CITY OF SEQUIM

Comprehensive Safety Action Plan

City of Sequim, WA

Prepared for City of Sequim

Prepared by Transpo Group

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Table of Contents

1. Introduction 1

Vision Zero 1
Washington State's Target Zero Program 3
What is a Comprehensive Safety Action Plan? 3
Safe System Approach 4
Vulnerable Roadway Users 6
Sequim Vision Zero Commitment 6
Target Zero Task Force 6

2. Safety Analysis 7

Existing Transportation Infrastructure 7
Crash Data Summary 8
Crash Data Statistical Analysis 9
Crash Data Spatial Analysis 11

3. Demographic Analysis 13

Identifying Disadvantages 13
City of Sequim Demographic Summary 14
Summary 26

4. Community Engagement and Outreach 28

Online Survey 28
Open House 30

5. Safety Risk Factors 32

Pedestrian Crashes 32
Angle Type Crashes 32
Rear-End Crashes on Signalized Corridors 32
Speed-Related Crashes 32

6. Transportation System Counter-Measures & Improvements 33

Project 1: Citywide Signal Equipment Upgrades (Systemic Safety Project) 35
Project 2: Citywide Crosswalk Enhancement Program (Systemic Safety Project) 37



Project 3: Citywide Speed Limit & Traffic Calming Study and Speed Mitigation (Systemic Safety Mitigation) 39
Project 4: Fir Street Pedestrian & Bicycle Improvements (Corridor Safety Project) 40
Project 5: Spruce Street Bicycle Boulevard (Corridor Safety Project) 42
Project 6: South Sequim Complete Streets Improvements – Phase 1 (Corridor Safety Project) 44
Project 7: South Sequim Complete Streets Improvements – Phase 2 (Corridor Safety Project) 46
Project 8: N 3rd Avenue Complete Street (Corridor Safety Project) 48
Project 9: West Washington Street Safety Improvements (Corridor Safety Project)..... 51
Project 10: East Washington Street Pedestrian & Bicycle Improvements (Corridor Safety Project) . 53
Project 11: Sunnyside Avenue Bicycle & Pedestrian Improvements (Intersection Safety Project).... 55
Project 12: Brownfield Road Speed Mitigation 57

7. Safety Policies and Procedures.....58

Speed Limit Policy 58
Traffic Calming Policy..... 58
Complete Streets Policy..... 59
ADA Transition Plan 59
City of Sequim Engineering Standards..... 60

8. Evaluation and Reporting.....61

Safety Action Plan Progress Reporting 61
Safety Action Plan Progress Evaluation 61

List of Appendices

Appendix A: Sequim Vision Zero City Council Resolution
Appendix B: Detailed Collision Maps
Appendix C: Safety Project Prioritization

List of Figures

Figure 1.1 Traditional Approach vs Vision Zero 2
Figure 1.2 Target Zero Manager (TZM) Regions 3
Figure 1.3 Safe System Approach 5
Figure 3.1 Disadvantaged Population Summary – City of Sequim 14
Figure 3.2 Disadvantaged Component Scores – City of Sequim 15
Figure 3.3 Disadvantaged Component Scores – Sequim Disadvantaged Census Tract 16
Figure 3.4 Climate & Disaster Risk Burden Disadvantage Indicators – City of Sequim 17
Figure 3.5 Climate & Disaster Risk Burden Disadvantage Indicators – Sequim Disadvantaged Census Tract 18
Figure 3.6 Environmental Burden Disadvantage Indicators – City of Sequim 19
Figure 3.7 Environmental Burden Disadvantage Indicators – Sequim Disadvantaged Census Tract 20
Figure 3.8 Health Vulnerability Disadvantage Indicators – City of Sequim 21
Figure 3.9 Health Vulnerability Disadvantage Indicators – Sequim Disadvantaged Census Tract 21
Figure 3.10 Health Vulnerability Disadvantage Indicators – City of Sequim 23
Figure 3.11 Social Vulnerability Disadvantage Indicators – Sequim Disadvantaged Census Tract 24
Figure 3.12 Health Vulnerability Disadvantage Indicators – City of Sequim 25
Figure 3.13 Social Vulnerability Disadvantage Indicators – Sequim Disadvantaged Census Tract 25
Figure 4.1 Public Outreach – Locations with Safety Concerns 31
Figure 6.1 Citywide Signal Equipment Upgrades 36
Figure 6.2 Citywide Crosswalk Enhancement Program 38
Figure 6.3 Fir Street Pedestrian & Bicycle Improvements 41
Figure 6.4 Spruce Street Bicycle Boulevard 43
Figure 6.5 Mini-Roundabout Conceptual Layouts 43
Figure 6.6 South Sequim Complete Streets Improvements – Phase 1 45
Figure 6.7 South Sequim Complete Streets Improvements – Phase 2 47
Figure 6.8 N 3rd Avenue Complete Street 49
Figure 6.9 West Washington Street Safety Improvements 52
Figure 6.10 W Washington Street Access Management Median Concept 52
Figure 6.11 East Washington Street Bicycle & Pedestrian Improvements 54
Figure 6.12 Median Diverter Conceptual Schematic 55
Figure 6.13 Sunnyside Avenue Bicycle & Pedestrian Improvements 56
Figure 6.14 Brownfield Road Speed Mitigation 57

1. INTRODUCTION

The City of Sequim (the "City") is dedicated to addressing systemic transportation safety risk factors by modifying and improving Citywide transportation networks for users of all modes, ages and abilities.

The City's commitment is to people-oriented travel, including vulnerable active transportation users of all ages and abilities. Sequim seeks to reduce the total number of crashes and the severity of crashes that do occur. To address transportation safety more effectively, Sequim has prepared a Comprehensive Safety Action Plan (CSAP), which takes a data-based, proactive approach to identifying potential safety concerns. This document has been prepared consistent with the Federal Highway Administration's (FHWA) Safe Streets and Roads for All (SS4A) program requirements and builds on previous transportation safety planning efforts conducted as part of the preparation of the City's Local Roadway Safety Plan (LRSP) in January 2024. With the support of detailed analysis and community input, the CSAP identifies systemic improvements to the transportation network and updates to the City's safety policies and procedures to reduce fatal and serious injury collisions on the City's transportation network.

VISION ZERO

According to the national Vision Zero Network, Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all. First implemented in Sweden in the 1990s, Vision Zero has proved successful across Europe and is now gaining momentum in the United States as a critical tool to help reverse the trend of annual increases in fatal and serious injury collisions.

Since the rise of automobiles over one hundred years ago, society has considered traffic deaths and severe injuries to be inevitable side effects of modern life. The reality is that these tragedies can be reduced or even prevented by taking a proactive, preventative, systemic approach that prioritizes traffic safety as a public health issue. The significant loss of life exacts a tragic toll, extending beyond personal loss to deep family and community impacts, including, but not limited to:

- Mental and emotional trauma to those individuals and families suffering
- Personal financial costs for short-term medical bills and long-term physical and mental health rehabilitation, treatment, and medications
- Taxpayer spending on emergency medical and law enforcement response, and
- Increased long-term societal healthcare costs.

In addition, many people fear for their safety on public streets, which may lead them to stay home or to drive instead of walking, biking, or riding transit. This can diminish an individual's freedom of mobility, and, as a result, societal public health suffers increasing rates of sedentary diseases, vehicle miles traveled, and greenhouse gas emissions.

Vision Zero is a significant departure from the status quo in two major ways:

1. Vision Zero recognizes that people will sometimes make mistakes, so the road system and related policies should be designed to ensure those inevitable mistakes do not result in severe injuries or fatalities. This means that system designers and policymakers are expected to improve the roadway environment, policies (such as speed management), and other related systems to lessen the severity of crashes.

2. Vision Zero is a multidisciplinary approach, bringing together diverse and necessary stakeholders to address this complex problem. In the past, meaningful, cross-disciplinary collaboration among local transportation planners and engineers, policymakers, and public health professionals has not been the norm. Vision Zero acknowledges that many factors contribute to safe mobility -- including roadway design, speeds, behaviors, technology, and policies -- and sets clear goals to achieve the shared goal of zero fatalities and severe injuries.

Communities that want to succeed at Vision Zero need to acknowledge that business as usual is not enough and that **systemic changes** are needed to make meaningful progress.

Committing to Vision Zero will take the following strategies:

- Building and sustaining leadership, collaboration, and accountability – especially among a diverse group of stakeholders to include transportation professionals, policymakers, public health officials, police, and community members.
- Collecting, analyzing, and using data to understand trends and potential disproportionate impacts of traffic deaths on certain populations, especially vulnerable road users and historically underserved areas.
- Prioritizing accessible, equitable, and inclusive community engagement.
- Managing vehicle operating speeds to safe levels; and
- Setting a timeline to achieve zero traffic deaths and serious injuries, which brings urgency and accountability, and ensuring transparency on progress and challenges.

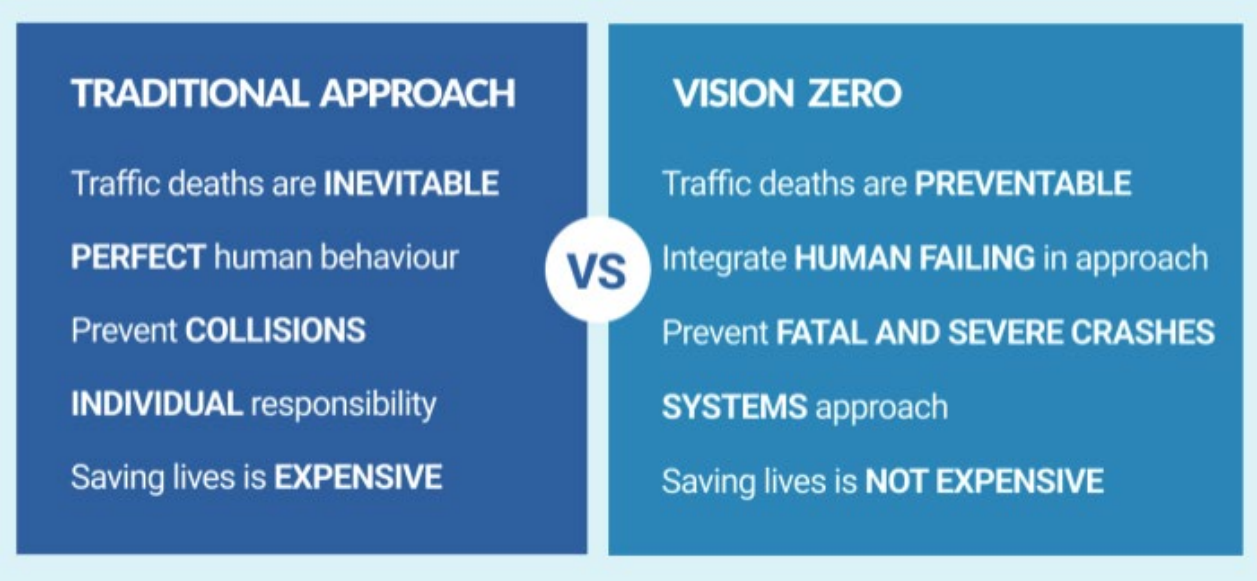


Figure 1.1 Traditional Approach vs Vision Zero

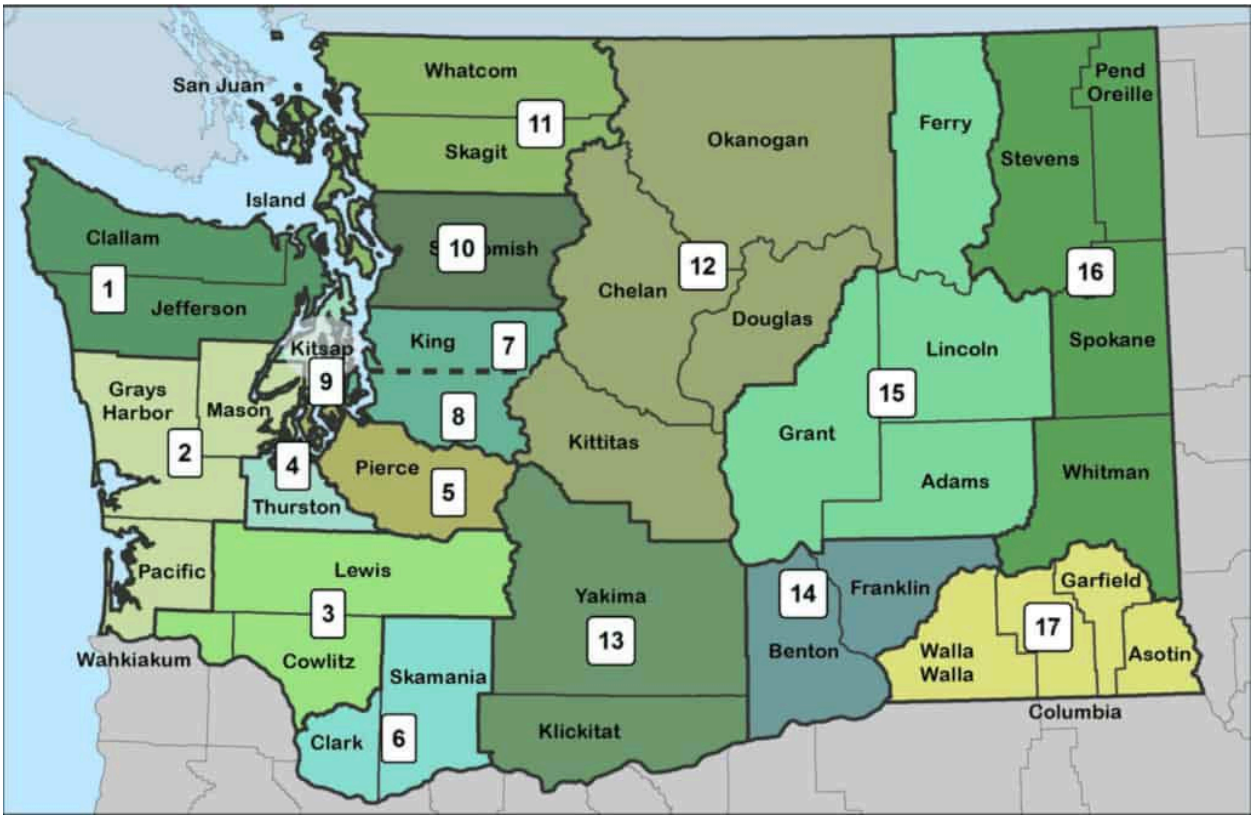


Figure 1.2 Target Zero Manager (TZM) Regions

(Source: Washington Traffic Safety Commission)

WASHINGTON STATE'S TARGET ZERO PROGRAM

In line with national initiatives to improve roadway safety, the State of Washington adopted (and is in the process of updating) the Target Zero vision for achieving zero traffic-related fatalities and serious injuries on Washington's roadways by 2030. Washington State developed the nation's first Target Zero Plan in 2000 to guide efforts for achieving this goal. Since then, the State continues to move in the direction of improving roadway safety, with the Washington Traffic Safety Commission (WTSC) tasked with advancing and implementing the best practices, priorities, and solutions outlined in the Target Zero Plan.

As part of these efforts, WTSC supports a statewide network of 17 Target Zero Managers (TZM) to facilitate the State's Target Zero Program at the local level and address regional safety concerns. The City of Sequim is located within TZM Region 1 which covers Clallam and Jefferson Counties (Figure 1.2). Through the Target Zero program, Washington State is building a strong traffic safety culture in our communities.

WHAT IS A COMPREHENSIVE SAFETY ACTION PLAN?

In the USDOT Safe Streets and Roads for All (SS4A) program, a Comprehensive Safety Action Plan (CSAP) is the basic building block to significantly improve roadway safety. A CSAP is

aimed at reducing and eliminating serious-injury and fatal crashes affecting all roadway users by conducting data analysis to characterize roadway safety problems and strengthen a community's approach through projects and strategies that address the most significant safety risks and the most vulnerable road users. The SS4A program is guided by the Safe System Approach, which involves a paradigm shift to improve safety culture, increase collaboration across all safety stakeholders, and refocus transportation system design and operation on anticipating human mistakes and lessening impact forces to reduce crash severity and save lives. As part of the Vision Zero program, WSTC adapted USDOT's Safe System Approach to be more applicable to the needs and priorities of the state's roadway network.

Safe System Approach

This CSAP presents the City's roadmap to achieving its Vision Zero goals. It is grounded in the Safe System Approach, which aims to eliminate fatal and serious injuries by anticipating human mistakes and minimizing impacts on the human body when crashes do occur.

The six statements wrapped around the outside ring of Figure 1.3 are the fundamental **principles** that the Safe System Approach is built on.

1. ***Death & serious injury is unacceptable.*** While no one likes to get in a fender-bender, this plan prioritizes addressing crashes that lead to deaths and serious injuries.

2. ***Support Safe Road Use.*** Even the best drivers will inevitably make mistakes that can lead to a crash. How we design and operate our transportation system can ensure these mistakes don't have life-altering impacts.

3. ***Prevent Exposure to Large Forces.*** Human bodies can only withstand so much impact from a crash before death or serious injuries occur. Designing a system to accommodate and protect physical vulnerabilities is central to a safe network.

4. ***Responsibility is shared.*** All parts of our transportation system, from elected officials to everyday users, to planners and engineers, play a role in Vision Zero.

5. ***Safety is proactive.*** Rather than waiting for crashes to occur, transportation agencies should seek to proactively identify and address dangerous situations.

6. ***Strengthen all parts.*** Improving all elements of the transportation system is key to creating a safe system, Redundancy is essential, so if one part fails, roadway users are still protected.



Figure 1.3 Safe System Approach

(Source: Washington State Strategic Highway Safety Plan 2024)

Elements of the Safe System Approach

The six pie-shaped segments inside the ring of the graphic above are the **implementation elements** of the Safe System Approach.

1. Safer Road Users. Working towards a culture of safety starts with developing a network of civic partners, educating road users, and creating personal connections to the community's Vision Zero efforts.

2. Safer Lane Use. When land use and transportation networks are planned together, strong multimodal connections allow greater access by walking and biking and reduce human exposure to collisions by reducing the number of vehicles on the road.

3. Safer Vehicles. Making vehicles safer can be done through advanced driver assistance systems and by ensuring future technology prioritizes vulnerable roadway users.

4. Safer Speeds. Slower vehicle speeds increase visibility and reaction times for drivers and reduce impact forces when a crash occurs. Moving towards safe speeds can be done through speed limit reduction, traffic calming, and roadway design.

5. Safer Roads. Safer roads come from providing physical separation (like separated bike lanes

and sidewalks) as well as designing to accommodate human mistakes.

6. Post-Crash Care. A system-wide approach means working towards safety even after a crash has occurred. This comes from improving emergency response, traffic incident reporting, and traffic management.

Vulnerable Roadway Users

This Plan is using the Revised Code of Washington (RCW) definition for **vulnerable roadway users.** Senate Bill SSB 5326, passed during the 2011 Legislative Session, created a new traffic infraction called "Negligent Driving 2nd - Vulnerable Users" (RCW 46.61.526). This infraction is cited when a person operates a vehicle in a manner that was both negligent and was a proximate cause of substantial bodily harm, great bodily harm, or death of a vulnerable user of the public roadway. As listed in RCW 46.61.526 (11) (c) ***"Vulnerable user of a public way" means (i) A pedestrian; (ii) A person riding an animal; or (iii) A person operating or riding any of the following on a public way: (A) A farm tractor or implement of husbandry, without an enclosed shell; (B) A bicycle; (C) An electric-assisted bicycle; (D) An electric personal assistive mobility device; (E) A moped; (F) A motor-driven cycle; (G) A motorized foot scooter; or (H) A motorcycle.***

When a crash occurs, people walking, bicycling, and riding motorcycles are much more likely to be killed or seriously injured than people driving vehicles. Vehicle safety technology has seen significant advancements in recent decades, with airbags, anti-lock brakes, and lane-awareness sensors all working to protect a driver in a crash. Unfortunately, pedestrians, bicyclists, and motorcyclists are unprotected on most roadways and are especially vulnerable to the impact of a crash.

Sequim Vision Zero Commitment

Along with the adoption of this CSAP, the Sequim City Council plans to adopt a resolution which codifies the City's commitment to Vision Zero (see Appendix A), focusing on eliminating roadway fatalities and serious injuries within the City by 2035. This resolution builds upon the belief that traffic fatalities and serious injuries are unacceptable and preventable (rather than inevitable), and that, by employing a Safe Systems approach, the City can achieve a roadway system that protects all users. As part of this commitment, the City emphasizes the importance of identifying safety improvements based on community input and proving benefits to the historically underrepresented populations.

Target Zero Task Force

The City of Sequim continues its proactive engagement in regional traffic safety initiatives as an active participant in the Target Zero Manager (TZM) Region 1 Task Force. The Task Force is comprised of staff from the Washington State Patrol, Clallam and Jefferson Counties, the cities of Port Angeles, Sequim, Forks and Port Townsend, and tribal governments.

Engagement with the Task Force has been critical for the development and ongoing implementation and monitoring to effectively execute the goals of the CSAP. This continuous partnership exemplifies the City of Sequim's commitment to maintaining and advancing a safe, efficient, and well-coordinated approach to roadway safety, benefiting all community members and aligning with regional safety objectives.

2. SAFETY ANALYSIS

This chapter summarizes existing conditions and current trends of Sequim's transportation network.

EXISTING TRANSPORTATION INFRASTRUCTURE

Streets

The City's street system forms the backbone of the transportation network, and shapes how the community navigates the built environment. Most of Sequim's streets were designed with vehicular mobility as the primary objective, with fewer amenities provided for more vulnerable users such as pedestrians and bicyclists. One of the main streets in the City is Washington Street. Before the construction of US Highway 101 to the south, Washington Street was formerly a state highway. Now it acts as a main roadway providing access to many of the City's commercial land uses. US Highway 101 separates the downtown core from Sequim's suburban residential neighborhoods which take the form of sprawling cul-de-sacs nestled in the hills.

There are 54 miles of public streets inside Sequim's city limits, surrounded by several more miles of pedestrian and bike paths including the Olympic Discovery Trail. Some streets are furnished with curb, gutter, sidewalk and lighting, but there are also a number of streets, especially in the South Sequim area, with no defined curb or active mode facilities where all modes mix on low speed, low volume roadways. There are marked bike lanes on N Sequim Avenue (both sides) from E Fir to Old Olympic Highway roundabout, N 5th Avenue (both sides), and on N 7th Avenue (both sides). Paved separated paths can be found along W Hendrickson Road, N Priest Road, and W Brackett Road. Multiple traffic calming measures and high visibility pedestrian crossings are installed on Washington Street.

Sequim considers each street and its role or function within the context of the overall transportation network using a functional classification system. This system identifies the role of each street along with its planned future size and profile. Selected streets in Sequim are designated as freight routes to minimize the impact that large trucks have on already strained intersections like Sequim Avenue and Washington Street.

Sequim Roadway Functional Classifications
Principal Arterials
Minor Arterials
Collector Arterials
Local Streets (including Residential, Local Access, And Shared Streets)

Intersection Control

The majority of the City's intersections are controlled by 2 or 4-way stop signs. The City owns eight (8) traffic signals, located on Washington Street and 5th Avenue at the following intersections

- N 5th Avenue and W Hendrickson Road
- N 5th Avenue and W Fir Street
- W Washington Street and 7th Avenue
- W Washington Street and 5th Avenue
- W Washington Street and 3rd Avenue
- Washington Street and Sequim Avenue
- W Washington Street and N Priest Road
- E Washington Street and Lee Chatfield

Three roundabouts are located within the City of Sequim street network, located at:

- N Sequim Avenue-Dungeness Way and Old Olympic Highway along the northeastern City limits
- Washington Street at River Road
- Washington Street at S. 9th Avenue

Active Transportation

Sequim's transportation system is "designed to move people and goods, not just cars and trucks" as cited in the City's Transportation Master Plan. Consideration is given to the development of multimodal options and the safety of pedestrians and the City's growing number of cyclists through a number of planning efforts and programmatic strategies such as the City's recently adopted ADA Transition Plan, the development of the Layered Network described in its Transportation Master Plan, and its commitment to maintaining its Bronze level "Bicycle Friendly Community" status, awarded by the League of American Bicyclists.

Sequim's location on the Olympic Peninsula places it near Olympic National Park recreation facilities and the Olympic Discovery Trail bisects the City, approaching from Sequim Bay to the east and continuing west to the City of Port Angeles with access to the Hurricane Ridge Visitor's Center in Olympic National Park. The City's gridded downtown network is also conducive to higher rates of active mode for access to businesses, services and recreation opportunities. Some of the City of Sequim's lower volume residential roadways, especially south of Washington Street, have, historically, been used as shared spaces by drivers and those using active transportation. The City's recent projects have included several improvements to crossings and linear active mode facilities and the City intends to continue to seek funding partnerships to leverage local funds and grow the City's high comfort active mode network.

Transit

Sequim is connected to the region by Clallam Transit Interlink and Route 30 commuter service. Transit services are available weekdays and Saturdays. Interlink service is available on demand from 8:30am to 4:40pm within the designated service area without need for additional eligibility. Route 30 provides fixed route service between Port Angeles and Sequim between 6:45am and 10:05pm Monday through Friday and between 8:50am and 8:30pm on Saturdays with headways ranging from 30-60 minutes. Clallam Transit also provides Strait Shot Bus Service (Port Angeles to Kingston Ferry) with a stop in Sequim and Route 50 to Jamestown. Jefferson Transit also provides #8 Sequim Route from Port Townsend to Sequim.

Rideshare and taxi services are very limited in the City and are not considered a viable option for most trips within the City.

CRASH DATA SUMMARY

During the 5-year study period (2018-2022), 386 crashes occurred on City roads. Of those collisions, 5, (1.3 percent) resulted in a serious injury or fatality (F/S), 2 of which involved pedestrians in marked crosswalks. Table 1 displays the total and F/S crashes for each of the years in the 2018-2022 period compared to the total and F/S crash rates for the previous five-year period.

The total number of crashes was 5 percent lower in the current 5-year (2018-2022) period than the previous 5-year period (2013-2017). The number of crashes that resulted in a serious outcome (F/S) remained the same. The one fatal crash in Sequim in the last 10 years of data occurred in 2020 in a marked crosswalk. The statistical similarity between the two five-year periods reflects the random nature of crashes and is not necessarily indicative of an overall trend in crashes in the City.

Table 2.1 Sequim Citywide Collision Summary

	2018	2019	2020	2021	2022	Most recent 5-Year Period 2018–2022	Previous 5-Year Period 2013–2017
Fatal Crashes	0	0	1	0	0	1 (0.3%)	0
Serious Injury Crashes	1	0	0	2	1	4 (1.0%)	5 (1.2%)
Total Crashes	69	104	72	72	69	386	407

Source: WSDOT, November 2023
Note: Table does not include data for US 101

CRASH DATA STATISTICAL ANALYSIS

The summary data for reported crashes on City roads was compared to statewide and western Washington crash statistics to identify overrepresented causes of crashes related to the transportation user (drivers, cyclists, and pedestrians) and the transportation environment (roadway geometry, characteristics, enhancements, etc.). Contributing factors or conditions which were cited in severe injury or fatal (F/S) crashes within Sequim are identified. Crash data statistical analysis includes targeted research into the causes related to the transportation user, and the transportation environment that are contributing to crashes. Identifying trends in the historical data can help to identify a systemic, prioritized approach of countermeasures to proactively address future crashes. While the focus of the CSAP is on crashes with severe injuries or fatalities, in order to avoid any statistical bias that could miss larger crash trends, the data for all crashes was analyzed for over-representation of contributing factors.

WSDOT crash data is separated between western, eastern and all-state data due to the general differences in size and layout of cities in the two halves of the state. The crash data for all cities is provided. The crash data for Sequim is in many instances similar to or lower than that of other cities. While crashes involving pedestrians and cyclists typically have a higher chance of resulting in fatality or serious injury, both of these crash types are cited in a lower percentage of all crashes in the City than in other comparable cities. Rates of F/S rear end crashes were cited in a lower percentage of Sequim crashes compared to other cities, as were F/S crashes involving cyclists. Crash statistics lower than comparable locations could be due to limited exposure (i.e. lower numbers of pedestrians and cyclists present on City roads compared to other locations), and positive design elements on City roads. The City's historical and ongoing efforts to address transportation safety have been effective and are represented in the crash data. Contributing factors to crashes on City streets, which do appear to be overrepresented in the data, fall into the following categories.

Pedestrian-Involved Crashes

Pedestrian-involved crashes accounted for 40 percent of the F/S crashes in Sequim, compared to 27 percent on Western Washington city streets, and 26 percent on city streets throughout Washington.

70 percent of total crashes involving a pedestrian, and 67 percent of serious injury or fatal pedestrian crashes happened in marked crosswalks, however at least one pedestrian serious injury crash listed failure to use crosswalk as a contributing circumstance in the crash.

Sequim F/S pedestrian crashes are about 10 percent more frequent than other cities. Total pedestrian crashes in Sequim are similar to other cities.

Cyclist-Involved Crashes

3 percent of total crashes in Sequim involved a cyclist, but none of the crashes involving cyclists resulted in a severe outcome (severe injury or fatality). In comparison to total crashes in other jurisdictions, cyclist crashes accounted for 2 percent in other Western Washington cities, and 2 percent on all city streets in Washington. Sequim experiences a higher percentage of cyclist crashes than other cities, which could be a result of increased exposure relative to overall traffic volumes.

Active Transportation Facility Crash Relationship

The rates of pedestrians being struck in marked crosswalks in Sequim is high compared to other locations for both all and serious outcome crashes. Cyclist crashes were low in Sequim for both all and severe crashes, regardless of the type of facility used. The higher percentage of cyclist crashes occurring in the roadway may indicate a smaller existing network of designated bike facilities. The percent of crashes involving these active mode facilities is shown in Table 2.

Angle Crashes

The vast majority of all collisions during this time period in Sequim were angle type crashes. An angle type crash is one where one vehicle hits the side panel of another in a roughly perpendicular configuration. During the study period, angle crashes happened about 6 percent more frequently in Sequim than on all city roads in the state, and about 7 percent more than in other west-side cities. Severe outcomes resulting from angle crashes were reported 4 to 6 percent less frequently than other locations as shown in Table 3.

Rear-End Crashes

The second most frequent crash type in Sequim, rear end crashes, occurred at a slightly higher rate than other locations for crashes of all outcomes, but at lower rates for severe crashes, summarized in Table 4. Sequim's increased rate of rear end crashes is indicative of congestion, especially on Washington Street, and could also be a consequence of the concentration of Sequim's traffic volumes on Washington Street.

