

Safety Action Plan

City of Montesano, Washington

Prepared By:

SCJ Alliance

8730 Tallon Lane NE, Suite 200

Lacey, WA 98516

360.352.1465

April 2024



Safety Action Plan

Project Information

Project: Safety Action Plan
Prepared for: City of Montesano
112 N Main Street
Montesano, WA 98563

Reviewing Agency

Jurisdiction: City of Montesano
Mike Olden, PE, Director of Public Works

Project Representative

Prepared by: SCJ Alliance
8730 Tallon Lane NE, Suite 200
Lacey, WA 98516
360.352.1465
scjalliance.com

Contact: Ryan Shea, PTP, Senior Transportation Planner
Eric Johnston, PE, Principal

Project Reference: SCJ #23-000754
Path: N:\Projects\0766 City of Montesano\23-000754 Montesano Safety Action Plan 2023\Phase 2-Safety Action Plan\03-Dels\SS4A Safety Plan\Final Draft Montesano Safety Action Plan.docx

Signature

The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, whose seal, as a professional engineer licensed to practice as such, is affixed below.

 *Anne Sylvester*

Prepared by Ryan Shea, PTP and Anne Sylvester, PTE


Approved by Eric Johnston, PE



04/17/2024

Table of Contents

1	EXECUTIVE SUMMARY.....	5
1.1	Purpose of the Study.....	5
1.2	Overview of Crash Issues and Problems	5
1.3	Action Strategy	6
1.3.1	Vision and Goals.....	6
1.3.2	Summary of Recommendations.....	6
1.3.3	Commitment to Safety and Implementation.....	8
1.3.4	On-Going Monitoring of Crashes	8
2	INTRODUCTION	9
2.1	Purpose of the Study.....	9
2.2	Analysis Methodology	9
2.3	Study Area	10
2.4	Report Content and Organization	11
3	LEADERSHIP, GOALS AND PLANNING STRUCTURE	13
3.1	Goals and Vision Statement	13
3.1.1	Safe Access for All Users	13
3.1.2	A Safe Systems Approach.....	13
3.1.3	Communication.....	13
3.2	Planning Structure	13
4	SAFETY ANALYSIS	15
4.1	Analysis of Historic Crash Data.....	15
4.1.1	Summary for All Crashes in Montesano	15
4.2	Summary of Major Risk Factors.....	22
4.3	Discussion of Severe Crashes/Vulnerable User Crashes	23
5	ENGAGEMENT AND COLLABORATION.....	25
5.1	In-Person Public Engagement.....	25
5.2	Online Survey	25
5.3	Community Concerns	28
6	EQUITY CONSIDERATIONS	31
6.1	Comparison with Community Demographics	31
6.1.1	People of Color.....	32

Table of Contents

6.1.2	Low-Income Populations	33
6.1.3	Limited English-Speaking Households	33
6.1.4	Over Age 64.....	34
6.1.5	Effects on EJ Populations	34
7	PLANNING CONTEXT.....	41
7.1	City Plans and Policies Related to Transportation Safety.....	41
7.2	Suggested Modifications to Safety Policy	42
8	STRATEGY AND PROJECT SELECTION	43
8.1	Identification of High Priority Locations Based on Crash Analysis	43
8.2	Assessment of Crash Priority Locations.....	43
8.2.1	Pioneer Avenue.....	43
8.2.2	Wynooche Avenue.....	45
8.2.3	3 rd Street/Lake Sylvia Road	45
8.2.4	Main Street	45
8.2.5	Broadway Avenue	46
8.2.6	Spruce Avenue	46
8.2.7	Summary	46
8.3	ADA Inventory and Compliance	47
8.3.1	ADA Inventory.....	47
8.3.2	ADA Inventory Results	47
8.4	Summary of Conclusions for Crash and ADA Analysis.....	47
8.4.1	Pioneer Avenue.....	49
8.4.2	Spruce Avenue	49
8.4.3	3 rd Street/Lake Sylvia Road	49
8.4.4	Main Street	49
8.4.5	Broadway Avenue	50
8.4.6	Wynooche Avenue.....	50
8.4.7	River Street	50
8.4.8	Kamilche Avenue at Church Street	50
8.4.9	Academy Street.....	50
8.4.10	Beacon Avenue.....	51
8.4.11	Satsop Street	51

Table of Contents

8.4.12	Medcalf Street.....	51
8.4.13	McBryde Avenue	51
8.5	Location Prioritization	51
8.5.1	Priority Level 1	52
8.5.2	Priority Level 2	55
8.5.3	Priority Level 3	55
8.5.4	Summary of Priorities to Be Carried Forward.....	55
8.6	Identification of Countermeasures	56
8.7	Spot Improvements	58
8.8	Systemic Improvements.....	58
8.8.1	Pioneer Avenue.....	58
8.8.2	Spruce Avenue	59
8.8.3	3 rd Street/Lake Sylvia Road	59
8.8.4	Main Street	59
8.8.5	Wynooche Avenue.....	60
8.8.6	Broadway Avenue.....	60
8.9	Summary of Studies.....	60
9	RECOMMENDATIONS	63
9.1	Tier 1 - Short-Term Improvement Recommendations	63
9.2	Medium to Longer-Term Improvement Recommendations.....	63
9.2.1	Tier 2 – Medium-term.....	63
9.2.2	Tier Level 3 – Longer-term	64
10	IMPLEMENTATION AND MONITORING	67
10.1	Commitment to Implementation	67
10.2	On-Going Monitoring of Crashes.....	67

List of Tables

Table 1.	Summary of All Crashes by Severity, 2018 - July of 2023.....	15
Table 2.	Summary of All Crashes by Type and Severity, 2018-7/2023	18
Table 3.	Summary of All Crashes by Roadway Junction Type and Severity, 2018-7/2023	18
Table 4.	Summary of All Crashes by Weather Conditions and Severity, 2018-7/2023.....	19
Table 5.	Summary of All Crashes by Lighting Conditions and Severity, 2018-7/2023	19

List of Tables

Table 6. Summary of All Crashes by Vehicle 1 Action and Severity, 2018-7/2023	20
Table 7. Summary of All Crashes by Roadway Surface Conditions and Severity, 2018- 7/2023	21
Table 8. Summary of All Crashes by Contributing Causes and Severity, 2018-7/2023.....	21
Table 9. Summary of Priority Risk Factors	22
Table 10. Summary of Severe and Vulnerable User Crashes on Montesano Streets, 2018 to 2022.....	24
Table 11. Summary of Severe and Vulnerable User Crashes on US 12 in Montesano, 2018 to 2022....	24
Table 12. People of Color, City of Montesano	33
Table 13. Low-Income Population, City of Montesano.....	33
Table 14. Limited English-Speaking Population, City of Montesano	34
Table 15. Population Over Age 64, City of Montesano	34
Table 16. Prioritization of Crash Locations	52
Table 17. Potential Countermeasures to Address Priority Deficiencies	56
Table 18. Application of Countermeasures by Location	57
Table 19. Countermeasure Prioritization and Cost Estimates	65

List of Figures

Figure 1. Study Area and Vicinity	10
Figure 2. Location of Crashes by Severity	16
Figure 3. Location of Crashes by Type	17
Figure 4. Survey Responses – ADA Concerns.....	26
Figure 5. Survey Responses – Pedestrian Safety Concerns.....	27
Figure 6. Survey Responses – Automotive/Traffic Safety Concerns	27
Figure 7. Survey Responses – Other Concerns	28
Figure 8. Block Groups in the City of Montesano	32
Figure 9. Percentage of People of Color by Block Group as Compared to Crash Locations	36
Figure 10. Percentage of Low-Income Population by Block Group as Compared to Crash Locations ...	37
Figure 11. Percentage of Limited English Speaking by Block Group as Compared to Crash Locations ..	38
Figure 12. Percentage of People Over Age 64 by Block Group as Compared to Crash Locations	39
Figure 13. Crashes on Pioneer Avenue	44
Figure 14. ADA Compliance Inventory Locations.....	48
Figure 15. Priority Corridors.....	53

1 EXECUTIVE SUMMARY

1.1 Purpose of the Study

The City of Montesano is actively pursuing improvements to reduce crashes and enhance safety for its multimodal transportation system. As part of that effort, the city has prepared this *Safety Action Plan* (SAP) following the risk-based, data-driven analytical procedures outlined in guidance provided by the national Safe Streets and Roads for All (SS4A) program and the Washington State Department of Transportation (WSDOT) Local Programs Division. This guidance is designed to support state and national efforts to implement the U.S. Department of Transportation's National Roadway Safety Strategy with its goal of zero roadway deaths using a Safe System Approach. Guidance also supports achieving *Target Zero* as outlined in the *Washington State Strategic Highway Safety Plan*.

The purpose of this *Safety Action Plan* is to improve safety for different modes of transportation along city streets through the analysis of crash data, identifying and prioritizing risk factors that impact safety, and establishing and prioritizing engineering countermeasures and strategies that reduce the number and severity of crashes in the city.

1.2 Overview of Crash Issues and Problems

Historical crash data was obtained for the City of Montesano for the five-year plus time period from January 1, 2018 through July 31, 2023. WSDOT crash data included all streets within the city limits of Montesano plus portions of US 12 and SR 107 within the city limits.

During the five-year plus analysis period, there were a total of 177 crashes with 132 crashes occurring on City-operated streets and 45 crashes occurring on US 12 or SR 107 which are operated by WSDOT. There were no fatal crashes in Montesano during the analysis period, and there was one serious injury crash and one crash that involved a pedestrian. There were an additional sixteen crashes involving either minor or possible injuries. Nearly thirteen percent of the crashes occurring on Montesano city streets involved some form of injury while 78 percent involved property damage only. Approximately nine percent of city crashes had no level of severity reported.

Angle crashes comprised over a third of all crashes occurring in the city, including the one severe crash that was reported during the study period. Seven additional injury crashes were also related to angle collisions. Over 60 percent of all crashes occurred at intersections, while nearly half of all crashes in the city occurred when the weather was clear or partly cloudy and 17 percent occurred during rainstorms. 80 percent of crashes in the city occurred during daylight hours, while the next highest percentage (about 15 percent) occurred at night in areas that were illuminated by streetlights. Two thirds of all crashes occurred when the pavement was dry and about 30 percent occurred on wet pavement. A very low percentage occurred under icy or snowy conditions. About 18 percent were related to distraction of the driver and 11 percent were related to inattention. Nearly 17 percent involved driver failure to grant right of way.

1.3 Action Strategy

1.3.1 Vision and Goals

Vision Statement

The City of Montesano is committed to improving and maintaining a safe transportation system for all users with the eventual goal of zero roadway fatalities and serious injuries, consistent with WSDOT’s Target Zero goal. The city has established goals through which it aims to achieve zero roadway fatalities and serious injuries by 2040.

Goals

Safe Access for All Users

Montesano is committed to high-quality transportation facilities that provide safe travel options for all users. The city is developing an ADA compliance plan and a complete streets policy to further improve the safety and quality of the multimodal transportation network for all users.

A Safe Systems Approach

Montesano believes a safe systems approach will best achieve the goal of zero roadway fatalities and serious injuries. The city will prioritize the integration of planning and design, and is focused on developing safer roads and safer speeds. This plan identifies several planning studies related to existing speed and sight distance concerns that will direct specific and targeted countermeasure implementation.

Communication

Montesano believes that clear and effective communication will be important to encouraging safe travel on the transportation system and to ensure that the community’s priorities continue to be addressed by the plan. The city conducted in-person and virtual outreach as part of the safety action planning process. This input was used to both identify locations of concern and to prioritize countermeasure implementation.

1.3.2 Summary of Recommendations

Each of the priority locations was evaluated to identify the most appropriate improvement countermeasures that could be implemented to address both spot and systemic corridor improvements. Improvement recommendations were grouped into implementation Tiers reflecting the priorities that were identified above, as well as input received through the community engagement process. Recommended improvements and preliminary cost estimates are summarized in Table ES-1.

Table ES-1. Countermeasure Prioritization and Cost Estimates

#	Location	Improvement	Total Cost
Tier 1 – Priority Improvements – Short-Term			
1	East Pioneer Avenue at River Street	<ul style="list-style-type: none"> • ADA improvements and installation of active pedestrian crossing protection such as RRFBs 	\$65,000
1A	River Street, Pioneer Avenue to Marcy Avenue	<ul style="list-style-type: none"> • Implement pedestrian improvements to improve safety 	\$200,000

#	Location	Improvement	Total Cost
2	Main Street at Broadway Avenue	<ul style="list-style-type: none"> • Pedestrian safety improvements such as curb extensions, pedestrian refuge, all-way stop control (if warranted) and ADA compliance 	\$350,000
3	Kamilche Avenue at Church Street	<ul style="list-style-type: none"> • Implement sidewalk and crosswalk improvements for pedestrian safety in vicinity of Montesano High School 	\$175,000
4	Wynooche Avenue, 6th Street to Main Street	<ul style="list-style-type: none"> • Pedestrian and ADA improvements 	\$3,200,000
Tier 2 – Medium-Term Improvements			
5	Lake Sylvia Road, Nevills Lane to City Limits	<ul style="list-style-type: none"> • Construct sidewalk on one side of roadway. 	\$600,000
5A	Lake Sylvia Road, city limits to existing trail system	<ul style="list-style-type: none"> • Construct sidewalk on one side of roadway. 	\$600,000
6	Spruce Avenue, 3 rd to Main Streets	<ul style="list-style-type: none"> • Pedestrian safety improvements including curb extensions and all-way stop control (if warranted) at Spruce/3rd. Improve sight distance, ADA compliance and implement traffic calming strategies to reduce speeding. 	\$1,500,000
7	ADA Compliance	<ul style="list-style-type: none"> • Implement high priority ADA compliance improvements as identified in ADA Compliance Plan and not otherwise included in projects separately identified. 	See ADA Transition Plan
8	N 1 st Street, Spruce Avenue to McBryde Avenue	<ul style="list-style-type: none"> • Pedestrian safety improvements 	\$1,425,000
9	Beacon Avenue	<ul style="list-style-type: none"> • RRFBS at Satsop and Talbot with ramps as needed for compliance if crosswalks implemented 	\$180,000
10	McBryde Avenue, Satsop Avenue to Adams Street	<ul style="list-style-type: none"> • Construct sidewalk on one side of roadway to fill sidewalk gap (includes drainage and watermain replacement) 	\$825,000
11	Main Street	<ul style="list-style-type: none"> • Improvements to intersections of Marcy and Wynooche and pedestrian safety where not previously addressed 	\$250,000
12	Broadway Avenue	<ul style="list-style-type: none"> • Improve sight distance at intersections and implement pedestrian safety measures not previously addressed 	Pending Study
13	3 rd Street	<ul style="list-style-type: none"> • Implement speed control strategies and improve pedestrian safety 	Pending Study
Tier 2 – Studies and Further Evaluation			
S-1	Simpson School Area Study	Study existing pedestrian and vehicular travel patterns, identify pedestrian improvements for streets in school vicinity, and conduct preliminary design. Include evaluation of 3 rd Street.	\$25,000
S-2	Parking Study	Core area analysis to identify utilization and improvements needed to address high frequency of crashes involving parked vehicles	\$50,000
S-3	Sight Distance Study	Evaluate sight distance constraints along priority corridors and develop mitigation recommendations	\$30,000
S-4	Speed Study	Focus on priority corridors to identify existing speeding problems and develop appropriate strategies for	\$25,000

#	Location	Improvement	Total Cost
		mitigation	
Tier 3 – Longer-Term Improvements			
14	Academy Street, Pioneer Avenue to Spruce Avenue	• Implement restriping and construct ADA improvement	\$1,450,000
15	Satsop Street, Beacon Avenue to McBryde Avenue	• Construct sidewalk on one side of roadway	\$1,300,000
16	Medcalf Street, Beacon Avenue to McBryde Avenue	• Construct sidewalk on one side of roadway	\$1,050,000
17	Pioneer Avenue	• Pedestrian safety improvements in areas not previously improved.	\$1,300,000
18	Pioneer Avenue at Main Street	• Add left turn channelization on Main Street with left turn and advanced pedestrian signal phasing	\$200,000
19	E Pioneer, Glenn to Swiss Meadows	• Construct sidewalk	\$1,900,000
20	S 1 st Street, Broadway to Railroad	• Implement ADA improvements.	\$825,000

1.3.3 Commitment to Safety and Implementation

Through its *Comprehensive Plan* and *Transportation Plan*, the City of Montesano has adopted plans and policies that identify a commitment to transportation safety and implementation of safety improvements. Through the adoption of this Safety Plan, the city makes a further commitment to the goal of zero roadway fatalities and serious injuries (Target Zero) and significant progress towards that goal by 2030. This commitment will be further addressed in the pending update of the City’s Comprehensive Plan and Transportation System Plan through:

- The addition of specific policies that address Target Zero
- The incorporation of safety improvements identified in this plan, as well as projects identified through subsequent monitoring and analysis into the Transportation System Plan and Six Year Transportation Improvement Program for implementation.

1.3.4 On-Going Monitoring of Crashes

The City will continue monitoring crash data on a regular basis, with a focus on locations identified in the Plan. Monitoring will occur through the collection of crash data at three to five year intervals to update the identification and assessment of severe crashes. As needed, further evaluation of improvements to problem locations will be determined. On-going monitoring will be the responsibility of the city’s engineering staff with assistance from the Chief of Police or designee.

Also, the City will add the safety projects in this Plan to other City documents to help accelerate their funding and construction. The Safety Pan will be posted on the city’s website.

2 INTRODUCTION

The City of Montesano is actively pursuing improvements to reduce crashes and enhance safety for its multimodal transportation system. As part of that effort, the city has prepared this *Safety Action Plan* (SAP) following the risk-based, data-driven analytical procedures outlined in guidance provided by the Washington State Department of Transportation (WSDOT) Local Programs Division. This guidance is designed to support WSDOT's efforts to implement the *Target Zero – Washington State Strategic Highway Safety Plan* which relies on a data-based approach that analyzes crash trends and contributing factors in the development of successful crash reduction strategies. This plan also relies on public and agency staff input (including police officer input) to identify deficiencies and development an understanding of risk factors and potential solutions to a variety of systemic transportation safety problems in the community.

2.1 Purpose of the Study

The purpose of this plan is to improve safety for different modes of transportation along city streets through the analysis of crash data, identifying and prioritizing risk factors that impact safety, and establishing and prioritizing engineering countermeasures and strategies that reduce the number and severity of crashes in the city.

2.2 Analysis Methodology

The analysis approach used in preparation of this *Safety Action Plan* is consistent with the WSDOT Local Road Safety Plan methods and the federal guidance on preparation of Comprehensive Safety Action Plans. In addition, Montesano is currently engaged in a citywide assessment of ADA compliance which is focused on identification of the systemic need for safety improvements serving vulnerable users. Output from both efforts has been used to develop the City's *Safety Action Plan* focusing on spot improvements, where appropriate, and systemic improvements where they would enhance the broader community and state goals of improved transportation safety within the community.

