Transportation Planning Study 2025

Prepared For:
Camas County Road & Bridge

Prepared By: FORSGREN Associates Inc.
engineering stronger communities™

LHTAC Local Highway Technical Assistance Council

CAMAS COUNTY ROAD & BRIDGE

TRANSPORTATION PLANNING STUDY
2025

THIS PLAN IS STAMPED AND SIGNED BY
STEVEN R. YEARSLEY, P.E.

CAMAS COUNTY ROAD & BRIDGE

TRANSPORTATION PLANNING STUDY 2025

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COMMISSIONER TRAVIS KRAMER: _____

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Acknowledgements

This Study is the product of a concerted effort by a team of committed individuals to work in the best interests of Camas County. It has truly been a collaborative process that has reached beyond the consultant's team of experts to include County Administration, community members, and public input. This broad-based approach has used public input to prioritize technical expertise and build on local knowledge. The result is a document that explores unique and practical solutions to satisfy the specific needs of Camas County.

Forsgren has drawn from the insight and experience of many sources and wants to acknowledge that the success of this Study is a direct result of that broad base of contribution. The commitment and input of the entire list of participants have molded this Study into a useful document that will be useful for many years.

Forsgren Associates expresses sincere appreciation to the following organizations and individuals for their valuable assistance in the completion of this Study.

STUDY PARTICIPANTS

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- Jerry Scovill, City of Fairfield Public Works Director
- John Pine, City of Fairfield City Council President
- Josh Bovey, City of Fairfield City Council Member
- Ted Miller, City of Fairfield City Council Member
- Terry Lee, City of Fairfield Mayor

Consulting Team

- Steven Yearsley, Project Manager
- Mariah Fowler, Field Engineer

Executive Summary

This document identifies the processes, alternatives, and conclusions of the Camas County Road & Bridge's Transportation Planning Study. The executive summary provides decision makers with a concise way to learn the results of this study.

For this study to be a success, it needs to be a living document. The information and recommendations presented in this study should be analyzed and implemented. Statistically, the majority of Transportation Planning Studies are not implemented and fail in the third or fourth year. We do not want the Camas County to fall into this statistic and hope the guidance provided in this study will launch transportation improvements for the County. This Study is the foundation and a huge investment for the County. Forsgren recommends that long-term support be given to this investment. With this study, and Forsgren's continuing support, Camas County will be able to use the provided information to meet this challenge.

To develop this study, significant efforts have been made to inventory and analyze the current roadway network. Four (4) items were inspected and analyzed in the data collection process: roadways, posts, signs, and pathways. The following is a brief overview of the condition of Camas County's current transportation infrastructure. For more in-depth explanation and analysis, reference the individual sections throughout the study.

Roadways: The County maintains 444.16 miles of roads with 33.03 miles being paved and 411.13 miles are unpaved roads. Throughout the data collection process, it was evident that each roadway demonstrated different characteristics and distresses. The data was collected for the roadway surface (paved or unpaved), and roadway distresses (fatigue cracking, transverse/longitudinal cracking, edge cracking, patching, and potholes). The purpose of data collection is to obtain enough data to calculate a numerical value known as the Remaining Service Life (RSL) number for each paved roadway segment. In short, the RSL value is the number of years before a road reaches unacceptable condition. The RSL for paved roads is based off a 20-year road design life while the RSL for an unpaved road is based off a 10-year road design life. Analyzing the current roadway remaining service life (RSL) can provide direction on which roads require attention first and allows to budget for maintenance or rebuild costs. A majority of the County's roads have 10-12 years left. Figure 17 visually shows the locations of the remaining service life of each roadway segment.

Posts: There are 729 posts maintained by the County. 150 posts are in excellent condition, 526 in acceptable condition, 37 in poor condition, and 16 posts that have failed.

Signs: The County currently maintains 810 signs. Analysis shows at the time of data collection 266 were listed in excellent condition, 310 in acceptable condition, 160 in poor condition, and 74 in failed condition. These conditions were evaluated by analyzing the reflectivity (the ability of the material to reflect light back towards its source) and major distress (vandalism, bullet holes, peeling, rusting, and aged) of each sign.

Bridges: Camas County has 53 bridges with the county. Four bridges were replaced in the last 10-20 years, ten bridges were replaced in the last 1-10 years, three bridges are in the process of

being replaced by the county, and three bridges are in the process of being replaced by the LHTAC LILB program.

This study was structured around cultivating public involvement. A Technical Advisory Committee (TAC) was created and utilized for local ideas and insight for this transportation plan. One public meeting was held gaining feedback from the county residents. Utilizing all of these involvement groups, a list of known problems and list of desired improvements were identified.

Creating a maintenance program is one of the most important services that can come out of this transportation planning study. It is also recommended that the County evaluate intersection sight triangles (see Chapter 3) within its jurisdiction for safety hazards. A full list of recommended roadway treatments is included in Chapter 4. It is recommended to straighten posts and repair/replace traffic posts and signs as identified in Chapter 4.

The Capital Improvement Plan lists prioritized improvement projects that area above general maintenance projects. This CIP list is designed to be a living list in that every 3-5 years it should be reevaluated and updated as projects are completed from this list. To complete all 5 listed projects has a total estimated cost of $13,000,000 and an additional $500,000 every year for one bridge replacement.

The Multimodal Plan lists three new paths to be constructed as well as encourages paths to be incorporated as part of all new development. A current estimate of probable cost is approximately $2,600,000 to complete the three listed multimodal paths.

It is safe to say that as time progresses so does an increase in expectations about the level of services that the County should provide. This pressure originates from requests by residents and requirements by distant government agencies. The result is that the revenue for the street department barely covers current operational and maintenance costs. There are no funds available for the expansion of services by using the existing revenue structure. To improve the infrastructure beyond regular maintenance the County administration needs to actively compete for sources of funding from a variety of State and Federal governmental agencies. This study will serve as a tool to prepare for those funding applications.

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Chapter 1: Introduction

Camas County is located in south-central Idaho. Camas County is bordered by Blaine County to the north and east, Gooding and Lincoln Counties to the south, and Elmore County to the west. State Highway 20 provides east/west connections with Elmore and Blaine Counties. Camas County was established as a county in 1917 and has over 1,079 square miles with a large portion located in the Sawtooth National Forest. Many recreationalists come to Camas County to camp in the mountains, visit Soldier Mountain to ski in the winter and enjoy bike trials in the summer, and hunting groups are regulars in the fall. Camas County has 444.16 miles of roads, 33.03 miles paved and 411.13 miles gravel. The county seat and largest city is Fairfield. It is critical to preserve the small-town country feel while also developing a plan for the County's future transportation needs.

Each transportation system is unique in its own way. Therefore, the planning process is not a simple matter of following a series of sequential steps. To be successful in the planning process, the citizen's input should be obtained and analyzed alongside that of the engineers. The interplay between the development of ideas and concerns needs to be managed into clear strategies and realistic projects. Flexibility was maintained to respond to community concerns throughout the entire process.

The purpose of this study is to determine the needed maintenance projects, improvement projects, management strategies, and policy recommendations to meet the County's transportation facility needs for the future. In the process of conducting this Study, several tools were developed to aid County management in making informed decisions. These tools include:

- A detailed database of the County's transportation network
- A series of GIS maps to communicate conditions and proposed projects
- A Pavement Management Plan
- A Sign Management Plan
- A Multimodal Plan
- A Capital Improvement Plan

These tools will enable County management to prioritize and optimize the costs of projects, better understand the impact of timing for funding decisions, and quantify the benefit of various maintenance strategies. This clarity of cost/impact/benefit will aid greatly in supporting the County's future funding requests by ensuring the wisest use of transportation-related funds. The quality of community life can be connected to the condition and management of their transportation systems. Well-maintained facilities are needed to support personal business and commercial activities. Inadequately funded maintenance operations would have a negative impact on the community. Limiting maintenance funds would hinder the ability of the County to support local and existing businesses and may delay the development of new business opportunities. Successful management is reliant on effective planning and the ability to control costs. Proper planning can assure the integration of maintenance and future growth with limited funds. The need to coordinate goals and objectives goes beyond internal planning and reaches out to neighboring entities. The process of establishing a Transportation Planning Study sets the foundation that benefits many facets of County management and improves citizen satisfaction.

This study also reflects the ideas and priorities from a Public Involvement Program (PIP). Through the collaboration of the Study Participants, everybody "started on the same page". Citizens and vested parties were involved in each phase of the process. Clear goals were set at the beginning, specific community concerns were identified, and several options and potential projects were reviewed. Ultimately, priorities were distilled from a list of possibilities and a proposed course of action was outlined for the future. Analyzing the resulting budget needs has made it clear that some of the proposed projects are not possible without substantial cash contributions from outside the County or a citizen initiative to fund roads through a general obligation bond. This study will arm the County with the information and data needed to seek and apply for outside funding dollars.

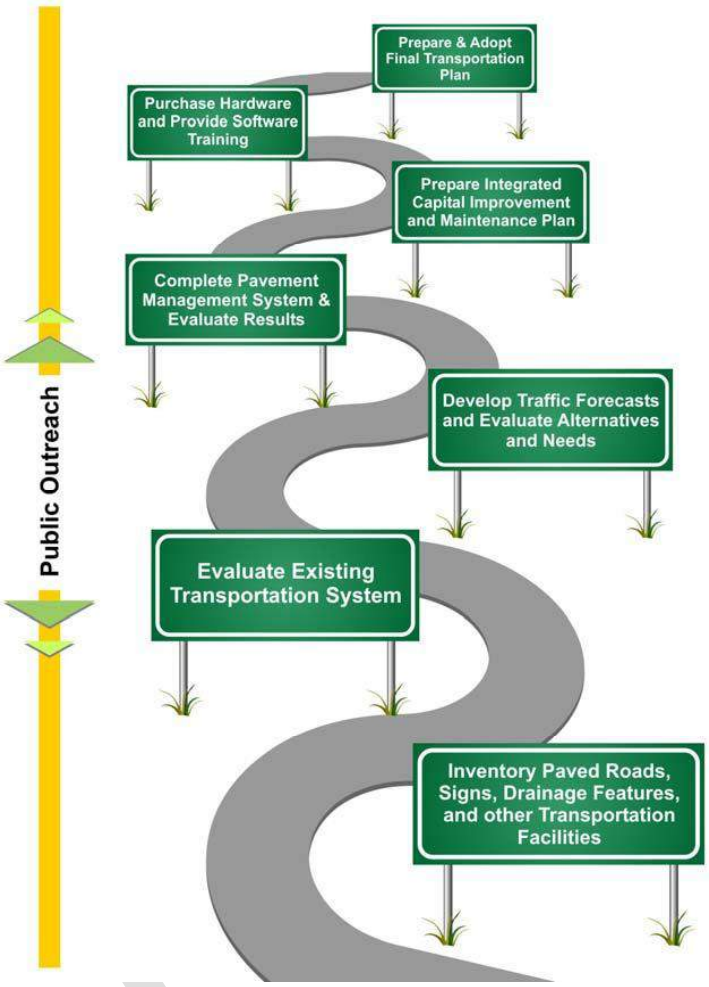

Figure 1: Transportation Planning Study Steps

For this study to be considered a success, it needs to become a living document. The information and recommendations presented should be analyzed and implemented. Sadly, most Transportation Planning Studies are not implemented well and fail in the 3rd or 4th year. We do not want Camas County to fall into this statistic. The leading cause of failure has been identified as management atrophy. After the flurry of activity to set up this system, management assumes all is done and slowly withdraws support. By the fourth-year waning support has all but choked the chance of success from the maintenance crew. We recommend that long-term support be given to this investment. This study, and Forsgren's continuing support, will enable Camas County to meet this challenge.

"Making wise use of limited public funds requires that transportation maintenance improvements be systematically identified and prioritized…"

*"There is no better tool to do this than a comprehensive **Transportation Planning Study"***

This study was funded by a Local Rural Highway Investment Program Transportation Planning Study Grant which was administered by the Local Highway Technical Assistance Council (LHTAC). It was completed by Forsgren Associates under the guidance of the Camas County, the General Public participating in public events, and LHTAC.

Chapter 2 includes the foundation of Camas County's socio-economic information as well as current zoning and land use and roadway classification. Chapter 3 focuses on existing conditions. Chapter 4 discusses Camas County's infrastructure and plans for pavement management and sign management. Chapter 5 includes a summary of the public involvement that was completed during this transportation study. Chapter 6 plans for the future with the roadway capital improvement plan, and a multimodal plan to incorporate multimodal paths within the county. Chapter 7 provides funding options to financially assist with roadway and sidewalk improvements. Chapter 8 completes the plan with final recommendations.

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Chapter 2: Camas County

Camas County was established February 6, 1917, when the growth of the neighboring Lincoln County led to the creation of Camas, Gooding and Minidoka Counties. The city of Fairfield holds the county seat and is the largest city within Camas County. Camas County is named for the camas root, a lily-like plant with an edible bulb found in the region. U.S. Highway 20 runs east-west through the county's center connecting to Mountain Home in Elmore County on the western side and State Highway 75 in Blaine County to the east.

A roadway network runs throughout the County and is maintained by Camas County Road and Bridge. Within the County boundaries, there are 444.16 miles of County maintained roads which can be seen in Figure 4.

Socio-Economic Data and Growth

Roadway conditions and travel within a region are a function of socio-economic data. Population and employment within Camas County directly impact the County's roadways, however the travel through the County by regional users also has a great impact on the roads.

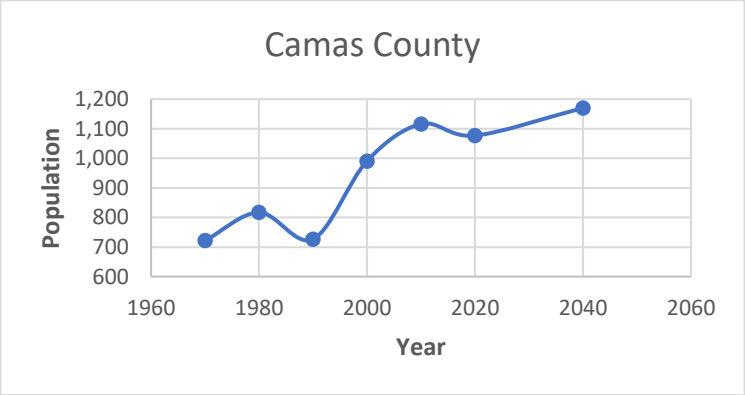

Figure 2: Population

According to the U.S. Census Bureau, the population of Camas County has fluctuated from 1970 to 2020, though, with an overall increase. This increase is projected to continue. The current increase in housing development and commercial/industrial development in and around Camas County also supports the projected population growth. Table 1 provides the historical view of the population changes in Fairfield, Camas County's largest city, and Camas County from 1970 to 2040 and the projected 2040 population.

The 2020 census shows that the estimated median household income of Camas County is below both the Idaho and United States median incomes; the estimated median household income in the Camas County is $36,908. The median household incomes in Idaho and the United States are $58,915 and $64,994 respectively.

Table 1: Historical and Projected Population

Area	1970	1980	1990	2000	2010	2020	2040
City of Fairfield	336	404	371	395	416	441	492
Camas County	722	817	727	991	1,116	1,077	1,170

Source: https://lmi.idaho.gov/census

Zoning and Land Use

Growth is always considered in the planning of communities. Planned growth in a community can be demonstrated through land use zones. Zoning is defined by the Oxford dictionary as, "the process by which a local government regulates the use of privately-owned land within its jurisdiction". Zoning helps City and County planners bring about orderly growth and change. It controls population density and helps assure property owners and residents that the characteristics of nearby areas will remain the same. Figure 3 shows the Camas County Zoning Map listing commercial, industrial, residential and agriculture. As the population grows, these zones or land uses can be used to perform detailed traffic attraction and destination analysis for the City of Fairfield and Camas County.

Any zoning changes and/or growth within Camas County can impact the established transportation network. As this happens it is suggested to complete a traffic impact study.

Roadway Geometry

The main objective of designing a proper roadway and intersection is to produce roads that are both operationally efficient and safe. Several factors and variables are considered in the design and improvements of both roadways and intersections. Some of these factors are functional classification, right-of-way, traffic volumes, level of service, and sight distances.

Functional Classifications

Functional classification is the grouping of roads, streets, and highways in a hierarchy based on the type of highway service they provide. Streets and highways are part of an interconnected network, and each one performs a service in moving traffic throughout the system. Streets serve different functions and should be designed in anticipation of accommodating different traffic conditions. The classifications are based on guidelines prepared by the Federal Highway Administration (FHWA).

The functional classification is divided into the following rural classification groups: Principal Arterial, Minor Arterial, Collector (Major or Minor), and Local. Arterial roads carry traffic between two major population bases, Collector roads link the local streets with the arterial streets, and Local streets provide access to residential and business land uses. The functional class designation of a road has long-term ramifications on commercial development and residential traffic flow. ITD has identified US 20 as a Principal Arterial and SH 46 as a Major Collector. Withing the Camas County area there are Minor Collectors, Major Collectors, and many classified Local roads. These roads are owned and maintained by the County with the classifications shown in Figure 4: Ownership and Functional Classification.

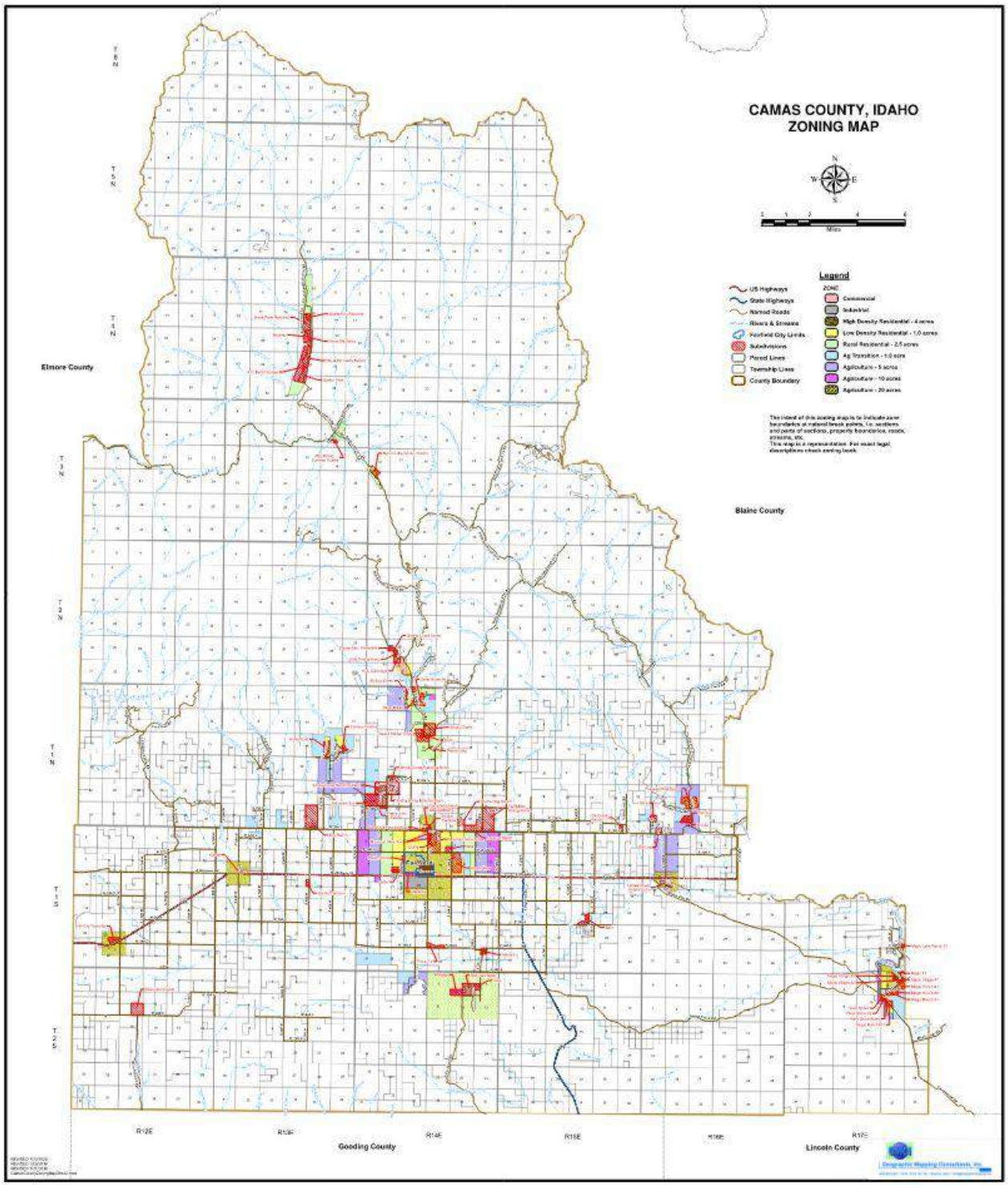

Figure 3: Camas County Zoning Map

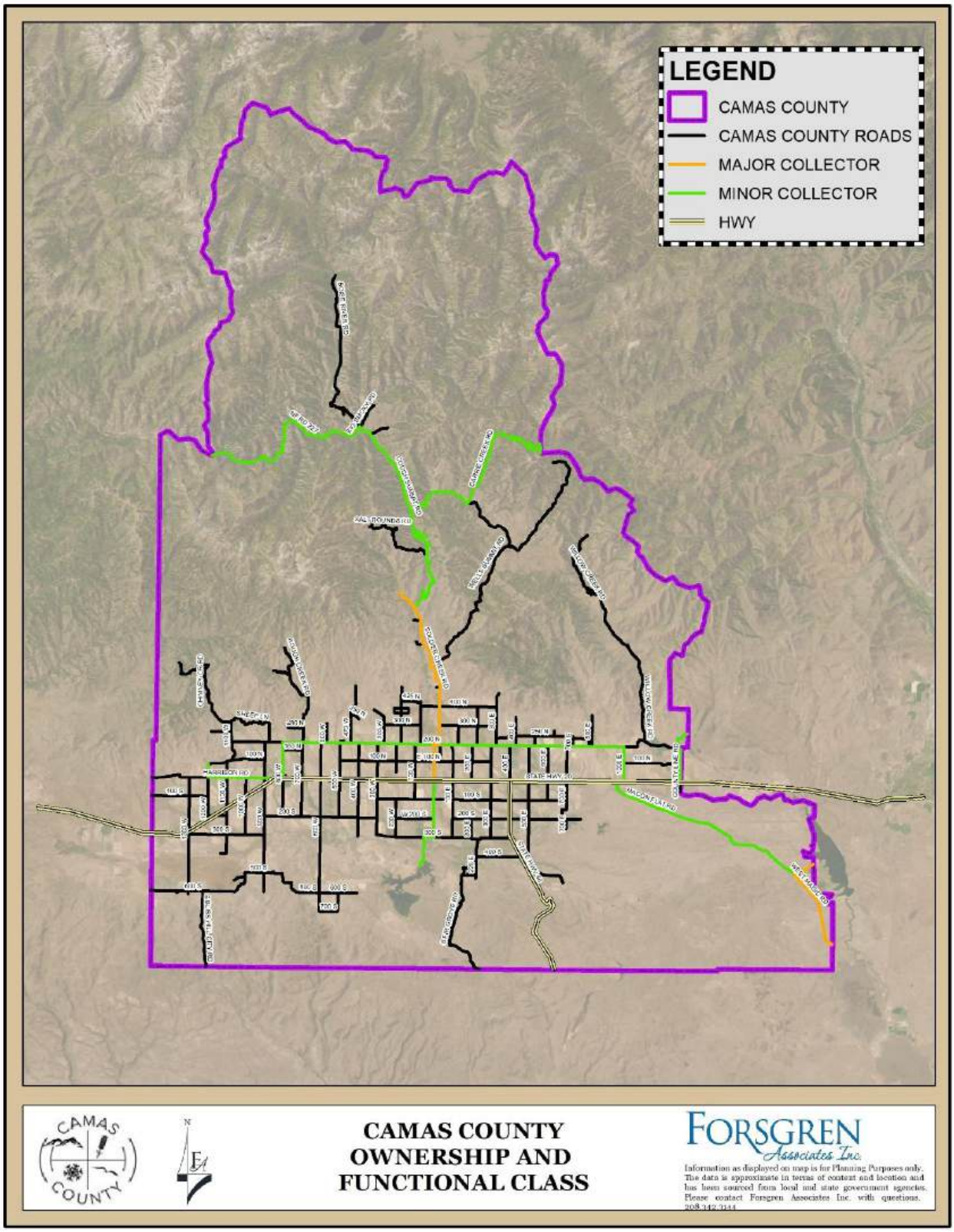

Figure 4: Ownership and Functional Classification / Roadway Type

Right-of-Way (ROW) Designations

A public right-of-way (ROW) is an area of land where permission is given to the public to travel over such as streets, roads, etc. Currently, the County has a 60’ ROW width for local roadways, collectors, minor arterials, and major arterials. These standards are to aid roadway improvement projects and/or new developments. Figure 5 and Figure 6 below shows the roadway cross sections for gravel and asphalt roadways.

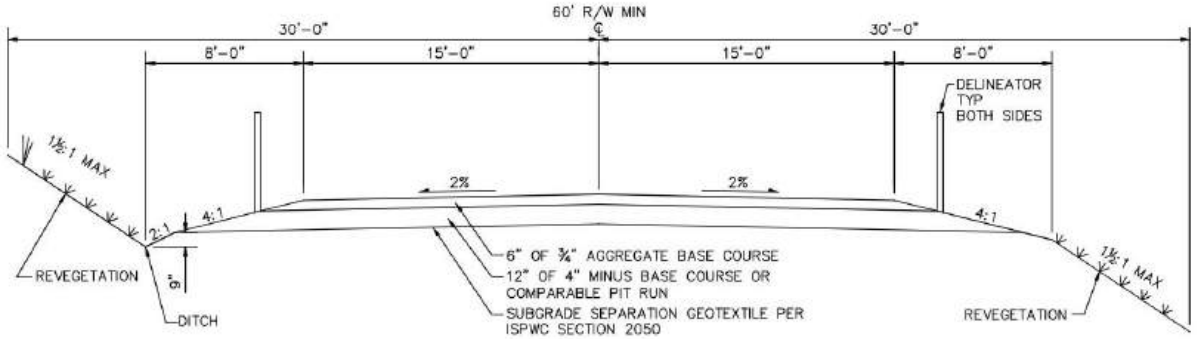

Figure 5: 60' Right-of-Way Gravel Roadway Standard

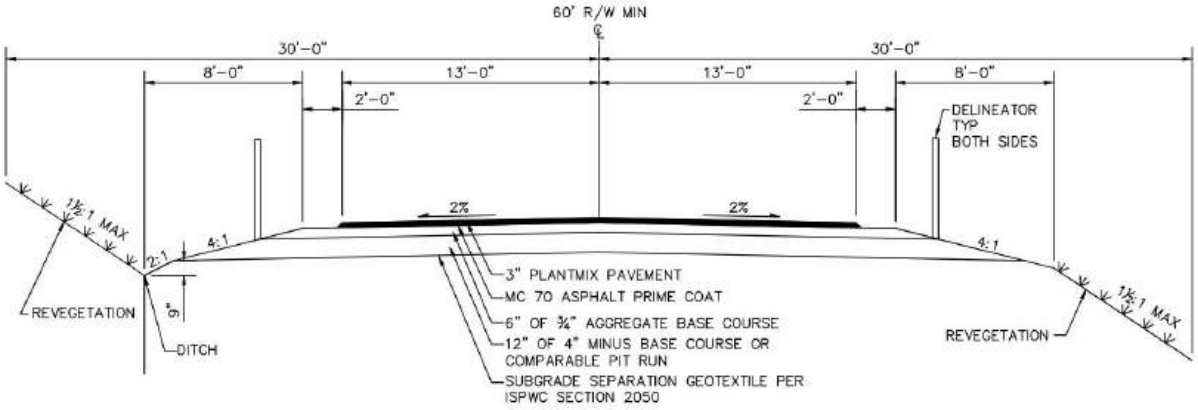

Figure 6: 60’Right-of-Way Asphalt Roadway Standards

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Chapter 3: Existing Conditions

Existing conditions are the parts of the transportation network that allow movement throughout the city. Traffic data, intersection geometry, and pedestrian/ bicycle corridors are key pieces of the transportation puzzle as well as known safety problems and locations. This chapter will focus on these key items.