Table 2.2 Sequim Citywide Collision Summary – Active Transportation Crashes

	% of Total Crashes			% of Serious Injury & Fatal Crashes		
	All WA City Roads	Western WA City Roads	Sequim Roads	All WA City Roads	Western WA City Roads	Sequim Roads
Pedestrian Crashes	2.9% (6,137)	3.1% (5,009)	2.3% (9)	26.4% (1,296)	27% (1,032)	40% (2)
Pedestrian in Marked Crosswalk	45.1% (3,100)	46.1% (2,573)	70% (7)	33.2% (488)	34.2% (400)	66.7% (2)
Bicycle Crashes	1.9% (4,035)	2.1% (3,329)	2.6% (10)	9.3% (457)	9.9% (376)	0% (0)
Cyclist using Designated Bike Route	20.4% (831)	0.5% (28)	0% (0)	18.5% (88)	21.1% (83)	0% (0)

Source: WSDOT, November 2023
Note: Table does not include data for US 101

Table 2.3 Sequim Citywide Collision Summary – Angle Crashes

	% of Total Crashes			% of Serious Injury & Fatal Crashes		
	All WA City Roads	Western WA City Roads	Sequim Roads	All WA City Roads	Western WA City Roads	Sequim Roads
Angle Crashes	38.8%	37.6%	44.8%	26%	24.2%	20%

Source: WSDOT, November 2023
Note: Table does not include data for US 101

Table 2.4 Sequim Citywide Collision Summary – Rear-End Crashes

	% of Total Crashes			% of Serious Injury & Fatal Crashes		
	All WA City Roads	Western WA City Roads	Sequim Roads	All WA City Roads	Western WA City Roads	Sequim Roads
Rear End Crashes	19.1%	19.1%	24.9%	4%	4%	0%

Source: WSDOT, November 2023
Note: Table does not include data for US 101

CRASH DATA SPATIAL ANALYSIS

Contributing Factors

Transpo Group obtained crash-by-crash data from SECTOR and WSDOT public records for reported crashes during the study period in Sequim, including coordinates, to produce maps of crash locations and reported contributing circumstances. Mapping of crash data allows for identification of patterns by physical location and by the roadway environment. The spatial analysis compliments the statistical analysis and helps to identify specific risk factors for future crashes. A selection of the maps generated, matched to the analyses below, are included in Appendix B.

Angle Crashes

Analysis of angle crashes revealed that intersections most frequently associated with high rates of both all angle crashes and F/S angle crashes were those with two-way stop controls. Along several corridors in the City, angle crashes occurred during the study period at nearly every intersecting roadway. The regularity of the crashes at each intersection indicates that there may be a systemic concern that is contributing to an increased crash risk for intersections in these corridors.

Three corridors were specifically targeted for further analysis and potential improvement:

- N 5th Avenue from Washington Street to W Hendrickson Road
- Spruce Street from N 3rd Avenue to N Brown Road
- W Maple Street from S 3rd Avenue to S Sunnyside Avenue

Rear End Crashes

Over 85% of the rear end type crashes occurred on or within 1 block of Washington Street, and an additional 5% occurred at signalized intersections on 5th Avenue. Analysis of rear end crash locations showed clusters of crashes along Washington Street, with concentrations at 7th Avenue, 5th Avenue, and S Sequim Avenue. Additional locations with lesser concentrations of rearend crashes include W Hendrickson Road and N 5th Avenue, Washington Street at S Prairie Road, and the SR 101 interchange at River Road. Because the rear end crashes were concentrated in the signalized intersection corridors, the likely

cause is congestion due to the signal operations. The lack of severity of rear end crashes in Sequim, combined with the spatial location in the signalized corridors makes rear end crashes a lower priority for countermeasure projects.

Active Mode Crashes

S Sequim Avenue from E Maple street to E Fir Street had the highest number of active mode crashes. Other locations with higher concentrations of pedestrian and cyclist involved crashes included Washington Street, N 5th Avenue, and the Walmart parking lot. A fatal pedestrian crash happened in the mid-block marked crosswalk located on E Maple Street, east of S Sequim Avenue. Failure to use the crosswalk was cited as a contributing factor in the serious injury pedestrian crash that occurred at S 7th Street and W Washington Street.

Location of Crashes

Using information gathered from the City of Sequim's Transportation Master Plan, crashes were spatially mapped and compared to volumes on roadway segments throughout the City. Maps depicting the crash rate spatial analysis can be found in Appendix B. Information gathered on crash rates through the spatial analysis informed the selection of project locations for countermeasures.

Spatial data and analysis on the concentration of crashes and rates of crashes in certain areas of the City contributed to the prioritization and location of projects identified in Chapter 10.

Crash Concentration

Washington Street had the highest concentration of crashes, which is not an unexpected result given the roadway's classification, importance to the City's transportation network and overall traffic volume. The highest rates of crashes on segments of Washington Street occurred between Priest Road and 9th Avenue as well as between Brackett Road and 5th Avenue. The least concentration of crashes on Washington Street occurred between Sunnyside and Dunlap, east of Sequim Avenue.

Other segments with significant crash concentration included N Sequim Avenue north and south of Port Williams Road, 5th Avenue north and south of Hendrickson, and Hendrickson east of 5th Avenue and 7th Avenue north and south of Washington Street.

Crash Rate by Volume

The crash concentration rates calculated were evaluated against the traffic volumes on non-local roads (i.e. collectors and arterials). For each roadway segment, the total crashes was divided by the volume to obtain a normalized crash rate. Using this methodology, the roadway segments in the City with the highest crash rate by volume were not located on Washington Street.

The segments with the highest crash rates include;

- W Prairie Street between Sequim Avenue and 3rd Avenue
- 3rd Avenue between Spruce Street and Washington Street
- Sequim Bay Road between Washington Street and Rhodefer Road
- E Brownfield Road

Washington Street between Priest Road and 9th Avenue, as well as between 7th Avenue and 5th Avenue remained higher than the average of crash rates, but were not as high in crash rate as the other listed segments. Areas of the City to the southwest and northeast of the intersection of Sequim Avenue and Washington Street tended to have lower overall crash rates than other areas of the City.

3. DEMOGRAPHIC ANALYSIS

As part of the development of a CSAP, as outlined in the Safe Streets for All (SS4A) program, a demographic analysis allows the City of Sequim to understand how crash history, risk factors, and proactive safety measures tie to historical concerns, or areas of underinvestment in the City. Sequim is committed to ensuring that safety projects and actions are undertaken in a fair and distributed manner that addresses compounding risk factors outside in the transportation safety, environmental, health and socioeconomic disparities realms.

Per the Amended FY24 SS4A Notice of Funding Opportunity, underserved communities are defined as any Tribal land; any territory or possession of the United States; or U.S. Census tracts identified in one of the following tools:

- The USDOT Equitable Transportation Community (ETC) Explorer; or
- The Climate and Economic Justice Screening Tool (CEJST).

All SS4A applicants must include data on the total population of the jurisdiction covered by the application, as well as the percentage of the population in Underserved Communities Census Tracts. Applicants outside of Tribal or territorial lands must use *either* the ETC Explorer *or* the CEJST tool to obtain the Percentage of Population in Underserved Communities and may not use one tool for some Census tracts and another tool for other Census tracts for a given project. SS4A applications must use 2020 Census tract population counts. As the ETC Explorer uses this data, the USDOT Equitable Transportation Community (ETC) Explorer tool was used to identify which Census tracts within Sequim are underserved communities and therefore bear disproportionate transportation burdens.

IDENTIFYING DISADVANTAGES

USDOT's ETC Explorer calculates the cumulative impacts of transportation disadvantage across 85,500 census tracts (2020). The data was normalized using min-max scaling, which transforms the data into a standard range, 0 to 1, to enable a comparison and eliminate the effect of different units of measurement.

The five components — Transportation Insecurity, Health Vulnerability, Environmental Burden, Social Vulnerability, and Climate and Disaster Risk Burden — are calculated by summing the ranked normalized indicators for each component. The result is a composite score for each component.

USDOT then uses percentile ranking to determine each census tracts component score against all other census tracts-

- Nationally in the National Results dashboard; and
- Statewide in the State Results dashboard (used for this analysis).

Census Tracts/projects areas at "0 percent" are considered the least disadvantaged and "100 percent" are the most. USDOT considers a census tract to be experiencing disadvantage if the overall index score places it in the 65% (or higher) of all US census tracts. The 65% cutoff was chosen to be consistent with CEJST, which prioritizes tracts at the 65th percentile or above for CJEST's low-income indicator and verified as the appropriate cutoff for the ETC Explorer through sensitivity analyses.

The ranked Component Scores are then summed across all components to generate an Overall Score. The Transportation Insecurity component was double weighted in generating the final score in response to comments received through the RFI process and extensive sensitivity analyses.

The Overall Score is then again percentile ranked to generate the Final Index Score rank. This allows DOT to determine how the overall score of a given census tract compares to all the other census tracts- Nationally in the National Results dashboard, and Statewide in the State Results dashboard.

The benefit of this methodology is that it offers a deeper insight into the interactions between different factors that contribute to transportation disadvantage, allows more flexibility to qualify as disadvantaged and measures cumulative impacts. Cumulative impacts are the combined result of multiple environmental, social, or economic impacts. They can be positive or negative and may unfold over time, across locations, or through various activities. The combined impacts can often have a more significant effect than the sum of individual impacts. By examining cumulative impacts, DOT can identify the communities experiencing the highest combined burdens and funding applicants can begin to target projects to best benefit their community.

CITY OF SEQUIM DEMOGRAPHIC SUMMARY

When examining the disadvantaged population for the City of Sequim in the ETC Explorer, the tool presents the disadvantage data for the larger Sequim region (including communities north and south of the City, east of the Dungeness River, such as Dungeness, Jamestown, and Bell Hill). Since this CSAP focuses on safety within the City of Sequim, the ETC Explorer was used to identify the disadvantage data for only the three census tracts which cover the majority City and its UGA[1]. The disadvantage statistics summarized below account correspond with only the populations in these census tracts.

The total population of Sequim is shown by the ETC State Results to be 9,500, with 39 percent of the population (3,700 people) residing in Disadvantaged Census Tracts, as shown in Figure 3.1. One of the three census tracts within the City (Tract 53009002100) are considered to be disadvantaged based on the Overall Score. This census tract is identified as disadvantaged compared to other census tracts both statewide and nationally, This census tract generally covers Downtown Sequim and the surrounding area and is generally bounded by 7th Avenue (west); Hendrickson Road and Fir Road (north); Blake Avenue and Washington Street (east); and the US 101 freeway (south).

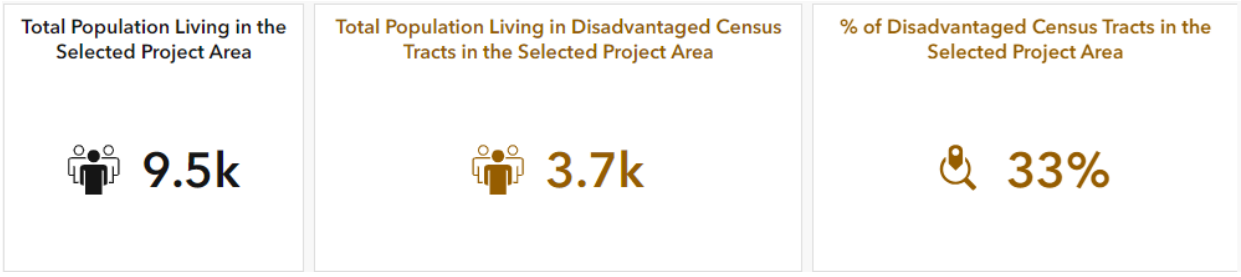


Figure 3.1 Disadvantaged Population Summary – City of Sequim

Source: USDOT Equitable Transportation Community Explorer

[1] The census tracts considered to cover the majority of the City of Sequim are Tracts 53009002001, 53009002002, and 53009002100.

Disadvantage Component Scores

Within the ETC Explorer, Component Scores are created by normalizing and then summing indicators within each component. The Explorer then displays the percentile ranking of these normalized sums. The National Results tool census tracts are percentile ranked against all other census tracts in the nation, whereas in the State Results tool census tracts are percentile ranked against all other census tracts in a particular state with scores of "0 percent" considered the least disadvantaged and "100 percent" representing the most disadvantaged. DOT considers a census tract to be experiencing disadvantage if the overall index score places it in the 65th percentile (or higher) of all US census tracts.

This analysis showed that the City of Sequim overall typically scores near the 80th percentile for Social Vulnerability and in the mid-60th percentile for Transportation Insecurity, when compared to the rest of the State of Washington. Sequim scores below the 40th percentile for the remaining three disadvantage components (Climate & Disaster Risk Burden, Environmental Burden, and Health Vulnerability).

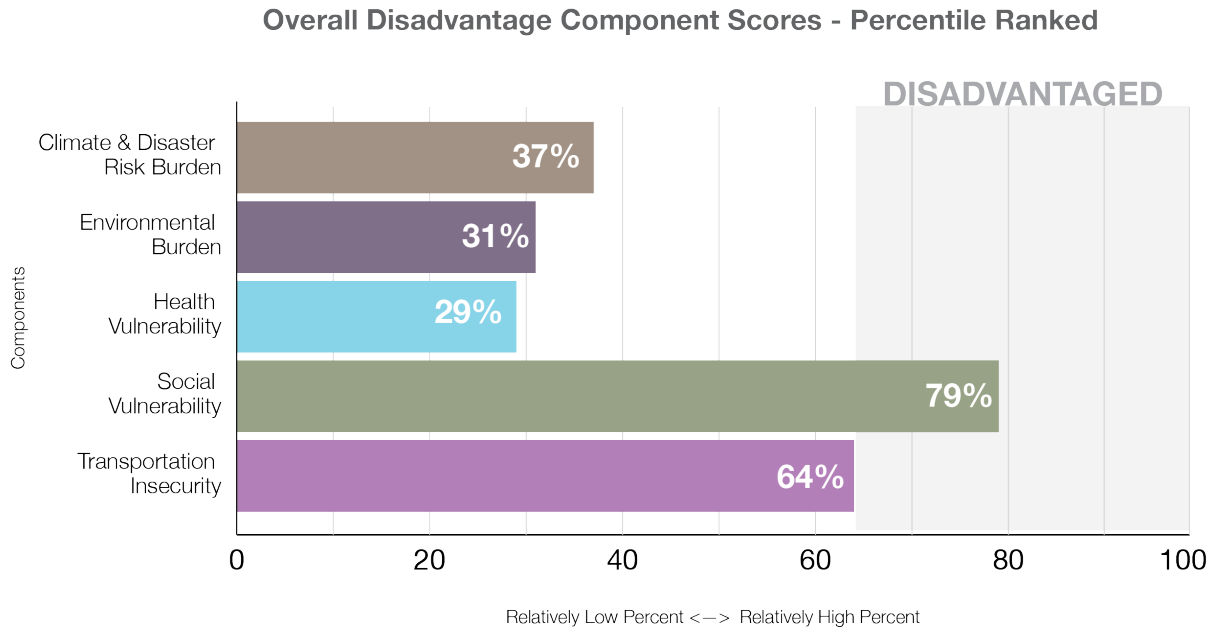


Figure 3.2 Disadvantaged Component Scores – City of Sequim

Source: USDOT Equitable Transportation Community Explorer

The overall disadvantage component scores were also reviewed for the City's disadvantaged census tract. Per the ETC Explorer tool, this census tract scores within the disadvantaged range based on the Climate & Disaster Risk Burden and the Social Vulnerability components. The disadvantaged census tract scores in the 87th percentile for the Social Vulnerability component and the 73rd percentile for the Climate & Disaster Risk Burden component.

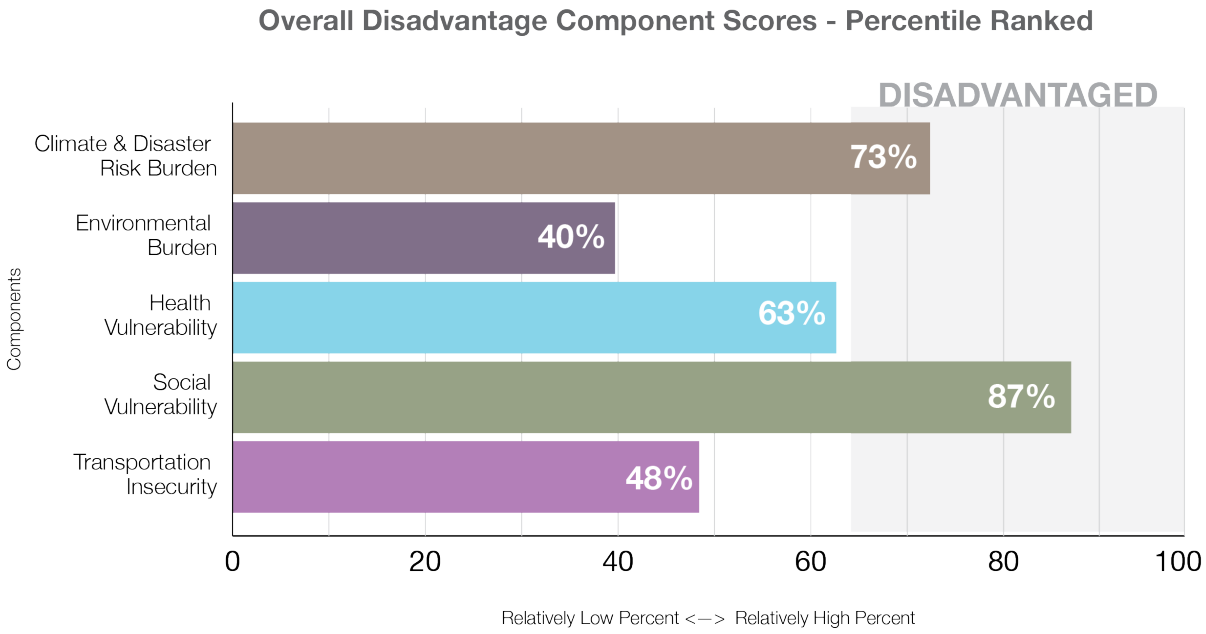


Figure 3.3 Disadvantaged Component Scores – Sequim Disadvantaged Census Tract

Source: USDOT Equitable Transportation Community Explorer for Census Tract (53009002100)

Disadvantage Indicator Scores

Specific disadvantage indicators for each of the five disadvantage components (Climate & Disaster Risk Burden, Environmental Burden, Health Vulnerability, Social Vulnerability, and Transportation Insecurity) were further evaluated to determine the specific characteristics within Sequim that contribute to high disadvantage rankings.

Climate & Disaster Risk Burden

The Climate & Disaster Risk Burden disadvantage component quantifies the extent to which the effects of climate change negatively impact the performance and resiliency of the transportation system. The individual disadvantage indicators within this component measure changes in the frequency/intensity of extreme weather events, financial losses from climate-related incidents, and impervious surface coverage (which correlates with the creation of heat islands).

The City overall does not score within the disadvantaged range for the Climate & Disaster Risk Burden component. When evaluating the City overall, it scores in the 37th percentile of census tracts throughout the State Consequently, none of the Climate & Disaster Risk Burden indicators score within the disadvantaged range. The overall City percentile rankings for each of the Climate & Disaster Risk Burden disadvantage indicators is presented in Figure 3.4.

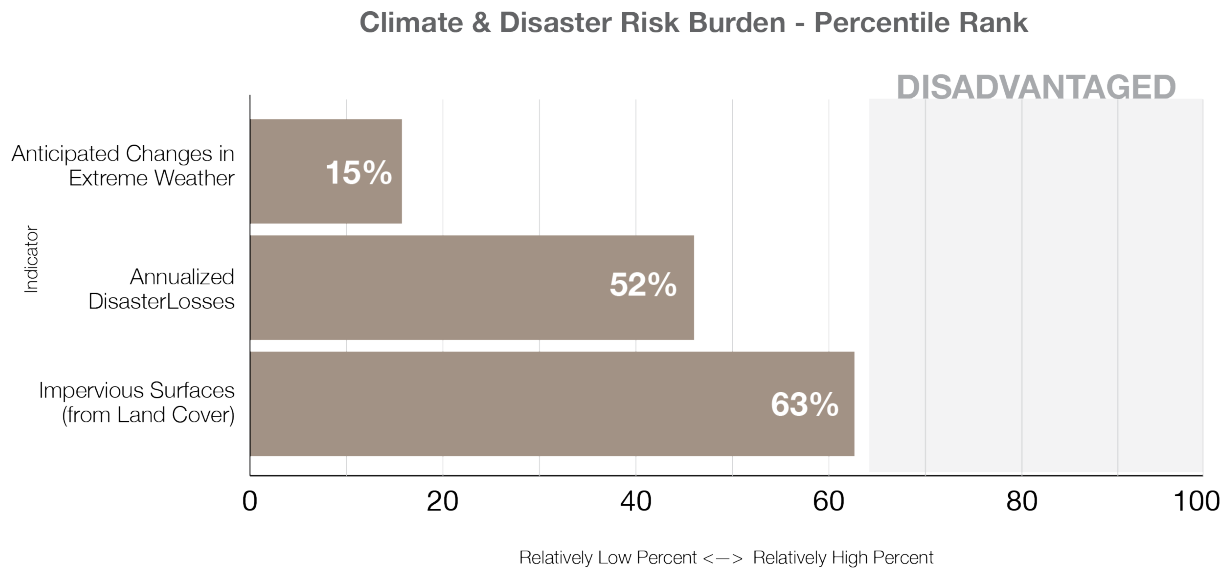


Figure 3.4 Climate & Disaster Risk Burden Disadvantage Indicators – City of Sequim

Source: USDOT Equitable Transportation Community Explorer

In contrast, the City's disadvantaged census tract scores within the 73rd percentile for the Climate & Disaster Risk Burden component. Thus, the resiliency, safety, and operation of the transportation system in this area of the City is more likely to be affected by the negative effects of climate change than nearly three-quarters of other census tracts within the State. The City's disadvantaged census tract scores within the disadvantaged range for two climate & disaster risk burden indicators:

- Annualized disaster losses (93rd percentile)
- Impervious surface coverage (92nd percentile)

The disadvantaged census tract percentile rankings for each of the Climate & Disaster Risk Burden disadvantage indicators is presented in Figure 3.5.

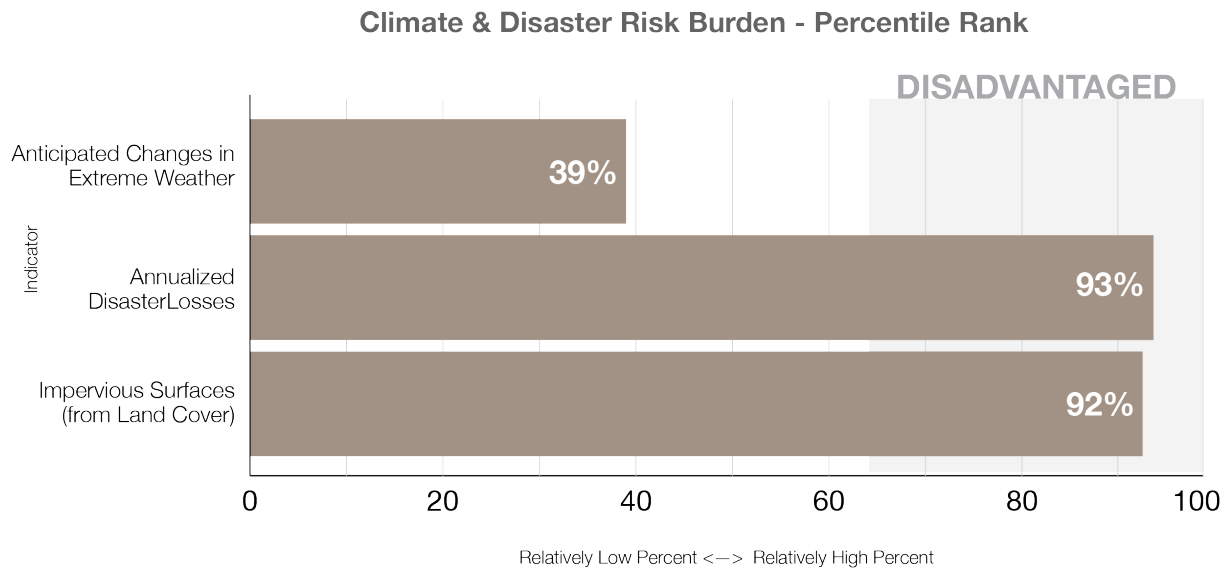


Figure 3.5 Climate & Disaster Risk Burden Disadvantage Indicators – Sequim Disadvantaged Census Tract

Source: USDOT Equitable Transportation Community Explorer for Census Tract (53009002100)

Environmental Burden

The Environmental Burden disadvantage component quantifies an area's expose to environmental burdens which can contribute to negative health conditions, educational outcomes, and financial burdens. the extent to which the effects of climate change negatively impact the performance and resiliency of the transportation system. The individual disadvantage indicators within this component include variables measuring pollution exposure and proximity to environmental hazards.

The City overall scores in the 31st percentile for the Environmental Burden disadvantage component. None of the Environmental Burden indicators score above the 65th percentile, which would indicate a disadvantaged designation. The overall City percentile rankings for each of the Environmental Burden disadvantage indicators are presented in Figure 3.6.

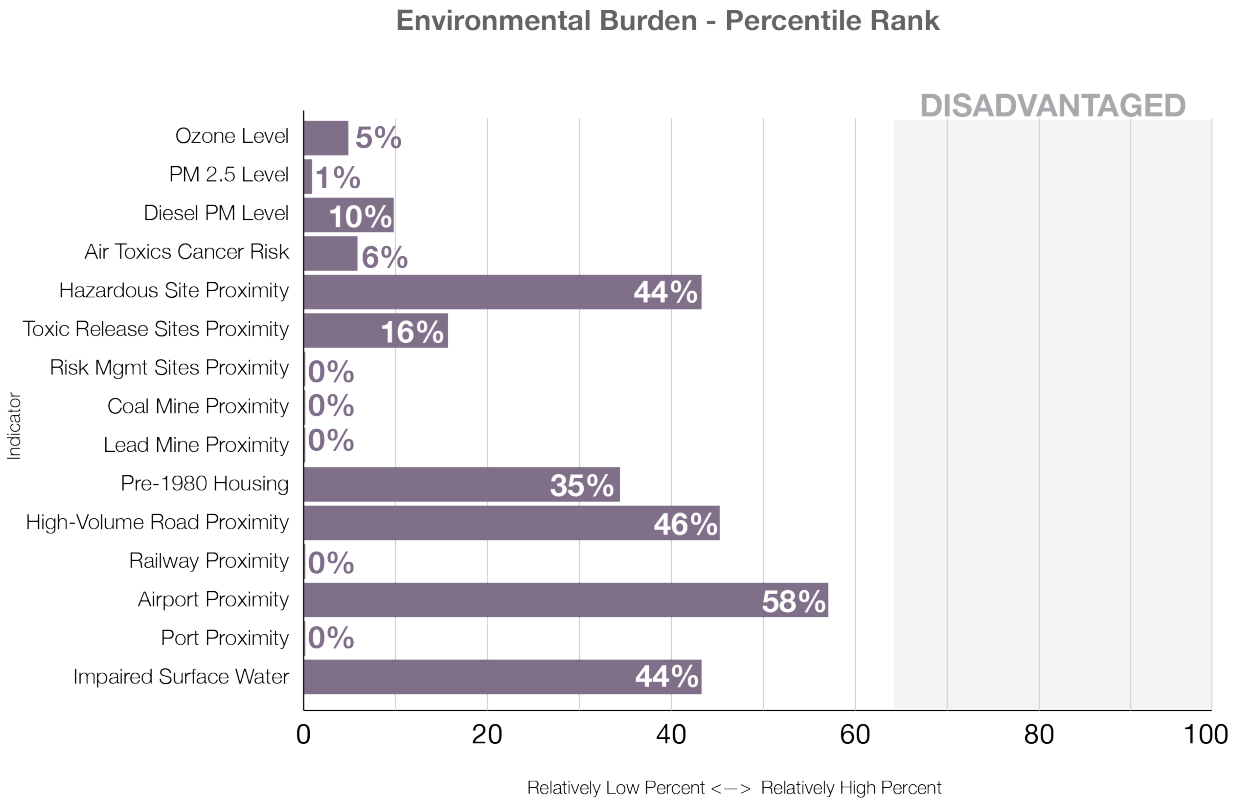


Figure 3.6 Environmental Burden Disadvantage Indicators – City of Sequim

Source: USDOT Equitable Transportation Community Explorer

Similarly, the City's disadvantaged census tract scores within the 40th for the Environmental Burden component and is not considered disadvantaged per this component. The disadvantaged census tract percentile rankings for each of the Environmental Burden disadvantage indicators is presented in Figure 3.7

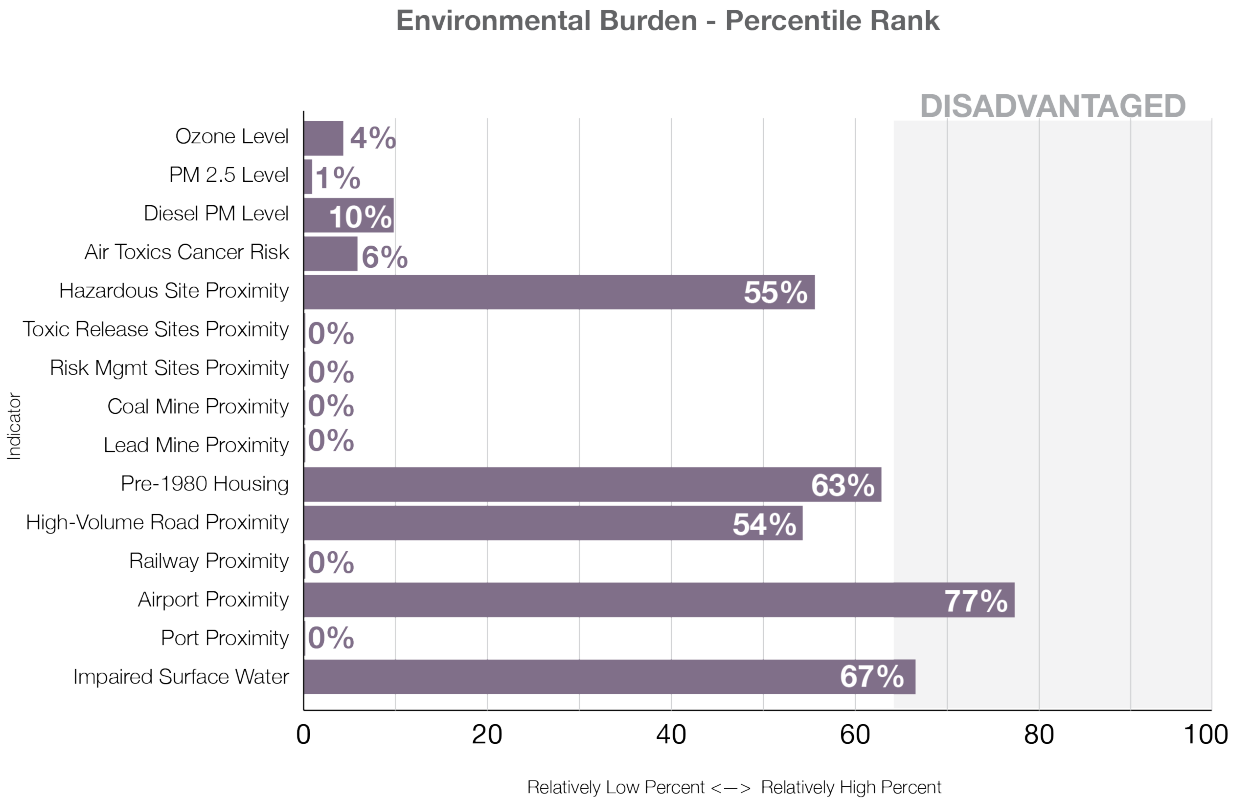


Figure 3.7 Environmental Burden Disadvantage Indicators – Sequim Disadvantaged Census Tract

Source: USDOT Equitable Transportation Community Explorer for Census Tract (53009002100)

Health Vulnerability

The Health Vulnerability disadvantage component identifies negative health consequences from pollution exposure, as well as transportation-related metrics relating to healthy lifestyles. The individual disadvantage indicators within this component measure the prevalence of health conditions relating to various health risk factors.

The City overall does not score within the disadvantaged range for the Health Vulnerability component. When evaluating the City overall, it scores in the 29th percentile of census tracts throughout the State Consequently, none of the Health Vulnerability indicators score within the disadvantaged range. The overall City percentile rankings for each of the Health Vulnerability disadvantage indicators is presented in Figure 3.8.