The development of the *Safety Action Plan* followed a multi-step process that relied on five plus years of crash data (2018 through July of 2023). The multi-step process includes:

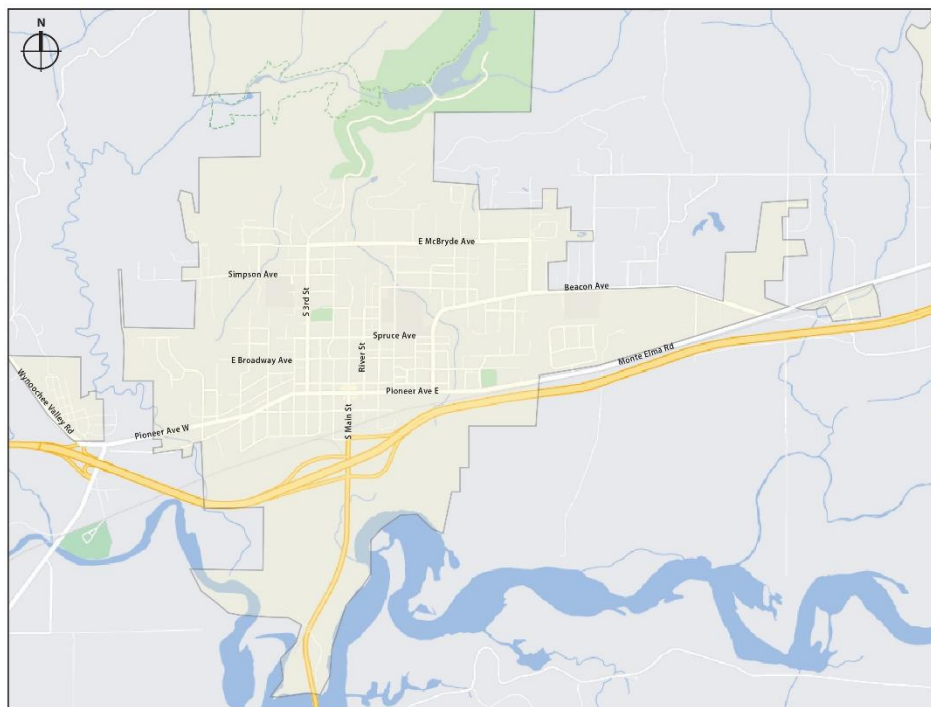
1. Evaluate crash data to identify crashes with a fatality and/or a serious injury. Identify contributing circumstances and characterize crash types and locations.
2. Based on this data, identify key risk factors which contribute to the crashes identified in the city of Montesano and compare these to an average of risk factors for Western Washington in the aggregate.
3. Select the most common risk factors based on their significance in relation to the reported severe crashes.
4. Identify locations experiencing a significant problem based on the risk factors identified.
5. Identify countermeasures to address the types of crashes experienced.
6. Develop a prioritized list of projects including both systemic and spot improvements and cost estimates.



2.3 Study Area

Montesano is located off the US 12 corridor between the Olympia/Lacey area in Thurston County and Aberdeen in Grays Harbor County. The study area for the Montesano *Safety Action Plan* includes the entire area within the city’s corporate limits. **Figure 1** illustrates the boundaries of the City of Montesano, its Urban Growth Area, and its general location in Grays Harbor County. The figure also identifies key roadway corridors which include state highway facilities, some with controlled access, including US 12, and SR 107.

Figure 1. Study Area and Vicinity



The population of Montesano was 3,976 in 2010, growing to 4,138 by 2020¹. This data indicates that the population in Montesano grew by about four percent during the ten years between 2010 and 2020. The population of Grays Harbor County in 2010 was 72,7979 of which Montesano represented 5.5 percent. By 2020, Grays County’s population increased to 75,636² of which Montesano was 5.5 percent indicating that Montesano is growing more rapidly than Grays Harbor County as a whole.

The 2020 median income in Montesano was \$57,500 which compares to the statewide median income of \$91,306. The median age in Montesano is 40 years. Montesano has a large elderly population with

¹ https://data.census.gov/profile/Montesano_city,_Washington?g=160XX00US5346895

² <https://www.census.gov/quickfacts/fact/table/graysharborcountywashington/PST045222>

over 27 percent 65 years of age or older. 40 percent of that group or 11 percent of the total population is aged between 75 and 84 years.

Population growth in Montesano is expected to be slow increasing to 7,365 by 2045³, a total increase of just over two percent between 2020 and 2045.

2.4 Report Content and Organization

This report is organized into ten chapters and is generally consistent with the structure provided by federal guidance for developing safety action plans. The first chapter of this report is an Executive Summary.

Chapter 2 introduces the study area and highlights the purpose and general approach to developing a safety action plan for the city.

Chapter 3 outlines the vision and goals for the plan and the planning structure used to develop the plan.

Chapter 4 identifies and discusses existing transportation safety conditions in the City of Montesano with a focus on both historic crash data (2018 through July 2023) and an evaluation of safety risk factors including a correlation of crash severity relative to a variety of potential risks. Crash data analysis highlights what are characterized as “severe” crashes. These include crashes that result in fatalities and/or serious injury. Chapter 3 also presents historic data for bicycle and pedestrian crashes in the city.

Chapter 5 highlights the public engagement effort undertaken as a part of plan development including a description of outreach efforts, community concerns identified through this process and a discussion of how public input was incorporated into the plan.

Chapter 6 documents how equity was incorporated and considered in the development of the plan. This effort focused on people of color, low income populations and elderly populations and relates the identification of priority corridors and improvements on these Environmental Justice (EJ) populations.

Chapter 7 outlines the community planning context for this *Safety Action Plan* including a discussion of planning goals and principles that address safety, as well as suggested modifications to existing policy to enhance efforts towards achieving Target Zero.

Chapter 8 focuses on identifying high priority locations and corridors within the city where spot and/or systemic improvements can be developed based on the risk factor analysis discussed in Chapter 4. This chapter includes a summary of analysis and conclusions from a citywide evaluation of sidewalk compliance with the Americans with Disabilities Act (ADA) which identifies locations where a systemic pedestrian safety problem may exist. This chapter also discusses the identification of countermeasures for each of the priority corridors. This discussion is based on the likely effectiveness of the countermeasure in addressing the relevant types of crashes and risk factors at each location.

Chapter 9 presents a short, medium, and longer-term action strategy for the Montesano *Safety Action Plan*.

Chapter 10 includes a discussion of plan implementation and the effort proposed for on-going monitoring of crashes to measure the overall effectiveness of the plan over time.

³ <https://ofm.wa.gov/search/google/2045%20population%20forecast%20for%20grays%20harbor%20county>

This page intentionally blank

3 LEADERSHIP, GOALS AND PLANNING STRUCTURE

This chapter documents the city's goals for the *Safety Action Plan* and the leadership team at the city that will be tasked with implementing the plan.

3.1 Goals and Vision Statement

The City of Montesano is committed to improving and maintaining a safe transportation system for all users with the eventual goal of zero roadway fatalities and serious injuries, consistent with WSDOT's Target Zero goal. The city has established goals through which it aims to achieve zero roadway fatalities and serious injuries by 2034.

3.1.1 Safe Access for All Users

Montesano is committed to high-quality transportation facilities that provide safe travel options for all users. The city is developing an ADA compliance plan and a complete streets policy to further improve the safety and quality of the multimodal transportation network for all users.

3.1.2 A Safe Systems Approach

Montesano believes a safe systems approach will best achieve the goal of zero roadway fatalities and serious injuries. The city will prioritize the integration of planning and design, and is focused on developing safer roads and safer speeds. This plan identifies several planning studies related to existing speed and sight distance concerns that will direct specific and targeted countermeasure implementation.

3.1.3 Communication

Montesano believes that clear and effective communication will be important to encouraging safe travel on the transportation system and to ensure that the community's priorities continue to be addressed by the plan. The city conducted in-person and virtual outreach as part of the safety action planning process. This input was used to both identify locations of concern and to prioritize countermeasure implementation.

3.2 Planning Structure

A task force was established to develop this *Safety Action Plan*. This task force was involved in the creation of the plan and has been charged with monitoring and implementing the plan. The safety action plan task force includes:

- Montesano City Council
- Public Works Committee members
- Director of Public Works/Community Development
- Chief of Police

Through the development of this plan several public works committee meetings devoted time to:

- Development of goals
- Review of existing crash data
- Identification of project locations

- Review of potential countermeasures
- Prioritization of countermeasures

Upon completion and adoption of the plan, the task force will continue to monitor the safety of the transportation system by periodically reviewing roadway crash data. This periodic review will seek to monitor city-wide data for new serious injury or fatality crashes and to evaluate locations with implemented countermeasures to determine if/how the location has improved.

The task force will also work to implement the plan by seeking funds to construct the identified improvements and providing status updates to City Council and the community through open public meetings and on-line communication.

4 SAFETY ANALYSIS

This chapter documents historical crash data in the City of Montesano and its surrounding Urban Growth Area and highlights severe crashes, as well as crashes affecting vulnerable users. A summary of the key findings from the ADA compliance analysis is also included.

4.1 Analysis of Historic Crash Data

Historical crash data was obtained for the City of Montesano for the five-year plus time period from January 1, 2018 through July 31, 2023. Crash data is collected by WSDOT from all crash reports completed by responding law enforcement officials. Crash data includes information related to crash circumstances, locations, driver behaviors, contributing factors, and severity including degree of injury. This data can be used to identify the factors that most clearly indicate the reasons why a crash occurred and provide the basis for developing engineering, education, or enforcement countermeasures.

WSDOT crash data included all streets within the city limits of Montesano plus portions of US 12 and SR 107 within the city limits.

During the five-year plus analysis period, there were a total of 177 crashes with 132 crashes occurring on City-operated streets and 45 crashes occurring on US 12 or SR 107 which are operated by WSDOT. **Figure 2** presents a graphic image of these crashes by location and severity.

4.1.1 Summary for All Crashes in Montesano

As indicated by the data in Table 1, there were no fatal crashes in Montesano during the five year plus analysis period, and there was one serious injury crash. There were an additional sixteen crashes involving either minor or possible injuries. Nearly thirteen percent of the crashes occurring on Montesano city streets involved some form of injury while 78 percent involved property damage only. Approximately nine percent of city crashes had no level of severity reported.

Table 1. Summary of All Crashes by Severity, 2018 - July of 2023

Crash Type	Number	Percentage
Fatal*	0	0.0%
Serious Injury	1	0.8%
Minor Injury	2	1.5%
Possible Injury	14	10.6%
Property Damage Only	103	78.0%
Unknown	12	9.1%
Total	132	100.0%

*The adjacent County roads experienced one fatality

Figure 3 presents a summary of all Montesano crashes by type including crashes involving angle collisions, hitting fixed objects, affecting a parked car (including while stationary, or while entering/leaving an on-street parking space and a variety of other crash types). Angle crashes typically involve collisions between vehicles that are traveling on paths that cross at right angles from each other.

Figure 2. Location of Crashes by Severity

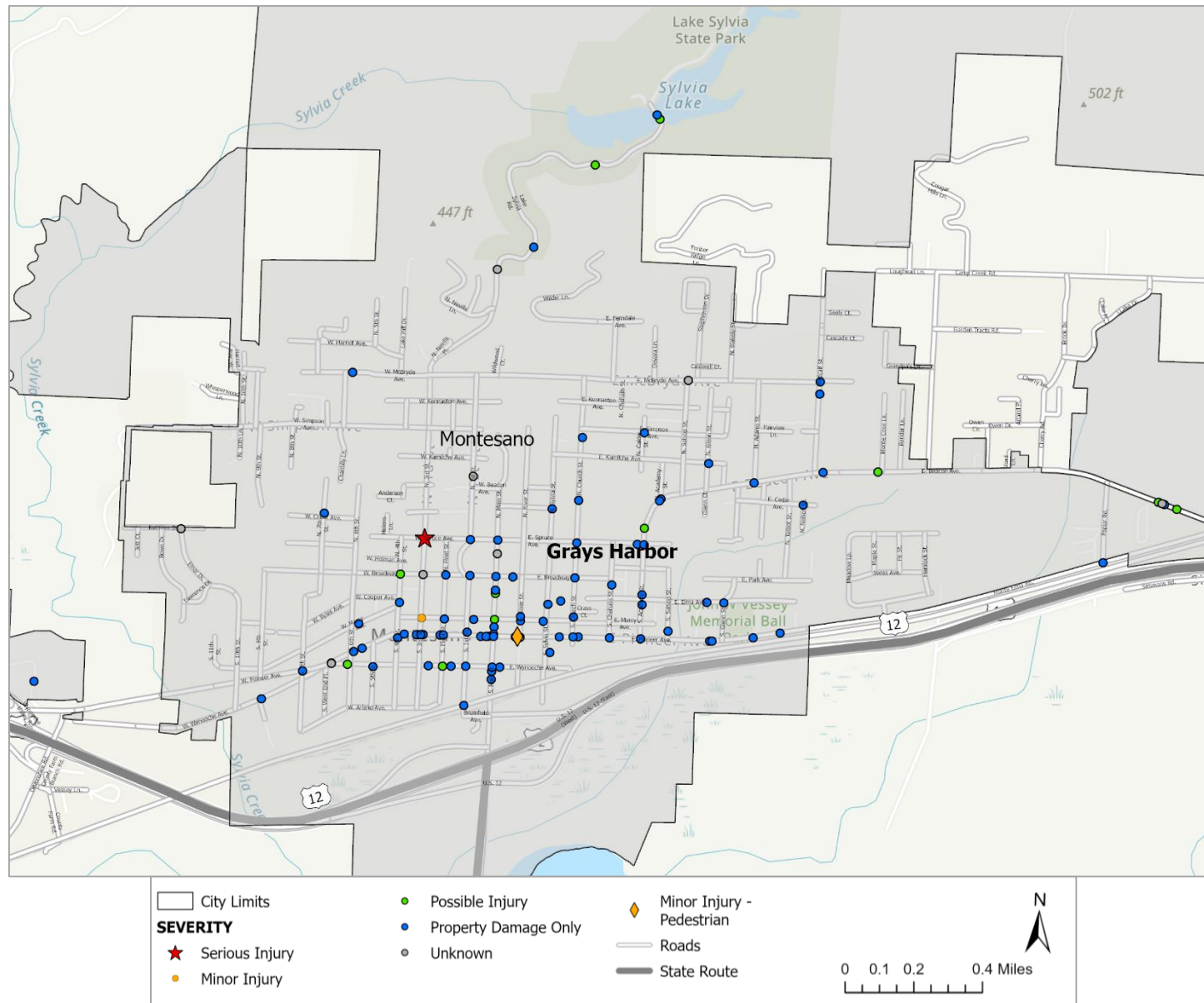


Figure 3. Location of Crashes by Type

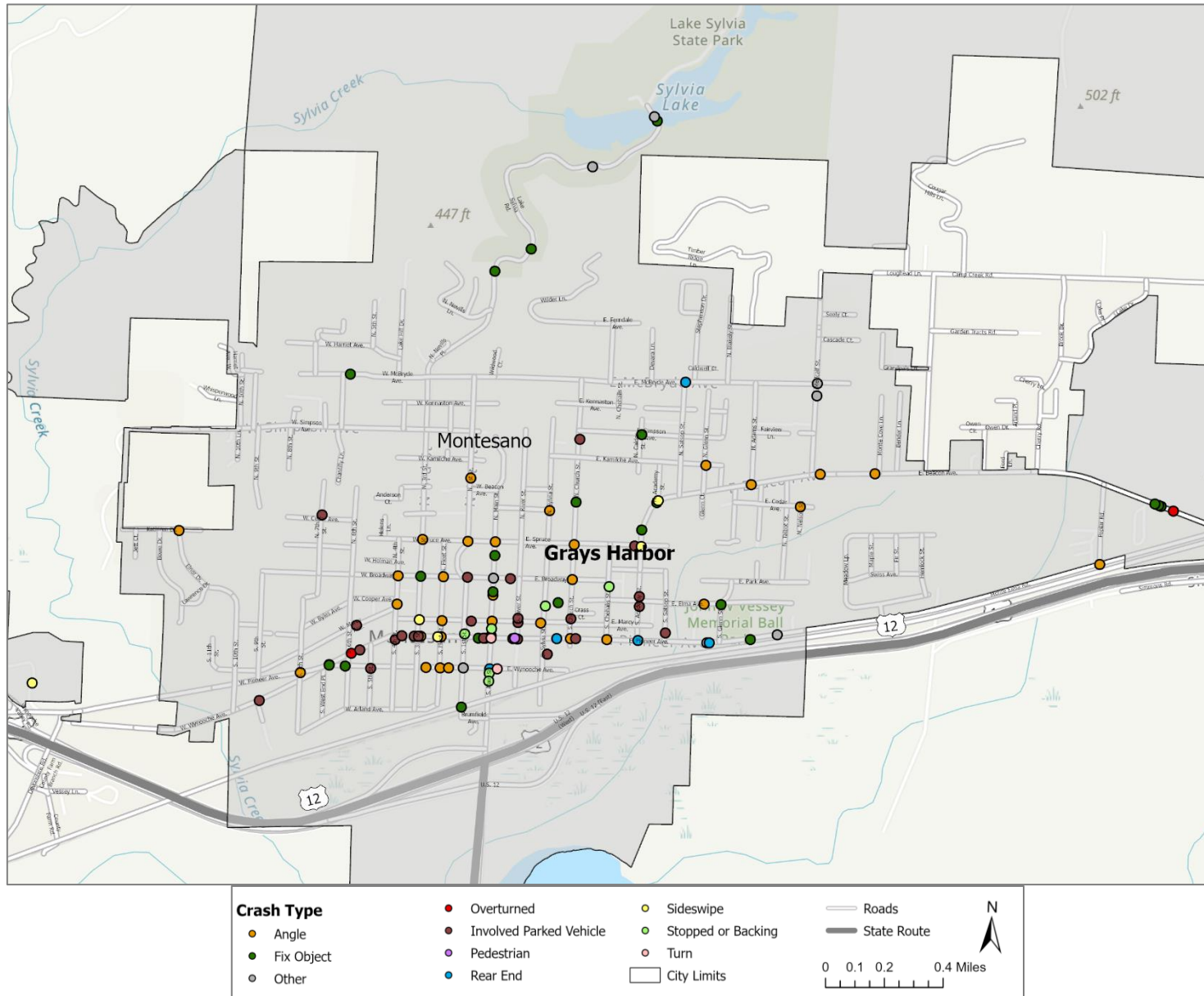


Table 2 through **Table 8** present a correlation between crash severity and a variety of factors that could potentially affect or contribute to each crash. As indicated in **Table 2**, angle crashes comprised over a third of all crashes occurring in the city, including the one severe crash that was reported during the study period. Seven additional injury crashes were also related to angle collisions. **Table 3** shows that intersection and/or driveway crashes dominated the pattern of crashes within the community with over 60 percent occurring at these locations.

Table 2. Summary of All Crashes by Type and Severity, 2018-7/2023

Crash Type	Severe Crashes		Other Injury Crashes		Property Damage Only Crashes		Unknown		Totals	
	Number	%/Type	Number	%/Type	Number	%/Type	Number	%/Type	Number	% of All
Angle	1	2.2%	7	15.6%	32	71.1%	5	11.1%	45	34.1%
Fixed Object	0	0.0%	4	19.0%	12	57.1%	5	23.8%	21	15.9%
Left Roadway	0	0.0%	1	50.0%	1	50.0%	0	0.0%	2	1.5%
Other	0	0.0%	0	0.0%	6	100.0%	0	0.0%	6	4.5%
Overtuned	0	0.0%	1	50.0%	1	50.0%	0	0.0%	2	1.5%
Involving Parked Car	0	0.0%	0	0.0%	34	97.1%	1	2.9%	35	26.5%
Pedestrian	0	0.0%	1	100.0%	0	0.0%	0	0.0%	1	0.8%
Rear End	0	0.0%	1	12.5%	6	75.0%	1	12.5%	8	6.1%
Sideswipe	0	0.0%	1	50.0%	1	50.0%	0	0.0%	2	1.5%
Stopped or Backing	0	0.0%	0	0.0%	6	100.0%	0	0.0%	6	4.5%
Turn	0	0.0%	0	0.0%	4	100.0%	0	0.0%	4	3.0%
Total of All Crashes	1	0.8%	16	12.1%	103	78.0%	12	9.1%	132	100.0%

Note: Percentage in rows represents share of total crashes by type for each level of severity.

