LEWIS-CLARK VALLEY MPO

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Asotin County - Clarkston

Transportation Plan

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ASOTIN COUNTY / CITY OF CLARKSTON TRANSPORTATION PLAN

LEWIS CLARK VALLEY METROPOLITAN PLANNING ORGANIZATION

June 2019

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EXECUTIVE SUMMARY

In 2018, Lewis Clark Valley Metropolitan Planning Organization (LCVMPO) funded the City of Clarkston's and Asotin County's request for the development of a transportation plan within the MPO boundary. The role of the LCVMPO involves transportation planning and programming, developing and implementing work programs, develop a Transportation Improvement Program (TIP), and develop a Regional Transportation Plan. The LCVMPO includes Nez Perce County and Lewiston, Idaho, and Asotin County, Clarkston, and Asotin, Washington. This transportation plan was created with the intent to provide Asotin County and the City of Clarkston a plan to identify issues (gaps in services [all transportation related facilities], poor performing areas, geometric problems, functional classification, frequent crash areas, etc.) and propose solutions to noted issues within the MPO boundary.

The plan was created for both Asotin County and the City of Clarkston due to the close interaction of their transportation networks, shared destinations, potential coordination on transportation projects and maintenance, and similar overall transportation demand. A Capital Improvement Plan (CIP) was created for each agency, which details proposed projects based upon the noted existing conditions (roadway condition, traffic volumes, road geometry, crash data, etc.), forecasted traffic data, long-term goals for each agency, and overall priority of each of the projects based upon benefit and comments from the plan committee.

The following are some of the unique challenges and existing conditions noted for each agency within the study area during the development of this transportation plan:

Asotin County:

- Future growth for the County is generally limited to the west and southwest of the study area. The County does not have room to grow and expand north or east (landlocked by rivers), and many open areas in the central area of the County will not permit development (topography; steep slopes, drainage basins, etc.). As such, careful consideration should be made when planning future development locations and adjacent roadway corridors. 6th Avenue, Appleside Boulevard, Scenic Way, and 15th Street are the primary corridors that are likely to be most affected by developments occurring in the western area of the County.
- Due to existing topography and layout of the existing traffic network, many areas of the County have limited access (minimum routes in or out). This means that many destinations can only be accessed by extended lengths and travel times. Multiple neighborhoods are noted to have meandering curves, cul-de-sacs, and convoluted traffic routes to arrive to main corridors. Accesses to main roads (Fleshman Way, SR-129, 15th Street) are limited and do not promote efficient through traffic traveling from the County to the adjacent cities (Clarkston, Lewiston, and Asotin).
- Pedestrian facilities are limited. A few main routes within the County are noted to have sidewalk (15th Street, Appleside Boulevard, Fleshman Way, 13th Street), but the remaining County roads generally do not have sidewalk. Safe pedestrian paths are generally recommended on functionally classified roadways and promote walking and use public transit, so it is recommended that the County continue pursuing the installation of sidewalk at strategic locations to create comprehensive pedestrian paths. It should be noted that there are also a number of pedestrian ramps that are not ADA compliant within the study area (primarily along Appleside Boulevard).
- Some primary corridors are approaching capacity. 15th Street and Scenic Way currently see large amounts of traffic. It is anticipated that these roads will be operating at or above capacity in the near future. Potential lane expansion may be required, which would represent a major acquisition of right-of-way, roadway restructure, and intersection improvements.

City of Clarkston:

- Potential growth for the City is limited. While it is anticipated the population of the City will continue to grow due to infill, the City is currently built out with minimal space for expansion (outside of future potential annexation). This means for a difficulty in estimation for the future of the City's transportation needs.
- A large amount of the City's roads are in worsening condition, with a thin, 2" overlay being the primary recommendation for maintenance throughout the City. This represents a significant financial burden for the City of Clarkston, which is operating on a limited budget for road maintenance projects. Outside funding sources are recommended to bolster the City's budget and allow some of the more financially heavy projects to be completed with minimal impact to the City.
- A bulk of the existing pedestrian facilities do not appear to meet ADA requirements (it should be noted that a full, formal ADA inventory was not completed as part of this project). While the City currently has a fairly comprehensive sidewalk network, many sections of sidewalk are damaged, are lacking pedestrian ramps, are too steep, or have gaps between sections. This plan recommends sidewalk projects at strategic locations to close sidewalk gaps near high pedestrian areas (schools, businesses, etc.).
- Some primary corridors are approaching capacity. Bridge Street and 13th Street currently see large amounts of traffic. It is anticipated that these roads will be operating at or above capacity in the near future. Potential lane expansion may be required, which would represent a major acquisition of right-of-way, roadway restructure, and intersection improvements. Additionally, Bridge Street is under WSDOT jurisdiction, and will require coordination between WSDOT and the City to determine the best path forward.
- Diagonal Street creates unique geometric intersections that are not efficient. Many of the noted issues identified in this plan relate to Diagonal Street, which creates 5-legged and 6-legged intersections at multiple points in the City that are controlled only by stop signs. These intersections can prove difficult for both driver and pedestrian interactions. A portion of Diagonal Street is also approximately 70-feet wide (2 through lanes in each direction and a turning lane), making it difficult for pedestrians to cross with typical crosswalks.

The more significant recommendations identified by this transportation plan and CIP are listed below for each agency (list is not all-inclusive; reference the CIP for additional projects). These recommendations were put together with an understanding of the challenges presented previously. It should be noted that the listed priority number does not mean that other projects on the CIP cannot be done first, it simply represents the prioritization based on benefits and comments collected by the plan.

Asotin County:

- Project C1 - Scenic Way (Potential Lane Expansion): As noted previously, Scenic Way is one of the roadways within the County that is nearing capacity, and is one of the primary roads in Asotin County. A lane expansion is a potential solution to handle the increased traffic, and it appears that there is enough existing space to complete this project with minimal impact to adjacent land.
- Project I1 – Scenic Way & Valleyview Drive (Intersection Improvements): Along with the recommended lane expansion for Scenic Way, the intersection of Scenic Way & Valleyview Drive will require improvements to handle the lane expansion and improve the eastbound movement (anticipated LOS F by 2040). This intersection's current geometry and topography will play a major factor in what solution is implemented, which will require some additional planning and analysis.
- Project C4 – 15th Street (Potential Lane Expansion, 2040): As noted previously, 15th Street is one of the roadways within the County that is nearing capacity (anticipated to be at or above capacity by the year 2040), and is one of the primary roads in Asotin County. A lane expansion is a potential solution to handle the increased traffic, but current right-of-way and available space will be a factor in implementing these improvements.
- Project PED1 – 6th Avenue Sidewalk: The County is already pursuing the implementation of this project, which includes new sidewalk from 22nd Street to Evans Road. This project is listed as the highest pedestrian priority since it is located near an area identified for future development.

City of Clarkston:

- Project I1 – Diagonal Street, 2nd Street, & Bridge Street: Due to the current geometry of this intersection (5-legged intersection) and the high volumes on Bridge Street, it is recommended that this intersection undergo improvements to improve the level of service. The City of Clarkston is actively working with WSDOT to move forward with the design phase of this project in 2019.
- Project I2 – Diagonal Street, 8th Street, & Elm Street: As noted previously, this intersection is one of the intersections within the City that is a 6-legged intersection due to Diagonal Street. Intersection improvements are a potential solution to the current geometry and service to the transportation network, and it appears that there is enough existing space to complete this project with minimal impact to adjacent land. The City plans to proceed with an analysis of the intersection to recommend specific improvements.
- Project S1 – Bridge Street Corridor Study (From 15th Street to Lewiston): As noted previously, Bridge Street is expected to be operating at or above capacity in the near future. It is recommended that the first step towards improving this corridor is a corridor study. This study should provide potential solutions for the best path to move forward while working with WSDOT to improve this roadway.
- Project C2 – 13th Street (Potential Reconstruct; from Fair Street to Port Way): Based on the pavement condition survey, the current PSC rating (as of 2018) was approximately 56. This road currently has distresses that could be resolved with either a reconstruction or a thick overlay (3").

This transportation plan will act as a living document for Asotin County and the City of Clarkston, with the Capital Improvement Plan for each agency acting as a guideline for each agency to follow. The plan should be revisited and updated on a regular basis to ensure it accurately reflects and captures each agency's vision for the future of the area within the MPO boundary.

SUMMARY OF RECOMMENDATIONS

The following is a summary of recommendations made in the Asotin County/City of Clarkston Transportation Plan. The listed recommendations also reference the respective chapter and page number to assist users in locating the in-depth discussion and detail of the specific recommendation.

Section 2.3.1 (Trip Generation), page 24: Trip generation numbers for noted developments during the time of this plan are provided for consideration (based on active building permits provided by the CAC).

Section 2.3.2 (Employment), page 25: Both Asotin County and the City of Clarkston should complete a formal traffic impact analysis before each of the proposed developments discussed by this plan (if not already completed or ongoing), along with any future developments in the study area.

Section 2.4.1 (Land Use), page 26: Asotin County, the City of Clarkston, and other local companies should work together to complete a Traffic Impact Analysis for any potential land use or zoning changes in the future.

Chapter 3 (Other Transportation Related Studies), page 28: It is recommended that studies discussed in this chapter are referenced when moving forward with projects identified by each agency's Capital Improvement Plan (CIP). Projects that are relevant to this transportation plan are listed for each study discussed.

Section 4.3.1 (Roadway Geometry), page 38: The following recommendations are provided for each agency based on existing roadway geometry:

Asotin County:

- Explore options for better connectivity of residential neighborhoods to classified roads; reduce the number of new cul-de-sacs and limited access areas
- Replace wire-hung flashing warning lights at 15th Street & Elm Street with pole mounted signs with flashing beacons or LED border lights
- Intersection warning signage installation at intersections along 15th Street with high crash frequencies (see Asotin County CIP for specific intersection recommendations)

City of Clarkston:

- Thorough evaluation of intersections along Diagonal Street for potential improvements
- Corridor study on Diagonal Street (from 5th Street to 12th Street)
- Evaluate potential pedestrian islands at more frequented crossings of Diagonal Street
- Potential warning signage at strategic intersections of 13th Street depending on high crash frequency

Section 4.4.1 (Functional Classification), page 40: The following recommendations are provided for each agency based on functional classification:

Asotin County:

- Libby Street should be reclassified from a local road to a Major Collector (from 13th Street to 15th Street)
- Quailwood Drive should be reclassified from a local road to a Major Collector (entire length)
- 16th Avenue could potentially be reclassified from a Major Collector to a lower classification (i.e., local road) due to Fleshman Way handling most of this traffic (from Fleshman Way to 15th Street)
- 4th Avenue should be reclassified from a local road to a Major Collector (entire length)
- Additionally, 22nd Street (from 6th Avenue to Critchfield Road) should also be monitored for potential changes to classification. From initial investigation (geometry, proximity to other roads), this area could potentially need a change if traffic patterns change in the future.

City of Clarkston:

- Maple Street should be reclassified from a local road to a Major Collector (from 6th Street to 15th Street)

Section 4.5.1 (Bridges), page 43: It is recommended that Asotin County and the City of Clarkston continue coordinating with the City of Lewiston and Nez Perce County to pursue options to best maintain Southway Bridge.

Section 4.5.2 (Stormwater Facilities), page 43: It is recommended that stormwater management plans are referenced closely with this plan so that opportunities to install stormwater facilities concurrently with roadway improvements can occur.

Section 4.6.5 (Freight and Truck Traffic), page 44: Efforts for minimizing truck traffic through inconvenient areas should continue by reinforcing designated truck routes that can handle larger vehicles more easily.

Section 4.6.6 (Bicycle/Pedestrian Facilities), page 45: It is recommended that the LCVMPO Bicycle Master plan is consulted frequently as part of this transportation plan, and that the projects listed by it are actively pursued by the City of Clarkston and Asotin County. (Projects listed by the LCVMPO Bicycle Master Plan that directly correlate with CIP projects are included as related projects in each agency's CIP).

Section 4.6.7 (Sidewalks), page 46: The following recommendations are provided for each agency based on existing sidewalk conditions:

Asotin County:

- According to the TRB Access Management Manual, sidewalks should generally be provided on both sides of all classified roadways, down to local roads if possible.
- It is recommended that Asotin County perform a more detailed ADA evaluation of existing facilities and repair sections of the sidewalk network and ramps that do not appear to meet ADA requirements.

City of Clarkston:

- Priority should be based upon completing sidewalk gaps in close proximity to schools where complete sidewalk is not present on at least one side of the roadway.
- It is recommended that the City of Clarkston perform a more detailed ADA evaluation of existing facilities and repair sections of the sidewalk network and ramps that do not appear to meet ADA requirements or are damaged.

Section 4.6.8 (Multimodal Transportation Recommendations), page 52: It is recommended as development and growth occurs that the transit system is extended/expanded to meet the community needs for transit service. (Specific and additional recommendations can be found in this section as well.)

Section 4.7.1 (Existing Traffic Volumes), page 53: The following are recommendations based on existing traffic volumes in the study areas:

- Bridge Street should have a corridor study performed to identify additional constraints and potential paths moving forward (volumes are near necessitating capacity improvements).
- Bridge Street/US-12 segment (From 2nd Street to 13th Street) should be evaluated for capacity improvements in the future
- Scenic Way (From 15th Street to Valleyview Drive) should also be evaluated for potential capacity improvements

Section 4.8 (Traffic Calming Devices), page 57: If traffic calming is determined to be needed for a roadway, it is recommended that the corridor is analyzed on a case-by-case basis to determine the best solution to provide traffic calming devices that are the best fit.

Section 4.9.3 (Crash Analysis), page 72: The following are recommendations for each agency based on the crash analysis:

Asotin County:

- Install warning signage at intersections along 15th Street to warn drivers of upcoming traffic conflict areas
- Consider installing warning signage at Scenic Way to warn drivers of curve and speed limit (if not already completed)

City of Clarkston:

- Consider installing warning signage at intersections along 13th Street to warn drivers of upcoming traffic conflict areas
- Diagonal Street Corridor Study
- 12th Street, Chestnut Street, and Diagonal Street intersection study to determine what reconfiguration would provide the best results

Section 4.10 (Speed Limits), page 73: The following are recommendations for each agency based on the speed limit information and CAC feedback:

Asotin County:

- If complaints continue relating to County streets mentioned above, the County should either perform a speed study or monitor the areas with portable radar signs to discourage excessive speeding. Radar signs that provide speed feedback and notification can also be a useful tool on problem corridors and may be an option for the County.

City of Clarkston:

- The City should use the portable radar sign as a method to discourage speeding at problem areas and when completing speed studies on roadways as required.
- Speed studies are recommended to be completed on: 6th Street, 7th Street, 8th Street, 10th Street, 12th Street, and Libby Street

Section 5.1.7 (Recommended Pavement Management), page 96: The following are recommendations for each agency based on the pavement condition survey and analysis (see section for specific dollar amounts associated with these recommendations:

Asotin County:

- Pursue outside funding sources to fund more financially heavy projects listed on the CIP that currently cannot be covered by existing budgets while maintaining the existing network ratings
- Prioritize chip sealing roadways to keep the structurally sound roads in good condition by utilizing existing budgets. The County currently is implementing a 5 year chip seal cycle, which is completed by grouping roads in close proximity in an order that makes the most sense. It is recommended that the County continue this process.
- While a reduction in maintenance budget is not recommended, strategic use of existing maintenance budgets may be possible to complete other transportation related projects (sidewalks, pathways, etc.) during years that a pavement evaluation reveals that some roads may not need immediate maintenance.

City of Clarkston:

- Pursue outside funding sources to fund more financially heavy projects listed on the CIP that currently cannot be covered by existing budgets while maintaining the roadway network.
- Utilize existing roadway maintenance budget to prioritize chip sealing roadways to keep the structurally sound roads in good condition. If possible, it is also recommended that the City move towards chip-sealing 1/5th of the roadway network annually.

Section 5.2.3 (Signage Recommendations), page 100: The following are recommendations for each agency based on the sign inventory:

Asotin County:

- It is recommended that Asotin County continue its current signage management practices, as it is currently proving to be performing very well.
- It is recommended that Asotin County move towards formally adopting and implementing a sign management plan for maintaining existing signs and meeting retroreflectivity requirements.

City of Clarkston:

- It is recommended that the City of Clarkston work towards replacing any signage identified by the inventory that do not meet current retroreflectivity requirements.
- It is recommended that the City of Clarkston move towards formally adopting and implementing a sign management plan for maintaining existing signs and meeting retroreflectivity requirements.

Section 6.1.1 (Forecasted Traffic Volumes), page 102: It is recommended these roadway segments are evaluated in the future to determine if changes in growth over the next ten years may spur these capacity improvements sooner than anticipated by the model:

- Bridge Street/US-12 (From 2nd Street to 13th Street)
- Bridge Street/US-12 (From 13th Street to 15th Street)
- Fleshman Way (East of 15th Street)
- 13th Street (South of 16th Avenue)
- 15th Street (From Chestnut Street to Fleshman Way)
- Appleside Boulevard (South of Valleyview Drive)
- Diagonal Street (From 4th Street to 6th Street)
- SR-129 (From Fleshman Way to 22nd Avenue)
- SR-129 (From 22nd Avenue to 13th Street)

Section 6.1.2 (Intersection Analysis; 2040), page 105: The following intersections are recommended for improvements or evaluation in this transportation plan based on decreased LOS anticipated by the year 2040:

- 15th Street and Chestnut Street
- 15th Street and Fleshman Way
- 13th Street and 16th Avenue
- Appleside Boulevard and Valleyview Drive
- Highland Avenue and 13th Street
- Chestnut Street and 13th Street
- Elm Street and 13th Street
- Diagonal Street and 8th Street

Chapter 9 (Recommendation for Update), page 115: The following are recommendations for update of this transportation plan:

- The CIP should be revisited on a yearly basis. At the very least, the plan should be updated every 3 years as projects are completed or changed.
- The pavement condition survey should be updated at minimum every 3 years.
- City and County personnel should conduct visual inspections of signs on an annual basis for maintaining compliance with FHWA and MUTCD mandated retroreflectivity requirements. The sign management plan should be updated yearly during the spring sign inspection and revisited after no more than 3 years.

CHAPTER 1 - INTRODUCTION

1.1 PURPOSE

In 2018, Lewis Clark Valley Metropolitan Planning Organization (LCVMPO) funded the City of Clarkston's and Asotin County's request for the development of a transportation plan within the MPO boundary. The goal was to evaluate the existing transportation network within the City of Clarkston and surrounding Asotin County, identify needs within the transportation system, and present a plan to address those needs.

A transportation plan assists in planning and designing efforts to enable safe access for all users of the transportation system including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. A transportation plan provides the framework for community leadership on how to address changing community transportation needs, how to fund them, and completing projects based upon the community's priorities and values. A transportation plan is a guide to be used to improve safety, and public health, while reducing transportation costs and traffic woes.

A considerable amount of work, data gathering and analysis, and discussion went into developing this transportation plan. Pavement, sign, traffic, and crash data were collected and evaluated. Structured discussions with city officials were held to gain an understanding of the local transportation system and the challenges facing the City of Clarkston and Asotin County in maintaining and improving the system. This data and subsequent analysis were used to form the basis for the improvements proposed in this study. The City of Clarkston/Asotin County Transportation Plan establishes a long-range Capital Improvement Program (CIP) responding to these identified needs.

This Transportation Plan is intended to be a living document that the City of Clarkston and Asotin County can use to continually identify and prioritize transportation deficiencies within the MPO area. As part of the development of this plan, additional tools were created to assist city and county officials in making informed decisions on their transportation network. Pavement Management and Sign Management data was updated and is retained in a spreadsheet format so that the information can be maintained and updated by the City and the County.

1.2 COMMUNITY ADVISORY COMMITTEE (CAC)

A Community Advisory Committee (CAC) was established for this study. The CAC was formed to extend participation in the study to other interests and jurisdictions and to act as a conduit for local information regarding the efficiency of the current transportation system, and to review study findings and documentation to assure that the study is responsive to the actual needs of each Agency. Members of the CAC included:

- Shannon Grow, LCVMPO Director
- Kevin Poole, Clarkston Public Works Director
- Dustin Johnson, Asotin County Engineer
- Monika Lawrence, Mayor, City of Clarkston
- Joel Hastings, Clarkston Chief of Police
- John Hilderbrand, Sheriff
- Mark Janowski, Asotin County Emergency Services
- John Smith, Citizen
- Kristin Kemack, LC Valley Chamber of Commerce
- Mark Hozinkski, Tri-State Hospital
- Jason Ewing, City of Clarkston Building Inspector
- Steven Cooper, Clarkston Fire Chief
- Noel Hardin, Asotin County Fire Dept. Fire Chief
- Paul Gonseth, WSDOT Planner
- Jenny George, Asotin County PTBA Director
- Jeff Smith, LCBA
- Shaun Darveshi, PRTPO
- David Jagannath, Clarkston School District Facilities Manager
- Wanda Keefer, Port of Clarkston Director
- Terry Beadles, Citizen
- Greg Kammers, City of Clarkston Street Superintendent

Four CAC meetings were held during the development of this study. The first meeting was a "kick off" meeting held on April 26, 2018 and its purpose was to introduce members of the Citizen Advisory Committee and to explain the

purpose of the Transportation Plan. The planning process and the role of the CAC were discussed. The committee was asked to start thinking about information they felt would be important to the study and to identify problem areas in town, as well as extend invitations to other potential stakeholders to be a part of the CAC.

The second meeting was held on November 20, 2018. Keller Associates presented collected data pertaining to the City of Clarkston's and Asotin County's infrastructure including pavement, signs, traffic data, and crashes. The CAC provided information on daily traffic patterns, perception of roadway system condition, the need for alternate transportation modes, and roadway safety and maintenance operations. Following the presentation, the CAC was asked what Capital Improvement needs should be considered.

The third meeting was held on January 24, 2019. The CAC reviewed the Capital Improvement projects based upon needs identified in the Transportation Plan study. The CAC prioritized the projects based upon safety, maintenance needs of current assets, and improvement to the overall transportation system.

The fourth and final CAC meeting was held on April 2, 2019. This meeting allowed the CAC to review the final draft of the CIP following comments from previous meetings, as well as make any final suggestions or comments to be implemented into the CIP and transportation plan for both agencies.

A presentation of the Transportation Plan was presented to the LCVMPO Technical Advisory Committee (TAC) on May 22, 2019. The Lewis Clark Valley MPO Policy Board reviewed and adopted the plan on June 13, 2019 (expected).

1.3 A BRIEF HISTORY

On October 10, 1805, and again on May 4, 1806, Meriwether Lewis (1774-1809) and William Clark (1770-1838) camped on the Snake River at the Nez Perce village of Alpowa. This was near the present-day Port of Clarkston. A Settler named Cassius C. Van Arsdol, who was a former surveyor for the Northern Pacific Railroad, developed the first irrigation system in the area. This drew a larger attention to the area, and soon investors from Boston saw the Snake River Bend as an opportunity to develop residential and agricultural regions. In 1896, the Boston-area investors, led by Charles Francis Adams (1835-1915), upgraded the irrigation development in the area by Charles Adams' and Edgar H. Libby's company: the Lewiston Water & Power Company. The City of Clarkston was officially established on August 4, 1902.

Picture 1 - Asotin County Courthouse (1899-1936)

Picture 2: Orchard Near City of Asotin

Picture 3 – Lewiston-Clarkston Bridge (1910s)

Asotin County was created in 1883 from a portion of Garfield County and is the sixth smallest county in the state. The County was mostly agricultural and maintained fruit crops for its development, but in the 1880-1890s, wheat and barley were added along with cattle, plums, peaches, and apples. The county courthouse is located in the City of Asotin to the south of the City of Clarkston. With the irrigation company mentioned previously providing water, the area of Clarkston boomed from 15 people in 1896 to 2,200 in 1903. The irrigation of Jawbone Flats and rapid growth in the early 20th century had a profound effect on Asotin County as well. The City of Asotin peaked in population to about

1,000 people by 1900 but has remained fairly steady since. Meanwhile, The City of Clarkston saw rapid growth with 6,209 people in 1960 and up to about 7,337 in 2000. Asotin County remains primarily as an agricultural area. With the Lower Snake River Project, Asotin County is responsible for the one of the four dams to reach the Pacific Ocean, the Lower Granite Dam. Though the City of Clarkston is actually the smallest of a trio of area ports, including ports in Lewiston and Wilma County, the port has brought a remarkable economic boost to Asotin County since 1975.
The layout and overall vicinity map of the City of Clarkston and adjacent Asotin County areas directly included in this transportation plan can be seen in Figure 1. The City of Lewiston and Nez Perce County, Idaho are directly across the river to the east.

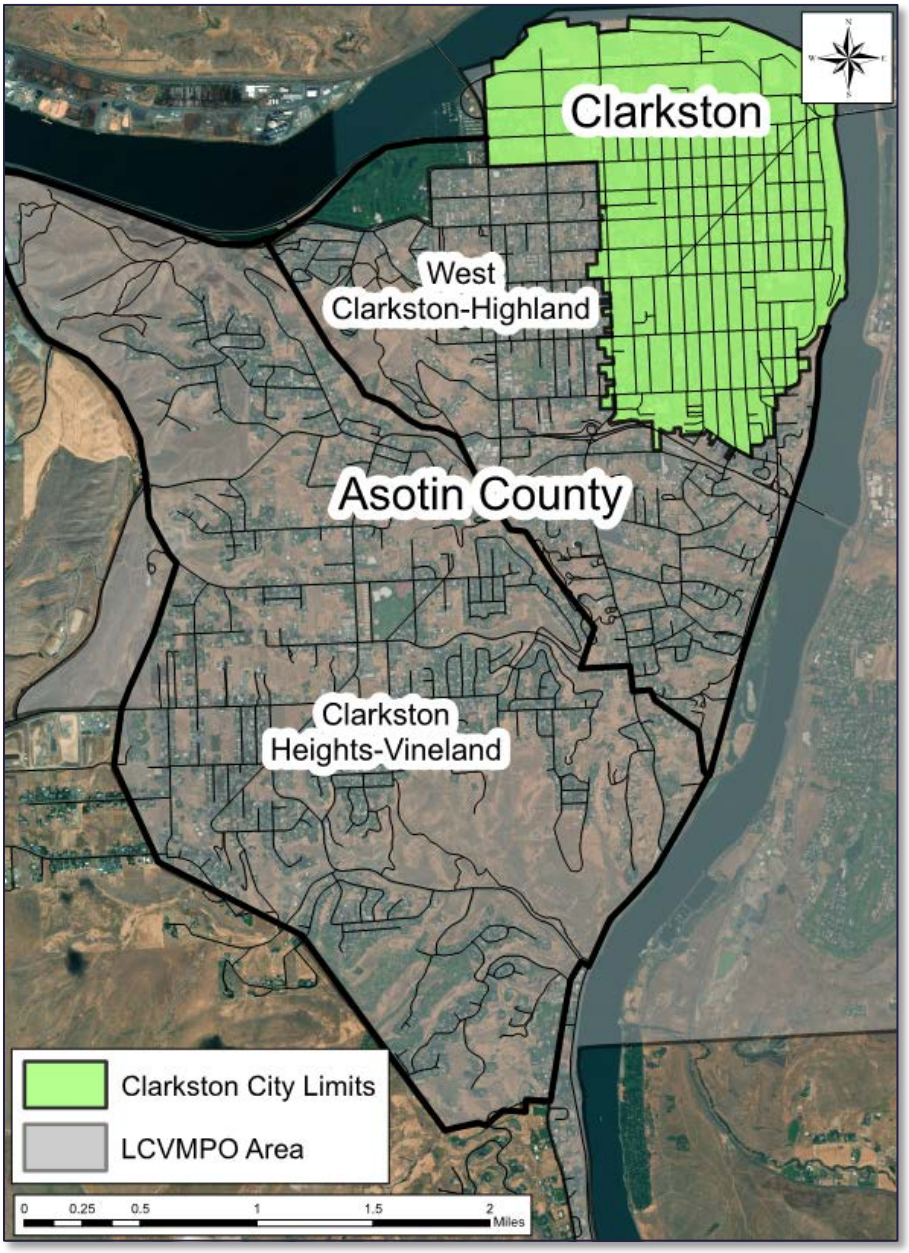


Figure 1 – Transportation Plan Vicinity Map

CHAPTER 2 – DEMOGRAPHICS

Understanding the location and types of both existing and future population and employment is an important element of a transportation plan. Demographic information is the foundation for creating a transportation system meeting the needs of the area. It is important in order to evaluate circulation and safety concerns. Demographics of a surrounding area have both direct and indirect impacts on an area's transportation system. The following sections discuss existing and future demographics in Asotin County and the City of Clarkston. For the purposes of this transportation plan, four main areas were a part of this demographic analysis: The City of Clarkston, the Clarkston Heights-Vineland area, the West Clarkston-Highland area, and Asotin County as a whole.

Figure 1 on the previous page shows the City of Clarkston's city limits along with the boundary for the part of Asotin County that is included in this transportation plan. The West Clarkston Area (Highland) and the Clarkston Heights Area (Vineland) are the main suburban areas within this boundary. Details for the City of Asotin are not explicitly listed in this plan; they can be found in the LCVMPO Asotin Transportation plan for reference. The final section of this report includes links to references discussed by and related to this transportation plan.

2.1 POPULATION

Asotin County: The population of Asotin County was 21,363 in 2010 and 22,113 in 2016. This is an increase of 3.51%, and the population density of Asotin County was 32 inhabitants per square mile in 2016. The racial makeup of Asotin County is roughly 93.1% White, 0.47% African American, 1.62% American Indian, 0.92% Asian, 0.13% Native Hawaiian, 0.37% from other races and 3.37% from two or more races. As part of this plan, the following two urbanized areas of Asotin County were also observed. The following two areas (as seen by Figure 1) provides a fairly close representation of the urbanized area of Asotin County within the MPO boundary.

- West-Clarkston Highland Area: Population of 5,429 in 2010; population of 5,706 in 2016 (5.10% increase)
- Clarkston Heights-Vineland Area: Population of 6,409 in 2010; population of 6,531 in 2016 (1.90% increase)

City of Clarkston: The population of the City of Clarkston from the 2010 Census was 7,204. The 2016 census population was 7,314, an increase of 1.53%. The 2016 population density in the City of Clarkston was approximately 3,514.1 inhabitants per square mile (1,356.8 /km2). The racial makeup of the city is roughly 94.6% White, 0.2% African American, 1.4% American Indian or Alaska Native, 0.4% Asian, 0% Native Hawaiian and Other Pacific Islander, 0.8% from other races, and 2.6% from two or more races. Hispanic or Latino of any race was 4.5% of the population.

Table 1 - Population Growth for Asotin County and the City of Clarkston with Nearby Communities

Community	2010 Population	2016 Population	% Change
Asotin County	21,363	22,113	3.51%
City of Clarkston	7,204	7,314	1.53%
Clarkston Heights-Vineland Area	6,409	6,531	1.90%
West Clarkston-Highland Area	5,429	5,706	5.10%
Asotin	1,251	1,330	3.52%
Pomeroy	1,425	1,410	-1.05%
Colton	418	466	11.48%
Uniontown	294	333	13.27%
Lewiston	31,894	32,872	3.07%

Table 1 to the right lists population and growth rates for Asotin County and the City of Clarkston along with nearby communities as reported by the U.S. Census Bureau.

The City of Clarkston and Asotin County have shown relatively-low to average percentages of growth since 2010 (1.53% and 3.51% respectively). Figures in the following section display historic and forecasted populations for various areas of the City of Clarkston and Asotin County. Figure 2 shows historic and forecasted populations for Asotin County as a whole.

The forecasted population growth shown in the following section was calculated using an exponential growth function to determine the historic annual growth. For Asotin County, the 0.88% growth (Green Line) was calculated using the growth rate from 1990 to 2016, while the 0.46% growth rate (Orange Line) was calculated from the growth between 2000 and 2016 *(source: population.us)* by using the following equation.

$$r = (\frac{P_f}{P_i})^{\frac{1}{t}} - 1$$

Where:
$r = Annual\ Growth\ Rate\ (Exponential)$
$P_f = Future\ Population\ (Most\ Recent)$
$P_i = Previous\ Population$
$t = P_f - P_i\ (years)$

2.1.1 Population Growth Trends

Figure 2 shows historic and forecasted populations for Asotin County (*source: population.us)*. The population growth for the County appears to have been fairly steady since the 1940s, increasingly almost lineraly to present day (minus some slight dips in 1970 and 1990). The forecasted populations were calculated using an exponential growth function to determine historic annual growth as previously discussed. The 0.88% (Green Line) was calculated using the growth from 1990 to 2016. The 0.46% growth was calculated from the population change between 2000 and 2016.

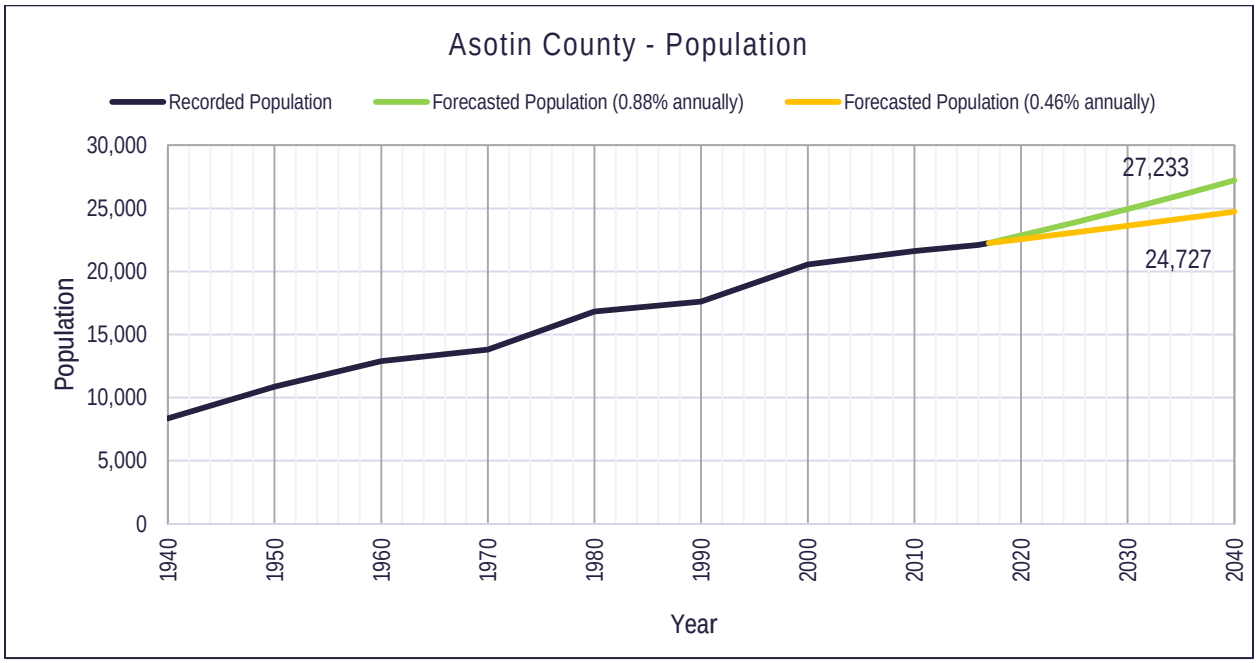


Figure 2 – Historic and Forecasted Population; Asotin County

Figure 3 shows historic and forecasted populations for the City of Clarkston *(source: population.us).* The population growth from 1940 to 1950 was the most dramatic, with the City almost doubling in population in 10 years. Since 1950, the growth has generally plateaued, with an increase in population of about 1,000 in 50 years (from 1960 to 2010). The forecasted populations were calculated using an exponential growth function to determine historic annual growth as previously discussed. The 0.26% (Green Line) was calculated using the growth from 1990 to 2016. The 0.03% growth was calculated from the population change between 2000 and 2016. To more accurately reflect actual growth that Clarkston will experience, the value of 0.10% was used instead of the 0.26% value.

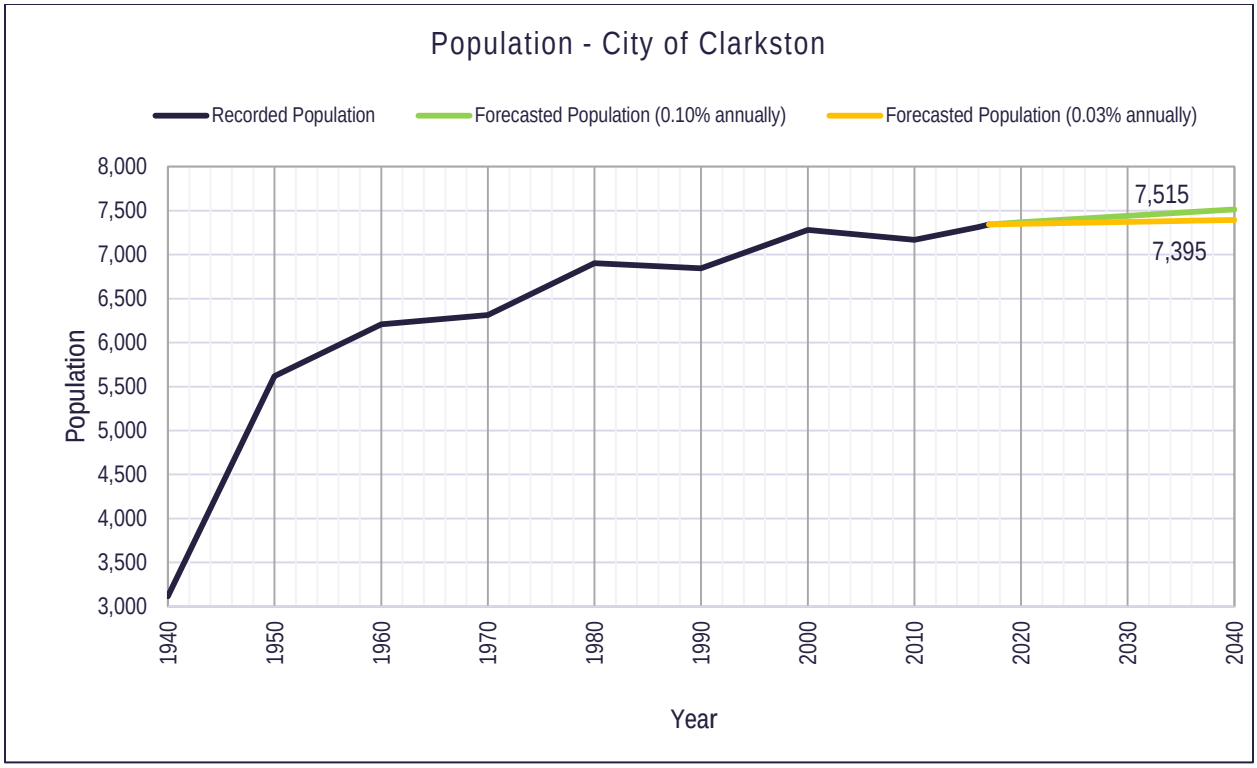


Figure 3 – Historic and Forecasted Population; City of Clarkston

Figure 4 shows historic and forecasted populations for Asotin County excluding the City of Clarkston and the City of Asotin. This is a close representation of the population numbers of the suburban boundary in Figure 1 or the combination of the West Clarkston Area (Highland) and the Clarkston Heights Area (Vineland). The forecasted populations were determined in a similar nature from the previous figures.

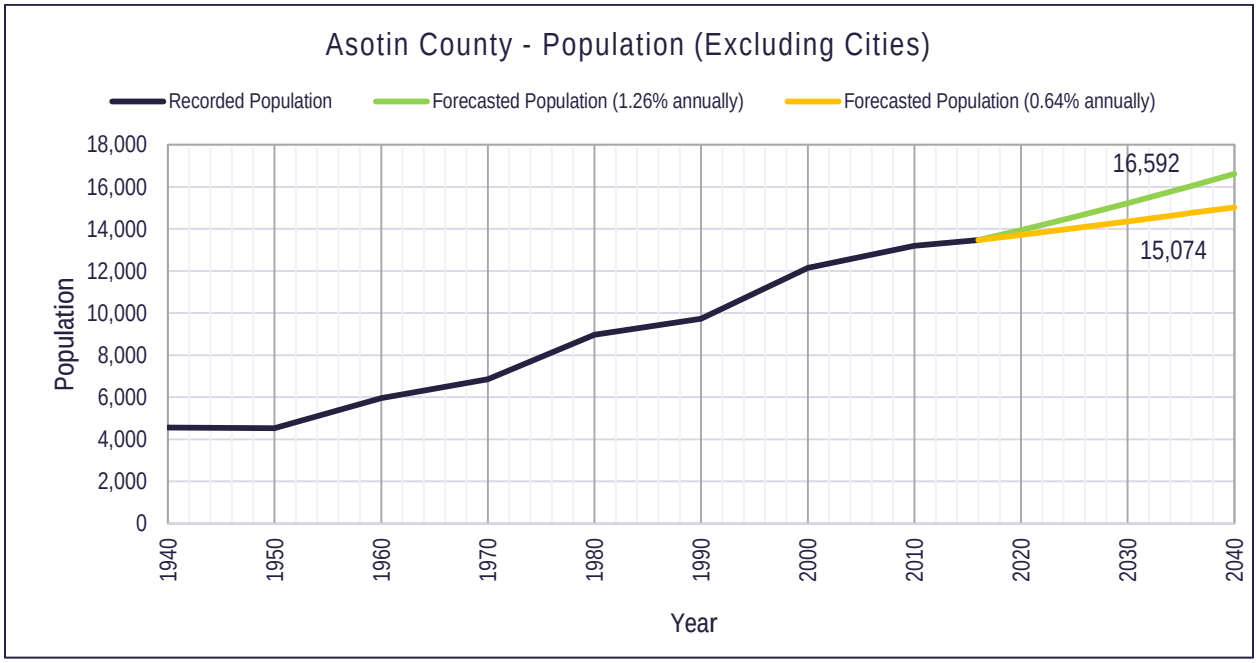


Figure 4 – Historic and Forecasted Population; Asotin County (Excluding City of Clarkston and City of Asotin)

Asotin County:
Based on the annual exponential growth dynamic from 1990 to 2016 (0.88%) it is anticipated that the Asotin County Transportation System will be serving approximately 27,223 residents in 2040, a total increase of 23.15% (from the 2016 population). No additional major factors have been identified to expect a significant change in population growth trends within Asotin County, so these projections are considered realistic long-range projections for this area. As discussed later in this report, there are also high-density housing units that may provide minor impacts to the County's transportation network. In general, growth in Asotin County will be occurring near the western end of the study boundary, in the area near Appleside Boulevard. Growth will likely not be occurring in the northern, eastern, or southern area of Asotin County (within the study area) due to current land use, available space, and topography constraints. The neighborhoods near Appleside Boulevard and 6th Avenue are the best candidates for future growth based on the previously mentioned factors, and should be carefully considered for new types of developments due to the potential impact on the nearby residential areas and adjacent traffic network.

City of Clarkston:
Based on the assumed growth dynamic from discussion with the City (0.10%) it is anticipated that the Clarkston Transportation System will be serving approximately 7,515 residents in 2040, a total increase of 2.75% (from the 2016 population). No additional major factors have been identified to expect a significant change in population growth trends within Clarkston city limits, so these projections are considered realistic long-range projections for the City of Clarkston. It should be noted that there has been more significant growth outside of the city limits in the Clarkston Heights urbanized area of Asotin County. This growth will have an impact on the transportation system in the City of Clarkston depending on when future connections are added to the existing transportation facilities. As discussed later in this report, there are also a number of housing units, businesses, and new developments that may provide minor impacts to the City's transportation network.

2.1.2 Population Age Distribution

Using data from the 2016 Census, Figure 5 through Figure 8 were created to show the population age distributions of Asotin County, the City of Clarkston, the West-Clarkston Area (Highland), the Clarkston Heights Area (Vineland), and the State of Washington across their respective populations.

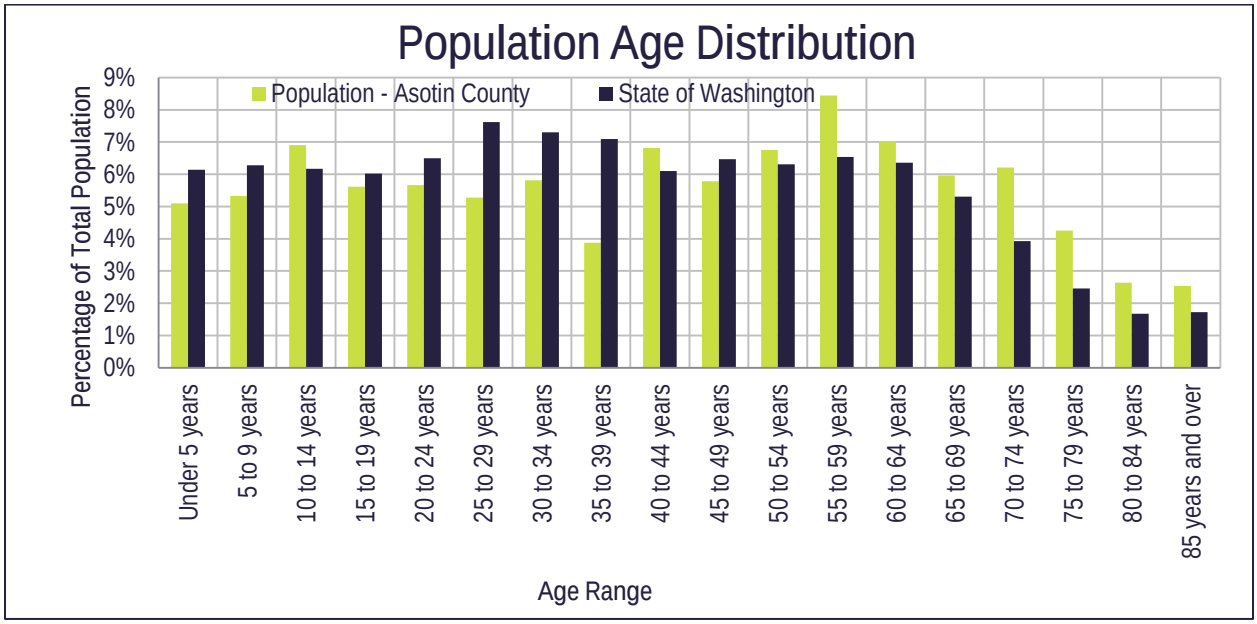


Figure 5 – Asotin County Age Distribution

Asotin County appears to have an even distribution of ages across the population (Figure 5). Ages 19 and under contributes to over 22% of the population, while ages over 65 contribute to over 28%. This indicates that the overall population is fairly evenly distributed throughout the county. In 2017, it is estimated that 22.9% of residents were under the age of 19; 10.9% were between the ages of 20 and 29; 9.7% were from 30 to 39; 12.6% were from 40 to 49; 15.2% were from 50 to 59; 13.0% were from 60 to 69; 10.5% were from 70 to 79; and 5.2% were 80 years of age or older.