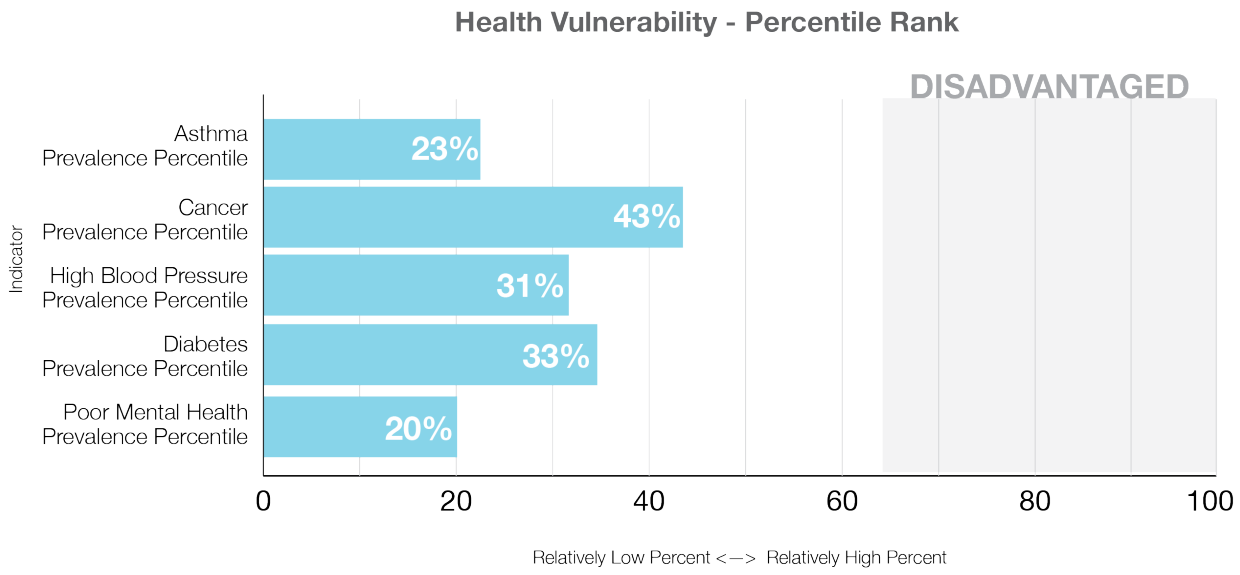


Figure 3.8 Health Vulnerability Disadvantage Indicators – City of Sequim

Source: USDOT Equitable Transportation Community Explorer

The City's disadvantaged census tract does not score scores within the disadvantaged range for the Health Vulnerability component either. It scores in the 63rd percentile, just below the disadvantaged range. The disadvantaged census tract percentile rankings for each of the Health Vulnerability disadvantage indicators is presented in Figure 3.9.

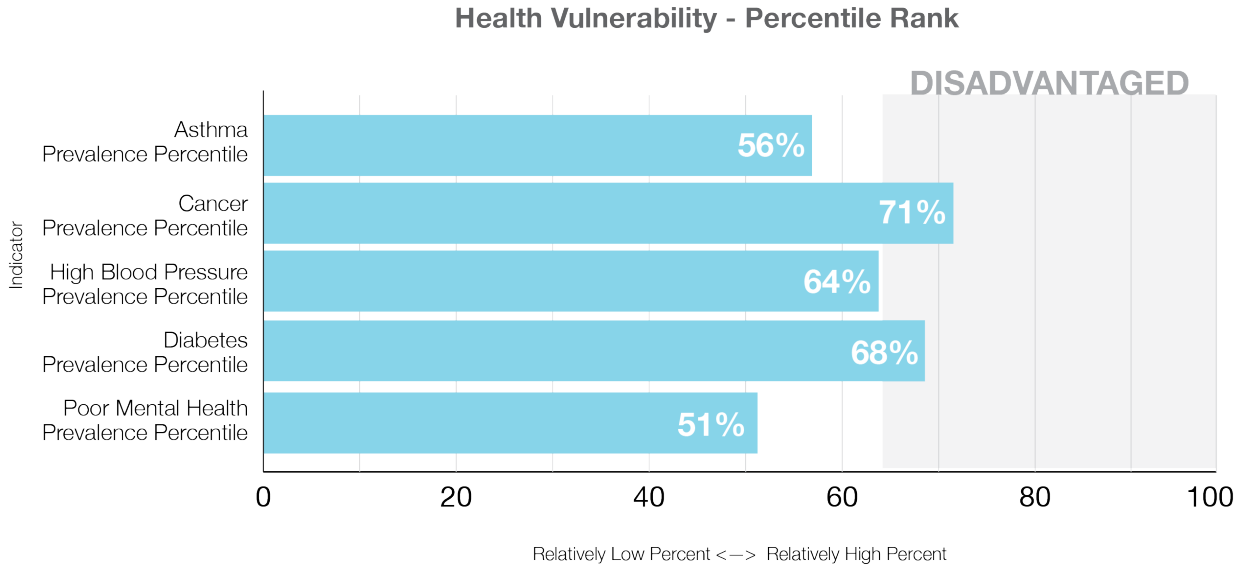


Figure 3.9 Health Vulnerability Disadvantage Indicators – Sequim Disadvantaged Census Tract

Source: USDOT Equitable Transportation Community Explorer for Census Tract (53009002100)

Social Vulnerability

For Sequim, the most significant overall disadvantage score (compared to the State of Washington) is the Social Vulnerability component. This component of the index includes variables measuring socioeconomic indicators which have direct impacts on quality of life. These indicators measure a wide range of factors, from levels of employment or educational attainment to housing access and cost. These environmental burdens can have enduring and widespread consequences such as health disparities, negative educational outcomes, and economic hardship.

The overall City of Sequim scores in the 79th percentile for this disadvantage component. This means that only 21 percent of Washington state Census Tracts scored worse in terms of Social Vulnerability. Within this disadvantage component, the City overall scores within the disadvantaged range for several social vulnerability indicators:

- Population aged 65 and older (94th percentile)
- Population with a disability (90th percentile)
- Percentage of mobile home housing units (78th percentile)
- Households without internet access (76th percentile)
- Housing cost burden (71st percentile)
- Population with incomes below 200% of the federal poverty line (69th percentile)
- Economic inequality (68th percentile)

The overall City percentile rankings for each of the Social Vulnerability disadvantage indicators is presented in Figure 3.10.

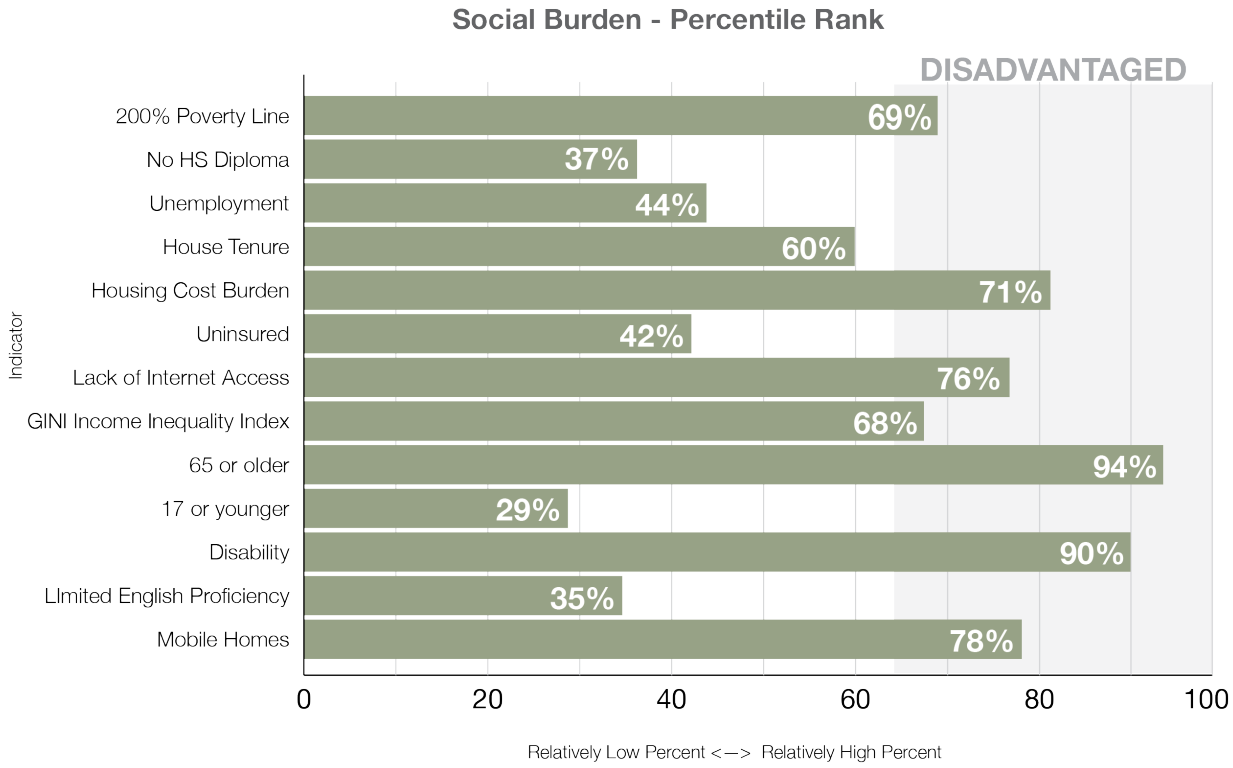


Figure 3.10 Health Vulnerability Disadvantage Indicators – City of Sequim

Source: USDOT Equitable Transportation Community Explorer

In addition, the City's disadvantaged census tract also scores in the 87th percentile for the Social Vulnerability component when compared to census tracts throughout the state. This census tract scores within the disadvantaged range for several social vulnerability indicators:

- Population with a disability (97th percentile)
- Housing cost burden (93rd percentile)
- Economic inequality (89th percentile)
- Population with incomes below 200% of the federal poverty line (87th percentile)
- Population aged 65 and older (86th percentile)
- Uninsured population (81st percentile)
- Renter population (80th percentile)
- Households without internet access (78th percentile)
- Percentage of mobile home housing units (74th percentile)

The disadvantage census tract percentile rankings for each of the Social Vulnerability disadvantage indicators is presented in Figure 3.11.

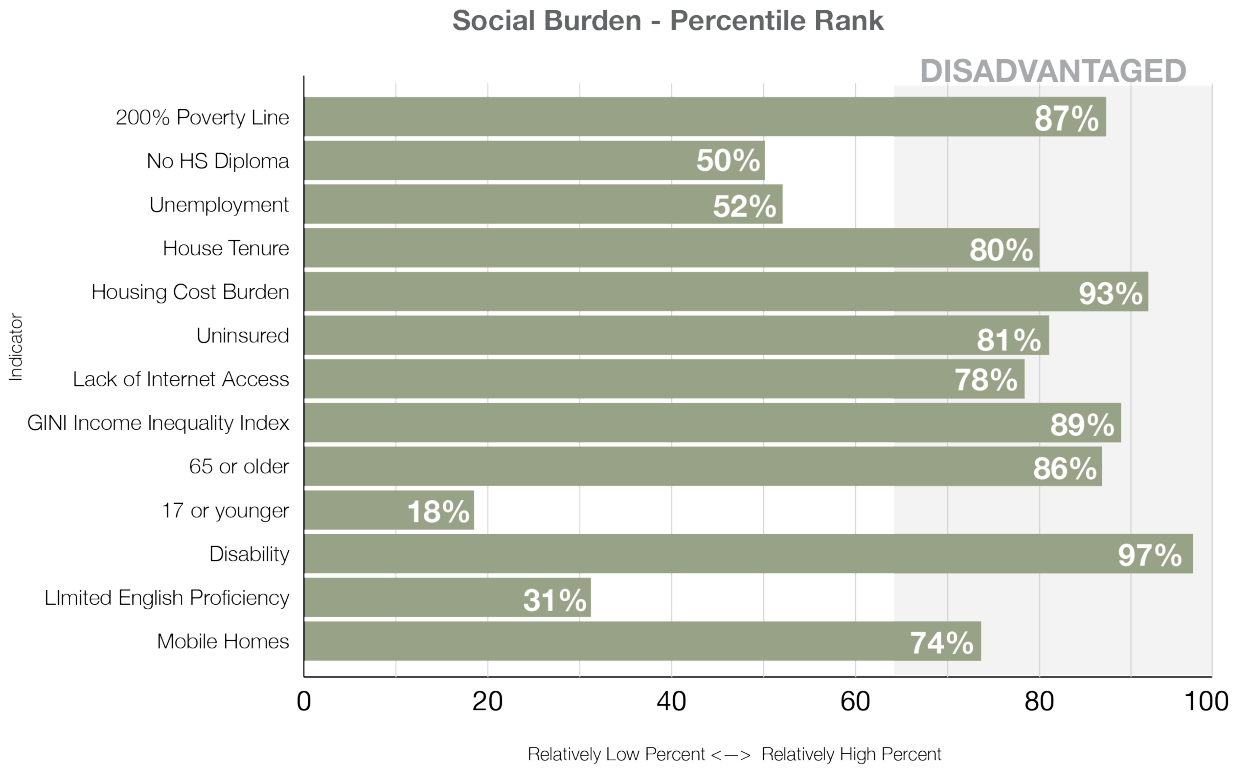


Figure 3.11 Social Vulnerability Disadvantage Indicators – Sequim Disadvantaged Census Tract

Source: USDOT Equitable Transportation Community Explorer for Census Tract (53009002100)

Transportation Insecurity

Overall, the City of Sequim scores relatively highly for the Transportation Insecurity disadvantage component. This component measures the availability and cost of transportation within each census tract. Since access to reliable, safe, and efficient transportation options is essential for daily needs, this component measures the degree to which the transportation system contributes to other potential disadvantage criteria.

The overall City of Sequim scores in the 64th percentile for this disadvantage component. While not within the disadvantaged range, the City falls just below the 65th percentile threshold required to indicate a disadvantaged community based on the Transportation Insecurity component. Within this disadvantage component, the City overall scores within the disadvantaged range for two transportation insecurity indicators:

- Transportation cost burden (84th percentile)
- Transportation access (65th percentile)

The overall City percentile rankings for each of the Transportation Insecurity disadvantage indicators is presented in Figure 3.12.

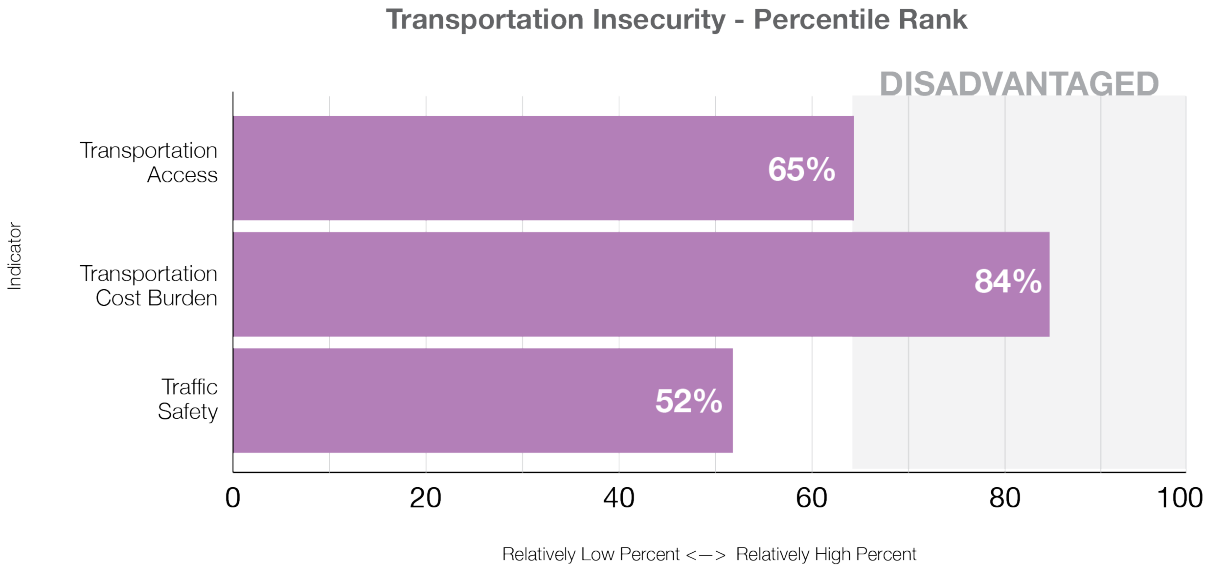


Figure 3.12 Health Vulnerability Disadvantage Indicators – City of Sequim

Source: USDOT Equitable Transportation Community Explorer

However, the City's disadvantaged census tract scores within the 48th percentile for the Transportation Insecurity component, indicating better access to affordable transportation options in and around Downtown Sequim. The disadvantaged census tract percentile rankings for each of the Transportation Insecurity disadvantage indicators is presented in Figure 3.3.

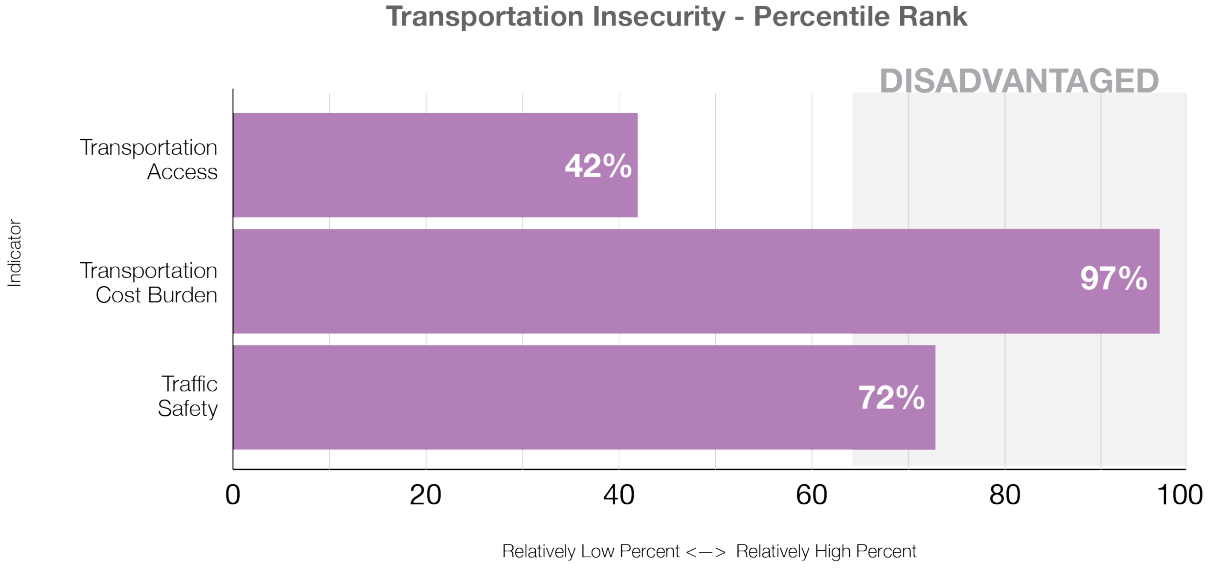


Figure 3.13 Social Vulnerability Disadvantage Indicators – Sequim Disadvantaged Census Tract

Source: USDOT Equitable Transportation Community Explorer for Census Tract (53009002100)

SUMMARY

Sequim's Transportation Master Plan contains several goals reinforcing the City's intent to create a transportation system that provides safe mobility choices, with a range of options, that serve people of all backgrounds and abilities:

"Goal 3: Promote the development of safe and convenient pedestrian, bicycle, and mobility scooter user networks that encourage multi-modal access to and from residential neighborhoods, parks, schools, civic buildings and the City's commercial and employment areas."

"Goal 4: Goal 4: Facilitate the creation of a public transportation system that provides an alternative to vehicle travel and mobility alternatives for users without a vehicle at their disposal."

As summarized above, the data within the ETC Explorer tool identifies serval indicators that could be tied to transportation safety:

Social Vulnerabilities

- High percentage of the population with a disability
- High percentage of the population aged 65 or older

Note that several of the risk factors identified in the equity analysis are characteristics of the community and are not necessarily meant to be changed or resolved. For example, Sequim has a high population of residents over 65 because many people come to the City to retire. With this comes a higher percentage of the population with disabilities. Additionally, Downtown Sequim is shown to have higher percent coverage of impervious surfaces, which naturally comes with a more developed part of the community. While improving the risk scores for these factors may not be the intention of safety improvements, consideration and planning for the context and population that accompany these factors is important. As such, these indicators were used to identify those improvements which were appropriate for implementation in the City.

While the ETC Explorer identifies other disadvantage indicators for the City and its disadvantaged census tract, those other indicators are less directly tied to transportation safety and the goals of the City's CSAP.

Within Sequim's population, some of the key social vulnerabilities include a high percentage of seniors, as well as a high percentage of the population with a disability. These groups are often more reliant on active transportation and transit services for daily travel. Therefore, it is essential that the City's pedestrian and bicycle networks provide safe facilities, which can accommodate users of all ability levels, in order to achieve the City's Vision Zero goal.

Additionally, the City's disadvantaged census tract surrounding Downtown Sequim scores within the 72nd percentile for traffic fatalities per 100,000 persons. As discussed in Chapter 2 (and shown in Appendix B), the majority of fatal and severe injury collisions within the City occurred in this census tract (1 fatal collision and 3 severe injury collisions). Although the total counts of fatal and severe injury collisions in this census tract are low, the high rate for injury collisions compared to other areas of the emphasizes the need to prioritize safety improvements within Downtown Sequim to protect vulnerable populations.

Application of Demographic Data to Safety Planning

A GIS analysis was used to overlay the City's collision data with population demographic statistics. These maps are presented in Appendix B. This analysis validates some of the key findings from the ETC Explorer, including:



- The majority of collisions within the City occur within
    - Areas of high social vulnerability
    - Areas with low median incomes
    - Areas with more households without a car
- The majority of collisions occur within the City's disadvantaged census tract
- Several areas outside of the downtown area have higher proportions of elderly and disabled populations

The City's LRSP identifies the highest priority collision risk factor as being the number of pedestrian collisions. The demographic analysis shows that there are several populations that rely on active modes (e.g., households without vehicles, senior populations) throughout the City, especially in the disadvantaged census tract that encompasses Downtown Sequim. As such, one of the focuses of this CSAP is to ensure that active mode facilities (e.g., sidewalks, bike lanes, multi-use paths) are provided throughout the City to serve these populations.

In addition to the physical improvements proposed as part of the CSAP, the recommendations in the Policy and Procedures chapter would help to increase the comfort, and therefore the rate of use, of citywide active mode facilities. The recommendations of the Policies and Procedures chapter, which include several educational and outreach programs, should be accessible and directed to the City's diverse population (especially the senior and disabled populations).

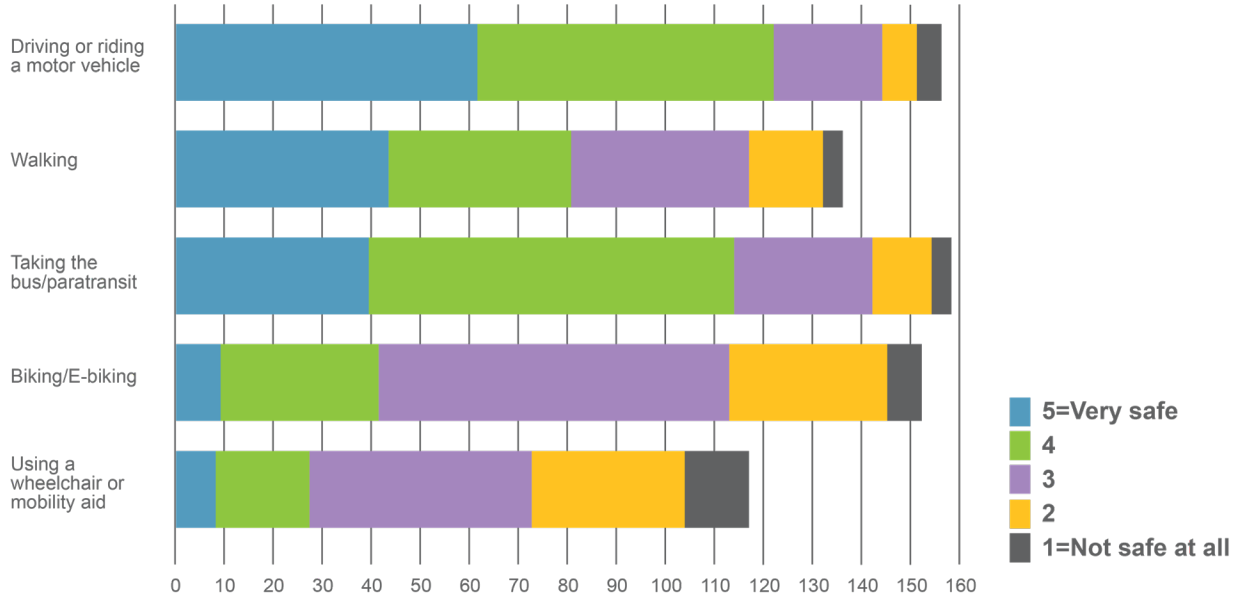
4. COMMUNITY ENGAGEMENT AND OUTREACH

In coordination with the outreach efforts conducted for the update to the City's Transportation Master Plan (TMP), the City held an online survey and an in-person open house to gather feedback from the community on the safety of the local roadway network. This section summarizes the results of that outreach and the key findings from those efforts.

ONLINE SURVEY

The online survey gathering feedback regarding traffic safety conditions within the City was hosted on the City's website between March and April 2024. The survey was advertised through the City's website and social media channels and asked for feedback regarding the types of safety concerns residents of the City experience when traveling within Sequim. A total of 164 responses were collected. Responses and key takeaways from several of the survey questions are summarized below.

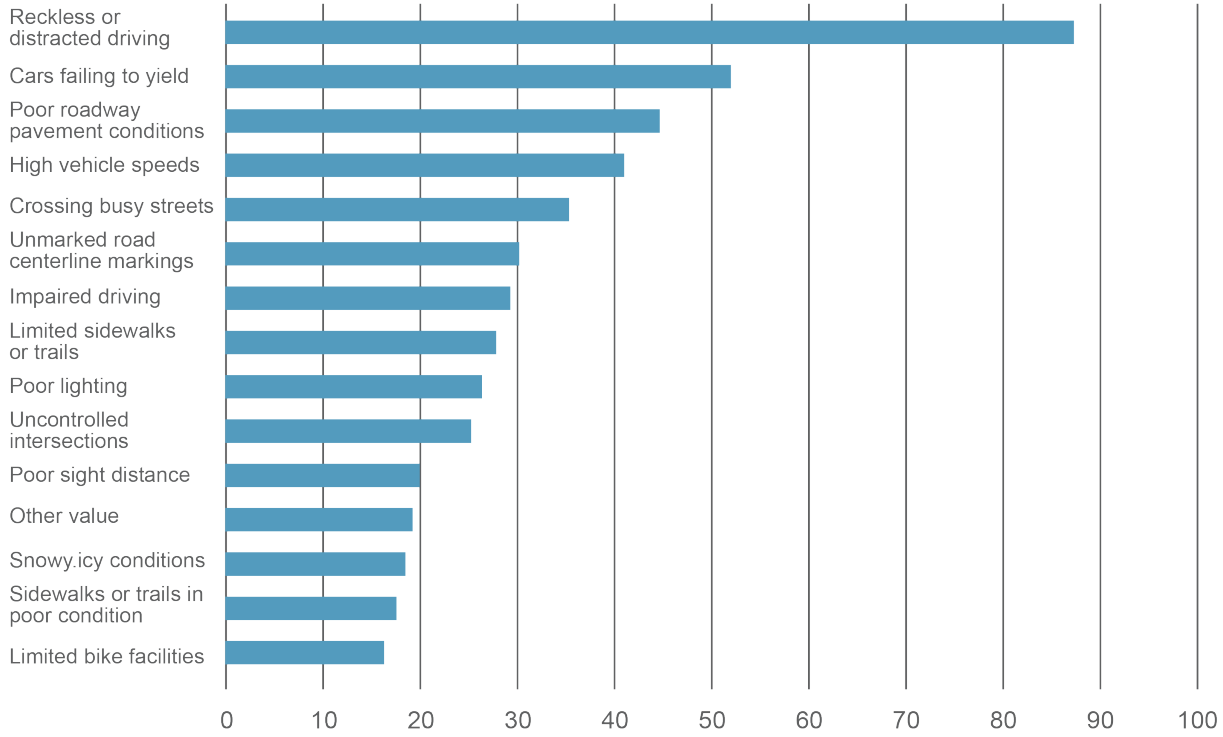
How physically safe do you feel, or would feel, traveling in the City using the following ways to get around?



Key takeaways:

- A majority of survey respondents generally feel safe when traveling around the City via motor vehicle (private automobile or transit vehicles).
- Active transportation users within the City generally experience reduced safety/ comfort levels (especially bicyclists).
- Most respondents using a wheelchair or mobility aid generally do not consider the City's roadways and sidewalks as providing sufficient safety for those with mobility impairments.

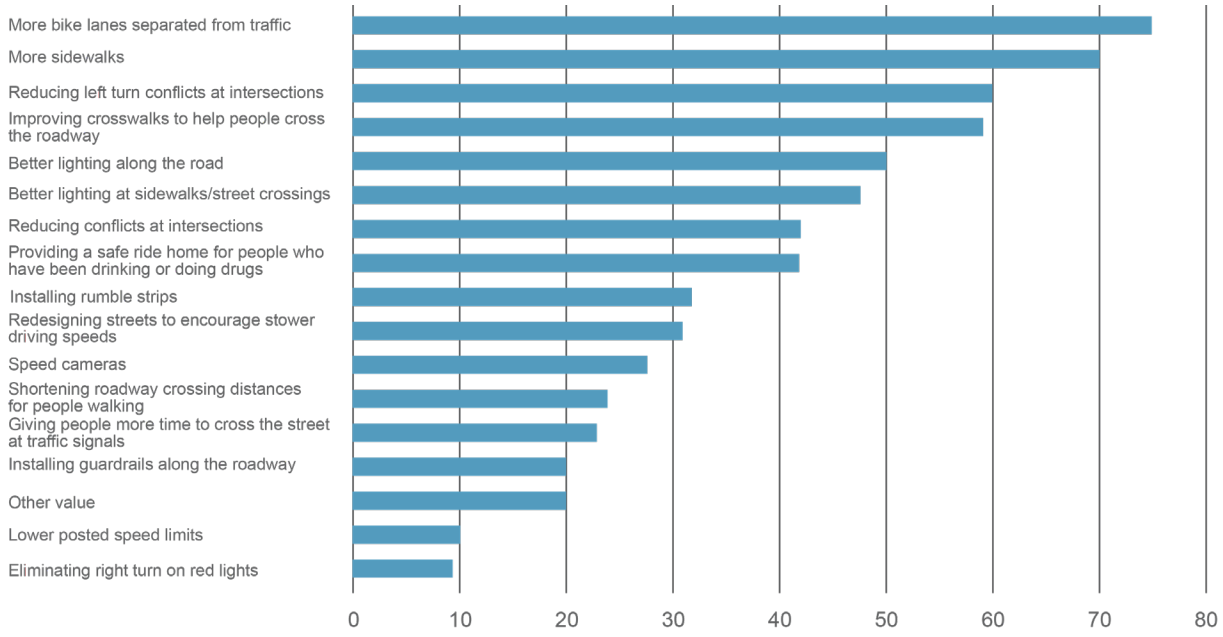
What are your top transportation safety concerns?