Traffic Data

To evaluate the level that the roadways and intersections are operating, the roadway Level of Service (LOS) and the intersection LOS are calculated. The LOS is intended to capture factors such as speed, travel time, freedom to maneuver, and safety to combine them in a qualitative rating level. An LOS of A is the desired level and represents free flow conditions while a LOS of F indicates a breakdown in vehicular flow and is the worst level.

Roadway LOS

According to the 2010 Highway Capacity Manual, the roadway LOS is the average travel speed for through vehicles and the Volume-to-Capacity (v/c) ratio for each segment. Travel speed is the basic service measure for urban streets while the v/c ratio is the ratio of the demand flow rate to the capacity traffic facility. If the v/c ratio is greater than or equal to one (1), this indicates that the roadway is operating above capacity. Using a series of equations and condition adjustment factors developed in the Highway Capacity Manual, the v/c ratio can be determined.

Therefore, to aid the County, the following guidelines were developed from the Highway Capacity Manual.

- a.m. peak hour is determined between 7:00 – 9:00
- p.m. peak hour is determined between 4:00 – 7:00
- Maximum roadway capacity for local roadways is 1,200 to 1,700 vehicles per hour
- The roadway LOS must be C or higher; a free flow speed of more than 13 mph or a v/c ratio of 0.00 to 0.79
- A Roadway LOS D – F will require improvements; a free flow speed less than 13 mph or a v/c ratio of 0.80 to 1.00(+)

Intersection LOS

For the intersection LOS, the delay time that vehicles experience dictates the service level. Identical to the roadway LOS, if an intersection has a LOS from D – F; improvements to the intersection must be made. The following is a breakdown of the delay time in seconds for each LOS.

- LOS A: 0 – 10 seconds
- LOS B: 11 – 20 seconds
- LOS C: 21 – 35 seconds
- LOS D: 36 – 55 seconds
- LOS E: 56 – 80 seconds
- LOS F: >80 seconds

To sum up what has been stated in this section, the County can perform a traffic count on a roadway segment during a peak hour time of the day. After this count has been performed, take the traffic volume per hour and divide it by the roadway capacity (1,200 to 1,700 vehicles per hour). If the result is higher than 0.79, improvements need to be made. For intersections, if an individual must wait at an intersection for more than 36 seconds, improvements need to be made.

Intersection Geometry

Intersection geometry (how the intersection is designed) and the intersection sight distance (the line of sight the driver has) are important to maintain safety for drivers and pedestrians. The overall goal of Camas County for improving the roadway and intersection geometry within city limits is as follows:

"Camas County will strive to improve the roadways and intersections to a high level of safety while improving traffic flow."

Designs of new intersections or redesigns of failing intersections can be completed as needed. Another improvement of a failing intersection could be completed by improving the sight distance at an intersection.

Intersection Sight Distance

Intersection site distance standards were developed from a manual known as "A Policy on Geometric Design of Highways and Streets" published by the American Association of State Highway and Transportation Officials. Within this manual, there are several different sight triangle scenarios. The variables involved in determining what distances the sight triangle should include: turning movement, control type, speed limit, approach grade, and whether the roadway is considered the major or minor leg of the intersection.

With these variables, the distances "a" and "b" can be established; see Figure 7: Sight Triangle. The distance "a" is the normal stopping location (also known as the decision point or the position where the driver of the vehicle is stopped) and "b" is the sight distance to the center lane of approaching traffic on the major road. Once the distances are known, the hypotenuse of the triangle can be determined. The area inside of the triangle is the area that should be clear of obstructions.

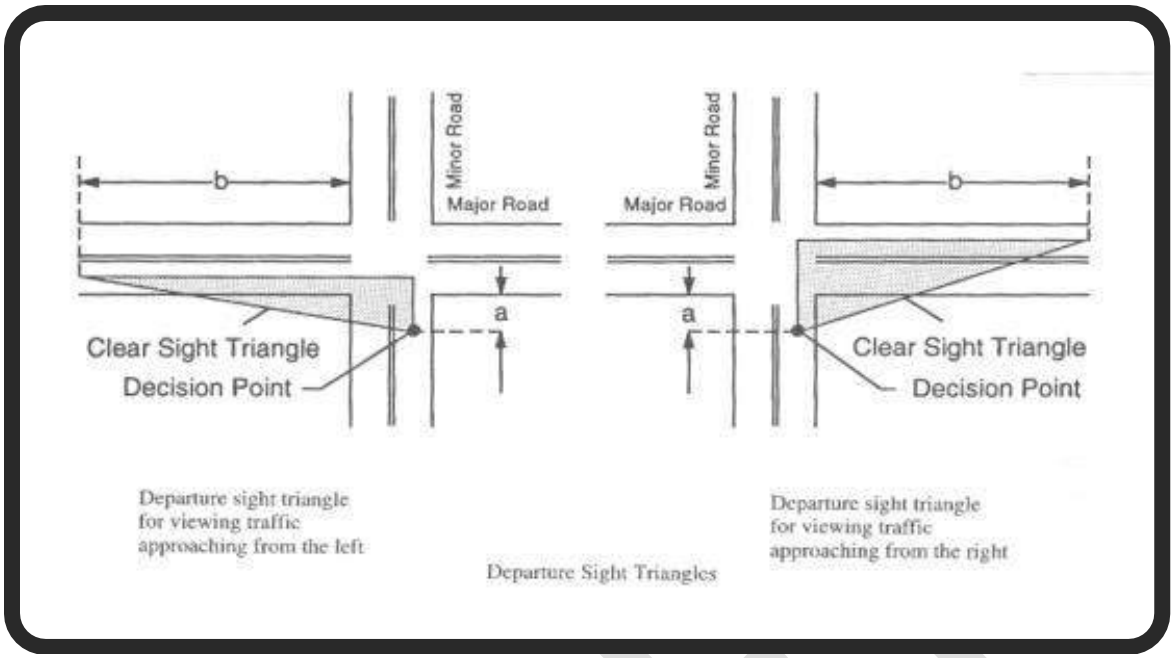

Figure 7: Sight Triangle

There are six (6) scenarios when examining a sight triangle. These scenarios are:

A. Intersection with no control
B. Intersections with a stop sign on the minor roadway
    1. Left Turn from the minor road
    2. Right Turn from the minor road
C. Intersections with yield control on the minor road
    1. Left and right turn from, the minor roadway
D. Intersection with a traffic signal control
E. Intersections with all-way stop control
F. Left turns from a major road

SCENARIO A: INTERSECTION WITH NO CONTROL

The "a" and "b" lengths for this scenario are equal. In addition, there is an adjustment factor for sight distance based on approach grade. Basically, Table 2: Approach Grade Adjustment Factors shows a value that is multiplied by the distance established in the following sections to adjust the sight distance accounting for the approach grade.

Table 2: Approach Grade Adjustment Factors

Approach Grade	Approach Speed (mph)													
	15	20	25	30	35	40	45	50	55	60	65	70	75	80
-6	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2
-5	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.2	1.2	1.2	1.2
-4	1.0	1.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
-3 to +3	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
+4	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
+5	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9
+6	1.0	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9	0.9

Table 3: Scenario A "a&b" Distances with Approach Slope Factors Incorporated shows the recommended sight distances for Scenario A.

Table 3: Scenario A "a&b" Distances with Approach Slope Factors Incorporated

Design Speed	Distances (ft) -6%	Distances (ft) -5%	Distances (ft) -4%	Distances (ft) -3% to +3%	Distances (ft) +4%	Distances (ft) +5%	Distances (ft) +6%
15	77	70	70	70	70	70	70
20	99	90	90	90	90	90	90
25	127	127	115	115	115	115	104
30	154	154	154	140	140	126	126
35	182	182	182	165	165	149	149
40	215	215	215	195	176	176	176
45	242	242	242	220	198	198	198
50	294	270	270	245	221	221	221
55	342	314	314	285	257	257	257
60	390	358	358	325	293	293	293
65	438	438	402	365	329	329	329
70	486	486	446	405	365	365	365
75	534	534	490	445	401	401	401
80	582	582	534	485	437	437	437

Example: An intersection without a yield or stop sign has a major road with a 45-mph speed limit (approach grade is 1%) and a minor road with a 25-mph speed limit (approach grade is -5%). What is the "a" and "b" distance for each road?

Solution: From Table 3 the "a" & "b" distance for the major road, 45-mph at 1% slope is 220 ft and 127 ft for the minor road (25 mph at -5% slope).

SCENARIO B: INTERSECTION WITH STOP CONTROL ON THE MINOR ROAD

There are two sub-categories in this scenario. These sub-scenarios are: left turn from the minor road and right turn from the minor road (the minor road has a stop sign but the major road does not). It should be noted that for both these sub-scenarios, the "a" distance will be

determined in the field while the "b" length is calculated. The sub-scenarios are described in the following sections. Basically, the only difference between the two sub-scenarios is the time gap times for left and right turns.

SUB-SCENARIO B-1: LEFT TURN FROM THE MINOR ROAD WITH A STOP SIGN

The length for "b" is calculated by the equation $b=1.47*V_{major}*t_g$. The V_{major} is the speed of the major road and the t_g is the time gap for the vehicle entering the major road. For passenger cars it is 7.5 seconds, 9.5 seconds for a single-unit truck, and 11.5 seconds for a combination truck. There is also an adjustment factor for this scenario for minor road approaches. If the upgrade of the approach exceeds 3%, add 0.2 seconds for each percent grade to the time gap.

Using this equation, the following table shows the "b" distances that should be used for the sight triangle for a given approach grade for each vehicle type.

Table 4: Scenario B-1 "b" Distances with Slope Approach Factors Incorporated

Major Road Speed	Passenger Car "b" Length (ft)				Single Unit Truck "b" Length (ft)				Combination Truck "b" Length (ft)			
	Minor Road Approach Grade				Minor Road Approach Grade				Minor Road Approach Grade			
	-3% to +3%	+-4%	+-5%	+-6%	-3% to +3%	+-4%	+-5%	+-6%	-3% to +3%	+-4%	+-5%	+-6%
15	165	170	174	179	209	214	218	223	254	258	262	267
20	221	226	232	238	279	285	291	297	338	344	350	356
25	276	283	290	298	349	356	364	371	423	430	437	445
30	331	340	348	357	419	428	437	445	507	516	525	534
35	386	396	406	417	489	499	509	520	592	602	612	623
40	441	453	465	476	559	570	582	594	676	688	700	711
45	496	509	523	536	628	642	655	668	761	774	787	800
50	551	566	581	595	698	713	728	742	845	860	875	889
55	606	623	639	655	768	784	800	817	930	946	962	978
60	662	679	697	714	838	856	873	891	1014	1032	1050	1067
65	717	736	755	774	908	927	946	965	1099	1118	1137	1156
70	772	792	813	833	978	998	1019	1039	1183	1204	1225	1245
75	827	849	871	893	1047	1069	1091	1114	1268	1290	1312	1334
80	882	906	929	953	1117	1141	1164	1188	1352	1376	1399	1423

Example: An intersection has a stop sign on the minor road, has a 45-mph speed limit, the largest vehicle is a passenger car, and has a +4% approach grade. What is the "b" distance for this intersection?

Solution: From Table 4 the "b" distance is 509 feet.

SUB-SCENARIO B-2: RIGHT TURN FROM THE MINOR ROAD WITH A STOP SIGN

The length for "b" is calculated by the equation $b=1.47*V_{major}*t_g$. The V_{major} is the speed of the major road and the t_g is the time gap for the vehicle entering the major road. For passenger cars it is 6.5 seconds, 8.5 seconds for a single-unit truck, and 10.5 seconds for a combination truck. There is also an adjustment factor for this scenario for minor road approaches. If the upgrade of the approach exceeds 3%, add 0.1 seconds for each percent grade to the time gap.

Using this equation, Table 5 shows the "b" distances that should be used for the sight triangle for a given approach grade for each vehicle type.

Table 5: Scenario B-2 "b" Distances with Slope Approach Factors Incorporated

Major Road Speed	Passenger Car "b" Length (ft)				Single Unit Truck "b" Length (ft)				Combination Truck "b" Length (ft)			
	Minor Road Approach Grade				Minor Road Approach Grade				Minor Road Approach Grade			
	-3% to +3%	+-4%	+-5%	+-6%	-3% to +3%	+-4%	+-5%	+-6%	-3% to +3%	+-4%	+-5%	+-6%
15	143	146	148	150	187	190	192	194	232	234	236	238
20	191	194	197	200	250	253	256	259	309	312	315	318
25	239	243	246	250	312	316	320	323	386	390	393	397
30	287	291	295	300	375	379	384	388	463	467	472	476
35	334	340	345	350	437	442	448	453	540	545	551	556
40	382	388	394	400	500	506	512	517	617	623	629	635
45	430	437	443	450	562	569	576	582	695	701	708	714
50	478	485	492	500	625	632	639	647	772	779	786	794
55	526	534	542	550	687	695	703	711	849	857	865	873
60	573	582	591	600	750	759	767	776	926	935	944	953
65	621	631	640	650	812	822	831	841	1003	1013	1022	1032
70	669	679	689	700	875	885	895	906	1080	1091	1101	1111
75	717	728	739	750	937	948	959	970	1158	1169	1180	1191
80	764	776	788	800	1000	1011	1023	1035	1235	1247	1258	1270

Example: An intersection has a stop sign on the minor road, has a 35-mph speed limit, the largest vehicle is a combination truck, and has a -3% approach grade. What is the "b" distance for this intersection?

Solution: From Table 5 the "b" distance is 540 feet.

SCENARIO C: INTERSECTION WITH YIELD CONTROL ON THE MINOR ROAD

This scenario uses the equation $b=1.47*V_{major}*t_g$ as well. The only difference is the variable t_g (the travel time required to reach and clear the major road) is not given but needs to be calculated. In order to calculate the t_g, the equation $t_g = t_a + (w + L_a)/(0.88*V_{minor})$ where t_a is the travel time to reach the major road, w is the width of the intersection, L_a is the length of the average vehicle, a V_{minor} is the speed limit on the minor road. Similar to Scenario A, there is an adjustment factor for approach grade. Using the same information shown in Table 2: Approach Grade Adjustment Factors, the travel time is adjusted according to the approach grade percentage. Table 6 below shows the calculated travel time with the approach grade adjustment factor.

Table 6: Scenario C Travel Time to Reach the Major Road with Slope Approach Factors Incorporated

Speed Limit (mph)	Travel Time (sec) -6%	Travel Time (sec) -5%	Travel Time (sec) -4%	Travel Time (sec) -3 to +3%	Travel Time (sec) +4%	Travel Time (sec) +5%	Travel Time (sec) +6%
15	3.7	3.4	3.4	3.4	3.4	3.4	3.4
20	4.1	3.7	3.7	3.7	3.7	3.7	3.7
25	4.4	4.4	4.0	4.0	4.0	4.0	3.6
30	4.7	4.7	4.7	4.3	4.3	3.9	3.9
35	5.1	5.1	5.1	4.6	4.6	4.1	4.1
40	5.4	5.4	5.4	4.9	4.4	4.4	4.4
45	5.7	5.7	5.7	5.2	4.7	4.7	4.7
50	6.6	6.1	6.1	5.5	5.0	5.0	5.0
55	7.0	6.4	6.4	5.8	5.2	5.2	5.2
60	7.3	6.7	6.7	6.1	5.5	5.5	5.5
65	7.7	7.7	7.0	6.4	5.8	5.8	5.8
70	8.0	8.0	7.4	6.7	6.0	6.0	6.0
75	8.4	8.4	7.7	7.0	6.3	6.3	6.3
80	8.8	8.8	8.0	7.3	6.6	6.6	6.6

Using the numbers in the above table, the t_g can now be calculated. In order to calculate this value, take the width of the vehicle and add it to the width of the intersection, divide this value by 0.88 times the speed limit on the minor road, then add it to the t_a value from the above table. The t_g is now calculated and can be multiplied by the speed limit of the major road then multiplied by 1.47.

Example: An intersection has a yield sign on the minor road, the largest vehicle is 25 feet long, the intersection is 40 feet wide, has a 40-mph speed limit, and has a 0% approach grade; the major road has a speed limit of 55-mph. What is the "b" distance for this intersection?

Solution: The length of the vehicle (25 ft) plus the width of the intersection (40 ft) is 65 feet, the speed limit (40-mph) times 0.88 is 35.2. 65 divided by 35.2 equals 1.847. From Table 6, the t_a is determined to be 4.9 seconds (40-mph at 0% approach grade). Therefore, the t_g is 4.9 + 1.85 which equals 6.75 seconds. Lastly to solve for "b", take the 6.75 seconds and multiply it by the speed limit of the major road and then multiply it by 1.47 which equals 6.75*(55)*1.47 = 545.7 ft.

SCENARIO D: INTERSECTION WITH TRAFFIC SIGNAL CONTROL

At signalized intersections, the first vehicle stopped on one approach should be visible to the driver of the first vehicle stopped on each of the other approaches. Left-turning vehicle should have sufficient sight distance to select gaps in oncoming traffic and complete left turns. Apart from these sight conditions, there are generally no other approach or departure sight triangles

needed for signalized intersections. Signalization may be an appropriate crash countermeasure for higher volume intersections with restricted sight distance that have experienced a pattern of sight-distance related crashes.

SCENARIO E: INTERSECTION WITH ALL-WAY CONTROL STOP (4-WAY STOP)

For this scenario, the first vehicle stopped on one approach should be visible to the driver of the first vehicle stopped on each of the other approaches. There are no other sight distance criteria applicable to intersections with all-way stop control and all-way stop control may be the best option at a limited number of intersections where sight distance for other control types cannot be attained.

SCENARIO F: LEFT TURN FROM THE MAJOR ROAD

This scenario uses the equation $b=1.47*V_{major}*t_g$ as well, the only difference is the variable t_g (the travel time required is less; 5.5 seconds for passenger cars, 6.5 seconds for single unit trucks, and 7.5 seconds for combination trucks). Table 7 shows the recommended "b" length for speed limits on the major road and for the vehicle type.

Table 7: Scenario F "b" Lengths

Major Road Speed	"b" for Passenger Car	"b" for Single Unit	"b" for Combination Truck
15	121	143	165
20	162	191	221
25	202	239	276
30	243	287	331
35	283	334	386
40	323	382	441
45	364	430	496
50	404	478	551
55	445	526	606
60	485	573	662
65	526	621	717
70	566	669	772
75	606	717	827
80	647	764	882

Lastly, the landscape and vegetation around the intersection plays a major role in creating a safe intersection. To create a safe turning movement for intersections, the development of proper sight distances are needed to minimize potential conflicts. Measuring the sight triangle for each intersection is outside the scope of this transportation planning study. It is recommended that County staff follow these guidelines and evaluate the sight triangles throughout the County.

It is recommended to review and address possible obstructions within each intersection's sight triangle and to improve signage where necessary. Additionally, by improving the roadway and intersection geometry as described, the County will accomplish this goal which may reduce accidents, improve safety, and increase traffic flow. Furthermore, when improvements or new roadways are constructed, roadway standards should be followed.

Existing Bridges

Camas County has a total of 53 bridges within their jurisdiction, 29 were identified as bridges that were over 20 feet in length and 24 were identified as small structures that were less than 20 feet. Camas County has recognized that many of the bridges and small structures are nearing the end of their design life and the need to replace deteriorating structures is apparent. According to bridge records the oldest bridge was built in 1945.

Of the 29 bridges, 4 bridges were replaced in the last 10-20 years, 10 bridges were replaced in the last 1-10 years, 2 bridges are in the process of being replaced by the county, 3 bridges are in the process of being replaced by the LHTAC LILB program. Bridges over 20 feet are regularly inspected by the Idaho Transportation Department and the County is provided with evaluation ratings of the deck, substructure, superstructure, as well as the rating of culverts. These ratings were evaluated and a Total Raking column showing the lowest rating for each bridge. The Total Raking is used to determine replacement priority.

Of the 24 small structures, one bridge is in the process of being replaced by the County. The County has also hired a consultant to inspect all the smaller structures so that a replacement plan can be developed.

Table 8 and Table 9 shows a list of both bridge structure types as well as other important information. Figure 8 indicates the location of the bridges.

Table 8: Small Bridge Structures

Camas County Small Structures

STRUCTURE NUMBER	FEATURES	ROUTE	LENGTH	WIDTH	MATERIAL TYPE	NUMBER BRIDGE LANES	NOTES
1710	Camas Creek	S 1300 W	15.5	24	Timber	2	WILL BE REPLACED BY COUNTY
1711	Cow Creek	W 300 S	16	35	Pipe/Culvert	2	
1713	Corral Creek	W 200 S	13	20.5	Timber	2	
1714	Chimney Creek	W 200 S	17	24	Timber	2	
1715	3 Mile Creek	W 300 S	12	41	Pipe/Culvert	2	
1719	Solder Creek	E 300	19	28	Pipe/Culvert	2	
1720	Soldier Creek	S 200 E	12	24	Timber	1	
1721	Spring Creek	Spring Creek Road	18	36	Pipe/Culvert	1	
1722	Spring Creek	S 500 E	15	24	Timber	2	
1723	Camas Creek	S 500 E	16	23	Timber	2	
1724	Minear Creek	E 200 S	17	24	Timber	2	
1726	Knowlton Creek	E 100 N	10	52	Pipe/Culvert	2	
1727	Minear Creek	Soldier creek Road	16	47	Pipe/Culvert	2	
1728	Unknown Creek	S 500 E	17	23	Timber	2	
1729	Knowlton Creek	S 500 E	16	24	Timber	2	
1730	Knowlton Creek	E 200 S	13	20	Slab	2	
1732	Daugherty Creek	S 700 E	15	24	Timber	2	
1733	Elk Creek	E 250 N	13	20	Timber	2	
1734	Deer Creek	N 400 E	15	23	Slab	2	
1735	Camas Creek	Vodermeir Ln	11.5	18	Pipe/Culvert	2	
1736	Three Mile Creek	N 200	11.5	21	Pipe/Culvert	2	
1737	E Fork Three Mile	N 200	11.5	18	Pipe/Culvert	2	
1739	Willow Creek	Willow Creek Rd	18	23	Pipe/Culvert	1	
1741	Corral Creek	160 N	16	20	Timber	2	

Table 9: Bridge Structures

Camas County Bridges

BRIDGE KEY	FEATURES	ROUTE	LENGTH	WIDTH	LOCATION	MATERIAL TYPE	DECK RATING	SUBSTRUCCTURE RATING	SUPERSTRUCTURE RATING	CULVERT RATING	TOTAL RAKING	REPLACEMENT NOTES
23860	CAMAS CREEK	SWAMP ROAD	47	23.95	1.8 S. 0.3 E. HILL CITY	Wood or Timber	8	3	6	N	3	WILL BE REPLACED BY COUNTY
23795	CAMAS CREEK	200 SOUTH ROAD	43	16.00	1.8 S. 6.7 E. FAIRFIELD	Wood or Timber	8	4	6	N	4	WILL BE REPLACED BY LILB
23800	CAMAS CREEK	200 SOUTH ROAD	117	17.80	1.9 S. 6.8 E. FAIRFIELD	Steel	8	4	4	N	4	WILL BE REPLACED BY LILB
23815	CAMAS CREEK	FIR GROVE ROAD	25	20.00	3.4 S. 2.4 E. FAIRFIELD	Wood or Timber	8	4	6	N	4	
23865	CAMAS CREEK	SWAMP ROAD	41	23.95	1.5 S. 0.3 E. HILL CITY	Wood or Timber	7	4	4	N	4	WILL BE REPLACED BY COUNTY
23841	CAMAS CREEK	MORMON ROAD	33	20.90	3.9 S. 0.5 W. FAIRFIELD	Steel	5	7	6	N	5	REPLACED 10-20 YEARS
23870	CAMAS CREEK	OLD HWY 46;500 E	42	25.00	3.4 S. 5.0 E. FAIRFIELD	Wood or Timber	6	5	6	N	5	
23875	CAMAS CREEK	OLD HWY 46;500 E	35	25.50	3.2 S. 5.0 E. FAIRFIELD	Wood or Timber	6	5	6	N	5	WILL BE REPLACED BY LILB
19531	SOLDIER CREEK	STC2802;BASELINE R	34	33.69	2.0 N. FAIRFIELD	Concrete Continuous	6	6	6	N	6	
23805	CAMAS CREEK	FIR GROVE ROAD	50	30.70	3.4 S. 2.4 E. FAIRFIELD	Steel	N	N	N	6	6	
23810	CAMAS CREEK	FIR GROVE ROAD	65	30.30	3.4 S. 2.4 E. FAIRFIELD	Steel	N	N	N	6	6	
23825	CAMAS CREEK	MACON FLAT ROAD	82	17.50	0.3 S. 9.5 E. FAIRFIELD	Steel	7	6	6	N	6	
23885	CAMAS CREEK	WOLF LN;900 WEST	160	30.60	0.2 S. 4.2 E. HILL CITY	Steel	N	N	N	6	6	
23905	WILLOW CREEK	BASELINE ROAD	22	23.95	2.1 N. 11.5 E. FAIRFIELD	Concrete	7	6	7	N	6	
34475	E 100 SOUTH ROAD	SOLDIER CREEK	24	27.00	1.0 S. 0.5 N. FAIRFIELD	Steel	6	6	6	N	6	REPLACED LAST 1-10 YEARS
34480	SOLDIER CREEK	E 100 N ROAD	24	27.00	0.6 N. 0.3 E. FAIRFIELD	Steel	6	8	6	N	6	REPLACED LAST 1-10 YEARS
23798	KNOWLTON CREEK	200 SOUTH ROAD	61	26.00	2.4 S. 5.8 E. FAIRFIELD	Concrete	7	7	7	N	7	REPLACED LAST 1-10 YEARS
23830	CAMAS CREEK	FIR GROVE ROAD	100	30.60	3.6 S. 2.3 E. FAIRFIELD	Steel	N	N	N	7	7	
23846	CAMAS CREEK	MORMON ROAD	61	25.30	3.8 S. 0.5 W. FAIRFIELD	Wood or Timber	8	7	7	N	7	REPLACED 10-20 YEARS
23881	CAMAS CREEK	OLD HWY 46;500 E	61	25.10	3.1 S. 5.0 E. FAIRFIELD	Wood or Timber	8	7	7	N	7	REPLACED 10-20 YEARS
23891	CAMAS CREEK	BARRON LN;600 WEST	120	24.50	3.2 S. 2.0 E. CORRAL	Steel Continuous	7	7	7	N	7	REPLACED 10-20 YEARS
23903	SOLDIER CREEK	FREEGOLD ROAD	25	27.00	8.1 N 1.0 W. FAIRFIELD	Aluminum or Iron	N	N	N	7	7	REPLACED LAST 1-10 YEARS
23836	CAMAS CREEK	FIR GROVE ROAD	44	24.90	3.6 S. 2.3 E. FAIRFIELD	Steel	8	8	8	N	8	REPLACED LAST 1-10 YEARS
23851	MONUMENT GULCH CREEK	SWAMP ROAD	40	24.00	2.1 S. 0.3 E. HILL CITY	Steel	8	8	8	N	8	REPLACED LAST 1-10 YEARS
23856	W. FORK SOLDIER CREEK	MORMON ROAD	50	24.00	2.2 S FAIRFIELD	Steel	8	8	8	N	8	REPLACED LAST 1-10 YEARS
23901	SOLDIER CREEK	STC2802;SOLDIER CR	50	33.00	7.6 N. 1.6 W. SOLDIER	Steel	8	8	8	N	8	
23911	WILLOW CREEK	E 100 N	40	24.80	0.6 N. 12.3 E. FAIRFIELD	Steel	8	8	8	N	8	REPLACED LAST 1-10 YEARS
23803	DAUGHERTY CREEK	700 EAST ROAD	30	24.00	0.8 S. 7.0 E. FAIRFIELD	Steel	9	9	9	N	9	REPLACED LAST 1-10 YEARS
23858	DRAIN	MORMON RSVR ROAD	40	24.00	2.9 S. Fairfield	Steel	9	9	9	N	9	REPLACED LAST 1-10 YEARS