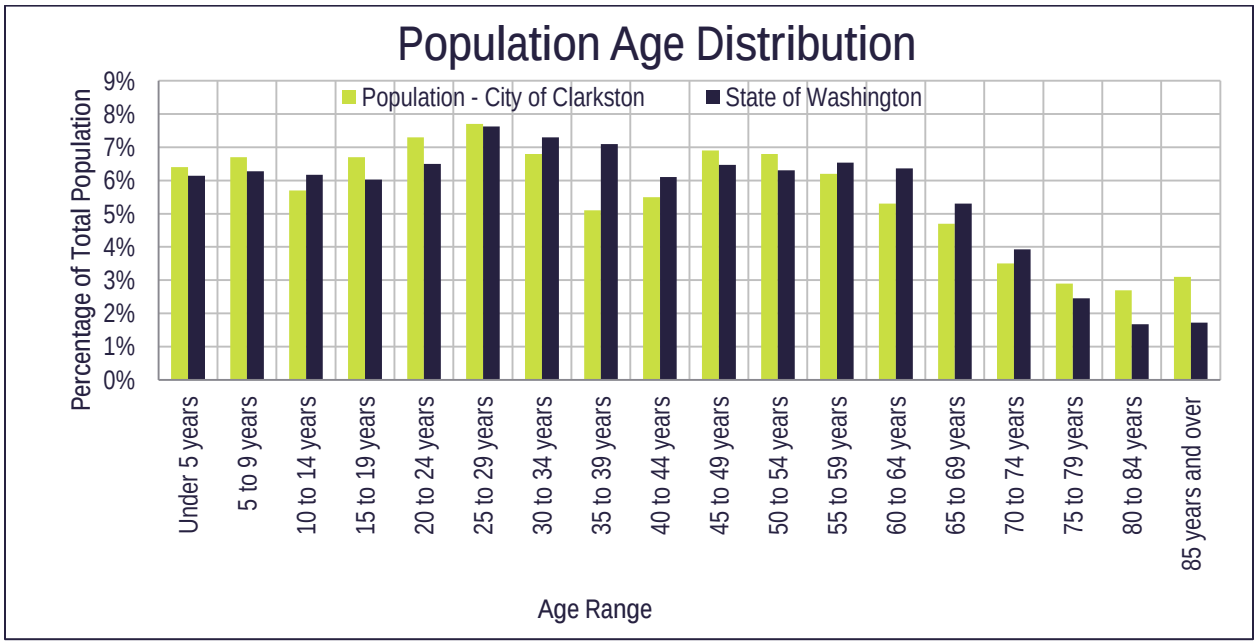


Figure 6 – City of Clarkston Age Distribution

The City of Clarkston has a variety of age distribution percentages across the population (Figure 6). Ages 20 to 24 and 25 to 29 each contributes to over 7% of the population while ages after 65 are less than 4%. This indicates that the overall population is skewed towards a higher average of younger people. In 2017, it is estimated that 25.5% of residents were under the age of 19; 15.0% were between the ages of 20 and 29; 11.9% were from 30 to 39; 12.4% were from 40 to 49; 13.0% were from 50 to 59; 10.0% were from 60 to 69; 6.4% were from 70 to 79; and 5.8% were 80 years of age or older.

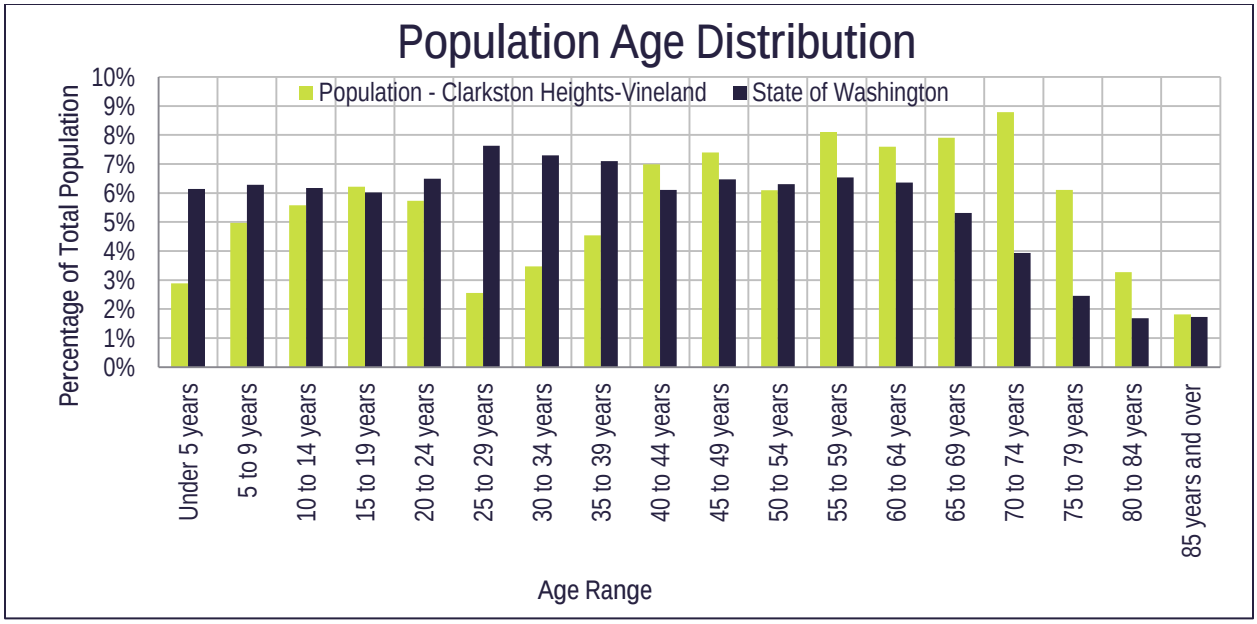


Figure 7 – Clarkston Heights-Vineland Age Distribution

In comparison to Figure 6, Figure 7 for the Clarkston Heights differs a bit from the City of Clarkston. Ages 20 to 24 and 25 to 29 each are lower (5.7% and 2.6%, respectively) while ages after 65 are considerably higher. This indicates that the overall population in this area is skewed towards older people. In 2017, it is estimated that 19.6% of residents were under the age of 19; 8.3% were between the ages of 20 and 29; 8.0% were from 30 to 39; 14.4% were from 40 to 49; 14.2% were from 50 to 59; 15.5% were from 60 to 69; 14.9% were from 70 to 79; and 5.1% were 80 years of age or older. Overall this speaks to an area with a more elderly and potentially retired population, meaning transit and transportation needs in this area will differ from those in the main City area of Clarkston.

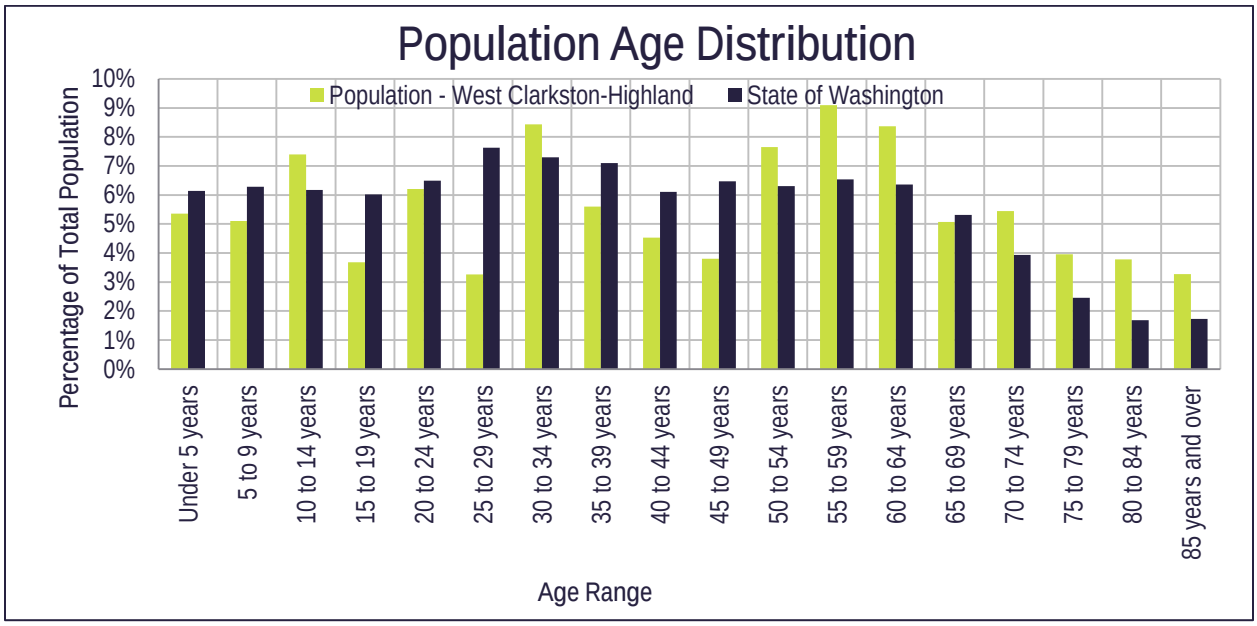


Figure 8 – West Clarkston-Highland Age Distribution

Similarly, in Figure 8, the West Clarkston-Highland Area differs a bit from both the City of Clarkston and the Vineland area. First impressions are that it appears to be an average of the two areas; not skewed towards the younger or

older population explicitly. Ages 20 to 24 and 25 to 29 each are mid-range (6.2% and 3.3%, respectively) while ages after 65 vary for each group. In 2017, it is estimated that 21.5% of residents were under the age of 19; 9.5% were between the ages of 20 and 29; 14.0% were from 30 to 39; 8.3% were from 40 to 49; 16.7% were from 50 to 59; 13.4% were from 60 to 69; 9.4% were from 70 to 79; and 7.1% were 80 years of age or older. Overall this speaks to an area with more of a wide range of ages population, meaning transit and transportation needs in this area will differ from those in the main City area of Clarkston as well as the City of Clarkston.

Based on analysis of all three areas, the following items are of note within the study area:

- An overall younger average population is present within the City of Clarkston
- An overall older average population is present within the Clarkston Heights-Vineland Area
- A wide range of ages are present within the West Clarkston-Highland area (hybrid or a mix of the City of Clarkston and Clarkston Heights)
- An overall older population is present within Asotin County

2.1.3 Population Pyramids

Another useful tool in analyzing population and potential future growth is a population pyramid. A population pyramid organizes population based on age group and displays them in a "pyramid" shape, with the older population shown as the top of the pyramid, and the young population at the bottom of the pyramid. There are generally 3 types of pyramids that emerge from this analysis:

- "Top-heavy" Pyramid: indicates that birth rates are generally low, death rates are generally higher, and potential relocations away from the area are occurring. This scenario generally suggests negative population growth.
- "Bottom-heavy" Pyramid: indicates that birth rates are generally high and that death rates are falling or stable. This scenario generally suggests the potential for population growth.
- "Square" Pyramid: indicates a mixture between the "top-heavy" and "bottom-heavy." This shape indicates slow and sustained growth, with death rates and birth rates being close to each other.

The population pyramid for the City of Clarkston is shown in Figure 9 below.

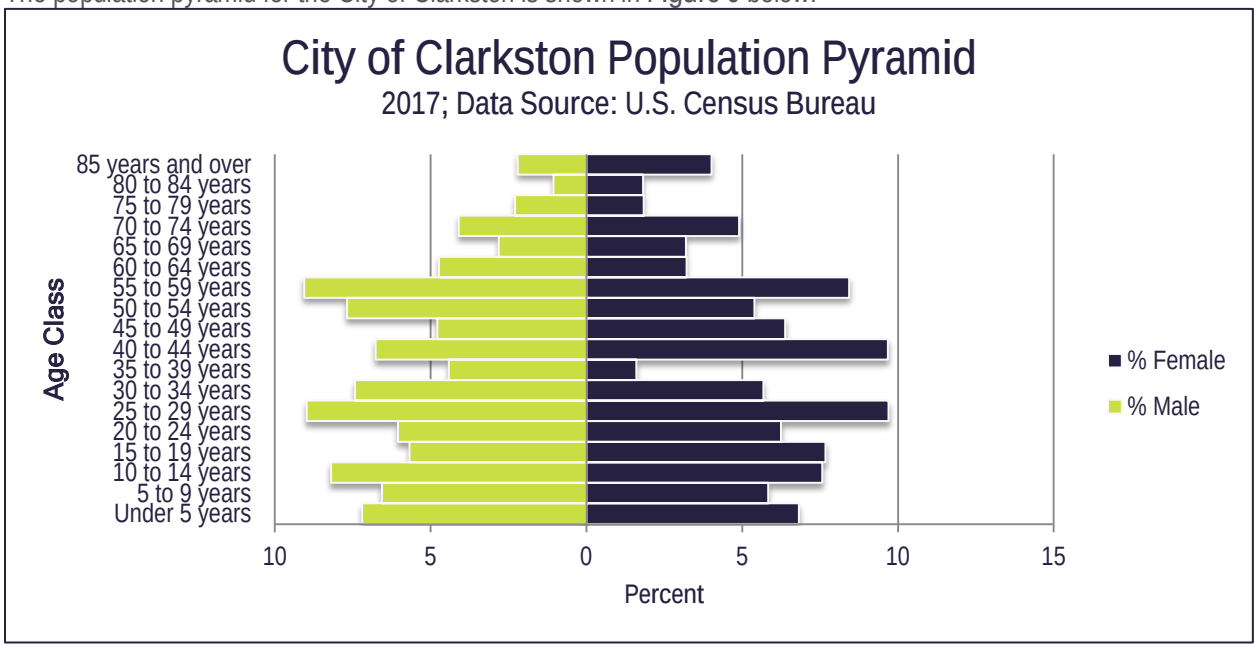


Figure 9 – City of Clarkston Population Pyramid

As seen by the population pyramid, the pyramid for the City of Clarkston is generally balanced and a bit bottom heavy. Overall, this would suggest the potential for continued positive growth for the City. Based on historic growth trends for the City, this layout corresponds and matches with the population growth that the City of Clarkston has been experiencing in past years, hinting at the potential for some more sudden growth.

The population pyramid for Asotin County is shown in Figure 10 below.

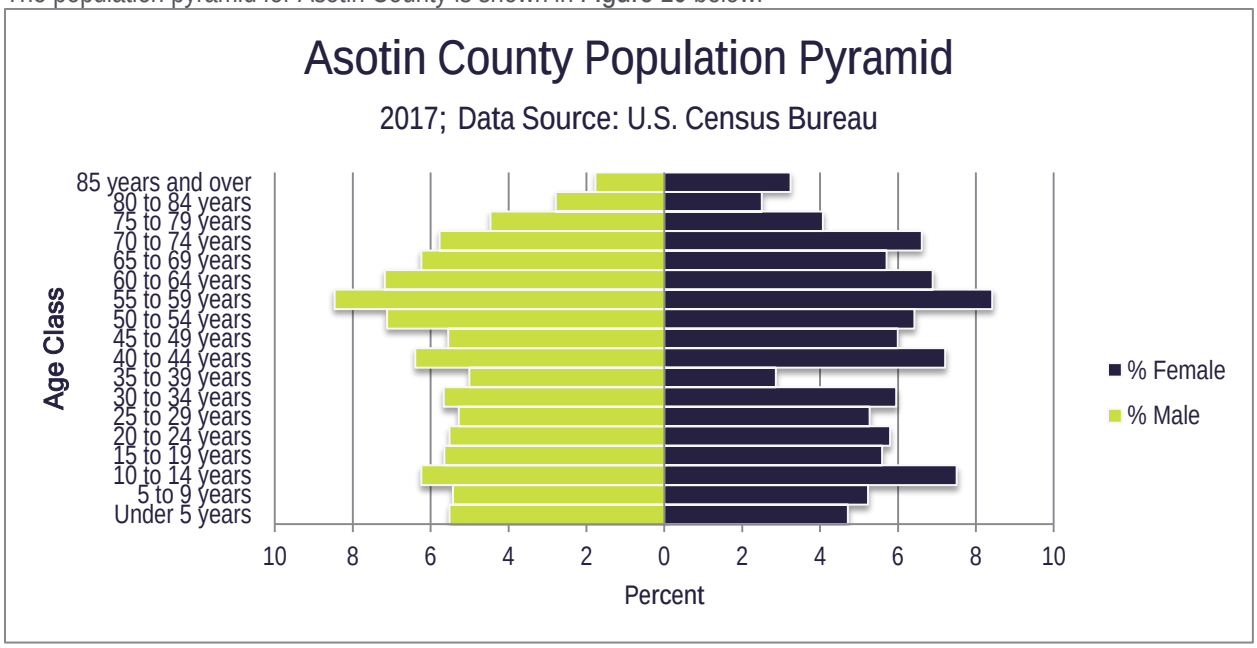


Figure 10 – Asotin County Population Pyramid

As seen by the population pyramid, the pyramid for Asotin County is generally balanced and a bit top heavy. Overall, this would suggest the potential for slight negative growth for the County. Based on historic growth trends for the City, this layout corresponds and matches with the minor growth that the County has been experiencing in past years.

The population pyramid for the Clarkston Heights-Vineland area is shown in Figure 11 on the next page.

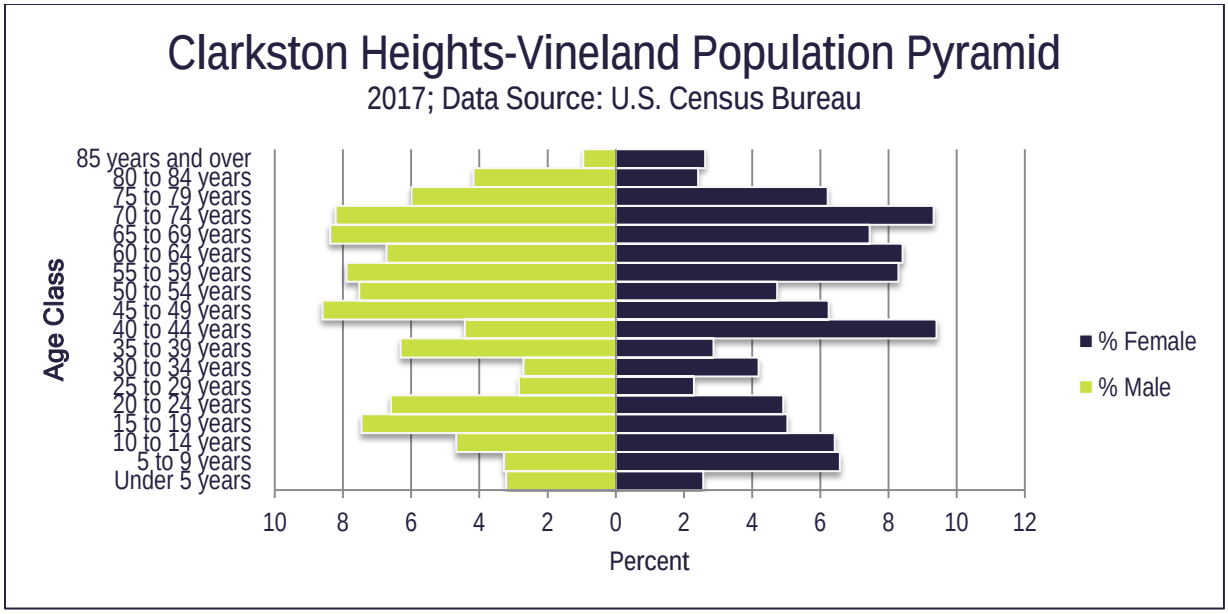


Figure 11 – Clarkston Heights-Vineland Population Pyramid

The population pyramid for the Clarkston Heights-Vineland shown above is generally top-heavy. Overall, this suggests generally lower birth rates and generally higher death rates. Based on this information, population in this area may not see a consistent positive growth in population. Paired with the population distribution shown previously, this indicates that the Clarkston Heights-Vineland area is generally of an older population, with a higher ratio of potentially retired citizens.

The population pyramid for the West Clarkston-Highland area is shown in Figure 12.

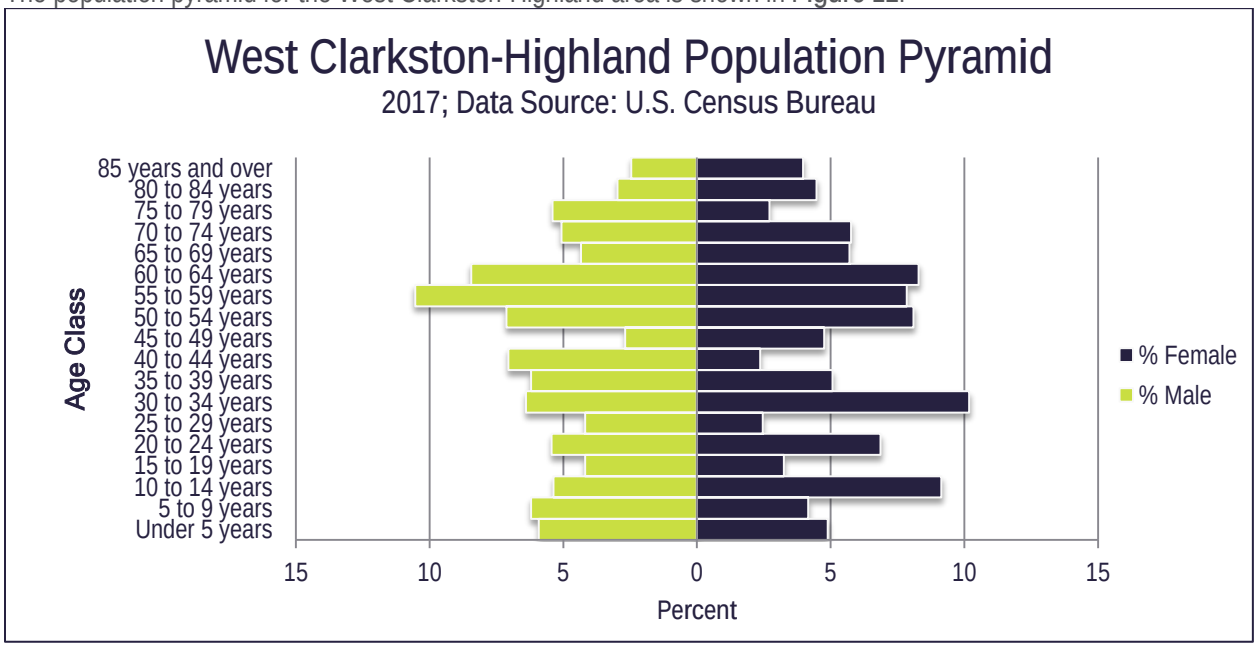


Figure 12 – West Clarkston-Highland Population Pyramid

The population pyramid for the West Clarkston-Highland area shown is generally more balanced, neither being dominantly top heavy or bottom heavy. Overall, this suggests generally stable birth rates and stable death rates, which may balance each other out overall. Based on this information, population in this area may not see positive or

negative growth unless outside factors come into play. Paired with the population distribution shown previously, this indicates that the West Clarkston-Highland area is generally a hybrid of an older and a younger population. Overall, growth trends are expected to continue on this pattern. There may be some potential for rapid growth for the City of Clarkston in the future, with outer areas remaining in a typical range for this geographic location.

2.2 HOUSING CHARACTERISTICS

Understanding the current housing market within the study area can provide insight into potential growth, businesses involved with rentals, and the number of houses available on the market. This data was collected for each of the areas previously discussed for the City of Clarkston and Asotin County.

Asotin County: As of the 2017 Census, there were 9,984 total housing units in Asotin County. 9,235 of these were occupied and 749 were vacant. 6,190 units were owner occupied while 3,046 were renter occupied. The average household size for Asotin County was 2.33 for owner-occupied and 2.52 for renter occupied. In the Clarkston Heights Area (Vineland) there were 2,756 total housing units. 2,610 of these were occupied while 146 were vacant. In the West Clarkston Area (Highland) there were a total of 2,571 housing units. 2,462 of these units were occupied while 109 were vacant. The average household size for Clarkston Heights Area (Vineland) and West Clarkston Area (Highland) was 3.0 and 2.5 persons respectively.

City of Clarkston: As of the 2016 Census, there were 3,411 total housing units in the City of Clarkston. 3,226 of these were occupied and 68 were vacant. 1,645 units were owner occupied while 1,581 were renter occupied. The average household size for the City of Clarkston was 2.3.
Figure 13 through Figure 16 shows housing occupancy characteristics in Asotin County, the City of Clarkston and the identified areas previously mentioned based on data from the 2016 census estimate. The majority of housing units (94-96%) are occupied, while 4-6% on average are reportedly vacant. Vacancy categories include for rent, rented and not occupied, for sale, sold but not occupied, for seasonal, recreational, or occasional use, and other.

While there are some slight variations in the percentages of housing type throughout each of the figures for the areas analyzed, all of the areas are similar by occupancy (as expected). Proposed housing developments are analyzed (in regard to potential trips generated) in the following section (2.3) along with known proposed businesses opening up in the study area that may affect employment.

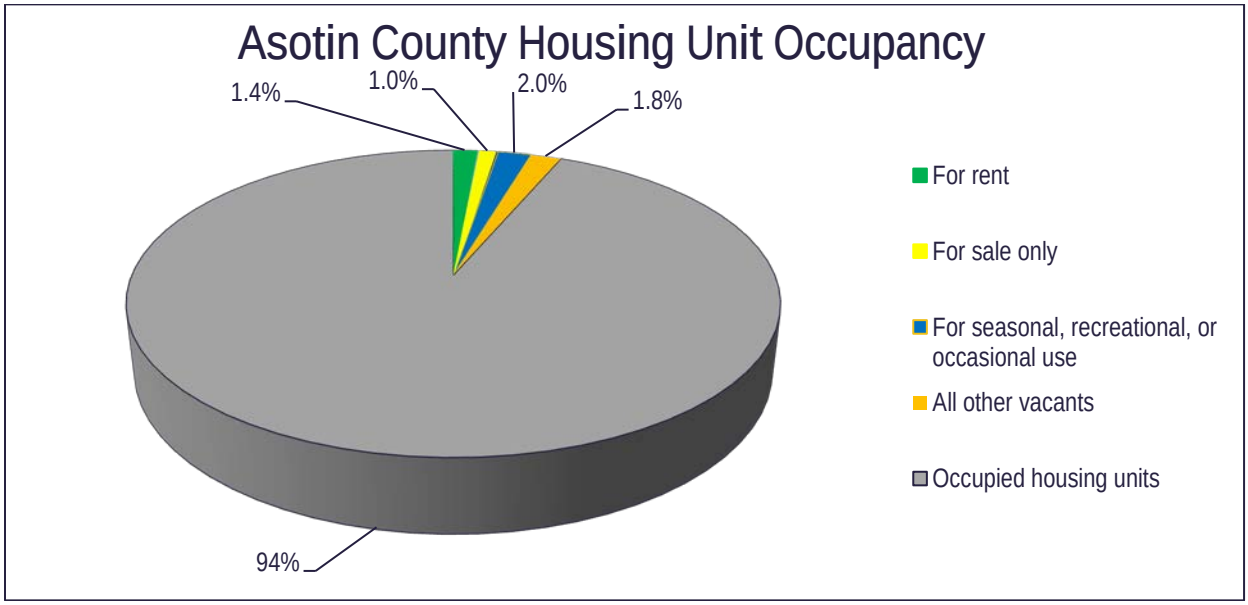


Figure 13 – Housing Occupancy (Asotin County)

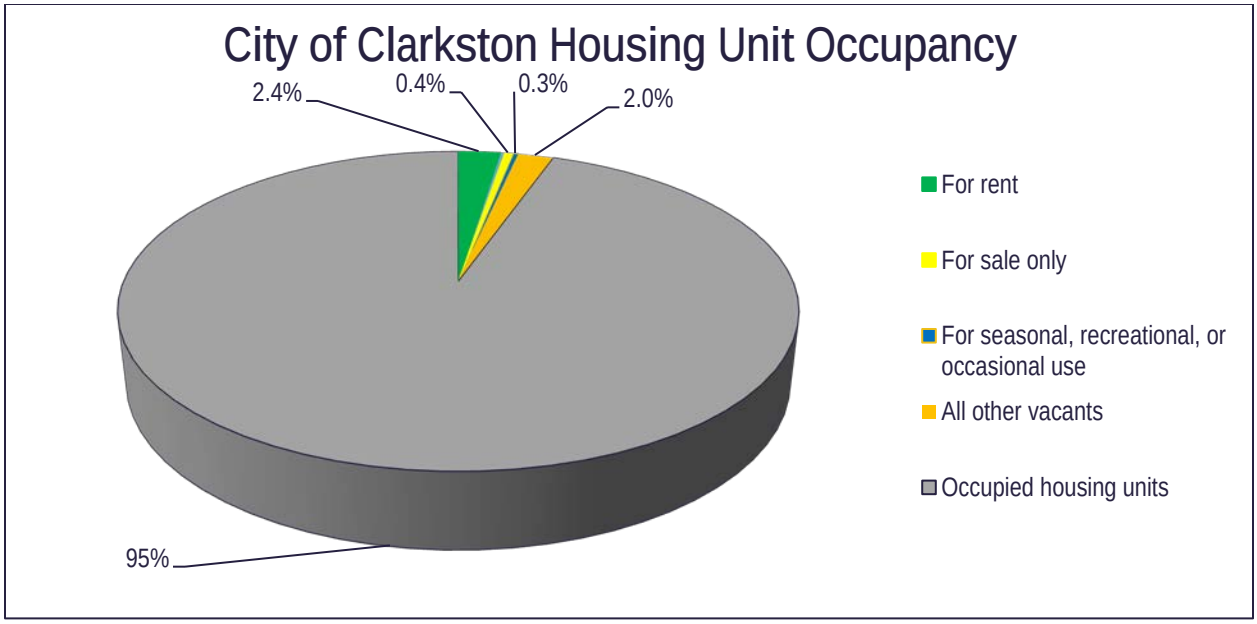


Figure 14 – Housing Occupancy (City of Clarkston)

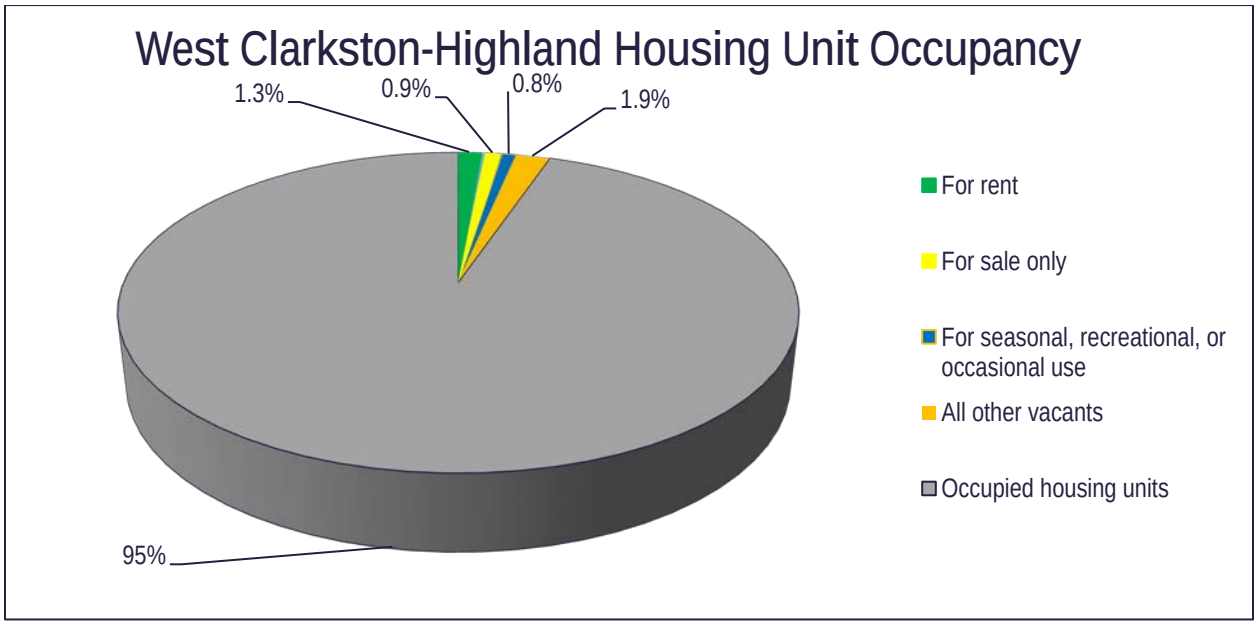


Figure 15 – Housing Occupancy (West Clarkston – Highland)

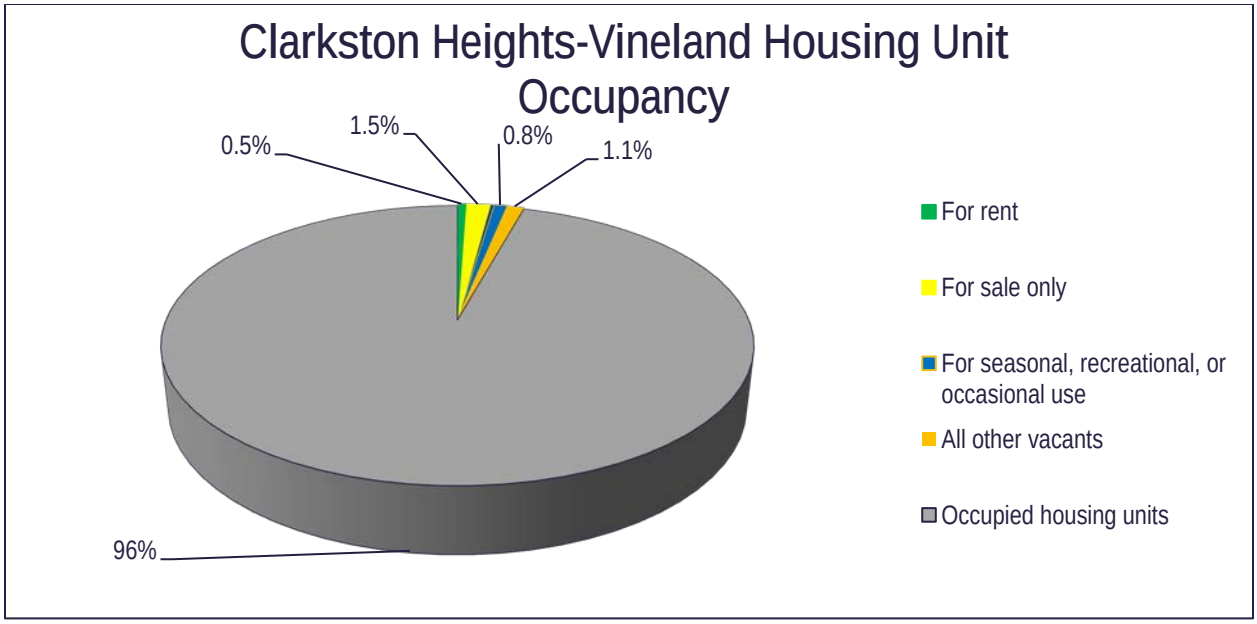


Figure 16 – Housing Occupancy (Clarkston Heights – Vineland)

2.3 CURRENT AND FUTURE EMPLOYMENT CHARACTERISTICS

The mean household income for the City of Clarkston and Asotin County as provided by the 2016 Census American Community Survey was $39,769 and $58,998 respectively (in 2014 dollars). Using an inflation calculator from the U.S. Bureau of Labor, the mean household income for the City of Clarkston and Asotin County is $41,757.23 and $61,947.57 in 2018 dollars. Table 2 shows the labor force distribution by industry. (*Source: factfinder.census.gov)*

Table 2 - City of Clarkston and Asotin County Employment Distribution

Employment Distribution				
Industry	Clarkston	Asotin County	WA	USA
Public administration	2.4%	3.9%	5.1%	4.7%
Arts, entertainment, and recreation, and accommodation and food services	13.7%	8.2%	9.2%	9.7%
Educational services, and health care and social assistance	25.0%	27.5%	21.6%	23.1%
Manufacturing	6.8%	14.8%	10.3%	10.3%
Agriculture, forestry, fishing and hunting, and mining	1.2%	1.4%	2.6%	1.9%
Transportation and Warehousing, and Utilities	3.2%	3.0%	5.2%	5.1%
Wholesale/Retail trade	17.5%	17.4%	14.7%	14.1%
Information	1.6%	1.7%	2.3%	2.1%
Construction	13.6%	7.7%	6.3%	6.4%
Finance and insurance, and real estate and rental and leasing	5.3%	4.4%	5.4%	6.6%
Professional, scientific, and management, and administrative and waste management services	3.4%	6.1%	12.6%	11.3%
Other services, except public administration	6.4%	4.1%	4.6%	4.9%

The education/healthcare/social assistance, wholesale/retail trade, arts/entertainment/recreation/food service, and manufacturing industries combined employ 63% of the working population in the City of Clarkston and 67.9% for Asotin County. These categories are all 7.5% of the population or greater. Unless there are significant changes to the economic development and demographics of the City of Clarkston of Asotin County, it is believed that the future employment distribution will remain similar to the existing employment distribution. Examples of significant changes include:

- New large employment entity
- Employment entity leaving the area
- Additional housing development

2.3.1 Future Employment Trip Generation

To properly gage potential growth in the City of Clarkston, the active building/business permits were reviewed as part of this plan. As mentioned previously, there are a number of new businesses/buildings/housing units that are planned for the near future within the study area. The following developments are known and anticipated:

- Hotel (southeast corner of 14th Street & Bridge Street)
- Medical Building (south end of Evergreen Court; 10th Street)
- Seed & Fertilizer Plant (southwest corner of 14th Street & Port Drive)
- Power/Maintenance Building (southwest corner of 13th Street & Port Drive)

While a detailed traffic impact analysis is not part of this transportation plan, basic trip generation numbers were generated for the City and County's use in planning and future consideration. See Table 3 and Table 4.

Table 3 – Trip Generation Results (AM Peak Hour)

Trip Generation – AM Peak Hour			
Development	Entering Trips per Hour	Exiting Trips per Hour	Total Trips per Hour
Hotel (Southeast corner of 14th Street & Bridge Street)	42	29	71
Medical Building (South of Evergreen Court and near 10th Street)	18	8	26
Seed & Fertilizer Plant (Southwest corner of 14th Street & Port Drive)	34	5	39
Power/Maintenance Building (Southwest corner of 13th Street & Port Drive)	106	26	132
Total	200	68	268

Table 4 – Trip Generation results (PM Peak Hour)

Trip Generation – PM Peak Hour			
Development	Entering Trips per Hour	Exiting Trips per Hour	Total Trips per Hour
Hotel (Southeast corner of 14th Street & Bridge Street)	49	41	90
Medical Building (South of Evergreen Court and near 10th Street)	7	15	22
Seed & Fertilizer Plant (Southwest corner of 14th Street & Port Drive)	5	30	35
Power/Maintenance Building (Southwest corner of 13th Street & Port Drive)	26	104	130
Total	87	190	277

In addition to the new facilities noted above, the City of Clarkston reflected that there are high-density housing units proposed to be built in the general area around the Chestnut Street and 13th Street intersection. This development is being built with the caveat that access from 13th Street will be right-turn in and out only, with the primary access being designated as McCarrol Street to minimize additional impacts to traffic on 13th Street.

Similar high-density housing units are also proposed in Asotin County, in the area near the Appleside Boulevard corridor. Multiple units and phases are anticipated for installation. Additional investigation in the form of a traffic impact analysis is recommended to determine the impact on Appleside Boulevard and adjacent areas of the traffic system.

2.3.2 Employment Recommendations

These trip generation numbers provide a general estimate for potential changes to the traffic system, but it should not be used as a substitute for a thorough traffic impact analysis for each development. It is our recommendation that a formal traffic impact analysis be completed for each of these proposed developments, along with any future developments in the City of Clarkston or Asotin County.

2.4 LAND USE AND ZONING

Official land use designations determine where people and businesses can be located geographically. Land use is an important concept and is used to evaluate patterns to provide an understanding of the relationship between where people live, work, and shop.

Asotin County: Asotin County still has a considerable amount of land that could potentially be developed in the future if growth increases and becomes more of a driving factor. Most of the County consists mostly of low/medium density residential and Ag-Transition, with commercial areas spaced throughout. The current zoning map for Asotin County can be viewed in Appendix C, or it can be accessed electronically at the following link: http://www.co.asotin.wa.us/public-works-gis/county-road-maps/

City of Clarkston: The City of Clarkston is generally built-out and will not be undergoing any major land acquisition or expansion to City limits. As such, the current land-use and zoning is not expected to change, outside of normal rezoning of existing areas and parcels on a case-by-case basis. The current zoning map for the City of Clarkston can be viewed in Appendix C. An electronic copy can also be found at the following link: https://www.clarkston-wa.com/index.asp?SEC=174B5F94-E7CA-4A20-8E81-A5EDA7EBBF69&DE=EF04278F-AE2E-457D-A651-145EED02BCE9

2.4.1 Land Use Recommendations

The land use regulatory authorities of the City of Clarkston and Asotin County are the most important determinants of where growth or developments will occur. Designation of where future residential and employment growth will be located will determine future needs of the transportation network and will drive potential projects in the future.

Land use within the City of Clarkston or Asotin County is not expected to change significantly based on population and employment forecasts from available census data, Washington State Department of Transportation (WSDOT) forecasts, or local projections. However, if local companies expand operations; or future residential, commercial, or industrial development occurs (as previously noted); it is recommended that the City of Clarkston, Asotin County, and local companies work together to assess traffic, land use, and zoning impacts as part of a traffic impact study according to Washington Code RCW 36.70, 82.02 and WAC 365-196-430. The previously listed businesses are anticipated to create new employment opportunities but are not expected to be large enough to make a significant impact on the overall employment and transportation statistics for the area.

As discussed in Section 2.1.1, the most likely area for potential growth in Asotin County within the study area is on the western end near Appleside Boulevard and 6th Avenue. It is recommended that the current land use and zoning of the land in this area is carefully evaluated for future developments (whether they are residential, commercial, industrial, etc.) and paired with a formal traffic impact analysis for proposed developments. The current zoning and land use for the area is primarily Low/Medium Density Residential, with small areas of Light/Neighborhood Commercial, High Density Residential, Public/Semi-Public, and Industrial. Future developments in this area will have a direct impact on the Appleside Boulevard and 6th Avenue corridors, which are primary routes for traffic within Asotin County. The difference between commercial and residential developments in this area would impact the corridors differently, especially with a majority of the area already having been established by residential neighborhoods.

It should be noted that the Asotin County Landfill is scheduled to be relocated in the future. The entrance is scheduled to be relocated to the north side of 6th Avenue, following the development of Cell E in two phases. While this relocation will slightly affect landfill traffic, this shift is not expected to cause any significant impacts to traffic associated with this area. The current location of the landfill is shown by Figure 17.

Figure 17 – Asotin County Landfill Current Location

CHAPTER 3 – OTHER TRANSPORTATION FACILITY STUDIES

In the creation of this plan, previous studies relating to the transportation system in the plan boundary were reviewed for potential related projects, recommendations, or future correspondence. The following studies and plans in this section directly correspond with the LCVMPO study area and facilities in the City of Clarkston and Asotin County.

3.1 LCVMPO BICYCLE MASTER PLAN

The LCVMPO Bicycle Master Plan (completed in 2015) is used to provide a framework for improving the bicycling environment throughout the region. The plan focuses on advancing the bicycle infrastructure (off-street trails and on-street bicycle facilities); maintenance; bicycle parking spaces and other need-of-trip facilities. The plan's purpose was to make the case for reasons to invest in the use of a bicycle as means of transportation. Some of the core elements for this master plan included the following:

- Safe Streets for All Users
- Affordability
- Health Benefits
- Environmental Benefits
- Economic Benefits
- Changes in Transportation Behavior

With the core elements above, the planning process included extensive public input through a series of listening stations and coordination with city staff and local and regional agencies. The plan used data from past bicycle planning efforts and land use patterns, topography, traffic speeds and volumes, and several other factors were reviewed. The master plan then uses a multimodal approach to consider appropriate locations for bicycles facilities. Proposed bicycle improvements for the City of Clarkston and Asotin County include:

City of Clarkston:

- Port Way
- Fair Street
- Elm Street
- Libby Street
- Highland Avenue
- 7th Street
- 2nd Street
- 8th Street

Asotin County:

- 13th Street
- 21st Avenue
- Appleside Boulevard
- Critchfield Road
- 6th Avenue
- Evans Road
- Ben Johnson Road

Projects identified by this transportation plan along these roadways should be considered for bicycle facility improvements as identified by the LCVMPO Bicycle Master Plan. The Capital Improvement Plan of this report notes whether or not the proposed project has a known bicycle-related project for consideration. An electronic copy of the Bicycle Master Plan can be accessed at the following link (links for all references can also be found in Chapter 10): https://lewisclarkmpo.org/2189/Bicycle-Master-Plan

3.2 LCVMPO LONG RANGE VALLEY DESTINATION PLAN: 2040

The current LCVMPO Long Range Transportation Plan (LRTP) was adopted in September of 2013. The LRTP focuses on all improvements regarding roadways, transit, bicycle/pedestrian, and water transport. This document includes the following information about recent and planned LCVMPO improvements:

- Roadway Vision Plan to address congestion with existing and committed network
- Transit Vision Plan to address hours of service, service area, and support facilities
- Bicycle/Pedestrian Vision Plan
- Water Transport, Rail, Trucking, and Air Transportation Vision Plan

An electronic copy of the report can be accessed at the following link: https://lewisclarkmpo.org/31/Long-Range-Plan

3.3 CITY OF ASOTIN TRANSPORTATION MASTER PLAN

The City of Asotin Transportation Plan (much like this plan) discusses demographics, land use and planning, pavement, functional roadway classifications, sign management, pedestrian crossings, capital improvements, etc., and was completed in 2016. This plan assists the City of Asotin with planning and designing efforts to keep the transportation network up to date.

The plan focuses on the City of Asotin exclusively, and should be used and referenced in tandem with this transportation plan for Asotin County projects or maintenance efforts that may affect the City of Asotin, or vice versa. An electronic copy of the report can be accessed at the following link: https://lewisclarkmpo.org/2208/City-of-Asotin-Transportation-Plan

3.4 NORTH CLARKSTON CIRCULATION STUDY

The North Clarkston Circulation Study (2017) is an update to the original 2014 study that analyzes how North Clarkston will operate in the next 20 years. The operational and safety conditions of identified intersections were the predominant focus of this study. The solutions for the deficiencies ranged from traffic optimization to large-scale intersection improvements. The following intersections were evaluated in this study:

- Bridge St. & 2nd St. Intersection
- Bridge St. & 3rd St. Intersection
- Bridge St. & 5th St. Intersection
- Fair St. & 3rd St. Intersection
- Fair St. & 5th St. Intersection
- 5th St. & Walmart/Costco Intersection
- Bridge St. & 6th St. Intersection
- Bridge St. & 13th St. Intersection
- Fair St. & 13th St. Intersection
- Confluence Way & 2nd St. Intersection
- Fair St. & Confluence Way

Projects identified by this transportation plan in close proximity to these intersections should be considered for potential improvements as identified by the North Clarkston Circulation Study. Multiple projects included in the study have already been completed by the City of Clarkston. An electronic copy of the report can be accessed at the following link: https://lewisclarkmpo.org/2193/North-Clarkston-Circulation-Study

3.5 WSDOT CORRIDOR SKETCH SUMMARY – SR-129

WSDOT's Corridor Sketch Initiative is a collaborative planning process with agency partners to identify performance gaps and select high-level strategies to address them on the 304 identified corridors statewide. This Corridor Sketch Summary acts as an executive summary for one corridor (SR-129). The corridor sketch identifies the following as items requiring future changes due to noted existing conditions:

- The design of US-12 and SR-129 junction; it is noted to be creating a bottleneck connecting to the City of Lewiston and the City of Clarkston
- Lack of sidewalks and bicycle paths for the corridor connecting the City of Clarkston and the City of Asotin

An electronic copy of the report can be accessed at the following link:
https://www.wsdot.wa.gov/sites/default/files/2018/04/23/CSS419-SR129-1stStWashingtonStIntAsotin-US12JctClarkston.pdf

3.6 PRTPO – SOUTHEAST WASHINGTON SCHOOL WALK STUDY

The Palouse Regional Transportation Planning Organization (PRTPO) completed a Safe Routes to School (SRS) study working with consultant Alta Planning + Design. This study investigated routes to schools in southeast Washington, as well as provided recommendations for school route improvements. The following recommendations were made for schools within the MPO area:

Grantham Elementary School:

- Update existing marked crosswalks to high-visibility crosswalks, with the optional installation of rectangular rapid flash beacons and curb extensions for higher volume areas
- Fill the following sidewalk gaps:
  - Poplar Street (north side) from Morrison Street to 12th Street
  - Poplar Street (both sides) from 15th Street to 13th Street
  - Maple Street (both sides) from 15th Street to Burns Street
- Bicycle wayfinding, shared lane markings, and potential traffic calming at:
  - Burns Street between Poplar and Ash Street
  - Maple Street between 13th Street and 8th Street
  - Poplar Street between Burns Street and 7th Street
- Various programs for walking, biking, bus transport, etc.