Key takeaways:

- Distracted or dangerous driving was identified by over 50% of respondents as a key factor contributing to roadway safety concerns.
- Other key causes which were identified by over 20% of respondents as contributing to transportation safety concerns include cars failing to yield at intersections (32%), poor pavement conditions (27%), high vehicle speeds (25%), and unsignalized crossings of busy streets (22%).
- Several survey respondents listed limited enforcement and driver education as contributing to safety concerns along the City's roadways.

Which of the following safety measures would you like to see implemented?



Key takeaways:

- The roadway safety measures which received the most widespread support included active transportation improvements, such as the installation of bike lanes and sidewalks, and improving crosswalks.
- Reducing left-turn conflicts at intersections was also highly-rated for improving safety. Several respondents listed intersections along Washington Street as needing safety improvements for left turns.
- Lowering speed limits and restricting right-turns on red received little support from the community (less than 10% of respondents supported these measures).

OPEN HOUSE

In addition to the online survey, an in-person open house event was held in June 2024 where the City staff and the consultant team directly discussed safety and the City's roadway network with community members to gather feedback and input on potential transportation improvements. During these discussions, open house attendees provided valuable input regarding ways to improve roadway safety throughout the City, as well as specific locations where safety concerns are experienced. The specific locations where safety concerns were identified are summarized in the map shown in Figure 4.1. This map shows locations, with pedestrian/bicycle safety concerns (shown in blue), roadways with speeding issues (shown in orange), and other intersections with general safety concerns (shown in red). This map compiles feedback gathered both at the in-person open house event, as well as through the online survey.

Key feedback gathered from the open house event included the following:

- Community members expressed general support for improving bicycle safety and pedestrian access throughout the City.
- There was general support for improving walkability in the Downtown Sequim area.
- Numerous participants noted that the Olympic Discovery Trail (ODT) provides well-connected and safe active transportation facilities. Many discussed the need to improve the safety of ODT crossing locations.
- Several intersections along US-101 in the southwest portion of the City were identified as having safety concerns associated with vehicles accessing/ egressing the highway from local roadways.
- Several participants discussed the need to improve sight distance at intersections throughout the City, whether by increasing setbacks or cutting back landscaping/vegetation.
- Many open house participants discussed the desire for improved education and enforcement to increase roadway safety throughout the City. Several participants discussed educational and awareness programs to improve safety along the ODT as a shared facility for both bicyclists and pedestrians.

Figure 4.1 Public Outreach – Locations with Safety Concerns



5. SAFETY RISK FACTORS

Based on a combination of the statistical and spatial analysis of the crash data for Sequim, the following risk factors were identified. **The risk factors are presented in order of priority for the City and will guide the City's implementation of countermeasures in a proactive effort to reduce the risk and severity of future crashes.** The priorities below have been identified based on the data and spatial analysis (including the equity analysis), with consideration for the safety of vulnerable roadway users.

PEDESTRIAN CRASHES



A focus on pedestrian-related crashes is the highest priority risk factor. Sequim's demographics and equity analysis reinforce the need to address pedestrian concerns as there is a high percentage of the City's population that does not have access to a vehicle, or who otherwise rely on active modes as their primary form of transportation.

The countermeasures for pedestrian crashes include proactive measures that address risks at signalized intersections, as well as at uncontrolled crossing locations.

ANGLE TYPE CRASHES



Angle collisions represent a large portion of the crashes at stop controlled, uncontrolled and signalized intersection intersections in the City. The rate of angled crashes is prevalent on routes that are local alternatives to Washington Street and other arterials. Angled crashes are also a risk at midblock locations at driveway access points and uncontrolled cross streets.

Countermeasures for angled crashes include modification of intersection control, and access control on higher volume roadways.

REAR-END CRASHES ON SIGNALIZED CORRIDORS



Washington Street has the highest concentration of rear-end crashes associated with drivers following one another too closely, and congestion on the road. Additional concentrations of rear end crashes have occurred near signals on 5th Avenue.

Countermeasures would be upgrading traffic signal equipment, and improving timing and phasing along Washington Street to help reduce congestion and allow for additional safety measures to address angle crashes and pedestrian crossings.

SPEED-RELATED CRASHES



A lower priority risk factor based on the data, but a compounding factor for all crash types, especially those involving vulnerable active mode users, is the speed of vehicles. The crash data did not highlight speed as a significant factor in crashes except on Brownfield Road.

A countermeasure would be to perform a citywide assessment of posted speed limits by identifying areas with speeding issues, while accounting for multimodal activity levels and the adjoining land uses.

6. TRANSPORTATION SYSTEM COUNTER-MEASURES & IMPROVEMENTS

Countermeasures are the actions, including engineering, enforcement, and education, that Sequim can proactively take to address the risk factors identified through the crash data analysis. To identify programs that could address the risk factors for future crashes, a full range of potential countermeasures was evaluated. Some countermeasures are unfeasible due to constraints on maintenance resources. For example, projects involving significant amounts of thermoplastic roadway paint that would need to be maintained long-term were removed from consideration. Projects that would introduce a large number of additional signage were removed from consideration for both the aesthetic concerns of stakeholders and worries of creating "sign fatigue" considering the short block lengths in most of the City.

Safety improvement projects identified for the City have been divided into two categories: (1) systemic projects and (2) intersection/corridor projects. Systemic projects are those that have been identified for implementation at several locations throughout the City that exhibit similar risk factors and equity concerns. Intersection/corridor projects are those that have been identified to address specific safety concerns at discrete locations within the City's roadway network. While several intersection/corridor projects include similar improvements, additional specific countermeasures have been included within each project to address specific safety and equity concerns at each location.

The effectiveness of countermeasures was evaluated using several sources including the National Highway Traffic Safety Administration's *Countermeasures that Work* publication, Washington's Target Zero plan, and FHWA's Crash Modification Factor (CMF) Clearinghouse website. The cited resources help to identify not only potential projects but provide research-backed documentation of the anticipated effectiveness of treatments on reducing crash rates.

For the City's projects addressing intersection control, the CMF Clearinghouse research indicates that converting two-way stop-controlled intersections to mini-roundabouts can reduce crashes by up to 61 percent.

Project summaries, including descriptions, maps, high-level concepts, and cost estimates are provided on the following pages. Several of the projects on the list align with projects identified in the LRSP and/or ongoing City projects within the City's 6-year Capital Improvement Plan (CIP). The following pages note the CSAP projects which align with these ongoing or planned safety projects.

Improvement locations identified as part of the systemic projects were prioritized to determine the locations at which improvements should be installed first, should limited funding not allow for full project implementation. Similarly, the intersection/corridor locations were ranked and compared to determine which projects should be prioritized when seeking grant funding. The prioritization process and criteria for both the systemic projects and the intersection/corridor projects are presented in Appendix C.

Table 6.1 Sequim Transportation Safety Projects

No.	Project	Type	Priority	Cost
1	Citywide Signal Equipment Upgrades	Systemic Safety Project	N/A	$1.60 M
2	Citywide Crosswalk Enhancement Program	Systemic Safety Project	N/A	$3.80 M
3	Citywide Speed Limit & Traffic Calming Study and Speed Mitigation	Systemic Safety Mitigation	N/A	$400 K
4	Fir Street Pedestrian & Bicycle Improvements	Corridor Safety Project	2	$2.06 M
5	Spruce Street Bicycle Boulevard	Corridor Safety Project	3	$1.45 M
6	South Sequim Complete Streets Improvements – Phase 1	Corridor Safety Project	1	$7.94 M
7	South Sequim Complete Streets Improvements – Phase 2	Corridor Safety Project	5	$1.62 M
8	N 3rd Avenue Complete Street	Corridor Safety Project	4	$5.01 M
9	West Washington Street Safety Improvements	Corridor Safety Project	8	$2.80 M
10	East Washington Street Bicycle & Pedestrian Improvements	Corridor Safety Project	6	$2.91 M
11	Sunnyside Avenue Bicycle & Pedestrian Improvements	Corridor Safety Project	7	$2.92 M
12	Brownfield Road Speed Mitigation	Corridor Safety Project	9	TBD

M = million ; K = thousand

Note: Sytemic safety projects/mitigation were not ranked against the corridor safety projects. See Appendix C for ranking of improvement locations for each systemic project.

PROJECT 1: CITYWIDE SIGNAL EQUIPMENT UPGRADES (SYSTEMIC SAFETY PROJECT)

The City of Sequim owns and operates eight signals across the City. At seven of the signals, replacement of the existing signal cabinets would address maintenance concerns, improve outdated equipment, and allow for implementation of several signalization operational improvements that have limited additional cost or physical modification requirements, but can address the City's risk factors for future crashes.

The replacement of signal cabinets and equipment would occur at the intersections of:

- Washington Street with N Priest Road, 7th Avenue, 5th Avenue, 3rd Avenue, Sequim Avenue, and Chatfield Lee Avenue
- 5th Avenue with Hendrickson Road and Fir Street

Following completion of the signal equipment upgrades, the following operational improvements could be implemented that would address risk factors for pedestrian crossings, angled crashes, and rear end crashes:

- Lead pedestrian interval at all signalized intersections would give pedestrians an additional 5-7 seconds of crossing time, increasing visibility and aiding in completing crossings during a signal phase. Pedestrian crossing speeds for timing of signal phases would also be adjusted for a slower walking speed of 3.5 ft/sec in consideration of Sequim's demographics and social vulnerability indexes.
- Flashing yellow arrow at left turns could help to improve traffic flow, reducing congestion and frustration among drivers that can lead to rear end crashes and riskier, less expected turning maneuvers that can be a risk for angle type crashes.
- Blank-out no right turn on red signage tied to pedestrian push buttons at the intersections of Washington Street with Sequim Avenue and 5th Avenue can help to mitigate conflicts between turning traffic and pedestrians in crosswalks when present.

Prioritization of signalized intersection locations for improvement was conducted based on an evaluation considering several ranking criteria associated with the collision history and equity metrics (as detailed in Appendix C) at each location. The intersections of Washington Street with Sequim Avenue, 3rd Avenue and 5th Avenue are the highest priority locations (Phase 1), should resource limitation not allow for replacement of all cabinets. Funding for the Phase 1 locations of the project have been secured from WSDOT through the Highway Safety Improvement Program (HSIP).

Risk Factors Addressed



PROJECT 1: CITYWIDE SIGNAL EQUIPMENT UPGRADES (SYSTEMIC SAFETY PROJECT)

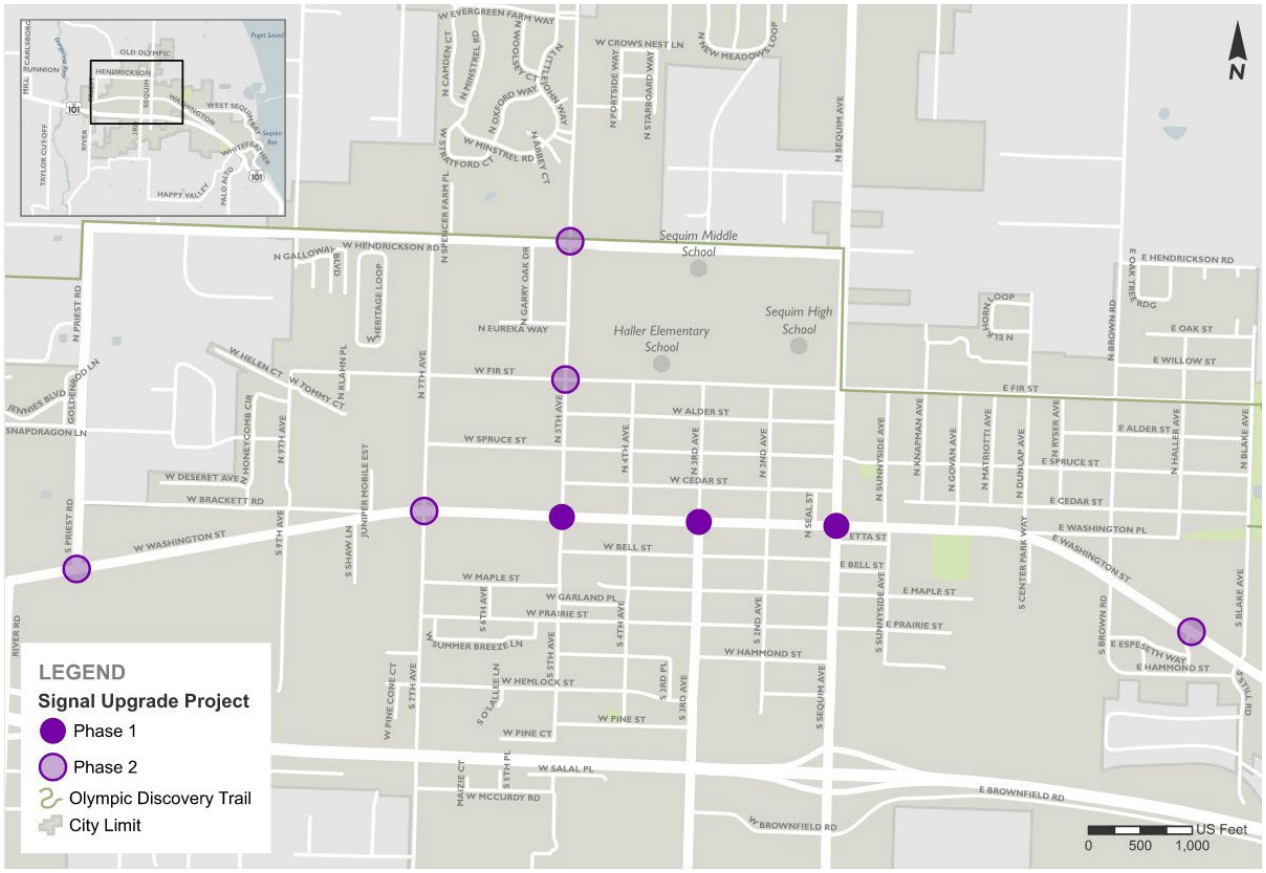
Project Cost

Phase 1: $600,000
Phase 2: $1,000,000
Total Cost: $1,600,000

Alignment with Ongoing/Planned Safety Projects

LRSP Project # 1
CIP Project STR-080CU
CIP Project STR-135CU
CIP Project STR-081RR

Figure 6.1 Citywide Signal Equipment Upgrades



PROJECT 2: CITYWIDE CROSSWALK ENHANCEMENT PROGRAM (SYSTEMIC SAFETY PROJECT)

Improvement of crosswalks throughout the City would improve the safety and comfort for pedestrians, but can also improve the predictability and therefore the safety for drivers navigating crosswalk locations. Improvements would include, at a minimum, renewal and/or replacement of high visibility markings, a review of appropriate signage including any need for advanced warning signage, and use of solar powered rectangular rapid flashing beacons (RRFBs) at crossings. Other treatments including RRFBs on advanced warning signs, direct-powered RRFBs for locations with high use or vegetation coverage, or consideration of a pedestrian signal, would be on a case-by-case basis during the design phase of the program. At locations with good visibility and low vehicle volumes and speeds, high reflective markings and prominent crossing signage may be used in lieu of RRFBs, to be evaluated during project design.

Locations identified for the program include over two dozen potential locations, including:

- 7th Avenue at Spruce Street, Fir Street and Hendrickson Road, and a new midblock between Fir and Hendrickson Road
- 3rd Avenue at Bell Street, Maple Street, Cedar Street, Spruce Street and Alder Street
- 4th Avenue at Spruce Street and Alder Street
- 5th Avenue with Hendrickson Road and Fir Street
- Sequim Avenue at all intersections between Prairie and Hendrickson
- Hendrickson Road midblock at Sequim Middle School and between 5th and 7th Avenues
- Fir Street at Knapman Avenue, Dunlap Avenue and Brown Road
- Washington Street at 4th Avenue, 2nd Avenue, existing midblock between 2nd and Sequim Avenues, Sunnyside, Govan and Brown

While each of the above-listed locations would be strong candidate for improvements, based on the crosswalk location prioritization detailed in Appendix C, the highest priority locations for the first phase of improvements would be the 7th Avenue corridor, 3rd Avenue corridor and Hendrickson Road midblock locations. Locations on 3rd Avenue are aligned with an existing City project (STR-104RR). The first phase would include up to 12 crossings, if new midblock crossings are added at all recommended locations. The scope and cost of the project includes an alternatives and site analysis to determine the warrants and locations of new midblock crossings and the feasibility of the range of potential options for crossing improvements. Funding for the Phase 1 locations of the project have been secured from WSDOT through HSIP.

Risk Factors Addressed



PROJECT 2: CITYWIDE CROSSWALK ENHANCEMENT PROGRAM (SYSTEMIC SAFETY PROJECT)

Project Cost

Phase 1: $1,000,000
Phase 2: $2,800,000
Total Cost: $3,800,000

Alignment with Ongoing/Planned Safety Projects

LRSP Project # 2
CIP Project STR-104RR

Figure 6.2 Citywide Crosswalk Enhancement Program



PROJECT 3: CITYWIDE SPEED LIMIT & TRAFFIC CALMING STUDY AND SPEED MITIGATION (SYSTEMIC SAFETY MITIGATION)

A citywide speed limit study would evaluate potential speed limit changes across the City's transportation network in one comprehensive effort with a single defined approach to defining speed limits. The advantage of this approach is to ensure consistency in setting of speed limits and promote safe speeds across the city.

Modern best practices from organizations like NACTO would be used in identifying a range of criteria that should be consistent in setting of speed limits, which is different than historical ways that speed limits are set, which was based on prevailing speeds. The goal of the program would be consistent speed limits to avoid driver confusion and account for other criteria beyond prevailing speeds. The City of Sequim owns and operates eight signals across the City. At seven of the signals, replacement of the existing signal cabinets would address maintenance concerns, improve outdated equipment, and allow for implementation of several signalization operational improvements that have limited additional cost or physical modification requirements, but can address the City's risk factors for future crashes.

While not a high priority in the City's crash data, vehicle speed is directly linked to crash severity. For those walking and biking, even a small increase in speed significantly increases the risk of serious injury and death. At higher speeds, drivers are less able to react in time and avoid crashes. Their field of vision narrows, reducing their ability to see other vehicles, people walking, or bicyclists preparing to enter or cross the road.

As part of the speed limit study, a traffic calming program and/or policies will be developed as a means for identifying and implementing roadway improvements which can encourage slower speeds along the City's roadways. The development of these policies will be in line with the City's Transportation Master Plan (see Goal 2, Policy 5). As part of the development of this program, appropriate traffic calming measures will be identified along with a process for evaluating the need for improvements along local streets.

In addition to a citywide evaluation of speed limits, the project/program would include funding for implementation of 5 permanent, solar powered speed feedback signs to help mitigate any identified higher speed areas of concern. The specific locations for the signs would be identified during the study based on the field data on vehicle operating speeds that would be gathered as part of the Citywide study.

Risk Factors Addressed



Project Cost

$400,000

Alignment with Ongoing/Planned Safety Projects

LRSP Project # 5

PROJECT 4: FIR STREET PEDESTRIAN & BICYCLE IMPROVEMENTS (CORRIDOR SAFETY PROJECT)

Fir Street serves as an important pedestrian and bicycle connection through the City given its proximity to Haller Elementary School, Sequim Middle School, and Sequim High School. In addition, the segment between Sequim Avenue and Blake Avenue serves as the east-west connection of the ODT between the multi-use path facilities along Hendrickson Road (west of Sequim Avenue) and in Carrie Blake Park (east of Blake Avenue). The segment along Fir Street is the only portion of the ODT within the City that lacks dedicated bicycle facilities.

Pedestrian and bicycle improvements were identified for this corridor to address safety concerns associated with pedestrian- and/or bicycle-involved collisions along this roadway. These improvements include the following:

- Fill in sidewalk gaps along the south side of Fir Street between Sequim Avenue and Brown Road
- Upgrade/install ADA curb ramps at non-compliant locations along the corridor (26 locations)
- Install bike lanes along Fir Street between 9th Avenue and 5th Avenue and Sequim Avenue and Blake Avenue (to connect with existing bike lanes between 5th Avenue and Sequim Avenue)

Risk Factors Addressed



Project Cost

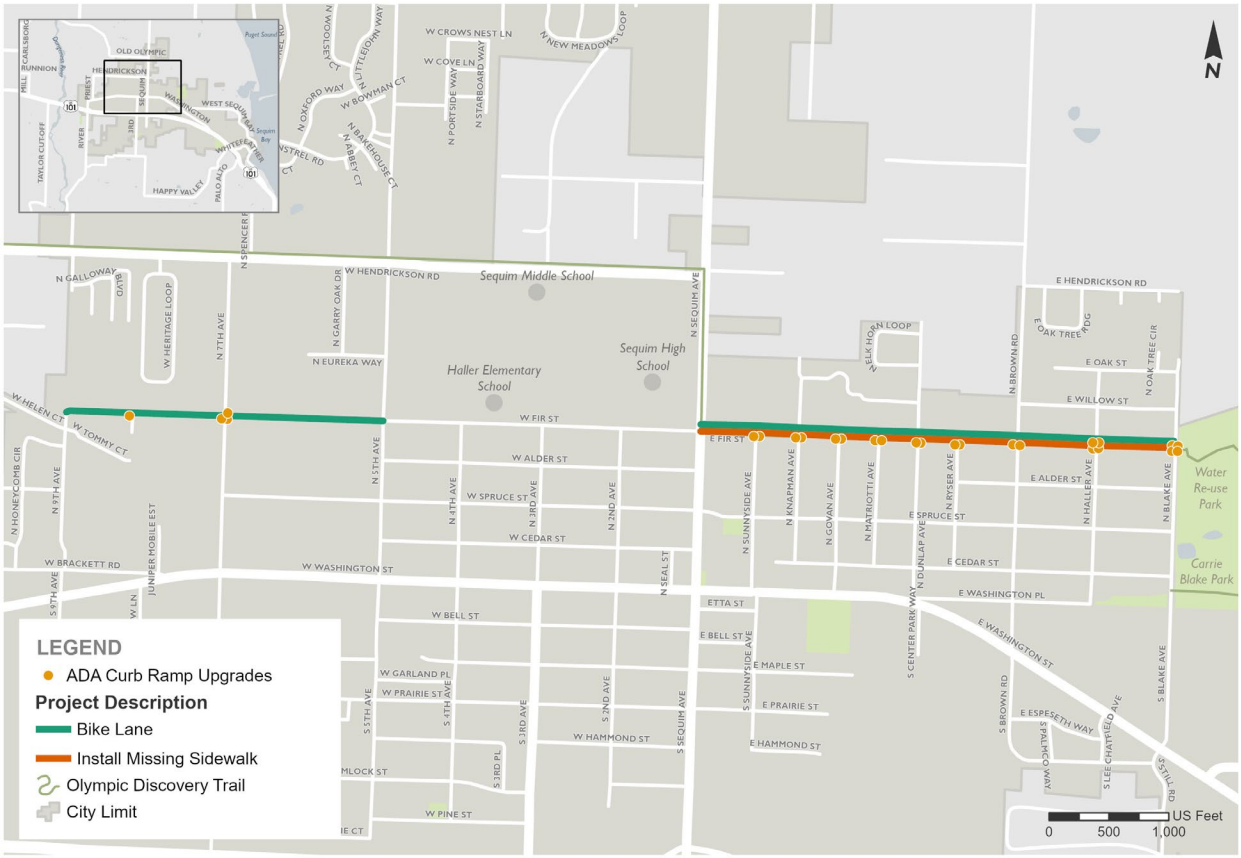
$2,060,000

Alignment with Ongoing/Planned Safety Projects

CIP Project PWP-STR-134RR

PROJECT 4: FIR STREET PEDESTRIAN & BICYCLE IMPROVEMENTS (CORRIDOR SAFETY PROJECT)

Figure 6.3 Fir Street Pedestrian & Bicycle Improvements



PROJECT 5: SPRUCE STREET BICYCLE BOULEVARD (CORRIDOR SAFETY PROJECT)

Spruce Street provides local access through the residential communities north of Washington Street and intersects with north-south roadways approximately every 300 to 700 feet. Many of these intersections provide two-way stop control along the north and south approaches. To address angled crashes occurring at these intersections (regardless of direction), changes to the traffic control are proposed. This project identifies several locations along Spruce Street as candidate locations for installing mini roundabouts.

Bicycle-involved collisions along Washington Street indicate a need for east-west bicycle connectivity through Downtown Sequim. Due to right-of-way constraints, dedicated bicycle facilities are not feasible along Washington Street and the roadway will be prioritized for vehicular travel. Bicycle traffic through the area will be directed toward Spruce Street, a low-speed, low-volume roadway. To complement the traffic calming benefits associated with the mini roundabouts, additional bicycle facility improvements are identified for Spruce Street to establish this roadway as a bicycle-friendly roadway.

Improvements for Spruce Street include the installation of the following elements:

- Mini roundabouts or traffic circles at all intersections between 4th Avenue and Haller Avenue (except Sequim Avenue)
- Bicycle sharrow markings and signage between 7th Avenue and Blake Avenue

Mini roundabouts/traffic circles will be installed within existing limits of pavement by constructing a center circle of doweled rolled curb with a concrete fill, and painted splitter islands. Mini roundabouts provide for circular intersection movement which has been demonstrated to improve yielding at intersections and reduce the severity of crashes that do occur. Corridor- length roundabouts can also be a traffic calming measure for both speed and volume, which is frequently a concern on residential streets near arterial roads. At each improved intersection, all existing curb ramps will be replaced to meet current ADA standards.

Concepts for a mini roundabout that would be feasible within a typically sized intersection in the identified corridors is shown on the following page. The specific design of each mini roundabout would be completed as part of the design of the project, if funded.

Risk Factors Addressed



Project Cost

$1,450,000

Alignment with Ongoing/Planned Safety Projects

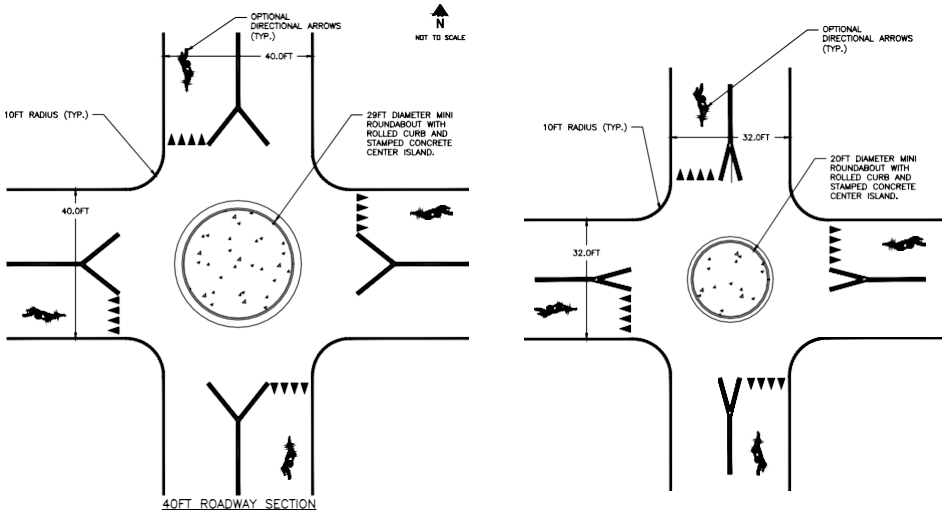
LRSP Project # 4

PROJECT 5: SPRUCE STREET BICYCLE BOULEVARD

Figure 6.4 Spruce Street Bicycle Boulevard



Figure 6.5 Mini-Roundabout Conceptual Layouts



PROJECT 6: SOUTH SEQUIM COMPLETE STREETS IMPROVEMENTS – PHASE 1 (CORRIDOR SAFETY PROJECT)

Prairie Street is an east-west roadway key to circulation in and around Downtown Sequim. This roadway is the only continuous east-west roadway in South Sequim (south of Washington Street) directly connecting between 7th Avenue and Sequim Avenue. Intersections are generally located approximately every 650 feet along this roadway, with movements from Prairie Street generally being stop-controlled. Given the similarities to Spruce Street, this roadway also experiences high rates of angled collisions. Mini roundabout improvements are identified for several intersections along Prairie Street to address the high collision rate.

The bicycle-related collisions along Washington Street identify a need for safe, east-west bicycle facilities through Downtown Sequim. However, given the limited right-of-way along Washington Street, these facilities cannot be accommodated on Washington Street. Prairie Street has been identified as an alternate route to provide the necessary active transportation connectivity in their region of the City.

Several improvements have been identified for Prairie Street to improve safety along the corridor and establish the roadway as the key east-west active transportation corridor south of Washington Street:

- Install bike lanes and sidewalks between 5th Avenue and the eastern terminus
- Upgrade/install ADA curb ramps at non-compliant locations along the corridor (20 locations)
- Install mini-roundabouts/traffic circles at 4th Avenue, 3rd Avenue, 2nd Avenue, and Sunnyside Avenue

Mini roundabouts/traffic circles will be installed within existing limits of pavement by constructing a center circle of doweled rolled curb with a concrete fill, and painted splitter islands. Mini roundabouts provide for circular intersection movement which has been demonstrated to improve yielding at intersections and reduce the severity of crashes that do occur. Corridor- length roundabouts can also be a traffic calming measure for both speed and volume, which is frequently a concern on residential streets near arterial roads. At each improved intersection, all existing curb ramps will be replaced to meet current ADA standards.

Concepts for a mini roundabout that would be feasible within a typically sized intersection in the identified corridors is shown on the following page. The specific design of each mini roundabout would be completed as part of the design of the project, if funded.

Improvements to Prairie Street have been identified as the initial phase of improvements within the South Sequim area, as this roadway exhibits higher collision rates than the adjacent roadways.

