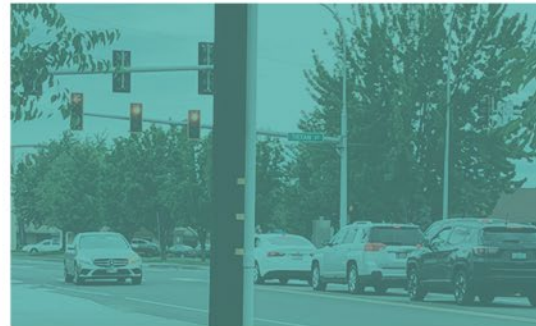
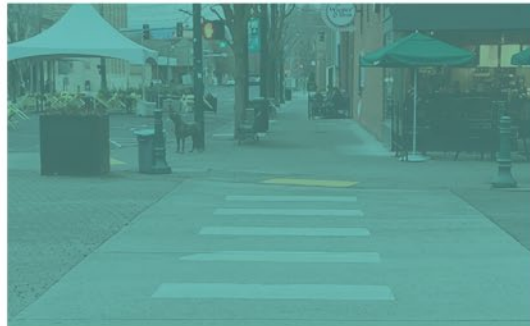




# COMPREHENSIVE SAFETY ACTION PLAN

JANUARY 2024



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## INTRODUCTION AND PURPOSE

The City of Walla Walla is committed to eliminating fatalities and serious injury crashes on City streets. On August 24, 2022, the City adopted the following goal:

***By the year 2032, there are no serious injuries or deaths caused by traffic crashes involving any mode of transportation on City of Walla Walla streets.***

The development of the Walla Walla Comprehensive Safety Action Plan (CSAP) is a vital step towards achieving that goal. The CSAP 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.

The purpose of this CSAP is to analyze crash history, community demographics, and citizen concerns to effectively identify risk factors and locations with a high risk for crashes on the City's street network. Following this approach allows for the effective identification, prioritization, and implementation of safety improvements that will reduce the frequency and severity of collisions in Walla Walla.

The Walla Walla CSAP was developed with input from several safety partners. The plan should be viewed as a living document that can be updated to reflect changing local needs and priorities. Implementation of this CSAP will improve transportation safety for those who live in, work in, visit, and travel through Walla Walla.

## CONSISTENCY WITH STATEWIDE SAFETY PLANS

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The 2019 Washington State Strategic Highway Safety Plan explains the importance of identifying crash trends and contributing factors, applying proven safety countermeasures, and prioritizing solutions that provide the most cost-effective safety benefits.

Washington State's Target Zero plan highlights the importance of evidence-based crash reduction strategies. Spot location projects focus on a single location (e.g., specific intersections, mid-block locations, or corridors) that has experienced one or more fatal or serious injury crashes. Systemic safety projects aim to treat underlying crash risks at multiple locations (e.g., the entire city, a neighborhood, or along a corridor) by applying low-cost, systemic safety improvements.

## DATA USED

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### CRASH HISTORY

Crash records provide all data collected by the reporting officer, including crash identification (jurisdiction, route and postmile, location, date, time), demographics (age, race, sobriety, safety equipment usage), environmental (lighting, weather, road surface), and crash details (primary collision factor, type of collision, vehicle/party type, severity).

For this project and most other safety analyses, the collision severity is defined in the Highway Safety Manual (HSM) as follows:

- **Fatal injury:** A collision that results in the death of a person within 30 days of the collision.
- **Suspected serious (incapacitating) injury:** A collision that results in broken bones, dislocation, severe lacerations, or unconsciousness, but not death.
- **Suspected minor injury (non-incapacitating):** A collision that results in other visible injuries, including minor lacerations, bruising, and rashes.
- **Possible injury (complaint of pain):** A collision that results in the complaint of non-visible pain/injury, such as confusion, limping, and soreness.
- **No apparent injury (property damage only):** A collision without injury or complaint of pain but resulting in property damage to a vehicle or other object, commonly referred to as a “fender bender.”

The most severe crashes, characterized as F&SI (Fatal & Serious Injury), are an important focus of this analysis.

Crash data records were evaluated for incidents occurring in the City of Walla Walla during the most recent five years of available data (2018 to 2022). Although the COVID-19 pandemic influenced national, statewide, and local travel behavior and crash patterns in 2020, this five-year study period is generally accepted to capture pre- and post-pandemic conditions.

## **DEMOGRAPHICS AND EQUITY**

To develop a plan that serves the entire community, the strong relationship between transportation and equity must be acknowledged and addressed.

- Transportation planning decisions affect development patterns, in turn impacting accessibility, employment, and economic activity.
- Transportation facilities demand significant public resources, such as tax funding and road rights-of-way. Allocating these resources often favors some people over others. Transportation facilities also inflict unintended costs including congestion delay, accident risk, and pollution.
- Roads without multimodal infrastructure inhibit travelers who do not use private vehicles, reducing their social and economic opportunities.

Equity and population demographics data regarding socioeconomic status, racial and ethnic minorities, access to private vehicles, disabilities, senior populations, and linguistically isolated populations was studied using census tract data from various sources. For example, data was collected from Federal Highway Administration HEPGIS maps,<sup>1</sup> the Environmental Protection

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<sup>1</sup> US Department of Transportation, Federal Highway Administration. HEPGIS.  
<https://hepgis.fhwa.dot.gov/fhwagis/ViewMap.aspx>



Agency’s EJScreen mapping tool,<sup>2</sup> the Council on Environmental Quality’s Climate and Economic Justice Screening Tool,<sup>3</sup> and the US Department of Transportation ArcGIS dashboard.<sup>4</sup>

## **CITIZEN CONCERNS**

The City of Walla Walla hosted a Virtual Open House with an interactive map to receive public feedback on safety concerns throughout the city. The open house and interactive map were advertised via the City’s website, social media channels, newspaper, and emails to community groups. In addition, paper maps were made available at City buildings open to the public, such as the local library. Residents submitted over 300 comments on the map distributed across four categories including bicycle safety, pedestrian safety, vehicle safety, and general safety.<sup>5</sup>

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<sup>2</sup> Environmental Protection Agency. EJScreen. <https://hepgis.fhwa.dot.gov/fhwagis/ViewMap.aspx>

<sup>3</sup> Council on Environmental Quality. Climate and Economic Justice Screening Tool. <https://screeningtool.geoplatform.gov/en/#13.51/46.0714/-118.32717>

<sup>4</sup> US Department of Transportation. Transportation Disadvantaged Census Tracts. <https://usdot.maps.arcgis.com/apps/dashboards/d6f90dfcc8b44525b04c7ce748a3674a>

<sup>5</sup> “Safe Streets and Roads for All,” City of Walla Walla, 2022. <https://www.wallawallawa.gov/government/public-works/road-construction-funding/safe-streets>

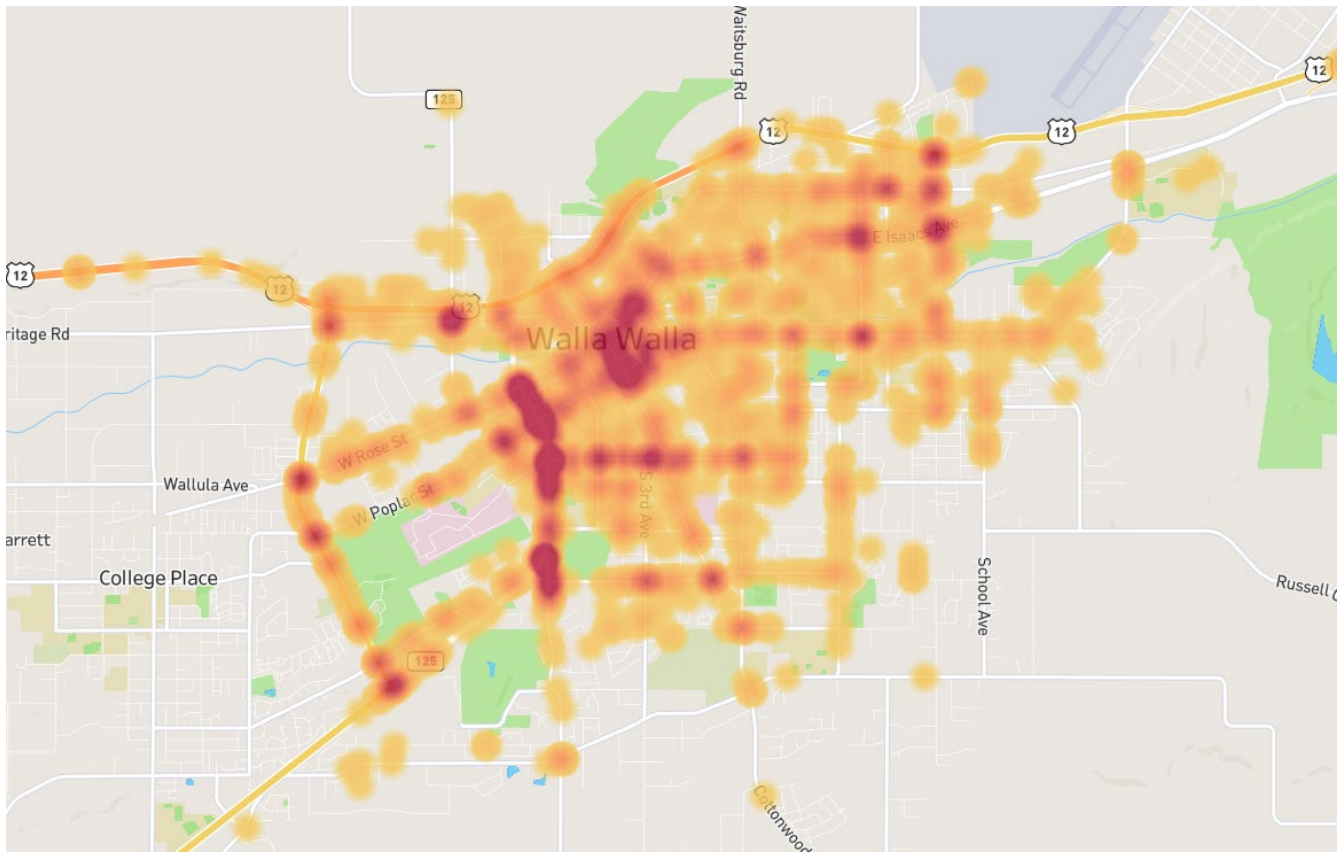
## CRASH SUMMARY

Crash data records were evaluated for incidents occurring in the City of Walla Walla during the most recent five years of available data (2018 to 2022). During this period, 2,252 crashes occurred in the city, of which five resulted in a fatality and 26 resulted in serious injury. There were also 41 pedestrian-involved collisions and 34 bicyclist-involved collisions during the study period.