Table 3. Summary of All Crashes by Roadway Junction Type and Severity, 2018-7/2023

Roadway Junction	Severe Crashes		Other Injury Crashes		Property Damage Only Crashes		Unknown		Totals	
	Number	%/Type	Number	%/Type	Number	%/Type	Number	%/Type	Number	% of All
Intersection/Driveway	1	1.2%	11	12.4%	62	85.6%	8	9.8%	82	62.1%
Non-Intersection	0	0.0%	5	10.0%	41	82.0%	4	8.0%	50	37.9%
Total of All Crashes	1	0.8%	16	12.1%	103	78.0%	12	9.1%	132	100.0%

Note: Percentage in rows represents share of total crashes by type for each level of severity.

Table 4 shows that nearly half of all crashes in the city occurred when the weather was clear or partly cloudy, while nearly 17 percent occurred during rainstorms. **Table 5** indicates that over 80 percent of crashes in the city occurred during daylight hours, while the next highest percentage (about 15 percent) occurred at night in areas that were illuminated by streetlights.

Table 4. Summary of All Crashes by Weather Conditions and Severity, 2018-7/2023

Weather Conditions	Severe Crashes		Other Injury Crashes		Property Damage Only Crashes		Unknown		Totals	
	Number	%/Type	Number	%/Type	Number	%/Type	Number	%/Type	Number	% of All
Clear	1	4.8%	3	14.3%	13	61.9%	4	19.0%	21	19.5%
Clear or Partly Cloudy	0	0.0%	9	13.8%	51	78.5%	5	7.7%	65	49.2%
Fog, Smog or Smoke	0	0.0%	1	50.0%	1	50.0%	0	0.0%	2	1.5%
Overcast	0	0.0%	1	5.9%	15	88.2%	1	5.9%	17	12.9%
Raining	0	0.0%	2	10.0%	18	90.0%	2	10.0%	22	16.7%
Snowing	0	0.0%	0	0.0%	3	100.0%	0	0.0%	3	2.3%
Not Listed	0	0.0%	0	0.0%	2	100.0%	0	0.0%	2	1.5%
Total of All Crashes	1	0.8%	16	12.1%	103	78.0%	12	9.1%	132	100.0%

Note: Percentage in rows represents share of total crashes by type for each level of severity.

Table 5. Summary of All Crashes by Lighting Conditions and Severity, 2018-7/2023

Lighting Conditions	Severe Crashes		Other Injury Crashes		Property Damage Only Crashes		Unknown		Totals	
	Number	%/Type	Number	%/Type	Number	%/Type	Number	%/Type	Number	% of All
Dark/Unknown Lighting	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1	0.8%
Dark-No Street Lights	0	0.0%	1	50.0%	1	50.0%	0	0.0%	2	1.5%
Dark-Street Lights on	1	5.0%	2	10.0%	16	80.0%	1	5.0%	20	15.2%
Dawn	0	0.0%	0	0.0%	0	0.0%	1	100.0%	1	0.8%
Daylight	0	0.0%	13	12.3%	83	78.3%	10	9.4%	106	80.3%
Unknown	0	0.0%	0	0.0%	1	100.0%	0	0.0%	2	1.5%
Total of All Crashes	1	0.8%	16	12.1%	103	78.0%	12	9.1%	132	100.0%

Note: Percentage in rows represents share of total crashes by type for each level of severity.

Table 6 presents data that illustrates actions taken by the largely responsible party in the crash. As shown, about 45 percent of drivers were going straight at the time the crash occurred, while just under 14 percent were making a left turn. About 11 percent were backing up when the crash occurred.

Table 6. Summary of All Crashes by Vehicle 1 Action and Severity, 2018-7/2023

Vehicle 1 Action	Severe Crashes		Other Injury Crashes		Property Damage Only Crashes		Unknown		Totals	
	Number	%/Type	Number	%/Type	Number	%/Type	Number	%/Type	Number	% of All
Backing	0	0.0%	0	0.0%	14	93.3%	1	6.7%	15	11.4%
Going Straight	1	1.7%	9	15.0%	44	73.3%	6	10.0%	60	45.5%
Legally Parked, Unoccupied	0	0.0%	0	0.0%	2	100.0%	0	0.0%	2	1.5%
Making Left Turn	0	0.0%	3	16.7%	13	72.2%	2	11.1%	18	13.6%
Making Right Turn	0	0.0%	2	20.0%	7	70.0%	1	10.0%	10	7.6%
Making U-Turn	0	0.0%	0	0.0%	2	100.0%	0	0.0%	2	1.5%
Merging	0	0.0%	0	0.0%	2	100.0%	0	0.0%	2	1.5%
Negotiating a Curve	0	0.0%	0	0.0%	0	100.0%	1	0.0%	1	0.8%
Other	0	0.0%	0	0.0%	8	100.0%	0	0.0%	8	6.1%
Overtaking and Passing	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1	0.8%
Starting from Parked Position	0	0.0%	0	0.0%	3	100.0%	0	0.0%	3	2.3%
Starting from Traffic Lane	0	0.0%	2	22.2%	6	66.7%	1	11.1%	9	6.8%
Stopped in Roadway	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1	0.8%
Total of All Crashes	1	0.8%	16	12.1%	103	78.0%	12	9.1%	132	100.0%

Note: Percentage in rows represents share of total crashes by type for each level of severity.

Table 7 presents a summary that correlates crash severity with roadway conditions indicating that about two thirds of all crashes occurred when the pavement was dry and about 30 percent occurred on wet pavement. A very low percentage occurred under icy or snowy conditions.

Table 8 summarized contributing causes that were reported for crashes on city streets in Montesano. As indicated, about 18 percent were related to distraction of the driver and 11 percent were related to inattention. Nearly 17 percent involved driver failure to grant right of way.

Table 7. Summary of All Crashes by Roadway Surface Conditions and Severity, 2018- 7/2023

Roadway Surface Conditions	Severe Crashes		Other Injury Crashes		Property Damage Only Crashes		Unknown		Totals	
	Number	%/Type	Number	%/Type	Number	%/Type	Number	%/Type	Number	% of All
Dry	1	1.1%	13	14.6%	65	73.0%	10	11.2%	89	67.4%
Ice	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1	0.8%
Snow/Slush	0	0.0%	0	0.0%	2	100.0%	0	0.0%	2	1.5%
Unknown	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1	0.8%
Wet	0	0.0%	3	7.7%	34	87.2%	2	5.1%	39	29.5%
Total of All Crashes	1	0.8%	16	12.1%	103	78.0%	12	9.1%	132	100.0%

Note: Percentage in rows represents share of total crashes by type for each level of severity.

Table 8. Summary of All Crashes by Contributing Causes and Severity, 2018-7/2023

Roadway Surface Conditions	Severe Crashes		Other Injury Crashes		Property Damage Only Crashes		Unknown		Totals	
	Number	%/Type	Number	%/Type	Number	%/Type	Number	%/Type	Number	% of All
Defective Equipment	0	0.0%	0	0.0%	1	2.2%	0	0.0%	1	0.8%
Did Not Grant Right of Way	0	0.0%	3	13.6%	17	77%	2	9.1%	22	16.7%
Disregarded Stop Sign Signal	0	0.0%	0	0.0%	3	100.0%	0	0.0%	3	2.3%
Distracted	0	0.0%	6	25.0%	16	66.7%	2	8.3%	24	18.2%
Driving Under Influence	1	8.3%	1	8.3%	8	66.7%	2	16.7%	12	9.1%
Fatigued/Ill	0	0.0%	3	30.0%	6	60.0%	1	10.0%	10	7.6%
Following too Closely	0	0.0%	0	0.0%	3	100.0%	0	0.0%	3	2.3%
Improper Backing	0	0.0%	0	0.0%	8	100.0%	0	0.0%	8	6.1%
Improper Turning/Merging	0	0.0%	0	0.0%	4	66.7%	2	33.3%	6	4.5%
Inattention	0	0.0%	0	0.0%	13	86.7%	2	13.3%	15	11.4%
None Listed	0	0.0%	1	4.8%	20	95.2%	0	0.0%	21	15.9%
Speed	0	0.0%	2	33.3%	3	50.0%	1	16.7%	6	4.5%
Wrong Side of Road	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1	0.8%
Total of All Crashes	1	0.8%	16	12.1%	103	78.0%	12	9.1%	132	100.0%

Note: Percentage in rows represents share of total crashes by type for each level of severity.

4.2 Summary of Major Risk Factors

Based on the data in Tables 2 through 8, a series of major risk factors can be identified. **Table 9** illustrates these risk factors in relation to the various categories of crash severity on city streets within the City of Montesano.

Table 9. Summary of Priority Risk Factors

Crash Severity	Number of Crashes	Risk Factor	Risk Factor % of All Crashes by Severity
<u>Severe Crashes</u> - Type	1	Angle Crash	100%
Location		At Intersection	100%
Weather Condition		Clear Weather	100%
Lighting Condition		Dark-Street Lights on	100%
Vehicle 1 Action		Vehicle Moving Straight	100%
Roadway Condition		Dry Roadway	100%
Contributing Cause		Driving under Influence	100%
<u>Other Injury</u> - Type	16	Angle Crash	43.8%
Location		At Intersection	68.8%
Weather Condition		Clear/Partly Cloudy	56.3%
Lighting Condition		Daylight	81.3%
Vehicle 1 Action		Vehicle Moving Straight	56.3%
Roadway Condition		Dry Roadway	81.3%
Contributing Cause		Distracted	37.5%
<u>Property Damage Only</u> - Types	103	Angle Crash	31.1%
		Involved Parked Car	33.0%
Location		At Intersection	60.2%
Weather Condition		Clear/Partly Cloudy	49.5%
Lighting Condition		Daylight	80.6%
Vehicle 1 Action		Vehicle Moving Straight	42.7%
		Backing	13.6%
Roadway Condition		Dry Roadway	56.3%
		Wet Roadway	33.0%
Contributing Cause		Did Not Grant Right of Way	16.5%
		Inattention	15.5%
Total Crashes	132		

Review of crash data in Tables 2 through 8 also allows for a summary of the major risk factors affecting all types of crashes within the city regardless of crash severity. This summary is presented in the bullets below and includes crashes by type, roadway junction characteristics, weather and lighting conditions, actions of the vehicle 1 driver (primary responsible party), roadway surface condition, and contributing causes of the crash. Review of this data and the identification of primary risk factors makes it possible to narrow the study focus onto the highest priorities for potential improvements.

- Crashes by Type:
 - Angle crashes = 34.1 percent of all crashes
 - Involving a parked car = 26.5 percent of all crashes
 - Hitting a fixed object = 15.9 percent of all crashes

- Crashes by Roadway Junction:
 - At or related to intersection = 62.1 percent of all crashes
 - Not related to intersection = 37.9 percent
- Crashes by Weather Condition:
 - Clear or Partly Cloudy = 49.2 percent of all crashes
 - Clear = 19.5 percent of all crashes
- Crashes by Lighting Condition:
 - Daylight = 80.3 percent of all crashes
 - Dark with streetlights on = 15.2 percent of all crashes
- Crashes by Vehicle 1 Action:
 - Vehicle moving straight = 45.5 percent of all crashes
 - Making a left turn = 13.6 percent of all crashes
 - Backing = 11.4 percent of all crashes
- Crashes by Roadway Surface Condition:
 - Dry roadway = 67.4 percent of all crashes
 - Wet roadway = 29.5 percent of all crashes
- Crashes by Contributing Causes:
 - Distracted driver = 18.2 percent of all crashes
 - Failure to yield right of way = 16.7 percent of all crashes
 - Inattention = 11.4 percent of all crashes

4.3 Discussion of Severe Crashes/Vulnerable User Crashes

Of the 132 total crashes on Montesano streets in the five-year plus analysis period, there were no fatalities and one that resulted in a serious injury. On state highways, there were also no fatalities and four serious injury crashes for a total of five serious injuries within the city limits. Serious injuries represented a total of 2.8 percent of all crashes in the city including incidents on both city streets and state highways. Fatal and serious injury crashes, referred to in this report as severe crashes, are the focus of the *Safety Action Plan*.

The severe crash that occurred on city streets happened at the intersection of Spruce Avenue and 3rd Street which is shown by the star in Figure 2. This crash involved an angle collision with drugs being the contributing cause. There was also one crash in Montesano during the study period which involved a left-turning vehicle hitting a pedestrian at the intersection of River Street with E Pioneer Avenue. This crash resulted in a suspected minor injury and is shown by a diamond in Figure 2. Information related to these two crashes is presented in more detail in **Table 10**.

Table 11 includes a summary of severe crashes that occurred on state highways within the city limits over the five plus year study period. Three of the crashes involved motorcycles with contributing causes related to being under the influence of alcohol or excessive speed. In all cases these crashes involved the vehicle hitting either a side guardrail or a cable barrier in the median. As US 12 is a limited access facility through Montesano and none of the crashes occurred at locations that affected safety on city streets, this data will not be used in the evaluation of potential improvements as a part of the *Safety Action Plan*.

Table 10. Summary of Severe and Vulnerable User Crashes on Montesano Streets, 2018 to 2022

No.	Corridor	Intersection	Functional Classification	Number of Travel Lanes	Speed Limit	Severity	Crash Type	Contributing Cause	Weather/ Lighting
1	Spruce Avenue	3 rd Street	Urban Minor Collector	2 thru	25	Severe	Angle	Under Influence of Drugs	Clear/Dry Dark with Lighting
2	River Street	E Pioneer Avenue	Urban Major Collector	2 thru	25	Pedestrian	Left Turn	Turning vehicle hit pedestrian, distracted	Clear/Dry Daylight

Table 11. Summary of Severe and Vulnerable User Crashes on US 12 in Montesano, 2018 to 2022

No.	Corridor	Milepost	Intersection/Segment	Functional Classification	Number of Travel Lanes	Speed Limit	Contributing Cause	Crash Type	Weather/ Lighting
A	US 12	10.06	At WB on-ramp gore point	Urban Other Freeways/ Expressways	2 thru	60	Under influence of alcohol	Hit guardrail	Clear/Dry Dark with Lighting
B	US 12	10.87	Approaching WB off-ramp at SR 107 (motorcycle)	Urban Other Freeways/ Expressways	2 thru	60	None identified	Hit cable barrier in median	Clear/Dry Daylight
C	US 12	11.20	WB at city limits (motorcycle)	Urban Other Freeways/ Expressways	2 thru	60	Speeding	Hit cable barrier in median	Clear/Dry, Dark with No Lighting
D	US 12	0.17	Eastbound on-ramp from SR 107 (motorcycle)	Urban Other Freeways/ Expressways	One	60	Under influence of alcohol	Hit Guardrail	Clear/Dry Daylight

5 ENGAGEMENT AND COLLABORATION

As part of the safety action planning process, both in-person public engagement meetings and virtual outreach were performed to provide insight into how the community views transportation safety issues. This section documents the efforts undertaken and the feedback received. This information provides helpful guidance to augment the data-driven assessment of problem locations and general systemic safety improvement needs.

5.1 In-Person Public Engagement

To provide multiple opportunities for the public to participate in the safety action planning process the task force decided to present at monthly Planning Commission meetings. These meetings are held every third Wednesday at City Hall. Three Planning Commission meetings were attended on the following dates:

- January 17, 2024
- February 21, 2024
- March 20, 2024

Task Force meetings were also open to the public and were held on the following dates:

- December 2, 2023
- January 3, 2024
- February 7, 2024
- March 13, 2024
- April 3, 2024

Flyers advertising these meetings were posted on the City's website and at select locations. In total, several members of the community attended and provided input on roadway safety concerns. In addition to receiving public comments, the Planning Commission members themselves were able to both share their own concerns and provide feedback from community members. Overall, the main concerns involved:

- Pedestrian crossings near schools needed more protection and/or visibility. Both elementary schools, Simpson Avenue Elementary School and Beacon Avenue Elementary School, were mentioned as concern areas for pedestrian safety. Additionally, pedestrian crossings on Church Street near the high school were mentioned.
- Speeding concerns, primarily downhill on north/south roads. The northern part of Montesano is at a higher elevation than the southern portion and several comments were made regarding the high travel speeds on the main north/south corridors.
- Sight distance problems due to on-street parking. A combination of the on-street parking and the vertical curves of the north/south roads led many respondents to identify a problem with inadequate sight distance at stop-controlled intersections. Multiple locations were mentioned but the most prominent corridor for this concern was Broadway Avenue.

5.2 Online Survey

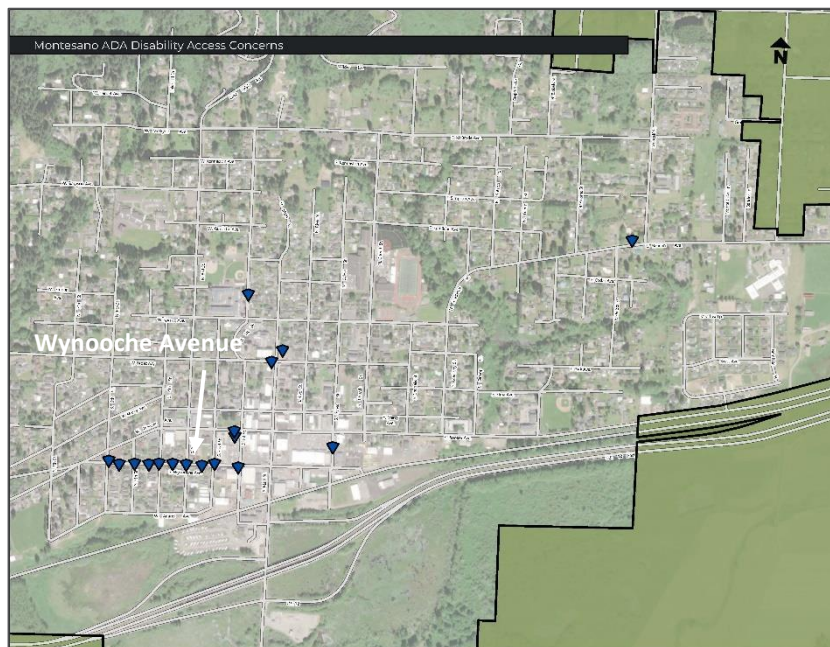
In addition to providing multiple in-person opportunities for the public to share their concerns, an online survey was also created to solicit feedback. The survey was prepared using the Maptionnaire platform

and was posted from March 14th through March 31st of 2024. Overall the survey had 50 respondents and identified several areas of concern. The survey allowed respondents to express concerns in four categories:

- ADA (Disability Access) Concerns
- Pedestrian Safety Concerns
- Automobile/Traffic Safety Concerns
- Other Concerns

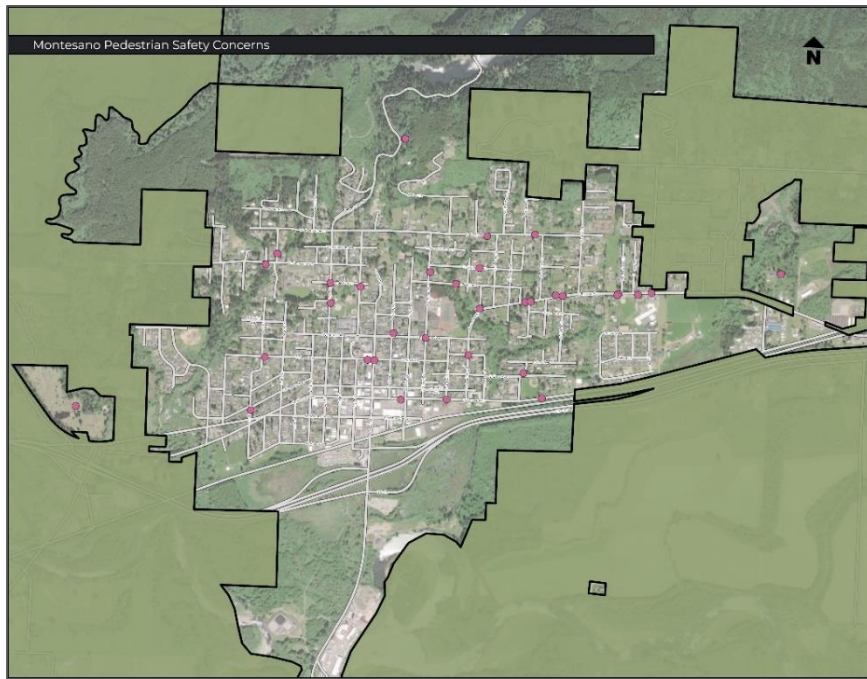
Seventeen respondents provided feedback on ADA Concerns with the locations of these concerns shown in **Figure 4**. As indicated, the majority of ADA concerns focused on Wynooche Avenue. Comments provided for these concerns focused on the lack of curb cuts for sidewalk users. Thirty-four respondents provided feedback on pedestrian safety concerns. The location of all the pedestrian concerns are provided in **Figure 5**.

