LOCAL ROAD SAFETY PLAN

CITY OF WALLA WALLA

FEBRUARY 2022

PREPARED FOR THE CITY OF WALLA WALLA

PREPARED BY DKS ASSOCIATES

Acknowledgements

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Limitations on Use

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INTRODUCTION

The City of Walla Walla is committed to reducing fatalities and serious injury crashes on City streets. As outlined in the 2019 Washington State Strategic Highway Safety Plan, it is vital to identify crash trends and contributing factors, identify safety countermeasures, and prioritize solutions that provide the most cost-effective safety benefits.

Washington State's Target Zero Plan

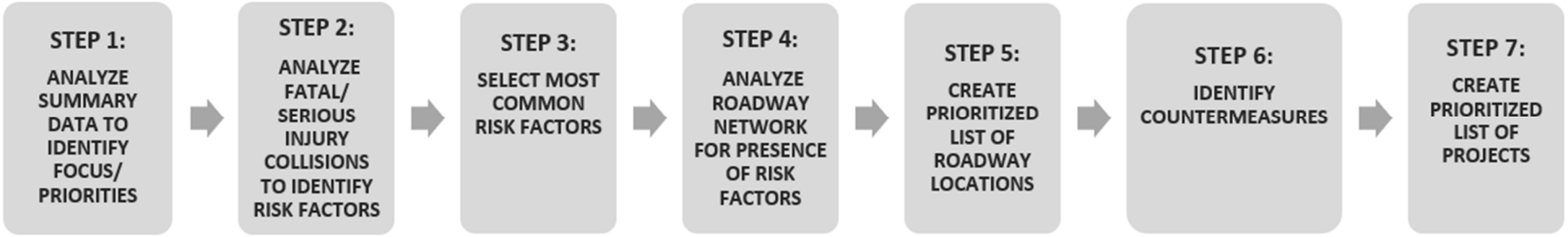
Washington State's Target Zero plan highlights the importance of evidence-based crash reduction strategies. Spot location projects focus on specific intersections, mid-block locations, or corridors that have experienced one or more fatal or serious injury crashes. Systemic safety projects are low cost, widespread, and risk-based, targeting larger areas (e.g., the entire city or a neighborhood) with identified crash types or other risk factors that are likely to be mitigated by systemic safety solutions.

Walla Walla Local Road Safety Plan

The Walla Walla Local Road Safety Plan (LRSP) applies a risk-based approach to identify and prioritize safety improvements to address the locations with the highest risk of crashes. The recommended countermeasures are intended to reduce the frequency and severity of crashes, with an emphasis on reducing fatalities and serious injuries. This 2022 LRSP serves as an update to the 2020 LRSP.

The purpose of the LRSP is to analyze the reported crashes in Walla Walla in order to effectively identify trends, contributing factors, associated risk factors and deficiencies present in the City's road network. Following this approach allows for the effective identification of appropriate, low cost countermeasures to be implemented for the purpose of crash reduction. Following this approach allows for the effective identification, prioritization, and implementation of appropriate infrastructure-based safety countermeasures to reduce the frequency and severity of collisions in Walla Walla.

The following plan includes a summary of existing safety conditions in Walla Walla, identification of safety needs, and recommended treatments to address high-priority collision types and locations. The sections below describe the process of collecting and analyzing available data and identifying safety needs from that analysis. The data used and process followed are consistent with WSDOT's guidelines from the 2022 City Safety Program.



CRASH DATA ANALYSIS

Crash data records were evaluated for incidents occurring in the City of Walla Walla during the most recent five years of available data (2016 to 2020). During this time period, 2,010 crashes occurred in the city, of which four resulted in a fatality and 26 resulted in serious injuries. There were also 48 pedestrian-involved collisions and 41 bicyclist-involved collisions during the study period. Figure 1 shows a comparison of crash data trends for the 2016-2020 study period compared to two previous five-year study periods: 2011-2015 and 2014-2018.

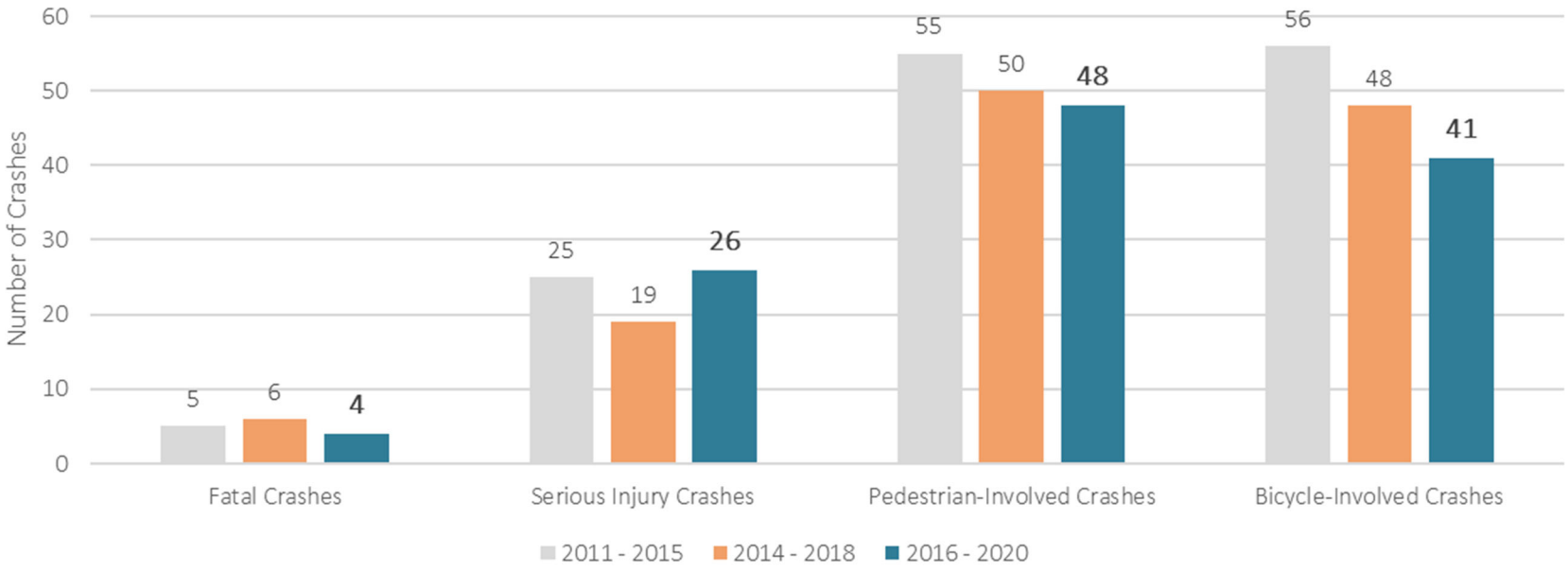


Figure 1. Comparison of Crash Trends, Walla Walla: 2011-2015, 2014-2018, and 2016-2020

Figure 2 shows a summary of the crash types that occurred during the study period (2016-2020) compared to the previous Road Safety Plan study period (2014-2018). A further breakdown by intersection and roadway segment can be found in the following sections.

