being able to clearly see oncoming and cross traffic. Improving Sight Distance improves safety by increasing all road users' awareness of their surroundings and time to react to changes in the road, such as intersections and midblock crosswalks.	<b>High-Moderate</b>
<b>Add Lighting</b>	Lighting is added at an intersection or along roadways. Adding intersection and/or pedestrian-scale lighting at intersections and along roadways improves safety by increasing visibility of all road users.	<b>High</b>
<b>Upgrade Lighting to LED</b>	Upgrading Lighting to LED replaces high-pressure sodium light bulbs with LED light bulbs in street lights. Upgrading Lighting to LED improves safety by increasing the visibility of pedestrians in crosswalks through greater color contrast and larger areas of light distribution.	<b>Somewhat</b>
<b>Relocate Select Hazardous Utility Poles</b>	Relocating or removing utility poles from within the clear zone alleviates the potential for fixed-object crashes. If utility poles cannot be completely eliminated from within the clear zone, efforts can be made to either relocate the poles to a greater offset from the road or delineated.	<b>High</b>
<b>Install Median Guardrail</b>	The installation of median guardrail is most suitable for use in traversable medians having no or little change in grade and cross slope. While these systems may not reduce the frequency of crashes due to roadway departure, they can help prevent a lane-departure crash from becoming a head-on collision.	<b>High</b>
<b>Install Impact Attenuation Devices at Select Roadside Hazard Locations</b>	An impact attenuator, also known as a crash cushion or crash attenuator, is a device intended to reduce the damage to vehicles, motorists, and structures as a result of a motor vehicle collision. Attenuators may be installed to protect bridge columns and other narrow roadside obstacles	<b>High</b>
<b>Create or Increase Clear Zone</b>	A clear zone is an unobstructed, traversable roadside area that allows a driver to stop safely or regain control of a vehicle that has left the roadway. The width of the clear zone should be based on risk (also called exposure). Key factors in assessing risk include traffic volumes, speeds, and slopes, in accordance to the AASHTO Roadside Design guide. Clear roadsides consider both fixed objects and terrain that may cause vehicles to rollover. Creating or increasing clear zones within horizontal curve sections may help agencies maximize use of the treatment while minimizing costs, as opposed to providing a clear zone throughout an entire corridor.	<b>High/Moderate</b>



### Effectiveness

<b>Highly Effective</b>	CMF < 0.75
<b>Moderately Effective</b>	0.75 < CMF < 0.90
<b>Somewhat Effective</b>	0.90 < CMF

All CMFs evaluated from CMF Clearinghouse

## Countermeasure Category: Programmatic



Countermeasure	Description	Effectiveness
<b>Educate businesses on HIN</b>	Conduct targeted education to businesses along the HIN corridors (e.g. use caution when exiting driveways). Educational materials could include pamphlets, stickers, window displays, etc.	<b>Not documented in research</b>
<b>Driver re-education course</b>	Develop a locally-sponsored driver re-education course for drivers that have received violations. Participation in the course could be a way to pardon a driver's first violation.	<b>Not documented in research</b>
<b>Enforcement priorities mandate</b>	Use crash history and corridors on the High Injury Network as one criterion for where to concentrate enforcement efforts. This may require some additional police department funding.	<b>Not documented in research</b>
<b>Education &amp; Public Awareness Campaigns (Speeding, Distracted Driving, DUI)</b>	A public education media campaign focused on discouraging drinking and driving and/or speeding, along with encouraging increased awareness of pedestrians and bicyclists at night and appropriate crosswalk behaviors can help promote behavior change. Messages about safe and responsible driving, moving over for EMS vehicles, awareness of bicyclists and pedestrians, and increasing visibility at night can help promote behaviors that prevent fatal and severe collisions. As an example, collaborating with local radio stations can help spread the message to drivers.	<b>Not documented in research</b>
<b>DUI Deterrence</b>	Deterrence policies focus on raising the actual and perceived risk of detection of driving under the influence. These policies should be highly visible to increase awareness of the risks of driving under the influence. Publicized sobriety checkpoints, saturation patrol, and other forms of high visibility enforcement are effective for safety outcomes.	<b>Not documented in research</b>
<b>DUI Prevention</b>	Prevention and education policies focus on mobilizing and educating the community, and intervening before driving under the influence takes place. According to NHTSA research, alcohol problem assessment and treatment programs, as well as alcohol intervention in settings such as a doctor's office, are highly effective strategies for improving safety outcomes.	<b>Not documented in research</b>
<b>State policy on enforcement cameras</b>	Advocate to the Washington State Legislature to expand the use of speed enforcement cameras anywhere rather than restricting them to school zones. This may require coordination with ACLU.	<b>Not documented in research</b>
<b>Placemaking in traffic safety initiatives</b>	Launch a countywide initiative to treat streets as places by incorporating permanent placemaking efforts (public art, green infrastructure and neighborhood amenities) into traffic safety initiatives. Prioritize the HIN and areas with high numbers of vulnerable users.	<b>Not documented in research</b>
<b>Safe speeds education campaign</b>	Launch a public safety education campaign targeting safe speeds. This could include yard signs, wall boards/posters in prime injury-corridor neighborhoods, ads on bus exteriors, radio ads, etc. To be particularly effective, this should be an ongoing program.	<b>Not documented in research</b>
<b>Neighborhood Slow Zones</b>	Develop a neighborhood slow zone program to allow neighborhoods to request treatments to slow motor vehicles to 15 to 20 mph using traffic calming features, signs, and markings. Selected locations are typically in areas serving children, seniors, public transit users, commercial activity, and pedestrian/bicycle activity.	<b>Not documented in research</b>
<b>Education campaign for youth</b>	Launch a countywide transportation safety education campaign targeting youth that covers a wide range of topics, such as alcohol and drug impairment, speeding, and potentially distracted driving.	<b>Not documented in research</b>
<b>Safe Routes to School</b>	Establish a Safe Routes to School (SRTS) program in partnership with school districts.	<b>Moderate</b>