Risk Factors Addressed



PROJECT 6: SOUTH SEQUIM COMPLETE STREETS IMPROVEMENTS – PHASE 1 (CORRIDOR SAFETY PROJECT)

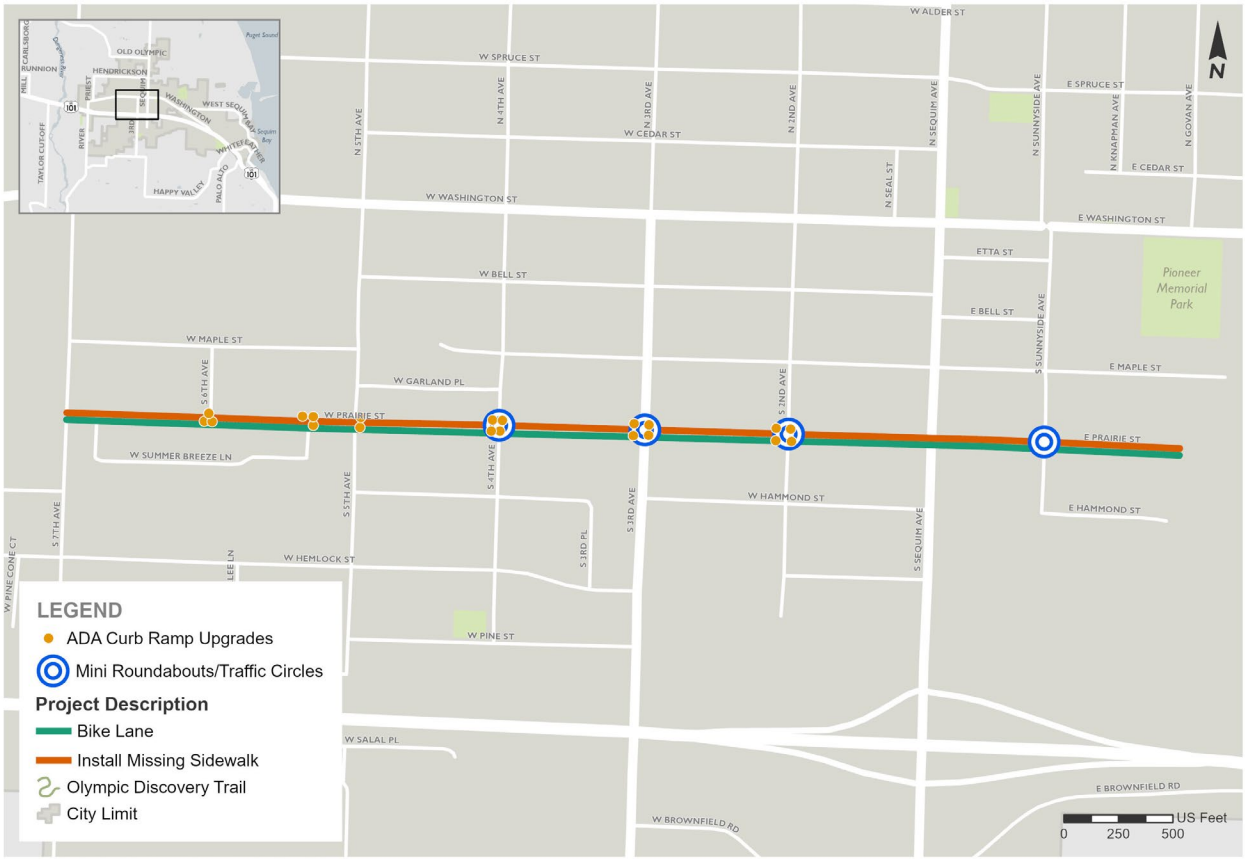
Project Cost

$7,940,000

Alignment with Ongoing/Planned Safety Projects

LRSP Project #4
CIP Project STR-031CU

Figure 6.6 South Sequim Complete Streets Improvements – Phase 1



(See mini-roundabout conceptual layout in Figure 6.5)

PROJECT 7: SOUTH SEQUIM COMPLETE STREETS IMPROVEMENTS – PHASE 2 (CORRIDOR SAFETY PROJECT)

Improvements to roadways in South Sequim (south of Washington Street) have been identified to improve the safety of active transportation connections in this area of the City. Given the proximity of these roadways to commercial uses in Downtown Sequim, roadways in South Sequim are often used for pedestrian and bicycle connectivity. However, the current lack of dedicated pedestrian and bicycle routes along both north-south and east-west roadways in South Sequim increases the exposure of vulnerable roadway users to collisions with vehicles. Several countermeasures have been proposed as part of this project to both reduce vehicular speeds and provide dedicated routes for active mode users.

Mini roundabouts/traffic circles are proposed at several key intersections in South Sequim. In addition to reducing angled collisions, these traffic calming features will reduce vehicular speeds along local roadways and prevent cut-through traffic diverting from Washington Street. In combination with these improvements, active transportation improvements (sidewalks, curb ramps, and bicycle sharrows) are selected for several roadways. These improvements will identify and provide dedicated routes for pedestrian and bicycle traffic and will increase the visibility of these roadway users to drivers.

The improvements described above have been identified for the following roadways in South Sequim:

- 7th Avenue: fill sidewalk gaps (Washington Street to Hemlock Street), ADA curb ramp upgrades (Fir Street to Washington Street - 12 locations) protected bike lanes (Washington Street to McCurdy Road)
- 5th Avenue: sharrows & signage (Washington Street to Hemlock Street)
- Bell Street: sharrows & signage (5th Avenue to Sequim Avenue)
- Maple Street: mini roundabouts (4th Avenue, 3rd Avenue, 2nd Avenue, and Sunnyside Avenue)

Risk Factors Addressed



Project Cost

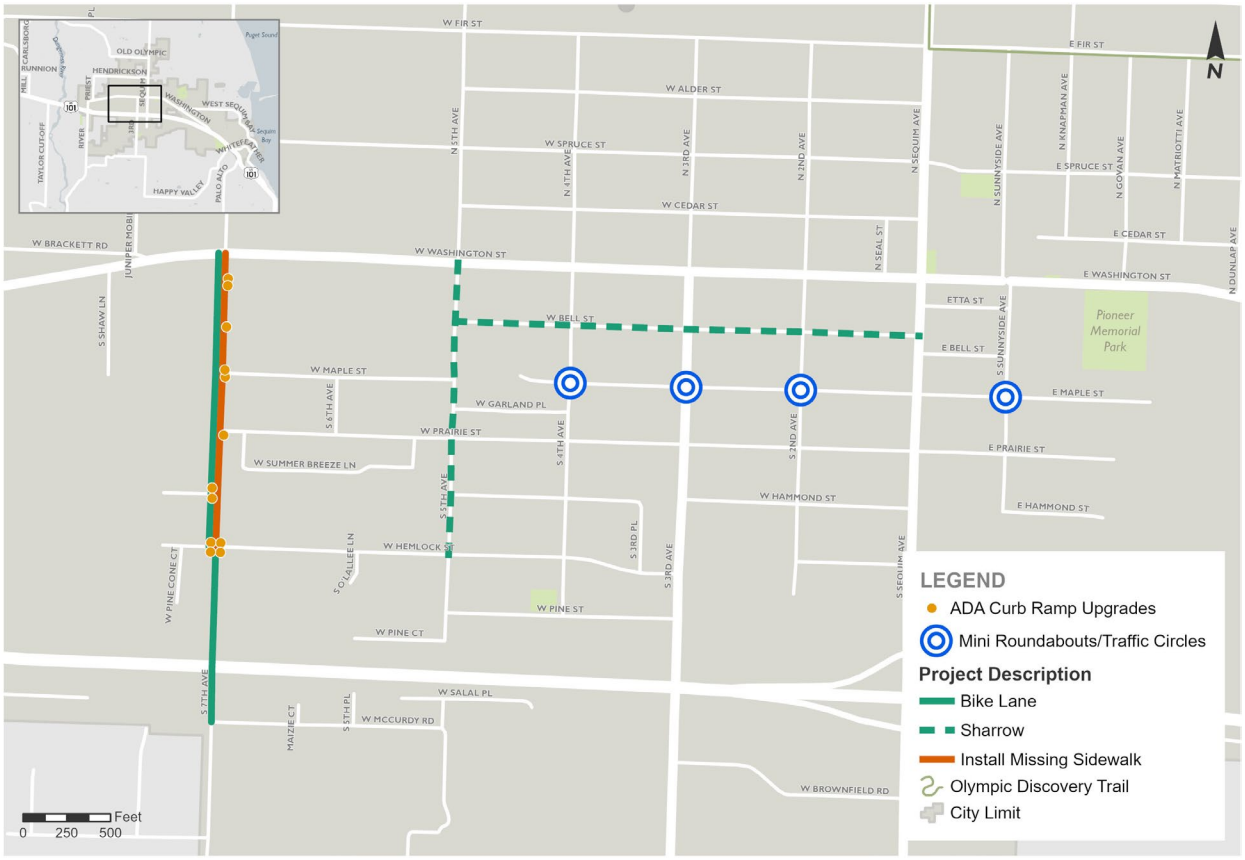
$1,620,000

Alignment with Ongoing/Planned Safety Projects

LRSP Project #4

PROJECT 7: SOUTH SEQUIM COMPLETE STREETS IMPROVEMENTS – PHASE 2 (CORRIDOR SAFETY PROJECT)

Figure 6.7 South Sequim Complete Streets Improvements – Phase 2



(See mini-roundabout conceptual layout in Figure 6.5)

PROJECT 8: N 3RD AVENUE COMPLETE STREET (CORRIDOR SAFETY PROJECT)

Bicycle and pedestrian improvements to north-south roadways in Downtown Sequim (north of Washington Street) are essential to improving active transportation safety within the community. Within this area, 3rd Avenue serves as a key connection between local schools on Fir Street and commercial uses along Washington Street. However, this roadway provides incomplete facilities for pedestrians and bicyclists.

Improvements to this roadway in include completion of the sidewalk network, with curb ramp improvements, to provide continuous, ADA-accessible routes between Fir Street and Washington Street. Additionally, bike lanes are identified to establish dedicated north-south bicycle connections to Downtown Sequim.

The improvements described above have been identified for 3rd Avenue between Fir Street and Washington Street:

- Fill sidewalk gaps
- ADA curb ramp upgrades
- Bike lanes
- Pedestrian crosswalks at Alder Street, Spruce Street, and Cedar Street
- Remove stop-controlled approaches along 3rd Avenue and move stop-controlled approaches to east-west roadways at Alder Street and Cedar Street

Risk Factors Addressed



Project Cost

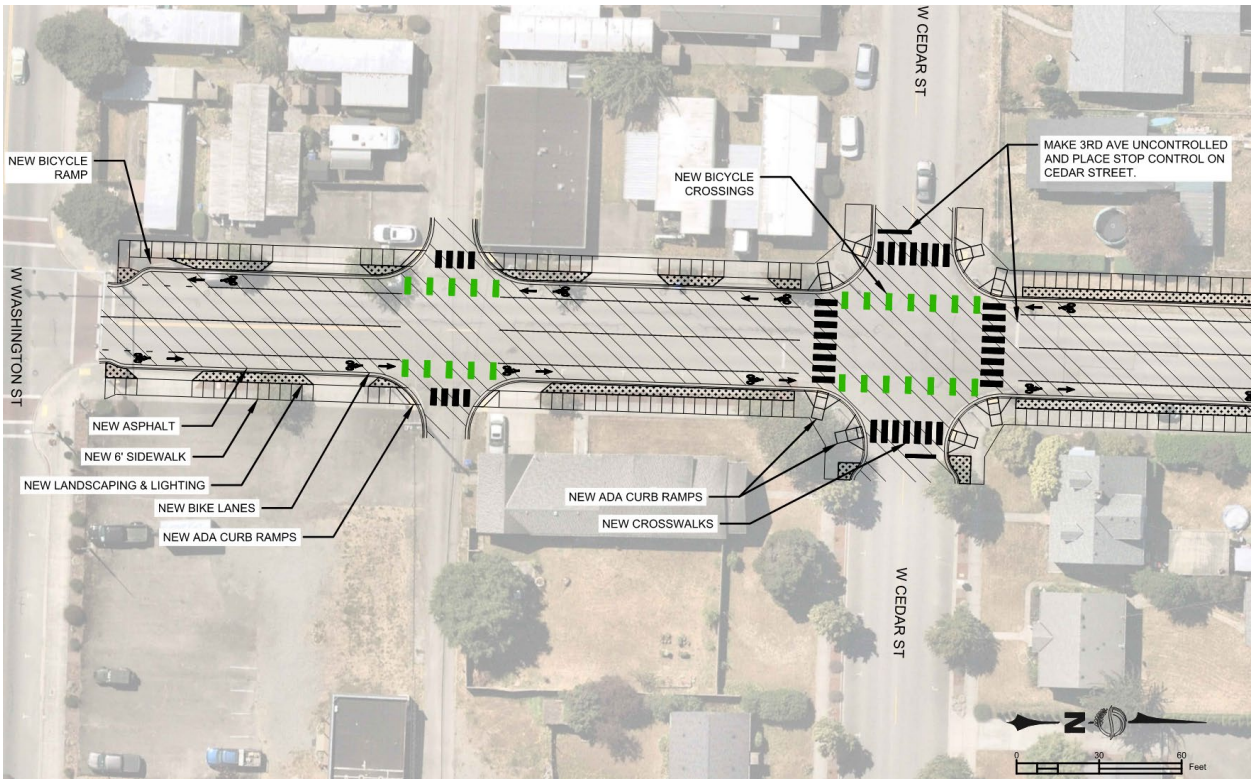
$5,010,370

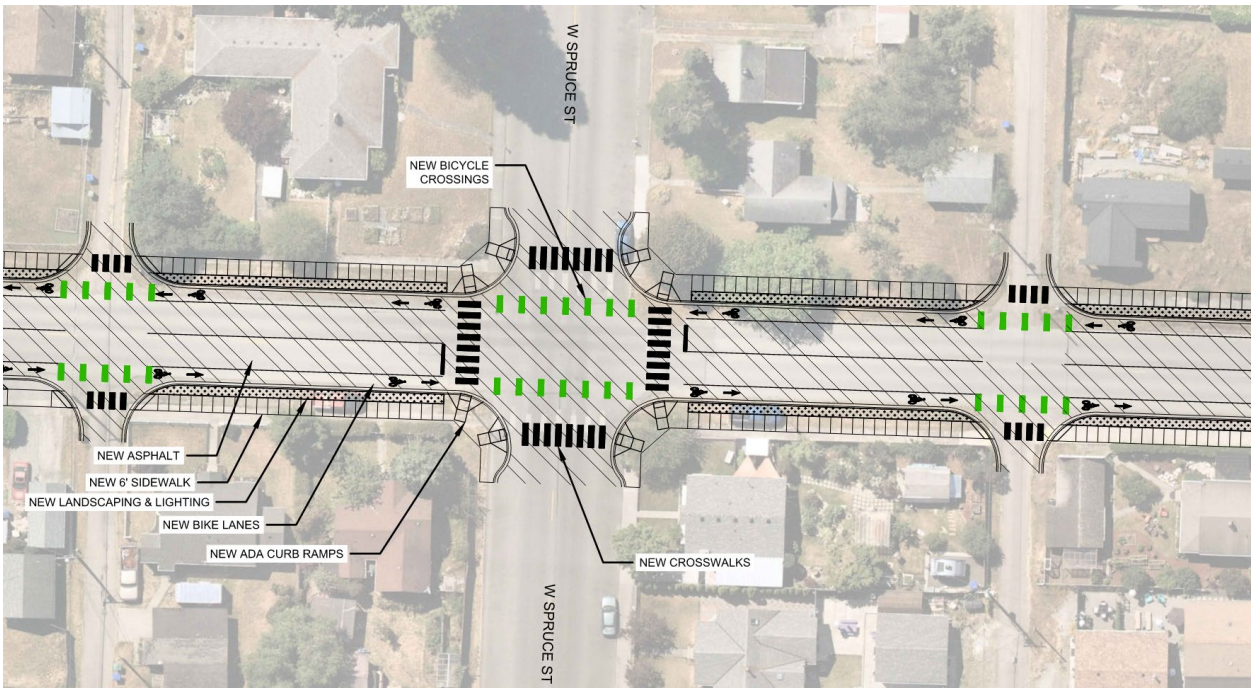
Alignment with Ongoing/Planned Safety Projects

CIP Project STR-104RR

PROJECT 8: N 3RD AVENUE COMPLETE STREET

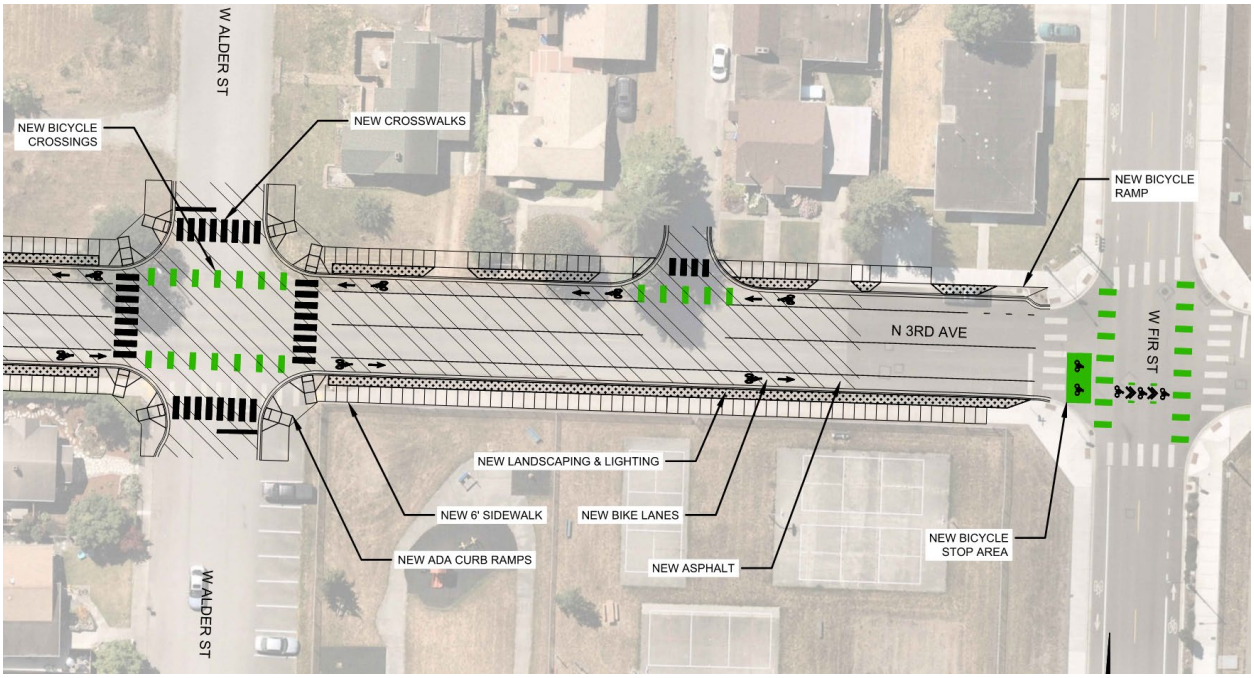
Figure 6.8 N 3rd Avenue Complete Street





PROJECT 8: N 3RD AVENUE COMPLETE STREET

Figure 6.8 N 3rd Avenue Complete Street (cont.)



PROJECT 9: WEST WASHINGTON STREET SAFETY IMPROVEMENTS (CORRIDOR SAFETY PROJECT)

Several improvements have been identified for the segment of West Washington Street between River Road and 5th Avenue to improve active transportation safety and reduce vehicle turning movement conflicts. This segment of West Washington Street has an existing two-way left-turn lane that would be modified for access management of the driveways and unsignalized crossing streets.

The form of the raised median would be a surface-mounted hardscape consisting of concrete curbing and a stamped and colored asphalt fill. Additional visibility and reflective treatments including raised pavement markers and vertical delineator posts could be used to reinforce the presence of the medians. The medians would be designed to include left turn pockets at higher volume driveways and cross streets where it is determined that access needs to remain. The determination of the specific locations of left turn pockets would be identified during the design and public outreach phase of the project.

In addition, protected bicycle lanes are proposed along the corridor between 9th Avenue and 7th Avenue to improve bicycle safety. These bicycle facilities would be paired with roundabout improvements at Washington Street/River Road and Washington Street/9th Avenue to provide sidewalk, crosswalk, and bike ramp improvements, as necessary, to connect with the planned bicycle lanes and pedestrian improvements. Curb ramp improvements are also identified for 30 locations along the corridor.

Two-stage bicycle turn queue boxes are also proposed for the eastbound and northbound approaches of Washington Street/7th Avenue to connect to existing and planned bicycle facilities along 7th Avenue. Curb extensions and/or relocation of crosswalks may be necessary to accommodate the bicycle turn boxes.

Risk Factors Addressed



Project Cost

$2,800,000

Alignment with Ongoing/Planned Safety Projects

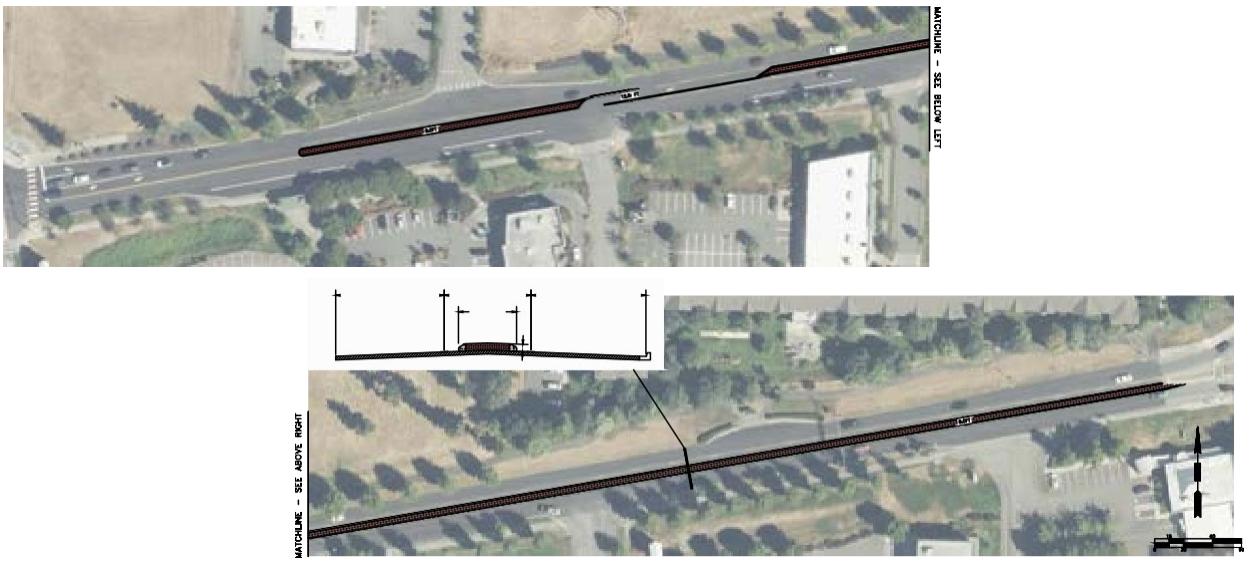
LRSP Project #3

PROJECT 9: WEST WASHINGTON STREET SAFETY IMPROVEMENTS

Figure 6.9 West Washington Street Safety Improvements



Figure 6.10 W Washington Street Access Management Median Concept



PROJECT 10: EAST WASHINGTON STREET PEDESTRIAN & BICYCLE IMPROVEMENTS (CORRIDOR SAFETY PROJECT)

Improvements have been identified for the segment of East Washington Street between Brown Road and Simdars Road to improve active transportation safety and reduce vehicle turning movement conflicts. Between Brown Road and West Sequim Bay Road, East Washington Street has an existing two-way left turn lane that would be modified for access management of the driveways and unsignalized crossing streets. Limiting dangerous left-turn movements along this high-speed section of the roadway will reduce angled collisions along this roadway.

The form of the raised median would be a surface-mounted hardscape consisting of concrete curbing and a stamped and colored asphalt fill. Additional visibility and reflective treatments including raised pavement markers and vertical delineator posts could be used to reinforce the presence of the medians. The medians would be designed to include left turn pockets at higher volume driveways and cross streets where it is determined that access needs to remain. The determination of the specific locations of left turn pockets would be identified during the design and public outreach phase of the project.

In addition, improvements to the existing multi-use path (ODT) along the north side of Washington Street have been identified, including improvements to private driveway approaches along the path and safer connections to land uses along the south side of the roadway. Upgrades to crosswalks along the corridor include the installation of rectangular rapid flashing beacons (RRFBs) at several existing locations:

- Washington Street/Blake Avenue
- Washington Street/Rhodefer Road
- Washington Street At the Holiday Inn Express

In addition, extension of the multi-use path facility is proposed between Brown Road and Rhodefer Road to provide a safe active transportation connection between bicycle and pedestrian facilities in Downtown Sequim and the easterly extension of the ODT. Curb ramp improvements are also proposed along with this facility to ensure ADA-accessibility along its length. Along this western portion, pedestrian crossing improvements are identified for the intersection of Washington Street/Brown Road. Given the high travel speeds and high traffic volumes along Washington Street at this location, a high intensity activated crosswalk beacon (HAWK) or half signal is proposed for this location.

Risk Factors Addressed



PROJECT 10: EAST WASHINGTON STREET BICYCLE & PEDESTRIAN IMPROVEMENTS

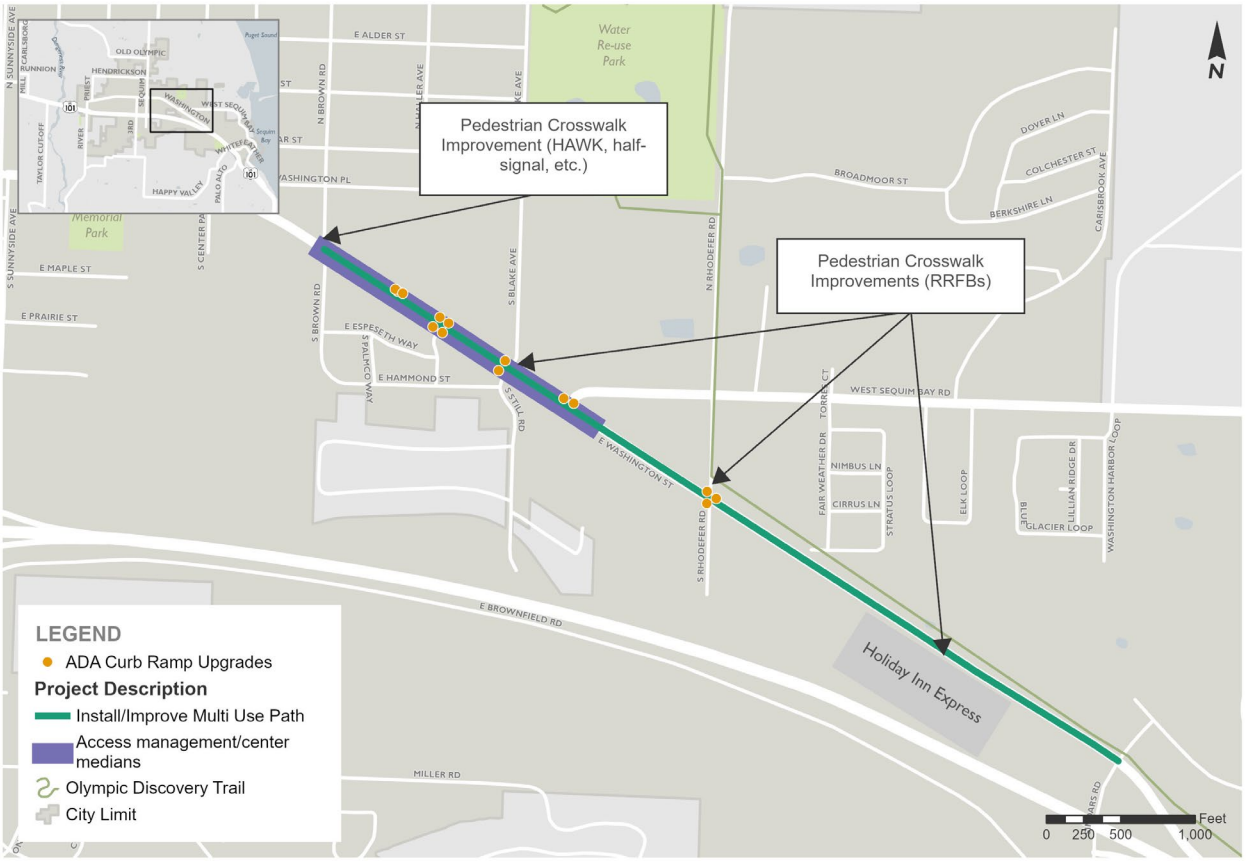
Project Cost

$2,910,000

Alignment with Ongoing/Planned Safety Projects

LRSP Project #3
CIP Project STR-179CU

Figure 6.11 East Washington Street Bicycle & Pedestrian Improvements



PROJECT 11: SUNNYSIDE AVENUE BICYCLE & PEDESTRIAN IMPROVEMENTS (INTERSECTION SAFETY PROJECT)

Sequim Avenue serves as the primary north-south bicycle route through the City with bike lanes provided north of Fir Street and south of Washington Street. However, the segment between these two roadways currently lacks dedicated bicycle facilities. Given right-of-way constraints, bike lanes cannot be accommodated along this segment without roadway widening. Thus, bicycle and pedestrian improvements to Sunnyside Avenue, west of Sequim Avenue, have been identified as an alternate route to bridge the gap in the bicycle network along Sequim Avenue.

Improvements to Sunnyside Avenue include completion of the sidewalk network on both sides of the roadway and associated curb ramp improvements. Bicycle lanes/sharrows are proposed along the length of the roadway between Fir Street and Prairie Street, where the bicycle lanes will join with other planned active transportation facilities. Improvements are proposed for the intersection of Washington Street/Sunnyside Avenue to ensure that bicycles can safely cross this high-volumes corridor. Improvements for this intersection may include access management medians to prevent left-turns to and from the minor street (Sunnyside Avenue) and an enhanced bicycle crossing allowing north-south through movements for bicyclists. A typical layout from the *WSDOT Design Manual* for the median diverter is presented below.

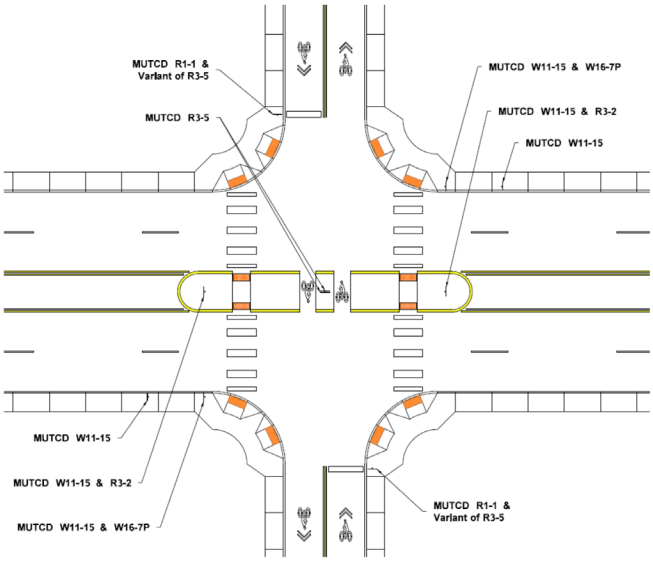
Risk Factors Addressed



Project Cost

$2,920,000

Figure 6.12 Median Diverter Conceptual Schematic



INTERSECTION/CORRIDOR SAFETY PROJECTS – PROJECT 11: SUNNYSIDE AVENUE BICYCLE & PEDESTRIAN IMPROVEMENTS

Figure 6.13 Sunnyside Avenue Bicycle & Pedestrian Improvements



PROJECT 12: BROWNFIELD ROAD SPEED MITIGATION

Brownfield Road is a roadway that was identified as both a high crash rate location in the spatial analysis and a candidate for traffic calming and lane departure mitigation based on the common characteristics of the crashes that were recorded on the road. A program of curve warning signs with speed feedback signage and flashing LED perimeters for enhanced visibility, profiled edge striping that increases visibility and provides a tactile rumble if vehicles leave the defined lane, and a program of enhanced signage and reflective markers on roadside hazards would mitigate crash risks on this specific corridor.