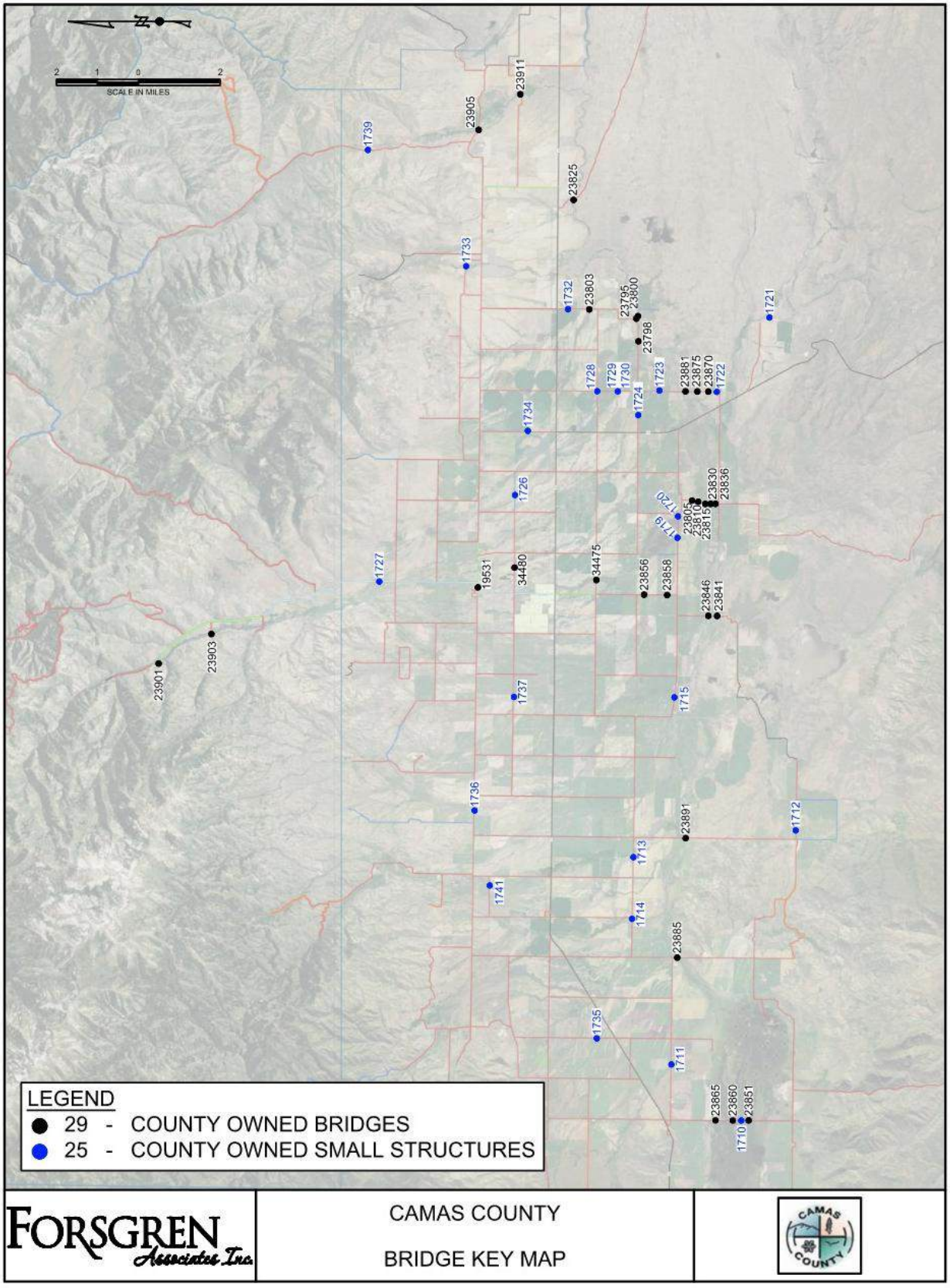

Figure 8: Bridge Location and Type

Existing Transportation Safety Problems and Accidents

Another technique in analyzing traffic related safety concerns is by evaluating if there are any traffic accident patterns in the city. The accident history for Camas County was obtained and analyzed. Overall, since 2017 there have been a total of 33 accidents within the county limits. There were 8 accidents in 2017, 8 in 2018, 7 in 2019, 4 in 2020, and 6 in 2021. Accident locations are throughout the city limits however many were on Oneida Street. The severities of the accidents were 4 Class A injury accidents, 2 Class B injury accidents, and 4 Class C injury accidents and 23 reported property damage. Statistically, the accident report shows the following:

- 33% of accidents occurred on paved roads.
- In 58% of these incidents the road was dry, while in 42% of the accidents had wet, icy, snowy, or muddy road conditions.
- 24% of the accidents were intersection related.
- 64% of accidents occurred on roads that had speed limits of 35 miles per hour or greater.
- 3% of accidents occurred because drivers failed to yield.
- In 9% of these accidents, alcohol impairment was a contributing factor.

It is evident that there is not an accident pattern occurring in Camas County. Figure 9 shows the location of Class A, B, and C injury and fatal accidents between 2017 and 2021.

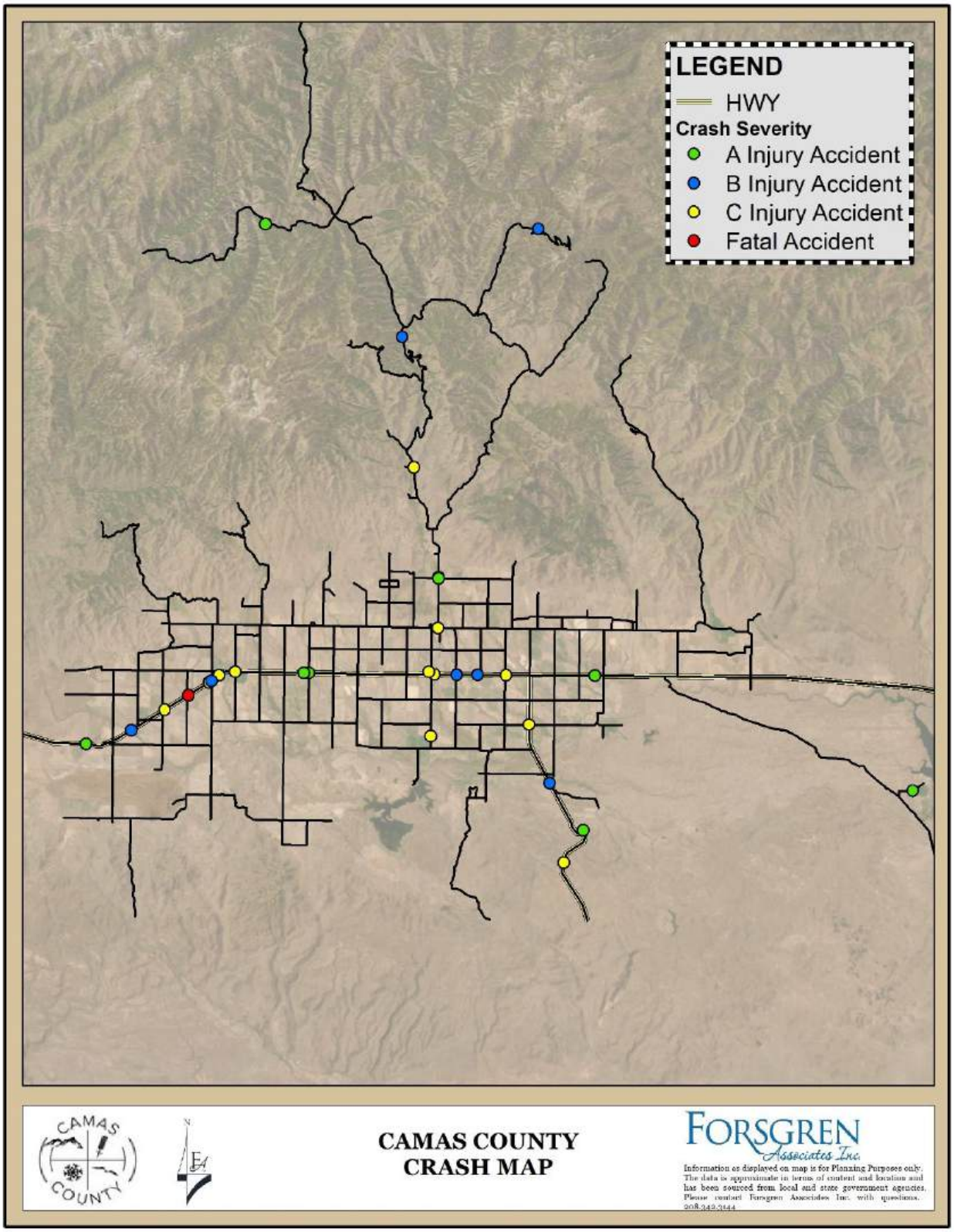

Figure 9: Crash Map

Known Problem Locations and Proposed Solutions

Public involvement was completed as part of this Transportation Planning Study and is discussed in more detail in Chapter 5. Known problems and locations were provided and listed in Table 10 below from the public involvement opportunities.

Table 10: Known Transportation Problems

Problem / Location
Dust from gravel roads/ throughout the district
Soft/muddy roads in spring and fall/ throughout the district

Chapter 4: Existing Infrastructure Inventory

To aid the City in their endeavors to provide an efficient and sound roadway infrastructure, the existing conditions were collected, a database was created, and mapped to provide the County with the resources required to make the correct decisions at the correct time. The existing conditions will be explained in depth throughout this Transportation Planning Study.

Geographic Information Systems (GIS) Mapping

After the data was collected for each road network entity (roads, intersections, posts, signs, sidewalks, and crosswalks) and was validated, maps depicting this information were created in 8½"x11" format for convenience and scattered throughout this report. It should be noted that the information displayed on these maps is for planning purposes only. These maps are the "beginning of results" and are meant to be the basis from which the County GIS will grow. With this base of information, maps can continue to evolve as needed and remain useful for many years. Camas County can maintain existing maps, create new maps, or outsource the work to skilled GIS technicians that can produce maps remotely and email them on request.

The capability to produce these maps in 11"x17" format for a higher level of clarity is also possible upon request from the County if the 8½"x11" format is not sufficient. The smaller-sized map does well to demonstrate that a considerable amount of data can be displayed using standard office printers.

Collect and Map Land Use Data

An inventory was performed on all roads within Camas County limits in the Summer 2022. This included gathering the existing pavement type, width, and condition. Sidewalk conditions as well as traffic signs and sign posts conditions were recorded. This information was then analyzed, and maps were created to visually show information throughout this report.

Pavement Conditions

Existing Roadway Conditions

Roadway conditions were collected and entered into the GIS database in 2022. The County maintains a total of 444.16 miles of roadway. However, only the 33.03 miles of paved roads were analyzed and evaluated. In order to collect data on the roadway network, the County streets were divided into segments. These segments were created (most commonly from intersection to intersection) and data was collected for each segment ranging from surface type to cracking. Refer to Figure 10 on the following page for the segment identification map which also shows the length of each roadway segment.

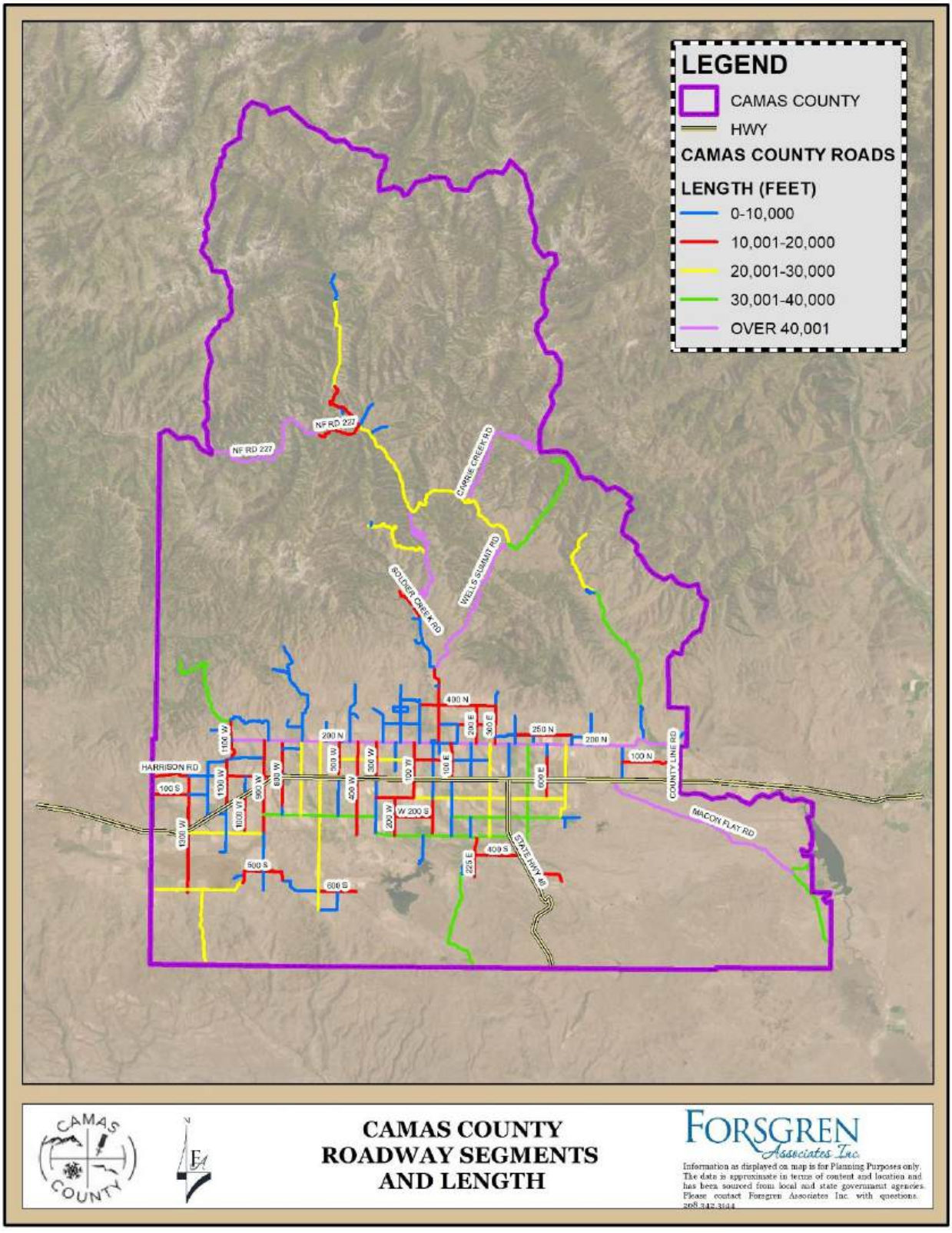

Figure 10: Roadway Segments and Length

Distresses were collected concurrently with the roadway/intersection characteristics (street name, length, width, etc). The distresses that were analyzed to calculate the condition of the road segments and intersections are: fatigue (alligator) cracking, longitudinal cracking, transverse cracking, edge cracking, potholes, patching, trenching, rutting, and ride. The following is a brief description of the distresses.

Fatigue Cracking: Fatigue Cracking is a series of interconnection cracks caused by fatigue failure of asphalt concrete surface under repeated traffic loading. Cracking begins at the bottom of the asphalt surface (base) where tensile stress and strain are highest under a wheel load. The cracks propagate to the surface initially as a series of parallel longitudinal cracks. After repeated traffic loading, the cracks connect, forming many-sided, sharp-angled pieces that develop a pattern resembling chicken wire or the skin of an alligator. Figure 13: Fatigue Cracking Map was created to demonstrate the severity and extent of the fatigue cracking.

Figure 11: Fatigue Cracking

Longitudinal and Transverse Cracking: Longitudinal cracks are cracks that form parallel to the pavement's centerline due to poorly constructed paving joints, shrinkage of the asphalt layer, daily temperature cycling, cracks in an underlying layer that reflect up through the pavement, and/or longitudinal segregation caused by the improper operation of the paver. Transverse cracks are perpendicular to the pavement's centerline or laydown direction. These cracks occur mainly from shrinkage of the HMA surface due to low temperatures or asphalt binder hardening or from reflective cracks caused by cracks beneath the surface layer. Figure 14: Transverse Cracking Map was created to demonstrate the severity and extent of the transverse cracking.

Figure 12: Longitudinal Cracking

Edge Cracking: Edge cracks are cracking that form on the edge of pavement due to a lack of lateral support, settlement of underlying material, shrinking of drying out soil, weak base or subgrade layer, poor drainage, frost heave, and/or heavy traffic or vegetation along the edge. Figure 15: Edge Cracking Map was created to demonstrate the severity and extent of the edge cracking.

Potholes: A pothole is a small, bowl-shaped depression in the pavement surface that has penetrated through the surface layer down to the base of the road. Potholes hold water and cause accelerated deterioration of the road surface and base. Potholes are considered dangerous because they can cause serious damage to a vehicle.

Patching: A patch is defined as the area of pavement that has been replaced with new material to repair the existing pavement. A patch is considered a defect no matter how well it performs. Figure 16: Patching/Pothole Map was created to demonstrate the severity and extent of the patching.

Trenching: A trench is a surface depression that runs perpendicular to the roadway centerline or wheel path. Trenches are created by the improper design of subgrade material or through utility bores and/or road cuts.

Rutting: Rutting is when there is a surface depression in the vehicle's wheel path that develops from poorly designed asphalt for loading conditions. In most rutting cases, the asphalt is not compacted sufficiently, or the subgrade material is of poor quality. Rutting is usually evident after a rainstorm when the ruts fill up with water. Ruts prevent water from running off the road surface causing vehicles to hydroplane creating a dangerous environment for motorists.

Ride: The determining factor for ride quality is the roughness of the road segment. Pavement roughness is when there are irregularities in the road surface that affect the overall ride quality of a vehicle. The roughness of a road is an important characteristic to examine because it affects vehicle operating costs, fuel consumption, and maintenance costs.

Roadway Data Collection Results

Throughout the data collection process, it was evident that each roadway and intersection demonstrated different characteristics and distresses. The data collected differed for the roadway surface (paved or unpaved), the roadway width, and the roadway distress (fatigue cracking, transverse cracking, longitudinal cracking, patching/potholes, and edge cracking).

Figures 13 – 16 on the following pages visually show the severity and extent of the distresses exhibited on each segment of roadway within Camas County.

Remaining Service Life (RSL)

The remaining service life (RSL) is the amount of time before a road reaches an unacceptable condition. Analyzing the current roadway service life can provide a direction on which roads require attention first and allows to budget for maintenance or rebuild costs. Figure 17: Remaining Service Life below visually shows the pavement RSL distribution throughout the County.