### Effectiveness

<b>Highly Effective</b>	CMF < 0.75
<b>Moderately Effective</b>	0.75 < CMF < 0.90
<b>Somewhat Effective</b>	0.90 < CMF

All CMFs evaluated from CMF Clearinghouse

Countermeasure Category:

## Signals



Countermeasure	Description	Effectiveness
<b>Leading Pedestrian Interval</b>	A leading pedestrian interval (LPI) gives pedestrians the opportunity to enter an intersection 3-7 seconds before vehicles are given a green indication. With this head start, pedestrians can better establish their presence in the crosswalk before vehicles have priority to turn.	<b>Moderate</b>
<b>Pedestrian Countdown</b>	A Pedestrian Countdown signal displays the number of seconds remaining for a pedestrian to cross the intersection. Pedestrian Countdowns improve safety by providing pedestrians the information needed to determine if there is enough time to cross the street.	<b>Somewhat</b>
<b>Protected Left Turn Phase</b>	A Protected Left Turn Phase provide an exclusive phase for left-turning vehicles to enter an intersection. A Protected Left Turn Phase improves safety by removing potential vehicle-vehicle and vehicle-pedestrian conflicts.	<b>Somewhat</b>
<b>Signal</b>	A traffic signal organizes travel of all modes at an intersection by limiting interactions between vehicles, pedestrians, and bicyclists with conflicting movements. A traffic signal improves safety by having a traffic calming effect on long, high-speed straightaways.	<b>High</b>
<b>Upgrade Signal Heads</b>	Upgrading Signal Heads replaces existing 8-inch signal heads with 12-inch signal heads to comply with the MUTCD's guidelines. Upgrading Signal Heads improves safety by providing better visibility of intersection signals and by aiding drivers' advanced perception of upcoming intersections.	<b>Somewhat</b>
<b>Provide Advanced Dilemma Zone Detection</b>	Advanced dilemma zone detection systems enhance safety at signalized intersections by modifying traffic control signal timing to reduce the number of drivers that may have difficulty deciding whether to stop or proceed during a yellow phase. This may reduce rear-end crashes associated with unsafe stopping and angle crashes due to illegally continuing into the intersection during the red phase.	<b>High</b>
<b>Flashing Yellow Arrows at Signalized Intersections</b>	Flashing yellow arrows that are initially red for left and right turns at signalized intersections help to indicate to turning motorists that they need to yield to pedestrians and bicyclists.	<b>Moderate</b>
<b>Right Turn on Red Restrictions</b>	Right turn on red signs and restrictions at signalized intersections can reduce vehicle conflicts while turning, especially with bicycles and pedestrians.	<b>Somewhat</b>
<b>Adding Left Turn Lane</b>	A dedicated left turn lane improves safety by reducing vehicle-vehicle conflicts, and combined with a dedicated left turn phase at a signalized intersection, can reduce vehicle-pedestrian and vehicle-bicycle turning conflicts.	<b>Moderate</b>
<b>Adding Two Way Left Turn Lane (TWLTL)</b>	A TWLTL can provide a safe space for drivers to wait to turn left, and reduce vehicle-vehicle conflicts.	<b>Moderate</b>
<b>Prohibiting Left Turns</b>	Prohibiting left turns, either through signage or raised medians, can reduce vehicle conflicts while turning, especially with bicycles and pedestrians.	<b>Highly</b>