## CITYWIDE CRASH PATTERNS

The following sections summarize the notable trends in reported crashes of all types, severities, and locations. Reviewing all crash events allows for the identification of prevalent crash types, locations, and risk factors.

Figure 1 provides a heat map of all reported crashes within the City from 2018 to 2022.



**FIGURE 1: HEAT MAP OF ALL WALLA WALLA CRASHES, 2018 TO 2022**

Figure 2 shows a summary of the high severity crashes and vulnerable road user crashes that occurred during the study period.

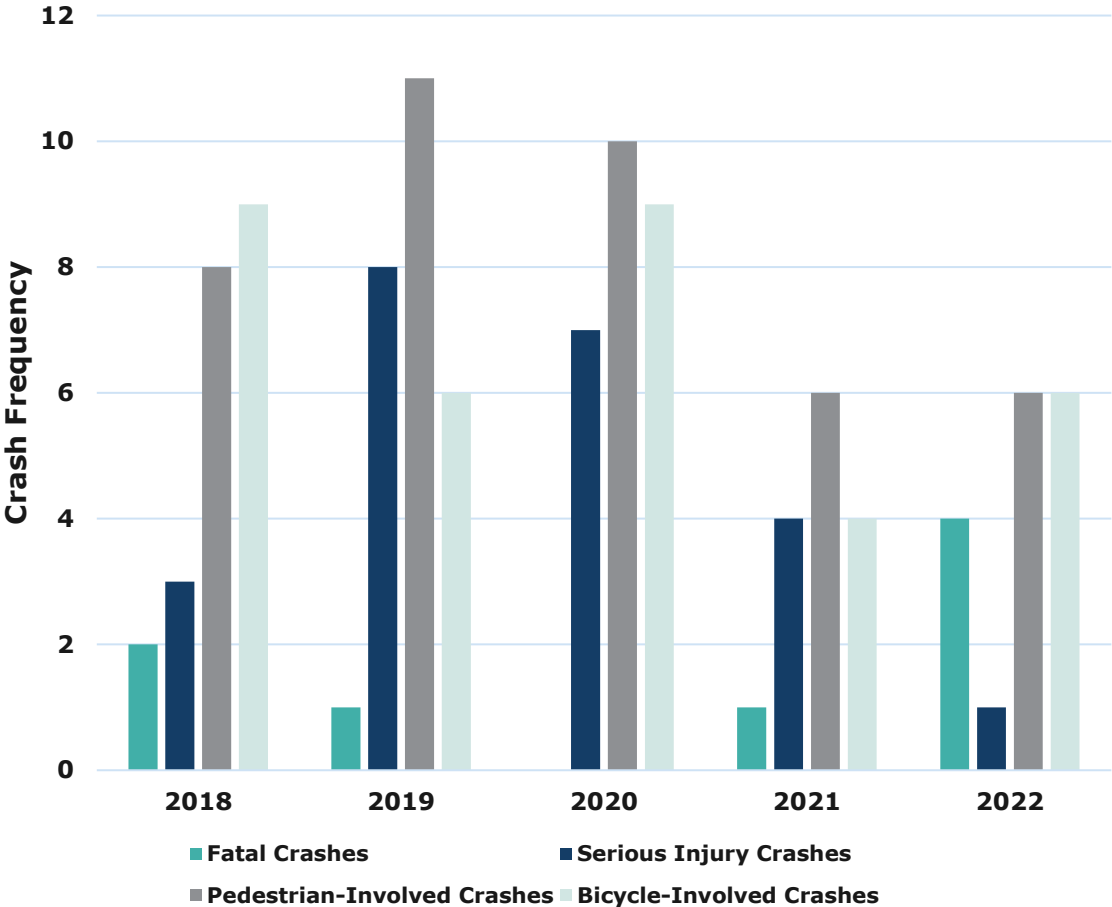
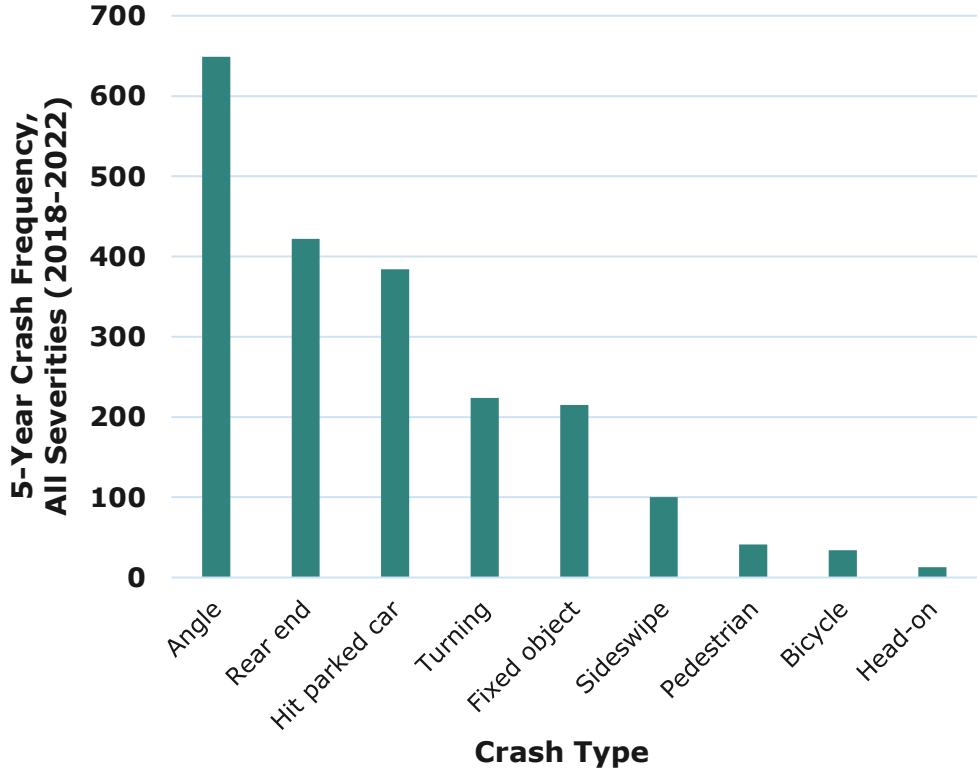


FIGURE 2: CRASH SEVERITY AND ROAD USER SUMMARY (2018-2022)

Figure 3 shows a summary of the crash types for all severities. The highest percentage of crashes were angle crashes, at 28.8%; rear end crashes, at 18.8%; crashes where a vehicle hit a parked car, 17.1%; and turning crashes, at 10.0%. Pedestrian and bicycle crashes accounted for 3.3% of all crashes.



**FIGURE 3: CRASH TYPE SUMMARY**

## FATAL AND SERIOUS INJURY CRASHES

In alignment with the City’s goal of eliminating fatal and serious injury crashes, the emphasis areas, projects, and prioritization presented in this CSAP are focused on fatal and serious injury (F&SI) crash patterns and risk factors.

Figure 4 shows the most common crash types resulting in fatalities or serious injuries. About 29% of all fatal and serious injury crashes involved a vulnerable road user such as a bicycle or pedestrian. Other common crash types included turning movement crashes, at 22.6%, angle crashes, at 12.9%, and crashes where a vehicle hit a parked car, also at 12.9%.