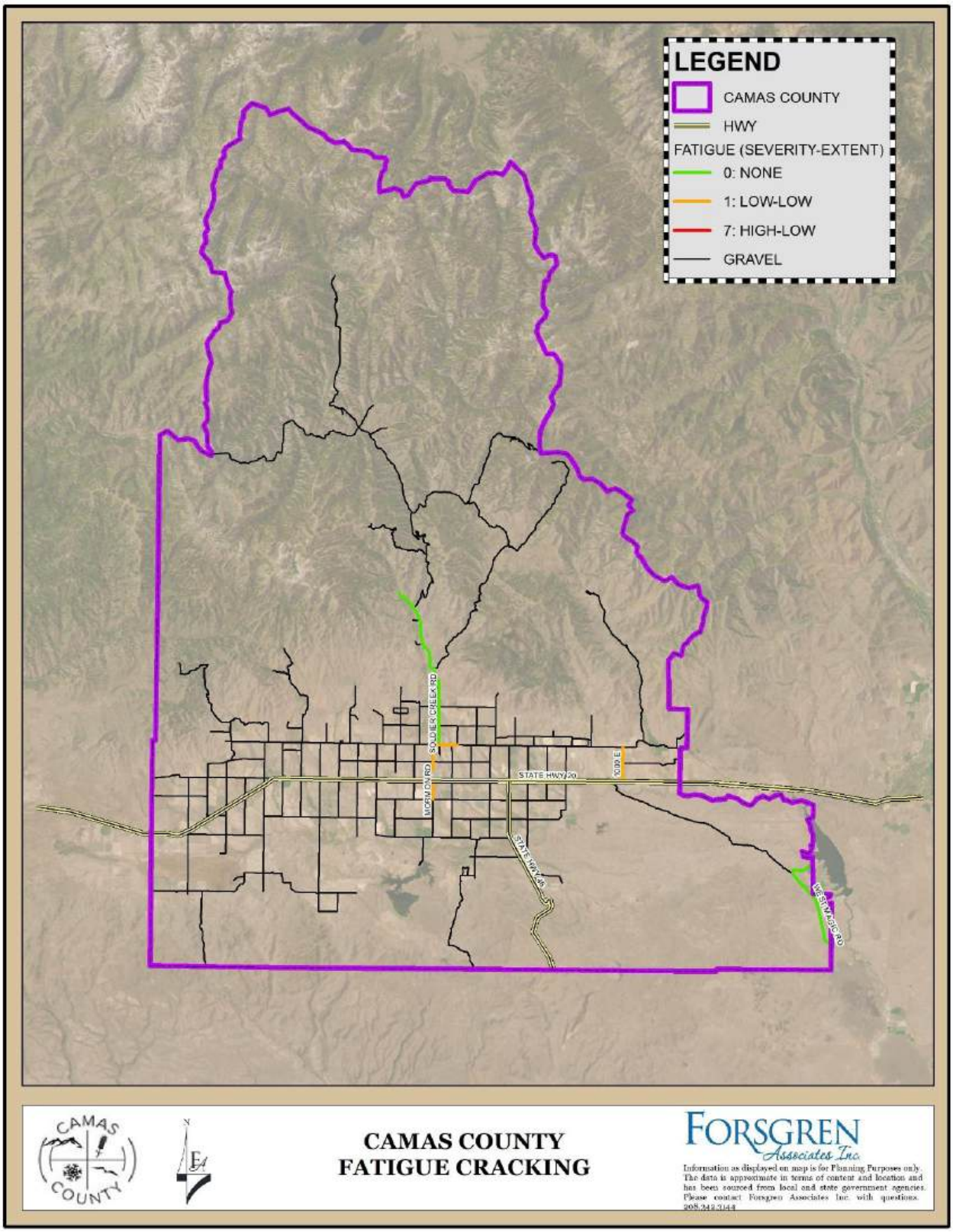

Figure 13: Fatigue Cracking Map

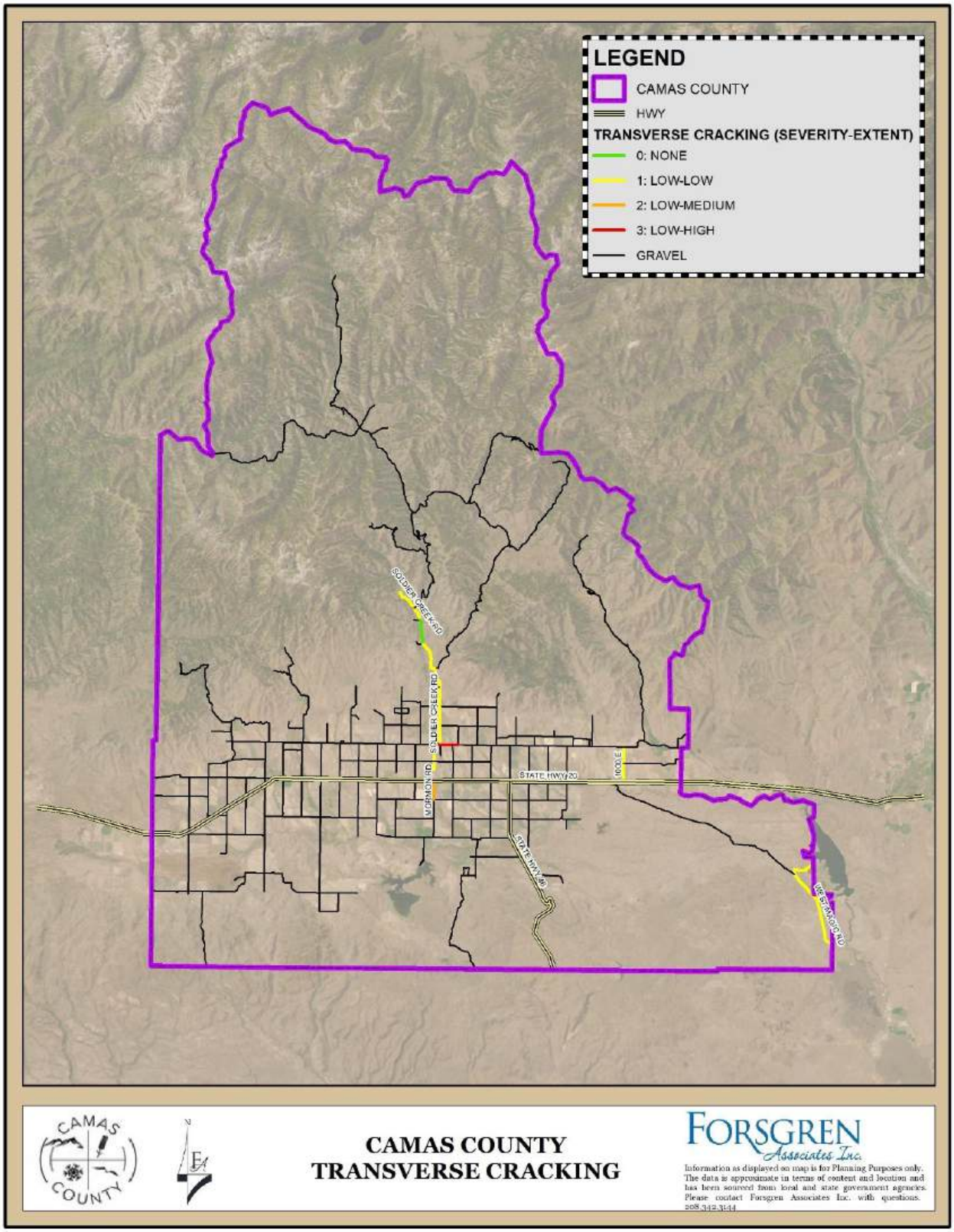

Figure 14: Transverse Cracking Map

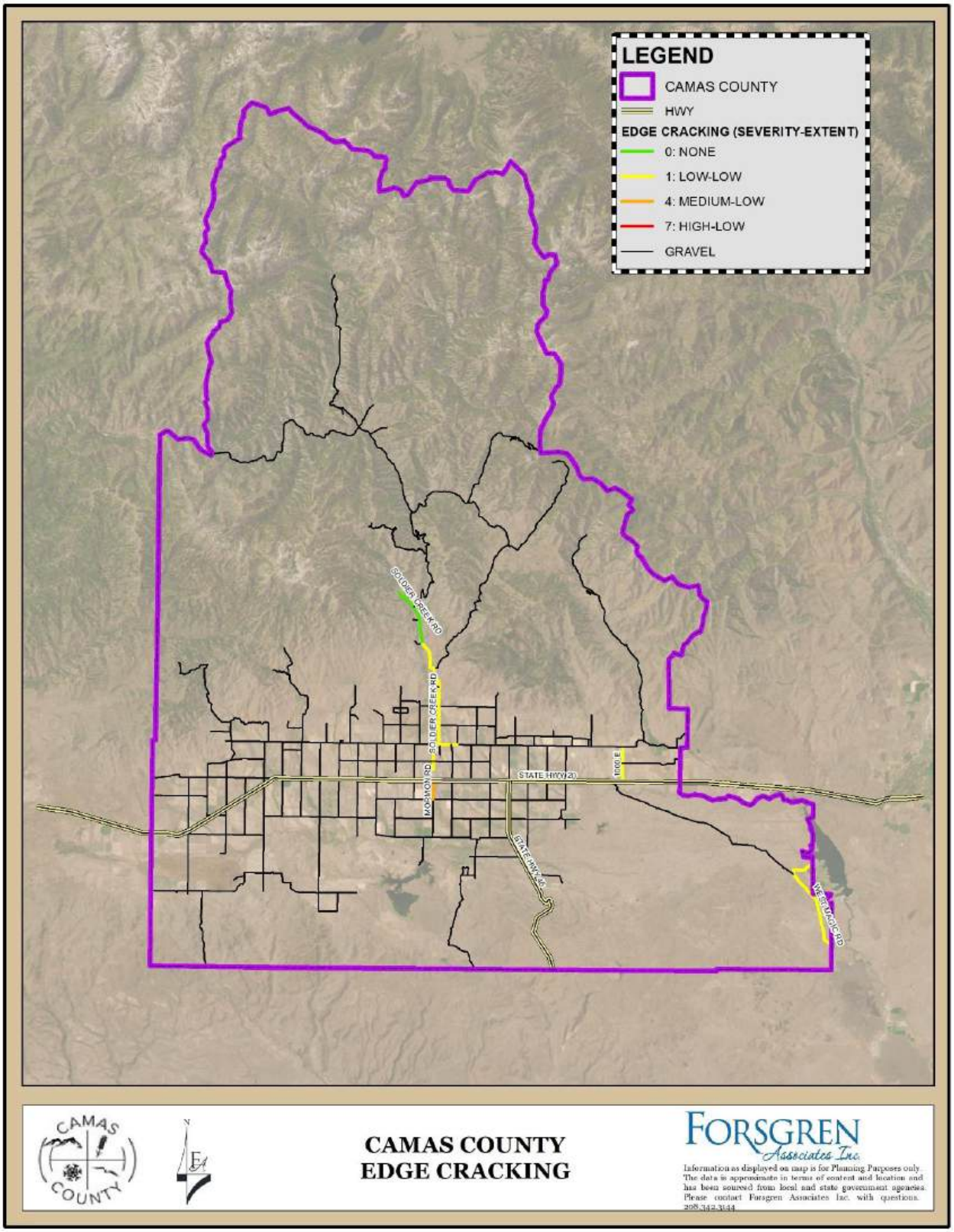

Figure 15: Edge Cracking Map

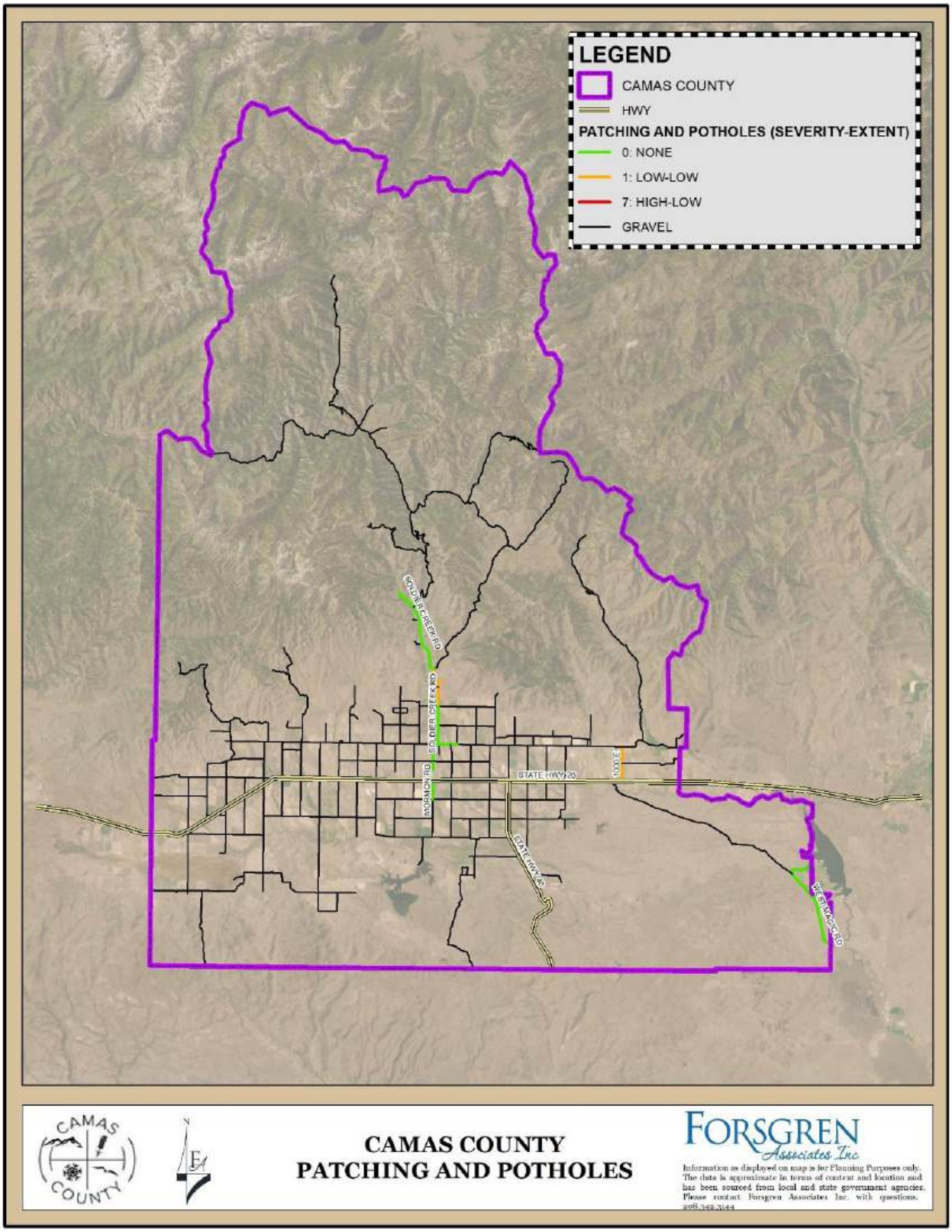

Figure 16: Patching/Pothole Map

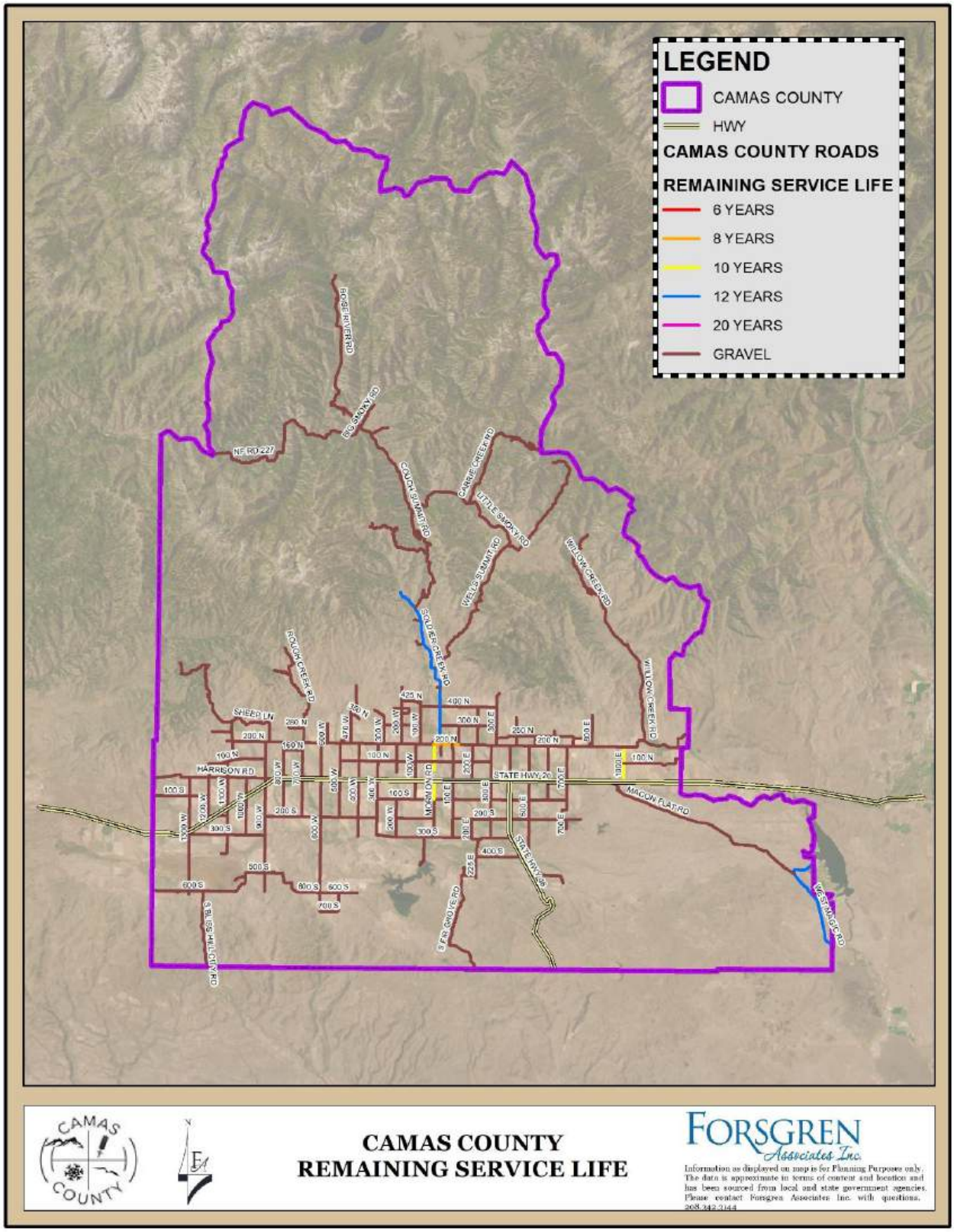

Figure 17: Remaining Service Life

Pavement Management Plan

Creating a Maintenance/Pavement Management Plan, also known as a Pavement Management System (PMS), is one of the most important programs a city or county can implement. One of the County's largest investments is in the road infrastructure. The quality of preservation work performed on this road infrastructure directly determines the surface life, future maintenance cost, ride quality, and ultimately user costs. It is the responsibility of those who are involved to ensure that the taxpayers are getting their money's worth.

Figure 18: Typical Road Life Cycle

A new, well-built, paved road should last about 15 years before major rehabilitation is needed. The life of a typical city road is shown in Figure 18 above. This figure shows how the condition of the road deteriorates with the age of the road. Once a roadway reaches the poor and failed condition rating a complete road reconstruction is required.

Figure 19 compares maintenance strategies to maintain and elongate roadway life span. The blue line represents a roadway with no maintenance and the deterioration of the road. The orange line shows how the roadway life is extended by completing an overlay near year 13. This improves the roadway condition from a fair rating back to the good/excellent rating. The roadway condition then begins to deteriorate again similar to the initial deterioration rate. A second overlay between years 25-30 could continue to extend the roadway lifespan. The yellow line illustrates the roadway condition with routine preventative maintenance every 5-7 years. Routine maintenance includes filing cracks and pothole, while periodic maintenance can include chip seals and fog seals. The various maintenance methods should be implemented to preserve the life of the road and decrease the amount of money spent over the life of the road.

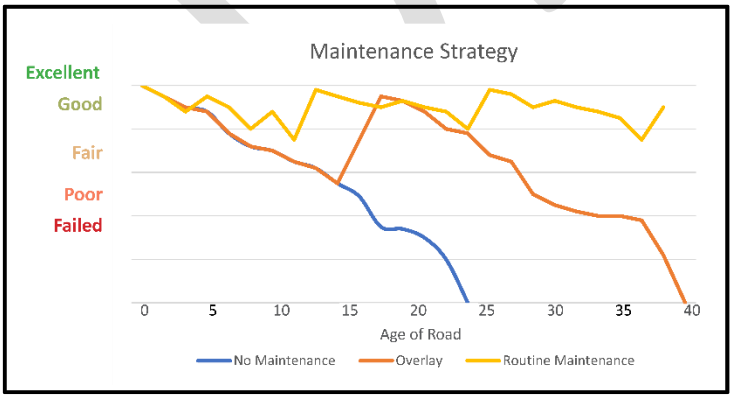

Figure 19: Maintenance Effects on Road Life Cycle

The main goal of a pavement maintenance program is to keep the roads from falling into the overlay and reconstruct zones. When a road falls into one of these zones, the cost required to repair these roads increases immensely. Through maintenance activities, the life of a road can be vastly increased. Figure 19 shows the effects that preventative maintenance, an occasional overlay or seal coat, and no maintenance will have on the life of a road.

By implementing a preventative maintenance system, it will cost approximately $4.35 per square yard for maintenance after the construction of the roadway over 20 years. To mill and overlay is approximately $43.00 per square yard over the 20-year time period. Total reconstruction of paved roadways is estimated to be $95.00 per square yard. Gravel roadways also require maintenance including the addition of aggregate to sustain the roadway surface. It will cost approximately $18.00 per square yard. Preventative maintenance techniques will save up to six to seven times the amount of money it would cost over the do-nothing approach.

To completely reconstruct the County's 33 miles of paved roads would cost approximately $55,226,000 and maintain all 411 miles of unpaved road cost approximately $130,246,000. Overall, $185,472,000 would be needed today to apply all the recommended treatment to each road segment. This is not feasible for Camas County at this time; therefore, a maintenance plan is needed.

Roadway Improvements, Maintenance, and Recommendations

The temptation is to "just pave over the existing", which can be characterized as "spending good money, on bad roads". For failed roads, funds spent on anything other than a reconstruction will be a poor investment. Interestingly, the roadway shoulder condition and related drainage deficiencies turn out to have a larger impact on prioritizing street maintenance candidates than many of the existing distresses. You can get a better return on your maintenance investment by fixing the underlying problems prior to paving over the distress.

To reverse a gradual County-wide decline in street conditions, the focus should not be how many streets can be temporarily improved, rather a more concentrated effort of permanently correcting deficiencies and then repaving one street at a time. Ultimately, additional funding is necessary to achieve any significant change in overall road conditions.

PAVEMENT MAINTENANCE GOAL:

APPLY THE CORRECT ROAD TREATMENT AT THE IDEAL TIME THAT WILL INCREASE THE ROAD QUALITY IN THE MOST EFFICIENT AND EFFECTIVE WAYS POSSIBLE

Recommended Routine Maintenance Methods

Ideally, before a major repair to a roadway segment is performed, it is recommended that a minor repair/ routine maintenance be performed first. For the roads in Camas County, recommended minor repairs have been categorized into the three following categories: crack seal, cracking/ patching, and major repairs. To provide a visual of the recommended minor repair methods for each segment, Figure 20: Maintenance Projects Map was created.

Recommended Major Repair Methods

Preferably after a minor repair has been performed, a major repair may be done. For the roads in Camas County, the recommended major repairs are: rebuild/reconstruct, overlay, chip seal, or minor repairs. To provide a visual of the recommended major repair methods for each segment the Figure 21: Major Repair Recommendation Map was created.

"Well prepared roads will require less money to maintain."

Pavement Management Plan/System Implementation

Much of the work necessary to implement a pavement management system has been done. A full inventory has been created. A condition survey of Camas County's roadway network is complete, and the results have been analyzed. Recommendations have been made that will enable Camas County to maintain and enhance the service life of its street network. To aid the county in their efforts to improve their road network, Forsgren Associates used ArcGIS to create a database and enable personnel at Camas County to keep accurate and up-to-date records of the street network. The program has been populated with Camas County's roadway inventory and is now ready for maintenance crews to use. Forsgren Associates will provide training and technical support at the request of the county.

The following steps are suggested to help the implementation of the pavement management system and assure that it stays useful:

- Conduct briefings with appropriate personnel to explain the details and procedures of the pavement management system.
- Install the computer program on the computers of the personnel who are responsible for maintenance or management of the street network.
- Train the appropriate personnel on how to implement the recommended pavement preservation program and access the maps.
- Develop a pavement history database including: structure, layer thicknesses, dates of initial construction and subsequent maintenance and rehabilitation events.
- Develop basic traffic information and incorporate traffic counts, functional classifications, and axle load data, Level of Service (LOS), and structural capacity.
- Perform condition inspections with the personnel responsible for the street maintenance, discuss the possible recommendations for treatment and develop a consensus.
- Fine-tune the pavement management computer program to produce what the city expects. The output should fit the unique methods and needs of the city.

The Capital Improvement Plan in Chapter 6 lists improvement projects for the County.

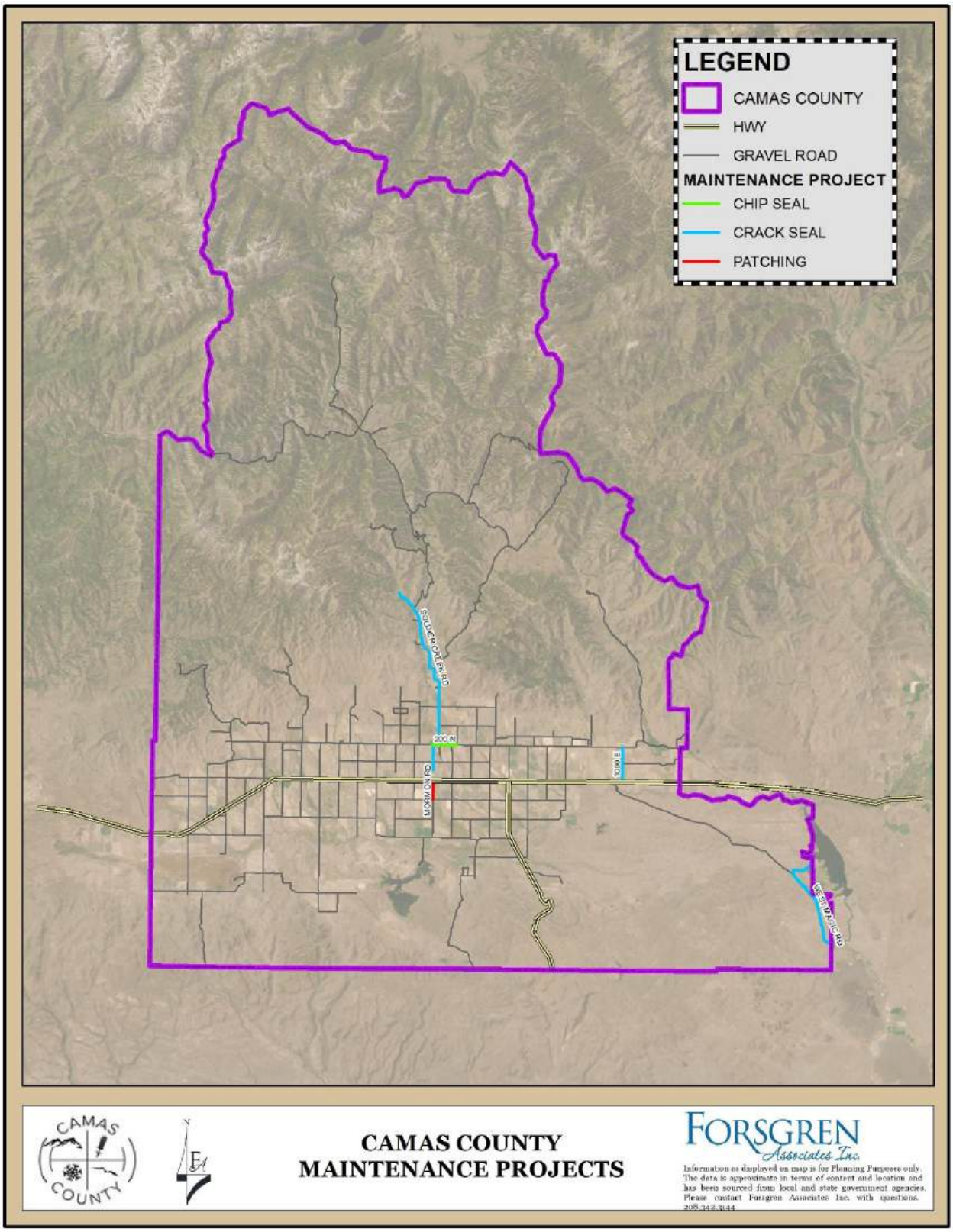

Figure 20: Maintenance Projects Map

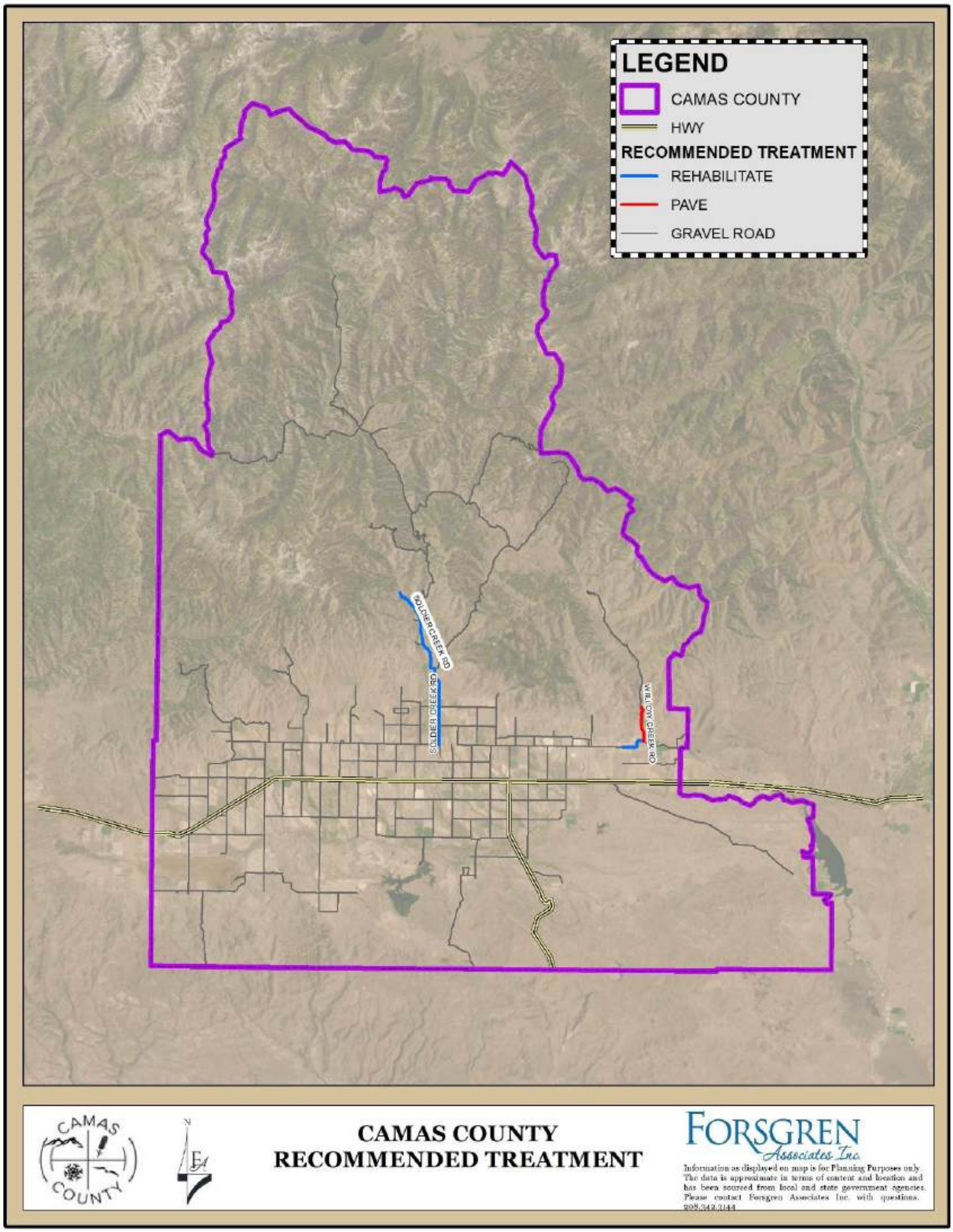

Figure 21: Recommended Treatment Map

Traffic Signs

According to the Manual of Uniform Traffic Control Devices (MUTCD), traffic control devices are very critical for a safe and efficient transportation of people and goods. The use of traffic control devices helps to reduce crashes and congestion along with improving the efficiency of the transportation system. In Camas County, the main traffic control devices are road signs. This section will examine both the posts and signs in the Camas County's road sign network.

Post Inventory and Condition

A post is a long piece of material, usually, wood or metal, set upright into the ground to serve as a marker or support for traffic signs.

Post Data Collection

The post characteristics were inventoried and analyzed with the signs. The data that was entered into the GIS database includes:

- Location ID
- Post material (wood, metal, other)
- Support condition (Excellent, Good, Fair, and Poor)
- The number of signs on the post
- Does the post need straightened

Post Data Collection Results

Currently, there are 729 posts maintained by the County that support 810 signs. There are 150 posts in excellent condition, 526 in acceptable condition, 37 in poor condition and 16 in failed condition. To visually demonstrate the location and the type of each post Figure 22: Post Location and Type Map and Figure 23: Post Support Condition Map to show the condition of the supports were created.

Post Improvements, Maintenance, and Recommendations

When dealing with posts, damaged, vandalized, twisted, and tilted posts are your major concerns. Each year, posts randomly demonstrate these distresses. Maintaining these posts will create a safer atmosphere for those using them.

The recommended maintenance for the posts of the County is shown on Figure 24: Post Support Maintenance Map. This map simplifies the maintenance effort into replace the post, fix twist, and fix tilt categories. It is recommended that the Count straighten listed supports and upgrade any posts that do not meet MUTCD standards.