Heights Elementary and Lincoln Middle School:

- Add high visibility crosswalk across 6th Avenue at the intersection of Appleside Boulevard
- Add the following sidewalk sections:
  - Reservoir Road from 4th to 5th Avenue
  - 20th Street from 5th Avenue to 9th Avenue
  - 4th Avenue from 19th Street to 17th Street
- Complete the following bicycle projects:
  - Bike lanes on Appleside Boulevard/15th Street from 3rd Avenue to 22nd Street
  - Bike Lanes on 4th Avenue from Appleside Boulevard to Reservoir Road
  - Shared lane markings and wayfinding signage on Jackson Drive from 4th Avenue to 5th Avenue
- Various programs for walking, biking, pedestrian safety, etc.

Highland Elementary School:

- Add pedestrian hybrid beacons or rapid rectangular rapid flash beacons at existing high visibility crosswalks at Highland Avenue and 15th Street
- Add pedestrian hybrid beacons or rapid rectangular rapid flash beacons at existing high visibility crosswalks at Libby Street and 15th Street
- Add high visibility crosswalks on Libby Street north of the school; Van Arsdol Street and Washington Street are two intersections listed that would benefit from these crossings
- Add the following sidewalk sections:
  - Chestnut Street from 16th Street to Washington Street
  - Birch Street (entire length)
  - Libby Street from 16th Street to 13th Street
  - Washington Street from Chestnut Street to southern terminus
- Complete the following bicycle projects:
  - Add bike lanes on 15th Street and Highland Avenue
  - Bicycle wayfinding, shared lane markings, and traffic calming as required for:
    - Washington Street between Chestnut Street and the southern terminus
    - Birch Street between 15th Street and Highland Avenue
- Potential shared use paths at the cul-de-sacs of Washington Street and Van Arsdol Street

These projects should be considered when moving forward with potential projects listed in this transportation plan in close proximity to the discussed three schools. An electronic copy of the report can be accessed at the following link: http://www.palousertpo.org/index_htm_files/Palouse_Final_DRAFT.pdf

3.7 PRTPO – PALOUSE REGIONAL FREIGHT STUDY: 2016

The PRTPO funded a regional freight study for the Palouse area in 2016. This study investigated truck traffic throughout the study area, and identified opportunities and potential challenges faced in developing long-range freight management goals and strategies for positive economic growth, specifically achieving the following goals:

- Succinct characterization of the freight generating industries found within the RTPO's four counties;
- Characterizes freight need and future opportunities and constraints across modes of the region;
- Describes the characteristics and needs for the major freight generators of the region, including: bulk and containerized commodities, agricultural inputs, retail distribution, and technology-based industries.
- Identifies and engages regional stakeholders in a collaborative effort to identify solutions that enhance the positive attributes of the regional transportation system, while systematically inventorying and addressing those attributes which constrain movement and potential growth;

An electronic copy of the report can be accessed at the following link:
http://www.palousertpo.org/index_htm_files/PRTPO%20FINAL_3_8_16.pdf

3.8 ASOTIN COUNTY SHERIFF'S OFFICE – COMPREHENSIVE EMERGENCY MANAGEMENT PLAN (CEMP)

The CEMP provides comprehensive planning for emergency situations through Asotin County, with a mission statement to: "Protect people, property and the environment by increasing the readiness level in Asotin County to mitigate, prepare for, respond to and recover from major emergencies and disasters." This plan defines what agency does what, when, where, and the process to mitigate, prepare for, respond to, and recover from disasters. The CEMP is currently in the process of being updated. Information about the plan or a copy of the previous draft CEMP is available upon request.

3.9 CRITCHFIELD INTERSECTION SAFETY STUDY

The LCVMPO and Asotin County identified the need to conduct a safety study at the intersection of Critchfield Road and SR-129, which was completed in 2016 and adopted in 2017. This is a 3-leg intersection, with the Greenbelt Walkway Path running parallel to SR-129 and the Snake River. Pedestrians are noted to step directly over the guardrail to access the pedestrian path after crossing SR-129 from Critchfield, and vice versa. This safety study evaluated six alternatives to provide safety improvements for drivers and pedestrians alike. The options that were evaluated were:

- Alternative 1: High-Intensity Activated Crosswalk (HAWK) Pedestrian Crossing
- Alternative 2: Roundabout with pedestrian crosswalks
- Alternative 3: Pedestrian/Bicycle Tunnel
- Alternative 4: Signalized Intersection with pedestrian crosswalks
- Alternative 5: Pedestrian/Bicycle Bridge
- Alternative 6: Do Nothing

Based on public surveys, the options that would address most of the public's safety concerns would be Alternative 3 or 5 (tunnel or bridge). It is understood that the Asotin County has applied for funding to move forward with the pedestrian tunnel option. An electronic copy of the study can be accessed at the following link:
https://lewisclarkmpo.org/2196/Critchfield-SR-129-Intersection-Safety-S

3.10 LCVMPO 2012 ADA INVENTORY

The LCVMPO was requested to fund an inventory of the public facilities in the public right-of-way within the LCVMPO area. This study was completed in 2012, and details sidewalks and pedestrian ramps with their respective conditions at the time of the inventory. An electronic copy of the study can be accessed at the following link:
https://lewisclarkmpo.org/2192/ADA-R-O-W-Inventory

CHAPTER 4 – EXISTING TRANSPORTATION SYSTEM

This chapter details the existing transportation system for Asotin County and the City of Clarkston within the MPO boundary. Existing policies and standards, roadways inventoried, pavement width and right-of-way, geometry, existing facilities and operations, and more are detailed in this chapter. It is important to have a firm understanding on the current existing transportation to provide proper recommendations

4.1 REVIEW OF POLICIES AND STANDARDS

Asotin County:

It is understood that Asotin County follows adopted state standards (i.e., WSDOT) and international standards (such as the Federal Highway Administration, the American Association of State Highway and Transportation Officials, etc.) for public works construction. Additionally, Asotin County Public Utility District (PUD) has its own set of standards, which were written in May of 2016 and are the basis of design on all Asotin County PUD water and sewer capital improvement projects and development projects within the jurisdiction of Asotin County. The Standard Specifications and Details can be found at the following link: https://asotinpud.org/wp-content/uploads/pdf/Asotin-County-PUD-Standard-Specifications-Detail-2016.pdf

The PUD standards also refer to the WSDOT Standard Specifications for Road, Bridge and Municipal Construction. No changes are currently recommended to the current policies and standards that the County follow, provided that the County continues to update and follow the most updated standards.

City of Clarkston:

The City of Clarkston Municipal Code was originally adopted from the 1966 Edition, which was codified, indexed, and published by Book Publishing Company at 2518 Western Avenue in Seattle, Washington. The original municipal code is current through Ordinance 1614 which was passed January 14, 2019. The adopted municipal codes for the City of Clarkston can be accessed at the following link: https://www.codepublishing.com/WA/Clarkston/. It is understood that the City of Clarkston follows adopted state standards (i.e., WSDOT) and international standards for public works construction. No changes are currently recommended to the current policies and standards that the City follow, provided that the City continues to update and follow the most updated standards.

4.2 ROADWAY INVENTORY

Asotin County:

Asotin County is the southwestern-most County in the state of Washington and includes SR-129 (from the City of Clarkston to the City of Asotin), SR-128 (now known as 15th Street, Appleside Boulevard; from the City of Clarkston to study boundary limits), US-12 (from boundary to the City of Lewiston), Fleshman Way (from 15th Street to Southway Bridge), and 13th Street (from the City of Clarkston to SR-129), which are some of the main roadways within the study boundary to handle traffic within the County. US-12 is a major trucking route through Washington, and also provides agricultural traffic to adjacent areas. 15th Street provides an alternate route through Asotin County to the City of Pomeroy to the west. SR-129 provides access to the City of Asotin, and ultimately Oregon to the southwest. These roads are used for all types of traffic, including recreational, trucking/hauling, day traveling, etc. Primary roads and available ADTs for the area are identified in Figure 18 (Note: ADT for 6th Avenue was not specifically identified, so it is not included on this figure).

City of Clarkston:

The City of Clarkston is linked to the rest of Washington by SR-129 to the South and US-12 (details previously mentioned) to the East. It is also linked to Idaho and the eastern states by US-12 to the West (City of Lewiston), from where US 95 to and US 195 can be accessed. Recreational areas are also accessed through many of the local and county roads found within the City and Asotin County in Washington. Primary roads and available ADTs for the area are identified in Figure 18.

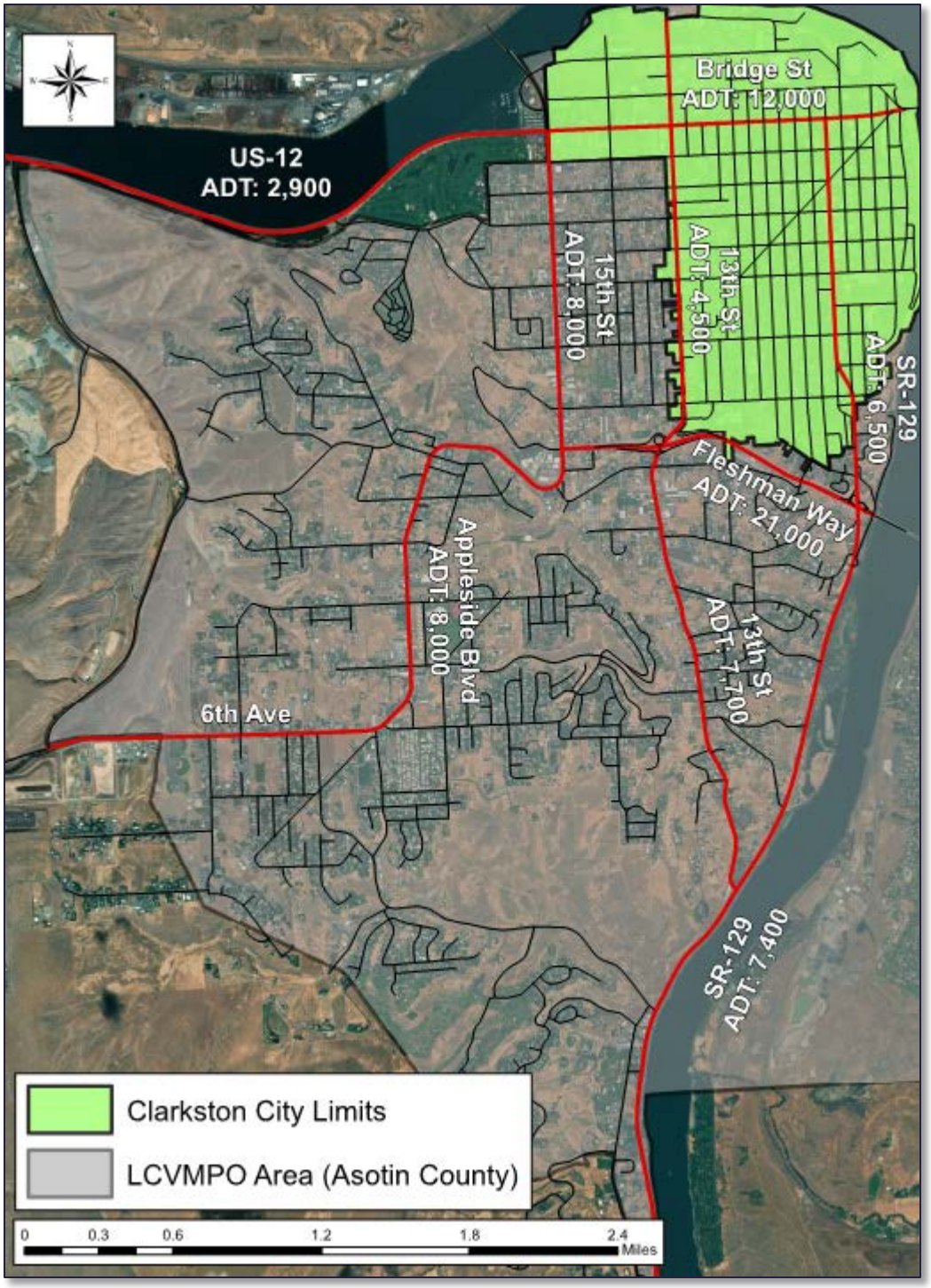


Figure 18 - Roadway Vicinity Map

All roads within the City of Clarkston's city limits are maintained by the City except for US-12, SR-129, and Diagonal Street from Bridge to 6th Street (also SR129, which is maintained by WSDOT), and miscellaneous private roads. WSDOT maintains all facilities within the ROW of roadways within their jurisdiction. Only paved, local roads were surveyed and inventoried within the LCVMPO boundary as part of this transportation plan for both the City of Clarkston and Asotin County.

Table 5 – Roadways in Study Area

	Clarkston	Asotin County
Surface Type	Miles of Roadway Surveyed	
Asphalt or BST	29.34	77.41
Total	106.75	

The City of Clarkston's road system consists of approximately 29.34 miles of asphalt roadway (including SR-129), and Asotin County has approximately 77.41 miles of asphalt roadway with a total of 106.75 miles of total roadway surveyed as part of this plan. Table 5 shows the roadway distribution for the City of Clarkston and Asotin County.

4.2.1 Pavement & Right-of-Way Width

As part of the pavement condition survey, widths and overall lengths of roadways were recorded for maintenance and budgeting purposes. As expected, widths of roadways throughout the transportation system varied depending on area (residential, commercial, industrial, etc.), speed limit, and classification.

Asotin County:

Pavement width varies throughout the County for roads that were surveyed and documented. The average pavement width is around 30 to 35 feet, with variations depending on the road and area in the County. The narrowest road documented was 10 feet wide (Cemetery Road), and the widest road documented was 40 feet (15th Street & various other roads). At the time of this study, there have been no documented complaints on pavement width throughout the County. As roadway projects are completed, it is recommended that the County evaluate each roadway to make sure that current adopted standards are being met.

The average right-of-way (ROW) width in Asotin County ranges from 50 feet to 60 feet in width, which is also noted to vary depending on the area and roadway. Some residential areas appear to be a bit narrower, about 35 feet to 40 feet. Alleyways throughout the County appear to have approximately 15 feet to 20 feet width. At the time of this study, there are no noted issues with the existing ROW widths (outside of the issues listed in Section 4.3). As projects are proposed and completed, it is recommended that the County evaluate existing ROW on a case-by- case basis to determine if ROW acquisition should be considered.

City of Clarkston:

Pavement width varies throughout the City for roads that were surveyed and documented. The average road width is approximately 35 feet, with slight variations depending on specific roadways and location within the City. The narrowest road documented was 25 feet wide (Park Street), and the widest road documented was 90 feet (Port Drive; 2 lanes in each direction). At the time of this study, there have been no documented complaints on pavement width throughout the City. As roadway projects are completed, it is recommended that the City evaluate each roadway to make sure that current City standards are being met.

The average right-of-way (ROW) width in the City of Clarkston ranges from 50 feet to 60 feet in width. Similar to the pavement width, the ROW ranges depending on the area and specific section of roadway. Alleyways appear to have a ROW width from 15 feet to 20 feet. Portions of Diagonal Street/SR129 appears to have a ROW width of 90 feet along the larger portions before narrowing down to a more typical 60 feet. There is an area along Bridge Street/US12 that appears to have a narrow ROW width of 30 feet that should be considered for acquisition in the future, but this roadway falls under WSDOT jurisdiction. Many intersection corners throughout the City also have sharp curb radii (roughly 15-foot radius documented), making turning movement uncomfortable for drivers on busier streets. As projects are completed, it is recommended that the City of Clarkston obtain ROW as possible to work towards softening intersection corners to meet updated roadway standards and allow drivers to execute turning movements more easily from higher volume roadways.

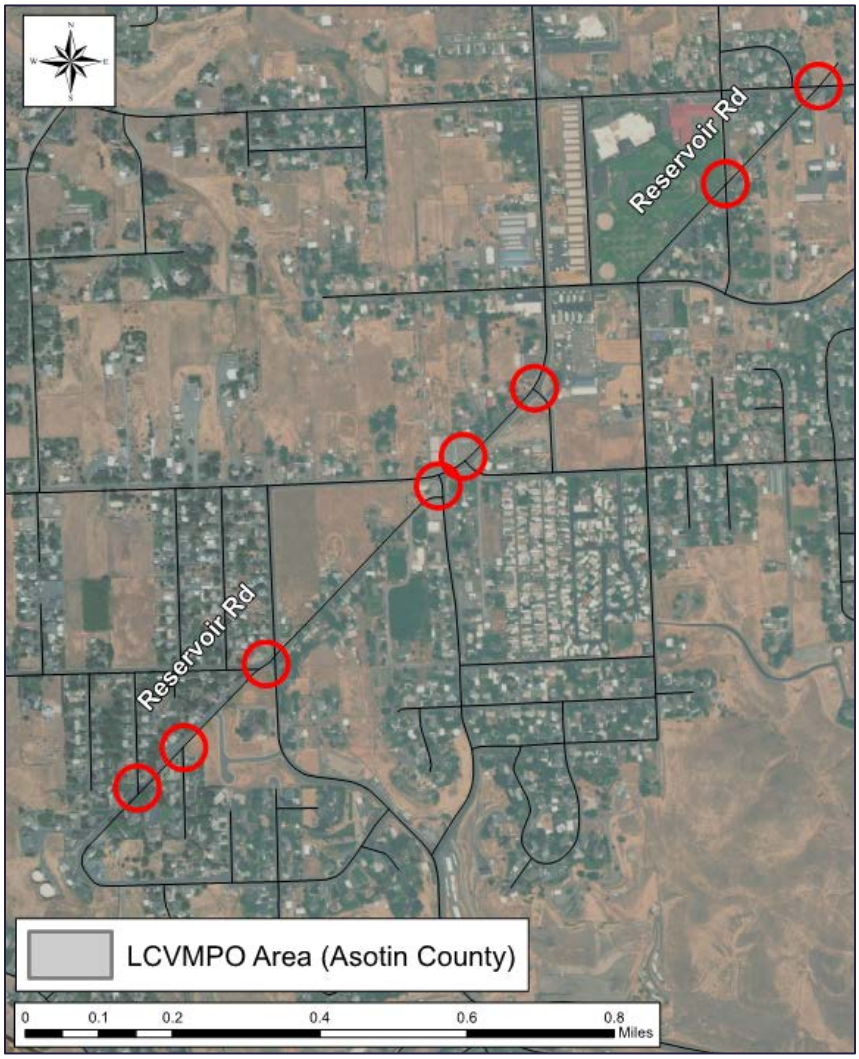
4.3 ROADWAY GEOMETRY

As part of this transportation plan, the general roadway geometries of the roadway network were evaluated to identify any atypical roadways, intersections, or noted areas to monitor in the future. The City of Clarkston and Asotin County's roadway network are unique to one another, and each has unique geometric constraints to deal with. Each agency is summarized below.

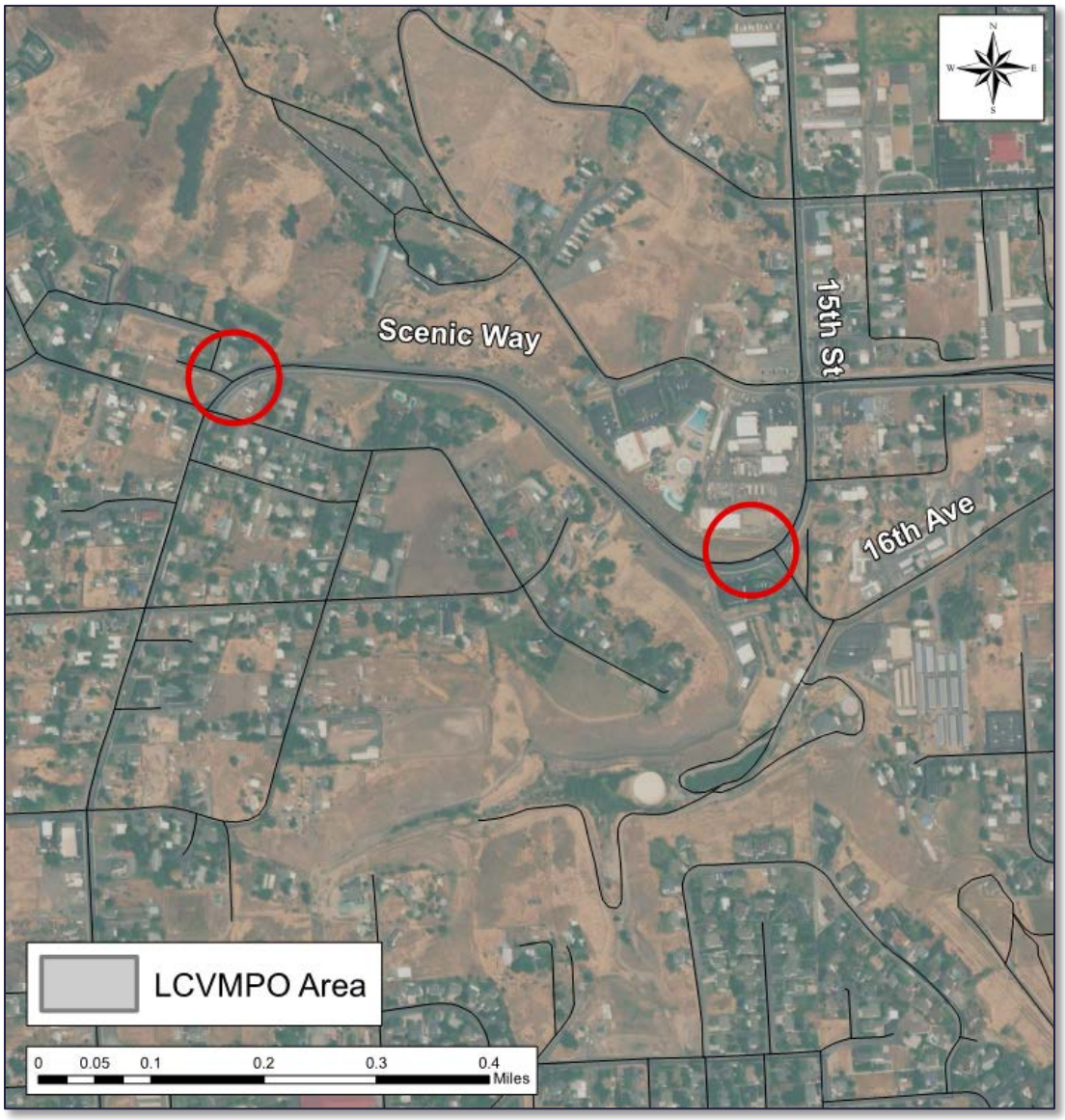
Asotin County:

Asotin County's roads within the study area are set up largely based on individual neighborhoods. Residential areas are generally not set up as grids, but as limited connectivity areas with minimal points of entry and multiple meandering curves. This type of roadway network is expected for small residential areas but can make travel from neighborhoods to main roads longer and less direct. While the future layout of roads and residential expansions will be limited by existing factors (topography, ROW, etc.), new options for better connectivity to adjacent areas (commercial, cities, etc.) should be evaluated. There are also many roads in Asotin County that feature sharp corners, grade changes (topography), and angled side streets for atypical intersection geometries. To name a few examples, the following intersections have unique geometries in Asotin County:

- Reservoir Road Intersections (various; see following map): Reservoir road is generally a diagonal street, which causes angled intersections and potential for sight triangle issues.



- Scenic Way (from 15th Street to Valleyview Drive; see map below): Scenic Way features two large curves, which have been noted to have multiple crashes present over the past 5 years.
- Scenic Way & 16th Avenue (see map below): As mentioned previously, Scenic Way curves west towards Appleside Boulevard where 16th Avenue meets, causing a unique geometry. No issues are currently noted about this intersection, but as traffic volume on Scenic Way increases, there may be potential issues that come up with conflicting traffic.



- Critchfield Road and SR-129 (see map on following page): As noted by previous studies and discussion, Critchfield Road currently meets with SR-129 at a three-way intersection. Due to high speeds on SR-129 and limited visibility in both directions, this is a frequent location for crashes and pedestrian crossing issues. This area was also identified by the public surveys as a problem area.

As noted by the CAC, the intersections along 15th Street (from Bridge Street to Fleshman Way) have sight issues related to decreased sight triangle distances caused by the existing layout and conditions (plants/trees, fences, topography obstructions, etc.). One intersection to note is 15th Street & Elm Street, which currently has wire-hung flashing warning lights installed to notify drivers of the intersection and traffic. According to available data, most of the intersections along 15th Street have experienced numerous crashes attributed to various circumstances.

The areas identified were investigated to determine if improvements would be required in the future to address some of the listed geometric challenges. Through the analysis, it was discovered that the intersection of Valleyview Drive and Scenic Way would require capacity improvements in the future to deal with forecasted traffic volumes (Section 4.7.1). The intersection of Critchfield and SR-129 was also identified to require pedestrian improvements as part of a separate study, and was also added to the CIP of this plan for consideration. The remaining intersections with unique geometry did not appear to require improvements in the near future (unless traffic patterns change).

City of Clarkston:

The City of Clarkston has roads that run North/South and East/West like most urban developments. The main road in the City of Clarkston that does not follow the general grid pattern, Diagonal Street, runs northeast starting from 12th Street to US-12 (Bridge Street). This causes 6-legged intersections at:

- 10th Street/Sycamore Street/Diagonal Street

- 8th Street/Elm Street/Diagonal Street
- 4th Street/Poplar Street/Diagonal Street

and 5-legged intersections at

- 12th Street/Chestnut Street/Diagonal Street
- 6th Street/Maple Street/Diagonal Street
- 2nd Street/Bridge Street (US-12)/Diagonal Street

These intersections appear to generally cause extended delays, driver confusion, sight distance problems, and pedestrian crossing issues. These intersections are recommended to have more extensive evaluations completed on a case-by-case basis to determine additional potential issues and solutions. As part of this study, the public also provided input on areas that they believed were problem areas of the City, with Diagonal Street being listed frequently by multiple responses due to its width, configuration, and traffic as being difficult for pedestrian navigation.

There are also a few spots where roads intersect that have sight distance issues. The CAC identified that many of the main intersections along 13th Street have sight distance issues due to geometry, topography, structures, and plants along the corridor and the intersections.

4.3.1 Roadway Geometry Recommendations

Asotin County:

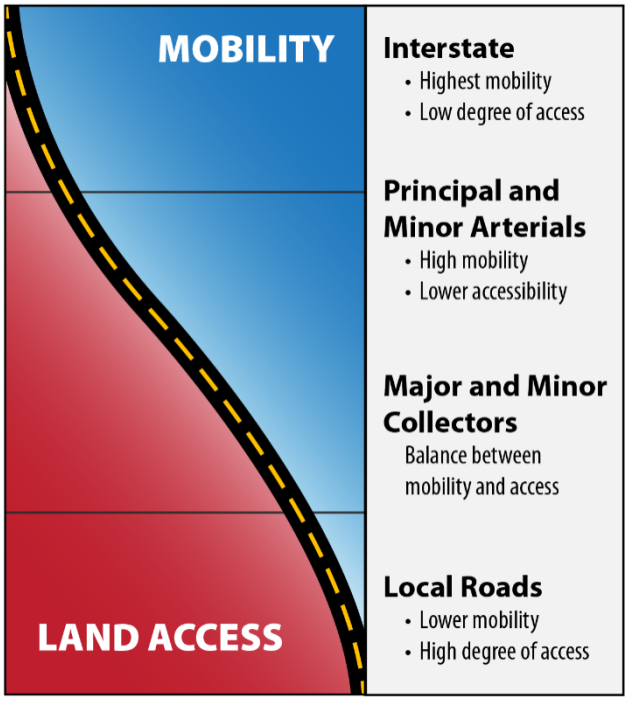
- Explore options for better connectivity of residential neighborhoods to classified roads; reduce the number of new cul-de-sacs and limited access areas
- Replace wire-hung flashing warning lights at 15th Street & Elm Street with pole mounted signs with flashing beacons or LED border lights
- Intersection warning signage installation at intersections along 15th Street with high crash frequencies (see Asotin County CIP for specific intersection recommendations)
- Evaluate sight distance triangles at frequent problem locations
- Perform a full corridor study on 15th Street

City of Clarkston:

- Thorough evaluation of intersections along Diagonal Street for potential improvements
- Corridor study on Diagonal Street (from 5th Street to 12th Street)
- Evaluate potential pedestrian islands at more frequented crossings of Diagonal Street
- Potential warning signage at strategic intersections of 13th Street depending on high crash frequency

4.4 FUNCTIONAL CLASSIFICATION

The Functional Classification System is the process by which streets and highways are grouped into classes according to the type of service they are intended to provide. Basically, functional classification reflects a roadway's balance between providing land access versus providing point to point mobility. Generally, roadways fall into one of three broad categories: arterials, collectors, and local roads.



Historically urban and rural area functional classification designations differed from one another. In 2013 the Federal Highways Administration (FHWA) changed this policy such that there is no difference between urban and rural classification. The FHWA functional classifications are explained below.

- Principal Arterial
  - Interstate
  - Other Freeways & Expressways (OF&E)
  - Other (OPA)
- Minor Arterial
- Collector
  - Major Collector
  - Minor Collector
- Local

Arterial: These roads have the highest speeds with the goal of providing a high level of mobility with limited access. They are more numerous than interstates and provide a connection between regional areas. Common characteristics of arterials are:

- Moderate to Long Distance
- High Speed
- High Traffic Volume (Can be multilane)
- Link between smaller communities
- Link communities to interstates

Collectors: Collectors gather traffic from local roads and connect them with arterials. They provide the most balance between access and mobility. In rural areas collectors are often divided into major and minor collectors. Common characteristics of collectors include:

- Moderate distance
- Moderate speeds
- Moderate to high traffic volumes

Local: Local roads, sometimes referred to as residential streets/roads within a city, primarily provide access to land and individual homes, but with limited mobility. Common characteristics of local roads include:

- Access to adjacent land
- Shortest distance
- Low speed
- Low volume

These classifications are what are officially recognized by FHWA and WSDOT. While a local jurisdiction such as the City of Clarkston or Asotin County may classify their own streets as collectors and arterials relative to local conditions, it is the official FHWA/WSDOT classifications outlined above that are utilized for funding and planning purposes.

The official functional classification of roads in the City of Clarkston and Asotin County were obtained from the WSDOT classification website, as well as available Asotin County GIS information. Most roads are classified as local and serve residential areas. Classifications of non-local roads within the City of Clarkston and Asotin County are summarized in Table 6 on the next page.

See Figure 19 for the map of existing functional classifications within the study area. City and County roads classified as major collector, minor arterial, and local are maintained by the governing agency and are in their legal jurisdiction. Private roads are owned and maintained by their respective property owner(s). The City or County does not have any jurisdiction or responsibility to maintain private roads.

Table 6 – Functional Classification of Roadways within Study Area

Function Classification	Agency	
	Clarkston	Asotin County
Principal Arterial	-Bridge Street (US-12)* -SR-129*	-15th Street -Fleshman Way -Red Wolf Crossing*
Minor Arterial	-13th Street -6th Street -Diagonal Street -Elm Street -Chestnut Street -Highland Avenue	-13th Street -Elm Street -Highland Avenue -Scenic Way/Appleside Blvd. -6th Avenue -Ben Johnson Road -Critchfield Road
Major Collector	-14th Street -13th Street -Fair Street -12th Street -9th Street -5th Street -2nd Street -Elm Street -Chestnut Street -Adams Street -Libby Street	-Evans Road -17th Street -Chestnut Street -16th Avenue -18th Avenue -Hillyard Drive -22nd Avenue -5th Avenue -Peaslee Avenue -6th Avenue -Rankin Hill -22nd Street
** These roads are under another agency jurisdiction (WSDOT, ITD)*		

4.4.1 Functional Classification Recommendations

Through analysis and discussion with each of the agencies, the following functional classifications are recommended:

City of Clarkston:

- Maple Street should be reclassified from a local road to a Major Collector (from 6th Street to 15th Street)

Asotin County:

- Libby Street should be reclassified from a local road to a Major Collector (from 13th Street to 15th Street)
- Quailwood Drive should be reclassified from a local road to a Major Collector (entire length)
- 16th Avenue could potentially be reclassified from a Major Collector to a lower classification (i.e., local road) due to Fleshman Way handling most of this traffic (from Fleshman Way to 15th Street)
- 4th Avenue should be reclassified from a local road to a Major Collector (entire length)

Additionally, 22nd Street (from 6th Avenue to Critchfield Road) should also be monitored for potential changes to classification. From initial investigation (geometry, proximity to other roads), this area could potentially need a change if traffic patterns change in the future.

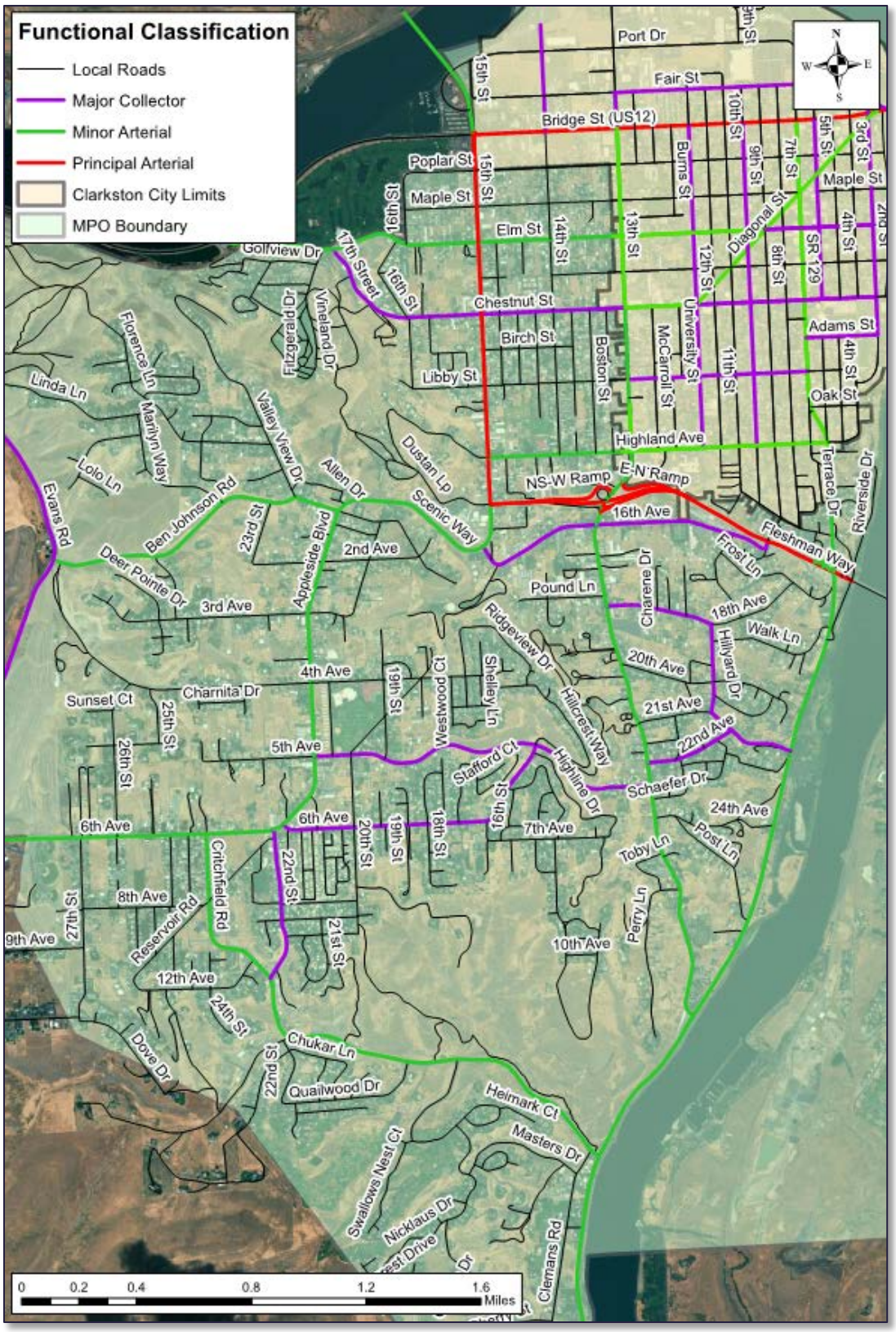


Figure 19 – Existing Functional Classification

4.4.2 National Highway System (NHS) Routes

In addition to the functional classifications previously discussed, Asotin County also has two National Highway System (NHS) routes that run through the study area. The NHS was developed by the Federal Department of Transportation in 1995 with cooperation from states, local agencies and officials, and MPOs. The NHS generally consists of NHS routes, intermodal facilities, and intermodal connector routes where required from NHS routes to intermodal facilities. The existing NHS routes in Asotin County are as follows:

- Bridge Street/US-12 – Entire length in study area
- 15th Street – From Bridge Street to Dustan Loop
- Fleshman Way – From 15th Street to Southway Bridge

These routes are shown in Figure 20 below.

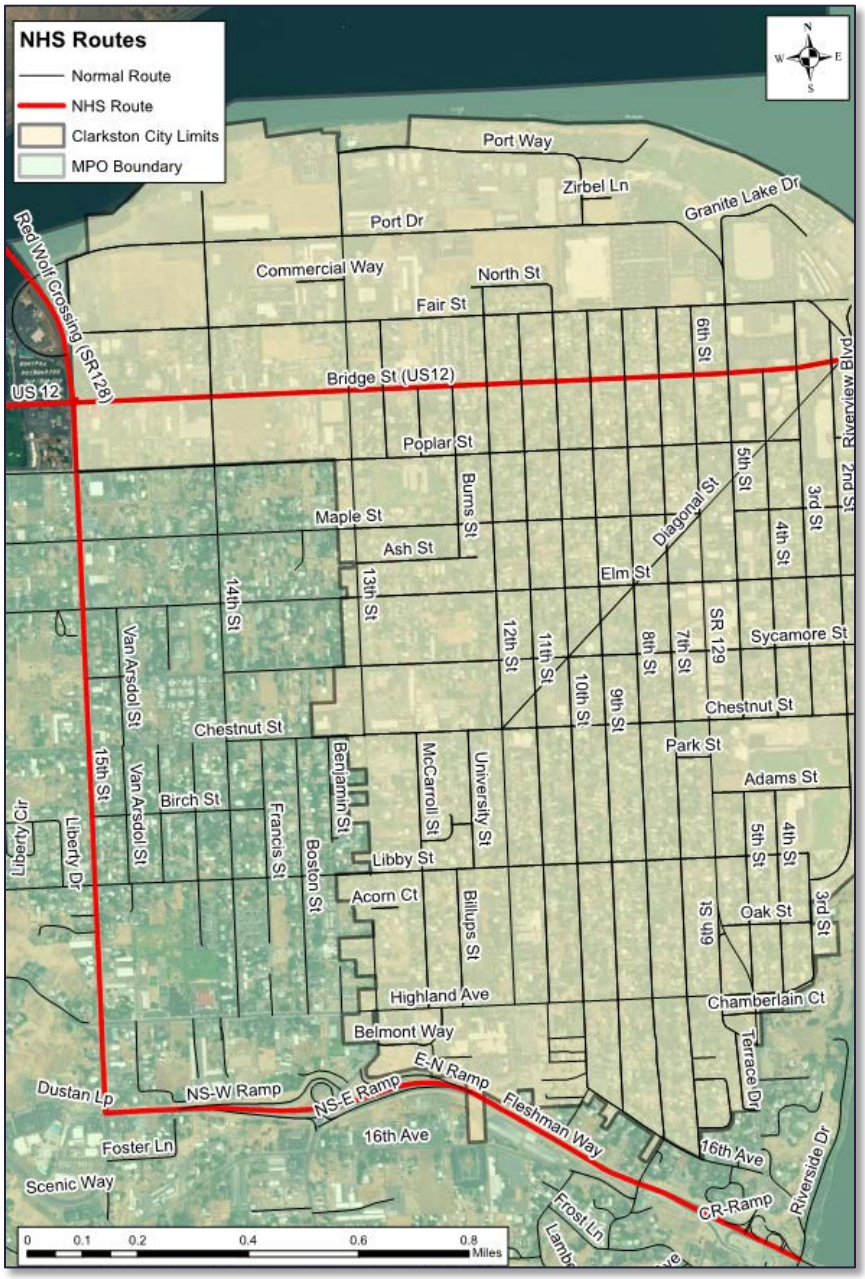


Figure 20 – Asotin County NHS Routes

4.5 EXISTING STRUCTURES

4.5.1 Bridges

The City of Clarkston and Asotin County have three bridges in close proximity that span the Snake River. The first bridge, the Lewiston-Clarkston Bridge (commonly referred to as the "Blue Bridge") was opened to traffic in 1939 and was the first bridge to span the two cities. The Lewiston-Clarkston Bridge spans 1,424 ft sees approximately 24,000 vehicles per day and has a sufficiency rating of 57.3 giving it an overall fair condition. The report for the Lewiston-Clarkston Bridge inspection of September 2015 gave the scour condition a critical rating, meaning the bridge foundations should be closely monitored, with a worst case scenario of the foundations being in need of repair. Once the sufficiency rating falls below 50, the Bridge will qualify for replacement funding and will likely need a more thorough evaluation. This bridge is co-owned by WSDOT and ITD, with WSDOT taking the lead on maintenance procedures. The bridge is currently scheduled to be painted in 2021.

The second bridge, Red Wolf Crossing, was built in 1979 and connects the ports of Wilma and the City of Clarkston. The bridge spans 1540.2 ft sees approximately 5,000 vehicles per day and has a sufficiency rating of 90.5. The bridge deck was repaired and replaced in the Summer of 2018.

The third bridge, Southway Bridge, sits less than two miles south of the Lewiston-Clarkston Bridge. Southway Bridge was completed by the Army Corps of Engineers in 1981 and is co-owned by the City of Clarkston and Asotin County, Washington, and the City of Lewiston and Nez Perce County, Idaho. Southway Bridge spans 1866.2 ft sees 21,000 vehicles per day (as of 2017) and has a sufficiency rating of 73.4 which puts it fair condition overall. Design efforts are currently underway to replace the asphalt bridge surfacing.

The Red Wolf Crossing Bridge and the Lewiston-Clarkston Bridge is of WSDOT responsibility for maintenance and evaluation. The Cities of Lewiston and Clarkston, Nez Perce County, and Asotin County are jointly responsible for the maintenance and evaluation of Southway Bridge. It is recommended that Asotin County and the City of Clarkston continue coordinating with the City of Lewiston and Nez Perce County to pursue options to best maintain Southway Bridge.

In addition to these bridges, Asotin County is also responsible for the Fleshman Way overpass that passes over SR-129 and the 13th Street overpass that passes over Fleshman Way. The County maintains these structures along with the respective roadways, and each of them appear to be in good condition as of the time of this report.

4.5.2 Stormwater Facilities

There are currently multiple stormwater facilities within Asotin County and the City of Clarkston within the MPO boundary. Typical stormwater facilities include stormwater piping, catch basins, drywells, curb and gutter, infiltration trenches, valley gutter, old bubble-up systems, turf roadway shoulders, culverts, and pervious pavement. While stormwater facilities have been installed in strategic areas in the past, there are still many areas within Asotin County and the City of Clarkston that each agency is actively pursuing for improvements.

Asotin County Regional Stormwater maintains all stormwater facilities within Asotin County, as well as the City of Clarkston through a maintenance agreement. This partnership has historically worked well and provides each agency flexibility in maintaining and making improvements to the stormwater systems. It is recommended that stormwater management plans are referenced closely with this plan so that opportunities to install stormwater facilities concurrently with roadway improvements can occur.

4.6 MULTIMODAL TRANSPORTATION

Asotin County has the Public Transportation Benefit Area (PTBA) for multimodal transportation within the MPO Boundary. This service provides public transportation in and around the City of Clarkston, the City of Lewiston, and Asotin County.

4.6.1 Public Transit Facilities

The PTBA offers public transportation to individuals in Asotin, the City of Clarkston, Clarkston Heights, and the City of Lewiston, ID. The PTBA works with the Lewiston Transit System (LTS) to provide services across state lines and coordinated routes throughout the valley. A full-size fixed route and schedule for the PTBA can be found in Appendix D. Additional information on fixed route maps, schedules, and fare information are available at http://ridethevalley.org/about/asotin-co-ptba/

Local taxi services are available within the City of Clarkston, with some companies such as Uber and Lyft now offering services in the area. The LCVMPO Coordinated Public Transit Human Services Transportation Plan (CPT-HSTP) that was completed in early 2019 details available public transit within the LCVMPO boundary.

4.6.2 Airport Facilities

The closest airport to Asotin County and the City of Clarkston is the Lewiston-Nez Perce County Regional Airport (identifier LWS) located east across the Snake River in Idaho. The Lewiston-Nez Perce County Regional Airport (LWS) is jointly owned by the City of Lewiston and Nez Perce County. LWS is the gateway to north central Idaho, southeastern Washington and northeastern Oregon. The airport is currently serviced Delta Airlines. Data available from the Federal Aviation Administration (FAA) shows that there were 62,479 enplanements in 2014 and 66,579 enplanements in 2015. Between January 1, 2015 and December 31, 2015 LWS carried out 33,714 airport operations. 1,642 were commercial flights, 3,481 were air taxi, 28,101 were general aviation, and 490 were military. The next nearest regional airport is located 32 miles north between Pullman, WA and Moscow, ID. It is serviced by Alaskan Airlines.

4.6.3 Port Facilities

Asotin County and the City of Clarkston (specifically) is located within 6.5 miles of three port facilities. They are the Port of Wilma (Whitman County), the Port of Clarkston, and the Port of Lewiston. All three port facilities provide barge loading and unloading facilities for grain, fertilizer, and other agricultural products, timber products, and commercial shipping containers. The Port of Wilma also has a fuel unloading facility for barge lines that travel on the Snake River.

4.6.4 Rail Facilities

The only rail crossings that are listed by the Federal Rail Administration (FRA) near Asotin County are located in the Port of Wilma (Whitman County). These crossings are located at Druffel Drive and Wilma Road within the port area. This railroad is listed under the jurisdiction of Great Northwest Railroad, LLC. The railroad generally parallels the Snake River on the north side and continues into Idaho to the west. Additional rail facilities are located in Lewiston, Idaho.

4.6.5 Freight & Truck Traffic

Due to the primarily agricultural nature of the surrounding area in Asotin County, there is a substantial amount of commercial truck traffic through Asotin County and the City of Clarkston via US-12 and SR-129. US-12 provides a connection to western Washington as well as access to the State of Idaho. SR-129 provides a link between US-12 and the State of Oregon (Highway 3) to Enterprise and Joseph, Oregon.

Truck traffic along Bridge Street (US-12) is a concern for members of the CAC, especially as traffic continues to grow in the area. Bridge Street can be a narrow corridor for larger trucks and normal passenger vehicles to share with

center lane turning movements. The turning radius from Bridge Street onto 6th Street is also tight, which can make for difficulty for trucks navigating the corners.