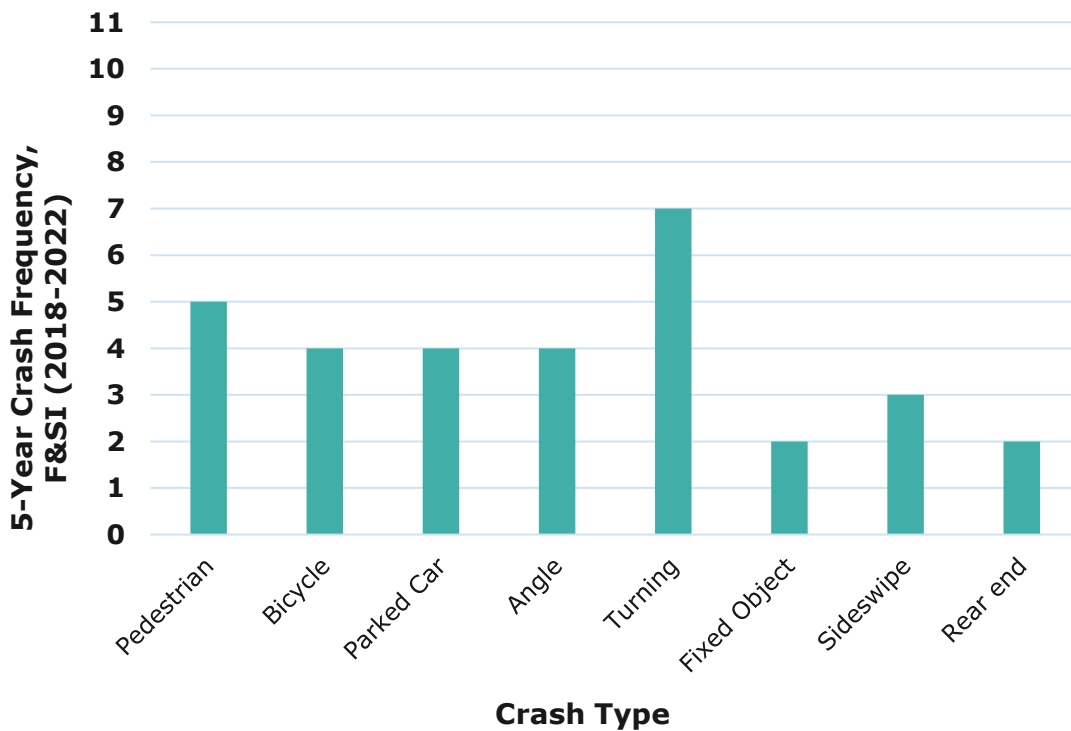
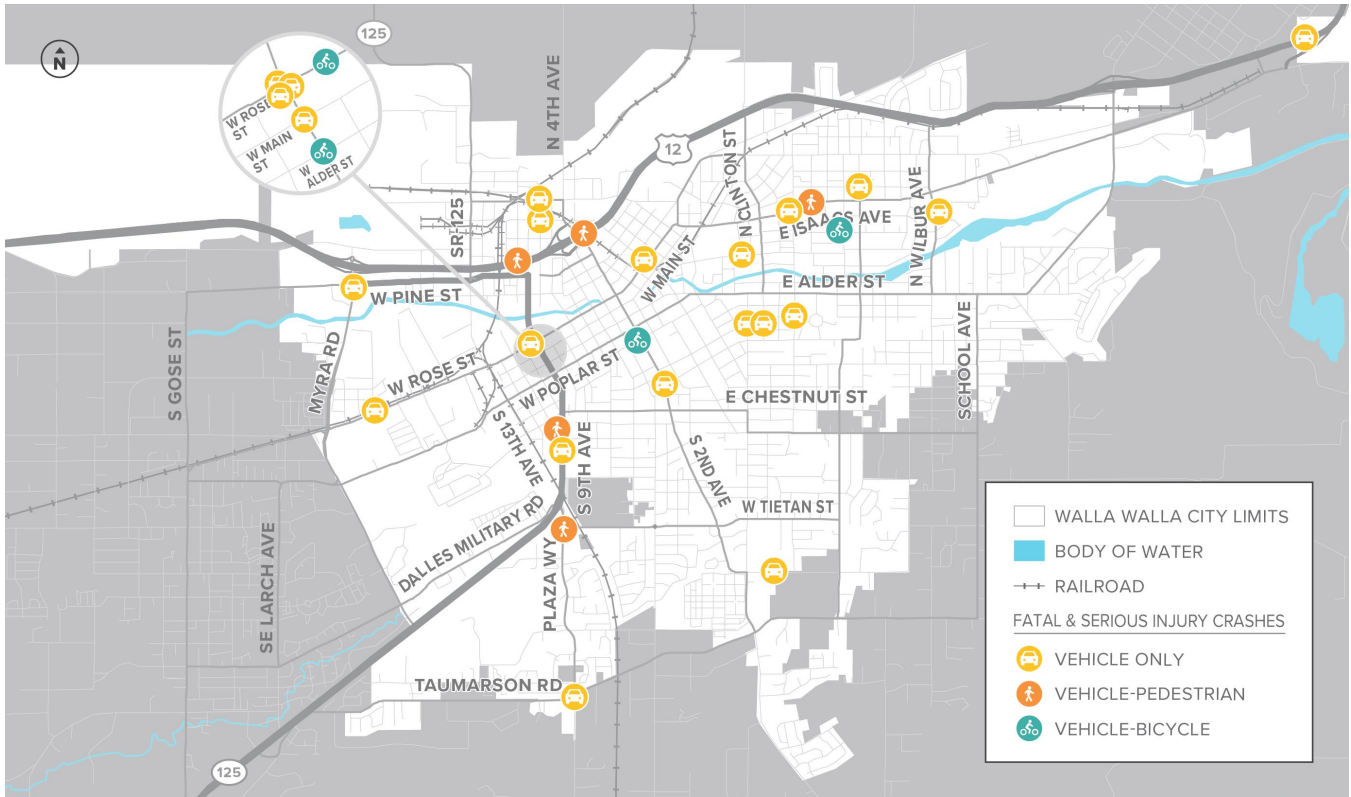


FIGURE 4: FATAL AND SERIOUS INJURY CRASH TYPES

Figure 5 shows a map of fatal and serious injury crashes that occurred between 2018 and 2022. The map indicates whether the crash involved a pedestrian, bicyclist, or only motor vehicles.



**FIGURE 5: MAP OF FATAL AND SERIOUS INJURY CRASHES**

To better understand the risk factors associated with fatal and serious injury crashes, the prevalence of individual data elements in all crashes was compared to those in fatal and serious injury crashes. Crash attributes that are more prevalent in fatal and serious injury crashes form the primary emphasis areas and risk factors addressed in this CSAP. Table 1 shows a summary of crash attribute statistics in the City of Walla Walla.

**TABLE 1. SUMMARY OF WALLA WALLA CRASH ATTRIBUTES**

<b>DATA ELEMENT</b>	<b>CRASH ATTRIBUTE</b>	<b>PERCENT OF ALL COLLISIONS WITH THIS ATTRIBUTE</b>	<b>PERCENT OF F&amp;SI COLLISIONS WITH THIS ATTRIBUTE</b>
<b>COLLISION TYPE</b>	Lane Departure	23.7%	22.6%
	Head-On	0.58%	0%
	Entering at Angle	30.0%	12.9%
<b>CONTRIBUTING CIRCUMSTANCE (FOR AT LEAST ONE VEHICLE)</b>	Exceeding Reasonable Safe Speed or Exceeding Stated Speed Limit	8.9%	16.1%
	Alcohol-Impaired	4.2%	6.5%
	Drug-Impaired	0.8%	3.2%
	Inattention / Distraction	30.7%	25.8%
<b>MOTOR TYPE INVOLVED</b>	Motorcycle	1.4%	29.0%
	Heavy Vehicle	3.4%	6.5%
<b>LIGHTING CONDITION</b>	Dark/Dusk/Dawn	12.3%	19.4%
<b>INTERSECTION</b>	At Intersection or Intersection Related	52.0%	54.8%
	Signalized Intersection	19.9%	25.8%
<b>ROAD USER</b>	Pedestrian Involved	1.8%	16.1%
	Cyclist Involved	1.5%	12.9%
<b>ROADWAY SURFACE</b>	Wet	10.0%	0%
	Ice	5.6%	3.2%
<b>AGE</b>	Driver Age 16-25 Involved	36.4%	35.5%
	Driver Over Age 65 Involved	22.9%	29.0%
<b>RESTRAINT (SEAT BELT) USAGE</b>	No Restraints Used	1.5%	3.2%

The data shown in the figures and tables above indicate the following about fatal and serious injury crashes in Walla Walla:

- Over half of all crashes in the City occurred at intersections.
- Vulnerable road users are significantly overrepresented in fatal and serious injury crashes. Pedestrians, bicyclists, and motorcyclists were involved in 4.7% of all crashes, but 58.0% of fatal and serious injury crashes. When a collision occurs with a vulnerable road user, the risk of injury is high.
- Risky behaviors including speeding and impairment are overrepresented in fatal and serious injury crashes.

## HIGH-RISK INTERSECTIONS

Crash frequency and crash severity were used to calculate a Weighted Crash Value (WCV)<sup>6</sup> for intersections across the city. The WCV accounts for both the number and severity of observed crashes by assigning a numerical value to different crash severity levels. <sup>6</sup>

Fifteen high-risk intersections were identified based on WCVs and spatial analysis of crash hotspots. Table 2 shows the fifteen intersections and their respective WCVs.

**TABLE 2. HIGH-RISK INTERSECTIONS**

INTERSECTION	TOTAL CRASHES	FATAL / SERIOUS INJURY CRASHES	WEIGHTED CRASH VALUE (WCV)
ROSE ST / 9 <sup>TH</sup> AVE	21	3	372
MAIN ST / 9 <sup>TH</sup> AVE	19	1	172
ALDER ST / 9 <sup>TH</sup> AVE	12	1	147
POPLAR ST / 2 <sup>ND</sup> AVE	19	1	145
PLAZA WAY / TIETAN ST	12	1	120
ISAACS AVE / DIVISION ST	5	1	104
2 <sup>ND</sup> AVE / WHITMAN ST	2	1	101
ROOSEVELT ST / PORTLAND AVE	1	1	100
POPLAR ST / SR-125 (9 <sup>TH</sup> AVE)	21	0	82
PINE ST / 13 <sup>TH</sup> AVE	19	0	73
WELLINGTON AVE / MELROSE ST	12	0	66
CHESTNUT ST / SR-125 (9 <sup>TH</sup> AVE)	25	0	61
PLAZA WAY / SR-125 (9 <sup>TH</sup> AVE)	33	0	60
ALDER ST / ROOSEVELT ST	12	0	57
ALDER ST / 2 <sup>ND</sup> AVE	15	0	51

<sup>6</sup> Crashes are weighted based on severity level. PDO collisions are given a value of 1, possible and minor injury collisions are given a value of 10, and serious injury and fatal collisions are given a value of 100.



