HERMISTON OREGON

HERMISTON SAFETY ACTION PLAN

HERMISTON SAFETY ACTION PLAN

Appendix

APPENDIX A: EXISTING CONDITIONS MEMO

TECHNICAL MEMORANDUM

June 21, 2024 Project #: 29802

To: Clint Spencer
Planning Director, City of Hermiston

From: Christopher Bame, Morgan Dean, Nick Foster, Matt Hughart (Kittelson)

CC: Byron Smith, Mark Morgan (City of Hermiston)

RE: Technical Memo #1: Existing Conditions

EXECUTIVE SUMMARY

The Hermiston Safety Action Plan (SAP) analyzes recent crash data on public roads in Hermiston for the purpose of identifying crash patterns and prioritizing safety countermeasures. This memorandum summarizes the existing conditions analysis, which evaluates the five most recent years of crash data and roadway characteristics to identify broad emphasis areas and locations to focus countermeasures on.

Between 2018 and 2022, **556 crashes** resulted in a fatality or injury.

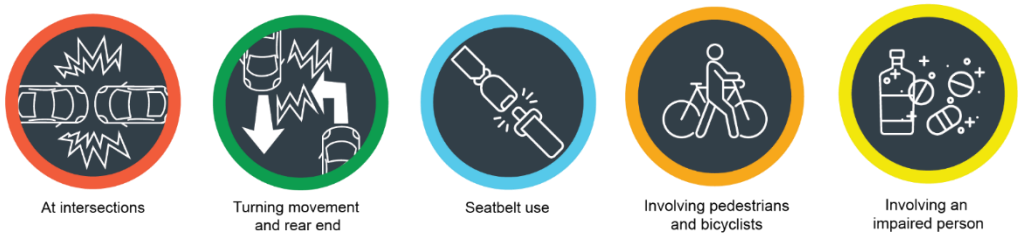
8
people were killed.

35
people were seriously injured.

827
people were injured.

Emphasis areas to focus countermeasures on are:

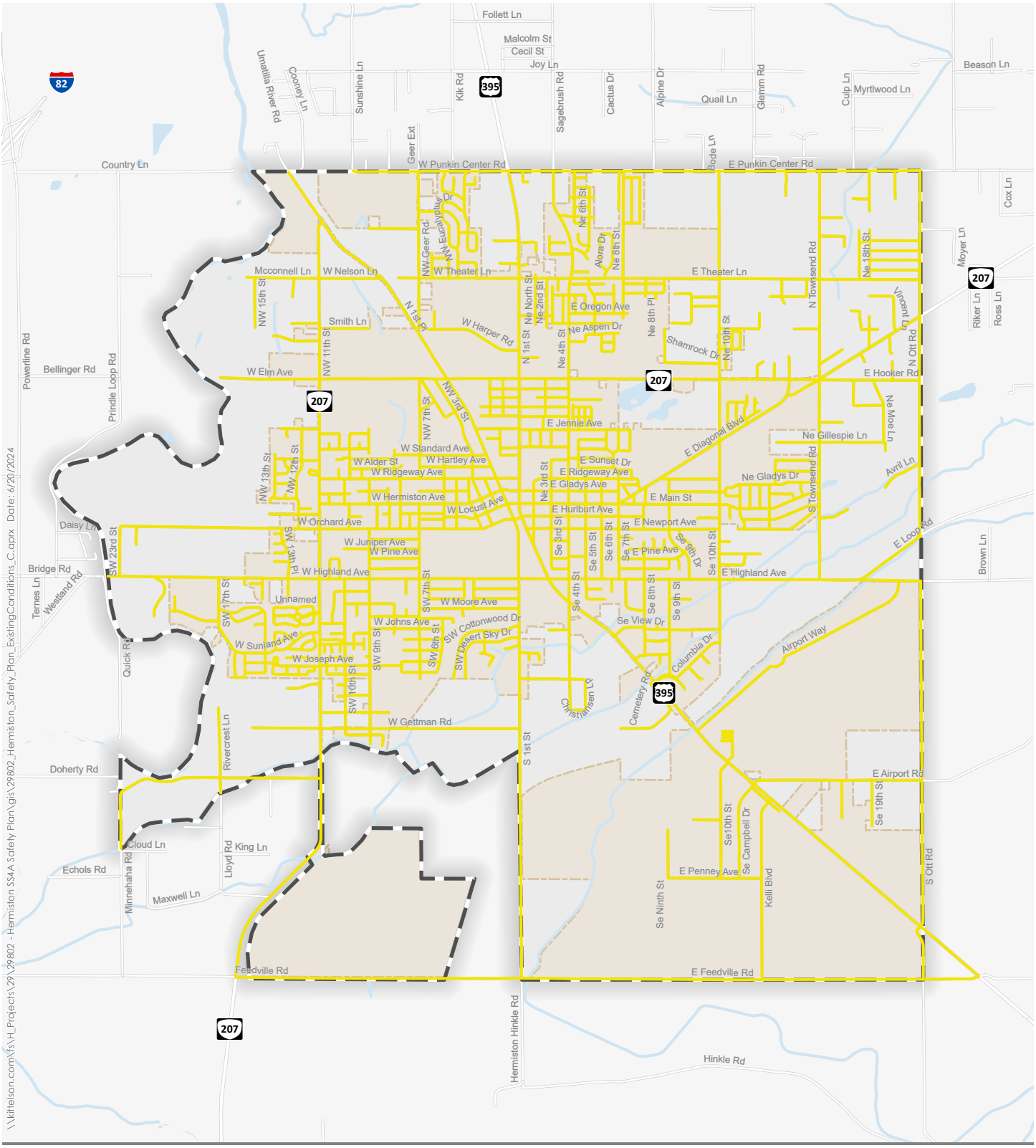
- Crashes with certain characteristics tend to be more common or more severe in Hermiston:



- Certain roadways and intersections have historically had a greater number of crashes resulting in an injury or fatality:
  - US 395, north of Hermiston Avenue to the urban growth boundary, including intersections at:
    - US 395 & Punkin Center Road
    - US 395 & Hermiston Avenue/Gladys Avenue
    - US 395 and Elm Avenue
  - 11th Street, between Joseph Avenue and Elm Avenue
  - Orchard Avenue, between 11th Street and US 395
  - W Highland Avenue, west of 11th Street to the urban growth boundary
- Following methodologies from Oregon Department of Transportation (ODOT) certain characteristics of roadways and intersections are correlated with more intersection, pedestrian, or bicyclist crashes.

STUDY AREA

The City of Hermiston is in Umatilla County in northeast Oregon. The study area for the Safety Action Plan (SAP) includes all roads located within the Hermiston urban growth boundary (UGB). Feedville Road, Ott Road, and Punkin Center Road, which the UGB follows are also included. Additionally, OR 207 (11th Street) between Feedville Road and the UGB and Feedville Road between Ott Road and US 395 are also included in the study area. These roads are operated and maintained by three jurisdictions: the City of Hermiston, Umatilla County, and ODOT. The analyzed road network is shown in Figure 1.



Urban Growth Boundary (Study Area)

Hermiston City Limits

Analyzed Roadway Network

0 0.5 1 Miles

Figure 1

Study Area

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EXISTING PLANS AND POLICIES REVIEW

The project team reviewed all relevant plans from the City of Hermiston, Umatilla County, and ODOT that identify safety related policies, goals, objectives, and other elements. A summation of our findings is presented in the following sections.

Hermiston 2040 Community Vision & Action Plan

The Hermiston 2040 Community Vision and Action Plan (Reference 1) guides decisions to improve the City for current residents and prepare for the anticipated 5,800 new residents over the next 20 years. To set the foundation for the future, the Plan places an emphasis on community engagement and identifies four goals to address nine community priorities. This Plan does not identify specific safety improvement projects or safety performance measures. Community priority topical areas related to transportation safety include:

Attractive and Safe Community

- Infrastructure and Planning
- Transportation and Mobility

The Plan refines the community priorities into four goal statements, each with a set of actions and sub-actions to further guide decision-makers. The goals and actions related to transportation safety include:

- **Goal:** Safe and Healthy Hermiston.
  - **Action 2.3**: Provide a healthy, safe environment.
    - Build a police force that is aligned with the City's population growth and desired public safety outcomes.
    - Create safer and more connected neighborhoods.
    - Create an attractive community by supporting consistent wayfinding and policies that promote beautification efforts.
- **Goal**: Sustainable Hermiston.
  - **Action 4.2**: Improve the City's mobility.
    - Reduce traffic and congestion by adding more streets and alternative routes.
    - Improve mobility and safety on existing streets with enhanced maintenance, traffic calming improvements, and sidewalk connectivity.
    - Improve ADA access on city sidewalks and in parks.
  - **Action 4.3**: Provide the infrastructure needed to support a growing community.
    - Invest in city infrastructure that supports sustainable city growth.
    - Create more parking in downtown Hermiston.
    - Strengthen Hermiston's airport.

Hermiston Transportation System Plan

The Hermiston TSP (Reference 2) was originally adopted in 1997 and includes updates to the transportation improvement project list in 2000, 2003, and 2014. The TSP sets a goal for the City to promote "a balanced, well-integrated transportation system which provides safe, convenient and efficient access, and facilitates the movement of people and goods." The goal is supported by seven objectives outlined in the plan which focus on multi-modal improvements and enhancements and coordination and participation among agencies and the public.

The plan includes a detailed analysis of existing transportation conditions, demand management measures, travel mode distribution, and travel forecasts. Safety is one of the factors used to evaluate potential projects. Street, pedestrian, and bicyclist system plans within the TSP also provide implementation guidance and a list of proposed improvement projects for the City.

The pedestrian and bicyclist modal plans include the following specific goals:

- The pedestrian system should provide direct and safe access to all areas of the city and to every land use.
- The bicycle system plan aims to provide direct and safe access to all areas of the city.

The TSP includes a 20-year Capital Improvement Plan (CIP), which was most recently updated in 2023. The current street, intersection, pedestrian, and bicyclist improvement projects are shown in Figure 2.

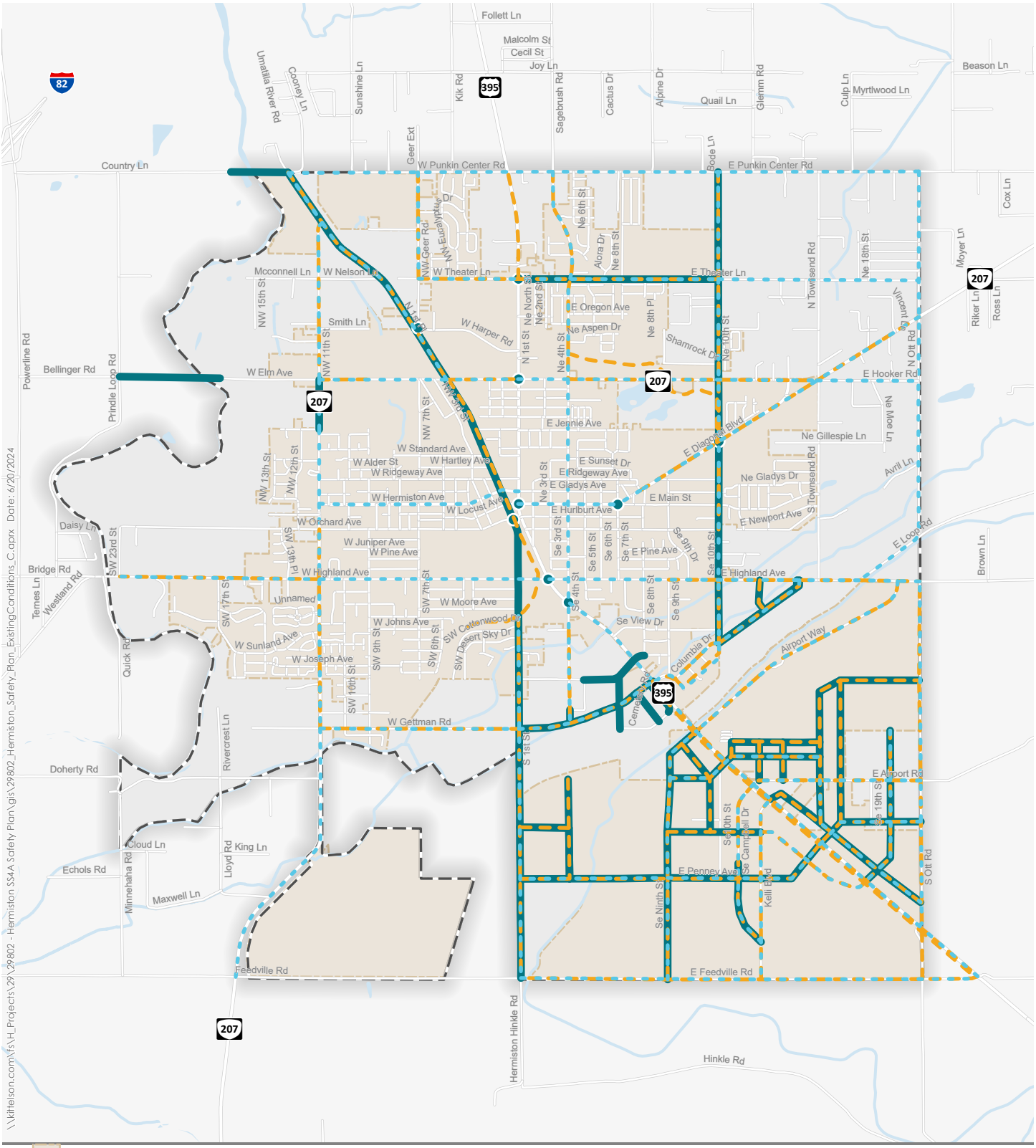

Figure 2

Hermiston TSP Improvement Plan Projects Summary Map

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Umatilla County Transportation System Plan

The Umatilla County TSP (Reference 6) was adopted in 2002 and will be undergoing an update starting in Fall 2024. The County will also complete its own safety action plan in parallel with the TSP update. Coordination with the County is important for planning for County-owned roads in the Hermiston's urban growth boundary (UGB).

With respect to the existing adopted Umatilla County TSP, the vision of the TSP is to "establish and maintain a functional, efficient and effective system for the coordinated transport of people, goods, services, information and data appropriate for current and future needs" and is supported by a list of guiding principles. The goal of the plan is to "provide and encourage a safe, convenient, and economic transportation system" which is further supported by eight goals, each with a list of sub-objectives. Two goals directly mention safety:

- Goal 1: Preserve the function, capacity, level of service, and safety of the local streets, county roads, and state highways.
- Goal 4: Increase the use of alternative modes of transportation (walking, bicycling, and public transportation) through improved access, safety, and service.

The TSP documents the transportation system inventory, existing conditions, travel forecasts, improvement options, operational plans, funding options, and recommended policies and ordinances. Relevant policies and ordinances include:

- Approval process for transportation facilities. To clarify the approval process for transportation-related projects, the Transportation Planning Rule requires cities and counties to amend their land use regulations to conform to the jurisdiction's adopted TSP.
- Protecting existing and future operation of facilities.
- Protecting public use airports.
- Coordinating review of land use decisions.
- Safe and convenient pedestrian and bicyclist circulation.

The pedestrian and bicyclist recommendations relate to bicycle parking, pedestrian access, connectivity, development, and design.

ODOT Transportation Safety Action Plan

The ODOT Transportation Safety Action Plan (Reference 3) (TSAP) sets a target of zero deaths and life-changing injuries on Oregon's transportation system by the year 2035. The TSAP includes goals, policies, and strategies to work towards the target. The TSAP also uses a data-driven approach, considering crash type, frequency, and severity, to identify near-term Emphasis Areas and actions to organize safety treatments and maximize safety benefits of investments. Underlying all these near-term priorities is the focus on "equitable and unbiased solutions for all transportation system users and all modes of travel." The identified Emphasis Areas are:

- **Infrastructure**: Implement treatments at intersections and along roadways to minimize intersection and roadway departure crashes.
- **Risky behaviors**: Minimize impaired driving, unbelted, speeding, and distracted driving crashes.
- **Vulnerable users**: Minimize pedestrian, bicycle, motorcycle, and aging road user crashes with a focus on low-income or historically excluded communities.
- **Improved systems**: Improve data, training for transportation staff, law enforcement, emergency responders, and commercial vehicle operators.

> Oregon envisions no deaths or life-changing injuries on Oregon's transportation system by 2035."
>
> – ODOT 2021 TSAP

To identify region-specific safety concerns, the plan assesses several crash attributes on a regional level for comparison with state-wide data. ODOT's Region 5 includes Umatilla County and the rest of eastern Oregon. Trends that differ in Region 5 compared to the rest of Oregon include:

- Higher proportion of roadway or lane departure fatal and serious injury (FSI) crashes
- Higher proportion of speeding related FSI crashes
- Higher proportion of FSI crashes with unrestrained occupants
- Lower proportion of intersection-related and pedestrian-involved FSI crashes

In addition to near-term priorities, the TSAP establishes six long-term goals: safety culture, infrastructure, healthy and livable communities, technology, collaborate and communicate, and strategic investments. To measure progress toward the zero target performance measures are set in the Oregon Traffic Safety Performance Plan, with five performance measures selected for inclusion in the TSAP:

- Number of fatalities
- Fatalities per 100 million VMT
- Number of serious injuries
- Serious injuries per 100 million VMT
- Number of nonmotorized fatalities or serious injuries

Targets are set for each of these performance measures. The annual target through 2035 for the number of fatalities is shown in Figure 3.

Figure 3. Fatality Targets (ODOT 2021 TSAP)

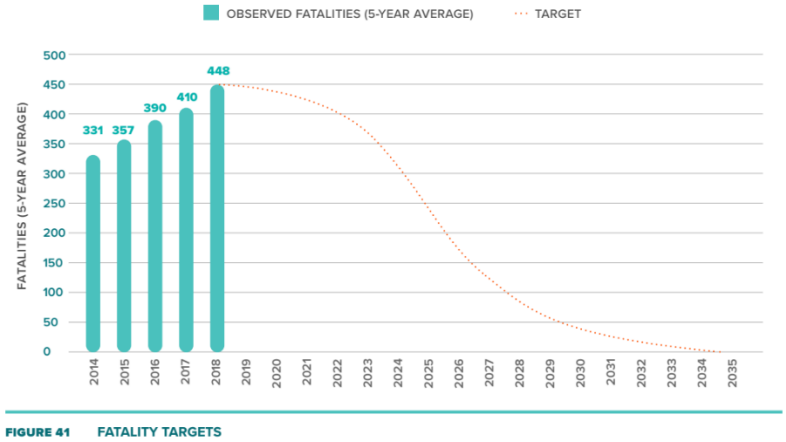


FIGURE 41 FATALITY TARGETS

The TSAP identifies example activities and roles various agencies can perform to better align with the goals and objectives of the TSAP. These example activities and roles provide guidance on collaborations, additional plan development, safety evaluations, and educational efforts.

ODOT Intersection Safety Implementation Plan

The ODOT Intersection Safety Implementation Plan (Reference 4) presents a framework for systemic safety analysis at signalized and stop-controlled intersections to reduce fatal and serious injury crashes. The framework is developed for use by local agencies and ODOT and is to be integrated with the All Roads Transportation Safety (ARTS) program. The framework aids in identifying patterns in contributing factors to crashes. The five steps of the framework are:

1. **Confirm** study network and compile available data.
2. **Screen** network and identify potential sites for improvement. There are two screening options:
    a. **Option 1:** Characteristics-Based Screening. This option is recommended for local agencies. Intersections are scored based on the presence of characteristics that increase fatal and serious injury crash risk. This option allows for identification of higher-risk sites both with and without crash history.
    b. **Option 2:** Safety Performance Functions. This option projects long-term crash frequency by intersection type. This option is limited due to rigid data requirements and a less diverse range of inputs.
3. **Select** potential countermeasures.
4. **Prioritize** and implement projects.
5. **Evaluate** program and project impacts.

ODOT Bicycle and Pedestrian Safety Implementation Plan

The ODOT Bicycle and Pedestrian Plan (Reference 5) implements a statewide bicycle and pedestrian plan using the first five steps of the seven-step systemic analysis method outlined in NCHRP Research Report 893 (Systemic Pedestrian Safety Analysis):

1. **Define** the study scope.
2. **Compile** available data.
3. **Determine** risk factors.
4. **Identify** potential treatment sites.
5. **Select** potential countermeasures.
6. **Refine** and implement treatments.
7. **Evaluate** program and project impacts.

The analysis considers crash, land use, demographic, and exposure data. Risk factors are identified using equivalent property damage only (EPDO). Treatment sites are identified by analyzing pedestrian and bicycle crashes by urbanicity (whether the location is urban or rural), junction relationship (intersection, driveway, segment), and severity (KABCO). Oregon's Highway Safety Improvement Program (HSIP) can use the results to select and develop projects to reduce pedestrian and bicyclist crash frequency and severity. The identified countermeasures were not implemented but serve as an illustration of how to use this process to identify future safety projects.

Plan Summary

Table 1 summarizes the elements provided in each of the reviewed plans.

- **Safety Analysis:** Does the plan analyze historical crash data?
- **Public Input:** Does the plan refer to public input as a source supporting the plan's development?
- **Project List:** Does the plan provide a list of projects?
- **Prioritize Needs:** Does the plan prioritize the agency's needs? *Prioritization may be in the form of a method for prioritizing projects, a prioritized list of projects, or list of issues, locations, and/or crash types/factors that are of particular concern.*
- **Performance Measures:** Does the plan identify performance measures? *Measures may be metrics for achieving safety outcomes (e.g., number or percent reduction of fatal and serious injuries) or for project progress (e.g., number of quick-build projects implemented).*
- **Performance Targets:** Does the plan provide performance targets? *These targets may relate to Vision Zero or to other performance measures identified in the plan.*

Table 1. Summary of Plan Elements

Plan	Safety Analysis	Public Input	Project List	Prioritize Needs	Performance Measures	Performance Targets
Hermiston 2040 Community Vision & Action Plan (2022)		✓		✓		
Hermiston TSP (1997)	✓	✓	✓	✓		
Umatilla County TSP	✓	✓	✓	✓		
ODOT TSAP (2021)	✓	✓		✓	✓	✓
Oregon Intersection Safety Plan (2023)	✓	✓		✓		✓
Oregon Bicycle and Pedestrian Safety Plan (2020)	✓			✓		

Existing Practices Review

Hermiston currently incorporates, or is in the process of incorporating, safety in several existing practices and policies, including:

- Requiring development to pursue off street circulation and shared driveways to the extent possible to minimize access points. (Hermiston Code)
- Using 25 MPH as the default design speed for roadways, with a speed study required to use a higher design speed.
- Reintroducing a traffic enforcement officer to the Police Department organization chart.
- Focusing traffic enforcement based on historical crash data.
- Deploying an automated speed feedback trailer based upon citizen requests.
- Systematically filling in sidewalk gaps (currently budgeting about $30,000/year for this effort).
- Pursuing grant funding for speeding and distracted driving enforcement.
- Requiring space for people walking on residential and commercial streets and developments to build out their frontage accordingly.
- Hiring a consultant to analyze crash data for identified projects.
- Requiring employees to be licensed and authorized by the City Manager to drive on City business. (Hermiston Employee Handbook)
- Considering safety needs as part of project development, for example on the TSP project of extending Gettman Road to US 395, the City of Hermiston has identified a need to consider sight distances on US 395 approaching the planned intersection, especially for northbound traffic.

Federal Guidance and Programs

This section briefly describes key federal guidance and programs that will influence this plan.

SAFE SYSTEM APPROACH

The Safe System Approach (Reference 7) is a holistic approach to transportation safety that aims to achieve zero roadway deaths and serious injuries. Following the success of this approach in other countries, it was adopted by the USDOT in 2022 as part of the National Roadway Safety Strategy (Reference 8).

Source: Safe System Approach Elements and Principles, FHWA.

The approach focuses on two significant shifts related to the perspective of road safety:

- Shift from the goal of "prevent all crashes" to "prevent fatal and serious injury crashes."
- Shift from strategies focused on "change human behavior" to "accommodate human behavior (including mistakes)."

Six principles serve as fundamental beliefs underscoring the approach:

- Death and serious injuries are unacceptable.
- Humans make mistakes.
- Humans are vulnerable.
- Responsibility is shared.
- Safety is proactive.
- Redundancy is crucial.

Five objectives serve as ways to implement the approach:

- Safer roads.
- Safer people.
- Safer speeds.
- Safer vehicles.
- Post-crash care.

To help agencies put the Safe System Approach into practice, FHWA published the Safe System Roadway Design Hierarchy (Reference 9), which guides practitioners on making project-specific decisions for various roadway treatments. The hierarchy is comprised of four tiers which prioritize strategies based on their alignment with the Safe System Approach. When identifying potential treatments, practitioners are encouraged to start with treatments that address Tier 1.

- Tier 1: Remove Severe Conflicts
- Tier 2: Reduce Vehicle Speeds
- Tier 3: Manage Conflicts in Time
- Tier 4: Increase Attentiveness and Awareness

SAFE STREETS AND ROADS FOR ALL PROGRAM

This project is funded through a grant from the Safe Streets and Roads for All (SS4A) grant program. The SS4A program has two major categories of grants: Planning and Demonstration Grants and Implementation Grants. This project is in the Planning and Demonstration category. As such, the plan should meet the requirements to be eligible for Implementation Grant funding as described in the Self-Certification Eligibility Worksheet (Reference 10). Upon completion of this plan, the City would be eligible to apply for SS4A funding for further design and construction of priority projects. The City is also eligible to apply for supplemental planning or demonstration (i.e., non-permanent) projects while this plan is in process. The final deadline in this current cycle for supplemental planning or demonstration applications is August 29, 2024.

OTHER PROGRAMS AND TOOLS

In addition to the presented guidance and documentation, the FHWA provides several additional safety programs and tools (Reference 11) to address safety concerns related to vehicle speeds, vulnerable road users, intersections, and roadway departure crashes.

CITYWIDE CRASH CONDITIONS

Historical crash data, collected and supplied by ODOT, including crash years 2018 through 2022 was assessed on all study area roadways and intersections. Figure 6 shows the location of all crashes in the City of Hermiston during these five years. A summation of trends related to time, location, and contributing circumstances is presented in the following sections.

The Hermiston SAP considers all fatal and injury crashes. While the focus of the SS4A program is to reduce and eliminate fatal and serious injury (FSI) crashes, in Hermiston between 2018 and 2022 there were 39 FSI crashes which is not a large enough sample size to identify reliable patterns and draw conclusions. To increase the sample size, all 556 injury crashes were included in the analysis. Property damage only crashes were excluded from the analysis.

General Trends

The number of injury crashes are shown by year in Figure 4. The number of annual injury crashes was at its greatest in 2018 and 2019, with over 120 injury crashes each year. The number of annual injury crashes reduced by nearly 50% from 2019 to 2020. This is likely due to the effects of the COVID-19 pandemic on local travel. Since 2020, the number of injury crashes has increased, returning back pre-COVID levels.

The number of fatal and serious injury crashes are shown by year in Figure 5. Despite the reduction in injury crashes in 2020, there were more fatal and serious injury crashes in 2020 than in 2018 or 2019. Except for 2021, the number of annual FSI crashes have increased every year in Hermiston. The number of FSI crashes in 2022 (2 fatal; 14 serious injury) was more than double the number of FSI crashes in any previous study year.

Figure 4. Total Injury Crashes by Year and Severity

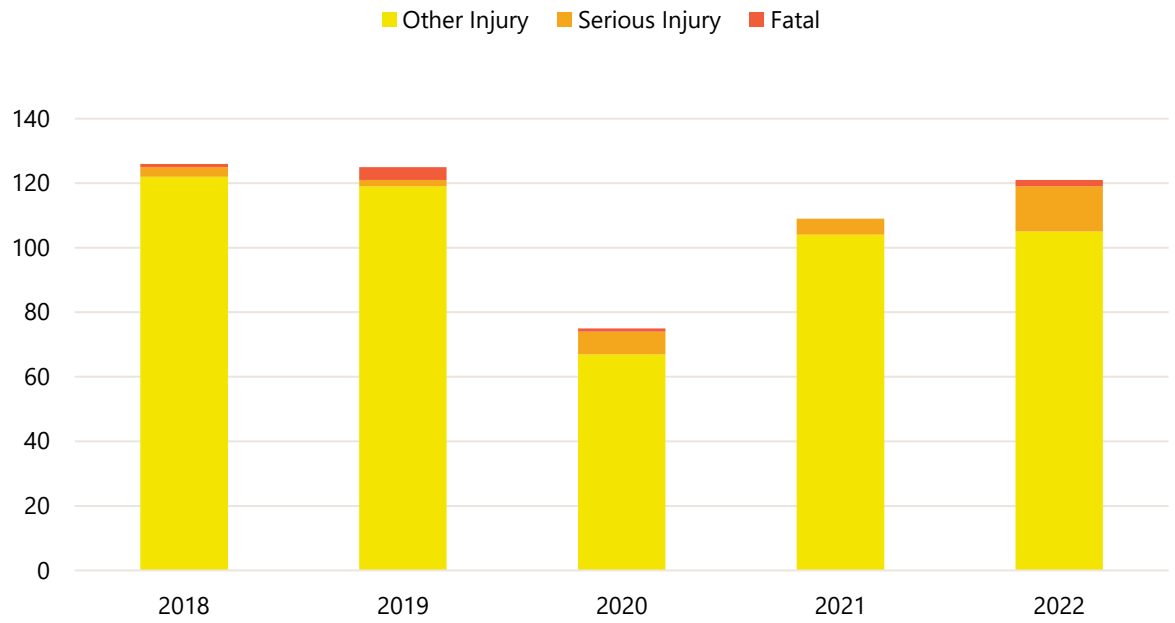
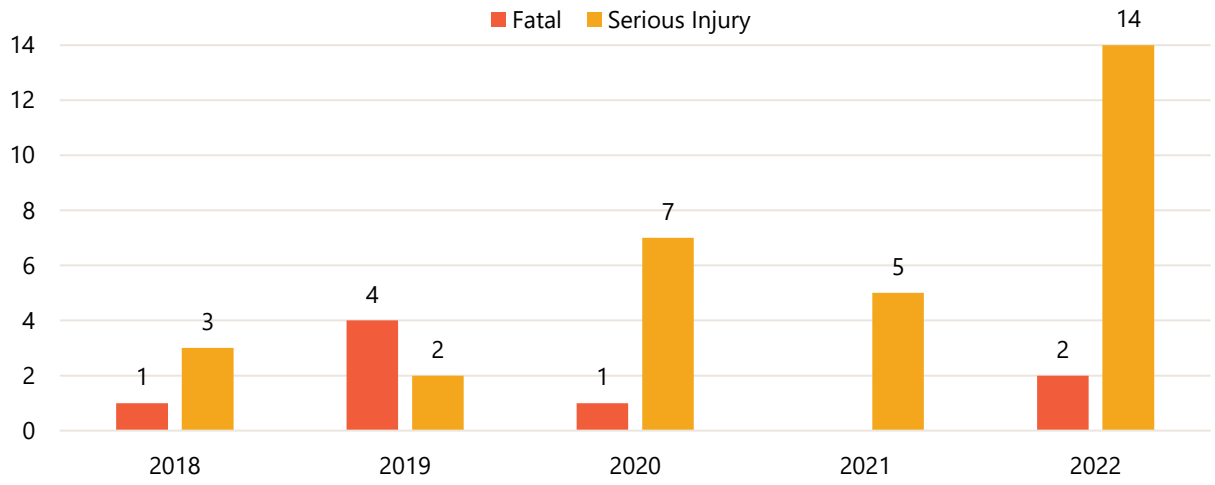
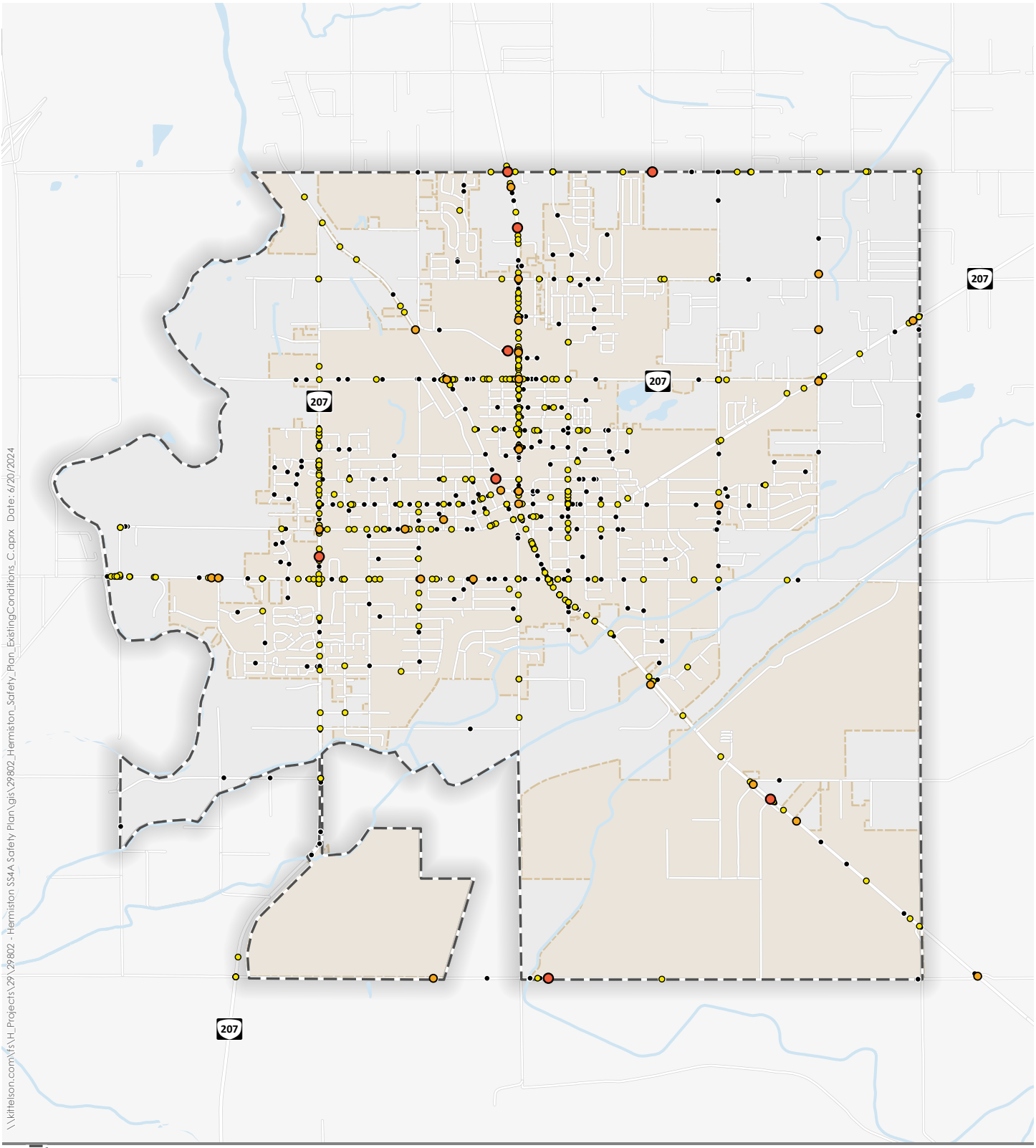


Figure 5. Total Fatal and Serious* Injury Crashes by Year and Severity



***While the focus of the SS4A program and Vision Zero is on fatal and serious injury crashes, the Hermiston SAP considers all injury crashes to increase the sample size used for analysis.**



Urban Growth Boundary

Hermiston City Limits

Crashes by Severity

- Fatal
- Serious Injury
- Other Injury
- Property Damage Only

0 0.5 1 Miles

Figure 6

Total Crashes Between 2018 and 2022

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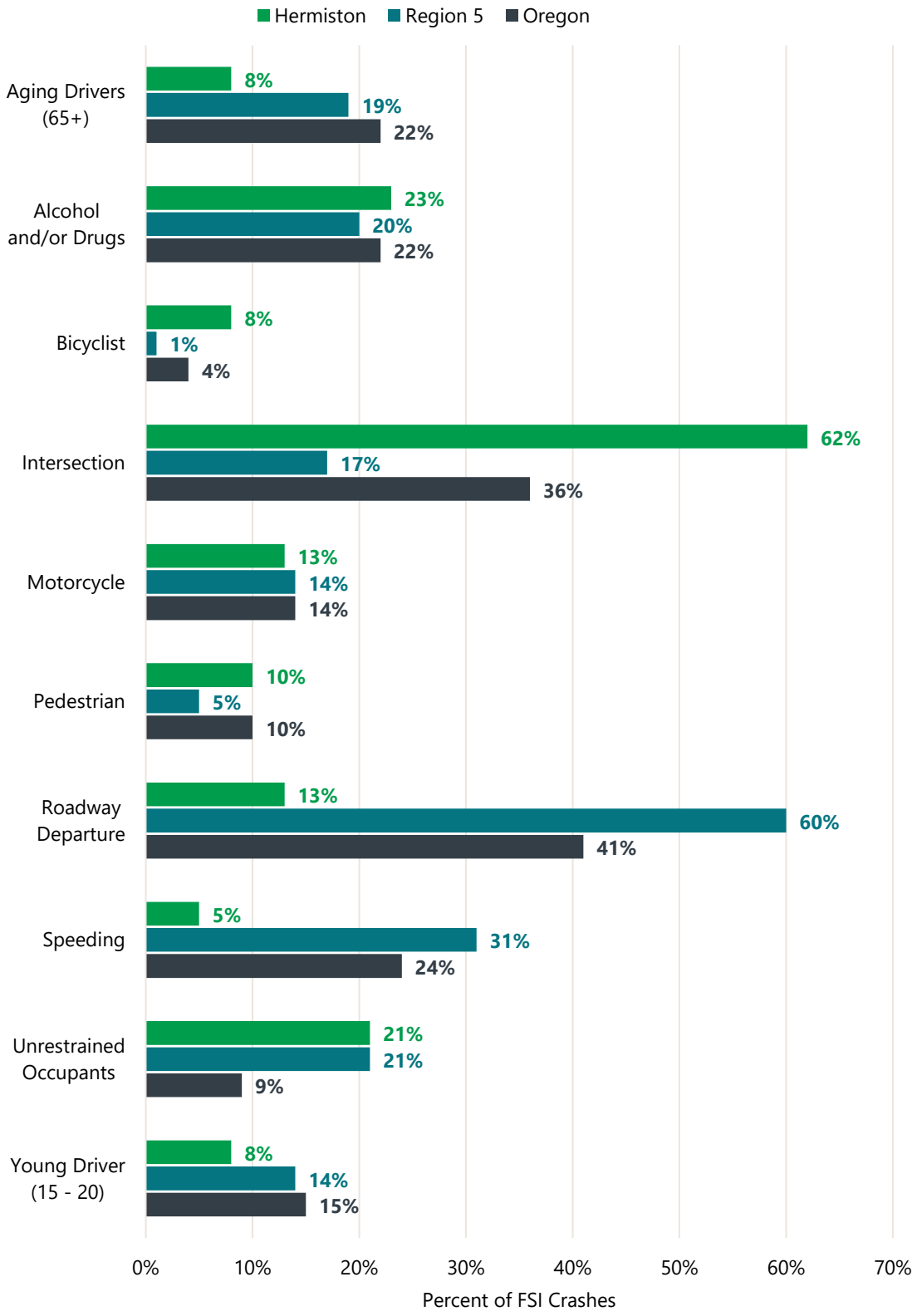
Data Source: ODOT Crash Data (2018 to 2022)

The Oregon Transportation TSAP reports the prevalence of several contributing crash factors to FSI crashes across Oregon and ODOT Region 5 (Morrow, Umatilla, Union, Wallowa, Baker, Grant, Harney and Malheur Counties). Figure 7 reports the statewide and Region 5 values presented in the Oregon TSAP. A third set of bars has been added to report the prevalence of these factors among the FSI crash population within Hermiston.

Three factors were identified as being more common in the City than in the state and/or region: bicyclist crashes, intersection crashes, and pedestrian crashes. An additional two factors were identified as showing significant trends: impaired driving and unrestrained occupants.

- 62% of FSI crashes in Hermiston were at **intersections**. Hermiston is an urbanized area with a higher concentration of intersections than much of the rest of the state or Region 5.
- 10% of FSI crashes in Hermiston involved a **pedestrian** and 8% involved a **bicyclist**. Urban areas typically have more pedestrian and bicyclist activity than rural areas. Additionally, people walking and biking are more vulnerable to injury than vehicle occupants.
- The percentage of **unrestrained occupants** (21%) involved in FSI crashes in the city is aligned with the Region 5 rate and is higher than the rest of the state.
- **Impaired driving** prevalence (23%) was only slightly higher than the state and region but is a significant contributing factor to FSI crashes.

Figure 7. Factors Contributing to FSI Crashes in Oregon, ODOT Region 5, and the City of Hermiston



Crash Severity, Mode, and Type

People walking and biking experience a higher proportion of fatal and serious injury crashes than motor vehicle occupants. Figure 8 shows the percent of crashes in Hermiston that resulted in an injury by severity of injury and mode. The following observations demonstrate the greater severity of crashes for people walking and biking:

- 6% of vehicle-only crashes resulted in a fatality or serious injury.
- A much higher percentage (20%) of pedestrian crashes resulted in a fatality or serious injury.
- Similar to pedestrian crashes, 27% of bicyclist crashes resulted in a serious injury; there were no fatal bicyclist crashes.

Figure 8. Distribution of Injury Crash Severity by Mode

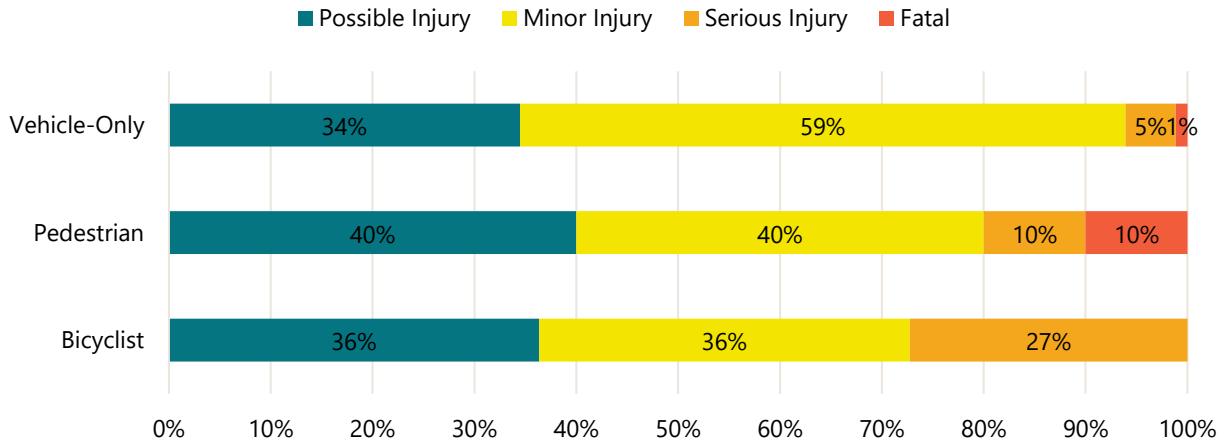
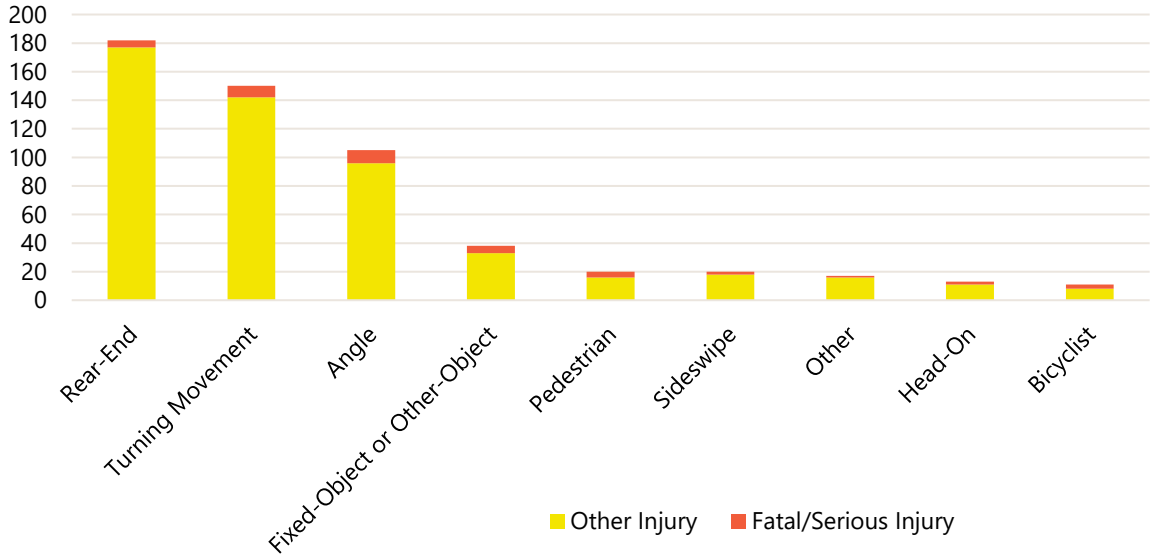


Figure 9 shows the number of injury crashes by crash type. Rear-end crashes were the most common crash type in Hermiston, with 5 FSI crashes and 177 other injury crashes. Turning movement crashes and angle crashes were the next most common injury crash types in Hermiston.

Figure 9. Distribution of FSI and Other Injury Crashes by Type

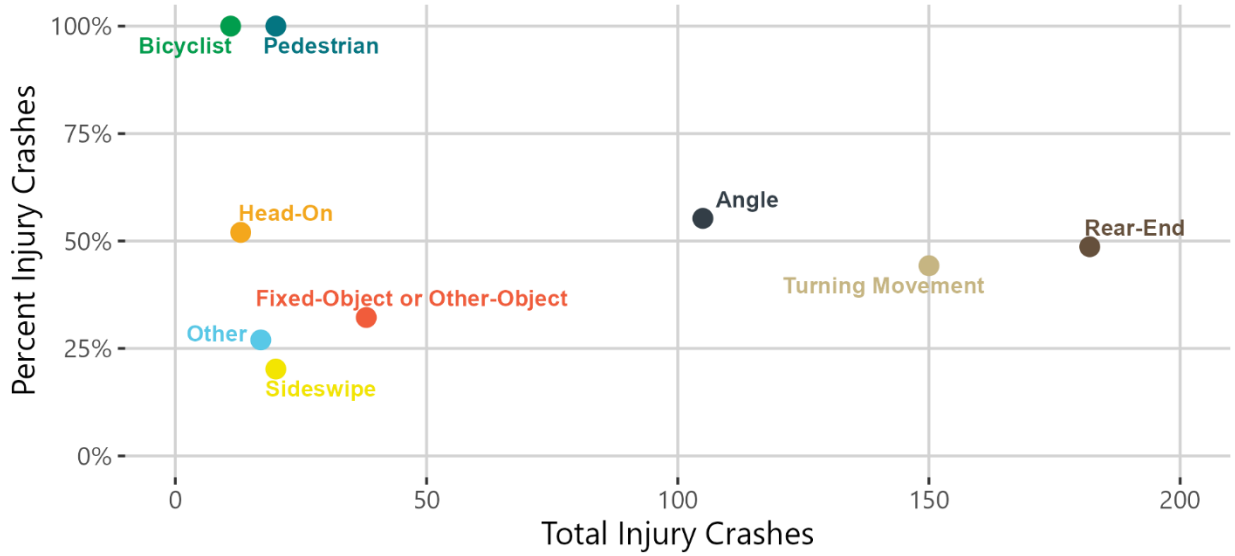


While it is important to consider crash type frequency, it is critical to also consider the relative severity of different crash types. Figure 10 plots each of the crash types by both factors (frequency and severity); the x axis shows the frequency of injury crashes, and the y axis shows the percent of that crash type that resulted in an injury. For example, there were 374 rear-end crashes (including PDO crashes). Of the 374 rear-end crashes, 182 of them resulted in an injury. This means about 50% of rear-end crashes resulted in an injury.

As discussed previously, rear-end, turning movement, and angle crashes were the most common crash types. Figure 10 shows that these crash types have a similar injury rate; each of these crash types resulted in an injury approximately 50% of the time.