Figure 4. Survey Responses – ADA Concerns



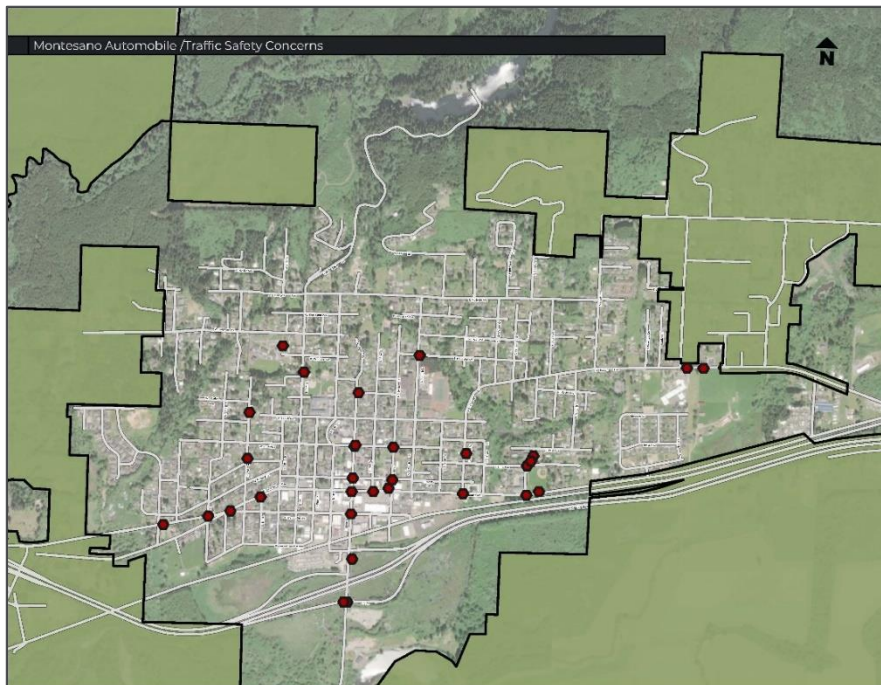
As shown in Figure 5, these concerns were spread throughout the city, with several located along Beacon Avenue in the vicinity of Beacon Elementary School. These comments focused on the need for better protection for students walking to and from school and the lack of street lighting. Overall, several comments mentioned the substandard condition of sidewalks and/or the need for additional sidewalk facilities on more roads.

Figure 5. Survey Responses – Pedestrian Safety Concerns



Thirty-four respondents provided feedback on automotive/traffic safety concerns. The location of all the automotive/traffic safety concerns are provided in **Figure 6**.

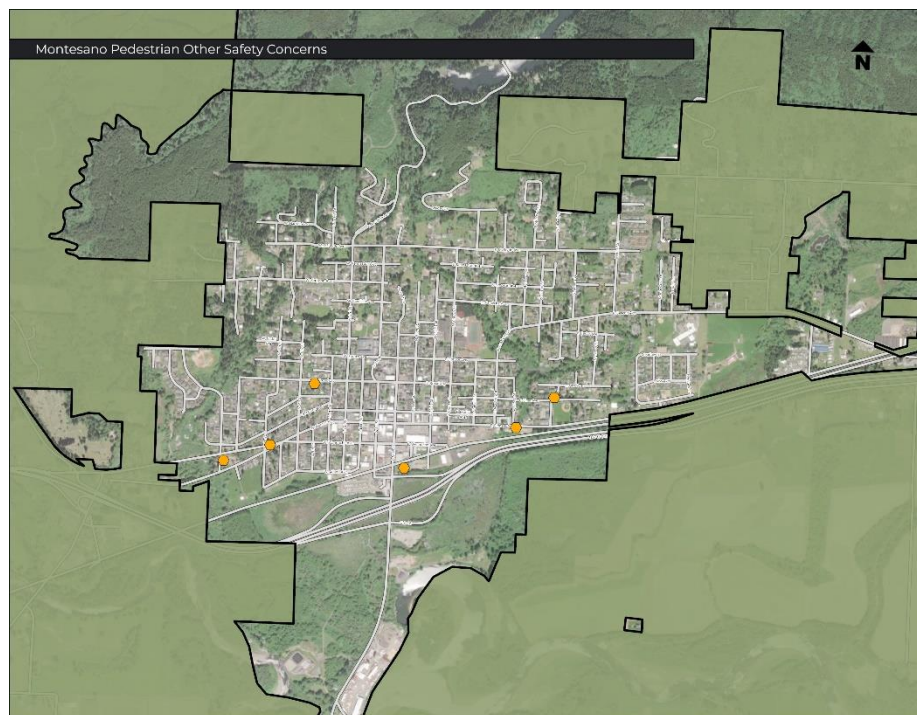
Figure 6. Survey Responses – Automotive/Traffic Safety Concerns



As shown in Figure 6, these concerns were spread along several of the main corridors in town, with Pioneer Avenue and Main Street having the largest number of responses. The majority of these comments were related to poor sight distance, related to either parked vehicles or general lack of visibility/ Speeding was also mentioned in multiple instances. These comments are in alignment with what was heard in the in-person meetings.

Six respondents provided feedback on other concerns. The location of these other concerns are provided in **Figure 7**. These comments were wide ranging and many did not relate specifically to roadway safety. Parking enforcement and sidewalk repair were mentioned. In general these comments supported the broader comments received.

Figure 7. Survey Responses – Other Concerns



5.3 Community Concerns

Overall, between the in-person meeting and the online survey, safety concerns were raised by the community in several specific areas. These included:

- **River Street** – A key segment of this north/south street serves a senior housing complex and links that development to the Thriftway Grocery store on the south side of Pioneer Avenue. The existing sidewalks along this street from the housing development to Pioneer Avenue are considered substandard based on the ADA compliance analysis and should be improved to provide for safer circulation. As noted previously, the only pedestrian crash in the city, which involved minor injury, occurred at the intersection of River Street with Pioneer Avenue.
- **Sight distance concerns**
 - **Intersection of Main Street and Broadway Avenue** – This intersection serves heavy traffic volumes from the County Courthouse and Administration building, the Sheriff's Office,

and a significant amount of indirect school traffic. The width of the intersection and the proximity to the steep slope and angled parking on South Main Street create sight distance issues for motorists and pedestrians. Almost everyone involved in public discussions concerning transportation safety brought up this intersection as a significant safety concern from either personal experience and/or observations of dangerous situations.

- **Broadway Avenue** – While specific concerns have been expressed at Main Street and Broadway Avenue, concerns have been expressed at other locations along Broadway Avenue.
- **Main Street** – Several residents have expressed difficulty with sight distance on Main Street related to on-street parking, especially related to the angled parking provided between Marcy Avenue and Broadway Avenue
- **Pioneer Avenue** – Several residents have noted difficulty with sight distance related to on-street parking.
- **Pedestrian safety at schools**
 - **Ped crossing on 3rd Street for Simpson Avenue Elementary School** – The overall vehicle circulation during drop-off and pick-up was mentioned as a concern, which heightened the issue related to the pedestrian crossings on 3rd Avenue.
 - **Pedestrian Safety on Beacon Avenue** – Several survey respondents flagged pedestrian safety on Beacon Avenue as a concern, with a concentration near the Beacon Avenue Elementary School. Circulation concerns during pick-up and drop-off were also mentioned at this school.
 - **Intersection of Kamilche Street and Church Street** – located adjacent to the Montesano High School, there are no existing crosswalks in an area with a high volume of pedestrian traffic.
- **Wynooche Avenue between 6th and Main Street** - is a primary east/west route for traffic to avoid congestion along Pioneer Avenue. As shown in Figure 5 many survey respondents noted the substandard ADA conditions on this corridor. This is corroborated by the ADA inventory data shown in Figure 15. The primary countermeasures to be considered focus on ADA compliance and enhancements to pedestrian crossings where appropriate.

This public input was used to establish specific project locations and inform the countermeasure selection. This input was also used to help develop project prioritization.

This page intentionally blank.

6 EQUITY CONSIDERATIONS

6.1 Comparison with Community Demographics

Federal regulations and guidance address the fair treatment of disadvantaged populations in the development of transportation projects. New projects must ensure potential project-related impacts are not disproportionately burdensome to these populations. An analysis of environmental justice (EJ) populations within the City of Montesano was performed to ensure the effects of crash experience does not disproportionately affect disadvantaged populations and that proposed transportation projects are equitably allocated throughout the community.

Demographic statistics on race and poverty status, as well as overall study area characteristics, are used to evaluate EJ effects. EJ populations include people of color, low-income populations, persons with limited English skills and the elderly, defined as follows:

- ◆ **People of color:** The percent of individuals in a block group⁴ who list their racial status as a race other than white alone and/or list their ethnicity as Hispanic or Latino. That is, all people other than non-Hispanic white-alone individuals. The word “alone” in this case indicates that the person is of a single race, not multiracial.
- ◆ **Low-income:** The percent of a block group’s population in households where the household income is less than or equal to twice the federal “poverty level.”⁵
- ◆ **Limited English speaking:** Percent of people in a block group living in limited English-speaking households. A household in which all members aged 14 years and over speak a non-English language and also speak English less than “very well” (have difficulty with English) is considered to be limited English-speaking.
- ◆ **Over age 64:** Percent of people in a block group over the age of 64.

Census data was gathered using EPA’s Environmental Justice Screening and Mapping Tool (EJScreen)⁶, which uses official U.S. Census Bureau 2017-2021 American Community Survey (ACS) 5-Year Estimates provided at the block group level. Six census block groups lie either fully or partially within the city limits, as shown in **Figure 8**.

To determine whether disparate impacts exist among EJ populations, ACS population data was gathered for each block group, as well as for the City of Montesano as a whole. Based on WSDOT guidance⁷, the EJ populations within the city as a whole were used as a comparison group. The comparison group percentage was divided by the percentage of EJ population in each block group to determine disparate impact; a resulting ratio of less than 0.80 indicates a disparate impact on that population.

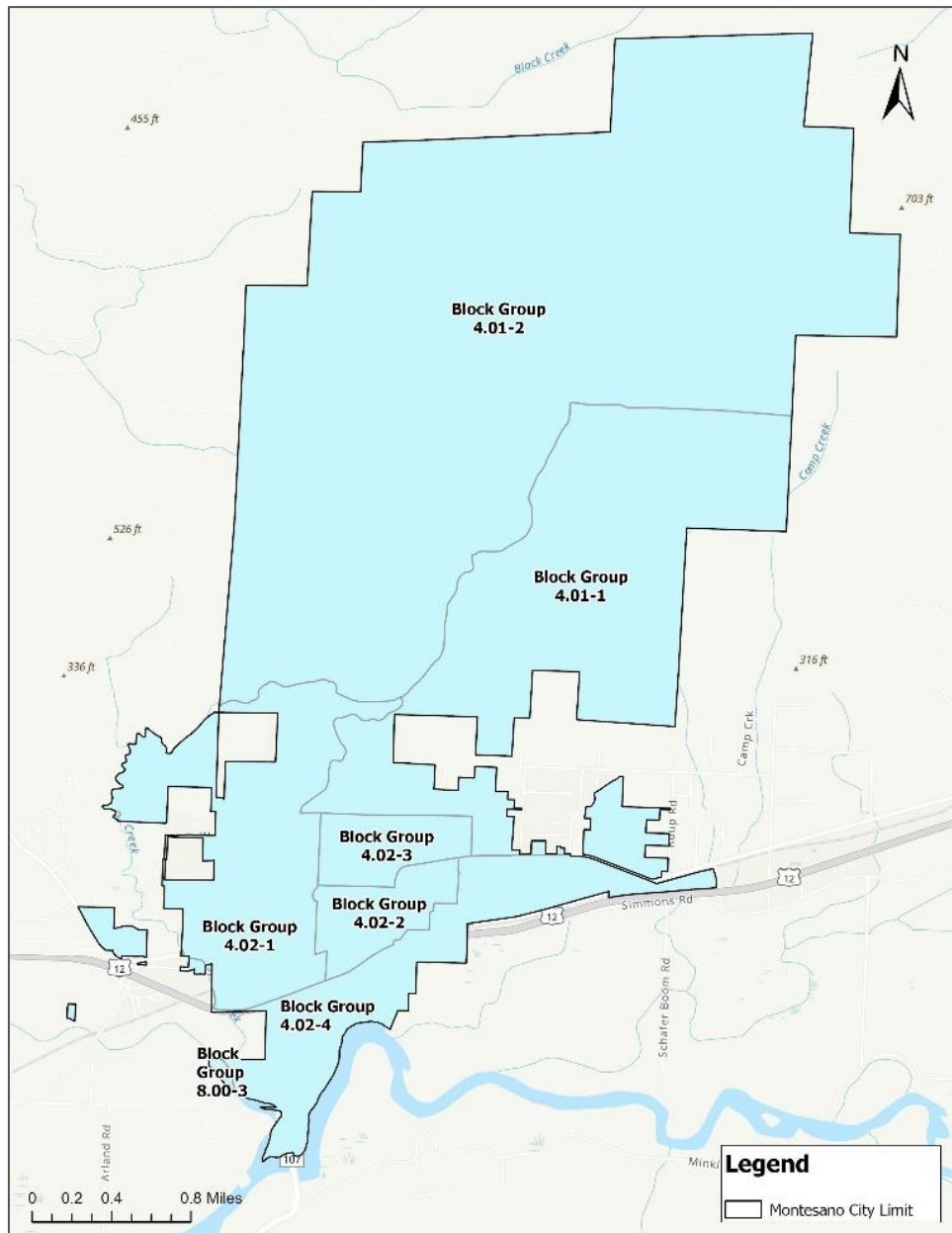
⁴ Block groups are geographic units used for data collection by the U.S. Census Bureau. A block group generally has a population of 600 to 3,000 and is the smallest geographic unit for which the Census Bureau publishes sample data.

⁵ “Overview of Socioeconomic Indicators in EJScreen,” <https://www.epa.gov/ejscreen/overview-socioeconomic-indicators-ejscreen>

⁶ EPA EJScreen Mapping Tool, <https://ejscreen.epa.gov/mapper/>

⁷ “Determining EJ Effects on Project Populations,” WSDOT, April 2020, <https://wsdot.wa.gov/sites/default/files/2021-10/Env-EJ-Tsk458dDetProjEffect.pdf>

Figure 8. Block Groups in the City of Montesano



The results of the disparate impact analysis were then compared with the crash locations in the City of Montesano to ensure there is no disproportionately high and adverse effect on any EJ population. The analysis is summarized below.

6.1.1 People of Color

Within the City of Montesano, people of color make up 8.3% of the population. Among the city’s seven block groups, people of color comprise between 1.6% and 21.7% of the population. Using the methodology described above, this analysis found disparate impact among people of color for three of the seven block groups within the City of Montesano (see **Table 12**).

Table 12. People of Color, City of Montesano

Geography	People of Color as % of Total Population	Disparate Impact Ratio*	Disparate Impact?
City of Montesano (Comparison Group)	8.3%	-	
Block Group 4.01-1	1.6%	5.19	No
Block Group 4.01-2	10.7%	0.78	Yes
Block Group 4.02-1	13.1%	0.63	Yes
Block Group 4.02-2	8.9%	0.93	No
Block Group 4.02-3	7.6%	1.09	No
Block Group 4.02-4	21.7%	0.38	Yes
Block Group 8.00-3	5.7%	1.46	No

Source: ACS 2017-2021 5-Year Estimates, Table S1701; EIScreen

*To determine disparate impact: divide **comparison group** percentage by **block group** percentage; if result is less than 0.80, there is disparate impact.

6.1.2 Low-Income Populations

Within the City of Montesano as a whole, low-income households make up 39.2% of the population. Among the city’s seven block groups, the low-income population ranges from 8.0% to 45.2%. The analysis found no disparate impact among low-income populations in the City of Montesano (see **Table 13**).

Table 13. Low-Income Population, City of Montesano

Geography	Low-Income Pop. as % of Total Population	Disparate Impact Ratio*	Disparate Impact?
City of Montesano (Comparison Group)	39.2%	-	
Block Group 4.01-1	45.2%	0.87	No
Block Group 4.01-2	14.4%	2.72	No
Block Group 4.02-1	42.3%	0.93	No
Block Group 4.02-2	29.4%	1.33	No
Block Group 4.02-3	15.0%	2.61	No
Block Group 4.02-4	41.3%	0.95	No
Block Group 8.00-3	8.0%	4.90	No

Source: ACS 2017-2021 5-Year Estimates, Table S1701; EIScreen

*To determine disparate impact: divide **comparison group** percentage by **block group** percentage; if result is **less than 0.80**, there is disparate impact.

6.1.3 Limited English-Speaking Households

Within the City of Montesano as a whole, Limited English-speaking households make up 0.6% of the population. Among the city’s seven block groups, the percentage of Limited English-speaking households ranges from 0 to 3.5%. The analysis found no disparate impact among Limited English-speaking households in the City of Montesano except for one (see **Table 14**).

Table 14. Limited English-Speaking Population, City of Montesano

Geography	Limited English-Speaking Pop. as % of Total Population	Disparate Impact Ratio*	Disparate Impact?
City of Montesano (Comparison Group)	0.6%	-	
Block Group 4.01-1	0.0%	-	No
Block Group 4.01-2	0.0%	-	No
Block Group 4.02-1	0.0%	-	No
Block Group 4.02-2	0.0%	-	No
Block Group 4.02-3	0.0%	-	No
Block Group 4.02-4	0.0%	-	No
Block Group 8.00-3	3.5%	17.1	Yes

Source: ACS 2017-2021 5-Year Estimates, Table S1601; EJScreen

*To determine disparate impact: divide **comparison group** percentage by **block group** percentage; if result is **less than 0.80**, there is disparate impact.

6.1.4 Over Age 64

Within the City of Montesano as a whole, people over the age of 64 make up 25.4% of the population. Among the city’s seven block groups, the percentage of people over the age of 64 ranges from 15.3% to 31.8%. The analysis found no disparate impact among over Age 64 populations in the City of Montesano (see **Table 15**).

Table 15. Population Over Age 64, City of Montesano

Geography	Pop. over age 64, as % of Total Population	Disparate Impact Ratio*	Disparate Impact?
City of Montesano (Comparison Group)	25.4%	-	
Block Group 4.01-1	18.0%	1.41	No
Block Group 4.01-2	22.3%	1.14	No
Block Group 4.02-1	31.8%	0.80	No
Block Group 4.02-2	18.4%	1.38	No
Block Group 4.02-3	30.9%	0.82	No
Block Group 4.02-4	26.1%	0.97	No
Block Group 8.00-3	15.3%	1.66	No

Source: ACS 2017-2021 5-Year Estimates, Table DP05; EJScreen

*To determine disparate impact: divide **comparison group** percentage by **block group** percentage; if result is **less than 0.80**, there is disparate impact.