Effectiveness	
Highly Effective	CMF < 0.75
Moderately Effective	0.75 < CMF < 0.90
Somewhat Effective	0.90 < CMF

All CMFs evaluated from CMF Clearinghouse

Countermeasure Category:  
**Signing & Striping**



Countermeasure	Description	Effectiveness
<b>Rectangular Rapid Flashing Beacon</b>	A Rectangular Rapid Flashing Beacon (RRFB) is a pedestrian-activated flashing light with additional signage to alert motorists of a pedestrian crossing. An RRFB improves safety by increasing the visibility of marked crosswalks and provides motorists a cue to slow down and yield to pedestrians.	<b>High</b>
<b>Speed Feedback Sign</b>	A Speed Feedback Sign notifies drivers of their current speed, usually followed by a reminder of the posted speed limit. A Speed Feedback Sign improves safety by providing a cue for drivers to check their speed and slow down, if necessary.	<b>Somewhat</b>
<b>Upgrade Signs with Fluorescent Sheeting</b>	Upgrading Signs with Fluorescent Sheeting replaces existing signs with new signs that can clearly display warnings by reflecting headlamp light back to vehicles. Upgrading Signs with Fluorescent Sheeting improves safety by increasing visibility of signs to drivers at night.	<b>High</b>
<b>Upgrade to Larger Warning Signs</b>	Upgrading to Larger Warning Signs replaces existing signs with physically larger signs with larger warning information. Upgrading to Larger Warning Signs improves safety by increasing visibility of the information provided, particularly for older drivers.	<b>Somewhat</b>
<b>Stop for Pedestrian Sign</b>	The "Stop for Pedestrians" sign alerts drivers about the potential presence of pedestrians. The "Stop for Pedestrians" sign improves safety by providing motorists with advance notice to slow down for an upcoming crosswalk and stop for pedestrians if they are crossing the roadway.	<b>Moderate</b>
<b>Install Post Mounted Delineators at Horizontal Curves</b>	When used within horizontal curves, post-mounted delineators with retroreflective sheeting the full length of the post improves driver lane position both at the entry to the curve and at its midpoint.	<b>Moderate</b>
<b>Provide Flashing Beacons at Intersection Approaches</b>	Flashing beacons provide a visible signal to the presence of an intersection and can be very effective in rural areas where there may be long stretches between intersections as well as in locations where nighttime intersection visibility is an issue.	<b>Moderate</b>
<b>Install Curve Warning Signs</b>	Horizontal alignment signs, informally called curve warning signs, can improve safety by alerting drivers to changes in roadway geometry that may not be apparent or expected. These signs provide visual information for the driver about the nature of the curve they are approaching, letting them know whether it's a gradual curve, a sharp turn, a hairpin turn, or some combination	<b>High</b>
<b>Install Chevron Signs</b>	Chevron signs (or curve delineation signs) indicate to drivers the alignment of the roadway when they are within the actual horizontal alignment of a curve. The signs show the shape and degree of curvature, and they guide drivers through the entire curve or turn.	<b>Moderate</b>





Snohomish County  
**Road Safety Plan**

APRIL 2022

**Snohomish County**

3000 Rockefeller Ave  
Everett, WA 98201

FEHR & PEERS

An aerial photograph of a road intersection. A blue car is driving on the left side of the road, and a white truck is driving on the right side. The road has a double yellow line down the center and white lines on the edges. There are grassy areas and trees around the intersection. A dark blue box with a white border is overlaid on the top right of the image, containing the text "TRANSPORTATION ELEMENT" in white, bold, uppercase letters, with horizontal lines on either side of the word "ELEMENT".