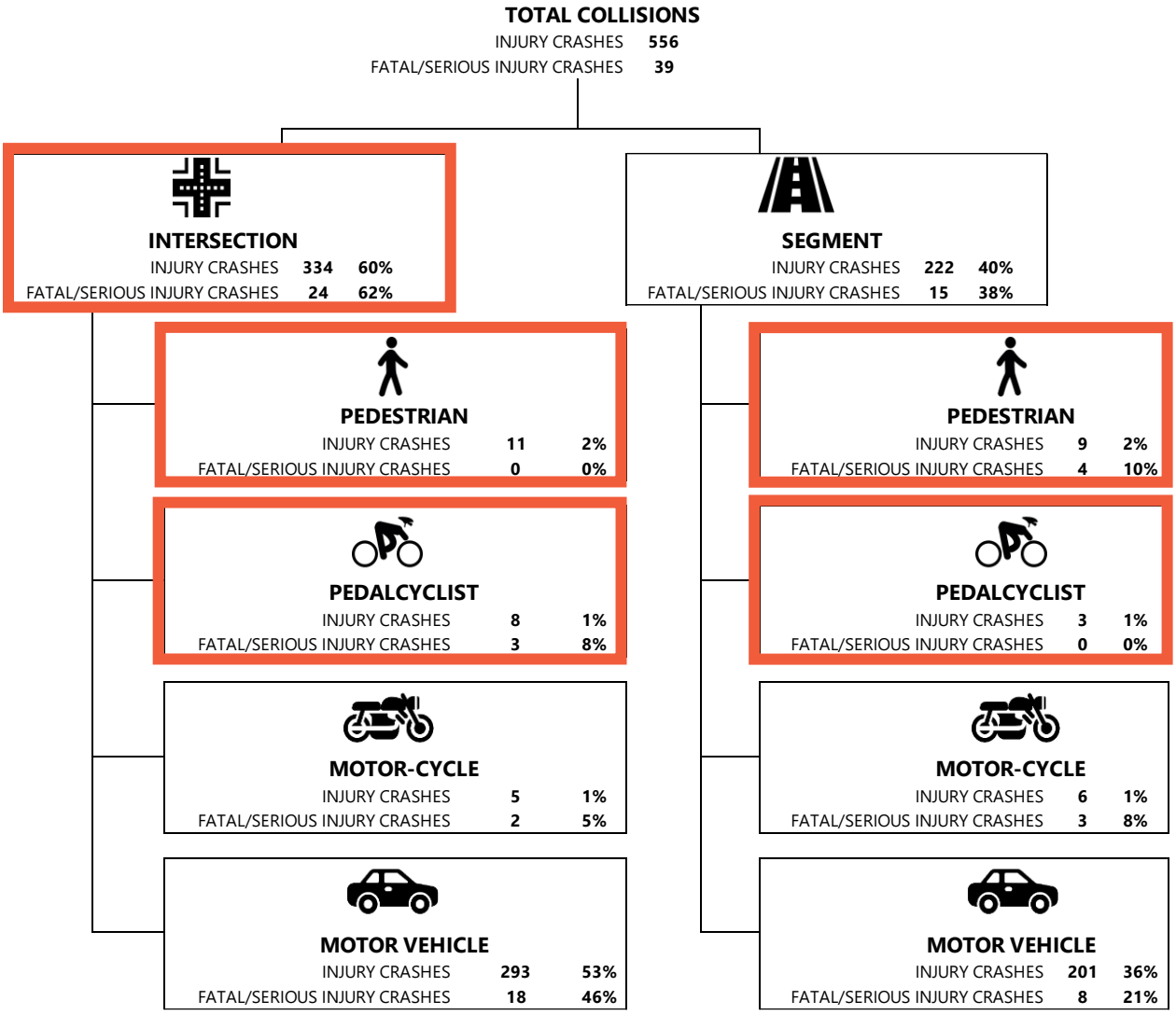
While there were relatively very few pedestrian and bicyclist injury crashes, 100% of the crashes involving a pedestrian or bicyclist resulted in an injury.

Figure 10. Percent Injury Crashes Versus Crash Frequency



The crash tree in Figure 11 characterizes crashes by crash location (intersection or segment), crash mode, and crash severity. Boxes outlined in red highlight crash factors previously identified as having a higher prevalence in the City than in the state and/or region. As discussed previously, intersection crashes were more common than roadway segment crashes. This pattern still holds true when looking at bicyclist or motor vehicle-only crashes. Pedestrian and motorcyclist crashes were more common along roadway segments; however, these sample sizes are relatively small, and the difference is only one or two crashes for each mode. Of the 237 segment crashes, 4 involved a pedestrian or bicyclist crossing the roadway. Of the 556 injury crashes, 18 (3%) involved a large truck. Most of these large truck crashes occurred along US 395.

Figure 11. Distribution of FSI and Other Injury Crashes by Type and Location



Crash Characteristics

The distribution of lighting conditions among injury crashes and all crashes was analyzed (Appendix 1). The distributions were very similar; 68% of both crash populations occurred in daylight.

Figure 12 maps the crashes that were marked in the police reports as occurring in dark lighting conditions (with no streetlights). This map also shows the location of streetlights within the study area. Streetlights are more densely located within City limits, particularly within the downtown urban core area. There are less streetlights outside City limits. The following trends were observed:

- There are multiple instances of "no streetlight" crashes occurring in areas where the streetlight data indicates nearby lighting. This could be for several reasons:
  - Subjectivity in the police reports.
  - Lighting is nearby but is insufficient / does not extend to the location of the crash.
  - Streetlights are malfunctioning or off at the time of the crash.
- Several crashes occurred along **US 395** near and south of the airport. This corridor has very limited streetlighting.
- Several crashes occurred on **Highland Avenue,** west of 11th Street. Parts of this stretch of corridor do not have streetlights.
- Several crashes along **11th Street** were identified as occurring in the vicinity of the intersections with Ridgeway Avenue and Hartley Avenue. While there is streetlighting on the corridor, it is sporadic and limited to the intersections.

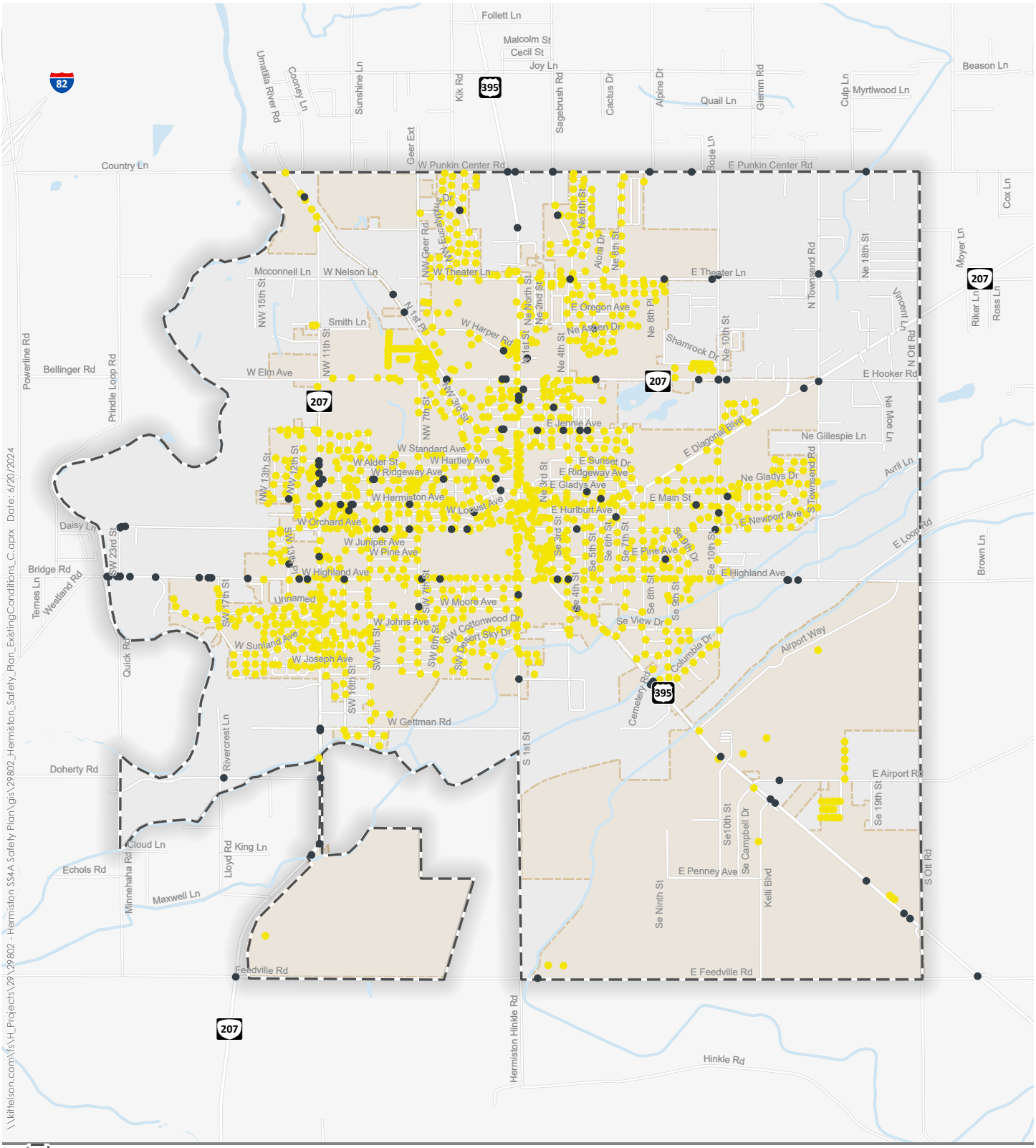


Figure 12

Darkness Crashes (No or Limited Street Lighting)

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Road User Behavior

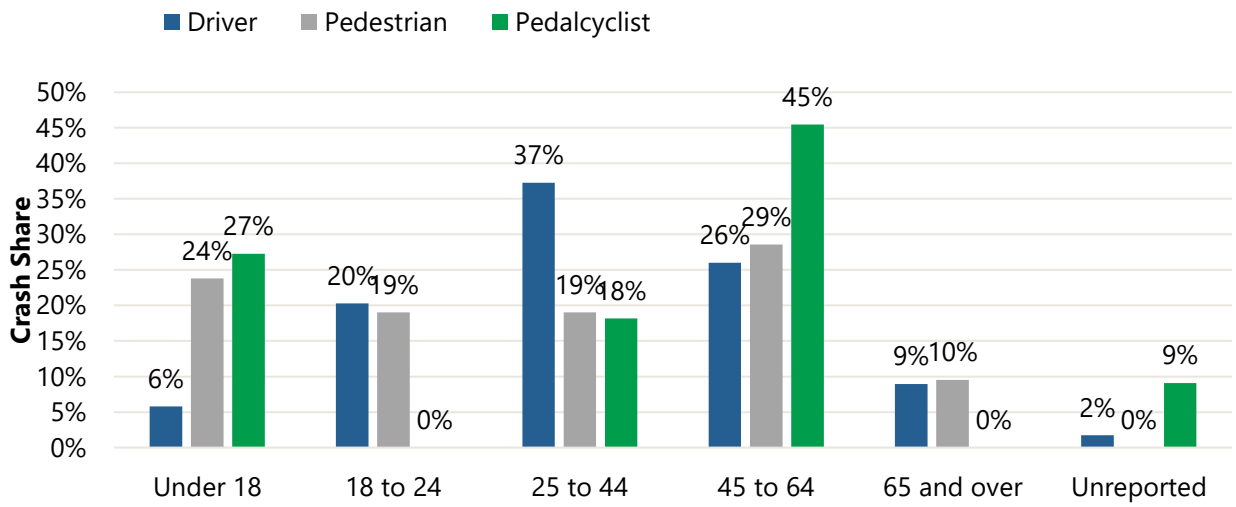
The crash data includes information related to behavioral factors, specifically impaired driving, seatbelt noncompliance, and distracted driving. Table 2 summarizes the prevalence of these factors in the injury crash dataset. Figure 13 shows the distribution of the age of the person involved in the crash by mode.

- **Distracted driving** was the most common behavior among the three factors analyzed, having been noted as a contributing factor in 180 (32%) of the injury crashes. The real-world frequency of this behavior is likely higher than what is seen in the crash data since distracted driving is significantly underreported (Reference 12). Distracted driving contributed to a higher percentage of other injury crashes than FSI crashes.
- **Impaired driving** (alcohol or drugs) contributed to 43 of the 556 injury crashes. Impaired driving contributed to a higher percentage of FSI crashes than other injury crashes. Of the 43 impairment crashes, 19 (44%) occurred in dark lighting conditions with no streetlights. A map of all 43 crashes by lighting condition is in Appendix 1.
- **Seatbelt noncompliance** was a factor in 5% of all injury crashes, but 21% of FSI crashes.
- **Bicyclists** involved in injury crashes were most commonly **younger than 18 years** old (27%) or 45 to 64 years old (45%). There were no bicyclists 65 years or older involved in an injury crash.
- **Pedestrian age** was more evenly distributed than bicyclist age, with 10% to 29% of pedestrians in each age category.
- Driver age was most often between 18 and 64 years old, with **37% of drivers between 25 and 44 years old**.

Table 2. Frequency of Contributing Factors to Injury Crashes

Contributing Factor	FSI (% of FSI Crashes)	Other Injury (% of Other Injury Crashes)	FSI + Other Injury (% of FSI + Other Injury Crashes)
Distracted Driving	4 (10%)	176 (34%)	180 (32%)
Impairment	9 (23%)	34 (7%)	43 (8%)
Crashes Involving an Occupant Not Wearing a Seatbelt	8 (21%)	20 (4%)	28 (5%)
Total Crashes in Severity Category	39	517	556

Figure 13. Distribution of Driver Age by Crash Mode



LOCATION SPECIFIC ANALYSIS

Location specific analysis identifies intersections and segments within the study area where the greatest number of crashes resulting in an injury or fatality occurred in the last five years. These segments and intersections may have the greatest potential to benefit from safety projects. The crash severity score is used to define these locations in the network. The crash severity score is calculated in alignment with the Equivalent Property Damage Only performance measure from the *Highway Safety Manual*. The location specific analysis is conducted for intersections and segments separately. The crash data was divided into intersection related crashes and segment related crashes, using the ODOT assigned field in the crash data.

Method

A crash severity score was calculated for each segment and intersection by assigning a weighted score to each crash and summing the scores for the crashes that occur at each intersection or segment. The weighted score by crash severity is from the ODOT Safety Priority Index System (SPIS), summarized in Table 3. For example, the crash severity score for a segment that had 1 crash resulting in a fatality and 4 crashes resulting in minor injuries would be 140 (100*1 fatal crash + 10*4 minor injury crashes).

An annualized crash severity score was calculated for each segment and intersection by dividing the crash severity score by the number of years of crash data (five). For example, the previously referenced segment would be 28 (140 / 5 years).

Table 3: Crash Severity Score Weighting

Crash Severity	Crash Severity Score Weight
Fatal	100
Suspected Serious Injury	100
Suspected Minor Injury	10
Possible Injury	10
No Apparent Injury (PDO)	Not included in SPIS

Source: ODOT Safety Priority Index System (SPIS)

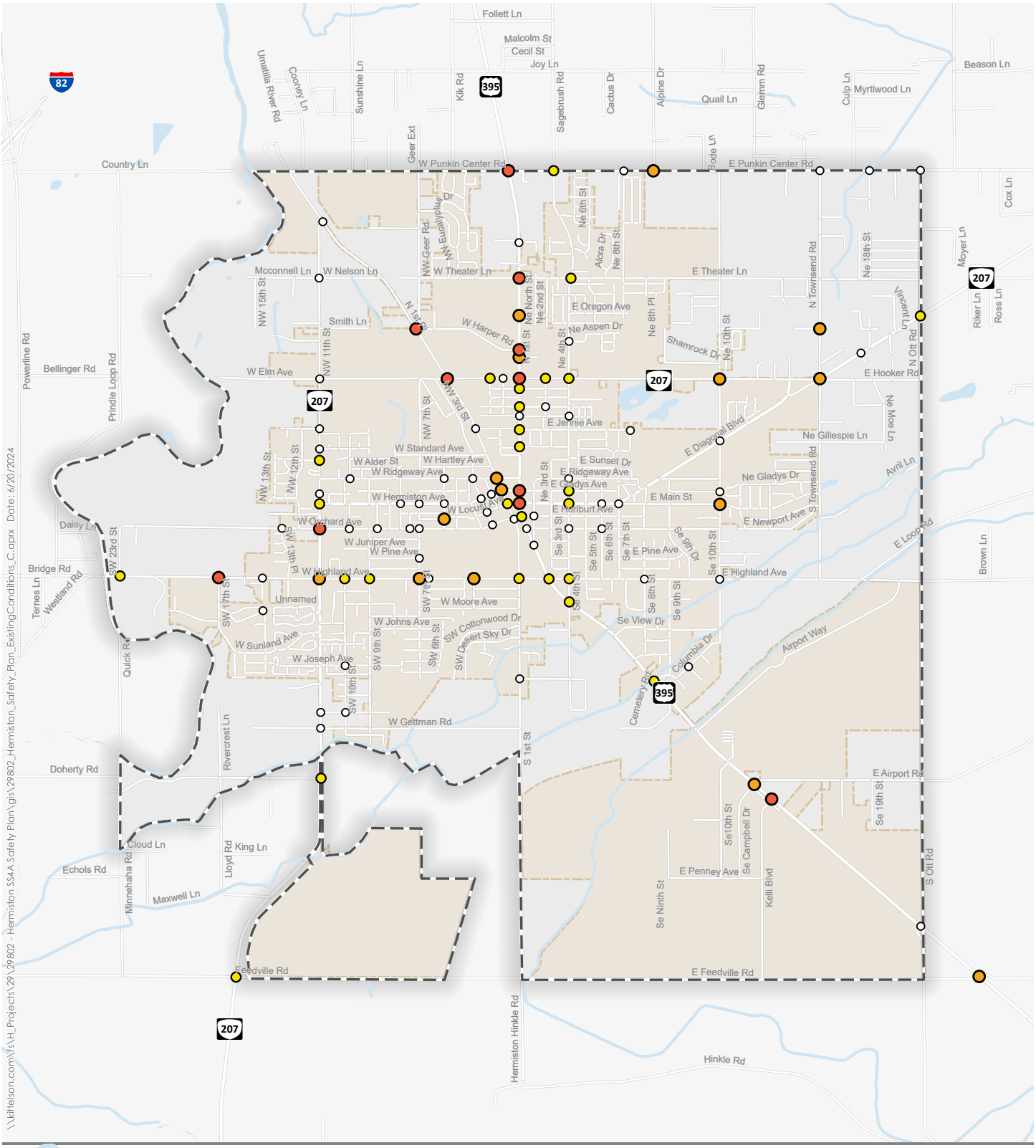
Intersections

Intersection crashes were matched to the nearest intersection within 250 feet of the crash. The annual crash severity score was calculated for each intersection. The number of FSI crashes and other injury crashes that occurred at the intersections with the highest number of crashes are summarized in Table 4. Intersections are ordered by the annual crash severity score. ODOT's Social Equity Index is recorded for each intersection in Table 4. The Social Equity Index aggregates demographic data and indicates the level of disadvantage in each census block group, a 'High' Social Equity Index indicates greater disadvantage. The Social Equity Index is described in greater detail in the Equity Assessment section of the memo.

Intersections where there was at least one crash resulting in an injury between 2018 and 2022 are shown in Figure 14 by the annual crash severity score. There were more injury crashes between 2018 and 2022 at intersections with a higher annual crash severity score. The 11 intersections with the highest number of crashes (shown in Table 4) are shown in Figure 14 as a red circle.

Table 4: Intersections with Highest Crash Severity Scores

Rank	Intersection	Traffic Control	Jurisdiction	Social Equity Index	Annual Crash Severity Score	FSI Crashes	Other Injury Crashes
1	US 395 & E Punkin Center Rd	Signal	ODOT	High	64	2	12
2	US 395 & E Gladys Ave	Signal	ODOT	Med./High	58	2	9
3	US 395 & E Elm Ave	Signal	ODOT	Med./High	56	1	18
4	US 395 & E Main St	Signal	ODOT	Med./High	40	1	10
5	OR 207 (W Elm Ave) & N 1st Pl	Signal	ODOT	Med./High	40	1	10
6	US 395 & E Theater Ln	Signal	ODOT	Med./High	32	1	6
7	OR 207 (11th St) & W Orchard Ave	Signal	ODOT	High	30	1	5
8	US 395 & Kelli Blvd	Stop	ODOT	Med./High	28	1	4
9	N 1st Pl & W Harper Rd	Stop	City	High	28	1	4
10	SW 17th St & W Highland Ave	Stop	City	High	28	1	4
11	US 395 & W Harper Rd	Stop	ODOT	Med./High	26	1	3



Water

Urban Growth Boundary

Hermiston City Limits

Annual Crash Severity Score

- 1 - 4
- 5 - 14
- 15 - 25
- 26 - 100

0 0.5 1 Miles

Figure 14

Intersection Crash Severity Analysis

KITTELSON & ASSOCIATES

Data Source: ODOT Crash Data (2018 to 2022)

Segments

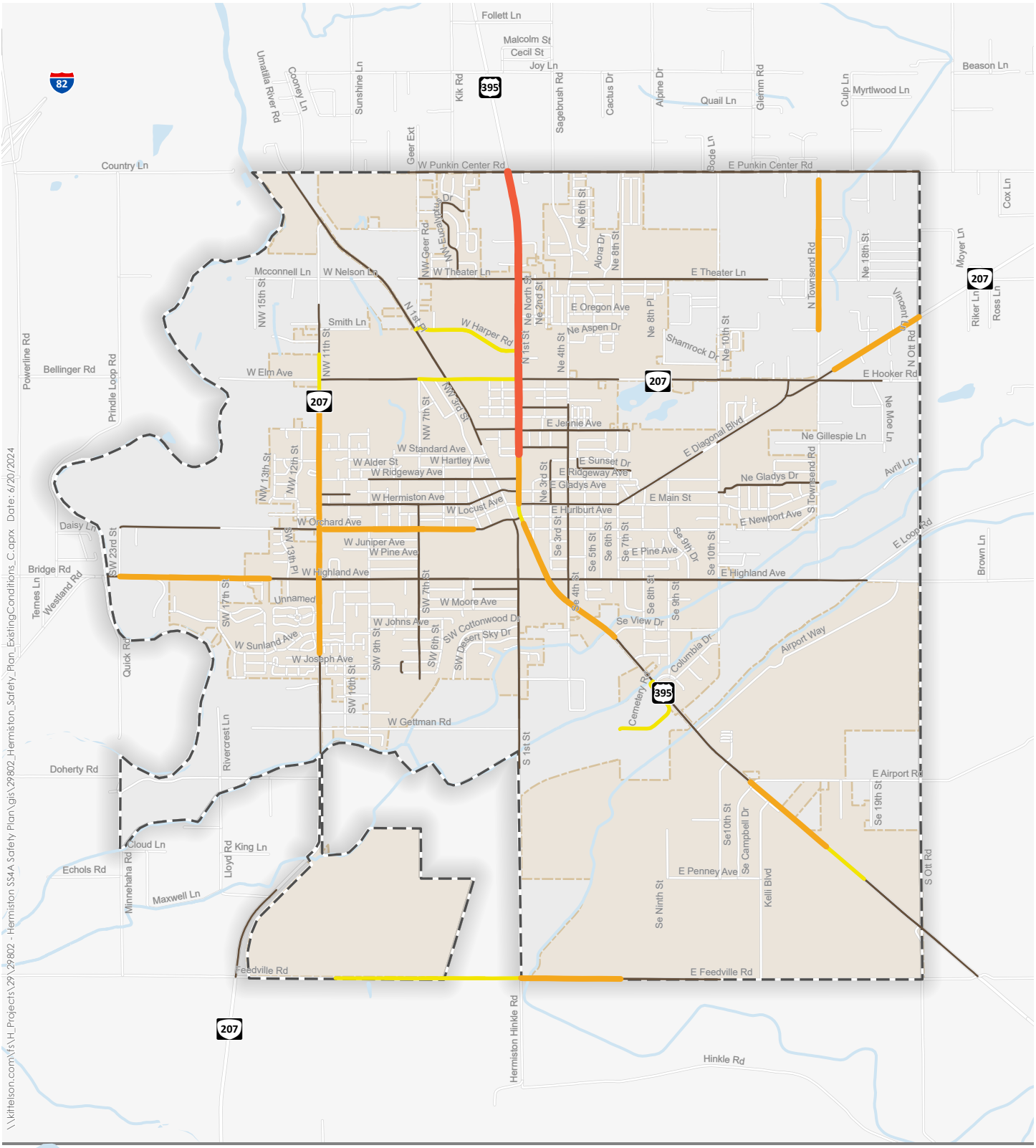
Roadways were divided into overlapping 0.5-mile-long segments. A sliding window approach was used to create the segments, using a 0.25-mile overlap between the segments. Segment crashes were matched to the nearest segment. The project team reviewed the segments with a high number of crashes and manually combined adjacent segments to create the list of highest-scoring corridors shown in Table 5. The annual crash severity score was adjusted to account for varying corridor lengths, by dividing the annual crash severity score by the corridor length. Corridors with a higher annual crash severity score per half mile had a greater density of crashes resulting in an injury or fatality occurred in the last five years. Corridors are ordered by the annual crash severity score per half mile.

Half-mile segments where there was at least one crash resulting in an injury between 2018 and 2022 are shown in Figure 15 by the annual crash severity score. There were more injury crashes between 2018 and 2022 along segments with a higher annual crash severity score. The half-mile segments with the greatest number of injury crashes, that were used to create the high crash corridors in Table 5 are shown in Figure 15 as orange and red lines.

Table 5: Segments with Highest Crash Severity Scores

Rank	Roadway and Limits	Jurisdiction	Length (mi)	Annual Crash Severity Score per Half Mile	Annual Crash Severity Score	FSI Crashes	Injury Crashes	SEI*
1	US 395 from June Ave to Punkin Center Rd	ODOT	1.4	63	178	5	39	High
2	Orchard Ave from OR 207 (11th St) to 4th St	City	0.8	25	38	1	9	High
3	OR 207 (11th St) from Joseph Ave to Elm Ave	ODOT	1.5	25	74	1	27	High
4	Feedville Rd from 1st St to 9th St	City	0.5	22	22	1	1	Med./ High
5	OR 207 (Diagonal Blvd) from Townsend Rd to Ott Rd	ODOT	0.6	22	26	1	3	Med./ High
6	Highland Ave from 23rd St to 14th Pl	City / Umatilla County	0.7	20	30	1	5	High
7	US 395 from SE View Dr to June Ave	ODOT	1.1	18	40	0	20	Med./ High
8	Townsend Rd from Magpie Ln to Punkin Center Rd	City	0.8	15	22	1	1	Low/ Med.
9	US 395 from Ott Rd to Airport Rd	ODOT	1.0	13	26	1	3	Med./ High

*ODOT Social Equity Index (SEI) may vary along the corridor. Most common SEI of the combined segments is recorded. ODOT categorizes areas as Low, Low/Medium, Medium/High, or High SEI.



Water

Urban Growth Boundary

Hermiston City Limits

Annual Crash Severity Score

2 - 10

11 - 20

21 - 40

41 - 76

0 0.5 1 Miles

Figure 15

Segment Crash Severity Analysis

KITTELSON & ASSOCIATES

Data Source: ODOT Crash Data (2018 to 2022)

Safety Priority Index System

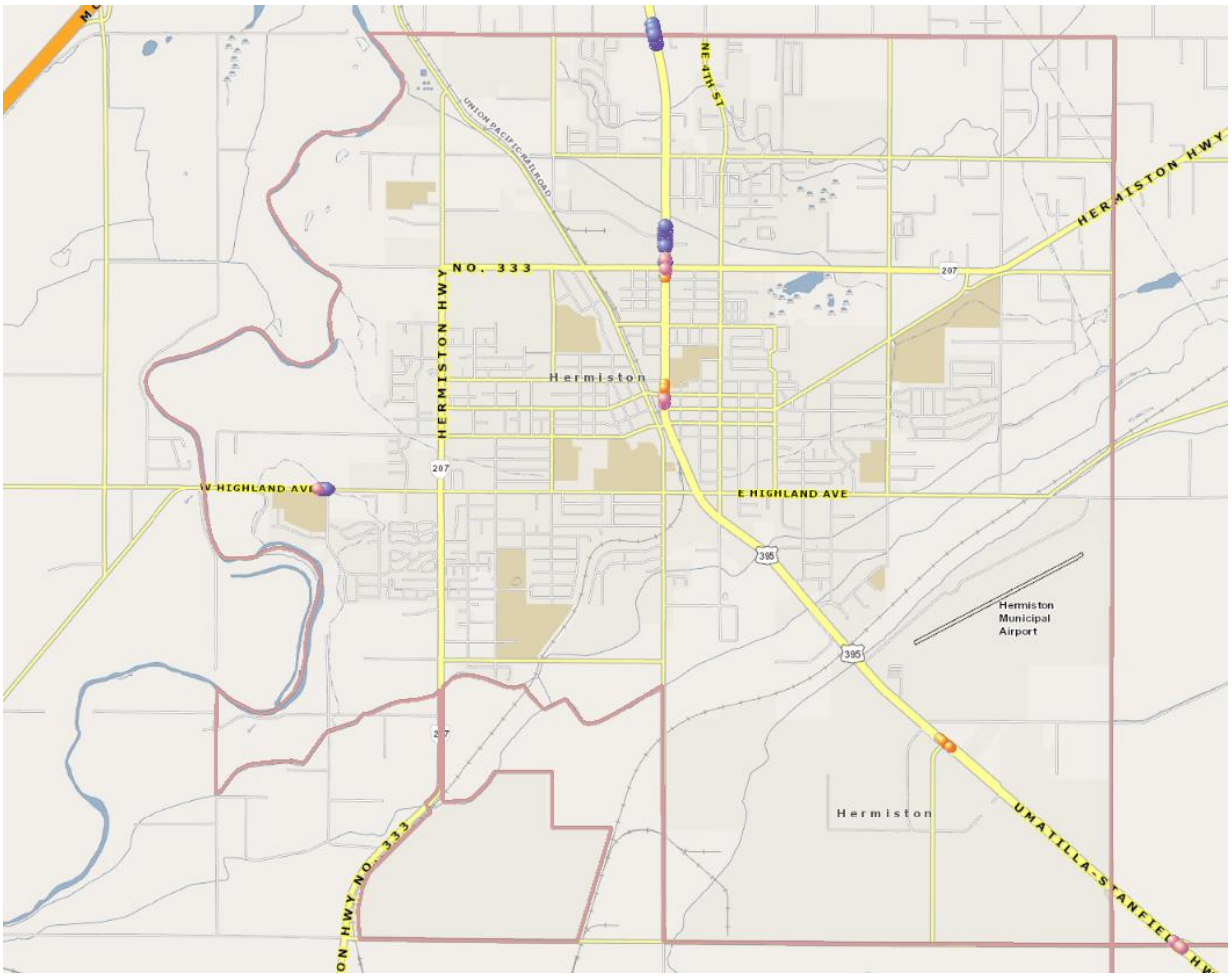
The ODOT Safety Priority Index System (SPIS) identifies locations along state highways and local roads that may warrant further investigation. It identifies locations by considering crash frequency, crash rate, and crash severity. Sites identified within the top 5% are investigated by ODOT staff and reported to the Federal Highway Administration (FHWA).

The SPIS for 2022 is shown in Figure 16 and is available through ODOT TransGIS. Locations identified by the 2022 SPIS in Hermiston include:

- US 395 near Harper Road
- US 395 near Punkin Center Road
- US 395 near OR 207 (Elm Avenue)
- Highland Avenue near SW 17th Street
- US 395 near Hermiston Avenue/Gladys Avenue
- US 395 near Kelli Boulevard

These locations generally align with those shown in Figure 15. US 395 near Harper Road and US 395 near Punkin Center Road rank most highly of all 2022 SPIS locations in ODOT Region 5.

Figure 16: ODOT SPIS Locations for 2022 (ODOT TransGIS)



SYSTEMIC SAFETY ANALYSIS

Systemic safety analysis identifies characteristics that are correlated with greater crash severity and density. Locations with these characteristics can have strategies implemented to reduce the occurrence of crashes in the future, rather than focusing solely on where crashes have occurred historically. Systemic analyses were conducted to address two of the identified emphasis areas:

- Crashes involving pedestrians or bicyclists
- Crashes at intersections

Pedestrians and Bicyclists

In alignment with the 2020 Oregon Statewide Pedestrian and Bicycle Plan, segments were scored for characteristics correlated with pedestrian and bicycle crashes. The weighting assigned to each characteristic is recorded in Appendix 2. The characteristics correlated with pedestrian and bicycle crashes include:

- Functionally classified as an arterial
- 4 or more lanes
- High-access density
- Posted speed of 35 mph or greater
- Within 1 mile of a school
- High population of Age 64
- Lack of bike lane

Each characteristic that is found on a segment increases the systemic score for that segment. For example, if a segment has four or more lanes and high-access density, the segment will score for both of those characteristics. Segments with a higher systemic score are correlated with a higher number of crashes involving pedestrians or bicyclists. The segments with a pedestrian systemic score greater than two or a bicycle systemic score greater than three are shown in Figure 17.

In Hermiston, US 395 throughout the urban growth boundary scores the highest for pedestrian and bicycles. This means that US 395 has the most characteristics that are correlated with increased rates of pedestrian and bicycle crashes. Other roadways in Hermiston that score highly include OR 207 (11th Street) south of Highland Avenue to Feedville Road, Highland Avenue from the urban growth boundary to OR 207 (11th Street), OR 207 (Elm Avenue) from NE 4th Street to Diagonal Boulevard, OR 207 (Diagonal Boulevard) from Elm Avenue to the urban growth boundary, and SE 4th Street from US 395 to the urban growth boundary.

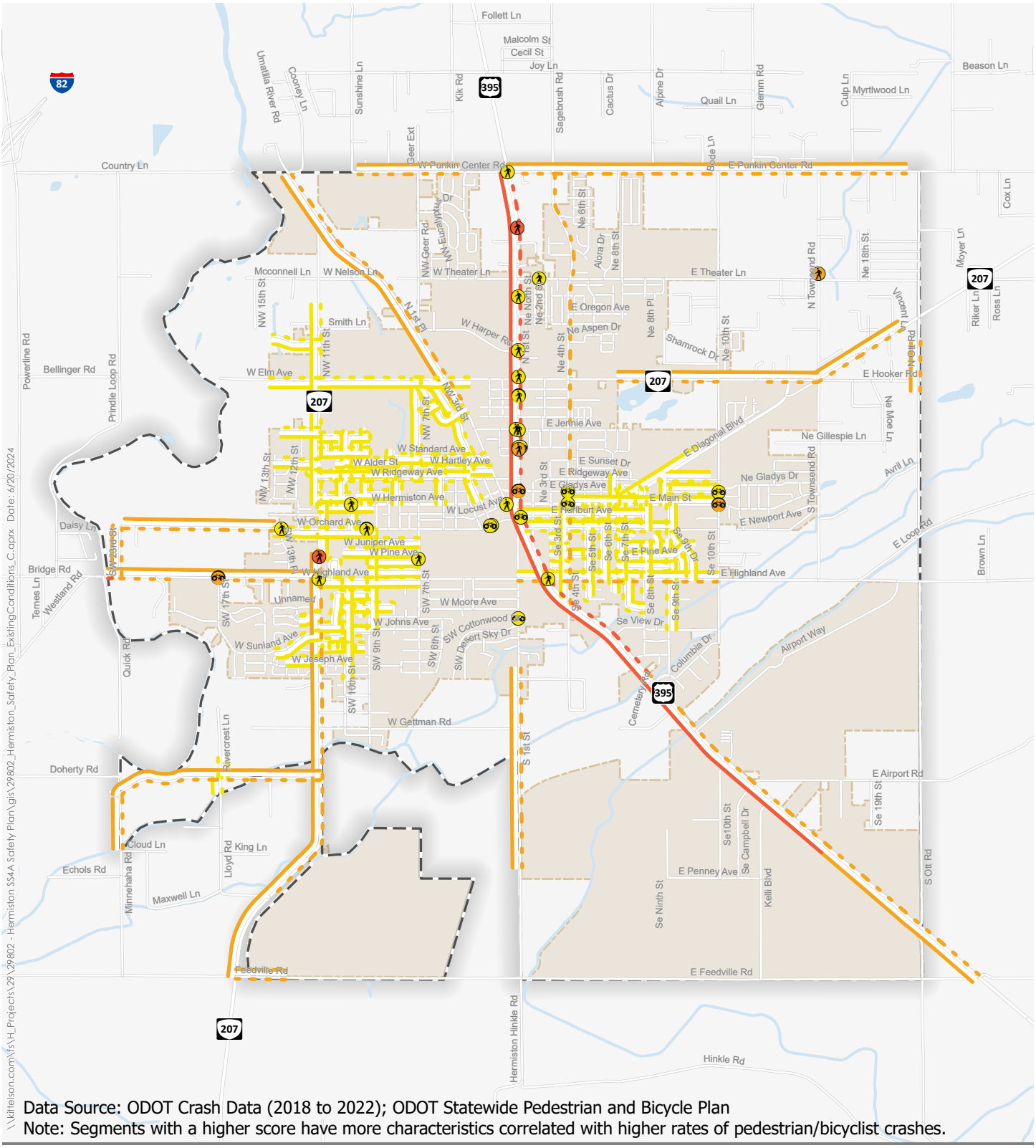


Figure 17

Pedestrian/Bicyclist Crashes and Systemic Risk Score

Intersection

In alignment with ODOT's 2023 Oregon Intersection Safety Implementation Plan Update, intersections were scored for characteristics correlated with intersection crashes. The weighting assigned to each characteristic is recorded in Appendix 2. The characteristics correlated with intersection crashes include:

- Posted speed
- Traffic volume
- Approach characteristics
- ODOT's Social Equity Index

Each characteristic that is found at an intersection increases the systemic score for that intersection. For example, if an intersection has an approach with a posted speed of 45 mph and a daily traffic volume greater than 10,000 vehicles, the intersection will score for both of those characteristics. Intersections with a higher systemic score are correlated with a higher number of intersections crashes. Intersections with a systemic score greater than one are shown in Figure 18.

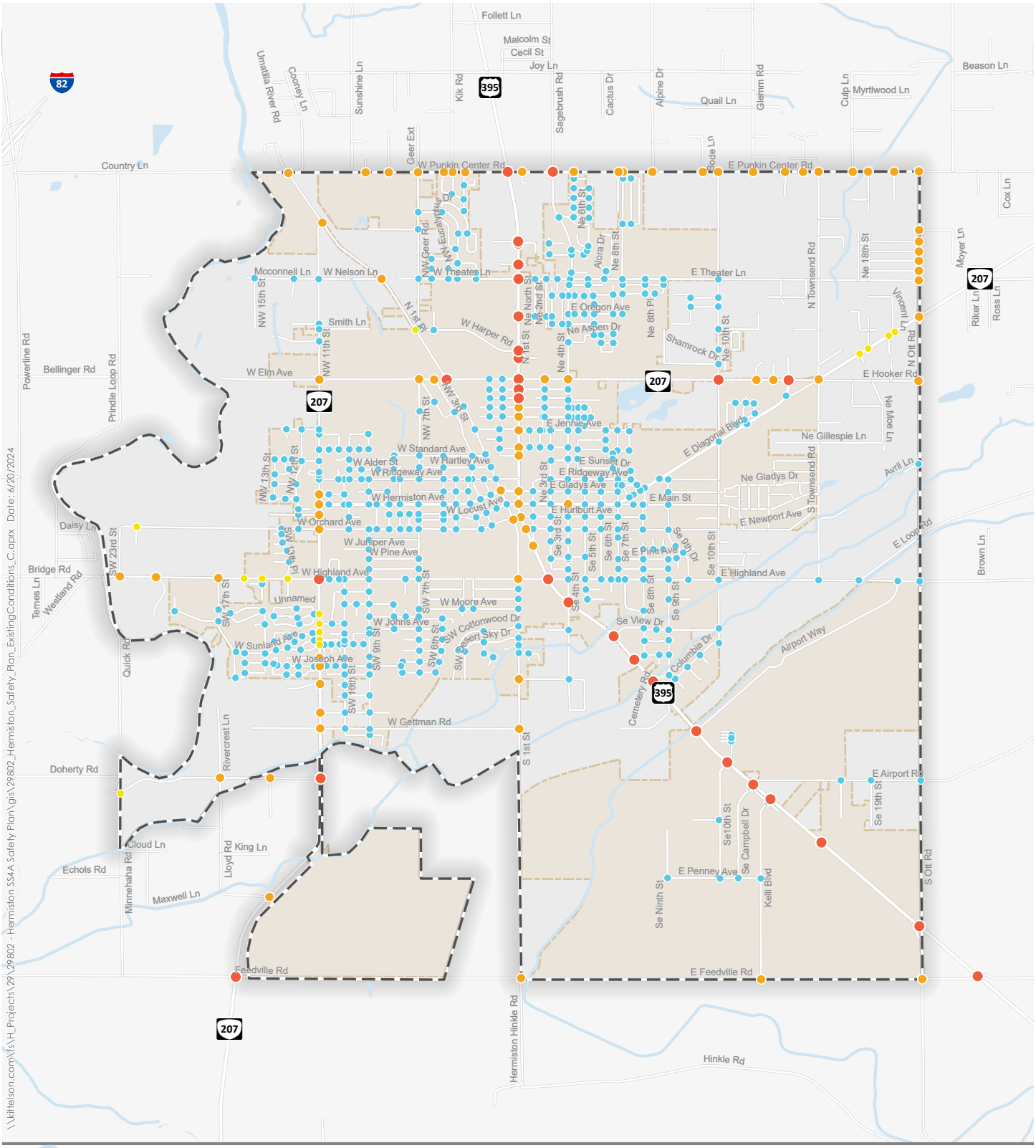
In Hermiston, intersections along US 395, OR 207 (Elm Avenue), and OR 207 (11th Street) score the highest. Intersections along higher speed roadways along the perimeter of the urban growth boundary, like 1st Place (Old River Road), Punkin Center Road, Ott Road, and Feedville Road, also score highly. This means that these intersections have the most characteristics that are correlated with increased rates of intersection crashes. Several other intersections throughout Hermiston have scores greater than 1.05, standing out from the majority of intersections in Hermiston.

Roadway Characteristics

Roadway characteristics identified in the systemic analyses for crashes involving pedestrians or bicyclists and crashes at intersections are also related to increased occurrence of overall crashes. A comparison of the roadway network miles with certain characteristics and the portion of crashes that occur on similar facilities in Hermiston is included in Appendix 2. This analysis found that Hermiston roadways with the following characteristics tended to have more crashes between 2018 and 2022, compared to how much of the roadway network they make up:

- Roadways with a posted speed of 30 mph or greater
- Roadways with a two-way left turn lane
- Roadways with surrounding commercial land uses

These characteristics align with the corridors that have the highest historical crashes. Additionally, some of these factors may overlap each other. For example, commercial land uses may be more likely to have a two-way left turn lane or a higher access density, which is a risk factor in the pedestrian systemic analysis.



Water

Urban Growth Boundary

Hermiston City Limits

Intersection Systemic Score

- 1.00 - 1.05
- 1.06 - 2.05
- 2.06 - 3.10
- 3.11 - 7.58

0 0.5 1 Miles

Figure 18

Intersection Systemic Risk Score

KITTELSON & ASSOCIATES

Data Source: ODOT 2023 Oregon Intersection Safety Implementation Plan Update

Note: Intersections with a higher score have more characteristics correlated with higher rates of intersection crashes.

EQUITY ASSESSMENT

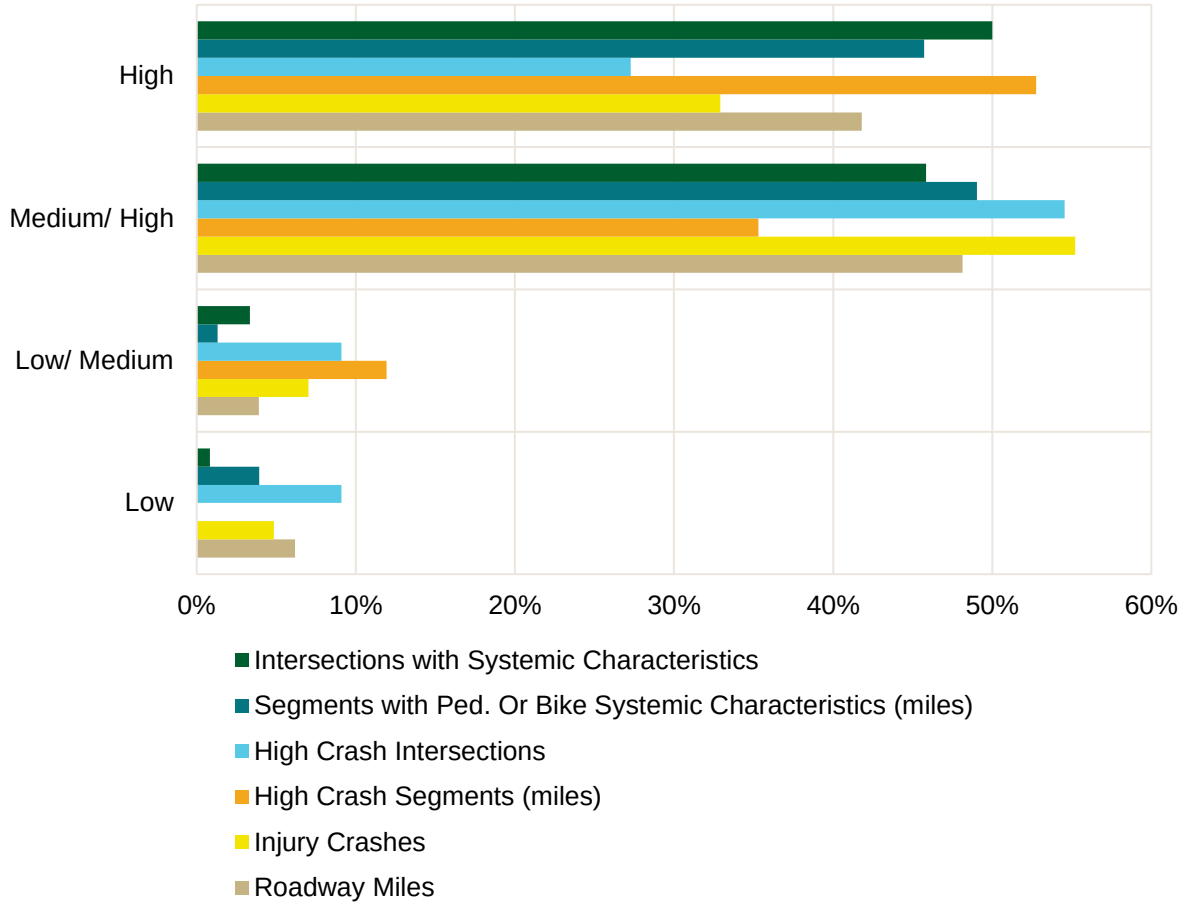
The project team used definitions of disadvantaged communities from USDOT and ODOT to assess how crashes may be impacting historically underserved communities. The 2023 ODOT Social Equity Index is shown for Hermiston in Figure 20. ODOT's Social Equity Index aggregates demographic data from the American Community Survey (2017-2021) (Reference 13). ODOT found that injuries per VMT and population demonstrate a disparity considering the Social Equity Index. Areas with a higher equity index (more disadvantaged) experience a higher rate of injuries.

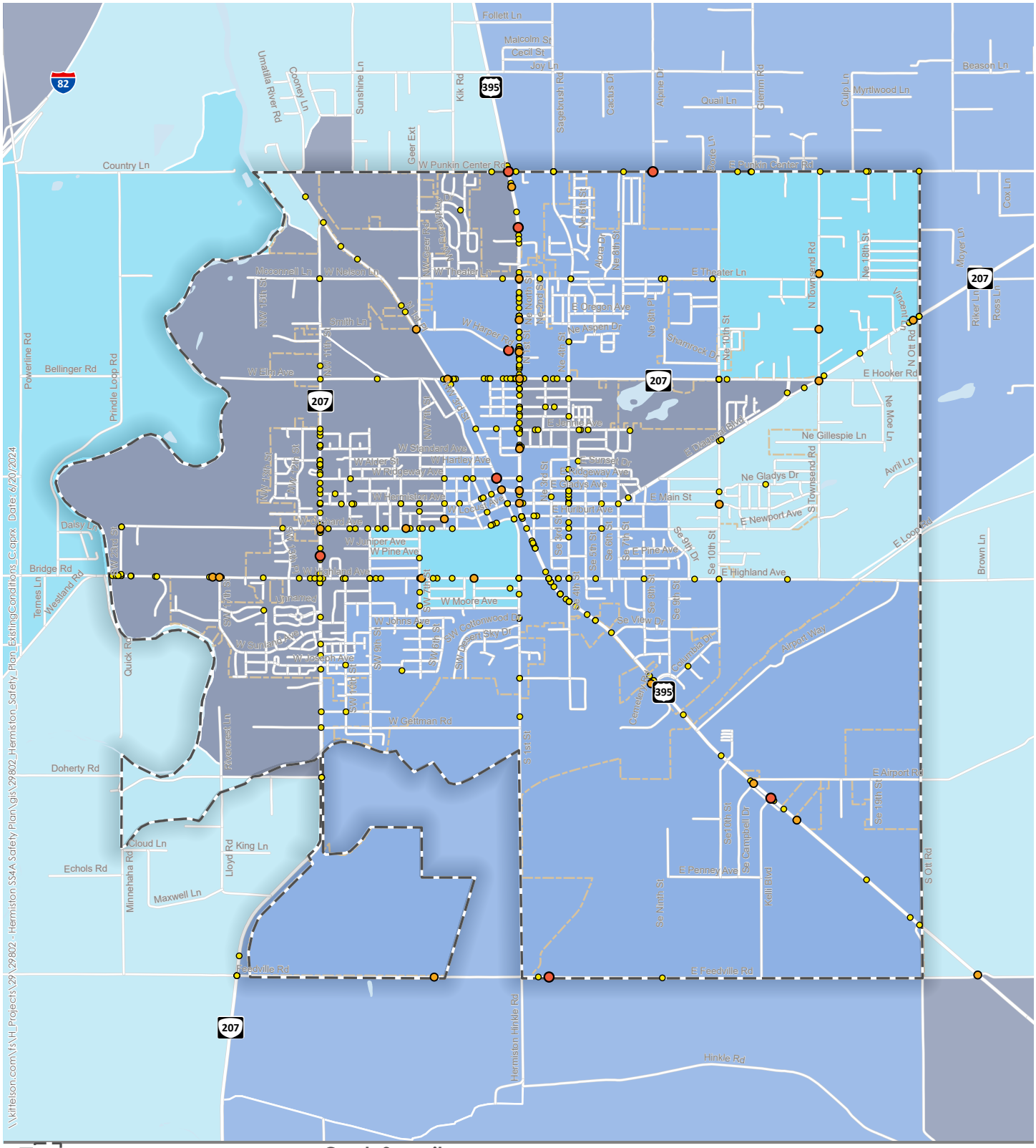
Disadvantaged communities are also identified using the USDOT Equitable Transportation Community (ETC) Explorer. The ETC evaluates the transportation disadvantage experienced by Census tracts, compared to all other census tracts nationally. The ETC does not identify any census tracts in Hermiston as disadvantaged.