6.1.5 Effects on EJ Populations

EJ population concentrations were compared with crash locations to determine whether existing crash experience has a disproportionately high and adverse effect on any EJ population in the City of Montesano. The percentage of EJ populations within each block group is represented graphically in **Figures 9, 10, 11, and 12** with crash locations overlaid on the census data. Property damage is the most common crash type throughout the city, with higher concentrations along Pioneer Road and 1st Street.

As noted above, no disparate impact was found for low-income populations or populations over age 64 in Montesano. The analysis indicated a disparate impact for Limited English-speaking populations in block group 8.00-3, which makes up a very small portion of the Montesano's land area in the far southwest corner of the city. This area has a very low concentration of crashes. Combined with the small impact area, this impact is considered minor.

The analysis also indicated a disparate impact for people of color in block groups 4.01-2, 4.02-1, and 4.02-4, two of which (4.02-1 and 4.02-4) are adjacent to the area along Pioneer Road and 1st Street where crashes are more highly concentrated. Because the density of crashes is notably higher in the vicinity of these two block groups, these populations of color are taken into consideration during the identification, development, and prioritization of projects.

Figure 9. Percentage of People of Color by Block Group as Compared to Crash Locations

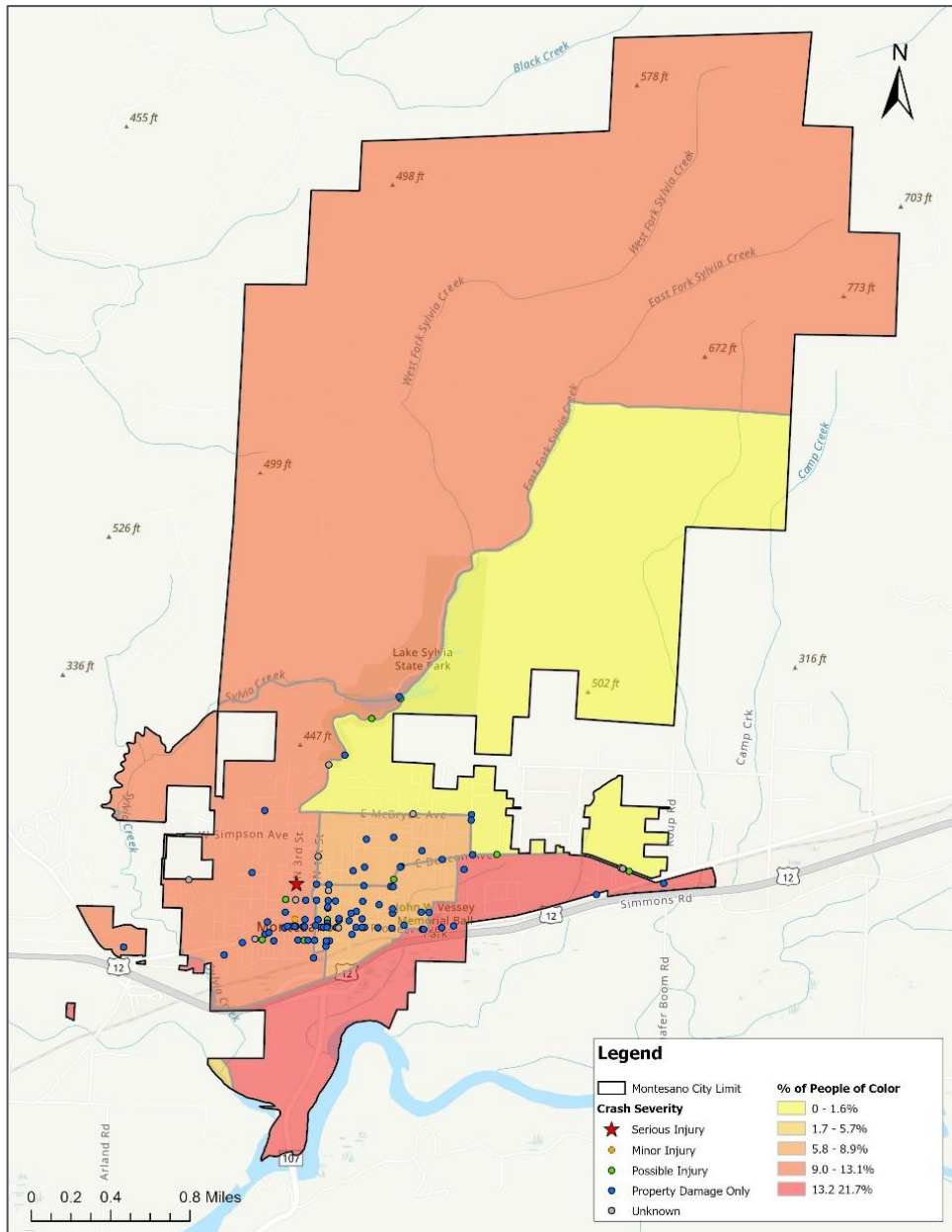


Figure 10. Percentage of Low-Income Population by Block Group as Compared to Crash Locations

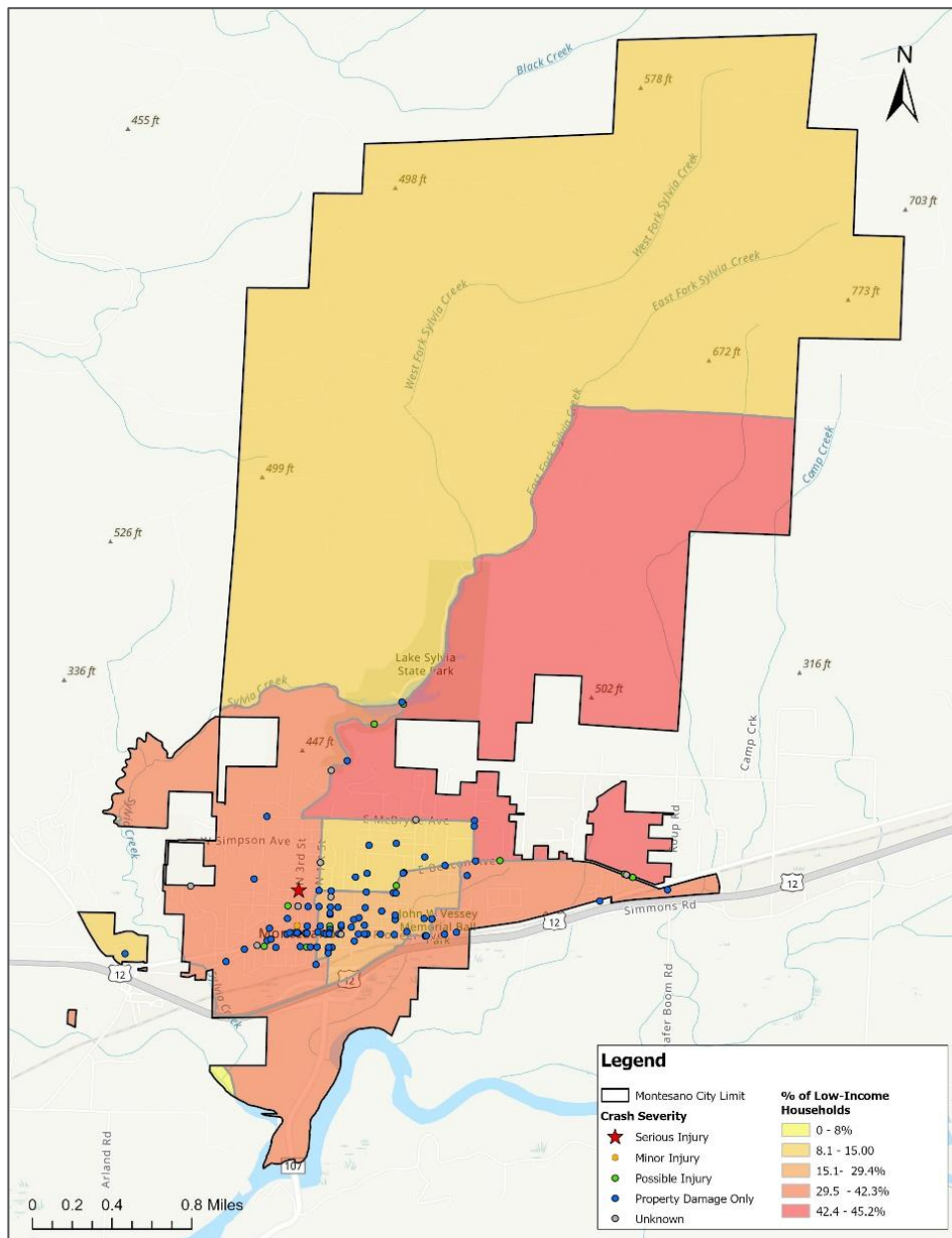


Figure 11. Percentage of Limited English Speaking by Block Group as Compared to Crash Locations

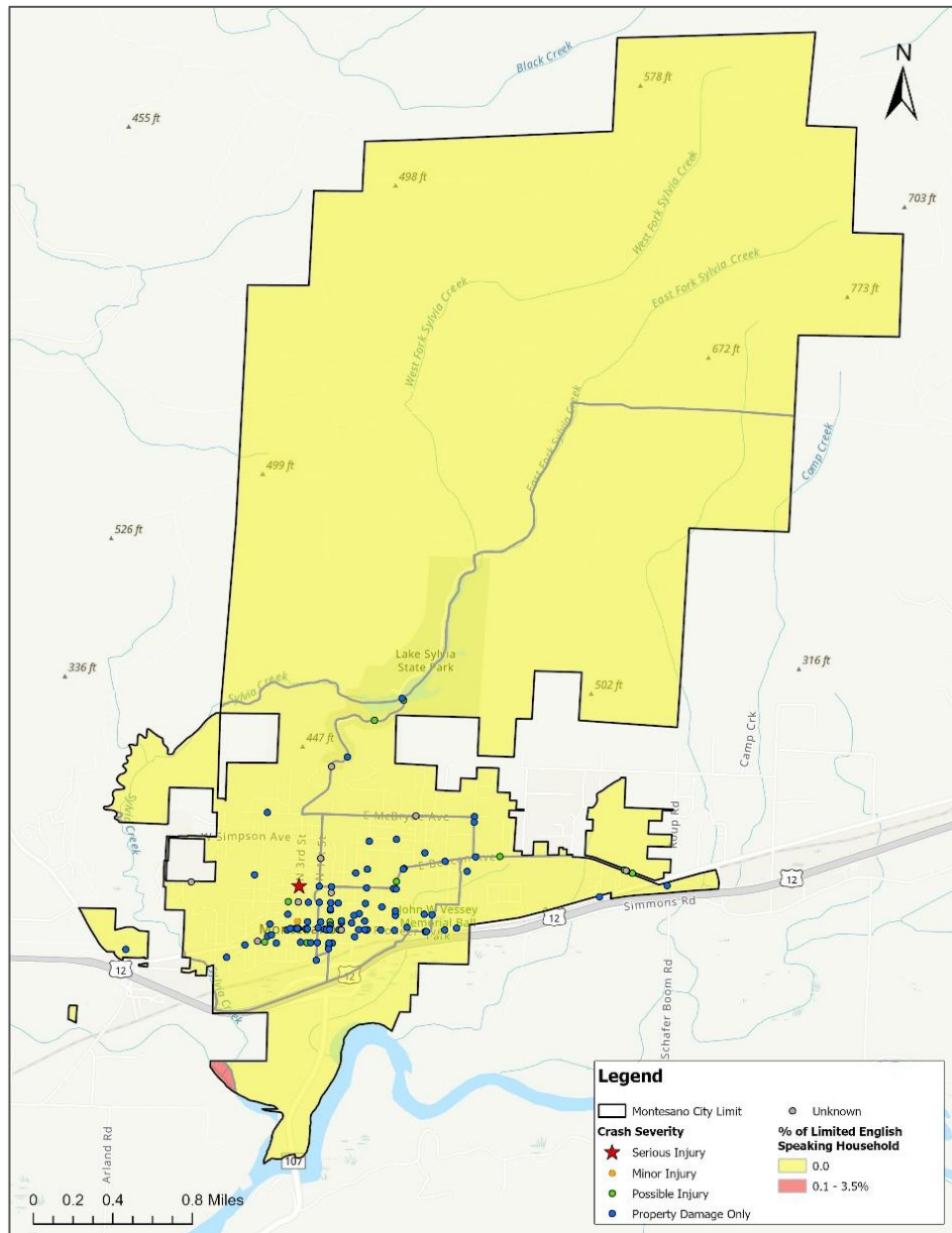
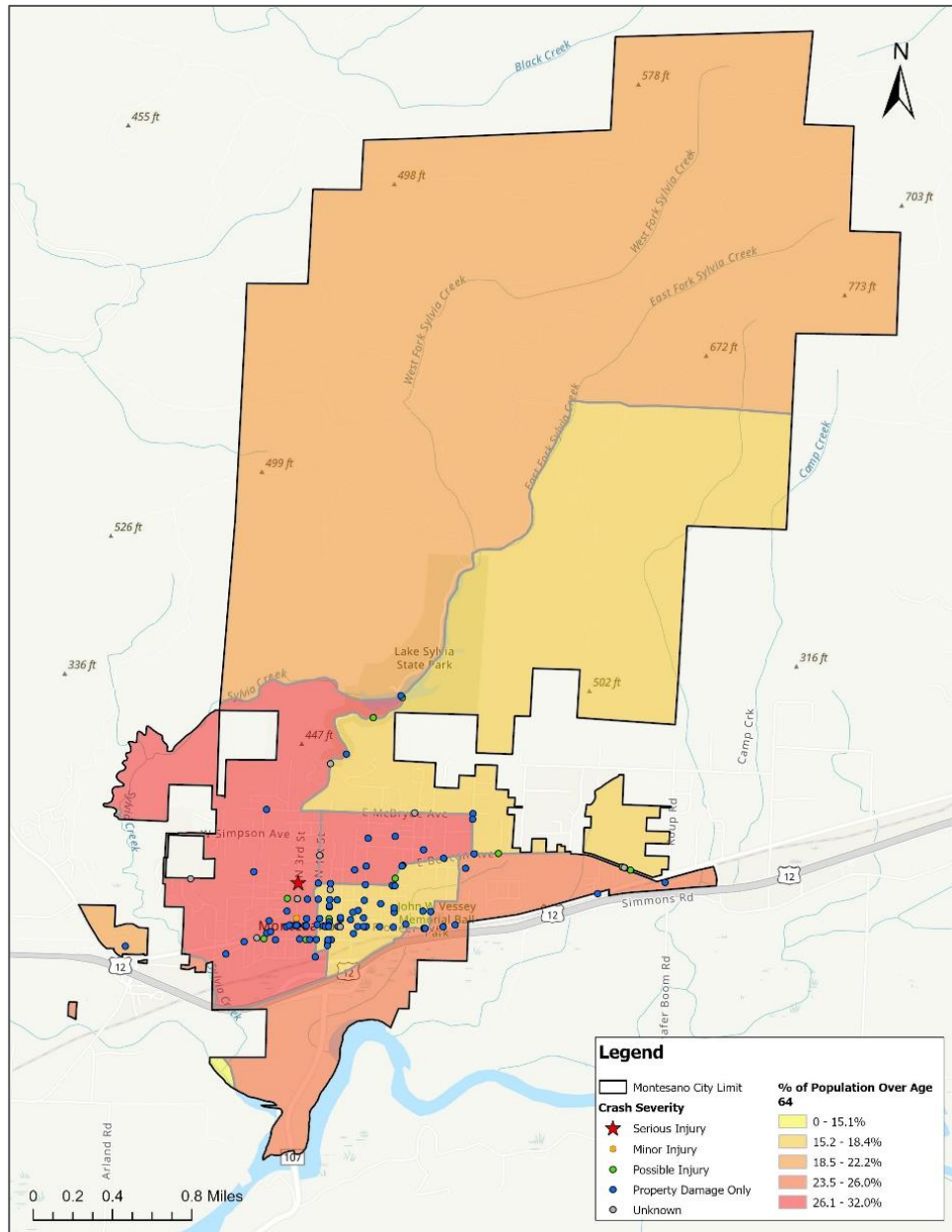


Figure 12. Percentage of People Over Age 64 by Block Group as Compared to Crash Locations



This page intentionally blank.

7 PLANNING CONTEXT

This chapter addresses the planning and policy context within which the *Safety Action Plan* was developed and will be monitored and maintained over time. Specific topics that are discussed include:

- An assessment of current policies, plans, guidelines and/or other standards that provide opportunities to improve how transportation safety issues are identified, and improvements are developed and prioritized.
- Identification of revised policies, guidelines or standards that address the implementation of transportation safety improvements.

7.1 City Plans and Policies Related to Transportation Safety

The existing Montesano *Comprehensive Plan* establishes a vision, goals and policies that prioritize the protection of public health and safety as a key responsibility of the city. The *Comprehensive Plan* provides “*deliberate and consistent tools*” to achieve this objective. More specifically, the *Transportation Element* of the Plan includes a broad policy statement that speaks to providing for the safe and cost-effective movement of goods, services, and people. It also includes a specific goal that relates to maintaining and extending “*a safe pedestrian system promoting functional and recreational walking. This would include sidewalk improvements and pathway links to recreational areas.*” Additionally, the Transportation Element speaks to the provision of a transportation system that allows for “*easy access into and out of the city, and between different parts of the city in such a way as to maximize convenience but minimize compromises in safety and incompatible usages.*”

The *Safety Action Plan* relies on the goal and policy statements provided by the existing *Comprehensive Plan* and *Transportation Element* for guidance in the development and implementation of improvements. Moving from the more generalized statements in the Plan, a specific action strategy has been developed in this *Safety Plan* based on the data that was collected and analyzed, and recommended improvements were identified and prioritized. As shown in the data, key problem locations include intersections with angle crashes, as well as crashes fixed objects or parked vehicles. The lack of or substandard condition of pedestrian facilities within the community is also considered a systemic problem.

Concurrent with the development of the *Safety Action Plan*, the City of Montesano has conducted an in-depth evaluation of ADA compliance in its transportation system. The city had adopted policy with respect to compliance with the Americans with Disabilities Act (ADA), identifying it as critical to a healthy (and safe) community. As noted in Chapter 8 of this document, the evaluation of ADA compliance provides a sound framework for the identification and prioritization of pedestrian accessibility and safety improvements. As noted in the draft *ADA Program Access Plan*, priority improvements focus on removing barriers in areas with public complaints, areas with a high concentration of population with disabilities, and intersections and roadway segments that serve public facilities like schools, government offices, medical facilities, and transit.

The city is also currently engaged in the development of a Complete Streets Policy and Plan consistent with WSDOT requirements. This policy and Plan provide guidance on the development and prioritization of transportation improvements to meet the systemic safety needs associated with vulnerable users such as pedestrians and bicyclists within the community.

The City of Montesano has also adopted Street Standards which guide the development and improvement of safe transportation infrastructure within the community. These standards will guide the development and implementation of all safety-related improvements within the community.

7.2 Suggested Modifications to Safety Policy

As noted above, the City of Montesano has adopted plans, policy statements and standards that address the importance of transportation safety in the city's governance process. In addition, the city is preparing and plans on adopting two additional documents that will further highlight the community's commitment to improved transportation safety – an *ADA Program Access Plan* and a Complete Streets Policy and Plan.