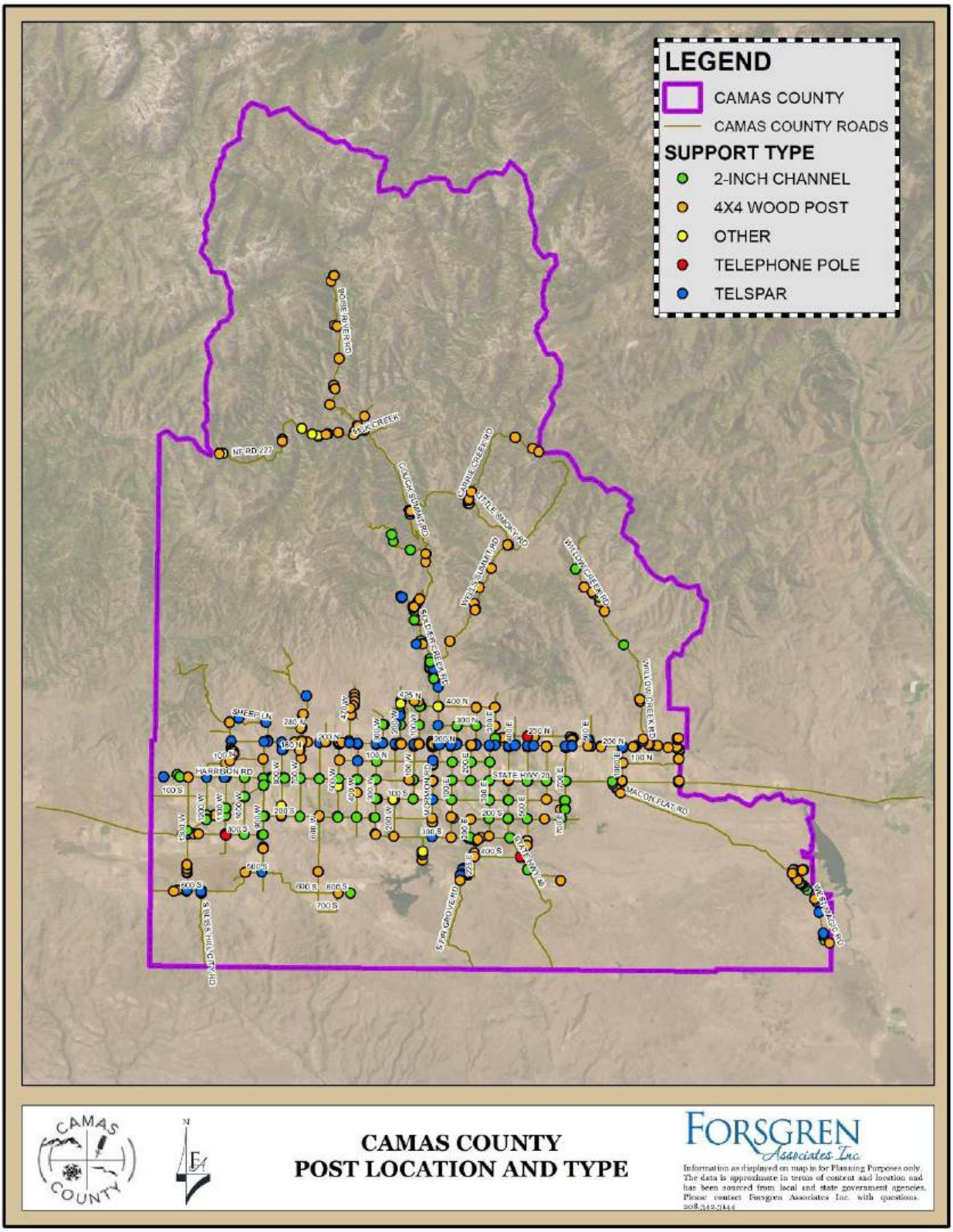

Figure 22: Post Location and Type Map

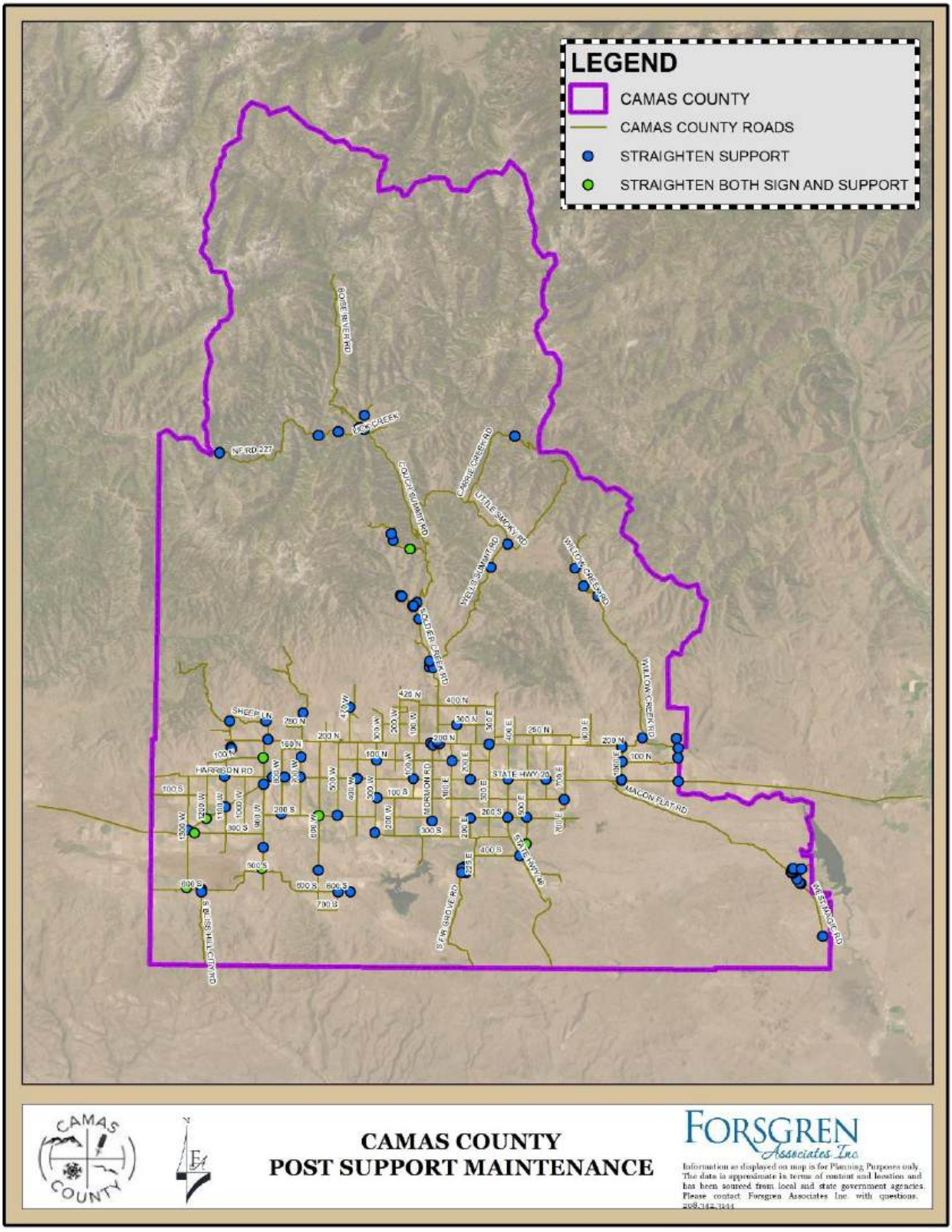

Figure 23: Post Support Condition Map

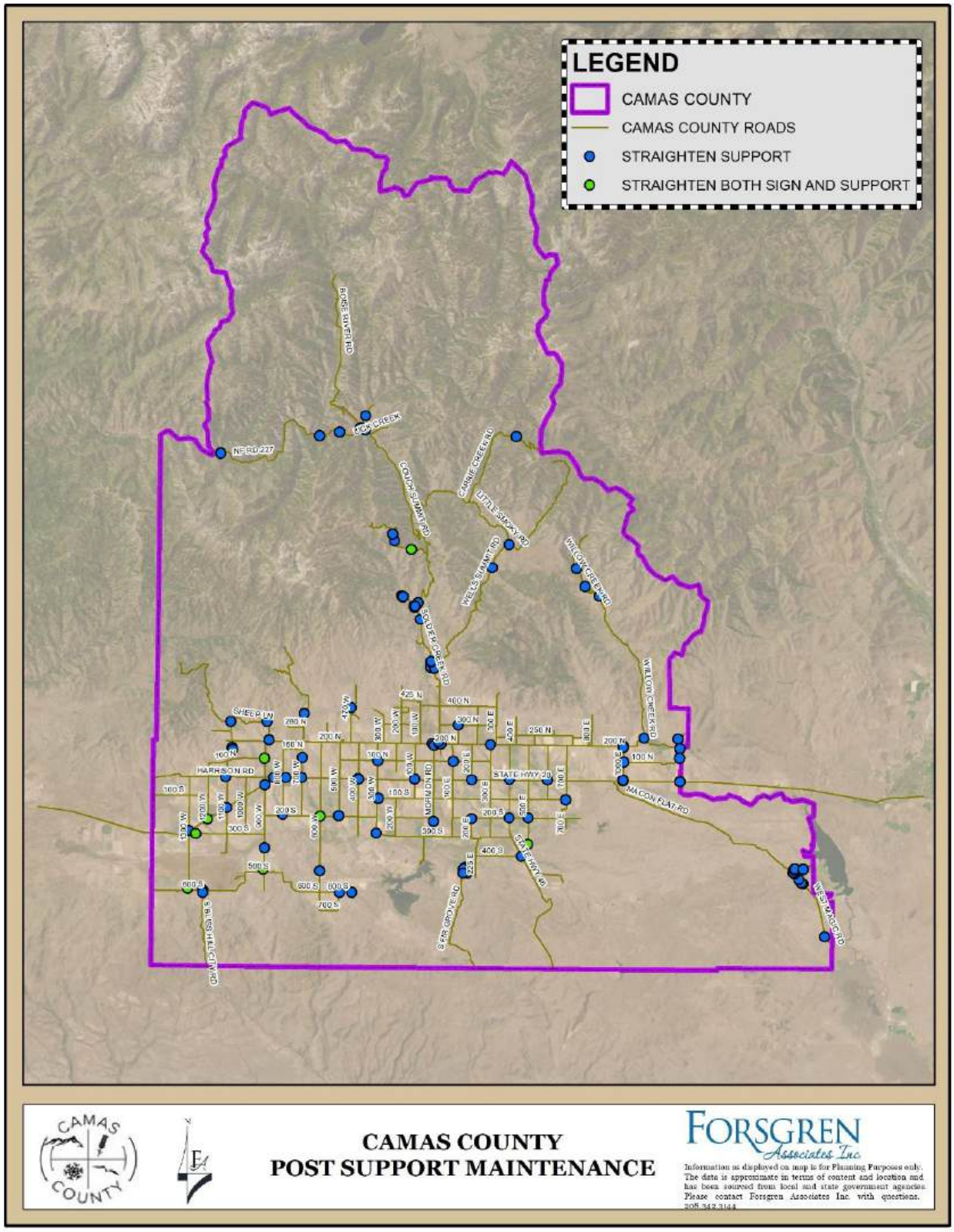

Figure 24: Post Support Maintenance Map

Sign Inventory and Condition

A sign is defined as "an official device that gives a specific message, either by words or symbols, to the public."

Sign Data Collection

The sign characteristics were inventoried and analyzed. The data that was entered into the database are:

- Location ID (this correlates with the post ID)
- MUTCD Code
- MUTCD Type
- Mount Height
- Mount Offset
- Sign Height
- Sign Width
- Visibility
- Support Type
- The Direction the Sign Faces
- Sign Grade
- Engineering
- High Intensity
- Sign Condition Rating
- Support Condition Rating

Sign Types

In the sign database, all the signs receive a MUTCD code. Each code represents a sign within a sign category; the main sign categories are Regulatory, Warning, and Information Signs.

Regulatory Signs

Traffic signs are intended to instruct road users on what they must or should do. Examples of regulatory signs are: stop, yield, speed limit, wrong way, bridge load ratings, and one-way signs. The regulatory signs in Camas County are stop, yield, and speed limit signs. In order to show the location and type of each regulatory sign, Figure 25: Regulatory Sign Map was created to show the location and type of regulatory signs within the County.

Warning Signs

Warning signs are traffic signs that indicate a hazard on the road ahead. Examples of warning signs are: railroad crossing, right turn, left turn, curve, stop ahead, intersection ahead, and pedestrian signs. In order to show the location and type of each warning sign, Figure 26: Warning Sign Map was generated.

Guide and Informational Signs

Traffic signs do what the names of the category emphasize; they guide and give information to the motorist or pedestrian. Examples of guide and informational signs are: destination, street name, bicycle parking, automobile parking, and bike route signs. In order to show the location

and type of each sign, Figure 27: Guide and Informational Sign Map was created and included below.

School Signs

School signs are traffic signs that bring awarness to drivers about schools ahead of them. Examples of school signs are: school crossing, school bus stop ahead, school zone, and speed limit in a school zone. School signs are only located within the City of Fairfield and are not listed in this transportation plan.

Sign Data Collection Results

The County currently maintains 810 signs. During the time of data collection, 266 were listed in excellent condition, 310 in acceptable condition, 160 in poor condition and 74 in failed condition. Notes were also made if the sign was obstructed by vegetation. To demonstrate the locations of these signs and posts that need improvement Figure 28: Sign Condition Map was produced and included with this report.

Sign Improvements, Maintenance, and Recommendations

From the data collection effort, we learn that a few signs in poor or failed condition need to be replaced, some signs need to be straightened, and some signs that are obstructed by vegetation. It is recommended to replace signs that are in poor and failed conditions.

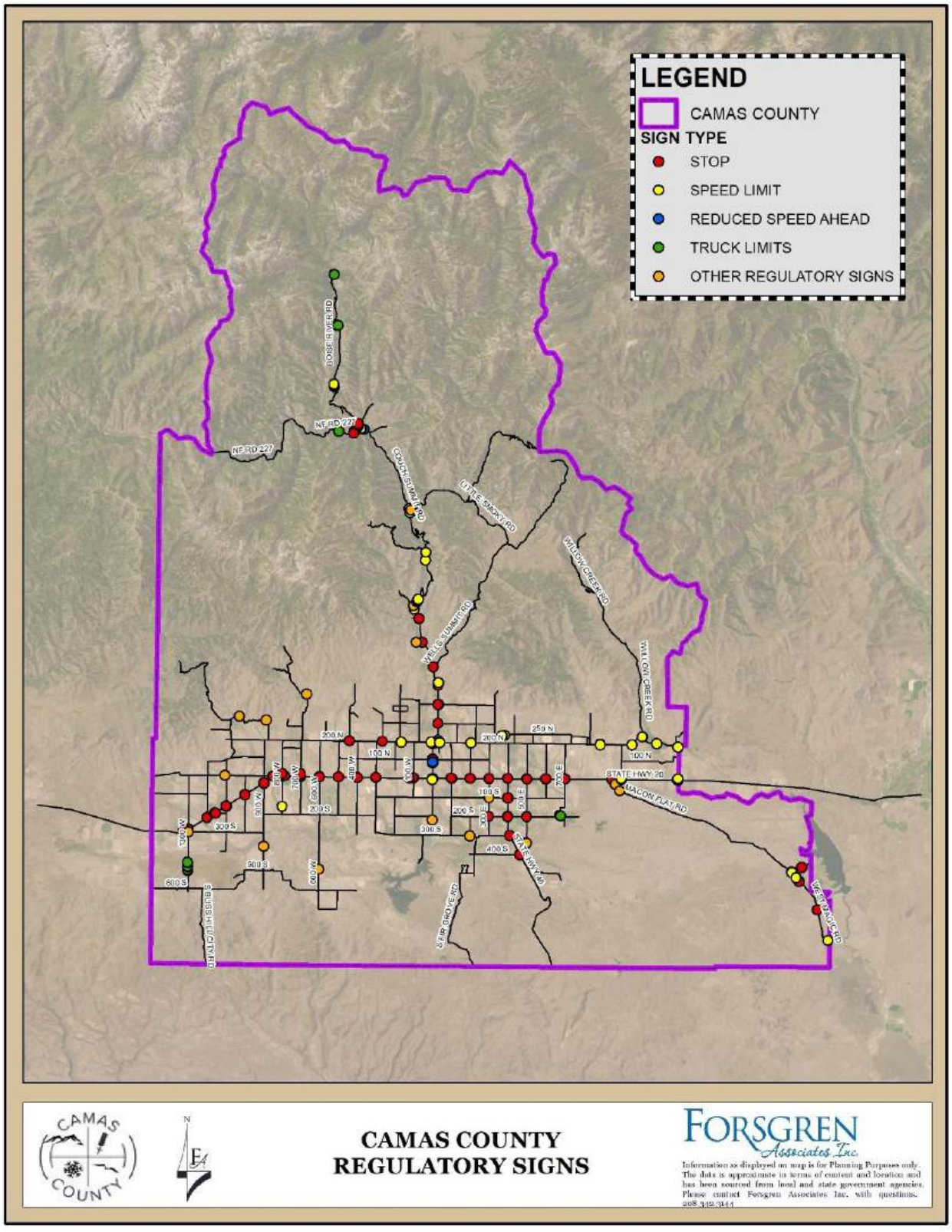

Figure 25: Regulatory Sign Map

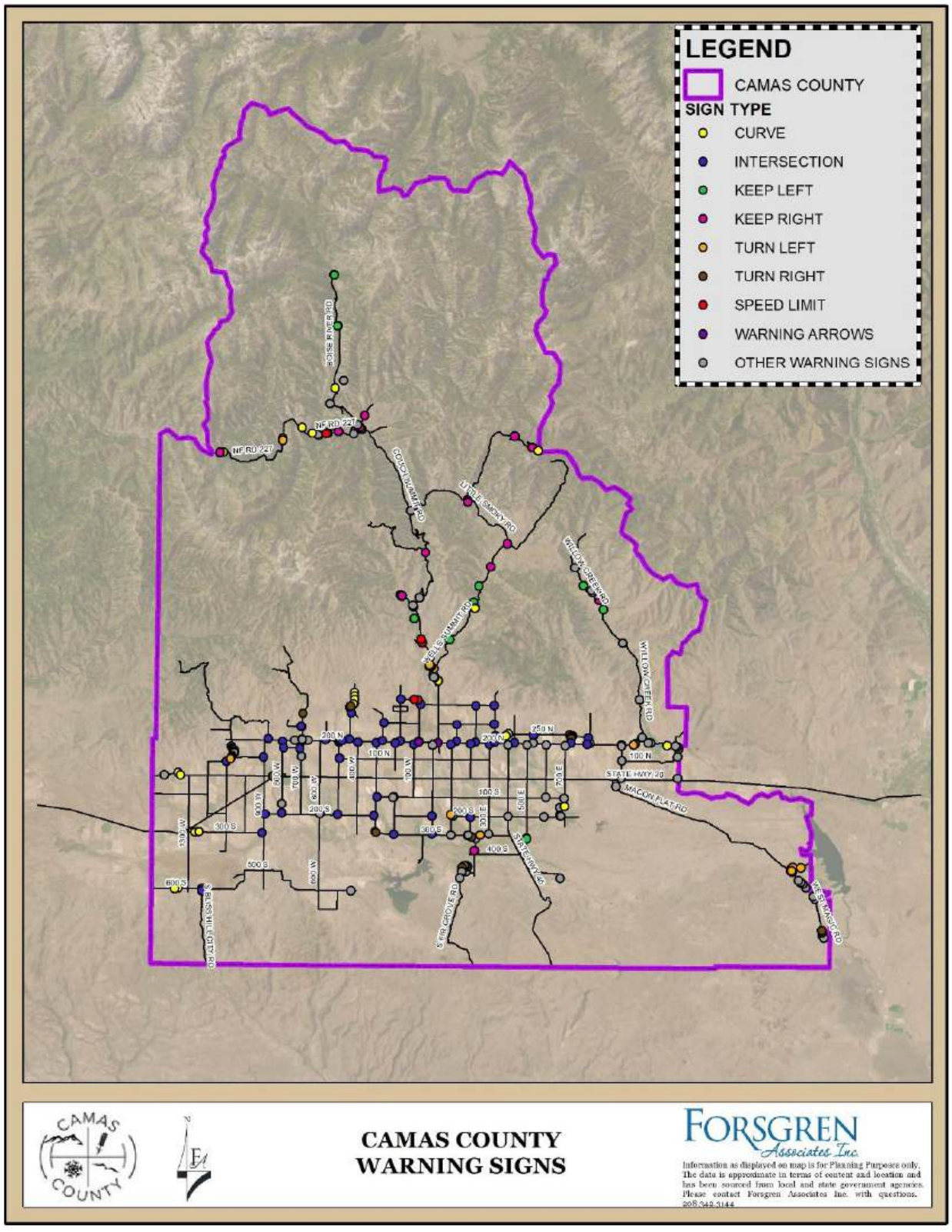

Figure 26: Warning Sign Map

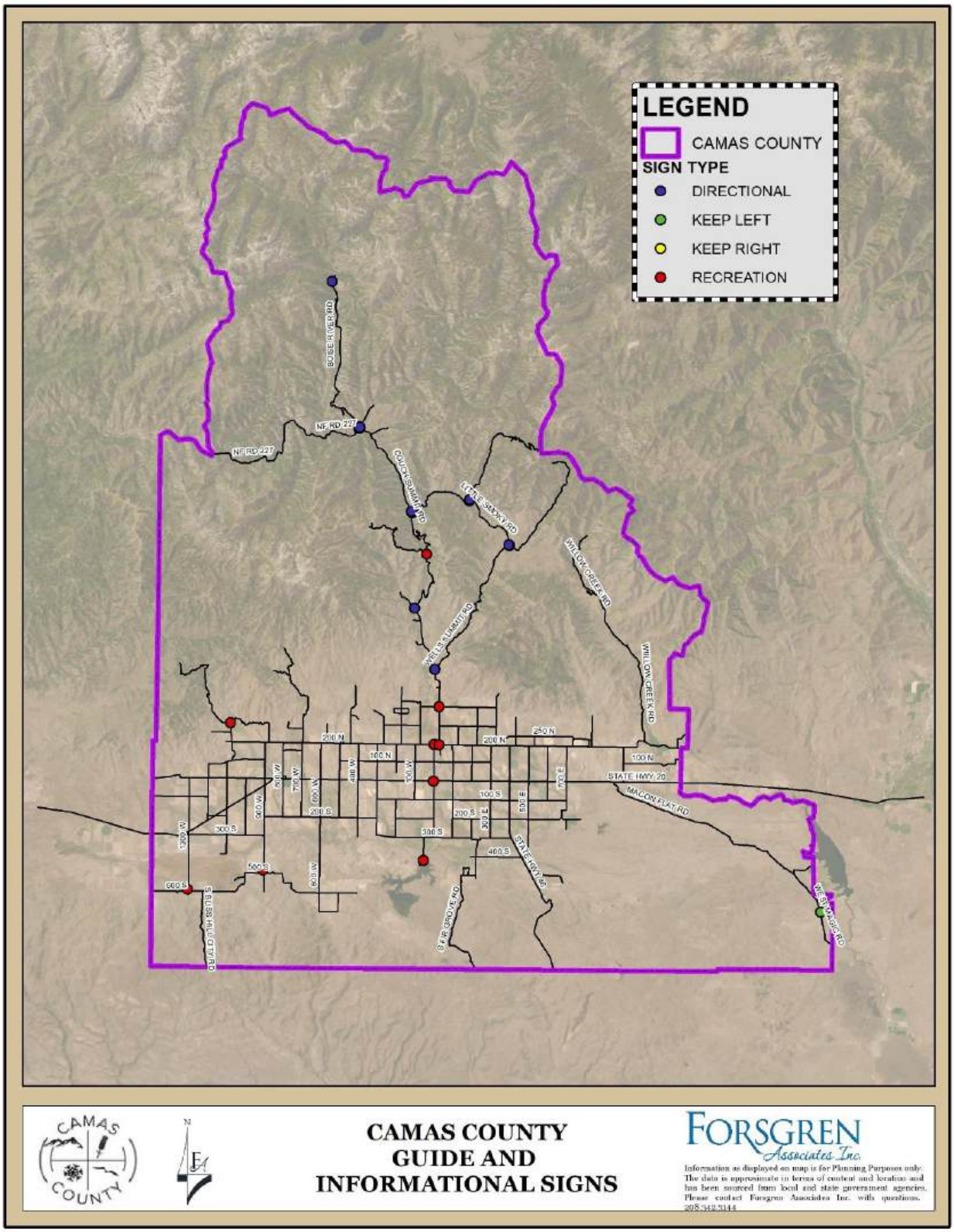

Figure 27: Guide and Informational Sign Map

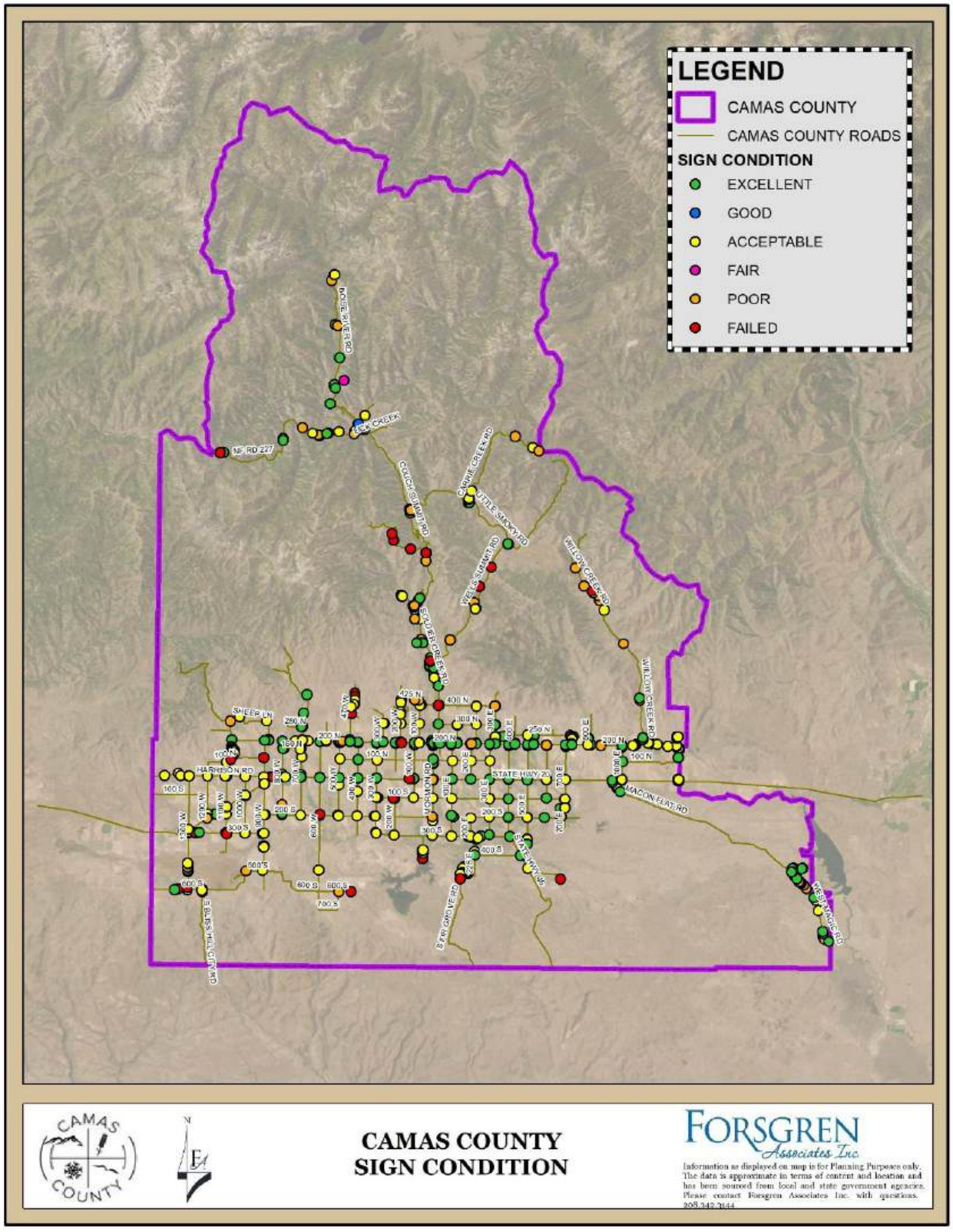

Figure 28: Sign Condition Map

Sign Management Plan

Sign Improvements, Maintenance, and Recommendations

One of the best ways to increase safety in a county is by having a good sign network. According to the Transportation Research Board, sign maintenance programs provide five times the improved safety cost/benefit ratio than other safety programs. By implementing a sign improvement program, a city can reduce liability while creating a safer flow of traffic.

Similar to posts, damaged, vandalized, twisted, and tilted signs are a major concern. Each year, signs randomly demonstrate these deficiencies. Maintenance crews should drive the County each year, inventory the signs of deficiencies, and perform the proper maintenance technique. To give the County a start, this inventory has been performed in this study. Figure 29: Sign Maintenance Map shows the recommended maintenance technique for each sign.

