Local Road Safety Plan

City of Othello
Othello, WA

Prepared For:
City of Othello

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May 2025

Adopted by Othello City Council May 27, 2025

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Local Road Safety Plan

Project Information

Project:	Local Road Safety Plan
Prepared for:	City of Othello 500 E Main Street Othello, WA 99344

Reviewing Agency

Jurisdiction:	City of Othello

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Project Reference:	SCJ #24-000023 Path: N:\Projects\4726 City of Othello \24-000023 Othello Local Road Safety Plan\04-Dels\Final Othello Local Road Safety 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.

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Approved by Eric Johnston, PE

06/03/2025

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1 INTRODUCTION

The City of Othello 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 *Local Road Safety Plan* (LRSP) 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 study updates a *Local Road Safety Plan* prepared for the city in 2020.

1.1 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.

1.2 Analysis Methodology

The *Local Road Safety Plan* follows WSDOT's recommended approach for developing a prioritized list of engineering countermeasures. Analysis was conducted following a multi-step process that relied on five years of crash data (2019 through 2023). The multi-step process includes:

1. Evaluate crash data to identify crashes with a fatality and/or a serious injury and characterize crash types and locations that have an average of one crash or more per year.
2. Based on this data, identify key risk factors which contribute to the crashes identified in the city of Othello and compared to an average of risk factors for Eastern Washington in the aggregate. Risk factors were categorized into three priority levels based on significance in relation to the reported severe crashes.
3. Select the most common risk factors and group these by priority level based on their significance in relation to the reported severe crashes.
4. Identify and score high priority crash locations.
5. Identify countermeasures to address the types of crashes in the high priority locations.
6. Develop a prioritized list of projects including both systemic and spot improvements and cost estimates.

1.3 Study Area

The study area for the Othello *Local Road Safety Plan* includes the entire city of Othello. The population of Othello was 7,364 in 2010, growing to an estimated 8,549 by 2020[1]. This data indicates that the population in Othello grew by over 16 percent during the ten years between 2010 and 2020. Othello is the

[1] https://www.ofm.wa.gov/sites/default/files/public/dataresearch/pop/april1/ofm_april1_poptrends.pdf

largest city in Adams County and represented 39.3 percent of the County's 2010 population of 18,728. By 2020, Adams County's population increased to 20,613[2] of which Othello was 41.5 percent indicating that Othello is growing more rapidly than Adams County as a whole. Based on projections from the Washington Office of Financial Management, Adams County's population is expected to grow to approximately 26,100 by 2050 (medium growth), an increase of 26.6 percent[3].

The economy in Othello employs about 8,000 people with the largest industries being Agriculture/Forestry/Fishing & Hunting (about 30 percent). Other important employment categories include Health Care and Social Assistance and Education.

Figure 1 illustrates the boundaries of the City of Othello and its general location in Eastern Washington. The figure also identifies key roadway corridors which include SR 24, SR 26, SR 17, Broadway Avenue, Main Street/Cunningham Road and 14th Avenue. SR 26 is a limited access highway that travels east/west through the City of Othello linking it to I-90 further west and to US 195 in Colfax to the east. SR 26 is grade-separated at the intersection with SR 24. The *Transportation Element* of the City's *Comprehensive Plan* identifies several intersections of concern along SR 26 including the intersection with 14th Avenue (Reynolds Road) and 1st Avenue/Broadway Avenue (Highway 24).

SR 24 is a rural state highway that connects Othello with Yakima to the south and west. This highway has multiple access points for both city streets and private driveways with turning movements being largely uncontrolled with limited turning lanes. As the city grows south, this area is seen as a potential increasing concern.

SR 17 is a limited access route that runs north/south along the eastern edge of the city and the Othello Urban Growth Boundary. The Transportation Element identified Lee Street (Road) as a truck route and its intersection with SR 17 as a key location of concern. The intersection with Main Street was also identified as a point of concern, particularly as the city grows.

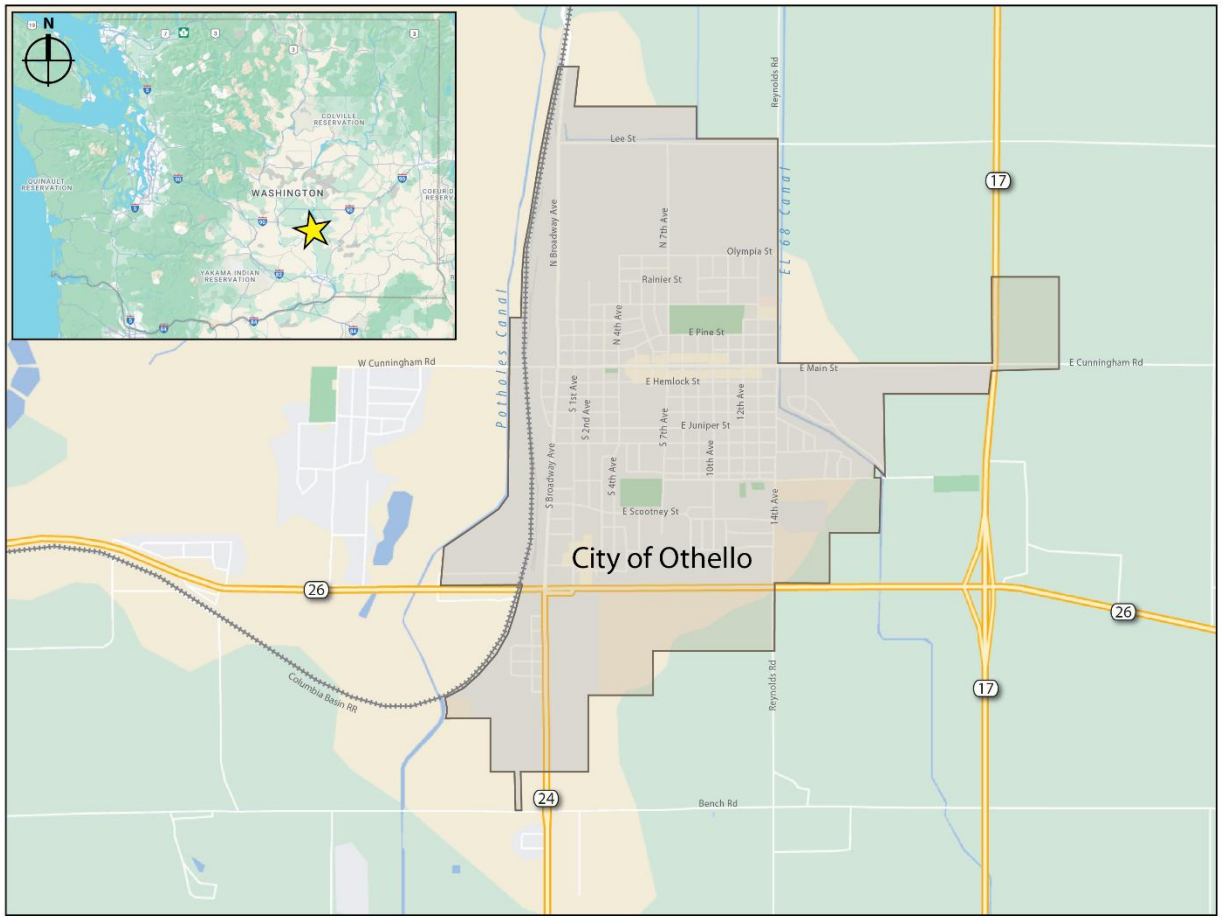
Due to the limited connections within the City of Othello to SR 26, the analysis in this report focuses on the key intersections identified above. Other state highways within the city limits are included in this analysis.

1.4 Policy Commitment to Safety

The City's 2022 *Comprehensive Plan* includes a commitment to on-going transportation safety in its Capital Project Development Strategy. One of the identified goals for this plan included the prioritization of intersection improvements based on both safety and trip demand. The Plan also identifies the need to develop long term plans for both sides of SR 26 and to *"implement measures that reduce congestion and improve safety*".

[2] https://www.ofm.wa.gov/sites/default/files/public/dataresearch/pop/april1/ofm_april1_poptrends.pdf
[3]https://ofm.wa.gov/washington-data-research/population-demographics/population-forecasts-and-projections/growth-management-act-county-projections/growth-management-act-population-projections-counties-2020-2050

Figure 1. Study Area and Vicinity



1.5 Report Content and Organization

This report is organized into six chapters, the first of which is this Introduction. **Chapter 2** identifies and discusses historic crash data in the City of Othello (2019 through 2023) with an emphasis on what are characterized as "severe" crashes. These include crashes that result in fatalities and/or serious injury. Chapter 2 also presents historic data for bicycle and pedestrian crashes in the city. Crash data is stratified by both corridors and intersections focusing on the top corridors and intersections that experienced at least one severe or vulnerable user crash or experienced a relatively higher number or density of crashes. Chapter 2 also includes a summary of risk factors by number and percentage for severe crashes in Othello in comparison with Eastern Washington.

Chapter 3 documents the most common risk factors as identified through analysis of the crash data presented in Chapter 2. Risk factors were categorized into two priority levels based on significance in relation to the reported severe crashes.

Chapter 4 identifies high priority crash locations using the Level 1 risk factors identified in Chapter 3. Each risk factor is scored on a relative scale in terms of the number of crashes that are affected by these factors. Scoring criteria include Low number of crashes associated with a specific risk factor, Medium

number of crashes and High number of crashes. The low, medium, and high levels are given points which are assigned to each corridor and risk factor. Total points for each corridor are summed and corridors ranked based on this total.

Chapter 5 discusses the identification of countermeasures for each of the high priority corridors and local concern areas based on the likely effectiveness of the countermeasure in addressing the relevant types of crashes and risk factors at each location.

Chapter 6 presents a further refinement of the identification of countermeasures in the high priority corridors focusing on both systemic measures that can be implemented throughout the city and spot locations where specific countermeasures can be applied. For systemic improvements, applicable locations were identified, and planning level cost estimates were prepared. For spot improvements, the discussion focuses on specific activities that can be implemented at these priority locations along with planning level cost estimates.

2 ANALYSIS OF HISTORIC CRASH DATA

Historical crash data was obtained for the City of Othello for the five-year time period from January 1, 2019 through December 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 Othello plus portions of SR 24, 26 and 17. During the five-year analysis period, there were a total of 687 crashes with 572 crashes (83.3%) occurring on City-operated streets and 115 crashes (16.7%) occurring on State Highways operated by WSDOT. **Figure 2** presents a map of these crashes by location. Of particular significance for the analysis presented in this report are severe crashes and those involving bicyclists and/or pedestrians. These crashes are discussed later in this chapter and illustrated in Figures 3 and 4. It should be noted that the number of reported crashes in the city is increasing with 20 percent more crashes occurring in 2023 than in 2019. More rapid growth in the number of crashes is being experienced on state highways than on city streets.

2.1 Summary of Existing Crashes

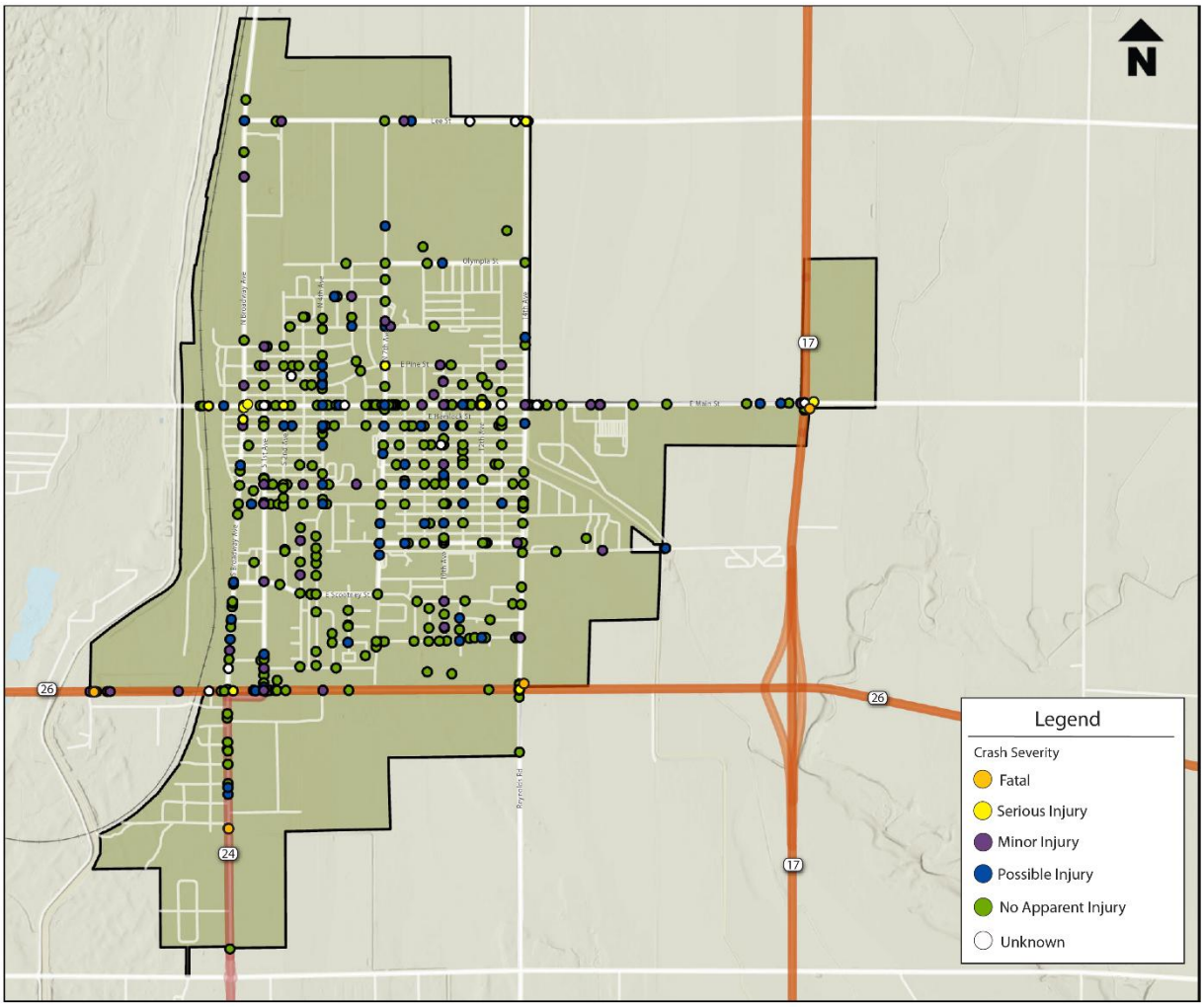
As indicated by the data in **Table 1**, there were four fatal crashes in Othello during the five-year analysis period, and there were 11 serious injury crashes. There were an additional 157 crashes involving either minor or possible injuries. 25 percent of the crashes occurring on Othello streets and roads involved some form of injury while just over 73 percent involved property damage only. Approximately two percent of city crashes had no level of severity reported.

Table 1. Summary of All Crashes by Severity, 2019 - 2023

Crash Type	Number	Percentage
Fatal	4	0.6%
Serious Injury	11	1.6%
Minor Injury	64	9.3%
Possible Injury	93	13.5%
Property Damage Only	502	73.1%
Unknown	13	1.9%
Total	687	100.0%

Tables 2, 3 and 4 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 about 40 percent of all crashes occurring on city streets, while turning crashes comprised another 13 percent. Crashes with parked cars involved 21 percent of all crashes in the city, while rear end collisions affected a further 9 percent. It should be noted that angle/turn-related crashes occurred not only on major streets but throughout the community.

Figure 2. 2019-2023 Crashes in Othello



As indicated in **Table 3**, angle crashes comprised about 43 percent of all crashes occurring on state routes within the city, while turning crashes comprised another 13 percent. Rear end collisions affected 22.5 percent of all crashes on State Routes in the study area. Crashes involving vehicles leaving the roadway represented about 10 percent of all crashes on State Routes in the study area, which included hitting fixed objects, landing in a ditch and going over an embankment with or without guard rail.