Suggested modifications to the city's existing safety policy include:

- Adoption of this *Safety Action Plan* through City Council resolution.
- Adoption of the *ADA Program Access Plan* that includes a prioritized list of improvements and a process for community input into the identification and selection of improvements.
- Adoption of a Complete Streets Policy and Plan that establishes policy guidance and identifies prioritized improvements to enhance the travel safety of vulnerable users including bicyclists and pedestrians.
- Development of a process within the city with supportive policy guidance that establishes a complaint procedure to address safety concerns within the city, particularly as they affect vulnerable users and high priority improvement locations.
- At such time as the City updates its *Comprehensive Plan* and *Transportation Element*, consideration should be given to including additional policy guidance on transportation safety for all travel modes.

Some of the guidance to be provided by these two plans include locations for sidewalk replacement, safer pedestrian crossings, intersection control improvements and integration of trails all of which have a strong correlation to the spot and systemic problems identified in the *Safety Action Plan*.

8 STRATEGY AND PROJECT SELECTION

8.1 Identification of High Priority Locations Based on Crash Analysis

Based on the foregoing analysis of crash data including one severe crash and one vulnerable user crash, the *Safety Action Plan* will focus on six major travel corridors within the city. For a variety of reasons related to crash history, the functional importance of each corridor within the community, public input, and consideration for the disparate impact of crash history on persons of color, these have been identified as priorities for consideration in the development of spot and/or systemic improvements within the city. The corridors include:

- East and West Pioneer Avenue - experienced a total of 37 crashes, primarily at intersections, with an additional ten crashes occurring on other streets where they intersected Pioneer Street. One of these crashes involved a pedestrian at the intersection with River Street.
- Wynooche Avenue – experienced a total of ten crashes of which two involved possible injuries. This corridor was also identified as having a high level of ADA user complaints.
- Third Street/Lake Sylvia Road – experienced a total of ten crashes including the one noted above involving a serious injury and one involving minor injuries.
- Main Street – experienced a total of 26 crashes, including four that involved possible injury.
- Broadway Avenue - experienced a total of 11 crashes of which two involved possible injuries.
- Spruce Avenue – experienced a total of 11 crashes of which six occurred in the more developed portions of the city with three occurring between Main and 3rd Streets. The one serious crash in the city occurred at the intersection of Spruce Avenue with 3rd Street.

Further discussion of spot and systemic safety improvement needs along these corridors is presented in the following discussion.

8.2 Assessment of Crash Priority Locations

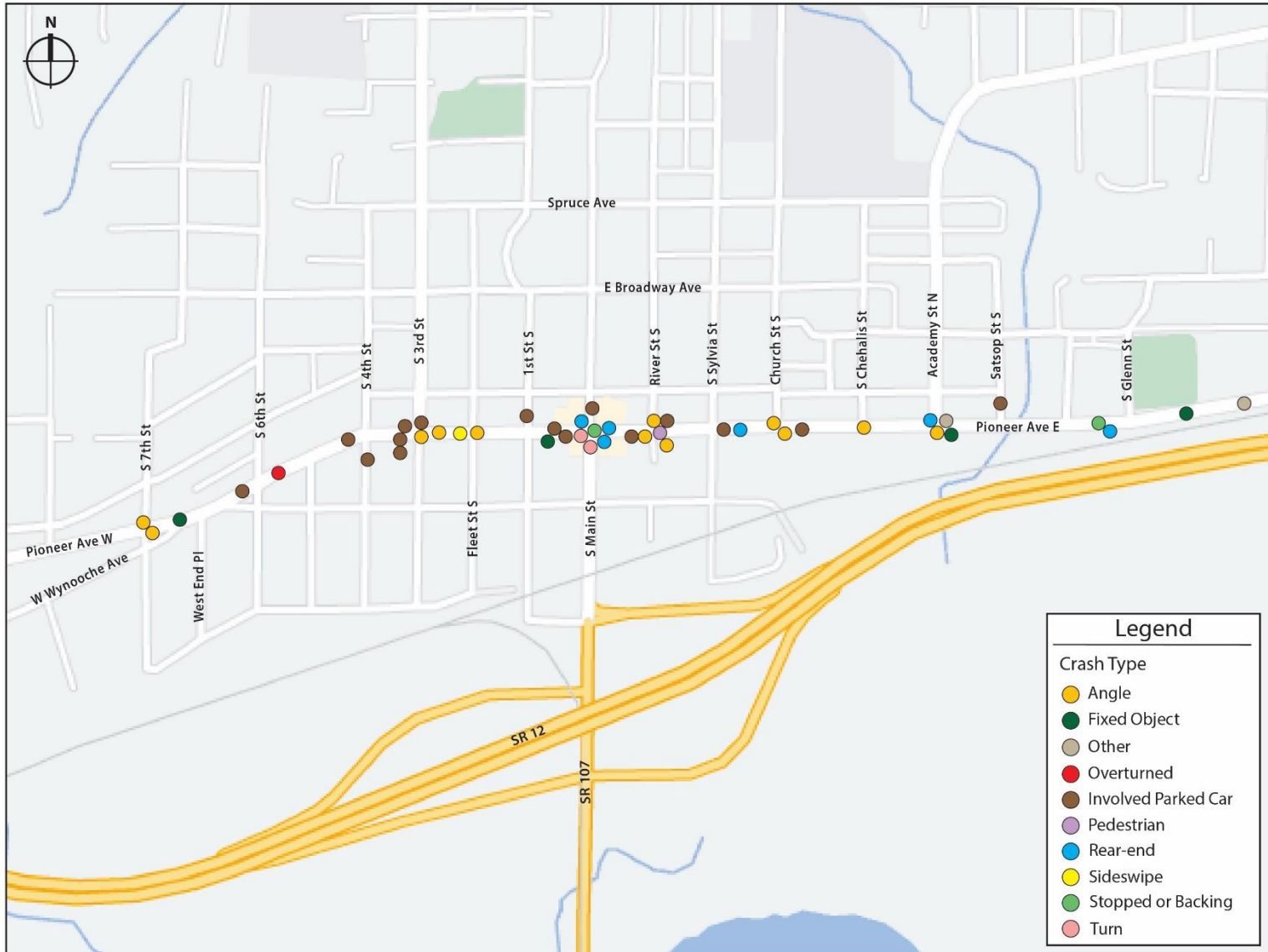
8.2.1 Pioneer Avenue

As noted, Pioneer Avenue experienced a total of 47 crashes along its length within the city during the five plus year analysis period. This total included 37 crashes caused by vehicles moving along this street with an additional ten crashes occurring adjacent to Pioneer Avenue on intersecting streets. These crashes can be clearly seen in **Figure 13**.

One vulnerable user crash in the city occurred at the intersection of Pioneer Avenue with River Street and involved a vehicle hitting a pedestrian and incurring a suspected minor injury. Review of data also indicates that there has been a cluster of crashes around the intersection of Pioneer Avenue with Main Street including both rear end and turning collisions. This is the only signalized intersection within the city. The most significant crash type at this intersection are angle collisions which are the most significant crash type in the city as a whole. About 25 percent of the crashes along Pioneer Avenue involve angle collisions. The second most prevalent crash type along this street involved parked cars entering, leaving, or resting in place.

In recent years, the city has constructed improvements along Pioneer Avenue, with a particular focus on enhancing the safety and comfort of the pedestrian environment. These improvements have included

Figure 13. Crashes on Pioneer Avenue



new sidewalks and the addition of curb extensions that both reduce the pedestrian street crossing distance and enhance protection and visibility for cars that are parallel parked along the edge of the street. Recent improvements were made largely along East Pioneer Avenue, especially in the vicinity of River and Sylvia Streets near the grocery store, and more generally between Main Street and Church Street. The section of West Pioneer from Main Street to 4th Street will be reconstructed in 2024 and the section for 6th to 7th is currently under design and will be reconstructed in 2030.

The focus of this Safety Plan will be on West Pioneer Avenue for systemic improvements with similar treatments to improve sight distance and better manage on-street parking and to shorten pedestrian crossing distances. Pioneer Avenue is one of the major streets within the city, carrying out an important regional, multimodal transportation function. This street parallels US 12 and provides local option for east/west community connectivity. It also provides direct access to an important community resource – the John W Vessey Memorial Ball Park which attracts both pedestrian and vehicular traffic.

8.2.2 Wynooche Avenue

Ten crashes occurred along Wynooche Avenue between 3rd and Main Streets, eight of which involved crashes on Wynooche Avenue itself and two on cross-streets. These crashes included three at 1st Street two at Fleet Street, one each at 3rd Street, 5th Street, 6th Street, 10th Street and Main Street. The most prevalent type of crash along this street include angle collisions (1/2 of all crashes) followed by hitting parked cars (at 20 percent). Wynooche Avenue is severely deficient with regard to pedestrian mobility and safety which has been noted by the planning task force, the Planning Commission, input received from the online survey, and the results of the ADA compliance analysis.

8.2.3 3rd Street/Lake Sylvia Road

Ten crashes occurred at intersections on 3rd Street, two involving traffic traveling along this street and eight on cross streets where they intersected 3rd Street, one of which involved a minor injury (at Marcy Street). The eight additional crashes occurred at intersections with 3rd Street including six with Pioneer Avenue, one with Wynooche Avenue and one with Spruce Avenue where a serious injury occurred. The two most prevalent crash types along this street involve angle collisions or parked cars. Together, these two crash types involved 80 percent of the crashes along 3rd Street.

3rd Street/Lake Sylvia Road serves a significant regional traffic function in the city as it connects developed parts of the city and the US 12 corridor with Lake Sylvia State Park – a highly attractive destination that attracts over 20,000 visitors each year. 3rd Street also provides indirect access to Simpson Elementary School and direct access to Kelsey Park, including ball fields. These two locations are attractive generators of pedestrian traffic within the community, so pedestrian safety is a significant concern.

Concern has been expressed by the city and community about speeding along this street which has stretches of steep slopes and some limited sight distance. There has been consideration given to installing a four-way stop at the intersections of 3rd Street with Spruce Avenue and Simpson Avenue. Further analysis of these improvements is needed before a recommendation can be made.

8.2.4 Main Street

Twenty-six crashes occurred at intersections on Main Street. Sixteen of these involved vehicles traveling on Main Street itself, while the other ten occurred at intersections with Main Street including six on

Pioneer Avenue, two on Broadway Avenue, and one each on Satsop Street and Wynooche Avenue. The two most prevalent crash types along this street involved angle collisions or parked cars. Over 50 percent of the crashes along Main Street involved one or the other of these two crash types.

Main Street is a regionally significant north/south street that connects the city to US 12 and SR 107. Significant pedestrian attractors are located along this street including city hall, the Grays Harbor District Courthouse, the city library, and part of the downtown commercial core area. Segments of this street have a steep vertical grade and concern has been raised about speeding by the city and the community.

8.2.5 Broadway Avenue

Eleven crashes occurred along Broadway Avenue, five involving vehicles on the street itself and six involving vehicles on cross-streets at intersections with Broadway Avenue. These crashes included two at Main Street and one each at 3rd Street, 1st Street, Church Street, and Chehalis Street. The most prevalent crash types along this street include angle collisions (nearly half) and collisions involving parked cars (at over 25 percent).

Similar to Spruce Avenue, Broadway Avenue is an east-west street that is generally stop-controlled at key intersections with north/south streets. Concern has been expressed about speeding on the north/south intersecting streets and also sight distance.

8.2.6 Spruce Avenue

As noted, Spruce Avenue experienced a total of 11 crashes along its length within the city during the five plus year analysis period. This total included five crashes along the street itself and six crashes occurring adjacent to Spruce Avenue on intersecting streets. A suspected serious crash occurred on Spruce Avenue at the intersection with 3rd Street. This crash involved an angle collision and resulted from a motorist under the influence of alcohol. Most crashes along Spruce Avenue involve angle collisions or hitting fixed objects. Over half the crashes on this street were angle collisions, while just over one quarter involved fixed objects. Concern has been expressed about speeding on this street and also sight distance, particularly at the intersection with 3rd Street.

Spruce Avenue serves an important transportation function in the city as it connects to both the Montesano Middle School and the Senior High School and associated sports facilities. Spruce Avenue is one of the northernmost east/west continuous streets in the city and is generally stop controlled at key intersections with north/south streets. The city has made recent sidewalk improvements along Spruce Avenue in the vicinity of Montesano High School.

8.2.7 Summary

Due to the low number of recorded severe and vulnerable user crashes, the analysis in this report has focused on the need for systemic improvements. These improvements include Pioneer Avenue, Main Street, and other locations where the city has identified system deficiencies that particularly affect vulnerable users. Systemic improvements will help to reduce the potential for future severe crashes.

The analysis of crash history in this chapter will be augmented by a comprehensive survey of intersections and pedestrian crossings throughout the city to identify locations where Americans with Disabilities (ADA) standards are not met. This process and its conclusions are described in the following section.

8.3 ADA Inventory and Compliance

Concurrent with this *Safety Action Plan* effort the city is in the process of preparing an Americans with Disability Act (ADA) compliance plan. This compliance plan includes an inventory of existing sidewalks and intersection curb ramps in the city. This section discusses the inventory efforts that have occurred and presents the initial compliance findings.

8.3.1 ADA Inventory

As part of the ADA Compliance plan an inventory was conducted of existing sidewalks and curb ramps in the city. This inventory work focused on primary corridors in the city and evaluated intersection curb ramps and sidewalk segments. The inventory evaluations were conducted following standards outlined in:

- Public Right-of-Way Accessibility Guidelines (PROWAG) - Chapter 3 -Technical Requirements
- Chapter 1510 of the WSDOT Design Manual

The results of the inventory work are provided in **Figure 14**. This figure shows each location that was included in the inventory work and whether the facility currently meets ADA standards.

8.3.2 ADA Inventory Results

As shown in Figure 10, the majority of existing facilities in the city are currently failing to meet current ADA standards. Notable exceptions are portions of E Pioneer Avenue and E Spruce Avenue, for which the city has recently completed roadway upgrades. In general, there were two primary deficiencies identified in the inventory:

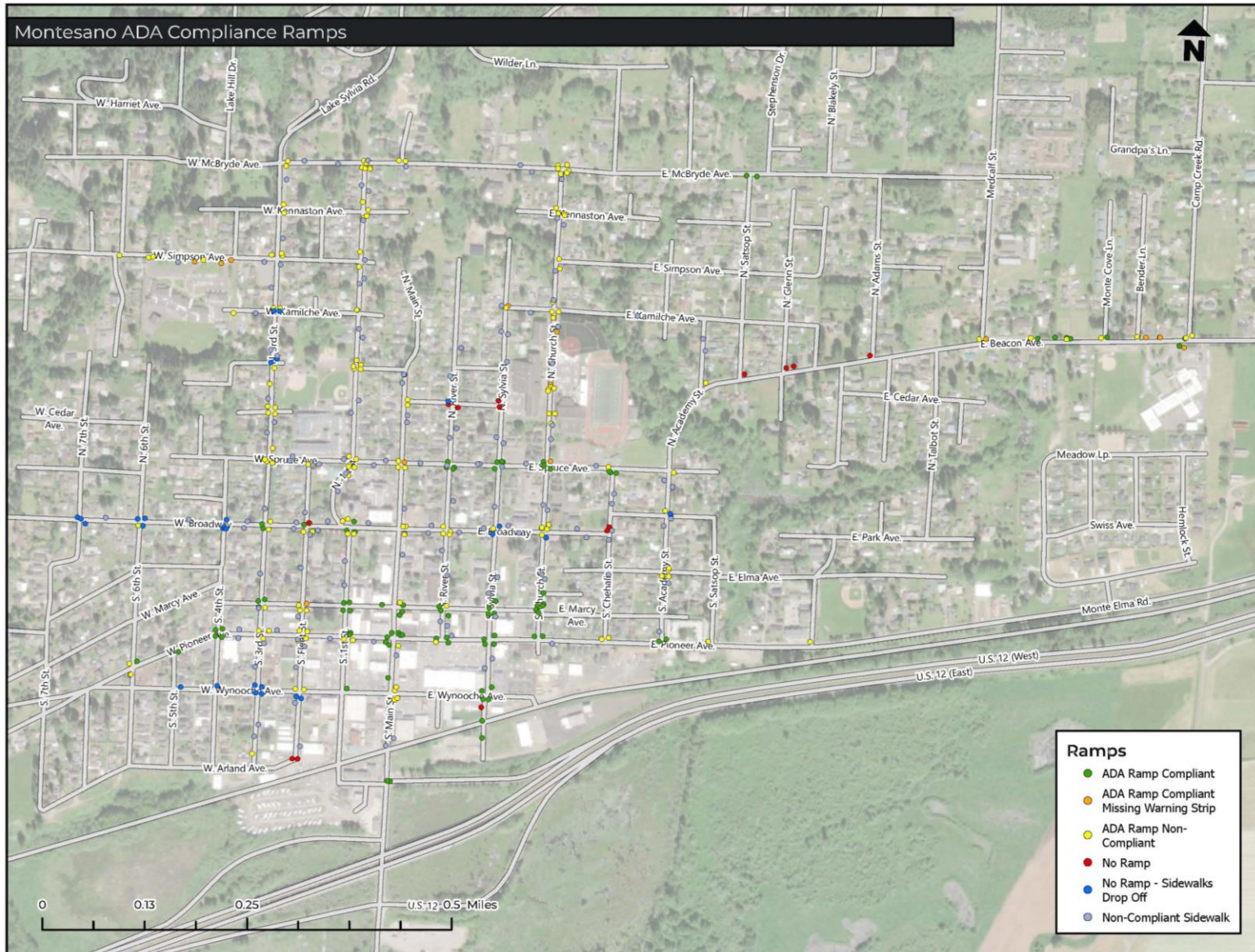
- Intersection Curb Ramps. The majority of intersection curb ramps in the city were identified as deficient. While there are several specific design features that can cause a curb ramp to register as non-compliant, most of these would result in the need for a reconstruction of the ramp and, as such, the individual non-compliant element is not discussed in this report.
- Sidewalk transitions at driveways. Within the sidewalk segment analysis the intersection of the sidewalk with a driveway was the primary non-compliant issue. This occurs when the driveway slopes down to the roadway surface through the sidewalk, providing a cross slope for all sidewalk users.

A full breakdown of the ADA inventory results will be presented in the *ADA Compliance Plan*. For the purposes of this *Safety Action Plan* the results along the priority corridors were reviewed. These priority corridors, except for parts of E Pioneer Avenue and E Spruce Avenue, are largely non-compliant.

8.4 Summary of Conclusions for Crash and ADA Analysis

This section presents a synthesis of the crash analysis results described in Chapter 4, the community concerns documented in Chapter 5, and the ADA compliance assessment results included in Section 8.3. ADA compliance analysis points to a systemic safety problem identified in the city which focuses on vulnerable users of the transportation system including both pedestrians and bicyclists. A synthesis of these three analysis pathways for each of the priority corridors is described below:

Figure 14. ADA Compliance Inventory Locations



8.4.1 Pioneer Avenue

Key safety issues affecting Pioneer Avenue include a frequency of angle crashes as well as crashes involving parked cars. The only pedestrian crash in the city, which involved minor injury, also occurred in this corridor at the intersection with River Street. ADA compliance analysis takes the crash assessment one step further by focusing on the safety and mobility needs of pedestrians and can be used to address potential future safety issues in a systemic fashion. Along W Pioneer Avenue most of the intersection curb ramps are identified as non-compliant by current ADA standards, along with several portions of sidewalk.

As noted earlier, the City of Montesano has completed some pedestrian improvements in the Pioneer Avenue corridor and will shortly begin two additional projects that continue to focus on the pedestrian system. Countermeasures to be implemented in this corridor should address the angle and parked car crashes, as well as pedestrian enhancements, reflecting the land use context of this corridor as the commercial core of the city.