## HIGH-RISK CORRIDORS

Crash frequency, crash severity, and corridor length were used to calculate WCVs for corridors across the city. Ten high-risk corridors were identified based on WCVs and spatial analysis of crash hotspots. Table 3 shows the ten corridors and their respective WCVs.

**TABLE 3. HIGH-RISK CORRIDORS**

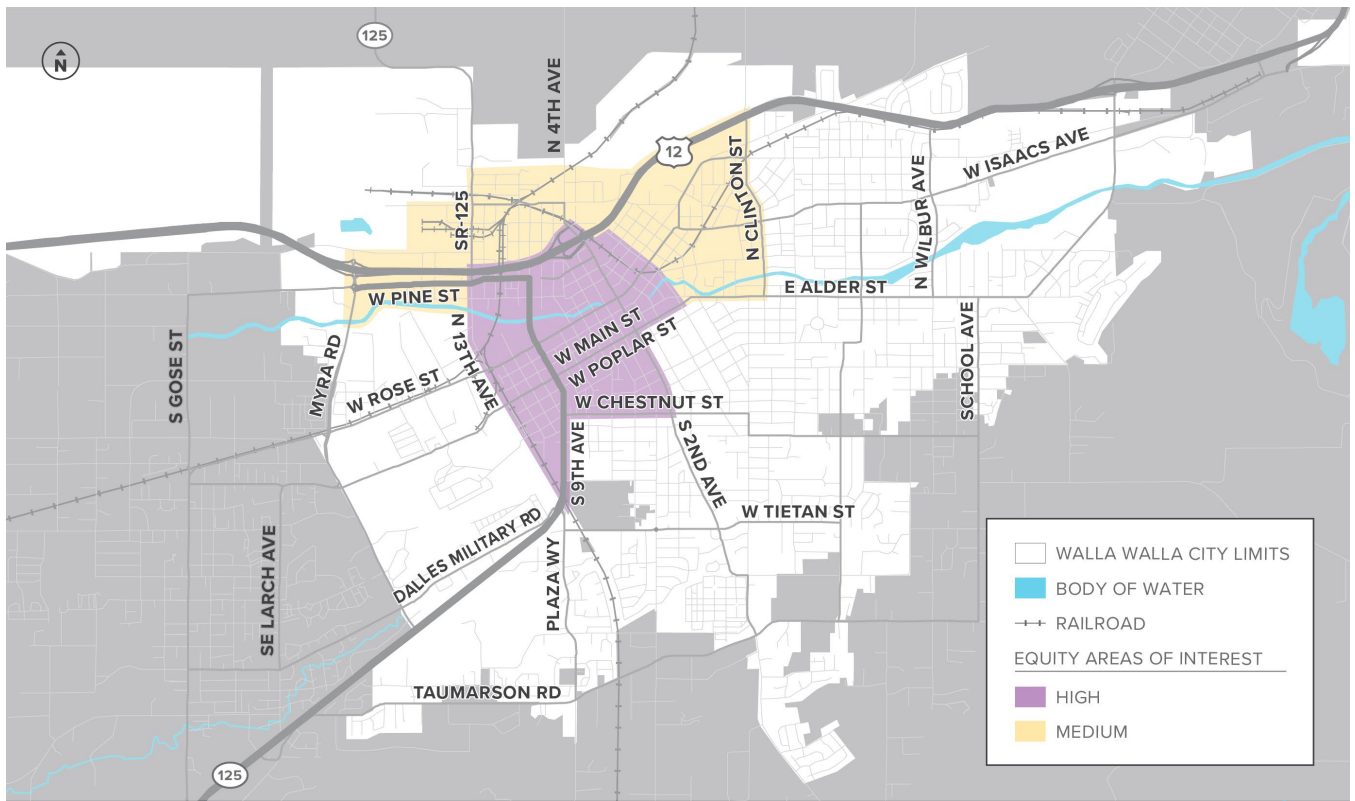
SEGMENT	TOTAL CRASHES	WEIGHTED CRASH VALUE (WCV)	WCV PER MILE
2 <sup>ND</sup> AVE (SR-12 TO BIRCH ST)	79	357	567
ROSE ST (WEST CITY LIMIT TO ISAACS AVE)	151	965	536
SR-125/9 <sup>TH</sup> AVE (PLAZA WAY TO CARRIE AVE)	221	1172	533
POPLAR ST (2 <sup>ND</sup> AVE TO 14 <sup>TH</sup> AVE)	81	315	394
CHESTNUT ST (14 <sup>TH</sup> AVE TO HOWARD ST)	121	364	294
WILBUR AVE (SR-12 TO ALDER ST)	60	222	239
PINE ST (MYRA RD TO 2 <sup>ND</sup> AVE)	68	292	223
PLAZA WAY (9 <sup>TH</sup> AVE TO PROSPECT AVE)	46	235	214
MAIN ST (6 <sup>TH</sup> AVE TO COLVILLE ST)	55	172	202
2 <sup>ND</sup> AVE (BIRCH ST TO ABBOTT RD)	55	280	194

## EQUITY EVALUATION

Demographics data from multiple federal sources were evaluated to identify transportation-disadvantaged census tracts within the City of Walla Walla. The evaluation included the following demographic attributes:

- Percentage of population in poverty
- Percentage of people of color
- Percentage of households with no car ownership
- Percentage of people with disabilities
- Percentage of senior populations
- Percentage of population with limited English spoken at home
- Census tracts identified as economic disadvantaged (identifies areas and populations with high poverty, low wealth, lack of local jobs, low homeownership, low educational attainment, and high inequality.)
- Census tracts identified as Equity disadvantaged (identifies communities with a high percentile of persons (age 5+) who speak English "less than well.")

Census tracts with an overrepresentation of at least one of the above attributes was labeled as a "medium" area of interest, while tracts with an overrepresentation of multiple attributes were labeled as "high". Figure 6 presents the medium and high equity areas of interest within Walla Walla.



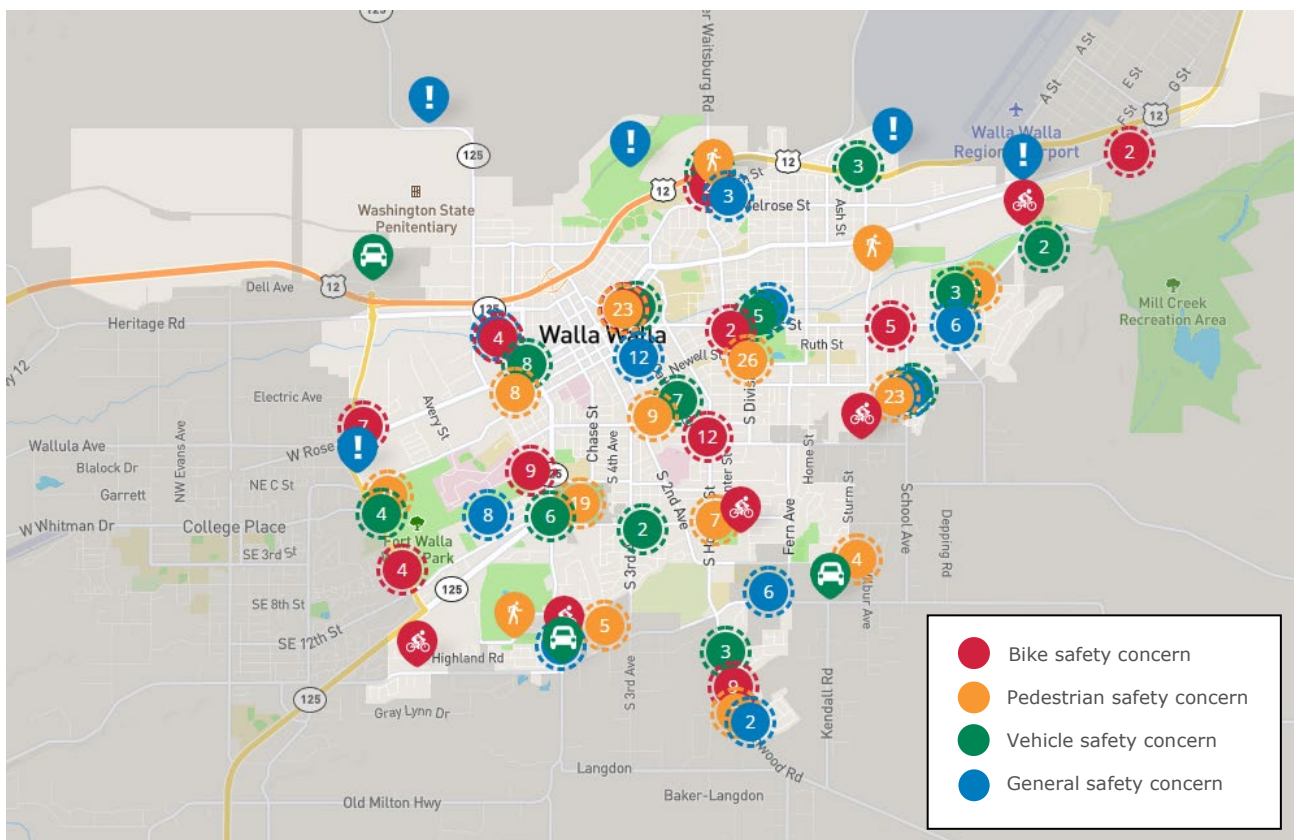
**FIGURE 6: WALLA WALLA EQUITY AREAS OF INTEREST**

These equity areas of interest were used as one of the prioritization criteria for safety improvement projects.