# TRANSPORTATION — ELEMENT —

Snohomish County

**Transportation Element**

2024-2044

**Table TE-14 GMA Comp Plan System Improvements - Intersection Projects**

Project #	Map #	Term	TSA	Project Name	From	To	Description	Project Benefits							
								Concurrency		Supports Transit	Bicycle	Pedestrian	Safety	Freight	Centers Connectivity
								Congestion	Multimodal Corridors						
IN-003	3	Short	A	67th Ave NE/152nd St NE Intersection	N/A	N/A	Full intersection improvement- roundabout	X					X		X
IN-001	4	Short	A	140th St NE/23rd Ave NE Intersection	N/A	N/A	Full intersection improvements	X					X		X
IN-002	5	Short	A	67th Ave NE/132nd St NE Intersection	N/A	N/A	Full intersection improvements	X					X		X
IN-004	8	Short	B	84th St NE/123rd Ave NE Intersection	N/A	N/A	Minor intersection improvements - roundabout	X					X	X	
IN-005	9	Short	B	84th St NE/131st Ave NE Intersection	N/A	N/A	Minor intersection improvements (Turn lanes/pockets)	X					X	X	
IN-012	13	Short	B	S Machias Rd/Ok Mill Rd Intersection	N/A	N/A	Full intersection improvements	X					X		
IN-011	14	Short	B	S Machias Rd/Dubuque Rd Intersection	N/A	N/A	Minor intersection improvements (Turn lanes/pockets)	X					X		
IN-013	17	Short	C	S Machias Rd/Three Lakes Rd Intersection	N/A	N/A	Minor intersection improvements (Turn lanes/pockets)	X					X		
IN-010	52	Short	D/F	Maple Rd/Butternut Rd Intersection	N/A	N/A	Full intersection improvements - roundabout	X				X			
IN-006	56	Medium	C/F	Broadway Ave/164th St SE/Elliot Rd Intersection	N/A	N/A	Full intersection improvement - roundabout	X							
IN-009	62	Medium	F	Logan Rd/Damson Rd Intersection	N/A	N/A	Minor intersection improvements (Turn lanes/pockets)	X					X		
IN-014	70	Medium	E	45th Ave SE/228th St SE Intersection	N/A	N/A	Minor intersection improvements	X							
IN-015	71	Medium	E	45th Ave SE/240th St SE Intersection	N/A	N/A	Minor intersection improvements	X				X	X		
IN-008	72	Medium	F	Lockwood Rd/Locust Wy Intersection	N/A	N/A	Full intersection improvements - roundabout	X				X			
IN-007	73	Medium	F	Lockwood Rd/Carter Rd Intersection	N/A	N/A	Full intersection improvements - roundabout	X				X			
IN-016		Medium		Intersection Placeholder 1	N/A	N/A	N/A								
IN-017		Long		Intersection Placeholder 2	N/A	N/A	N/A								
IN-018		Long		Intersection Placeholder 3	N/A	N/A	N/A								
<b>Estimated Total Cost of Intersection Projects</b>												<b>\$63,000,000</b>			

The IRC identification process identifies deficiencies, which trigger certain mitigation requirements. If a location is designated as an IRC, and if planned development would adversely impact it, the developer must mitigate the IRC before a building permit can be issued. Moreover, the mitigation must be completed and accepted before a certificate of occupancy can be issued.

## **E. GOAL, OBJECTIVES, AND POLICIES**

**GOAL TR 2            Plan and provide a safe and equitable transportation system that enhances the health and welfare of all people in Snohomish County.**

**Objective TR 2.A            Collaborate and coordinate with WSDOT, the cities, the tribes, and transit agencies to develop and support an equitable transportation system and services that enhance the mobility of all people in Snohomish County.**

### **TR Policies**

- 2.A.1            Planning and programming for the County’s transportation systems shall not discriminate based on race, color, or national origin; and the county shall work to identify when transportation systems have or may adversely affected those populations, complying with the requirements of Title VI of the Civil Rights Act of 1964.
- 2.A.2            In planning for transportations systems, the County shall include community engagement that offers public input and meaningful collaboration for people with Limited English Proficiency (LEP), and historically and currently marginalized communities.
- 2.A.3            The County shall develop a transportation system that encourages a reduction of the negative impacts to human health.
- 2.A.4            The County shall design and construct transportation facilities that will accommodate elderly persons and persons with disabilities.
- 2.A.5            The County shall require that safe, accessible, and direct pedestrian facilities for all users are constructed along and from public rights-of-way to adjacent structures and developments.
- 2.A.6            The County shall work with cities, State, tribal, and transit agencies to prepare plans for locating transportation facilities and services that benefit historically and currently marginalized communities and minimize potential adverse impacts on those communities.