8.4.2 Spruce Avenue

Safety issues along Spruce Avenue were concentrated on angle crashes and collisions with fixed objects. One of the angle crashes resulted in a serious injury. Concern has also been expressed about speed along this street.

Between 3rd Street and Main Street every intersection curb ramp was identified as non-compliant by current ADA standards and several portions of sidewalk were also identified as non-compliant. East of Main Street there were several sidewalk segments identified as non-compliant, but the majority of intersection curb ramps along this portion of the street meet current ADA standards. West of Main Street curb ramps.

8.4.3 3rd Street/Lake Sylvia Road

Similar to Pioneer Avenue, safety issues along 3rd Street were also concentrated on angle crashes and collisions with parked cars. One of the angle crashes resulted in a serious injury (the same crash as identified above which occurred at the intersection of 3rd Street with Spruce Avenue). Community concern has been expressed about speeding along this street as well as locations with limited sight distance.

With the exception of Marcy Avenue and the west side of Broadway Avenue, all curb ramps and sidewalk segments were identified as non-compliant by current ADA standards.

8.4.4 Main Street

As with several of the earlier streets mentioned, the predominate crash type along Main Street involved angle collisions, followed by crashes involving parked cars. Over 50 percent of the crashes along Main Street involved one or the other of these two crash types. Concern has been expressed about speeding along this street.

The intersection curb ramps at Main Street/Pioneer Avenue and Main Street/Marcy Avenue are largely ADA compliant. However, the curb ramps and pedestrian crossings at intersections north and south of this portion of Main Street are poorly configured with numerous “near misses” for both pedestrians and

motorists as characterized by our discussions with the community. The highest priorities are to correct Main Street intersection design at Marcy Avenue and Broadway Avenue.

8.4.5 Broadway Avenue

Crashes along Broadway Avenue occurred at several intersections and focused on angle collisions and parked car crashes. A key community issues along this east/west corridor has to do with its geometric layout where motorists on intersecting streets immediately to the south are traveling downhill when they reach certain portions of Broadway Avenue which can result in higher speeds approaching the intersection. Additionally, concern was expressed about intersection sight distance limitations related to overgrown vegetation and cars parked close to the intersection.

The intersection of Main Street at Broadway Avenue serves heavy traffic volumes from the County Courthouse and Administration building, the Sherriff's Office and a significant amount of indirect school traffic. The width of the intersection and the proximity to the steep slope and angled parking on South Main Street create sight distance issues for motorists and pedestrians. Almost everyone involved in public discussions concerning transportation safety has brought up this intersection as a significant safety concern from either personal experience and/or observations of dangerous situations.

All curb ramps and sidewalk segments on E Broadway Avenue were identified as non-compliant by current ADA standards. While there are individual locations on W Broadway Avenue that do meet current ADA standards, the majority of locations inventoried were identified as non-compliant as well. As noted above, the intersection of Broadway Avenue with Main Street is a high priority location for improvement.

8.4.6 Wynooche Avenue

Wynooche Avenue between 3rd and Main Streets is a primary east/west route for traffic to avoid congestion along Pioneer Avenue. As shown in Figure 6, it is severely deficient with regard to pedestrian mobility and safety. The primary countermeasures to be considered focus on ADA compliance and enhancements to pedestrian crossings where appropriate. Ten crashes were reported along this street segment, half of which involved angle collisions at intersections.

8.4.7 River Street

Safety concerns on this street were identified by the community and focused on connecting senior housing with a grocery store across Pioneer Avenue. Sidewalks in the focused study area between Broadway Avenue and Pioneer Avenue are substandard based on the ADA compliance analysis. Eight crashes occurred along this two-block street segment including one involving a pedestrian at the intersection with Pioneer Avenue.

8.4.8 Kamilche Avenue at Church Street

There is a lack of crosswalks near Montesano High School, an area with high pedestrian traffic.

8.4.9 Academy Street

Crashes along Academy Street were about equally split between intersections and roadway segments between intersections and involved a variety of different crash types. More than half the crashes along this street involved hitting a fixed object or parked car. Only one crash involved a possible injury while

the rest involved property damage only. Many of the intersections along Academy Street are ADA deficient.

8.4.10 Beacon Avenue

There were three possible injury crashes along Beacon Avenue with the remainder involving only property damage or were of unknown severity. Near half of the crashes along this street involved angle collisions, followed by hitting fixed objects. Many of the intersections and street segments along Beacon Avenue are ADA deficient. Beacon Avenue is significant to the city's transportation system as it provides an east/west connection that serves Beacon Avenue Elementary School and other destinations on the east side of the city. Significant opportunities exist in this corridor for pedestrian safety enhancements.

8.4.11 Satsop Street

Crashes on Satsop Street involved rear end and parked car collisions. Currently there are no sidewalks provided on Satsop Street. Construction of sidewalk on at least one side of the corridor will improve pedestrian safety and access to/from Beacon Elementary School.

8.4.12 Medcalf Street

Crashes along Medcalf Street were evenly split among angle, fixed object, and other crash types, all of which involved property damage only. Currently there are no sidewalks provided on Medcalf Street. Construction of sidewalk on at least one side of the corridor will improve pedestrian safety and access to/from Beacon Elementary School.

8.4.13 McBryde Avenue

Half of the crashes along McBryde Avenue involved hitting fixed objects and most involved property damage only. There are groupings of ADA compliance issues along McBryde Avenue between Lake Sylvia Road and Church Street which emphasize the need for pedestrian safety-related enhancements in the corridor. Speed bumps have recently been implemented along a portion of this street which have been successful in reducing average speeds.

8.5 Location Prioritization

The travel corridors identified in Figure 5 and the local concerns within Montesano were prioritized for safety improvements based on criteria identified by city staff with input from the City's Planning Commission. These criteria included consideration for:

- Corridors with severe or vulnerable user crashes
- Corridors with an overall high number of crashes
- Importance of the corridor to the movement of people and vehicles within the city and to destinations outside of the city
- Service to the commercial core area
- Service to areas with concentrated elderly or limited mobility populations
- Concentrations of pedestrian safety improvements as reflected in the ADA compliance analysis conducted by the city concurrent to development of this Safety Plan.

A summary of the prioritization process results is presented in **Table 16**. Locations are rated by the extent to which they satisfy each of the criteria in comparison with each other.

Table 16. Prioritization of Crash Locations

Location	Severe/ Vulnerable User Crashes	High # of Crashes	Pedestrian Corridor	Commercial core	Limited mobility concentrations	Needs ADA improvements	Score
Pioneer Avenue	**	***	***	***	**	*	14
3rd Street	**	**	***			***	10
Wynooche Avenue		**	**	*	**	***	10
Main Street		***	***	***			9
Spruce Avenue	**	**	**			**	8
River Street	**	*			***	**	8
Beacon Avenue		**	***			**	7
Broadway Avenue		**	**			**	6
McBryde Avenue		*	***			**	6
Medcalf Street		*	**			***	6
Kamilche/Church		*	***			*	5
Satsop Street		*	*			***	5
Academy Street		**	*			**	5

*** - High Priority (3 points) ** - Medium Priority (2 points) * - Low Priority (1 point)

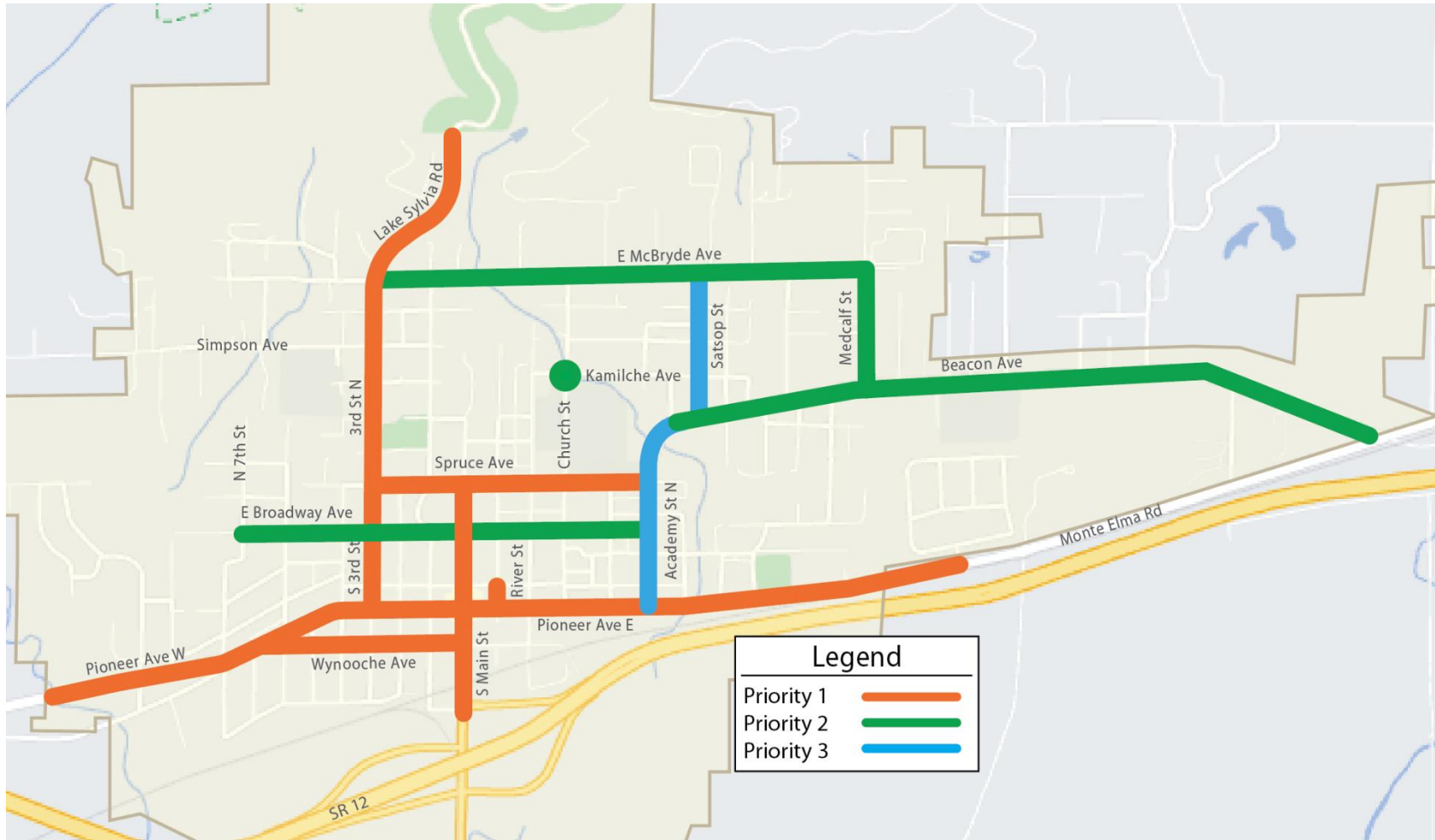
Based on application of the evaluation criteria and a general ranking of priority safety improvement needs, locations were grouped into three priority levels reflecting both the importance of the proposed improvements and their urgency. Corridors by priority level are shown in **Figure 15**.

8.5.1 Priority Level 1

Three locations are included under Priority Level 1, which focuses on the most important corridors with the most urgent need for improvement. These locations include:

- Pioneer Avenue** – concentrated through the commercial core where improvements have yet to be made but including the entire corridor from the west city limits to the east city limits. This corridor includes a pedestrian crash at the intersection with River Street. The corridor is also the highest crash corridor within the city. Pioneer Avenue is the most important street within the city as it parallels US 12, providing major east/west service through the community. It serves the majority of the city’s commercial core and attracts significant pedestrian activity. Comments received from city staff and the Planning Commission indicate the importance of enhancing the pedestrian environment, particularly for the elderly population within the community. A key focus of this population group is the Montesano Harbor Senior Apartments on River Street near the Thriftway grocery store which is located on the south side of Pioneer Avenue just south of River Street. E Pioneer Avenue between Main Street and Church Street is primarily ADA compliant, with only the southwest curb ramp at Pioneer Avenue and River Street identified as non-compliant. West of Main Street the majority of curb ramps and sidewalk segments are non-compliant. The section of West Pioneer from Main Street to 4th Street will be reconstructed in

Figure 15. Priority Corridors



2024 and the section for 6th to 7th Streets is currently under design and will be reconstructed in 2030. Reconstruction of these sections of West Pioneer Avenue will include replacement of all ADA deficient ramps and sidewalks.

- **Third Street/Lake Sylvia Road** – includes the segment of this north/south street between Pioneer Avenue and Lake Sylvia State Park near the northern city limits. This street connects the state recreational facility with the commercial core of the city, as well as the neighborhoods, schools, and parks in the vicinity of Simpson Avenue. The corridor also includes the serious injury crash at the intersection with Spruce Avenue that was mentioned above. Speeding is a particular concern along this street as it includes roadway segments with steeper grades. Apart from Marcy Avenue and the west side of Broadway Avenue intersections, all curb ramps and sidewalk segments were identified as non-compliant by current ADA standards.
- **Wynooche Avenue** – this east/west street provides an alternate to travel along Pioneer Avenue, the main east/west street in Montesano and is marked by a significant, substandard pedestrian system based on the ADA compliance analysis. Primary countermeasures to be considered focus on ADA compliance and enhancements to pedestrian crossings where appropriate.
- **Main Street** – this north/south street also serves the commercial core of the city and connects it to the state highway system. The intersection of Main Street with Pioneer Street has the highest concentration of crashes within the city and should be considered for improvement, particularly to address angle collisions. The corridor as a whole includes the second highest number of crashes of any corridor within the city. Pedestrian safety is an important issue along this street as it the incidence of crashes involving parked cars. This street includes a segment of angle parking and further investigation of parking-related crashes in this area is appropriate. The intersection curb ramps at Main Street/Pioneer Avenue and Main Street/Marcy Avenue are largely ADA compliant. However, the curb ramps at intersections north and south of this portion of Main Street are mostly identified as non-compliant, along with several portions of sidewalk.
- **Spruce Avenue** – concentrated need between 3rd Street and Main Street but including the entire corridor between west of 4th Street and east of Academy Street. This corridor includes the serious crash that occurred within Montesano during the five year plus study period (at the intersection with 3rd Street). Spruce is also an important east/west corridor that serves the northern portion of the city connecting to significant pedestrian generators such as schools and parks. Between 3rd Street and Main Street every intersection curb ramp was identified as non-compliant by current ADA standards and several portions of sidewalk were also identified as non-compliant. East of Main Street there were several sidewalk segments identified as non-compliant, but the majority of intersection curb ramps meet current ADA standards. Speeding is also an identified concern along this street.
- **River Street** – includes a key segment of this north/south street that connects a senior housing complex to the Thriftway Grocery store on the south side of Pioneer Avenue where existing sidewalks are substandard based on the ADA compliance analysis. This improvement includes the intersection with Pioneer Avenue.

8.5.2 Priority Level 2

Four Priority Level 2 locations have been identified which are important from the standpoint of improving multimodal transportation safety within the community but are less urgent than Priority Level 1. These locations include:

- **Beacon Avenue** – corridor needs additional pedestrian amenities to enhance multimodal safety particularly in the vicinity of the Beacon Avenue Elementary School. Complete ADA improvements.
- **Broadway Avenue** – includes the entire east/west corridor from its western terminus west of 7th Street to its eastern terminus just east of Chehalis Street. The most significant issue on this street is safety concerns at the Main Street intersection. This street also includes segments with steeper slopes approaching its intersections that have included some recent crashes resulting from either inattention or failure to yield. All curb ramps and sidewalk segments on E Broadway Avenue were identified as non-compliant by current ADA standards. While there are individual locations on W Broadway Avenue that do meet current ADA standards, the majority of locations inventoried were identified as non-compliant as well.
- **McBryde Avenue** – corridor needs completion of sidewalk facilities. Recently implemented speed bumps to reduce speeds, successful.
- **Medcalf Street** – corridor needs sidewalk facilities.
- **Kamilche Avenue at Church Street** – lack of crosswalks near Montesano High School, an area with high pedestrian traffic.

8.5.3 Priority Level 3

Five Priority Level 3 locations have been identified which are important from the standpoint of improving multimodal transportation safety within the community but are less urgent than Priority Levels 1 or 2. These locations include:

- **Satsop Street** - corridor needs sidewalk facilities
- **Academy Street** – complete ADA improvements.

8.5.4 Summary of Priorities to Be Carried Forward

In summary, all of the Priority Level 1 are recommended to be carried forward for further evaluation to identify appropriate solutions, as well as four locations noted as Priority Level 2. Priority locations to be further investigated in preliminary design include:

- Pioneer Avenue between Main Street and 4th Street (to be addressed in 2024)
- Third Street/Lake Sylvia Road between Spruce and Lake Sylvia Park
- Wynooche Avenue between 3rd and Main Streets
- Main Street between Wynooche Avenue and Broadway Avenue including the intersection of Pioneer Avenue with Main Street
- Spruce Avenue between 3rd and Main Streets
- River Street between Pioneer Avenue and Marcy Avenue
- River Street at Pioneer Avenue

- Beacon Avenue from Academy Street to Monte Elma Road
- Broadway Avenue at Main Street
- McBryde Avenue from Medcalf Street to 3rd Street
- Medcalf Street from McBryde Avenue to Beacon Avenue
- Kamilche Avenue at Church Street intersection

8.6 Identification of Countermeasures

Table 17 summarizes potential countermeasures that could be implemented at intersections or along roadway segments in the priority corridors. These countermeasures address the key risk factors that were identified in the crash analysis discussed earlier in this report. These risk factors have been presented as objectives to be accomplished through implementation of this *Safety Action Plan* and include:

- Reducing intersection angle or turning crashes which comprise about 37 percent of all crashes.
- Reducing crashes that involve entering or leaving on-street parking spaces which comprise over 26 percent of all crashes in the city. These crashes are particularly prominent along Pioneer Avenue and other streets in the commercial core of the city.
- Reducing the incidence of vehicles hitting fixed objects which include signposts, utility poles and streetlights, fences, trees, mailboxes, and buildings. Fixed object crashes represent over fifteen percent of all crashes in the city.
- Improving pedestrian safety including addressing the one such crash recorded in the city, as well as the extensive deficiencies in sidewalk/crosswalk condition and connectivity within the community. These systemic deficiencies can adversely affect the potential for future pedestrian-related crashes.
- Addressing existing speeding concerns.

Table 17. Potential Countermeasures to Address Priority Deficiencies

Objectives for Prevalent Crash Types or Vulnerable Users	Potential Countermeasures
Reduce intersection angle or turning crashes	<ul style="list-style-type: none"> • Install/upgrade signing and delineation (such as “Cross-traffic Does Not Stop” signs) • Improve sight distance • Install mini-roundabout • Restrict on-street parking at intersections where visibility is an issue • Add turn lanes • Convert to roundabout, traffic signal or all way stop
Reduce crashes involving entering or leaving on-street parking	<ul style="list-style-type: none"> • Improve sight distance • Install curb extensions to better delineate parking area with increased separation from travel lane • Speed reduction treatments
Reduce incidence of hitting fixed objects	<ul style="list-style-type: none"> • Clear Vegetation to improve visibility • Install protective barrier such as curbs or guard rails • Remove/relocate objects in hazardous locations out of the clear zone • Improve illumination
Improve pedestrian safety	<ul style="list-style-type: none"> • Install curb extensions to shorten crossing distance and improve visibility

Objectives for Prevalent Crash Types or Vulnerable Users	Potential Countermeasures
	<ul style="list-style-type: none"> • Install active pedestrian warning signage (RRFBs) at location with a higher level of pedestrian activity such as near schools, parks or other major pedestrian trip generators • Install high visibility crosswalk markings and/or advance pedestrian warning signage at locations with a higher level of pedestrian activity • Install pedestrian refuges at areas with higher activity to reduce speed and make pedestrian more visible • Improve sidewalk connectivity and comfort by addressing ADA needs • Improve ADA compliance for curb ramps
Reduce speeding	<ul style="list-style-type: none"> • Install curb extensions to narrow street width • Install mini-roundabout • Install LED speed limit signs or portable speed limit signs • Implement traffic calming strategies such as chicanes and/or chokers

A review of each priority crash location and/or corridor was performed to identify potential safety countermeasures that could be applied. These countermeasures were selected based on a review of the specific crash data and existing roadway conditions, consultation with City staff, public input, and a review of safety countermeasure resources from WSDOT and FHWA. **Table 18** presents a summary of each priority location and relates it to the potential countermeasures that are recommended for consideration. Following the table is a description of each identified priority location, the issues specific to that location, and a discussion of selected countermeasures for either spot or systemic improvements.