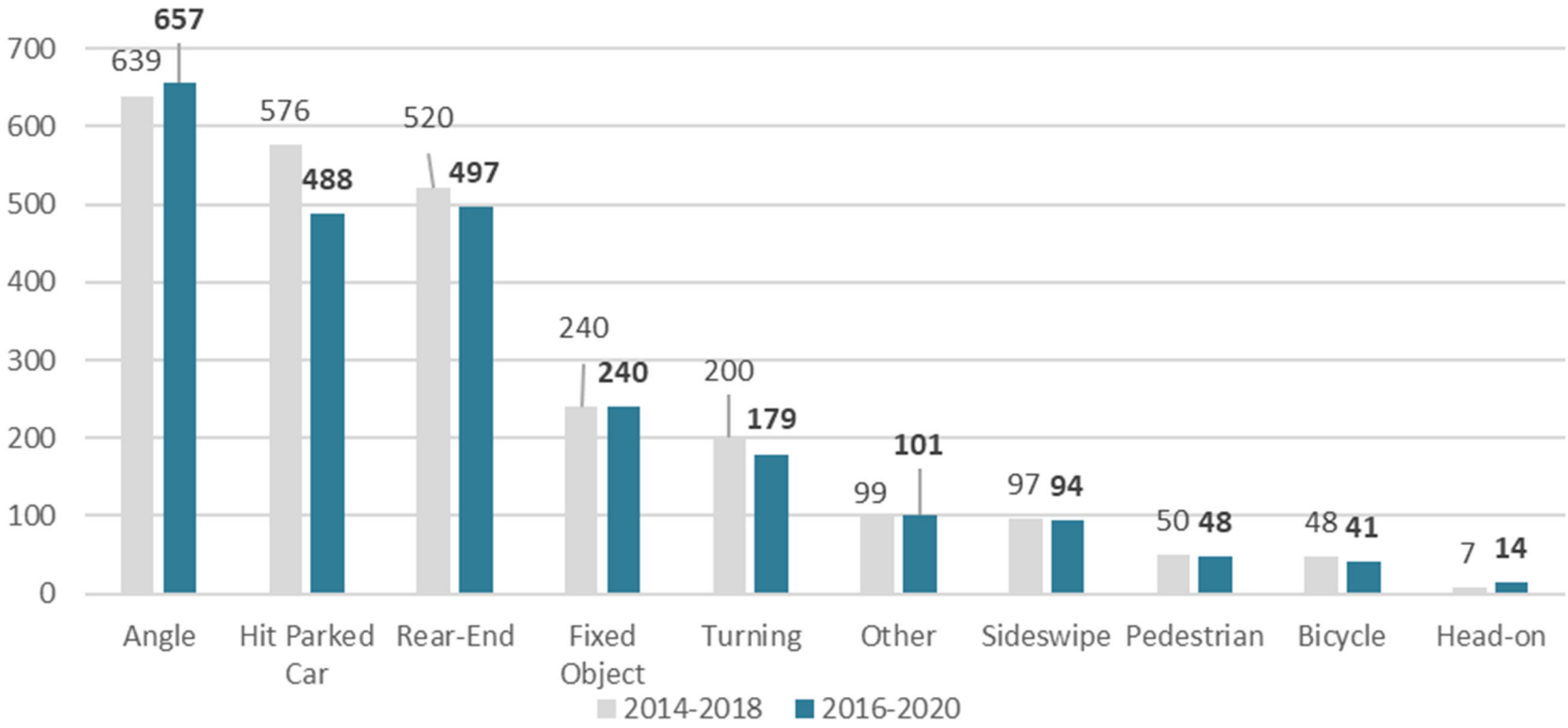


Figure 2. Crash Frequency by Collision Type: 2014-2018 vs 2016-2020

As shown on Figure 3, approximately 47% of all fatal and serious injury collisions that occurred in Walla Walla between 2016 and 2020 involved a vulnerable road user (pedestrian or bicyclist). Pedestrian crashes represented 30% of the fatal and severe crashes, and another 17% involved a bicycle.

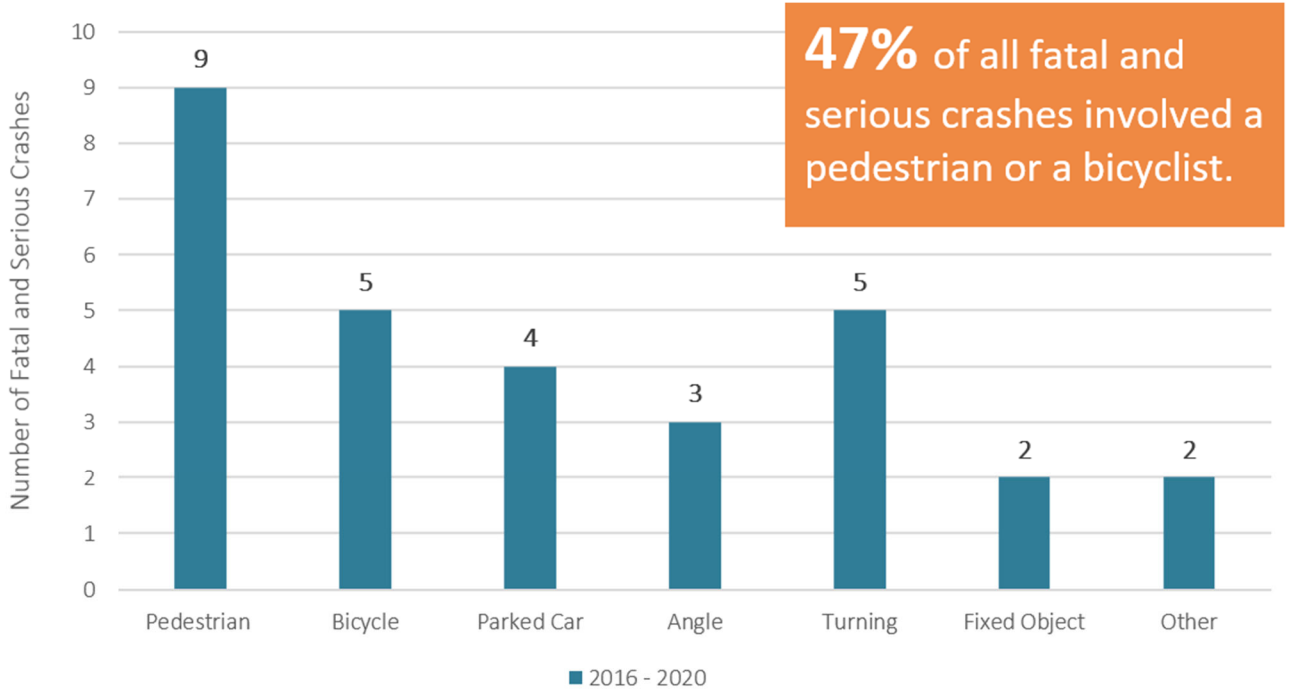


Figure 3. Fatal and Serious Injury Crash Frequency by Crash Type (2016-2020)

The locations of all fatal and serious injury crashes are shown on Figure 4. Figure 5 is a heat map of collision frequency (all severity levels) to illustrate the geographic regions within the city with the highest number of collisions.

