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BONNER COUNTY

2018 TRANSPORTATION PLAN

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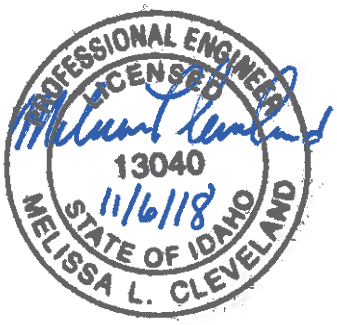
BONNER COUNTY
TRANSPORTATION PLAN

PROJECT NO. 44039

SUBMITTED TO:

BONNER COUNTY



NOVEMBER 2018

PREPARED BY:

WELCH-COMER
ENGINEERS | SURVEYORS

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Commissioner Approval

Approval from the Bonner County Commissioners dated: 11-15, 2018

Glen Bailey

Jeff Connolly

Dan McDonald

BONNER COUNTY ROAD & BRIDGE

1500 Highway 2, Suite 101 • Sandpoint, ID 83864 • Phone: (208) 255-5681 – Fax: (208) 263-9084
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R&B Item # 1

November 13th, 2018

To: Commissioners

From: Steve Klatt, Director

Re: Adoption of Transportation Plan

On November 8th, 2017, the Commissioners approved a Professional Service Agreement with Welch Comer Engineering to prepare a Bonner County Transportation Plan. A Technical Advisory Committee was formed, Commissioners and District Foremen were consulted, stakeholders were identified countywide and consulted, and our road system and operations were analyzed extensively. Presentations of draft material and priorities for maintenance and capital improvement plans were made to the Commissioners and BCATT, as well as presented at a public open house here in the Admin Building.

After numerous edits by the Director and Engineer, Welch Comer has completed the 2018 Bonner County Transportation Plan. Road & Bridge recommends the Commissioners adopt said plan as the official 2018 Transportation Plan of Bonner County.

Distribution: ___ Original Plan to Road & Bridge for Reference
___Copy Memo to BOCC
___Copy Memo to Road & Bridge

A suggested motion would be: **I move to adopt the Bonner County 2018 Transportation Plan as presented at today's Public Hearing and to authorize the Board to sign the Commissioners Approval page of said plan declaring this the official Transportation Plan of Bonner County.**

Recommendation Acceptance: □ yes □ no _____ date: 11/15/2018
Commissioner Glen Bailey, Chairman

Acknowledgements

Commissioners

Glen Bailey, District 1
Jeff Connolly, District 2
Dan McDonald, District 3

County Staff

Steve Klatt, Director of Road and Bridge
Matt Mulder, P.E., Staff Engineer
Jason Topp, District 1 Foreman
Dan Brower, District 2 Foreman
Tom Klopman, District 3 Foreman
Rowdy MacDonald, Right-of-Way Technician

Transportation Advisory Committee (TAC)

In addition to the staff listed above who were all on the TAC:

Jeff Connolly, Bonner County Commissioner
Wayne Newcomb, Resident, Former Commissioner and Logger
Brian Wood, Woods Crushing and Hauling
Don Davis, Resident, Retired ITD District 1 Planner, Trail Mix

Stakeholders

Aaron Qualls, Sandpoint Planner
Ben Ward, Traffic Engineer, ITD District 1
Jimmy Cornelius, City of Ponderay Police Chief
Clif Warren, SPOT/North Idaho Bikeways/Trail Mix
James Koehler, Lake Pend Oreille School District, Director of Transportation
Ken Eldore, West Bonner County School District
Ron Stocking, Fire Chief, City of Sandpoint
Steve Geiger, Mayor, City of Ponderay
Tim Scofield, Fire Chief, Sam Owen Fire District
Les Kokanos, Fire Chief, West Pend Oreille Fire District
Timothy Ventress, Fire Chief, West Priest Lake Fire Department

Table of Contents

Appendices

A. TAC Meeting Agendas and Minutes

B. Presentation to BCATT

C. Open House Boards, Sign-in, and Comments

D. Stakeholder Interviews

E. US Bikeway 10 Maps from ITD

F. Bottle Bay Road Safety Audit

G. Federal Lands Map

Chapter 1 Introduction

BACKGROUND

Bonner County is set on a backdrop of lakes, rivers, and mountains sprinkled with communities that range in size, but are generally quaint with a small-town flavor. The County's transportation system serves the community by connecting rural areas with services in the more populous areas. The County is bounded by Boundary County to the north, State of Washington to the west, State of Montana to the east, and Kootenai County to the south.