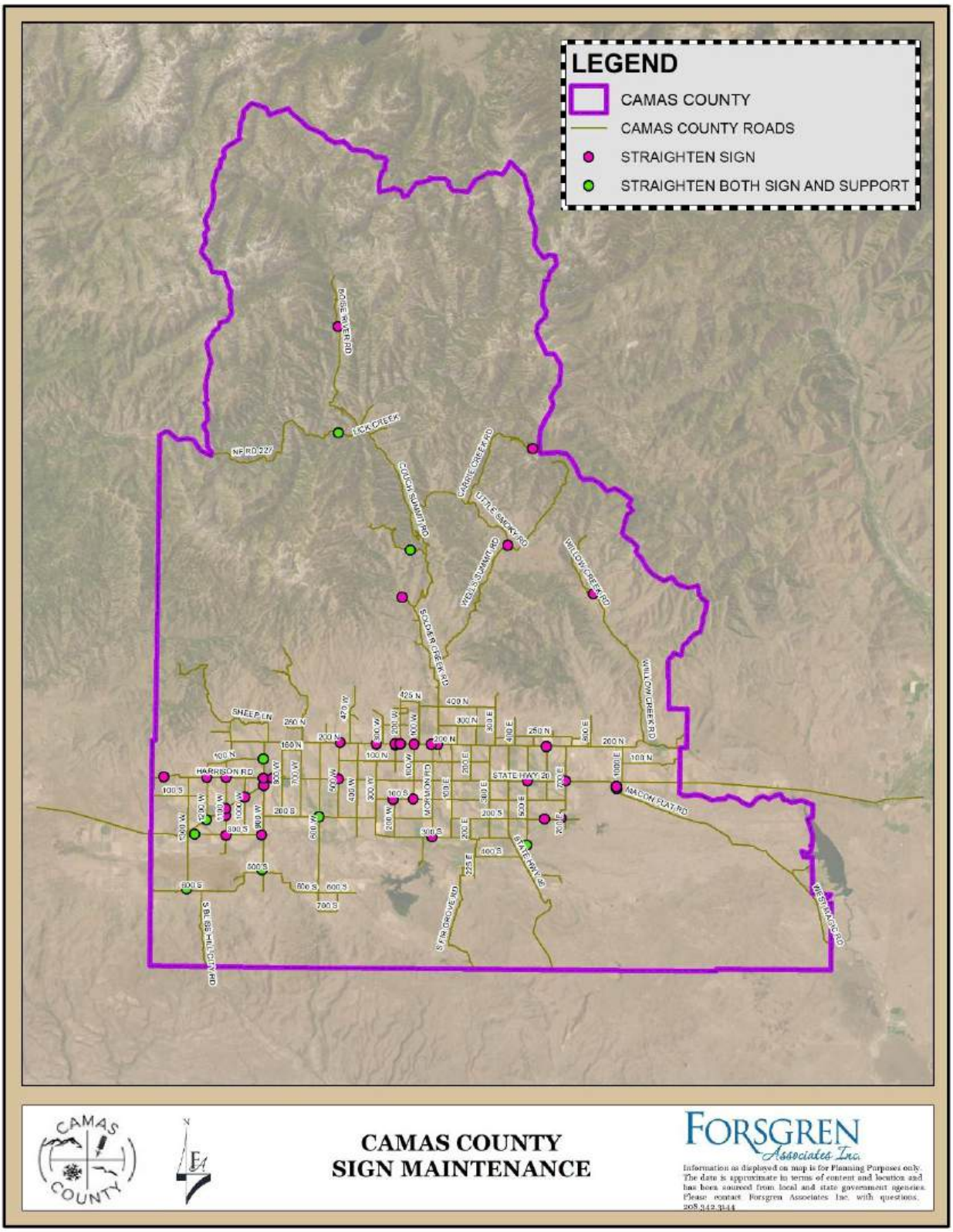

Figure 29: Sign Maintenance Map

Multi-Modal Path Conditions

Multi-modal paths are intended for non-automotive traffic like pedestrians and bicyclists. These paths can be located alongside a road or separate from the roadway. They serve many purposes with the main two purposes being to provide a safe separation between pedestrian traffic and auto traffic, and to provide compliance with the Americans with Disabilities Act (ADA).

In 2018, a LHTAC Transportation Alternatives Program (TAP) project sponsored by Camas County created an asphalt shared use pathway along Soldier Road. The path is approximately 1.5 miles long beginning at the Fairfield city limits and continues north to Baseline Road (200 N Rd). It was aimed at providing a pedestrian and bicycle route to school for Camas County residents that live north of Fairfield. Not only are students able to use this path but many county residents also use the path for recreation. Figure 31 shows the location of this existing path.

Pathway Plan

Improvements, Maintenance, and Recommendations

It is recommended that the County maintain the existing pathway with crack seals and/or chip seals as needed. During the TAC meetings much discussion included pathways throughout the county. The Multimodal Capital Improvement Plan in Chapter 6 lists these improvements.

Key Pedestrian and Bicycle Corridors/Activities

Currently, only the Soldier Road pathway was listed as the key pedestrian or bicycle corridor. As part of the public involvement, and TAC meetings all comments suggested that a corridor or multiple corrdors would be welcomed as part of a County plan. For projects involving pedestrian and bicycle corridors, please refer to the Multimodal Capital Improvement Plan in Chapter 6.

ADA Ramps

The Americans with Disabilities Act (ADA) defines a sidewalk curb ramp as a short ramp cutting through a sidewalk curb. This ramp provides an accessible route that people with disabilites can use to safely transition from a roadway or parking space to a curbed sidewalk. ADA ramps include: the gutter, ramp, transitions, flares, and landings must conform to standards in order to comply with ADA regulations. As sidewalks or pathways are replaced or installed within the County, it is recommended to include compliant ADA ramps or smooth transitions at intersections and where crosswalks will be placed.

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Chapter 5: Public Involvement

The strategy for public involvement includes a variety of public activities to meet the needs of the area's residents and support the overall Transportation Planning process. The goal of the public involvement process is twofold:

1. *To effectively engage the community in the planning process and:*
2. *To develop strong support for the Plan's final recommendations.*

This study was structured around cultivating public involvement. Along with working meetings with the county, one public outreach meeting was completed.

Public Meetings

Citizens of Camas County were invited to a public involvement meeting held at the Senior Center, 129 Willow Ave in Fairfield on Thursday, October 26, 2023, from 7:00 – 9:00 pm in order to evaluate the priorities and concerns of local residents. Eighteen county residents attended the meeting and voiced their concerns. Public interaction was wonderful as everyone spoke and was able to give excellent feedback on the information provided. From the information gathered in this meeting, the primary concerns of residents included the amount of dust from the gravel roads, and that the gravel roads become soft / muddy in the spring and fall. A copy of the meeting summary is included in the Appendix.

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Chapter 6: Plans

Capital Improvement Plan

There are two separate types of projects, maintenance and improvement. The maintenance projects have been described for roads, posts, signs, sidewalks, and ramps in Chapter 4 and within their respective sections. When something more than routine maintenance is needed, for example constructing new lanes or safety features, a project is created and added to the Capital Improvement Plan (CIP). The main goal of the CIP is to create a prioritized list of improvement projects that satisfy the goals outlined in the Transportation Plan.

The goal of the Capital Improvement Plan is to:

> "Provide a safe, convenient, aesthetic, and economically functional transportation system for the County and region, which includes pedestrians, bicycles, automobiles, trucks, agricultural vehicles, and other modes of transportation for the safe and efficient movement of people, goods and services"

Improvement Projects

The overall assessment of the roadways indicates there are several needed roadway improvements. The county has outlined a number of road and sign projects that they find to be of high priority. The recommended improvement projects are described below with corresponding maps at the end of the section.

Capital Improvement Projects

#1 – Bridge Replacement

Camas County has 53 bridges within its' district. It is recommended to replace at least one bridge each year that is listed as critical conditional and/or posted for loading. The probable cost is $500,000 every year.

#2 – Solider Road Rehabilitation (~1.6 miles)

Soldier Road from Freegold Road to Soldier Creek bridge is listed as a road requiring rehabilitation. This also includes adding a Multimodal path with the same project limits.An estimate of the probable cost is $4,500,000.

#3 – Soldier Road Rehabilitation (~4.0 miles)

Soldier Road between Baseline Road to Wells Road has been identified as a road requiring rehabilitation. An estimate of the probable cost is $5,000,000.

#4 – Baseline Road (200 N Road) Paving (~1.4 miles)

It is recommended to pave Baseline Road (200 North Road) from North 1000 East Road to Willow Creek Road. The estimate of probable cost is $1,500,000.

#5 – Willow Creek Road Paving (~1.2 miles)

It is recommended to pave Willow Creek Road beginning at Baseline Road and continuing for approximately 1.2 miles. The estimate of probable cost is $1,500,000.

To complete these five listed improvements, it is estimated to cost $13,000,000 with an additional $500,000 every year for each bridge replacement. Although many sections of roadway were identified to rehabilitate or as a new location to pave, it is recommended 3-5 years after paving to chip seal to elongate the roadway life.

Table 11 lists the roadway improvement projects outlined in this chapter in an approximate order of priority. It also provides a description of each project, along with the Engineer's Estimate of Probable Cost. Figure 30 Roadway Capital Improvement Plan is a map showing the identified Capital Improvement Project locations.
This CIP list is designed to be a living list in that every 3-5 years it should be reevaluated and updated as projects are completed from this list.

Table 11: Roadway CIP Priority List

Priority	Project Description	Engineer's Estimate of Probable Cost
1	Bridge Replacement	$500,000
2	Soldier Road and Path Freegold Road to Limits of Bridge Rehabilitation	$5,000,000
3	Soldier Road Baseline Road to Wells Road Rehabilitation	$3,500,000
4	Baseline Road (200 North Road) Paving	$1,500,000
5	Willow Creek Road Paving	$2,500,000

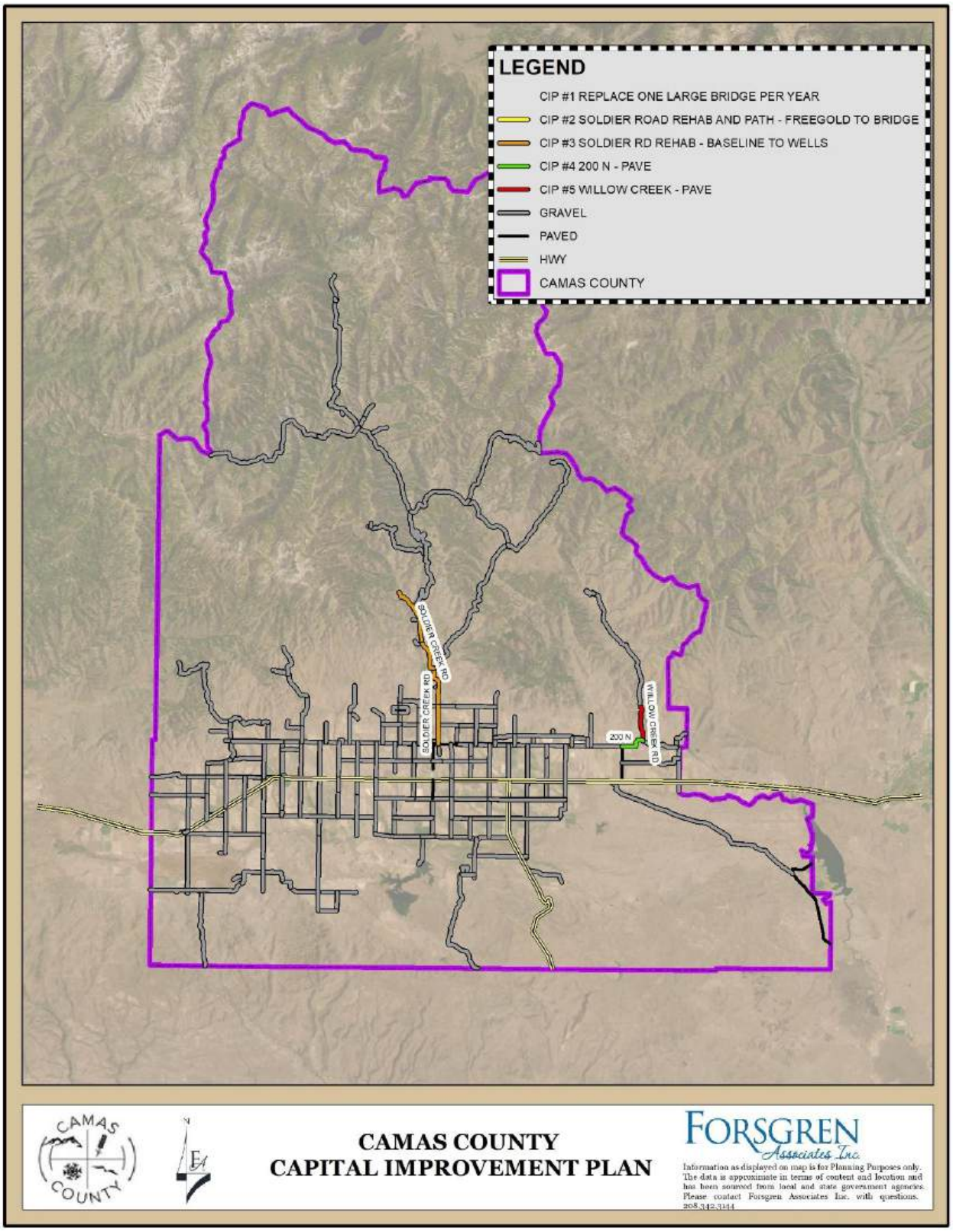

Figure 30: Roadway CIP

Multimodal Plan

According to the Idaho Transportation Department, Multimodal Transportation Planning is the ability to connect various modes of transportation. The five listed modes of transportation are: aeronautics, bicycle/pedestrian, highway/streets, rail and freight, and public transportation. Bicycle/pedestrian and highway/streets are of the most practical in Camas County. Since highway/streets are discussed throughout this Transportation Planning Study, this section will only focus on the bicycle/pedestrian facilities within the county.

Both bicycling and walking encourage daily physical activities for children and adults. Existing multi-modal paths were identified and discussed in Chapter 4. Connecting sidewalks in Fairfield, Solider Road path, and creating new paths throughout the county were heavily noted and discussed during the public involvement. Figure 31 Multimodal Capital Improvement Plan shows the existing Soldier Road path and the ideal locations for additional path locations. The first priority is a paved path along Soldier Creek Road from Baseline Road (200 N) to the Soldier Mountain Ski Resort. The second priority is a new path on 100 North from Soldier Road connecting to the Manmade path. The third priority is to pave the Manmade path. The current cost is approximately $2,600,000 to complete all listed multimodal paths.

As growth occurs it is recommended that more paths be included as part of the developments. These paths can connect future residents with county owned pedestrian pathways to existing sidewalks in Fairfield and further promote multimodal use. Also, as pathway projects are completed, it is recommended that the Multimodal Capital Improvement Plan is updated with more projects.

Table 12: Multimodal CIP Priority List

Priority	Project Description	Engineer's Estimate of Probable Cost
1	Solider Creek Path 9.0 miles	$1,970,000
2	100 North Path 2.0 miles	$440,000
3	Manmade Path 0.9 miles	$190,000

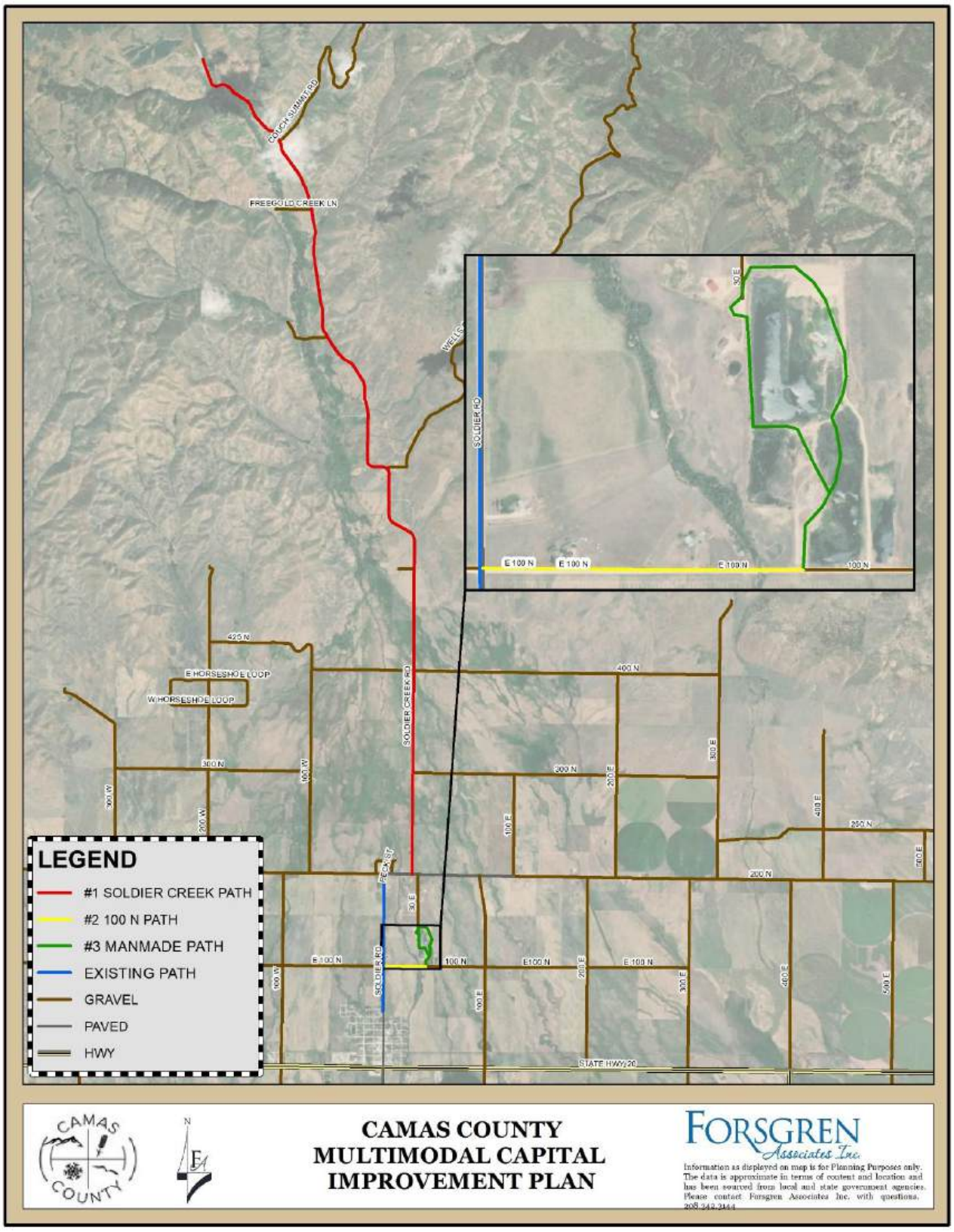

Figure 31: Multimodal CIP

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Chapter 7: Funding

With the limited budget that Camas County has for transportation improvement projects, outside funding is a necessity. Currently, the State of Idaho has a number of funding programs that Camas County can utilize in their endeavors to improve their road network. The programs that can support the county's maintenance and construction needs are:

- **Local Highway Safety Improvement Program (LHSIP):** This program is a federally funded program aimed at eliminating fatal and serious injury crashes on the roadway system. This grant has a maximum project limit of $1.5 million and is typically submitted in January.

- **Transportation Alternative Program (TAP):** This grant provides funding for project defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation and enhanced mobility, and safe routes to school educational projects. Examples include paths/sidewalks along or adjacent to an existing roadway, connecting sidewalks/paths between two terminal points, and curb ramps and other horizontal/vertical barriers to accessibility. TAP awards are capped at $500,000 and include a 7.34% match provided by the City. Applications are typically submitted in January.

- **Children Pedestrian Safety Program:** This program provides funding for projects related to maintenance and addresses safety and mobility. Examples include paths/sidewalks along or adjacent to an existing roadway, connecting sidewalks/paths between two terminal points, ADA ramps, pedestrian crossing facilities across an existing roadway including signing and/or signalization, or paving an existing pathway. Projects should be "shovel ready". The maximum grant award is $250,000 and is typically submitted in January.

- **ITD Office of Highway Safety Grant:** This grant provides funding for efforts addressing specific behavior-related safety priority areas. These include: impaired driving, aggressive driving, distracted driving, occupant protection, bicycle, pedestrian, motorcycle safety, youthful drivers, and traffic records. Grants may be awarded for assisting OHS in targeting traffic safety deficiencies, expansion of an ongoing activity, or development of a new program. Refer to https://itd.idaho.gov/safety/ for more information.

- **Americans with Disability (ADA) Curb/Ramp Program:** This program provides funding for projects to address curb ramps on the state highway system. The goal of the program is to provide accessible facilities for pedestrians with disabilities while allowing local jurisdiction flexibility in meeting the required standards. Funds can only be used for construction purposes; the design is provided without compensation. Applicants can qualify for up to $60,000 in state funding to construct new or alter existing curb ramps on the state highway system to meet the requirements of the ADA.

- **Community Development Block Grant (CDBG):** This program assists Idaho cities and counties with the development of needed public infrastructure. Cities or counties with a

population under 50,000 and are incorporated are eligible to apply. Eligible activities include downtown revitalization and public facilities construction and improvements such as sewer and water systems, streets, and other public infrastructure. Applications are typically due in November.

- **Federal-aid Urban:** Surface Transportation Block Grant (STBG) Urban funds are allocated for projects in urban areas with populations greater than 5,000 and less than 50,000 as determined by the US Census Bureau. Funds may be used for new construction, reconstruction, or rehabilitation of roadways functionally classified with FHWA as urban arterial or urban collectors. It can also be used to create or update a Transportation Plan encompassing the entire urban area. The local match requirement is 7.34 percent. Applications are typically due in January.

For additional information about funding, reference the "Local Highway Jurisdiction Funding" manual on LHTAC's webpage at www.lhtac.org.

Chapter 8: Final Recommendations

Throughout the course of this study, various methods and techniques have been discussed for the analysis of the Camas County's road network. The street analysis showed that there are many County road surfaces that are in need of improvement. The condition of the roadway is directly linked to the County's roadway budget.

The basic roadway preservation program recommended for the Camas County is to concentrate on preserving the good roads until funding can be secured to improve as many of the poor/failed roads as possible. Using the recommended maintenance plan will improve the service life of individual roads and will gradually stabilize basic maintenance needs and costs.

Future funding needs will increase due to inflation, increased pavement surface areas, increased traffic volumes, and increased material costs. The county should plan on an additional $0.05/SF and $0.03/SF to the yearly maintenance budget for the addition of paved and unpaved roadways, respectively.

It is recommended that all Highway User Revenue (HUR) monies be allocated to pavement preservation, and outside funding obtained for capital improvements and capacity improvements. It is advised that the County approach its goal of improving all its roads in a modest way. This can be achieved by stabilizing what you have, replace or strengthen the inferior materials and pave roads in a specific order.

As stated earlier, not all Pavement Management Systems are implemented well; many fail in the third or fourth year. We recommend that long-term support be given to this investment. The road network should be reviewed annually with a comprehensive review every three years. A mentor or champion on the commission needs to be assigned oversight responsibilities and be able to measure progress toward the County's transportation system goals. The County should take an active role in finding ways to increase funding and should allocate a portion of the maintenance budget for updating the transportation network.

As the population of the County increases, the traffic volume will increase and make traffic conditions worse. For future development, the county should require each developer to perform a traffic impact study. These studies will identify the impacts each development will have on the existing transportation infrastructure. It is recommended that the county set a level of service limit of C as their maximum allowable level. In other words, when the level of service falls from C to D, the developer must improve the road network before the development is approved.

In order to implement recommendations from this Transportation Planning Study, it is proposed that Camas County:

- Incorporate this plan into County budgets
- Evaluate sight triangles
- Removed obstructions within sight triangles
- Remove obstructions within sidewalk areas
- Replace identified traffic signs and posts

- Maintain the existing multimodal path and add new paths to the maintenance plan as those paths are created
- Update CIP as projects are completed and add new projects when needed

Lastly, Forsgren recommends that this study be analyzed and adjusted regularly. Forsgren representatives will periodically check in with the county to ensure the study stays current and remains useful. Technical support is available to answer questions and to help achieve practical results. Adjusting for unexpected changes can be a useful opportunity to review how modifications can be made quickly and cost effectively. The goal of this document is to enable the county to make informed decisions through the ongoing use of this Transportation Planning Study.