- 2.A.7 In cooperation with transit operating agencies, cities, WSDOT, and social service agencies, support mobility options for people with special transportation needs, including persons with disabilities, the elderly, children, and low-income populations.
- 2.A.8 The County shall work cooperatively with transit agencies and the local community to address impacts on communities when designing and locating transit centers.
- 2.A.9 The County’s transportation system shall be designed to improve multimodal access to schools; social services; grocery; medical, dental, and mental health services; and other community or neighborhood services.

**Objective TR 2.B      Maintain and enhance the safety of all users by identifying, evaluating, and developing countermeasures to address potential safety deficiencies in the County’s transportation system.**

**TR Policies**

- 2.B.1 A high priority shall be given to improvements that enhance the safety of County transportation facilities and services.
- 2.B.2 The County will work towards the goal of zero fatalities and serious injuries to improve the safety of the overall transportation system.
- 2.B.3 Develop, implement, and regularly review the County’s Road Safety Plan that identifies and evaluates potential safety deficiencies in the transportation system, guides countermeasures including adjusting speed limits, and incorporates best practices for future transportation projects.
- 2.B.4 Maintain a transportation safety program to implement transportation safety projects and programs that are equitable and inclusive.

**Objective TR 2.C      Provide and maintain County transportation facilities that enhance roadway safety for all users of the system and develop programs to identify and develop countermeasure to address potential hazards.**

**TR Policies**

- 2.C.1 County transportation facility standards shall be developed and maintained which enhance the roadway safety for all users of the system.
- 2.C.2 The County shall use professionally accepted best practices when integrating safety components into roadway improvement design.
- 2.C.3 Safety improvements needed on County roads due to the impact of new land development shall be provided concurrent with development.

- 2.C.4 Safe and effective traffic control or grade separations shall be built and maintained on County roads at railroad crossings, where practicable.

**Objective TR 2.D Provide and maintain active transportation facilities within unincorporated Snohomish County that enhance the safety and health of active transportation users.**

**TR Policies**

- 2.D.1 Within the County’s unincorporated UGAs, a safe system of active transportation facilities shall be planned for connecting residential areas, schools, recreation areas, business areas, transit stops and transfer points, and centers designated on the Future Land Use Map.
- 2.D.2 Planning and programming for active transportation facilities within the unincorporated County shall include considerations for minimizing conflicts with vehicle traffic, conflicts between bicycles and pedestrians, and the security and safety of adjacent residences and businesses.
- 2.D.3 Evaluate the County’s transportation system to identify effective ways to reduce the frequency and severity of crashes involving pedestrians or bicyclists.

**Objective TR 2.E Support hazard mitigation planning efforts to improve resiliency of the County’s transportation system.**

**TR Policies**

- 2.E.1 The County shall work to protect the transportation system from disasters by developing preventative and recovery strategies and coordinating emergency responses with local and regional agencies.
- 2.E.2 The County shall establish incident response plans with emergency routes that prioritize the movement of critical goods and services.

Climate change also affects transportation system safety and reliability. Heavy rains and flooding may disrupt transit service, commute travel and freight movement—all of which carry economic and social costs. System disruptions hit vulnerable populations—including older adults, low-income people, and English language learners—especially hard. These populations tend to have fewer transportation choices and fewer resources with which to buy goods and services to prepare for and recover from climate events.

Making the transportation system more resilient may be achieved with engineered “hard defenses,” such as seawalls, levees, and special pavements—or with approaches that rely on natural infrastructure such as wetlands, which “sequester” atmospheric carbon dioxide. In addition, resiliency can be built into transportation system management. For example, maintenance schedules can be adjusted to account for changing patterns of energy supply and demand, and structural measures, such as raising the height of bridges—to account for more extreme precipitation, flooding, and scour—can be taken. Building resiliency into infrastructure improves service reliability and extends asset life. The *Climate Change and Resiliency Element* discusses infrastructure resiliency in more detail.