ODOT's SEI and USDOT's ETC rely on data collected as part of the census or American Community Survey. This collected data may not account for migrant workers who make up a significant population in Umatilla County. A 2018 estimate of migrant and seasonal farmworkers completed by Oregon Health Authority (Reference 14) estimated about 2,800 migrant and seasonal workers in Umatilla County.

The crash rate, and distribution of high crash locations and systemic characteristics relative to roadway miles by ODOT Social Equity Index category is shown in Figure 19. In Hermiston, high crash segments occur more often in census block groups that rank 'High' on ODOT's Social Equity Index, after accounting for the distribution of roadway miles throughout Hermiston. The crashes and ODOT Social Equity Index are also visualized in Figure 20.

Figure 19: Distribution of High Crash Locations and Systemic Characteristics Relative to Roadway Miles by ODOT Social Equity Index Category





Data Source: ODOT

Figure 20

Crashes by ODOT Social Equity Index Category

KEY FINDINGS

Based on the crash conditions analysis, the location specific analysis, and the systemic safety analysis, the following key findings have been identified, and are depicted geographically in Figure 21. The Emphasis Areas for the Hermiston SAP are defined based upon these key findings.

- **Crash Characteristics**: Crashes with several characteristics tend to be more common or more severe in Hermiston.
  - **Crashes at Intersections** occur more often than crashes along segments. 60% of injury crashes in Hermiston between 2018 and 2022 occurred at intersections.
  - **Turning Movement and Rear End Crashes** make up most of the crashes in Hermiston. Turning movement related crashes (including angle crashes) and rear end crashes account for 79% of injury crashes in Hermiston between 2018 and 2022.
  - **Seatbelt Usage** in Hermiston is a notable characteristic of crashes resulting in deaths and serious injuries. 21% of crashes resulting in a death or serious injury in Hermiston between 2018 and 2022 involved an unrestrained occupant.
  - **Crashes Involving Pedestrians and Bicyclists** tend to result in more serious injuries and deaths than crashes involving only vehicles. Considering all injury crashes:
    - 20% of crashes involving a pedestrian resulted in a fatality or serious injury.
    - 27% of crashes involving a bicyclist resulted in a fatality or serious injury.
  - **An Impaired Person** was involved in 23% of the crashes that resulted in a fatality or serious injury.
- **Crash Locations**: Several roadways and intersections have historically had a greater number of crashes resulting in an injury or fatality. These roadways and intersections are listed below and shown in Figure 21 using orange lines (for segments) and orange circles (for intersections).
  - US 395, north of Hermiston Avenue to the urban growth boundary, including intersections at:
    - US 395 & Punkin Center Road
    - US 395 & Hermiston Avenue/Gladys Avenue
    - US 395 & OR 207 (Elm Avenue)
  - OR 207 (11th Street), between Joseph Avenue and Elm Avenue
  - Orchard Avenue, between OR 207 (11th Street) and US 395
  - W Highland Avenue, west of OR 207 (11th Street) to the urban growth boundary
- **Roadway Characteristics:** Following methodologies from Oregon Department of Transportation (ODOT) certain characteristics of roadways and intersections are correlated with more intersection, pedestrian, or bicyclist crashes. Intersections and segments with characteristics correlated with the greatest risk for intersection, pedestrian, or bicyclist crashes are shown in Figure 21 using teal lines.

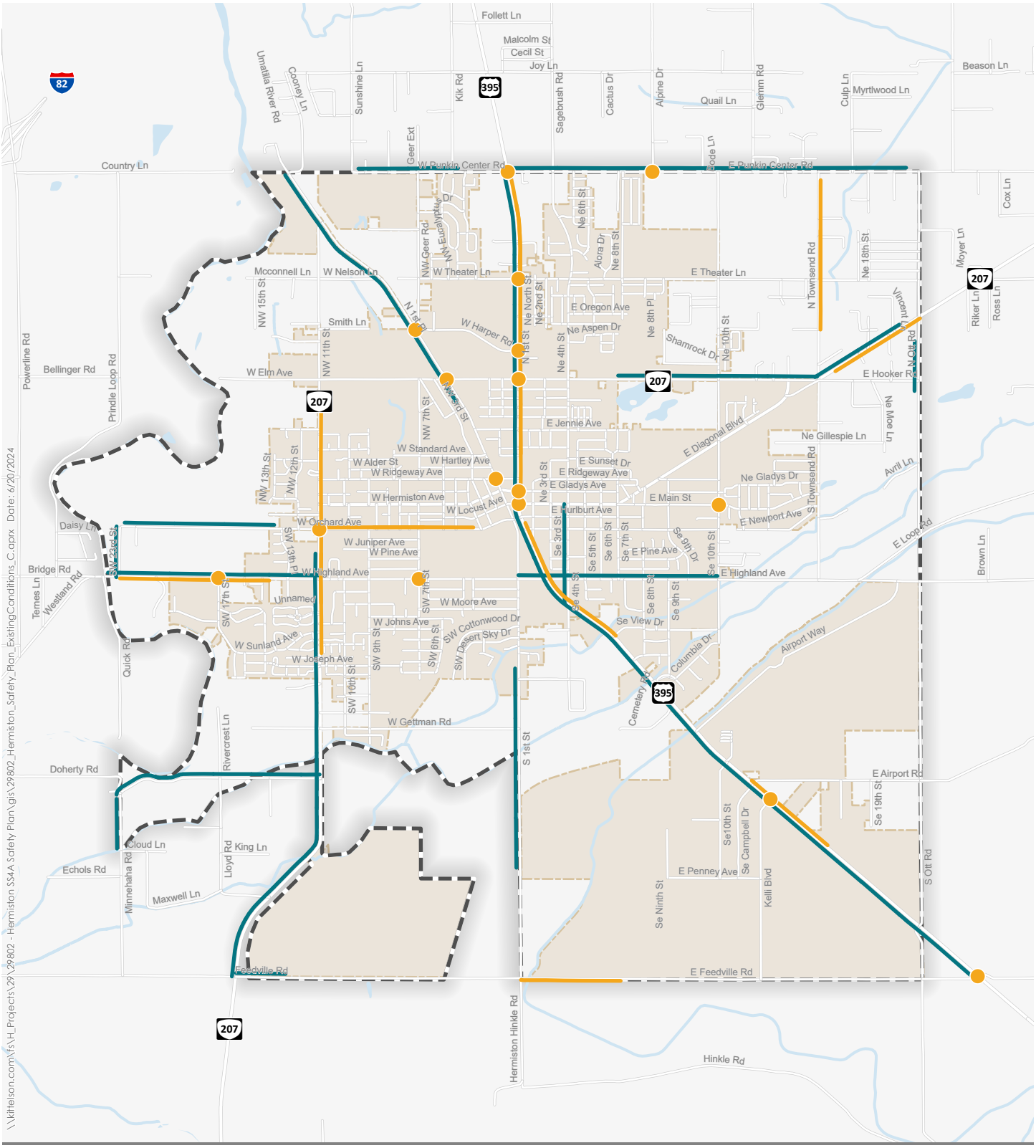


Figure 21
High Injury Network

KITTELSON & ASSOCIATES

NEXT STEPS

This memorandum documents the existing plans and policies related to traffic safety in Hermiston, the trends in crashes between 2018 and 2022, evaluation of the pattern of crashes with regards to equitable outcomes, and potential emphasis areas to focus safety countermeasures on.

The findings from this memorandum will serve as the foundation from which safety countermeasures will be developed for Hermiston. The data analysis included in this memorandum will also be supplemented with ongoing feedback from public involvement efforts. As safety countermeasure strategies are refined, concept designs will be prepared.

REFERENCES

[1] Hermiston 2040 Community Vision and Action Plan: https://www.hermiston.or.us/sites/default/files/fileattachments/administration/page/16625/2040_community_vision_action_plan.pdf

[2] Hermiston TSP: https://www.hermiston.or.us/sites/default/files/fileattachments/community_development/page/2791/tsp_website.pdf

[3] ODOT TSAP: https://www.oregon.gov/odot/Safety/Documents/2021_Oregon_TSAP.pdf

[4] ODOT Intersection Safety Plan: https://www.oregon.gov/odot/Engineering/TRSDocs/Intersection_Safety_Implementation_Plan.pdf

[5] https://www.oregon.gov/odot/Engineering/Docs_TrafficEng/Bike-Ped-Safety-Implementation-Plan.pdf

[6] Umatilla County TSP: https://www.co.umatilla.or.us/fileadmin/user_upload/Planning/Umatilla_County_TSP_June_02.pdf

[7] Safe System Approach: https://www.transportation.gov/NRSS/SafeSystem

[8] National Roadway Safety Strategy: https://www.transportation.gov/NRSS

[9] FHWA Safe System Roadway Design Hierarchy: https://highways.dot.gov/sites/fhwa.dot.gov/files/2024-01/Safe_System_Roadway_Design_Hierarchy.pdf

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[11] FHWA Highway Safety Programs: https://highways.dot.gov/safety

[12] Reducing Distracted Driving in Oregon: https://www.oregon.gov/odot/Safety/Documents/DistractedDrivingReport.pdf

[13] Roll, Josh (March, 2024). ODOT Social Equity Index 2023 Update. https://rpubs.com/ODOT_Research/ODOT_SEI_2023

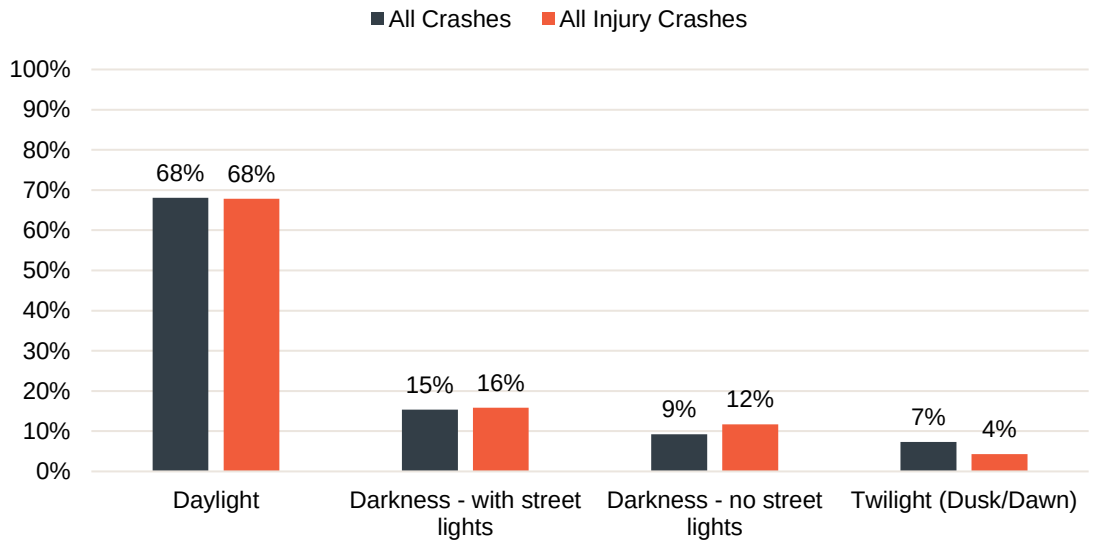
[14] Rahe, Mallory (June, 2018). Estimates of Migrant and Seasonal Farmworkers in Agriculture, 2018 Update. https://www.oregon.gov/oha/HPA/HP-PCO/Documents/2018%20Updates%20to%20MSFW%20Enumberation%20Studies%20Report.pdf

APPENDIX

APPENDIX 1: FURTHER CONSIDERATIONS OF CRASH CONDITIONS

The portion of injury crashes and the portion of all crashes are shown by lighting condition in Figure 22. Most of the injury crashes (68%) occurred in daylight conditions. The percentage of injury crashes in unlit darkness was 12%. The distribution of lighting conditions between the injury crashes and all crashes (including PDO) were very similar.

Figure 22. Distribution of Injury Crash Lighting Condition



The frequency/severity analysis presented in Figure 10 was re-run looking only at fatal and serious injury crashes, as opposed to all injury crashes (Figure A-1). This was done to see if any additional crash types stood out as being significantly problematic when investigating FSI crashes, keeping in mind only 38 FSI crashes are in the dataset. Similar to the injury crash analysis, pedestrian and bicycle crashes most commonly resulted in a fatality or serious injury. Compared to the consideration of all injury crashes which showed rear-end crashes as being most common, the greatest number of FSI crashes resulted from a turning movement and angle crashes. This is expected, as rear end crashes tend to be less severe than angle crashes.

Figure A-1. Percent Fatal and Serious Injury Crashes Versus Crash Frequency

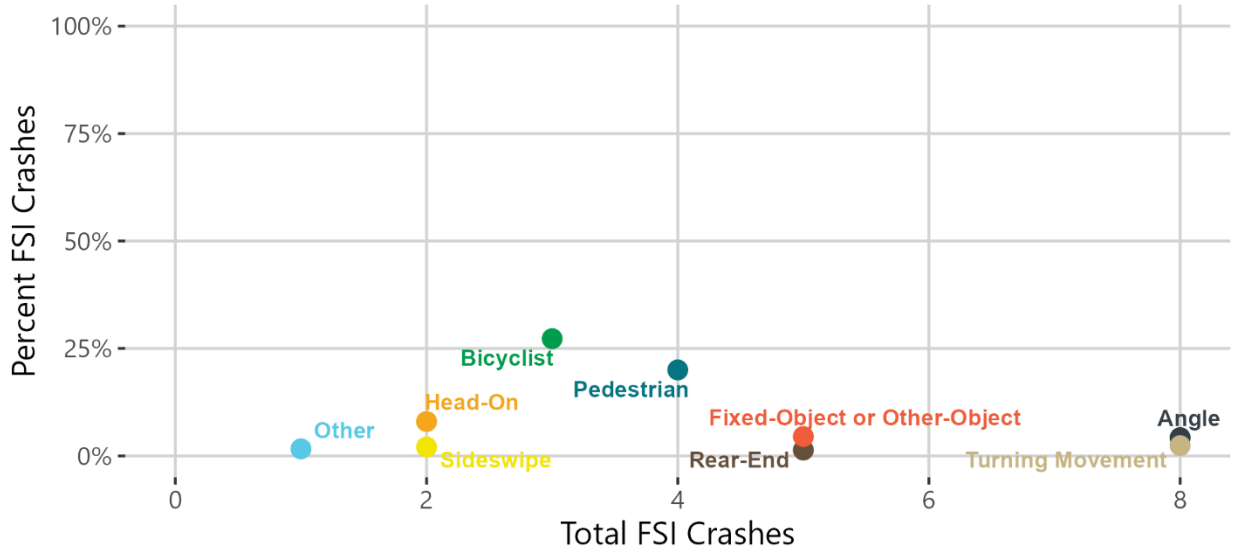


Figure A-2 identifies the top crash causes and the top pedestrian and bicyclist actions involved in pedestrian and bicyclist crashes. These causes are indicated by the responding police officer via the crash report. Careless driving, not yielding to right-of-way, and inattention were the top three crash causes.

Figure A-2. Frequency of Top 11 Crash Causes

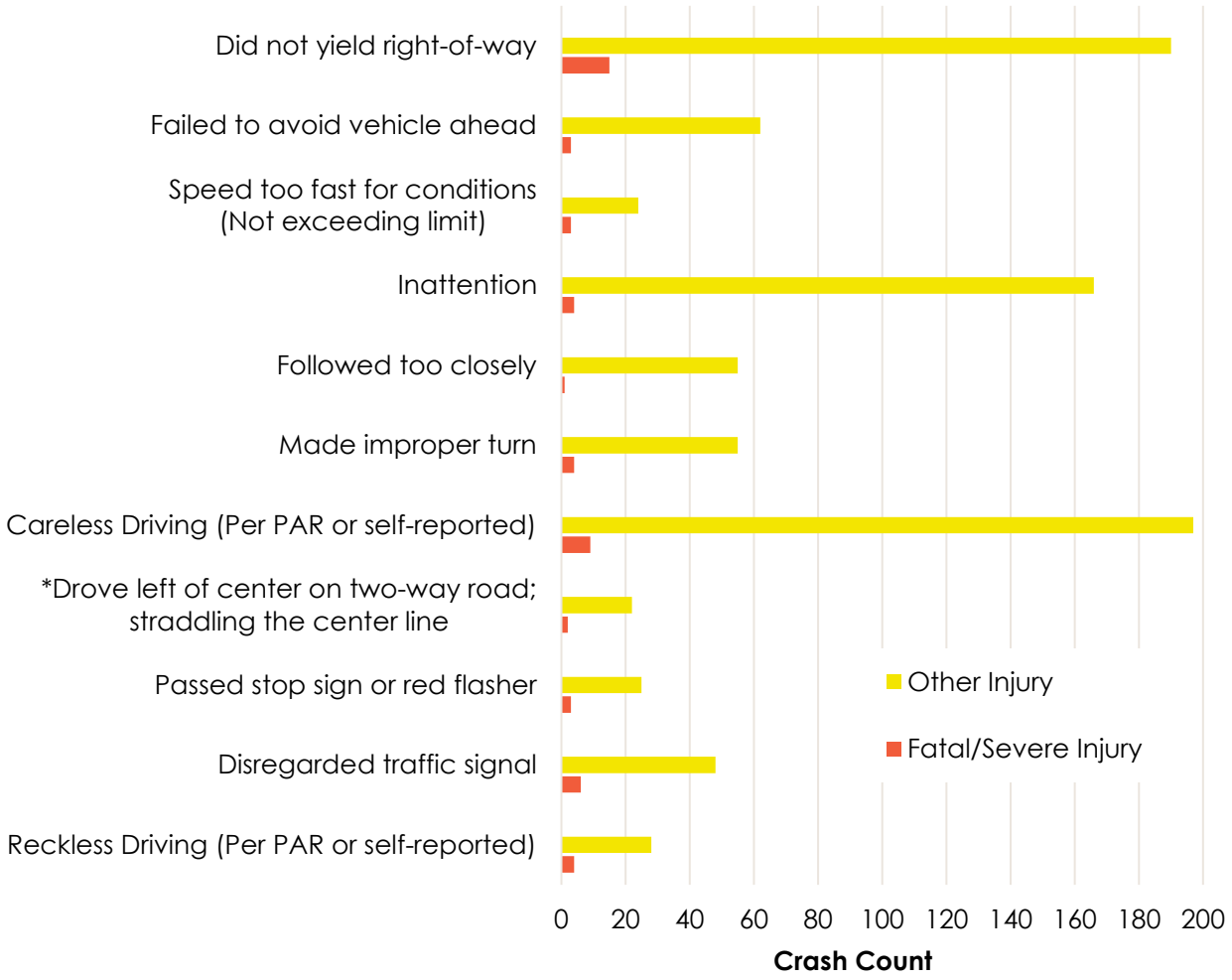


Figure A-3 maps the 54 crashes (4% of all 1,239 crashes) that involved a large truck. Trucks make up about 10 to 15% of the traffic volume on US 395 through Hermiston and about 25% of the traffic volume on OR 207. The following large truck crash trends were observed:

- Of the 556 injury crashes, 18 (3%) involved a large truck. There were ten minor injury crashes, six moderate injury crashes, and two serious injury crashes.
- Most of the large truck crashes occurred along US 395, including one of the two serious injury crashes.
- Several crashes also happened on Highland Avenue, west of 11th Street, including one of the two serious injury crashes.
- Elm Avenue also had multiple large truck crashes, including three near the intersection of Elm Avenue and NW 3rd Street.

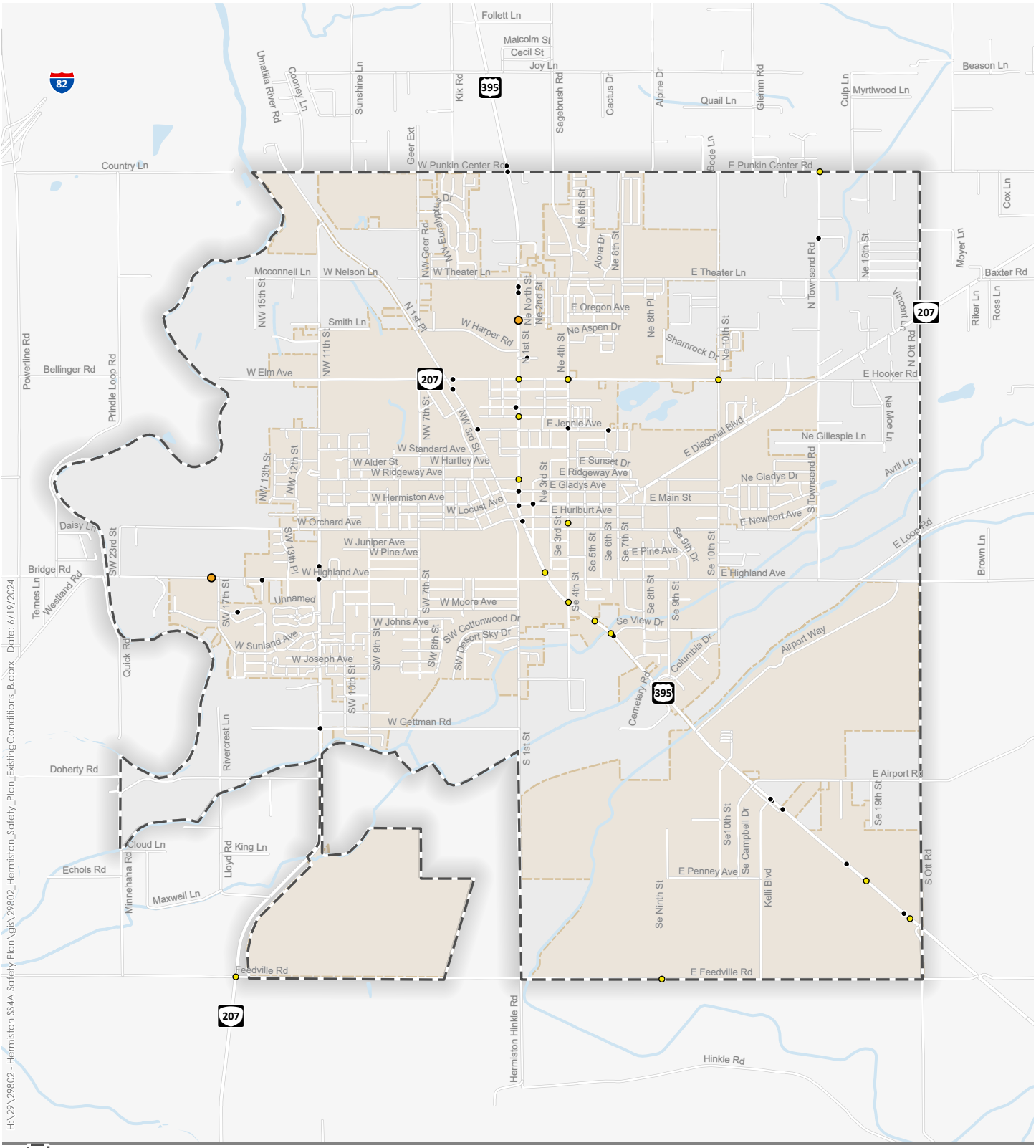


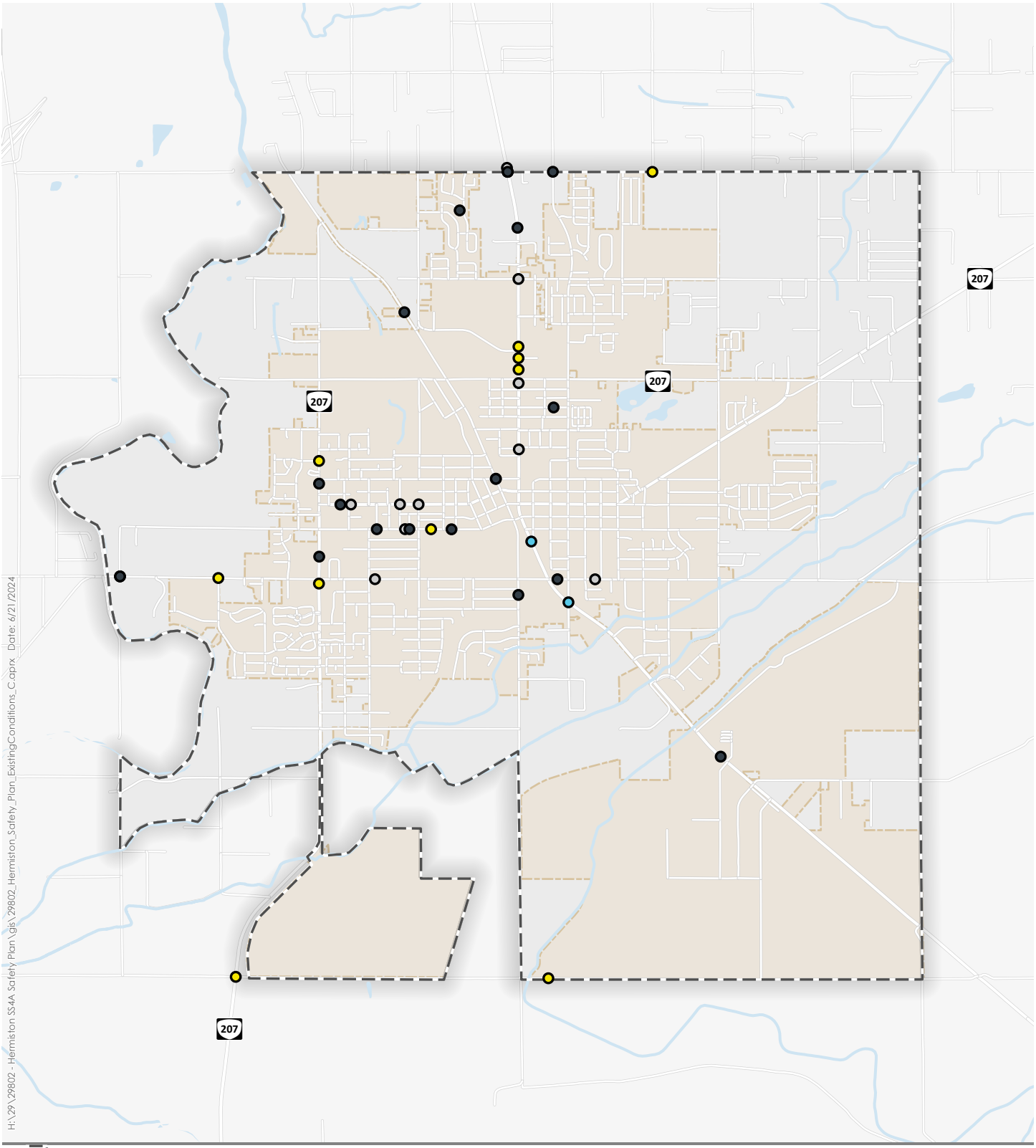
Figure A-3

Large Truck Crashes by Severity

KITTELSON & ASSOCIATES

Data Source: ODOT Crash Data (2018 to 2022)

Figure A-4 maps the 43 crashes that involved an impaired driver. Crashes involving an impaired driver occur throughout Hermiston. Impaired crashes are clustered on Hermiston Avenue and on Orchard Avenue west of US 395. OR 207 (11th Street) and US 395 both have clusters of crashes involving impaired drivers as well, however these corridors have higher crash rates in general, so these clusters do not stand out as much.



Urban Growth Boundary

Hermiston City Limits

Lighting Condition

- Darkness - no street lights
- Darkness - with street lights
- Dusk/Dawn
- Daylight

0 0.5 1 Miles

Figure A-4

Crashes Involving Alcohol or Drug Impairment

KITTELSON & ASSOCIATES

Data Source: ODOT Crash Data (2018 to 2022)

APPENDIX 2: FURTHER CONSIDERATIONS OF SYSTEMIC ANALYSIS

Pedestrian and Bicyclist Analysis

The network was evaluated for systemic characteristics correlated with crashes involving pedestrians (Table A-1) and bicyclists (Table A-2), in alignment with the 2020 ODOT Statewide Pedestrian and Bicycle Plan. All segments are evaluated using the urban risk factor weights.

Table A-1. Pedestrian Risk Factors Screening Scores

Risk Factor	Urban Risk Factor Weight	Rural Risk Factor Weight
Principal Arterial	1.24	1.46
Number of Lanes (>= 4 Lanes)	1.55	1.73
High-Access Density	1.64	--
No Sidewalks (or Only One Side)	1.38	--
Posted Speed (>=35 mph)	1.83	1.63
Mixed-Use Zoning	1.00	--
Other Zoning	--	1.45
Proximity to Schools (1 Mile)	1.03	1.17
Proximity to Transit Stops (1/4 Mile)	1.08	1.00
High Population over the Age of 64	1.00	--

Table A-2. Bicycle Risk Factors Screening Scores

Risk Factor	Urban Risk Factor Weight	Rural Risk Factor Weight
Principal Arterial	1.13	1.39
Minor Arterials	1.07	--
Number of Lanes (>= 4 Lanes)	1.08	--
Posted Speed (>=35 mph)	1.11	1.09
No Bike Lane	1.06	--
High-Access Density	1.02	--
Mixed-Use Zoning	1.00	--
Proximity to Schools (1 Mile)	1.01	1.00
Proximity to Transit Stops (1/4 Mile)	1.03	1.03
High Population over the Age of 64	1.00	1.00

Several risk factors are not evaluated in Hermiston:

- Mixed-Use Zoning: The Hermiston Comprehensive Plan does not include a designation for mixed-use.
- Other Zoning: Only the segments within the urban growth boundary are assessed. Because no rural segments are assessed, the other zoning risk factor is not applicable.
- No Sidewalks (or Only One Side): The sidewalk data recorded by the City of Hermiston is not attributed to the roadway centerline, so is not evaluated in this analysis.
- Proximity to Transit Stops: Regular transit service is provided by Kayak Transit in a few locations, but not throughout the City of Hermiston. Therefore, the criteria is not assessed for the full study area.

Table A-3. Method and Source of Criteria for Analysis

Criteria	Method	Source
Functional Classification	Overlapping with Street Classification	Hermiston Street Classification
Posted Speed	Manually recorded	Local posted speed of 25 MPH complemented with street view review and ODOT posted speed
Through Lanes	Manually recorded	Aerial Review
Access Density	Segments along US 395 north of View Drive were selected as high access density based upon aerial review.	Aerial Review
Proximity to Schools	Segments within 1-mile of either a public school or private school were identified.	City of Hermiston
Population Over 64	Census block groups with more than 20% of the population over 65 are identified. This is in alignment with the method used in the ODOT study of identifying the 40% of census block groups throughout the state with the highest portion of people over 65. Segments that are within 50 feet of one of these block groups are given the risk factor.	American Community Survey 2018-2022

Intersection Analysis

Systemic intersection analysis was completed in alignment with ODOT Intersection Safety Analysis Criteria. Input data for the analysis was assessed following the methods and using the data sources described in Table A-4. Input data was available for posted speed, volumes, and number of lanes, so functional classification was not used as a characteristic.

Table A-4. Scoring Criteria for Systemic Analysis of Intersections (Oregon Intersection Safety Implementation Plan Update)

Table 1. Screening Characteristics and Weighted Scores

	SIGNALIZED[1]		STOP CONTROLLED[1]	
Characteristic	**Urban**	**Rural**	**Urban**	**Rural**
Functional Classification[2]				
Arterial (Principal + Minor)	1.03	-	1.25	-
Arterial (Principal)	(1.12)	1.29 (3.59)	(1.24)	1.61 (2.37)
Arterial (Minor)	(1.19)	-	-	-
Other Freeways and Expressways	(1.06)			
Posted Speed				
35 mph	1.01 (1.00)	-	1.00 (1.31)	-
40 – 45 mph	1.09 (1.19)	-	1.49 (2.00)	-
45 – 50 mph	-	1.00	-	1.06 (1.22)
≥ 50 mph	1.11 (1.33)	-	2.04 (1.44)	-
≥ 55 mph	-	1.13	-	2.03 (3.05)
Volume (AADT)				
AADT ≥ 10,000	-	-	1.27 (1.03)	1.80 (2.78)
AADT ≥ 25,000	1.00	1.24 (1.00)	-	-
AADT between 25,000-40,000	(1.00)	-	-	-
AADT ≥ 40,000	(1.18)	-	-	-
Approach Characteristics				
Right Turn Lane Present[3]	(1.05)	-	1.81	2.10
Left Turn Lane Present[3]	1.70 (1.03)	1.10 (2.97)	1.09 (1.34)	1.95 (3.18)
Number of Through Lanes ≥ 3		-	1.33 (1.60)	1.51 (1.00)
Number of Through Lanes ≥ 4	1.04 (1.01)	1.46 (1.02)	-	-
Equity				
Medium High or High Equity Disparity	1.16 (1.03)	1.20 (1.16)	1.05 (1.00)	1.65 (2.16)
Active Transportation				
Bicycle Volumes[4]	1.03 (1.01)	1.27 (3.59)	1.31 (1.36)	1.00 (3.40)
Pedestrian Volumes[5]	1.01 (1.02)	1.44 (3.59)	1.03 (1.01)	1.13

[1] Each cell provides two values, "Value Not on a Ramp | (Value on a Ramp)". Cells with one value only apply to that intersection type.
[2] Functional classification is likely a surrogate for number of lanes, speed, and volume. Therefore, it should only be used when one or more of these datasets are missing.
[3] See discussion in "Correlation vs. Causation"
[4] Bicycle volume data is not available from ODOT at a statewide scale, so the presence of a bicycle lane is used as a proxy to indicate whether an intersection should be prioritized for bicycle related treatments.
[5] Pedestrian volume data is not available from ODOT at a statewide scale so the presence of a sidewalk lane is used as a proxy to indicate whether an intersection should be prioritized for pedestrian related treatments.

Table A-5. Method and Source of Criteria for Analysis

Criteria	Method	Source
Functional Classification	Overlapping with Street Classification	Hermiston Street Classification
Posted Speed	Manually recorded	Local posted speed of 25 MPH complemented with street view review and ODOT posted speed
Volume	Overlapping with ODOT Flow Map layer. Intersecting with ODOT Non-State AADT point layer.	ODOT Flow Map ODOT Non-State AADT
Right Turn Lane	Within 50 feet of a turn lane segment.	ODOT
Left Turn Lane	Within 50 feet of a turn lane segment.	ODOT
Through Lanes	Manually recorded	Aerial Review
Equity	Intersecting	ODOT Social Equity Index
Active Transportation Volumes	Not available	Not available
Urban	Within the Hermiston Urban Growth Boundary (all intersections in this study)	Hermiston Urban Growth Boundary

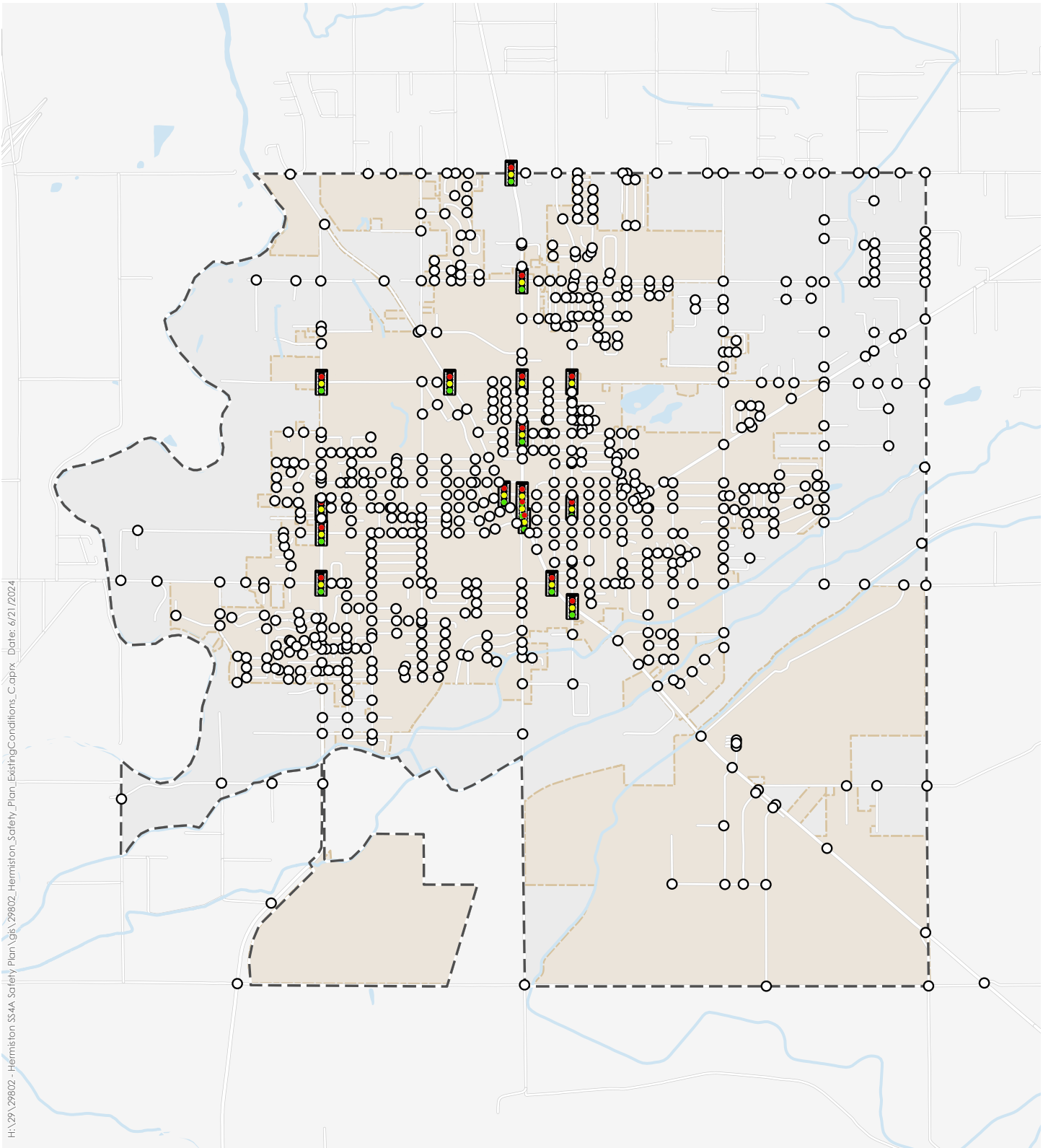


Figure A-5

Intersection Traffic Control Type

KITTELSON & ASSOCIATES

Data Source: Aerial Review

Roadway Characteristic Analysis

Table A-6 through Table A-12 tabulate the portion of injury crashes and portion of centerline miles for the roadway, intersection, and land attributes analyzed as part of the systemic analysis. The risk factor was computed by diving the portion of injury crashes by the portion of centerline miles. Figure A-6 through Figure A-9 visualize the roadway network by each of these attributes.

Table A-6. Portion of Injury Crashes and Street Network by Number of Lanes

Number of Lanes	Portion of Injury Crashes	Portion of Centerline Miles	Risk Factor
2	67%	96%	0.70
4	33%	4%	8.65

Table A-7. Portion of Injury Crashes and Street Network by Posted Speed

Posted Speed	Portion of Injury Crashes	Portion of Centerline Miles	Risk Factor
25	33%	81%	0.40
30	20%	2%	9.39
35	19%	3%	7.16
40	1%	1%	0.68
45	21%	6%	3.68
50	0%	1%	0.52
55	5%	6%	0.88

Table A-8. Portion of Injury Crashes and Street Network by Median

Median	Portion of Injury Crashes	Portion of Centerline Miles	Risk Factor
None	57%	95%	0.60
Curbed or Vegetation	2%	1%	2.38
TWLTL / painted CTL	41%	5%	9.00

Table A-9. Portion of Injury Crashes and Street Network by Bike Facility

Bike Facility	Portion of Injury Crashes	Portion of Centerline Miles	Risk Factor
Facility	33%	9%	3.49
No Facility	67%	91%	0.74

Table A-10. Portion of Injury Crashes and Street Network by Jurisdiction

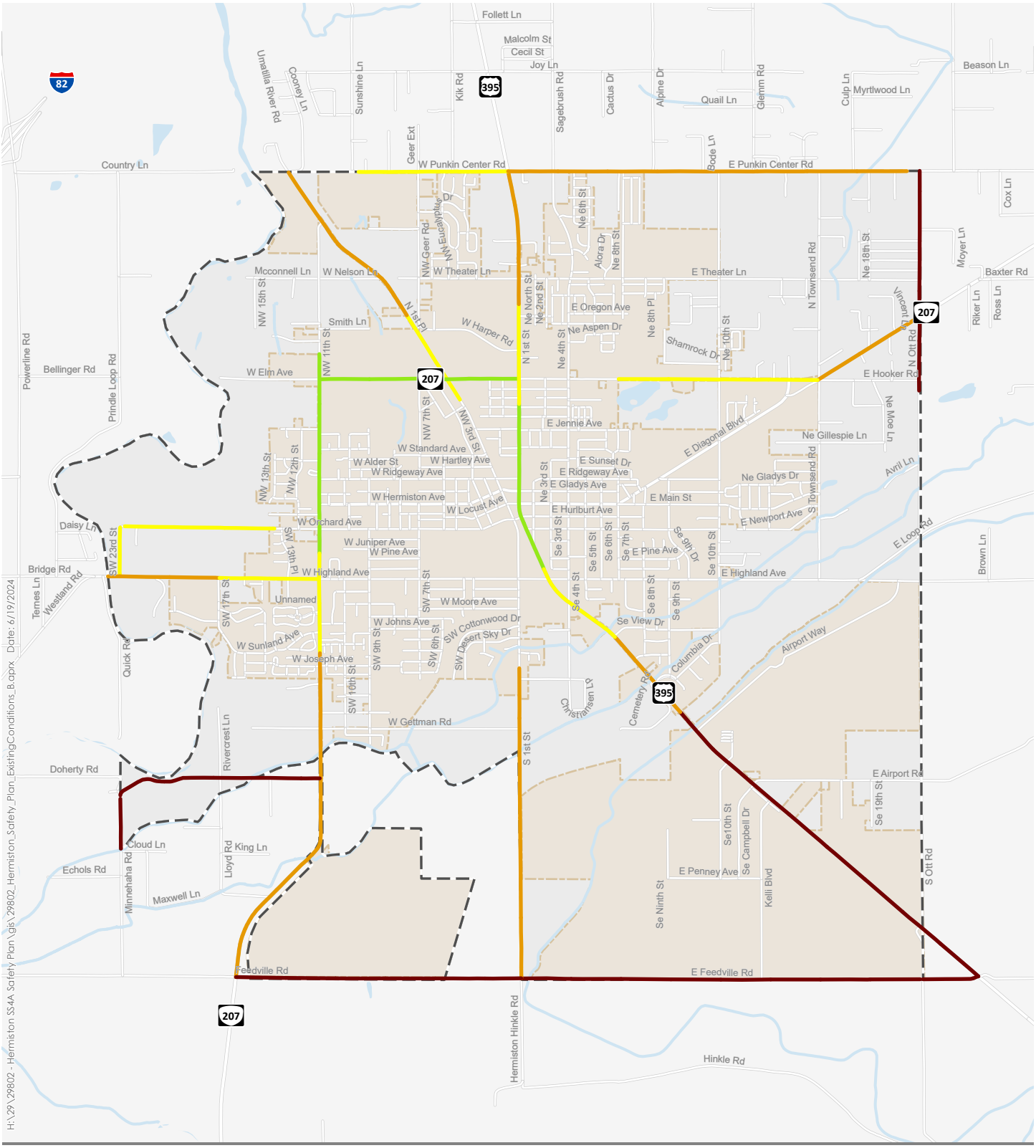
Jurisdiction	Portion of Injury Crashes	Portion of Centerline Miles	Risk Factor
State	33%	4%	9.11
County	8%	18%	0.45
City	58%	73%	0.79

Table A-11. Portion of Injury Crashes and Street Network by Social Equity Index

Equity	Portion of Injury Crashes	Portion of Centerline Miles	Risk Factor
High	61%	42%	1.47
Medium/High	0%	6%	0.07
Low/Medium	1%	4%	0.23
Low	37%	48%	0.78

Table A-12. Portion of Injury Crashes and Street Network by Land Use

Land Use	Portion of Injury Crashes	Portion of Centerline Miles	Risk Factor
Commercial	70%	35%	1.98
Industrial	1%	3%	0.39
Open Space	7%	12%	0.57
Residential	22%	49%	0.44



Urban Growth Boundary

Hermiston City Limits

Posted Speed (mph)

- 25
- 30
- 35 and 40
- 45 and 50
- 55+

0 0.5 1 Miles

Figure A-6

Road Network by Posted Speed (MPH)