Table 4 summarized contributing causes that were reported for crashes on city streets and state routes in Othello. As indicated, about 30 percent involved drivers who did not grant the right of way to another roadway user, while a further 12.5 percent involved distracted drivers. Nearly 9 percent of crashes involved following too closely, while about 8 percent were caused by drivers operating under the influence of alcohol or drugs.

Table 2. Summary of All Crashes by Type and Severity on City Streets, 2019-2023

	Severe		Other Injury		Property Damage Only		Unknown		Totals	
Crash Type	**Number**	**%/Type**	**Number**	**%/Type**	**Number**	**%/Type**	**Number**	**%/Type**	**Number**	**% of All**
Angle	2	0.9%	58	25.5%	165	72.7%	2	0.9%	227	**39.7%**
Bicycle	0	0	3	100%	0	0	0	0	3	0.5%
Left Roadway	2	4.7%	12	27.9%	23	53.5%	6	13.9%	43	7.5%
Other	0	0	1	20%	4	80%	0	0	5	0.9%
Overturned	0	0	1	25%	1	25%	2	50%	4	0.7%
Involving Parked Car	0	0	11	9.2%	109	90.8%	0	0	120	**21%**
Pedestrian	3	33.3%	6	66.7%	0	0	0	0	9	1.6%
Rear End	0	0	10	19.6%	41	80.4%	0	0	51	8.9%
Sideswipe	0	0	2	6.7%	28	93.3%	0	0	30	5.3%
Stopped or Backing	0	0	1	16.7%	5	83.3%	0	0	6	1%
Turn	1	1.3%	19	25.7%	53	71.6%	1	1.2%	74	12.9%
Total of All Crashes	8	1.4%	124	21.7%	429	75%	11	1.9%	572	100%

Note: Percentage in rows represents share of total crashes by type for each level of severity. “Other” crashes include animals, head-on and unspecified.

Table 3. Summary of All Crashes by Type and Severity on State Highways, 2019-2023

	Severe		Other Injury		Property Damage Only		Unknown		Totals	
Crash Type	**Number**	**%/Type**	**Number**	**%/Type**	**Number**	**%/Type**	**Number**	**%/Type**	**Number**	**% of All**
Angle	4	8%	17	34%	29	58%	0	0	50	**43.5%**
Left Roadway	0	0	1	8.3%	9	75%	2	16.7%	12	10.4%
Other	0	0	1	25%	3	75%	0	0	4	3.5%
Overturned	0	0	1	100%	0	0	0	0	1	0.9%
Pedestrian	2	66.7%	1	33.3%	0	0	0	0	3	2.6%
Rear End	0	0	7	26.9%	19	73.1%	0	0	26	**22.6%**
Sideswipe	0	0	0	0	4	100%	0	0	4	3.5%
Turn	1	6.7%	5	33.3%	9	60%	0	0	15	13%
Total of All Crashes	7	6.1%	33	28.7%	73	63.5%	2	1.7%	115	100%

Note: Percentage in rows represents share of total crashes by type for each level of severity. “Other” includes head-on and unspecified.

Table 4. Summary of All Crashes by Contributing Causes and Severity, 2019-2023

	Severe Crashes		Other Injury Crashes		Property Damage Only Crashes		Unknown		Totals	
Contributing Cause	**Number**	**%/Type**	**Number**	**%/Type**	**Number**	**%/Type**	**Number**	**%/Type**	**Number**	**% of All**
Defective Equipment	2	28.6%	0	0	4	57.1%	1	14.3%	**7**	1.0%
Did Not Grant ROW to Vehicle	6	3.0%	49	24.5%	143	71.5%	2	1.0%	200	**29.1%**
Did Not Grant ROW to Non-Vehicle	2	25.0%	5	62.5%	1	12.5%	0	0	8	1.2%
Disregarded Stop Sign Signal	1	2.2%	14	31.1%	30	66.7%	0	0	45	6.5%
Distracted	1	1.2%	17	19.8%	66	76.7%	2	2.3%	86	**12.5%**
Driving Under Influence	0	0	16	28.6%	40	71.4%	0	0	56	8.1%
Driver Not Distracted	0	0	0	0	2	100%	0	0	2	0.3%
Fatigued/Ill	0	0	3	27.3%	8	72.7%	0	0	11	1.6%
Following too Closely	0	0	10	25.6%	29	74.4%	0	0	39	8.7%
Improper Backing	0	0	0	0	8	100%	0	0	8	1.2%
Improper Turning/Merging	0	0	8	12.3%	56	86.2%	1	1.5%	65	9.5%
Inattention	0	0	4	26.7%	11	73.3%	0	0	15	2.2%
None Listed	2	1.8%	22	19.6%	82	73.2%	6	5.4%	112	**16.3%**
Reckless/Aggressive	1	25.0%	1	25.0%	2	50.0%	0	0	4	0.6%
Speed	0	0	8	27.6%	20	69.0%	1	3.4%	29	4.2%
Total of All Crashes	15	2.2%	157	22.8%	502	73.1%	13	1.9%	687	100%

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

2.2 Corridor Crashes

The analysis of crash data included identification of the ten street corridors within the city where the most crashes occurred. **Table 5** summarizes this data including both crashes by type with an indication of severity and density (crashes/mile), and a description of key corridor characteristics such as segment length, functional classification, and posted speed limit. As shown in the table, common crash types in the ten highest corridors include angles, rear end, left turns, hitting a parked vehicle or fixed object, sideswipe, right turns, pedestrians, head-on, bicyclists (pedal cyclists) and "other". Eleven of the fifteen severe crashes that occurred in the City of Othello occurred at locations along these corridors.

E Main Street led the list of corridors with the highest number of crashes – 121 in five years or an average of 24 per year over its 2.0-mile length between Broadway Avenue and SR 17. Density of crashes along the 2-mile corridor is estimated at 60 crashes per mile for the five-year period. This street is designated by WSDOT as a Minor Arterial with posted speeds varying from 30 mph to 35 mph. There were two severe pedestrian crashes that occurred in this corridor – one at the signalized intersection with Broadway Avenue that involved a southbound left turning vehicle whose driver was distracted, and the other at the intersection with 12th Avenue whose driver did not yield to the pedestrian in the crosswalk.

SR 26 between milepost 40.08 and 41.61 experienced 68 crashes over five years with about 12 crashes per year. This corridor is designated as an "Other Freeway/Expressway" and is a total of 1.53 miles in length which equates to an average of 44 crashes per mile for the five-year period. The speed along this highway segment varies from 50 mph at the west end to 60 mph at the east end. There were four severe crashes in the corridor including two fatalities. Two of these crashes involved angle collisions at the intersection with 14th Avenue/Reynolds Road, one of which was a fatality and the other involved a serious injury. It appears that improvements have recently been made to this intersection to increase driver awareness of the side street stop condition. Crash experience should continue to be monitored to determine the effectiveness of these improvements. The other severe crashes involved a right turn movement at the intersection with Moon Road which resulted in a fatality, and a pedestrian crash on the bridge over SR 24 which resulted in a serious injury.

Broadway Avenue between Lee Road and SR 26 experienced 44 crashes over five years, equating to about nine crashes per year. The road is designated as a Minor Arterial for a total of 2.03 miles and an average of near 22 crashes per mile for the five-year period. The posted speed along this corridor is 35 mph speeds. There were two severe crashes, one which involved a northbound left turn at the intersection with Main Street resulting in a serious injury. The other severe crash involved hitting a metal signpost near the intersection with Hemlock Street and resulted from racing.

The remaining high crash corridors included:

- **N/S 4th Avenue** – This local street had 36 total crashes, none of which were severe. There was an average of about seven crashes per year.
- **SR 17** – Reported crashes on this highway within the city were concentrated at or near the intersection with E Main Street/Cunningham Road (milepost 29.38). Two were severe involving angle crashes including one fatality. The intersection experienced 34 crashes over the five-year analysis period or an average of just under seven per year.

Table 5. Summary of Crash Data for 10 Highest Corridors

Corridor	Segment	Segment Length (Miles)	Functional Classification	Speed Limit	Crashes/ Mile	Existing Crashes by Type											
						Rear-end	Sideswipe	Right Turn	Head On	Parked Vehicle	Left Turn	Angle	Fixed Object	Pedestrian	Pedal cyclist	Other	Total (Severe)
E Main Street	Broadway Avenue – SR 17	2.00	Minor Arterial	30/35 mph	60.5	22	16	3	0	6	23	35	9	4 (2)	1	2	121 (2)
SR 26	Milepost 40.08 – 41.61 (Moon Road-14th Avenue)	1.53	Other Fwy/Expwy	50/60 mph	44.4	14	3	2 (1)	2	0	5	30 (2)	7	2 (1)	0	3	68 (4)
N/S Broadway Avenue	Lee Road – SR 26	2.03	Minor Arterial	35 mph	21.7	1	6	5	1	0	7 (1)	12	11 (1)	0	0	1	44 (2)
N/S 4th Avenue	Olympia Street – Columbia Street	1.44	Local	25 mph	25.0	1	0	0	0	12	4	16	3	0	0	0	36
SR 17[1]	Milepost 29.35 – 29.38	0.03	Other Fwy/Expwy	50 mph	1133.3	5	1	0	0	0	8	18 (2)	1	0	0	1	34 (2)
N/S 1st Avenue	Fir Street – SR 26	1.22	Minor Arterial	25 mph	27.9	1	3	0	0	4	4	22	0	0	0	0	34
N/S 7th Avenue	Lee Road – Gemstone Street	1.85	Minor Arterial	25 mph	15.1	7	1	1	0	3	1	12	1	1 (1)	1	0	28 (1)
N/S 14th Avenue	Lee Road – South City Limits	2.27	Major Collector	35/25 mph	10.1	6	0	0	0	3	4	10	0	0	0	0	23
N/S 10th Avenue	Pine Street – Gemstone Street	0.98	Local	25 mph	23.5	1	0	0	0	8	0	12	0	1	0	1	23
E Hemlock Street	1st Avenue – 14th Avenue	0.93	Local	25 mph	21.5	1	0	0	0	6	0	12	1	0	0	0	20
Total Crashes	-	**-**	**-**	**-**	**-**	**59**	**30**	**11 (1)**	**3**	**42**	**56 (1)**	**179 (4)**	**33 (1)**	**8 (4)**	**2**	**8**	**431 (11)**

Note: Numbers in brackets are severe crashes

1 Crashes on SR 17 within the City are concentrated at the intersection with E Main Street/Cunningham Road. There have been recent improvements to side street stop control to address this problem. Data should continue to be monitored over time.

- **N/S 1st Avenue** – This minor arterial had 34 crashes, none of which were severe. There was an average of just under seven crashes per year. Nearly two-thirds of the crashes involved angle collisions.
- **N/S 7th Avenue** – This minor arterial had 28 crashes, one of which was severe. This severe crash occurred at the intersection with Pine Street and involved a serious injury to a pedestrian.
- **N/S 14th Avenue** – This major collector had 23 crashes, none of which was severe. Nearly half of the crashes involved angle collisions.
- **N/S 10th Avenue** – This local street also had 23 crashes, over half of which involved angle collisions. No severe crashes occurred in this corridor.
- **E Hemlock Street** – This local street experienced 20 crashes, more than half of which involved angle collisions. There were no severe crashes in the corridor.

2.2.1 Systemic Themes in Corridor Crashes

Key safety-related themes that emerge from the analysis of existing crashes in Othello include:

- On the basis of crash experience, the ten top-ranking corridors comprise nearly two-thirds of the total crashes occurring within the city.
- Nearly 42 percent of the crashes occurring in these corridors involved angle collisions.
- Several of the high crash corridors included lower volume and lower speed local streets. These were dominated by angle collisions.
- Rear end and left turn crashes are also significant, involving about 14 percent and 13 percent, respectively.
- Three of the four fatal crashes that occurred within the city occurred along these corridors.
- Eight of the eleven serious injury crashes that occurred within the city occurred along these corridors.
- Four of the eleven severe crashes that occurred in these corridors involved pedestrians, particularly along Main Street.

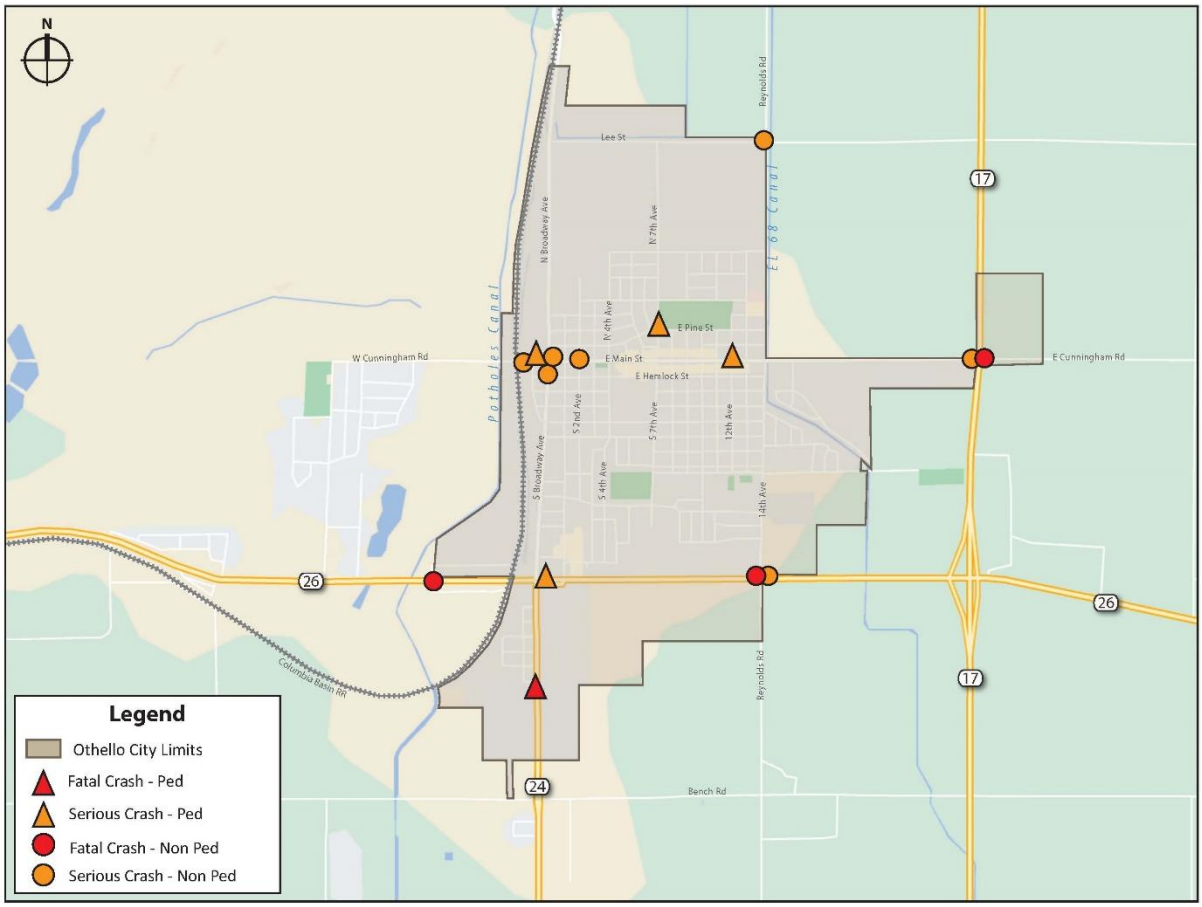
2.3 Severe Crashes

Of the 687 total crashes on Othello streets (including state highways), there were four fatalities and 11 serious injury crashes, representing a total of 2.2 percent of all crashes. Fatalities represent a total of 0.06 percent of all crashes in the city, while serious injuries represent a total of 1.6 percent of citywide crashes. Fatal and serious injury crashes, referred to in this report as severe crashes, are the focus of the *Local Road Safety Plan*. Of the 15 total severe crashes occurring within the city limits, seven occurred on state highways including all of the fatalities. Eight serious injury crashes occurred on city streets within the city limits. **Figure 3** shows the location of the 15 severe collisions during the five-year study period.