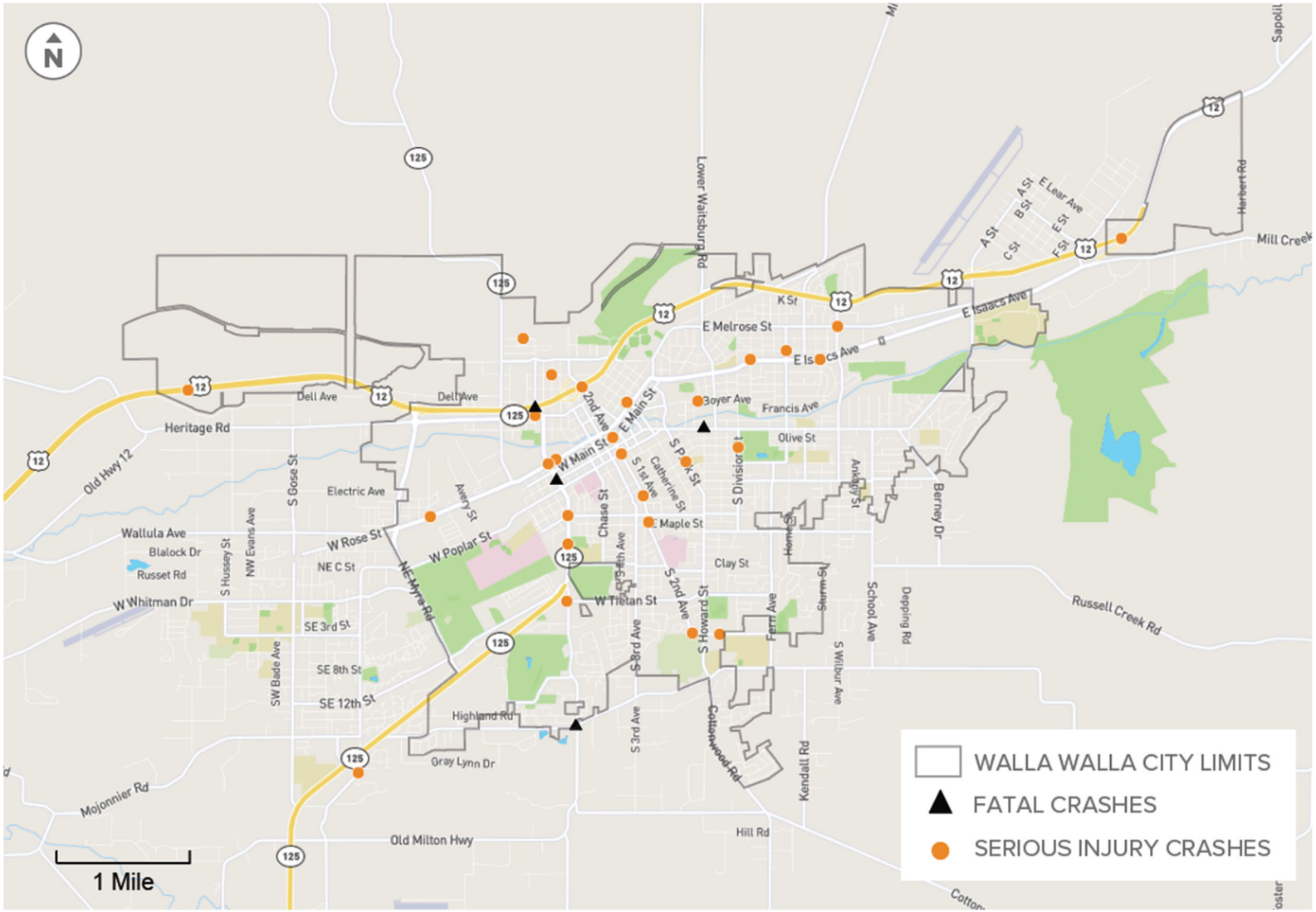


Figure 4. Map of Fatal and Serious Injury Collisions on Walla Walla City Streets (2016-2020)