## CITIZEN CONCERNS

The City of Walla Walla’s Virtual Open House interactive map allowed residents to submit public feedback on safety concerns across the City during a two-week period. The comments received are shown on Figure 7. Citizens identified over 300 concerns related to bike safety (red markers), pedestrian safety (yellow markers), vehicle safety (green markers), and general transportation safety (blue markers) across the city. In addition to individual comments, residents had the option to “like” or “up-vote” other comments.

Feedback received during the virtual open house was incorporated into the project prioritization discussed later in this CSAP. Additionally, concentrations of citizen comments (by mode) were used to identify potential locations for the application of systemic safety improvements.



**FIGURE 7: MAP OF CITIZEN CONCERNS IDENTIFIED DURING OPEN HOUSE, JULY 2022**

The public engagement process also included collaboration with a broad range of stakeholders. In addition to providing input on specific safety concerns, the stakeholders also helped craft the City’s goal for eliminating fatal and serious injury crashes.


The stakeholder group membership is summarized in Table 4.

**TABLE 4. CSAP STAKEHOLDER GROUP MEMBERSHIP**

AGENCY	ROLE
CITY OF WALLA WALLA POLICE DEPARTMENT	Captain
CITY OF WALLA WALLA FIRE DEPARTMENT	Deputy Chief
WALLA WALLA COUNTY TRAFFIC SAFETY COALITION	Program Coordinator
VALLEY TRANSIT	General Manager
WALLA WALLA PUBLIC SCHOOLS	Director of Communications
WHITMAN COLLEGE	Office of the CFO
UNITED BLIND OF WALLA WALLA	Member
CITY OF WALLA WALLA BIKE & PED ADVISORY COMMITTEE	Chairperson

**SAFETY EMPHASIS AREAS**

Based on the crash trends, equity analysis, and citizen concerns, the following emphasis areas have been identified. These emphasis areas will guide the CSAP and ensure that the strategies and projects developed have the greatest likelihood of improving the safety performance of the City’s transportation network and eliminating fatal and serious injury crashes.

	<p><b>VULNERABLE ROAD USERS</b></p>
	<p>This emphasis area focuses on crashes involving someone walking or someone riding a bicycle. Crashes involving pedestrians and bicyclists are more likely to result in a fatal or severe injury. In addition, many younger and older road users travel on foot or via bicycle, which compounds this vulnerability.</p>



## **INTERSECTIONS**

This emphasis area focuses on crashes that occur within the functional area of an intersection. Intersections are the primary source of conflicts between road users of all types. Crash severity and patterns vary based on traffic control type, but intersection-related crashes that involve speeding, red-light running, and vulnerable users often result in fatal and serious injuries.



## **SPEEDING**

This emphasis area focuses on speeding as a driving behavior that puts the driver and other road users at risk. Speeding not only increases the risk of a crash occurring, but also results in more severe injuries to those involved.



## **IMPAIRMENT**

This emphasis area focuses on crashes involving drivers under the influence of drugs or alcohol. These crashes are prone to more severe outcomes and often involve roadway departures and high speeds.

## RECOMMENDED SYSTEMIC 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.

- 4-to-3 Lane Conversion
- Enhanced Pedestrian Crossings
- Signalized Intersection Pedestrian Enhancements
- Signalized Intersection Upgrades
- Green-colored Bike Facilities at Key Locations
- Strategies for Addressing Risky Behaviors

### 4-TO-3 LANE CONVERSION

Lane conversions, also known as road diets, reallocate roadway width to better serve multi-modal travel. This countermeasure converts 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. Lane conversions are best suited for roadways with less than 20,000 vehicles per day. However, it is also important to note that many of the benefits listed below can be gained through minor reallocation of roadway width that does not meet the definition of a lane conversion (road diet), such as replacing on-street parking with marked bicycle lanes, buffered bicycle lanes, or landscaping.

<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Reduces conflicts between through vehicles and left-turning vehicles</li> <li>• Reduces crossing distance for pedestrians</li> <li>• Provides additional space for bike lanes, sidewalks, crossing islands, on-street parking, or landscape buffers</li> </ul>	<p><b>Risk Factors Addressed:</b></p> <ul style="list-style-type: none"> <li>• Rear-End</li> <li>• Turning</li> <li>• Pedestrian</li> <li>• Bicycle</li> </ul>
	<p><b>Expected Crash Reduction:</b></p> <p>29% (all crashes)</p>

The City of Walla Walla has recently, or is in the process of, implementing lane conversions on multiple roadways including Isaacs Avenue, Rose Street, and Poplar Street.

## 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 islands, advanced warning signs, high visibility crosswalks, overhead and/or pedestrian-level lighting, or rectangular rapid flashing beacon (RRFB) with locator tones.

<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Reduces conflicts between vehicles and pedestrians</li> <li>• Countdown timers enable pedestrians to make informed decisions about when to safely cross the road</li> </ul>	<p><b>Risk Factors Addressed:</b></p> <ul style="list-style-type: none"> <li>• Pedestrian</li> </ul>
	<p><b>Expected Crash Reduction:</b></p> <p>10-60% (pedestrian crashes)</p>

Based on crash data, planned City projects, equity considerations, and citizen concerns, the following locations could be considered for a systemic implementation of enhanced pedestrian crossings.

- Rose Street Corridor (improvements planned in 2024)
- Poplar Street Corridor
- Howard Street Corridor
- Plaza Way Corridor
- School Avenue south of Pleasant Street
- Tausick Way near Mill Creek Trail and Sports Complex
- Division Street at Whitman Street
- Whitman Street at Park Street
- 2<sup>nd</sup> Avenue at Whitman Street
- Chestnut Street at 3<sup>rd</sup> Avenue
- Melrose Street at Wellington Avenue



## SIGNALIZED INTERSECTION PEDESTRIAN ENHANCEMENTS

Upgrade signalized intersections with pedestrian enhancements such as pedestrian signal head countdown timers, no-pedestrian phases with flashing yellow arrow (FYA), and leading pedestrian intervals (LPI). Based on feedback from stakeholders, leading pedestrian intervals (LPI) should be examined in close coordination with the blind community to confirm that implementation would not impact safety and accessibility.

<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Reduces conflicts between vehicles and pedestrians</li> <li>• Countdown timers enable pedestrians to make informed decisions about when to safely cross the road</li> </ul>	<p><b>Risk Factors Addressed:</b></p> <ul style="list-style-type: none"> <li>• Turning</li> <li>• Pedestrian</li> </ul> <p><b>Expected Crash Reduction:</b></p> <p>30-70% (pedestrian crashes)</p>
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Based on crash data, planned City projects, equity considerations, and citizen concerns, the following locations could be considered for a systemic implementation of pedestrian enhancements at signalized intersections.

- Rose Street Corridor (improvements planned in 2024)
- Pine Street Corridor (improvements planned in 2025)
- Poplar Street Corridor
- Alder Street Corridor
- SR125/9<sup>th</sup> Street at Poplar Street
- SR125/9<sup>th</sup> Street at Chestnut Street
- 2<sup>nd</sup> Avenue at Main Street

## 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.

<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Reduces conflicts between vehicles and pedestrians</li> <li>• Countdown timers enable pedestrians to make informed decisions about when to safely cross the road</li> </ul>	<p><b>Risk Factors Addressed:</b></p> <ul style="list-style-type: none"> <li>• Turning</li> <li>• Angle</li> <li>• Rear-End</li> <li>• Pedestrian</li> </ul>
	<p><b>Expected Crash Reduction:</b></p> <p>20-40% (all crashes)</p>

Based on crash data, planned City projects, equity considerations, and citizen concerns, the following locations could be considered for a systemic implementation of signalized intersection visibility upgrades.

- Rose Street Corridor (improvements planned in 2024)
- Pine Street Corridor (improvements planned in 2025)
- 2<sup>nd</sup> Avenue Corridor
- Poplar Street Corridor
- Alder Street Corridor
- Main Street Corridor
- Main Street at 2<sup>nd</sup> Avenue
- SR125/9<sup>th</sup> Street at Poplar Street
- Alder Street at 2<sup>nd</sup> Avenue

## 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.

<p><b>Benefits:</b></p> <ul style="list-style-type: none"> <li>• Promotes multi-modal use of the intersection and surrounding area</li> <li>• Increases visibility of bicyclists</li> <li>• Increases motorist yielding behavior</li> <li>• Helps reduce bicyclist conflicts with turning motorists</li> </ul>	<p><b>Risk Factors Addressed:</b></p> <ul style="list-style-type: none"> <li>• Bicycle</li> <li>• Turning</li> <li>• Angle</li> </ul>
	<p><b>Expected Crash Reduction:</b></p> <p>39% (bicycle-involved crashes)</p>

Based on crash data, planned City projects, equity considerations, and citizen concerns, the following locations could be considered for a systemic implementation of green bicycle conflict pavement markings.