Ten severe crashes occurred at intersections, and only two of those crashes occurred at intersections that have traffic signals, the remainder were controlled with side street stop signs.

Descriptive information related to the severe crashes is presented in **Table 6**.

Figure 3. 2019-2023 Severe Crashes in Othello



2.3.1 Systemic Themes with Severe Crashes

Predominant risk factors affiliated with the fifteen severe crashes include:

- 53.3 percent involved angle or turning crashes
- 33.3 percent involved one or more pedestrians
- The predominant contributing cause is failure to yield right of way to another motorist (40 percent) or to a non-motorist (13 percent) or reckless driving (13 percent)
- 10 (2/3) occurred at intersections
- All but one of the severe ped crashes occurred after dark but in an area with streetlights
- Seven of the severe crashes occurred on a state highway (with 4 fatalities and 3 serious injury crashes)
- Eight of the severe crashes occurred on a city street (all of which involved serious injuries). Six occurred on minor arterials, one on a minor collector and one on a local street.

Table 6. Characteristics of Severe Crash Locations

Corridor	Location	Milepost	Functional Classification	Number of Travel Lanes	Speed Limit	Fatal	Serious Injury	Crash Type	Contributing Cause	Weather	Roadway Surface	Lighting
SR 17	At intersection with E Main Street/Cunningham Road-stop	29.38	Other Freeway/ Expressway	2 thru & left/SB right	50	1		Angle	Did not Yield ROW	Clear	Dry	Daylight
SR 17	At intersection with E Main Street/Cunningham Road-stop	29.38	Other Freeway/ Expressway	2 thru & left/SB right	50		1	Angle	Did not Yield ROW	Partly Cloudy	Dry	Daylight
SR 24	South of Park Street	78.98	Minor Arterial	2 thru	35	1		Ped	Not Listed	Raining	Wet	Dark with Street Lights
SR 26	At intersection with Reynolds Road-stop	41.61	Other Freeway/ Expressway	2 thru & left/right	60	1		Angle	Did not Yield ROW	Clear	Dry	Dark with Street Lights
SR 26	At intersection with Reynolds Road-stop	41.61	Other Freeway/ Expressway	2 thru & left/right	60		1	Angle	Did not Yield ROW	Partly Cloudy	Dry	Dark with Street Lights
SR 26	On bridge over SR 24	40.60	Other Freeway/ Expressway	2 thru	50		1	Ped	Not Listed	Fog/ Smoke	Wet	Dark with Street Lights
SR 26	At intersection with Moon Road-stop	40.09	Other Freeway/ Expressway	2 thru	60	1		Turn	Over Centerline	Partly Cloudy	Dry	Dark no Street Lights
E Main Street	At intersection with 12th Avenue-stop	--	Minor Arterial	4 thru & TWLTL	30		1	Ped	Vehicle did not Yield to Ped	Partly Cloudy	Dry	Dark with Street Lights
E Main Street	At Intersection with Broadway Avenue-signal	--	Minor Arterial	4 thru & TWLTL	30		1	Ped	Distraction	Clear	Dry	Daylight
S Broadway Avenue	At Intersection with E Main Street-signal	--	Minor Arterial	4 thru & TWLTL	35		1	Turn	Did not Yield ROW	Partly Cloudy	Dry	Daylight
N 2nd Avenue	At Intersection with E Main Street-stop	--	Local Street	2 thru	25		1	Angle	Did not Yield ROW	Clear	Dry	Daylight
N 7th Avenue	At intersection with E Pine Street-stop	--	Minor Arterial	2 thru	25		1	2 Peds	Vehicle did not Yield to Ped	Clear	Dry	Dark with Street Lights
S Broadway Avenue	At intersection with E Hemlock Street-stop	--	Minor Arterial	4 thru & TWLTL	35		1	Fixed Object	Racing	Clear	Dry	Daylight

Corridor	Location	Milepost	Functional Classification	Number of Travel Lanes	Speed Limit	Fatal	Serious Injury	Crash Type	Contributing Cause	Weather	Roadway Surface	Lighting
S Reynolds Road	At Intersection with W Lee Road	--	Minor Collector	2 thru	35		1	Angle	Disregard Stop Sign	Clear	Dry	Daylight
W Main Street	At Intersection with E Roosevelt Avenue	--	Minor Arterial	2 thru	35		1	Left Roadway	Defective Equipment	Clear	Dry	Dusk
Totals						**4**	**11**					

2.4 Pedestrian and Bicycle Crashes (Vulnerable Users)

There were 15 total crashes in Othello during the study period which involved a pedestrian or bicyclist. Five, or 33 percent, of these crashes resulted in a serious injury or a fatality, all affecting pedestrians. This high percentage of severe pedestrian crashes compares to the lower percentage that severe crashes represent out of total citywide crashes – just over 2 percent – and is indicative of the much higher level of risk assumed by vulnerable persons as they use the multimodal transportation system.

Figure 4 shows the location of all pedestrian and bicycle crashes. There were no severe crashes involving bicyclists. The locations where the severe pedestrian crashes occurred are:

- SR 24 entering Othello from the south which included one fatal pedestrian crash involving a person walking along the edge of the highway where there was no provision for pedestrian movement.
- SR 26 on the bridge over SR 24 involving one serious injury pedestrian crash. The pedestrian was walking along a very narrow highway shoulder approaching the bridge over SR 24.
- Serious injury pedestrian crashes occurred on city streets at:
    - N 7th Avenue at E Pine Street – crash impacted pedestrian crossing 7th Avenue. Crosswalks and streetlights were present but there was no stop-control on 7th Avenue
    - E Main Street at N 12th Avenue – crash impacted pedestrian crossing Main Street. Crosswalks and streetlights were present but there was no stop-control on Main Street. The crossing is very wide with five travel lanes and wide shoulders for a total crossing distance of about 80 feet.
    - E Main Street at N Broadway Avenue – crash impacted a pedestrian crossing the east leg of the intersection on a green light who was hit by a southbound left turning vehicle. Crosswalks, streetlights and a traffic signal were present. The crossing is about 80 feet in width. The driver was cited for distracted driving.

Table 7 presents a summary of vulnerable user crashes including those that involved fatalities or serious injuries.

2.4.1 Systemic Themes for Vulnerable User Crashes

- Ten occurred at intersections or involved crossing the street. Many of the locations had crosswalks but often the driver did not yield to the pedestrian or was distracted.
- Five of the vulnerable user crashes involved serious injury or fatality.
- All but one of the severe pedestrian crashes occurred after dark but in an area with streetlights
- There appears to be a pattern of crashes along Main Street that may present a systemic opportunity to improve pedestrian crossings along this facility, particularly to narrow the crossing distance for walkers.

Figure 4. 2019-2023 Bicycle and Pedestrian Crashes in Othello

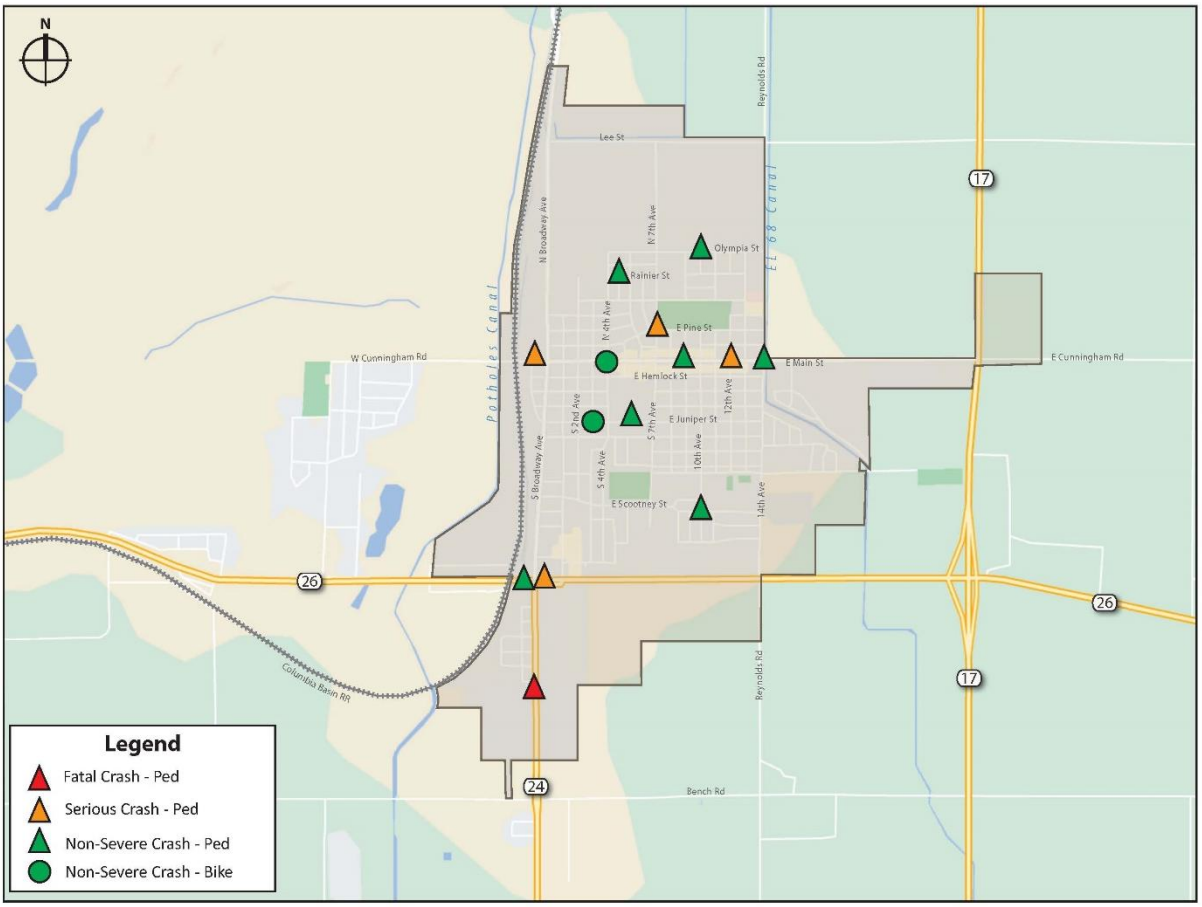


Table 7. Characteristics of Vulnerable User Crash Locations

Corridor	Location	Functional Classification	Number of Travel Lanes	Crosswalks	Speed Limit	Fatal	Serious Injury	Other Injury	Crash Type	Contributing Cause	Weather	Roadway Surface	Lighting
E. Main Street	At intersection with S 14th Avenue-signal	Minor Arterial	2/4 thru & left	Y	35			1	Ped	Did not Grant ROW to Non-Motorist	Clear	Dry	Dark with Street Lights
N 10th Avenue	At intersection with E Olympia Street-stop	Local	2 thru	N	25			1	Ped	Inattention	Partly Cloudy	Dry	Daylight
N 7th Avenue	At intersection with Pine Street-no stop	Minor Arterial	2 thru	Y	25		1		Ped	Did not Grant ROW to Non-Motorist	Clear	Dry	Dark with Street Lights
E Juniper Street	Near intersection with S 7th Avenue-stop	Major Collector	2 thru	Y	25			1	Ped	Other Distractions	Clear	Dry	Dawn
E Main Street	At intersection with N 12th Avenue-no stop	Minor Arterial	4 thru & lefts	Y	30		1		Ped	Did not Grant ROW to Non-Motorist	Partly Cloudy	Dry	Dark with Street Lights
E Main Street	At intersection with N Broadway Avenue-signal	Minor Arterial	4 thru & lefts	Y	30		1		Ped	Unknown Distraction	Clear	Dry	Daylight
E Main Street	At intersection with N 9th Avenue-no stop	Minor Arterial	4 thru & lefts	Y	30			1	Ped	Did not Grant ROW to Non-Motorist	Partly Cloudy	Dry	Daylight
E Rainier Street	At driveway near N Shelley Avenue-no stop	Local	2 thru	N	25			1	Ped	Backed into Non-Motorist	Clear	Ice	Dark with Street Lights
E Scootney Street	At intersection with S 10th Avenue-4-way stop	Minor Arterial	2 thru	Y	25			1	Ped	Unknown Distraction	Partly Cloudy	Dry	Daylight
SR 24	Not at intersection/ South of Park Street (MP 79.98)	Other Fwy/ Expressway	2 thru	N	35	1			Ped	None Listed	Raining	Wet	Dark with Street Lights
SR 26	Not at intersection/ Approach to bridge over SR 24 (MP 40.40)	Other Fwy/ Expressway	2 thru	N	50			1	Ped	None Listed	Clear	Dry	Dark, No Street Lights
SR 26	Not at intersection/ Approach to bridge over SR 24 (MP 40.60)	Other Fwy/ Expressway	2 thru	N	50		1		Ped	None Listed	Fog	Wet	Dark with Street Lights
E Juniper Street	At intersection with S 3rd Avenue-no stop	Local	2 thru	N	25			1	Bicycle	Did not Grant ROW to Non-Motorist	Clear	Dry	Daylight

Corridor	Location	Functional Classification	Number of Travel Lanes	Crosswalks	Speed Limit	Fatal	Serious Injury	Other Injury	Crash Type	Contributing Cause	Weather	Roadway Surface	Lighting
E Main Street	At intersection with S 4th Avenue-no stop	Minor Arterial	4 thru & lefts	Y	30			1	Bicycle	Did not Grant ROW to Non-Motorist	Clear	Dry	Daylight
S 7th Avenue	Near alley access road	Minor Arterial	2 thru	N	25			1	Bicycle	Did not Grant ROW to Non-Motorist	Partly Cloudy	Dry	Daylight

2.5 Comparison with Eastern Washington

The aggregate of all crashes and the shortlist of severe crashes in Othello were reviewed to identify and characterize the risk factors associated with them. Based on available data from the records of the 687 total and 15 severe crashes reported in Othello, key crash factors were identified. In developing the list of crash factors that were most significant for Othello city streets, consideration was given to both contributing causes and other features included in the crash record and on characteristics of the crash location. These risk factors for all streets are included in **Table 8** along with comparable information on the presence of these same risk factors averaged for the locations of all urban crashes in Eastern Washington.

As shown in the table, in comparison with other Eastside cities, crashes in Othello involve:

- Higher angle, turn and parked car crashes than other eastside cities
- More crashes at intersections than in other eastside cities
- More problems with failure to yield right of way, distracted driving and making improper maneuvers such as turns, passing, backing, etc.
- More problems with crashes involving making left turns

Table 8. Comparison of Crash Factors Present in Othello for All Crashes

Crash Risk Factors	City of Othello	Eastern Washington Cities
By Crash Type		
Entering at Angle	277 (**40.3%**)	32.1%
Hit Parked Car	120 (**17.5%**)	13.0%
Turn	89 (**13.0%**)	10.3%
Rear End	77 (11.2%)	18.1%
Roadway Departure	55 (8.0%)	12.0%
By Junction Relationship		
At Intersection & Related	451 (**65.6%**)	58.4%
Not at Intersection & Not Related	194 (28.2%)	30.2%
Not at Intersection but Related	28 (4.1%)	6.2%
By Contributing Circumstances		
Did not Grant Right of Way to Vehicle	200 (**29.1%**)	11.2%
Distraction	86 (**12.5%**)	7.7%
Improper Maneuver (turn, pass, etc.)	73 (**10.6%**)	5.3%
By Vehicle Action		
Going Straight	355 (51.7%)	52.6%
Making Left Turn	149 (**21.7%**)	11.7%

Bold = Higher than the rest of Eastern Washington cities.

Table 9 summarizes the crash factors present in severe crashes in comparison to the same risk factors averaged for the locations of all urban crashes in Eastern Washington. As indicated in bold, many of the key crash factors in Othello are occurring at higher levels than other Eastern Washington cities.