Risk Factors Addressed

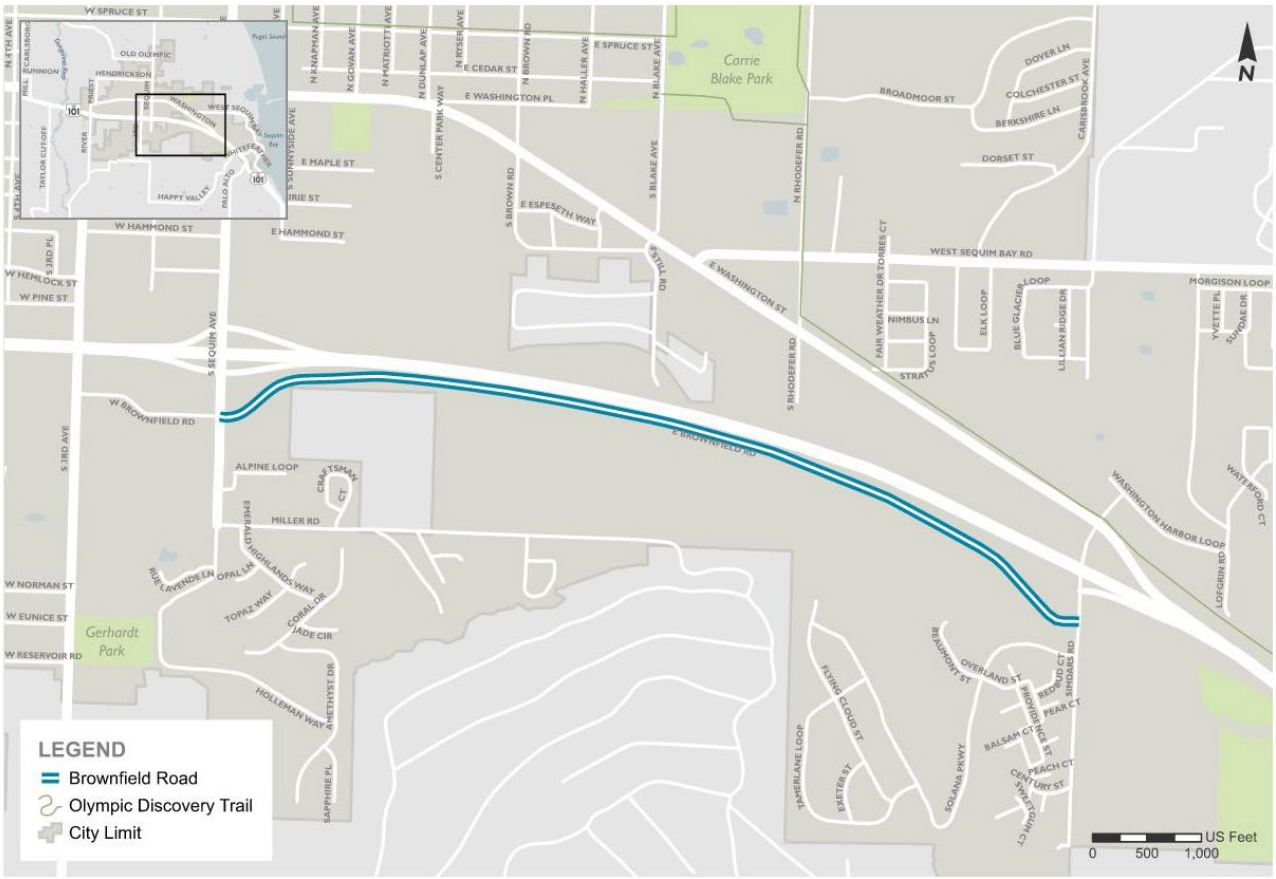
Alignment with Ongoing/Planned Safety Projects

LRSP Project #6

Project Cost

TBD

Figure 6.14 Brownfield Road Speed Mitigation



7. SAFETY POLICIES AND PROCEDURES

One of the key elements of a Safety Action Plan is a review of the City's existing policies and processes to identify low cost, procedural and practice changes to increase the focus on safety and proactively address crashes, helping the City advance towards its Vision Zero goal. The improvements identified through the policies and process review are intended to be implemented not only in the current practices of the City, but also guiding future project development by private entities, such as developers, and the City's capital projects.

As part of the review process, the City's current policies, plans, guidelines, and standards were reviewed for opportunities to improve processes. The policy and process review was informed by the results of the Local Road Safety Plan development and recommends methods to integrate safety-focused planning practices into the various City processes.

SPEED LIMIT POLICY

The City of Sequim Municipal Code, Chapter 10.08 establishes speed limits within the City. This section of the Municipal Code establishes the minimum speed limit along all roadways within the City to be 25 mph. This section also provides provisions for increasing or decreasing speed limits through passage of a resolution by the city council. Most recently, the Sequim City Council passed resolution R-2007-06 in May 2007, establishing specific speed limits on certain City roadways.

As identified as Project 3, the CSAP recommends performing a citywide speed limit study to establish a consistent approach for defining speed limits to promote safe speeds across City roadways. This study would utilize best practices from organizations like the National Association of City Transportation Officials (NACTO) to determine the criteria evaluated for setting speed limits. This would differ from the current approach which primarily relies on prevailing speeds. This study would allow the City to identify locations where reducing the speed limit would be possible without requiring significant investment (i.e., minor modifications of existing physical infrastructure or minimal additional traffic enforcement) and where speed reduction may require more investment. The study would identify high priority capital projects related to speed reduction.

TRAFFIC CALMING POLICY

As one of the goals within the TMP, the City identifies the desire to develop a well-connected, grid roadway network to provide safe and convenient access for all travel modes (Goal 2, Policy 5). However, with this network comes the potential for increased cut-through traffic on local roadways adjacent to arterial corridors. To address these potential impacts to local roadways, the TMP also identifies a goal to develop policies around the implementation of traffic calming measures to limit cut-through traffic. Traffic calming utilizes physical roadway elements to influence driver behavior and speeds and reduce impacts to surrounding land uses. The TMP presents a toolbox of potential traffic calming measures that can be implemented within the City but does not provide guidance or recommendations on the appropriate context for each measure.

To advance this goal, a *Neighborhood Traffic Calming Policy* can be developed to identify the appropriate process for selecting traffic calming measures for specific City roadways. This policy should identify the various factors that should be considered when selecting traffic calming measures, including roadway characteristics, emergency service access, vehicular volumes and community acceptance. In addition, this policy should set forth a clear process through

which resident and neighbor concerns regarding traffic speeds and volumes can be investigated and addressed in a consistent manner. This process and the selection of traffic calming measures should incorporate outreach to the affected community to ensure support for any roadway improvement.

Complete Streets Policy

The City of Sequim adopted a Complete Streets policy that was passed via Ordinance in October 2023. Since that time, the City has incorporated pedestrian and bicycle improvements into the capital improvement projects identified throughout the City. Examples of recently implemented projects include improvements to Fir Street and N Sequim Avenue which have installed pedestrian and bicycle facilities (sidewalks and bike lanes) connecting to local schools.

As part of the update to the City's Transportation Master Plan, additional planning work is being conducted to develop and expand active transportation facilities throughout the City. As part of the identification of new transportation projects within the City, pedestrian and/or bicycle facilities are incorporated into all roadway improvements projects, to the extent feasible.

In line with Complete Streets policies, the City plans to continue to identify active transportation improvements as part of planned roadway projects. Future changes to the Complete Streets policies will be considered in line with industry best practices and state and federal policies.

ADA Transition Plan

In August 2023, the City prepared an *Americans with Disabilities Act (ADA) Self-Evaluation and Transition Plan* in an effort to ensure that the City's pedestrian facilities provide equal accessibility for all, including those with disabilities. As discussed in Chapter 3, the City has a high percentage of residents with disabilities, elevating the need to ensure that the City's roadways are fully accessible. This plan was adopted by resolution R2023-20 in September 2023 and addresses the following requirements [as mandated by ADA Title II Part 356, Subpart D – Program Accessibility §35.150(d)(3)]:

- Identify physical obstacles in the public entity's facilities that limit the accessibility of its programs or activities to individuals with disabilities.
- Describe in detail the methods that will be used to make the facilities accessible.
- Specify the schedule for taking the steps necessary to achieve compliance with this section and, if the duration of the transition plan is longer than one year, identify steps that will be taken during each year.
- Indicate the official responsible for implementation of the plan.

As part of the plan, several policies are recommended that would advance the plan's implementation and progress the removal of pedestrian barriers in the network. Several recommendations which would advance the City's safety objectives include:

- Update City design standards to match ADA Standards
- Develop a Citywide Accessible Pedestrian Signal (APS) policy
- Educate City staff, consultants, and contractors on ADA standards and provide dedicated training to City inspectors

It is recommended that the City continue to implement the findings of the ADA Transition Plan to establish a pedestrian network that is safe and accessible to all.

CITY OF SEQUIM ENGINEERING STANDARDS

The City of Sequim Engineering Standards provide specific information on lane widths, curb returns, pavement widths and other geometric information required for public and private projects in the City. Several positive safety measures are already included, such as the following:

- Requirements for pedestrian facilities and lighting along all roadway classifications
- Incorporation of active transportation facilities into all roadway standards
- Provision of bulb-outs at intersections

Upon the next update to the City's engineering standards, design requirements can be reviewed to determine whether there are areas for improvement and possibly provide greater flexibility when site conditions allow for measures that can increase safety and comfort, especially for vulnerable active mode users. One such area may be to consider reducing minimum pavement and lane widths based on roadway context and vehicle volumes/types. Narrower roadways have been demonstrated to reduce speeding and can open up right of way width for other uses such as sidewalk, shared use paths, protected bike lanes and buffer strips for landscaping and/or stormwater treatment. Reductions to minimum curb radii can also be considered to allow for context-sensitive reductions in radius. Smaller design vehicles could be used on local roads, when active mode facilities may be present, and reduced or flexible minimum radii can reduce crossing distances and increase side friction for traffic calming.

8. EVALUATION AND REPORTING

The final element of a Safety Action Plan is to identify a process for continually measuring progress towards reducing collisions and improving safety along Sequim's roadway network. This document requires periodic revisions to reassess safety conditions within the City and determine whether risk factors have changed or if new solutions or countermeasures need to be identified. To alignment with updates to the LRSP, it is recommended that this document be updated at regular intervals to identify changes in collision patterns and evaluate the success with which previously implemented safety projects have reduced collisions.

Safety Action Plan Progress Reporting

The successful outcomes from the CSAP will be indicated by the projects and strategies that are implemented by the City in response to the findings in this document. The successful completion of projects or changes to policies, as discussed herein, will move the City closer to achieving its goal of eliminating roadway fatalities and serious injuries. Examples of progress from the CSAP include:

- Safety project implementation (e.g., upgrades to signal infrastructure, enhanced crosswalk locations, installation of pedestrian and bicycle facilities, etc.)
- Revisions to policy (e.g., speed limit policy changes, updates to complete street policies, development of traffic calming programs, etc.)

For both project implementation and policy revisions, the progress towards achieving successful outcomes from the CSAP can take many forms. For projects, this may include applying for and receiving grant funding; developing design plans and estimates; or full construction of identified safety improvements. For the policy revisions, this can include conducting a review of existing policies and procedures; developing draft and final safety policies or programs; and implementation of new safety-related policy changes. The City's annual 6-year Transportation Improvement Program (TIP) will document and outline the City's progress towards implementing safety projects as improvements are funded and constructed.

Safety Action Plan Progress Evaluation

In addition to tracking the success to which the CSAP leads to implementation of safety-related projects and policy changes, the efficacy of the program will also be judged based on the success with which the proposed safety measures reduce fatal and severe injury collisions. Progress towards reducing collisions within the City will be measured through the periodic updates to the LRSP occurring every 2 years. The collision analysis conducted as part of the update process will be used to evaluate how the projects in both the LRSP and the CSAP are improving safety within the City. Traffic safety statistics, including the number, type, and severity of collisions on the City's roadway network will be compared with historical collision data to determine whether the implemented safety measures had a successful impact towards improving roadway safety. For intersection and corridor safety projects, pre- and post-project collision data will be collected and compared at the improvement location to directly measure the impact of the safety improvement on collision rates and whether the implemented countermeasures achieved the predicted collision reductions.

Since the CSAP builds off the collision analysis and evaluation conducted as part of the LRSP, it is important that both documents continue to be updated and periodically revised to ensure alignment between the two. While both documents build off the same collision data, the CSAP takes a more comprehensive view of collisions and serves as a long-term implementation plan for improving roadway safety within the City. As such, it evaluates and identifies safety needs for the transportation network that align with the City's long-term planning goals. Nevertheless, it is expected that the LRSP will be updated on a more frequent basis (every 2 years) and will inform later updates to the CSAP.

Appendix A:

Sequim Vision Zero City Council Resolution

RESOLUTION NO. R2025-006

A RESOLUTION OF THE CITY OF SEQUIM, WASHINGTON, IN SUPPORT OF ADOPTING A COMPREHENSIVE SAFETY ACTION PLAN TO ELIMINATE FATALITIES AND SEVERE INJURIES ON CITY STREETS

WHEREAS, the Sequim City Council wishes to approve a resolution committing the City to adopting a Comprehensive Safety Action Plan with the goal to achieve zero traffic fatalities and severe injuries among all road users (including people walking, biking, using transit, and driving); and

WHEREAS, the City of Sequim's Transportation Master Plan (2013) seeks to provide a safe multimodal system that safely accommodates all modes of travel; and

WHEREAS, the City of Sequim, like the State of Washington and the United States as a whole, continues to experience fatal and serious injury collisions on its roads; and

WHEREAS, public agencies in Washington State consider traffic fatalities and serious injuries as unacceptable and preventable rather than inevitable; and

WHEREAS, the City of Sequim has aligned transportation policies and priorities with the State of Washington's Strategic Highway Safety Plan goal of Target Zero; and

WHEREAS, similar efforts are founded on a Safe Systems approach that recognizes humans will make mistakes and roadway systems and policies should be designed to protect them;

NOW THEREFORE the City Council of the City of Sequim, Washington, hereby resolves as follows:

Section 1: The Sequim City Council endorses the Comprehensive Safety Action Plan that has been developed consistent with the United States Department of Transportation's (USDOT) Safe Streets and Roads for All (SS4A) program, and hereby adopts a Vision Zero target to eliminate all fatal and serious injury crashes that occur on the City multimodal transportation system by 2035 and endorses the Safe Systems Approach as a comprehensive and holistic method to achieve this goal.

APPROVED by the City Council of the City of Sequim at a regular meeting thereof this 24th day of February 2025.

Brandon Janisse, Mayor

Attest:

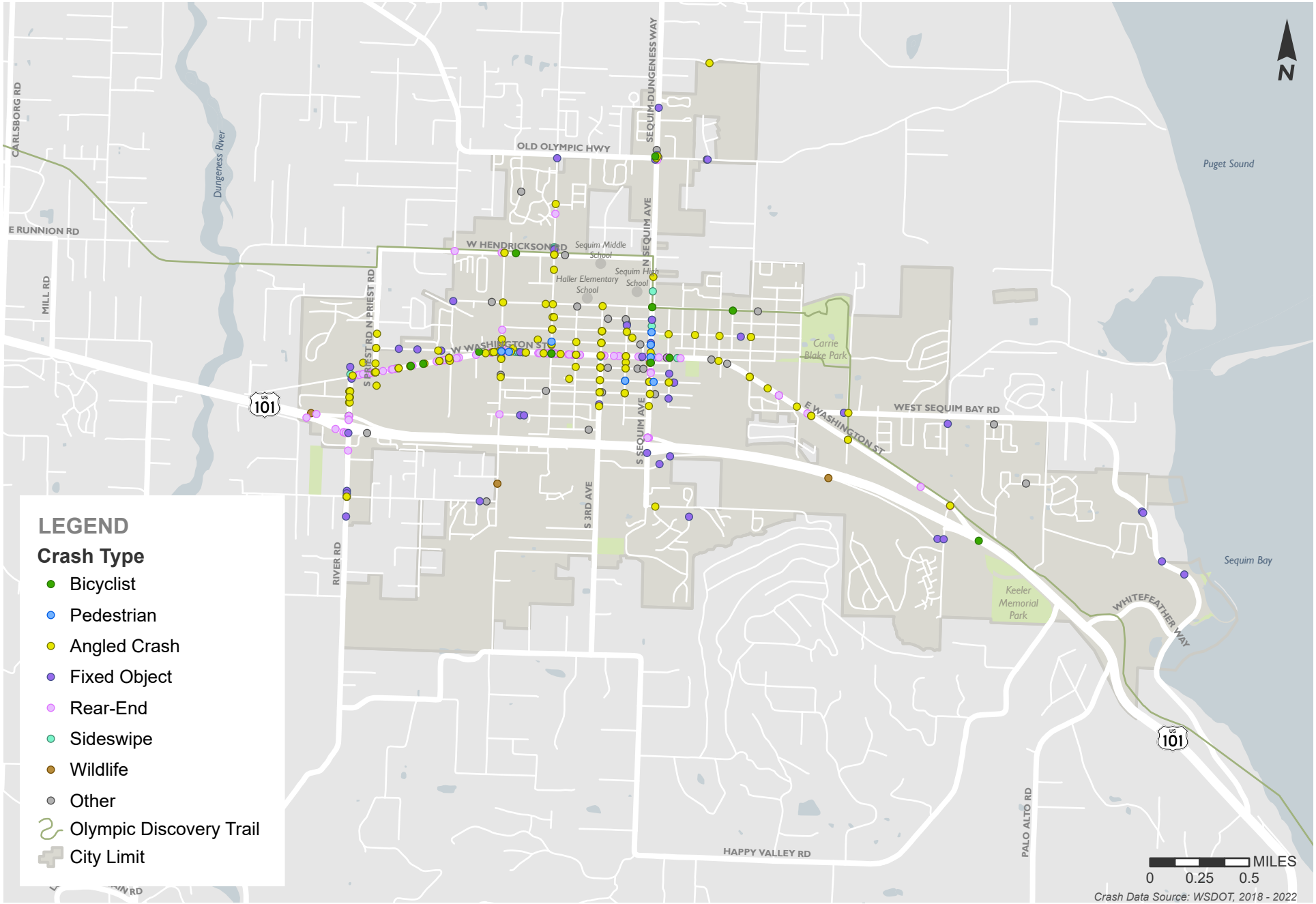
Heather Robley, City Clerk

Approved as to Form:

Kristina Nelson-Gross, City Attorney

Appendix B:

Detailed Collision Maps



CITY OF SEQUIM

All Crashes (2018 - 2022)

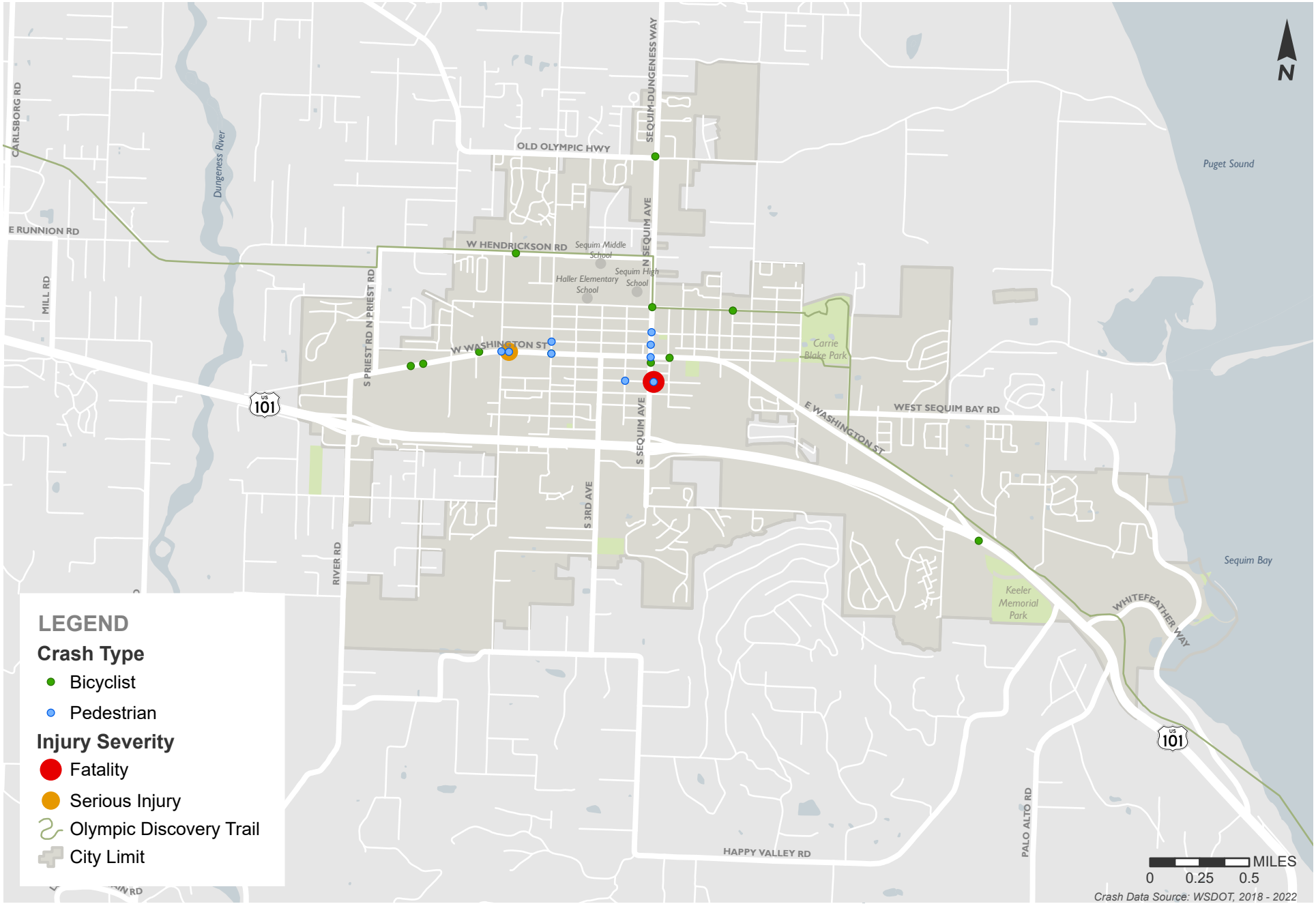
City of Sequim Comprehensive Safety Action Plan

FIGURE

B-1

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CITY OF SEQUIM

Pedestrian and Bicyclist Crashes

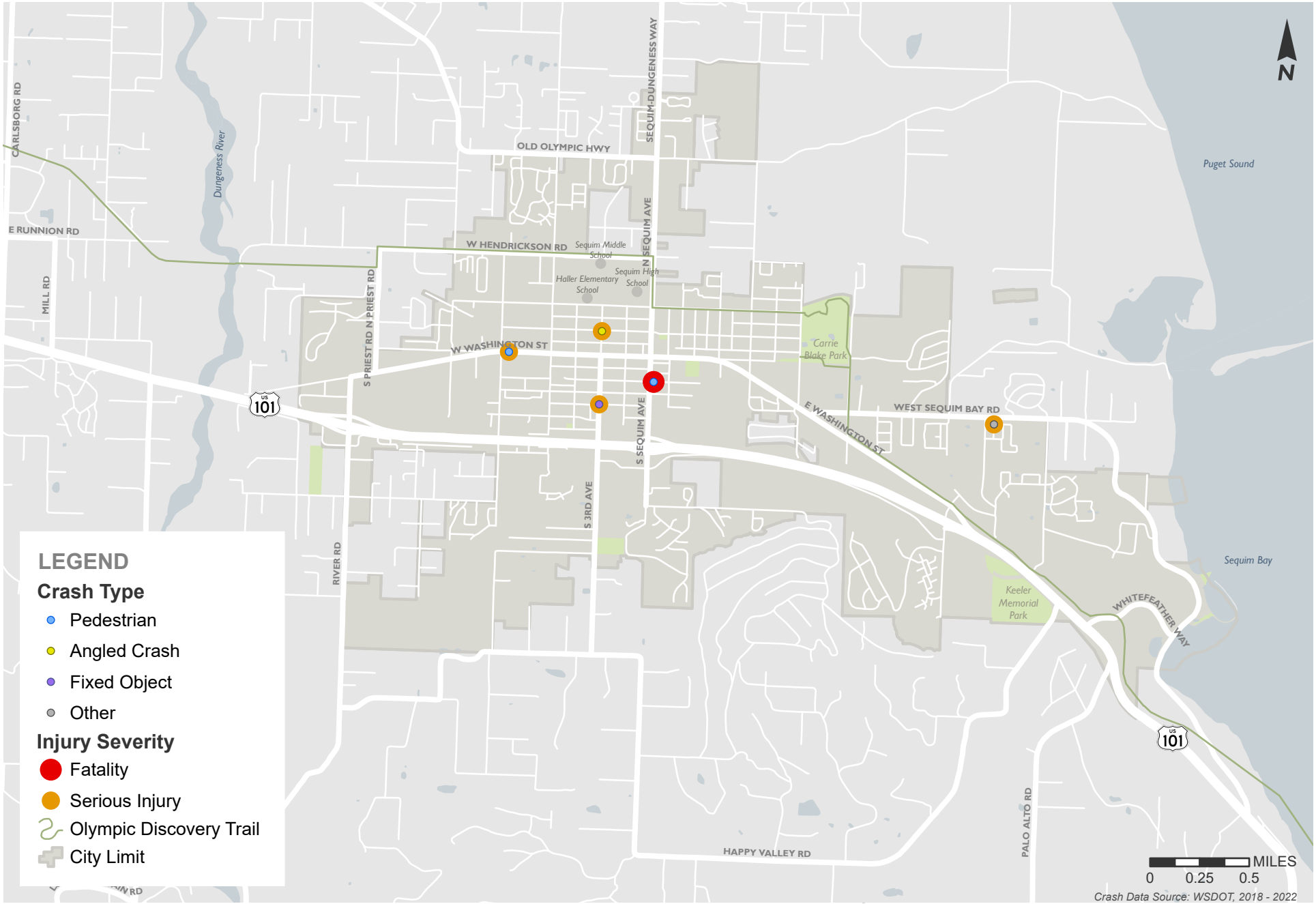
City of Sequim Comprehensive Safety Action Plan

FIGURE

B-2

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CITY OF SEQUIM

Severe Injury Crashes

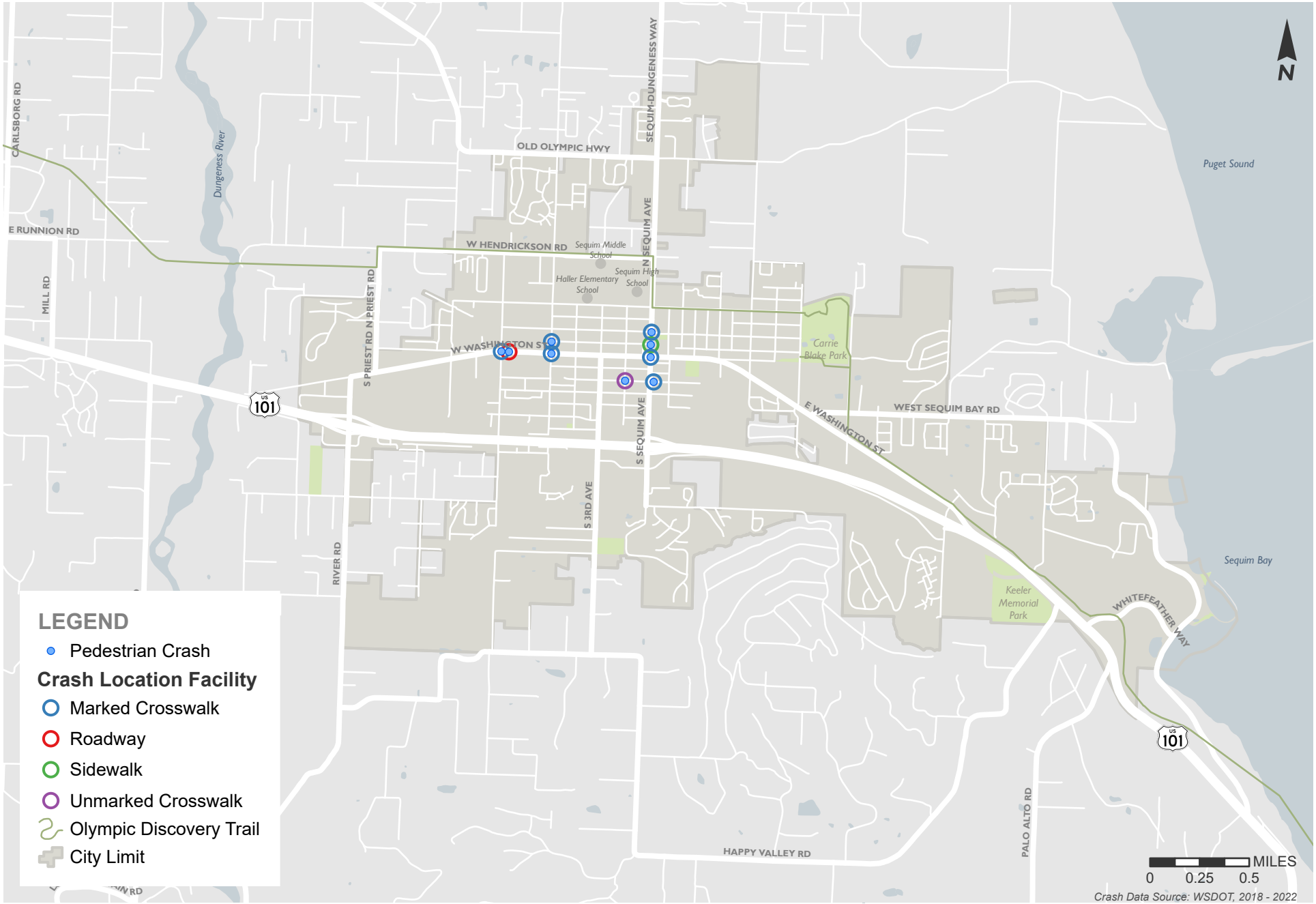
City of Sequim Comprehensive Safety Action Plan

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FIGURE

B-3

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CITY OF SEQUIM

Pedestrian Crashes in Marked Crosswalks

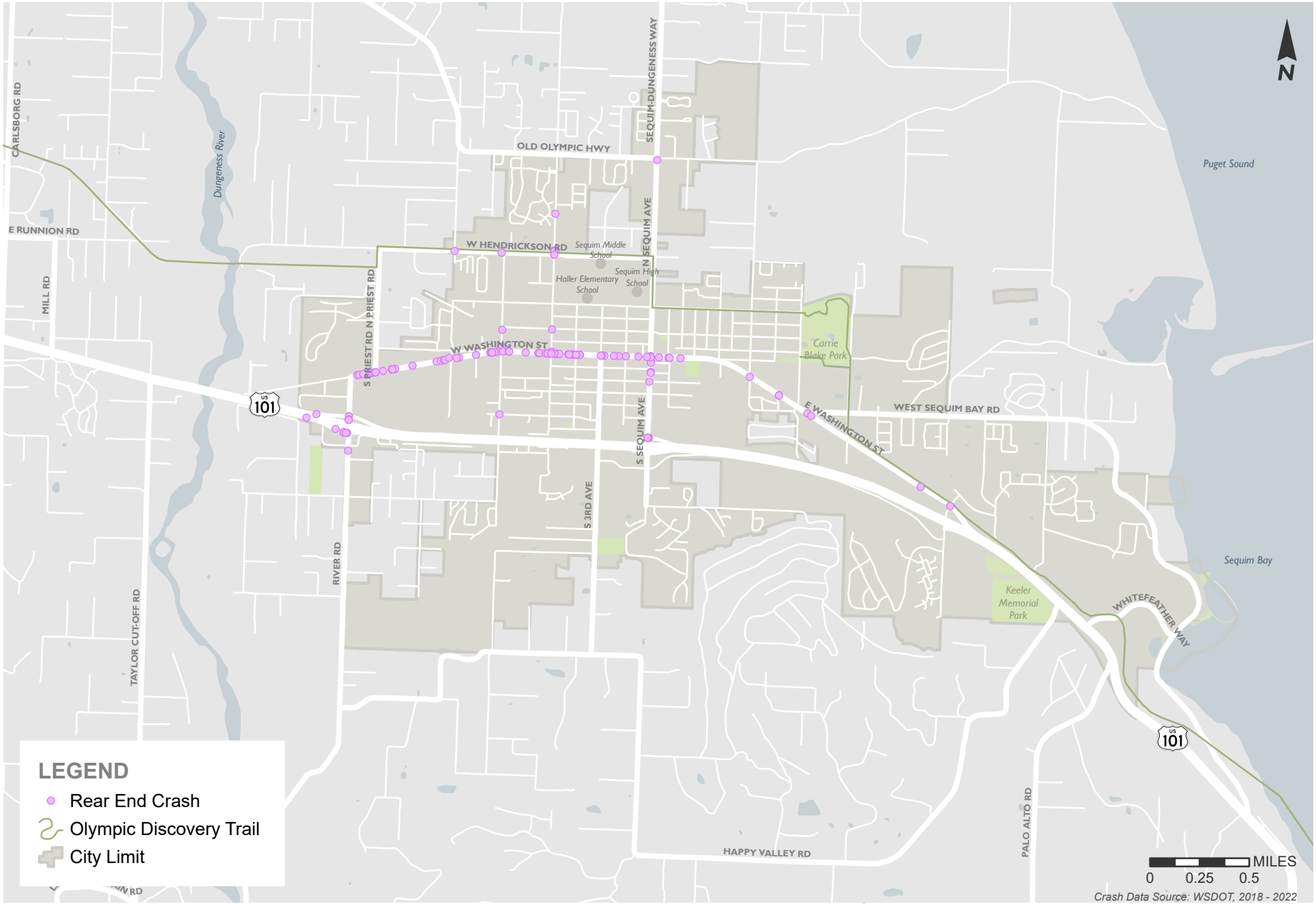
City of Sequim Comprehensive Safety Action Plan