Table 7 shows recent traffic volumes and recorded truck percentages on Bridge Street (US-12) and 6th Street (SR-129) according to recent WSDOT counts. An interactive traffic count map for WSDOT highways is available at the following link:
https://www.wsdot.wa.gov/mapsdata/tools/trafficplanningtrends.htm

Table 7 – WSDOT AADT and Truck Percentages

Bridge Street (US-12)	Volume (AADT)	Single Unit Truck %	Double Unit Truck %	Triple Unit Truck %
West of 15th St.	2,900	5.91%	12.59%	1.42%
Between 15th St. & 13th St.	7,600	3.74%	1.9%	0.03%
East of 2nd Street	18,000	1.72%	0.74%	0.08%
Blue Bridge	24,000	1.67%	0.74%	0.08%
6th Street (SR-129)				
Between Poplar St. and Maple St.	2,400	1.39%	0.46%	0.0%
South of 13th Street	7,400	4.06%	1.26%	0.13%

It can be seen that while a majority of truck traffic is diverted before passing through the City of Clarkston and into Asotin County, there is still a small percentage of trucks that pass through using Bridge Street (US-12) and 6th Street (SR-129). Efforts for minimizing truck traffic through inconvenient areas should continue by reinforcing designated trucks routes that can handle larger vehicles more easily.

4.6.6 Bicycle/Pedestrian Facilities

Asotin County:

The County currently has two bicycle facilities along roadways of note. 15th Street has shared lane markings (sharrows) for bicycles that run from Bridge Street to Highland Avenue. Additionally, there is an asphalt pathway that runs along Scenic Way, from 16th Avenue to Valleyview Drive. As identified by the LCVMPO Bicycle Master plan (previously discussed in Chapter 3), there are numerous proposed bicycle routes within Asotin County that could be implemented in the future. There is also a shared used pedestrian pathway that runs within Asotin County (Greenbelt Walkway). The path (which ultimately connects to Fair Street in the City of Clarkston and the City of Asotin) runs parallel with SR-129. Asotin County is responsible for the maintenance of the pathway from the Forest Service Office to the City of Asotin. The pathway is approximately 10' wide and approximately 34,440 feet long. At the time of this plan, these are the only fully-established dedicated bicycle lanes in the County within the MPO boundary. Figure 21 shows the existing bike routes and proposed bike routes for Asotin County within the study area. Asotin County also has various areas with concrete sidewalks installed, but there are many areas that currently do not have any sidewalk at all (See Section 4.6.7).

City of Clarkston:

The City of Clarkston has a shared bicycle lane through some of the city along 13th Street (denoted by shared lane markings). The shared lane begins at Fair Street and runs along 13th Street south to Highland Ave. At the time of this plan, this is the only dedicated bicycle route (denoted by sharrows) along a roadway in the City. There are conventional concrete sidewalks at various locations throughout the City, but there are gaps in certain areas. Figure 21 shows the existing bike routes and proposed bike routes for the City of Clarkston. As identified by the LCVMPO Bicycle Master plan (previously discussed in Chapter 3), there are numerous proposed bicycle routes within the City of Clarkston that could be implemented in the future. There is also a shared used pedestrian pathway that runs within the City of Clarkston (Greenbelt Walkway), for which the Army Corps. Of Engineers are responsible for maintaining

(within city limits). The path (which ultimately connects to Fair Street and the marina in the City) runs parallel with SR-129 south into Asotin County, and eventually ends at the City of Asotin. Asotin County is responsible for the maintenance of the pathway from the Forest Service Office to the City of Asotin as previously mentioned.

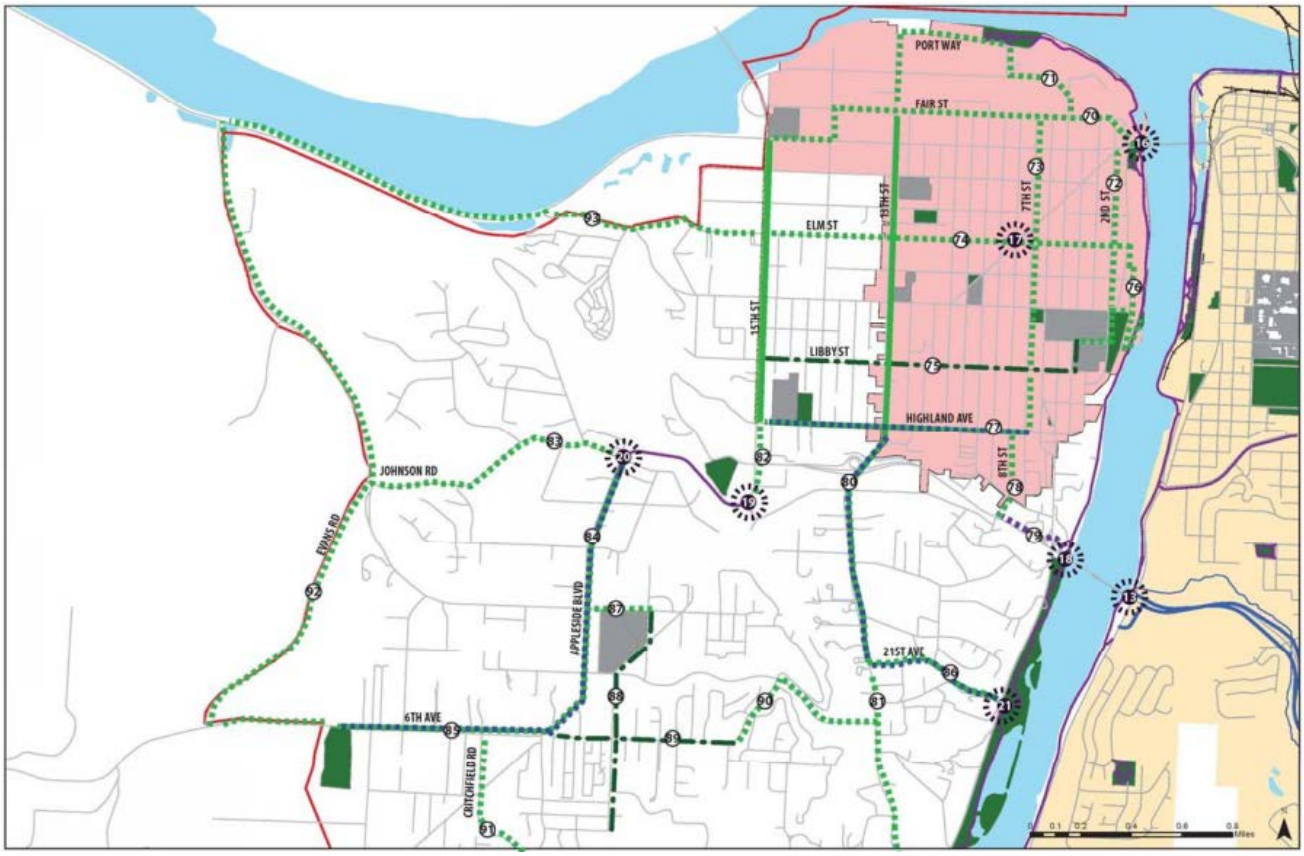
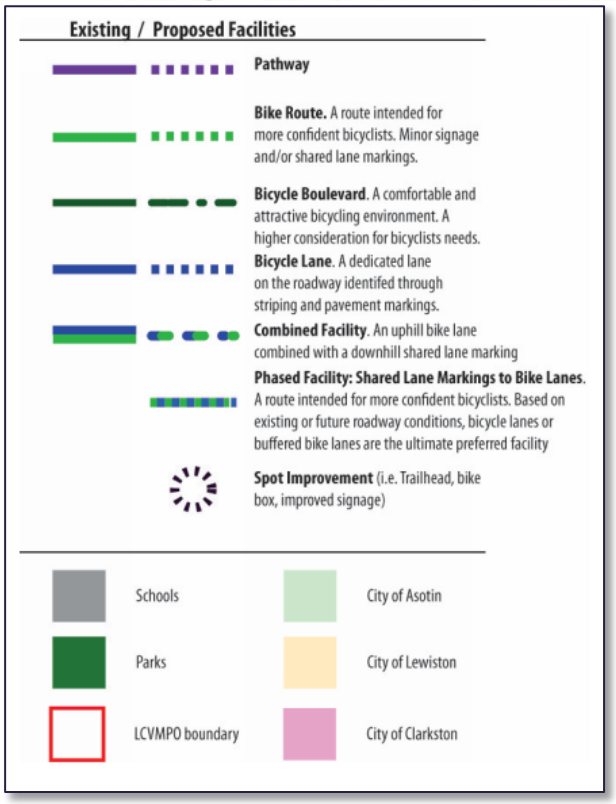


Figure 21 – Existing and Proposed Bicycle Network *(source: LCVMPO Bicycle Master Plan)*



It is recommended that the LCVMPO Bicycle Master plan is consulted frequently as part of this transportation plan, and that the projects listed by it are actively pursued by the City of Clarkston and Asotin County. Providing pedestrians and bicycles more options for travel will create a transportation system with better connectivity and functionality for all users.

4.6.7 Sidewalks

As mentioned in the previous sections, there are miscellaneous sidewalks present throughout Asotin County and the City of Clarkston for pedestrian travel. As part of this transportation plan, the current locations of sidewalks were documented to identify gaps in pedestrian service that could be improved upon. While the sidewalk locations were documented, it should be noted that a full ADA inventory to determine ADA compliance of sidewalks and pedestrian ramps was not performed. As mentioned previously, the LCVMPO had an ADA inventory performed in 2012, which

can be referenced for more detailed ADA compliance for specific areas in the study area. Gaps in sidewalks were noted to prioritize future sidewalk projects to provide more consistent pedestrian paths for Asotin County and the City of Clarkston.

Asotin County: Asotin County currently has sidewalks primarily along major traveled ways such as:

- 15th Street – Sidewalk in good condition on both sides, with pedestrian ramps that appear to be ADA compliant (have yellow detectable warning surface).
- Fleshman Way – Sidewalk in good condition on both sides, with pedestrian ramps that appear to be ADA compliant.
- Appleside Boulevard – Sidewalk in good condition on both sides, with pedestrian ramps. Ramps do not appear to be ADA compliant.
- 13th Street – Partial sidewalk present on one side in generally good condition, with pedestrian ramps. Ramps do not appear to be ADA compliant.
- Additional Miscellaneous Residential Roadways (See Figure 22).

While these sidewalks appear to be in generally good condition with some form of pedestrian ramps available, there are not many sidewalks present outside of the main roads in residential areas or areas of less vehicle travel. Figure 22 and Figure 23 show the current sidewalk locations for Asotin County. According to the TRB Access Management Manual, sidewalks should generally be provided on both sides of all classified roadways, down to local roads if possible. For the purposes of the CIP for this transportation plan, priority for sidewalk projects was based upon proximity to schools and connection to existing sidewalk facilities, along with the roadway's functional classification and final ratings and comments provided by the CAC. Based on this criteria, the following pedestrian projects were prioritized as the top three sidewalk projects as part of this transportation plan:

- PED1 - 6th Avenue Sidewalk (From 22nd Street to Evans Road): This project would provide connection to existing sidewalk facilities along Appleside Boulevard, ultimately providing another route to the school for pedestrians in nearby residential areas. This road is also a Minor Arterial, which is recommended to have sidewalks on both sides if possible.
- PED2 – Reservoir Road Sidewalk (From 5th Avenue to 4th Avenue): This project would provide connection to existing sidewalk facilities along 19th Street and 4th Avenue, which are directly adjacent to Lincoln Middle School and Heights Elementary School. This project was rated as a high priority to provide sidewalk around the schools to the adjacent areas.
- PED3 – 5th Avenue/Peaslee Road Sidewalk (From Appleside Blvd to 13th St): This project would provide connection to existing sidewalk facilities along Appleside Blvd and 13th St, which are in close proximity to the schools. This road is also a Major Collector, which is recommended to have sidewalks on both sides if possible. This path would provide a pedestrian path connection between two major County roadways with existing sidewalk.
- Additional sections of sidewalks were identified with similar methodology and can be viewed in the Capital Improvement Plan for Asotin County.

It is recommended that Asotin County perform a more detailed ADA evaluation of existing facilities and repair sections of the sidewalk network and ramps that do not appear to meet ADA requirements. The maps included with the Capital Improvement Plan also outline public transit route stops for consideration in sidewalk planning in the future.

City of Clarkston:

The City of Clarkston currently has sidewalk present along a majority of roadways in varying condition, with some small gaps in the overall sidewalk system. While an ADA evaluation was not performed as previously mentioned, there are many sidewalk sections within city limits that do not appear to meet ADA requirements by visual inspection, with obvious issues such as:

- Visible damage creating uneven walking surfaces

  - Spalling
  - Heaving
  - Cracking
- Sidewalks that are too narrow
- Absence of pedestrian ramps at some locations
- Absence of detectable warning surfaces on existing pedestrian ramps
- Sudden grade changes due to distresses and original installation

Figure 24 shows the locations of sidewalks for the City of Clarkston, as well as highlighted locations where sidewalk is noted to be absent for gap identification. For the purposes of identifying projects for the CIP of this transportation plan, priority was based upon completing sidewalk gaps in close proximity to schools where complete sidewalk is not present on at least one side of the roadway, as well as considerations and priority provided by the CAC. Based on this criteria, the following pedestrian projects were prioritized as the top three sidewalk projects as part of this transportation plan:

- PED1 – Poplar Street Sidewalk (From Morrison Street to 12th Street): This project would close a gap and provide connection to existing sidewalk facilities along Poplar Street, ultimately providing a consistent route for pedestrians in nearby residential areas.
- PED2 –Maple Street Sidewalk (From 13th Street to Burns Street): This project would provide connection to existing sidewalk facilities along Maple Street and 13th Street. This segment of road currently does not have sidewalk on either side. With Maple Street receiving interest for a potential reclassification, sidewalk would be recommended along this corridor.
- PED3 – Burns Street (From Poplar Street to Bridge Street): This project would provide connection to existing sidewalk facilities along Burns Street, Bridge Street, and Maple Street. This path would complete a sidewalk gap and provide a pedestrian path connection from Bridge Street to the residential area.
- Additional sections of sidewalks were identified with similar methodology and can be viewed in the Capital Improvement Plan for the City of Clarkston.

It is recommended that the City of Clarkston perform a more detailed ADA evaluation of existing facilities and repair sections of the sidewalk network and ramps that do not appear to meet ADA requirements or are damaged. The maps included with the Capital Improvement Plan also outline public transit route stops for consideration in sidewalk planning in the future. The CAC also mentioned that the crosswalks at Highland Avenue and 13th Street should be investigated for potential improvements.

Figure 22 – Asotin County Sidewalk Locations (North)

Figure 23 – Asotin County Sidewalk Locations (South)

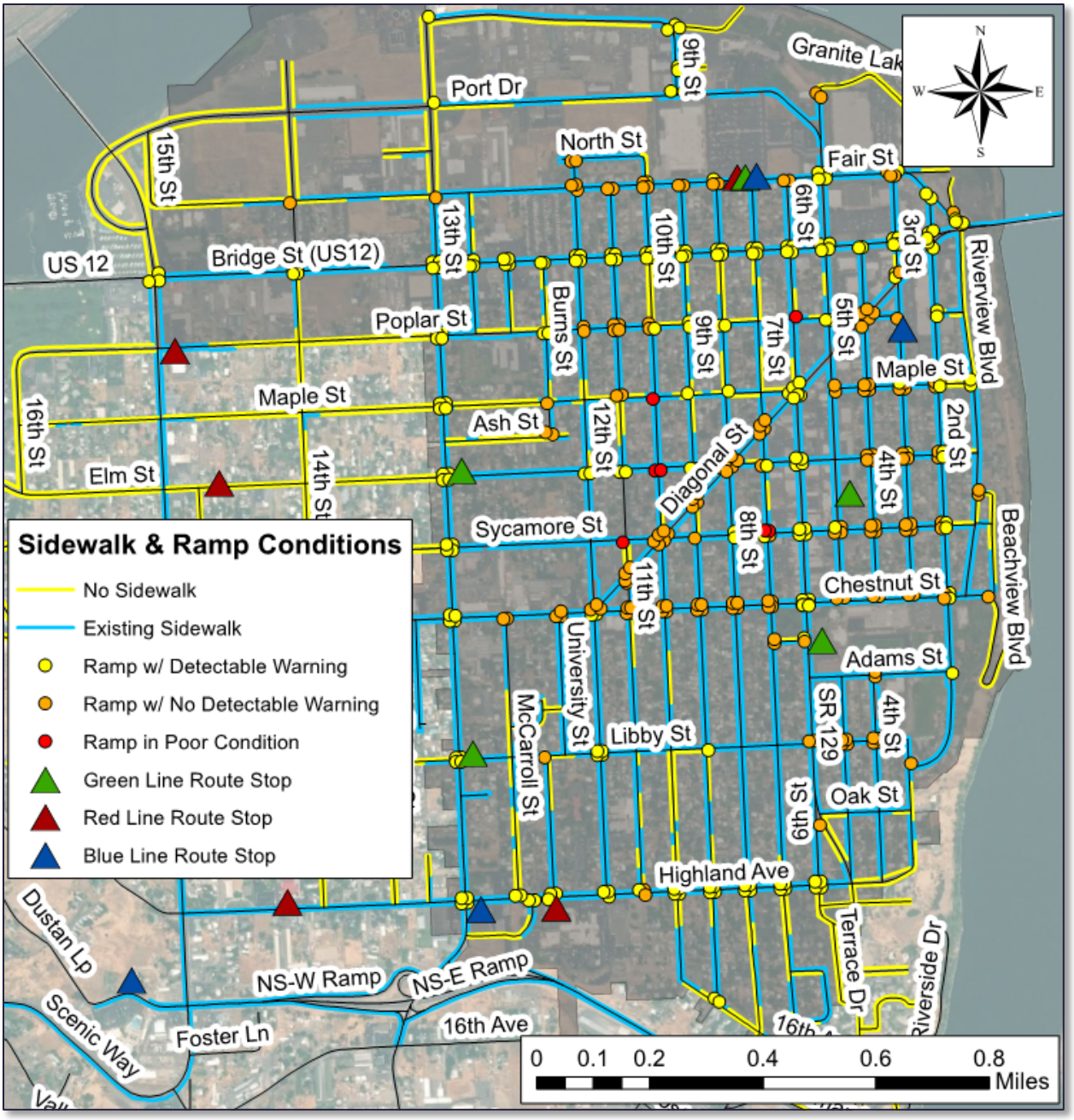


Figure 24 – City of Clarkston Sidewalk Locations

4.6.8 Multimodal Transportation Recommendations

It is recommended as development and growth occurs that the transit system is extended/expanded to meet the community needs for transit service. This expansion of service should consider shifts in population centers in the surrounding community, trend changes in population demographics, and change or addition of traffic generators. The expansion of transit service could include additional routes, extended service hours, and additional transit stops on existing routes. Currently, the active transit system appears to be providing adequate service for Asotin County and the City of Clarkston.

Operation of the airport, port, and rail intermodal facilities have a direct economic impact on the City of Clarkston and Asotin County. It is recommended that the City of Clarkston and Asotin County continue to support the maintenance, upgrade, and expansion of the regional airport, ports, and rail facilities. This support can be done through the following:

- Developing intergovernmental and inter-agency relationships related to the multi-modal facilities.
- Participation in adhoc committee or planning groups for specific projects related to the airport, port, and rail facilities.
- Active participation and involvement in the LCVMPO Policy Board and TAC.

Since SR-129 and US-12 pass through Asotin County and the City of Clarkston, freight and truck traffic have a direct impact on each agency. It is recommended that the US-12 and SR-129 routes be monitored on a consistent basis to identify opportunities to improve safety, efficiency and flow of freight and truck traffic through these corridors within the city and county limits. This will have to be done in coordination with WSDOT and their maintenance and roadway improvement projects. Consideration of safety concerns for pedestrian crossings at the school zones need to also be considered and the possible conflicts with freight and truck traffic. This may include the addition of some type of signalized pedestrian crossing system at the crosswalks within the designated truck routes.

The existing bicycle/pedestrian facilities have numerous deficiencies identified such as:

- Some existing pedestrian facilities do not meet current ADA requirements.
- Lack of connectivity from residential to downtown areas.
- Lack of overall network connectivity for certain pedestrian paths.

It is recommended that each agency does the following to address the deficiencies in the bicycle/pedestrian facilities (including sidewalks).

- Look for grant funding opportunities designated for the maintenance, improvement, and expansion of bicycle/pedestrian facilities (reference LCVMPO Bicycle Master Plan when identifying projects and potential grant funding).
- Coordinate maintenance, improvement, and expansion of bicycle/pedestrian facilities with corresponding roadway projects.
- As development occurs, ensure connectivity of new bicycle/pedestrian facilities with any existing.

4.7 EXISTING TRAFFIC CONDITIONS

4.7.1 Existing Traffic Volumes

Traffic volumes available within the MPO project boundary for this project were obtained to determine how much traffic is currently using roads in the City of Clarkston and Asotin County. Annual Average Daily Traffic (AADT) is typically the total volume of vehicle traffic on a roadway for a year divided by 365 days. The existing volumes for key areas in the study area gathered from this plan are listed in Table 8 and Table 9 below. Additionally, these numbers are also shown in Figure 25. Three data sources were referenced for the collection of this data:

- Peak Hour Turning Movement Counts (TMC) – This data was originally collected and made available by the LCVMPO for roadway sections between 2015 and 2017. *(Note: AADT is typically equal to ten times the PM peak hour volumes).* These counts were projected to 2018 using the existing LCVMPO QRSII model.
- Washington Department of Transportation (WSDOT AADT)
- Idaho Transportation Department (ITD AADT)

Table 8 – Existing Volumes Part I

#	Roadway Segment	Location	Year	Source	AADT	Juris.
1	Bridge/US-12	East of Riverview Blvd	2017	ITD AADT	24,000	WSDOT
2	Bridge/US-12	Riverview Blvd to 2nd Street	2017	WSDOT AADT	18,000	WSDOT
3	Bridge/US-12	2nd Street to 13th Street	2017	WSDOT AADT	12,000	WSDOT
4	Bridge/US-12	13th Street to 15th Street	2017	WSDOT AADT	8,200	WSDOT
5	Bridge/US-12	15th Street to Evans Road	2017	WSDOT AADT	2,900	WSDOT
6	Bridge/US-12	West of Evans Road	2018	TMC	2,250	WSDOT
7	Chestnut Street	East of 15th Street	2018	TMC	1,290	Clarkston
8	Chestnut Street	West of 15th Street	2018	TMC	1,350	Asotin Co.
9	Highland Avenue	East of 12th Street	2018	TMC	2,870	Clarkston
10	Highland Avenue	12th Street to 13th Street	2018	TMC	3,690	Clarkston
11	Highland Avenue	West of 13th Street	2018	TMC	2,690	Asotin Co.
12	Fleshman Way	East of 15th Street	2018	TMC	8,870	Asotin Co.
13	Fleshman Way	West of 15th Street	2018	TMC	1,050	Asotin Co.
14	16th Avenue	East of 13th Street	2018	TMC	350	Asotin Co.
15	16th Avenue	West of 13th Street	2018	TMC	980	Asotin Co.
16	Valleyview Drive	East of Appleside Boulevard	2018	TMC	140	Asotin Co.
17	Valleyview Drive	West of Appleside Boulevard	2018	TMC	2,770	Asotin Co.
18	Peola Road	East of Evans Road	2018	TMC	940	Asotin Co.
19	Peola Road	West of Evans Road	2018	TMC	690	Asotin Co.
20	12th Street	North of Highland Avenue	2018	TMC	1,390	Clarkston
21	13th Street	North of Bridge Street	2018	TMC	3,480	Clarkston
22	13th Street	Bridge Street to Highland Avenue	2018	TMC	4,510	Clarkston
23	13th Street	Highland Avenue to 16th Avenue	2018	TMC	6,460	Asotin Co.
24	13th Street	South of 16th Avenue	2018	TMC	7,650	Asotin Co.
25	15th Street	North of Bridge Street	2017	WSDOT AADT	5,500	Asotin Co.
26	15th Street	Bridge Street to Chestnut Street	2018	TMC	7,080	Asotin Co.

Table 9 - Existing Volumes Part II

#	Roadway Segment	Location	Year	Source	AADT	Juris.
27	15th Street	Chestnut Street to Fleshman Way	2018	TMC	8,990	Asotin Co.
28	Scenic Way	South of Fleshman Way	2018	TMC	10,870	Asotin Co.
29	Scenic Way	North of Valley View Drive	2018	TMC	10,060	Asotin Co.
30	Appleside Boulevard	South of Valley View Drive	2018	TMC	7,960	Asotin Co.
31	Evans Road	Bridge Street/US-12 to Peola Road	2018	TMC	620	Asotin Co.
32	Diagonal Street	2nd Street to 4th Street	2017	WSDOT AADT	7,000	WSDOT
33	Diagonal Street	4th Street to 6th Street	2017	WSDOT AADT	9,400	WSDOT
34	6th Street / SR-129	Diagonal Street to Chestnut Street	2017	WSDOT AADT	6,600	WSDOT
35	6th Street / SR-129	Chestnut Street to Oak Street	2017	WSDOT AADT	8,500	WSDOT
36	SR-129	Oak Street to Fleshman Way	2017	WSDOT AADT	6,500	WSDOT
37	SR-129	Fleshman Way to 22nd Avenue	2017	WSDOT AADT	7,600	WSDOT
38	SR-129	22nd Avenue to 13th Street	2017	WSDOT AADT	6,100	WSDOT
39	SR-129	13th Street to Critchfield Rd	2017	WSDOT AADT	7,400	WSDOT
40	Fleshman Way (Southway Bridge)	East of SR-129	2018	ITD AADT	23,130	Asotin Co.

As noted by the traffic counts collected, some roadways within the study area experience significantly higher volumes than typical local roads. The volumes that typically necessitate roadway expansion (multiple lanes in each direction) is about 13,000 AADT. For the purposes of this analysis, this is the volume that roadway expansion improvements are recommended to be evaluated. As of 2017 and 2018 counts, the following roadway segments meet or exceed this volume:

- Bridge Street/US-12 (East of Riverview Boulevard; Blue Bridge): This roadway segment is currently two lanes in each direction, so further capacity improvements are not urgent at this time.
- Bridge Street/US-12 (From Riverview Boulevard to 2nd Street): This roadway segment is currently two lanes in each direction, so further capacity improvements are not urgent at this time. This intersection is scheduled to undergo a reconfiguration (see Appendix B, The City of Clarkston CIP), which will address some of the current delay and issues related to this segment.
- Fleshman Way (Southway Bridge; east of SR-129): This roadway segment is currently two lanes in each direction, so further capacity improvements are not urgent at this time. Potential lane modifications may need to be evaluated on the Lewiston side due to the configuration of Southway Bridge (bottlenecks on east/Lewiston side of bridge to one lane eastbound.)

In addition to these roadway segments, there are also segments that are currently between 10,000 AADT and 13,000 AADT, putting them near the threshold for capacity improvements in the future:

- Bridge Street/US-12 (From 2nd Street to 13th Street): 12,000 AADT based on 2017 recorded volumes
- Scenic Way (From 15th Street to Valleyview Drive): 10,870 AADT based on 2018 projected TMC counts

While these segments do not currently meet the threshold for recommending capacity improvements, as traffic grows in the future, they are anticipated to exceed it. Since Bridge Street is constrained by right-of-way and under jurisdiction of WSDOT, the City will need to coordinate this potential effort in the future. In the meantime, it is recommended that Bridge Street has a corridor study performed to identify additional constraints and potential paths moving forward. The other two projects (15th Street and Scenic Way) have been included in the CIP for this plan.

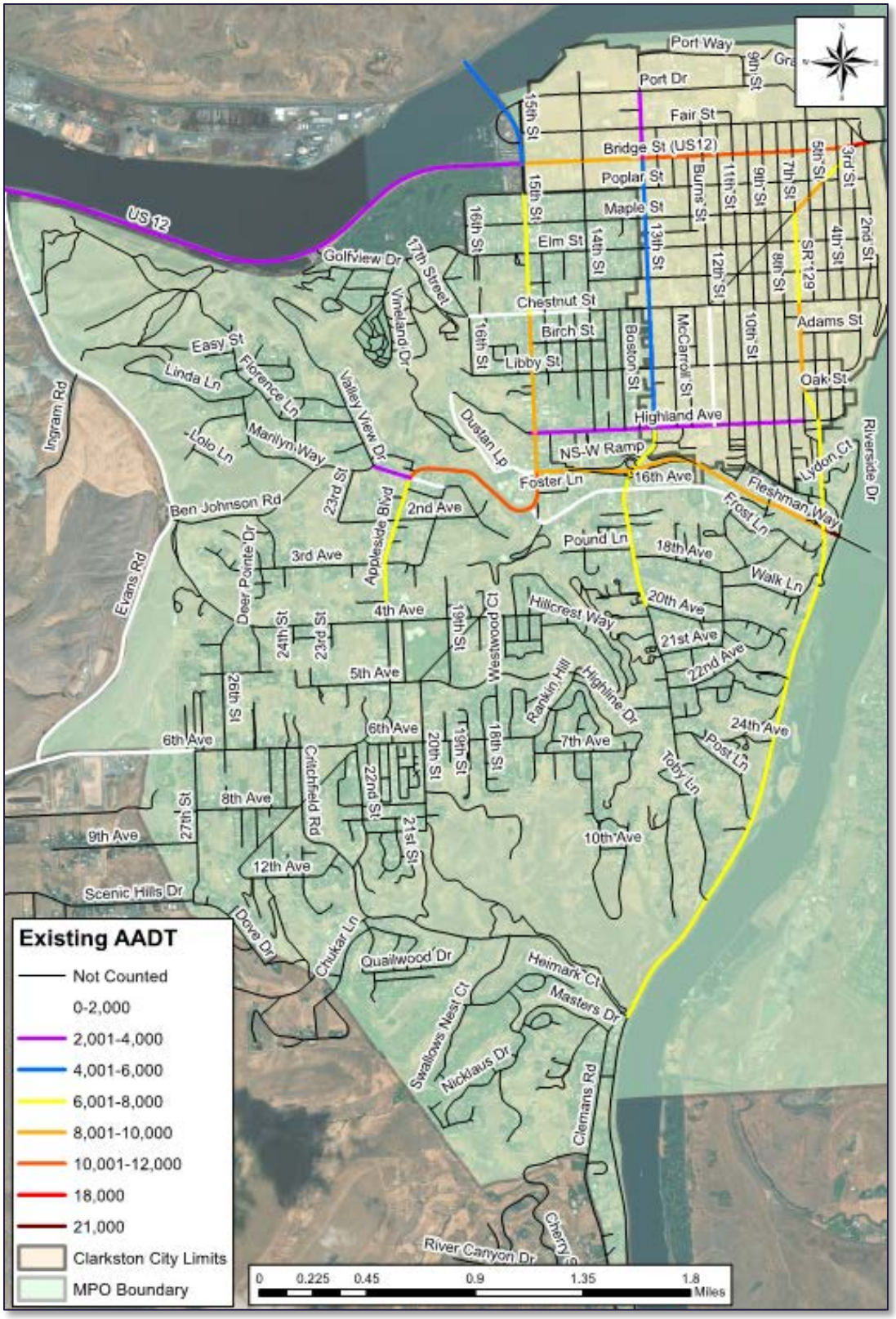


Figure 25 – Existing AADT Map

4.7.2 Intersection Analysis (Existing)

As part of this transportation plan, major intersections were selected for detailed traffic capacity analysis based on CAC comments, known capacity issues, high volumes, and high functional classification. The turning movement volumes previously noted were adjusted for seasonal and day-of-week variations, projected forward to year 2018 using LCVMPO's QRSII travel demand forecasting model, and analyzed to determine vehicle Level of Service (LOS).

Level of Service (LOS) is a qualitative measure of traffic congestion and delay, ranging from A to F. LOS A represents very low traffic volumes compared to the capacity of the roadway, while LOS F represents traffic demand that exceeds capacity, causing a bottleneck in traffic flow and serious congestion. An average LOS D is generally acceptable during peak periods in urban areas, while LOS E (defined as capacity) is often acceptable for an individual turning movement.

Table 10 summarizes existing LOS for the ten intersections analyzed. The only intersection with unacceptable LOS was Bridge St. & Diagonal St. The westbound left turn movement exceeds capacity (LOS F) during the PM peak hour. The other intersections were found to have acceptable LOS for both AM and PM peak hours.

Table 10 - Existing Intersection LOS

Intersection	Jurisdiction	Peak Hour	2018 Analysis	
			Average LOS	Worst Movement LOS
2nd St., Bridge St., & Diagonal St.	City of Clarkston	AM	LOS B	LOS C, Northeastbound Left
		PM	LOS D	LOS F, Westbound Left
13th St. and Bridge St.	City of Clarkston	AM	LOS A	LOS B, Southbound Left
		PM	LOS A	LOS B, Southbound Left
15th St. & Bridge St.	Asotin County	AM	LOS B	LOS B, Northbound Right
		PM	LOS B	LOS B, Southbound Left
15th St. & Chestnut St.	Asotin County	AM	LOS A	LOS C, Westbound
		PM	LOS A	LOS D, Westbound
15th St. & Fleshman Way	Asotin County	AM	LOS B	LOS C, Northbound Left
		PM	LOS B	LOS C, Northbound Left
US12 & Evans Rd.	Asotin County	AM	LOS A	LOS A, Northbound Left
		PM	LOS A	LOS B, Northbound Left
12th St. & Highland Ave.	City of Clarkston	AM	LOS A	LOS B, Southbound
		PM	LOS A	LOS B, Northbound
13th St. & Highland Ave.	City/County	AM	LOS B	LOS B, Southbound
		PM	LOS B	LOS C, Southbound
13th St. & 16th Ave.	Asotin County	AM	LOS A	LOS B, Eastbound
		PM	LOS A	LOS C, Eastbound
Appleside Blvd & Valleyview Dr	Asotin County	AM	LOS A	LOS B, Eastbound
		PM	LOS A	LOS C, Eastbound

As previously discussed, the intersection that is currently operating with a movement outside of capacity (Bridge Street and Diagonal Street) is currently scheduled for improvements, which is reflected in this transportation plan's CIP. The other intersection evaluated are not anticipated to need immediate improvements as of the 2018 operation.

4.8 TRAFFIC CALMING DEVICES

Through the roadway inventory and field investigation, traffic calming devices such as speed bumps were not noted on any major roadways within the study area. When speed bumps are generally observed, it is usually indicative of a noted speeding problem. Speed bumps are commonly found in parking lots where traffic is coming from different directions. Speed bumps generally cause significant driver discomfort and requires a vehicle to slow down to as low as 5 mph or less for each bump. As such, speed bumps are not recommended for consideration in problem areas for Asotin County or the City of Clarkston.

An alternative to speed bumps is a speed hump, which is a raised area in the roadway pavement surface extending transversely across the traveled way. They are typically 3 to 3.5 inches high, with a typical length of 12 feet. With speed humps properly spaced and within typical residential operational speed ranges, vehicles slow to about 20 mph. Speed humps have evolved from extensive research and testing and are designed to achieve a specific result on vehicular operations without imposing unreasonable or unacceptable risks of safety.

Speed humps (and speed bumps) are not recommended for use on bus routes or emergency vehicle routes. Speed tables (flat top speed humps) may be more appropriate on emergency routes. Emergency response officials and operators should always be consulted when implementing vertical traffic calming measures.

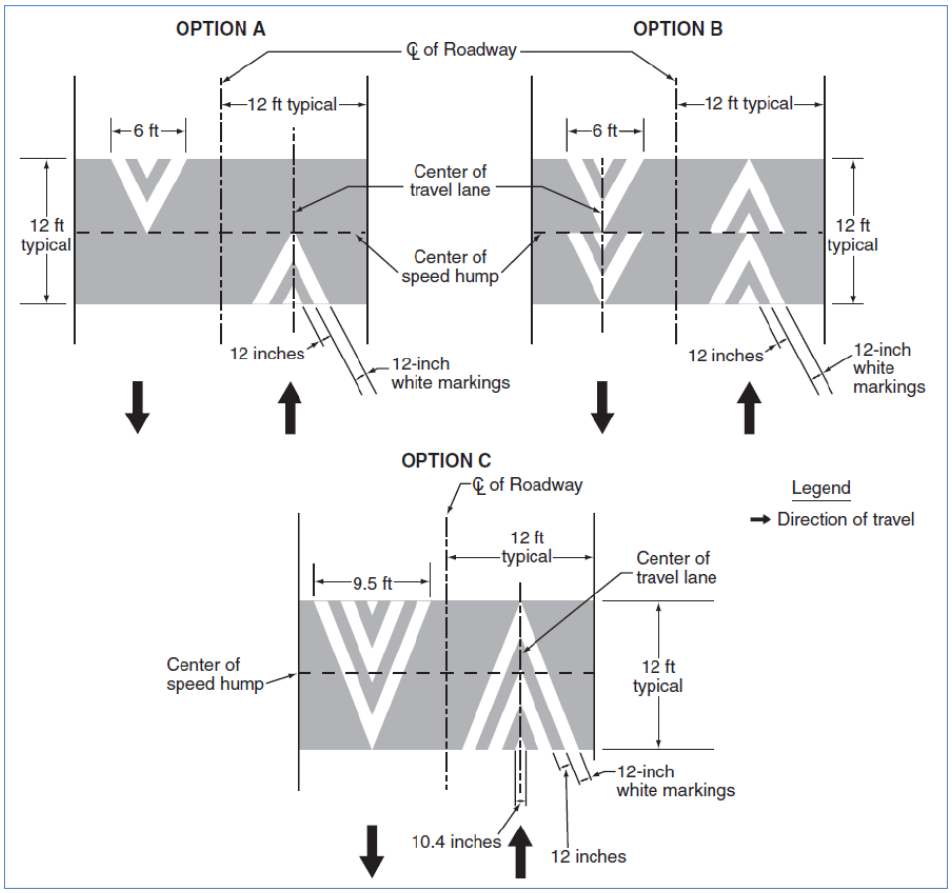


Figure 26 – Typical Pavement Markings and Layout for Speed Humps

Speed humps can be signed with W17-1 warning signs and an advisory speed plaque. The MUTCD allows the terms "bump" and "hump" be used interchangeably. The MUTCD also provides for pavement markings for speed humps as shown in Figure 26.

Other methods of traffic calming include roadway narrowing (road diets), flashing warning signage, intersection bulb-outs, and speed limit radar signs. The majority of these methods will provide way to prevent excessive speeding, and prevent traffic from cutting through residetial areas to save time.

The City of Clarkston currently has documented intersection bulb-outs installed at the 12th Street and Libby Street intersection to discourage speeding. If traffic calming is determined to be needed for a roadway, it is recommended that the corridor is analyzed on a case-by-case basis to determine the best solution to provide traffic calming.

4.9 CRASHES

Crash data from 2012 to 2017 was collected from WSDOT and local agencies for Asotin County and the City of Clarkston. This data was imported into a GIS program and used to identify intersections and roadway segments with high crash frequencies to better understand the traffic patterns in the study area. The crash severity information gathered for each agency is listed in Table 11. Asotin County as a whole (minus the City of Clarkston) had approximately 1,014 crashes from 2012 to early 2018 (based on available data at the time). Of these 1,014 crashes, 795 crashes were within the study area of the MPO Boundary. The City of Clarkston had a total of 746 crashes documented within City limits, which includes 369 crashes which were listed exclusively on state routes (WSDOT). For the purpose of this analysis, the 369 crashes on state routes were included in both Asotin County and the City of Clarkston's analysis, since both agencies are impacted by these crashes on state routes.

Table 11 – Crash Severity and Occurrences

	City of Clarkston	Asotin County
Crash Severity	Number of Crashes	
Fatality	1	3
Suspected Serious Injury	12	12
Suspected Minor Injury	60	54
Possible Injury	135	127
No Apparent Injury (Property Damage)	505	531
Unknown	33	68
Total	746*	795*
** 369 of these crashes are crashes listed on state routes within the City of Clarkston city limits*		

4.9.1 Asotin County

The total 795 crashes within the study area were analyzed for severity, contributing circumstances, roadway conditions, and other variables. Some general statistics for these crashes for Asotin County are shown in the following tables.

Table 12 - Asotin County Crash Attributes

Asotin County Crash Attributes		
Crash Attribute	Number of occurrences	Percentage of Total
Did not Grant ROW to Veh. Or Ped.	144	18.1%
Inattention	137	17.2%
Follow too closely	92	11.6%
None	83	10.4%
Other	69	8.7%
Driver Distracted	62	7.8%
Improper Movement (backing, passing, etc.)	60	7.5%
Driving too fast	49	6.2%
Disregarded Signage	37	4.7%
Under the influence of Alcohol or Drugs	31	3.9%
Driver Unwell	16	2.0%
Unknown	15	1.9%
Total	795	100%

Table 13 – Asotin County – Light Conditions

Asotin County Light Conditions		
Light Conditions	Number of occurrences	Percentage of Total
Daylight	599	75.3%
Dark – Street Lights on	102	12.8%
Dark – No Street Lights	59	7.4%
Dawn & Dusk	26	3.3%
Dark – Street Lights off	4	0.5%
Unknown	4	0.5%
Other	1	0.1%
Total	795	100%

Table 14 - Asotin County Roadway Condition

Asotin County Roadway Conditions		
Light Conditions	Number of occurrences	Percentage of Total
Dry	670	84.3%
Wet	78	9.8%
Ice	25	3.1%
Snow/Slush	20	2.5%
Unknown	2	0.3%
Total	795	100%

Overall, the data presented by the previous tables are fairly typical distributions for agencies like Asotin County. The highest occurring contributing circumstance was the failure to grant right-of-way to other vehicles or pedestrians, followed closely by inattention. These factors appear to be primarily attributed to driver error.

In addition to the crash attributes, the overall locations of the crashes were observed to identify any areas with high crash frequency. Areas that appeared to have frequent crashes are:

- Intersections along 15th Street, primarily:
  - 15th Street & Bridge Street (7 Crashes)
  - 15th Street and Elm Street (7 Crashes)
  - 15th Street and Chestnut Street (12 Crashes)
  - 15th Street and Libby Street (7 Crashes)
  - 15th Street and Fleshman Way (22 Crashes)
- Scenic Way (where 15th Street becomes Scenic Way; 15 crashes along curve)
- Critchfield Road and SR-129 (discussed in Chapter 3 – Previous Studies)

Figures on the following pages detail the overall crash map for Asotin County and each of these locations, as well as the severity of the crashes that occurred. While these areas do experience more frequent crashes than other locations in Asotin County, this is to be expected due to the higher volumes on 15th Street. The crashes at each of the intersections have varying contributing factors, and it is difficult to draw any relevant conclusions based on the crash data alone.

(Similar information for the City of Clarkston can be found following the figures and explanations for Asotin County's crashes.)

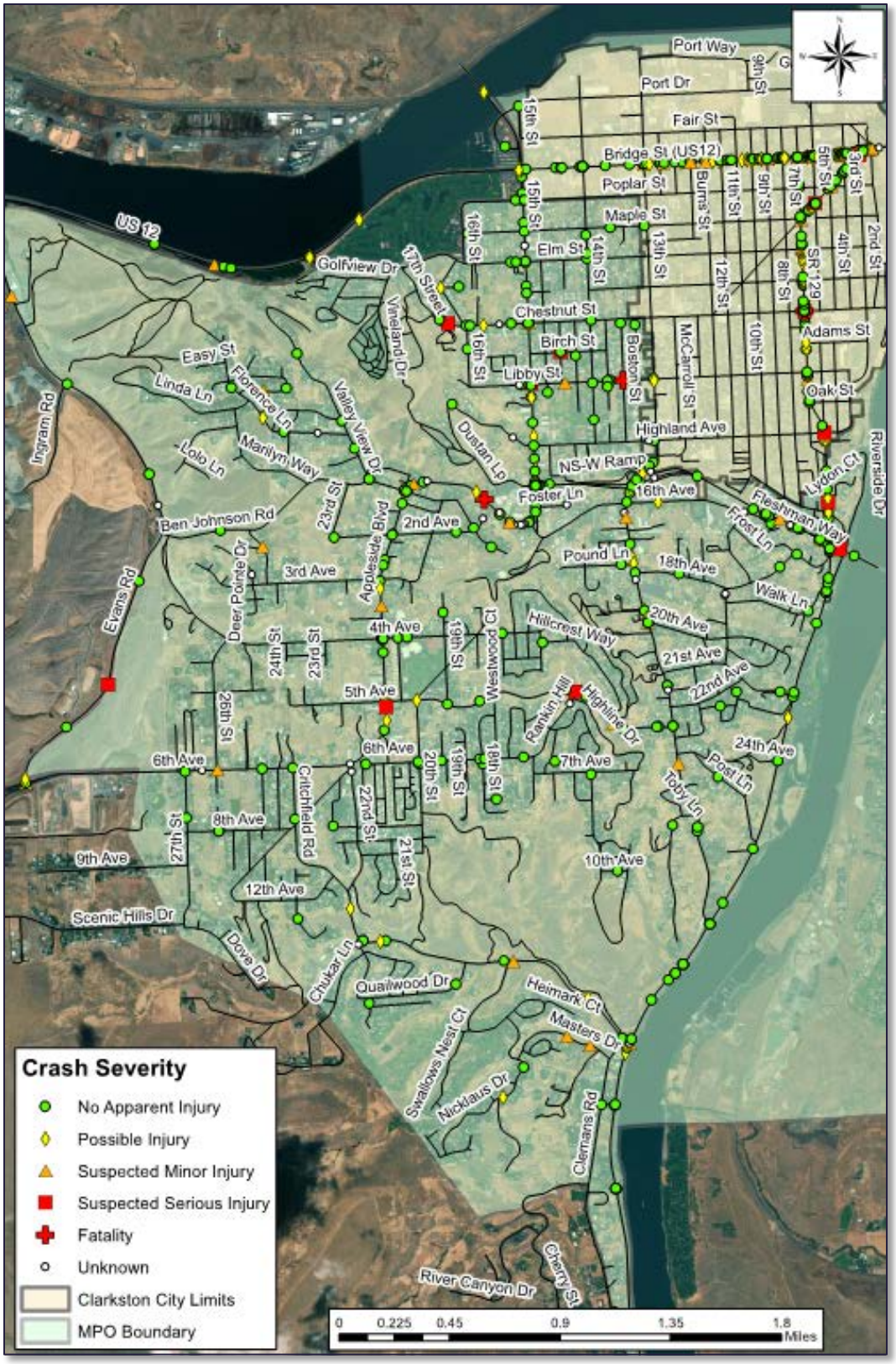


Figure 27 – Asotin County Crash Map

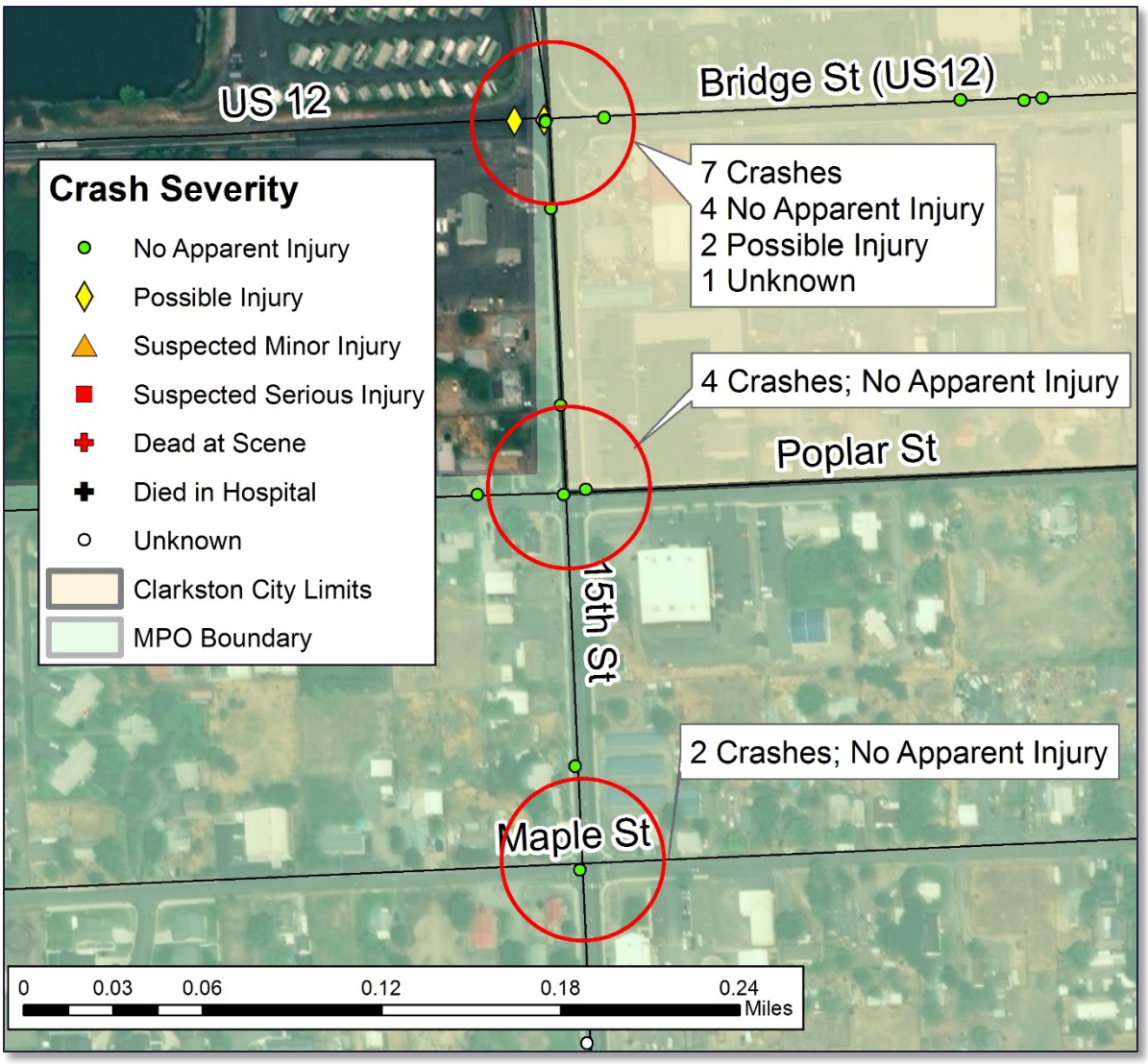


Figure 28 – Frequent Crash Location (15th St & Bridge St)

As seen above, 15th Street and Bridge Street has experienced 7 crashes since 2013, most of which are results of drivers following too closely. Two of the crashes were listed as "possible injury," but the remaining crashes had no known injuries documented. Since this is the first traffic signal as traffic comes into town from the west, vehicles may not be prepared to execute movements at the intersection.