As shown in the table, in comparison with other Eastside cities, crashes in Othello involve:

- Significantly higher severe crashes involving angle and turn collisions than other eastside cities
- Significantly higher severe pedestrian crashes

- More problems failure to yield by a motorist to another vehicle or to a pedestrian
- More problems with left turning vehicles
- More problems after dark in areas with streetlights
- Significantly more problems with higher speed traffic (more than 35 mph). This is largely related to the severe pedestrian crashes that occurred on state highways

Table 9. Comparison of Crash Factors Present in Othello for Severe Crashes

Crash Risk Factors	City of Othello	Eastern Washington Cities
By Crash Type		
Entering at Angle	5 (**33.3%**)	23.1%
Pedestrian	5 (**33.3%**)	23.9%
Turn	3 (**20.0%**)	9.9%
By Junction Relationship		
At Intersection & Related	5 (33.3%)	57.2%
Not at Intersection & Not Related	4 (26.7%)	34.9%
By Contributing Circumstance		
Did not Grant Right of Way to Vehicle	6 (**40.0%**)	8.1%
Vehicle did Not Yield to Pedestrian	2 (**13.3%**)	4.3%
By Vehicle Action		
Going Straight Ahead	9 (60.0%)	62.5%
Making Left Turn	3 (**20.0%**)	15.0%
By Light Condition		
Daylight	7 (46.7%)	53.6%
Dark - Street Lights On	6 (**40.0%**)	34.4%
By Vehicle Speed		
25 mph	2 (13.3%)	26.2%
30 mph	2 (13.3%)	30.2%
35 mph	5 (**33.3%**)	32.6%
> 35 mph	6 (**40%**)	9.8%
By Contributing Cause for Pedestrian Crashes		
Did not Grant Right of Way to Vehicle	2 (13.3%)	16.1%
Wrong Side of Road	1 (0.7%)	1.4%
Under Influence of Alcohol or Drugs	1 (0.7%)	7.2%

Bold = Higher than the rest of Eastern Washington cities.

3 SELECTION OF MOST COMMON RISK FACTORS

Based on review of the severe crash data presented in Chapter 2, an analysis was conducted to identify the most common risk factors. Risk factors included crash type, contributing factors, roadway and intersection characteristics, driver/pedestrian behavior, and posted speed.

Based on guidance found in WSDOT's Target Zero – Washington Strategic Highway Safety Plan, the primary risk factors found in severe crashes were grouped into priority levels one and two. The levels are based on the percentage of traffic fatalities and serious injuries associated with each factor.

- **Priority Level 1:** Contributing risk factors that are involved in 25 percent or more of fatal or serious injury crashes
- **Priority Level 2:** Risk factors that are involved in less than 25 percent of fatal or serious injury crashes

From the data analysis, patterns arose showing several factors that were present in the fatal and serious injury collisions. The risk factors for Priority Levels 1 and 2 are listed below.

Priority Level 1: As indicated from the data in Table 8 and Table 9, supplemented by Tables 6 and 7, risk factors that represent 25 percent of more of the severe crashes within the city include:

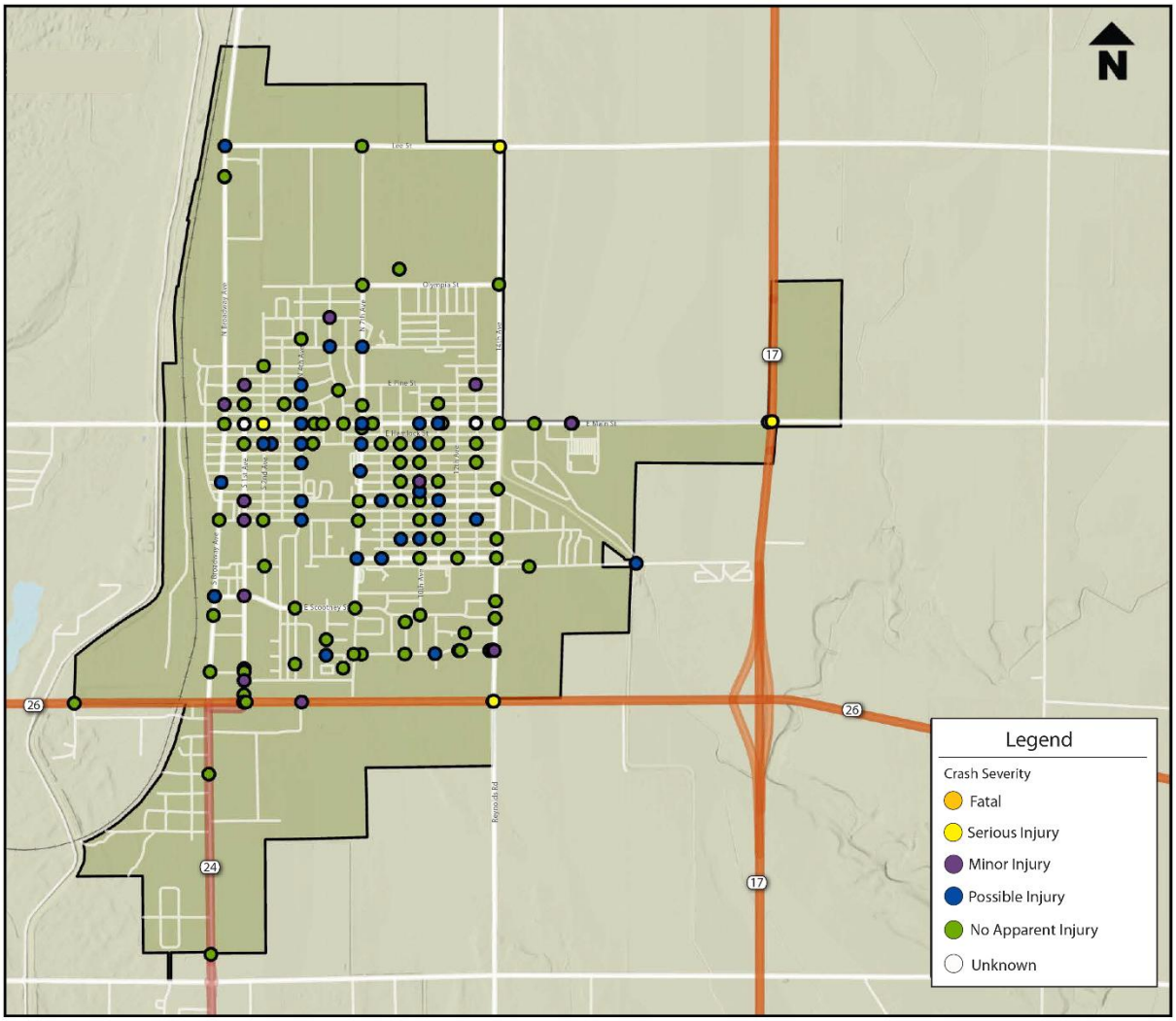
- Entering at an angle
- Hitting pedestrians
- At intersections and related
- Not at intersection and not related
- Did not grant the right of way to vehicle
- In areas with both 35 mph speeds and speeds in excess of 35 mph (state highways)
- Vehicle not yielding to a non-motorist or distraction/inattention affecting non-motorist
- Pedestrian crashes located within crosswalks.

Priority Level 2: All other crash types and potential risk factors identified in Table 8 and Table 9 including:

- Turning crashes (both left and right)
- Failing to yield to non-motorist
- In areas with both 25 and 30 mph speeds

Figure 5 illustrates the location and severity of angle crashes in Othello which can clearly be seen as occurring throughout the community and not just along major roadways.

Figure 5. 2019-2023 Angle Crashes by Severity in Othello



4 IDENTIFICATION OF HIGH PRIORITY LOCATIONS

Severe crashes on streets in the city of Othello are dominated by pedestrian and angle crashes. The four fatal crashes during the five-year study period involved two angle crashes, one turning crash and one pedestrian crash. All of these occurred on state highways in the study area. Out of all the risk factors identified under priority level 1, four specifically speak to angle crashes (crash type, at intersections, did not grant right of way to vehicle and locations with posted speed over 35 mph), and six speak to pedestrians (crash type, at intersections, failure to grant right of way to non-motorist, pedestrian crashes in marked crosswalks, pedestrian crashes along straight and/or level roadways, and crashes in areas with posted speeds of 25 or 30 mph on city streets).

Additionally, several of the crashes that occurred under dark but illuminated conditions involved both angle and pedestrian crashes and occurred in areas that included both intersections and areas between intersections. Only one of the severe crashes was reported to be related to speeding vehicles and the vehicle was reported as racing.

4.1 Selection of Priority Locations

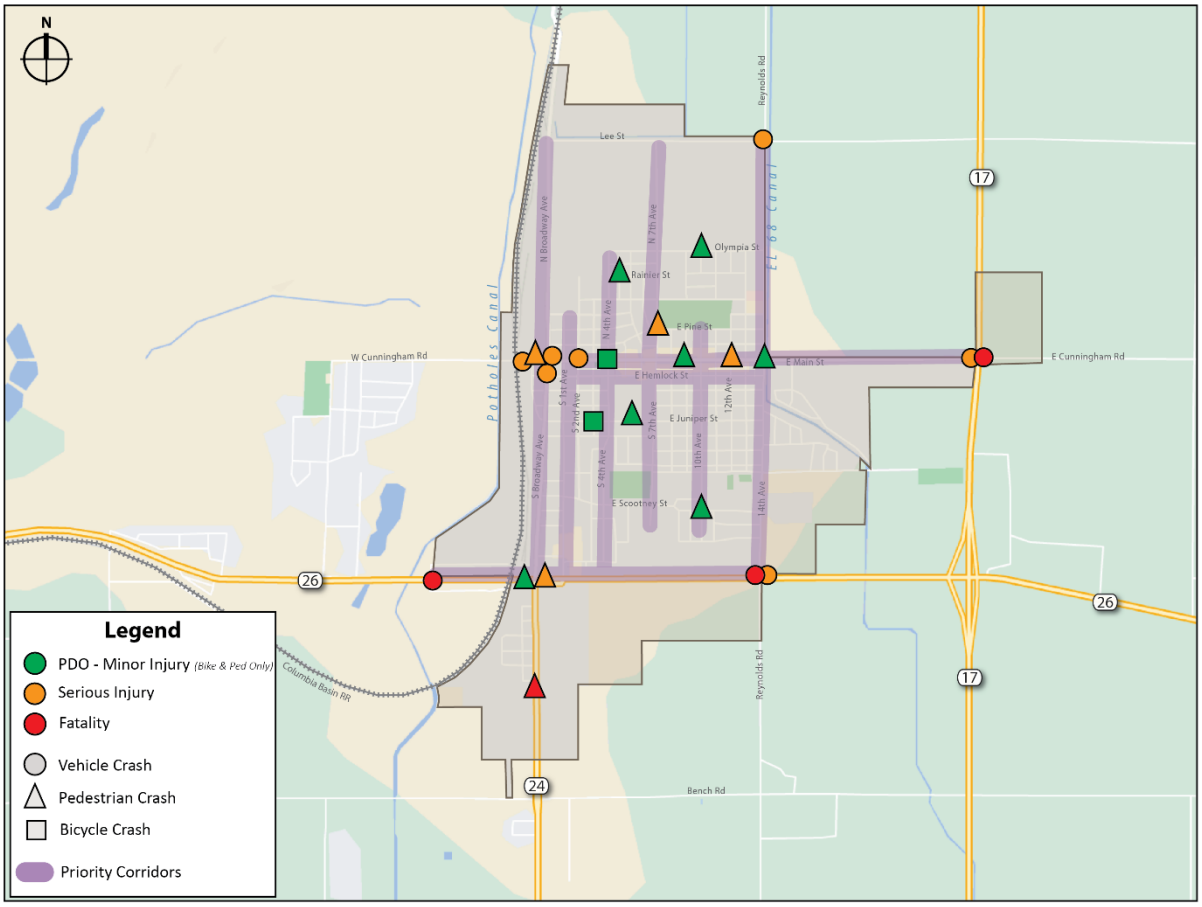
4.1.1 Priority Corridors

Because risk factors associated with angle and pedestrian bicycle crashes are the highest severe crash types in Othello, these have been selected to assess the roadway corridors. The locations of all angle and pedestrian crashes were used for determining priority roadway corridors. Consideration was also given to the location of left and right turning crashes which are related to angle crashes. This information, shown in **Figure 6**, indicates the following roadway corridors should be priority locations:

- *E Main Street between Broadway Avenue and SR 17* - 35 angle crashes, 4 pedestrian crashes, 26 turning crashes and 2 severe crashes. There were also 22 rear end crashes in this corridor.
- *SR 26 between Moon Road and 14th Avenue* - 30 angle crashes, 2 pedestrian crashes, 7 turning crashes and 4 severe crashes
- *N/S Broadway Avenue between Lee Road and SR 26* - 12 angle crashes, 12 turning crashes and 2 severe crashes. There were also 11 crashes involving fixed objects in this corridor, one of which was severe.
- *N/S 4th Avenue between Olympia Street and Columbia Street* - 16 angle crashes, 4 turning crashes, but no severe crashes. There were also a significant number of crashes with parked cars in this corridor.
- *N/S 1st Avenue between Fir Street and SR 26* - 22 angle crashes, 4 turning crashes, and no severe crashes.
- *N/S 7th Avenue between Lee Road and Gemstone Street* - 12 angle crashes, 2 turning crashes and 1 severe crash.
- *N/S 14th Avenue between Lee Road and South City Limits* – 10 angle crashes, 4 turning crashes and no severe crashes. There were also 6 rear end collisions and 3 crashes with parked vehicles.
- *N/S 10th Avenue between Pine Street and Gemstone Street* - 12 angle crashes, 1 pedestrian crash and no severe or turning crashes. There were also 8 crashes with parked cars.

- *E Hemlock Street between 1st Avenue and 14th Avenue* – 12 angle crashes, six crashes with parked vehicles. No severe or vulnerable user crashes.

Figure 6. Severe and Vulnerable User Crashes and Priority Corridors



4.1.2 High Priority Locations

4.1.2.1 Severe Crashes

This data was further refined to account for locations of severe crashes both within these priority corridors and elsewhere within the city.

- *SR 17 at E Main Street/Cunningham Road* - Crashes on SR 17 within the City are concentrated at the intersection with E Main Street/Cunningham Road including one fatality in June of 2020 and one serious injury in February of 2020. There have been recent improvements to side street stop control to address this problem. Data should continue to be monitored over time.
- *SR 24 south of SR 26* – There was one pedestrian fatality along the side of the highway south of Park Street. While there are wide shoulders on the highway in this area, there are no pedestrian facilities. Development along the roadside is urban in character.

- *SR 26 at Reynolds Road* – Some of the crashes on SR 26 within the City have occurred at the intersection with Reynolds Road/14th Avenue including one fatality in September of 2022 and one serious injury crash in August of 2021. Both of these crashes involved angle collisions. There have been recent improvements to the side street stop control to address this problem. Data should continue to be monitored over time.
- *SR 26 bridge over SR 24* – There were two pedestrian-related crashes on the approaches to the SR 26 bridge over SR 24, one of which involved a serious injury. The crash occurred in January of 2023 after dark. Even though there were streetlights in the area, the pavement was wet and conditions foggy. Visibility may have been an issue. Pedestrian connections between the west of the city and the city center are constrained due to the canal and railroad tracks and it may be worth considering the development of an improved connection.
- *SR 26 at Moon Road* – There were several crashes at or very near to this intersection involving turning, rear end and angle collisions. There was one fatality involving a turn caused by a vehicle that strayed over the centerline.
- *E Main Street at 12th Avenue* – There was one serious injury crash at this intersection involving a pedestrian who was crossing Main Street and was hit by a motorist who failed to yield. The crash occurred after dark and streetlights were on.
- *E Main Street at Broadway Avenue* – There were two serious injury crashes at this intersection. One crash occurred on the E Main Street leg and involved a southbound left turning vehicle hitting a pedestrian in the crosswalk. Both parties were moving on a green light at this signalized intersection, but the driver was apparently distracted and did not see the pedestrian in a timely manner. The second crash occurred on the Broadway Avenue leg of the intersection and involved a conflict between a southbound through vehicle and a northbound left-turning vehicle who did not yield right of way.
- *N 2nd Avenue at E Main Street* – One serious injury crash occurred at this location which involved an angle collision between a southbound vehicle crossing E Main Street and through traffic on E Main Street. The N 2nd Avenue leg of the intersection was stop-controlled, and the driver was cited as failing the yield right of way.
- *N 7th Avenue at E Pine Street* – A serious injury crash involving two pedestrians crossing N 7th Avenue on E Pine Street who were hit by a motorist failing to yield. The pedestrians appear to have been in the crosswalk, but the crash occurred after dark. The intersection is illuminated, and the weather was clear with dry pavement.
- *S Broadway Avenue at E Hemlock Street* – One serious injury crash occurred on S Broadway Avenue that involved a vehicle hitting a fixed object. The driver was cited for racing.
- *S Reynolds Road at W Lee Road* – One serious injury crash occurred on S Reynolds Road involving an angle crash. Reynolds Road is stop-controlled at this intersection and the driver was cited for disregarding the stop sign. The crash occurred during the day which the weather was clear and the road dry.