- Pine Street at 13<sup>th</sup> Avenue
- Howard Street at Chestnut Street (roundabout planned in 2025)
- Main Street at Palouse Street/Boyer Avenue
- 2<sup>nd</sup> Avenue at Poplar Street (not supported by WSDOT design criteria)
- 2<sup>nd</sup> Avenue at Highway 12
- Signalized intersections with bicycle lanes on all approaches or along designated bicycle routes

## STRATEGIES THAT ADDRESS RISKY BEHAVIORS

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A critical component of the Safe System approach is addressing risky behaviors like speeding, impairment, distraction, and aggressive driving as crashes resulting from these behaviors are more likely to be severe. The following strategies can be implemented to reduce the occurrence of risky behaviors.

- Implement education and enforcement campaigns focused on safe driver behaviors (safe speeds, sober driving, eliminating distractions, etc.).
- Partner with transit agencies, businesses, and enforcement to provide discounted or free rides (transit or ride-hailing companies) during holidays or community events that are associated with increased DUI or drowsy driving.
- Install dynamic radar speed feedback signs at strategic locations to alert drivers who are exceeding the posted speed limit.
- Implement automated enforcement, such as red-light cameras and speed safety cameras, to expand enforcement capabilities and discourage red-light running and speeding, respectively.
- Implement context-based speed limit policies and neighborhood traffic management strategies to encourage slower travel speeds.

## PRIORITIZATION OF SAFETY PROJECTS

Safety needs were assessed for each of the high-risk intersections and segments using a comprehensive prioritization process that incorporates crash trends, emphasis areas, equity analysis, and citizen concerns. Prioritizing the safety needs at individual locations provides the information needed for the City to invest in meaningful transportation improvements.

### PRIORITIZATION CRITERIA AND SCORING

Table 5 summarizes the prioritization criteria and scoring scheme.

**TABLE 5. DESCRIPTION OF PRIORITIZATION CRITERIA**

CRITERIA	DESCRIPTION	SCORING
<b>CRASH HISTORY (4 CRITERIA)</b>	CSAP emphasis areas are represented in the observed crashes at this location (F&SI, vulnerable users, intersections, impairment, speeding)	<b>2 points</b> - % of emphasis area crash attributes exceeds citywide average
		<b>1 point</b> - % of emphasis area crashes lower than citywide average
		<b>0 points</b> - no crashes for this emphasis area
<b>EQUITY (1 CRITERION)</b>	Location is within an equity area of interest	<b>2 points</b> - location in High equity area
		<b>1 point</b> - location in Medium equity area
		<b>0 points</b> - location not in an equity area of interest
<b>CITIZEN CONCERN (1 CRITERION)</b>	Citizen concerns documented at this location	<b>1 point</b> - citizen concern
		<b>0 points</b> - no citizen concern
<b>MAXIMUM SCORE</b>		<b>11 points</b> for intersections <b>13 points</b> for corridors

*Notes:*

- *In case of a tie, the location with a higher number of total crashes was assigned the higher priority*
- *Only corridors were prioritized using the Intersection emphasis criteria, as all intersection locations would receive the same score.*

The results of the prioritization process are shown in Table 6 for intersections and Table 7 for corridors.

**TABLE 6. PRIORITIZATION SCORING FOR HIGH-RISK INTERSECTIONS**

INTERSECTION	F&SI	VULN. USER	INT. RELATED	SPEED	DUI	EQUITY	CITIZEN CONCERN	TOTAL SCORE
ROSE ST / 9 <sup>TH</sup> AVE	2	2	-	1	2	2	1	10
MAIN ST / 9 <sup>TH</sup> AVE	2	0	-	2	0	2	1	7
POPLAR ST / 2 <sup>ND</sup> AVE	2	2	-	0	0	2	0	6
ALDER ST / 9 <sup>TH</sup> AVE	2	2	-	0	0	2	0	6
PLAZA WAY / TIETAN ST	2	2	-	0	0	0	1	5
POPLAR ST / SR-125 (9 <sup>TH</sup> AVE)	0	2	-	1	0	2	0	5
CHESTNUT ST / SR-125 (9 <sup>TH</sup> AVE)	0	1	-	2	2	0	0	5
ISAACS AVE / DIVISION ST	2	0	-	2	0	0	0	4
2 <sup>ND</sup> AVE / WHITMAN ST	2	0	-	0	0	2	0	4
ALDER ST / 2 <sup>ND</sup> AVE	0	2	-	0	0	2	0	4
ALDER ST / ROOSEVELT ST	0	0	-	2	2	0	0	4
PLAZA WAY / SR-125 (9 <sup>TH</sup> AVE)	0	0	-	1	0	2	1	4
ROOSEVELT ST / PORTLAND AVE	2	0	-	0	0	0	0	2
WELLINGTON AVE / MELROSE ST	0	0	-	2	0	0	0	2
PINE ST / 13 <sup>TH</sup> AVE	0	0	-	0	0	2	0	2

**TABLE 7. PRIORITIZATION SCORING FOR HIGH-RISK CORRIDORS**

<b>CORRIDOR</b>	<b>F&amp;SI</b>	<b>VULN. USER</b>	<b>INT. RELATED</b>	<b>SPEED</b>	<b>DUI</b>	<b>EQUITY</b>	<b>CITIZEN CONCERN</b>	<b>TOTAL SCORE</b>
<b>SR-125 (PLAZA WAY TO CARRIE AVE.), 2.2 MILES</b>	2	2	2	2	1	2	1	12
<b>PINE ST. (MYRA RD. TO 2ND AVE.), 1.31 MILES</b>	2	1	2	2	1	2	1	11
<b>ROSE ST. (WEST CITY LIMIT TO ISAACS AVE.), 1.8 MILES</b>	2	2	2	2	1	1	1	11
<b>POPLAR ST. (2ND AVE. TO 14TH AVE.), 0.8 MILES</b>	1	2	2	1	1	2	1	10
<b>2ND AVE. (SR-12 TO BIRCH ST.), 0.63 MILES</b>	1	2	2	1	1	2	1	10
<b>CHESTNUT ST. (WEST OF 14TH AVE. TO HOWARD ST.), 1.24 MILES</b>	0	2	2	2	1	1	1	9
<b>MAIN ST. (6TH AVE. TO COLVILLE ST.), 0.4 MILES</b>	0	2	2	1	1	2	1	9
<b>WILBUR AVE. (SR-12 TO ALDER ST.), 0.93 MILES</b>	2	1	2	2	1	0	1	9
<b>2ND AVE. (BIRCH ST. TO ABBOTT RD.), 1.44 MILES</b>	2	1	2	2	0	0	1	8
<b>PLAZA WAY (9TH ST. TO PROSPECT AVE.), 1.1 MILES</b>	2	0	1	1	1	0	1	6

## PRIORITIZED SAFETY IMPROVEMENTS

Table 8 and Table 9 present the prioritized list of safety improvement projects at intersections and corridors, respectively. The project locations are also shown on Figure 8 and Figure 9, respectively.

**TABLE 8. PRIORITIZED INTERSECTION SAFETY IMPROVEMENTS**

RANK	INTERSECTION	SUGGESTED SAFETY COUNTERMEASURES
1	<b>ROSE STREET / SR-125 (9<sup>TH</sup> AVENUE)</b>	Systemic signal upgrades (signal visibility upgrades, pedestrian and bicycle signal enhancements). (Project planned for completion in 2024)
2	<b>MAIN STREET / SR-125 (9<sup>TH</sup> AVENUE)</b>	Systemic signal upgrades (signal visibility upgrades, supplemental signal heads, larger lenses, flashing yellow arrow, pedestrian and bicycle signal enhancements), protected left-turn phasing, upgrade curb ramps, access management.
3	<b>POPLAR STREET / 2<sup>ND</sup> AVENUE</b>	This intersection was recently reconstructed with systemic signal upgrades (signal visibility upgrades, supplemental signal heads, larger lenses, flashing yellow arrow, pedestrian signal enhancements). Reevaluate crash patterns once post-installation data is available.
4	<b>ALDER STREET / SR-125 (9<sup>TH</sup> AVENUE)</b>	Systemic signal upgrades (signal visibility upgrades, supplemental signal heads, larger lenses, flashing yellow arrow, pedestrian and bicycle signal enhancements), protected left-turn phasing, access management.
5	<b>PLAZA WAY / TIETAN STREET</b>	Signal upgrades and safety improvements are currently being installed in 2022. Reevaluate crash patterns once post-installation data is available.
6	<b>POPLAR STREET / SR-125 (9<sup>TH</sup> AVENUE)</b>	Systemic signal upgrades (signal visibility upgrades, supplemental signal heads, larger lenses, flashing yellow arrow, pedestrian and bicycle signal enhancements)
7	<b>CHESTNUT STREET / SR-125 (9<sup>TH</sup> AVENUE)</b>	Pedestrian and bicycle enhancements (upgraded markings and curb ramps, right-turn on red restrictions, leading pedestrian interval); convert to roundabout
8	<b>ISAACS AVENUE / DIVISION STREET</b>	The intersection was recently reconstructed with modified lane geometry and an enhanced pedestrian crossing with median refuge island. Reevaluate crash patterns once sufficient post-installation data is available.
9	<b>2<sup>ND</sup> AVENUE / WHITMAN STREET</b>	Enhanced pedestrian crossing, systemic stop-controlled upgrades (larger signs, supplemental warning and regulatory signs, double-wide stop bars, pavement markings)
10	<b>ALDER STREET / 2<sup>ND</sup> AVENUE</b>	Systemic signal upgrades (signal visibility upgrades, supplemental signal heads, larger lenses, flashing yellow arrow, pedestrian and bicycle signal enhancements)