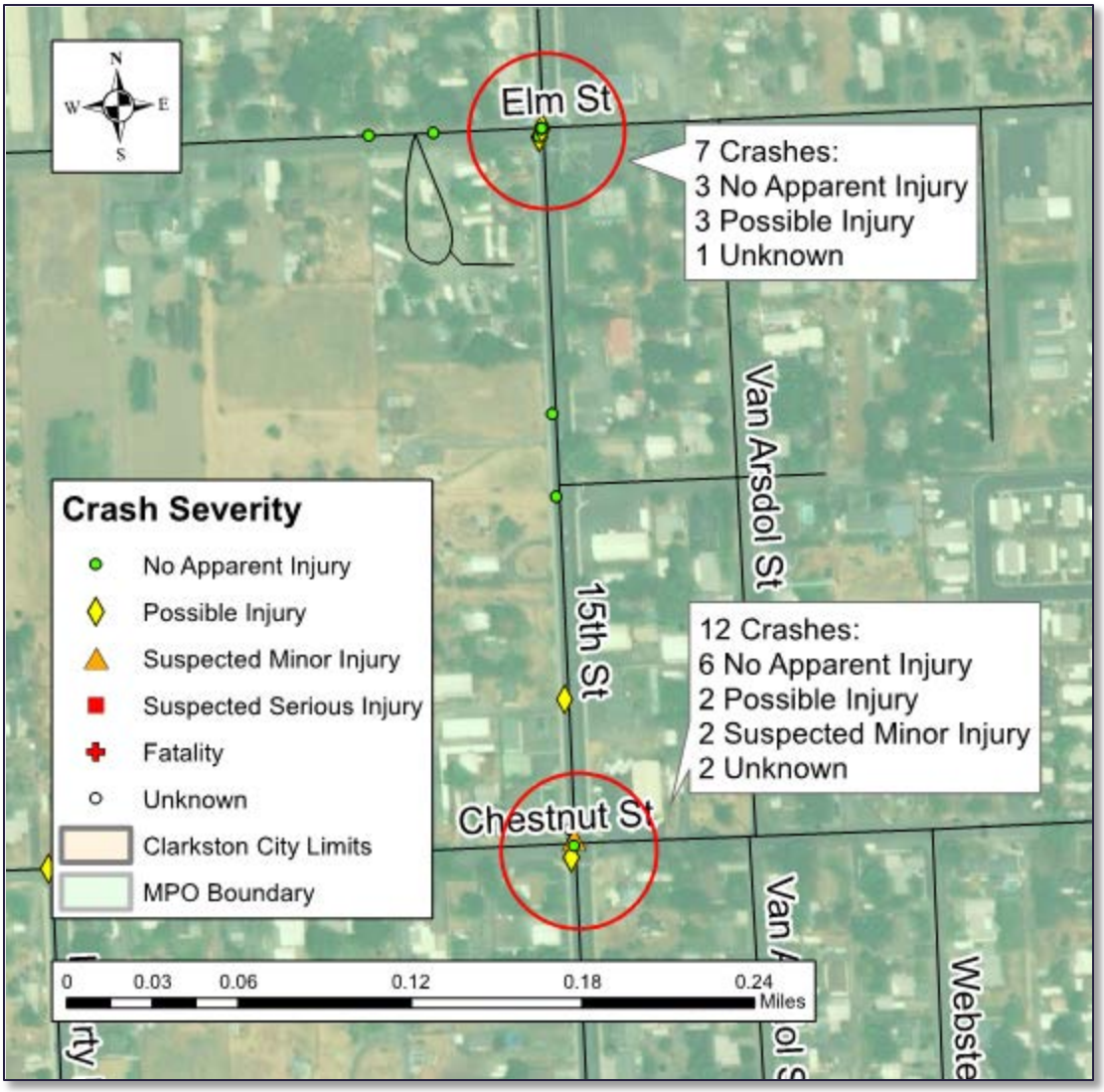


Figure 29 – Frequent Crash Location (15th St & Elm St; Chestnut St)

As seen above, 15th Street and Elm Street has experienced 7 crashes since 2013, most of which are results of drivers disregarding flashing signs and following too closely. Three of the crashes were listed as "possible injury," but the remaining crashes had no known injuries documented. This location currently has wire-hung, flashing warning signage to inform drivers that an intersection is present. Sight distance from Elm Street is documented as being limited due to power poles and other obstructions for drivers. It is recommended that the wire-hung warning lights are removed and replaced with more functional pole mounted warning signage.

Also, 15th Street and Chestnut Street has experienced 12 crashes since 2012, most of which are results of drivers following too closely. Two of the crashes were listed as "possible injury," but the remaining crashes had no known injuries documented. This intersection has similar geometry to 15th Street and Elm Street, so warning signage is recommended for this intersection due to the decreased sight distances.

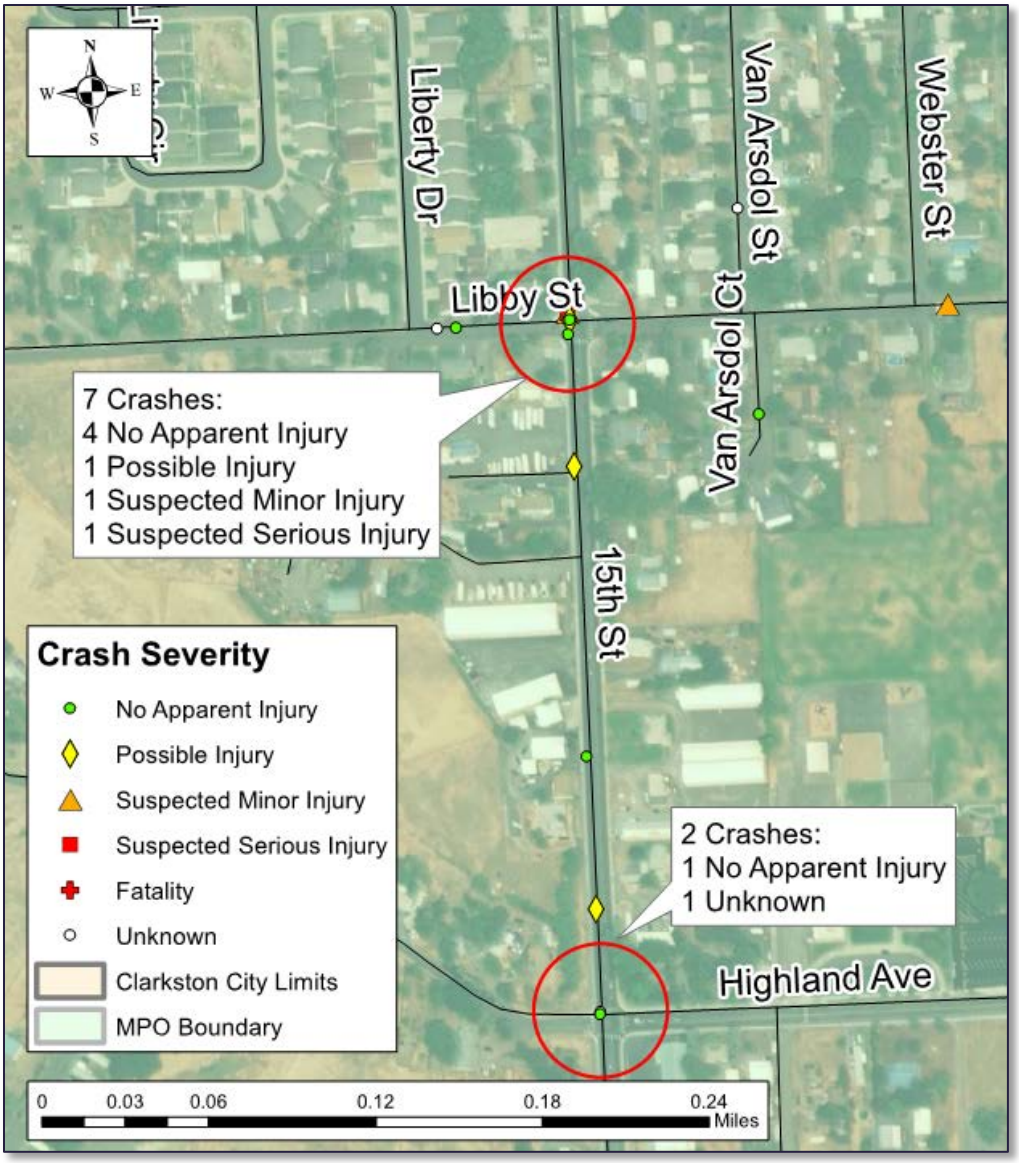


Figure 30 – Frequent Crash Location (15th St & Libby St)

As seen above, 15th Street and Libby Street has experienced 7 crashes since 2012, most of which are results of drivers not granting right of way to other vehicles. One of the crashes was listed as "suspected serious injury," one crash was listed as "suspected minor injury," and one was listed as "possible injury," making this intersection a bit more prone for drivers to be injured. Similar to the other intersection on 15th Street, there is limited sight distance for drivers trying to cross or merge onto 15th Street from Libby Street. It is recommended that this location also receive advance warning signage to inform drivers of potential traffic conflicts.

It is recommended that the intersections along 15th Street are each evaluated for sight distance, with the relocation and removal of obstructions as necessary to provide recommended sight distance for drivers along this corridor.

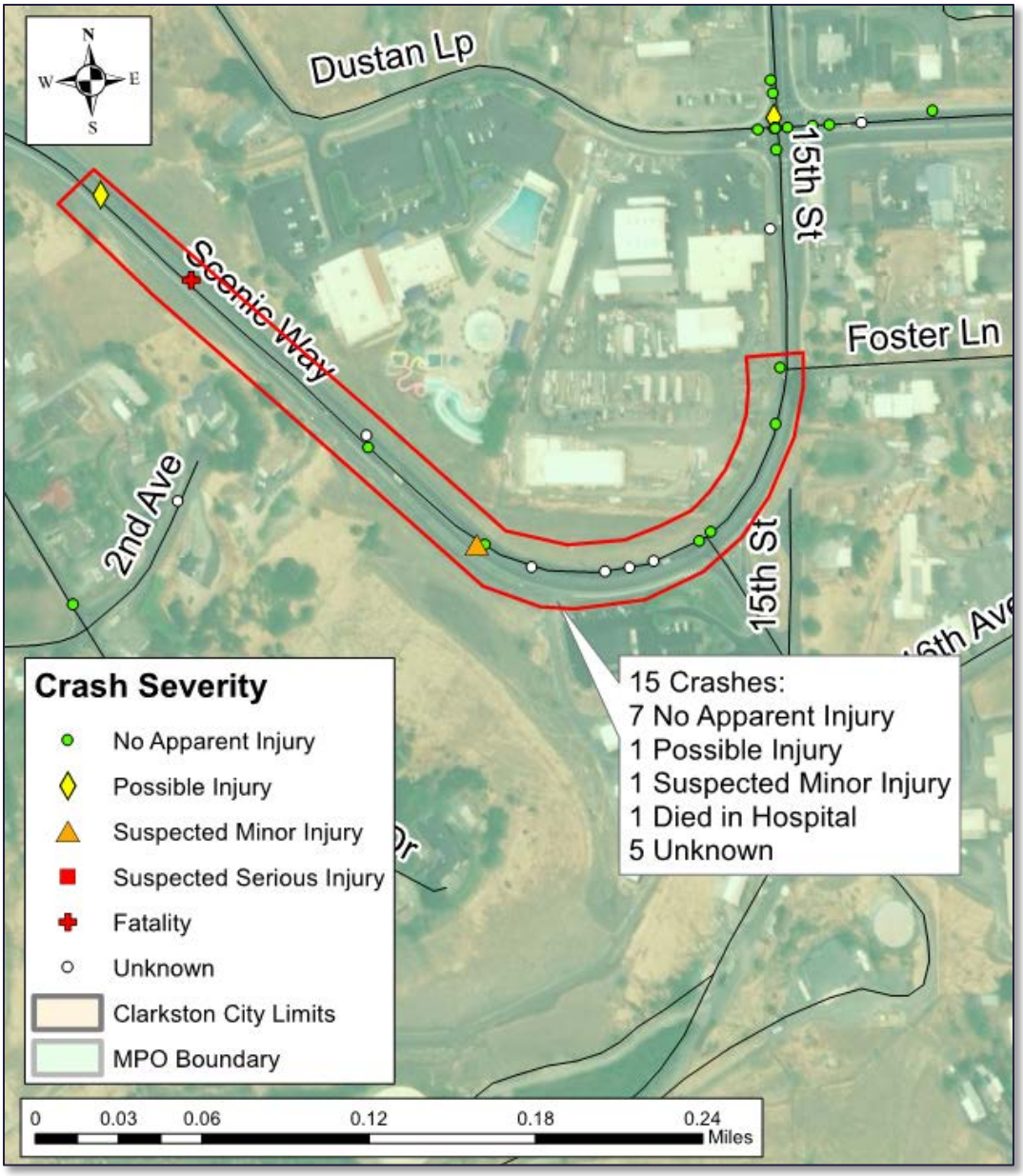


Figure 31 – Frequent Crash Location (Scenic Way Curve)

The area with the highest crash frequency is the Scenic Way curve shown in Figure 31. There have been 15 crashes at this location since 2013, which have resulted from multiple driver interactions: exceeding safe speeds, following too closely, crossing the center line, etc. This area has also experienced a fatality, which resulted from a motorcycle speeding while under the influence of alcohol. While this location has experience multiple crashes, most of the circumstances can be attributed to driver error. Due to its unique geometry, it is possible drivers are not prepared for the speed, layout, and curvature of the road. It is recommended that this area is monitored with the potential to install additional warning signage.

There were also approximately 22 crashes that took place since 2012 at the intersection of 15th Street and Fleshman Way, but a majority of these were minor crashes with no apparent injury, which is expected of a signalized intersection with higher volumes.

4.9.2 City of Clarkston

The total 746 crashes within the study area were analyzed for severity, contributing circumstances, roadway conditions, and other variables. Some general statistics for these crashes for the City of Clarkston are shown in the following tables.

Table 15 – City of Clarkston Crash Attributes

Clarkston Crash Attributes		
Crash Attribute	Number of occurrences	Percentage of Total
Did not Grant ROW to Veh. Or Ped.	176	23.6%
None	99	13.3%
Improper Movement (backing, passing, etc.)	76	10.2%
Inattention	74	9.9%
Follow too closely	69	9.2%
Other	64	8.6%
Driver Distracted	51	6.8%
Disregarded Signage	49	6.6%
Under the influence of Alcohol or Drugs	35	4.7%
Unknown	20	2.7%
Driver Unwell	19	2.5%
Driving too fast	14	1.9%
Total	746	100%

Table 16 – City of Clarkston Light Conditions

Clarkston Light Conditions		
Light Conditions	Number of occurrences	Percentage of Total
Daylight	566	75.9%
Dark – Street Lights on	145	19.4%
Dawn & Dusk	20	2.7%
Dark – No Street Lights	8	1.1%
Unknown	4	0.5%
Dark – Street Lights off	2	0.2%
Other	1	0.1%
Total	746	100%

Table 17 – City of Clarkston Roadway Conditions

Clarkston Roadway Conditions		
Light Conditions	Number of occurrences	Percentage of Total
Dry	615	82.4%
Wet	98	13.1%
Snow/Slush	23	3.1%
Ice	7	0.9%
Other	2	0.3%
Unknown	1	0.1%
Total	746	100%

Overall, the data presented by the previous tables are fairly typical distributions for agencies like the City of Clarkston. The highest occurring contributing circumstance was the failure to grant ROW to other vehicles or pedestrians, followed by improper movements. These factors appear to be primarily attributed to driver error.

In addition to the crash attributes, several areas with high crash frequency were identified for closer inspection:

- Intersections along 13th Street, primarily:
  - 13th Street and Bridge Street (27 Crashes)
  - 13th Street and Maple Street (6 Crashes)
  - 13th Street and Elm Street (12 Crashes)
  - 13th Street and Sycamore Street (12 Crashes)
  - 13th Street and Chestnut Street (25 Crashes)
  - 13th Street and Libby Street (15 Crashes)
  - 13th Street and Highland Avenue (15 Crashes)
- Diagonal Street and 5th Street (15 Crashes)
- Diagonal Street, Maple Street, and 6th Street (5 Crashes)
- 6th Street and Elm Street (12 Crashes)
- 8th Street, Elm Street, and Diagonal Street (6 Crashes)
- 8th Street and Sycamore Street (11 Crashes)
- 12th Street, Chestnut Street, and Diagonal Street (5 Crashes)
- Bridge Street/US-12 (All intersections)
- 6th Street/SR-129 (All intersections)

Figures on the following pages shows the overall crash map for the City of Clarkston and each of these locations, as well as the severity of the crashes that occurred. (Each intersection along US-12 and SR-129 were not broken out specifically due to their higher volumes and expected higher crash frequencies.) While these identified areas do experience more frequent crashes than other locations in the City of Clarkston, this is to be expected due to the higher volumes on 13th Street, Diagonal Street, and 6th Street. The crashes at each of the intersections have varying contributing factors.

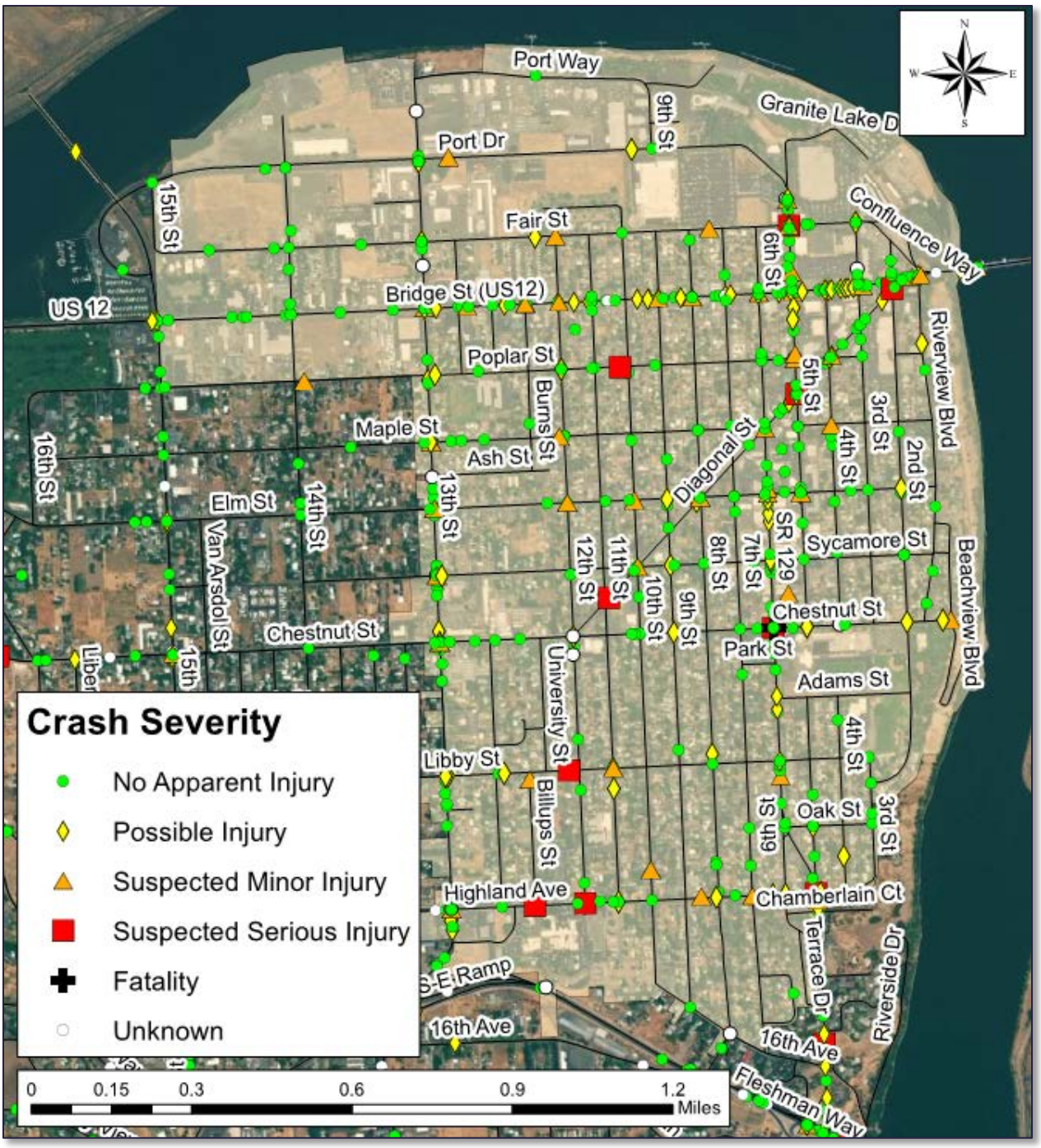


Figure 32 – City of Clarkston Crash Map

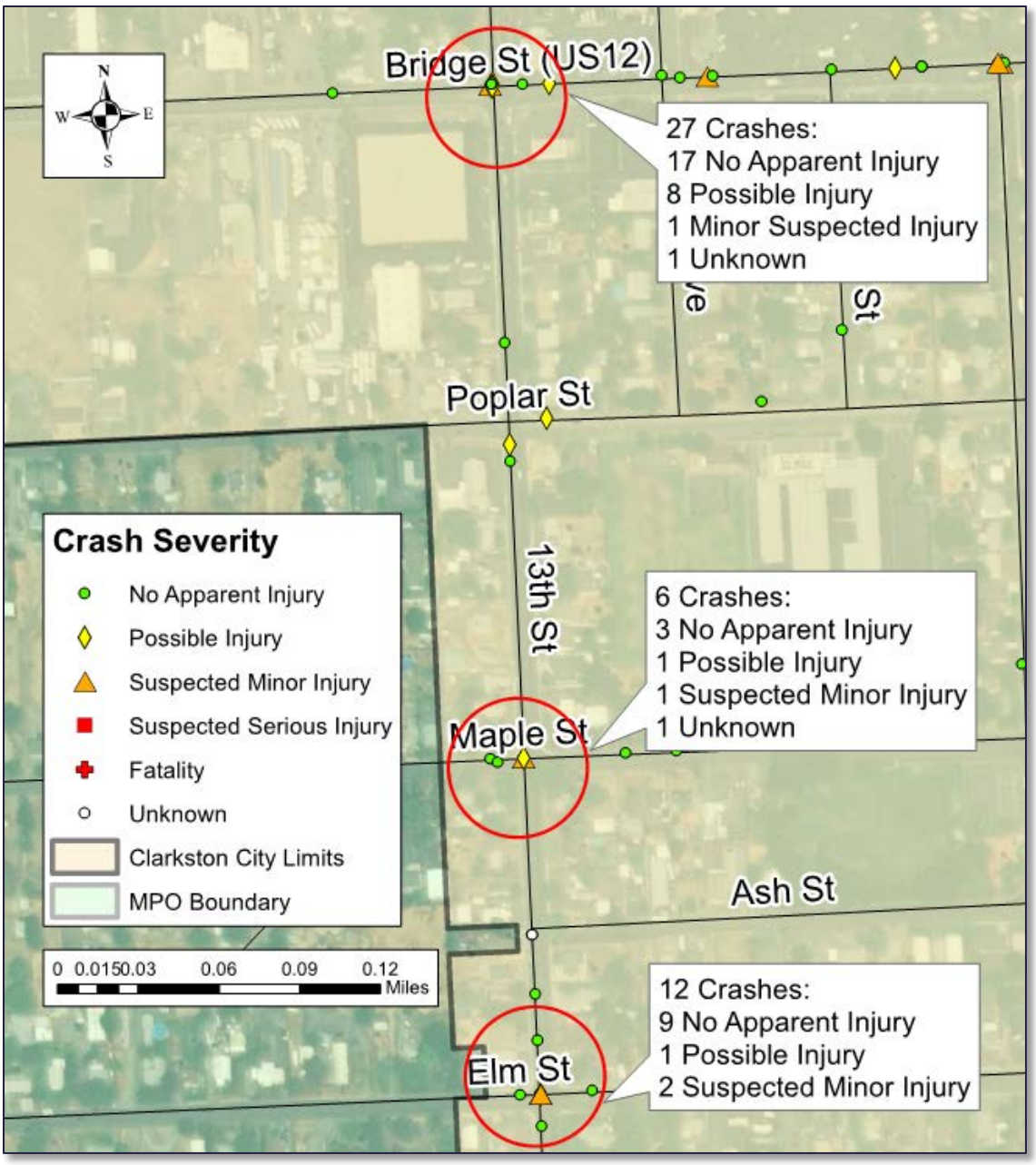


Figure 33 – Frequent Crash Locations (13th Street; Bridge St, Maple St, Elm St)

13th Street has similar sight distance issues to 15th Street in Asotin County. As such, multiple crashes have occurred at most of the intersections of 13th Street within City limits. As seen above, 45 crashes have occurred (from 2012 to 2018) from the intersection of Bridge Street and 13th Street to the intersection of Elm Street and 13th Street. Most of these crashes are minor and due to driver error: inattention, failure to grant right-of-way, improper movements, striking parked cars, etc. The failure to grant ROW may be attributed to the reduced sight distances. It should be noted that at the intersections of 13th Street and Maple Street and 13th Street and Elm Street both have documented crashes involving pedestrians being hit by cars. These intersections would benefit from advance warning signage.

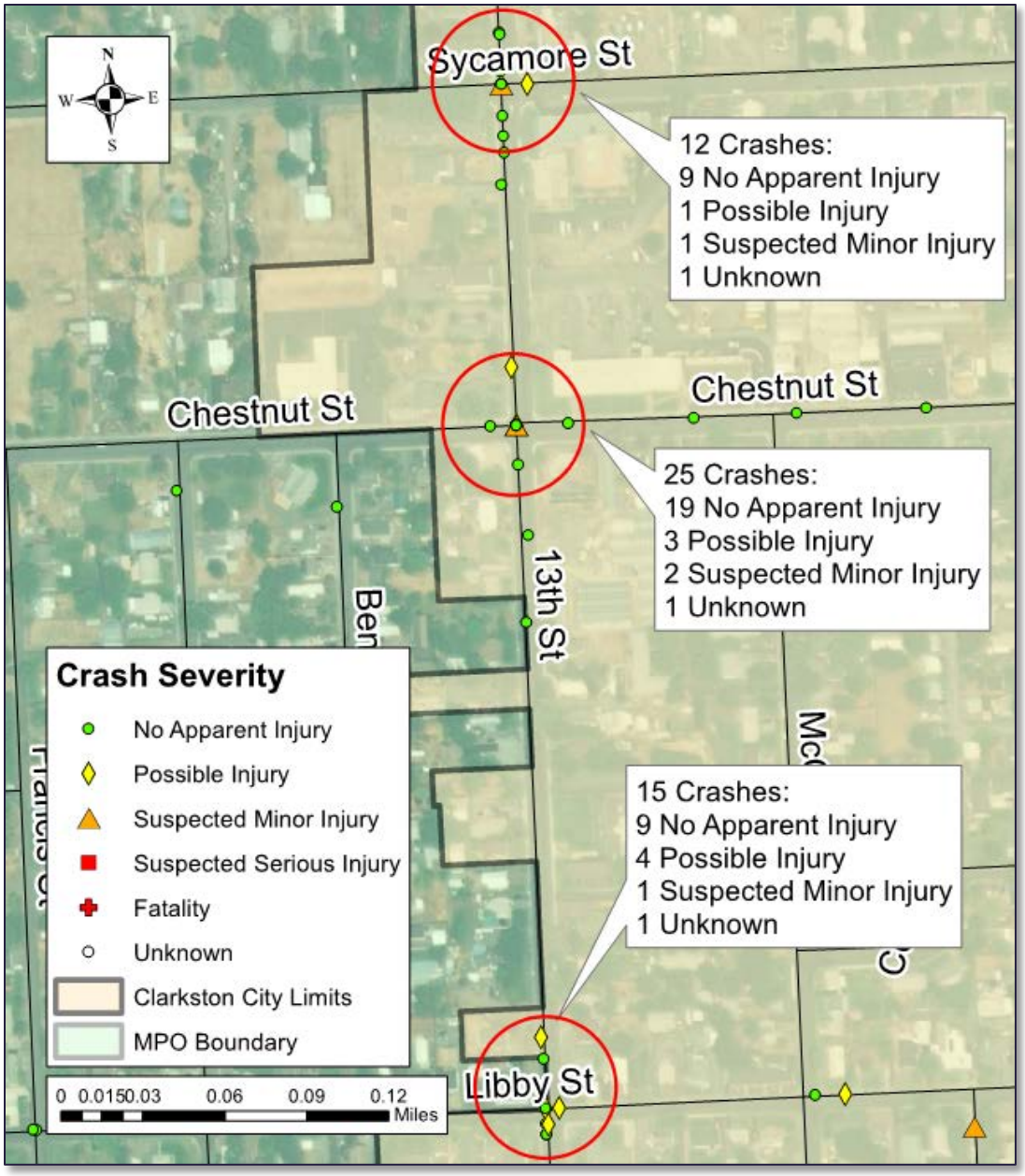


Figure 34 – Frequent Crash Locations (13th Street; Sycamore St, Chestnut St, Libby St)

As seen above, 52 crashes have occurred from Sycamore Street to Libby Street on 13th Street since 2012. Most of these crashes are minor and are also due to driver error: inattention, failure to grant right-of-way, improper movements, striking parked cars etc. The failure to grant right-of-way may be attributed to the reduced sight distances. It should be noted that at least one of these intersection also has a documented pedestrian crash involving a pedestrian being hit by a car. These intersections would benefit from advance warning signage.

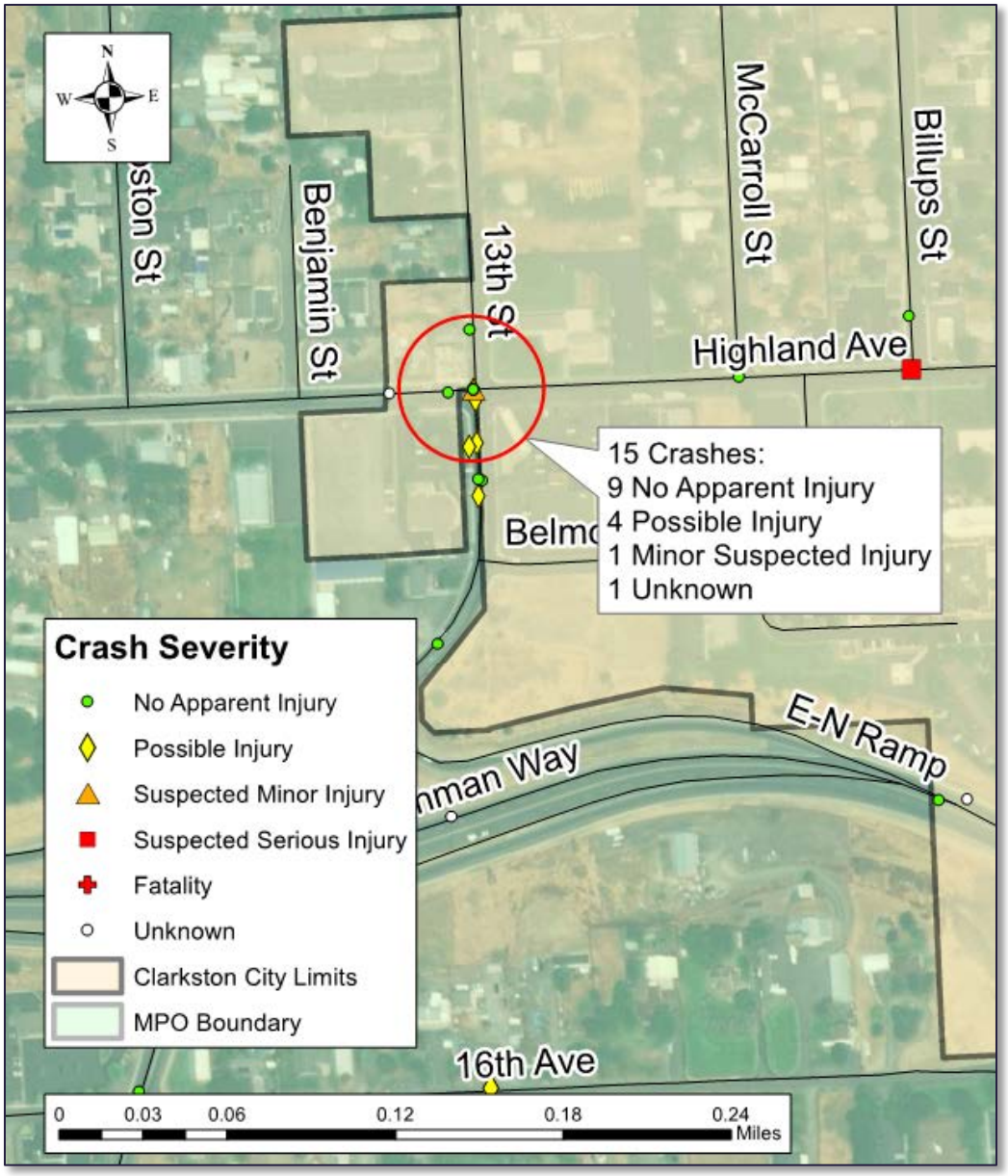


Figure 35 – Frequent Crash Location; 13th Street & Highland Avenue

As seen above, the intersection of 13th Street and Highland Avenue has experienced 15 crashes since 2012, most of which are results of drivers not granting right of way to other vehicles, following too closely, or inattention. One of the crashes was listed as "suspected minor injury," and four were listed as "possible injury." This intersection is 4-way stop controlled versus two-way (like most of 13th Street), and is a known crossing point for pedestrians with limited sight distance on at least one of the corners. It is in close proximity to Tri-State Memorial Hospital and a local grocery store (Rick's Family Foods). At least one of the crashes documented at this intersection was the result of a vehicle hitting a pedestrian. There have also been multiple noted pedestrian crashes in the parking lot of the grocery store. It is recommended that this intersection has an intersection study completed due to its high volume of traffic, pedestrian activity, and current layout and intersection control method.

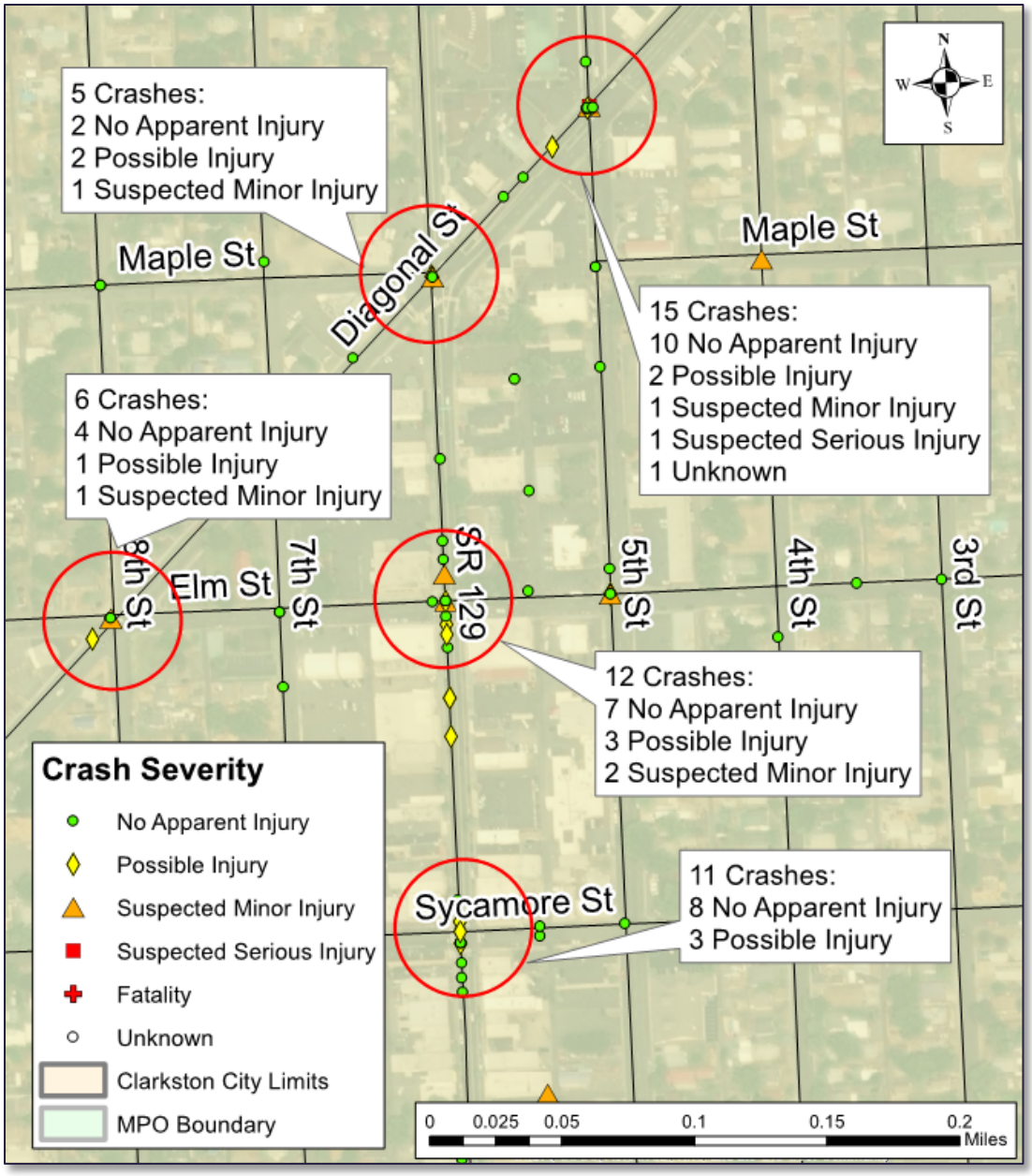


Figure 36 – Frequent Crash Location; Various

As seen above, 49 crashes have occurred in the area around Diagonal Street and SR-129 since 2012. One of the interersections had a "suspected serious injury," which was the intersection of 5th Street and Diagonal Street. As previously discussed, intersections along Diagonal Street have unique geometry which can cause increased driver confusion and error. Most of the documented crashes near these intersections can be attributed to driver error, with the most common instances being: following too closely, inattention, failure to grant right-of-way to vehicles and pedestrians, improper movements, etc. It is recommended that Diagonal Street has a corridor study completed for the portion of the roadway under the City's jursidiction to determine if any traffic calming or pedestrian facilities may be warranted to remedy some of the noted issues.

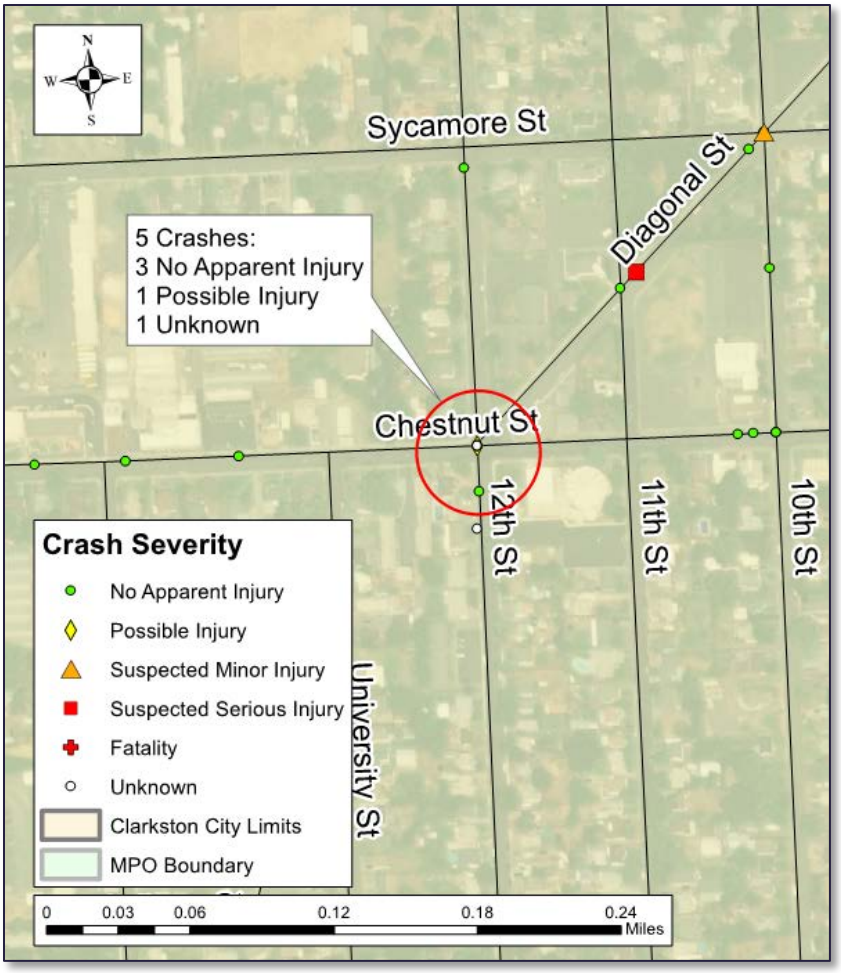


Figure 37 – Frequent Crash Location; 12th Street, Chestnut Street, and Diagonal

As seen above, the intersection of 12th Street, Chestnut Street, and Diagonal Street has experienced 5 crashes since 2012, which are results of drivers not granting right of way to other vehicles, following too closely, or inattention. One of the crashes was listed as "possible injury," but the remaining crashes had no documented injuries. This intersection is unique since it is the termination of Diagonal Street, making it a 5-legged intersection which is 3-way stop controlled, with Chestnut Street being the main through movement. This intersection is proposed as having a potential intersection reconfiguration, which would solve many of the traffic issues noted at this intersection.

4.9.3 Crash Analysis Recommendations

Asotin County:

- Install warning signage at intersections along 15th Street to warn drivers of upcoming traffic conflict areas
- Consider installing warning signage at Scenic Way to warn drivers of curve and speed
- Address sight vision triangles along 15th Street
- Perform a County-wide safety plan

City of Clarkston:

- Consider installing warning signage at intersections along 13th Street to warn drivers of upcoming traffic conflict areas, adress sight vision triangles
- Diagonal Street Corridor Study
- 12th Street, Chestnut Street, and Diagonal Street intersection study to determine what reconfiguration would provide the best results

4.10 SPEED LIMITS

Speed limits throughout Asotin County and the City of Clarkston were recorded and analyzed for consistency as part of this transportation plan.

4.10.1 Asotin County

The Asotin County speed limit is 25 mph unless otherwise noted. Roads that are generally over 25 mph are the following:

- 15th Street is 35 mph from Fair Street to Appleside Boulevard
- Bridge Street (US-12) is 30 mph (from 15th Street to 2nd Street)
- 13th Street is 35 mph (after it leaves Clarkston City limits)
- Appleside Boulevard is 35 mph
- Fleshman Way is 45 mph
- Critchfield Road is 45 mph to 30 mph depending on the location

The CAC and public survey expressed several locations at which speeding is a perceived issue in Asotin County. These locations include:

- Libby Street
- Appleside Boulevard
- 15th Street

While speeding on 15th Street is a documented concern, previous speed studies by Asotin County have shown that the 85th percentile speed on the road was 34 miles an hour. Based on this data, speeding on 15th Street does not seem to be as large of an issue as currently perceived. It is recommended that if complaints continue relating to the other streets mentioned that the County either perform a speed study or monitor the areas with portable radar signs to discourage excessive speeding. Radar signs that provide speed feedback and notification can also be a useful tool on problem corridors, and may be an option for the County if complaints continue.

4.10.2 City of Clarkston

The speed limit in the City of Clarkston is 25 mph unless otherwise posted and is 15 mph for all alleys. Streets with posted speeds other than 25 mph include various portions of Bridge Street (US-12) at 30 mph and designated school routes (20 mph), which are:

- Poplar Street (roughly from 13th Street to Burns Street)
- Chestnut street (various sections)

The active city code for speed limits in the City of Clarkston can be found at the following link:
https://www.codepublishing.com/WA/Clarkston/html/Clarkston11/Clarkston1136.html

Problems identified by the CAC related to speeding for the City of Clarkston included:

- Speeding on Libby Street
- Speeding between Fair Street and Bridge Street (Walmart traffic on 5th Street)
- Texting and driving on wider streets like Billups Street
- 13th Street should be considered for a speed limit change up to 30 mph (currently 25 mph)
- Port Drive should be considered for a speed limit change up to 35 mph (currently 25 mph)

The City of Clarkston Police Department has a portable speed limit sign available for City use at various locations to discourage speeding. It is recommended that the City use this sign as a method to discourage speeding at problem areas and completing speed studies on roadways as required. Noted areas for desired speed studies include: 6th Street, 7th Street, and 8th Street following discussions with the CAC. The City also recently installed a permanent radar speed limit sign at SR-129 and Highland Avenue, which monitors speed for vehicles traveling northbound into the City.