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FIGURE

B-4

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CITY OF SEQUIM

Rear End Crashes

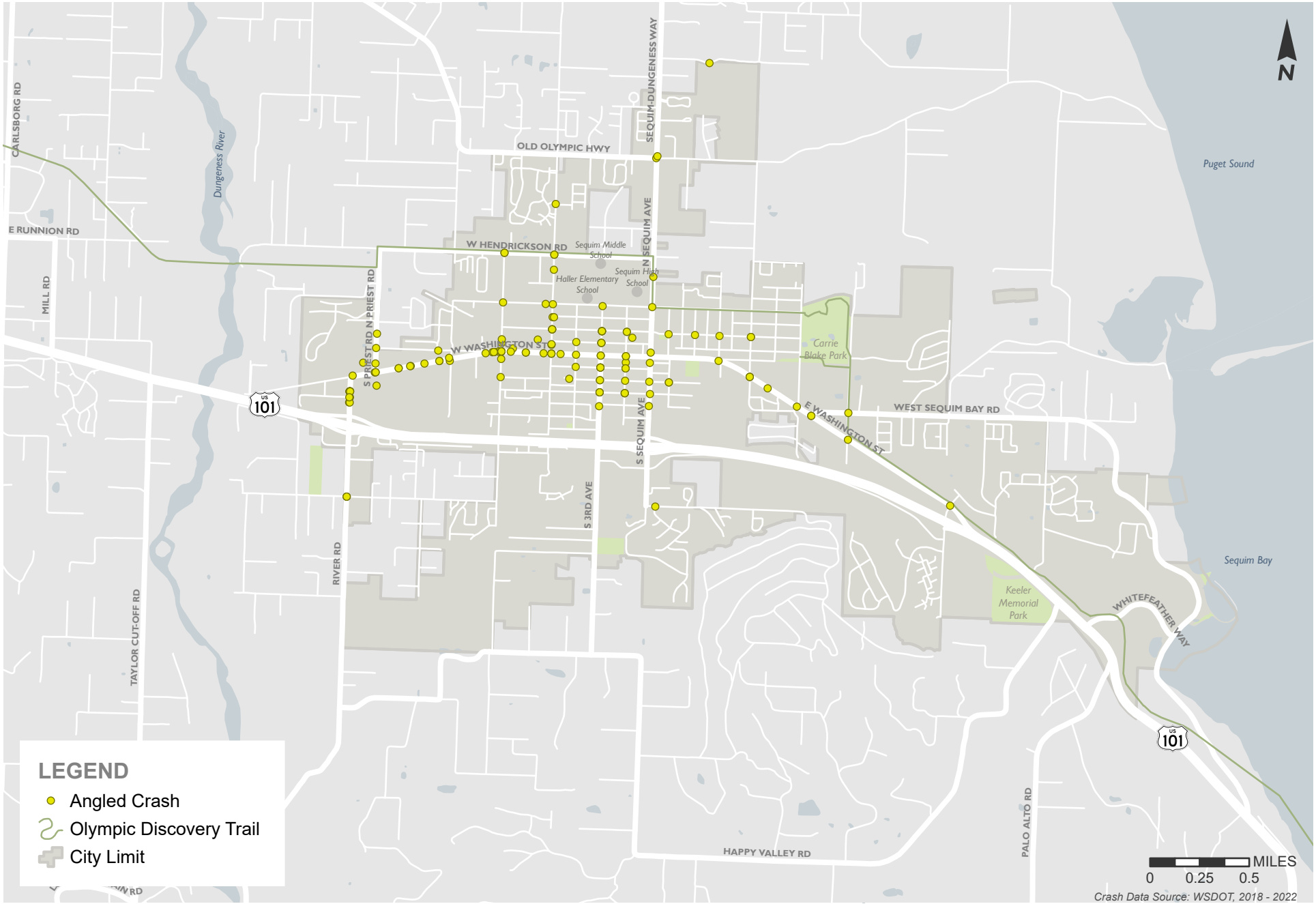
City of Sequim Comprehensive Safety Action Plan

FIGURE

B-5

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CITY OF SEQUIM

Angled Crashes

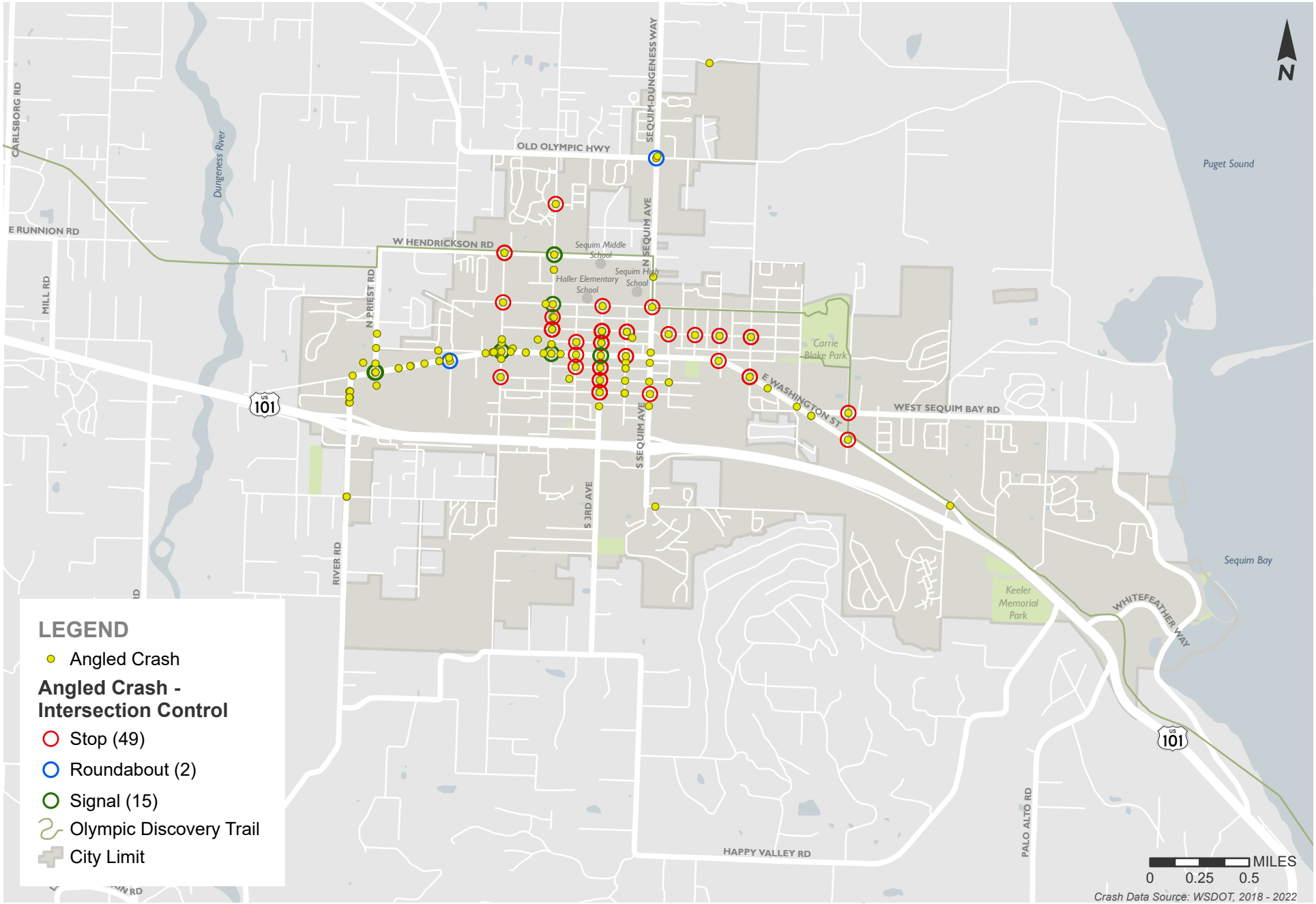
City of Sequim Comprehensive Safety Action Plan

FIGURE

B-6

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CITY OF SEQUIM

Angled Crashes with Intersection Control

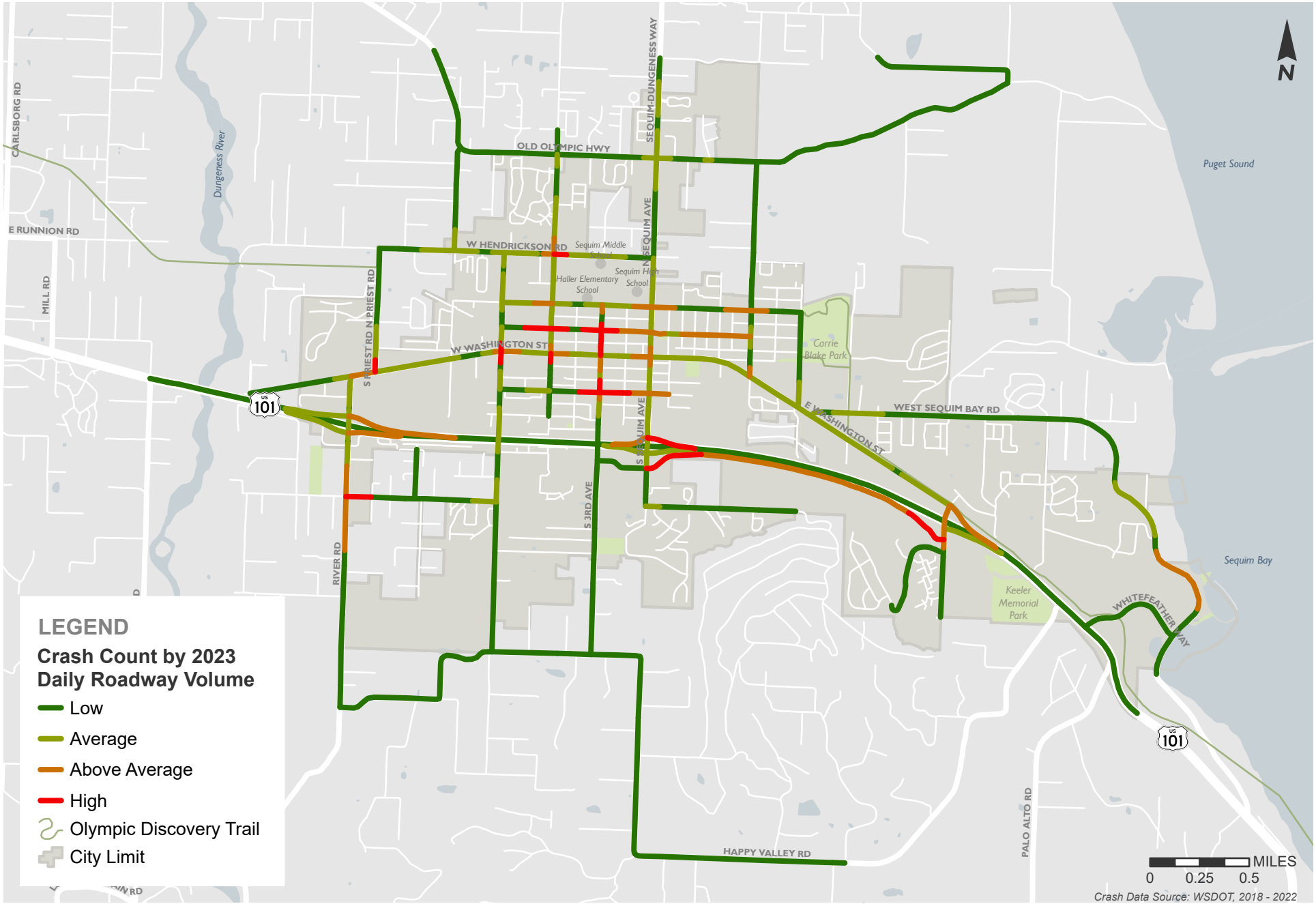
City of Sequim Comprehensive Safety Action Plan

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FIGURE

B-7

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CITY OF SEQUIM

Safety Priority Locations (based on Crash Rate)

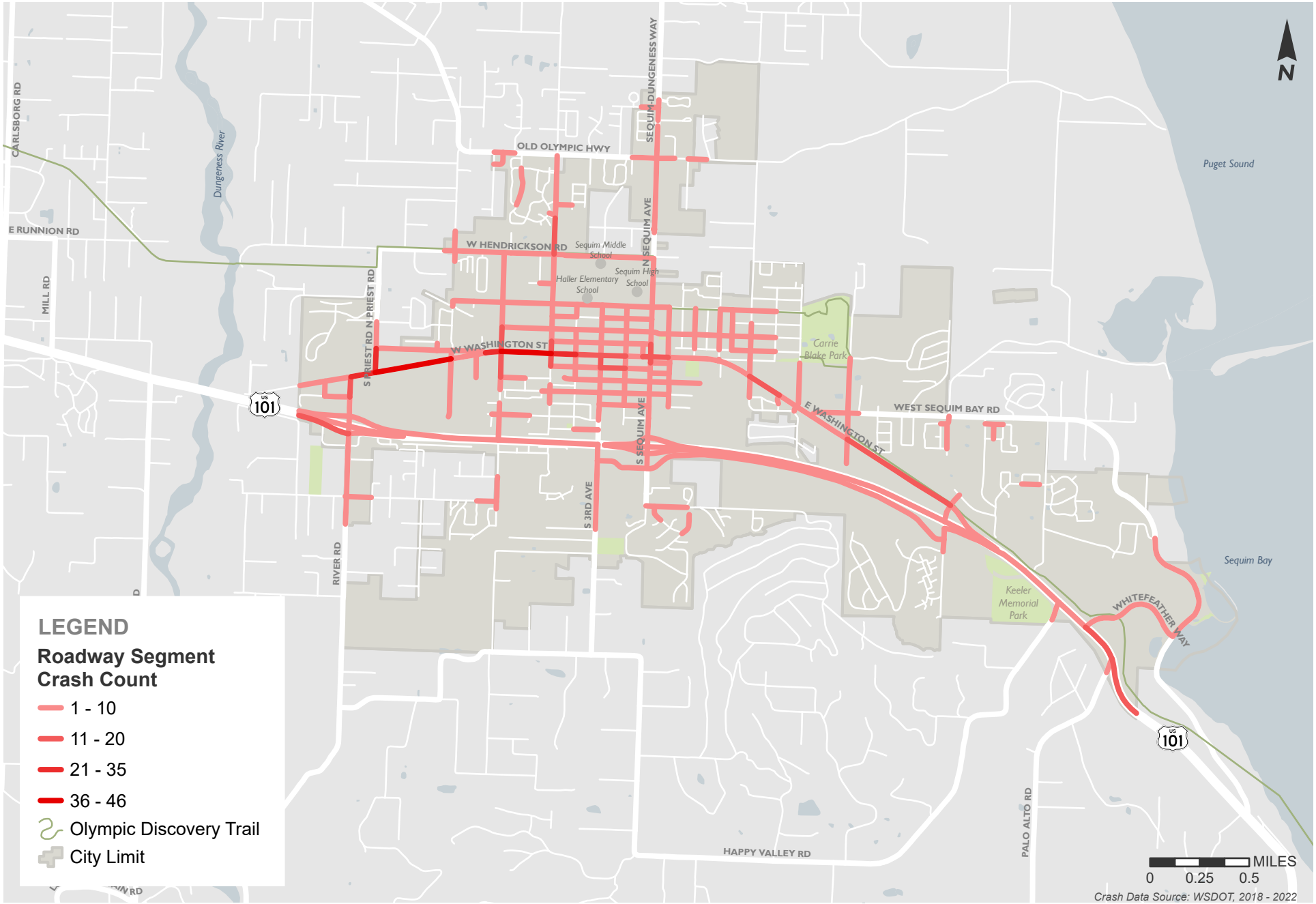
City of Sequim Local Road Safety Plan

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FIGURE

B-8

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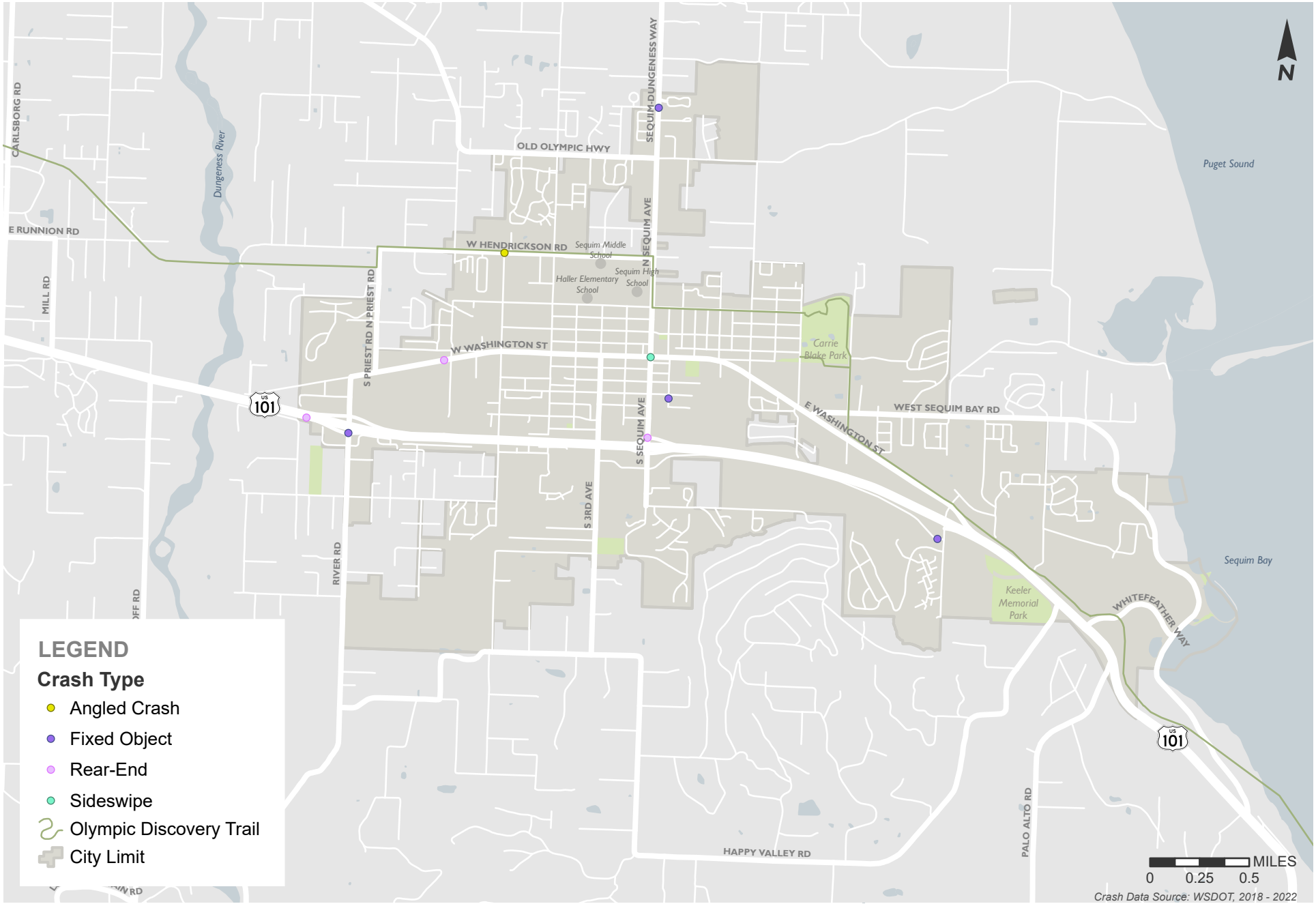
Crash Count by Roadway Segment

City of Sequim Comprehensive Safety Action Plan

FIGURE

B-9

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CITY OF SEQUIM

Exceeding Reasonable or Posted Speed Crashes

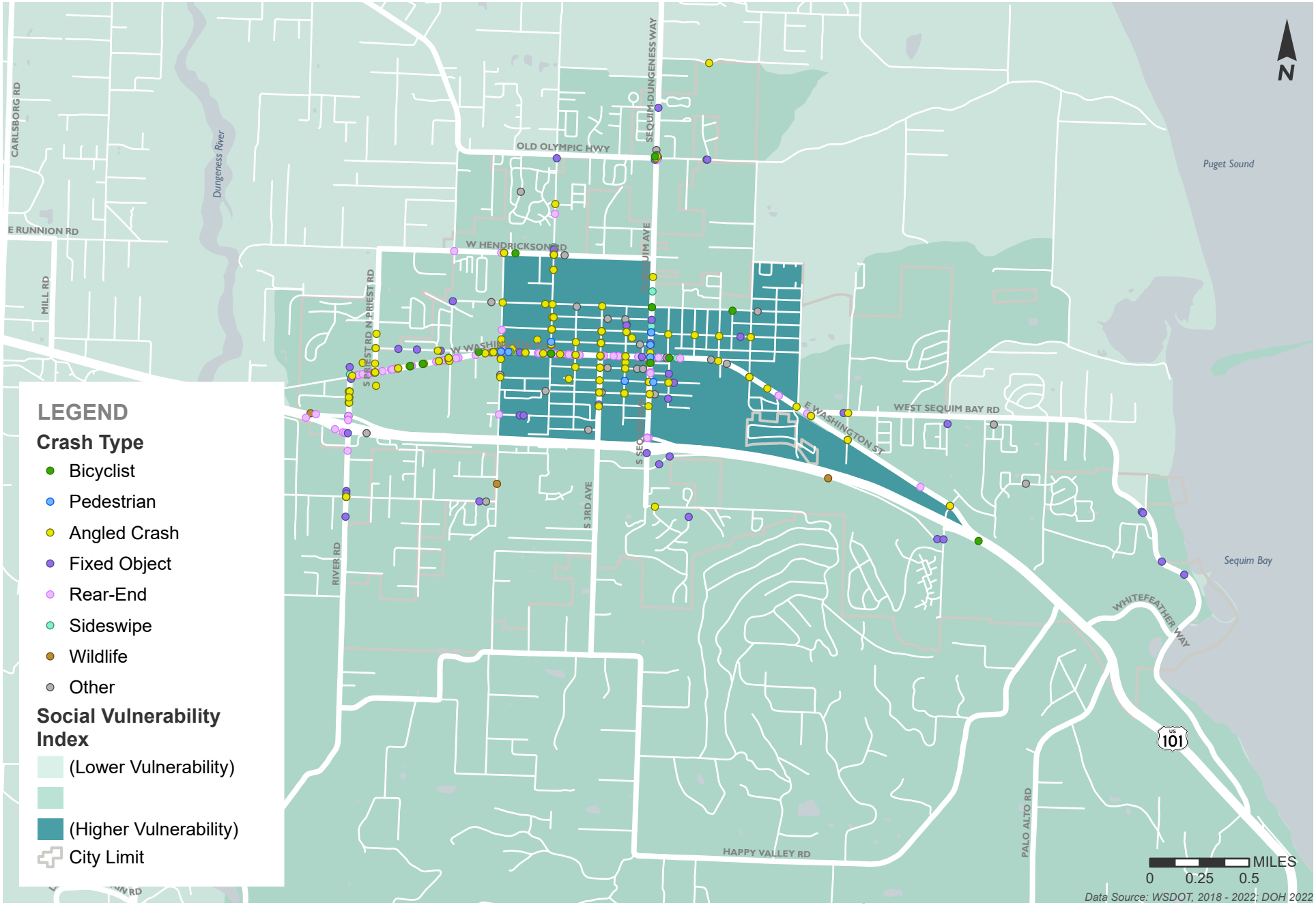
City of Sequim Comprehensive Safety Action Plan

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FIGURE

B-10

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CITY OF SEQUIM

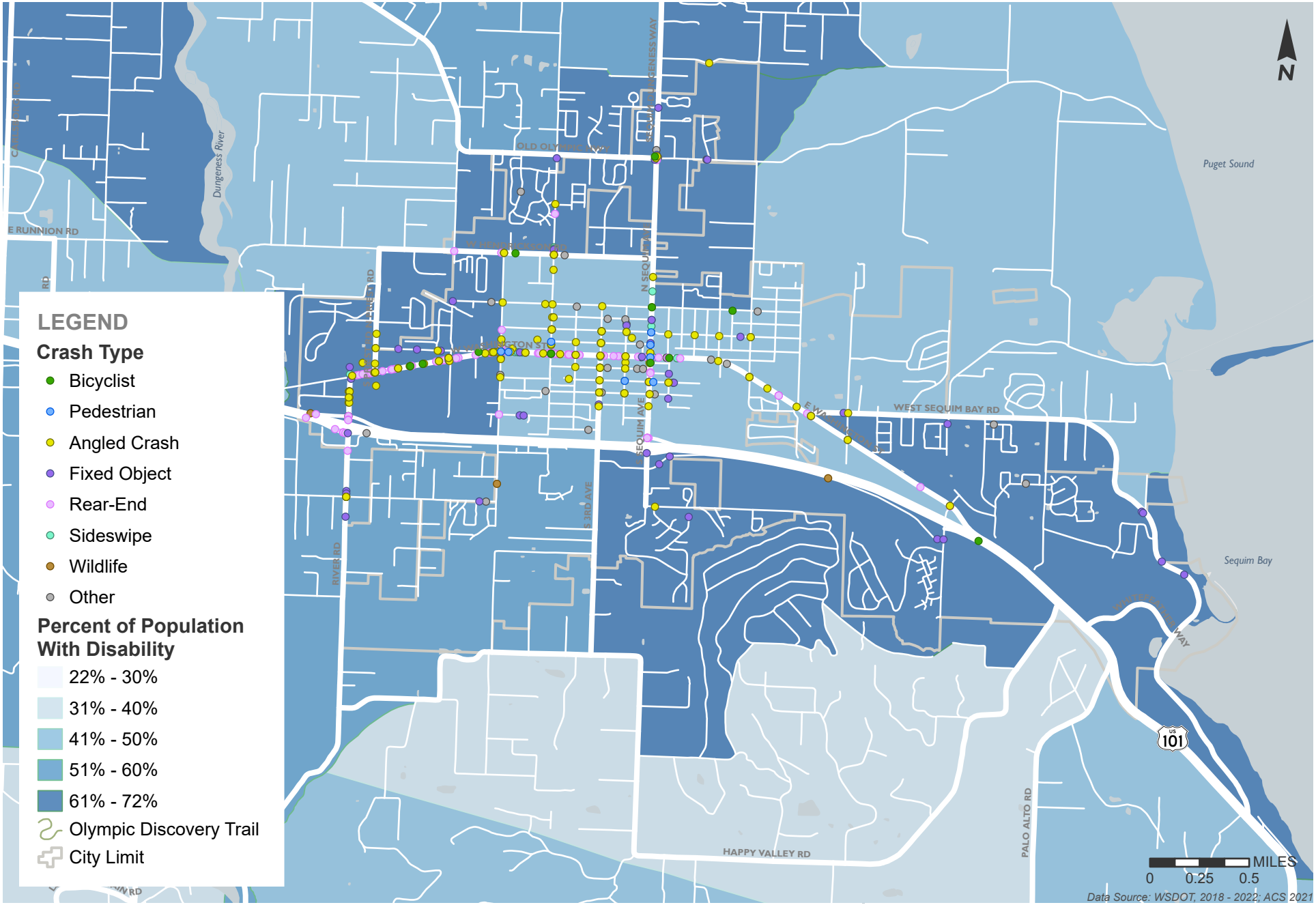
All Crashes with Dept. of Health Social Vulnerability Index

City of Sequim Comprehensive Safety Action Plan

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FIGURE **B-11**

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CITY OF SEQUIM

All Crashes with Population with Disability

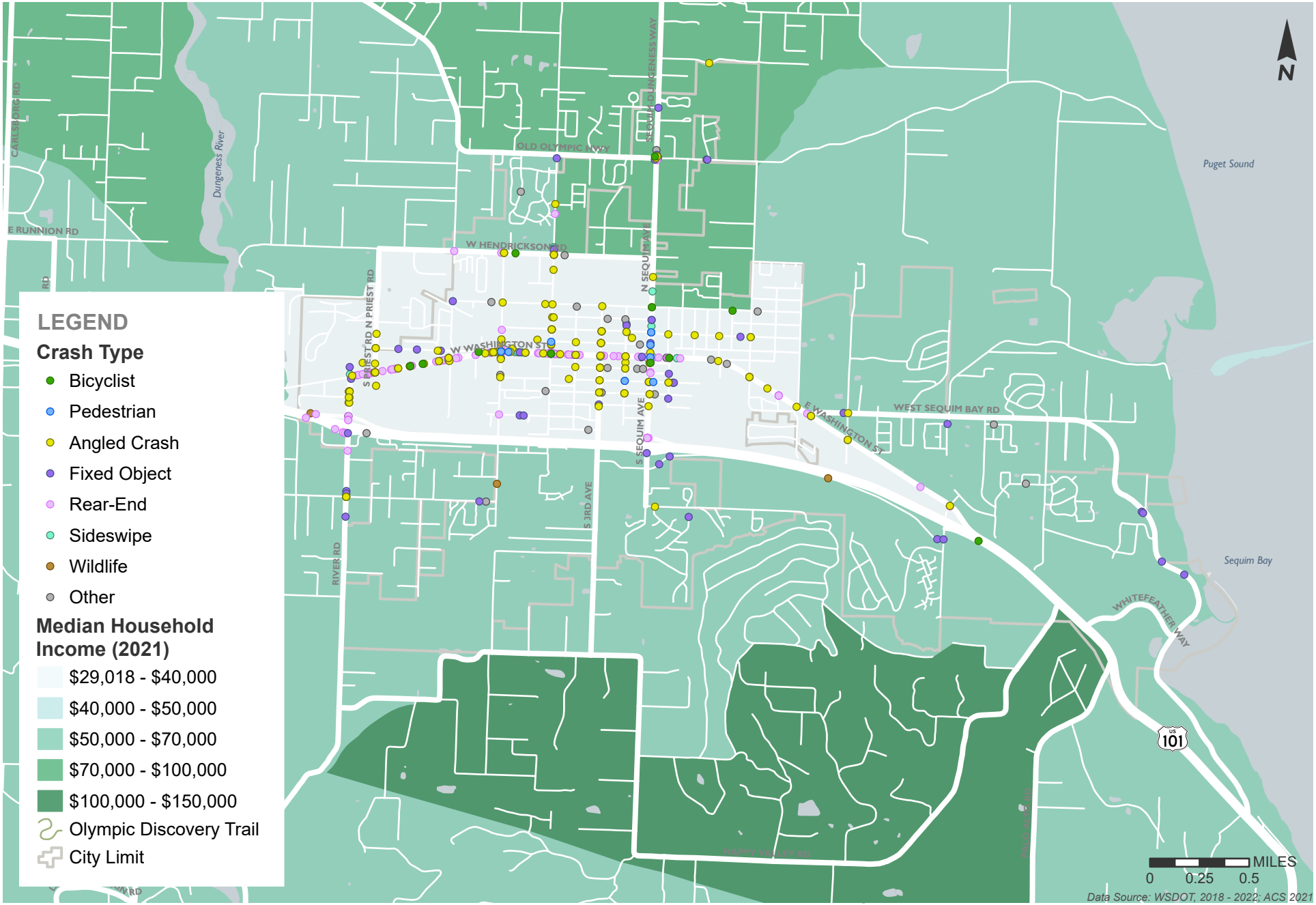
City of Sequim Comprehensive Safety Action Plan