KITTELSON & ASSOCIATES

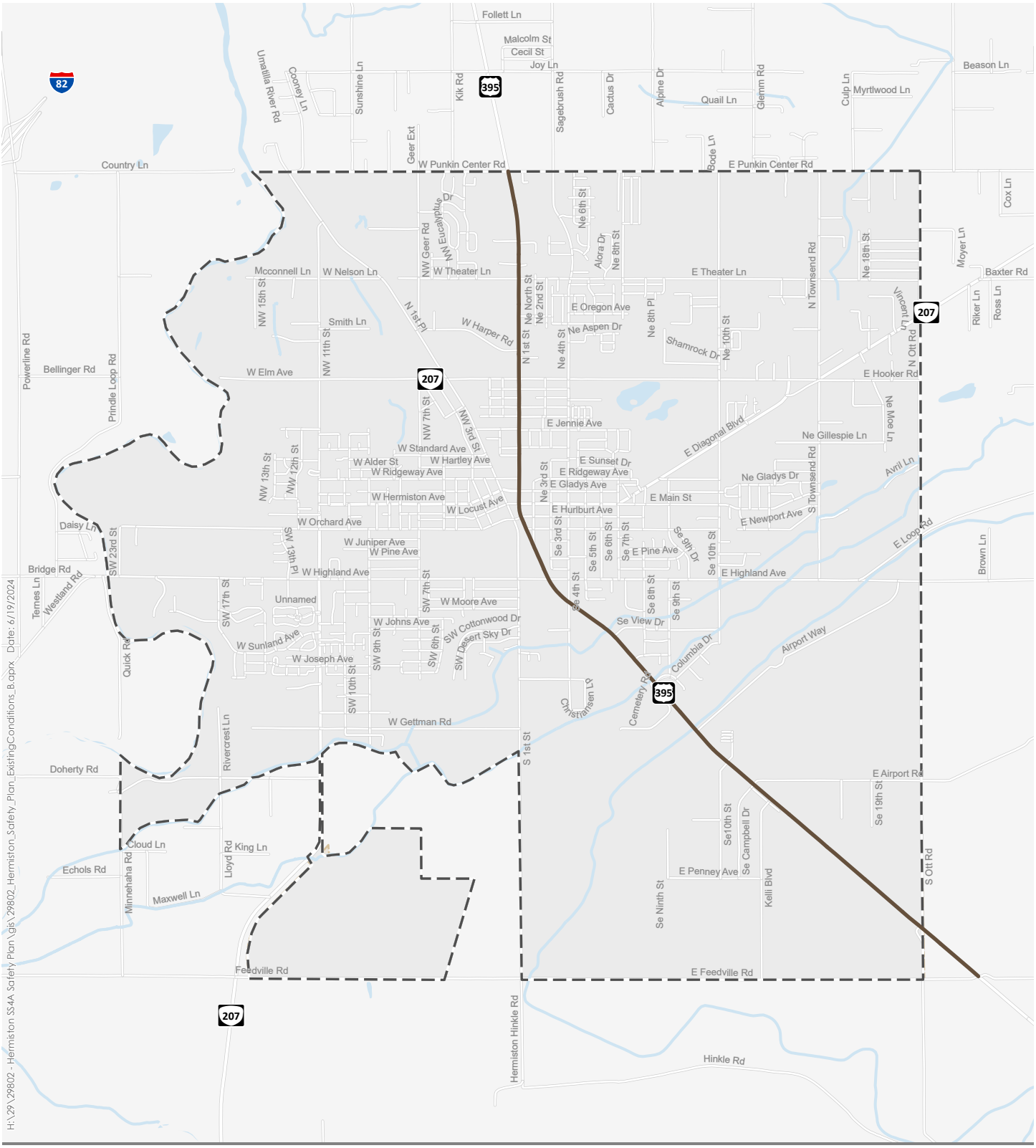


Figure A-7

Road Network by Number of Lanes

KITTELSON & ASSOCIATES

Data Source: Aerial Review

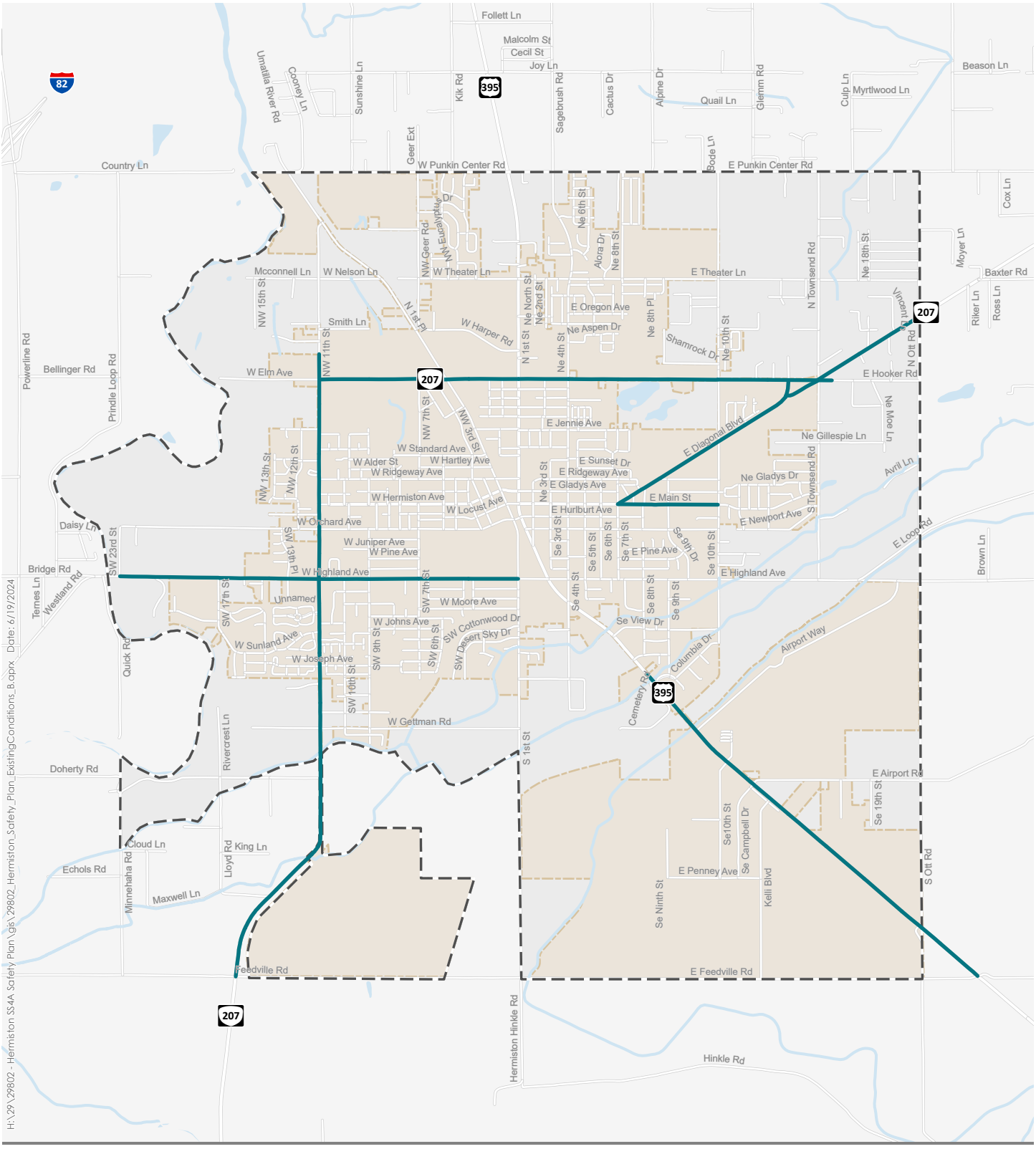


Figure A-8

Road Network by Bike Facilities

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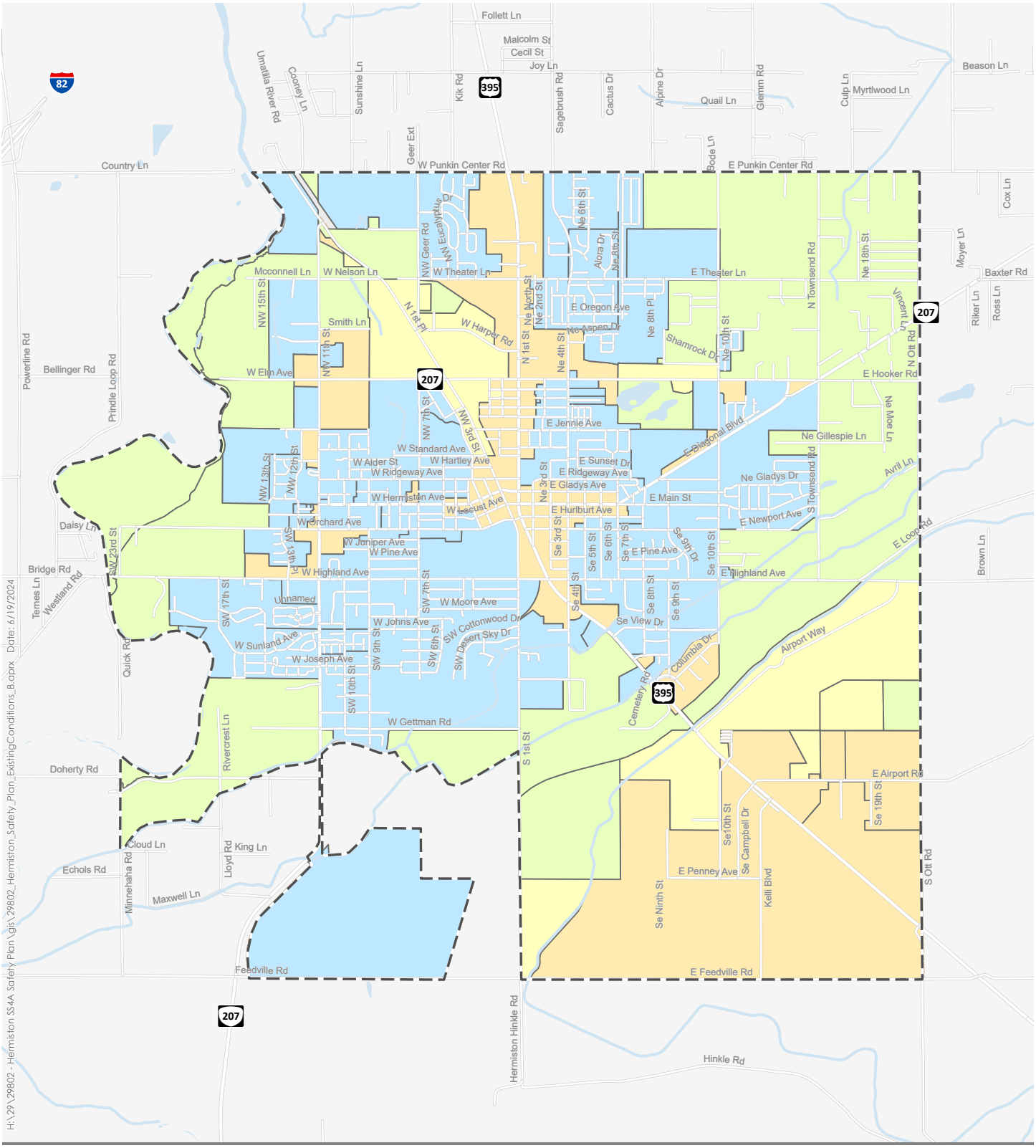


Figure A-9

Comprehensive Plan Designation

KITTELSON & ASSOCIATES

Data Source: Aerial Review

APPENDIX B: STRATEGY DEVELOPMENT MEMO

TECHNICAL MEMORANDUM

November 27, 2024 Project #: 29802

To: Clint Spencer
Planning Director, City of Hermiston

From: Christopher Bame, Morgan Dean, Lekshmy Hirandas, Matt Hughart, Nick Foster (Kittelson)

CC: Byron Smith, Mark Morgan (City of Hermiston)

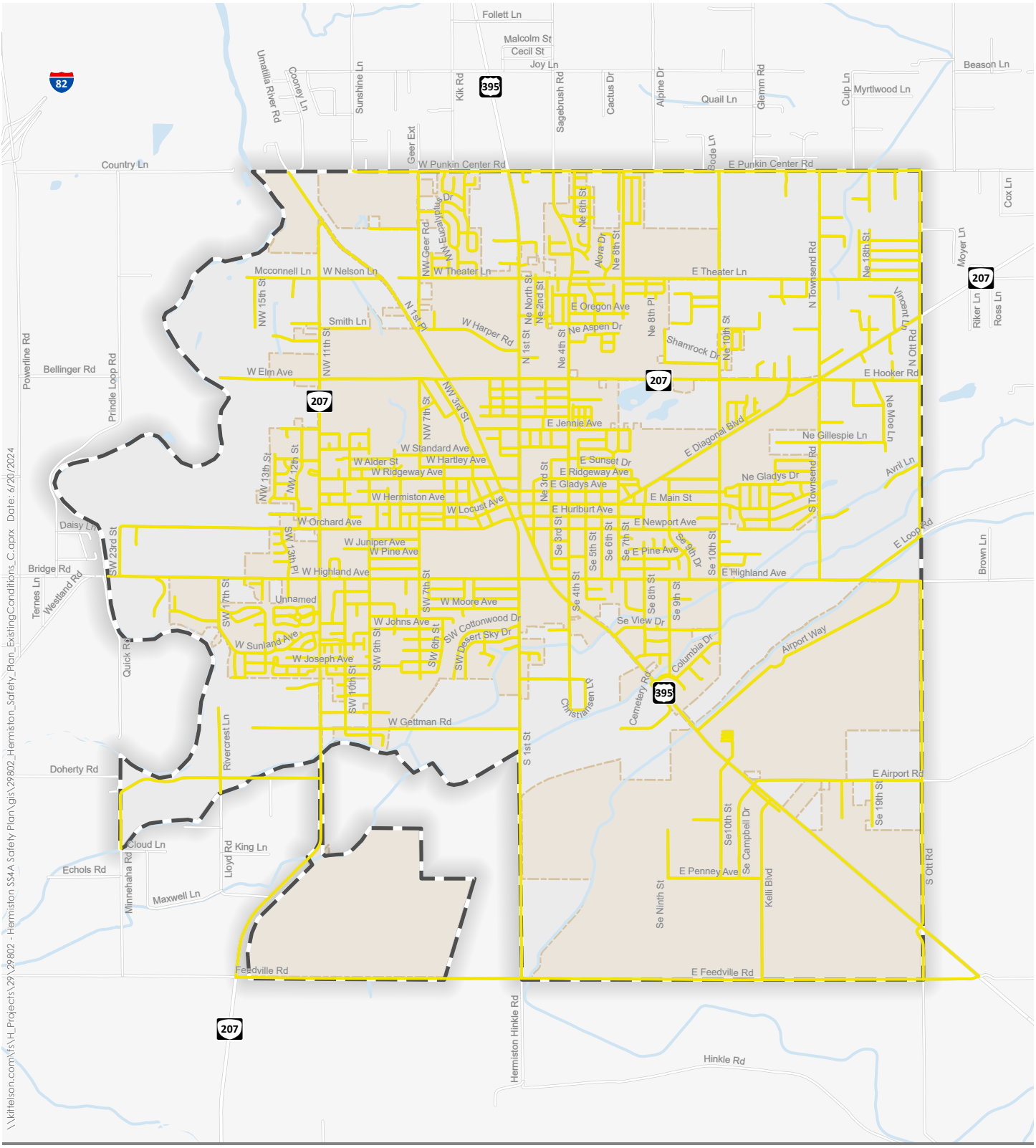
RE: Technical Memo #2: Strategy Development

STRATEGY DEVELOPMENT

The Hermiston Safety Action Plan (SAP) analyzes recent crash data on public roads in Hermiston for the purpose of identifying crash patterns and prioritizing safety countermeasures. The analysis of existing conditions is included in Technical Memo #1: Existing Conditions, which includes the five most recent years of crash data. This memorandum identifies strategies for reducing the number of crashes resulting in injuries or fatalities on Hermiston's roadways.

Study Area

The study area for the Safety Action Plan (SAP) includes all roads located within the Hermiston urban growth boundary (UGB). Feedville Road, Ott Road, and Punkin Center Road are all located adjacent to the UGB and are included in the study area, too. Additionally, OR 207 (11th Street) between Feedville Road and the UGB, and Feedville Road between Ott Road and US 395, are also included in the study area. These roads are operated and maintained by three jurisdictions: the City of Hermiston, Umatilla County, and the Oregon Department of Transportation (ODOT). The analyzed road network is shown in Figure 1.



Urban Growth Boundary (Study Area)

Hermiston City Limits

Analyzed Roadway Network

0 0.5 1 Miles

Figure 1

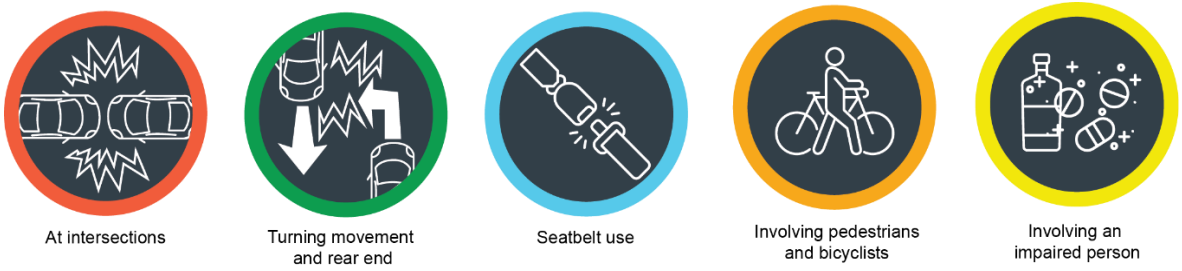
Study Area

KITTELSON & ASSOCIATES

Emphasis Areas

The project team identified safety countermeasures (i.e., engineering, education, enforcement, and policy actions that are undertaken to reduce the likelihood or severity of crashes) based on a review of historical crash and travel patterns in Hermiston. This review, summarized in Technical Memorandum #1, resulted in the following emphasis areas that were used to identify countermeasures:

- Crashes with the following characteristics:



- Roadways and intersections that have historically had a greater number of crashes resulting in an injury or fatality:
  - US 395, north of Hermiston Avenue to the urban growth boundary, including intersections at:
    - Punkin Center Road
    - Hermiston Avenue/Gladys Avenue
    - Elm Avenue
  - 11th Street, between Joseph Avenue and Elm Avenue
  - Orchard Avenue, between 11th Street and US 395
  - W Highland Avenue, west of 11th Street to the urban growth boundary

Network Screening

Technical Memo #1: Existing Conditions includes a network screening of intersections and segments based on crash history and severity. Intersections and segments with higher crash rates are shown in Figure 2. Further analysis details are included in Technical Memo #1. The roadway and intersection characteristics were also compared to systemic risk factors identified in ODOT methodologies. Intersections and segments with higher historic crash rates and/or systemic risk factors are good candidates for implementing strategies to increase user safety. Appropriate strategies are included in this technical memo.

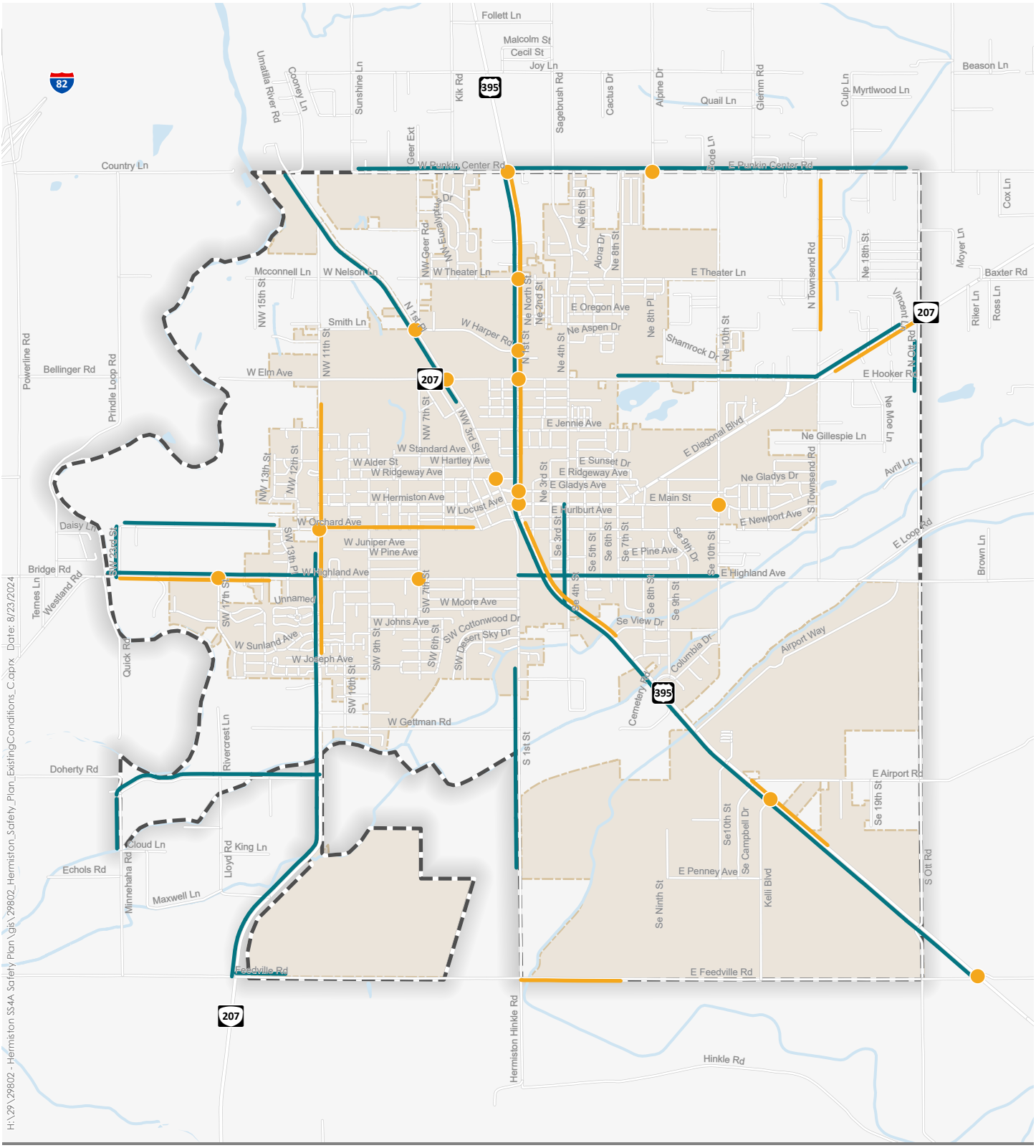


Figure 2
High Injury Network

KITTELSON & ASSOCIATES

Strategies and Actions

This section documents the infrastructure and non-infrastructure countermeasures that can be applied systemically throughout the city to reduce the risk of fatal and serious injury crashes. These recommendations are organized by the following Safe System Approach elements:

- Safer Roads
- Safer Speeds
- Safer People
- Safer Vehicles
- Post-Crash Care

Countermeasures were identified based on a review of ODOT's All Road Transportation Safety (ARTS) Program (Reference 3), U.S. Department of Transportation's Crash Modification Factor Clearinghouse (Reference 4), Federal Highway Administration's (FHWA) Proven Safety Countermeasures (Reference 5), and a review of the most recent Transportation Safety Action Plans for ODOT. Countermeasures that are expected to be most relevant to Hermiston are included in this memo, although the identified resources have additional countermeasures that can be considered.

Strategies are designated by 'Type,' including: signal phase and timing (SPaT), signage, markings, geometric, and policy. The source is identified for each countermeasure. Most of the countermeasures are drawn from the ODOT ARTS list and are referenced by the ID provided in the list, for example H2 or PB19.

PARTNERS

Strategies are designed to be implemented in partnership between a range of agencies, including multiple departments within the City of Hermiston. Public agency partners in implementing projects include:

- Hermiston Public Works
- Hermiston Community Development
- Hermiston EMS (including Fire Department and Police)
- Umatilla County
- Oregon Department of Transportation
- Kayak Transit

Strategy implementation is largely dependent on who has ownership and maintenance responsibility of the transportation infrastructure. For example, strategies at signalized intersections on ODOT highways will ultimately be considered and implemented by ODOT. However, the City of Hermiston may bring specific requests to ODOT's attention on these facilities and/or partner on their implementation.

In addition to public agency partners, community engagement is helpful with strategy implementation. Education campaigns and other efforts to engage the community, existing businesses, community organizations, schools, neighborhood groups, and advocacy groups can increase community acceptance of a project and result in successful implementation. Further, community engagement can aid in identifying unintended consequences of projects on historically underserved communities in Hermiston.

SAFER ROADS

Safer Roads strategies focus on designing roadways to reduce the occurrence of people making mistakes and reduce the risk of injury when mistakes occur. Strategies tend to reduce conflicts, lessen the severity of conflicts, and encourage safer behaviors.

Table 1 and Table 2 describe Safer Roads strategies identified to be most relevant in Hermiston, related to the turning movement and bicyclist and pedestrian emphasis areas respectively. For each strategy, the crash reduction factor (CRF) is included. The CRF is the reduction in crashes that is expected after implementing the strategy. When considering a particular location, the succinct list of strategies in Table 1 and Table 2 should serve as a starting point, but not be considered all inclusive. Community data should be used to inform priority application of these strategies.

In addition to considering specific engineering countermeasures, as described in Table 1 and Table 2, several strategies and policies can be considered to achieve Safer Roads. The following sections describe policy and education strategies related to Safer Roads.

Project Development

Hermiston can apply Safer Roads thinking to the project development process by:

1. Evaluating historic crashes and known crash risk factors during the project planning phase, and then applying countermeasures identified in the Safety Action Plan and other best practices to address them (e.g., requiring all crosswalks built near schools including high visibility markings and signage).
2. Using safety related performance measures to evaluate the effectiveness of projects. This could include before-after studies of crashes or near-misses, or evaluating the reduction in conflict points and/or severity of different design alternatives.

To ensure the inclusion of best practices in project development, Hermiston staff and consultant support should stay abreast of best practices from FHWA, ODOT, and other sources and attend continuing education opportunities. When developing lists of priority projects, Hermiston can also emphasize a safety criteria.

Complete Streets Policy

Hermiston can adopt a Complete Streets Policy to emphasize the consideration of the needs of all users throughout project development. Other nearby cities that have adopted Complete Streets Policies include Beaverton, OR, Newport, OR, Pasco, WA, and McCall, ID. Oregon State law includes statutes related to the consideration of all users, including requiring footpaths and bicycle trails to be constructed when State Highway Funds are used (ORS 366.514). Funding programs like ODOT's Great Streets Program are also aligned with considering a variety of users.

Adopting a Complete Streets Policy can be a first step towards meeting the needs of all users on implemented projects. Other policy actions Hermiston can take to support Complete Streets include:

- Develop standard processes for determining the appropriate pedestrian or bicycle facility to include in a project. Hermiston has already assessed sidewalk gaps throughout the City and has processes in place to fill sidewalk gaps on an ongoing basis.
- Develop a standard process for setting the appropriate target speed for a roadway, specifically where higher speed roads are entering the City limits.
- Update the City's typical cross sections to match current best practices (further described subsequently).
- Develop design criteria to aid in the implementation of Complete Streets, for example defining appropriate sidewalk buffers or streetscape features by roadway function and context.

Updating Roadway Cross Sections in Transportation System Plan Update

Hermiston can update typical roadway cross sections in the upcoming Transportation System Plan (TSP) to include best practices for addressing the needs of all roadway users. Updated typical sections can systemically align roadway design for retrofit and new roads with the Safer Roads strategies.

Safe Routes to School

Hermiston can set aside funding and prioritize projects focused on increasing safety around schools by completing projects like enhancing crossings, filling in sidewalk gaps, and managing speeds.

Table 1: Safer Roads Countermeasures Addressing Intersections and Turning Movement Emphasis Area

Intersection Type	Increase Intersection Safety by…	Countermeasures (Source)	Type	Crash Reduction Factor
Signalized Intersections	Reducing turning conflicts	Protected-only left-turn phasing (I9)	SPaT	6-99%
		Permissive-only to flashing yellow arrow left turn permissive-only (I12)	SPaT	50%
		No right turn on red (I29)	Signage	9%
		Install roundabout (H19)	Geometric	78%
		Install Median U-Turn (MUT) intersection treatment or Restricted Crossing U-Turn (RCUT) (FHWA Proven Safety Countermeasure)	Geometric	30%
		Dedicated left- and right-turn lanes at intersections (H4, H5, H11, H12, H13)	Geometric	4-19%
		Extension pavement markings through intersections for turning movements (MUTCD 3B.11)	Markings	-
	Reducing red light running	Improve signal head visibility (I2, I4, I3, I6, I5)	SPaT	0-46%
		Provide advance warning (I16, I14, I15, I22)	Signage; Markings	0-43.6%
		Adjust timing of yellow change intervals (FHWA Proven Safety Countermeasure)	SPaT	8-14%
		Install red light running camera (FHWA[2])	Other	-
	Increase awareness	Install lighting (I1, BP2)	Other	31-42%
	Reducing pedestrian/bicycle-vehicle conflicts	See strategies in **Table 2: Safer Roads Countermeasures Addressing Pedestrian and Bicyclist Emphasis Area**	-	-

Intersection Type	Increase Intersection Safety by…	Countermeasures (Source)	Type	Crash Reduction Factor
Stop Controlled Intersections	Reducing turning conflicts	Conflict management (no left turns, right-in-right-out driveway access, restrictive and/or raised medians)	Other	-
		Doubled-up warning signs and/or stop signs (one on each side of the road) (I21)	Signage	11-55%
		Convert to all-way stop control (H20)	Signage	75%
		Install traffic signal (H22)	SPaT	67%
		Install roundabout (H18)	Geometric	82%
	Increase awareness	Provide advance warning (flashing beacons, transverse rumble strips, stop bar) (I15, I21, I24, I26, I25, I27)	Signage; Markings	5-58%
		Improve stop sign reflectivity (I23) and retroreflective sheeting on signposts (CTRE[1])	Signage	7%
		Remove vegetation, parking, or obstructions that limit sight distance (I17)	Maintenance	48%
	Reducing pedestrian/bicycle-vehicle conflicts	See strategies in **Table 2: Safer Roads Countermeasures Addressing Pedestrian and Bicyclist Emphasis Area**	-	-

Notes: For strategies included in ODOT ARTS, the identification number is provided, for example 'I17' which refers to the 17th intersection related strategy included in ARTS. For other strategies, a reference is provided. [1] Iowa State University Center for Transportation Research and Education (CTRE) **https://ctre.iastate.edu/research-synthesis/intersections/stop-signs/add-reflective-material/**. [2] Griffith (2005). Safety Evaluation of Red-Light Cameras. FHWA. https://www.fhwa.dot.gov/publications/research/safety/05049/

Table 2: Safer Roads Countermeasures Addressing Pedestrian and Bicyclist Emphasis Area

Facility Type	Increase Pedestrian and Bicyclist Safety by…	Countermeasures	Type	CRF
Segments	Reducing speeding	See strategies in **Table 3: Safer Speeds Countermeasures**	-	-
	Separating users	Provide dedicated biking infrastructure (e.g., bike lanes, separated bike lanes) (BP22, BP23, BP24, BP27)	Geometric	0-74%
		Roadway reallocation (reallocate space to provide facilities for people walking and biking) (H53)	Geometric	29%
		Walkways (e.g., sidewalks, shared-use paths0 (BP29)	Geometric	20%
		Add roadway striping to unmarked roadways (Kahn & Kahn ITE Journal[1])	Signage	-
	Increasing driver awareness of people walking and biking	Lighting (BP2)	Other	42%
		Two-way bicycle cross traffic warning signage (MUTCD 9C.06)	Signage	-
Unsignalized Crossing Locations	Enhancing crossings	Reduce crossing distance using pedestrian refuges and curb extensions or realign crosswalks (BP8, BP16, I33)	Geometric	26-37%
		Provide advance warning marking and signing (BP26, BP15)	Signage; Markings	15-25%
		Install Rectangular Rapid Flashing Beacon (BP9, BP10, BP11)	Other	10-56%
		Install Pedestrian Hybrid Beacon (BP14)	Other	56%
		Install lighting (I1, BP2)	Other	31-42%
		Install high visibility crosswalk (BP15)	Markings	15%
		Provide raised crosswalks (BP28) (also noted under Safer Speeds)	Geometric	30%
Signalized		Provide pedestrian countdown timer (BP1)	SPaT	0-70%

Facility Type	Increase Pedestrian and Bicyclist Safety by…	Countermeasures	Type	CRF
Intersections	Enhancing pedestrian phasing to encourage better signal compliance	Pedestrian recall (Caltrans Pedestrian Safety Countermeasures Toolbox)	SPaT	-
		Shorten cycle length (FHWA[2])	SPaT	-
		Install accessible pedestrian signal (APS) (MUTCD 4E.09)	SPaT	-
	Separating users	No right turn on red (BP25)	Signage	26-44%
		Right turn arrow to reduce right turn permissive conflicts (BP5)	SPaT	20%
		Restrict permissive turn phase during conflicting pedestrian phase (BP4)	SPaT	43%
		Install bike box (BP7)	Geometric	35%
		Separated intersections for pedestrians and bicyclists (FHWA Improving Intersections for Pedestrians and Bicyclists)	Geometric	-
		Install leading pedestrian interval (BP3)	SPaT	35%
	Increasing driver awareness	Install advance warning signs (BP17)	Signage	5-15%
		Left turn traffic calming (hardened centerline; left turn wedge) (I19, I20)	Geometric	10%
		Install green bike lanes (BP6)	Markings	39%
		Install lighting (I1, BP2)	Other	31-42%
		Install high visibility crosswalk (BP15)	Markings	15%

Note: [1] Kahn & Kahn (2011). Roadway Striping as a Traffic Calming Option. ITE Journal. https://nacto.org/docs/usdg/roadway_striping_as_a_traffic_calming_option_kahn.pdf
[2] Signs and Signals: 41. Upgrade/Modify Pedestrian Signal Timing. FHWA Countermeasure Library. FWHA. https://safety.fhwa.dot.gov/saferjourney1/library/countermeasures/41.htm

SAFER SPEEDS

Safer Speeds strategies focus on achieving operating speeds that are appropriate for the safety of all road users. The appropriate operating speed for a roadway is dependent on the surrounding land use context, the function of the roadway, the provided facilities, and the expected users. Safer speeds underly achieving safety in multiple emphasis areas.

> Speed is an especially important factor on non-limited access roadways where vehicles and vulnerable road users mix.
>
> - FHWA "Appropriate Speed Limits for All Road Users"

Table 3 describes Safer Speeds Strategies identified to be most relevant in Hermiston. These treatments were identified based on a review of current guidance and countermeasures in ODOT ARTS and FHWA Safety Programs. Additional countermeasures are available in ODOT ARTS, FHWA, and other resources. When considering a particular location, the succinct list of strategies in Table 3 should serve as a starting point but are not all inclusive. Community data should be used to inform priority application of these strategies.

Some of the Safer Speed focused countermeasures do not have an associated CRF. The immediate focus of some of these countermeasures is on speed management, which may indirectly reduce crash risk.

In addition to considering specific engineering countermeasures, as described in Table 3, several non-engineering strategies and policies can be considered to achieve Safer Speeds. The following sections describe policy and education strategies related to Safer Speeds.

Lower Posted Speed Limits

Many local roads in Hermiston are currently posted at 25 mph. However, several roads entering Hermiston from the surrounding area are posted at higher speeds. Lowering posted speeds is most effective when combined with engineering strategies to create roadways that "self-enforce" speed limits.

Encourage and Incentivize Speed Management Training

The National Highway Institute offers a free 10-hour web-based training course on Designing and Operating Roadways for Safe Speeds. The training course is designed for agency personnel at all levels (DOTs, MPOs, and local and Tribal governments). The training covers a breadth of approaches to attaining safer speeds on the roadway network, including a review of the Safe Systems Approach and the role of speed in crash severity.

Develop and Advertise a Traffic Calming Toolbox

A traffic calming dictionary acts as a menu for speed management strategies. It can organize strategies by their approach to speed management (e.g., horizontal versus vertical deflection), detail when various strategies are appropriate, and highlight the cost and timeline for implementing countermeasures. Table 3 in this memorandum and NHTSA's Traffic Calming ePrimer could be used as a starting points to develop a traffic calming dictionary.

Communicate with EMS for Speed Management Projects

Speed management countermeasures on emergency responder routes can impact response time. Coordinating with EMS during safety planning is an effective way to implement speed management treatments that improve safety and minimize disbenefits. This coordinated approach can also positively influence traffic incident management (see: Post-Crash Care: Incident Management).

Apply Targeted Enforcement

Targeted enforcement is a strategy that involves placing enforcement officers on patrol in areas with high operating speeds to detect and warn and/or cite speeding drivers. These enforcement efforts may be complemented by High Visibility Enforcement (HVE), which involves using visibility elements to educate the public and promote voluntary speed compliance. NHTSA has developed a HVE Toolkit with guidance on enforcement elements (placement, training, measure effectiveness, etc.), publicity strategies, visibility elements, and implementation.

Develop Building Setback Policy

A setback policy, or building setback, is a zoning-related policy that establishes the minimum distance which a building or other structure must be set back from a street. A policy with a smaller setback area would encourage building closer to the street which can act as a traffic calming measure. Buildings that are set close to the street can provide an enclosure of the roadway, a speed management technique.

Table 3: Safer Speeds Countermeasures

Facility Type	Manage speeds by…	Countermeasures	Type	CRF
All	Enforcement	Install speed safety camera(s) (FHWA Proven Safety Countermeasures[4])	Other	47%
Intersections	Signal Timing	Coordinate signal timing with target speed	SPaT	-
		Operate signals using rest in red timing (City of Albuquerque[1])	SPaT	-
	Geometric design	Turning speed calming (reduce curb-return radius, reduce drive way width)	Geometric	-
		Install traffic circle	Geometric	-
		Install curb/corner extensions	Geometric	-
		Install mini-roundabout	Geometric	-
		Install roundabout (H18, H19)	Geometric	78-82%
		Install raised intersections	Geometric	-
Segments (Note some strategies may be less applicable on higher speed roadways)	Horizontal deflection	Install chicane	Geometric	-
	Vertical deflection	Install speed humps (not on state highways) (H66)	Geometric	50%
		Provide raised crosswalks (BP28)	Geometric	30%
	Enclosure	Provide street trees (BP31)[3]	Geometric	10%
		Roadway reallocation to narrow the travel way (H53)	Geometric	29%
		Install a median island (H37)	Geometric	39%
		Allocate space for on-street parking	Markings; Geometric	-
	Increasing driver awareness	Dynamic speed display/feedback signs (RD12)	Signage	10%

Facility Type	Manage speeds by…	Countermeasures	Type	CRF
Work Zones	Work zone infrastructure	Install speed-reducing barrier combinations upstream of and in work zones (Iowa State University and MnDOT[2])	Geometric	-

Notes: [1]https://www.cabq.gov/council/documents/lead-coal-rest-in-red-7-28-2021-final-1.pdf
[2]https://intrans.iastate.edu/research/completed/mndot-evaluation-of-work-zone-safety-using-the-shrp2-naturalistic-driving-study-data/
[3] Implementation of street trees should consider the balance of safety for roadway departure crashes with the benefit of speed management, within the context of the corridor.
[4] FHWA. Proven Safety Countermeasures: Speed Safety Cameras. https://highways.dot.gov/safety/proven-safety-countermeasures/speed-safety-cameras

SAFER PEOPLE

Safer People strategies focus on encouraging safe behaviors on the roadway and building a sense of responsibility from all roadway users. Strategies supporting Safer People tend to focus on educational and enforcement programs. Safe Speeds is an important aspect of safe behaviors on the road and is elaborated upon under the Safer Speeds section.

Education Campaign for All Road Users

Hermiston can expand upon education campaigns aimed at increasing the public awareness of key safety concerns and patterns in Hermiston. Considering the Existing Conditions Analysis and feedback gathered in the first phase of community engagement, key themes of education campaigns should include:

- Vehicle occupants should use seatbelts.
- Drivers should not be impaired.
- Drivers should not speed.
- Road users should take special care at intersections, where most crashes in Hermiston occur.
- Drivers should be aware of pedestrians and bicyclists.
- Pedestrians and bicyclists should engage in safe practices.
- Road users should not be distracted.

Education campaigns should be responsive to the variety of people in Hermiston. Campaigns should be presented in both English and Spanish and should be delivered through a multimedia approach. For example, campaign messages should be distributed through social media and also print brochures and posters. Education campaigns should build upon existing community frameworks, such as engaging schools in the dissemination of education campaigns focused on children.

The ODOT Transportation Safety Office offers print materials designed to promote safe driving, walking, and rolling. Materials can be accessed on ODOT's Safety webpage. ODOT campaigns that may be especially relevant in Hermiston include:

- Safety Belt Usage
- Look Out for Kids
- Safe Biking Quick Tips
- Distracted Driving
- Impaired Driving

Figure 3: Examples of ODOT Safety Campaign Materials

Seat Belt Usage

Campaign materials are publicly available through NHTSA's two seat belt use campaigns. The materials developed cover a variety of mediums and are designed to educate road users on the importance of seat belt use and improve seat belt compliance.

- Buckle Up. Every Trip. Every Time. This is a social norming campaign focused on seat belt use.
- Click It or Ticket. This is a high-visibility enforcement campaign focused on urging drivers to buckle up and educating drivers on the consequences of not wearing a seat belt.

Distracted Driving

Several distracted driving awareness campaign materials are also available for use and/or for example through national groups. These groups and their materials are detailed below.

National Highway Traffic Safety Administration: NHTSA has developed a variety of advertisements across various mediums for two campaigns designed to educate road users and prevent distracted driving. An additional web page provides marketing materials for various components of traffic safety. For a more detailed perspective on the issue, NHTSA's 2024 Distracted Driving Prevention Enforcement Campaign report outlines the research and trends that inform distracted driving campaign development.

- Don't Drive Distracted. Eyes Forward. Materials for this campaign are only available for download for media partners of NHTSA. However, the materials are available for viewing to the public and can provide a framework for developing distracted driving prevention materials.
- Put the Phone Away or Pay. Publicly available materials for this campaign include a list of talking points, a sample news release, message board examples, multiple live read scripts, graphics, social media posts, and a social media playbook for distracted driving prevention enforcement. The materials are available in both English and Spanish.
- Traffic Safety Marketing Communication Resources. This webpage highlights current and upcoming campaigns geared toward multiple aspects of traffic safety. One upcoming campaign provides materials for Teen Driver Safety Week in October. Materials include graphics for teens and for parents in both Spanish and English and social media guidance.

Federal Motor Carrier Safety Administration: FMCSA has made publicly available several media materials as part of their Distracted Driving Campaign which reminds drivers of the importance of staying focused behind the wheel. The materials include both text mediums (a list of talking points, sample press release, sample pitch email, sample radio reader) and more graphical mediums.

National Safety Council: The NSC conducted an initiative in April 2024 recognizing April as Distracted Driving Awareness Month. As part of this initiative, they offered free registration to join their mailing list and receive free resources to educate drivers on the importance of driving without distraction. Members of the public are still able to sign up and receive these resources which include posters, short video clips, and a social media kit.

National Road Safety Foundation: The NRSF provides more than 20 videos geared toward educating teens on the dangers of distracted driving, with a heavy emphasis on the deadliness of texting and driving. They also provide worksheets that can be used in educational settings to increase driver awareness and inform drivers what steps they can take to be a safer road user.

National Sheriffs' Association: The NSA provides several distracted driving PSAs and infographics focused on changing driver behavior. Their videos span a vast array of approaches to education – from providing daunting numbers, to a AAA video on the science behind cognitive distraction, to animated videos more geared toward younger populations.

Impaired Driving

Several impaired driving awareness campaign materials are available for use and/or for example through NHTSA. The materials developed cover a variety of mediums for three campaigns designed to educate road users and prevent impaired driving. The materials are available in English and Spanish.

- Buzzed Driving is Drunk Driving is a social norming campaign that focuses on preventing drunk driving.
- Drive Sober or Get Pulled Over is a national high-visibility enforcement campaign. It involves increased law enforcement at specific times of the year.
- Ride Sober or Get Pulled Over is a national high-visibility enforcement campaign geared toward motorcycle riders. It involves increased law enforcement at specific times of the year.

Targeted Education Programs

Hermiston can also launch targeted driver education programs, focused on different age groups of users. For example, Hermiston can consider programs for children like Safety Town that focuses on teaching

children (around kindergarten age) safe practices for walking, biking, riding the school bus, and other parts of life. Safety Town programs are in place in cities throughout Oregon including Chehalem, Hillsboro, and Philomath. Hermiston High School currently holds a Drivers Education course which is a supportive way of providing education to new high school-age drivers. Hermiston can also consider education programs targeted for aging road users, by coordinating with local senior centers and community centers.

Law Enforcement Practices

Hermiston is reintroducing a traffic enforcement officer to the Police Department organization chart. The benefit of an officer focused on traffic enforcement leading to Safer People can be enhanced by applying training like the Pedestrian Safety Training for Law Enforcement from NHTSA. Hermiston can also consider training officers in drug recognition through the International Association of Chiefs of Police (IACP) Drug Recognition Expert training.

Hermiston can continue the Traffic Safety Education Program (Diversion) and Compliance Program ("Fix-its") under which some violations are dismissed upon fixing the vehicle (for example if a violation is given for a cracked windshield, repairing the windshield) or attendance of a safety class.

As noted in the Safer Roads section, enforcement can also be accomplished through strategies like red light running cameras, which also encourages Safer People.

Public Sense of Responsibility

Hermiston can build a culture around safety and a sense of public responsibility by developing programs to respond to community feedback on safety concerns, and notifying the public when treatments are implemented. In addition to engaging with individuals, Hermiston can specifically engage with community organizations and collaborate to disseminate information through the community groups.

Collaborate with Employers

Hermiston has an existing policy requiring City employees to be licensed and authorized by the City Manager to drive on City business. Hermiston can extend the stated policies to specifically emphasize the significance of distracted driving and seat belt use to work towards the Safer People principle. Further, Hermiston can consider working with other employers in the region to encourage similar policies and promote commercial driving safety.

SAFER VEHICLES

Safer Vehicles strategies focus on expanding the prevalence of vehicle systems and features that help reduce the number of crashes that occur and the severity of crashes. While the common use of seatbelts and air bags can reduce the severity of crashes, the USDOT is in the process of completing a variety of actions to increase the safety of vehicles, largely from a regulatory standpoint. In addition to work being completed by federal agencies and manufacturers, Hermiston can apply the thinking behind Safer Vehicles to practices related to fleet procurement.

Vehicle Procurement

When choosing new fleet vehicles for procurement, Hermiston can consider safety features that can potentially reduce the occurrence and severity of crashes. For example, prioritizing vehicles that include blind spot monitoring and other advanced driver assist systems (lane support systems, front crash prevention systems, intelligent speed assistance). Larger and heavier vehicles tend to result in more severe

injuries for pedestrians or bicyclists if they are involved in a crash (Cogan, 2024). Therefore, when procuring new vehicles Hermiston should consider the 'right size' of the vehicle and consider smaller vehicles if the smaller vehicle can fulfill the functional needs of the jobs they serve.

Infrastructure Changes to Support Automated Vehicles

Autonomous vehicles continue to be a hot topic in transportation. The MUTCD 11th Edition includes a five-page long section on Traffic Control Device Considerations for Automated Vehicles (Part 5). It provides guidance on the following physical infrastructure components: traffic control device design and use considerations, signs, markings, highway traffic signals, temporary traffic control, and traffic control for highway-rail and highway-light rail transit grade crossings. Ongoing research is working to consolidate and refine additional guidance.

POST-CRASH CARE

Post-Crash Care strategies focus on reducing the severity of crashes after they happen, by providing medical care.

Signal Preemption

Hermiston should continue to work with ODOT to include emergency signal preemption at traffic signals throughout Hermiston to allow rapid response by EMS to incidents.

Incident Management

Traffic incident management (TIM) describes the multi-disciplinary practice of detecting, responding to, and clearing unplanned traffic incidents. Those involved in TIM, including road users involved in crashes, are at an increased risk, as secondary crashes are a concern. Training responders to have an organized and thorough approach to TIM can decrease secondary crashes and improve incident clearance time. Several best practices resources exist for both TIM trainers and trainees to support providing the best post-crash care through incident management. Some examples of best practices include instant tow dispatch procedures, enhanced dispatch procedures to speed response to the incident scene, development of response vehicle parking plans, and development of alternate route plans to reduce excess delay.

FHWA's 2010 Best Practices in Traffic Incident Management report organizes best practices by the five overlapping functioning areas of TIM: detection and verification, traveler information, response, scene management and traffic control, and quick clearance and recovery.

Developed by responders, the Roadway Safety Teaching Topic Packages for Instructors training program package provides instructors with the information and materials necessary to teach responders about critical roadway safety and traffic incident management. The content is consistent with FHWA National TIM Training and Responder Safety Learning Network training. Encouraging and requiring this type of training can result in positive safety effects. Currently, some states, like Georgia, require TIM responder training as part of the paramedic and EMS licensing process. Other states have attributed various safety trends to their TIM training. For example, Arizona has maintained a 6-7% secondary crash rate on Arizona highways which is one of the lowest secondary crash rates nation-wide.

IMPLEMENTATION TIMELINE

The projects and strategies identified in this memo have different deployment time ranges. Additionally, strategies are prioritized to most effectively use available resources. A breakdown of the prioritized strategies over near-, medium-, and long-term time frames is included in Table 4.

Table 4: Timeframe for Strategy Implementation

Timeframe	Strategy / Action
Near-Term (less than 5 years)	• Implement site-specific concept designs (see next section) • Adopt Complete Streets Policy • Amend typical roadway cross sections in Transportation System Plan to align with best practices • Use available education materials from to launch safety campaigns to address emphasis areas • Coordinate with ODOT to implement safety best practices at ODOT maintained signals • Modify vehicle procurement process to include safety considerations • Engage in education opportunities for law enforcement officers • Launch a local Safety Town program
Medium to Long-Term (5-10 years)	• Implement a community feedback system for safety concerns • Develop concept designs for additional sites based upon updated historical crash data and outcomes of the initially implemented designs • Continue to prioritize safety related capital projects on local streets • Continue to coordinate with ODOT to implement safety countermeasures on ODOT facilities

Concept Designs

SELECTING CONCEPT DESIGNS

As part of the Hermiston Safety Action Plan, the project team has developed concept designs for five locations within the study area. The concept designs include specific design treatments, packages of treatments, or representations of treatments that would help to address identified safety issues at these locations and others as appropriate.

Locations with high rates of historical crashes or other concerns were first identified. Table 5 includes the list of locations based on the findings from the Existing Conditions Technical Memorandum, project team observations, and discussions with City of Hermiston planning and engineering staff. This long list of locations was reviewed and five locations were prioritized for concept development, shown in Figure 4. The concepts for the five prioritized locations are included subsequently.

Table 5: Locations Considered for Concept Designs

Location	Historic Crashes	Other Concerns/Notes
US 395 & Theater Ln*	High	Intersection has a high number of crashes and is located in a high-growth area of the City. It has some right of way and land use constraints that may limit the number of realistic geometric and multimodal circulation accommodations. Southbound traffic is entering a more commercial and congested area.
US 395 & OR 207 (Elm Ave)*	High	Intersection currently has right of way and land use constraints that may limit realistic geometric, multimodal, and access management solutions. The intersection is of two ODOT roads, requiring significant ODOT coordination. Likely, projects at this intersection would be undertaken by ODOT.
US 395 & Punkin Center Rd*	High	ODOT has a roundabout in design for this intersection. The roundabout has been funded through pre-construction with design beginning in 2023 (PN 22069). As such, this is most likely not an appropriate intersection candidate.
US 395 & Hermiston Ave*	High	Intersection currently has right of way and land use constraints that may limit realistic geometric, multimodal, and access management solutions. The intersection is approaching operations at capacity.
Orchard Ave from OR 207 (11th St) to US 395	High	Corridor has a high number of crashes, including crashes that involve pedestrian, bicyclist, and impaired drivers. The corridor has a wide street width which provides an opportunity for creative geometric, space reallocation, and multimodal safety-focused treatments. Crashes are spread along the corridor. The corridor cross section changes significantly at 7th Street, which should be considered during concept development.

Location	Historic Crashes	Other Concerns/Notes
Highland Ave & 1st St (Hermiston Highschool)	-	A high-volume intersection located adjacent to Hermiston High School with a history of multimodal operations and safety concerns. This intersection has been highlighted at the City Council.
Main & Diagonal	-	Noted City and Community interest. A 5-legged intersection with a complex geometry and traffic control pattern. During in person engagement for the Existing Conditions analysis, several community members commented on this intersection. Currently, this intersection doesn't have any pedestrian treatments.
1st Pl (Old River Rd) and OR 207 (Elm Ave)	High	Intersection has been noted to have capacity constraints in previous circulation studies. It is geometrically and operationally constrained by the adjacent rail line. ODOT has previously studied various intersection design improvements which can be efficiently incorporated and expanded upon. Noted concern about adding left turn yield on green signs to NB/SB approaches.
US 395 from Jennie Ave to Theater Ln	High	Segment with the highest crash rate in the City and includes high crash intersections along the segment. Opportunity for access management-based improvements but may be difficult to implement. Noted crashes found to occur across all travel modes. In 2007, ODOT attempted to install a median, however the median was not desired by the merchant community. Pedestrian crossings may be a good consideration along this corridor.
Highland Ave from UGB to OR 207 (11th St)	High	Opportunity for a gateway feature complementing the speed limit reduction. Crashes are concentrated at the intersection of 23rd and 17th. Outside of the City limits, may be appropriate to include in Umatilla County TSAP/TSP. Opportunity to increase street lighting.
OR 207 (11th St) from Highland Ave to Elm Ave	High	ODOT facility, with recent ODOT work completed. Opportunity to address dark crashes north of Hermiston Ave. Communities with a high level of disadvantage along the corridor (ODOT Social Equity Index). Pedestrian crossings may be a good consideration along this corridor.
1st Pl (Old River Rd) and Harper Rd	-	Anderson Perry has previously developed concepts for the intersection with the City.