## **D. GOAL, OBJECTIVES, AND POLICIES**

**GOAL TR 3            Plan and design transportation improvements and new County transportation facilities that avoid or mitigate adverse impacts on the natural environment, including the impacts from climate change, and encourage transportation improvements and new transportation facilities that will benefit the natural environment.**

**Objective TR 3.A            Prepare regionally consistent criteria and procedures using best available science to avoid or mitigate adverse environmental impacts from the County’s transportation system.**

### **TR Policies**

- 3.A.1            Develop the transportation system within unincorporated Snohomish County in a way that reduces pollution and the negative impacts to the climate and the natural environment.
- 3.A.2            The transportation facilities within unincorporated Snohomish County shall be designed to avoid or mitigate adverse impacts to shorelines, water and soil resources, and drainage patterns.
- 3.A.3            The transportation facilities within unincorporated Snohomish County, including circulation roadways and driveways, shall be located and designed to minimize the disruption of shorelines, critical areas, resource lands, and other environmentally sensitive areas.
- 3.A.4            Where disruption to shorelines, critical areas, resource lands, and other environmentally sensitive areas cannot be avoided, designs for transportation

## **G. GOAL, OBJECTIVES, AND POLICIES**

**GOAL TR 4**      **Plan, develop, and maintain a road network that enhances safety, mobility, and connectivity for all users and meets the County’s adopted multimodal Level of Service (LOS).**

**Objective TR 4.A**      **The County shall prepare long-range plans for future highway and County arterial roadways that provide adequate connectivity and preserve rights-of-way in consideration of existing and future development.**

### **TR Policies**

- 4.A.1      The County shall collaborate and coordinate with and encourage WSDOT to make the critical improvements to its State Routes necessary to provide efficient mobility within Snohomish County.
- 4.A.2      A countywide network of County arterials shall be identified that provide for multimodal transportation services between centers designated on the Future Land Use Map.
- 4.A.3      Principal and minor County arterial roadways serving centers designated on the Future Land Use Map shall be redesigned, improved, and maintained for multimodal transportation.
- 4.A.4      Future roadways and improvements of existing roads within unincorporated Snohomish County shall be planned to enhance multimodal traffic flow and the connectivity of countywide arterial roadways.
- 4.A.5      Roadway networks within unincorporated Snohomish County shall be designed to avoid concentrating the burden of traffic flow on a few roadways.
- 4.A.6      Roadway networks within unincorporated Snohomish County shall be designed and maintained to improve the efficiency of access to employment and community service centers.
- 4.A.7      The County shall incorporate complete street approaches in transportation planning to emphasize safe mobility for transportation system users of all ages and abilities.
- 4.A.8      Necessary improvements on rural roads shall be designed to maintain rural character, discourage unplanned rural growth, provide safe and efficient travel for residents of the rural area, and provide connectivity between urban areas.
- 4.A.9      Within unincorporated Snohomish County, bus stops, bus pullouts, and on-site circulation shall be located and designed to accommodate public transit where potential ridership warrants such improvements.

- 4.A.10 Roadway design standards within unincorporated Snohomish County shall be developed, revised, and implemented to ensure safe and efficient flow of traffic.
- 4.A.11 Existing roadways within unincorporated Snohomish County shall be improved to meet adopted design standards for the safety and mobility of pedestrians, public transit users, bicyclists and motorized traffic as part of construction of frontage improvements by developments and by the County, as funding allows within the County’s Capital Improvement Program.
- 4.A.12 To improve connectivity for all modes of transportation within unincorporated UGAs, the County should plan for a network of non-arterial roads that will improve safety, help address congestion, and enhance the character and affordability of the neighborhoods.

**Objective TR 4.B                    The County shall establish design and development standards to regulate access and on-site circulation, and to regulate the design and location of public and private access ways to maintain the safety and integrity of the transportation system.**

**TR Policies**

- 4.B.1 Adequate access to and circulation within all developments within unincorporated Snohomish County shall be maintained for emergency service vehicles.
- 4.B.2 Improvements needed to mitigate impacts caused by new developments taking access from an existing County roadway will be defined in County code and design standards.
- 4.B.3 Access and circulation provisions shall be pursued that reduce traffic congestion and lessen the need for County arterial capacity improvements and shall include, but are not limited to:
  - Subsection (a) allowing for more than one travel route to residences and/or businesses to facilitate emergency vehicle access and circulation,
  - Subsection (b) allowing active transportation access to schools, activity centers and neighborhoods along alternative travel routes, and
  - Subsection (c) allowing automobile access to schools, activity centers and neighborhoods along alternative travel routes.
- 4.B.4 County public road standards shall be developed and implemented using best practices so that roads are built at reasonable intervals to improve connectivity, and provide adequate property access, while considering topography, critical areas, and other constraints.
- 4.B.5 Development within unincorporated Snohomish County shall be required to dedicate, establish, or deed sufficient right-of-way to the County for road