4.1.2.2 Vulnerable User Crashes

Data related to vulnerable users that were not involved in severe crashes were also identified as priority locations due to the systemic opportunities that these types of crashes provide. Vulnerable users are typically the most susceptible to injury which may sometimes be severe. Locations to address include:

- *E Main Street at S 14th Avenue* – This crash resulted in minor injuries to a pedestrian who was hit by a car making a westbound left turn from S 14th Avenue. The vehicle driver failed to yield.
- *E Main Street at N 9th Avenue* - This crash resulted in minor injuries to a pedestrian who was hit by a through-moving car while apparently trying to cross E Main Street. The vehicle driver was cited as failing to yield.
- *E Main Street at S 4th Avenue* – This crash resulted in possible injuries to a bicyclist who was hit by a through-moving car. The vehicle driver was cited as failing to yield.
- *E 10th Avenue at E Olympia Street* – This crash resulted in possible injuries to a pedestrian from a right-turning vehicle. The probable cause was cited as driver inattention.
- *E Juniper Street near S 7th Avenue* - This crash resulted in minor injuries to a pedestrian who was hit by a through-moving car on E Juniper Street. The crash occurred at dawn and the contributing cause was driver distraction.
- *E Juniper Street at S 3rd Avenue* - This crash resulted in minor injuries to a bicyclist who was hit by a through-moving car. The vehicle driver was cited as failing to yield.
- *E Rainier Street at driveway near S Shelley Avenue* - This crash resulted in possible injuries to a pedestrian from a vehicle that backed into the walker. No probable cause was identified.
- *E Scootney Street at S 10th Avenue* - This crash resulted in minor injuries to a pedestrian who was hit by a through-moving car on E Scootney Street. The crash occurred in daylight and the contributing cause was driver distraction.

4.2 Public Input

The development of this Local Road Safety Plan included public outreach efforts in the form of an online survey that was advertised by the city through a number of venues. Concerns that have been raised by residents through this survey have also been taken into consideration in the development of the plan and are described below:

- Property access onto E Main Street – difficult to make left turns
- Concern about turning movements with curb bulb-outs – makes vehicle turns more difficult and places pedestrian right next to traffic instead of back a little
- Congestion on E Main Street – vicinity of Walmart and other businesses
- Need more street lighting – comments identified needs on SR 24 at Hampton Road, vicinity of 14th Avenue and Main Street, 7th Avenue and Scootney Street
- On-Street parking concern along Pine Street at Lions Park
- Pavement condition – pavement is deteriorating in places and needs more than chip seal.
- Pavement marking – concerns about marking on 4th and 90-degree parking on Pine Street next to Lions Park.

- Pedestrian crossings in numerous locations – many locations along 14th Avenue (Scootney, Cemetery, Oak and Ash), Main Street, 7th Avenue
- School traffic – congestion, traffic flow, effect on pedestrians and need for crossing protection
- Sight distance – vehicles on side streets have difficulty seeing major street traffic when turning
- Signals – Timing at Main at 1st Avenue (lots of delay when no conflicting vehicles are present, Main and 14th Avenue (driver confusion), and Main at Broadway (too much delay when no conflicting traffic is present).
- Speeding – the most common complaint with a focus on Main Street, Broadway Avenue, 7thAvenue, 14th Avenue, Scootney Street, Olympia Street, 3rd Avenue, 10th Avenue, Pine Street, SR 26 at Sunset Acres, Fir Street, Gemstone Street, Madera Street, and Thacker Road.
- State Highway issues – SR 26 at Reynolds (3 comments on need for improvements) SR 17 at E Main Street/Cunningham Road (too much traffic), SR 26 at 14th Avenue (needs a signal or roundabout), SR 24 at Hampton Road (two comments on need for a left turn lane due to high speed of traffic), and SR 26 at Sunset Acres (need for better turning movement protection).
- Temporary traffic circles – opposition to these. Needs a before/after study to determine effectiveness in reducing travel speeds.
- Traffic calming – New development needs more thought about where/when to install these or traffic calming devices when development occurs.
- Traffic enforcement – needs more focused traffic enforcement
- Visibility – Hard to see to turn left onto Broadway from SR 26 loop road connection.

In a number of locations these concerns are consistent with reported crash data and the recommendations included in this plan based on that data.

1. The plan recommends pedestrian improvements along E Main Street consistent with the expressed concerns about pedestrian safety in this corridor. There are several comments in opposition to the presence of curb extensions (bulb outs), but these projects can substantially improve pedestrian safety by bringing pedestrians closer into the driver's cone of vision and by shortening the street crossing distance and the length of time a pedestrian is exposed to vehicular traffic.
2. The plan recommends pedestrian improvements including added illumination along 7th Avenue in the vicinity of Lutacaga Elementary School, Lions Park and Hiawatha Elementary School.
3. The plan endorses WSDOT's pending roundabout improvement on SR 26 at 1st Avenue.
4. The plan urges completion of WSDOT's recommended roundabout improvement on SR 17 at E Main Street/Cunningham Road.
5. The plan recommends installing a roundabout at the intersection of SR 26 at Reynolds Road.
6. The plan recommends pedestrian safety improvements at the intersections of E Main Street with Broadway Avenue and 14th Avenue.
7. The plan recommends signalization improvements on E Main Street at Broadway Avenue.

Many of the comments received from the public refer to locations where there is little or no crash data to support safety-based recommendations. However, the comments provide a window into concerns in the community beyond recent crash experience. They speak to larger issues of concern for pedestrian

and vehicular safety throughout the city. This manifests itself through comments pertaining to difficult pedestrian crossings, lack of illumination and the need for traffic calming to address a perceived significant speeding problem. A strategy to address many of these concerns is identified and discussed in Chapter 6 on plan recommendations.

4.3 Corridor Location Prioritization

The key travel corridors identified in Figure 6 and listed in section 4.1.1 were prioritized for safety improvements based on criteria established by the study team and presented to the City's Street Sewer and Water Committee for concurrence. These criteria included consideration for a variety of risk factors that allowed for differentiation among the various crash locations and corridors. These risk factors, their relative weighting, and their primary purpose are summarized in **Table 10**. Scores for each location or corridor were added and reported as a total number.

Table 10. Prioritization Criteria for Crash Locations and Corridors

Category	Scoring Range	Weighting	Purpose
Severe Crashes	5 points per crash	High	Values the top priority crashes in the Plan
Vulnerable User Crashes	3 points per crash	High	Values an additional crash type with potentially high transportation safety risk
Total Crashes	1-3 Points	Medium	Ranks by the magnitude of crashes experienced, point values represent >50=3, 30-50=2, <30=1
Crashes/Mile	1-3 Points	Medium	Applies to crash corridors only. Ranks by magnitude with points representing >50=3, 30-50=2, <30=1.
Highest Risk Factor Crash Type	1-3 points	Medium	Values crash types that predominant in a community. Ranks by magnitude with points representing >50=3, 30-50=2, <30=1.
Pedestrian Activity Area	0-3 Points	Medium	Scored based on proximity to pedestrian area with 3 = High Priority, 2 = Medium Priority, 1 = Low Priority, 0 = No Effect/Relevance
Commercial Area	1-3 points	Low	Values access to a shopping/employment destination based on proximity and size.
Near School or Park	1-3 points	Medium	Values access to a school or park based on proximity and size, particularly relevant for active transportation
Active Transportation Plan Priority	0 or 2 points	Medium	Location already identified as an improvement priority. Two points for Yes (in the Plan) and Zero for not in the plan.

Table 11 presents the results of the scoring analysis and includes the average value score for each corridor. Locations are rated by the extent to which they satisfy each of the criteria in comparison with each other.

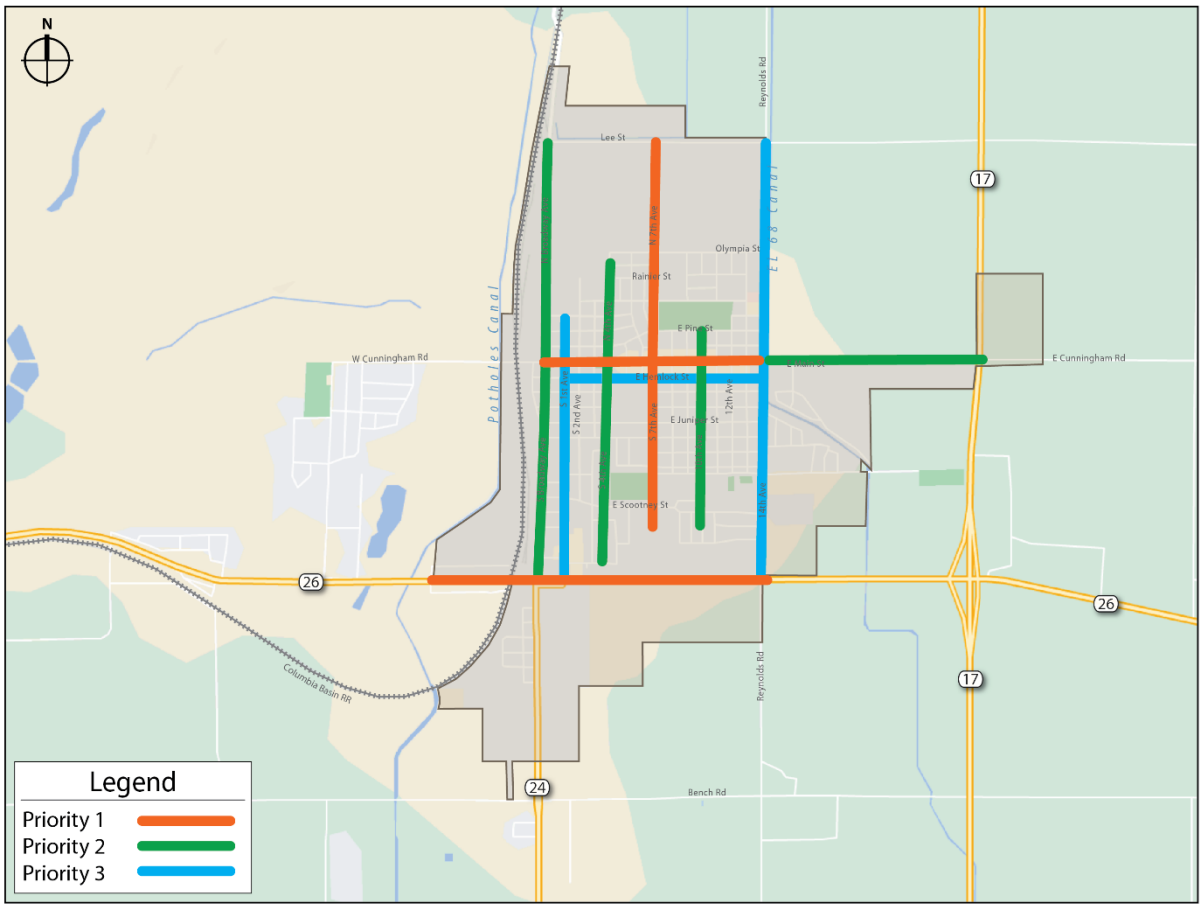
Based on application of the scoring criteria and a general ranking of priority safety improvement needs, locations were grouped into three priority levels reflecting both the importance of the proposed improvements and their urgency. Corridors by priority level are shown in **Figure 7**.

Table 11. Prioritization of Corridors

Location	Severe Crashes[1]	Vulnerable User Crashes[1]	Total Crashes[2]	Crashes/ Mile[3]	Key Risk Factor Crashes[3,4]	Pedestrian Activity Area[5]	Commercial Area[5]	Near School or Park[5]	ATP Priority[6]	Score
E Main Street (Broadway Ave-14th Ave	10 (2)	15 (5)	3 (110)	3 (108.4)	3 (32)	3	3	1	2	**43**
E Main Street/ Cunningham Rd (14th Ave-SR 17)	0	0	1 (11)	1 (11.2)	1 (3)	1	2	1	2	9
SR 26 (Moon Road-14th Ave/Reynolds Road)	20 (4)	6 (2)	3 (68)	3 (44.4)	3 (30)	1	1	0	2	**39**
N/S Broadway Avenue (Lee Rd-SR 26)	10 (2)	3 (1)	2 (44)	2 (21.7)	1 (12)	1	2	0	0	21
N/S 4th Avenue (Olympia St-Columbia St)	0	3 (1)	2 (36)	2 (25.0)	2 (16)	3	1	3	0	16
N/S 1st Avenue (Fir Street-SR 26)	0	0	2 (34)	2 (27.9)	2 (22)	2	2	0	2	12
N/S 7th Avenue (Lee Road-Gemstone St)	5 (1)	9 (3)	1 (28)	1 (15.1)	1 (12)	3	2	3	2	**27**
N/S 14th Avenue (Lee Rd-So City Limits)	0	3 (1)	1 (23)	1 (10.1)	1 (14)	2	1	2	2	13
N/S 10th Avenue (Pine St-Gemstone St)	0	6 (2)	1 (23)	2 (23.5)	1 (12)	2	1	2	2	17
Hemlock Street (1st Avenue-14th Avenue)	0	0	1 (20)	2 (21.5)	1 (12)	2	1	3	2	12

1 Weighted by five for each severe crash and by three for each vulnerable user crash. The number in brackets is the actual reported crash experience.
2 Sorted and scored by number of incidents. >50 = 3, 30-50 = 2, <30 = 1
3 Sorted and scored by magnitude of crashes/mile or number of key risk factor crashes. $\geq$ 30 = 3, 20-30 = 2, < 20 = 1
4 Angle movement crashes.
5 Qualitative evaluation = 3 - High Priority, 2 - Medium Priority, 1 - Low Priority, 0 – No Effect/Relevance
6 2 points if located on a priority corridor, 0 points if not on a priority corridor.

Figure 7. High Priority Corridors



4.3.1 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:

- East Main Street between Broadway Avenue and 14th Avenue
- SR 26 between Moon Road and 14th Avenue/Reynolds Road
- North/South 7th Avenue between Lee Road and Gemstone Street

4.3.2 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:

- East Main Street/Cunningham Road between east of 14th Avenue and SR 17
- North/South Broadway Avenue between Lee Road and SR 26
- North/South Fourth Avenue between Olympia Street and Columbia Street
- North/South 10th Avenue between Pine Street and Gemstone Street

While the cumulative score on E Main Street/Cunningham Road east of 14th Avenue is relatively low, the number of crashes on all legs of the intersection with SR 17 were relatively high. Accordingly, as this intersection has been identified as a Priority Level 2 spot location, the entire corridor is also included as a Priority Level 2.

4.3.3 Priority Level 3

Three 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:

- North/South 1st Avenue between Fir Street and SR 26
- North/South 14th Avenue between Lee Road and the south city limits
- Hemlock Street between 1st Avenue and 14th Avenue

4.4 Prioritization of Spot Improvement Locations

Table 12 presents the results of the scoring analysis and includes the value averaged score for each location in the city that experienced a severe crash or a crash involving a vulnerable user (bicyclist or pedestrian). Locations are rated by the extent to which they satisfy each of the criteria in comparison with each other.