4.11 PUBLIC SURVEY RESULTS (EXISTING SYSTEM)

As part of this transportation plan, surveys were distributed to the members of the CAC, related agencies, and citizens of the City of Clarkston and Asotin County. Surveys were distributed electronically, in paper format, and included in billing statements for public citizens. Over 125 people provided responses back to the survey questions. The survey asked the following 5 questions to each of the participants:

1. What are your top 3 traffic concerns in Clarkston?
2. What are your top 3 bicycle/pedestrian concerns in Clarkston?
3. What are your top 3 traffic concerns in Asotin County?
4. What are your top 3 bicycle/pedestrian concerns in Asotin County?
5. Is there anything else you wish to share for us to consider?

4.11.1 Question 1 Results Summary

The following chart on the right was created by summarizing the topics of concern for survey participants for question 1 (What are your top 3 traffic concerns in Clarkston?). For this question, there were approximately 431 unique responses. Listed below are the top 3 concerns in 5 of the major categories mentioned.

Bridge / HWY 12 Corridor/Intersections

- Bridge/Diagonal/2nd St Intersection
- Traffic back-ups between 5th St and the Blue Bridge
- Signal Timing Improvements needed

6th St / HWY 129 Corridor

- Pedestrians J-walking / not using crosswalks causing visibility issues
- Difficulty with intersections and speed entering the City of Clarkston from the south

Driver Concerns about Pedestrians / Bicyclists

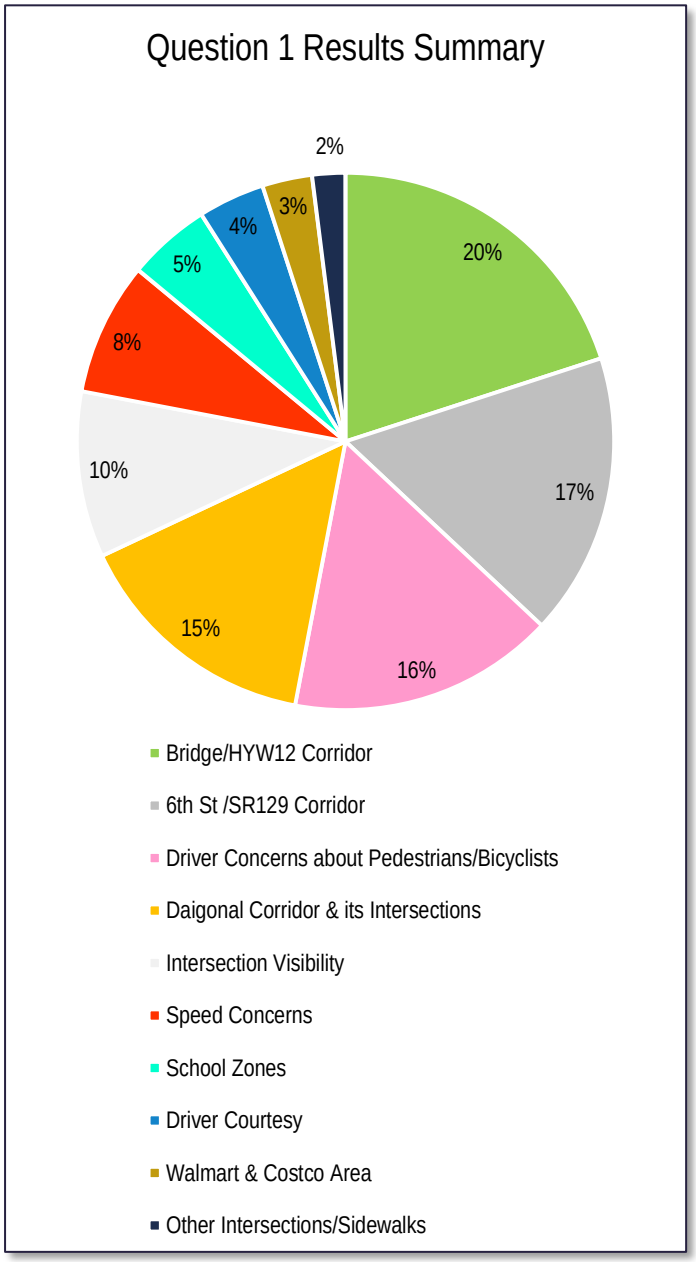
- Highland and 13th – pedestrians/students
- Pedestrians J-walking / not using crosswalks, poor lighting causing visibility issues
- Dangerous travel with bikes on the road

Diagonal St Corridor and Intersections

- Diagonal, 12th St and Chestnut St
- Diagonal, 8th St, & Elm visibility
- 6th St and Elm
- 5th St & Diagonal

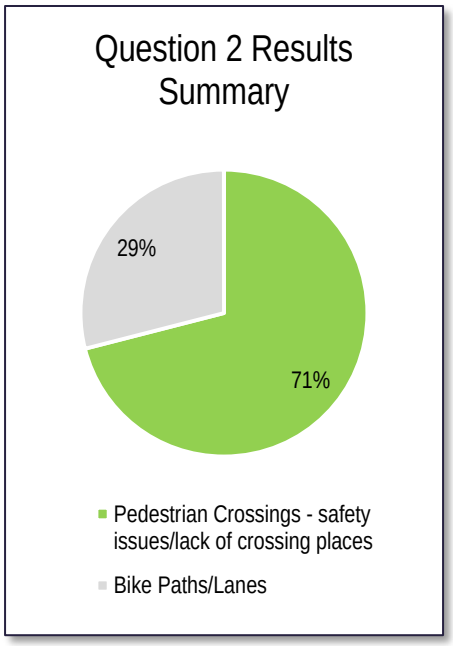
Intersection Visibility

- Cars parked too close to intersections
- Bushes/shrubs/fences/signs blocking intersection view



4.11.2 Question 2 Results Summary

The following chart on the right was created by summarizing the topics of concern for survey participants for question 2 (What are your top 3 bicycle/pedestrians concerns in Clarkston?). For this question, there were approximately 90 unique responses. Listed below are the top concerns in the major categories mentioned.



Pedestrian Street Crossing Safety

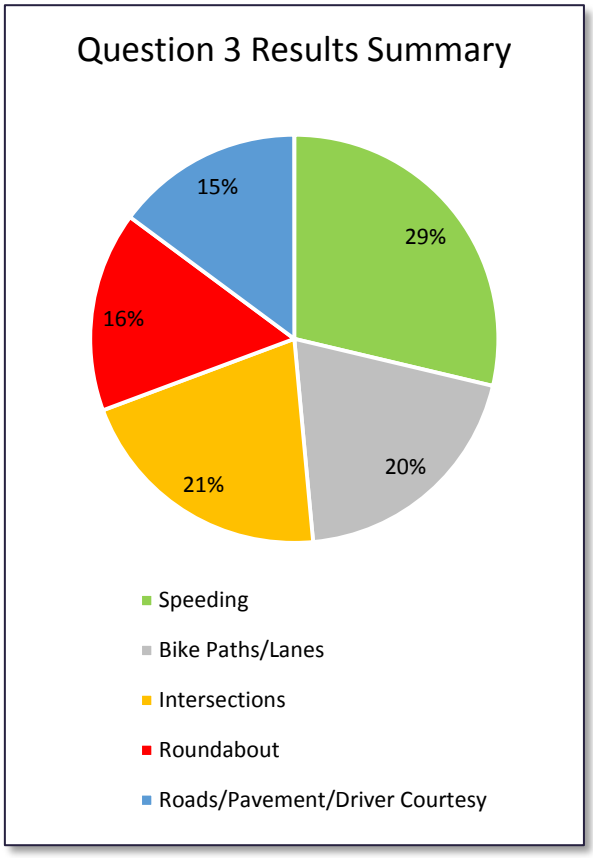
- Vehicles failing to yield to pedestrians
- Most Diagonal St and Bridge St intersections difficult to cross
- Pedestrians crossing HWY 12/Bridge between Blue Bridge and 5th Street

Bicycle Paths and Lanes

- Bike lanes needed on busy streets/main roads
- Bicyclists concerned about being hit
- Lack of downtown bike lanes/racks

4.11.3 Question 3 Results Summary

The chart on the right was created by summarizing the topics of concern for survey participants for question 3 (What are your top 3 traffic concerns in Asotin County?). For this question, there were approximately 131 unique responses. Listed below are the top concerns in the major categories mentioned.



Speeding

- Speeding throughout the County
- Speeding on SR129
- Asotin Creek Rd Speeding

Pedestrian / Bicyclist Safety

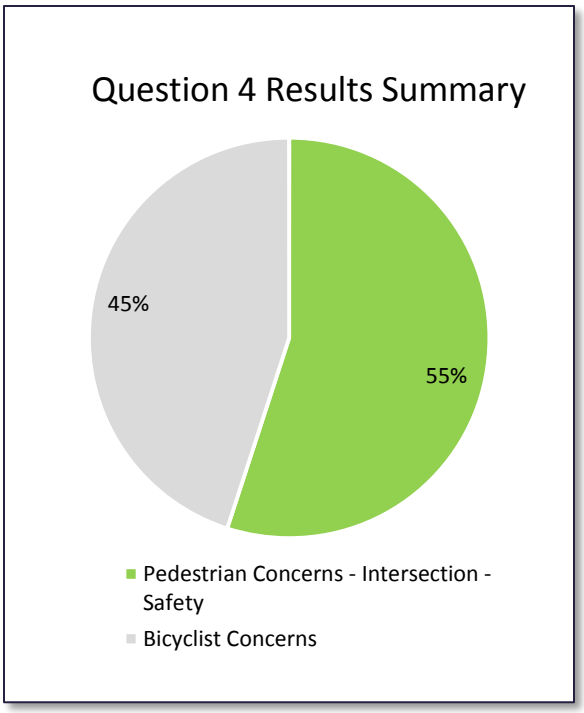
- Bikes on road when there are multi-use paths/bike lanes
- Visibility issues, especially at evening & night
- Bicyclists not following traffic rules when in the street

Intersections

- Critchfield & SR 129
- Appleside, Scenic Way, and Valleyview in the Heights

4.11.4 Question 4 Results Summary

The chart on the right was created by summarizing the topics of concern for survey participants for question 4 (What are your top 3 bicycle/pedestrian concerns in Asotin County?). For this question, there were approximately 63 unique responses. Listed below are the top concerns in the major categories mentioned.



Pedestrian Road / Intersection Safety

- Pedestrians in the roads / lack of sidewalks
- Pedestrian/Bicyclist crossings at SR129 & Critchfield

Bicyclist Safety / Bike Lanes

- Lack of space for bicyclists on roads / more bike lanes needed
- Visibility issues, especially at evening & night
- Bike lane needed on Asotin Creek Rd

4.11.5 Question 5 Results Summary

The information below represents the comments received for question 5 of the survey (Is there anything else you wish to share for us to consider?).

POSITIVE COMMENTS FROM CITIZENS

- Thank you for your considerations!
- Appreciate the City and County asking for our concerns.
- Overall, happy to live in Clarkston.
- I enjoy living in Clarkston and Asotin County. Keep up the good work.
- Thanks for asking.
- Great progress for Clarkston to ask residents for feedback. Thank you!
- I am quite pleased with law enforcement doing their work.
- Roundabouts are great!
- Thanks for the new entrance at Walmart.
- Thank you for the dashed lines on Riverview Blvd.
- Roads are well maintained!
- Appreciate the park maintenance.
- Love the street cleaners – would like notice so we can move our cars.
- Trash collectors are courteous and efficient

SUGGESTIONS FROM CITIZENS

- Would like to see junky yards cleaned up; would like to see disabled cars off the streets.
- Make 6th Street going one way south, and 5th Street one way going north to make 6th St safer, increase parking, and traffic flow.
- 13th and Fair needs to convert the 2-way stop into a 4-way stop.
- Increase use of radar on Fair Street between 13th and Bridge/HWY128.
- Would like to see recycling bins at houses.
- Make back alley behind Post Office where drop box is, one way.
- Make Diagonal street into roundabouts.

Overall, these results match closely with the recommended projects discussed with the CAC and recommended for the CIP of this transportation plan. As the County and the City work through CIP projects, noted concerns from the surveys will be addressed at the respective CIP locations. An electronic copy of the collected surveys was provided to Asotin County and the City of Clarkston, and the results are available upon request.

CHAPTER 5 – PAVEMENT AND SIGN MANAGEMENT

An asset management plan is a strategic and systematic process for operating, maintaining, upgrading, and expanding an organization's infrastructure with the goal of maintaining a set standard. In terms of transportation, pavement is typically the most valuable asset an agency possesses. One of the most important programs an agency can implement is a pavement management plan that enables its leadership to make informed decisions on how to allocate resources to best maintain its assets.

The asset management plan detailed in this document involves the City of Clarkston and Asotin County's pavements and signs. The pavement analysis and figures in this report were produced using VisRate, a program produced by the County Road Administration Board (CRAB).

5.1 PAVEMENT MANAGEMENT

5.1.1 Pavement Condition Survey

As previously mentioned, the City of Clarkston and Asotin County roads were analyzed through VisRate, which is a free to use program through the CRAB Agency. This program takes road sections and breaks them into beginning mile post (BMP) and end mile post (EMP). For this analysis, the County roads were broken into 1/10th mile segments to match current data collection efforts by the County. The City of Clarkston requested that the analysis was performed per block instead of having fixed distance segments for ease of assigning maintenance procedures.

VisRate has a pavement evaluation system that is comprised of longitudinal cracking, transverse cracking, alligator/block cracking, and patching. These factors are observed and documented in the program as follows:

- Longitudinal Cracking - measured per linear foot and noted severity (low, medium, or high)
- Transverse Cracking – measured per crack observed for the roadway segment and noted severity (low, medium, high)
- Alligator Cracking – measured per square foot for the roadway segment and noted severity (low, medium, and high)
- Patching – measured per square foot for the roadway segment

Data was stored on the program for each road segment, and when a segment was completed, the Pavement Surface Condition (PSC) rating was generated by the program. Note: this analysis did not consider any cracks or damage beneath the asphalt based on recommendations by Asotin County pavement condition workers (analysis is strictly visual and based upon top layer of asphalt and related, visible distresses). The roadway evaluation and data collection occurred in June of 2018. It should be noted that any maintenance that took place on roadways within the City and the County will not be reflected by these pavement condition ratings (i.e., the City of Clarkston performed chipseals on various roads in fall of 2018 after the pavement condition survey.)

Table 18 – Recommended Treatments for PSC Ranges

PSC Range	Condition Rating	Recommended Treatment
1 - 50	Poor	Complete Reconstruction
51 - 60	Marginal	Thick Overlay (2-3")
61 - 80	Fair	Thin Overlay (1-2")
81 – 90	Acceptable	Chipseal, Slurry seal, etc.
91 - 100	Good	General Maintenance, Crack seal

The rating system uses a tabulated format that scores the severity of the distress against the total observed distresses found within a segment. The Pavement Structural Condition (PSC) is a measure of pavement distress such as cracking and other distress measures and ranges from zero (extensive distress or very poor condition) to 100 (no distress or very good condition). PSC is a single index value used to quantify all forms and severity levels of pavement cracking including alligator (fatigue) cracking, longitudinal cracking, transverse cracking and patching for flexible pavements. The PSC ranges (shown in Table 18) were

generally used in assigning the roadways recommended treatments for the Capital Improvement Plan (CIP) for both the City of Clarkston and Asotin County.

VisRate Process:
Each type of distress severity is converted to an "equivalent cracking (EC)" number based on its extent and severity. The PSC is then determined using the following equation for flexible pavements. A general rule of thumb is a threshold value of PSC = 50 triggers maintenance/rehabilitation for pavements.

$$Flexible\ Pavements: PSC = 100 - 15.8(EC)^{0.50}$$

The following table presents an example of how the condition index, PSC, is calculated for asphalt pavements.

Table 19 – PSC Rating Index for Core Distress

Distress	Type Coefficient	Coefficient	Power
% Length of Patching (High Severity)	0.75	1	1
% Length of Patching (Medium Severity)	0.75	0.445	1.15
% Length of Patching (Low Severity)	0.75	0.13	1.35
% Both Wheel Paths of Alligator Cracking (High Severity)	1	1	1
% Both Wheel Paths of Alligator Cracking (Medium Severity)	1	0.445	1.15
% Both Wheel Paths of Alligator Cracking (Low Severity)	1	0.13	1.35
% Length of Transverse Cracking (High Severity)	0.8	1	1
% Length of Transverse Cracking (Medium Severity)	0.8	0.445	1.15
% Length of Transverse Cracking (Low Severity)	0.8	0.13	1.35
% Length of Longitudinal Cracking (High Severity)	0.1	1	1
% Length of Longitudinal Cracking (Medium Severity)	0.1	0.445	1.15
% Length of Longitudinal Cracking (Low Severity)	0.1	0.13	1.35

Reference: http://www.crab.wa.gov/services/infoServices/pms/dcs/20120215MobilityPavementManagementSystem.pdf, https://www.fhwa.dot.gov/pavement/preservation/pubs/perfeval/chap06.cfm

The first step is to calculate the sum of the following (Type Coefficient * ((coefficient * distress) ^ Power)). Note that for patching, the maximum allowable percentages of patching are 28.5%, 16.5%, and 8.1% for high, medium, and low severities, respectively. The formula above gives the sum of equivalent cracking which is utilized in the previous equation to produce a PSC final rating.

The software accumulates the data into a rating report such as the one seen in Figure 38. Note that the lower the PSC rating is, the higher the observed distresses are.

FLEXIBLE RATINGS - CORE DISTRESSES **8/27/2018**

Distresses displayed in rounded feet collected

Road Number	Road Name				Alligator			Transverse			Longitudinal			Patching		
06150	6th Street / SR 129 to Highland Ave															
Date	BMP	EMP	Lane	PSC	Low	Med	High	Low	Med	High	Low	Med	High	Low	Med	High
6/7/2018	0.000	0.120	A2	75	13			13	6	6	76	76	6	25		
Road Number	Road Name				Alligator			Transverse			Longitudinal			Patching		
06151	6th Street / Highland Ave to SR 129															
Date	BMP	EMP	Lane	PSC	Low	Med	High	Low	Med	High	Low	Med	High	Low	Med	High
6/7/2018	0.120	0.270	A2	79	16			16	8	8	63	40				
Road Number	Road Name				Alligator			Transverse			Longitudinal			Patching		
06152	6th Street / Bridge St to Fair St															
Date	BMP	EMP	Lane	PSC	Low	Med	High	Low	Med	High	Low	Med	High	Low	Med	High
6/7/2018	0.270	0.400	A2	59	178	27		21	7		21	21			27	
Road Number	Road Name				Alligator			Transverse			Longitudinal			Patching		
06153	7th Street / 16th Ave to Highland Ave															
Date	BMP	EMP	Lane	PSC	Low	Med	High	Low	Med	High	Low	Med	High	Low	Med	High
6/7/2018	0.000	0.300	A2	77	32	32		16	16		32	16		32		32
Road Number	Road Name				Alligator			Transverse			Longitudinal			Patching		
06154	7th Street / Highland Ave to Libby St															
Date	BMP	EMP	Lane	PSC	Low	Med	High	Low	Med	High	Low	Med	High	Low	Med	High
6/7/2018	0.300	0.550	A2	82	79			26	13		158	13				
Road Number	Road Name				Alligator			Transverse			Longitudinal			Patching		
06155	7th Street / Libby St to Chestnut St															
Date	BMP	EMP	Lane	PSC	Low	Med	High	Low	Med	High	Low	Med	High	Low	Med	High
6/7/2018	0.550	0.800	A2	72	26	26		26	13	13	132	26		26		26
Road Number	Road Name				Alligator			Transverse			Longitudinal			Patching		
06156	7th Street / Chestnut St to Sycamore St															
Date	BMP	EMP	Lane	PSC	Low	Med	High	Low	Med	High	Low	Med	High	Low	Med	High
6/7/2018	0.800	0.930	A2	62	27		14	27	7		27			96	41	14

Figure 38 – Example Road Distress Summary (Produced by VisRate)

Results from the pavement condition survey for Asotin County and the City of Clarkston were electronically provided to each agency for their use in their respective pavement management programs.

5.1.2 Types of Pavement Distresses

Below is a discussion of the major types of pavement distresses, including typical causes and repair options. More in-depth information can be found in the Pavement Surface Condition Field Rating Manual for Asphalt Pavement, which is what Asotin County currently references in their existing pavement rating system.

Fatigue (Alligator) Cracking:
Fatigue cracking occurs in areas that are subjected to repeated traffic loadings such as in the wheel path. Such wear usually results in a series of interconnected cracks that in later stages will resemble a chicken wire or alligator pattern. Some common causes of fatigue cracking are loss of base support due to poor drainage, increased heavy traffic loading, inadequate structural design, or poor compaction during construction. Due to the failure of the underlying base layer, repair by crack sealing or seal coating is generally ineffective. Fatigue cracking can be repaired by excavating localized areas and replacing the base and sub-base. Large areas of distress require reconstruction of the entire road segment. Improvements to drainage should also be considered during repair.

Longitudinal Cracking:
Longitudinal cracks are parallel to the pavement centerline. Centerline or lane cracks are caused by inadequate bonding during construction. They usually start as hairline cracks and widen and erode with age. Longitudinal cracks in the wheel path indicate they may actually be fatigue cracks (see above). If caught early when the severity is low, crack sealing is an excellent repair option. However, if not addressed early they will continue to ravel, widen, develop into multiple cracks, and allow moisture to penetrate and weaken the base and sub-base.

Transverse Cracking:
Transverse cracks are perpendicular to the pavement centerline. They are often regularly spaced and generally caused by movement due to temperature changes and hardening of the asphalt with aging. They usually begin as hairline cracks that are widely spaced (over 50' apart). Similar to longitudinal cracks, they will continue to ravel and widen with age and should be treated early by crack sealing.

Potholes and Utility Cuts (Patching):
Potholes are small bowl-shaped depressions in the pavement surface that penetrate all the way through to the base course. Most usually occur on roads with thin asphalt surfaces and seldom occur on roads with 4" of asphalt or greater. Generally, potholes are the end result of fatigue cracking often combined with poor drainage. As fatigue cracking becomes severe, small chunks of pavement begin to break away creating the pothole. Utility trenches that exhibit signs of settlement are also a pavement distress. Poor compaction of the trench backfill is usually the underlying cause. Potholes and utility trenches can be repaired by patching, however when the distress becomes extensive, reconstruction is usually the recommended treatment.

5.1.3 Summary of Observed Conditions

The City of Clarkston and Asotin County maintains approximately 106.75 miles combined of bituminous surfaced roads within the transportation plan boundary. It should be noted that private driveways, cul-de-sacs, unpaved roads, alleys, and roadways outside of the MPO boundary were not surveyed as part of this transportation plan.

Maintenance performed by the City and the County in the past has typically consisted of asphalt patching, overlays, chipseals, and general maintenance. Table 20 below shows the roadway color scheme used for the existing conditions figures. The figures were broken into more narrow PSC ranges to provide both agencies some insight into what roads need to be prioritized in the future before falling into an unfavorable position.

Table 20 – Color Scheme for Existing Roadway Conditions

PSC Range	Map Color
90-100	Purple
80-89	Blue
70-79	Green
60-69	Yellow
50-59	Orange
40-49	Red
Not Rated	Black

Asotin County: Asotin County roads inventoried as part of this plan are in overall good condition. Few roads were noted as having major distresses as many have been chip-sealed and well maintained within the last few years. Asotin County currently has an active chipseal cycle and maintenance program, so these overall good conditions were generally expected. The only section of roadway noted to have been in poor condition from the documented pavement distresses was 13th Street, between 22nd Avenue and Schaefer Drive.

The PSC distribution for Asotin County based on the pavement condition survey is shown by Figure 39 below.

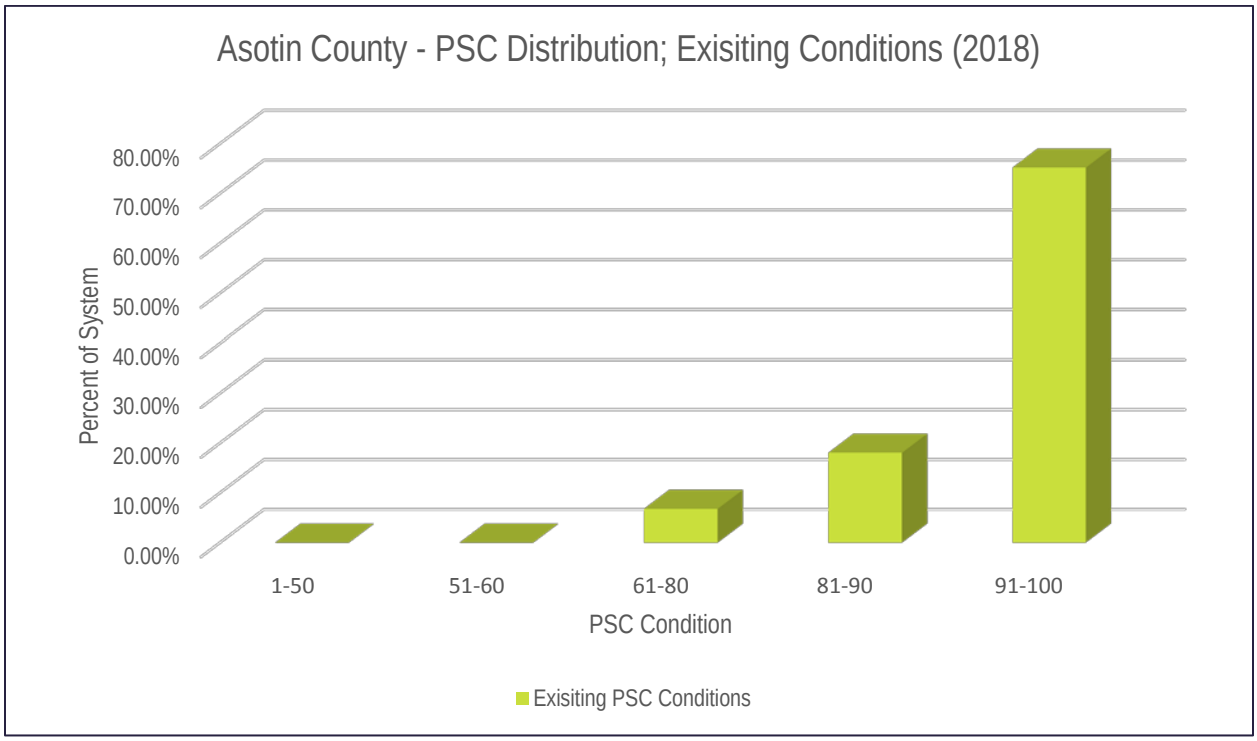


Figure 39 – Asotin County PSC Distribution 2018

As seen in the figure, over 70% of Asotin County's roads range from a 91 to 100 PSC rating. The average PSC for the road network inventoried in Asotin County is approximately 92, further demonstrating the overall good conditions of roads and regular maintenance procedures of the County within the MPO boundary. These conditions were expected due to the current maintenance practices of Asotin County, with a bulk of the maintenance budget dedicated to chip seals. This distribution of funds is ideal, and it is clear that Asotin County's roads are benefitting from the current chip seal and maintenance budgets. As of the time of this plan, it is not recommended that the County substantially change the budget allotted for maintenance procedures. Figure 40 shows the PSC ratings for Asotin County's roadway network within the study area.

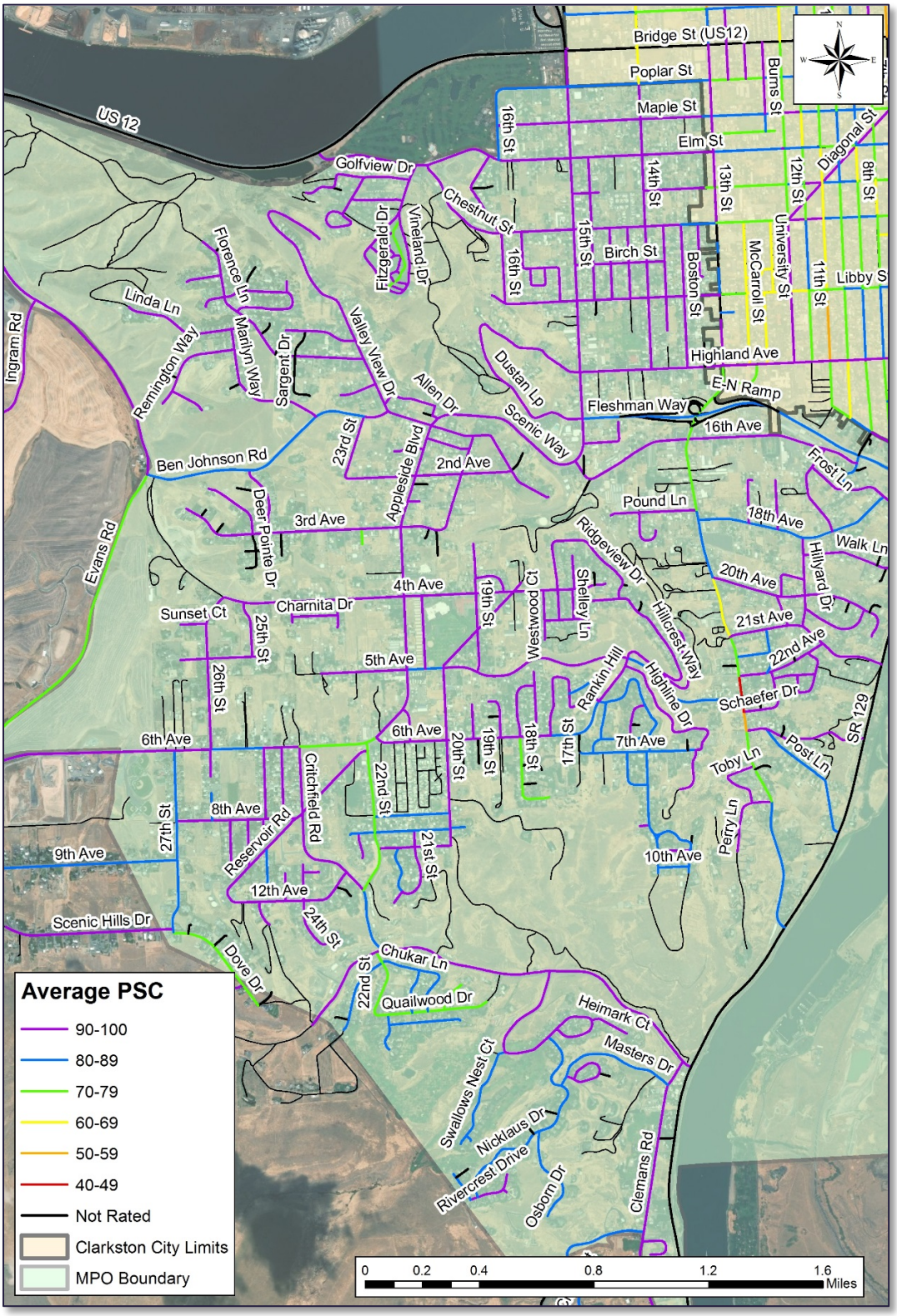


Figure 40 – Asotin County PSC Ratings

City of Clarkston: For the City of Clarkston, road segments of major concern (and noted distresses) that are recommended for immediate attention (PSC below 60) include the following:

- 4th Street (From Libby Street to Adams Street) – Longitudinal cracking and Patching throughout
- 6th Street (From Bridge Street to Fair Street) – All types of distresses with frequent alligator cracking
- 10th Street (From Highland Avenue to Libby Street) – All types of distresses with abundant Longitudinal cracking
- 13th Street (From Fair Street to Port Way) – Alligator cracking, Transverse cracking, and Longitudinal cracking
- Highland Avenue (From SR-129 to 3rd Street) – Longitudinal cracking and Alligator cracking
- Libby Street (From 4th Street to 3rd Street) – Alligator cracking and Transverse cracking

The PSC distribution for The City of Clarkston based on the pavement condition survey is shown by Figure 41 below.

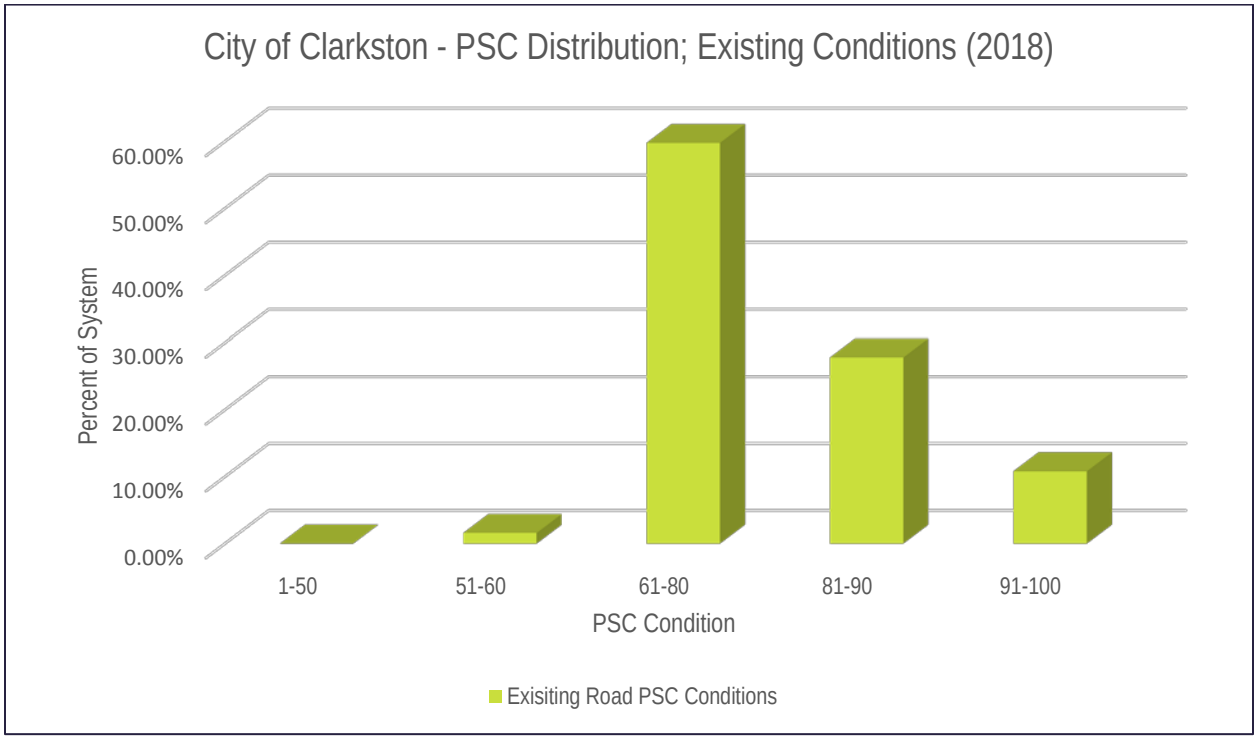


Figure 41 – City of Clarkston PSC Distribution 2018

As seen above, the City of Clarkston's roads are more skewed towards the middle of the distribution chart. Overall the pavement condition in the City of Clarkston was rated as fair, with an average network PSC of 77. Figure 42 shows the PSC ratings for the City of Clarkston's roadway network.

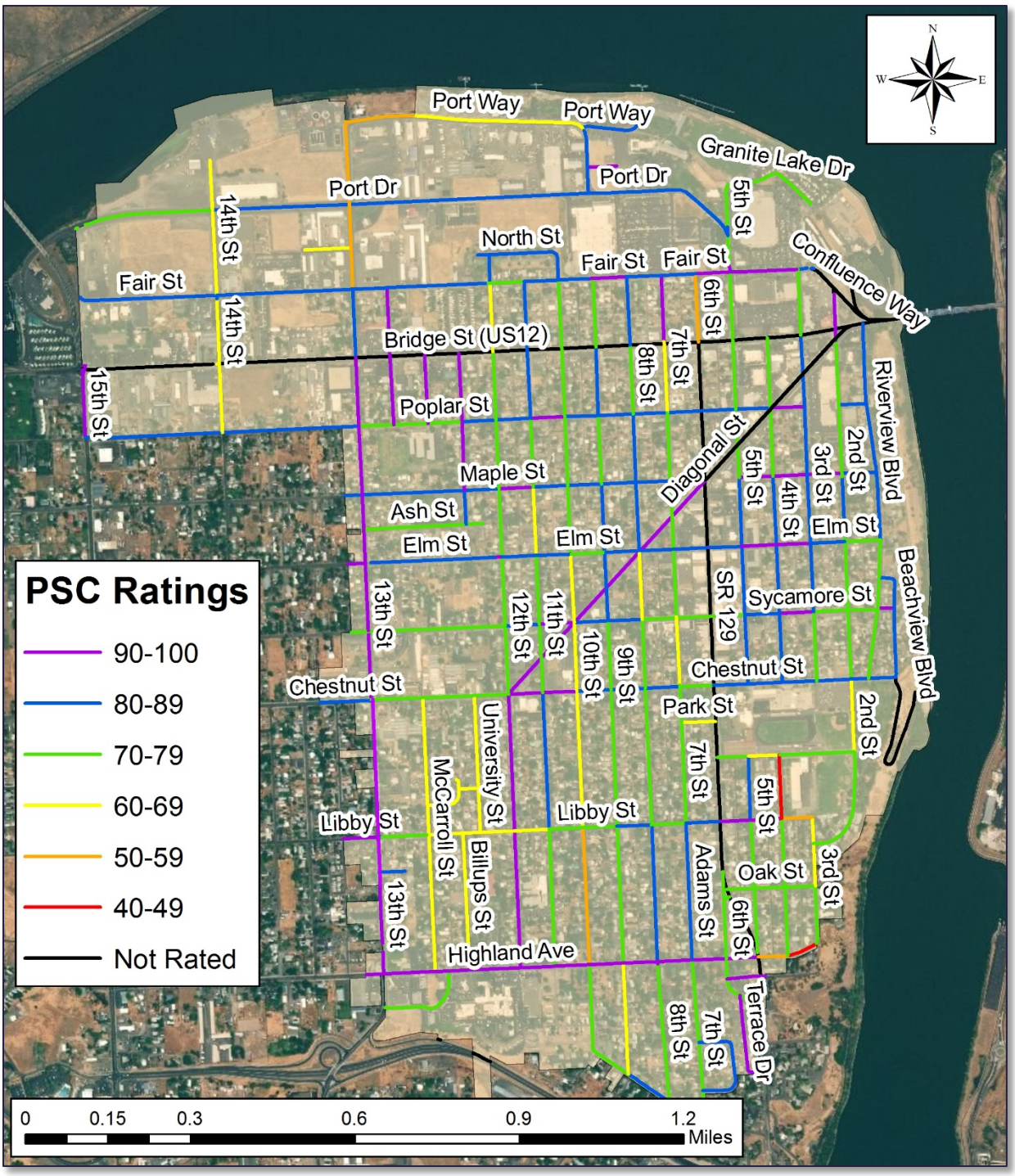


Figure 42 – City of Clarkston PSC Ratings

5.1.4 Importance of Maintenance

The condition in 2018 presented previously indicates a significant financial burden for the City of Clarkston and Asotin County. The longer maintenance is delayed, the more expensive it becomes. The key to slowing pavement deterioration is to perform maintenance at key intervals. Figure 43 from FHWA illustrates the general idea behind pavement maintenance. Performing preventative or routine maintenance early on in the life of a pavement segment betters the condition, and in turn increases the remaining service life. If seal coats and other forms of preventative maintenance are kept up, a pavement segment can generally stay in good condition and prolong its service life above and beyond the design life of the pavement. Major rehabilitation (typically overlays or surface recycling) will also improve the condition and extend the service life of a pavement segment.

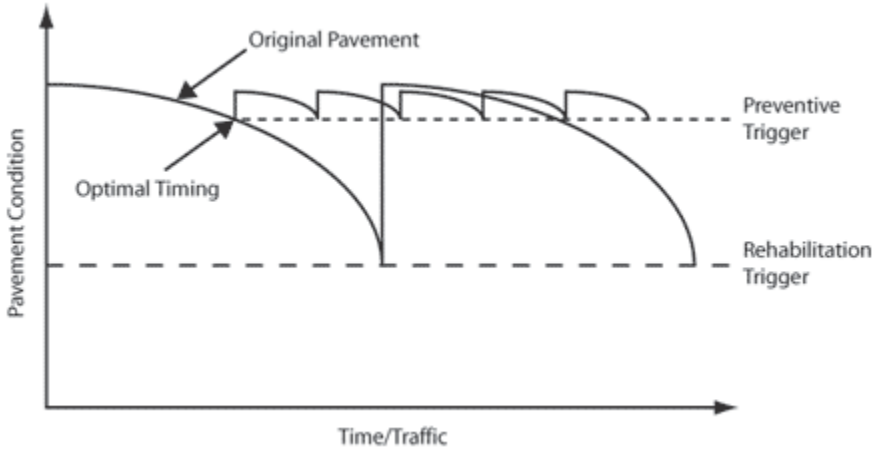


Figure 43 – Generic Pavement Performance Curve

It is far more cost efficient to perform routine and preventative maintenance than it is to let a road deteriorate to poor condition. The bottom line is that good roads cost less. A combination of routine, preventative, and rehabilitative maintenance along with forms of reconstruction will slow the deterioration of the network and extend the remaining service life.

Chip seals cost roughly one tenth the cost of full reconstruction; you can chip seal a poor condition road every year for 10 years, and you would still have a poor road. Or, if you reconstruct that road, you'll have a brand-new road that will be in good condition 10 years later, at which time you can chip seal and maintain that good condition for several more years. Ideally you would want to chip seal a brand-new road sooner than 10 years after construction, however.

5.1.5 Recommended Treatments

The pavement rating software provides pavement ratings that can be used to determine preventative maintenance. These treatments are recommended based on the governing distress of a pavement segment and the overall PSC rating produced. Governing distresses are the documented distresses that have the most significant impact on a roadway's condition (i.e. between a small patch and a large alligator cracked section, the alligator cracking would be the governing distress.) When there are multiple pavement distresses present, each rating contributes to the overall PSC value for that section. The PSC for the segment will be a collective rating based on all the types of surface distresses for a pavement segment.

In general, roads in acceptable or good condition (PSC 81 or greater) are good candidates for seal coats or chipseals. Minor potholes should be patched, and cracks should be sealed prior to a seal coat. Roads in fair condition (PSC 60 to 80) generally respond well to thin, non-structural (< 2 in.) asphalt overlays. Some fair-condition roads can also be seal coated. Roads in poor (PSC < 50) condition require major rehabilitation such as milling or recycling and overlay, or reconstruction.

Asotin County:
Figure 44 shows the recommended treatments for the County's roads based on ranges provided by Table 18. Full size figures can be viewed in Appendix C. Asotin County's roadway network consists of mostly general maintenance practices and chipseals. As mentioned previously, this is due to the current chipseal cycle and maintenance plan that Asotin County currently follows. A few roadways were identified as potential candidates for thin overlays based on recorded distresses. These roadways are:

- 13th Street: various segments (segments in worse condition could benefit from a thin overlay, but it is unlikely for projects to be completed in small segments. A larger portion of 13th Street should be considered for an overlay if this is the direction the County chooses to move forward with.)
- Evans Road: from Peola Road to Ben Johnson Road – This road is currently scheduled to be chip-sealed in the near future. It is anticipated that this road in in good enough condition that a chip seal will be adequate to maintain its service life.
- Fitzgerald Drive: entire length
- 22nd Street: from 6th Avenue to Critchfield Road and from South Slope Lane to Quailwood Drive
- Chukar Lane: entire length
- Quailwood Court: entire length

It should be noted that if maintenance is completed in a timely manner, some of these proposed thin overlays could be treated with a more cost-effective chipseal or similar roadway rehabilitation (as with Evans Road). Recommended treatments shown are based conservatively on worse-case scenarios to determine the maximum possible impact to Asotin County if maintenance is not able to be performed.

At the time of this report, Asotin County is performing maintenance of roadways in a timely, methodical manner by utilizing existing budget for an approximate 5-year chip seal cycle, with other miscellaneous maintenance (cold patch, overlays, etc.) as necessary. While there may be some areas of potential improvements identified in the following section (Section 5.1.6), it should be noted that the County's current maintenance practices are sustainable and will allow the roadway network to maintain a relatively high PSC rating for the foreseeable future.

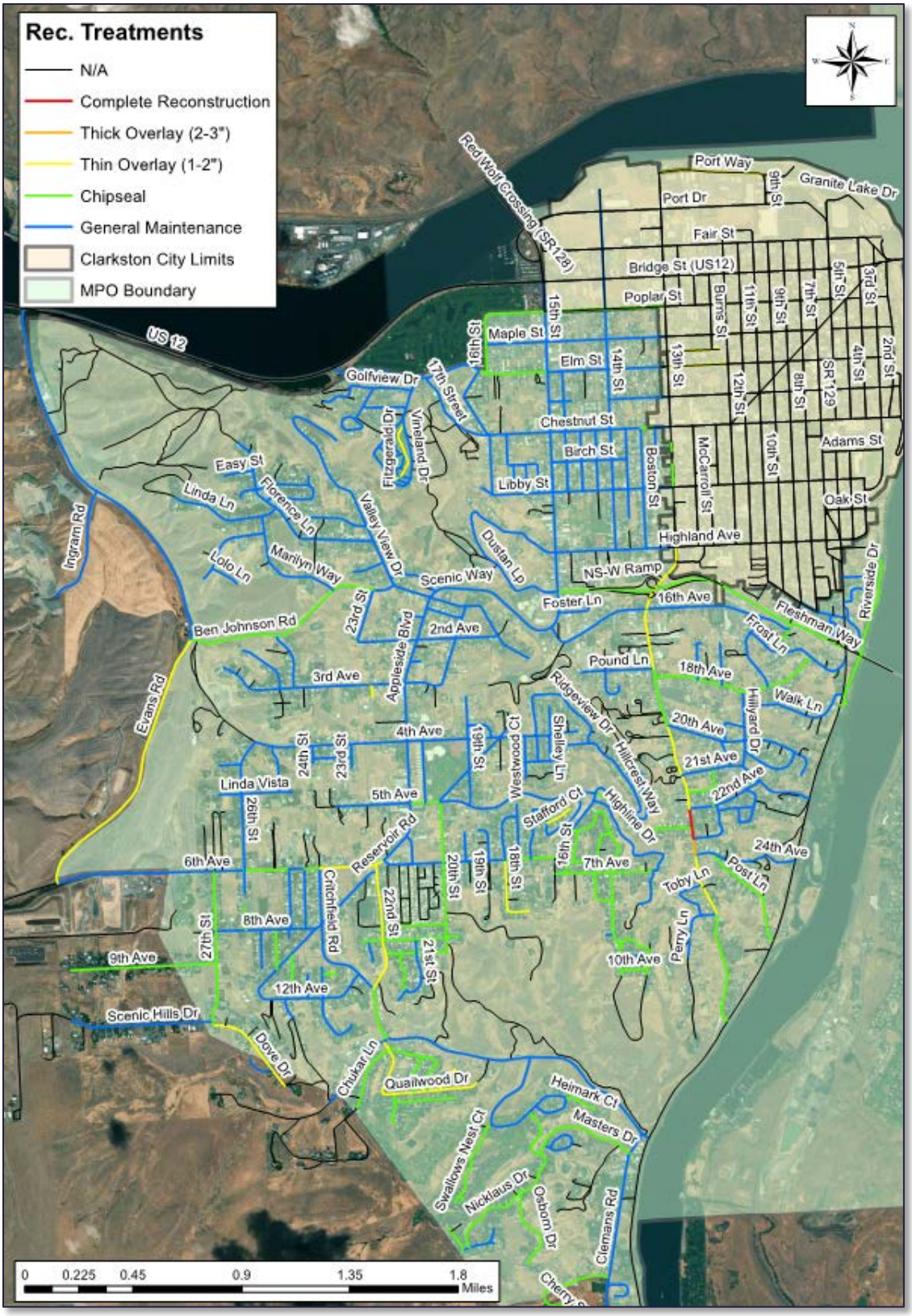


Figure 44 – Asotin County Recommended Roadway Treatments

City of Clarkston:

Figure 45 shows the recommended treatments for the City's roads based on Table 18. The City of Clarkston's roadway network includes a large number of recommended thin overlays. It should be noted that if maintenance is completed in a timely manner, some of these proposed thin overlays could be treated with a more cost-effective chipseal or another similar roadway rehabilitation. Recommended treatments shown are based on ideal scenarios and budgets. Smaller agencies like the City of Clarkston typically do not have large budgets for roadway maintenance, so regular maintenance procedures are important to prevent higher cost maintenance in the future.