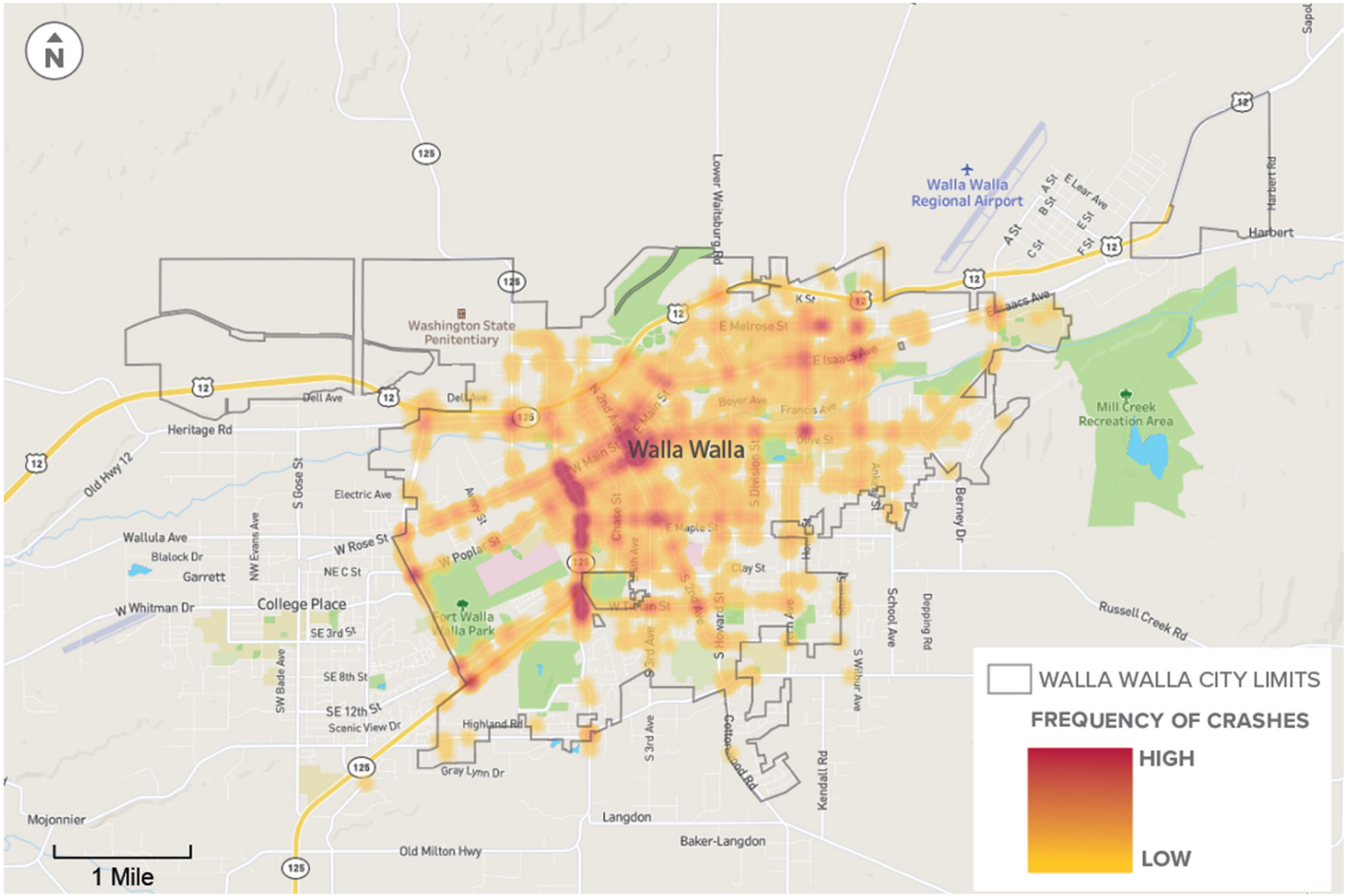


Figure 5. Heat Map of Collisions on Walla Walla City Streets (2016-2020)

ANALYZE FATAL/SERIOUS INJURY COLLISIONS TO IDENTIFY RISK FACTORS

The team studied each risk factor (collision attribute) to determine which were the most commonly involved in fatal and serious injury collisions during the study period. Table 1 shows some of the most common attributes present in collisions that occur on City-owned streets in Walla Walla.

Note: Collisions can be listed under more than one attribute. Column totals may add up to more than 100% of crashes reported (example: a fatal crash involving a speeding motorcyclist departing the roadway at night will show up in several rows).

Table 1. Most Common Collision Attributes, Walla Walla, 2016-2020

Data Element	Collision Attribute	Total Collisions	Fatal Collisions (F)	Serious Injury Collisions (SI)	Percent of all Walla Walla Collisions with this Attribute (1)	Percent of F&SI Walla Walla Collisions with this Attribute (2)
Citywide	*Any*	2,359	4	26	NA	NA
Collision Type	Roadway Departure	234	1	1	10%	7%
	Head-On	15	0	0	1%	0%
	Entering at Angle	657	0	3	28%	10%
Contributing Circumstance (For at least one vehicle)	Exceeding Reasonable Safe Speed or Exceeding Stated Speed Limit	124	1	3	5%	13%
	Alcohol-Impaired (3)	96	0	4	4%	13%

	Drug-Impaired [3]	13	0	1	1%	3%
	Inattention / Distraction	700	0	4	30%	13%
Motor Type Involved	Motorcycle	28	1	5	1%	20%
	Heavy Vehicle	63	1	1	3%	7%
Lighting Condition	Dark/Dusk/Dawn	666	2	10	28%	40%
Intersection	At Intersection or Intersection Related	1,282	2	14	54%	53%
	Signalized Intersection	455	1	6	19%	23%
Road User	Pedestrian Involved	48	2	7	2%	30%
	Cyclist Involved	41	1	4	2%	17%
Roadway Surface	Wet	247	0	1	10%	3%
	Ice	165	0	1	7%	3%
Age	Driver Age 16 to 25 Involved	859	1	8	36%	30%
	Driver Over Age 65 Involved	547	0	5	23%	17%
Restraint (Seat Belt) Usage	No Restraints Used	38	0	1	2%	3%

(1) For example, in Walla Walla 28% of all collisions involved a vehicle entering at an angle.

(2) For example, in Walla Walla 7% of all fatal and serious injury collisions involved roadway departure.

(3) As of this writing, WSDOT has identified an issue with 2020 impaired driving data and is looking into the details.

The study team identified the following notable trends from this analysis:

- Intersections are the most common type of location for collisions to occur (54% of all collisions and 53% of fatal or serious injury collisions occurred at intersections).
    - Signalized intersections were the location of 23% of fatal or serious injury collisions.
- Entering at Angle is the most common collision type (28% of all collisions, and 10% of fatal or serious injury collisions).
- More than one-third (36%) of fatal or serious injury collisions occurred in dark conditions (including dusk and dawn).
- Young drivers (age 16 to 25) were involved in 36% of all collisions and 30% of fatal or serious injury collisions.
- While pedestrians and bicyclists were involved in only 4% of all collisions, pedestrians or bicyclists were involved in 47% of fatal or serious injury collisions.
    - Similarly, motorcyclists were involved in only 1% of all reported collisions, but 20% of fatal or serious injury collisions.

Comparing to Eastside Cities

In addition to comparing crash attributes within the city, the following contributors are more prevalent in Walla Walla's fatal and serious injury collisions than other eastside cities in Washington.

- Hit Parked Car
- Angle (Left Turn)
- Hit Cyclist
- Driveway-related
- Horizontal Curve
- Failure to yield to a pedestrian or cyclist

INTERSECTION CRASH ANALYSIS

Crash frequency, crash severity, and traffic volumes were used to calculate a Weighted Crash Value (WCV)[1] for intersections across the city. The WCV is able to account for both the number and severity of observed crashes by assigning a numerical value to different crash severity levels, as described in the table's footnote. Table 2 shows the intersections with the highest WCV per 1,000 vehicles.

Table 2. Intersections with Highest Weighted Crash Value per Entering Vehicles

Intersection	Total Entering Volume (TEV)**	Crashes	Weighted Crash Value (WCV)	WCV per 1,000 vehicles
1. Rose Street/9th Avenue	15,100	19	262	17.33
2. Poplar Street/2nd Avenue	16,200	24	267	16.51
3. Plaza Way/W Prospect Road*	8,000	8	125	15.63
4. Wilbur Avenue/Melrose Street	9,200	14	140	15.27
5. Wellington Avenue/Melrose Street	6,100	16	88	14.55
6. Main Street/2nd Avenue	13,000	10	127	9.79

[1] Crashes weighted based on severity level. PDO given a value of 1, possible and minor injury given a value of 10, and serious injury and fatal collisions are given a value of 100.

7. Roosevelt Street/Portland Avenue*	11,000	8	107	9.73
8. 2nd Avenue/Whitman Street*	12,800	2	101	7.92
9. Plaza Way/Teiten Street*	16,600	23	131	7.88
10. Chestnut Street/3rd Avenue*	14,000	14	86	6.14

* New location not identified as top intersections in the 2020 Local Road Safety Plan

** Volumes estimated from several sources

Based on the proportion of contributing factors to fatal and serious injury crashes and a comparison with other eastside cities, Walla Walla identified the following contributors as the most vital for prioritization:

- Angle/Turning
- Dark, Dusk, or Dawn Lighting Condition
- Pedestrian-involved
- Bicyclist-involved
- History of Fatalities or Serious Injuries

Table 3 shows a breakdown of the fatal and serious injury crashes and the and the contributing factors to all collisions at the identified intersections.