* Suggest choosing one signalized intersection on US 395 north of Hermiston Ave to develop a concept.

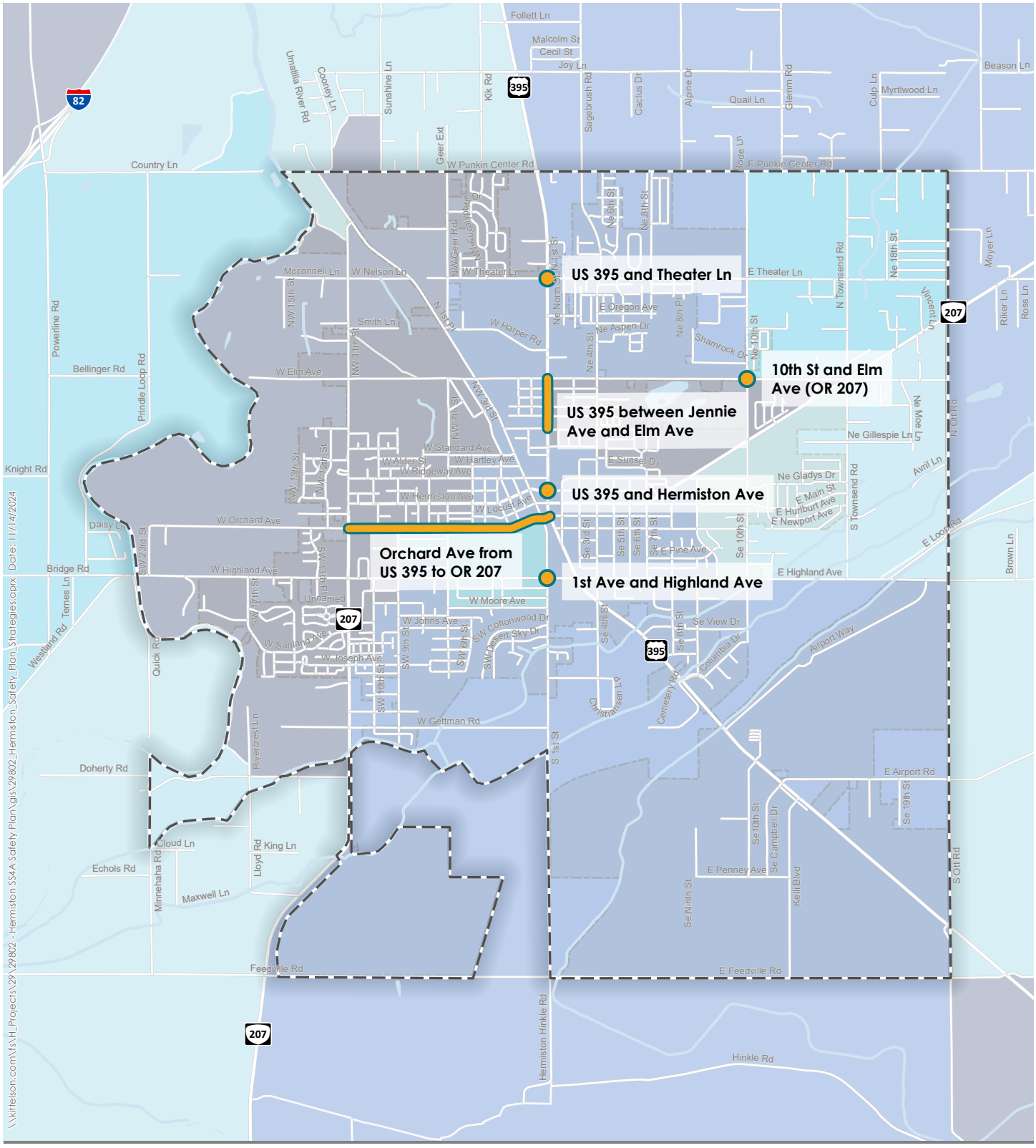


Figure 4

Locations Selected for Concept Designs
Hermiston Safety Action Plan

PROJECTS

Five locations are selected to develop concepts and cost estimates for project construction.

1. US 395 and Theater Lane
2. Highland Avenue and 1st Street
3. US 395 between Jennie Avenue and Elm Avenue
4. US 395 and Hermiston Avenue
5. Orchard Avenue from US 395 to OR 207
6. Elm Avenue and 10th Street

For each selected project location, the crash history and surrounding characteristics were reviewed to identify countermeasures to address systemic and historic crash patterns. Crash diagrams for each location are included in Appendix A. A conceptual sketch of the countermeasures along with a cost estimate is developed for each project location. Conceptual sketches along with a vicinity map are included for each location in Appendix B.

Orchard Avenue from OR 207 to US 395

- **Location** This segment is located west of downtown Hermiston, through a mostly residential neighborhood. It is adjacent to West Park Elementary School, Hermiston High School, and McKenzie Park.
- **Key Characteristics**: Orchard Avenue is not striped but operates with one lane in each direction and allows parking along both sides of the street. Orchard Avenue has a posted speed of 25 mph. Many local streets intersect with Orchard Avenue along this section at two-way stop control intersections. Traffic signals are located at OR 207 and US 395. All way stop control intersections are located at 7th Street and 1st Street. A school zone is located around West Park Elementary.
- **Crash History**: From 2018-2022, 59 crashes occurred along this segment. Thirty-two of the crashes resulted in an injury (two resulted in a serious injury, 12 resulted in a minor injury, and 18 resulted in a possible injury). Two of the crashes involved a pedestrian, two of the crashes involved a bicyclist, and the other crashes involved only vehicles. One of the pedestrian crashes and one of the bicyclist crashes occurred at the intersection of Orchard Avenue and 3rd Street, near McKenzie Park. Seven of the crashes involved a parked vehicle on Orchard Avenue. Three of the crashes involved conflicting movements at the intersection of Orchard Avenue & 7th Street.
- **Recommended Countermeasures**: Countermeasures along Orchard Avenue are focused on the proactive mitigation of systemic crash factors and speed management. Countermeasures focused on managing speeds through the implementation of curb extensions, raised intersections, raised crosswalks, and striping a centerline. Countermeasures focused on mitigating systemic crash factors include drawing driver attention to traffic control, like stop signs, and enhancing crosswalks. Reallocating one parking lane between 7th Street and US 395 is recommended to provide a two-way cycle track bicycle facility. A diagonal bike crossing at the intersection of Orchard Avenue and SW 7th Street will allow westbound bicyclists to access the appropriate shared lane when the two-way cycle track ends.
- **Benefits to Underserved Populations:** This corridor runs along census tracts identified as "high" in ODOT's social equity index. Considering the proximity to Hermiston High School and West Park Elementary School, this project can benefit school children. Proposed strategies focused on managing speeds and increasing safety for pedestrians and bicyclists, will benefit non-motorized travelers.
- **Cost Estimate**: The proposed concept is estimated to cost approximately $1,404,000. A detailed cost estimate is provided in Appendix C.

US 395 from Jennie Avenue to Elm Avenue

- **Location**: This segment is located north of downtown Hermiston.
- **Key Characteristics**: US 395 has two through lanes in each direction and a two-way center left turn lane. US 395 has a posted speed of 30 mph along this section. Several local streets intersect with US 395 along this section at two-way stop control intersections. The only signalized intersections along the segment are at Jennie Avenue and Elm Avenue.
- **Crash History**: From 2018-2022, 106 crashes occurred along this segment. Forty-seven of the crashes resulted in an injury (one resulted in a serious injury, 19 resulted in a minor injury, and 27 resulted in a possible injury). Four of the crashes involved a pedestrian, the other crashes involved only vehicles. Fifty-five of the crashes occurred at the intersection with Elm Avenue and 15 of the crashes occurred at the intersection with Jennie Avenue. At Dogwood Avenue, 4 crashes occurred between vehicles travelling across US 395 or turning left onto US 395 and vehicles travelling along US 395.
- **Recommended Countermeasures**: An RRFB with a raised median island is recommended across US 395 near Cherry Avenue to reduce the distance between marked crosswalks across US 395. A raised median is recommended at Dogwood Avenue to mitigate a pattern of crashes between vehicles crossing US 395 and vehicles travelling along US 395.
- **Benefits to Underserved Populations:** This corridor runs along census tracts identified as "high" and "medium/high" in ODOT's social equity index. The proposed strategy of adding a pedestrian crossing will specifically benefit non-motorized travelers.
- **Cost Estimate**: The proposed concept is estimated to cost approximately $417,000. A detailed cost estimate is provided in Appendix C.

US 395 & Theater Lane

- **Location**: The intersection is located north of downtown Hermiston, near the City limits.
- **Key Characteristics**: US 395 & Theater Lane is a signalized intersection. US 395 is the major road, with two through lanes in each direction and a dedicated left turn lane in each direction. Theater Lane is the minor road, with one through lane in each direction and a dedicated left turn lane in each direction. Crosswalks are provided on each leg of the intersection.
- **Crash History**: From 2018-2022, 19 crashes occurred at the intersection. eight of the crashes resulted in an injury (one resulted in a serious injury, one resulted in a minor injury, and six resulted in a possible injury). All the crashes involved only vehicles. Seven of the crashes (including the serious injury crash) occurred between conflicting movements in the intersection. Seven of the crashes were rear end crashes on US 395 approaching the signal. The crash diagram for the intersection is provided below.
- **Recommended Countermeasures**: Countermeasures are focused on adjusting signal timing to minimize conflicts, including restricting the permissive left-turn phase during busy times of the day. The intersection and signal are owned and maintained by ODOT, so implementation of these suggestions will require interagency coordination and approval. Hardened centerlines are recommended on US 395 to minimize turning movement crashes in the signal influence area and to manage turning speed across the crosswalks on the north and south legs. These centerlines will not extend into the intersection due to plow traffic in the winter months. A concept for the intersection is shown below. The City of Hermiston is currently considering the implementation of red light running cameras at this intersection. A concept for the intersection is shown below.
- **Benefits to Underserved Populations:** This intersection is located within census tracts identified as "high" and "medium/high" in ODOT's social equity index.
- **Cost Estimate**: The proposed concept is estimated to cost approximately $93,000. A detailed cost estimate is provided in Appendix C.

US 395 & Hermiston Avenue

- **Location**: The intersection is located adjacent to downtown Hermiston.
- **Key Characteristics**: US 395 & Hermiston Avenue is a signalized intersection. US 395 is the major road, with two through lanes in each direction and a dedicated left turn lane in each direction. Hermiston Avenue is the minor road, with one through lane in each direction and a dedicated left turn lane in each direction. Crosswalks are provided on each leg of the intersection. The railroad is about 300 feet west of the intersection.
- **Crash History**: From 2018-2022, 30 crashes occurred at the intersection. Eleven of the crashes resulted in an injury (two resulted in a serious injury, three resulted in a minor injury, and six resulted in a possible injury). One of the crashes involved a bicyclist, the other crashes involved only vehicles. Seven of the crashes (including the serious injury crash) occurred between conflicting movements in the intersection. Eight of the crashes were rear end crashes on US 395 approaching the signal, with six of the eight crashes occurring with southbound vehicles on the north leg. The second serious injury crash involved the bicyclist and occurred between a vehicle turning eastbound left onto US 395 and the bicyclist crossing US 395 in the crosswalk on the north leg. The crash diagram for the intersection is provided below.
- **Recommended Countermeasures**: Countermeasures are focused on adjusting signal timing to minimize conflicts, including restricting the permissive left-turn phase during busy times of the day. The intersection and signal are owned and maintained by ODOT, so implementation of these suggestions will require interagency coordination and approval. Hardened centerlines are recommended on US 395 to minimize turning movement crashes in the signal influence area and to manage turning speed across the crosswalks on the north and south legs. These centerlines will not extend into the intersection due to plow traffic in the winter months. A concept for the intersection is shown below.
- **Benefits to Underserved Populations:** This intersection is located within census tracts identified as "medium/high" in ODOT's social equity index.
- **Cost Estimate**: The proposed concept is estimated to cost approximately $84,000. A detailed cost estimate is provided in Appendix C.

Highland Avenue & 1st Street

- **Location**: The intersection is located at the southeast corner of Hermiston High School. The railroad is about 400 feet east of the intersection.
- **Key Characteristics**: Highland Avenue & 1st Street is an all way stop control intersection, with crosswalks on each leg. A dedicated left turn lane is provided for each approach. Bike lanes are provided on the west and east legs of the intersection. During lunch time and school release, heavy crosswalk usage occurs at the crosswalks, causing high levels of vehicle delay and long queues on all four intersection approaches.
- **Crash History**: From 2018-2022, 11 crashes occurred at the intersection. Six of the crashes resulted in an injury (three resulted in a minor injury and three resulted in a possible injury). All the crashes involved only vehicles. Six of the crashes occurred between conflicting movements in the intersection. The crash diagram for the intersection is provided below.
- **Recommended Countermeasures**: Countermeasures are focused on calling the driver's attention to the intersection by providing advance warning and increasing the visibility of the traffic control. Other countermeasures provide enclosure to help manage speeds and manage turning speeds through vertical deflection. Countermeasures also separate bicyclists from vehicles by increasing the buffer between the bicycle lane and the vehicle lane. A concept for the intersection is shown below.
- **Benefits to Underserved Populations:** This intersection borders census tracts identified as "medium/high" in ODOT's social equity index. Considering the proximity to Hermiston High School, this project can benefit school children.
- **Cost Estimate**: The proposed concept is estimated to cost approximately $202,000. A detailed cost estimate is provided in Appendix C.

Elm Avenue & 10th Street

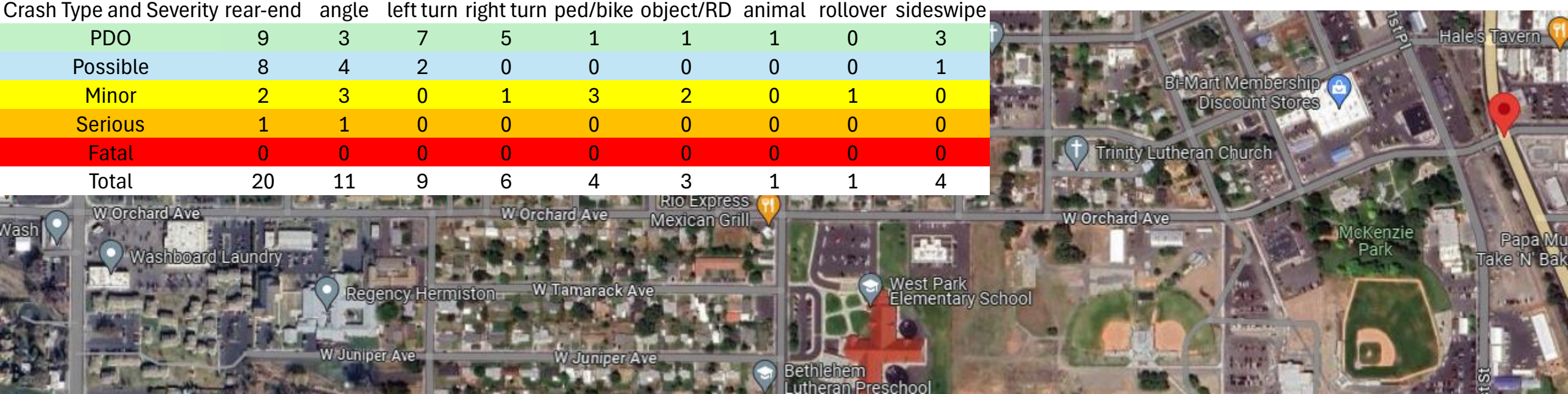
- **Location**: The intersection is located in the northeastern corner of Hermiston. The surrounding area is developing into residential land uses, with supporting commercial and institutional land uses like schools.
- **Key Characteristics**: Elm Avenue & 10th Street is a two-way stop control intersection, with stop signs controlling traffic flow on 10th Street. One left/through/right lane is provided northbound and southbound for all turning movements. Dedicated left turn lanes are provided for both eastbound and westbound traffic on Elm Avenue. A highway shoulder that may be used as a bike lane is provided on both the east and west legs of Elm Avenue. Due to the proximity of Loma Vista Elementary School and Sandstone Middle School, the intersection is considered a school speed zone, complemented by school zone signs indicating a reduced speed and a school crossing located on the east leg of the intersection.
- **Crash History**: From 2018-2022, 17 crashes occurred at the intersection. Nine of the crashes resulted in an injury (five resulted in a minor injury and four resulted in a possible injury). All the crashes involved only vehicles (no pedestrians or bicyclists). 10 of the crashes occurred between vehicles travelling north/south and vehicles travelling east/west. The crash diagram for the intersection is provided below.
- **Recommended Countermeasures**: Countermeasures are focused on managing the operating speed along Elm Avenue and calling the driver's attention to the stop control on 10th Street. Countermeasures intended to aid in managing the operating speed along Elm Avenue include installing speed feedback signs, lowering the posted speed west of 10th Street, and extending the school speed zone area. The stop control on 10th Street is intended to be emphasized by installing reflective sheeting on the existing stop sign pole. Additionally, because the crossing is used by school children, a Rectangular Rapid Flashing Beacon (RRFB) is recommended to enhance the existing marked crossing.
- **Benefits to Underserved Populations:** This intersection borders census tracts identified as "high" in ODOT's social equity index. Improving safety at this location can benefit residents of these areas who travel through the intersection. The school zone designation and school zone safety focused countermeasures, such as managing vehicle speeds, can benefit school children.
- **Cost Estimate**: The proposed concept is estimated to cost approximately $151,000. A detailed cost estimate is provided in Appendix C.

Appendix A: Crash Diagrams for Select Locations

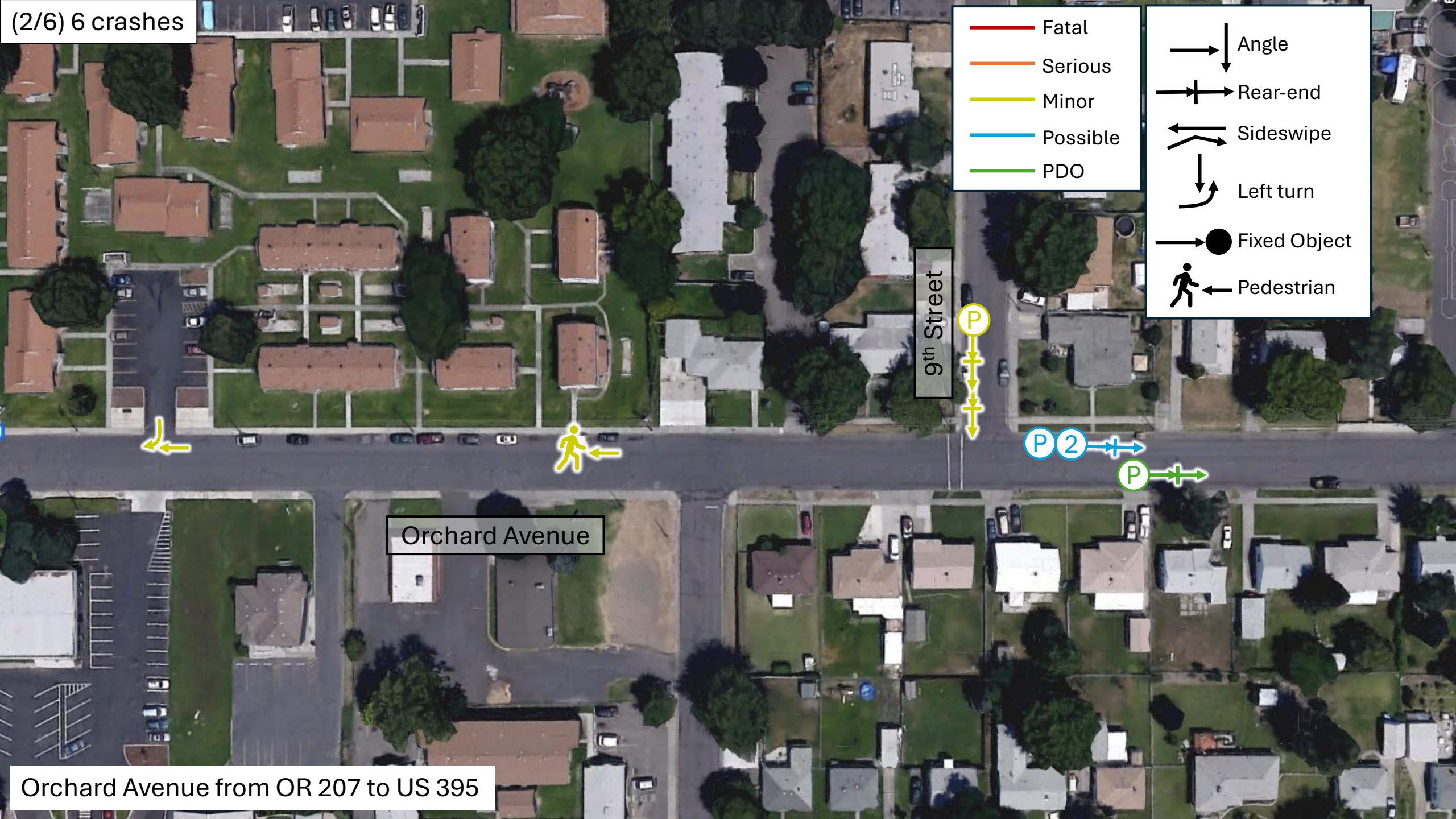
Orchard Avenue: US 395 to OR 207

- 59 crashes
  - 56 vehicle-only
  - 2 pedestrian
  - 2 bicyclist
- 32 injury
  - 2 serious
  - 12 minor
  - 18 possible

Crash Type and Severity	rear-end	angle	left turn	right turn	ped/bike	object/RD	animal	rollover	sideswipe
PDO	9	3	7	5	1	1	1	0	3
Possible	8	4	2	0	0	0	0	0	1
Minor	2	3	0	1	3	2	0	1	0
Serious	1	1	0	0	0	0	0	0	0
Fatal	0	0	0	0	0	0	0	0	0
Total	20	11	9	6	4	3	1	1	4




(1/6) 11 crashes
Fatal
Serious
Minor
Possible
PDO
Angle
Rear-end
Sideswipe
Left turn
Fixed Object
Pedestrian
10th Street
W Orchard Ave
Orchard Avenue
Orchard Avenue from OR 207 to US 395


(2/6) 6 crashes
Fatal
Serious
Minor
Possible
PDO
Angle
Rear-end
Sideswipe
Left turn
Fixed Object
Pedestrian
9th Street
P
P
2
P
Orchard Avenue
Orchard Avenue from OR 207 to US 395


(3/6) 11 crashes
8th Place
Butte Drive
7th Place
7th Street
Orchard Avenue
Fatal
Serious
Minor
Possible
PDO
Angle
Rear-end
Sideswipe
Left turn
Fixed Object
Pedestrian
P
P
B
Orchard Avenue from OR 207 to US 395


(4/6) 7 crashes
Fatal
Serious
Minor
Possible
PDO
Angle
Rear-end
Sideswipe
Left turn
Fixed Object
Pedestrian
6th Street
5th Street
2
P
P
Unknown vehicle direction of travel
Orchard Avenue
Orchard Avenue from OR 207 to US 395

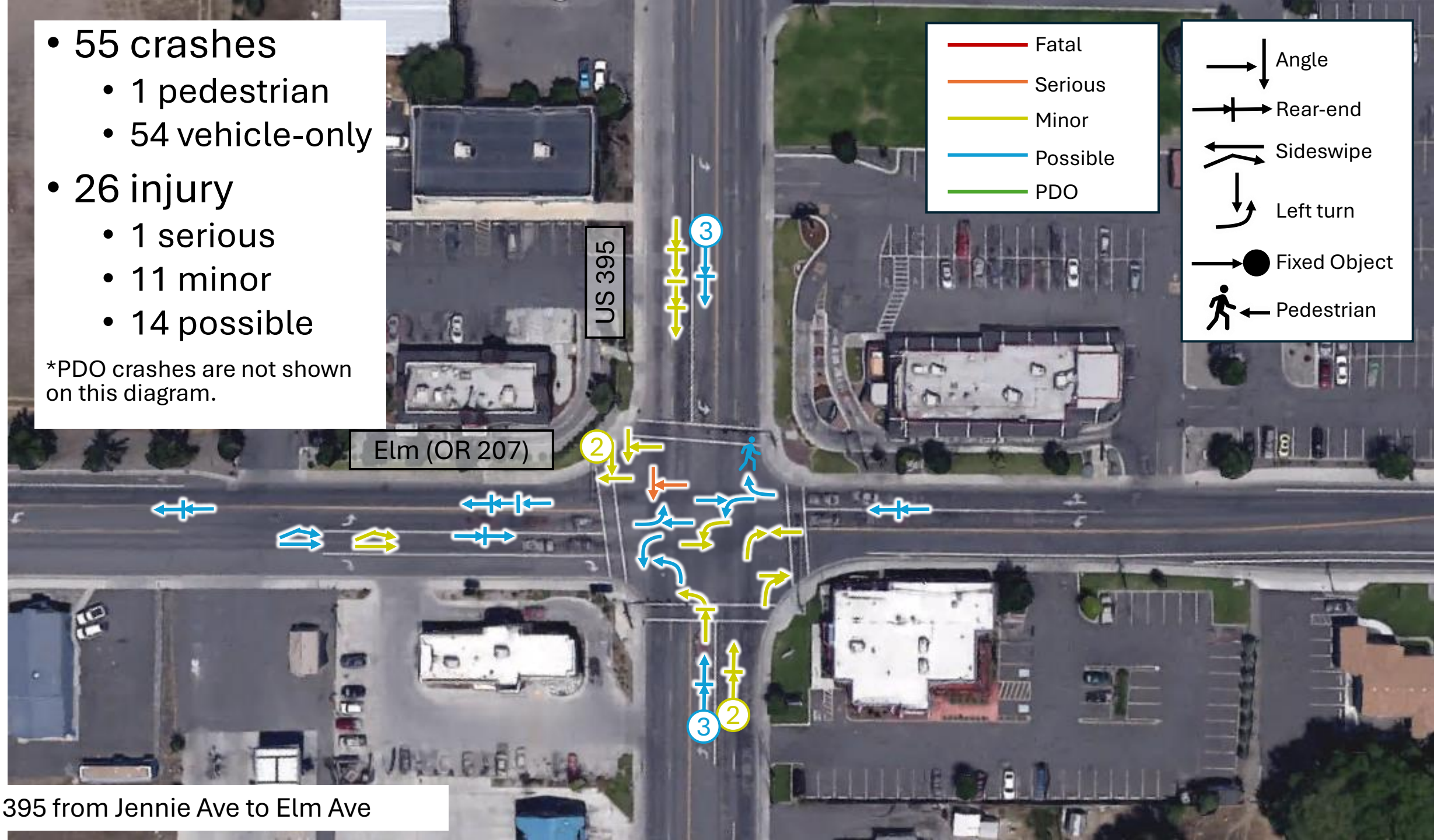

(5/6) 4 crashes
Fatal
Serious
Minor
Possible
PDO
Angle
Rear-end
Sideswipe
Left turn
Fixed Object
Pedestrian
3rd Street
4th Street
Orchard Avenue
Orchard Avenue from OR 207 to US 395


(6/6) 20 crashes
Fatal
Serious
Minor
Possible
PDO
Angle
Rear-end
Sideswipe
Left turn
Fixed Object
Pedestrian
Orchard Avenue
1st Place
US 395
2
3
Orchard Avenue from OR 207 to US 395

US 395: Jennie Ave to Elm Ave (OR 207)

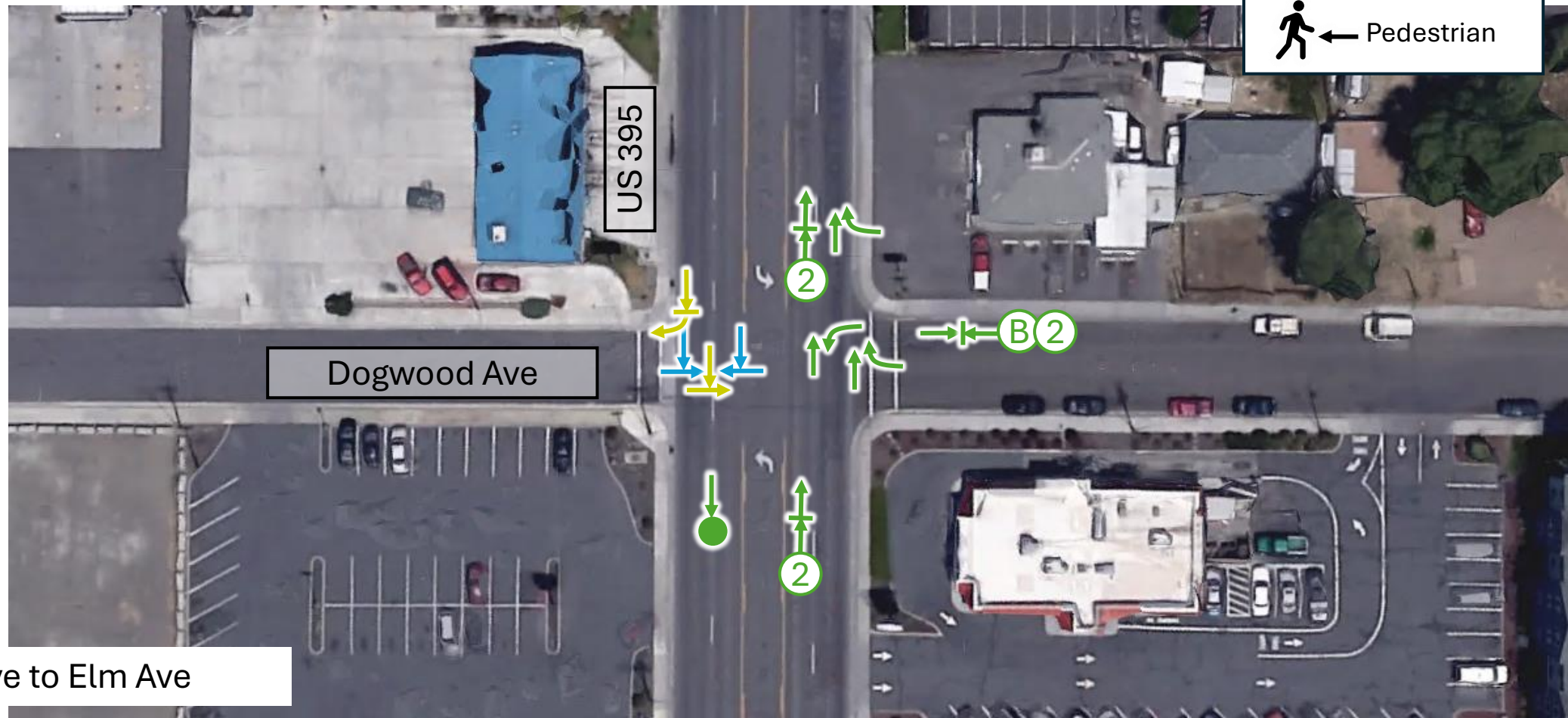
- 106 crashes
  - 102 vehicle-only
  - 4 pedestrian

- 47 injury
  - 1 serious
  - 19 minor
  - 27 possible



US 395 from Jennie Ave to Elm Ave

- 14 crashes
  - All vehicle-only
- 4 injury
  - 2 minor
  - 2 possible



US 395 from Jennie Ave to Elm Ave

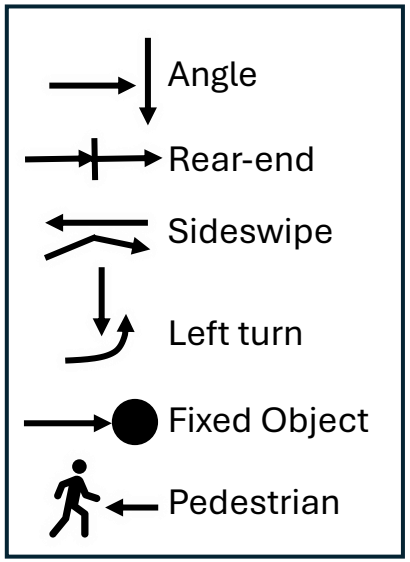
- 10 crashes
  - 1 pedestrian
  - 9 vehicle-only
- 5 injury
  - 2 minor
  - 3 possible

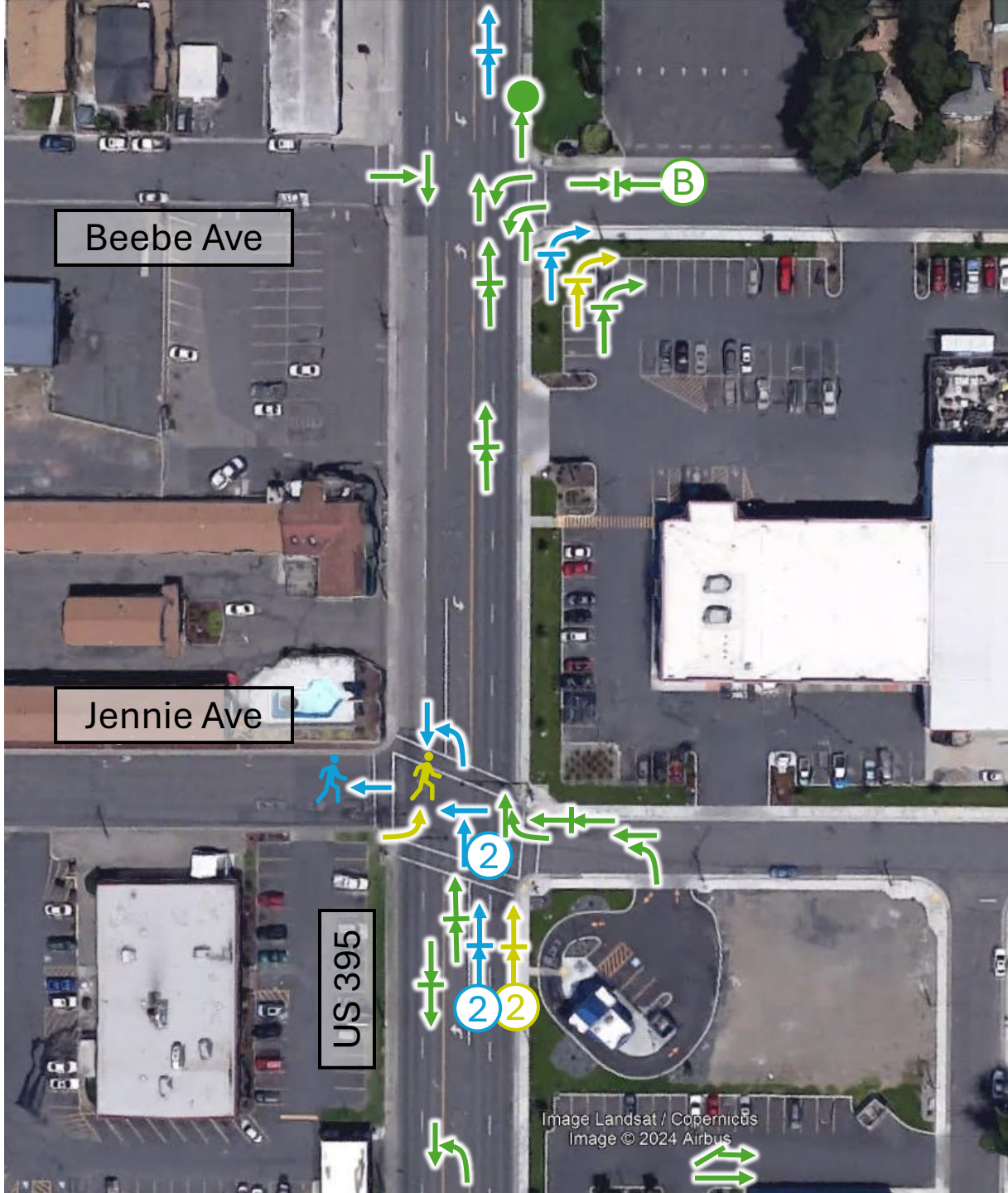
Angle
Rear-end
Sideswipe
Left turn
Fixed Object
Pedestrian

Fatal
Serious
Minor
Possible
PDO

US 395 from Jennie Ave to Elm Ave

- 27 crashes
  - 2 pedestrian
  - 25 vehicle-only
- 12 injury
  - 4 minor
  - 8 possible

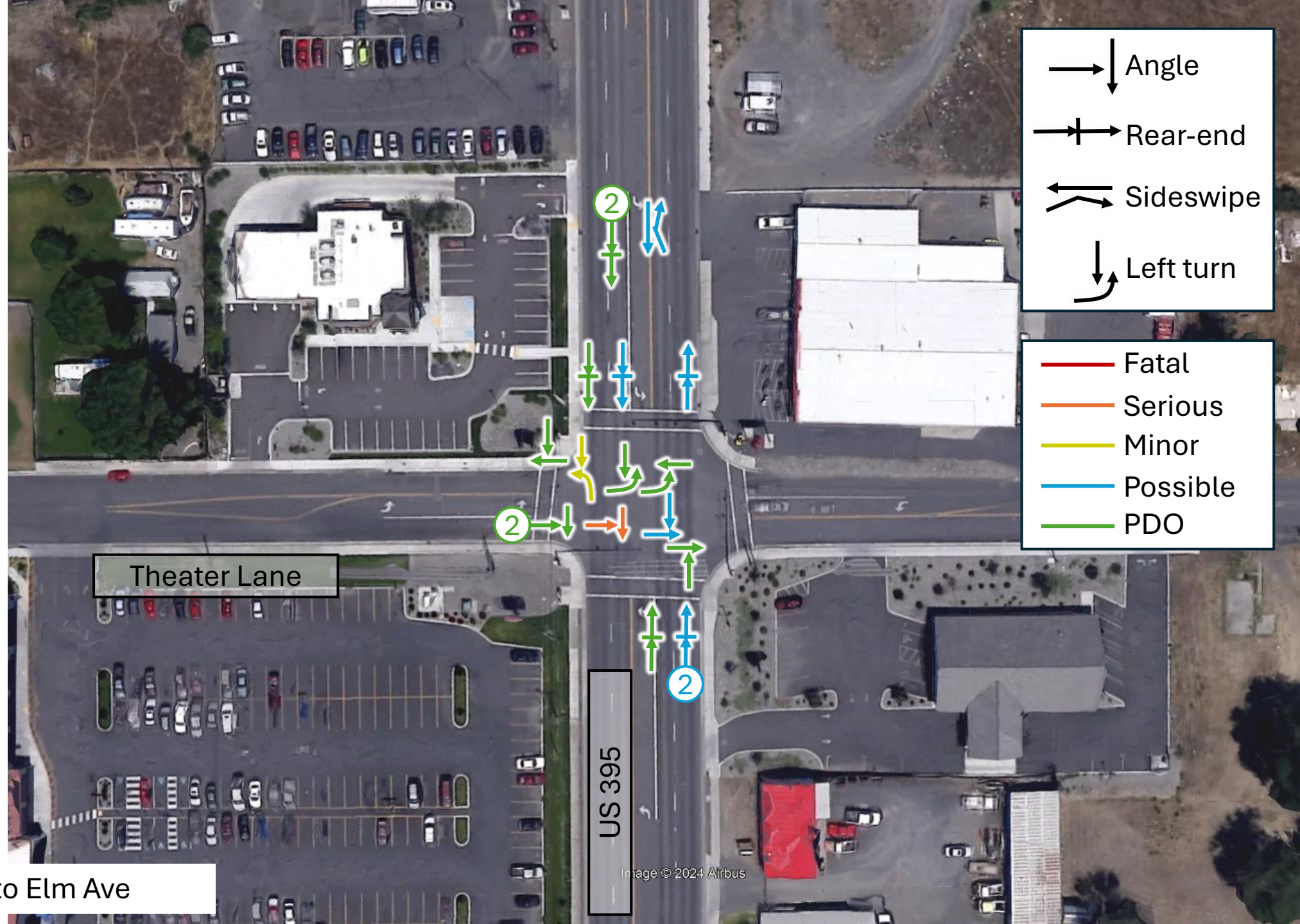




US 395 from Jennie Ave to Elm Ave

US 395 & Theater Ln

- 18 crashes
  - All vehicle-only
- 8 injury
  - 1 serious
  - 1 minor
  - 6 possible



US 395 from Jennie Ave to Elm Ave

US 395 & Hermiston Ave

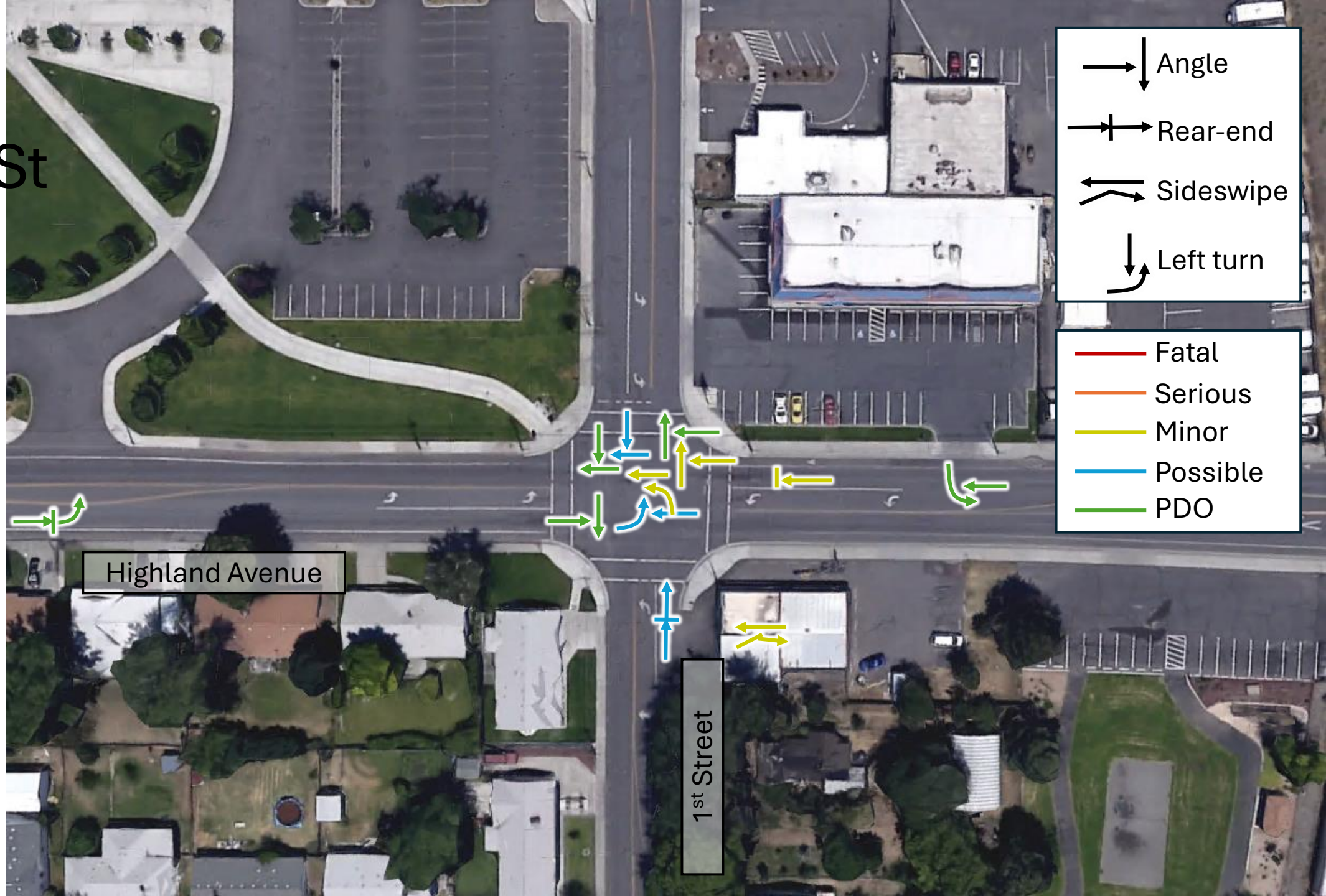
Lots of red-light-runners.

- 30 crashes
  - 1 bicyclist
  - 29 vehicle-only
- **11 injury**
  - **2 serious**
  - **3 minor**
  - **6 possible**

Highland Ave & 1st St

Pedestrian concerns.

- 11 crashes
  - All vehicle-only
- 6 injury
  - 3 minor
  - 3 possible



Elm Ave & 10th St

- 17 crashes
  - All vehicle-only
- 9 injury
  - 5 minor
  - 4 possible

10 crashes involved vehicles travelling north/south conflicting with vehicles travelling east/west.

1 crash was between a NB right turning vehicle and an EB vehicle.

1 crash was between a WB left vehicle and an EB through vehicle.

3 crashes were rear ends for northbound vehicles on the south leg.

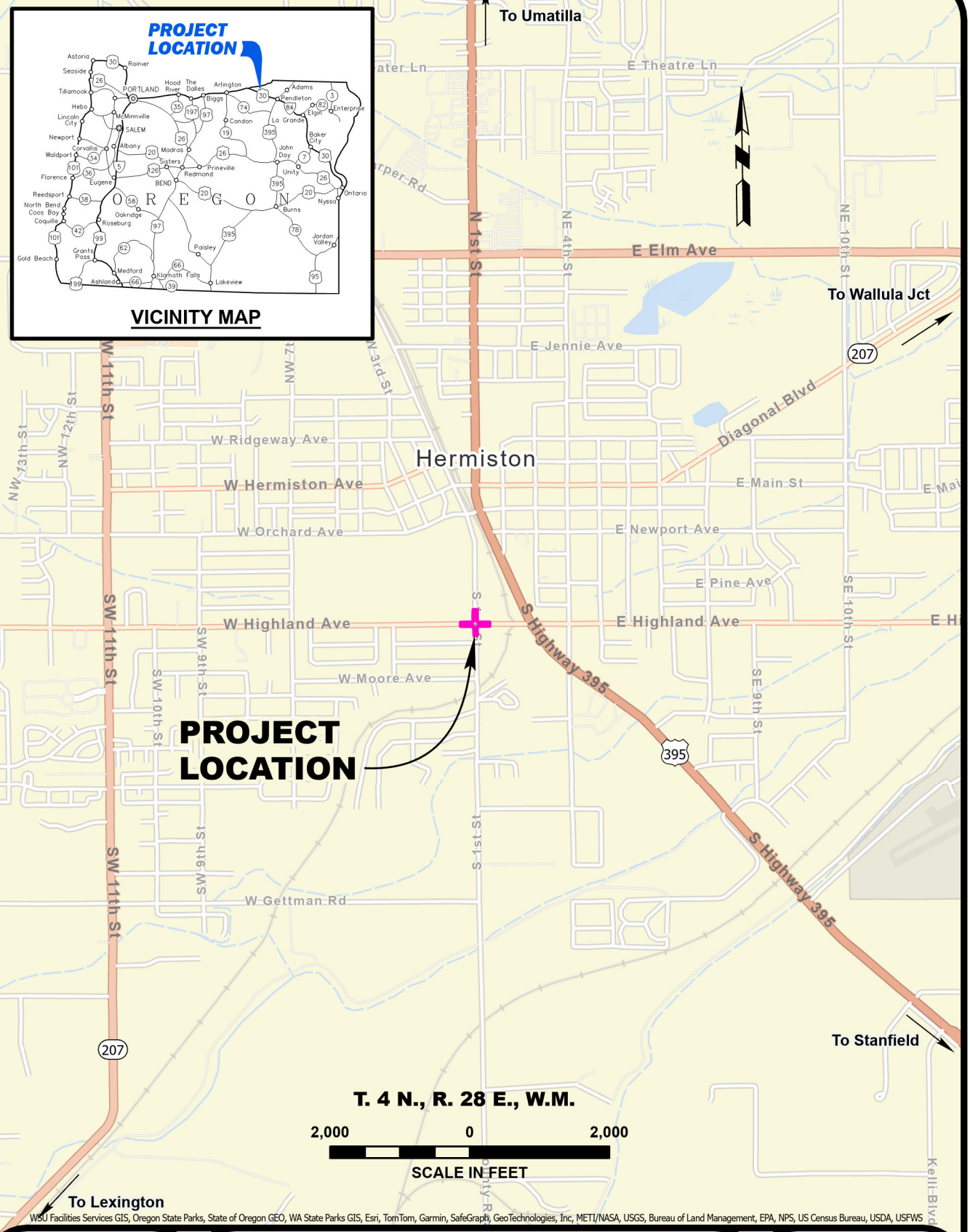
1crash was with a fixed object going southbound.

1 crash was a miscellaneous crash where a vehicle set an object in motion and it hit the other vehicle, both travelling on Elm Ave.

1 crash on August 28, 2024.

One resulted in a person going to the hospital.