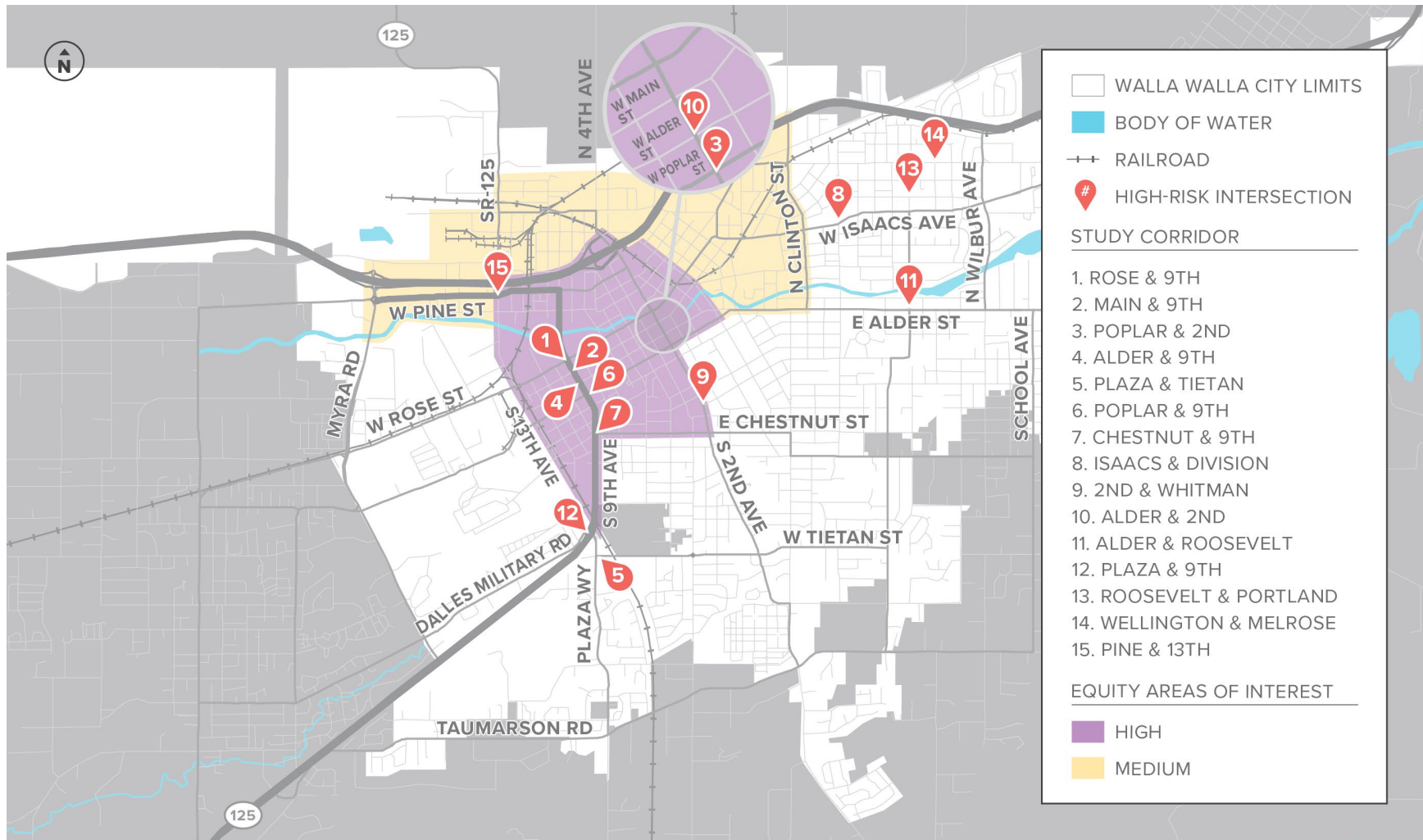


RANK	INTERSECTION	SUGGESTED SAFETY COUNTERMEASURES
11	ALDER STREET / ROOSEVELT STREET	Install new signal and systemic signal upgrades (signal visibility upgrades, supplemental signal heads, larger lenses, flashing yellow arrow, pedestrian and bicycle signal enhancements)
12	PLAZA WAY / SR-125 (9 <sup>TH</sup> AVENUE)	Roundabout recently installed in 2021. Reevaluate crash patterns once sufficient post-installation data is available.
13	ROOSEVELT STREET / PORTLAND AVENUE	Systemic stop-controlled upgrades (larger signs, supplemental warning and regulatory signs, double-wide stop bars, pavement markings), sidewalk infill and ADA upgrades
14	WELLINGTON AVENUE / MELROSE STREET	Recently converted to an all-way stop in 2021. Reevaluate crash patterns once sufficient post-installation data is available.
15	PINE STREET / 13 <sup>TH</sup> AVENUE	Systemic stop-controlled upgrades (larger signs, supplemental warning and regulatory signs, double-wide stop bars, pavement markings), improved bicycle facilities, visibility improvements

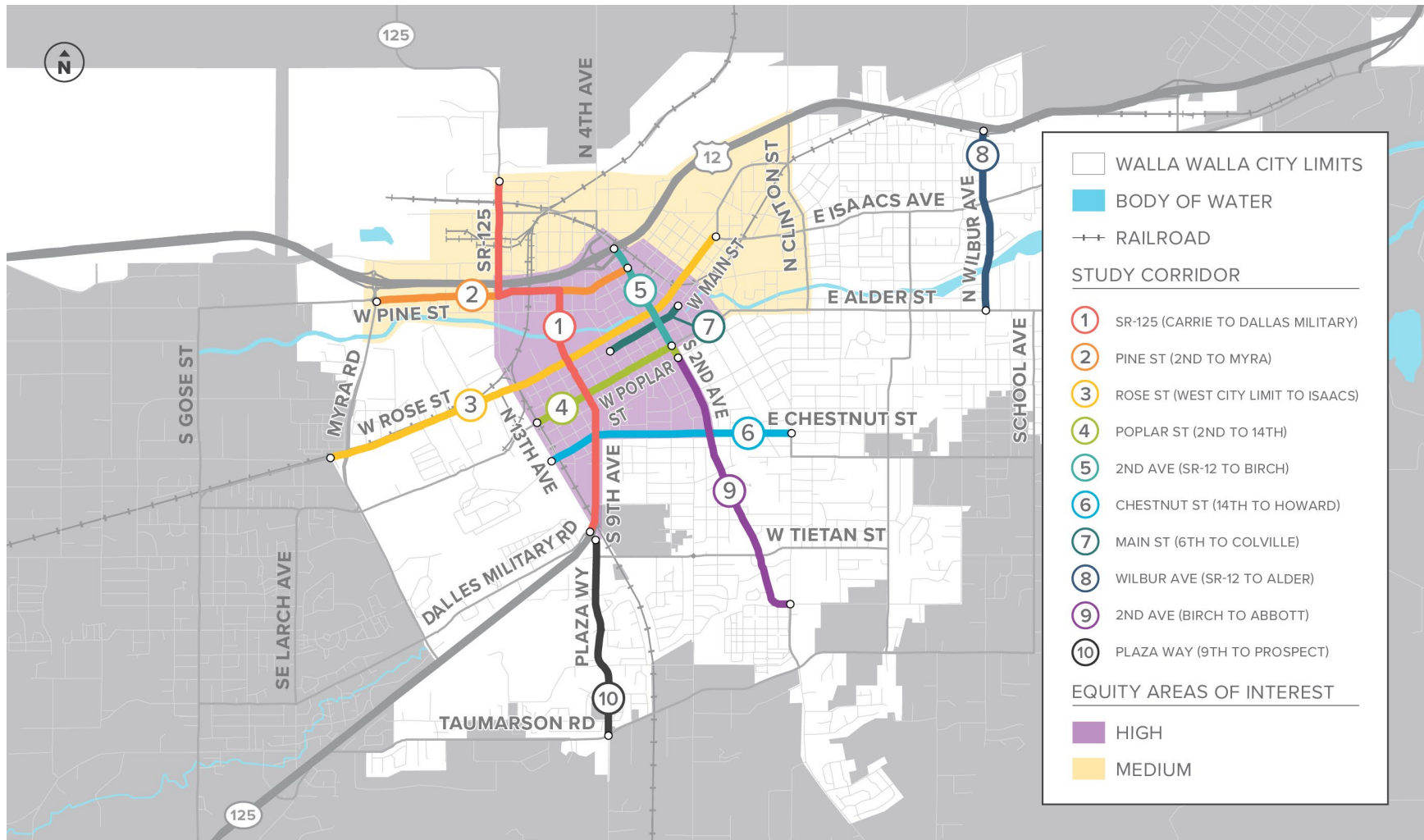
**TABLE 9. PRIORITIZED CORRIDOR SAFETY IMPROVEMENTS**