Based on application of the scoring 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. Non-corridor spot improvement locations by priority level are shown in **Figure 8**.

4.4.1 Priority Level 1

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

- E Main Street at Broadway Avenue
- E Main Street at S 4th Avenue
- E Main Street at 12th Avenue
- SR 26 at 14th Avenue/Reynolds Road
- E Main Street at S 14th Avenue

4.4.2 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:

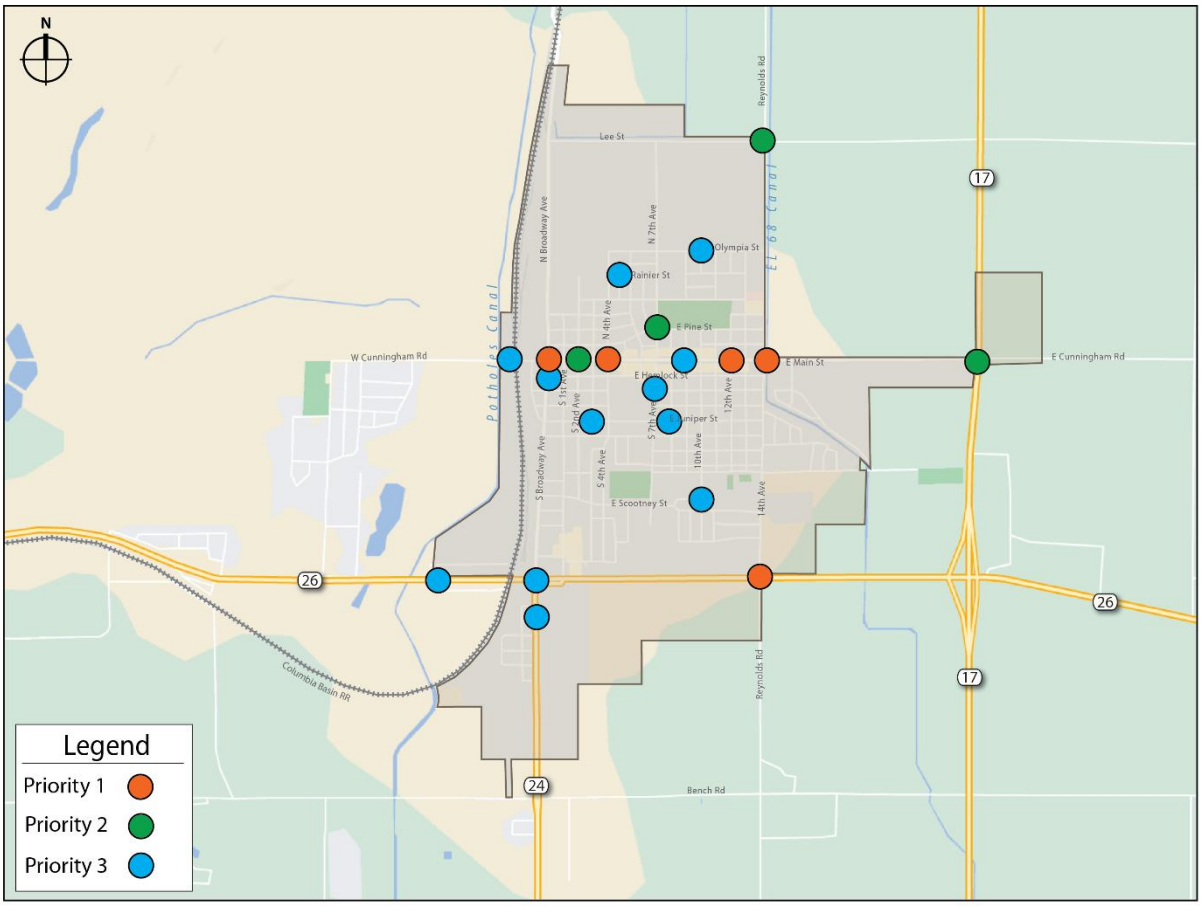
- SR 17 at Cunningham Road
- 2nd Avenue at E Main Street
- N 7th Avenue at E Pine Street
- S Reynolds Road at W Lee Street

Table 12. Prioritization of Spot Locations

Location	Severe Crashes[1]	Vulnerable User Crashes[1]	Total Crashes[2]	Key Risk Factor Crashes[3,4]	Pedestrian Activity Area[5]	Commercial Area[5]	Near School or Park[5]	ATP Priority[6]	Score
SR 24 south of SR 26	5 (1)	3 (1)	1 (1)	0	0	1	0	2	12
SR 26 Bridge over SR 24	5 (1)	6 (2)	1 (2)	0	0	0	0	0	12
SR 26 at Moon Road	5 (1)	0	2 (7)	1 (2)	0	0	0	0	8
SR 26 at 14th Ave/Reynolds Rd	10 (2)	0	3 (15)	3 (15)	0	0	0	2	**18**
SR 17 at Cunningham Road	10(2)	0	3(34)	3(18)	0	0	0	0	16
E Main St at 12th Avenue	5 (1)	3 (1)	2 (6)	0	3	3	0	2	**18**
E Main St at Broadway Ave	10 (2)	3 (1)	3 (19)	3 (15)	3	3	0	2	**27**
2nd Avenue at E Main St	5 (1)	0	2 (5)	1 (2)	3	3	0	2	16
N 7th Ave at E Pine Street	5 (1)	3 (1)	1 (1)	0	2	0	3	2	16
S Broadway Ave at E Hemlock St	5 (1)	0	1 (3)	0	1	2	0	0	9
S Reynolds Road at W Lee St	5 (1)	0	3 (15)	3 (11)	0	0	0	2	13
W Main St at E Roosevelt Ave	5 (1)	0	1 (2)	0	0	0	0	2	8
E Main St at S 14th Ave	0	3 (1)	3 (20)	3 (13)	3	3	0	2	**17**
E 10th Avenue at E Olympia St	0	3 (1)	1 (2)	0	2	0	2	2	12
E Juniper St near S 7th Ave	0	3 (1)	1 (4)	1 (2)	2	0	3	2	12
E Main St at N 9th Ave	0	3 (1)	1 (1)	0	3	3	0	2	12
E Rainier St at driveway near S Shelley Ave	0	3 (1)	1 (2)	1 (1)	2	0	0	0	7
E Scootney St at S 10th Avenue	0	3 (1)	1 (2)	1 (1)	2	0	2	2	11
E Juniper St at S 3rd Avenue	0	3 (1)	1 (1)	0	2	0	2	2	10
E Main St at S 4th Ave	0	3 (1)	3 (15)	3 (10)	3	3	3	2	**20**
S 7th Avenue near alley access road	0	3 (1)	1 (1)	0	1	2	0	2	9

1 Weighted by five for each severe crash and by three for each vulnerable user crash. The number in brackets is the actual reported crash experience.
2 Sorted and scored by number of incidents. >10 = 3, 5-10 = 2, <5 = 1. Five equates to one crash per year.
3 Sorted and scored by magnitude of crashes/mile or number of key risk factor crashes. $\geq$ 30 = 3, 20-30 = 2, < 20 = 1
4 Angle movement crashes.
5 Qualitative evaluation = 3 - High Priority, 2 - Medium Priority, 1 - Low Priority, 0 – No Effect/Relevance
6 2 points if located on a priority corridor, 0 points if not on a priority corridor.

Figure 8. High Priority Locations



4.4.3 Priority Level 3

Twelve 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:

- SR 24 south of SR 26
- SR 26 Bridge over SR 24
- SR 26 at Moon Road
- S Broadway Avenue at E Hemlock Street
- W Main Street at E Roosevelt Avenue
- E 10th Avenue at E Olympia Street
- E Juniper Street near S 7th Avenue
- E Main Street at N 9th Avenue
- E Rainier Street at driveway near S Shelley Avenue
- E Scootney Street at S 10th Avenue
- E Juniper Street at S 3rd Avenue
- S 7th Avenue near alley access road

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5 IDENTIFICATION OF COUNTERMEASURES FOR HIGH PRIORITY LOCATIONS

A review of each high priority crash corridor and additional spot locations was performed to identify potential safety countermeasures. These countermeasures were selected based on a review of the specific crash data and existing roadway conditions, consultation with City staff, and a review of safety countermeasure resources from WSDOT and FHWA. Below is a description of each identified priority location, the issues specific to that location, and the selected countermeasures.

5.1 Countermeasures

5.1.1 Angle/Turning Crashes

Angle and turning movement crashes represented 53 percent of all crashes as well as all severe crashes in Othello. Three out of the four total fatal crashes that occurred within the study area involved angle or turning movement crashes – all of which occurred on state highways and were affected by the higher speeds on these facilities. Five out of the 11 serious injury crashes in the study area also involved angle or turning movement collisions. Two of the serious injury crashes occurred on state highways while the remaining three occurred on city streets (S Broadway Avenue, N 2nd Avenue, and S Reynolds Road). The predominant contributing cause was reported as disregard of stop sign on the side street. It should also be noted that over 65 percent of all crashes in Othello occurred at an intersection, while intersection crashes represented about 1/3 of all severe crashes.

Countermeasures that can help to reduce the number and/or severity of angle and turning movement crashes include such measures as:

- Intersection control improvements such as installing all-way stop control, roundabouts and/or signalization)
- Install mini-roundabout or traffic circle
- Centerline delineation
- Install/upgrade signing and delineation (such as “Cross-traffic Does Not Stop” signs)
- Improve sight distance
- Restrict on-street parking at intersections where visibility is an issue
- Add turn lanes
- Illumination where none exists
- Narrow major roadway cross-section

5.1.2 Pedestrian Crashes

Pedestrian crashes represented 33 percent of all severe crashes in Othello. Two of the five pedestrian-related severe crashes in the study area occurred on state highways including one of the four traffic

fatalities recorded during the study period (2019 through 2023). Three of the five pedestrian-related crashes occurred on city streets including E Main Street (twice), and N 7th Avenue. The predominant contributing cause of these crashes was reported as failure to yield right of way to a non-motorist.

Countermeasures that can help to reduce the number and/or severity of pedestrian-related crashes include such measures as:

- Installation of curb extensions to improve pedestrian visibility and to narrow the street crossing width and reduce the exposure of pedestrians to moving vehicles
- Install a center island refuge to reduce crossing distance on wide streets, make pedestrians more visible and reduce vehicle speeds
- Install active pedestrian crossing signage such as Rapid Reflective Flashing Beacons (RRFBs) at location with a higher level of pedestrian activity such as near schools, parks or other major pedestrian trip generators
- Pedestrian hybrid signal or beacon
- Install high visibility crosswalk markings
- Install pedestrian presence warning signage at a traffic signal to alert turning vehicles to the potential presence of a pedestrian
- Advance pedestrian signal phase to allow pedestrians movement into an intersection ahead of motor vehicles
- Right turn on red restrictions where there is a lot of pedestrian crossing activity
- Improve sidewalk connectivity and comfort by addressing needs identified in the city's Active Transportation Plan
- Improve ADA compliance for curb ramps

5.1.3 Countermeasures for Other Severe Crashes

There were two other severe crashes in the Othello study area and neither of these involved angle/turning movement or pedestrian crashes. They included:

- Rear end crashes
- Roadway departures
- Hitting a fixed object which is related to roadway departures

Countermeasures that can be implemented to address these three types of crashes are summarized in **Table 13** along with a summary of remediation for angle/turning and pedestrian crashes. There was also a relatively high incidence of non-severe crashes that involved parked cars and countermeasures for these types of crashes are also identified in Table 13.

Table 13. Potential Countermeasures to Address Priority Deficiencies

Objectives for Prevalent Crash Types or Vulnerable Users	Potential Countermeasures
Reduce intersection angle or turning crashes	• Install/upgrade signing and delineation (such as "Cross-traffic Does Not Stop" signs) • Improve sight distance • Convert to roundabout, traffic signal or all way stop • Install mini-roundabout or traffic circle • Restrict on-street parking at intersections where visibility is an issue • Add turn lanes • Provide "stop ahead" pavement marking for rural applications • Centerline delineation • Improve illumination • Narrow major road cross section
Improve pedestrian safety	• Install curb extensions to shorten crossing distance and improve visibility • 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 • Pedestrian hybrid signal • Install high visibility crosswalk markings • Install advance pedestrian signal phase to allow peds to enter crosswalk ahead of motor vehicles • Right turn on red restrictions where there is a lot of pedestrian crossing activity • Install pedestrian refuges at areas with higher activity to reduce speed and make pedestrian more visible • Improve sidewalk connectivity and comfort by addressing needs identified in Active Transportation Plan • Improve ADA compliance for curb ramps
Reduce rear end crashes	• Reduce operating speeds • Add right or left turn lanes when warranted • Add deceleration lanes where warranted by volumes and speeds • Widen paved shoulders
Reduce roadway departures	• Install continuous milled-in shoulder rumble strips (rural or quasi-rural applications) • Speed management including dynamic speed feedback signs • Install wider edge lines (from 4 to 6 inches)
Reduce incidence of hitting fixed objects	• 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
Reduce crashes involving entering or leaving on-street parking	• Improve sight distance • Install curb extensions to better delineate parking area with increased separation from travel lane • Speed reduction treatments

5.2 Application of Countermeasures

Table 14 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 *Local Road Safety Plan* and include:

- Reducing intersection angle or turning crashes which represent 53 percent of all crashes in the city as well as 53 percent of all severe crashes.
- Improving pedestrian safety 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. Pedestrian crashes represent 33 percent of all severe crashes in the city.
- Reducing the number of rear end crashes which represent 11 percent of all crashes in the city but included no severe crashes.
- Reducing the incidence of roadway departures, which represent 8 percent of all crashes in the city of which about 7 percent involved hitting a fixed object outside of the travel lane. Roadway departures included one serious injury crash.
- Reducing crashes that involve entering or leaving on-street parking spaces which comprise over 17 percent of all crashes in the city but included no severe crashes.

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.

5.2.1 Priority Level 1

Table 14 presents a list of project corridors and specific locations that were ranked as priority level 1 and relates this list to the potential countermeasures that are recommended for consideration. Following the table is a description of each identified priority corridor or location, the issues specific to that corridor, and a discussion of selected countermeasures for either spot or systemic improvements.

5.2.1.1 E Main Street Action Strategy

Discussion

As noted in the discussion of corridor and intersection prioritization in Chapter 4, E Main Street between Broadway Avenue and 14th Avenue is one of the most important east/west streets in the City of Othello in terms of its traffic carrying function and the accessibility it provides to the city's core commercial area. The street is designated as a minor arterial and a primary pedestrian route. This segment of E Main Street has two travel lanes in each direction with a continuous two-way left turn lane transitioning into left only at intersections. On street parking is also provided along the length of this street with a posted speed of 30 mph transitioning to 35 mph east of 14th Avenue. There are crosswalks on all four legs of every intersection in this street segment. There are also traffic signals at the intersections with

Table 14. Application of Countermeasures for Priority Level 1 Locations

Location	Countermeasures to Address Prevalent Crash Types by Location: Angle/Turn Crashes	Pedestrian Safety	Rear End	Roadway Departures	Parking-Related	Score
PRIORITY LEVEL 1						
Corridors						
E Main St, Broadway to 14th	X	X	X	X	X	43
SR 26, Moon to 14th	X	X	X	X		39
N/S 7th Ave, Lee to Gemstone	X	X	X			27
Intersections						
E Main St at Broadway Ave	X	X				27
E Main St at S 4th Ave	X		X			20
E Main St at S 12th Ave	X					18
SR 26 at 14th Ave/ Reynolds Road	X					18
E Main St at S 14th Ave	X	X	X	X		17

Roadway departures include hitting fixed objects as well as traveling off the edge of the roadway area.

Broadway Avenue, 1st Avenue, 4th Avenue, 7th Avenue, 11th Avenue and 14th Avenue. The intersections of 5th and 6th Avenues with E Main Street have been improved to include pedestrian traffic signals, warning signage and curb extensions. These intersections serve both sides of the Othello City Hall building, and also serve the Adams County Courthouse and the Post Office.