Appendix B: Concept Designs for Select Locations



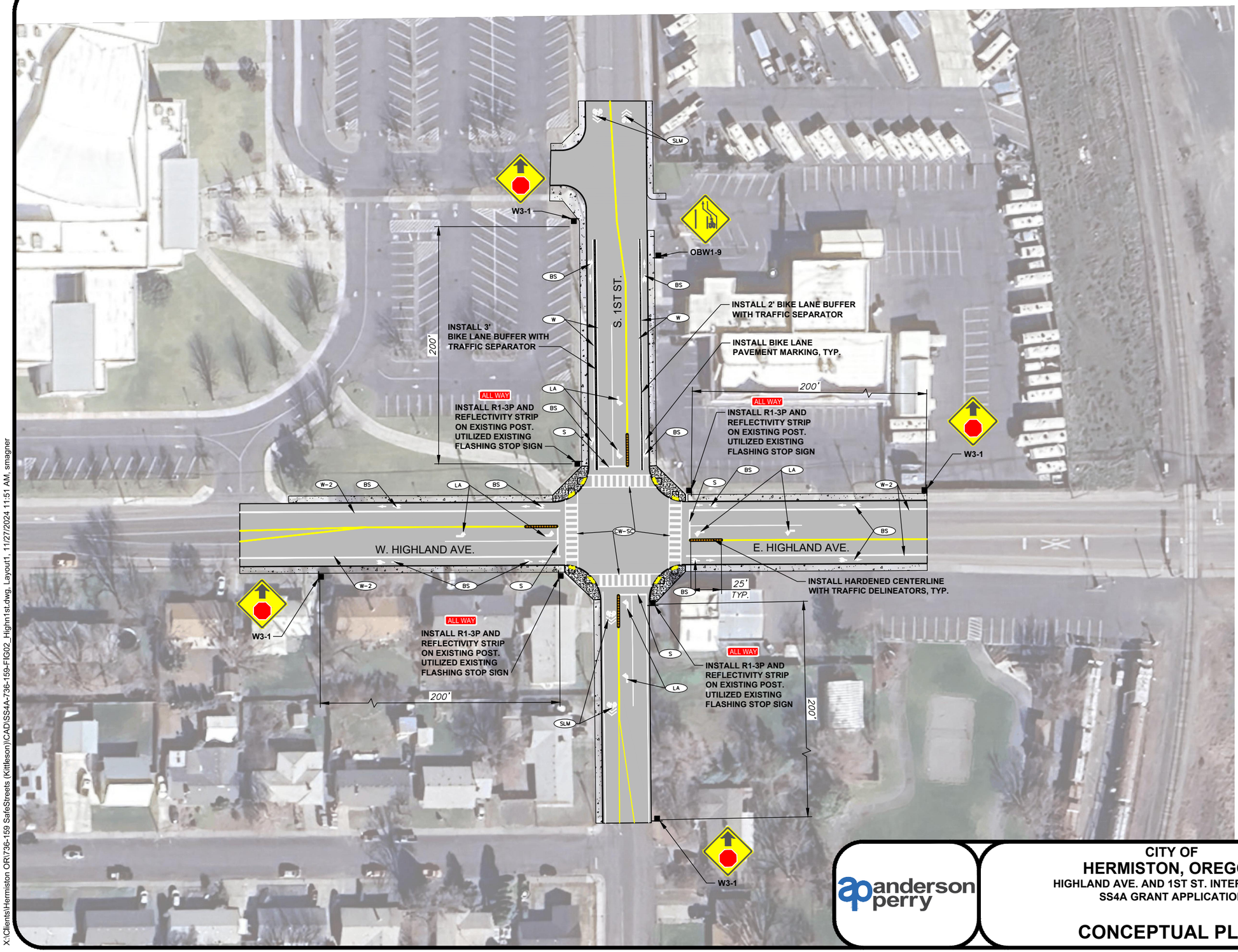
X:\Clients\Hermiston OR\736-159 SafeStreets (Kittleson)\GIS\736-159_SS4A.aprx, SS4A-736-159-FIG01_Highlandn1stLocVic, 8/29/2024 9:41 AM, dchristman

anderson perry

CITY OF
HERMISTON, OREGON
HIGHLAND AVE. AND 1ST ST. INTERSECTION
SS4A GRANT APPLICATION

LOCATION AND VICINITY MAPS

FIGURE
1



40 0 40 80 120
SCALE IN FEET

LEGEND

- EXISTING SIDEWALK
- REPLACE EXISTING SIDEWALK
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- RAISED INTERSECTION
- ADA RAMP

STRIPING LEGEND

- W-2 — 1' WHITE LINE
- W — 4" WHITE LINE
- CW-SC — STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
- S — STOP BAR 1' WHITE BAR
- BS — BIKE LANE STANDARD STENCIL
- SLM — SHARED LANE MARKING
- LA — LEFT TURN ARROW (WHITE)

NOTE

ONLY PAVEMENT AND STRIPING MARKINGS CALLED OUT ON THE PLANS TO BE PART OF THE UPDATES. ALL OTHER PAVEMENT STRIPING AND MARKINGS ARE ASSUMED TO BE EXISTING AND ARE NOT A PART OF THE UPGRADES OR INCLUDED IN COST ESTIMATES.

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CITY OF
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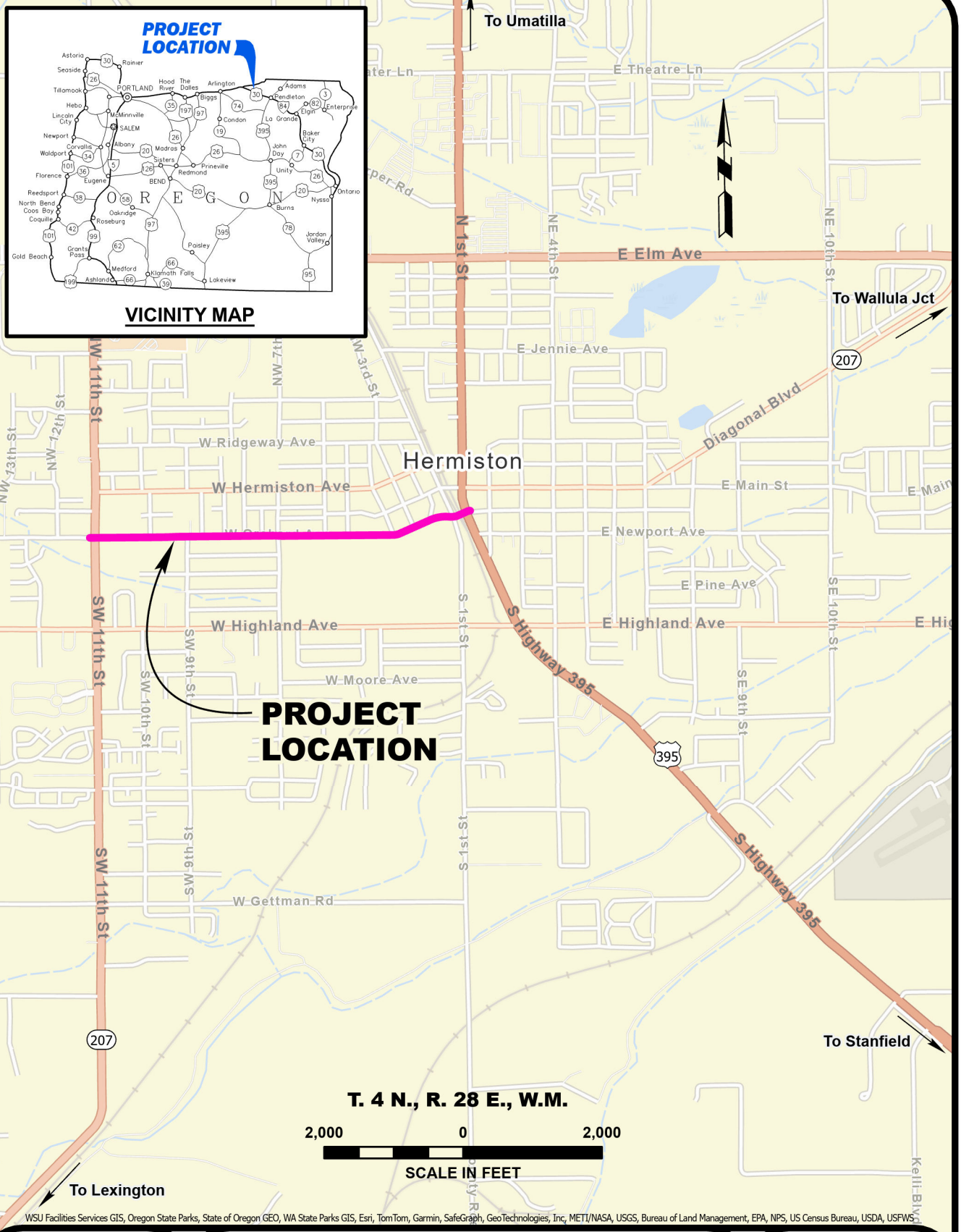
HIGHLAND AVE. AND 1ST ST. INTERSECTION
SS4A GRANT APPLICATION

CONCEPTUAL PLAN

FIGURE 2

X:\Clients\Hermiston OR\736-159 SafeStreets (Kittleson)\CAD\SS4A-736-159-FIG02_Highn1st.dwg, Layout1, 11/27/2024 11:51 AM, smagner



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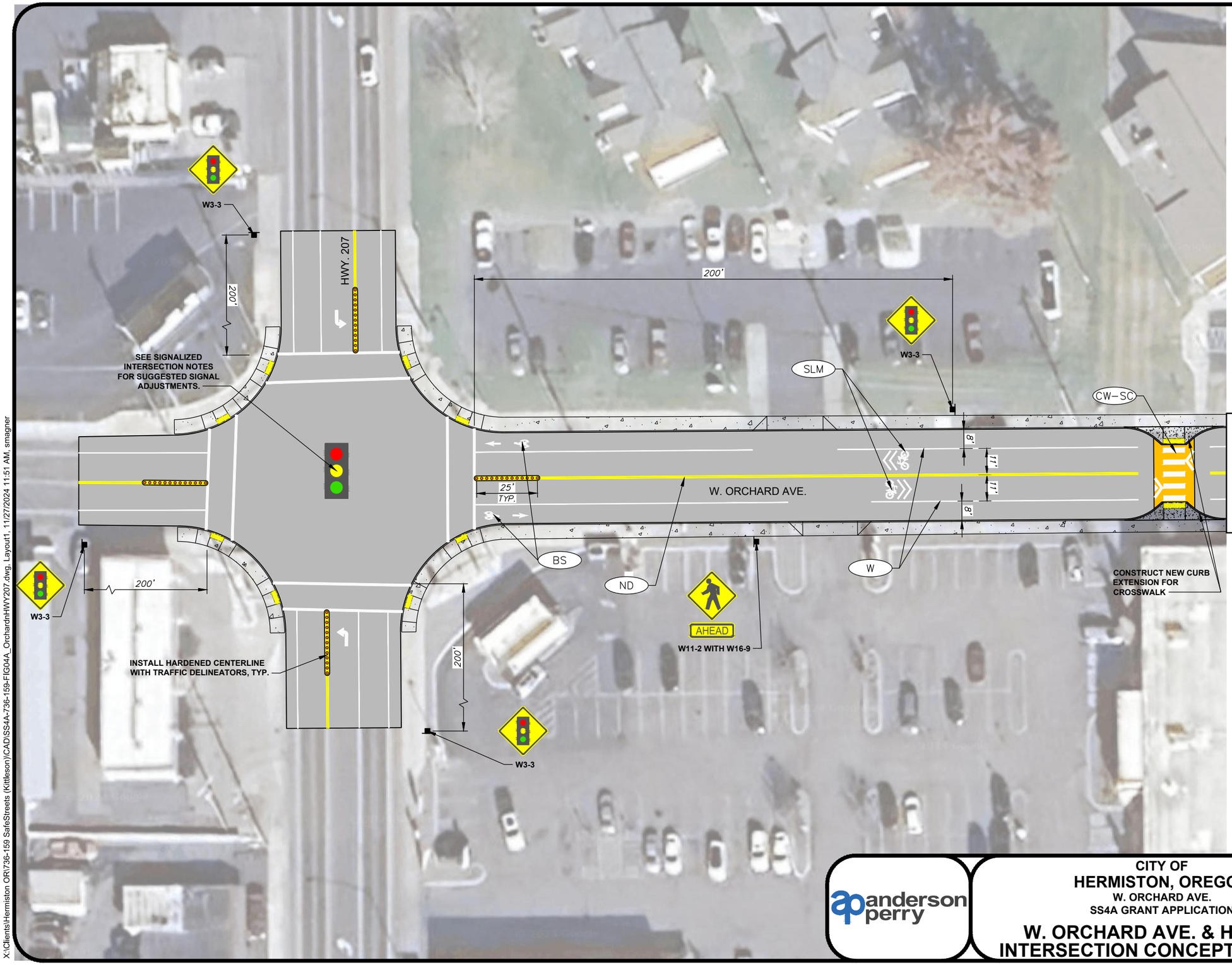
anderson perry

CITY OF
HERMISTON, OREGON
W. ORCHARD AVE.
SS4A GRANT APPLICATION

LOCATION AND VICINITY MAPS

FIGURE
3



20 0 20 40 60
SCALE IN FEET

LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- LANDSCAPE STRIP
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HIGH VISIBILITY CONTINENTAL CROSSWALK
- SIGNALIZED INTERSECTION
- RAISED CROSSWALK/INTERSECTION
- ADA RAMP

STRIPING LEGEND

ND	NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
W	4" WHITE LINE
CW-SC	STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
CW	STANDARD CROSSWALK TWO 1' WHITE BARS
S	STOP BAR 1' WHITE BAR
S-2	STOP BAR-LARGE 2' WHITE BAR
BS	BIKE LANE STANDARD STENCIL
YD	4" YELLOW DOTTED LINE
SLM	SHARED LANE MARKING
GRN	GREEN SUPPLEMENTAL BICYCLE LANE (SOLID LINE (green)
BLE-G	GREEN SUPPLEMENTAL BICYCLE LANE DOTTED LINE EXTENSION (green)

NOTES

1. ONLY PAVEMENT AND STRIPING MARKINGS CALLED OUT ON THE PLANS TO BE PART OF THE UPDATES. ALL OTHER PAVEMENT STRIPING AND MARKINGS ARE ASSUMED TO BE EXISTING AND ARE NOT A PART OF THE UPGRADES OR INCLUDED IN COST ESTIMATES.
2. OPERATE LEFT TURNS AS PROTECTED ONLY DURING AM AND PM PEAK PERIODS.

anderson perry

CITY OF
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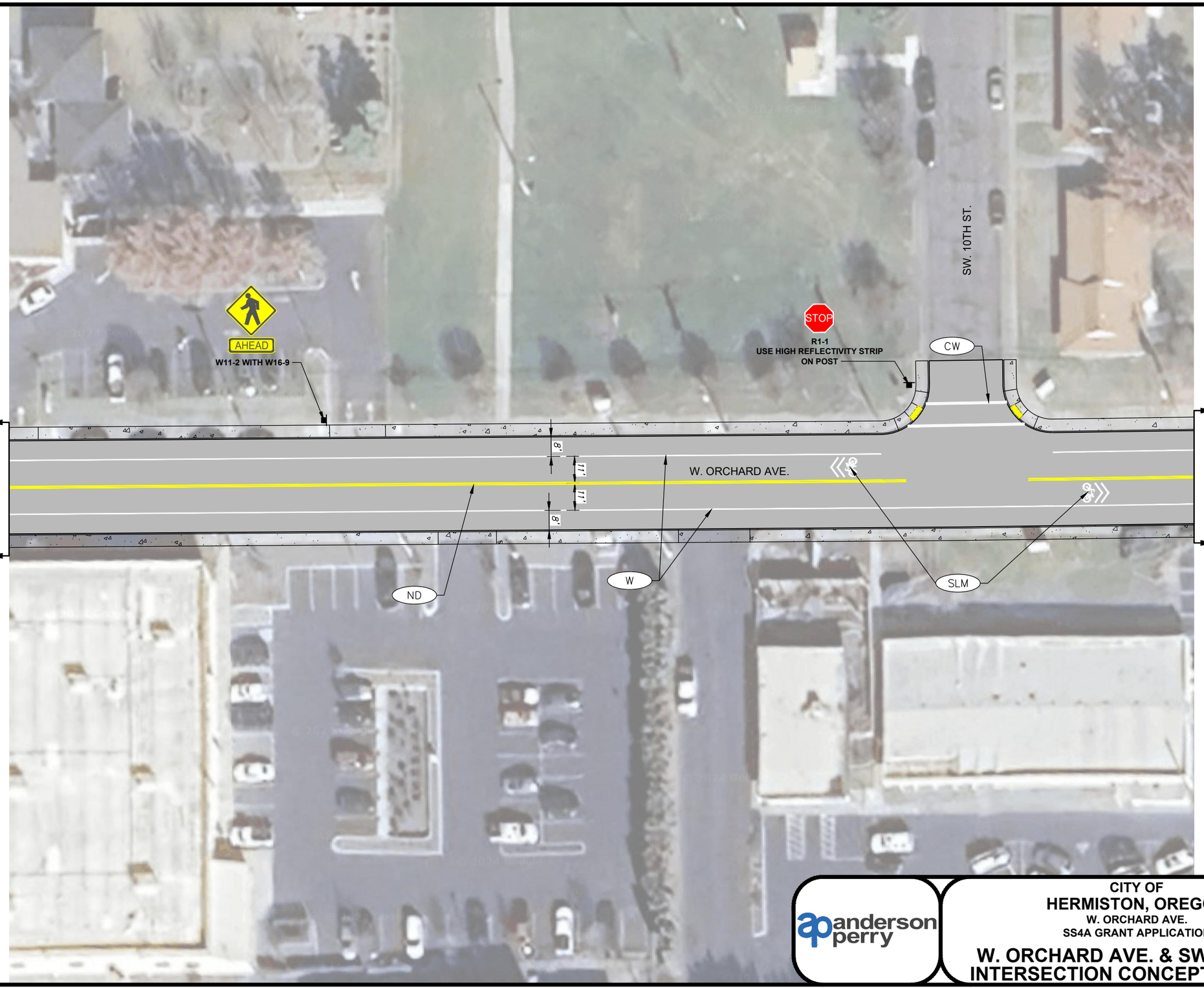
W. ORCHARD AVE.
SS4A GRANT APPLICATION

W. ORCHARD AVE. & HWY. 207 INTERSECTION CONCEPTUAL PLAN

FIGURE
4A

X:\Clients\Hermiston OR\736-159 SafeStreets (Kittleson)\CAD\SS4A-736-159-FIG04A_OrchardnHWY207.dwg, Layout1, 11/27/2024 11:51 AM, smagner



20 0 20 40 60
SCALE IN FEET

LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- LANDSCAPE STRIP
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HIGH VISIBILITY CONTINENTAL CROSSWALK
- SIGNALIZED INTERSECTION
- RAISED CROSSWALK/INTERSECTION
- ADA RAMP

STRIPING LEGEND

- ND — NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
- W — 4" WHITE LINE
- CW–SC — STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
- CW — STANDARD CROSSWALK TWO 1' WHITE BARS
- S — STOP BAR 1' WHITE BAR
- S–2 — STOP BAR-LARGE 2' WHITE BAR
- BS — BIKE LANE STANDARD STENCIL
- YD — 4" YELLOW DOTTED LINE
- SLM — SHARED LANE MARKING
- GRN — GREEN SUPPLEMENTAL BICYCLE LANE (SOLID LINE (green)
- BLE–G — GREEN SUPPLEMENTAL BICYCLE LANE DOTTED LINE EXTENSION (green)

NOTE

ONLY PAVEMENT AND STRIPING MARKINGS CALLED OUT ON THE PLANS TO BE PART OF THE UPDATES. ALL OTHER PAVEMENT STRIPING AND MARKINGS ARE ASSUMED TO BE EXISTING AND ARE NOT A PART OF THE UPGRADES OR INCLUDED IN COST ESTIMATES.

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CITY OF
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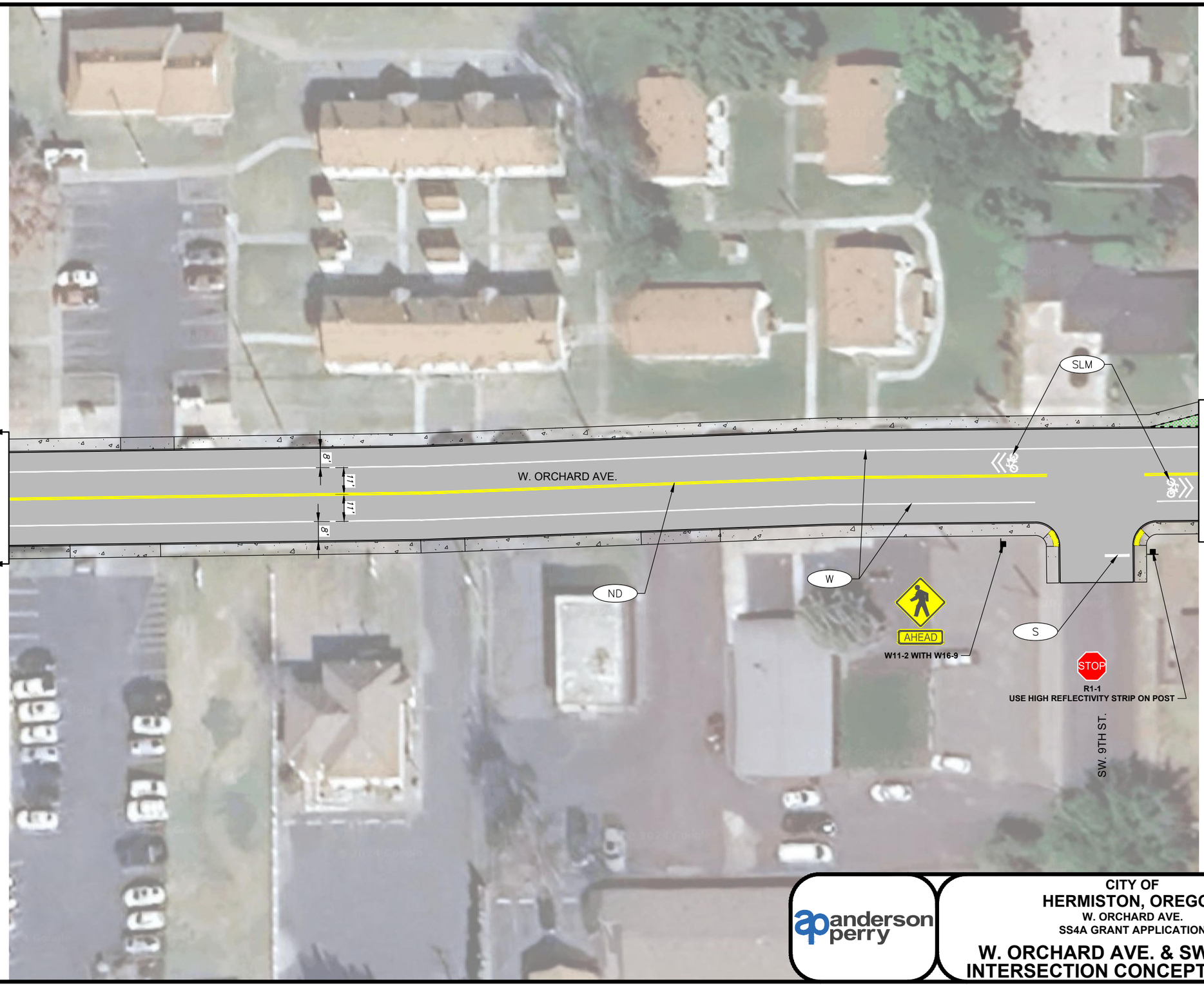
SS4A GRANT APPLICATION

W. ORCHARD AVE. & SW. 10TH ST. INTERSECTION CONCEPTUAL PLAN

FIGURE
4B

X:\Clients\Hermiston OR\736-159 SafeStreets (Kittleson)\CAD\SS4A-736-159-FIG04B_Orchardn10th.dwg, Layout1, 11/27/2024 11:51 AM, smagner



20 0 20 40 60
SCALE IN FEET

LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- LANDSCAPE STRIP
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HIGH VISIBILITY CONTINENTAL CROSSWALK
- SIGNALIZED INTERSECTION
- RAISED CROSSWALK/INTERSECTION
- ADA RAMP

STRIPING LEGEND

ND	NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
W	4" WHITE LINE
CW–SC	STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
CW	STANDARD CROSSWALK TWO 1' WHITE BARS
S	STOP BAR 1' WHITE BAR
S–2	STOP BAR-LARGE 2' WHITE BAR
BS	BIKE LANE STANDARD STENCIL
YD	4" YELLOW DOTTED LINE
SLM	SHARED LANE MARKING
GRN	GREEN SUPPLEMENTAL BICYCLE LANE (SOLID LINE (green)
BLE–G	GREEN SUPPLEMENTAL BICYCLE LANE DOTTED LINE EXTENSION (green)

NOTE

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CITY OF
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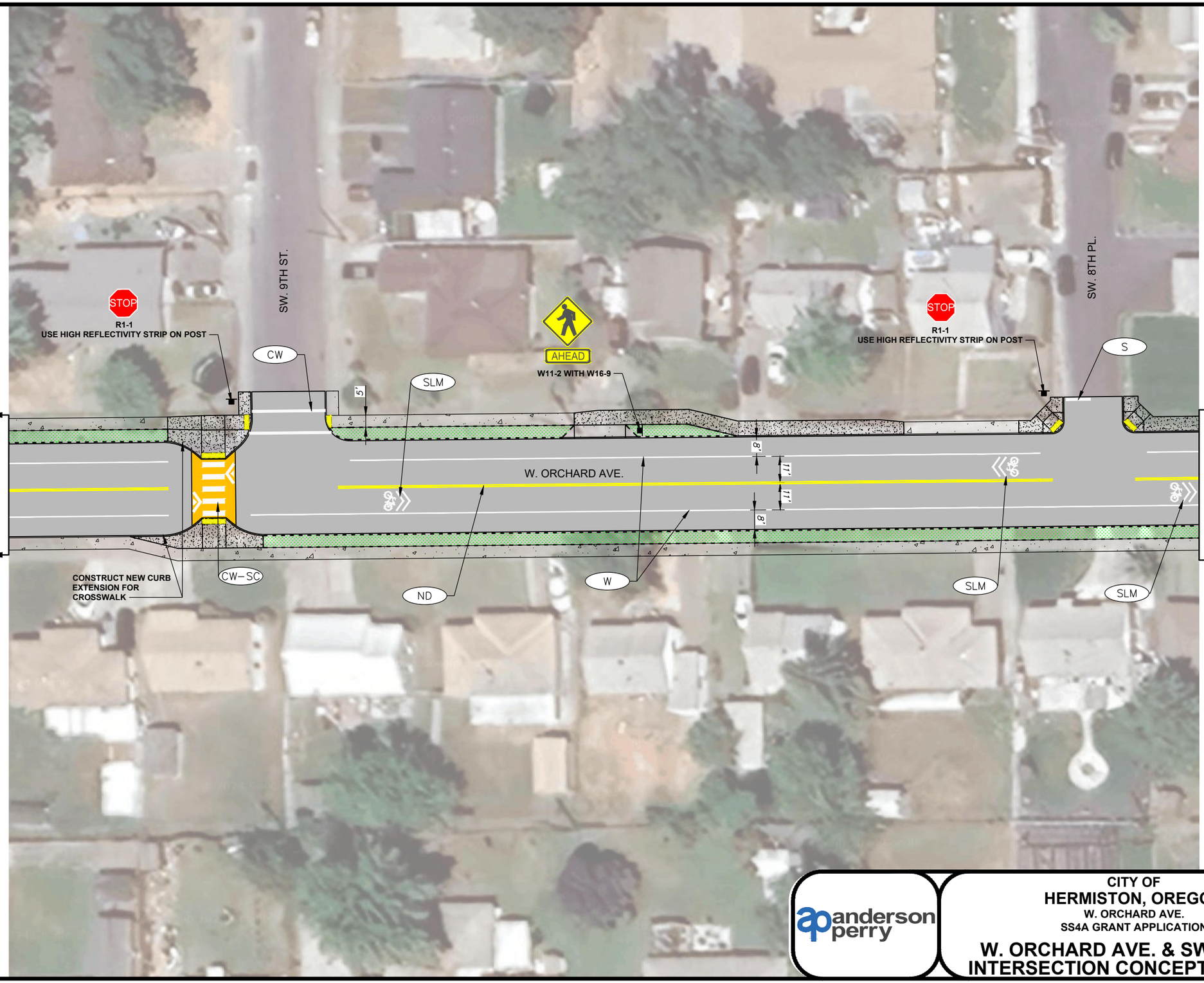
W. ORCHARD AVE.
SS4A GRANT APPLICATION

W. ORCHARD AVE. & SW. 9TH ST. INTERSECTION CONCEPTUAL PLAN

FIGURE
4C



20 0 20 40 60
SCALE IN FEET

LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- LANDSCAPE STRIP
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HIGH VISIBILITY CONTINENTAL CROSSWALK
- SIGNALIZED INTERSECTION
- RAISED CROSSWALK/INTERSECTION
- ADA RAMP

STRIPING LEGEND

- ND — NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
- W — 4" WHITE LINE
- CW–SC — STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
- CW — STANDARD CROSSWALK TWO 1' WHITE BARS
- S — STOP BAR 1' WHITE BAR
- S–2 — STOP BAR-LARGE 2' WHITE BAR
- BS — BIKE LANE STANDARD STENCIL
- YD — 4" YELLOW DOTTED LINE
- SLM — SHARED LANE MARKING
- GRN — GREEN SUPPLEMENTAL BICYCLE LANE (SOLID LINE (green)
- BLE–G — GREEN SUPPLEMENTAL BICYCLE LANE DOTTED LINE EXTENSION (green)

NOTE

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CITY OF
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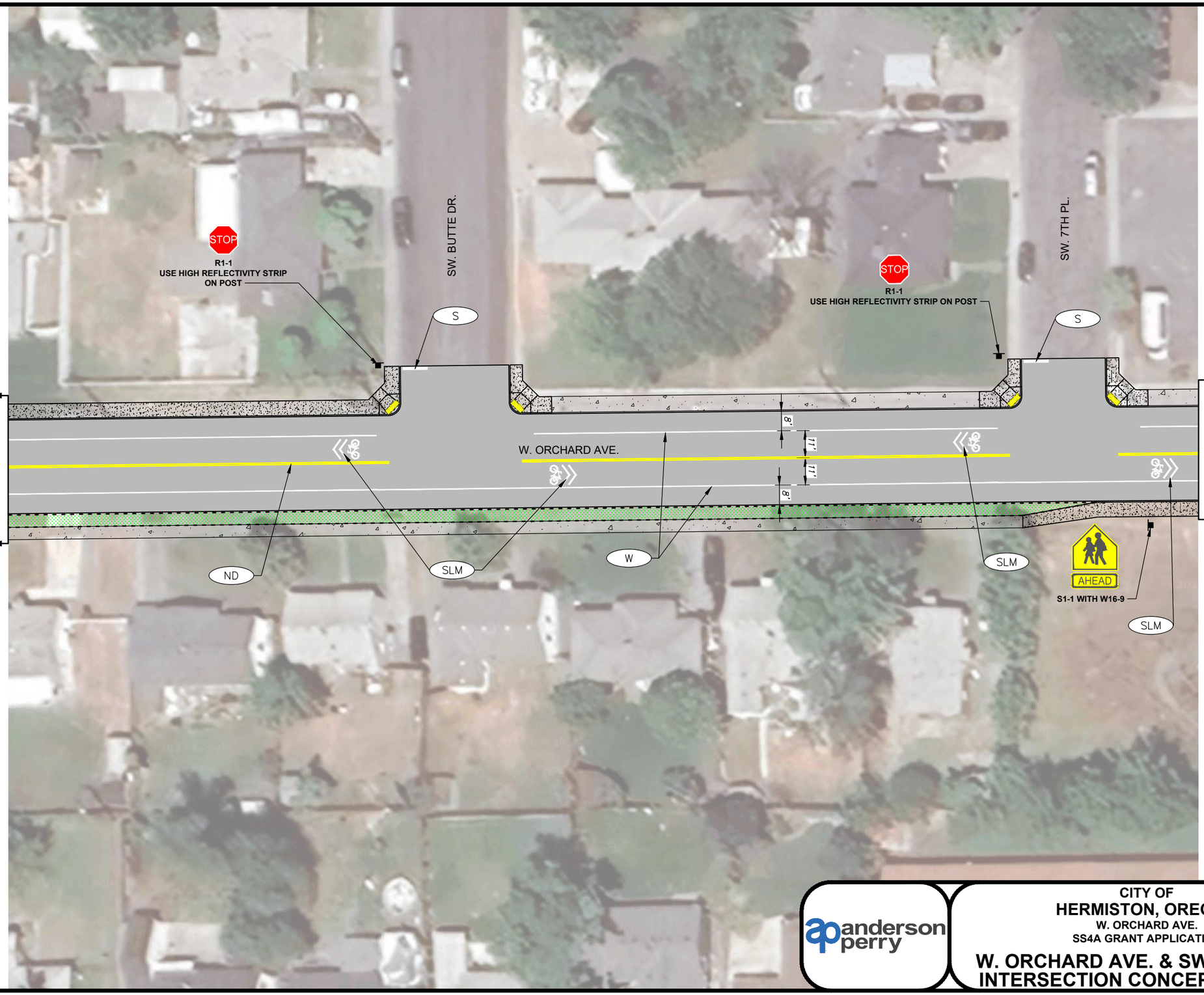
W. ORCHARD AVE. & SW. 8TH PL. INTERSECTION CONCEPTUAL PLAN

FIGURE
4D



20 0 20 40 60
SCALE IN FEET

LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- LANDSCAPE STRIP
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HIGH VISIBILITY CONTINENTAL CROSSWALK
- SIGNALIZED INTERSECTION
- RAISED CROSSWALK/INTERSECTION
- ADA RAMP

STRIPING LEGEND

- ND — NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
- W — 4" WHITE LINE
- CW–SC — STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
- CW — STANDARD CROSSWALK TWO 1' WHITE BARS
- S — STOP BAR 1' WHITE BAR
- S–2 — STOP BAR-LARGE 2' WHITE BAR
- BS — BIKE LANE STANDARD STENCIL
- YD — 4" YELLOW DOTTED LINE
- SLM — SHARED LANE MARKING
- GRN — GREEN SUPPLEMENTAL BICYCLE LANE (SOLID LINE (green)
- BLE–G — GREEN SUPPLEMENTAL BICYCLE LANE DOTTED LINE EXTENSION (green)

NOTE

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W. ORCHARD AVE.
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W. ORCHARD AVE. & SW. BUTTE DR. INTERSECTION CONCEPTUAL PLAN

FIGURE
4E

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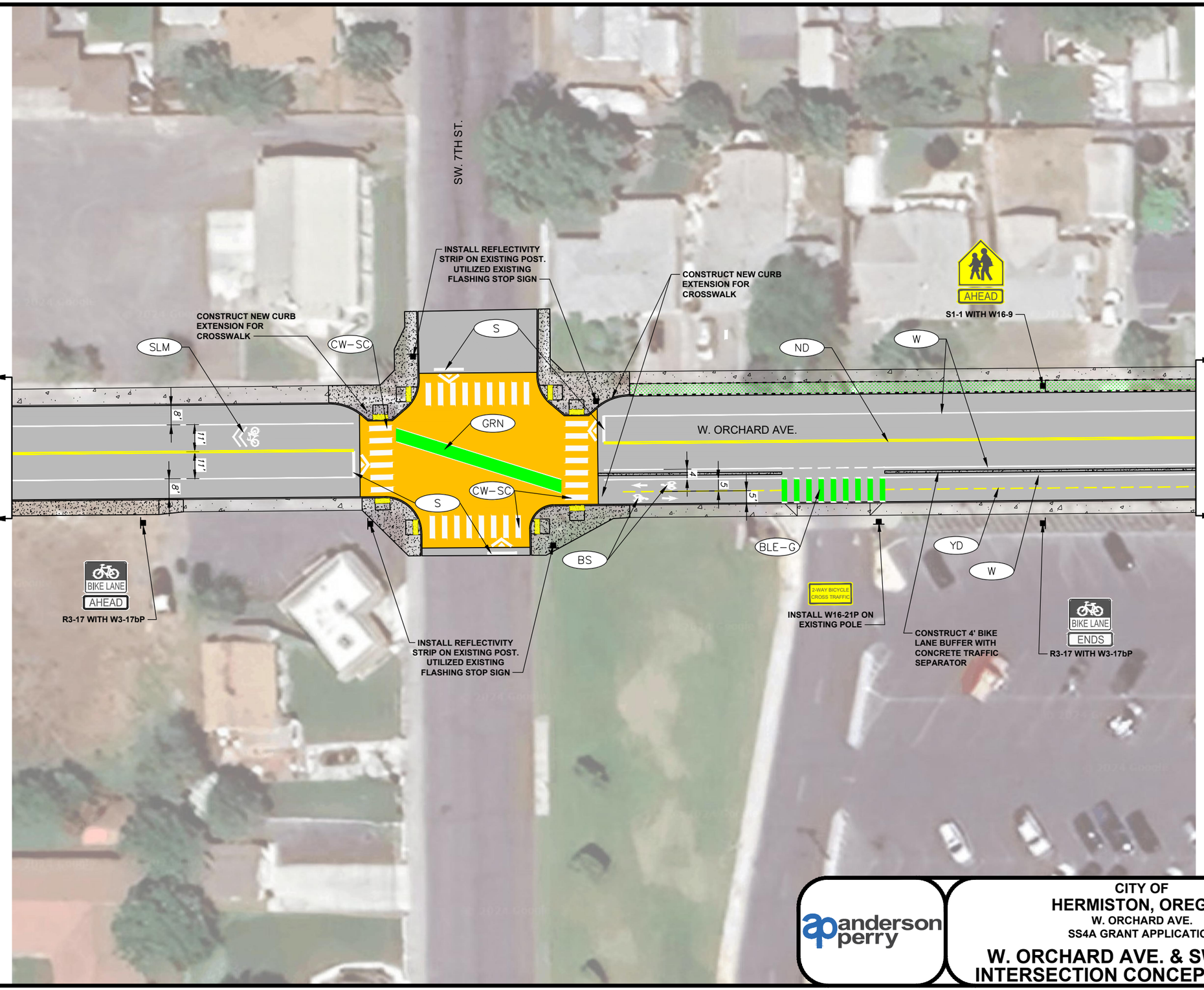

20 0 20 40 60
SCALE IN FEET

LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- LANDSCAPE STRIP
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HIGH VISIBILITY CONTINENTAL CROSSWALK
- SIGNALIZED INTERSECTION
- RAISED CROSSWALK/INTERSECTION
- ADA RAMP

STRIPING LEGEND

- ND — NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
- W — 4" WHITE LINE
- CW–SC — STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
- CW — STANDARD CROSSWALK TWO 1' WHITE BARS
- S — STOP BAR 1' WHITE BAR
- S–2 — STOP BAR-LARGE 2' WHITE BAR
- BS — BIKE LANE STANDARD STENCIL
- YD — 4" YELLOW DOTTED LINE
- SLM — SHARED LANE MARKING
- GRN — GREEN SUPPLEMENTAL BICYCLE LANE (SOLID LINE (green)
- BLE–G — GREEN SUPPLEMENTAL BICYCLE LANE DOTTED LINE EXTENSION (green)

NOTE

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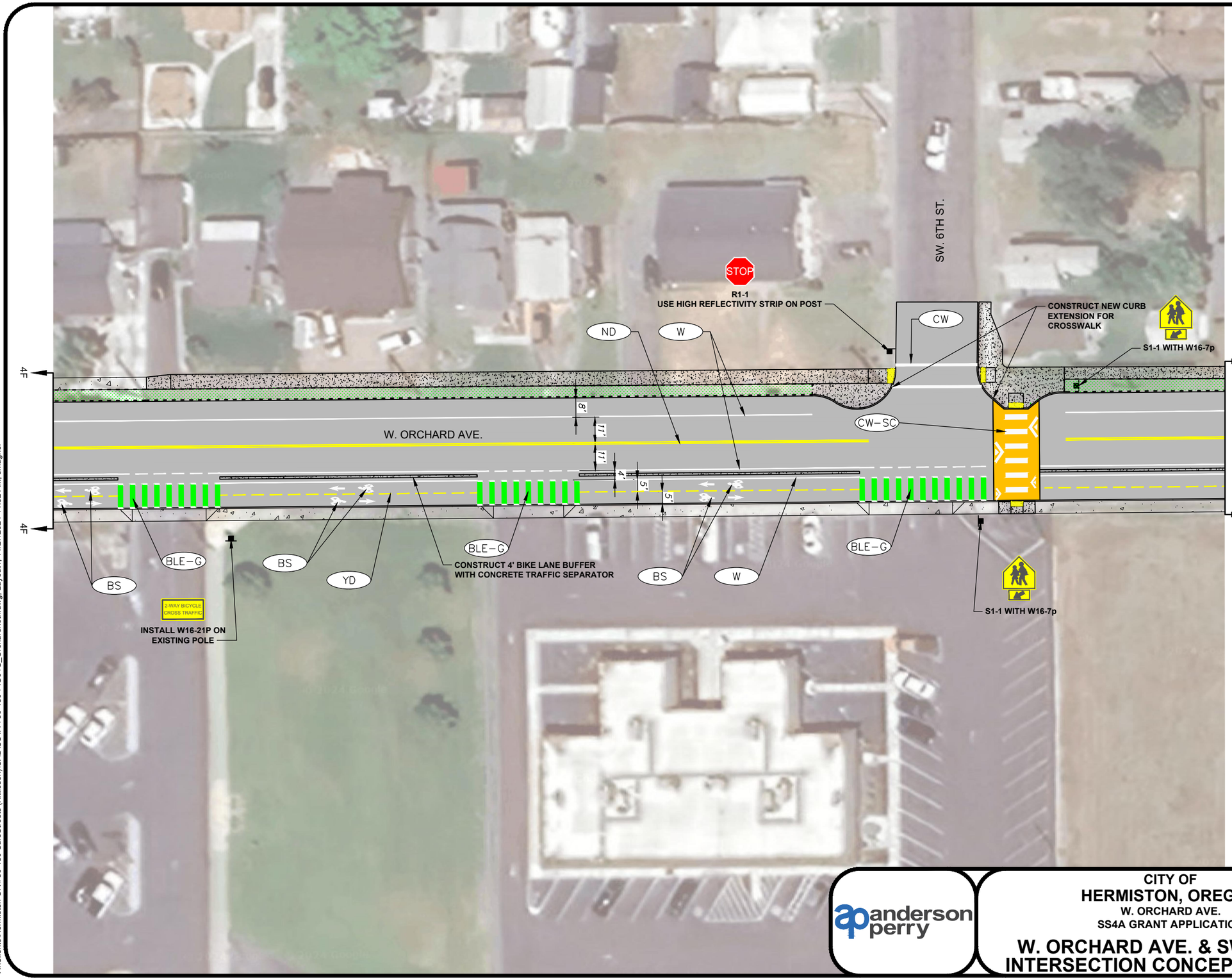
CITY OF
HERMISTON, OREGON
W. ORCHARD AVE.
SS4A GRANT APPLICATION

W. ORCHARD AVE. & SW. 7TH ST. INTERSECTION CONCEPTUAL PLAN

FIGURE
4F



20 0 20 40 60
SCALE IN FEET

LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- LANDSCAPE STRIP
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HIGH VISIBILITY CONTINENTAL CROSSWALK
- SIGNALIZED INTERSECTION
- RAISED CROSSWALK/INTERSECTION
- ADA RAMP

STRIPING LEGEND

- ND — NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
- W — 4" WHITE LINE
- CW–SC — STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
- CW — STANDARD CROSSWALK TWO 1' WHITE BARS
- S — STOP BAR 1' WHITE BAR
- S–2 — STOP BAR-LARGE 2' WHITE BAR
- BS — BIKE LANE STANDARD STENCIL
- YD — 4" YELLOW DOTTED LINE
- SLM — SHARED LANE MARKING
- GRN — GREEN SUPPLEMENTAL BICYCLE LANE (SOLID LINE (green)
- BLE–G — GREEN SUPPLEMENTAL BICYCLE LANE DOTTED LINE EXTENSION (green)

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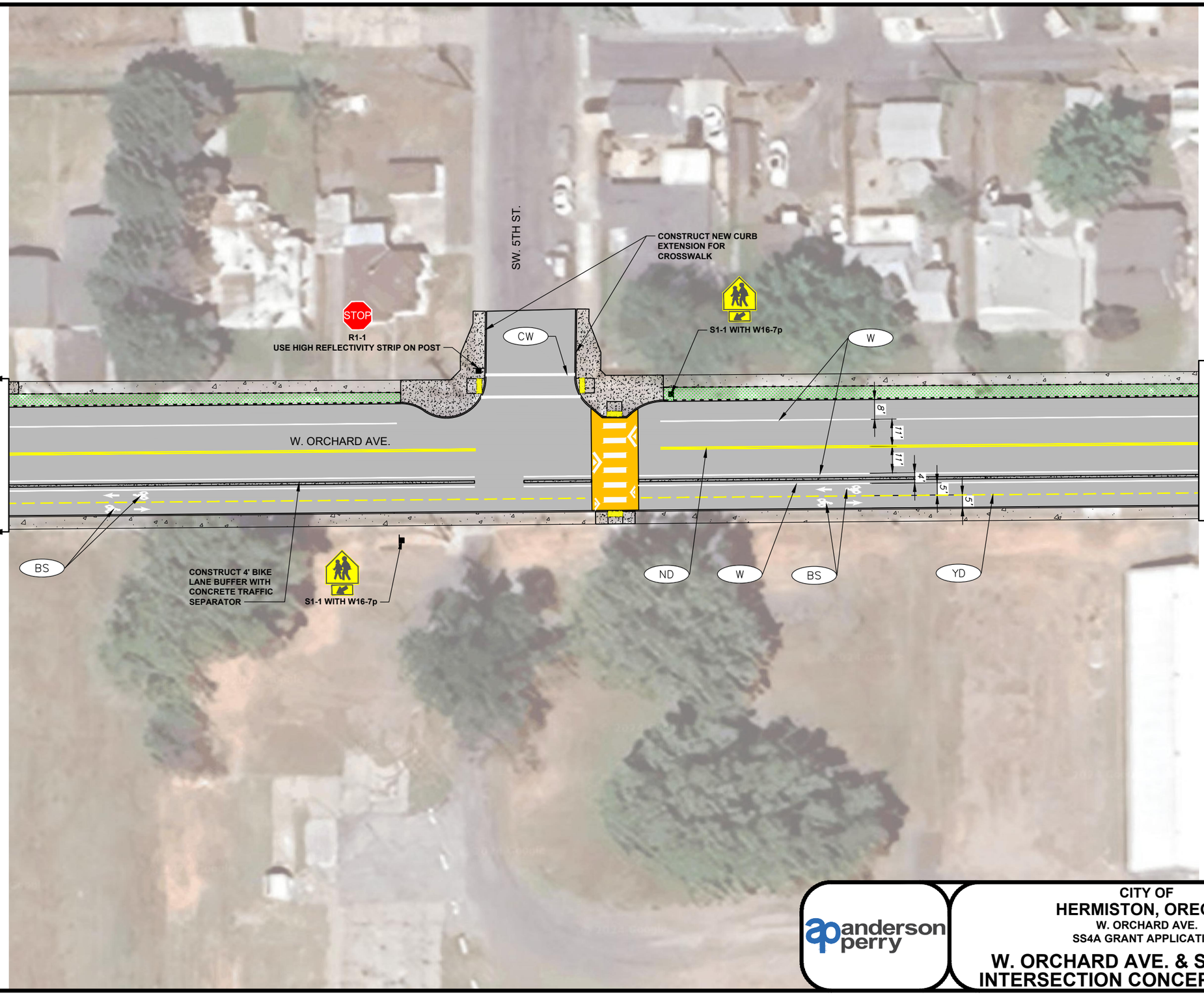
SS4A GRANT APPLICATION

W. ORCHARD AVE. & SW. 6TH ST. INTERSECTION CONCEPTUAL PLAN

FIGURE
4G

X:\Clients\Hermiston OR\736-159 SafeStreets (Kittleson)\CAD\SS4A-736-159-FIG04G_Orchardn6th.dwg, Layout1, 11/27/2024 11:52 AM, smagner



20 0 20 40 60
SCALE IN FEET

LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- LANDSCAPE STRIP
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HIGH VISIBILITY CONTINENTAL CROSSWALK
- SIGNALIZED INTERSECTION
- RAISED CROSSWALK/INTERSECTION
- ADA RAMP

STRIPING LEGEND

ND	NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
W	4" WHITE LINE
CW–SC	STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
CW	STANDARD CROSSWALK TWO 1' WHITE BARS
S	STOP BAR 1' WHITE BAR
S–2	STOP BAR-LARGE 2' WHITE BAR
BS	BIKE LANE STANDARD STENCIL
YD	4" YELLOW DOTTED LINE
SLM	SHARED LANE MARKING
GRN	GREEN SUPPLEMENTAL BICYCLE LANE (SOLID LINE (green)
BLE–G	GREEN SUPPLEMENTAL BICYCLE LANE DOTTED LINE EXTENSION (green)