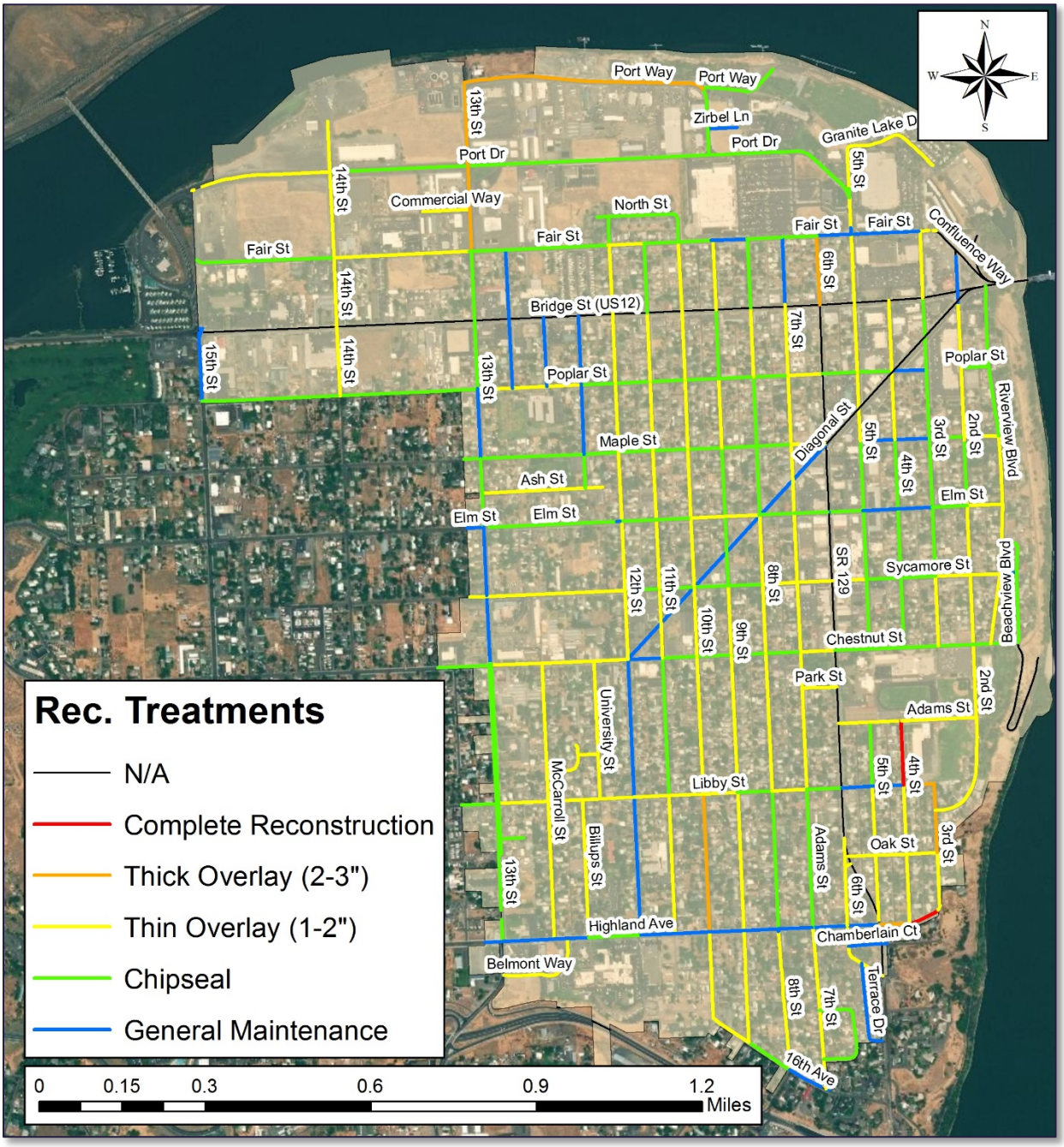


Figure 45 – City of Clarkston Recommended Roadway Treatments

5.1.6 Pavement Analysis

Several scenarios were analyzed to determine the effects of various maintenance funding levels. These scenarios provide planning-level information for decision makers and are not exact. Pavement can deteriorate faster or slower than assumed in the analyses. For the purposes of this analysis, it was assumed that one year's time of no maintenance for a roadway equates to approximately 3 PSC ratings. For example, a roadway with a PSC rating of 90 would deteriorate to a PSC rating of 87 after one year of no maintenance.

Scenario 1: Performing No Maintenance

While it is unlikely for agencies like Asotin County or the City of Clarkston to not perform any maintenance on existing roadways, this scenario still proves to be a helpful tool to demonstrate how quickly the pavement condition of a roadway system can shift in a short amount of time. For this scenario, it was assumed no maintenance would be performed for 5 years.

Asotin County: Based on a no-maintenance scenario, the average PSC rating for the roadways surveyed in Asotin County drops from approximately 92 (2018), to 77 (2023; no maintenance performed), an average drop of 15 PSC ratings. Figure 46 shows the PSC distribution of the roadways based on the no-maintenance scenario in comparison to the existing conditions.

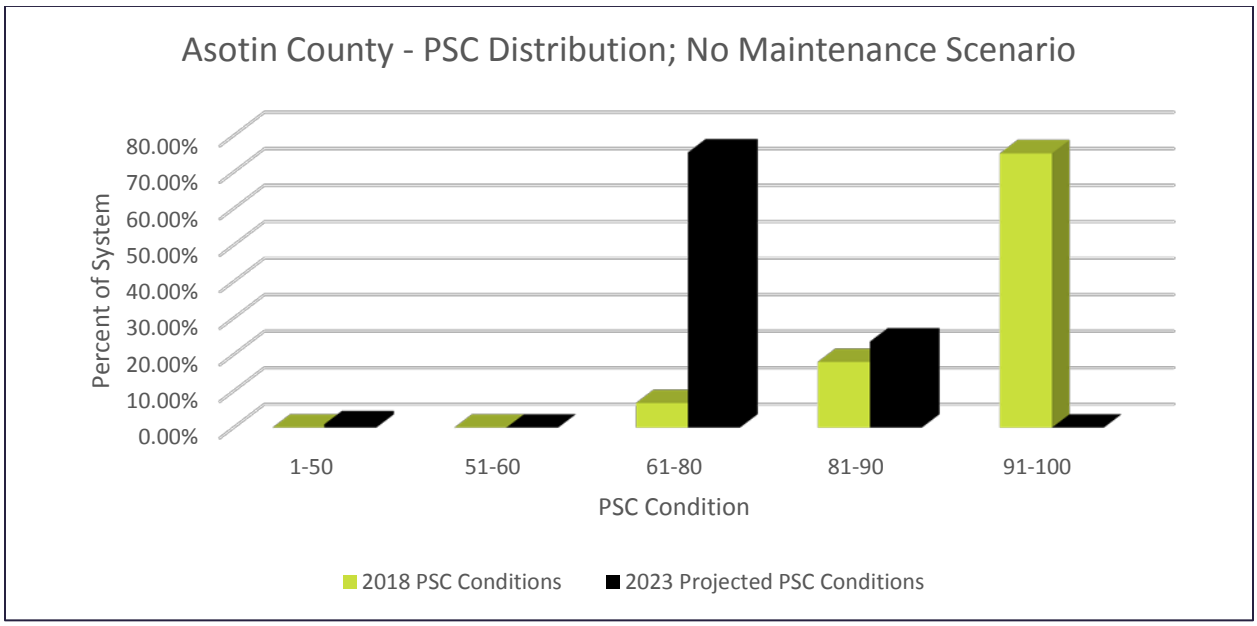


Figure 46 – Asotin County PSC Distribution; No Maintenance Scenario

While this scenario would still leave Asotin County's system in a fair condition, it would mean much higher budget requirements to restore back to a manageable point in the future.

City of Clarkston: Based on a no-maintenance scenario, the average PSC rating for the roadways surveyed in the City of Clarkston drops from approximately 78 (2018), to 63 (2023; no maintenance performed), an average drop of 15 PSC ratings. Figure 47 shows the PSC distribution of the roadways based on the no-maintenance scenario in comparison to the existing conditions.

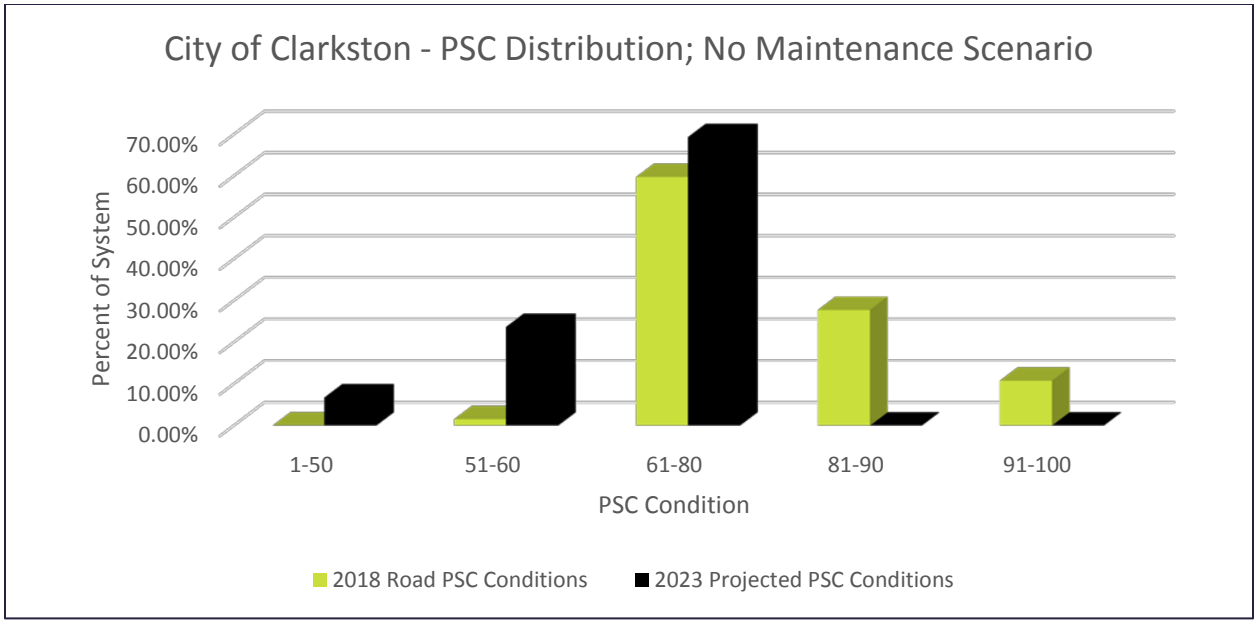


Figure 47 – City of Clarkston PSC Distribution; No Maintenance Scenario

The figure demonstrates that a higher percentage of the City's roadways would shift into the 51-60 range of PSC values, which represents a much higher financial burden for the City of Clarkston.

Scenario 2: Prioritizing Lowest PSC Roadways

The next scenario that was analyzed was the prioritization of projects on roads with low PSC ratings, starting with reconstructs and overlays, and addressing the most problematic roads. For this scenario, it was assumed that each agency would utilize existing roadway budgets to perform as many projects on low rated roads as possible. This process would generally match each agency moving through the maintenance CIPs in order.

Asotin County:

Based on this scenario, the average PSC rating for the roadways surveyed in Asotin County drops from approximately 92 (2018), to 88 (2023), an average drop of 4 PSC ratings in 5 years. Figure 48 shows the PSC distribution of the roadways based on the prioritization of low PSC ratings scenario in comparison to the existing conditions. For the purposes of this scenario, the assumed annual budget for maintaining county roads (seal coats, overlays) would be approximately $580,000 per year based on average budgets from previous years.

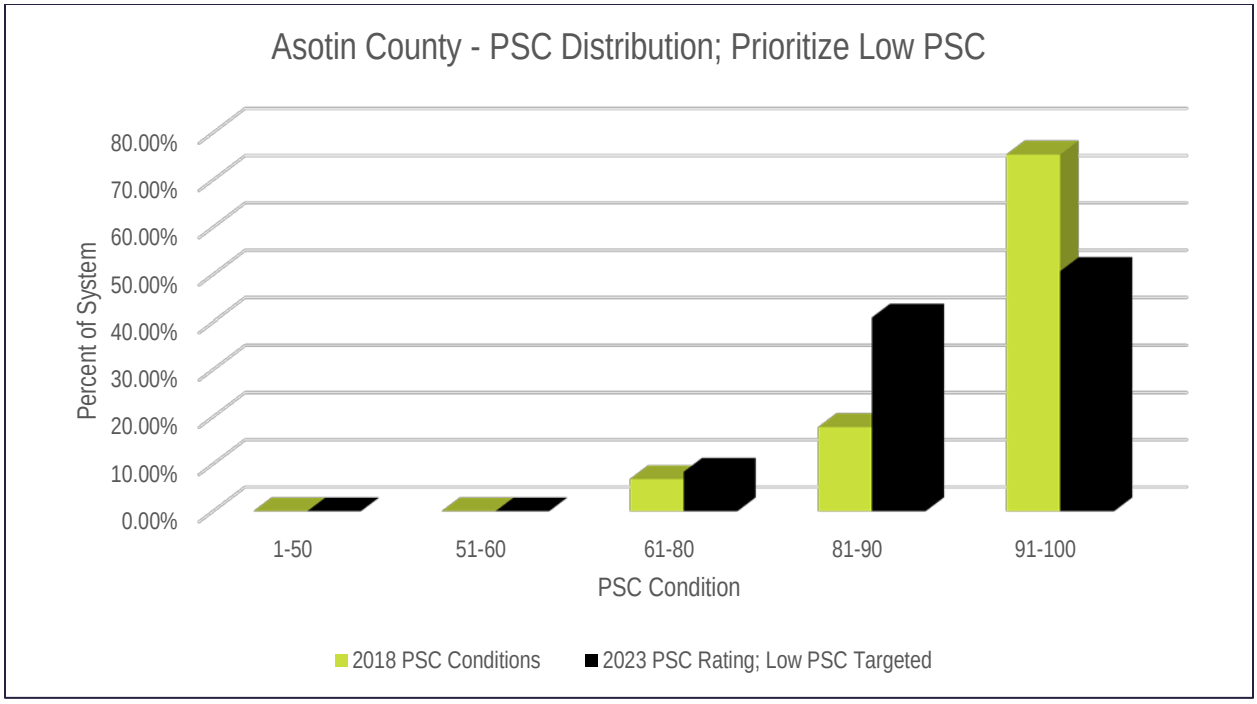


Figure 48 – Asotin County PSC Distribution; Scenario 2

As seen by the 2023 distribution, the roadways in Asotin County would drop slightly, creating a slightly wider range of PSC ratings throughout the roadway network. While this maintenance scenario would be manageable short term, over time Asotin County would need to bolster maintenance funds (outside funding or increased budgets) to keep the PSC ratings from dropping over a longer period of time.

City of Clarkston:

Based on this scenario, the average PSC rating for the roadways surveyed in the City of Clarkston drops from approximately 79 (2018), to 67 (2023), an average drop of 12 PSC ratings over 5 years. Figure 49 shows the PSC distribution of the roadways based on the prioritization of low PSC ratings scenario in comparison to the existing conditions. For the purposes of this scenario, the assumed annual budget for maintaining City roads would be approximately $220,000 per year based on average budgets from previous years.

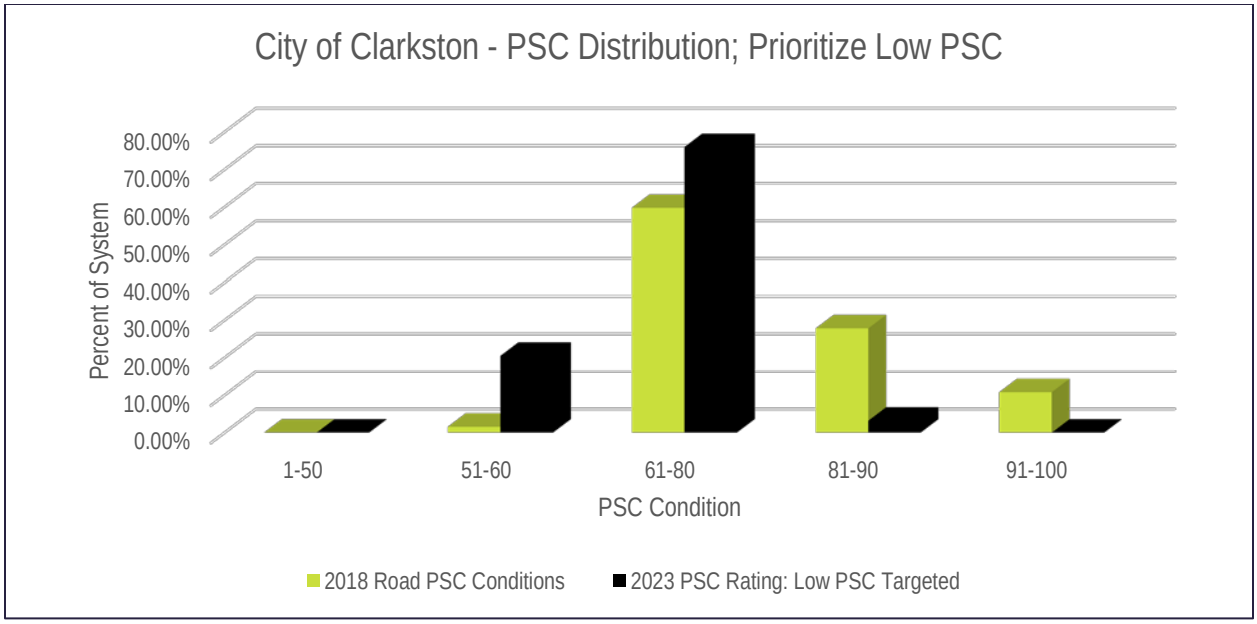


Figure 49 – City of Clarkston PSC Distribution; Scenario 2

As seen by the PSC distribution, prioritizing the lowest PSC roadways with the City's current budget still results in an overall decline of average PSC ratings over 5 years.

Scenario 3: Prioritizing Chip Seal of Roadways

The next scenario that was analyzed was the prioritization of chip-sealing roads within the recommended PSC range for chip sealing (approximately 80 to 90 PSC rating). For this scenario, it was assumed that each agency would utilize existing roadway budgets to perform as many chipseal projects as possible each year.

Asotin County:

Based on this scenario, the average PSC rating for the roadways surveyed in Asotin County drops from approximately 92 (2018), to 90 (2023). Figure 50 shows the PSC distribution of the roadways based on the prioritization of chip sealing as many roads as possible in comparison to the existing conditions. For the purposes of this scenario, the assumed annual budget for maintaining county roads (seal coats, overlays) would be combined and utilized for chip seals (approximately $580,000 per year based on average budgets from previous years).

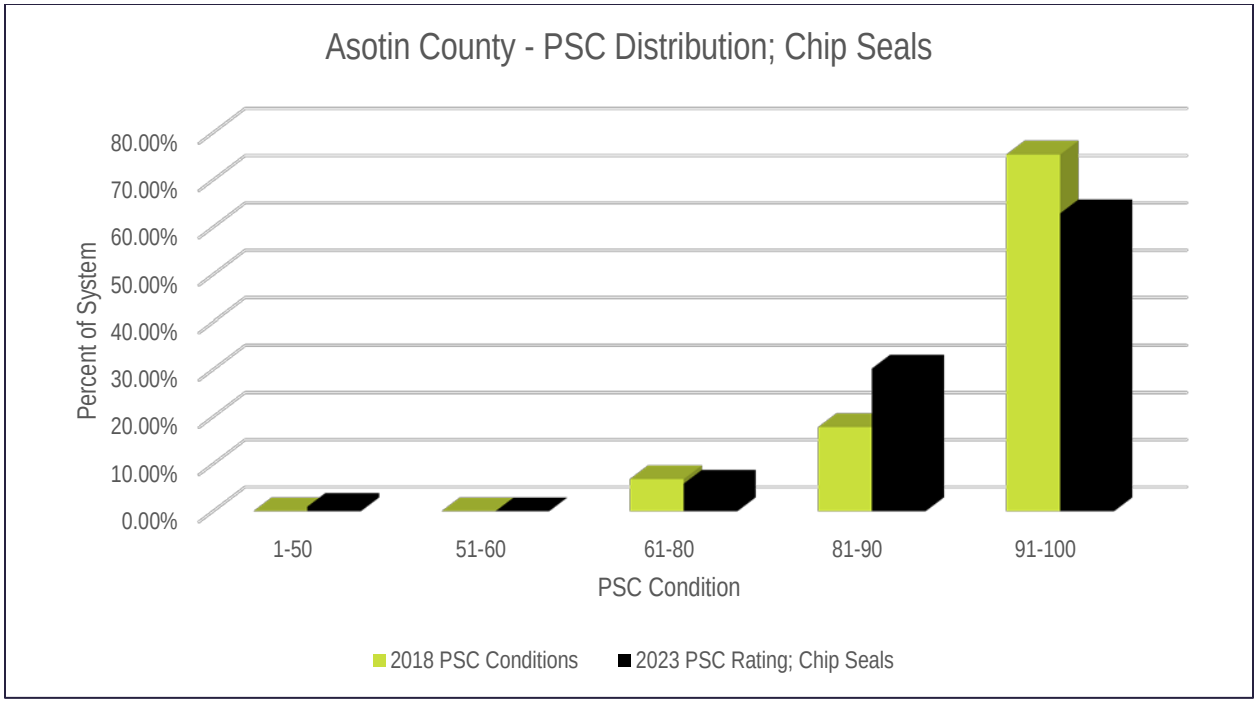


Figure 50 – Asotin County PSC Distribution; Scenario 3

This distribution from this maintenance scenario yields slightly better results than Scenario 2, which prioritized the lowest PSC roadways for projects. Since Asotin County's roadways are all generally in good condition, chip sealing roads keeps the better roads in good condition rather than allowing them to fall into worse condition while focusing on bigger projects (thin overlays). These results demonstrate that the County's most useful use for its existing budget is utilizing chip seals rather than completing overlays and larger projects on roadways in worse condition. As with Scenario 2, this scenario would be manageable for the County for the short term (5 to 10 years) but would still result in the slow decline of the average PSC rating for the roadway network in the long term.

City of Clarkston:

Based on this scenario, the average PSC rating for the roadways surveyed in the City of Clarkston drops from approximately 79 (2018), to 70 (2023), an average drop of 9 PSC ratings over 5 years. Figure 51 shows the PSC distribution of the roadways based on the prioritization of chip sealing as many roads as possible with existing budget in comparison to the existing conditions. For the purposes of this scenario, the assumed annual budget for maintaining City roads would be approximately $220,000 per year based on average budgets from previous years and used exclusively for chip seals.

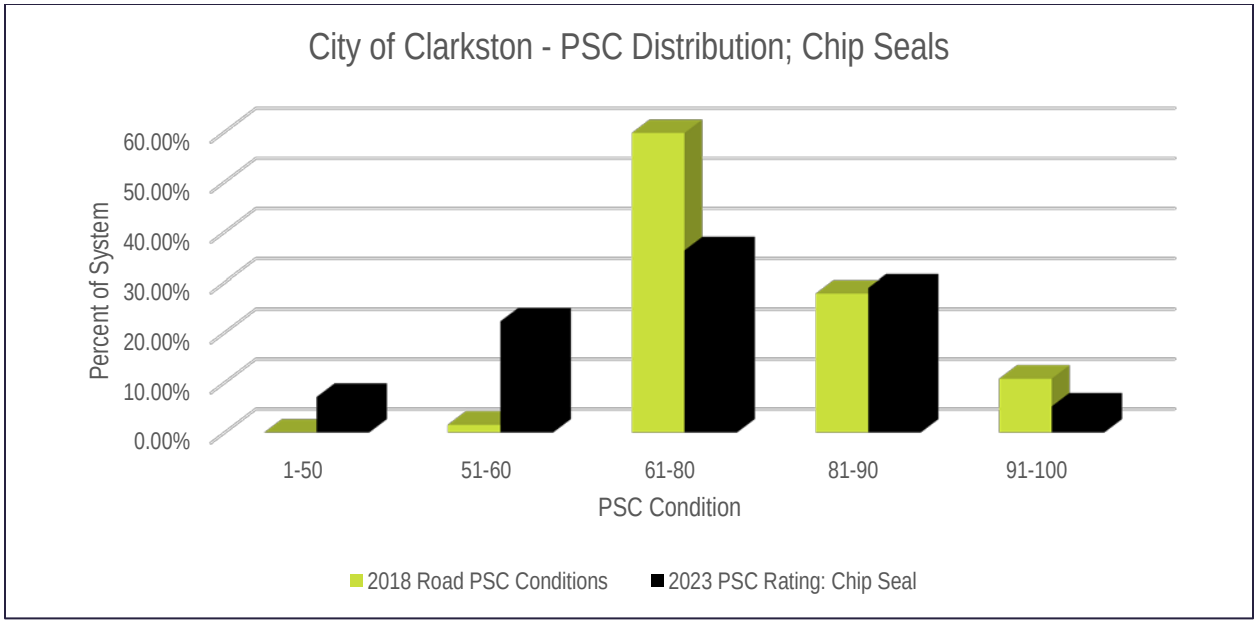


Figure 51 – City of Clarkston PSC Distribution, Scenario 3

The distribution from this maintenance scenario yields slightly better average PSC rating results than Scenario 2, which prioritized the lowest PSC roadways for projects. This demonstrates that it is more financially feasible for the City of Clarkston to maintain the existing good roads with the current maintenance budget rather than focusing on the roads in the worst condition. This scenario would eventually need additional outside funds to allow the City of Clarkston to address roads in poor condition that will be much more expensive (thick overlays, reconstructs).

Scenario 4: Ideal Budget

The next scenario that was analyzed was the repair of 10% of the roads at lowest PSC ratings (thick and thin overlays) while chip-sealing ***at least**** 10% of the roadway network in the same year (**it is estimated that Asotin County needs to chip seal approx. 24% of roadways consistently per year to see an increase in average PSC ratings*). For this scenario, it was assumed that these maintenance amounts would be completed to determine the average cost that it would require for each agency to raise the average PSC ratings for the roadway network within 5 years.

Asotin County:

Based on this scenario, the average PSC rating for the roads surveyed in Asotin County rose from approximately 92 (2018) to 94.5, an average increase of 2.5 PSC ratings over 5 years. Since less than 10% of Asotin County's roads are overlays, it was assumed that these projects were all completed within one year without any chip seals (due to high costs), which provided a rough benchmark for the estimated yearly budget. Figure 52 shows the PSC distribution of the roadways based on 10% of maintenance occurring by chip-sealing roadways in the same year in comparison to existing conditions. Based on performing the mentioned amount of maintenance for this scenario to provide a positive trending average PSC rating, the cost is estimated at approximately $875,000 annually.

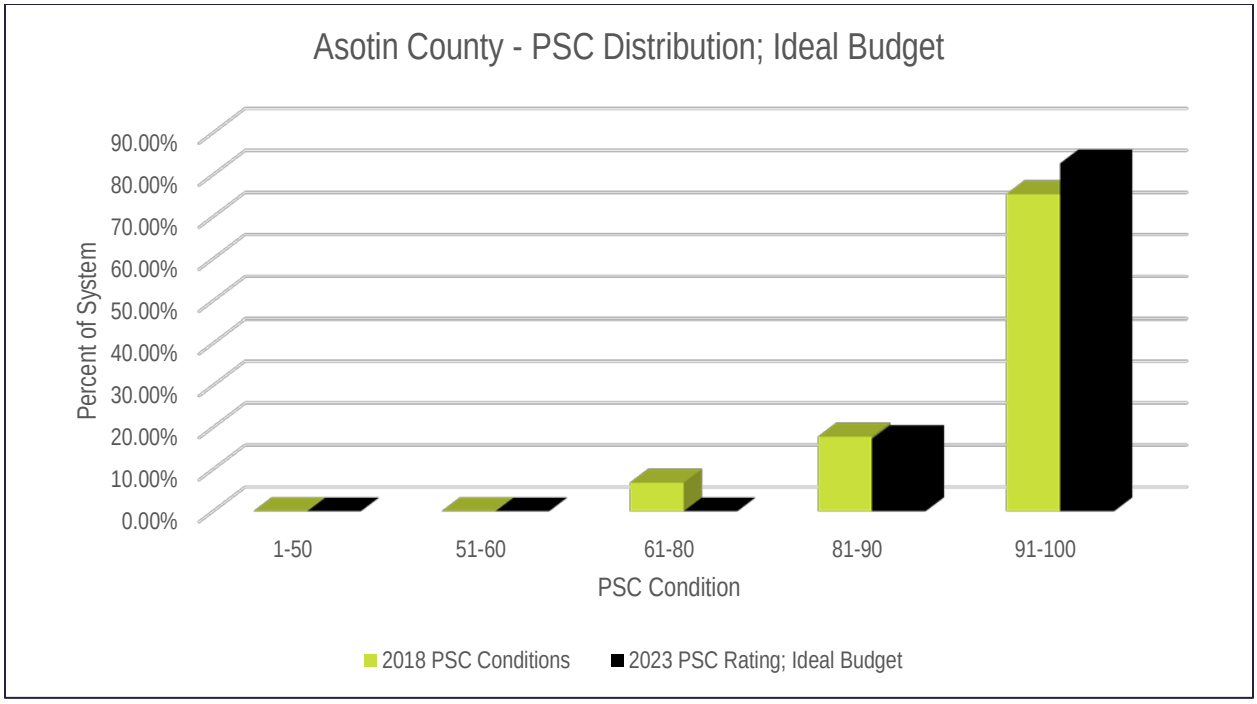


Figure 52 – Asotin County PSC Distribution; Scenario 4

As seen above, the PSC distribution in 2023 based on this maintenance scenario provides an ideal network condition, with over 80% of the County's roadways being rated at a PSC rating range of 91-100, and over 10% of the network rated from 81-90. While this scenario provides an ideal PSC distribution for Asotin County, it should be noted that the annual costs for this scenario are approximately $295,000 more than the County's current annual budget ($580,000 for the purposes of this analysis). This represents a financial burden for Asotin County to keep its roads in good condition and continue improving the overall roadway network.

City of Clarkston:

Based on this scenario, the average PSC rating for the roadways surveyed in the City of Clarkston rose from approximately 79 (2018), to 85 (2023), an average increase of 6 PSC ratings over 5 years. This would provide a promising increase of at least one PSC rating per year for the roadway network for the City of Clarkston. Figure 53 shows the PSC distribution of the roadways based on 10% of maintenance occurring on overlay projects, and 10% of maintenance occurring by chip-sealing roadways in the same year in comparison to the existing conditions. Based on performing the mentioned amount of maintenance for this scenario, the cost is approximately $1,220,000 annually.

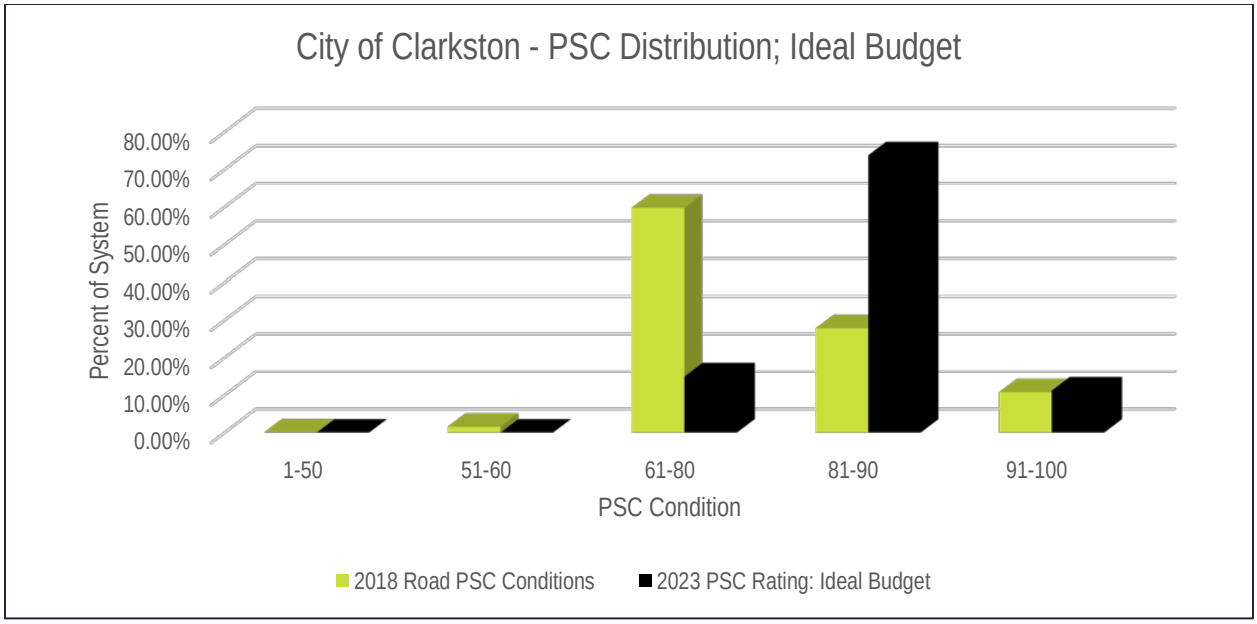


Figure 53 – City of Clarkston PSC Distribution; Scenario 4

As seen above, the PSC distribution in 2023 based on this maintenance scenario provides a much more ideal roadway network condition, with over 70% of the City's roadways being rated at a PSC rating range of 81-90, and almost 10% of the network rated from 91-100. While this scenario provides an ideal PSC distribution for the City of Clarkston, it should be noted that the annual costs for this scenario are approximately $1,000,000 more than the City of Clarkston's current annual budget ($220,000). This represents a significant financial burden for the City of Clarkston not only to maintain current roadway conditions, but to make them better over time.

5.1.7 Recommended Pavement Management Strategy

Asotin County:

It is recommended that Asotin County pursue outside funding sources to fund more financially heavy projects listed on the CIP that currently cannot be covered by existing budgets while maintaining the existing network ratings. Based on the analysis, the County should continue utilize its existing roadway maintenance budget to prioritize chip sealing roadways to keep the structurally sound roads in good condition. Asotin County currently has an active 5-year chip seal cycle, which is providing satisfactory PSC ratings for the roadways in the County. While in an ideal world the County would increase its maintenance budget to raise the current average PSC of the network over time, the costs required to increase the already satisfactory PSC ratings would be a large sum for a relatively small benefit (almost doubling the budget only raises average PSC ratings approximately 0.5 per year). The current maintenance practices being followed are providing a sustainable roadway network for the County, and are expected to continue doing so in the foreseeable future. It should also be noted that the County maintains more roads than what was surveyed within the MPO boundary for this transportation plan, which may result in higher estimated costs than mentioned previously by these analysis scenarios.

While it is not recommended that the County lower current preservation budgets, it may be feasible to use some of these funds for other types of project that are high on the County's priority list (sidewalks, pathways, emergency repairs, etc.) during strategic years in which some of the analyzed roads may be sound for another year without maintenance. Consistent pavement analysis may show that the roads with lower traffic, better topography, or other factors are deteriorating more slowly than main roadways, and may not need as consistent maintenance as other roadways. More frequent, detailed pavement analysis to determine if maintenance is required immediately or could wait a year or two may provide more freedom and flexibility for Asotin County's budget to complete some additional higher priority projects that would not normally be possible.

City of Clarkston:
It is recommended that the City of Clarkston continue pursuing outside funding sources to fund more financially heavy projects listed on the CIP that currently cannot be covered by existing budgets. The City should utilize its existing roadway maintenance budget to prioritize chip sealing roadways to keep the structurally sound roads in good condition. If possible, it is also recommended that the City move towards chip-sealing 1/5th of the roadway network annually. At the time of this transportation plan and current estimated chip seal costs at $3.30 per square yard, this would represent an approximate annual cost of approximately $540,000 (also a much larger financial burden than the existing budget for the City).

5.2 SIGN MANAGEMENT

A sign management system is a tool to cost effectively inventory, preserve, and improve the sign network. This system should provide:

- A complete physical inventory of the sign network
- Condition survey
- A needs assessment process
- Compliance with Manual on Uniform Traffic Control Devices (MUTCD) requirements

5.2.1 Inventory and Condition Survey

As part of this transportation plan, the MPO contracted with Lewis-Clark State College to perform an inventory of the signs within the study area. Data collected on each sign included: MUTCD sign code, post type and material, sign material, lateral offset distance, height, overall sign rating, and post rating. Generally, the signs were rated per the ranking explained below:

- Excellent – sign appears to be brand new and meets current retroreflectivty standards (see Section 5.2.2), with no indication of chips, cracks, rust, bends, fading, or vandalism.
- Good – sign appears to be near original condition, with the exception of some minor chips, cracks, rust, bends, or fading.
- Fair – sign appears to have visible chips, cracks, rust, bends, or fading apparent throughout, but the distresses do not interfere with being able to read the sign.
- Poor – sign's text, numbers, or objects appears to be defaced to the point that the sign is difficult to read.
- Replace – sign appears to have suffered extensive damage or distresses. Signs that did not meet current retroreflectivity were also listed as "replace."

Asotin County:
Figure 54 shows the results of the sign inventory for Asotin County. Roughly 1,180 signs were inventoried within the MPO boundary in Asotin County (not including signs within Clarkston City limits). The signs in Asotin County are generally in very good condition, with a large amount of the signs earning the "Excellent" rating.

City of Clarkston:
Figure 55 shows the results of the sign inventory for the City of Clarkston. Roughly 926 signs were inventoried within city limits. Overall, the signs in the City of Clarkston are in fair condition. It should be noted that many of Clarkston's signs were listed as "Replace" as part of this inventory due to the signs consisting of engineer grade aluminum, which no longer meet current retroreflectivity requirements. These signs may appear to be in good condition as far as appearance and readability during daylight, but will not easily stand out at night or in darker conditions.

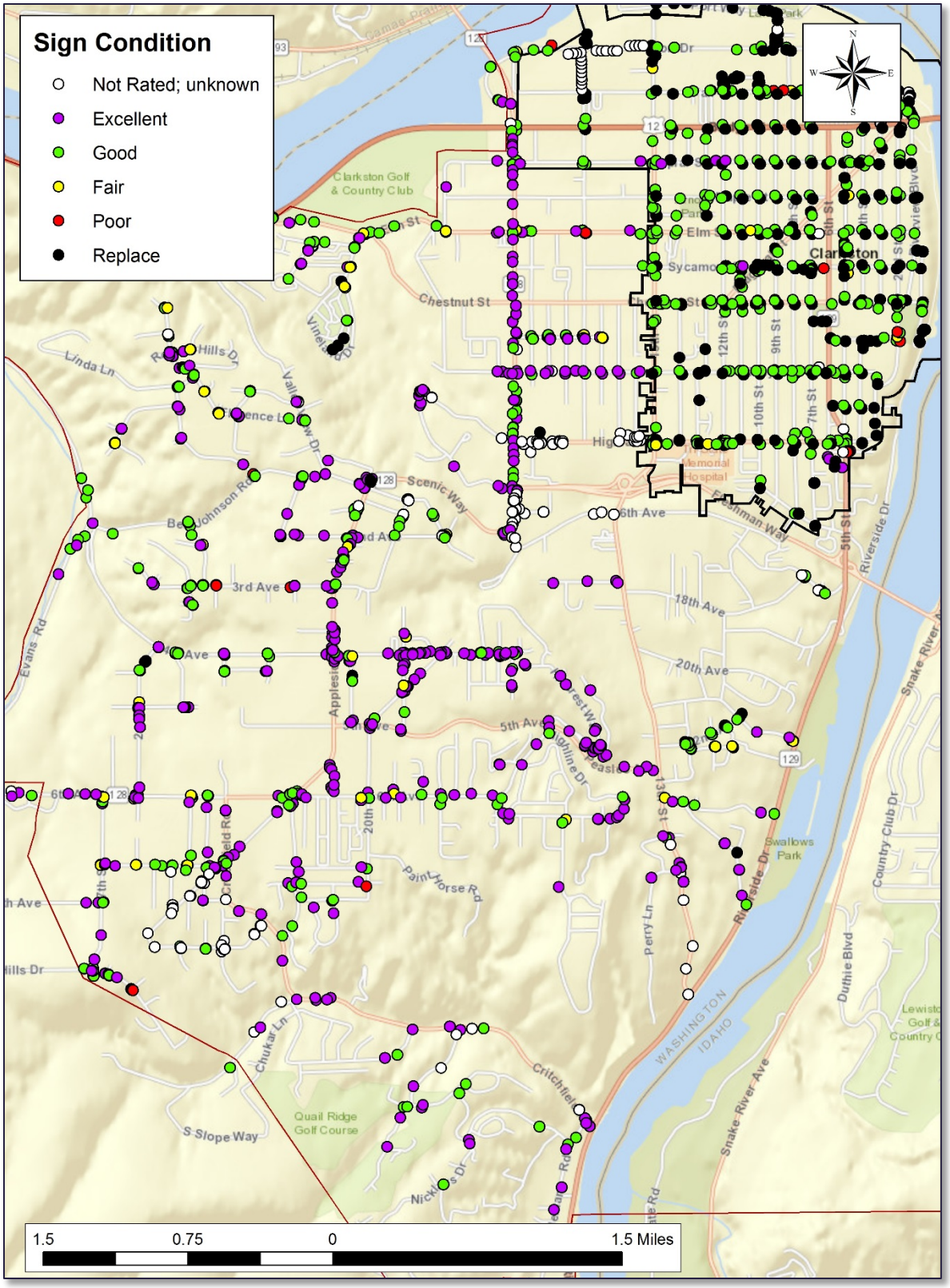


Figure 54 – Asotin County Sign Condition

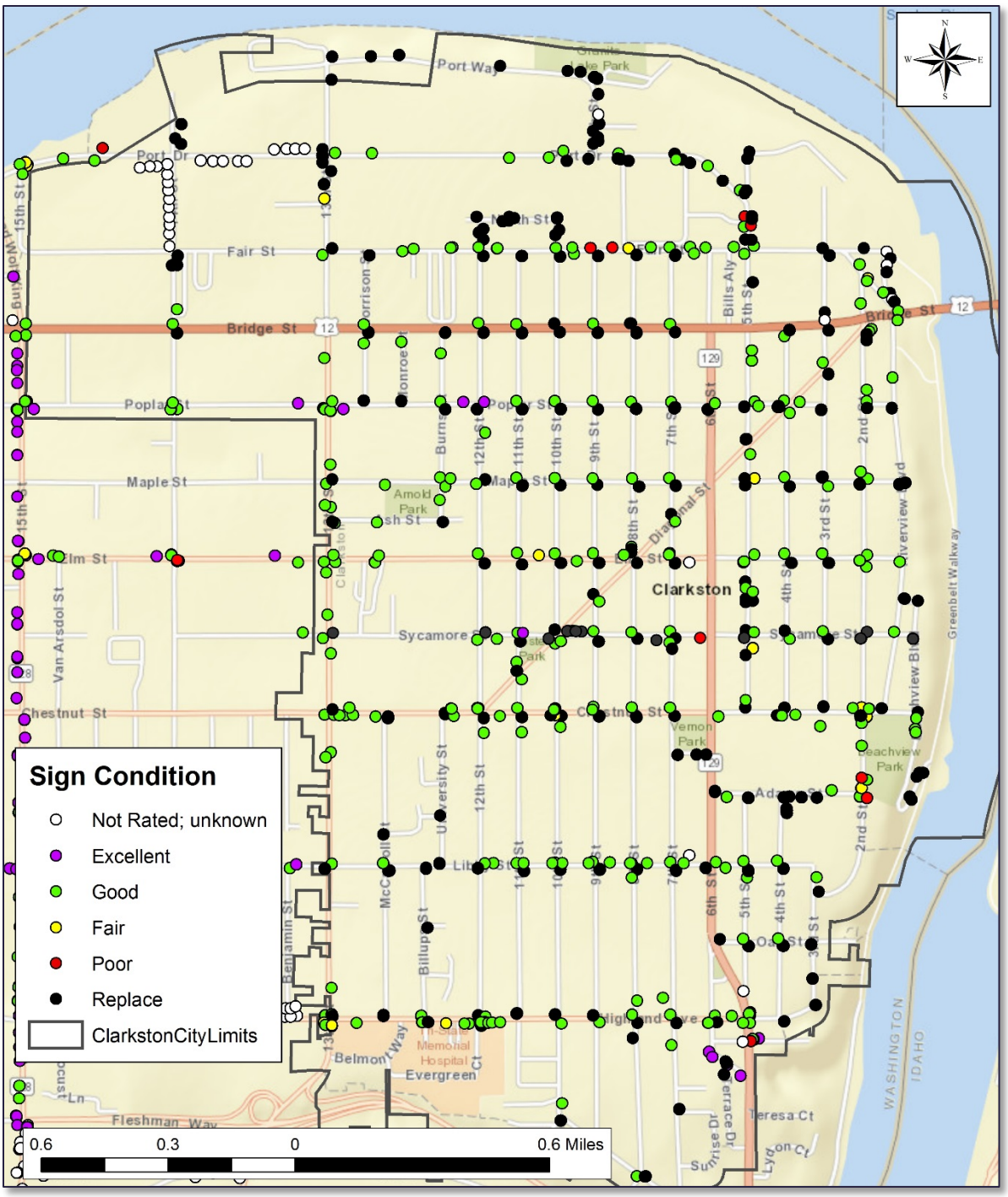


Figure 55 – The City of Clarkston Sign Conditions

5.2.2 MUTCD Retroreflectivity Requirements

New standards developed by the Manual on Uniform Traffic Control Devices (MUTCD) require that public agencies adopt a Sign Management Plan to ensure signs meet new minimum retroreflectivity requirements for traffic signs on public roads. Agencies must implement and continue to use a sign management program as of June 14, 2014. This date applies to regulatory and warning signs only. However, agencies are expected to replace guide signs (including street name signs) and other types of signs as resources become available. The MUTCD outlines two basic assessment methods and three management methods of compliance:

1. Measured Retroreflectivity - Assessment
2. Nighttime Visual Inspection - Assessment
3. Expected Sign Life - Management
4. Blanket Replacement - Management
5. Control Sign - Management
6. Other Methods

1. Measured retroreflectivity can be taken by a retroreflectometer. A retroreflectometer can be costly to obtain, somewhere in the neighborhood of $9,000 and can range up to $15,000 when equipped with additional features such as GPS and bar code readers. Asotin County currently owns a retroreflectometer that is used to monitor and maintain signs within the County.