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FIGURE

B-12

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CITY OF SEQUIM

All Crashes with Median Household Income

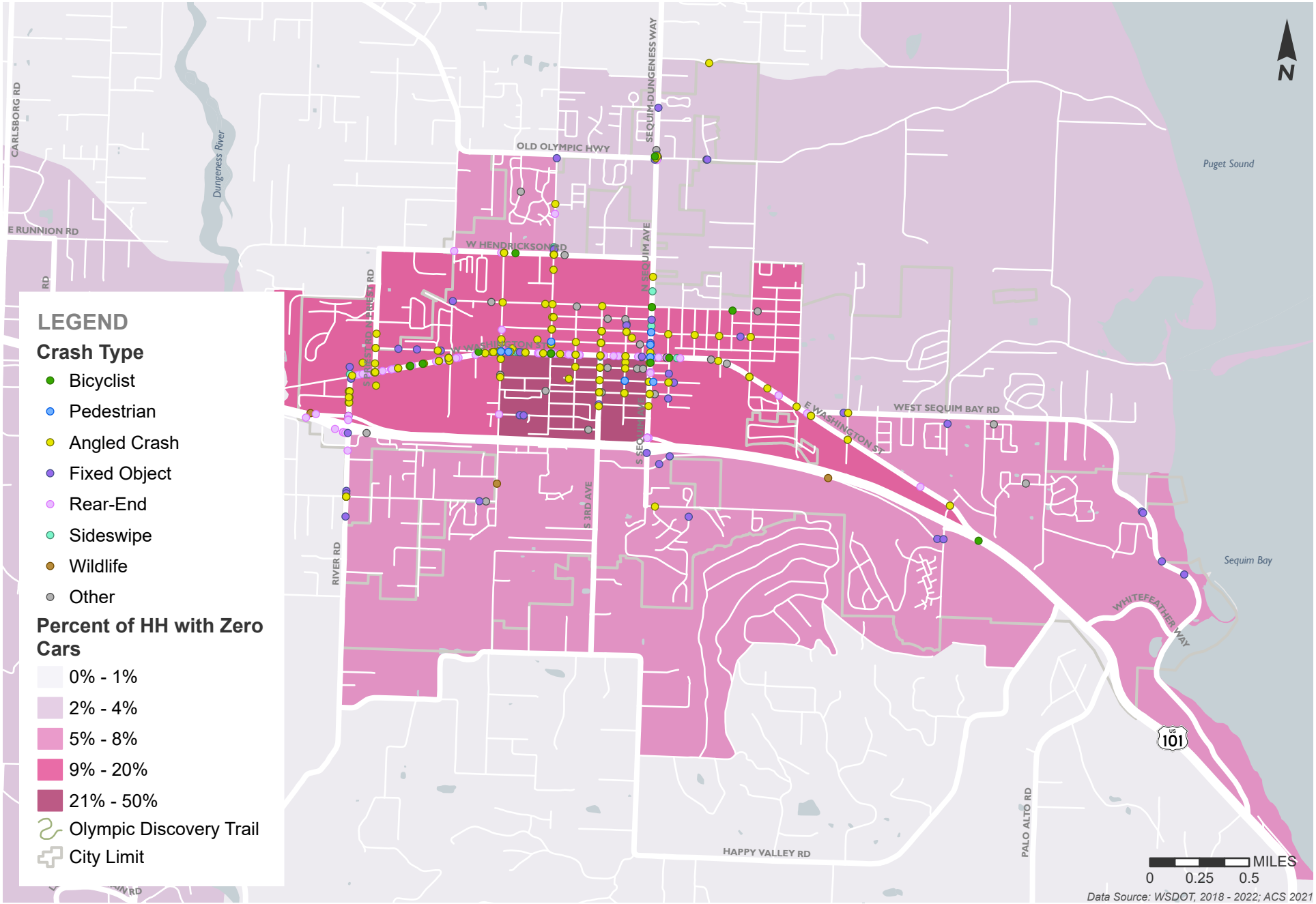
City of Sequim Comprehensive Safety Action Plan

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FIGURE

B-13

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CITY OF SEQUIM

All Crashes with Zero Car Households

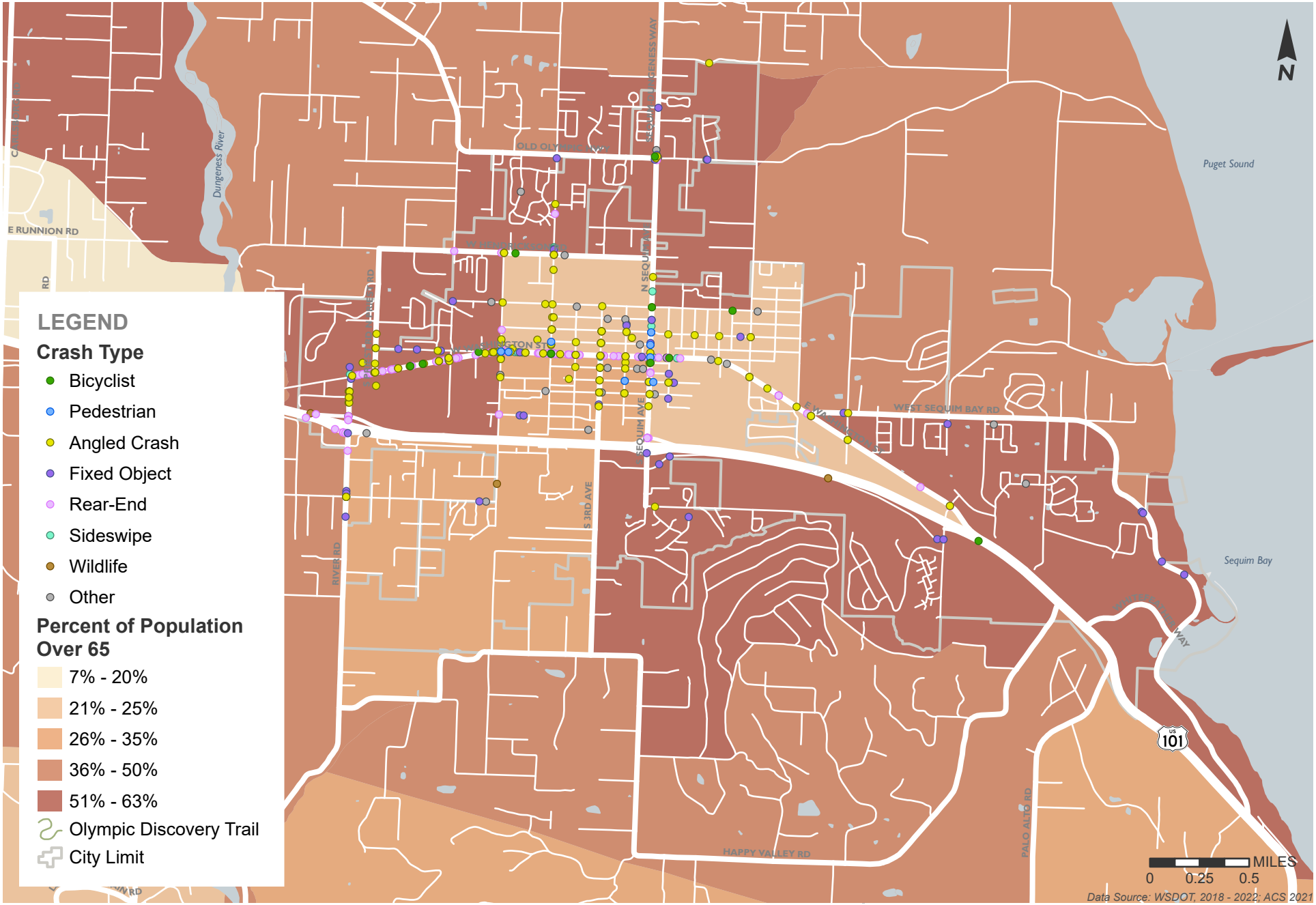
City of Sequim Comprehensive Safety Action Plan

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FIGURE

B-14

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CITY OF SEQUIM

All Crashes with Population Over 65

City of Sequim Comprehensive Safety Action Plan

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FIGURE

B-15

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Appendix C:

Safety Project Prioritization

SAFETY PROJECT PRIORITIZATION

Given the limited funds available for implementing transportation improvements, prioritization criteria were identified and used to score each improvement/project location. A separate prioritization process was conducted for locations identified as part of each systemic safety projects, as well as for the specific intersection/corridor improvement projects. The prioritization process for each grouping of projects is summarized below, along with an explanation of the prioritization criteria and scoring values.

SYSTEMIC SAFETY PROJECTS – PROJECT 1: CITYWIDE SIGNAL EQUIPMENT UPGRADES

The prioritization process developed for the Citywide signal equipment upgrade project incorporates criteria associated with collision history (fatal/severe injury collisions, pedestrian/bicycle collisions, and rear-end collisions) and equity considerations (social vulnerability, income, and car ownership). The prioritization criteria are defined in greater detail below. The current prioritized list of improvements for this project is shown below in Table C.1.

Prioritization Criteria:

- **Collision Criteria (Maximum Possible Points: 9)** – Several criteria relating to the frequency and severity of collisions at each of the intersections were used to prioritize signal improvements at those locations which were shown to have higher collision incidence rates and result in more severe collisions. The results of the collision analysis, summarized in Chapter 2 and depicted graphically in Appendix B were used to score each signal location.

    - *Fatal/Severe Injury Collisions (Maximum Possible Points: 3)* – This criterion was used to give higher priority to the signalized locations with a history of fatal and/or severe injury collisions. Locations with one or more fatal collisions over the crash analysis period (2018-2022) were assigned 3 points, while locations with one or more serious injury collisions were assigned 2 points. No points were assigned to locations at which zero fatal or severe injury collisions were reported.

    - *Pedestrian/Bike Collisions (Maximum Possible Points: 3)* – This criterion was used to give higher priority to signalized locations with a higher frequency of pedestrian/bicycle collisions. As pedestrian and bicycle collisions are the types of collisions most likely to result in serious injuries and fatalities, these collision types were selected as key collision types needing to be addressed. Intersections were assigned points based on the pedestrian/bicycle collision frequencies outlined below:

Annual Ped/Bike Collision Rate	Frequency	Points
More than 1.0	More than once per year	3 points
Between 0.5 and 1.0	Once every 1 to 2 years	2 points

Between 0.0 and 0.5	Once every 2+ years	1 point
Zero	No history of collisions	0 points

- *Rear End Collisions (Maximum Possible Points: 3)* – This criterion was used to give higher priority to signalized locations which experienced a high frequency of rear-end collisions. By improving signal progression along the City's key corridors, improvements to signal equipment can address rear-end collisions. Intersections were assigned points based on the rear-end collision frequencies outlined below:

Annual Rear-End Collision Rate	Frequency	Points
More than 1.0	More than once per year	3 points
Between 0.5 and 1.0	Once every 1 to 2 years	2 points
Between 0.0 and 0.5	Once every 2+ years	1 point
Zero	No history of collisions	0 points

- **Equity Criteria (Maximum Possible Points: 9)** – Additional criteria based on equity considerations were used to identify those signalized locations at which improvements could provide the greatest benefits to adjacent communities. The results of the equity analysis, summarized in Chapter 3 and depicted graphically in Appendix B (Figures B-11 through B-15) were used to score each signal location.

  - *Social Vulnerability Index of Adjacent Census Tracts (Maximum Possible Points: 3)* – This criterion was used to give higher priority to the signalized locations located in or adjacent to census tracts identified as having higher levels of social vulnerability. The Social Vulnerability Index (SVI) is a measure of an area's exposure to negative outcomes before, during, and after disasters. The SVI combines several metrics from the American Community Survey (ACS) relating to socioeconomic status, household characteristics, racial/ethnic minority status, and housing type & transportation to assign an overall vulnerability score ranging from low to high. Signal locations adjacent to areas identified as having high, medium and low social vulnerability were assigned 3 points, 1 point, and 0 points, respectively. See Appendix B, Figure B-11.

  - *Income Level of Adjacent Census Tracts (Maximum Possible Points: 3)* – This criterion was used to give higher priority to locations near low-income communities, as the signal improvements would provide more benefit to these populations which are more likely to use active modes. Signal locations adjacent to areas with a median income below $50,000 per year, between $50,000 and $100,000 per year, and above $100,000 per year were assigned 3 points, 1 point, and 0 points, respectively. See Appendix B, Figure B-13.



- *Zero Car Households in Adjacent Census Tracts (Maximum Possible Points: 3)* – This criterion was used to give higher priority to locations near communities with a higher percentage of households without private vehicles. Since these communities are reliant on non-vehicle travel modes, these populations would benefit the most from the pedestrian crossing improvements brought about by the signal improvements. Signal locations were assigned 3 points, 1 point, and 0 points if they were located adjacent to areas where with more than 20%, between 5% and 20%, and less than 5% of households were without a private vehicle, respectively. See Appendix B, Figure B-14.

- **Other Criteria: Aligns with Current City Project (Maximum Possible Points: 2)** – A criterion was included which gave higher priority to projects which align with intersections already identified for improvement as part of projects identified within the City's 6-year Capital Improvement Plan (CIP). When signal improvements can be combined with other planned projects, significant cost saving can be achieved by delivering the projects at the same time. As such, all signal locations at which improvements are planned as part of a CIP project were assigned 2 additional points in the prioritization process.

SYSTEMIC SAFETY PROJECTS – PROJECT 1: CITYWIDE SIGNAL EQUIPMENT UPGRADES

Table C.1 – Citywide Signal Equipment Upgrades Location Prioritization

Location	COLLISION CRITERIA										EQUITY CRITERIA									OTHER	Total	
	Fatal/Severe Injury Collisions		Pedestrian/Bike Collisions (average per year)				Rear End Collisions (average per year)				Social Vulnerability Index of Adj. Census Tracts			Income Level of Adj. Census Tracts			Zero Car Households in Adj. Census Tracts			Aligns with Current City Project		
	Fatal	Severe Injury	> 1.0	0.5-1.0	0-0.5	0	> 1.0	0.5-1.0	0-0.5	0	High	Medium	Low	<$50k	$50k-$100k	>$100k	>20%	5%-20%	0%-5%			
Weighting Factors/Points:	3	2	3	2	1	0	3	2	1	0	3	1	0	3	1	0	3	1	0	2	max = 20	
Washington St/7th Ave[1]		X			X		X				X			X			X			X	17	/20
Washington St/5th Ave				**X**			**X**				**X**			**X**			**X**			**X**	**16**	**/20**
Washington St/Sequim Ave					**X**			**X**			**X**			**X**			**X**			**X**	**14**	**/20**
Washington St/3rd Ave						**X**		**X**			**X**			**X**			**X**			**X**	**13**	**/20**
Hendrickson Rd/5th Ave						X	X				X			X				X			10	/20
Washington St/Lee Chatfield Ave						X			X		X			X				X			8	/20
Fir St/5th Ave						X				X	X			X				X			7	/20
Washington St/Priest Rd						X		X				X		X				X			7	/20

BOLD indicates locations identified as Phase 1 improvements.

Notes:

[1] Signal coordination benefits associated with signal equipment upgrades are most effective when implemented at adjacent intersections. As such, Phase 1 locations were identified for adjacent intersections along Washington Street at 5th Avenue, 3rd Avenue, and Sequim Avenue. Improvements to the intersection of Washington Street/7th Avenue have also been programmed into the City's 6-year CIP (STR-081RR).

SYSTEMIC SAFETY PROJECTS – PROJECT 2: CITYWIDE CROSSWALK ENHANCEMENT PROGRAM

Crosswalk improvements within the Citywide crosswalk enhancement program were prioritized on a corridor-wide basis (i.e., prioritization looked at improvements corridor-wide instead of location-by-location). The prioritization process incorporates criteria associated with collision history, presence of existing crossings, proximity to key locations (schools, parks, medical facilities, civic uses [libraries, City buildings, etc.]),, and equity considerations (social vulnerability, income, and car ownership). The prioritization criteria are defined in greater detail below. The current prioritized list of improvements for this project is shown below in Table C.2.

Prioritization Criteria:

- **Collision Criteria: Pedestrian/Bicycle Collisions (Maximum Possible Points: 3)** – This criterion was used to give higher priority to corridors locations with a higher frequency of pedestrian/bicycle collisions. The proposed crosswalk improvements would most directly improve safety for these users and reduce these collision types. The results of the collision analysis, summarized in Chapter 2 and depicted graphically in Appendix B were used to score each corridor. Corridors were assigned points based on the pedestrian/bicycle collision frequencies outlined below:

Annual Ped/Bike Collision Rate	Frequency	Points
More than 1.0	More than once per year	3 points
Between 0.5 and 1.0	Once every 1 to 2 years	2 points
Between 0.0 and 0.5	Once every 2+ years	1 point
Zero	No history of collisions	0 points

- **Existing Facility Criteria: Distance Existing Facility Criteria (Maximum Possible Points: 3)** – The presence of existing marked crosswalk facilities was another criterion used to determine which roadways were most in need of additional improvements. Roadways with longer distances between crossings were deemed to have a higher need for crosswalk improvement as these roadways require pedestrians to travel further from their desired route to make use of a marked crosswalk facility. For most corridors, the distance between marked crossings was measured as the longest distance between existing marked crossing locations. For corridors along which the crosswalk installation would only improve existing crossings and not shorten crossing distances (e.g., Sequim Avenue and Washington Street), the crossing distance was measured as the average distance between existing marked crossings along the roadway. Corridors were assigned points based on the existing distances between crossings below:

Distance between Marked Crossings	Points
More than 1000 feet	3 points
Between 750 and 1000 feet	2 points
Between 500 and 750 feet	1 point
Less than 500 feet	0 points

- **Location Criteria (Maximum Possible Points: 9)** – This criterion was included in the prioritization process to evaluate the proximity of proposed crosswalk improvements to key destinations that would likely generate active transportation trips. Five different location types within the City were identified as being the most likely to be accessed through non-vehicle modes: schools, parks, the Olympic Discovery Trail (ODT), civic facilities, and medical facilities. Points were assigned to each corridor if one of more of the location types were within approximately 1,000 feet of the corridor. Given that some location types are more likely to be accessed via active mode trips, greater weight (and more points) was given to some land uses. The table below summarizes the location-based point assignment in the prioritization process, along with examples of each location type:

Location Type	Examples	Points
Schools	Sequim Middle/High School, Hellen Haller Elementary School	3 points
Parks	Carrie Blake Park, Pioneer Memorial Park	2 points
Olympic Discovery Trail (ODT)	Any segment of the ODT (along Hendrickson, Sequim, Fir)	2 points
Civic Facilities	City Hall, Sequim Library (along Sequim Ave)	1 point
Medical Facilities	Medical Offices (along 5th Ave), Senior/Assisted Living Facilities	1 point

- **Equity Criteria (Maximum Possible Points: 9)** – Additional criteria based on equity considerations were used to identify those corridors along which crosswalk improvements could provide the greatest benefits to adjacent communities. The results of the equity analysis, summarized in Chapter 3 and depicted graphically in Appendix B (Figures B-11 through B-15) were used to score each corridor.

    - *Social Vulnerability Index of Adjacent Census Tracts (Maximum Possible Points: 3)* – This criterion was used to give higher priority to the crosswalks located in or adjacent to census tracts identified as having higher levels of social vulnerability. The Social Vulnerability Index (SVI) is a measure of an area's exposure to negative outcomes before, during, and after disasters. The SVI combines several metrics from the American Community Survey (ACS) relating to socioeconomic status, household characteristics, racial/ethnic minority status, and housing type & transportation to assign an overall vulnerability score ranging from low to high. Corridors adjacent to areas identified as having high, medium and low social vulnerability were assigned 3 points, 1 point, and 0 points, respectively. See Appendix B, Figure B-11.

    - *Income Level of Adjacent Census Tracts (Maximum Possible Points: 3)* – This criterion was used to give higher priority to locations near low-income communities, as the crosswalk improvements would provide more benefit to these populations which are

more likely to use active modes. Corridors adjacent to areas with a median income below $50,000 per year, between $50,000 and $100,000 per year, and above $100,000 per year were assigned 3 points, 1 point, and 0 points, respectively. See Appendix B, Figure B-13.

- *Zero car Households in Adjacent Census Tracts (Maximum Possible Points: 3)* – This criterion was used to give higher priority to locations near communities with a higher percentage of households without private vehicles. Since these communities are reliant on non-vehicle travel modes, these populations would benefit the most from the crosswalk improvements. Corridors were assigned 3 points, 1 point, and 0 points if they were located adjacent to areas where with more than 20%, between 5% and 20%, and less than 5% of households were without a private vehicle, respectively. See Appendix B, Figure B-14.

- **Other Criteria: Aligns with Current City Project (Maximum Possible Points: 2)** – A criterion was included which gave higher priority to projects which align roadways already identified for improvement as part of projects identified within the City's 6-year Capital Improvement Plan (CIP). When crosswalk improvements can be combined with other planned projects, significant cost saving can be achieved by delivering the projects at the same time. As such, corridors along which improvements are planned as part of a CIP project were assigned 2 additional points in the prioritization process.

SYSTEMIC SAFETY PROJECTS – PROJECT 2: CITYWIDE CROSSWALK ENHANCEMENT PROGRAM

Table C.2 – Citywide Crosswalk Enhancement Program Location Prioritization

	COLLISION CRITERIA				EXISTING FACILITY CRITERIA				LOCATION CRITERIA					EQUITY CRITERIA									OTHER		
	Pedestrian/Bike Collisions (average per year)				Distance between Marked Crossings				Proximity to (within 1,000 ft)					Social Vulnerability Index of Adj. Census Tracts			Income Level of Adjacent Census Tracts			Zero Car Households in Adjacent Census Tracts			Aligns with Current City Project	Total	
Location	> 1.0	0.5 to 1.0	0 to 0.5	0	>1500 ft	1000 to 1500 ft	500 to 1000 ft	<500 ft	School	Park	ODT	Civic	Med.	High	Medium	Low	<$50k	$50k to $100k	>$100k	>20%	5 to 20%	0 to 5%			
Weighting Factors/Points:	3	2	1	0	3	2	1	0	3	2	2	1	1	3	1	0	3	1	0	3	1	0	2	max = 26	
Sequim Avenue[1]	X							X	X	X	X	X		X			X			X				20	/26
3rd Avenue				**X**		**X**			**X**					**X**			**X**			**X**			**X**	**16**	**/26**
Hendrickson Road			**X**			**X**			**X**		**X**		**X**	**X**			**X**				**X**			**16**	**/26**
7th Avenue			**X**			**X**					**X**		**X**	**X**			**X**				**X**			**13**	**/26**
Fir Street			X		X						X			X			X				X			13	/26
Washington Street		X						X		X				X			X			X				13	/26
4th Avenue				X		X			X					X			X				X			12	/26

BOLD indicates locations identified as Phase 1 improvements.

Notes:

[1] Crosswalk enhancement along Sequim Avenue were not prioritized due to recent pedestrian signal improvements at Sequim Avenue/Fir Street.

INTERSECTION/CORRIDOR SAFETY PROJECTS

As noted previously, the two systemic safety projects (Projects 1 and 2) were prioritized separately from the other intersection/corridor safety projects. The prioritization process developed for the proposed intersection/corridor projects within the City incorporates criteria associated with pedestrian collision history and safety risk factors, proximity to key locations/uses within the City (schools, parks, medical facilities, civic uses [libraries, City buildings, etc.]), and equity considerations (social vulnerability, income, and car ownership). The prioritization criteria are defined in greater detail below. The current prioritized list of intersection/corridor projects is shown below in Table C.3.

Prioritization Criteria:

- **Collision Criteria (Maximum Possible Points: 9)** – Several criteria relating to the frequency and severity of collisions at each of the intersections were used to prioritize the intersection and corridor safety improvement projects, giving greater weight to projects proposed in locations which were shown to have higher collision incidence rates and result in more severe collisions. In addition, the collision criteria looked at the type and number of safety risk factors addressed by each project. The results of the collision analysis, summarized in Chapter 2 and depicted graphically in Appendix B, and the safety risk factors for each project identified in Chapter 6 were used to score/prioritize each intersection/corridor safety project.

    - *Fatal/Severe Injury Collisions (Maximum Possible Points: 3)* – This criterion was used to give higher priority to the locations with a history of fatal and/or severe injury collisions. Locations with one or more fatal collisions over the crash analysis period (2018-2022) were assigned 3 points, while locations with one or more serious injury collisions were assigned 2 points. No points were assigned to locations at which zero fatal or severe injury collisions were reported.

    - *Crash Rate (Maximum Possible Points: 3)* – This criterion was used to give higher priority to locations which were shown to experience higher crash rates (on a per trip basis) when compared with roadways throughout the City. The map presented in Appendix B, Figure B-8 was used to determine whether the crash rate of each project location was High, Above Average, Average, or Low. Crash rates on this map were calculated by dividing the number of collisions along each segment by the average daily traffic (ADT) volumes and ranking those rates against other roadways within the City. Locations with High crash rates were assigned 3 points, locations with above average crash rates were assigned 2 points, locations with average crash rates were assigned 1 point, and locations with low crash rates were assigned 0 points.

    - *Risk Factors Addressed (Maximum Possible Points: 5)* – This criterion was used to giver higher priority to those projects which addressed more of the safety risk factors identified based on the collision analysis. As discussed in Chapter 5, four safety risk factors were identified within the City: Pedestrian Crashes, Angle-Type Crashes, Rear-End Crashes on Signalized Corridors, and Speed-Related Crashes. Each intersection/corridor project was given 1 prioritization point for each risk factor

addressed. An additional prioritization point was assigned to projects addressing Pedestrian Crashes since those are most likely to result in fatalities or serious injuries.

- **Location Criteria (Maximum Possible Points: 9)** – This criterion was included in the prioritization process to evaluate the proximity of the proposed safety projects to key destinations that would likely generate active transportation trips. Five different location types within the City were identified as being the most likely to be accessed through non-vehicle modes: schools, parks, the Olympic Discovery Trail (ODT), civic facilities, and medical facilities. Points were assigned to each corridor if one of more of the location types were within approximately 1,000 feet of the proposed safety project. Given that some location types are more likely to be accessed via active mode trips, greater weight (and more points) was given to some land uses. The table below summarizes the location-based point assignment in the prioritization process, along with examples of each location type:

Location Type	Examples	Points
Schools	Sequim Middle/High School, Hellen Haller Elementary School	3 points
Parks	Carrie Blake Park, Pioneer Memorial Park	2 points
Olympic Discovery Trail (ODT)	Any segment of the ODT (along Hendrickson, Sequim, Fir)	2 points
Civic Facilities	City Hall, Sequim Library (along Sequim Ave)	1 point
Medical Facilities	Medical Offices (along 5th Ave), Senior/Assisted Living Facilities	1 point

- **Equity Criteria (Maximum Possible Points: 9)** – Additional criteria based on equity considerations were used to identify those project locations at which improvements could provide the greatest benefits to adjacent communities. The results of the equity analysis, summarized in Chapter 3 and depicted graphically in Appendix B (Figures B-11 through B-15) were used to score each signal location.

    - *Social Vulnerability Index of Adjacent Census Tracts (Maximum Possible Points: 3)* – This criterion was used to give higher priority to the projects located in or adjacent to census tracts identified as having higher levels of social vulnerability. The Social Vulnerability Index (SVI) is a measure of an area's exposure to negative outcomes before, during, and after disasters. The SVI combines several metrics from the American Community Survey (ACS) relating to socioeconomic status, household characteristics, racial/ethnic minority status, and housing type & transportation to assign an overall vulnerability score ranging from low to high. Corridor/intersection safety projects adjacent to areas identified as having high, medium and low social vulnerability were assigned 3 points, 1 point, and 0 points, respectively. See Appendix B, Figure B-11.

    - *Income Level of Adjacent Census Tracts (Maximum Possible Points: 3)* – This criterion was used to give higher priority to safety projects proposed near low-income communities. These populations are more likely to use active modes and therefore can benefit the most from improvements intended to enhance roadway safety for all users. Project locations adjacent to areas with a median income below $50,000 per year,

between $50,000 and $100,000 per year, and above $100,000 per year were assigned 3 points, 1 point, and 0 points, respectively. See Appendix B, Figure B-13.

- *Zero Car Households in Adjacent Census Tracts (Maximum Possible Points: 3)* – This criterion was used to give higher priority to locations near communities with a higher percentage of households without private vehicles. Since these communities are reliant on non-vehicle travel modes, these populations would benefit the most from the various improvements enhancing safety for all travel modes. Safety projects were assigned 3 points, 1 point, and 0 points if they were located adjacent to areas where with more than 20%, between 5% and 20%, and less than 5% of households were without a private vehicle, respectively. See Appendix B, Figure B-14.

- **Other Criteria: Aligns with Current City Project (Maximum Possible Points: 2)** – A criterion was included which gave higher priority to projects which align with intersections or roadways already identified for improvement as part of projects identified within the City's 6-year Capital Improvement Plan (CIP). When roadway improvements can be combined with other planned projects, significant cost saving can be achieved by delivering the projects at the same time. As such, all corridor/intersection projects at which improvements are planned as part of a CIP project were assigned 2 additional points in the prioritization process.

INTERSECTION/CORRIDOR SAFETY PROJECTS

Table C.3 – Intersection/Corridor Project Prioritization

	COLLISION CRITERIA										LOCATION CRITERIA					EQUITY CRITERIA									OTHER	Total	
	Fatal/ Severe Injury Collisions		Crash Rate				Risk Factors Addressed				Proximity to (within 1,000 ft)					Social Vulnerability Index of Adjacent Census Tracts			Income Level of Adjacent Census Tracts			Zero Car Households in Adjacent Census Tracts			Aligns with Current City Project		
Intersection/Corridor Project	Fatal	Severe Injury	High	Above Avg.	Avg.	Low	Ped Crashes	Angle Crashes	Rear End Crashes	Speed Crashes	Schools	Parks	ODT	Civic Facilities	Medical Facilities	High	Medium	Low	<$50k	$50k-$100k	>$100k	>20%	5%-20%	0%-5%			
Weighting Factors/Points:	3	2	3	2	1	0	2	1	1	1	3	2	2	1	1	3	1	0	3	1	0	3	1	0	2	max = 27	
Project 6: South Sequim Complete Streets Improvements - Phase 1		X	X				X	X	X			X				X			X			X			X	22	/27
Project 4: Fir Street Pedestrian & Bicycle Improvements				X			X	X			X	X	X	X		X			X				X		X	22	/27
Project 5: Spruce Street Bicycle Boulevard		X	X				X	X			X	X		X		X			X				X			21	/27
Project 8: 3rd Avenue Sidewalk & Bike Lanes			X				X				X	X				X			X				X		X	19	/27
Project 7: South Sequim Complete Streets Improvements - Phase 2	X				X		X	X				X				X			X			X				18	/27
Project 10: E Washington Street Bicycle & Pedestrian Improvements					X		X	X	X				X			X			X				X		X	16	/27
Project 11: Sunnyside Avenue Bicycle & Pedestrian Improvements				X			X					X	X			X			X				X			15	/27
Project 9: W Washington Street Safety Improvements		X			X		X	X	X								X		X				X			12	/27
Project 12: Brownfield Road Speed Mitigation			X							X							X			X			X			7	/27