NOTE

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anderson perry

CITY OF
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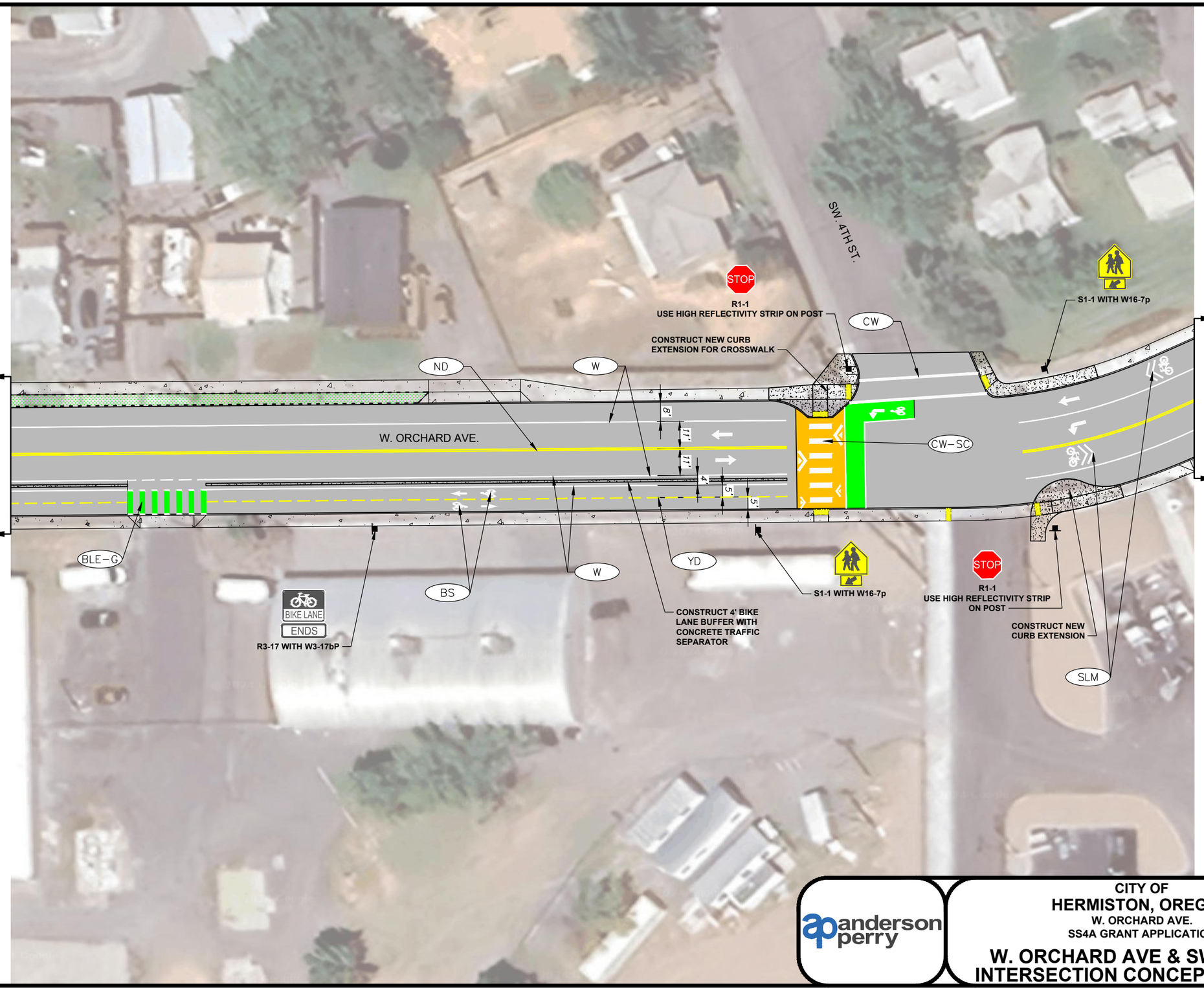
W. ORCHARD AVE.
SS4A GRANT APPLICATION

W. ORCHARD AVE. & SW. 5TH ST. INTERSECTION CONCEPTUAL PLAN

FIGURE
4H

X:\Clients\Hermiston OR\736-159 SafeStreets (Kittleson)\CAD\SS4A-736-159-FIG04H_Orchardn5th.dwg, Layout1, 11/27/2024 11:52 AM, snagner



LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- LANDSCAPE STRIP
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HIGH VISIBILITY CONTINENTAL CROSSWALK
- SIGNALIZED INTERSECTION
- RAISED CROSSWALK/INTERSECTION
- ADA RAMP

STRIPING LEGEND

- ND — NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
- W — 4" WHITE LINE
- CW–SC — STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
- CW — STANDARD CROSSWALK TWO 1' WHITE BARS
- S — STOP BAR 1' WHITE BAR
- S–2 — STOP BAR-LARGE 2' WHITE BAR
- BS — BIKE LANE STANDARD STENCIL
- YD — 4" YELLOW DOTTED LINE
- SLM — SHARED LANE MARKING
- GRN — GREEN SUPPLEMENTAL BICYCLE LANE (SOLID LINE (green)
- BLE–G — GREEN SUPPLEMENTAL BICYCLE LANE DOTTED LINE EXTENSION (green)

NOTE

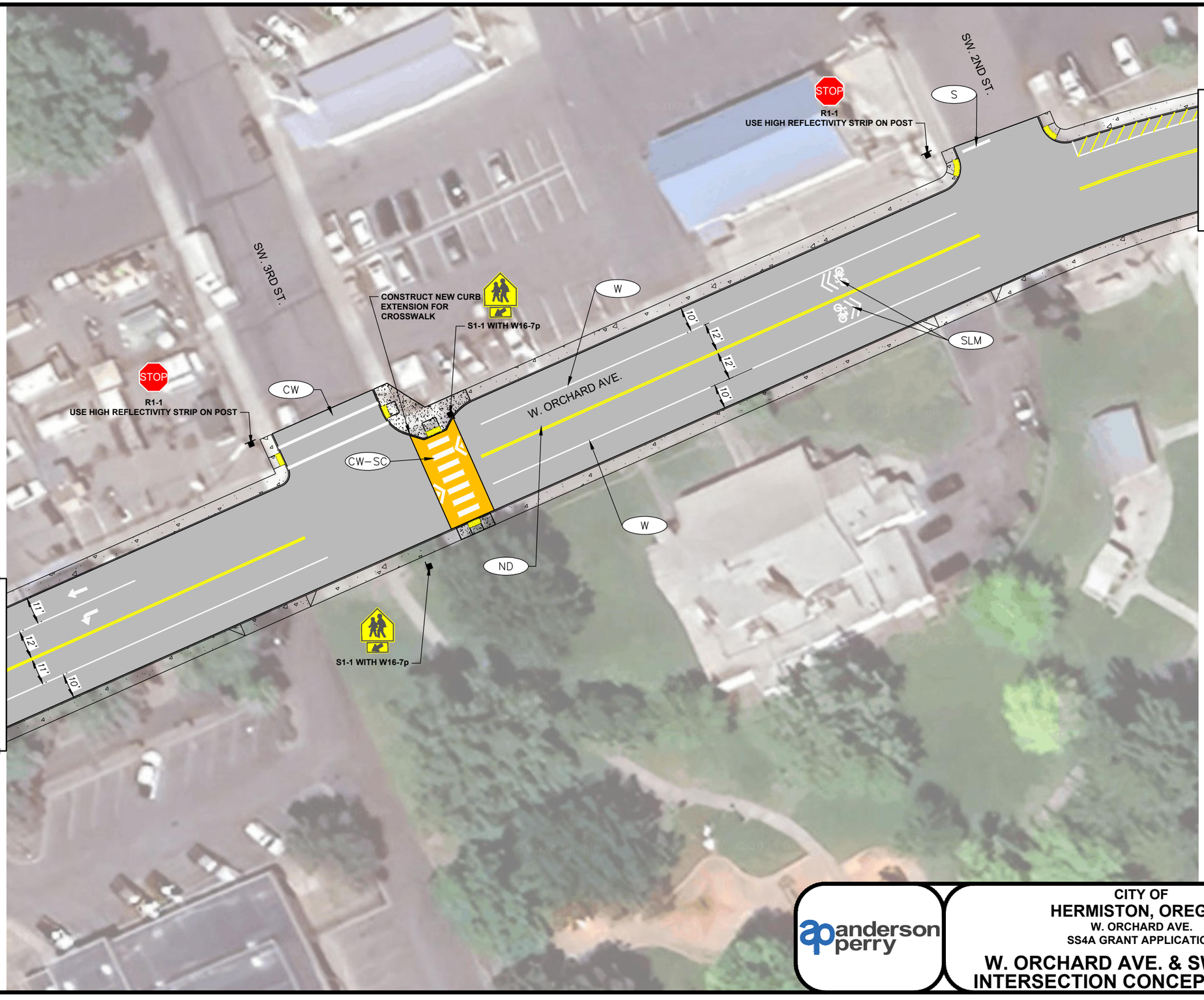
ONLY PAVEMENT AND STRIPING MARKINGS CALLED OUT ON THE PLANS TO BE PART OF THE UPDATES. ALL OTHER PAVEMENT STRIPING AND MARKINGS ARE ASSUMED TO BE EXISTING AND ARE NOT A PART OF THE UPGRADES OR INCLUDED IN COST ESTIMATES.

anderson perry

CITY OF
HERMISTON, OREGON
W. ORCHARD AVE.
SS4A GRANT APPLICATION

W. ORCHARD AVE & SW. 4TH ST. INTERSECTION CONCEPTUAL PLAN

FIGURE
4I



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SCALE IN FEET

LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- LANDSCAPE STRIP
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HIGH VISIBILITY CONTINENTAL CROSSWALK
- SIGNALIZED INTERSECTION
- RAISED CROSSWALK/INTERSECTION
- ADA RAMP

STRIPING LEGEND

ND	NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
W	4" WHITE LINE
CW–SC	STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
CW	STANDARD CROSSWALK TWO 1' WHITE BARS
S	STOP BAR 1' WHITE BAR
S–2	STOP BAR-LARGE 2' WHITE BAR
BS	BIKE LANE STANDARD STENCIL
YD	4" YELLOW DOTTED LINE
SLM	SHARED LANE MARKING
GRN	GREEN SUPPLEMENTAL BICYCLE LANE (SOLID LINE (green)
BLE–G	GREEN SUPPLEMENTAL BICYCLE LANE DOTTED LINE EXTENSION (green)

NOTE

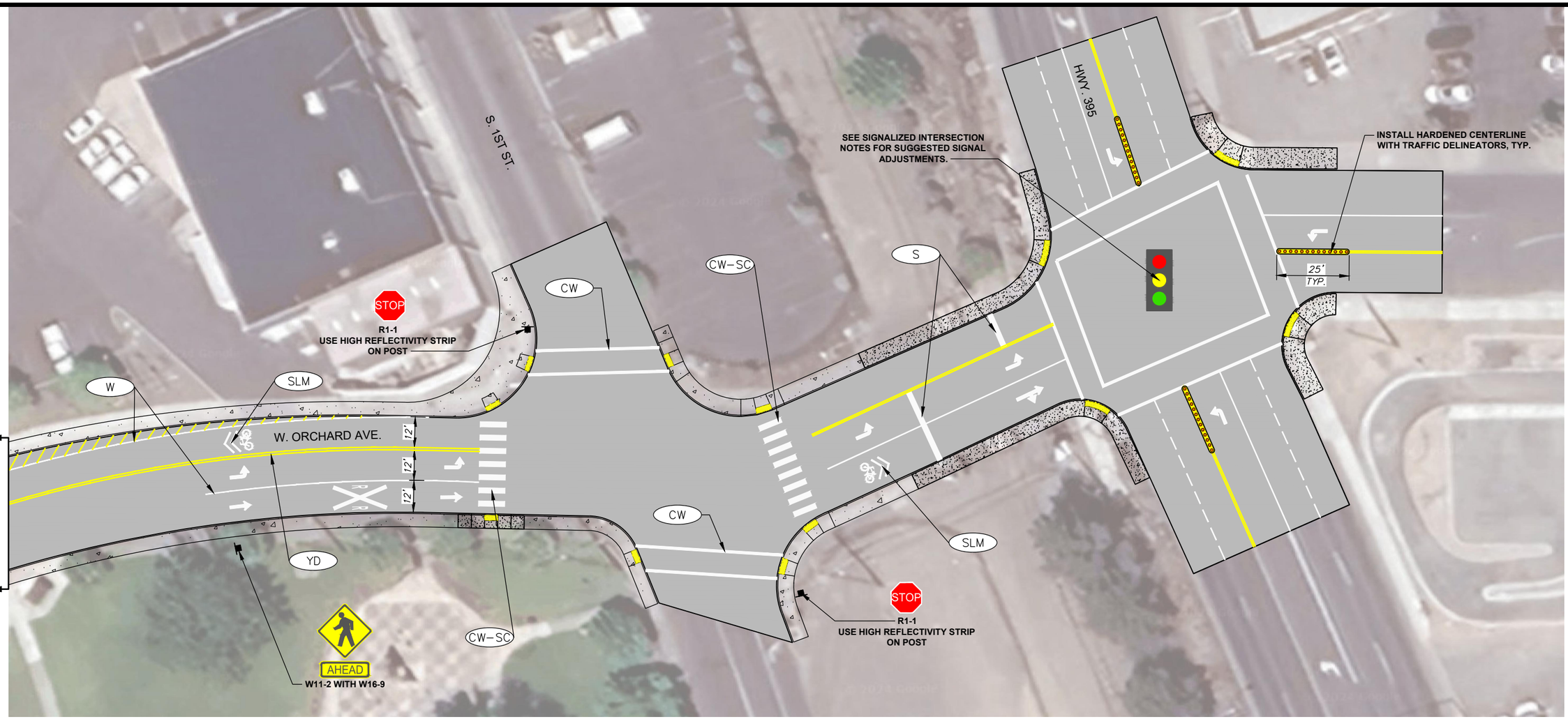
ONLY PAVEMENT AND STRIPING MARKINGS CALLED OUT ON THE PLANS TO BE PART OF THE UPDATES. ALL OTHER PAVEMENT STRIPING AND MARKINGS ARE ASSUMED TO BE EXISTING AND ARE NOT A PART OF THE UPGRADES OR INCLUDED IN COST ESTIMATES.

anderson perry

CITY OF
HERMISTON, OREGON
W. ORCHARD AVE.
SS4A GRANT APPLICATION

W. ORCHARD AVE. & SW. 2ND ST. INTERSECTION CONCEPTUAL PLAN

FIGURE
4J



LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- LANDSCAPE STRIP
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HIGH VISIBILITY CONTINENTAL CROSSWALK
- SIGNALIZED INTERSECTION
- RAISED CROSSWALK/INTERSECTION
- ADA RAMP

NOTE

ONLY PAVEMENT AND STRIPING MARKINGS CALLED OUT ON THE PLANS TO BE PART OF THE UPDATES. ALL OTHER PAVEMENT STRIPING AND MARKINGS ARE ASSUMED TO BE EXISTING AND ARE NOT A PART OF THE UPGRADES OR INCLUDED IN COST ESTIMATES.

STRIPING LEGEND

ND	NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
W	4" WHITE LINE
CW–SC	STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
CW	STANDARD CROSSWALK TWO 1' WHITE BARS
S	STOP BAR 1' WHITE BAR
S–2	STOP BAR-LARGE 2' WHITE BAR
BS	BIKE LANE STANDARD STENCIL
YD	4" YELLOW DOTTED LINE
SLM	SHARED LANE MARKING
GRN	GREEN SUPPLEMENTAL BICYCLE LANE (SOLID LINE (green)
BLE–G	GREEN SUPPLEMENTAL BICYCLE LANE DOTTED LINE EXTENSION (green)

SIGNALIZED INTERSECTION NOTES

1. *VERIFY YELLOW CHANGE INTERVAL AND ALL RED TIME IN EXISTING SIGNAL TIMING PLAN ALIGNS WITH ODOT GUIDANCE.*
2. *REPLACE WESTBOUND LEFT TURN SIGNAL WITH A 4 SECTION PERMISSIVE–PROTECTED SIGNAL HEAD.*
3. *IMPLEMENT LEADING PEDESTRIAN INTERVAL (LPI) FOR ALL PEDESTRIAN PHASES.*
4. *OPERATE LEFT TURNS AS PROTECTED ONLY DURING AM AND PM PEAK PERIODS.*

N

20 0 20 40 60
SCALE IN FEET

anderson perry

CITY OF
HERMISTON, OREGON
W. ORCHARD AVE.
SS4A GRANT APPLICATION

W. ORCHARD AVE. & HWY. 395 INTERSECTION CONCEPTUAL PLAN

FIGURE

4K

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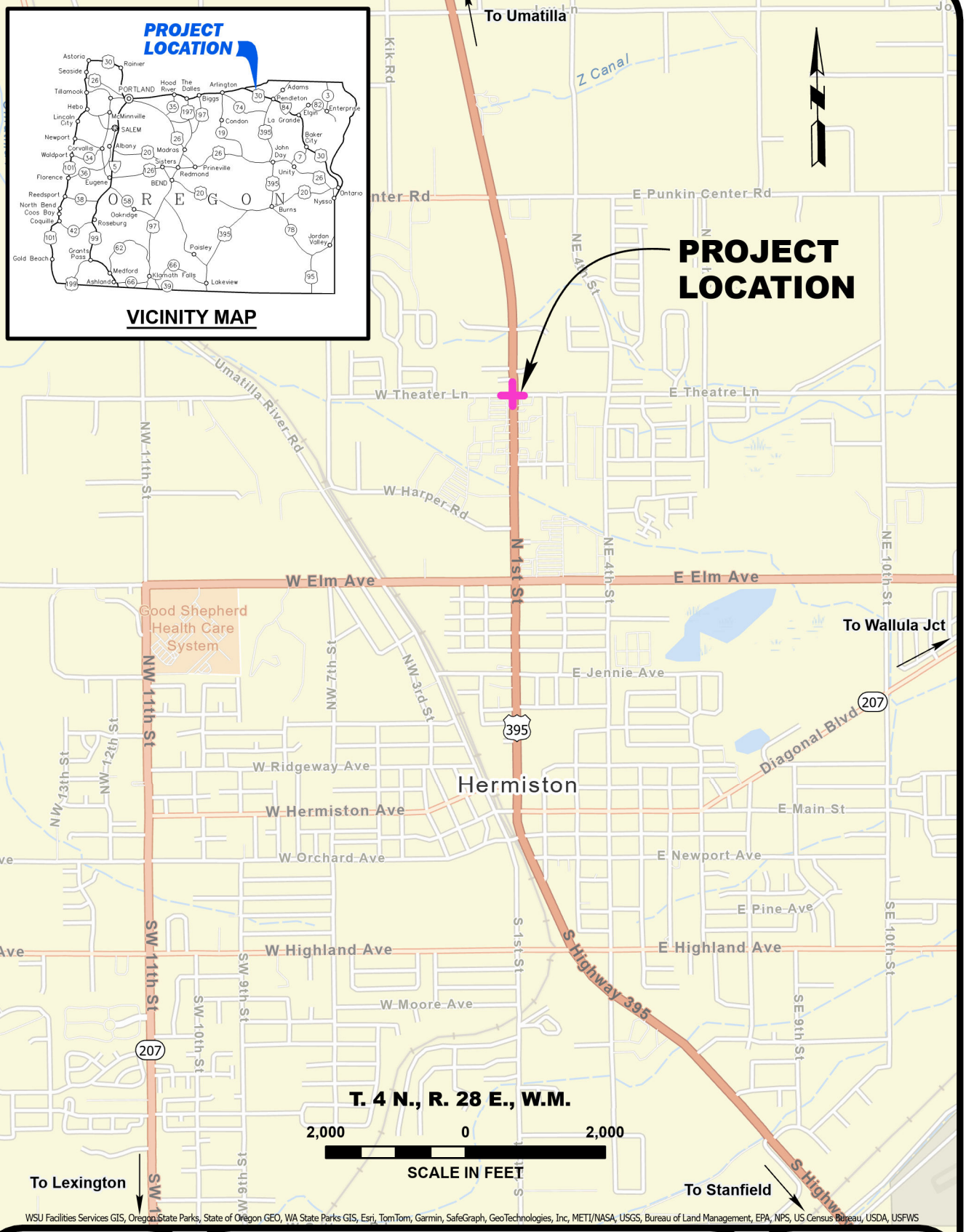

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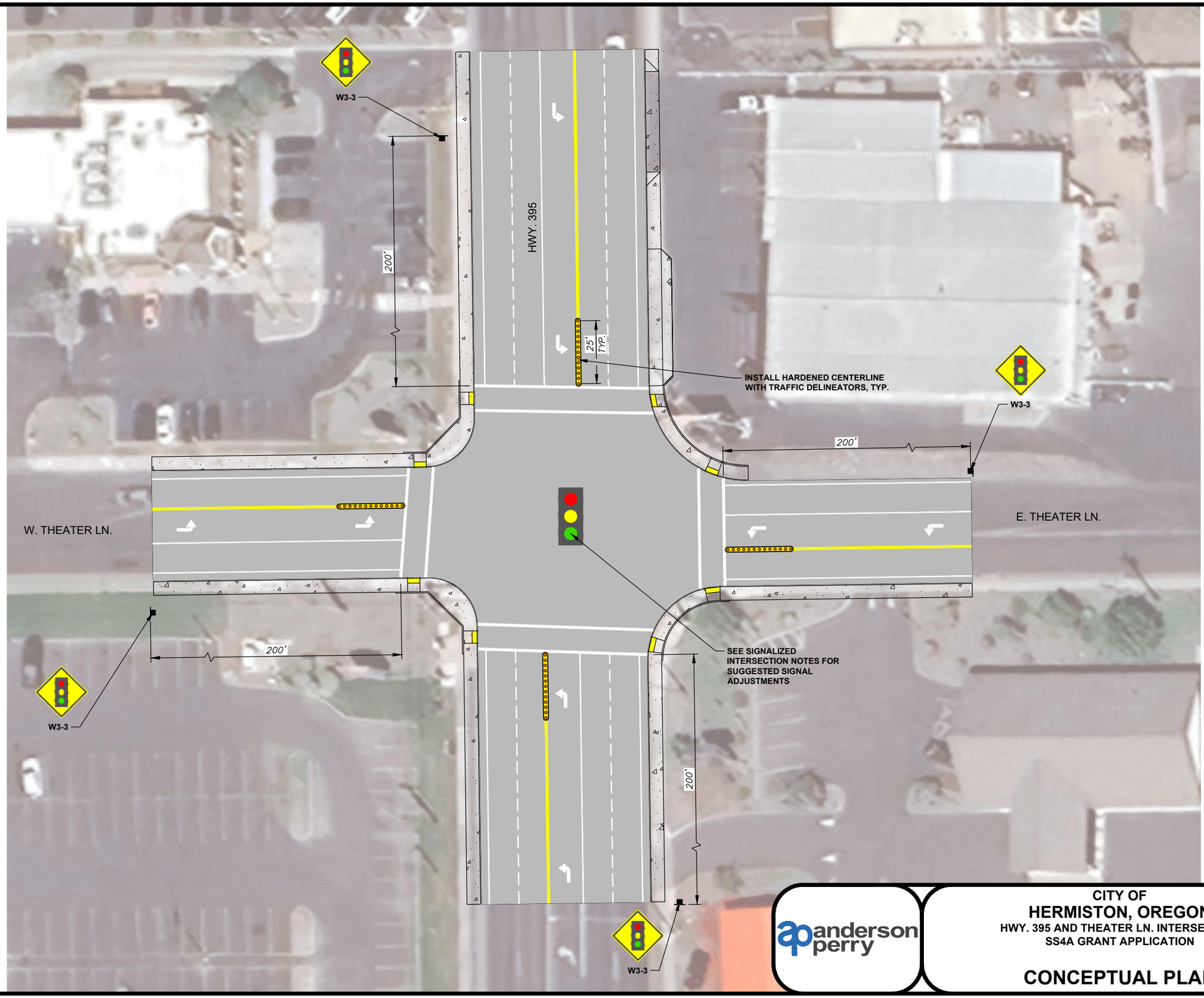
CITY OF
HERMISTON, OREGON
HWY. 395 AND W. THEATER LN. INTERSECTION
SS4A GRANT APPLICATION

LOCATION AND VICINITY MAPS

FIGURE
5



N

20 0 20 40 60

SCALE IN FEET

LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- HARDENED CENTERLINE WITH TRAFFIC DELINEATORS
- HARDENED CENTERLINE WITHOUT TRAFFIC DELINEATORS
- SIGNALIZED INTERSECTION

STRIPING LEGEND

ND	NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
W	4" WHITE LINE
CW–SC	STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
S	STOP BAR 1' WHITE BAR
S–2	STOP BAR-LARGE 2' WHITE BAR
BS	BIKE LANE STANDARD STENCIL
YD	4" YELLOW DOTTED LINE
SLM	SHARED LANE MARKING

NOTE

ONLY PAVEMENT AND STRIPING MARKINGS CALLED OUT ON THE PLANS TO BE PART OF THE UPDATES. ALL OTHER PAVEMENT STRIPING AND MARKINGS ARE ASSUMED TO BE EXISTING AND ARE NOT A PART OF THE UPGRADES OR INCLUDED IN COST ESTIMATES.

SIGNALIZED INTERSECTION NOTES

1. *VERIFY YELLOW CHANGE INTERVAL AND ALL RED TIME IN EXISTING SIGNAL TIMING PLAN ALIGNS WITH ODOT GUIDANCE.*
2. *OPERATE LEFT TURNS AS PROTECTED ONLY DURING AM AND PM PEAK PERIODS.*

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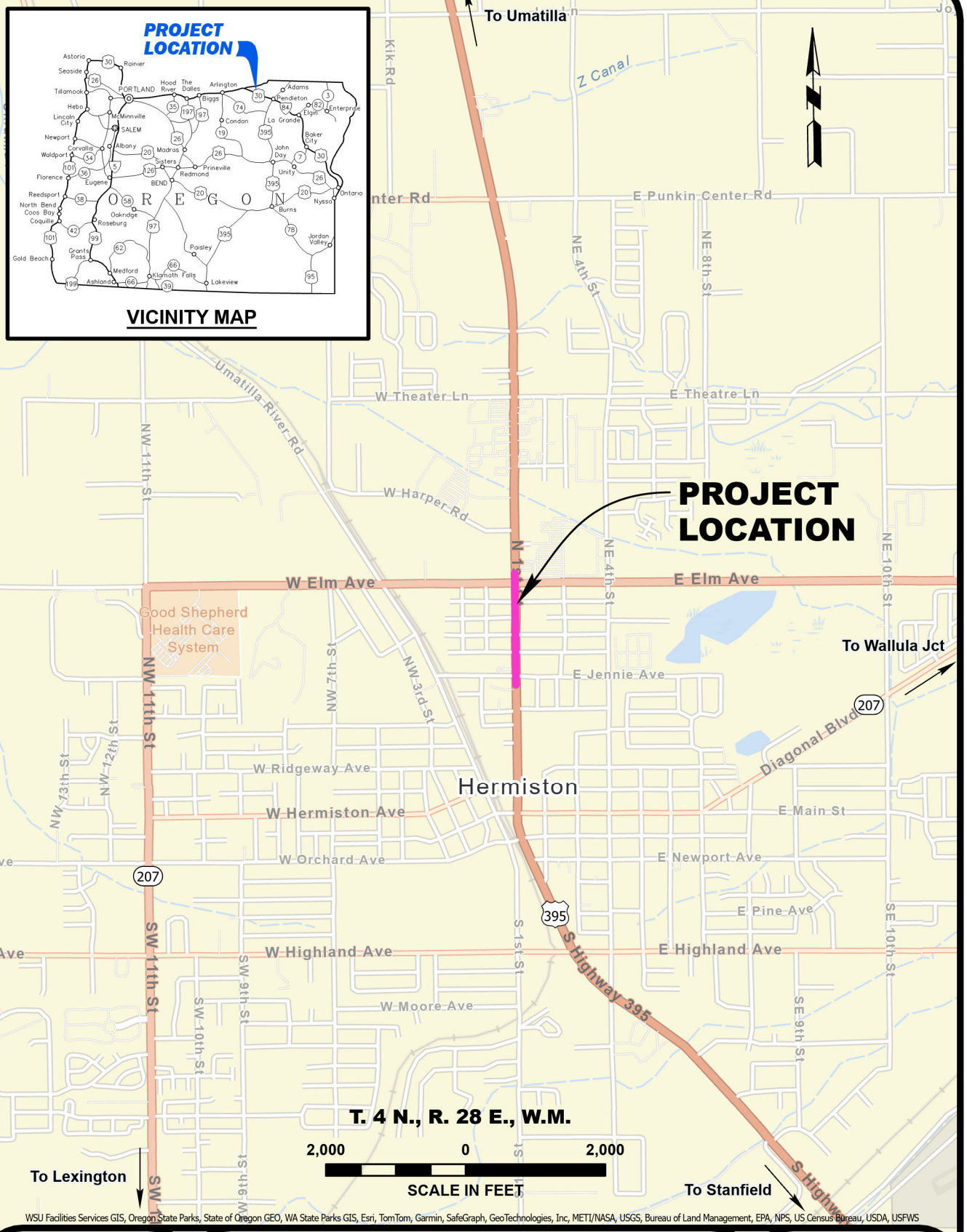
CITY OF
HERMISTON, OREGON
HWY. 395 AND THEATER LN. INTERSECTION
SS4A GRANT APPLICATION

CONCEPTUAL PLAN

FIGURE
6



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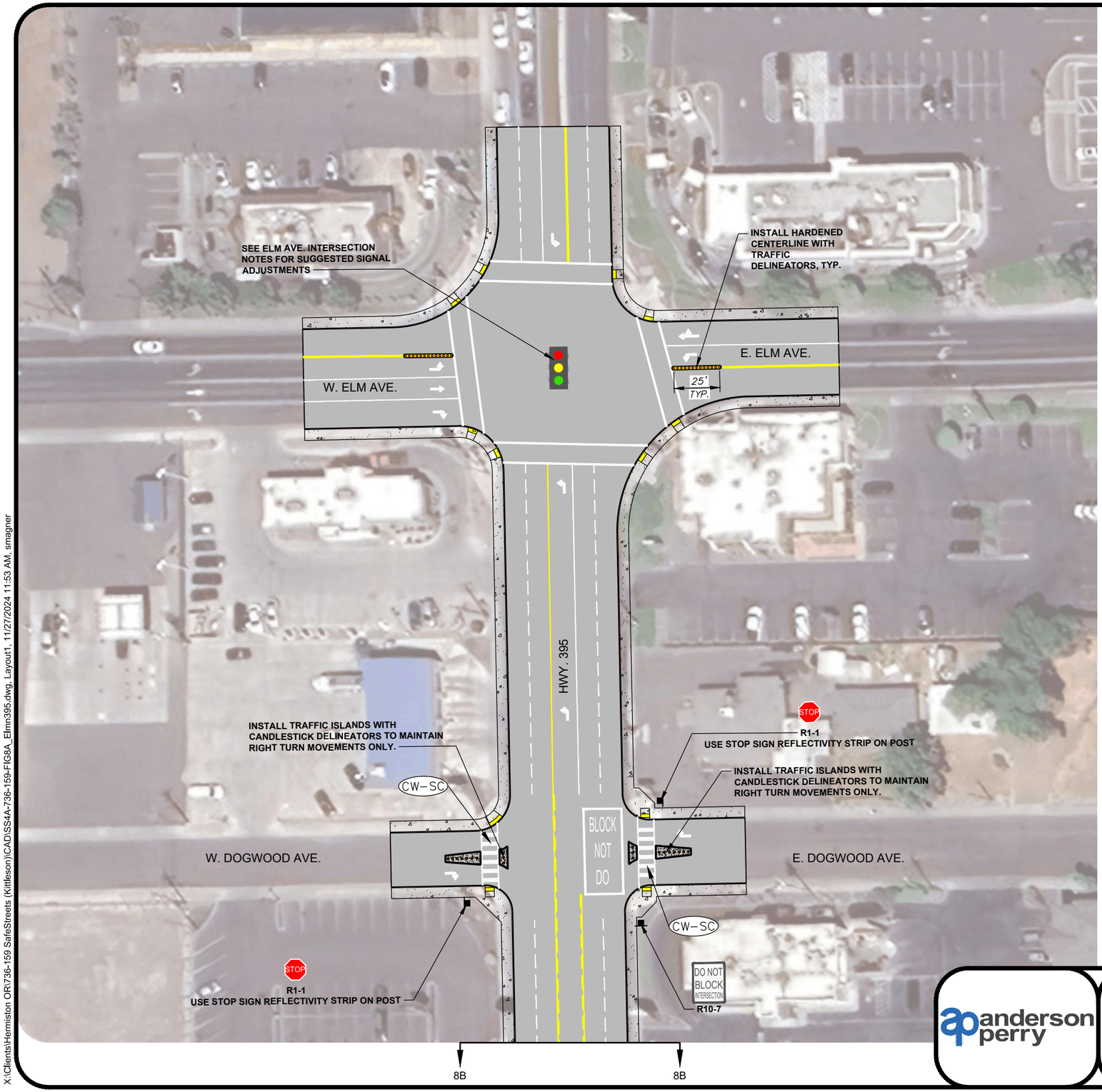
CITY OF
HERMISTON, OREGON
HWY. 395 - ELM AVE. TO JENNIE AVE.
INTERSECTION SS4A GRANT APPLICATION

LOCATION AND VICINITY MAPS

FIGURE
7



30 0 30 60 90
SCALE IN FEET

LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- LANDSCAPE STRIP
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HIGH VISIBILITY CONTINENTAL CROSSWALK
- SIGNALIZED INTERSECTION
- RAISED CROSSWALK/INTERSECTION
- ADA RAMP

STRIPING LEGEND

ND	NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
W	4" WHITE LINE
CW-SC	STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
S	STOP BAR 1' WHITE BAR
S-2	STOP BAR-LARGE 2' WHITE BAR
BS	BIKE LANE STANDARD STENCIL
YD	4" YELLOW DOTTED LINE
SLM	SHARED LANE MARKING

NOTE

ONLY PAVEMENT AND STRIPING MARKINGS CALLED OUT ON THE PLANS TO BE PART OF THE UPDATES. ALL OTHER PAVEMENT STRIPING AND MARKINGS ARE ASSUMED TO BE EXISTING AND ARE NOT A PART OF THE UPGRADES OR INCLUDED IN COST ESTIMATES.

SIGNALIZED INTERSECTION NOTES

1. *IMPLEMENT LEADING PEDESTRIAN INTERVAL (LPI) FOR ALL PEDESTRIAN PHASES.*
2. *OPERATE LEFT TURNS AS PROTECTED ONLY DURING AM AND PM PEAK PERIODS.*

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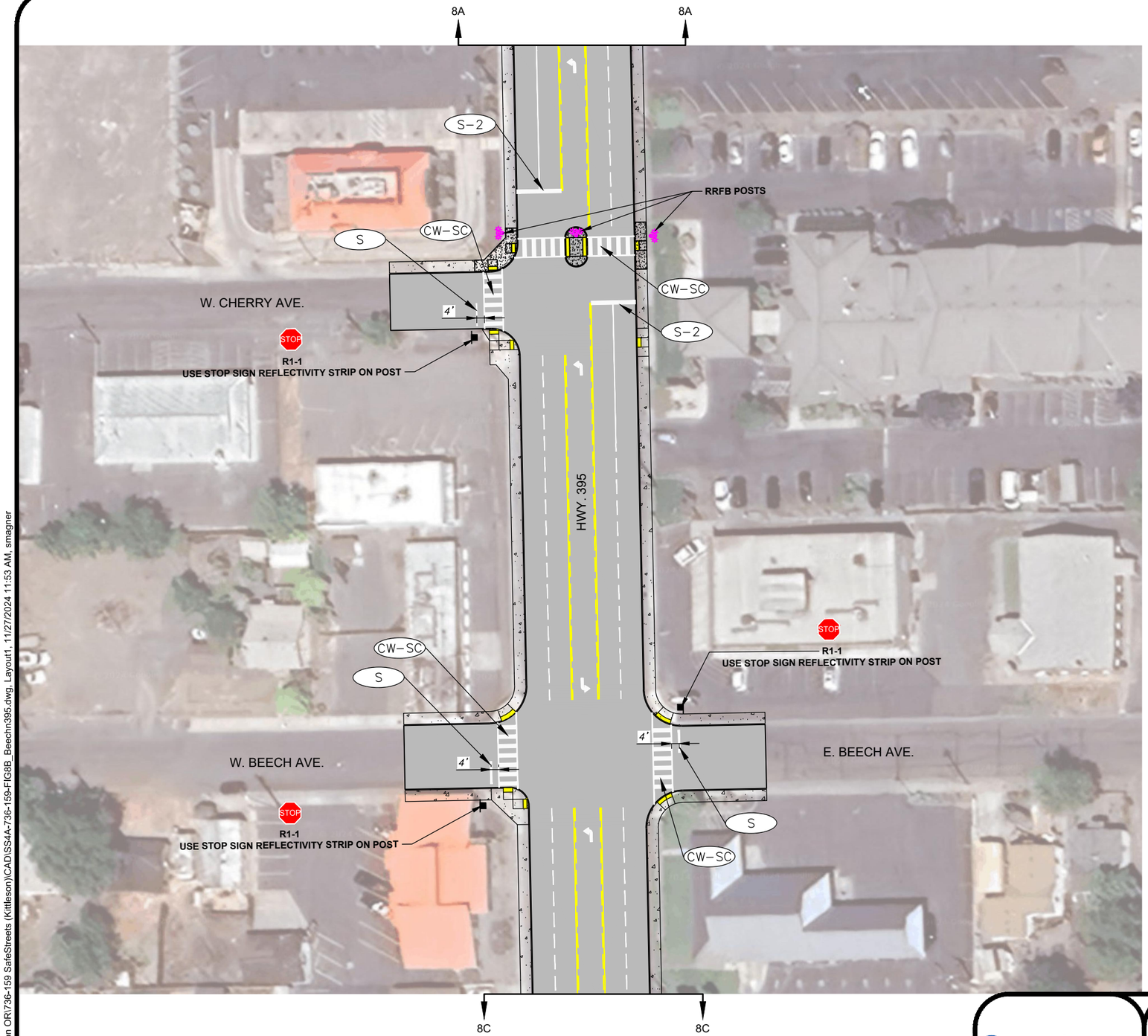
CITY OF
HERMISTON, OREGON
HWY. 395 - ELM AVE. TO JENNIE AVE.
SS4A GRANT APPLICATION

HWY. 395 & ELM AVE. INTERSECTION CONCEPTUAL PLAN

FIGURE
8A



30 0 30 60 90
SCALE IN FEET

LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- LANDSCAPE STRIP
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HIGH VISIBILITY CONTINENTAL CROSSWALK
- SIGNALIZED INTERSECTION
- RAISED CROSSWALK/INTERSECTION
- ADA RAMP, RRFB PUSH BUTTON
- ADA RAMP

STRIPING LEGEND

ND	NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
W	4" WHITE LINE
CW–SC	STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
S	STOP BAR 1' WHITE BAR
S–2	STOP BAR-LARGE 2' WHITE BAR
BS	BIKE LANE STANDARD STENCIL
YD	4" YELLOW DOTTED LINE
SLM	SHARED LANE MARKING

NOTE

ONLY PAVEMENT AND STRIPING MARKINGS CALLED OUT ON THE PLANS TO BE PART OF THE UPDATES. ALL OTHER PAVEMENT STRIPING AND MARKINGS ARE ASSUMED TO BE EXISTING AND ARE NOT A PART OF THE UPGRADES OR

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CITY OF
HERMISTON, OREGON
HWY. 395 - ELM AVE. TO JENNIE AVE.
SS4A GRANT APPLICATION

HWY. 395 & BEECH AVE. INTERSECTION CONCEPTUAL PLAN

FIGURE
8B

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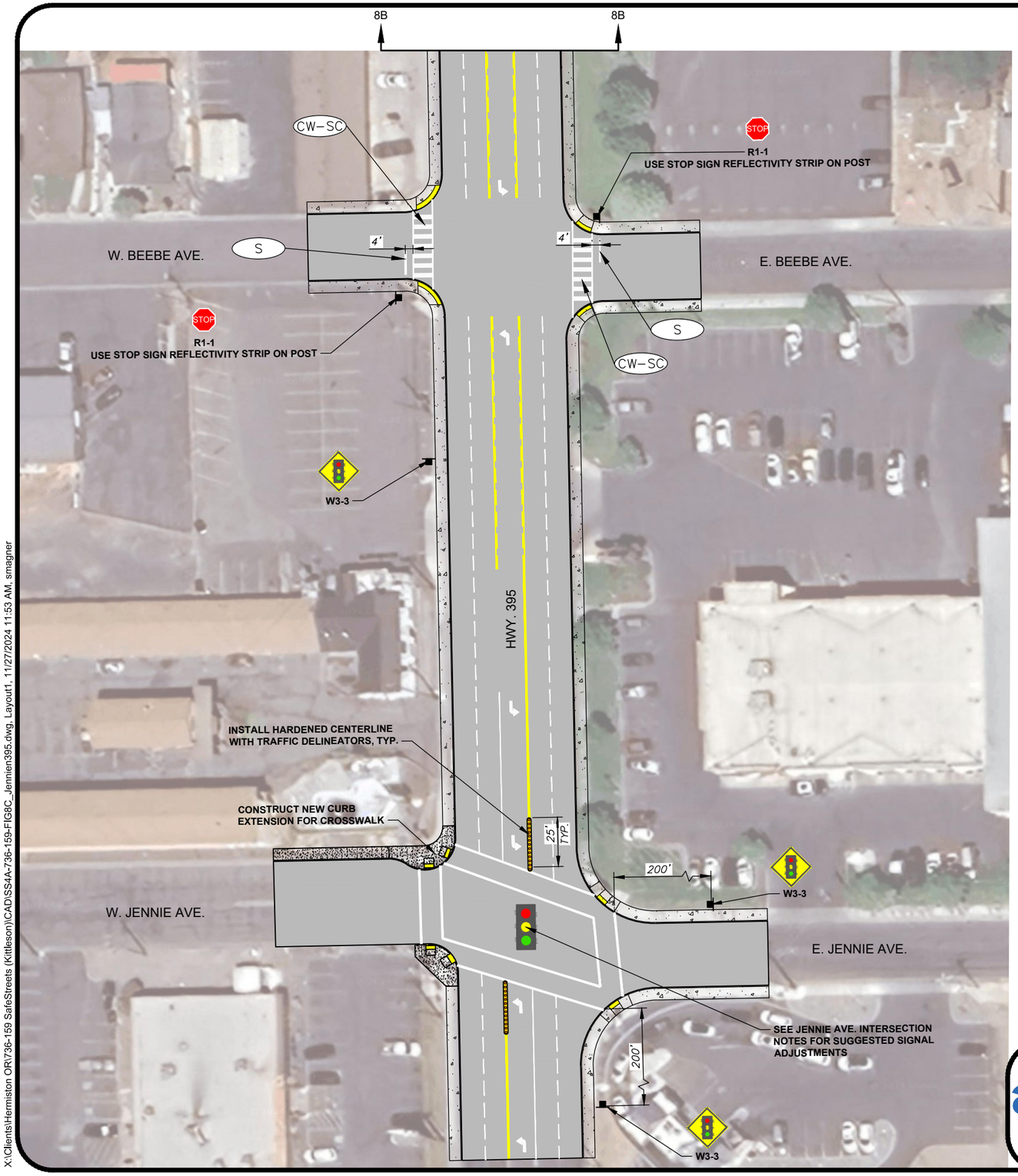
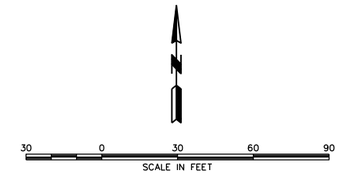




LEGEND

- EXISTING SIDEWALK
- CONSTRUCT NEW SIDEWALK
- LANDSCAPE STRIP
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HIGH VISIBILITY CONTINENTAL CROSSWALK
- SIGNALIZED INTERSECTION
- RAISED CROSSWALK/INTERSECTION
- ADA RAMP

STRIPING LEGEND

ND	NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
W	4" WHITE LINE
CW–SC	STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
S	STOP BAR 1' WHITE BAR
S–2	STOP BAR-LARGE 2' WHITE BAR
BS	BIKE LANE STANDARD STENCIL
YD	4" YELLOW DOTTED LINE
SLM	SHARED LANE MARKING

NOTE

ONLY PAVEMENT AND STRIPING MARKINGS CALLED OUT ON THE PLANS TO BE PART OF THE UPDATES. ALL OTHER PAVEMENT STRIPING AND MARKINGS ARE ASSUMED TO BE EXISTING AND ARE NOT A PART OF THE UPGRADES OR INCLUDED IN COST ESTIMATES.

SIGNALIZED INTERSECTION NOTE

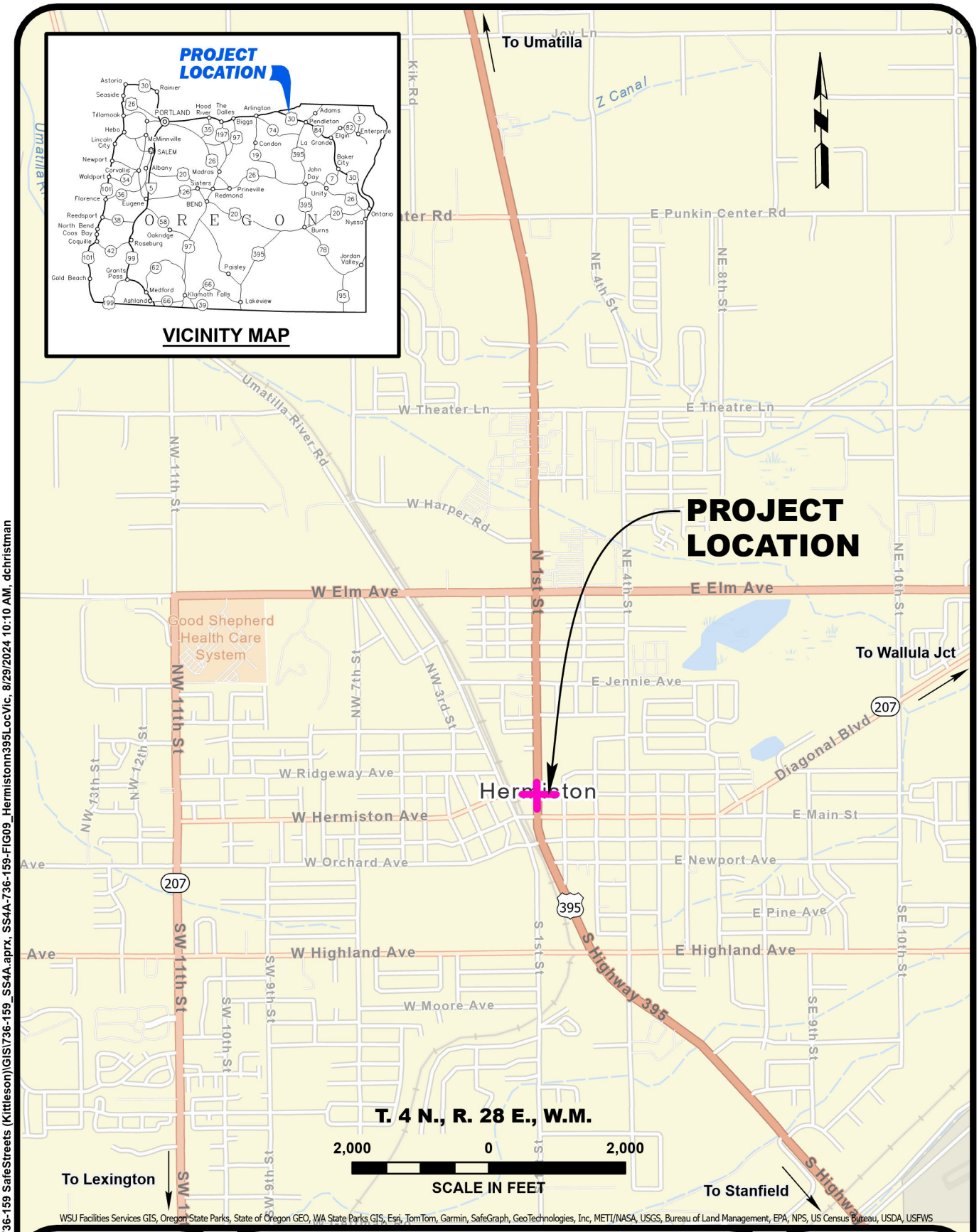
1. *OPERATE LEFT TURNS AS PROTECTED ONLY DURING AM AND PM PEAK PERIODS.*

anderson perry

CITY OF
HERMISTON, OREGON
HWY. 395 - ELM AVE. TO JENNIE AVE.
SS4A GRANT APPLICATION

HWY. 395 & E. JENNIE AVE. INTERSECTION CONCEPTUAL PLAN

FIGURE
8C



WSU Facilities Services GIS, Oregon State Parks, State of Oregon GEO, WA State Parks GIS, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS

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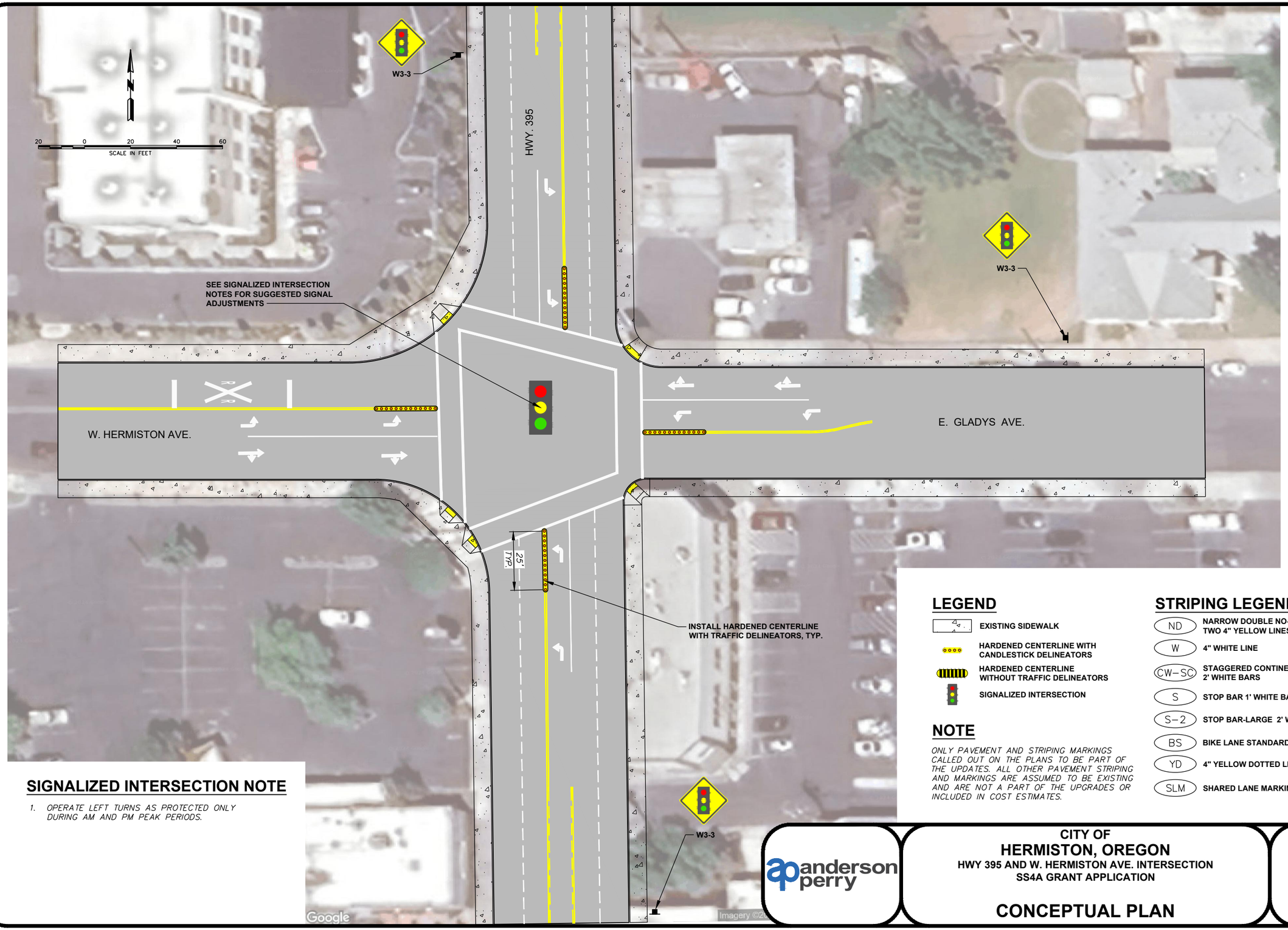
anderson perry

CITY OF
HERMISTON, OREGON
HWY 395 AND W. HERMISTON AVE. INTERSECTION
SS4A GRANT APPLICATION

LOCATION AND VICINITY MAPS

FIGURE
9



SIGNALIZED INTERSECTION NOTE

1. *OPERATE LEFT TURNS AS PROTECTED ONLY DURING AM AND PM PEAK PERIODS.*

LEGEND

- EXISTING SIDEWALK
- HARDENED CENTERLINE WITH CANDLESTICK DELINEATORS
- HARDENED CENTERLINE WITHOUT TRAFFIC DELINEATORS
- SIGNALIZED INTERSECTION

NOTE

ONLY PAVEMENT AND STRIPING MARKINGS CALLED OUT ON THE PLANS TO BE PART OF THE UPDATES. ALL OTHER PAVEMENT STRIPING AND MARKINGS ARE ASSUMED TO BE EXISTING AND ARE NOT A PART OF THE UPGRADES OR INCLUDED IN COST ESTIMATES.