Table 18. Application of Countermeasures by Location

Location	Countermeasures to Address Prevalent Crash Types by Location						Score
	Angle Crashes	Parking-Related	Hit Fixed Objects	Pedestrian Safety	Reduce Speeds	Sight Distance	
PRIORITY LEVEL 1							
Pioneer Avenue	★	★		★			14
3rd Street/Lake Sylvia	★	★		★	★	★	10
Wynooche Street	★	★		★			10
Main Street	★	★		★		★	9
Spruce Avenue	★		★	★	★	★	8
River Street	★			★			8
PRIORITY LEVEL 2							
Beacon Avenue	★			★			7
Broadway Avenue	★			★		★	6
McBryde Avenue				★			6
Medcalf Street				★			6

Kamilche/Church					5
PRIORITY LEVEL 3					
Satsop Street					5
Academy Street					5

8.7 Spot Improvements

One location has been identified for spot improvements including:

- Intersection of Spruce Avenue with 3rd Street – measures to address the serious injury angle crash occurring at this location should be considered. In addition, to help address the speeding problems along 3rd Avenue, traffic calming measures should also be considered. Measures to be further investigated during preliminary design should include all-way stop control and installation of curb extensions to narrow the roadway width. Consideration should also be given to installing such speed control strategies as speed humps and/or active speed limit and indication signage on 3rd Street.

8.8 Systemic Improvements

Systemic improvements address broader issues related to transportation safety risk within the community. In Montesano, specific corridors have been identified for improvements that address the key safety risk factors experienced including angle crashes, crashes involving parked vehicles, and hitting fixed objects. Improvements that address vulnerable users such as pedestrians and speeding on local streets should also be considered under the umbrella of systemic improvements as these would significantly benefit multimodal transportation safety within the city. Identified improvement options for each corridor are discussed below.

8.8.1 Pioneer Avenue

Systemic improvements should be concentrated within the commercial core along this street beyond the area where the city has completed or will shortly complete pedestrian system improvements. Primary countermeasures to be implemented include those which address crashes related to parked vehicles and pedestrian safety.

Countermeasures to consider in reducing crashes with parked cars should be developed during a more detailed study of these crashes within the community and may include such strategies as improving sight distance, and installing curb returns to better delineate parking areas with increased separation from the travel lane.

Pedestrian safety can be enhanced through implementation of recommended ADA compliance measures to improve sidewalks and pedestrian crossings. Two locations of significance in the implementation of systemic improvements along Pioneer Avenue include:

- Intersection of Pioneer Avenue with River Street – This intersection is part of a very important pedestrian corridor in the city as it provides access to the Thriftway Grocery store from the neighborhoods north of Pioneer Avenue. Improvements should include pedestrian

enhancements to meet ADA requirements as well as installation of active pedestrian crossing protection such as Rectangular Rapid Flashing Beacons (RRFBs) but care should be taken in not overusing this type of signage to minimize its impact.

- Intersection of Pioneer Avenue with Main Street - Measures to address the relatively large number of crashes of all types that occurred at this intersection need to be further investigated during preliminary design. Consideration should be given to the addition of left turn lanes with protected phasing and /or the addition of advanced pedestrian phasing for the intersection. Further investigation of the incidence of crashes with parked cars should also be included in intersection improvements.

8.8.2 Spruce Avenue

Systemic improvements should be concentrated within the portion of this corridor between 3rd Street and Main Street. This segment includes the intersection of Spruce Avenue with 3rd Street which was identified above for spot improvements. In addition to the pedestrian deficiencies identified within this corridor, sight distance and speeding were identified through city and Planning Commission input as key issues along this street.

Countermeasures to consider include those related to improving the pedestrian environment, reducing speeding, and improving sight distance. Pedestrian measures should focus on addressing the deficiencies identified through the ADA compliance assessment. To address speeding, consideration should be given to traffic calming measures such as installation of curb extensions to narrow the perceived road width, mini-roundabouts at key intersection to reduce through speeds, and installation of speed humps. Improvement to sight distance limitations should focus on removal of interfering vegetation or other features that reduce visibility at intersections. Verification of the extent and location of speeding and/or sight distance problems should be made prior to implementation of these countermeasures.

8.8.3 3rd Street/Lake Sylvia Road

Systemic improvements along 3rd Street/Lake Sylvia Road should focus on addressing pedestrian deficiencies as identified through the ADA compliance analysis, and on strategies to address school related safety and speeding along the corridor, particularly in areas with limited sight distance. Traffic calming measures should be considered such speed control strategies as speed humps and/or active speed limit and indication signage on 3rd Street. Verification of the extent and location of speeding and/or sight distance problems should be made prior to implementation of these countermeasures.

8.8.4 Main Street

Systemic improvements should be concentrated within the commercial core along this street, particularly between Wynooche Avenue and Broadway Avenue, including the intersection of Pioneer Avenue with Main Street as previously mentioned. Primary countermeasures to be implemented include those which address crashes related to sight distance, poor intersection design, parked vehicles, and pedestrian safety.

As with Pioneer Avenue, countermeasures to consider in reducing crashes with parked cars should be developed during a more detailed study of these crashes within the community and may include such strategies as improving sight distance, re-configuring alignment of pedestrian facilities, and installing

curb returns to better delineate parking areas with increased separation from the travel lane. Consideration should also be given to keeping or modifying existing angle parking along a portion of Main Street if this area is seeing a concentration of crashes related to this type of parking. Finalizing this recommendation would require further investigation through a parking study as noted above. Countermeasures should also focus on addressing pedestrian deficiencies as identified through the ADA compliance analysis.

Pedestrian safety can be enhanced through implementation of recommended ADA compliance measures to improve sidewalks and pedestrian crossings. One location of significance in the implementation of systemic improvements along Main Street is:

- *Intersection of Main Street with Broadway Avenue* – To address existing crashes at this location and to improve overall pedestrian safety, improvements should include installation of curb extensions (bulb-outs), pedestrian refuge islands, all-way stop control and any improvements needed to bring the area into ADA compliance.

8.8.5 Wynooche Avenue

Systemic improvements related to pedestrian safety and comfort should be the focus of improvements along this corridor. This recommendation is well supported by the documentation in the ADA Plan and through the public outreach process.

8.8.6 Broadway Avenue

Countermeasures for Broadway Avenue should focus on improving sight distance, which has been identified as a key concern through input from the city and Planning Commission. Verification of the extent and location of sight distance problems should be made prior to implementation of these countermeasures. Countermeasures should also focus on addressing pedestrian deficiencies as identified through the ADA compliance analysis.

8.9 Summary of Studies

The discussion of spot and systemic improvements included above noted the need for further investigation of three specific types of safety risk that are affecting many of the crashes occurring within the City of Montesano. These studies include:

- *Simpson School area traffic study* – the purpose of this study including follow-on preliminary and final design is to address the need for improvements to improve pedestrian safety in the Simpson Avenue Corridor in the vicinity of Simpson Avenue Elementary School. This study will include an evaluation of 3rd Street in the vicinity of the school and identify potential improvements on 3rd Street to support safer access to the school.
- *Parking study* – the purpose of this study will be to evaluate and characterize in detail parking-related crashes occurring within the city to refine an understanding of contributing causes and to develop solutions tailored to specific issues that are occurring, primarily along Pioneer Avenue and Main Street. Specific issues include the effects of existing angle parking as well as sight distance limitations. It will also be useful to better understand patterns of parking utilization so that impacts associated with countermeasures such as restricting parking near intersections to reduce angle crashes or modifying angle parking can be understood.

- Sight distance study – the purpose of this study will be to evaluate the extent of sight distance issues along priority corridor or other locations determined to be important. It is expected that particular emphasis will be placed on Pioneer Avenue (particularly to address the propensity for angle crashes and collisions with parked vehicles), as well as Spruce and Broadway Avenues. The outcome of the study should be prioritized locations for sight distance improvements and a list of specific, applicable strategies for these locations.
- Speed study – While speeding is a general issue of concern within the community, the focus of this study should be along 3rd Street where the downgrade into town from Lake Silva State Park and northerly neighborhoods can result in excessive speeds. The study should also include Main Street from Spruce to SR 12 with an emphasis on the areas south of Wynooche Avenue and the western and eastern portions of Pioneer Avenue/Wynooche Street as it heads west out of the city. The outcome of this study will be to verify the nature, extent, and specific location of speeding issues such that the most effective countermeasures can be identified.

This page intentionally blank.

9 RECOMMENDATIONS

Based on the detailed evaluation of each priority corridor and expressed local concerns and the EJ equity analysis, recommended spot and systemic countermeasures were assessed and a prioritization was established. This chapter summarizes key recommendations for both short-term/immediate implementation (Tier 1) and for the medium to longer-term as funding becomes available (Tiers 2 and 3).

9.1 Tier 1 - Short-Term Improvement Recommendations

High priority improvement recommendations include the following:

- **Intersection of East Pioneer Avenue and River Street** - Improvements should include pedestrian enhancements to meet ADA requirements as well as installation of active pedestrian crossing protection such as Rectangular Rapid Flashing Beacons (RRFBs).
- **River Street between Pioneer Avenue and Marcy Avenue** – In conjunction with the pedestrian improvements at East Pioneer Avenue and River Street this project would provide pedestrian improvements on River Street, with a focus on the west side of River Street.
- **Intersection of Main Street and Broadway Avenue** - To address existing crashes at this location and to improve overall pedestrian safety, improvements should include installation of curb extensions (bulb-outs), pedestrian refuge islands, all-way stop control and any improvements needed to bring the area into ADA compliance.
- **Kamilche Avenue at Church Street intersection** – Implement sidewalk and crosswalk improvements for pedestrian safety in the vicinity of the Montesano High School.
- **Wynooche Avenue** - pedestrian safety measures for street between 6th and Main Streets.
- **Lake Sylvia Road, between Nevills Lane and Lake Sylvia Park** (existing trail) – focused improvements for pedestrian safety along one side of the road. This is a heavily traveled road with significant pedestrian safety issues related to speed and sight distance.

9.2 Medium to Longer-Term Improvement Recommendations

Medium to Longer-term improvement recommendations are a lower priority than the short-term recommendations identified above but should be implemented over the next five to ten year horizon. Two priority levels have been determined. Tier 2 includes recommendations for implementation in the medium term (assumed to be in the next four to six years), and Tier 3 in the longer term (in the next seven to ten years plus). Medium term recommendations also include several suggested studies that would provide greater insight into specific locations and appropriate countermeasures to address issues related to parked vehicle crashes, pedestrian safety needs including implementation of ADA compliance recommendations, and speeding problem locations.

9.2.1 Tier 2 – Medium-term

9.2.1.1 Studies

As discussed in Chapter 6, these studies would include:

- Simpson Elementary School area traffic study and preliminary design
- Parking study with a primary focus on the commercial core
- Sight distance study along the priority corridors and at other key locations
- Speed study along the priority corridors or at other key locations

9.2.1.2 Specific Locations for Improvement

- Prioritized improvements as identified in the ADA Compliance Plan that are not already addressed in specific project descriptions.

9.2.1.3 Systemic Improvements

Medium-term systemic improvements were identified in response to the identified risk factors identified in the Montesano study area. These were associated with the following priority corridors:

- **Spruce Avenue between 3rd Street and Main Street** – includes a spot improvement at the intersection with 3rd Street where a serious injury angle crash occurred, as well as improvements to improve pedestrian safety, enhance sight distance and reduce speeding. Measures to be further investigated at the intersection with 3rd Street during preliminary design should include all-way stop control, installation of curb extensions to narrow the roadway width, and active speed limit and indication signage. Consideration of corridor improvements on Spruce Avenue should include installing such speed control strategies as speed humps, and improvement of pedestrian facilities to address ADA compliance. Verification of the extent and location of speeding and/or sight distance problems should be made prior to implementation of these countermeasures.
- **N 1st Street between Spruce Avenue and McBryde Avenue** – includes pedestrian safety improvements
- **Beacon Avenue** – Install RRFBs at two locations, currently planned for Satsop Street and Talbot Street
- **McBryde Avenue** – Fill gap in sidewalk facility and replace existing water main and drainage facility.
- **Main Street** – focuses improvements to address crashes involving parked vehicles, sight distance, poor intersection design and pedestrian safety in areas not addressed through spot improvements.
- **Broadway Avenue** – improve sight distance at intersections and implement pedestrian safety measures (excludes intersection with Main Street which is a Tier 1 improvement)
- **3rd Street** – implement speed control strategies and improve pedestrian safety (excludes intersection with Spruce Avenue which is a Tier 1 improvement)

9.2.2 Tier Level 3 – Longer-term

These locations include the following:

- **Academy Street between Pioneer and Spruce** – restripe roadway to better provide on-street parking and construct ADA improvements.

- **Satsop Street**- Construct sidewalk on one side of the street.
- **Medcalf Street** – Construct sidewalk on one side of the street.
- **Pioneer Avenue** – Construct sidewalk and roadway improvements to address pedestrian safety and crashes related to parked vehicles in areas not previously improved or pending for improvement as discussed.
- **Intersection of Pioneer Avenue and Main Street** - Measures to be further investigated during preliminary design should include addition of left turn lanes with protected phasing and /or the addition of advanced pedestrian phasing for the intersection. Further investigation of the incidence of crashes with parked cars should also be included in intersection improvements.
- **E Pioneer Avenue between Glenn and Swiss Meadows** – Construct sidewalk and drainage improvements on one side of the street to serve newly developing area.
- **S 1st Street between Broadway and Railroad** – Construct identified ADA and street improvements for pedestrian safety and comfort.

A summary of proposed countermeasures, including the prioritization and estimated cost, are provided in **Table 19**.

Table 19. Countermeasure Prioritization and Cost Estimates

#	Location	Improvement	Total Cost
Tier 1 – Priority Improvements – Short-Term			
1	East Pioneer Avenue at River Street	• ADA improvements and installation of active pedestrian crossing protection such as RRFBs	\$65,000
1A	River Street, Pioneer Avenue to Marcy Avenue	• Implement pedestrian improvements to improve safety	\$200,000
2	Main Street at Broadway Avenue	• Pedestrian safety improvements such as curb extensions, pedestrian refuge, all-way stop control (if warranted) and ADA compliance	\$350,000
3	Kamilche Avenue at Church Street	• Implement sidewalk and crosswalk improvements for pedestrian safety in vicinity of Montesano High School	\$175,000
4	Wynooche Avenue, 6th Street to Main Street	• Pedestrian and ADA improvements	\$750,000
5	Lake Sylvia Road, Nevills Lane to City Limits	• Construct sidewalk on one side of roadway.	\$700,000
5A	Lake Sylvia Road, city limits to existing trail system	• Construct sidewalk on one side of roadway.	\$650,000
Tier 2 – Medium-Term Improvements			
6	Spruce Avenue, 3 rd to Main Streets	• Pedestrian safety improvements including curb extensions and all-way stop control (if warranted) at Spruce/3 rd . Improve sight distance, ADA compliance and implement traffic calming strategies to reduce speeding.	\$1,500,000
7	ADA Compliance	• Implement high priority ADA compliance improvements as identified in ADA Compliance Plan and not otherwise included in projects separately	See ADA Transition Plan

#	Location	Improvement	Total Cost
		identified.	
8	N 1 st Street, Spruce Avenue to McBryde Avenue	<ul style="list-style-type: none"> • Pedestrian safety improvements 	\$1,000,000
9	Beacon Avenue	<ul style="list-style-type: none"> • RRFBS at Satsop and Talbot with ramps as needed for compliance if crosswalks implemented 	\$180,000
10	McBryde Avenue, Satsop Avenue to Adams Street	<ul style="list-style-type: none"> • Construct sidewalk on one side of roadway to fill sidewalk gap (includes drainage and watermain replacement) 	\$825,000
11	Main Street	<ul style="list-style-type: none"> • Improvements to intersections of Marcy and Wynooche and pedestrian safety where not previously addressed 	\$250,000
12	Broadway Avenue	<ul style="list-style-type: none"> • Improve sight distance at intersections and implement pedestrian safety measures not previously addressed 	Pending Study
13	3 rd Street	<ul style="list-style-type: none"> • Implement speed control strategies and improve pedestrian safety 	Pending Study
Tier 2 – Studies and Further Evaluation			
S-1	Simpson School Area Study	Study existing pedestrian and vehicular travel patterns, identify pedestrian improvements for streets in school vicinity, and conduct preliminary design. Include evaluation of 3 rd Street.	\$25,000
S-2	Parking Study	Core area analysis to identify utilization and improvements needed to address high frequency of crashes involving parked vehicles	\$50,000
S-3	Sight Distance Study	Evaluate sight distance constraints along priority corridors and develop mitigation recommendations	\$30,000
S-4	Speed Study	Focus on priority corridors to identify existing speeding problems and develop appropriate strategies for mitigation	\$25,000
Tier 3 – Longer-Term Improvements			
14	Academy Street, Pioneer Avenue to Spruce Avenue	<ul style="list-style-type: none"> • Implement restriping and construct ADA improvement 	\$1,450,000
15	Satsop Street, Beacon Avenue to McBryde Avenue	<ul style="list-style-type: none"> • Construct sidewalk on one side of roadway 	\$400,000
16	Medcalf Street, Beacon Avenue to McBryde Avenue	<ul style="list-style-type: none"> • Construct sidewalk on one side of roadway 	\$400,000
17	Pioneer Avenue	<ul style="list-style-type: none"> • Pedestrian safety and roadway improvements in areas not previously improved. 	\$1,300,000
18	Pioneer Avenue at Main Street	<ul style="list-style-type: none"> • Add left turn channelization on Main Street with left turn and advanced pedestrian signal phasing 	\$200,000
19	E Pioneer, Glenn to Swiss Meadows	<ul style="list-style-type: none"> • Construct sidewalk and drainage to accommodate sidewalk 	\$1,900,000
20	S 1 st Street, Broadway to Railroad	<ul style="list-style-type: none"> • Implement ADA and street improvements. 	\$825,000

10 IMPLEMENTATION AND MONITORING

10.1 Commitment to Implementation

Through the adoption of this Safety Plan, the city makes a commitment to the goal of zero roadway fatalities and serious injuries (Target Zero) and significant progress towards that goal by 2040. This commitment will be further addressed in the pending update of the City's Comprehensive Plan and Transportation System Plan through:

- The addition of specific policies that address Target Zero
- The incorporation of safety improvements identified in this plan, as well as projects identified through subsequent monitoring and analysis into the Transportation System Plan and Six Year Transportation Improvement Program for implementation.

10.2 On-Going Monitoring of Crashes

The City will continue monitoring crash data on a regular basis, with a focus on locations identified in the Plan. Monitoring will occur through the collection of crash data at three to five year intervals to update the identification and assessment of severe crashes. As needed, further evaluation of improvements to problem locations will be determined. On-going monitoring will be the responsibility of the *Safety Action Plan* task force.

The *Safety Action Pan* will be posted on the city's website.

This page intentionally blank.