## E. GOAL, OBJECTIVES, AND POLICIES

**GOAL TR 5**            **Plan, develop, and maintain active transportation facilities that enhance the safety, mobility, and connectivity for all users and are efficient in providing the County’s adopted multimodal Level of Service (LOS).**

**Objective TR 5.A**            **Plan, design, program, construct, and promote the use of safe, accessible, and effective active transportation facilities in unincorporated Snohomish County that improve the mobility and connectivity for all users.**

### TR Policies

- 5.A.1            The County shall maintain an active transportation program that will manage the planning and programming of pedestrian and bicycle facilities, coordinate on maintenance of active transportation facilities, and collaborates on Americans with Disability Act (ADA) transition planning, transportation improvement programs, and annual construction plans.
- 5.A.2            The County should work with other jurisdictions in Snohomish County to jointly develop compatible active transportation design standards.
- 5.A.3            The County shall implement the County’s ADA transition plan to ensure that transportation facilities in the public right-of-way are accessible for all users.
- 5.A.4            In collaboration with the cities, WSDOT, and tribes, the County shall identify and develop Countywide Connector bicycle routes that connect to major centers, high-capacity transit, and other major destinations within Snohomish County and the region.
- 5.A.5            The County shall identify and develop Urban Neighborhood bicycle routes that join Countywide Connector bicycle routes within the Urban Growth Areas and connect to major neighborhood destinations in the local community.
- 5.A.6            Active transportation connections shall be developed within unincorporated Snohomish County that provide access between public facilities and residential areas, especially where they serve a safety purpose.
- 5.A.7            The County shall invest in active transportation improvements within and between urban centers that serve public transit station areas within transit emphasis corridors.
- 5.A.8            The County shall develop design guidelines that are guided by Bicycle Level of Traffic Stress (B-LTS) for new bicycle facilities in Snohomish County to encourage more frequent bicycle use.

- Preservation of roadway capacity; and,
- Reduced greenhouse gas emissions.

### ***I. Development Transportation Demand Management (TDM) Requirements***

The County’s TDM provisions for developers (Chapter 30.66B SCC) use trip reduction as a strategy to address and mitigate the impacts of new development. TDM for developers provides incentives to implement a range of measures aimed at increasing the use of alternative travel modes. Examples of programmatic TDM measures include the following:

- Employment of transportation coordinators;
- Ride-match assistance;
- Preferential parking for carpools and vanpools;
- Flex-time;
- Transit subsidies;
- Increased parking fees, often in conjunction with reduced parking supply;
- Provision of shuttles for areas lacking parking; and,
- Site design features that improve pedestrian access and connectivity.

### ***II. The State Commute Trip Reduction Program***

The State’s Commute Trip Reduction (CTR) program, adopted in 1991, requires large employers to develop programs designed to decrease the use of single-occupant vehicles for peak period commuting. The CTR program reflects the need for partnerships between public and private sectors to find efficient ways to get people to work within the constraints of a congested roadway system.

CTR’s success depends on both regulations and incentives. Regulations take the form of local jurisdictions requiring that employers implement programs. Meanwhile, incentives involve transit agency support of employers, which may take the form of technical assistance, marketing, training, and/or recognition.

The CTR program in unincorporated Snohomish County is administered by the County’s Public Works Department, which reviews employers’ proposed plans. Once the employer’s program has been reviewed and approved, the County continues to monitor progress toward trip reduction performance objectives. Programs that fail to show progress may be required to intensify their efforts.

## **E. GOAL, OBJECTIVES, AND POLICIES**

**GOAL TR 8            Design and enhance the transportation system with projects and programs that improve efficiency and use multimodal Levels of Service (LOS) standards to monitor system performance.**

**Objective TR 8.A            Develop and implement multimodal LOS standards that can be used to gauge the performance of the transportation system.**