E Main Street between Broadway and 14th Avenues experienced 110 crashes in the five-year study period with an average of 22 per year over its 1.015-mile length, and a crash density of 108.4 crashes per mile. There were two severe crashes that occurred in this corridor, both of which involved pedestrians. One occurred at the signalized intersection with Broadway Avenue that involved a southbound left-turning vehicle whose driver was distracted and hit a pedestrian in the north/south sidewalk on the east leg of the intersection. The other occurred at the intersection with 12th Avenue where the vehicle driver did not yield to the pedestrian in the crosswalk. Three more pedestrian crashes occurred in the corridor but did not involve serious injuries or fatalities, and there was one crash involving a bicyclist which also did not include a serious or fatal injury. In addition, there were 32 angle crashes, 26 turning movement crashes, 10 involving roadway departures including hitting fixed objects, and six involving parked cars. There were an additional 22 rear end crashes and a variety of other crash types.

From the standpoint of addressing severe and/or vulnerable user crashes, the most significant crash type involved pedestrians followed by the most frequent crash type of angle and turning collisions. Countermeasures identified for the E Main Street corridor and for four Priority Level 1 intersections focus on these crash types with some consideration for other crash types that are occurring at the location.

Crashes along E Main Street are illustrated by type and severity in **Figure 9**.

Four intersections along E Main Street in this segment experienced severe crashes including two at Broadway Avenue, and one each at 2nd and 12th Avenues. Two of these crashes involved pedestrians, while the other two involved angle and turning movement crashes. There were three other crashes involving pedestrians that included only minor or possible injuries. These occurred at the intersections with 4th Avenue, 9th Avenue and 14th Avenue. Details related to these crashes are provided in Tables 6 and 7 earlier in this report. E Main Street in this segment experienced a total of 110 crashes of which 58 (53 percent) involved angle or turning collisions, 18 (16 percent) involved rear end collisions, and six (five percent) involved parking-related crashes.

Improvements

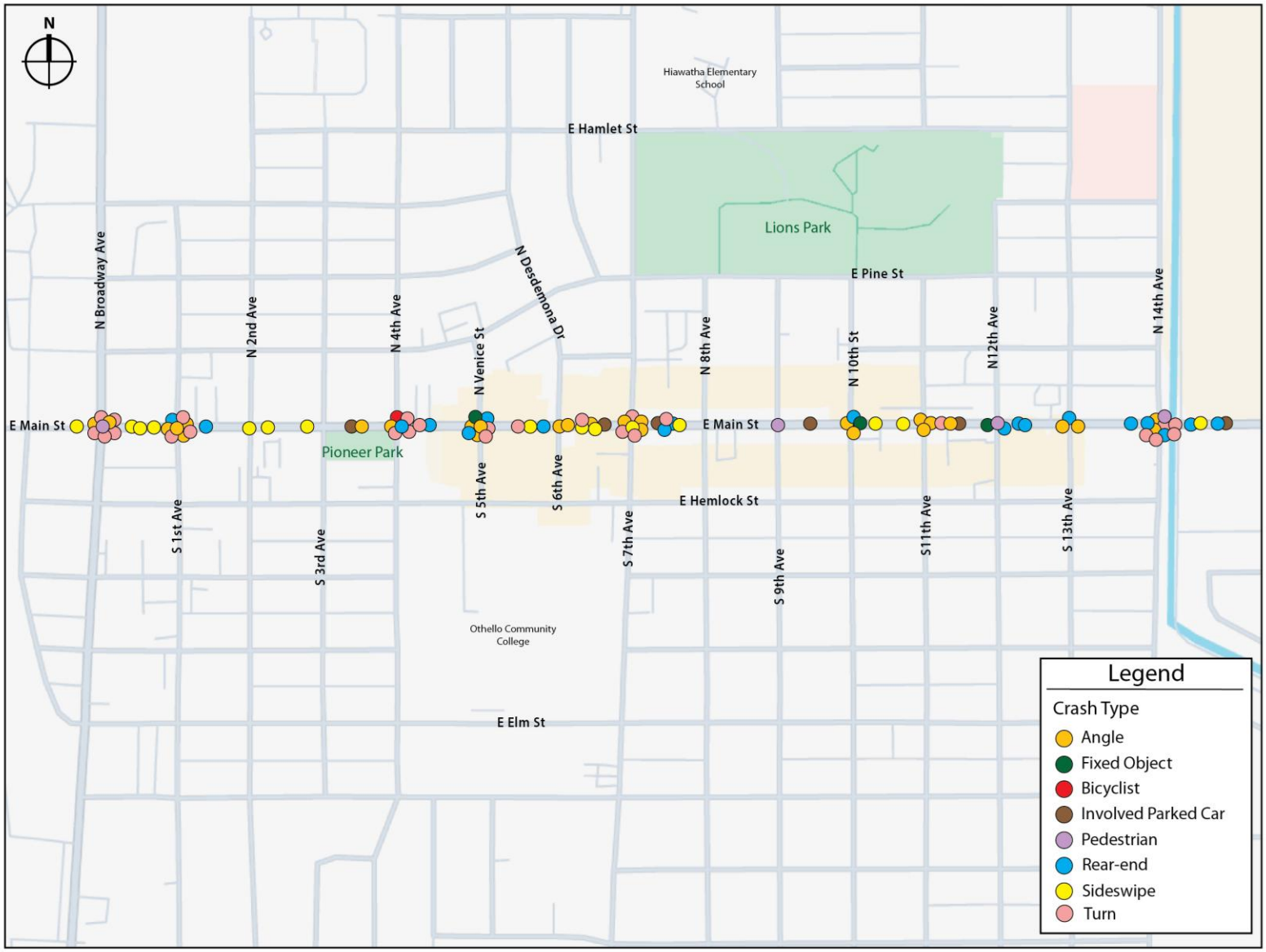
Improvements in this corridor should focus on the intersections with severe and/or vulnerable user crashes but these improvements can provide a template for a corridor-wide systemic improvement focused on pedestrian and angle/turning crashes. Recommended improvements include:

1. Install curb extensions on all legs of the intersections along E Main Street between Broadway Avenue and 14th Avenue, with the exceptions of 5th and 6th Avenues where such improvements already exist. These improvements would reduce the pedestrian crossing distance, particularly across E Main Street, and reduce pedestrian risk.
2. Install warning sign for southbound left turning vehicles on the far side left signal pole to warn motorists of the potential presence of pedestrians. An illustration of this warning sign is shown here. This signage could be implemented for northbound left turns at the intersection of E Main Street with Broadway Avenue and could also be considered for westbound left turns at the intersection of E Main Street with 14th Avenue. Alternately, the addition of left turn signals and left turn protected phasing could be considered at the Main Street/Broadway Avenue intersection to reduce left turn crashes and provide greater pedestrian protection.

Left Turn Pedestrian Warning Sign

3. Further evaluate primary pedestrian crossing locations along this corridor at unsignalized locations and consider intersection restriping to provide space for curb-protected median pedestrian refuge. Appropriate locations would have a relatively high pedestrian volume and speeds in excess of 30 mph. This improvement may require the restriction of on-street parking for a limited distance or elimination of left turn movements at a particular location.
4. Consider installation of flashing beacon pedestrian signage along E Main Street at key pedestrian crossing locations. Preliminary analysis indicates that potential improvement locations could include:
    - 12th Avenue where a severe crash occurred,
    - 10th Avenue adjacent to the Othello Food Bank,

Figure 9. Crash History on E Main Street, Broadway Avenue to 14th Avenue



- 8th or 9th Avenues to provide added crossing protection in an area which may see pedestrian crossings to reach Hiawatha Elementary School or Lions Park. There was a pedestrian crash at 9th Avenue. It should be noted that the designated safe route to school is located at the 7th Avenue intersection where there is a traffic signal, but crossings may also occur at these other intersections.

5. Consider adding protective left turn phasing at the intersection of E Main Street with 14th Avenue where there were a significant number of left turning crashes.
6. Other locations with a high number of angle and/or turning crashes should focus on improved sight distance including possibly restricting parking adjacent to the intersecting streets along E Main Street or in combination with the curb extensions discussed above.

Overall many of the specific crashes recorded on this corridor have specific primary countermeasures that should provide an improvement. Many of these different crash types have a similar issue related to not safely observing a critical element, be it a pedestrian, a parked vehicle, or judging the sufficiency of a gap in traffic. The wide cross section Main Street currently provides likely contributes to these difficulties, providing a large expanse of pavement for all users to be aware of. Improvements that result in narrowing the corridor, such as intersection bulb outs, refuge islands, or removal of on-street parking, are likely to provide benefits to all of these different crash types by reducing the area and/or number of factors each user has to consider when making a maneuver.

5.2.1.2 SR 26 Action Strategy

Discussion

SR 26 between Moon Road and 14th Avenue was identified as another high priority corridor as a result of experiencing four severe crashes during the study period including two fatalities and two serious injuries. Included in this corridor is the priority intersection of SR 26 at 14th Avenue/Reynolds Road which experienced two of the four severe crashes in the corridor.

Crashes along SR 26 involved a variety of crash types that were dominated by angle and/or turning collisions (37 out of the 68 reported crashes). Three of the severe crashes in the corridor resulted from this type of crash with the fourth involving a pedestrian. There was an average of 44.4 crashes per mile along this corridor, concentrated largely at intersections.

Angle and turning crashes occurred most often at the intersections with 1st Avenue (12 crashes) and Reynolds Avenue/14th Avenue (16 crashes of which one involved a fatality and another a serious injury). There was also a right turning crash at the intersection with Moon Road which involved fatality. Countermeasures for angle crashes include intersection improvement such as a roundabout, improved signage on side streets that warn of higher speed traffic on the state highway, adding turning lanes, improving sight distance, improving centerline delineation or other strategies.

Rear end crashes were also a notable crash type and occurred primarily at the intersection with 1st Avenue and largely involved north or southbound vehicles on 1st Avenue. Countermeasures for rear end crashes could include reduction in posted travel speed or other speed control, addition of right or left turn lanes when warranted, improved warning signage of stop ahead, or other strategies.

There were two pedestrian-related crashes on the approaches to the SR 26 bridge over SR 24, one of which involved a serious injury. The crash occurred after dark during the winter and visibility may have

been an issue. Pedestrian connections between the west of the city and the city center are constrained due to the canal and railroad tracks and it may be worth considering development of an improved connection.

Improvements

1. *SR 26 at Moon Road* - There were several crashes on SR 26 at or very near to the intersection with Moon Road on the west side of the city. These crashes involved turning, rear end and angle collisions. There was one fatality involving a turn caused by a turning vehicle that strayed over the centerline. Consideration should be given to installing improved illumination and a westbound left turn lane if warranted. While this intersection was individually identified as a Priority Level 3 improvement, it is included here as a part of the overall corridor strategy.
2. *SR 26 on Bridge over SR 24* - There was one pedestrian-related crash on the approaches to the SR 26 bridge over SR 24, one of which involved a serious injury. Pedestrians are constrained to a narrow shoulder while crossing the SR 24 bridge and the nearby railroad bridge between the city and residential or employment destinations on the west side. Consider installing raised thermoplastic edge striping to better delineate pedestrian space. Pedestrian connections between the west of the city and the city center are constrained due to the canal and railroad tracks and it may be worth considering development of an improved shared use pathway with separate or cantilevered bridge on the highway if feasible. While this project is identified individually as a Priority Level 3 improvement it is included here as part of a Priority Level 1 corridor strategy.
3. *SR 26 at 1st Avenue* – There were 12 angle crashes at this location in the study period, seven rear end crashes, three turning crashes and two involving roadway departure to hit fixed objects. There were no severe crashes at this intersection but two of the turning crashes involved minor injuries and two of the rear end crashes involved possible injuries. WSDOT currently has a project underway to convert the existing stop-controlled intersection with restricted westbound left turns into a compact roundabout that would serve all movements. This project is expected to be under construction in June of 2025 with completion by September of 2025.
4. *SR 26 at Reynolds Road* – Some of the crashes on SR 26 within the City have occurred at the intersection with Reynolds Road/14th Avenue including one fatality in September of 2022 and one serious injury crash in August of 2021. Both of these crashes involved angle collisions. There have been recent improvements to the side street stop control to address this problem. Data should continue to be monitored over time. This intersection could also be considered for a roundabout improvement similar to the pending project at the intersection for 1st Avenue.

5.2.1.3 7th Avenue Action Strategy

Discussion

There was a total of 28 crashes along this street between Lee Road and Gemstone Street over the five-year study period with an average of 15.1 crashes per mile. Only one of these crashes involved a severe injury, while three involved vulnerable users. A serious injury crash occurred at the intersection of 7th Avenue with Pine Street adjacent to Lions Park. The crash involved two pedestrians who were hit by a motorist who failed to yield while crossing N 7th Avenue. The crash report indicates that the pedestrians

were using the available crosswalk, but the crash occurred after dark when the motorist failed to yield. The intersection is illuminated.

In addition to the pedestrian crash, another vulnerable user crash involving a bicyclist occurred at the intersection of 7th Avenue with an alleyway. This alley way serves parking on the south side of Lutacaga Elementary School which is east of 7th Avenue. There is an existing crosswalk at this location but there is pedestrian signage only in the northbound direction. Kiwanis Park is located on the west side of this crossing. There is no street illumination, but the crossing is located in a 20 mph school zone for the elementary school.

Another vulnerable user crash affecting this corridor occurred at the intersection of E Juniper Street near the intersection of N 7th Avenue. This crash resulted in minor injuries to a pedestrian who was hit by a through-moving car on E Juniper Street. The crash occurred at dawn and the contributing cause was driver distraction.

In addition to the vulnerable user crashes, 12 of the 28 crashes in this corridor involved angle collisions, seven involved rear end crashes, with the remainder involving single crashes of varying types.

Improvements

The improvement strategy in this corridor should focus on the incidents involving vulnerable users, particularly the location that experienced a severe crash.

1. *N 7th Avenue at E Pine Street* – To address pedestrian crossing protection at this severe crash location it is recommended that advance pedestrian crossing signage be installed on either side of Pine Street, and that a Rectangular Rapid Flashing Beacon (RRFB) be installed at the crossing. This installation would improve pedestrian safety at the location which experienced a serious pedestrian injury. While this project is identified individually as a Priority Level 2 improvement it is included here as part of a Priority Level 1 corridor strategy.
2. *N 7th Avenue in Vicinity of Pine Street* – To address the systemic need for added pedestrian crossing protection along 7th Avenue, it is recommended that enhancements also be made to the designated pedestrian crossings at Hamlet Street and Rainier Street. Hamlet Street is adjacent to the north end of Lions Park and the south side of Hiawatha Elementary School. Rainier Street is located at the north end of Hiawatha School. Pedestrian crossing signage is provided in advance of the crosswalk at Hamlet Street and the street segment is designated as a 20 mph school speed zone. There is no existing pedestrian signage at the Rainier Street intersection, but a crosswalk is provided. It is recommended that RRFB signage be installed at both the Hamlet Street and Rainier Street intersections to provide additional warning of pedestrian presence along this section of the corridor. There is no illumination at the intersection with Hamlet Street and installation is recommended.
3. *NE 7th Avenue at Lutacaga Elementary School Alley* – There is an existing crosswalk on 7th Avenue that aligns with the north side of the alley. There is pedestrian signage in the northbound direction at the crosswalk but not in the southbound direction. Additionally, there is no illumination at this location. About 170 feet to the north of this location there is another striped crosswalk to serve the north side of the school. Pedestrian crossing signage is provided in both directions at this location but there is no on-street illumination. Both locations are within a 20 mph school speed zone. It is recommended that RRFB signage be installed at both

crosswalks to provide improved pedestrian safety for the school and park. While this project is individually identified as a Priority Level 3 improvement it is included here as part of a Priority Level 1 corridor strategy. Add illumination at both crosswalks and advance pedestrian warning signage where needed.

5.2.2 Priority Level 2

Table 15 presents a list of project corridors and specific locations that were ranked as priority level 2 and relates this list to the potential countermeasures that are recommended for consideration. Following the table is a very brief description of each identified priority corridor or location, the issues specific to that corridor, and a discussion of selected countermeasures for either spot or systemic improvements. In some instances, additional study may be necessary.