RANK	CORRIDOR	SUGGESTED SAFETY COUNTERMEASURES
1	SR-125 (PLAZA WAY TO CARRIE AVE.), 2.2 MILES	Systemic signalized and unsignalized intersection improvements, including necessary signal replacements and any associated ADA upgrades.
2	PINE ST. (MYRA RD. TO 2ND AVE.), 1.31 MILES	Improved bicycle and pedestrian facilities and systemic signalized and unsignalized intersection improvements, including necessary signal replacements and any associated ADA upgrades. (Project planned for completion in 2025, 9 <sup>th</sup> Avenue to 2 <sup>nd</sup> Avenue)
3	ROSE ST. (WEST CITY LIMIT TO ISAACS AVE.), 1.8 MILES	Lane Conversion (road diet), improved bicycle and pedestrian facilities, and systemic signalized and unsignalized intersection improvements, including necessary signal replacements and any associated ADA upgrades. (Project planned for completion in 2024)
4	POPLAR ST. (2 <sup>ND</sup> AVE. TO 14 <sup>TH</sup> AVE.), 0.8 MILES	In-process project: Lane Conversion (road diet), improved bicycle and pedestrian facilities, traffic signal upgrades, and lighting upgrades
5	2 <sup>ND</sup> AVE. (SR-12 TO BIRCH ST.), 0.63 MILES	Systemic signalized and unsignalized intersection improvements, including necessary signal replacements and any associated ADA upgrades. Recent improvements: Corridor signal timing and intersection upgrades at Pine Street
6	CHESTNUT ST. (WEST OF 14 <sup>TH</sup> AVE. TO HOWARD ST.), 1.24 MILES	Planned project: Intersection improvements at Howard Street (roundabout) and 2 <sup>nd</sup> Street (signal upgrades) as well as roadway improvements

<b>RANK</b>	<b>CORRIDOR</b>	<b>SUGGESTED SAFETY COUNTERMEASURES</b>
7	<b>MAIN ST. (6<sup>TH</sup> AVE. TO COLVILLE ST.), 0.4 MILES</b>	Enhanced pedestrian crossings and systemic signalized and unsignalized intersection improvements
8	<b>WILBUR AVE. (SR-12 TO ALDER ST.), 0.93 MILES</b>	Systemic unsignalized intersection improvements and enhanced pedestrian crossings
9	<b>2<sup>ND</sup> AVE. (BIRCH ST. TO ABBOTT RD.), 1.44 MILES</b>	Enhanced pedestrian crossings and systemic signalized and unsignalized intersection improvements. (signal upgrades installed in 2023 at Chestnut Street)
10	<b>PLAZA WAY (9<sup>TH</sup> ST. TO PROSPECT AVE.), 1.1 MILES</b>	Lane Conversion (road diet), improved bicycle and pedestrian facilities, and systemic signalized and unsignalized intersection improvements, including necessary signal replacements and ADA upgrades.



**FIGURE 8: MAP OF PRIORITIZED INTERSECTION PROJECTS**



**FIGURE 9: MAP OF PRIORITIZED CORRIDOR PROJECTS**

## IMPLEMENTATION AND EVALUATION

The CSAP is a guidance document and requires periodic updates to assess its efficacy and re-evaluate potential solutions. It is recommended to update this plan every two to five years in coordination with the safety partners. This document was developed based on community needs, stakeholder input, and crash analysis conducted to identify priority emphasis areas and risk factors in Walla Walla. The implementation of the systemic and location-specific safety solutions outlined in this plan will reduce the likelihood of fatal and severe injury crashes in Walla Walla.

## COLLABORATION

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City of Walla Walla staff should meet with stakeholder groups and agency partners on a regular basis to discuss new and ongoing strategy implementations, new strategic and funding opportunities, and barriers to implementation. The purpose of these meetings is to encourage and to maintain communication across stakeholders and provide accountability for implementation. Whenever possible, these meetings should include the representatives from emergency and enforcement services, regional agencies and school districts, and relevant community groups.

## POLICY SUPPORT

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Projects following the Safe System approach may often require tradeoffs to be made between on-street parking, vehicle level of service, and pedestrian and bicycle safety and accessibility, when funding and/or right of way are limited. Building off the zero goal adopted by City Council in August 2022, additional policies or resolutions may help clarify how these decisions will be made at a citywide scale rather than on a project-by-project basis. The policy can also support equity goals in the community by precluding unequal opportunities to those with the historically “loudest” voices or most resources for civic participation.

Other complementary policies and programs that specifically address the City’s safety emphasis areas may include a citywide pedestrian crossing policy and program, a neighborhood traffic management plan, or a speed management policy and program.

## INSTITUTIONALIZATION

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In addition to pursuing funding for the priority and systemic projects identified in this CSAP via upcoming state and federal grant opportunities, Walla Walla can also integrate the safety elements identified in this plan holistically with various other development and capital improvement projects as funding allows.

- Development Impact Review and Mitigation: new guidance from the Institute of Transportation Engineers presents opportunities to bring the Safe System approach into the development review process (<https://www.ite.org/pub/?id=94372DF6-BAB5-AE00-E6D5-471ED4F338CE>)

## PERFORMANCE MEASURES

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Between 2016-2021, an average of 6.33 crashes per year resulted in a fatality or serious injury on Walla Walla streets. In order to meet the adopted goal of eliminating fatal and serious injury crashes by 2032, the following interim targets must be met:

- 5-Year (2027) Target: > 50% reduction in average annual F&SI crashes

## MONITORING & EVALUATION

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Monitoring and evaluation of this CSAP creates accountability, ensures the effectiveness of the countermeasures, and aids in identifying the need for new strategies.

Walla Walla staff will prepare a bi-annual memo that will summarize crash trends for the city focused on the Emphasis Areas, the performance targets listed above, and the adopted goal in this CSAP. This frequency could coincide with stakeholder engagement and should be timed to allow the analysis results to inform City investment programming and grant funding applications.

The emphasis areas and systemic strategies identified in this CSAP will be re-evaluated every 3-5 years and revised based upon the results of the crash trend analysis. The bi-annual memos and updated CSAP will be posted to the City's website.

## COUNTERMEASURE EFFECTIVENESS

After implementing countermeasures, the strategies should be evaluated to determine their effectiveness. The evaluation should be recorded in a before-after study to validate the effectiveness of each countermeasure as per the following observations:

- Number of Fatal and Severe Injury collisions
- Number of public comments and concerns

Evaluation of specific treatments may be conducted using observed crash data or video analytics data. The most important measure of success of the CSAP should be reductions in F&SI crashes, as well as a reduction in observed conflicts.

# APPENDIX

# CONTENTS

## APPENDIX A. VISION ZERO RESOLUTION



**RESOLUTION NO. 2022-98**

**A RESOLUTION ESTABLISHING A VISION ZERO POLICY TO WORK TOWARDS ZERO TRAFFIC DEATHS AND SEVERE INJURIES**

WHEREAS, Traffic safety impacts our families, community, neighborhoods, health and livability; and

WHEREAS, The National Highway Traffic Safety Administration projects that an estimated 42,915 people died in motor vehicle traffic crashes in 2021, a 10.5% increase from the 38,824 fatalities in 2020; and

WHEREAS, the City's adopted 2018 Comprehensive Plan includes goals towards improving safety for walking, biking, transit, motor vehicles, and freight at high collision locations identified through data-driven safety analysis; and

WHEREAS, Vision Zero is a safety strategy to reduce and eventually eliminate traffic deaths and serious injuries using a data-driven, multi-disciplinary, and safe systems approach that increases safe, healthy, and equitable mobility for all; and

WHEREAS, Vision Zero recognizes that while human error will always occur, a combination of engineering, education, and enforcement measures can reduce collisions and prevent collisions from causing death or severe injuries; and

WHEREAS, the Walla Walla City Council has considered this matter during a regularly and duly called public meeting of said Council, has given said matter careful review and consideration, and finds that good government and the best interests of the City of Walla Walla will be served by passage of this resolution,

**NOW THEREFORE, the City Council of the City of Walla Walla resolves as follows:**

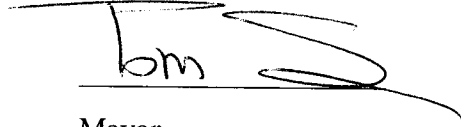
***Section 1:*** The Council hereby directs the City Manager to prepare a Comprehensive Safety Action Plan with the overriding goal of eliminating fatalities and serious injuries among all system users.

***Section 2:*** The City adopts a Vision Zero goal that by the year 2032 there are no serious injuries or deaths caused by traffic crashes involving any mode of transportation.

***Section 3:*** For City Staff to apply for grant funding to support infrastructure improvements/projects identified in the plan.

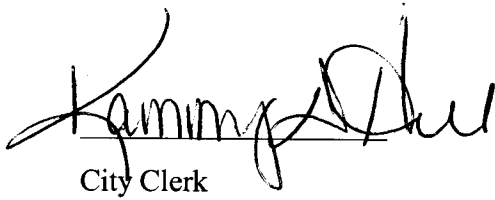
***Section 4:*** For City staff to monitor and periodically report on progress toward the Vision Zero goal.

**PASSED** by the City Council of the City of Walla Walla, Washington, August 24, 2022.

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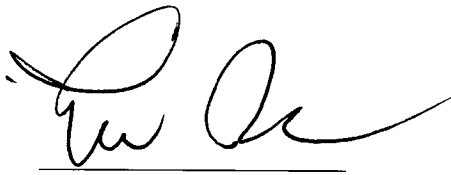
Mayor

Attest:

A handwritten signature in black ink, appearing to be "Kammy", written over a horizontal line.

City Clerk

Approved as to form:

A handwritten signature in black ink, appearing to be "W. A.", written over a horizontal line.

City Attorney