Table 3. Crash Trends on Highest Ranked Intersections

Intersection	Fatal	Serious Injury	Contributing Factor (All Severities) - Collision Frequency			
			Angle/ Turning	Dark/Dusk/ Dawn	Pedestrian-Involved	Bicyclist-Involved
1. Rose Street/9th Avenue	0	2	12	12	2	0
2. Poplar Street/2nd Avenue	0	2	10	4	1	1
3. Plaza Way/W Prospect Road	1	0	3	3	0	0
4. Wilbur Avenue/Melrose Street	0	1	7	5	1	0
5. Wellington Avenue/Melrose Street	0	0	12	7	0	0
6. Main Street/2nd Avenue	0	1	1	2	1	0
7. Roosevelt Street/Portland Avenue	0	1	2	3	0	0
8. 2nd Avenue/Whitman Street	0	1	1	1	0	0
9. Plaza Way/Teiten Street	0	1	10	6	1	0
10. Chestnut Street/3rd Avenue	0	0	8	1	0	0

Figure 6 maps the intersections with the highest weighted crash value (WCV) per 1,000 entering vehicles.

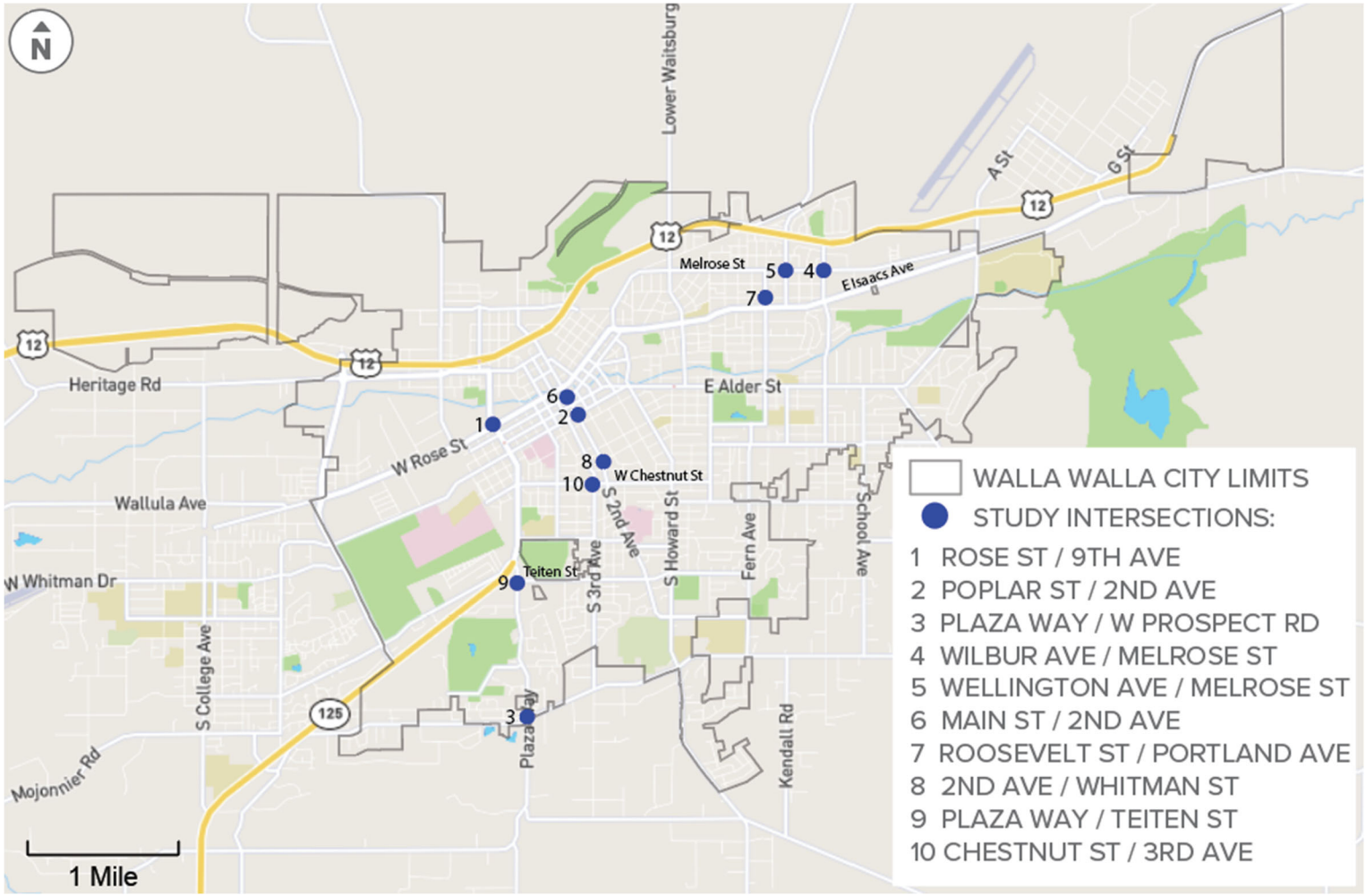


Figure 6. High Crash Intersections in Walla Walla

Corridor Crash Analysis

Similar to the analysis of intersections, non-intersection WCVs were calculated for all corridors in the city to identify the locations with the highest frequency and severity of observed crashes. Table 4 shows the 15 roadway segments with the highest WCV per mile per 1,000 vehicles.[2]

Table 4. Roadway Segments with Highest Weighted Crash Value per Vehicle Miles Traveled

Segment (Length)	Begin – End	Vehicle Per Day (VPD)[3]	Total Crashes	Weighted Crash Value (WCV)	WCV per Mile per 1,000 VPD
1. Palouse Street (1.2 miles)	Chestnut Street to Pine Street	1,000	8	107	91.27
2. Plaza Way (0.33 miles) *	9th Street to south of Village Way	5,700	42	96	50.81
3. Boyer Avenue (1.1 miles)	Palouse Street to Roosevelt Street	2,000	8	107	48.35
4. S Park Street (0.9 miles)	Rose Street to Howard Street	3,000	12	129	47.78

[2] Crashes weighted based on severity level. PDO given a value of 1, possible and evident injury given a value of 10, and serious injury and fatalities are given a value of 100. For segments, only non-intersection crashes (Not at Intersection, Not Intersection-related) were included for this analysis.

[3] Volumes estimated from several sources.