Appendix

TAC Meeting 1 Minutes
TAC Meeting 2 Minutes
Public Meeting Documents

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TAC Meeting 1 Minutes

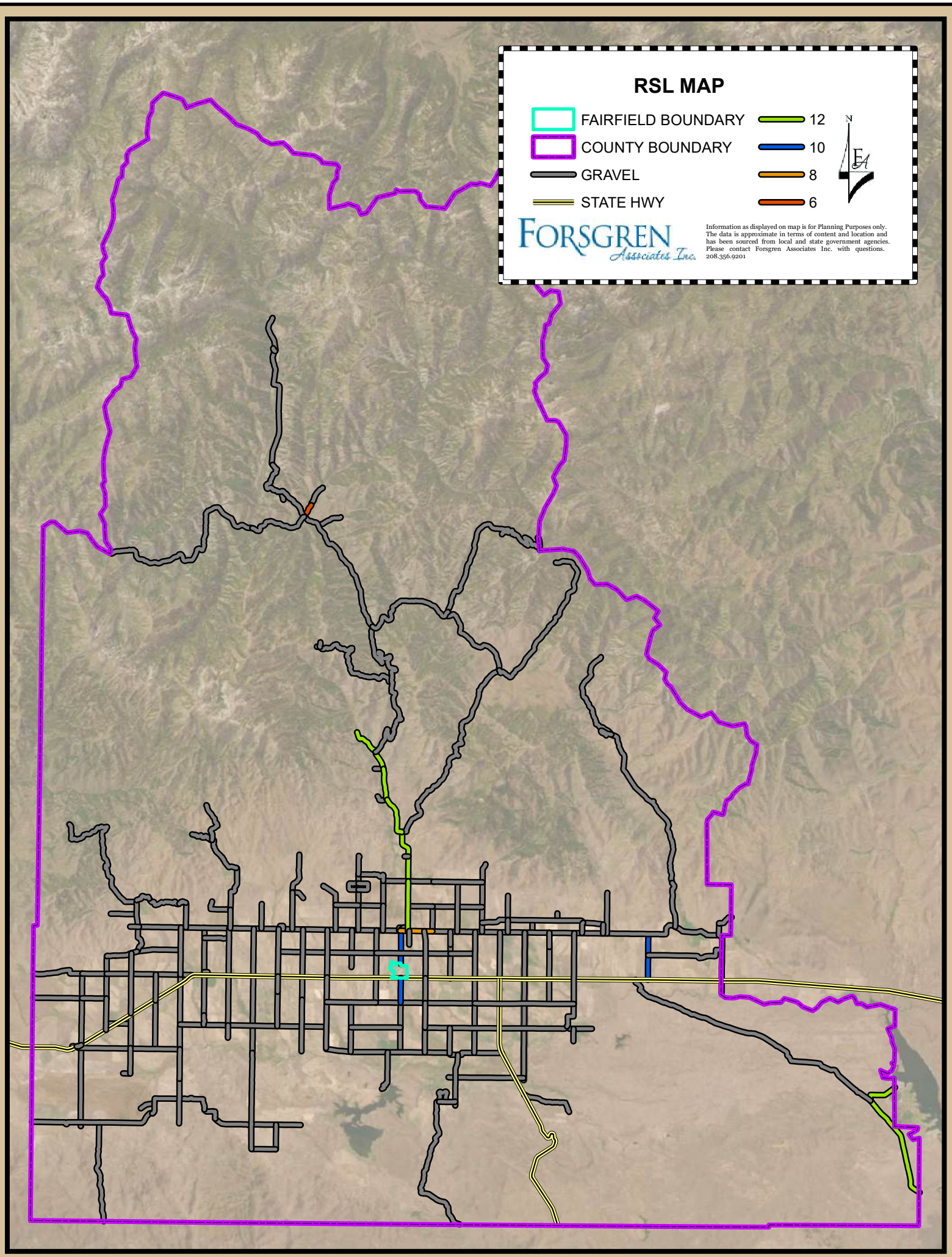
Transportation Plan, Camas County R&B

Technical Advisory Committee Meeting #1 Minutes

Date: August 16, 2023
Time: 4:00 PM
Place: Fairfield City Hall
Subject: TAC Kickoff Meeting
Attendees: Ted Strickler, Terry Lee, Jerry Scovill, Edward Reagan, John Pine, Ted Miller – Camas County
Steven Yearsley, Mariah Fowler – Forsgren Associates

Discussion Items

1. Introduction of Meeting Participants
    - Brief Project Overview
2. Existing Conditions
    - Roadway
        - Remaining Service Life – reviewed map.
        - Recommended Treatment – reviewed map.
            - Soldier Road Improvements
                - Baseline to Wells Summit Road
                - Freegold Road to Camas Creek Bridge rehab and pedestrian trail
            - Replace one bridge per year
            - Pave 200 North from 1000 East to Willow Creek Road
            - Pave Willow Creek Road from 200 North past the subdivision
            - Look for a better foundation for gravel roads.
    - Signs and Supports – reviewed maps.
        - Need new signs by the hidden camp.
    - Multimodal Pathways
        - Soldier Road pedestrian pathway
        - 100 N from Soldier Road to Manmade
        - Path around Manmade
    - Transportation Problems
        - Soft bases in some areas.
3. Next Meeting:
    - Projected City Growth Areas – Residential and Commercial
    - Road Locations for Growth
    - Multimodal Plan and Sidewalks
    - Road Improvements
4. Schedule
    - Public Involvement September/October
    - Second TAC Meeting: October
    - Draft Report November


RSL MAP
FAIRFIELD BOUNDARY
COUNTY BOUNDARY
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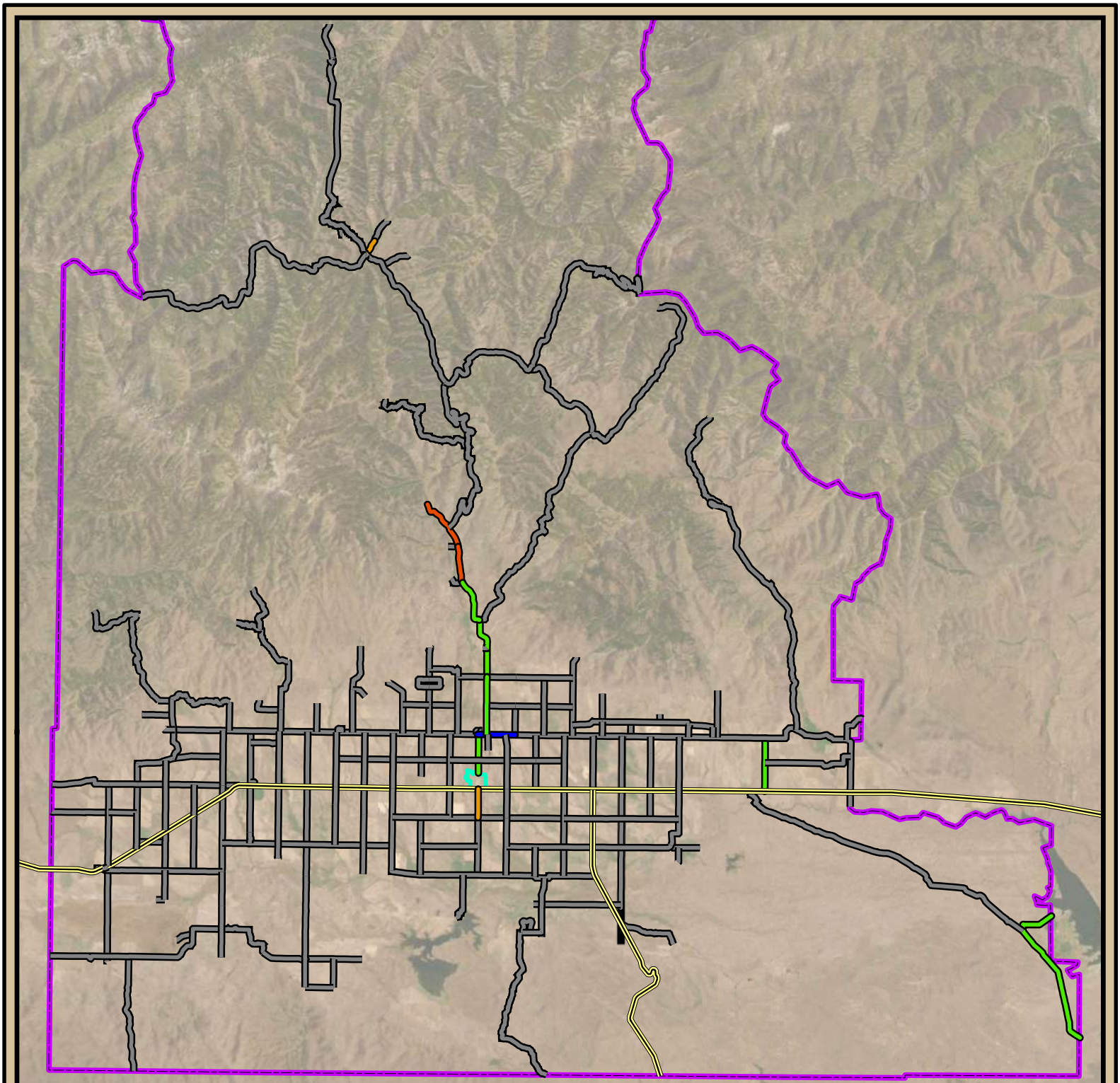
FORSGREN Associates Inc.
Information as displayed on map is for Planning Purposes only. The data is approximate in terms of content and location and has been sourced from local and state government agencies. Please contact Forsgren Associates Inc. with questions. 208.356.9201



Recommended Treatment

CAMAS COUNTY ROADS

GRAVEL

HIGHWAY

CHIP SEAL

CRACK SEAL

PATCHING

NO RECOMMENDATIONS

FAIRFIELD BOUNDARY

COUNTY BOUNDARY

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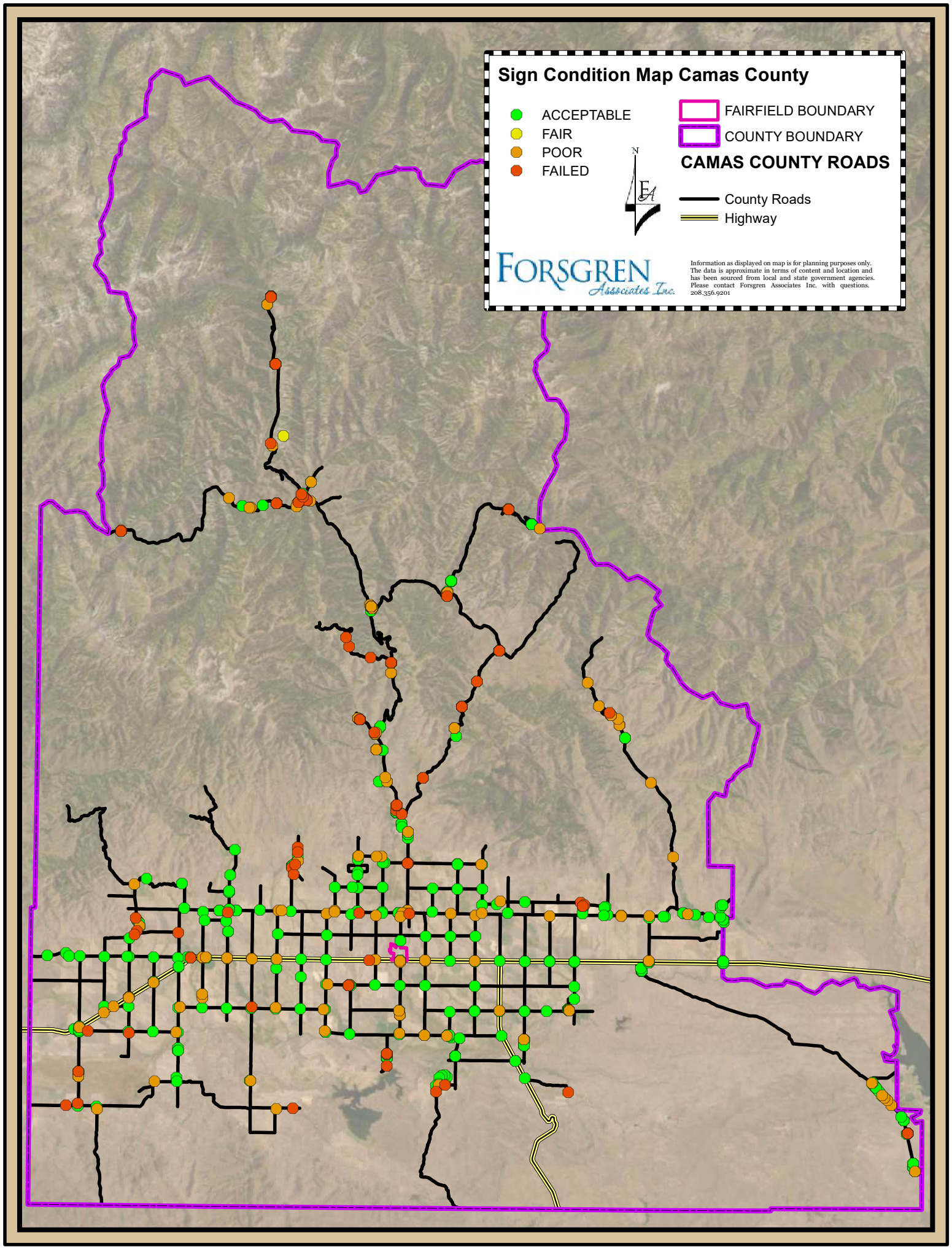
Sign Condition Map Camas County
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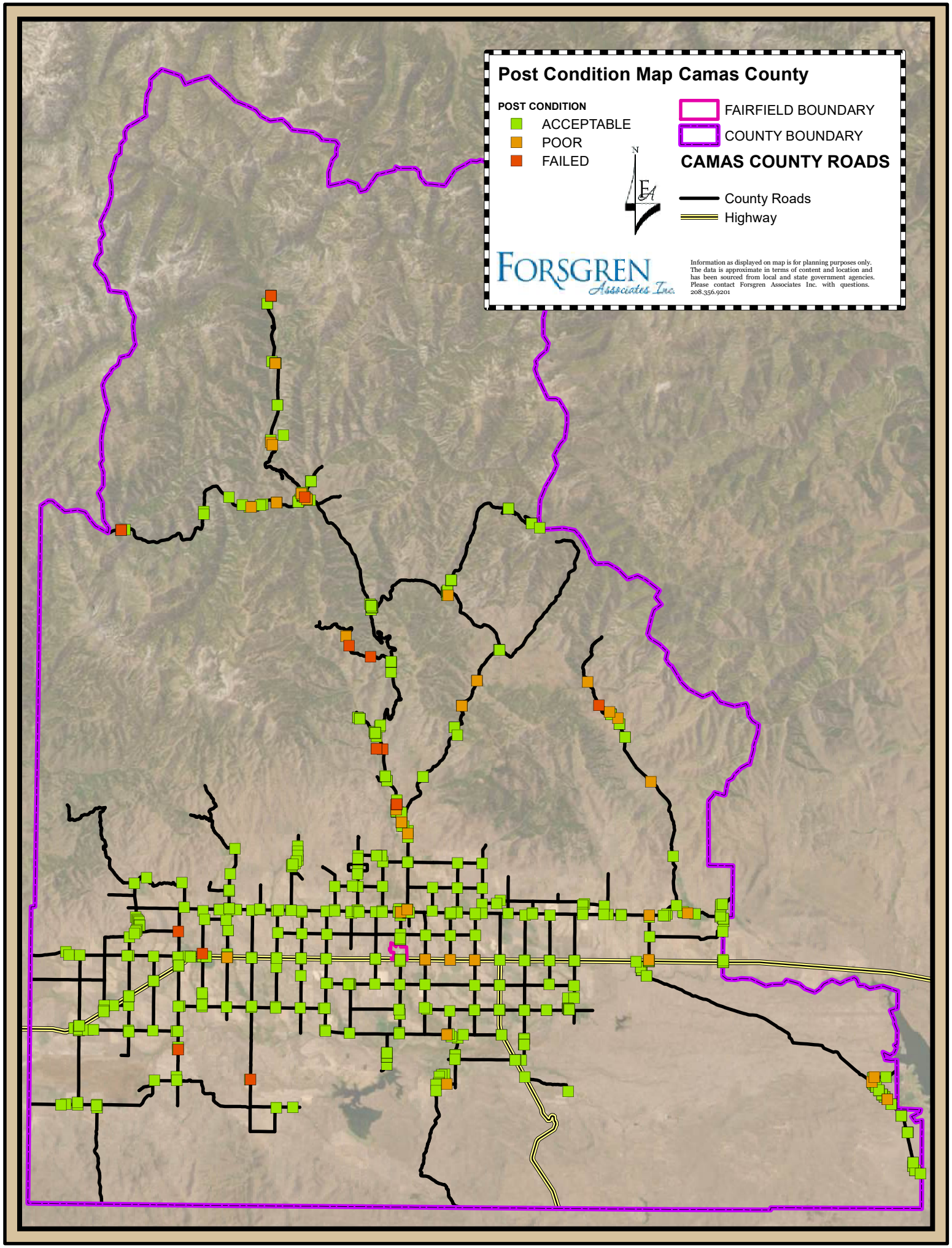
Associates Inc.
Information as displayed on map is for planning purposes only. The data is approximate in terms of content and location and has been sourced from local and state government agencies. Please contact Forsgren Associates Inc. with questions. 208.356.9201


Post Condition Map Camas County
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Associates Inc.
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TAC Meeting 2 Minutes

Transportation Plan, Camas County R&B

Technical Advisory Committee Meeting #2 Agenda

Date: October 19, 2023
Time: 5:30 PM
Place: Fairfield City Hall
Subject: TAC Meeting
Attendees: Terry Lee, Jerry Scovill, Edward Reagan, John Pine, Ted Miller, Josh Bovey – Camas County
Steven Yearsley, Nathan Suhr – Forsgren Associates

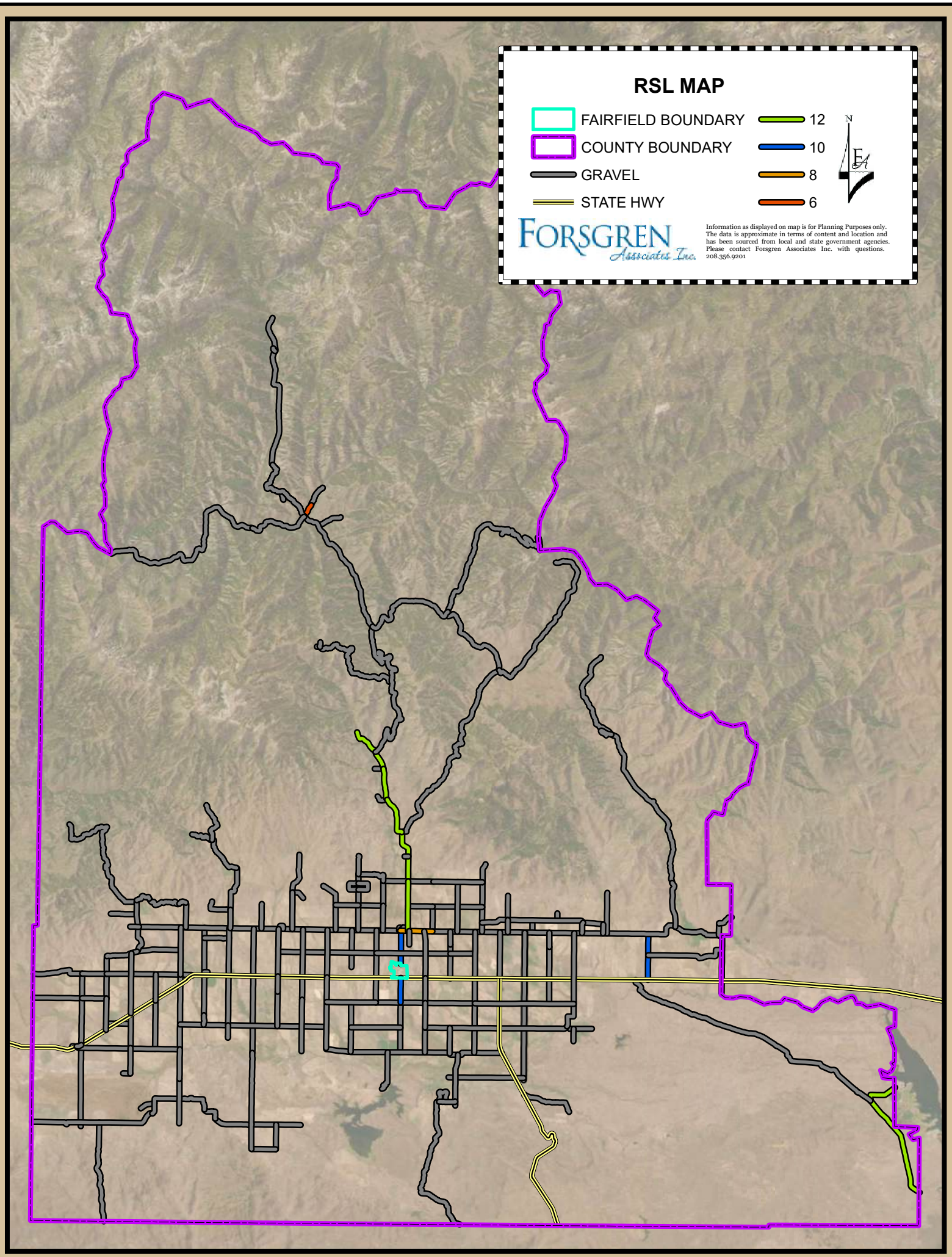
Discussion Items

1. Introduction of Meeting Participants
    - Review minutes from last meeting

2. Next Steps
    - Projected County Growth Areas
        - Some residential growth along Willow Creek
    - Road Locations for Growth
        - New roads will align with growth
    - Multi Modal Pathway Plan
        - Soldier Creek Road- path from Baseline Rd to the Soldier Mountain
        - 100 North Road path
        - Manmade path loop around this area and connects to 100 North Road
    - Capital Improvement Plan
        - Replace one large bridge per year
        - Soldier Road Rehab – Baseline to Wells
        - Soldier Road Rehab – Freegold to Bridge & Path
        - Pave 200 North Road
        - Pave Willow Creek

3. Schedule
    - Public Involvement October 26th at the Senior Center 7-9pm
    - Draft Report November

4. Other


RSL MAP
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COUNTY BOUNDARY
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FORSGREN Associates Inc.
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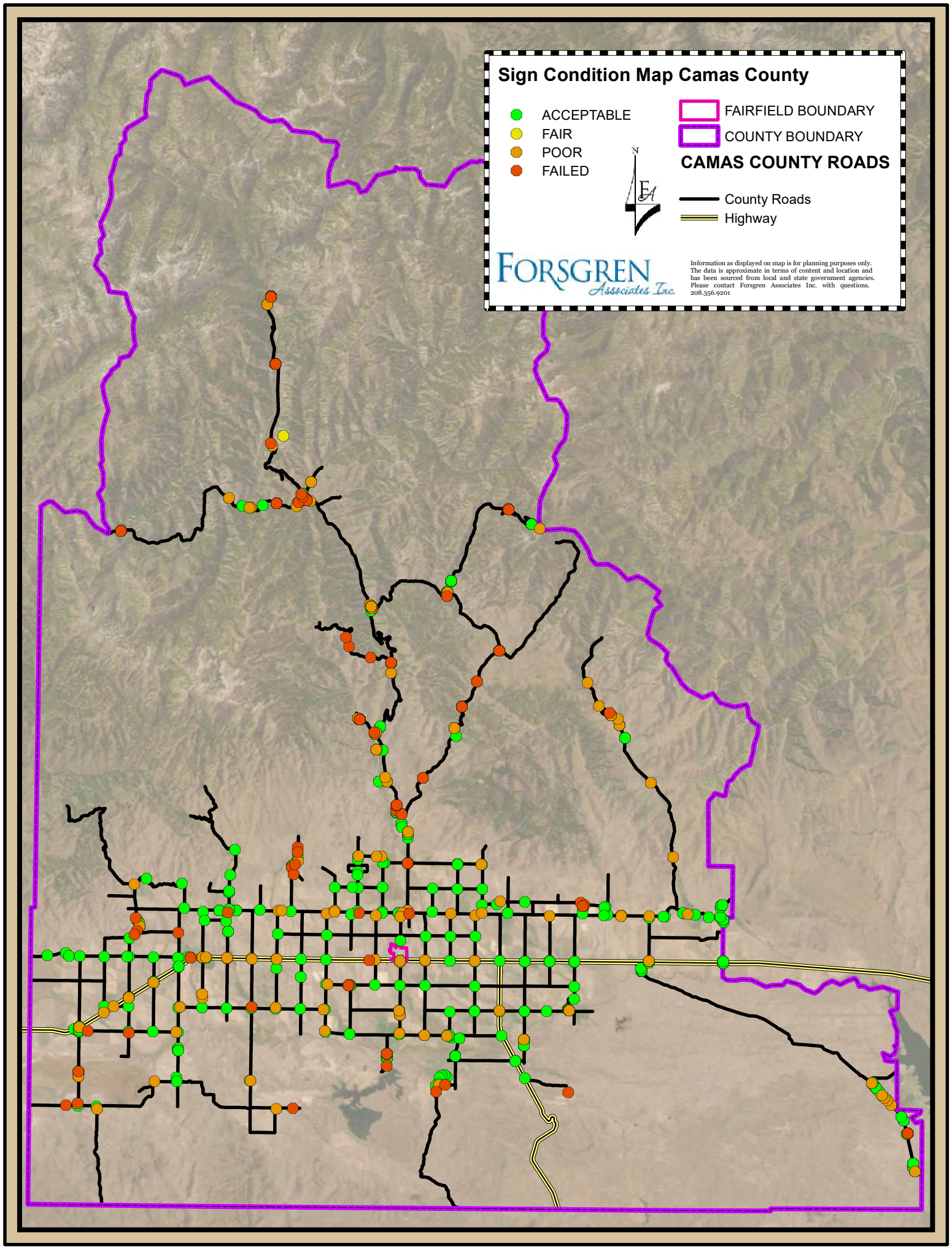
Sign Condition Map Camas County
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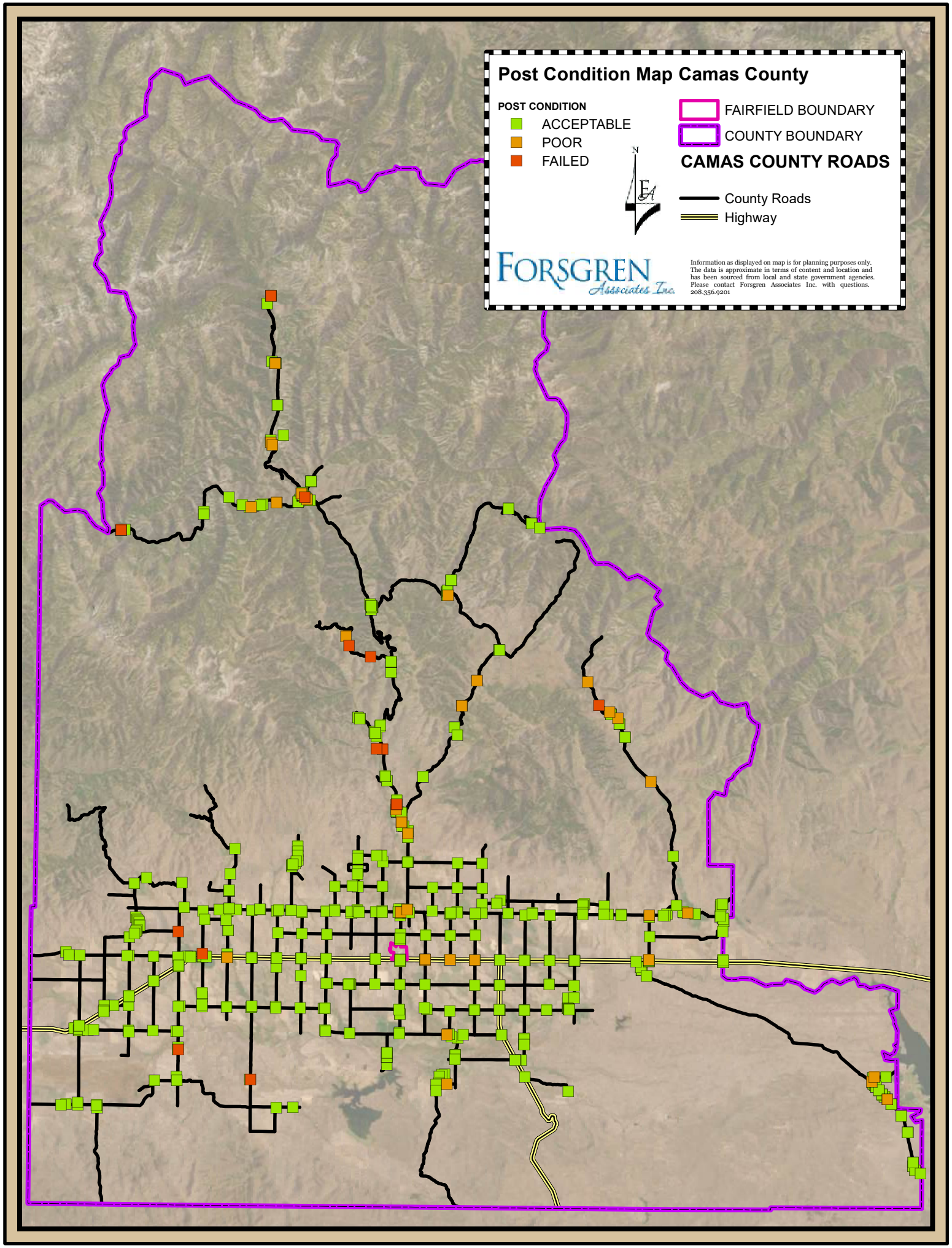
Post Condition Map Camas County
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CAMAS COUNTY ROADS
County Roads
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Public Meeting Documents

Camas County Road & Bridge

Transportation Plan Study

Public Meeting Summary

A public meeting regarding the Camas County Road & Bridge's Transportation Planning Study was held on Thursday, October 26, 2023, at the Camas County Senior Center located at 129 Willow Ave, Fairfield, Idaho. Eighteen members of the public from fifteen different addresses attended the in-person meeting and presentation. A sign-in-sheet was provided for the public and is included with this summary. Two Camas County Commissioners, Marshall Ralph and Travis Kramer and Ted Strickler, Camas County Road & Bridge Forman attended representing the County. Six members of the City of Fairfield were present including: Jerry Scovill (Public Works Director) and Micky Dalin (City Clerk), and City officials included: Terry Lee (Mayor), John Pine (City Council President), Josh Bovey (City Council Member), and Ed Reagan (City Planning and Zoning). Also attending were Mariah Fowler and Hanna Irving from the consultant firm Forsgren Associates.

The consultants provided five easel displays showing analysis of the current roadways with a map showing the remaining service life, a map showing the recommended roadway treatment, a map showing the Capital Improvement Plan projects, a map showing the sign conditions, and the multimodal Capital Improvement Plan map (see attached).