2. With the visual nighttime inspection method, the retroreflectivity of an existing sign is assessed by a trained inspector conducting a visual inspection from a moving vehicle during nighttime conditions. With the expected sign life method, individual signs are replaced before they reach the end of their expected service life.

3. The expected service life is based on the time required for the retroreflective material to degrade to the minimum level. The sign life can be based on several different sources of information such as sign sheeting warranties, the performance of control signs, or actual field measurements.

4. Blanket replacement is similar to the expected sign life method except that all signs grouped in a corridor or area are replaced at specific intervals. This eliminates the need to assess retroreflectivity or track the life on an individual sign. The replacement interval is based on the expected sign life.

5. With the Control sign method, replacement of signs is based on the performance of a sample of control signs. The control sign might be located in a service yard or be located with a grouping of signs for a particular area. The control sign is monitored to determine the end of retroreflective life. All field signs represented by the control sign must be replaced before the control sign reaches minimum retroreflective levels.

6. Other methods developed based on engineering studies can be used. Refer to Appendix E for a FHWA published handout for more information on maintaining retroreflectivity.

5.2.3 Signage Recommendations

It is recommended that annual spring inspection of each agency's signs take place of all installed signs under each agency's jurisdiction. Signage that is identified to be obscured by bushes, trees, obstructions, or objects should be remedied to allow the signs to be easily viewed by traffic. Overall, it appears sign maintenance is being handled in a timely fashion. Each agency should also adopt one of the assessment or management methods outlined in the MUTCD to ensure signs have adequate retroreflectivity. Any signs replaced moving forward should also meet the most recent text size requirements of the MUTCD, as identified by Table 21.

Table 21 – MUTCD Street Name Sign Text Size Requirements

Street Speed Limit (mph)	Upper-Case Minimum Height (inches)	Lower-Case Minimum Height (inches)
25 or less	4	3
25 to 40	6	4.5
40 or greater	8	6

Existing signs are not required to be replaced because of noncompliance with the new text size requirements; however, new signs and signs at the end of their service life being replaced must have the new letter sizes.

Any "SLOW – CHILDREN PLAYING" signs that are found in Asotin County or the City of Clarkston should be removed. These signs are found in some municipalities and are intended to promote safety; however, they are not recognized by the FHWA's MUTCD or the Washington State Department of Transportation. In fact, several states ban the use of such signs altogether. There are many reasons why such signs should not be permitted. A few reasons include (Sources: FHWA and Wisconsin Department of Transportation):

- "SLOW - CHILDREN AT PLAY" or "SLOW – CHILDREN PLAYING signs are typically designed to look like warning signs (yellow background, black legend)
    - Warning signs warn drivers of hazards at specific locations (curve, pedestrian crossing, etc.) but Slow - Children at Play signs do not specify a location
- If installed in one area and not another, drivers may be led to believe that there are no children in areas without signs, thus making children more vulnerable
- Parents and guardians are given a false feeling of security that children are safe when playing in or near the street
    - No level of signage can protect a child should a crash occur
- Nearly 30% of tort cases filed against roadway agencies pertain to signs
    - It could be implied that Asotin County of the City of Clarkston approves of streets as playgrounds
    - Signs not conformant with the MUTCD increase an agency's liability should a crash occur
- No research supports the effectiveness of such signs
- Alternative option for this sign should be used, such as W15-1, or S1-1 paired with W16-9P

Specific recommendations for each agency are as follows:

Asotin County:
It is recommended that Asotin County continue its current signage management practices, as it is currently proving to be performing very well. It is also recommended that the County works towards implementing a formal sign management plan to maintain retrorefelctivity.

City of Clarkston:
It is recommended that the City of Clarkston work towards replacing any signage identified by the inventory that do not meet current retroreflectivity requirements, as well as work towards implementing a formal sign management plan to maintain retroreflectivity. For example, the updated standard for street name signs as provided by the MUTCD is as follows:

"The Street Name sign shall be retroreflective or illuminated to show the same shape and similar color both day and night. The color of the legend (and border, if used) shall contrast with the background color of the sign." Many of the signs inventoried in the City of Clarkston do not appear to meet this requirement based on the sign inventory.

CHAPTER 6 – FUTURE CONDITIONS EVALUATION

As part of this transportation plan, the existing traffic volumes and patterns for the MPO area were forecasted to future conditions (year 2040). The forecasted traffic volumes were analyzed to determine areas that would be in need of expansion or alteration based on the increased traffic volumes and demand.

6.1 FUTURE TRAFFIC CONDITIONS

6.1.1 Forecasted Traffic Volumes

To identify areas that should be improved in terms of capacity in the future, the existing traffic volumes gathered from Section 4.7 were forecasted to the year 2040. The existing traffic volumes were forecasted using the LCVMPO's QRSII travel demand model. Based on the model projections, the forecasted volumes are presented in Table 22 and Table 23. Additionally, these numbers are also shown in Figure 56. The segments follow the same numbering and locations as the volumes presented in the existing conditions section.

Table 22 - 2040 Forecasted AADT Volumes Part I

#	Roadway Segment	Location	Source	Exist. AADT	2040 AADT	Juris.
1	Bridge/US-12	East of Riverview Blvd	ITD AADT	24,000	28,950	WSDOT
2	Bridge/US-12	Riverview Blvd to 2nd Street	WSDOT AADT	18,000	21,630	WSDOT
3	Bridge/US-12	2nd Street to 13th Street	WSDOT AADT	12,000	12,790	WSDOT
4	Bridge/US-12	13th Street to 15th Street	WSDOT AADT	8,200	10,000	WSDOT
5	Bridge/US-12	15th Street to Evans Road	WSDOT AADT	2,900	4,920	WSDOT
6	Bridge/US-12	West of Evans Road	TMC	2,250	2,670	WSDOT
7	Chestnut Street	East of 15th Street	TMC	1,290	1,340	Clarkston
8	Chestnut Street	West of 15th Street	TMC	1,350	1,710	Asotin Co.
9	Highland Avenue	East of 12th Street	TMC	2,870	3,030	Clarkston
10	Highland Avenue	12th Street to 13th Street	TMC	3,690	3,850	Clarkston
11	Highland Avenue	West of 13th Street	TMC	2,690	3,270	Asotin Co.
12	Fleshman Way	East of 15th Street	TMC	8,870	12,760	Asotin Co.
13	Fleshman Way	West of 15th Street	TMC	1,050	1,170	Asotin Co.
14	16th Avenue	East of 13th Street	TMC	350	470	Asotin Co.
15	16th Avenue	West of 13th Street	TMC	980	1,400	Asotin Co.
16	Valleyview Drive	East of Appleside Boulevard	TMC	140	140	Asotin Co.
17	Valleyview Drive	West of Appleside Boulevard	TMC	2,770	4,070	Asotin Co.
18	Peola Road	East of Evans Road	TMC	940	1,390	Asotin Co.
19	Peola Road	West of Evans Road	TMC	690	780	Asotin Co.
20	12th Street	North of Highland Avenue	TMC	1,390	1,470	Clarkston
21	13th Street	North of Bridge Street	TMC	3,480	4,340	Clarkston
22	13th Street	Bridge Street to Highland Avenue	TMC	4,510	5,140	Clarkston
23	13th Street	Highland Avenue to 16th Avenue	TMC	6,460	7,390	Asotin Co.
24	13th Street	South of 16th Avenue	TMC	7,650	10,030	Asotin Co.
25	15th Street	North of Bridge Street	WSDOT AADT	5,500	6,510	Asotin Co.
26	15th Street	Bridge Street to Chestnut Street	TMC	7,080	8,180	Asotin Co.

Table 23 - 2040 Forecasted AADT Volumes Part II

#	Roadway Segment	Location	Source	Exist. AADT	2040 AADT	Juris.
27	15th Street	Chestnut Street to Fleshman Way	TMC	8,990	10,610	Asotin Co.
28	Scenic Way	South of Fleshman Way	TMC	10,870	14,990	Asotin Co.
29	Scenic Way	North of Valleyview Drive	TMC	10,060	14,420	Asotin Co.
30	Appleside Boulevard	South of Valleyview Drive	TMC	7,960	11,340	Asotin Co.
31	Evans Road	Bridge Street/US-12 to Peola Road	TMC	620	2,320	Asotin Co.
32	Diagonal Street	2nd Street to 4th Street	WSDOT AADT	7,000	8,850	WSDOT
33	Diagonal Street	4th Street to 6th Street	WSDOT AADT	9,400	11,030	WSDOT
34	6th Street / SR-129	Diagonal Street to Chestnut Street	WSDOT AADT	6,600	7,930	WSDOT
35	6th Street / SR-129	Chestnut Street to Oak Street	WSDOT AADT	8,500	9,830	WSDOT
36	SR-129	Oak Street to Fleshman Way	WSDOT AADT	6,500	8,160	WSDOT
37	SR-129	Fleshman Way to 22nd Avenue	WSDOT AADT	7,600	11,780	WSDOT
38	SR-129	22nd Avenue to 13th Street	WSDOT AADT	6,100	10,280	WSDOT
39	SR-129	13th Street to Critchfield Rd	WSDOT AADT	7,400	13,520	WSDOT
40	Fleshman Way (Southway Bridge)	East of SR-129	ITD AADT	23,130	29,840	Asotin Co.

Based on the forecasted volumes, the road segments previously identified to be approaching the 13,000 AADT threshold for recommended capacity improvements (15th Street and Scenic Way) are expected to exceed this value by the year 2040. The following roadway segments are projected to be over 13,000 AADT between the time of this transportation plan and 2040:

- Scenic Way (From 15th Street to Valleyview Drive): 14,990 AADT forecasted
- SR-129 (From 13th Street to Critchfield Road): 13,520 AADT forecasted

Since SR-129 is under WSDOT jurisdiction, this roadway segment is not included in the CIP of this transportation plan. The noted segments of 15th Street and Scenic Way have been included for recommended capacity expansions in the future. It should also be noted that the intersection of Critchfield and SR-129 was analyzed in 2017, with the worst movement (eastbound) estimated to have LOS D. The increased volumes on SR-129 will only worsen the operation of this movement unless future analysis and improvements are identified and implemented.

In addition to the previous roadway segments over 13,000 ADT listed above, there are also multiple segments that are expected to be between 10,000 AADT and 13,000 AADT in 2040, putting them near the threshold for capacity improvements beyond the analysis period:

- Bridge Street/US-12 (From 2nd Street to 13th Street): 12,790 AADT forecasted. As noted from the existing volumes analysis, Bridge Street has a high volume and is close to the threshold for improvements by the year 2040. It is recommended that this corridor is studied to determine potential solutions for its capacity before 2040.
- Bridge Street/US-12 (From 13th Street to 15th Street): 10,000 AADT forecasted
- Fleshman Way (East of 15th Street): 12,760 AADT forecasted. Fleshman Way is already 2 lanes in each direction at the time of this transportation plan, but if growth continues to occur this segment should be observed for potential decrease in service.
- 13th Street (South of 16th Avenue): 10,030 AADT forecasted
- 15th Street (From Chestnut Street to Fleshman Way): 10,610 AADT forecasted
- Appleside Boulevard (South of Valleyview Drive): 11,340 AADT forecasted
- Diagonal Street (From 4th Street to 6th Street): 11,030 AADT forecasted

- SR-129 (From Fleshman Way to 22nd Avenue): 11,780 AADT forecasted
- SR-129 (From 22nd Avenue to 13th Street): 10,280 AADT Forecasted

Since these roadway segments are anticipated to be below 13,000 AADT in the year 2040, they were not included as part of the CIP of this transportation plan. It is recommended these segments are evaluated in the future to determine if changes in growth over the next ten years may spur these capacity improvements sooner than anticipated by the model.

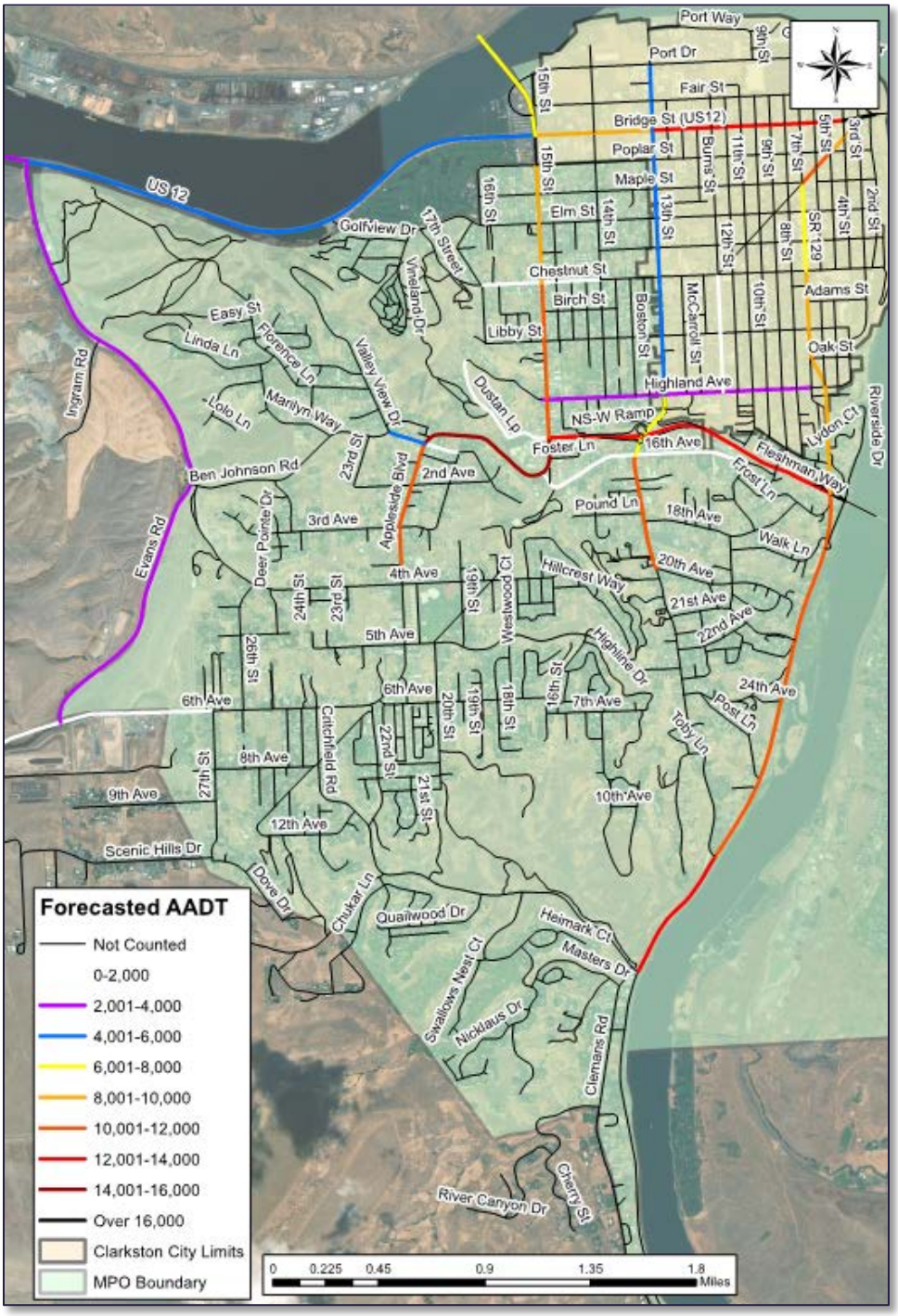


Figure 56 – Forecasted AADT Map (2040)

6.1.2 Intersection Analysis (2040)

Future (2040) vehicle Level of Service (LOS) was determined for the ten intersections discussed in Section 4.7.2 - Existing Traffic Volumes. The 2018 turning movement volumes were projected forward to 2040 using LCVMPO's QRS II travel demand model.

Table 24 summarizes projected LOS for the intersections of interest. Two intersections are expected to have unacceptable LOS in 2040. At Bridge St. & Diagonal St., LOS F is expected for multiple movements and the intersection is expected to be near capacity (LOS E). At Appleside Boulevard & Valleyview Drive, LOS F is expected on the eastbound left turn from Valleyview Drive onto Scenic Way. The other intersections are expected to have acceptable LOS, including 15th St. & Chestnut St. which is expected to be near capacity (LOS E) on the westbound approach in 2040.

Table 24 – Future Intersection LOS (2040)

Intersection	Jurisdiction	Time	2040 Analysis	
			Average LOS	Worst Movement LOS
2nd St., Bridge St., & Diagonal St.	City of Clarkston	AM	LOS C	LOS D, Southbound Thru
		PM	LOS E	LOS F, Westbound Left
13th St. and Bridge St.	City of Clarkston	AM	LOS A	LOS B, Southbound Left
		PM	LOS B	LOS B, Northbound Left
15th St. & Bridge St.	Asotin County	AM	LOS B	LOS B, Northbound Right
		PM	LOS B	LOS C, Southbound Left
15th St. & Chestnut St.	Asotin County	AM	LOS A	LOS C, Westbound
		PM	LOS A	LOS E, Westbound
15th St. & Fleshman Way	Asotin County	AM	LOS B	LOS C, Northbound Left
		PM	LOS C	LOS D, Northbound Left
US12 & Evans Rd.	Asotin County	AM	LOS A	LOS B, Northbound Left
		PM	LOS A	LOS B, Northbound Left
12th St. & Highland Ave.	City of Clarkston	AM	LOS A	LOS B, Southbound
		PM	LOS A	LOS B, Northbound
13th St. & Highland Ave.	City/County	AM	LOS B	LOS B, Northbound
		PM	LOS C	LOS C, Northbound
13th St. & 16th Ave.	Asotin County	AM	LOS A	LOS C, Eastbound
		PM	LOS A	LOS D, Eastbound
Appleside Blvd & Valleyview Dr	Asotin County	AM	LOS A	LOS F, Eastbound
		PM	LOS A	LOS F, Eastbound

As noted by the analysis, multiple intersections are expected to be operating with movements at lower levels of service if no action is taken until 2040. As mentioned previously, it is anticipated that the 2nd Street, Bridge Street, and Diagonal Street intersection will have already been resolved by an intersection reconfiguration that is currently scheduled. This leaves the following intersections with movements at LOS D or worse expected in 2040 (projects listed below are provide with brief explanation of priority within the CIP of this plan, as well as general methodology used to determine priority):

- 15th Street and Chestnut Street – It is anticipated that the westbound movement for this intersection will experience a LOS E by the year 2040. It is expected that this will be due to the increased volumes along 15th Street preventing the two-way stop-controlled traffic of Chestnut to cross or execute left-hand turn movements. It is recommended that this intersection be studied or observed to determine if warning signage, dedicated turning movements, or restricted movements are warranted for this intersection in the future. Since the overall intersection retains a high LOS, it is recommended that this intersection is analyzed more in-depth outside of this transportation plan to determine the best solution for implementation for the problem movement. A formal CIP project for this intersection was not included as part of this plan based on the overall high LOS of the intersection, and CAC comments from discussion and meetings.
- 15th Street and Fleshman Way – It is anticipated that all four left turning movements for this intersection will experience a LOS D by the year 2040. Asotin County has reflected that they intend to install flashing warning signage at this intersection to attempt to minimize this issue. This signage project is included in the CIP of this transportation plan, and it is understood that Asotin County currently has a plan to implement this improvement in the near future. This project was listed as the third highest priority intersection related project due to its relatively low cost, current plan of implementation, and CAC comments.
- 13th Street and 16th Avenue – It is anticipated that the eastbound movement for this intersection will experience a LOS D by the year 2040. It is expected that this will be due to the increased traffic volumes along 13th Street. This intersection is currently a two-way stop-controlled intersection, with stop signs across 16th Avenue. It is recommended that this intersection is evaluated for intersection improvements in the form of a traffic signal or roundabout. This project is included in the CIP for this transportation plan, and was prioritized as the second highest priority due to its current traffic demand, functional classification (Minor Arterial), overall utilization of traffic within the County, and CAC comments.
- Appleside Boulevard and Valleyview Drive- It is anticipated that the eastbound movement for this intersection will experience a LOS F by the year 2040. It is expected that this will be due to the increased traffic volumes along Appleside Boulevard. This intersection is currently a two-way stop-controlled intersection, with stop signs across Valleyview Drive. It is recommended that this intersection is evaluated for intersection improvements in the form of a potential signalized intersection. This project is included in the CIP for this transportation plan, and was prioritized as the highest intersection project due to the already high volumes and topography of this intersection, overall use of the roadway by traffic within the County, current classification (Minor Arterial), and CAC comments.

Projects listed above have been included in the CIP for this transportation plan (as applicable) based on input from the CAC on priority of each project. Figure 57 shows the forecasted level of service for each of the intersections listed in Table 24. LOS shown is based upon the worst movement's LOS for the data listed in the table.

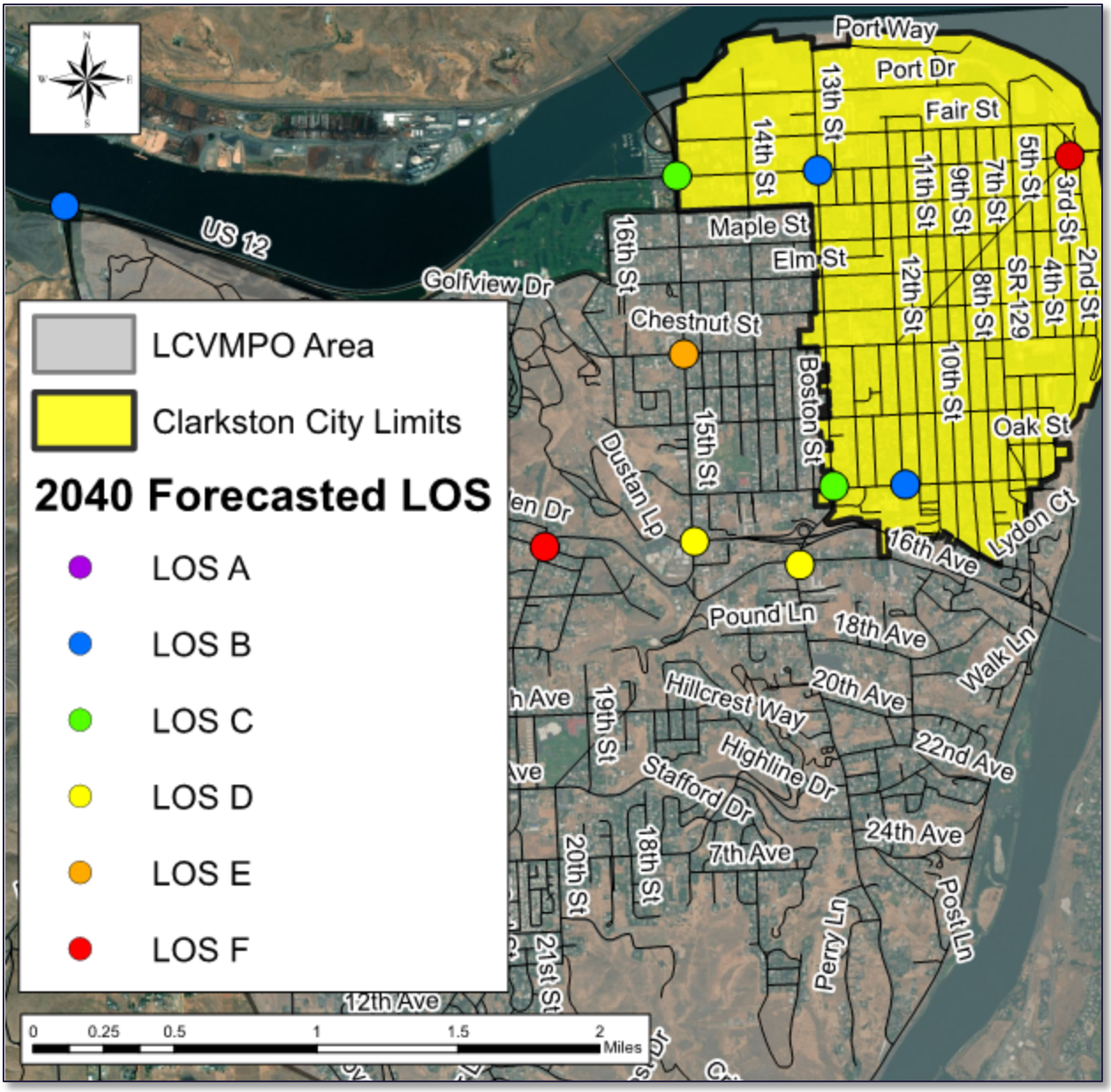


Figure 57 - 2040 Forecasted Intersection LOS

CHAPTER 7 – CAPITAL IMPROVEMENT PLAN

This section of the report identifies and details specific projects identified by the analysis of this plan (existing and future), as well as meetings and discussions with the CAC throughout the life of the plan. During the development of this plan, facts, figures, and data were collected, analyzed, evaluated, and displayed. The existing conditions were presented to the CAC through the scheduled meetings for this project for input to be provided. The CAC proposed, discussed, contemplated, and prioritized a list of projects as Capital Improvements to completed within the next 5 to 10 years, or as long-range goals.

Projects were broken into capital projects (new roadways, extensions, reconstructions, etc.), overlays, chip seals, intersections, sidewalks (pedestrian projects), and studies. Capital projects and reconstructs are identified with a “C”; overlay projects are identified by an “O”; chip seals are identified with a “P” (preservation), intersection projects are identified with an “I”; sidewalk and pedestrian projects are identified with a “PED”; and studies are identified with an “S”. The recommended projects are outlined (including costs, location by map, and funding sources) and presented in Appendix A for Asotin County, and Appendix B for the City of Clarkston.

CHAPTER 8 – FUNDING

Many sources of project funding are available to both the City of Clarkston and Asotin County. These funding opportunities vary by type of project, project size, and local match. Research needs to be done by the City and the County about each grant/funding source to make a determination if the current project meets the grant/funding requirements. Project funding sources also could change project requirements, funding levels, and local match amounts depending on current state and federal legislation. The agencies should also be aware that even if they have identified and filled out a funding application, the funding may not be awarded.

It is recommended both the City and the County actively maintain contact with representatives of the possible funding sources and also network and participate in regional organizations such as the Lewis Clark Valley MPO and the Palouse RTPO. These groups can be a resource in researching viable funding opportunities and provide technical expertise for the funding application process. Available funding sources are detailed below and in the following hyperlink.
http://www.wsdot.wa.gov/sites/default/files/2017/01/19/TransportationFundingSourcesinWashingtonState.pdf

Local Funding:

- Local Fuel Tax Distribution
- County Fuel Tax
- Impact Fees
- Property Taxes
- Local Improvement District (LID)
- Transportation Benefit District (TBD)

MPO Funding:

- Unified Planning Work Program (UPWP)

WSDOT and Federal Funding:

- Federal Lands Access Program (FLAP)
- Pedestrian and Bicycle Safety (PBS)
- Safe Routes to Schools (SRS)
- Local Bridge Program
- Highway Safety Improvement Program (HSIP) Funding
- Transportation Alternatives Program (TAP)
- Surface Transportation Program (STP)

Washington State Recreation and Conservation Office Funding:

- Land and Water Conservation Fund (LWCF)

Washington State Department of Commerce:

- Public Works Board, Construction Loan Program
- Community Economic Revitalization Board (CERB)

Transportation Improvement Board (TIB):

- Small City Sidewalk Program (SCSP)
- Small City Arterial Program (SCAP)
- Small City Preservation Program (SCPP)
- Relight Washington Program
- Complete Streets Program

Washington State County Road Administration Board (CRAB):

- Rural Arterial Program (RAP)
- County Arterial Preservation Program (CAPP)

8.1 LOCAL FUNDING

The current forms of funding sources available for local city roadway and bicycle/pedestrian facilities needs are listed below. Each funding source has a discussion on what facilities are eligible and the authorizing agency or legislation.

8.1.1 Local Fuel Tax Distribution

RCW 82.36.025, .030 provides for State shared revenue between city, county, and state. It is based on user fees and not sensitive to changing growth patterns. Funds are limited to highway purposes.

8.1.2 County Fuel Tax

RCW 82.080.010 provides revenue collection for "highway purposes" as defined by the 18th Amendment, including the construction, maintenance, and operation of city streets, county roads, and state highways; operation of ferries; and related activities. Funds can be used County wide (including incorporated areas).

8.1.3 Impact Fees – Local Transportation Act

Local Transportation Act Impact (LTA) Fee RCW 39.92.030 allows governments singly or jointly to impose impact fees to fund a portion of the off-site transportation improvements needed to solve the cumulative impacts of planned growth and development. All cities, counties, and towns are eligible. Asotin County and the City of Clarkston may wish to research the possibility of using impact fees if development within the city increases.

8.1.4 Property Taxes

Property taxes are the primary means by which local governments raise money to provide services. They are also perhaps the most politically unpopular method. It is increasingly clear that all forms of funding (state and local) will need to be increased as roadway needs continue to grow.

8.1.5 Local Improvement District (LID)

RCW 35.51, 36.94, and 52.20 provides the process and authority to the city to establish a LID. LID's are restricted to a specific project; the bonds have to be paid within 20 years and the LID's are approved by voting on a specific LID ballot initiative by people living within the proposed LID boundaries.

8.1.6 Transportation Benefit District (TBD)

RCW 36.73 allows governments singly or jointly to impose taxes and fees to fund off-site transportation infrastructure improvements. All cities, counties, and towns are eligible. These funds could be used for maintenance and reconstruction of roads and pedestrian facilities. It is understood that the City of Clarkston currently has an active TBD, but Asotin County does not.

8.2 MPO FUNDING

The following are a listing and description of funding sources available to cities through the LCVMPO. It is recommended that potential projects should be coordinated with the MPO director to determine the best fit for the project funding.

8.2.1 Unified Planning Work Program (UPWP)

The UPWP is also generally known as the MPO's budget. This document outlines revenues and expenses for the MPO and is used to allocate funds to key projects that will improve the MPO's ability to address and plan for transportation within the MPO boundary. This document is produced by the MPO and reviewed and recommended by the MPO Technical Advisory Committee (TAC) and approved by the MPO Policy Board. Approval is usually made

in September of each year. Agencies should work with the MPO to determine what funds are available for projects within the MPO boundary for consideration of the UPWP.

8.3 WSDOT AND FEDERAL FUNDING

The following are a listing and description of funding sources available to cities through WSDOT and Federal funding/grant sources. Most if not all of the following grant funding sources require a local match amount. It is recommended once a grant funding source is identified that additional research is done to determine the current requirements for project eligibility and local match requirements.

8.3.1 Federal Lands Access Program (FLAP)

The Federal Lands Access Program helps improve access to federal lands. The program focuses on public highways, roads, bridges, trails, and transit systems. State, county, town, township, tribal, municipal, or local governments are eligible to apply. This source of funding may possibly be used for connection from city owned roads and pedestrian facilities to adjacent property and recreational facilities owned by the US Army Corp of Engineers (USACE), United States Forest Service (USFS), or the Bureau of Land Management (BLM). Potential projects may have to be developed in partnership depending on the facility. Additional information regarding the FLAP program can be accessed at the following link:
https://flh.fhwa.dot.gov/programs/flap/

8.3.2 Pedestrian and Bicycle Safety (PBS)

The purpose of the Pedestrian and Bicycle Safety Program is to improve the transportation system to enhance safety and mobility for people who choose to walk or bike. All public agencies in Washington are eligible to apply. Additional information and call for potential PBS projects can be found at the following link:
http://www.wsdot.wa.gov/LocalPrograms/ATP/funding.htm

8.3.3 Safe Routes to Schools (SRS)

The purpose of the Safe Routes to Schools Program is to improve safety and mobility for children by enabling and encouraging them to walk and bicycle to school. Funding from this program is for projects within two-miles of primary, middle and high schools (K-12). All public agencies in Washington are eligible to apply. Additional information and call for potential SRS projects can be found at the following link:
http://www.wsdot.wa.gov/LocalPrograms/SafeRoutes/funding.htm

8.3.4 Local Bridge Program (LBP)

The purpose of the Local Bridge Program is to preserve and improve the condition of bridges that are physically deteriorated or structurally deficient. All cities and counties that own bridges (structure must be over 20' to be eligible) are eligible to apply. Additional information and call for potential LBP projects can be found at the following link:
http://www.wsdot.wa.gov/LocalPrograms/Bridge/Funding.htm

8.3.5 Highway Safety Improvement Program (HSIP) Funding

The Federal Highway Safety Improvement Program provides funding to implement engineering countermeasures to reduce fatal and serious injury collisions. Programs include the County Safety Program and the City Safety Program. All cities and counties with fatal or serious injury collisions are eligible to apply. Additional information and call for potential HSIP projects can be found at the following link:
http://www.wsdot.wa.gov/LocalPrograms/Traffic/FedSafety.htm

8.3.6 Transportation Alternatives Program (TAP)

The Federal Transportation Alternatives Program provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for

improving non-driver access to public transportation and improved mobility, community improvement activities and environmental remediation; recreational trail program projects; and safe routes to school projects. These funds are currently programmed and awarded by the Palouse RTPO. Additional information on the TAP program for local agencies can be found at the following link:
http://www.wsdot.wa.gov/LocalPrograms/ProgramMgmt/TAP.htm

8.3.7 Surface Transportation Program (STP)

The Federal Surface Transportation Program is the most flexible of all the highway programs, and it provides the most financial support to local agencies. Projects eligible for STP funding include highway and bridge construction and repair; transit capital projects; bicycle, pedestrian, and recreational trails; and construction of ferryboats and terminals. Each agency can request STP funding from the Lewis Clark Valley MPO, who is responsible for programming the funds. STP funds can only be used on functionally classified roads. Additional information on the STP program can be accessed at the following link:
http://www.wsdot.wa.gov/localprograms/ProgramMgmt/STP.htm

8.4 WASHINGTON STATE RECREATION AND CONSERVATION OFFICE

8.4.1 Land and Water Conservation Fund (LWCF)

The Land and Water Conservation Fund provides grants to buy or develop public recreation trails. Trails funded in LWCF should provide adequate separation from roadways. Local agencies; special purpose districts such as port, park and recreation, conservation, and school districts; state agencies; tribal governments are eligible to apply. This source of funding could possibly be used by each agency to purchase land for a park and/or trail and its development. There currently is a 50% local match requirement for eligible projects. Each agency has to use the land and facilities, purchased and constructed with these funds, in perpetuity for the purposes it was originally purchased and developed. Additional information regarding the LWCF grant program can be accessed at the following link: http://www.rco.wa.gov/grants/lwcf.shtml

8.5 WASHINGTON STATE DEPARTMENT OF COMMERCE

8.5.1 Public Works Board, Construction Loan Program (CLP)

Provides low-interest loans for local governments to finance public infrastructure construction and rehabilitation. Eligible projects must improve public health and safety, respond to environmental issues, promote economic development, or upgrade system performance. Counties, cities, special purpose districts, and quasi-municipal organizations that meet certain requirements can be eligible to participate in this loan program. Eligible infrastructure projects include domestic water, roads/streets, bridges, sanitary sewer, solid waste/recycling, and storm water. Tribes, schools and port districts are ineligible for this program. Additional information regarding the Public Works Board CLP program and be accessed at the following link:
http://www.pwb.wa.gov/financial-assistance/Construction/Pages/default.aspx

8.5.2 Community Economic Revitalization Board (CERB)

Community Economic Revitalization Board is a state board focused on economic development through job creation in partnership with local governments. The Board has the authority to finance public infrastructure improvements that encourage new private business development and expansion. In addition to funding construction projects, CERB provides limited funding for studies that evaluate high-priority economic development projects. CERB provides low interest loans to local governments and federally recognized tribes for public infrastructure that support private business growth and expansion. Eligible projects are domestic and industrial water, storm water, wastewater, public buildings, telecommunications, and port facilities. No projects have been identified at this time that are eligible for this grant funding. Additional information regarding CERB can be accessed at the following link:
http://www.commerce.wa.gov/building-infrastructure/community-economic-revitalization-board/

8.6 TRANSPORTATION IMPROVEMENT BOARD (TIB)

8.6.1 Small City Sidewalk Program (SCSP)

RCW 47.26.345 is the authorizing legislation. The Small City Sidewalk Program establishes highly connected pedestrian networks in central business districts. The program constructs and replaces sidewalks to improve pedestrian safety, create system continuity, link pedestrian generators, extend the system and complete gaps. The intent of each project must be transportation-related, not recreational. The project must be related to a TIB Small City Arterial. The Small City Sidewalk Program is for incorporated cities with a population of under 5,000. No local match is required for cities under 1,000 population. There is a 5% local match requirement for cities over 1,000 population. There is a Sidewalk Program Criteria Rating Guideline that can be used to evaluate the feasibility of a potential project. This rating sheet is located at the following link.
http://www.tib.wa.gov/grants/smallcity/SCSP.cfm

8.6.2 Small City Arterial Program (SCAP)

RCW 47.26.115 is the authorizing legislation. The Small City Arterial Program establishes the integrity of small city street system while minimizing costs. The program rehabilitates TIB classified arterial streets, enhances street physical condition, corrects geometric deficiencies and improves safety. The program also supports the construction of multimodal features consistent with local needs. The Small City Arterial Program is for incorporated cities with a population of under 5,000. Additional information for the SCAP can be found at the following link:
http://www.tib.wa.gov/grants/smallcity/SCAP.cfm

8.6.3 Small City Preservation Program (SCPP)

RCW 47.26.340 – 345 is the authorizing legislation. The Small City Preservation Program provides funding for chip seal, overlay of existing pavement, and sidewalk maintenance, with the goal of bringing small city pavement rating average above 70 Pavement Condition Rating (PCR). Funding is for road maintenance opportunities across the state; pavement condition ratings and economies of scale leveraged and are considered as part of the criteria. The Small City Sidewalk Program is for incorporated cities with a population of under 5,000. Additional information for the SCPP can be found at the following link:
http://www.tib.wa.gov/grants/smallcity/SCPP.cfm

8.6.4 Relight Washington Program

The main goal of the Relight Washington Program is to lower city street light costs by helping cities convert to more energy efficient LED streetlights. TIB is currently working with utility providers who maintain city lights on behalf of many cities through the state. In future years TIB will work directly with cities who own their own lights. Eligible cities include all small towns (population less than 5,000) and urban cities with a total assessed value of less than $2 billion. Additional information regarding the Relight Washington Program can be accessed at the following Link:
http://www.tib.wa.gov/grants/smallcity/LEDSmallcity.cfm

8.6.5 Complete Streets Program

RCW 47.04.320 is the authorizing legislation. This TIB program funds local government arterial retrofits to improve safe access for all users: pedestrians, bicyclists, motorists, public transportation users, and motorists. All cities and counties with an adopted complete streets ordinance are eligible. Awards will typically range from $250,000 to $500,000. Further information regarding the Complete Streets Program and ordinance information can be found at the following link:
http://www.tib.wa.gov/grants/completestreets/completestreets.cfm

8.6.6 Urban Arterial Program (UAP)

The Urban Arterial program funds projects in the areas of safety, growth and development, mobility, and physical condition. Eligible agencies are counties with urban unincorporated areas and cities with a population of 5,000 or greater. Projects must be on a federally classified route (principal, minor, collector). The project must also be consistent with state, regional, and local transportation plans. Local match requirements are determined by city valuation, or by county road levy valuation (minimum local match ranges from 10 to 20%). These funds are distributed across five regions based on arterial lane miles and population.
http://www.tib.wa.gov/grants/grants.cfm

8.6.7 Arterial Preservation Program (APP)

The APP provides funding for overlay of federally classified arterial streets in cities with a population greater than 5,000 and assessed valuation less than $2 billion. Although the program offers critical preservation assistance, it is not enough to substitute for a city's street maintenance program. Therefore, the program is limited to overlay in an effort to defray high cost preservation projects, allowing cities to concentrate limited resources on lower cost preventative maintenance. Continuation of this program is contingent upon future funding from the Legislature. Local match for TIB funding is based upon a city's assessed valuation (AV). Cities with AV of less than $1 billion are required to match 10%; cities with AV between $1 billion and $2 billion are required to match 15%.
http://www.tib.wa.gov/grants/grants.cfm

8.6.7 Urban Sidewalk Program (USP)

The Sidewalk Program was established by the Legislature in 1995 to provide funding for pedestrian projects. The program is available to both small city and urban agencies. Urban and small city projects compete separately. To be eligible, the intent of the project must be transportation and not recreation and the project must be on a federally classified route (principal, minor, or collector). Projects improve pedestrian safety, access, connectivity, and address system continuity. A minimum 20 percent match is required on all urban sidewalk program projects.
http://www.tib.wa.gov/grants/grants.cfm

8.7 WASHINGTON STATE COUNTY ROAD ADMINISTRATION BOARD (CRAB)

8.7.1 Rural Arterial Program (RAP)

RAP is a biennial road and bridge reconstruction funding program in which counties compete for Rural Arterial Trust Account (RATA) funds in their respective region. The program requires that projects have consideration for the following points:

- Structural ability to support loaded trucks
- Ability to move traffic at reasonable speeds
- Adequacy of alignment and related geometry
- Accident and fatal accident experience
- Local significance

Further information regarding the RAP can be found at the following link: http://www.crab.wa.gov/programs/rap.cfm

8.7.2 Capital Arterial Preservation Program (CAPP)

CAPP is a preservation program that targets the preservation of a county's existing paved arterial roadways to avoid costly repair if normal maintenance is delayed. In order to retain eligibility for CAPP funding, counties are required to use a pavement management system to assist in project selection and decision process. Further information regarding CAPP can be found at the following link: http://www.crab.wa.gov/programs/capp.cfm

CHAPTER 9 – RECOMMENDATION FOR TRANSPORTATION PLAN UPDATE

This transportation plan is intended to be a living document the City of Clarkston and Asotin County can use to make decisions regarding transportation related concerns. In order for it to be most effective, it is recommended that it be revisited on a regular basis by County and City personnel. As Capital Improvement Projects are carried out, the CIP should be updated. The pavement and sign management plans should be updated on a regular basis.

9.1 CAPITAL IMPROVEMENT PLAN UPDATES

The CIP should be revisited on a yearly basis. At the very least, the plan should be updated every 3 years as projects are completed or changed.

9.2 PAVEMENT MANAGEMENT PLAN UPDATES

The pavement management plan should be updated on a regular basis. Maintenance activities should be recorded as they are performed, with cost information recorded as well. Such information will allow for more accurate budgeting estimates and deterioration predictions into the future. Such information can be tracked using the CRAB pavement management software (County) and iWorQ (City).

The pavement condition survey should be updated at minimum every 3 years. City personnel should be trained to conduct the pavement condition. This training can be done through Asotin County, who already perform their own pavement conditions surveys, or by WSDOT and its educational programs available to local agencies. It is recommended that each year approximately one third of the City of Clarkston and Asotin County street network be inspected. That way the entire network is inspected in 3 years. Such a system enables accurate and up to date records for grant and funding applications. Asotin County currently has a plan in place that is followed, with regular inspections and budgeted maintenance for its roadways.

9.3 SIGN MANAGEMENT PLAN UPDATES

It is important that records in the sign inventory be updated as signs and supports are upgraded, replaced, or removed. As discussed in Section 5.2.2, agencies are required by FHWA to implement and continue to use a sign management plan. Management of the sign network is facilitated through the sign inventory/condition records, and should be updated regularly.

City and County personnel should conduct visual inspections of signs on an annual basis for maintaining compliance with FHWA and MUTCD mandated retroreflectivity requirements. The sign management plan should be updated yearly during the spring sign inspection and revisited after no more than 3 years.

CHAPTER 10 – PLAN REFERENCE LINKS

- Asotin County Land Use and Zoning: http://www.co.asotin.wa.us/public-works-gis/county-road-maps/
- City of Clarkston Land Use and Zoning: https://www.clarkston-wa.com/index.asp?SEC=174B5F94-E7CA-4A20-8E81-A5EDA7EBBF69&DE=EF04278F-AE2E-457D-A651-145EED02BCE9
- LCVMPO Bicycle Master Plan: https://lewisclarkmpo.org/2189/Bicycle-Master-Plan
- LCVMPO Long Range Valley Destination Plan: https://lewisclarkmpo.org/31/Long-Range-Plan
- PRTPO Transit Regionalization Study: https://lewisclarkmpo.org/2205/Transit-Regionalization
- City of Asotin Transportation Master Plan: https://lewisclarkmpo.org/2208/City-of-Asotin-Transportation-Plan
- North Clarkston Circulation Study: https://lewisclarkmpo.org/2193/North-Clarkston-Circulation-Study
- WSDOT Corridor Sketch Summary – SR-129: https://www.wsdot.wa.gov/sites/default/files/2018/04/23/CSS419-SR129-1stStWashingtonStIntAsotin-US12JctClarkston.pdf
- PRTPO – Southeast Washington School Walk Study: http://www.palousertpo.org/index_htm_files/Palouse_Final_DRAFT.pdf
- PRTPO – Palouse Regional Freight Study: http://www.palousertpo.org/index_htm_files/PRTPO%20FINAL_3_8_16.pdf
- LCVMPO – Coordinated Public Transportation – Human Services Transportation Plan: https://lewisclarkmpo.org/2212/Human-Services-Transportation-Plan
- Critchfield Intersection Safety Study: https://lewisclarkmpo.org/2196/Critchfield-SR-129-Intersection-Safety-S
- Asotin County PUD Standard Specifications and Details: https://asotinpud.org/wp-content/uploads/pdf/Asotin-County-PUD-Standard-Specifications-Detail-2016.pdf
- City of Clarkston Municipal Code: https://www.codepublishing.com/WA/Clarkston/
- Asotin County PTBA: http://ridethevalley.org/about/asotin-co-ptba/
- WSDOT Traffic Count Map: https://www.wsdot.wa.gov/mapsdata/tools/trafficplanningtrends.htm
- City of Clarkston Speed Limits: https://www.codepublishing.com/WA/Clarkston/html/Clarkston11/Clarkston1136.html
- WSDOT Funding Sources: http://www.wsdot.wa.gov/sites/default/files/2017/01/19/TransportationFundingSourcesinWashingtonState.pdf
- FLAP Funding: https://flh.fhwa.dot.gov/programs/flap/
- PBS Funding: http://www.wsdot.wa.gov/LocalPrograms/ATP/funding.htm

- SRS Funding: http://www.wsdot.wa.gov/LocalPrograms/SafeRoutes/funding.htm
- LBP Funding: http://www.wsdot.wa.gov/LocalPrograms/Bridge/Funding.htm
- HSIP Funding: http://www.wsdot.wa.gov/LocalPrograms/Traffic/FedSafety.htm
- TAP Funding: http://www.wsdot.wa.gov/LocalPrograms/ProgramMgmt/TAP.htm
- STP Funding: http://www.wsdot.wa.gov/localprograms/ProgramMgmt/STP.htm
- Public Works Board CLP Funding: http://www.pwb.wa.gov/financial-assistance/Construction/Pages/default.aspx
- CERB Funding: http://www.commerce.wa.gov/building-infrastructure/community-economic-revitalization-board/
- SCSP Funding: http://www.tib.wa.gov/grants/smallcity/SCSP.cfm
- SCAP Funding: http://www.tib.wa.gov/grants/smallcity/SCAP.cfm
- SCPP Funding: http://www.tib.wa.gov/grants/smallcity/SCPP.cfm
- Relight Washington Funding: http://www.tib.wa.gov/grants/smallcity/LEDSmallcity.cfm
- Complete Streets Funding: http://www.tib.wa.gov/grants/completestreets/completestreets.cfm
- RAP Funding: http://www.crab.wa.gov/programs/rap.cfm
- CAPP Funding: http://www.crab.wa.gov/programs/capp.cfm