5. E Main Street (0.4 miles)***	6th Avenue to Colville Street	3,900	27	54	34.19
6. SR-125 (2.2 miles)**	N of Dallas Military Road to Carrie Avenue	5,800	82	343	26.96
7. S 2nd Avenue (1.6 miles)	Abbott Road to Main Street	7,100	28	280	24.61
8. Rose Street (1.8 miles)	West City Limit to Isaacs Ave	8,800	45	225	14.25
9. Melrose Street (2.2 miles)*	Sumach Street to Airport Way	2,600	34	79	13.70
10. Isaacs Avenue (2.5 miles)	Rose Street to Airport Way	7,700	45	225	11.67
11. E Alder Street (2.4 miles)*	Merriam Street to Berney Drive	9,200	31	202	9.14
12. W Chestnut Street (0.8 miles)	Just west of 14th Avenue to 2nd Avenue	4,600	12	30	8.07

13. W Tietan Street (0.9 miles)*	Plaza Way to 2nd Avenue	7,800	19	55	7.87
14. N Wilbur Avenue (1.3 miles) *	SR 12 to Pleasant Street	9,100	25	79	6.70
15. Poplar Street (0.59 miles)	14th Avenue to 5th Avenue	8,000	11	29	6.25

* Segments do not include in the top locations of the 2020 LRSP analysis. **SR-125 includes N 13th Avenue, W Pine Street, N 9th Avenue, and S 9th Avenue.

*** Begin and End points change for this segment to match collision patterns.

Along the segments identified above, there were a total of one fatal and eight serious injury collisions. One fatal crash involved a pedestrian, and three serious injury crashes involved a bicyclist. Table 5 shows a breakdown of the severity and type of collisions along the identified segments.

Table 5. Crash Trends on Segments with Highest Weighted Crash Value per Vehicle Miles Traveled

Segment (Length)	Fatality	Serious Injury	Collision Frequency by Contributing Circumstance or Collision Type (All Severities) -				
			Driveway-related	Angle/ Turning	Dark/Dusk /Dawn	Pedestrian-Involved	Bicyclist-Involved
1. Palouse Street (1.2 miles) Chestnut Street to Pine Street	0	1	1	1	3	0	0
2. Plaza Way (0.33 miles) 9th Street to south of Village Way	0	0	36	32	6	0	0
3. Boyer Avenue (1.1 miles) Palouse Street to Roosevelt Street	0	1	1	0	6	0	0
4. S Park Street (0.9 miles) E Rose Street to Howard Street	0	1	1	1	2	0	2
5. E Main Street (0.4 miles) 6th Avenue to N Colville Street	0	0	1	1	6	0	3
6. SR-125 (2.2 miles) North of Dallas Military Road to Carrie Avenue	0	1	31	17	24	2	2
7. S 2nd Avenue (1.6 miles) Abbott Road to Main Street	0	2	9	3	5	1	1

8. Rose Street (1.8 miles) West City Limit to Isaacs Ave	0	1	15	5	11	1	1
9. Melrose Street (2.2 miles) Sumach Street to Airport Way	0	0	10	7	16	0	0
10. Isaacs Avenue (2.5 miles) Rose Street to Airport Way	0	1	24	9	11	2	4
11. E Alder St (2.4 miles) Merriam Street to Berney Drive	1	0	9	7	12	1	0
12. W Chestnut Street (0.8 miles) just west of 14th Avenue to 2nd Avenue	0	0	3	3	2	0	0
13. W Tietan Street (0.9 miles) Plaza Way to 2nd Avenue	0	0	7	5	4	0	0
14. N Wilbur Avenue (1.3 miles) SR 12 to Pleasant Street	0	0	13	6	7	0	0
15. Poplar Street (0.59 miles) 14th Avenue to 5th Avenue	0	0	4	2	2	0	0

Figure 7 shows the location of the 15 corridors with the highest weighted crash values.

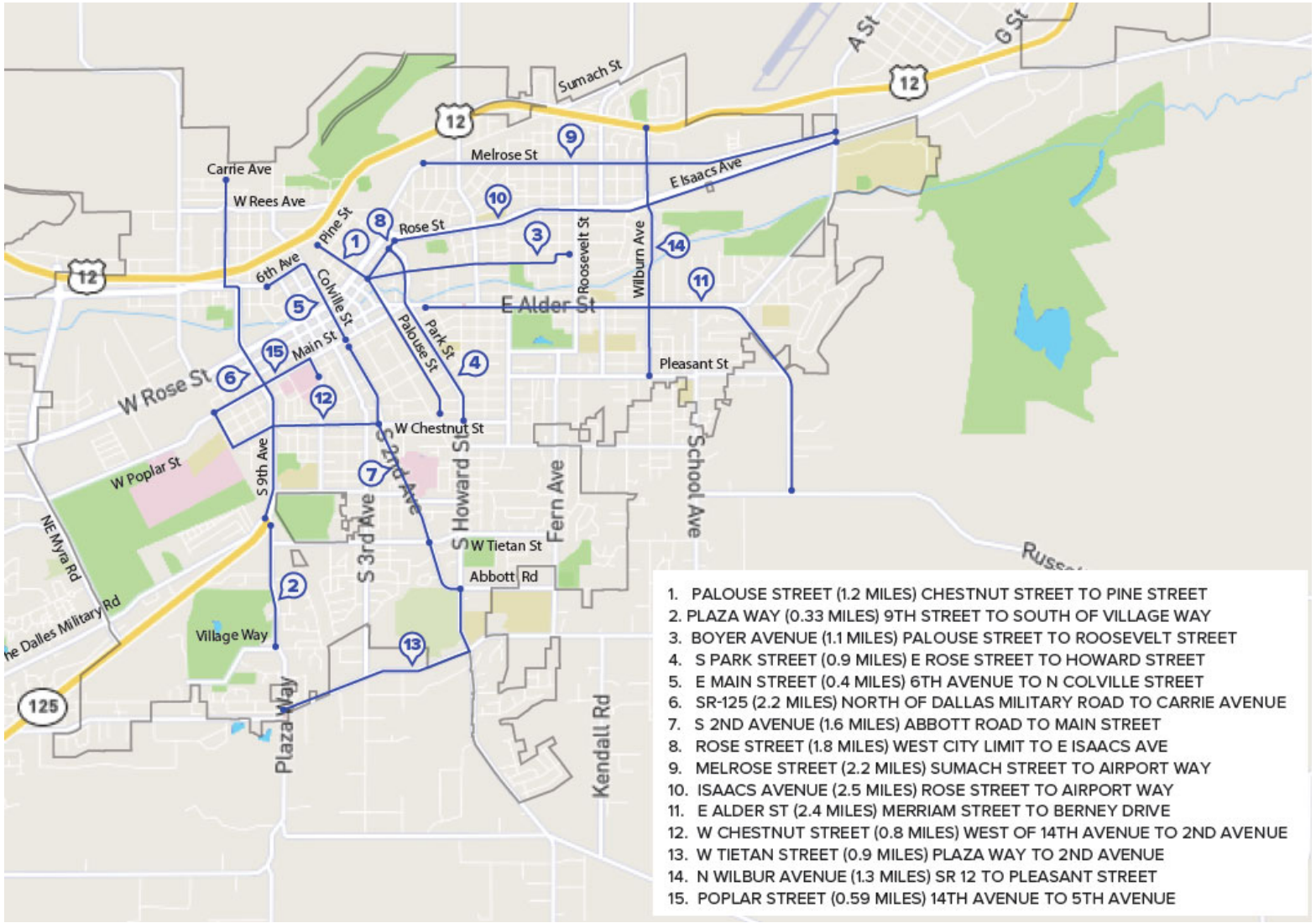


Figure 7. Map of segments with Highest Weighted Non-Intersection Crash Value per Vehicle Miles Traveled, Walla Walla, 2016-2020