STRIPING LEGEND

ND	NARROW DOUBLE NO-PASS TWO 4" YELLOW LINES
W	4" WHITE LINE
CW-SC	STAGGERED CONTINENTAL CROSSWALK 2' WHITE BARS
S	STOP BAR 1' WHITE BAR
S-2	STOP BAR-LARGE 2' WHITE BAR
BS	BIKE LANE STANDARD STENCIL
YD	4" YELLOW DOTTED LINE
SLM	SHARED LANE MARKING

anderson perry

CITY OF
HERMISTON, OREGON
HWY 395 AND W. HERMISTON AVE. INTERSECTION
SS4A GRANT APPLICATION

CONCEPTUAL PLAN

FIGURE
10

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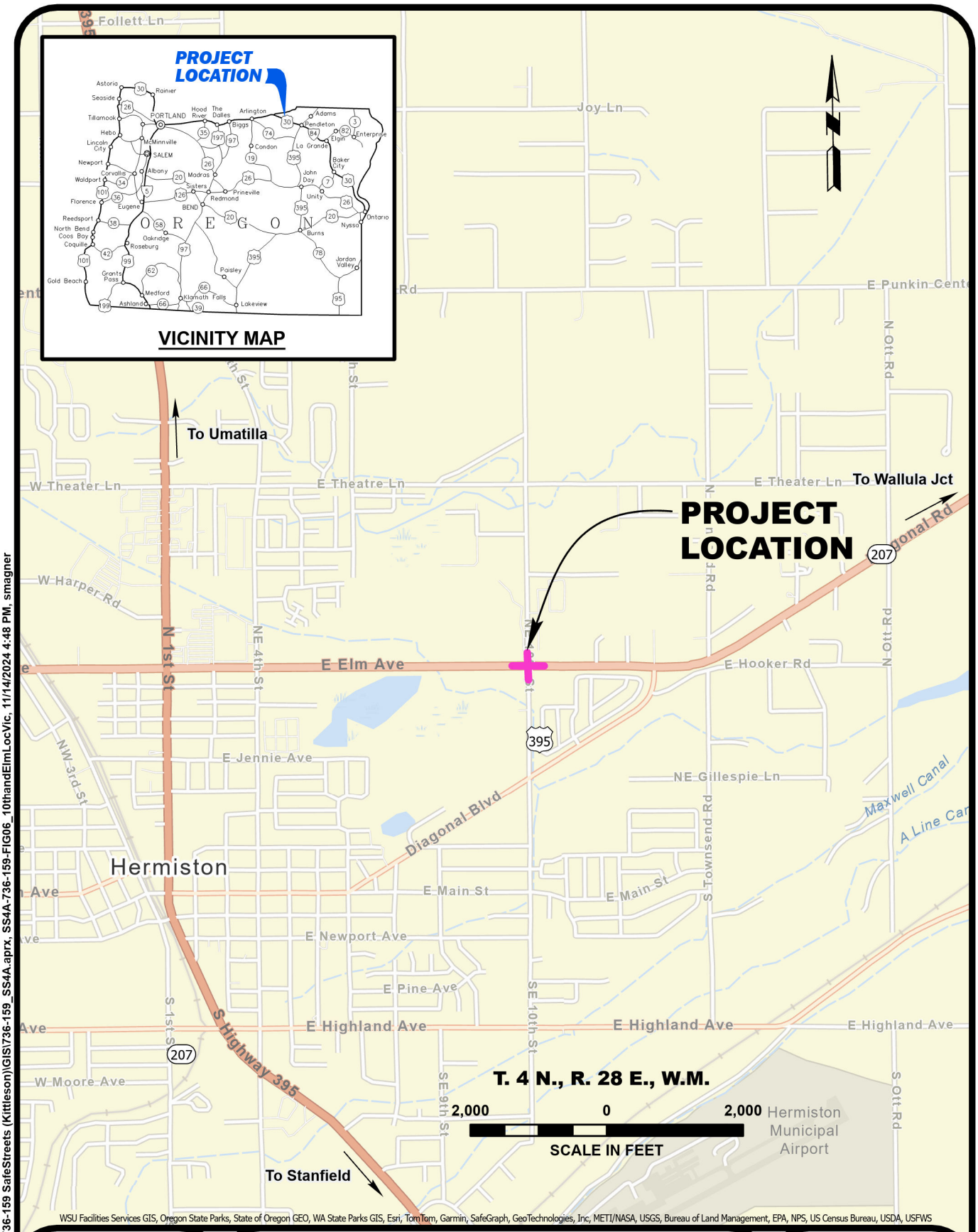

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anderson perry

CITY OF
HERMISTON, OREGON
10TH AND ELM INTERSECTION
SS4A GRANT APPLICATION

LOCATION AND VICINITY MAPS

FIGURE
6

SPEED LIMIT 35

CONTINUE 35 MPH REDUCED SPEED LIMIT ON ELM AVE WEST OF SCHOOL ZONE

END SCHOOL SPEED LIMIT

RELOCATE SCHOOL ZONE SIGN 125' TO THE WEST TO EXPAND SPECIAL CONDITIONS SPEED ZONE

STOP

INSTALL REFLECTIVITY STRIP ON EXISTING STOP SIGN POST.

10TH ST.

RRFB POSTS

SCHOOL SPEED LIMIT 20 WHEN FLASHING

RELOCATE SCHOOL ZONE SIGN 125' TO THE EAST TO EXPAND SPECIAL CONDITIONS SPEED ZONE

SPEED LIMIT 35

YOUR SPEED 44

R2-1 and W13-20

ELM AVE.

RELOCATE SCHOOL ZONE SIGN 125' TO THE WEST TO EXPAND SPECIAL CONDITIONS SPEED ZONE

SPEED LIMIT 35

YOUR SPEED 44

R2-1 and W13-20

SCHOOL SPEED LIMIT 20 WHEN FLASHING

10TH ST.

CONSTRUCT NEW ADA RAMP

RELOCATE SCHOOL ZONE SIGN 125' TO THE EAST TO EXPAND SPECIAL CONDITIONS SPEED ZONE

END SCHOOL SPEED LIMIT

LEGEND

CONSTRUCT NEW SIDEWALK

ADA RAMP

NOTE

EXISTING PAVEMENT MARKINGS AND STRIPING ARE SHOWN ON THE PLANS FOR REFERENCE ONLY. NEW STRIPING AND MARKINGS ARE NOT AN ELEMENT OF THESE IMPROVEMENTS AND ARE NOT INCLUDED IN THE COST ESTIMATE.

N

40 0 40 80 120

SCALE IN FEET

anderson perry

CITY OF
HERMISTON, OREGON
10TH ST. AND ELM AVE. INTERSECTION
SS4A GRANT APPLICATION

CONCEPTUAL PLAN

FIGURE 11

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Appendix C: Cost Estimates for Concept Designs

CITY OF HERMISTON OREGON
PLANNING LEVEL COST ESTIMATE
HIGHLAND AVE AND 1ST STREET IMPROVEMENTS
(YEAR 2024 COSTS)
NOVEMBER 27, 2024

NO.	DESCRIPTION	UNIT	UNIT PRICE	ESTIMATED QUANTITY	TOTAL PRICE
1	Mobilization/Demobilization	LS	$ 11,300	All Req'd	$ 11,300
2	Temporary Protection and Direction of Traffic/Project Safety	LS	10,000	All Req'd	10,000
3	Concrete Sidewalk	SF	15	1,580	23,700
4	Extra for Curb Ramp	Each	2,500	8	20,000
5	Continental Crosswalk	Each	2,500	4	10,000
6	Hardened Centerline with Delineators	LF	80	100	8,000
7	Traffic Separator	LF	65	400	26,000
8	Permanent Pavement Striping and Markings	LS	16,000	All Req'd	16,000
9	Permanent Signing	LS	7,000	All Req'd	7,000
10	Surface Restoration	LS	3,000	All Req'd	3,000
				Total Estimated Construction Cost	**$ 135,000**
				Construction Contingencies (20%)	27,000
				Design Engineering (15%)	20,000
				Construction Engineering (15%)	20,000
				TOTAL ESTIMATED PROJECT COST (2024)	**$ 202,000**

CITY OF HERMISTON OREGON
PLANNING LEVEL COST ESTIMATE
ORCHARD AVE IMPROVEMENTS
(YEAR 2024 COSTS)
NOVEMBER 27, 2024

NO.	DESCRIPTION	UNIT	UNIT PRICE	ESTIMATED QUANTITY	TOTAL PRICE
1	Mobilization/Demobilization	LS	$ 85,000	All Req'd	$ 85,000
2	Temporary Protection and Direction of Traffic/Project Safety	LS	20,000	All Req'd	20,000
3	Concrete Sidewalk	SF	15	13,700	205,500
4	Traffic Separators	LF	65	1,300	84,500
5	Hardened Centerlines with Delineators	LF	80	175	14,000
6	Raised Intersection	SF	15	5,200	78,000
7	Raised Crosswalk	Each	8,500	6	51,000
8	Extra for Curb Ramp	Each	2,500	9	22,500
9	Continental Crosswalk	Each	2,500	12	30,000
10	Curb Extenstion Bulb-Out	Each	12,000	13	156,000
11	Permanent Pavement Striping and Markings	LS	80,000	All Req'd	80,000
12	Permanent Signing	LS	50,000	All Req'd	50,000
13	Signal Timing Adjustments	Each	25,000	2	50,000
14	Surface Restoration	LS	10,000	All Req'd	10,000
				Total Estimated Construction Cost	**$ 936,500**
				Construction Contingencies (20%)	187,000
				Design Engineering (15%)	140,000
				Construction Engineering (15%)	140,000
				TOTAL ESTIMATED PROJECT COST (2024)	**$ 1,403,500**

CITY OF HERMISTON OREGON
PLANNING LEVEL COST ESTIMATE
US 395 AND THEATER LANE INTERSECTION IMPROVEMENTS
(YEAR 2024 COSTS)
NOVEMBER 27, 2024

NO.	DESCRIPTION	UNIT	UNIT PRICE	ESTIMATED QUANTITY	TOTAL PRICE
1	Mobilization/Demobilization	LS	$ 6,000	All Req'd	$ 6,000
2	Temporary Protection and Direction of Traffic/Project Safety	LS	15,000	All Req'd	15,000
3	Hardened Centerline with Delineators	LF	80	120	9,600
4	Permanent Signing	LS	7,000	All Req'd	7,000
5	Signal Timing Adjustments	Each	25,000	1	25,000
				Total Estimated Construction Cost	**$ 62,600**
				Construction Contingencies (20%)	12,000
				Design Engineering (15%)	9,000
				Construction Engineering (15%)	9,000
				TOTAL ESTIMATED PROJECT COST (2024)	**$ 92,600**

CITY OF HERMISTON OREGON
PLANNING LEVEL COST ESTIMATE
US 395 ELM AVE TO JENNIE AVE
(YEAR 2024 COSTS)
NOVEMBER 27, 2024

NO.	DESCRIPTION	UNIT	UNIT PRICE	ESTIMATED QUANTITY	TOTAL PRICE
1	Mobilization/Demobilization	LS	$ 25,000	All Req'd	$ 25,000
2	Temporary Protection and Direction of Traffic/Project Safety	LS	25,000	All Req'd	25,000
3	Concrete Sidewalk	SF	15	1,100	16,500
4	Concrete Island	SF	30	570	17,000
5	Hardened Centerline with Delineators	LF	80	100	8,000
6	Curb Exension Bulb-Out	Each	12,000	1	12,000
7	Rectangular Rapid Flashing Beacon (RRFB)	Each	60,000	1	60,000
8	Extra for Curb Ramp	Each	2,500	7	17,500
9	Continental Crosswalk	Each	2,500	9	22,500
10	Stop Bars	LF	10	100	1,000
11	Permanent Striping and Marking	LS	10,000	All Req'd	10,000
12	Permanent Signing	LS	10,000	All Req'd	10,000
13	Signal Timing Adjustments	Each	25,000	2	50,000
14	Surface Restoration	LS	5,000	All Req'd	5,000
				Total Estimated Construction Cost	**$ 279,500**
				Construction Contingencies (20%)	55,000
				Design Engineering (15%)	41,000
				Construction Engineering (15%)	41,000
				TOTAL ESTIMATED PROJECT COST (2024)	**$ 416,500**

CITY OF HERMISTON OREGON
PLANNING LEVEL COST ESTIMATE
US 395 AND HERMISTON AVE. INTERSECTION
(YEAR 2024 COSTS)
NOVEMBER 27, 2024

NO.	DESCRIPTION	UNIT	UNIT PRICE	ESTIMATED QUANTITY	TOTAL PRICE
1	Mobilization/Demobilization	LS	$ 5,000	All Req'd	$ 5,000
2	Temporary Protection and Direction of Traffic/Project Safety	LS	15,000	All Req'd	15,000
3	Hardened Centerline with Delineators	LF	80	100	8,000
4	Permanent Signing	LS	2,900	All Req'd	2,900
5	Signal Timing Adjustments	Each	25,000	1	25,000
				Total Estimated Construction Cost	**$ 55,900**
				Construction Contingencies (20%)	11,100
				Design Engineering (15%)	8,300
				Construction Engineering (15%)	8,300
				TOTAL ESTIMATED PROJECT COST (2024)	**$ 83,600**

CITY OF HERMISTON OREGON
PLANNING LEVEL COST ESTIMATE
NE 10th St. AND E. ELM AVE INTERSECTION
(YEAR 2024 COSTS)
NOVEMBER 27, 2024

NO.	DESCRIPTION	UNIT	UNIT PRICE	ESTIMATED QUANTITY	TOTAL PRICE
1	Mobilization/Demobilization	LS	$ 10,000	All Req'd	$ 10,000
2	Temporary Protection and Direction of Traffic/Project Safety	LS	3,000	All Req'd	3,000
3	Concrete Sidewalk	SF	30	350	10,500
4	Extra for Curb Ramp	Each	2,500	2	5,000
5	Rectangular Rapid Flashing Beacon (RRFB)	Each	60,000	1	60,000
5	Permanent Signing	LS	25,000	All Req'd	25,000
				Total Estimated Construction Cost	**$ 113,500**
				Construction Contingencies (20%)	20,000
				Engineering (15%)	17,000
				TOTAL ESTIMATED PROJECT COST (2024)	**$ 150,500**

References

Cogan, M (2024). One change that would make cars safer for everyone. Vox. https://www.vox.com/policy/354561/pedestrian-fatalities-car-safety-ratings

FHWA. Proven Safety Countermeasures. https://highways.dot.gov/safety/proven-safety-countermeasures

ODOT. All Roads Transportation Safety Program (ARTS) Crash Reduction Factor Manual. https://www.oregon.gov/odot/engineering/pages/arts.aspx

APPENDIX C: COMMUNITY ENGAGEMENT

HERMISTON TRANSPORTATION SAFETY:
COMMUNITY FEEDBACK SUMMARY

HERMISTON SAFETY ACTION PLAN

TOP SAFETY CONCERNS:

1. Lack of Street Lighting
2. Traffic Control
3. Unsafe Driver Behavior
4. Lack of Sidewalks

ROADWAY CONCERNS

Respondents gave Hermiston roadways an average safety rating of 2.9 out of 5.

CHANGE WHERE IT'S NEEDED MOST

Hermiston deserves safer roadways for all users, whether driving, walking, biking, or rolling. We can bring relief to many users by strategically changing the sites that pose the greatest general risk.

What?

Driver behavior is a major source of concern. Residents want improved visibility along roadways and greater traffic control signage. Additionally, many Hermiston children walk or bike to school. Improving walking and biking facilities located near schools can help to ensure students make it safely to school every day.

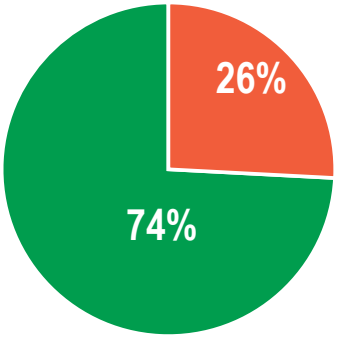
Where?

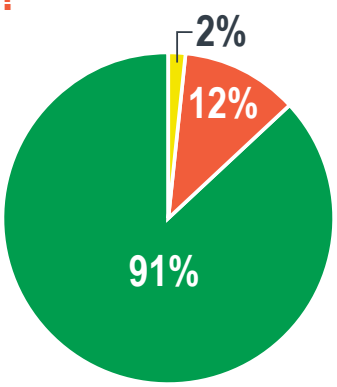
Top Locations for Safety Interventions:

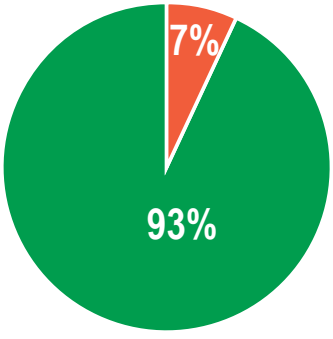
- Schools
- U.S. 395 Corridor
- 1st Pl/ 1st St/ Hinkle Rd/ County Rd 1275
- 11th St Corridor
- Craig Rd Corridor*
- Old River Rd Corridor*

** While the Craig and Old River Corridors were also top locations for safety interventions, these areas are outside the purview of this study. A county-wide safety action planning study is forthcoming.*

WHO TOOK OUR SURVEY?







HERMISTON SAFETY ACTION PLAN

Community Engagement Summary:

Emphasis Areas and Recommended Improvements

Last time we checked in with Hermiston residents, we heard:

- Improve safety on US 395 and near schools
- Encourage safer driving behavior
- Create a stronger pedestrian network

In this most recent round of public engagement, the project team engaged with:

- **15 people** at the Hermiston Farmer's Market
- **50 people** at the Hermiston High School Football game
- **69 views** on the virtual open house, with six surveys completed

Key Takeaways

Overall, respondents believe the proposed improvements will increase transportation safety throughout Hermiston.

There was strong support for pedestrian and bicyclist safety improvements along Orchard Avenue between OR 207 and US 395.

Out of the five emphasis areas, Intersection crashes and crashes involving pedestrians and bicyclists were identified as the top two priority emphasis areas to focus on .

Respondents indicated they would like to see stoplights at intersections by schools, especially at the Highland Ave. &1st St., and Orchard Ave. & 1st St. intersections.

There is a want for more bicyclist and pedestrian safety improvements at intersections around schools and community centers. Respondents also supported more crosswalks.

Respondents believed the proposed safety improvements on US 395 would help transportation safety.

Questions? Please email: planning@hermiston.gov

Open Question Survey Responses

What are your top transportation safety concerns in Hermiston? Choose your top three:	7. If you answered yes to Questions 5 or 6, are you willing to share your story anonymously? You story may be used in project materials to convey the personal impact of crashes. If so, please do so below:	8. Is there anything else you would like to share with our team about transportation safety concerns or how to improve traffic safety in Hermiston?
Congestion at the 4-way stop on Highland by the High School. The students walk right out in front of the stopped vehicles as they leave campus during lunch, holding up the line of cars in all directions. The students have no regards for the traffic, just as one clears the intersection, immediately another enters from the opposite direction, so the traffic on all 4 corners is delayed.	I was sitting at stop sign and hit in the side by a Semitruck.	395 is to fast and crowded. Not enough places for people to cross.
Pedestrians walking down middle is 395 all hours of the day ignoring crosswalks. I have almost hit both man and car due to this issue. Cars parking on 395 to get their fast food fix blocking traffic. Speeding up 395 once the pass Big 5 and causing accidents. City needs cameras to help enforce the speeding laws. Tickets need to be handed out to those walking down hwy	People running lights at Punkin road.	please add more sidewalks to all streets
Jay walking across 395	My dog got hit on 11th Street recently. We are devastated. It should be 25mph from Minnehaha to Old River. There should be nice lights to fully illuminate that entire stretch. It needs 25mph max speed and lighted crosswalks that can be activated like those on College Avenue in College Place. Those are fantastic!	We need to create more walking accessibility and improve sidewalks that already exist.
Too high of speed on 11th st.	My husband and I were sitting at the stop light between jack in the box and Starbucks waiting for our light to turn green to merge on to 395 and a distracted speeding driver hit us head on there was nothing we could do besides lay on the horn and brave for impact. The women admitted to being distracted and not paying attention to speed or road. I have suffered from TBI a bulged disc along with non stop doctor and therapy appointments all because of someone else's negligence. On top of it she didn't have insurance and was not arrested.	Laws are not being enforced by tickets, call outs ect to those breaking laws. Homeless walk 395 like it's a walking path holding up traffic so they can illegally cross.
Roadways not wide enough (Baxter Rd)	First one me and my mom were hit by a drunk driver head on on Craig Rd in 1997 at 9am. Second my dad was hit on his Harley by a drunk driver in 2001.	Traffic on 395 is a hazard. Vehicles have to use the turning lane to merge onto 395, it makes it difficult to turn when the turning lane is being used as a merger route. Semis should be routed another route to help eliminate some traffic.
Illegal drivers that may or may not be able to read street/traffic signs	On old River Rd turning left into my driveway a car tried to pass me	11th Street is a hazard.
Crosswalks on West Highland by football field entrance needs lighted flashing crosswalk & signs that light up at night. Very dangerous with school kids crossing & when sporting events are taking place at the field or tennis courts it is very budy & dangerous crossing. West Highland is very budy traffic & congested. Police need to patrol way way better than they currently do.	I just take care of them in the ER	There is a large group of children along Baxter rd and Canel that walk often. The road is NOT wide enough and people often speed down the hills. I am very concerned for the safety of the children and walkers in this neighborhood.
Students crossing Elm along 10th street to get to and rom Loma and Sandstone.	No	I would like to see something happen to the driveway to Walmart on hwy 395 just before McDonald's.
So many people not understanding how to use a 4 way stop	September 2022, an individual on a bicycle rode out in front of my vehicle. I was not speeding not was I distracted at the time. I was looking down one street to make sure it was clear and the individual came from the opposite side, not bothering to look for traffic. I slammed on my brakes and to no avail, I watched everything happen as if it was a horror movie, the individual on his bike riding into the road, hitting the front of my vehicle, being thrown at least 10 feet in front of me and landing on the street. These accidents don't affect only the victim, but at times the drivers as well. I'm glad the individual lived, but now we are both faced with the trauma, anxiety, and much more that we may never be able to deal with.	The intersection by the high school either needs actual stop lights to control car traffic and foot traffic. Kids don't even stop at the curb so you can see which direction they are crossing. They don't even look up from their phones. It's dangerous
	I have narrowly avoided several accidents in Hermiston on highway 395. People drive distracted - maybe they are not sure where they're turning. It used to be a small enough town you could do that stuff, not anymore.	No
	5 months pregnant and would never become a mother after a car crash	Arbitrarily lowering speed limits without consulting engineers is a poor method to attempt to curb accidents and stop speeding. People will still speed. Distracted driving and the poor stop light system in this town are the biggest factors to me in the increase in accidents. The homeless population adds to the dangers on roadways as they pay no heed to right of way on crosswalks or when Jay walking or riding their bicycles in and out of traffic. The AI system in place by ODOT in the stop lights on 395 is terrible. When they were installed, traffic seemed to increase as the lights stay red longer. The sequence to get through town north and south was destroyed. Often times you can hit a red at every intersection. I believe this is the reason red light running has increased, which in turn adds to the risk for intersection accidents. There is no substitute for defensive driving and common sense. There seems to be a large lack of common sense on the roadways these days and it's up to law enforcement and other civic avenues to educate the public. I'd also like to comment on the seasonal immigrant population that inundates our area during the farming months. They do not know our laws and drive accordingly. I travel to Mexico for work a few times a month so I understand their driving culture. They do not pull over for emergency vehicles here because down there, it is standard practice for emergency vehicles to drive around with their emergency lights on at all times. So to this population, they do not see a need to pull over. They also do not adhere to speed limits as in Mexico, they are more of a suggestion. (I realize that the population of migrant workers makes up more than Mexican nationals, I just spend more time in Mexico than I do other nations to our south, so that is where I draw my experience from). These are a few reasons as to why I think traffic accidents and deaths are up in our area.
	NA	Seems like a good chunk of fatal accidents recently have involved transients or people having a mental health crisis. Also the amount of people driving under the influence at ALL hours of the day and not just at night is a bit shocking to most. Maybe more mental health and daytime DUI awareness would help people watch out for those kind of situations and they can be stopped before an accident happens.

Open Question Survey Responses

What are your top transportation safety concerns in Hermiston? Choose your top three:	7. If you answered yes to Questions 5 or 6, are you willing to share your story anonymously? You story may be used in project materials to convey the personal impact of crashes. If so, please do so below:	8. Is there anything else you would like to share with our team about transportation safety concerns or how to improve traffic safety in Hermiston?
	Someone blew a stop sign coming out of Walmart and made a right hand turn, hitting my car on 395. Too many people don't pay attention to those in the turn lane.	I feel that the running of red lights is a large issue. Perhaps having a pause in between the time lights change red to when the next changes green? Maybe five to ten seconds in between, instead of them immediately turning green.
	I was in a crash in Hermiston at Elm St and 11st St back when it was a 3-way stop. I was heading north on 11th st and turning west and the car that was heading south on 11th st didn't stop at the stop sign and hit me as I turned left. Turned out he was drunk. My uncle was killed in a crash on Old River Road several years ago when a drunk driver was speeding and crossed over the median and hit him head on.	Highway 395 by the new Toyota dealership - I feel like there have been so many accidents there. Why is it? Also a lot of people misjudge how long they have to pull out onto 395
	People drive distracted, running red lights	Police need to patrol West Highland Avenue for speeding all times of day & night. Very disturbing
		I believe that one of the greatest concerns with road safety in Hermiston, is the lack of enforcement of current law. We live on Orchard and in the last two years we have had three cars totaled by intoxicated and uninsured drivers. In one case the driver was only in custody for less than an hour. In all cases none of these drivers were truly held accountable for their actions. The fact that our police force has to expend a great deal of effort only to see these people released is very frustrating. Ultimately these individuals who never experienced the repercussions of their actions can be responsible for the injury and death of people on the road.
		We need a light at elm and 10th
		I think a traffic light needs to be put on Elm for students ti safely travel across the Hwy.
		WHO designed and APPROVED the new 1st place intersection with Elm St.? There is a "middle turn lane" all the way along the new 1st place road, but NO LEFT TURN LANE at the Elm street intersection!!! This makes NO SENSE!!! And I have seen quite a few drivers try to "squeeze by" to get around someone turning left from 1st Place to go west on Elm. VERY POOR PLANNING!!!!! Place fix!!
		The red light running seems to happen a lot after 10pm. Fyi.
		There is a ton of safety concerns with this town. People who aren't licensed, tags expired, and don't know how to work a 4 way stop. The light by safeway and the pho restaurant needs a turn lane or turning signals because it's a game of chicken if you need to turn heading towards Stanfield or towards 7-11. Same with the light on orchard by the hermiston district office and the car wash. Going onto SW 11th is a game of who can go fastest. It needs turning arrows. This town also needs a driving school so people can get driving practice and training. We have a ton of people constantly running red lights as well. We need more enforcement to deter that.
		River Road needs to be expanded to have turn lanes and places to safely walk for pedestrians
		People runnimg red lights on 395 is ridiculous. I can believe i never see a cop car watching at the intersections.
		Start ticketing people for running red lights.
		Though I've never lost anyone close to me in a serious or fatal crash, as a 31 year verteran firefighter/medic here in this city, I've been on hundreds of crashes. What I've seen in general is that it's more often human error, that being distracted, poor driving abilities, speed/poor decision making, or DUII, that caused the particular crash. I believe we have a good traffic system, people are just not using their brains to drive more safely.
		Better camera system

Phase I Story Map Comments

What makes this location fasteel unsafe? Check all that apply:	Other - What makes this location feel unsafe ? Check all that apply:	If you have an idea for improving there location, what is your suggested improvement? Is therere anything else you'd like us to know about this location?	What makes this location feel unsafe? Check all that apply:
Motor vehicle speeds		Wider roads and more light and rails along there way	Crossing feels unsafe
It doesn't feel safe turning here		The intersection of 4th and 395 desperately needs left turn lanes on both sides of 4th Street.	Crossing feels unsafe
Motor vehicle speeds		I see a lot of confusion and what seems like near misses as people try to decide, Can I turn before this car goes straight? there car in front of me turned, should I just go too? Is it safe to go straight or is someone going to turn into me? Etc.	Crossing feels unsafe
No sidewalk or path		We need there flashing yellow lights on eitherer side of there intersection that come on w heren there light is going to turn red. therese work to slow down there oncoming traffic.	Crossing feels unsafe
Major curve		Sidewalk would be good to connect to there otherer sidwalks.	Crossing feels unsafe
Motor vehicle speeds		there edge of there lane is there edge of there road as you drive down there hill in a turn. safew dude get off and walk his bike because it's super sketch in that space to walk or bike.	Crossing feels unsafe
Motor vehicle speeds			It doesn't feel safe turning here
Major curve		Old River Road has been a problem for years because people speed, can't see around corners, and little to no shoulders.	It doesn't feel safe turning here
Reckless or inattentive driving		This intersection always seems like an accident waiting to happen. Maybe it could use some left turn lanes or lights.	It doesn't feel safe turning here
Motor vehicle speeds		This intersection is a mess, especially w heren high schoolers are leaving school for lunch or after school lets out. W heren trying to get out from 1st St you can't see past there cars lined up at there intersection and w heren coming through there 395 intersection, I worry cars going north on 1st St can't see me and are going to dart out to get through there intersection. Traffic often gets piled up hereading East waiting for light on 395.	It doesn't feel safe turning here
No bike lane or path		Sidewalks need to be installed on there east side of S 1st street. there only sidewalk on that side of there street was installed in front of our house by there previous owners.	It doesn't feel safe turning here
It doesn't feel safe turning here	There is NO LEFT TURN lane on 1st Steet Place (going eitherer direction) therere needs to be one going each direction to improve traffic flow.	Yes, PLEASE FIX!!!!! It should have been done w heren 1st street place was being completely redone!! And, yes, therere REALLY is room for a left turn lane if you fit it in.	It doesn't feel safe turning here
Motor vehicle speeds		Bike path or lane would be herelpful.	Major curve
Reckless or inattentive driving		Enforcement of current speed laws.	Major curve
Crossing feels unsafe			Major curve
Motor vehicle speeds		Lots of kids crossing, often while on cell phones	Speeds feel too fast
Reckless or inattentive driving		Lots of new drivers in this area	Speeds feel too fast
Motor vehicle speeds		Busy area	Speeds feel too fast

Phase I Story Map Comments

What makes this location fasteel unsafe? Check all that apply:	Other - What makes this location feel unsafe ? Check all that apply:	If you have an idea for improving there location, what is your suggested improvement? Is therere anything else you'd like us to know about this location?	What makes this location feel unsafe? Check all that apply:
Motor vehicle speeds	Kids present	therere is a 45 mph sign between two school zone signs. If one is not paying attention, it is confusing. It would be better to move there 45 mph sign outside there school zone.	Speeds feel too fast
It doesn't feel safe turning here	Two lane		Speeds feel too fast
No sidewalk or path	This intersection is one of there busiest in herermiston I avoid it as much a possible	I believe particularly at there times w heren people are going to work or coming home from work are there most dangerous. I would suggest that there time of there light needs to be increased, but since it is a State Highway we will have to get there State of Oregon involved.	Speeds feel too fast
No bike lane or path		Roundabout	Speeds feel too fast
No crosswalk		Add signal; specifically for Northbound traffic from 10th turning west on to Elm. there westbound speeds on Elm coming from there east are high, and there gaps are sporadic. there eastbound traffic on Elm tends to be clumped up (presumably because therey all were released by there signal at 4th at there safeme time), and inevitably it is there first vehicle which will theren be turning on to 10th, but therey don't put on thereir signal until therey're almost to there intersection; which prevents traffic attempting to get on to Elm from going, out of concern that therey may be continuing through there intersection. Meanwhile a southbound right-turning vehicle will always show up during this, and it will theren take there right of way w heren therere is a gap in traffic. This waiting, and uncertainty, encourages drivers to get impatient and theren take an opportunity that isn't ideal to try and shoot across/on to Elm.	Speeds feel too fast
Motor vehicle speeds			Speeds feel too fast
Motor vehicle speeds		This would be solved by dropping speeds on Elm and adding a traffic signal.	Speeds feel too fast
Reckless or inattentive driving		Add turn-lanes to signal and/or add a right-turn slip-lane for southbound traffic turning right on to Elm. Since therere is no dedicated left-turn for NB traffic turning left on to Elm, and inevitably there first car in line will want to turn left, it holds up there entire flow for northbound traffic. I have safet through at least one light cycle at this intersection several times as a result of this. Adding a right-turn slip lane for SB traffic will at least allow those vehicles to get through there intersection so that w heren there SB light turns green, those vehicles get out of there way faster, and theren allows left-turning vehicles going north to actually get through there intersection.	Speeds feel too fast

Phase I Story Map Comments

What makes this location fasteel unsafe? Check all that apply:	Other - What makes this location feel unsafe ? Check all that apply:	If you have an idea for improving there location, what is your suggested improvement? Is therere anything else you'd like us to know about this location?	What makes this location feel unsafe? Check all that apply:
Motor vehicle speeds		Expand bridge to two lanes with sidewalks. Current one-lane bridge with poor sight lines due to elevation drop creates a dangerous situation. Many pedestrians walk recreationally through this area in there early mornings or late in there evenings, and if a driver comes through therere who is unfamiliar with there area, it could cause a major accident/death. This bridge is being used more and more by local traffic as a bypass to get to/from there east side of town, so it has long-since outgrown it's current status as a one-lane bridge.	Speeds feel too fast
Motor vehicle speeds		Continue there new bike path north to there Harper road turnoff.	Speeds feel too fast
Motor vehicle speeds		Add lighted crosswalk like by there hospital or ticket those who are jaywalking	Speeds feel too fast
Reckless or inattentive driving	Cars speed and blow there 4 way stop all there time	Enforce traffic law, would be nice to see there police not only do traffic patrol on major city streets but also within neighborhoods.	No bike lane or path
It doesn't feel safe turning here	people routinely jaywalk herere even though therere is a crosswalk at there lights and a crosswalk at there apartments, people will still jaywalk	would be nice to see there police take a more active role in enforcing jaywalking on major streets, one of therese days someone is going to get seriously hurt crossing there road illegally, even though therere are two crosswalks less than a half a block apart.	No bike lane or path
Reckless or inattentive driving	Pedestrians crossing road outside crosswalk	Speed cameras	No bike lane or path
No bike lane or path		To much traffic on 395, with alot of near misses in there center turn lane. Must seriously look at turn lane and reducing traffic on 395, w heretherer its by one way street or ????	No bike lane or path
No sidewalk or path	Portions of steet have no sidewalk, street has potholes. Stop sign placed herere would slow traffic down. Area has grown substantially and needs attention		No bike lane or path
Reckless or inattentive driving		This intersection is un safe for both motorists and also pedestrians. there school kids walk slowly across there crosswalks and theren cars go very fast to try to turn or get through there intersection w heren therey get an opening. therere needs to be a light/crossing option added at this location to assist both motorists and pedestrians.	No bike lane or path
No bike lane or path		Speeding and reckless driving on W. Highland between 7th and 11th day and night Running stop signs at 9th. Teenagers sitting on electric skateboard racing down W. Highland Ave between 7th and 11th. Drivers are unable to see therem. We need more traffic patrols and officers parked to tickets speeders and reckless drivers. therere used to be more of a police presence. Move a traffic sign that shows drivers speed.	No bike lane or path
It doesn't feel safe turning here			No bike lane or path
It doesn't feel safe turning here			No bike lane or path
It doesn't feel safe turning here			No crosswalk

Phase I Story Map Comments

What makes this location fasteel unsafe? Check all that apply:	Other - What makes this location feel unsafe ? Check all that apply:	If you have an idea for improving there location, what is your suggested improvement? Is therere anything else you'd like us to know about this location?	What makes this location feel unsafe? Check all that apply:
No crosswalk			No crosswalk
No sidewalk or path			No crosswalk
Reckless or inattentive driving			No crosswalk
It doesn't feel safe turning here			No crosswalk
It doesn't feel safe turning here			No sidewalk or path
Reckless or inattentive driving			No sidewalk or path
Reckless or inattentive driving			No sidewalk or path
It doesn't feel safe turning here			No sidewalk or path
It doesn't feel safe turning here			No sidewalk or path
No bike lane or path			No sidewalk or path
Reckless or inattentive driving			Poor lighting
It doesn't feel safe turning here			Poor lighting
No crosswalk			Poor lighting
It doesn't feel safe turning here			Reckless or inattentive driving
Reckless or inattentive driving			Reckless or inattentive driving
Major curve			Reckless or inattentive driving
No bike lane or path			Reckless or inattentive driving
It doesn't feel safe turning here			Reckless or inattentive driving
No sidewalk or path			Reckless or inattentive driving
No bike lane or path			Reckless or inattentive driving
Crossing feels unsafe			Reckless or inattentive driving
It doesn't feel safe turning here			Reckless or inattentive driving
No sidewalk or path			Reckless or inattentive driving
Crossing feels unsafe			Reckless or inattentive driving
Poor lighting			Reckless or inattentive driving
Crossing feels unsafe			It doesn't feel safe turning here
Poor lighting			It doesn't feel safe turning here
It doesn't feel safe turning here			It doesn't feel safe turning here
No crosswalk			It doesn't feel safe turning here
Poor lighting			It doesn't feel safe turning here
No bike lane or path			It doesn't feel safe turning here
Crossing feels unsafe			It doesn't feel safe turning here
No crosswalk			It doesn't feel safe turning here
No bike lane or path			It doesn't feel safe turning here
It doesn't feel safe turning here			It doesn't feel safe turning here
Crossing feels unsafe			It doesn't feel safe turning here

Open Question Survey Responses

What are your top transportation safety concerns in Hermiston? Choose your top three:	7. If you answered yes to Questions 5 or 6, are you willing to share your story anonymously? You story may be used in project materials to convey the personal impact of crashes. If so, please do so below:	8. Is there anything else you would like to share with our team about transportation safety concerns or how to improve traffic safety in Hermiston?
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Jay walking across 395	My dog got hit on 11th Street recently. We are devastated. It should be 25mph from Minnehaha to Old River. There should be nice lights to fully illuminate that entire stretch. It needs 25mph max speed and lighted crosswalks that can be activated like those on College Avenue in College Place. Those are fantastic!	We need to create more walking accessibility and improve sidewalks that already exist.
Too high of speed on 11th st.	My husband and I were sitting at the stop light between jack in the box and Starbucks waiting for our light to turn green to merge on to 395 and a distracted speeding driver hit us head on there was nothing we could do besides lay on the horn and brave for impact. The women admitted to being distracted and not paying attention to speed or road. I have suffered from TBI a bulged disc along with non stop doctor and therapy appointments all because of someone else's negligence. On top of it she didn't have insurance and was not arrested.	Laws are not being enforced by tickets, call outs ect to those breaking laws. Homeless walk 395 like it's a walking path holding up traffic so they can illegally cross.
Roadways not wide enough (Baxter Rd)	First one me and my mom were hit by a drunk driver head on on Craig Rd in 1997 at 9am. Second my dad was hit on his Harley by a drunk driver in 2001.	Traffic on 395 is a hazard. Vehicles have to use the turning lane to merge onto 395, it makes it difficult to turn when the turning lane is being used as a merger route. Semis should be routed another route to help eliminate some traffic.
Illegal drivers that may or may not be able to read street/traffic signs	On old River Rd turning left into my driveway a car tried to pass me	11th Street is a hazard.
Crosswalks on West Highland by football field entrance needs lighted flashing crosswalk & signs that light up at night. Very dangerous with school kids crossing & when sporting events are taking place at the field or tennis courts it is very budy & dangerous crossing. West Highland is very budy traffic & congested. Police need to patrol way way better than they currently do.	I just take care of them in the ER	There is a large group of children along Baxter rd and Canel that walk often. The road is NOT wide enough and people often speed down the hills. I am very concerned for the safety of the children and walkers in this neighborhood.
Students crossing Elm along 10th street to get to and rom Loma and Sandstone.	No	I would like to see something happen to the driveway to Walmart on hwy 395 just before McDonald's.
So many people not understanding how to use a 4 way stop	September 2022, an individual on a bicycle rode out in front of my vehicle. I was not speeding not was I distracted at the time. I was looking down one street to make sure it was clear and the individual came from the opposite side, not bothering to look for traffic. I slammed on my brakes and to no avail, I watched everything happen as if it was a horror movie, the individual on his bike riding into the road, hitting the front of my vehicle, being thrown at least 10 feet in front of me and landing on the street. These accidents don't affect only the victim, but at times the drivers as well. I'm glad the individual lived, but now we are both faced with the trauma, anxiety, and much more that we may never be able to deal with.	The intersection by the high school either needs actual stop lights to control car traffic and foot traffic. Kids don't even stop at the curb so you can see which direction they are crossing. They don't even look up from their phones. It's dangerous
	I have narrowly avoided several accidents in Hermiston on highway 395. People drive distracted - maybe they are not sure where they're turning. It used to be a small enough town you could do that stuff, not anymore.	No
	5 months pregnant and would never become a mother after a car crash	Arbitrarily lowering speed limits without consulting engineers is a poor method to attempt to curb accidents and stop speeding. People will still speed. Distracted driving and the poor stop light system in this town are the biggest factors to me in the increase in accidents. The homeless population adds to the dangers on roadways as they pay no heed to right of way on crosswalks or when Jay walking or riding their bicycles in and out of traffic. The AI system in place by ODOT in the stop lights on 395 is terrible. When they were installed, traffic seemed to increase as the lights stay red longer. The sequence to get through town north and south was destroyed. Often times you can hit a red at every intersection. I believe this is the reason red light running has increased, which in turn adds to the risk for intersection accidents. There is no substitute for defensive driving and common sense. There seems to be a large lack of common sense on the roadways these days and it's up to law enforcement and other civic avenues to educate the public. I'd also like to comment on the seasonal immigrant population that inundates our area during the farming months. They do not know our laws and drive accordingly. I travel to Mexico for work a few times a month so I understand their driving culture. They do not pull over for emergency vehicles here because down there, it is standard practice for emergency vehicles to drive around with their emergency lights on at all times. So to this population, they do not see a need to pull over. They also do not adhere to speed limits as in Mexico, they are more of a suggestion. (I realize that the population of migrant workers makes up more than Mexican nationals, I just spend more time in Mexico than I do other nations to our south, so that is where I draw my experience from). These are a few reasons as to why I think traffic accidents and deaths are up in our area.
	NA	Seems like a good chunk of fatal accidents recently have involved transients or people having a mental health crisis. Also the amount of people driving under the influence at ALL hours of the day and not just at night is a bit shocking to most. Maybe more mental health and daytime DUI awareness would help people watch out for those kind of situations and they can be stopped before an accident happens.

Open Question Survey Responses

What are your top transportation safety concerns in Hermiston? Choose your top three:	7. If you answered yes to Questions 5 or 6, are you willing to share your story anonymously? You story may be used in project materials to convey the personal impact of crashes. If so, please do so below:	8. Is there anything else you would like to share with our team about transportation safety concerns or how to improve traffic safety in Hermiston?
	Someone blew a stop sign coming out of Walmart and made a right hand turn, hitting my car on 395. Too many people don't pay attention to those in the turn lane.	I feel that the running of red lights is a large issue. Perhaps having a pause in between the time lights change red to when the next changes green? Maybe five to ten seconds in between, instead of them immediately turning green.
	I was in a crash in Hermiston at Elm St and 11st St back when it was a 3-way stop. I was heading north on 11th st and turning west and the car that was heading south on 11th st didn't stop at the stop sign and hit me as I turned left. Turned out he was drunk. My uncle was killed in a crash on Old River Road several years ago when a drunk driver was speeding and crossed over the median and hit him head on.	Highway 395 by the new Toyota dealership - I feel like there have been so many accidents there. Why is it? Also a lot of people misjudge how long they have to pull out onto 395
	People drive distracted, running red lights	Police need to patrol West Highland Avenue for speeding all times of day & night. Very disturbing
		I believe that one of the greatest concerns with road safety in Hermiston, is the lack of enforcement of current law. We live on Orchard and in the last two years we have had three cars totaled by intoxicated and uninsured drivers. In one case the driver was only in custody for less than an hour. In all cases none of these drivers were truly held accountable for their actions. The fact that our police force has to expend a great deal of effort only to see these people released is very frustrating. Ultimately these individuals who never experienced the repercussions of their actions can be responsible for the injury and death of people on the road.
		We need a light at elm and 10th
		I think a traffic light needs to be put on Elm for students ti safely travel across the Hwy.
		WHO designed and APPROVED the new 1st place intersection with Elm St.? There is a "middle turn lane" all the way along the new 1st place road, but NO LEFT TURN LANE at the Elm street intersection!!! This makes NO SENSE!!! And I have seen quite a few drivers try to "squeeze by" to get around someone turning left from 1st Place to go west on Elm. VERY POOR PLANNING!!!!! Place fix!!
		The red light running seems to happen a lot after 10pm. Fyi.
		There is a ton of safety concerns with this town. People who aren't licensed, tags expired, and don't know how to work a 4 way stop. The light by safeway and the pho restaurant needs a turn lane or turning signals because it's a game of chicken if you need to turn heading towards Stanfield or towards 7-11. Same with the light on orchard by the hermiston district office and the car wash. Going onto SW 11th is a game of who can go fastest. It needs turning arrows. This town also needs a driving school so people can get driving practice and training. We have a ton of people constantly running red lights as well. We need more enforcement to deter that.
		River Road needs to be expanded to have turn lanes and places to safely walk for pedestrians
		People runnimg red lights on 395 is ridiculous. I can believe i never see a cop car watching at the intersections.
		Start ticketing people for running red lights.
		Though I've never lost anyone close to me in a serious or fatal crash, as a 31 year verteran firefighter/medic here in this city, I've been on hundreds of crashes. What I've seen in general is that it's more often human error, that being distracted, poor driving abilities, speed/poor decision making, or DUII, that caused the particular crash. I believe we have a good traffic system, people are just not using their brains to drive more safely.
		Better camera system

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