Table 15. Application of Countermeasures for Priority Level 2 Locations

	Countermeasures to Address Prevalent Crash Types by Location					
Location	Angle/Turn Crashes	Pedestrian Safety	Rear End	Roadway Departures	Parking-Related	Score
PRIORITY LEVEL 2						
Corridors						
N/S Broadway, Lee to SR 26	X		X	X		21
N/S 10th, Pine to Gemstone	X	X				17
N/S 4th, Olympia to Columbia[1]	X				X	16
E Main St 14th to SR 17	X					9
Intersections						
SR 17 at E Main St/Cunningham Road						16
2nd Ave at E Main St[1]		X				16
N 7th Ave at E Pine St[1]		X				16
S Reynolds Rd at W Lee St	X					13

Roadway departures include hitting fixed objects as well as traveling off the edge of the paved lanes and shoulder area.
1 While individually these projects ranked as Level 2 Priorities, they have been included in Priority Level 1 action strategies as part of a larger, corridor-wide safety enhancement.

5.2.2.1 Broadway Avenue Strategy

Discussion

Broadway Avenue is a major north/south street serving the west side of the city connecting to a variety of employment and commercial destinations. Between Lee Road and SR 26, there were a total of 44 crashes along this corridor for an average of 21.7 crashes per mile. Two severe crashes occurred, both of which involved serious injuries. There were no vulnerable user crashes. Twelve crashes involved turning vehicles, 11 crashes each involved angle collisions and hitting fixed objects. Twelve of the 44 crashes occurred at the intersection with E Main Street, nearly all of which involved turns or angle crashes.

Seven crashes occurred at the intersection with Columbia Street, most of which involved either angle/turn crashes or hitting fixed objects.

Improvements

1. *Broadway Avenue at Main Street* – Out of the 12 crashes at this location the majority involve angle or turning movement collisions. In particular, southbound to eastbound crashes are a significant contributor to the crash problem at this location. As north/south left turn lanes currently exist, consideration should be given to adding north/south left turn phasing at this signalized location. Note that a pedestrian-related improvement at this location has also been recommended as a part of the E Main Street strategy.

5.2.2.2 10th Avenue Strategy

Discussion

The 10th Avenue corridor between Pine Street and Gemstone Street experienced 23 crashes for an average of 23.5 crashes per mile. There were no severe crashes in this corridor but there were two crashes that involved vulnerable users. Two pedestrians received possible injuries from an inattentive eastbound right turning vehicle at the intersection of 10th Avenue and Olympia Street. A minor injury crash involving a pedestrian occurred at the intersection of Scootney Street and 10th Avenue. The pedestrian was apparently crossing Scootney at a four-way stop with crosswalks and was hit by a through-moving vehicle on Scootney whose driver was cited as distracted. Predominant crash types along this corridor involved angle crashes (12) and hitting parked vehicles (8).

Improvements

Review of crashes in the corridor including the two vulnerable user crashes does not indicate that there are feasible and reasonable solutions to these, largely property damage only crashes.

5.2.2.3 E Main Street from 14th Avenue to SR 17 Strategy

Discussion

East of 14th Avenue, E Main Street narrows from two travel lanes in each direction to a single lane westbound, two lanes eastbound as far as Wal-Mart where there is a drop lane at Auto Zone. There is also a continuous two-way left turn lane from 14th Avenue to the drop lane at Auto Zone. East of that location, there is a single travel lane in each direction to the intersection with SR 17.

Ten crashes were reported in this segment east of 14th Avenue with six occurring at the intersection with SR 17. Three crashes involved angle collisions, four involved rear end collisions and the remainder involved hitting a fixed object (one), a sideswipe (one) and an unspecified “other” collision (one). At the intersection with SR 17, four of the six crashes on E Main Street/Cunningham Road involved rear end collisions. In addition to the crashes reported on E Main Street/Cunningham Road, 34 crashes were reported on SR 17 at the same intersection. Eighteen of these crashes involved angle collisions, one of which was fatal and the other involved a serious injury. There were eight turning crashes, five rear end crashes and one each involving running off the road into a ditch, hitting a fixed object and a sideswipe.

Improvements

Given the level and severity of crash experience in this roadway segment, countermeasures should largely be focused on the intersection of E Main Street/Cunningham Road with SR 17. Recent

improvements were made to the stop-controlled west approach of E Main Street and the east approach on Cunningham Road to make the intersection and its traffic control much more visible. WSDOT has identified development of a roundabout to replace the two-way stop control at this intersection which would result in a significant safety enhancement. Based on information included on the WSDOT website, design on this project began during the summer of 2024 with construction slated to begin in 2026. This improvement should be implemented in a timely manner if the recent crash reduction measures prove to be only marginally effective in reducing severe crashes (or even total crashes) at this location. If roundabout construction is delayed, consideration should be given to adding a flashing yellow beacon on SR 17 to alert drivers to the presence of this intersection.

5.2.2.4 Reynolds Road at Lee Street

Discussion

One serious injury crash occurred on S Reynolds Road at the intersection with Lee Street involving an angle crash. Reynolds Road is stop-controlled at this intersection and the driver was cited for disregarding the stop sign. The crash occurred during the day which the weather was clear and the road dry. There was a total of 15 crashes at this intersection, roughly half of which occurred during nighttime hours. Eleven of these crashes involved angle collisions. Lee Road has no stop control and is signed for 35 mph speeds. Immediately to the east of the intersection, the speed limit increases to 50 mph.

Improvements

Consideration should be given to improving the visibility of the intersection, particularly to east/west motorists on Lee Street where speed may be an issue. Advance intersection warning signage should be installed and a flashing yellow beacon for east/west traffic should be included. Additional warning signage, including a flashing red beacon for the stop-controlled north/south movements should also be included.

5.2.3 Priority Level 3

Table 16 presents a list of project corridors and specific locations that were ranked as priority level 3 and relates this list to the potential countermeasures that are recommended for consideration. Four of the individual intersections identified in this table have been included as a part of Priority Level 1 corridor strategies and two were addressed as part of Priority Level 2 corridor strategies. Each remaining project in this table that experienced a severe crash and has a reasonable potential for improvement to address the contributing causes for the crash is addressed in a brief description following the table.

Table 16. Application of Countermeasures for Priority Level 3 Locations

	Countermeasures to Address Prevalent Crash Types by Location					
Location	Angle/Turn Crashes	Pedestrian/ Bicycle Safety	Rear End	Roadway Departures	Parking-Related	Score
PRIORITY LEVEL 3						
Corridors						
N/S 14th, Lee to south city limits	X	X				13
N/S 1st, Fir to SR 26	X				X	12

	Countermeasures to Address Prevalent Crash Types by Location					
Location	Angle/Turn Crashes	Pedestrian/ Bicycle Safety	Rear End	Roadway Departures	Parking-Related	Score
Hemlock, 1st to 14th	X					12
Intersections						
SR 24 south of SR 26		X				12
SR 26 Bridge over SR 24[1]		X				12
E 10th Ave at E Olympia St[2]		X				12
E Juniper St near S 7th Ave	X	X				12
E Main St at N 9th Ave[1]		X				12
E Scootney St at S 10th Ave[2]	X	X				11
E Juniper St at S 3rd Ave		X				10
S Broadway Ave at E Hemlock St				X		9
S 7th Ave near alley access[1]		X				9
SR 26 at Moon Road[1]			X			8
W Main St at E Roosevelt Ave				X		8
E Rainier St at driveway near S Shelley Ave	X	X				7

Roadway departures include hitting fixed objects as well as traveling off the edge of the roadway area.
1 While individually these projects ranked as Level 3 Priorities, they have been included in Priority Level 1 action strategies as part of a larger, corridor-wide safety enhancement.
2 While individually these projects ranked as Level 3 Priorities, they were addressed as part of the Priority Level 2 action strategies.

5.2.3.1 SR 24 South of SR 26

Discussion

There was one pedestrian fatality along the side of the highway south of Park Street. While there are wide shoulders on the highway in this area, there are no pedestrian facilities. Development along the roadside is urban in character. The crash occurred in the rain and after dark, but there were operational streetlights in the area. No contributing cause for the crash was identified.

Improvement

Consideration should be given to establishing a pedestrian pathway along this road. This pathway could take the form of a wider shoulder with a more identifiable roadway edge that could provide greater buffering from the pathway. Roadway edge improvements could include buffer striping, milled-in rumble strips or raised thermoplastic striping to provide greater delineation of the pedestrian space.

5.2.4 Prioritized Crash Locations without Recommended Solutions

The following locations were identified as having either serious injury crashes or a high number/density of crashes during the five-year planning period, but review of the crashes indicates that there is no obvious or reasonable solution to the problem. Thus, while the crash location has been prioritized based on the evaluation process discussed earlier in this report, no specific recommended solutions have been identified.

1. *4th Avenue Corridor between Olympia Street and Columbia Street* – There were a total of 36 crashes along this corridor resulting in about 25 crashes per mile over the five-year study period. The predominant crash types included 16 angle crashes, 12 involving parked cars, and 4 turning crashes. There were no severe crashes in the corridor and none that involved a vulnerable user. Even though this corridor scored relatively high due to the number of crashes that occurred, there are no single locations where the need for an improvement stands out.
2. *14th Avenue Corridor between Lee Road to the south city limits* – There were 23 crashes along this corridor including 10 angle crashes, 6 rear end collisions, 4 turning crashes and 3 crashes with parked vehicles. There were no severe or vulnerable user crashes. Crash locations are sufficiently dispersed so that there is no predominant concentration that would lend itself to an improvement recommendation.
3. *1st Avenue Corridor between Fir Street and SR 26* – Excluding the intersection with SR 26, this minor arterial corridor experienced 34 crashes, none of which involved a severity or vulnerable user. The more significant crash types included 22 angle crashes, four left-turning crashes, and four crashes involving parked vehicles. There were just under seven crashes per year in the corridor. Crash locations are sufficiently dispersed so that there is no predominant concentration that would lend itself to an improvement recommendation. The intersection of SR 26 with 1st Avenue is discussed as part of the Priority Level 1 SR 26 corridor strategy.
4. *Hemlock Street Corridor between 1st Avenue and 14th Avenue* – This local street experienced 20 crashes, more than half of which involved angle collisions (12), and six crashes with parked vehicles. There were no severe or vulnerable user crashes. Crash locations are sufficiently dispersed so that there is no predominant concentration that would lend itself to an improvement recommendation.
5. *E Juniper Street near 7th Avenue* – This crash involved a pedestrian who was hit by a through-moving car on E Juniper Street. The crash resulted in minor injuries to the pedestrian and occurred at dawn. The identified contributing cause was driver distraction. No reasonable solution to this isolated problem was identified.
6. *E Juniper Street at 3rd Avenue* – This crash resulted in minor injuries to a bicyclist who was hit by a through-moving car. The vehicle driver was cited as failing to yield. No reasonable solution to this isolated problem was identified.
7. *S Broadway Avenue at Hemlock Street* – One serious injury crash occurred on S Broadway Avenue that involved a vehicle hitting a fixed object. The driver was cited for racing. No reasonable solution to this isolated problem was identified.

8. *W Main Street at Roosevelt Avenue* – A serious injury crash occurred at this location involving a vehicle leaving the roadway. Defective equipment was identified as the primary cause. No reasonable solution to this isolated problem was identified.
9. *E Rainier Street at driveway near S Shelley Avenue* – This crash resulted in possible injuries to a pedestrian from a vehicle that backed into the walker. No probable cause was identified. No reasonable solution to this isolated problem was identified.

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6 RECOMMENDATIONS

Based on the detailed evaluation of each priority corridor the recommended systemic and spot countermeasures were assessed, and a prioritization was established. All of the recommended countermeasures we divided into three tiers:

1. Top Tier Priorities
2. Second Tier Needs
3. Third Tier Needs or Further Evaluation

This prioritization was based on the severity of the existing safety issue, the nature of the proposed countermeasure, and the cost of the proposed countermeasure. Planning level cost estimates have been prepared for each potential countermeasure. The estimates provided represent the cost of independent implementation. However, should multiple countermeasures be implemented at the same time, the collective cost would likely be lower. This grouping of improvements would apply to city-wide implementation of a single countermeasure, like advanced pedestrian signage across town, or if multiple different countermeasures were implemented at the same time in a single location. Many of the identified countermeasures would group together naturally, for example:

- High visibility pedestrian treatments, advanced stop/yield lines, and advanced pedestrian signage could all group together or with any other pedestrian improvement
- New ADA Ramp and midblock pedestrian refuge or curb extension with possible RRFB installation.

The summary of proposed countermeasures, including the prioritization and estimated cost, are provided in **Table 17**.

Table 17. Countermeasure Prioritization and Cost Estimates

#	Location	Improvement	Total Cost
Tier 1 – Highest Priority Improvements			
1-A	**E Main Street (Broadway Avenue to 14th Avenue)**	• Install curb extensions at all intersections between Broadway Avenue and 14th Avenue where they presently do not exist • Install pedestrian crossing warning signs such as RRFBs at 8th or 9th Avenue, 10th Avenue and 12th Avenue	$890,000
1-B	**E Main Street at Broadway Avenue**	• Install active pedestrian warning signage for southbound left turning vehicles • Consider adding left turn phasing to reduce left turn crashes	$80,000
1-C	**E Main Street at 14th Avenue**	• Install active pedestrian warning signage for southbound left turning vehicles	$7,500
1-D	**E Main Street (Broadway Avenue to 14th Avenue)**	• Investigate priority pedestrian crossing locations in corridor and consider intersection restriping for curb-protected median pedestrian refuge. Cost estimate assumes two intersections.	$50,000

#	Location	Improvement	Total Cost
1-E	**E Main Street (Broadway Avenue to 14th Avenue)**	• Evaluate strategies to reduce left turn crashes at unsignalized intersections in corridor	$30,000
1-F	**SR 26 at Moon Road**	• Improve illumination • Install left turn lane if warranted	$360,000
1-G	**SR 26 on Bridge over SR 24**	• Install raised profile thermoplastic edge striping • Evaluate feasibility and cost of installing pedestrian facility on highway bridge	$210,000
1-H	**SR 26 at 1st Avenue**	• Install compact roundabout (cost estimate based on input from WSDOT)	Out to Bid
1-I	**SR 26 at Reynolds Road**	• Install compact roundabout	$4,000,000
1-J	**7th Avenue at/in Vicinity of Pine Street**	• Install RRFBs and advance pedestrian crossing signage as needed for existing pedestrian crosswalks at Pine Street, Hamlet Street and Rainier Street • Add illumination at Hamlet Street crosswalk	$275,000
1-K	**7th Avenue at Lutacaga Elementary School**	• Install RRFBs and advance signing as needed at existing alleyway crosswalk and at crosswalk about 170 feet north of alley • Add illumination at alleyway crosswalk and existing crosswalk 170 feet to the north	$233,000
Tier 2 – Secondary Improvements			
2-A	**Broadway Avenue at Main Street**	• Consider adding left turn phasing to reduce left turn crashes (project could be implemented in conjunction with 1-B. Cost here is for left turn phase only.)	$70,000
2-B	**SR 17 at E Main Street/Cunningham Road**	• Install compact roundabout (cost estimate based on input from WSDOT)	$4,000,000
2-C	**Reynolds Road at Lee Street**	• Install advance warning signage and flashing yellow beacon for intersection on Lee Road • Install advance stop-controlled intersection signage on Reynolds Road in advance of intersection with red flash on beacon	$100,000
Tier 3 – Lower Tier Needs			
3-A	**SR 24 south of SR 26/Park Street**	• Widen to accommodate shared use path and provide buffer striping from travel lane with milled-in edge line or raised profile thermoplastic striping.	$750,000
3-B	**Citywide**	• Conduct traffic calming study to identify locations that could benefit from speed control or pedestrian safety strategies. This study is an opportunity to craft a systemic safety improvement program that identifies and addresses locations throughout the community where there is a potentially significant future risk of a severe crash.	$50,000

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