PRIORITIZATION AND RECOMMENDED COUNTERMEASURES

The following prioritization of intersections and corridors provides a comprehensive assessment of safety needs by combining the crash data-driven WCV results with a risk factor (crash type) evaluation. The highest frequency and highest severity crash types in Walla Walla were used as surrogate measures of underlying risk factors. These high-risk crash types include:

- Angle/Turning
- Dark/Dusk/Dawn
- Pedestrian-involved
- Bicyclist-involved
- Driveway-related (for segments)

Each of the top WCV intersections and corridors was prioritized based on the proportion of total crashes at that location that were of a high-risk type. A location received a "point" for a crash type category if 15% or more of the crashes at that location were of that crash type. Because of the relatively small number (but high severity, and high risk) of bicycle and pedestrian crashes, the occurrence of a single bicycle or pedestrian crash was assigned a "point" for that category. In addition, a location is given an extra "point" if it experienced at least one fatal or serious injury collision during the study period.

Table 6 and Table 7 list the intersections and corridors in order of priority based on the number of high-risk crash categories present at each location.

Table 6. Prioritized Intersection Safety Needs by Number of Risk Factors

Intersection	Angle/ Turning	Dark/Dusk/ Dawn	Pedestrian-Involved	Bicyclist-Involved	At Least 1 Fatal/SI Crash	Total
Poplar Street/2nd Avenue	✓	✓	✓	✓	✓	**5**
Rose Street/9th Avenue	✓	✓	✓	-	✓	**4**
Wilbur Avenue/Melrose Street	✓	✓	✓	-	✓	**4**
Plaza Way/Teiten Street	✓	✓	✓	-	✓	**4**
Plaza Way/W Prospect Road	✓	✓	-	-	✓	**3**
Main Street/2nd Avenue	-	✓	✓	-	✓	**3**
Roosevelt Street/Portland Avenue	✓	✓	-	-	✓	**3**
2nd Avenue/Whitman Street	✓	✓	-	-	✓	**3**
Wellington Avenue/Melrose Street	✓	✓	-	-	-	**2**
Chestnut Street/3rd Avenue	✓	-	-	-	-	**1**

Table 7. Prioritized Corridor Safety Needs by Number of Risk Factors

Segment	Angle/ Turning	Driveway-Related	Dark/Dusk/Dawn	Pedestrian-Involved	Bicyclist-Involved	At Least 1 Fatal or Serious Injury Collision	Total
Isaacs Avenue (2.5 miles) Rose Street to Airport Way	✓	✓	✓	✓	✓	✓	**6**
E Rose Street (2.3 miles) West City Limit to Isaacs Ave	-	✓	✓	✓	✓	✓	**5**
SR-125 (2.2 miles) North of Dallas Military Road to Carrie Avenue	✓	✓	✓	✓	✓	-	**5**
S 2nd Avenue (1.6 miles) Abbott Road to Main Street	-	✓	✓	✓	✓	✓	**5**
E Alder St (2.4 miles) Merriam Street to Berney Drive	✓	✓	✓	✓	-	✓	**5**
Poplar St (0.58 miles) 14th Avenue to 5th Avenue	✓	✓	✓	-	-	-	**3**
S Park Street (0.9 miles) E Rose Street to Howard Street	-	-	✓	-	✓	✓	**3**
Melrose Street (2.2 miles) Sumach Street to Airport Way	✓	✓	✓	-	-	-	**3**

W Chestnut Street (0.8 miles) Just west of 14th Avenue to 2nd Avenue	✓	✓	✓	-	-	-	**3**
W Tietan Street (0.9 miles) Plaza Way to 2nd Avenue	✓	✓	✓	-	-	-	**3**
N Wilbur Avenue (1.3 miles) SR 12 to Pleasant Street	✓	✓	✓	-	-	-	**3**
Plaza Way (0.33 miles) 9th Street to south of Village Way	✓	✓	-	-	-	-	**2**
Palouse Street (1.2 miles) Chestnut Street to Pine Street			✓			✓	**2**
Boyer Avenue (1.1 miles) Palouse Street to Roosevelt Street	-	-	✓	-	-	✓	**2**
E Main Street (0.4 miles) 6th Avenue to N Colville Street	-	-	✓	-	✓	-	**2**

Assessment of Candidate Locations

Several of the locations identified by collision history are not appropriate candidates for the 2022 City Safety Program for a variety of reasons. Many have experienced recent improvements not yet indicated in the collision history data, and others have relevant projects already planned and funded. Following are a few examples:

- **Poplar Street/2nd Avenue Intersection.** As part of a previous City Safety Program grant application, this section of Poplar Street (including this intersection) will be improved in 2022.
- **Wellington Avenue/Melrose Street Intersection.** This two-way stop-controlled intersection was converted to an all-way stop with LED stop signs in 2021.
- **S Park Street Corridor.** This segment of roadway began reconstruction in 2021, to be completed in 2022.
- **E Alder Street Corridor.** A full reconstruction project began in 2022.
- **Isaacs Avenue**. This corridor was fully reconstructed in 2017, 2019, and 2020, including implementation of a road diet from 4-lanes to 3-lanes with bike lanes.
- **Plaza Way (9th to Village Way)**. This segment was reconstructed in 2021. The project included a road diet from 4-lanes to 3-lanes and bike lanes.
- **W Chestnut Street**. The City fully reconstructed Chestnut from 2nd to 9th, adding bike lanes, in 2016.

Recommended Countermeasures

This section presents several safety countermeasures that are proven to reduce the high-risk crash types that are prevalent in Walla Walla. The following countermeasure summaries include a general description, typical benefits, expected crash reductions, and a list of the high-risk crash types addressed by the following countermeasures.

- Road Diet/Lane Conversion
- Enhanced Pedestrian Crossings
- Signalized Intersection Pedestrian Enhancements
- Signalized Intersection Upgrades
- Green-colored Bike Facilities at Key Locations

Road Diet/Lane Conversion

Convert an undivided four-lane roadway segment into a three-lane segment (two through lanes and a center two-way left-turn lane), often allowing for the addition of bicycle or pedestrian facilities. Best suited for roadways with less than 20,000 vehicles per day.

Benefits:

- Reduces conflicts between through vehicles and left-turning vehicles
- Reduces crossing distance for pedestrians
- Provides additional space for bike lanes, sidewalks, crossing islands, on-street parking, or landscape buffers

Risk Factors Addressed:

- Rear-End
- Turning
- Pedestrian
- Bicycle

Expected Crash Reduction:
29% (all crashes)

Enhanced Pedestrian Crossings

Install enhanced pedestrian crossings at unsignalized intersections or at mid-block locations that connect key pedestrian generators. Enhanced crossings typically include a marked crosswalk and one or more of the following: curb extensions, median refuge island, advanced warning signs, or rectangular rapid flashing beacon (RRFB).