During the open house time frame, the consultants provided the public with an explanation of the displays and allowed any questions at will.

At 7:20 pm the presentation portion of the meeting where the consultant, Mariah Fowler, used the displays and explained the importance of each topic and how it related to the Transportation Planning Study, grant funding, and safety concerns. Key concerns were the amount of dust from the gravel roads and the gravel roads that turn soft and muddy in the fall and spring.

At 9:00 pm the meeting concluded with no additional attendees present.

Attached:

- Public meeting invitation sent with City of Fairfield utility bills and posted at Fairfield City Hall
- Public meeting invitation on Facebook
- Sign-In Sheet
- Displays

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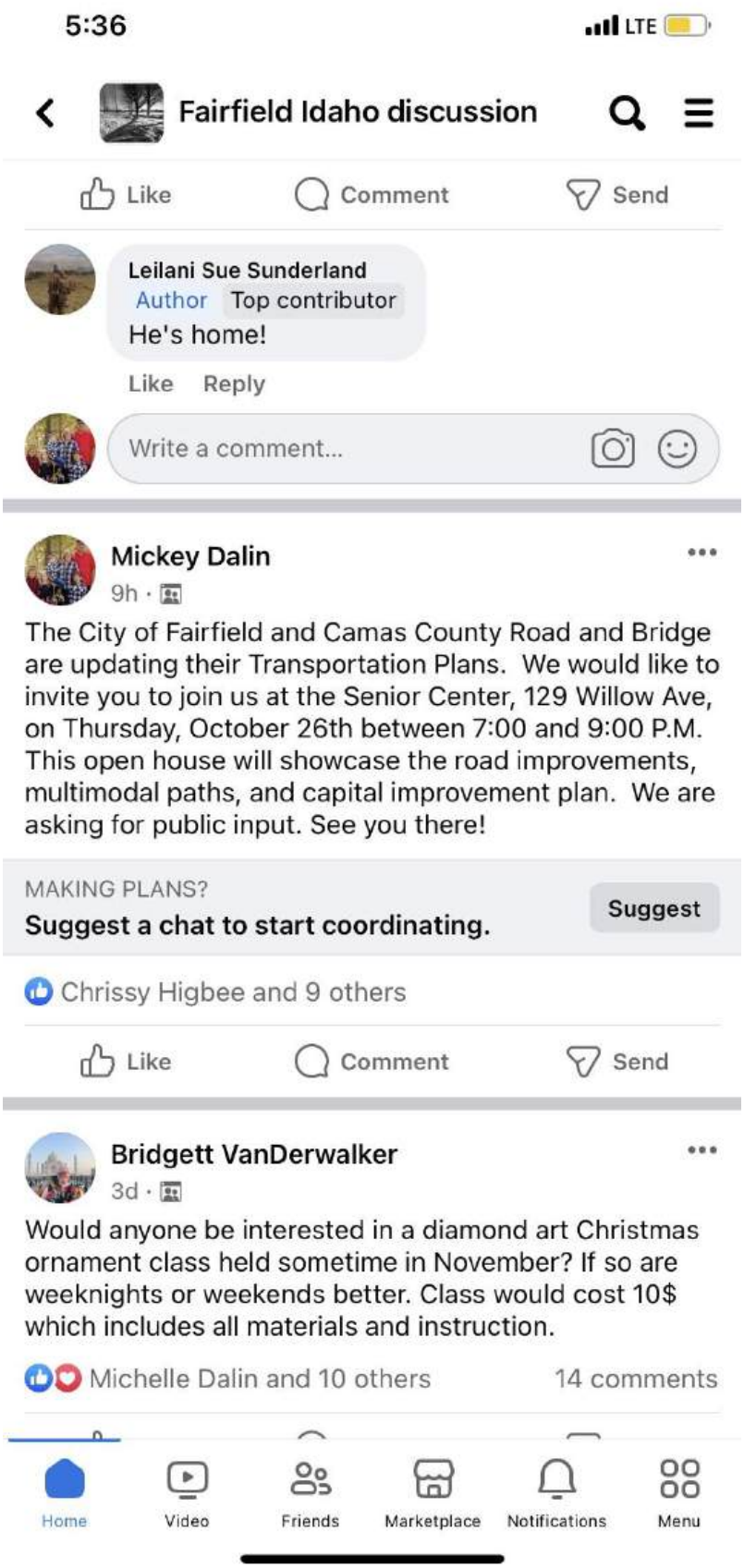


FORSGREN Associates Inc.

The City of Fairfield and Camas County Road & Bridge are updating their Transportation Plans. We would like to invite you to join us at the Senior Center, 129 Willow Ave, on Thursday, October 26th between 7:00 and 9:00 PM. This open house will showcase the road improvements, multimodal paths, and the capital improvement plan. We are asking for public input. See you there!

Camas County Transportation Planning Study

Camas County Road & Bridge

Public Meeting Sign In

October 26, 2023

Name	Address	Phone #	e-mail
Judy Killian	179 N 30 E	—	—
Josh Baney	1735 700W	208-841-4385	
Joe Mabbutt	304 Camas W.	208-342-6929	
DEB MABBUTT	304. Camas Ave W.	208-863-5859	
Fred Mardy	178 N. 30 E.	208-358-0070	
Harold + Melody Jeffer	248 N. 100 E.	208-358-3607	
William Green	112 W Willow Cr	(425) 608 1926	
Nick Bombini	487 S 225 E	208-751-9285	
Mark Westerdoll	819 1st. St. E.	208 949-3761	
RICHARD OCENGA	347 ARTURAS AVE W.	208 481-0957	
Travis Kramer	599 South Highway 46	208-954-2562	Kramer.camas@gmail.com
MARSHALL RALPH	23 W 200 N	208-721-0488	soldier_idaho@yahoo.com
John Pine	319 willow East	208 764 3476	
Terry L Lee	619 west 1ST street	731-1913	
Mickey Dalton	178 Sage Ave W	208 539-2309	

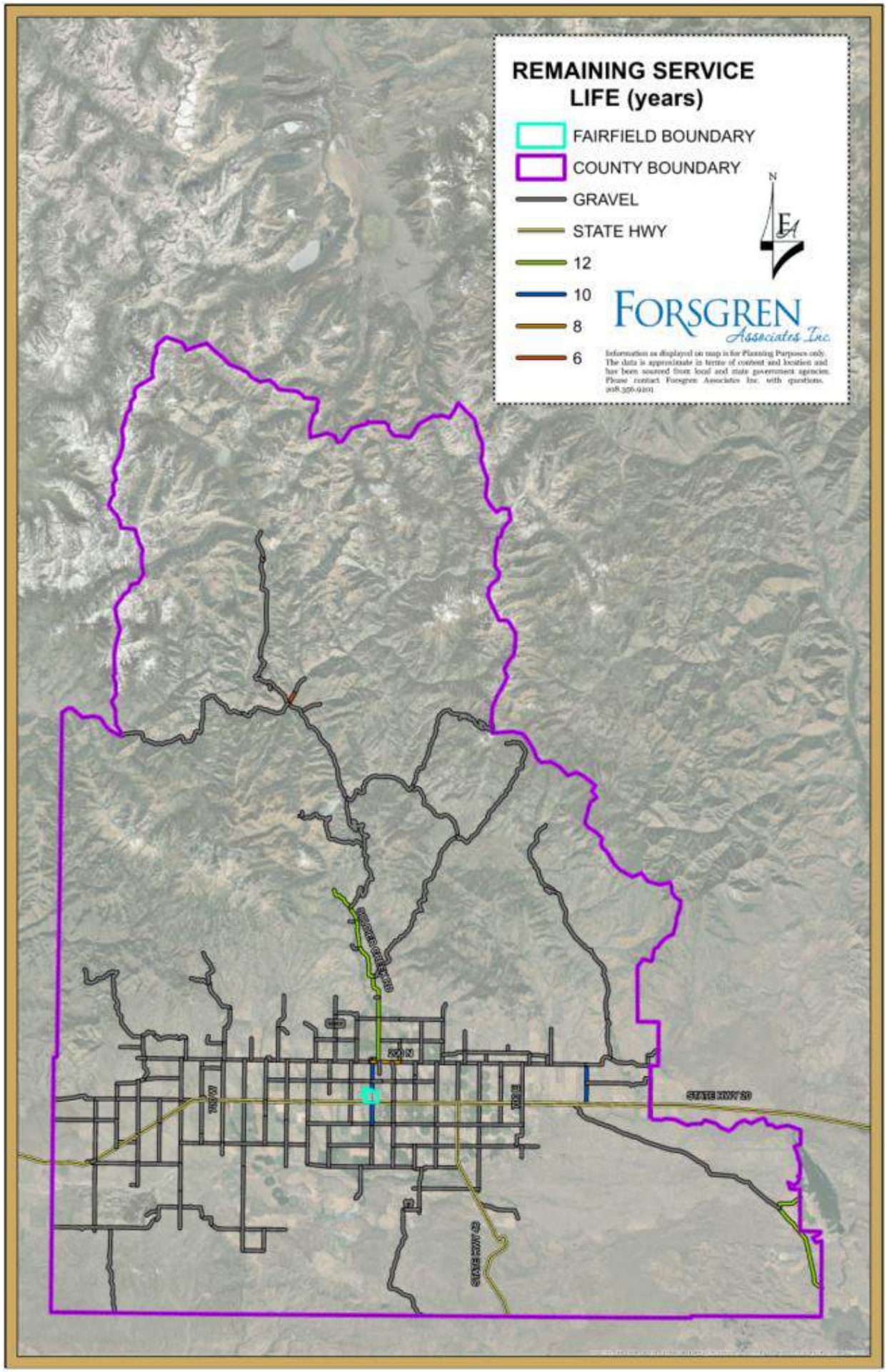
Camas County Transportation Planning Study

Camas County Road & Bridge

Public Meeting Sign In

October 26, 2023

Name	Address	Phone #	e-mail
Jack Amen	P.O Box 365	320-5920	
Marilyn Amen	"	"	
Mariah Fowler	Forsgren		
Hanna Irving	Forsgren		


REMAINING SERVICE LIFE (years)
FAIRFIELD BOUNDARY
COUNTY BOUNDARY
GRAVEL
STATE HWY
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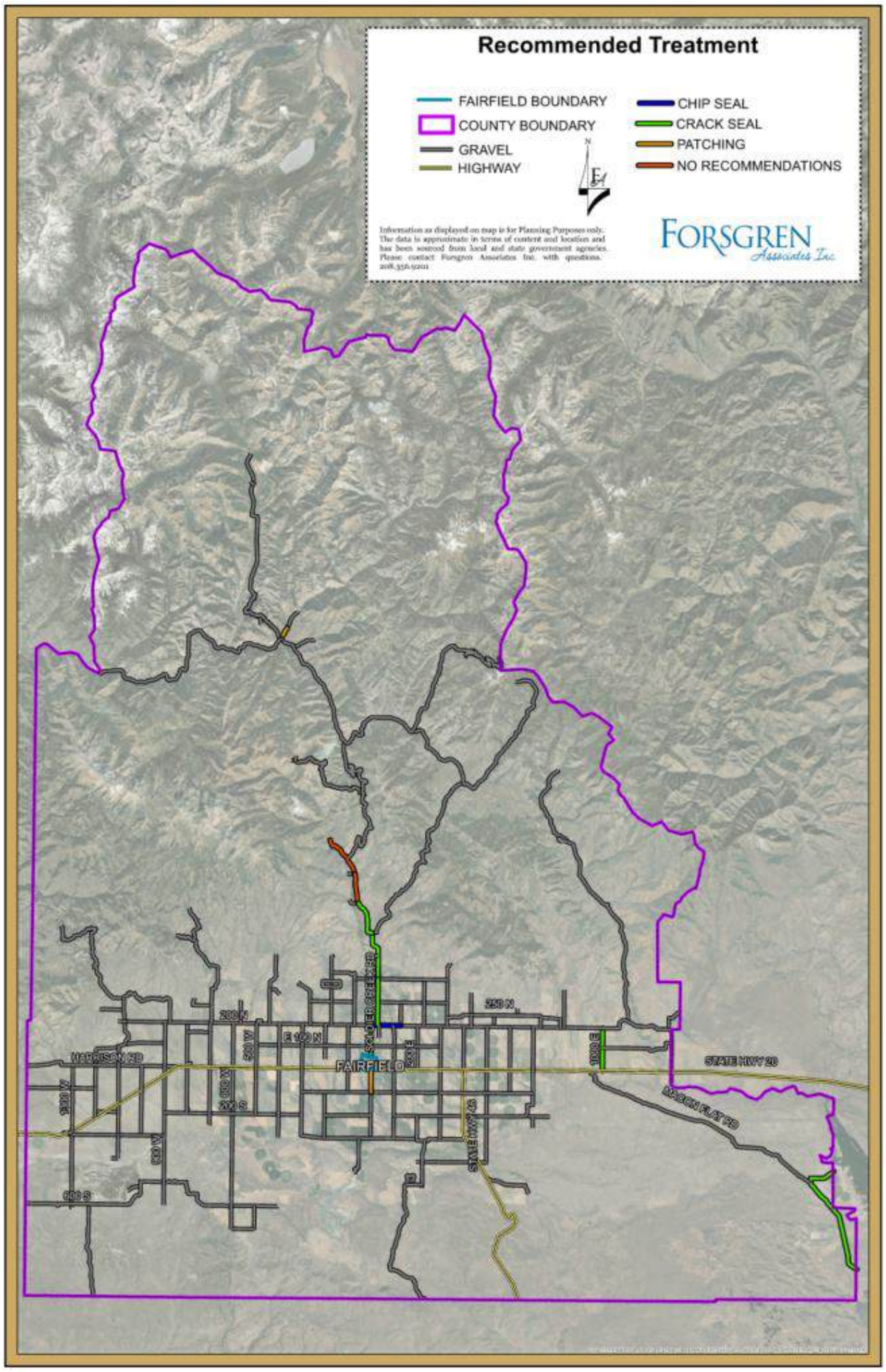
STATE HWY 20
STATE HWY 46


Recommended Treatment
FAIRFIELD BOUNDARY
COUNTY BOUNDARY
GRAVEL
HIGHWAY
CHIP SEAL
CRACK SEAL
PATCHING
NO RECOMMENDATIONS
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FORSGREN Associates Inc
FAIRFIELD
STATE HWY 20
MAGIC FLAT RD
GOLDEN EAGLE RD
HARRISBURG RD
350 N
200 N
E 100 N
100 E
200 W
300 W
400 W
200 S
300 S
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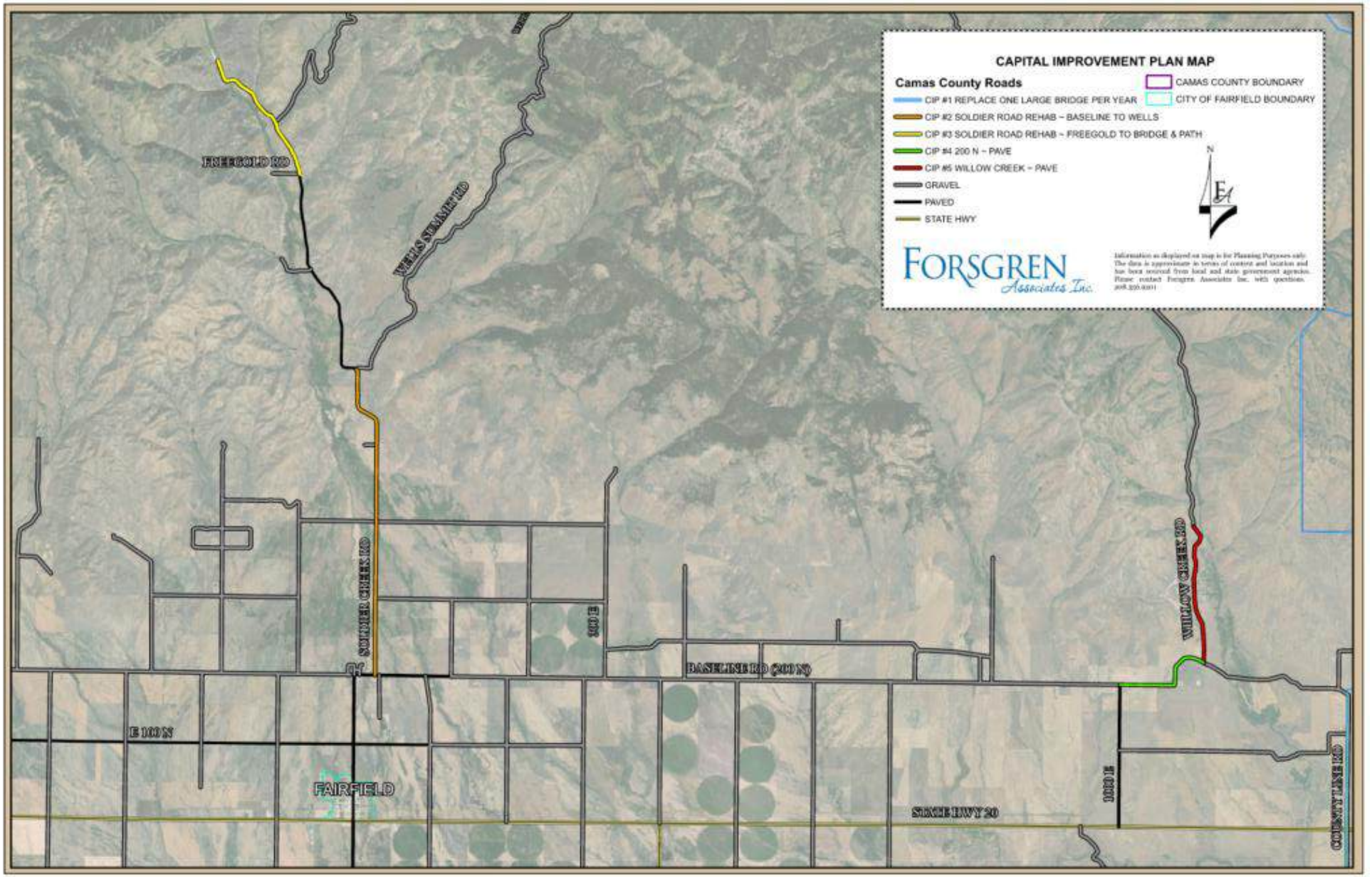
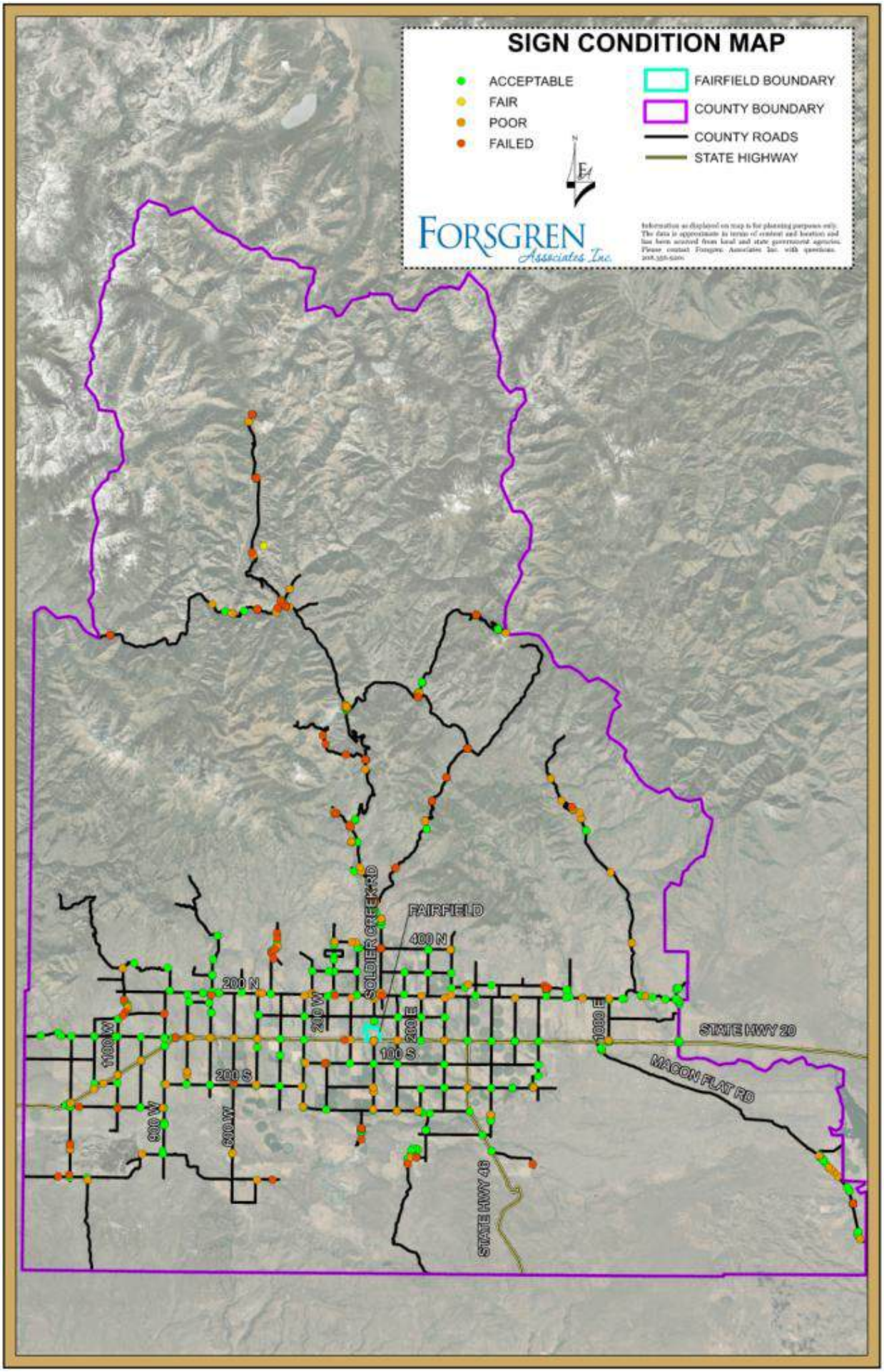
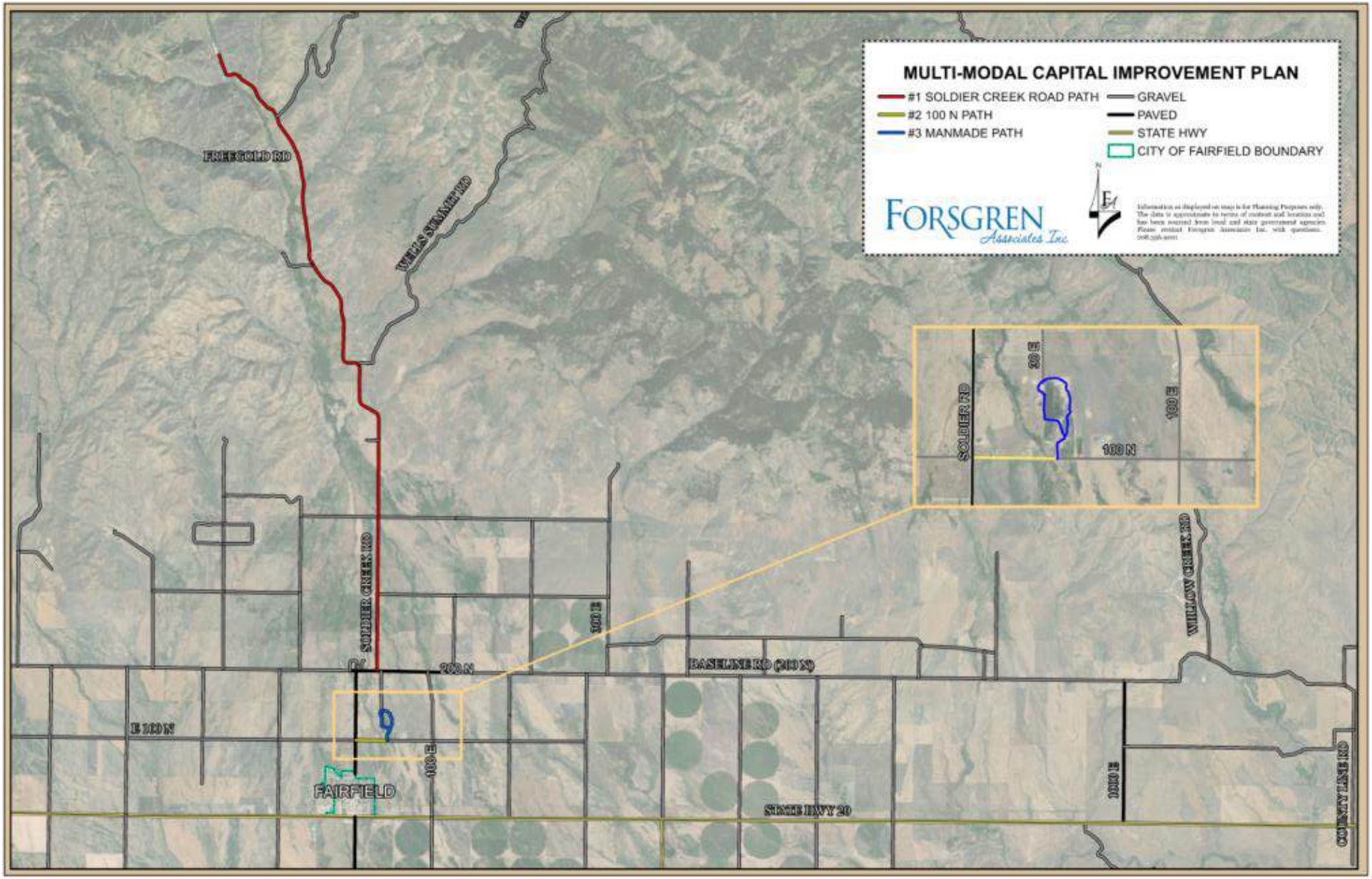
600 S


CAPITAL IMPROVEMENT PLAN MAP
Camas County Roads
CIP #1 REPLACE ONE LARGE BRIDGE PER YEAR
CIP #2 SOLDIER ROAD REHAB – BASELINE TO WELLS
CIP #3 SOLDIER ROAD REHAB – FREEGOLD TO BRIDGE & PATH
CIP #4 200 N – PAVE
CIP #5 WILLOW CREEK – PAVE
GRAVEL
PAVED
STATE HWY
CAMAS COUNTY BOUNDARY
CITY OF FAIRFIELD BOUNDARY
N
FORSGREN Associates Inc.
FREEGOLD RD
WELLS SUMMIT RD
SOLDIER CREEK RD
E 100 E
BASELINE RD (200 N)
WILLOW CREEK RD
E 100 N
FAIRFIELD
STATE HWY 20
E 1000 E
CRESTVIEW RD


SIGN CONDITION MAP
ACCEPTABLE
FAIR
POOR
FAILED
FAIRFIELD BOUNDARY
COUNTY BOUNDARY
COUNTY ROADS
STATE HIGHWAY
FORSGREN Associates Inc.
FAIRFIELD
SOLDIER CREEK RD
400 N
200 N
200 W
200 E
100 S
1100 W
1000 E
STATE HWY 20
MACON FLAT RD
200 S
600 W
600 W
STATE HWY 73


MULTI-MODAL CAPITAL IMPROVEMENT PLAN
#1 SOLDIER CREEK ROAD PATH
#2 100 N PATH
#3 MANMADE PATH
GRAVEL
PAVED
STATE HWY
CITY OF FAIRFIELD BOUNDARY
FORSGREN Associates Inc
FREEGOLD RD
WELLS SUMMIT RD
SOLDIER CREEK RD
200 N
BASELINE RD (200 N)
100 E
100 N
FAIRFIELD
STATE HWY 20
WILLOW CREEK RD

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