Benefits:

- Reduces conflicts between vehicles and pedestrians
- Countdown timers enable pedestrians to make informed decisions about when to safely cross the road

Risk Factors Addressed:

- Pedestrian

Expected Crash Reduction:

10%-60% (pedestrian crashes)

Signalized Intersection Pedestrian Enhancements

Upgrade signalized intersections with pedestrian enhancements such as leading pedestrian intervals (LPI), countdown timers, no-pedestrian phases with flashing yellow arrow (FYA), and permissive turn restrictions when pedestrians are present.

Benefits:

- Reduces conflicts between vehicles and pedestrians
- Countdown timers enable pedestrians to make informed decisions about when to safely cross the road

Risk Factors Addressed:

- Turning
- Pedestrian

Expected Crash Reduction:

30%-70% (pedestrian crashes)

Signalized Intersection Upgrades

Upgrade signalized intersections with flashing yellow arrow (FYA) operations, protected left-turn phasing, and signal visibility enhancements such as larger lenses, supplemental signal heads, reflectorized back plates, and intersection lighting upgrades.

Benefits:

- Reduces conflicts between vehicles and pedestrians
- Countdown timers enable pedestrians to make informed decisions about when to safely cross the road

Risk Factors Addressed:

- Turning
- Angle
- Rear-End
- Pedestrian

Expected Crash Reduction:

20%-40% (all crashes)

Green-colored Bicycle Facilities at Key Locations

Green-colored pavement within a bicycle lane increases the visibility of the facility, identifies potential areas of conflict, and reinforces priority to bicyclists in conflict areas and in areas with pressure for illegal parking. Green-colored pavement can be utilized as a spot treatment, such as a bike box, conflict area, or intersection crossing marking – especially at locations with complex interactions between motor vehicle and bicycle travel modes.

Benefits:

- Promotes multi-modal use of the intersection and surrounding area
- Increases visibility of bicyclists
- Increases motorist yielding behavior]
- Helps reduce bicyclist conflicts with turning motorists

Risk Factors Addressed:

- Bicyclists
- Turning
- Angle

Expected Crash Reduction:

39% (bicyclist-involved)

Potential Safety Projects

Combining collision data analysis, recent and upcoming projects already planned and funded, and feasibility considerations, the City has identified six priority corridors for potential improvements. In most cases this includes a combination of segment and intersection needs for a comprehensive corridor project.

Table 8. Project List for Top Priority Corridors

Corridor	Risk Factor Score	Safety Needs and Potential Improvements
Priority #1: Rose Street (2.0 miles) West City Limit to Palouse Street [4]	5	**Safety Needs.** Rose Street experienced 41 non-intersection collisions in the study period, including one serious injury crash and nine other crashes resulting in injuries. Nearly one-quarter (24%) occurred in dark conditions and 37% occurred at driveways. Another 19 collisions occurred at the Rose Street/9th Avenue intersection, including two serious injury crashes. Two possible injury collisions here involved pedestrians. Another serious injury collision, involving a left-turning motorist, occurred at the Offner Road intersection

[4] Maintenance seal improvements will continue to Isaacs Ave. The City Safety Program grant application will extend only to Palouse Street.

		Safety Improvements. Implement a Road Diet on Rose Street, including the appropriate intersection modifications for the new configuration. Improvements include left turn traffic signal phasing, modified lane configurations on Rose Street, and pedestrian improvements.[5] • **Road Diet** from Myra Road to N 4th Avenue that converts the roadway cross section from 4 lanes to 3 lanes (two through lanes and a Two-way Left Turn Lane) with provision for bicycle lanes. • **Signalized intersection modifications** to accommodate the shifted general purpose lanes and addition of bicycle lanes at the intersections along the corridor. The primary treatment will be relocating signal heads to match the reconfigured lanes at the following locations: N 4th Avenue, N 9th Avenue, Wildwood Street, and Myra Road. • Remove the **Rose Street and N Colville Street** signal. Replace it with a Rectangular Rapid Flashing Beacon and illumination improvements to accommodate pedestrian movements. • **Rose Street and N Palouse Street**. Replace the existing traffic signal, adding Flashing Yellow Arrow (FYA) operations with protected-permissive left-turn phasing, implement signal visibility enhancements (larger lenses, reflectorized back plates), and improve intersection lighting.

[5] Surface preservation and pavement marking are funded by other programs. This project would focus on signalized intersection and pedestrian crossing improvements to be included alongside the other work.

Corridor	Risk Factor Score	Safety Needs and Potential Improvements
Priority #2: Poplar St (0.58 miles) 14th Avenue to 5th Avenue	3	**Safety Needs.** This full corridor (Poplar St / Alder St from 14th Avenue to S Clinton Street, including the recent and current Phase 1 and Phase 2 projects) suffered a serious injury collision (at the S 2nd Avenue intersection) and a fatal collision (near SE Howard Street). The segment from 14th Avenue to 5th Avenue experienced 11 non-intersection collisions in the study period, including two injury crashes. Four of the 11 occurred at driveways. **Improvements.** This safety project is Phase 3 of an ongoing corridor project to improve safety along Poplar Street / Alder Street. The previous phases implemented a 4-lane to-3-lane reconfiguration (road diet) with bike lanes and associated intersection improvements. This proposed project will extend similar safety improvements (e.g., Road Diet and associated treatments) west toward 14th Avenue. It will build on the great work of the first two phases by implementing the following safety countermeasures: • Road Diet reconfiguration of lanes • Intersection modifications to accommodate the new configuration • Left turn traffic signal phasing' • Pedestrian improvements (curb bulb-outs to shorten crosswalks) • Restricting parking near intersections • Bicycle lanes and bike racks to facilitate bicyclists • Illumination improvements • Traffic calming (street trees)

Corridor	Risk Factor Score	Safety Needs and Potential Improvements
Priority #3: S 2nd Avenue (1.6 miles) Abbott Road to Main Street	5	**Safety Needs.** There were 28 non-intersection collisions along this corridor, including two serious injuries (one bicyclist-involved, one run-off-road).Nearly one-third (32%) occurred at driveways. Additionally, two high crash intersections are along this corridor: Main Street and Whitman Street. **Improvements.** Update signalized intersections in conjunction with upcoming pavement preservation project.
Priority #4: E Main Street (0.4 miles) 6th Avenue to N Colville Street	2	**Safety Needs.** This segment experienced 27 non-intersection collisions in the study period, including three injuries. More than 22% of crashes occurred in dark, dusk, or dawn conditions. Three collisions involved a bicyclist. Nearly half (12 of 27) of all crashes involved cars entering or leaving a parked position. **Improvements.** Bulb-outs, shifting parking from the intersection, illumination improvements, signal improvements, RRFBs (if appropriate).