Figure 1-1 Bonner County is home to many recreational havens such as lakes, rivers, mountains, and forests.

Bonner County currently has jurisdiction over 679 miles of County road, 286 miles of hard surfaced roads and 393 miles of gravel roads. The transportation system is broken into three maintenance districts: District 1 is the southern portion of the County including the Sagle area, District 2 is the Priest River/Priest Lake area, and District 3 is the area surrounding Sandpoint and stretching east to Clark Fork, and north to Boundary County. Refer to Figure 1-4 for the County Maintenance District Boundary Map.

PROCESS

The transportation plan was developed by first gathering information. The team conducted site visits to each of the three districts with the district foreman as tour guides. The team also gathered information from the County including: traffic counts, pavement condition, maintenance history, and budget. The plan was developed by the team with direct involvement from County staff, Commissioners, and Transportation Advisory Committee (TAC) members. Figure 1-2 shows the process and timeline for the transportation plan.

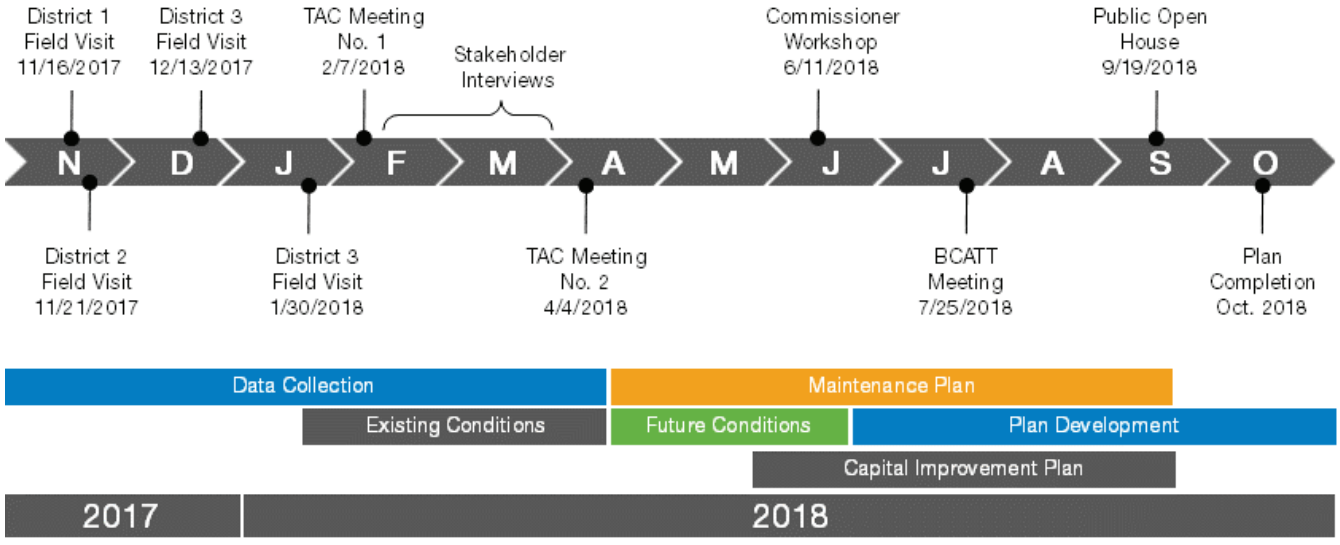


Figure 1-2 Planning Process Timeline

WHY DEVELOP A TRANSPORTATION PLAN?

Transportation is critical to quality of life in any community, but particularly in rural areas where homes are a considerable distance from schools, businesses, and emergency services. Bonner County had specific goals for their transportation plan. The County wanted a transportation plan that could feasibly be implemented and used by staff and the Commissioners as a road map for the future. The County also wanted the plan to focus on maintenance of both roads and bridges, which had been deferred in the past. Finally, the County, knowing that their resources are stretched, wanted the plan to help them be competitive for specifically identified outside state and federal transportation funding.

To achieve these goals, the plan was developed together with the County staff, particularly each of the three district foremen, the County Road and Bridge Director, and the County Staff Engineer. The focus of the plan was common-sense, real world solutions and projects that use the County crews rather than a contractor when possible.

Refer to Figure 1-3 for a graphic representing the County's vision for the transportation plan.

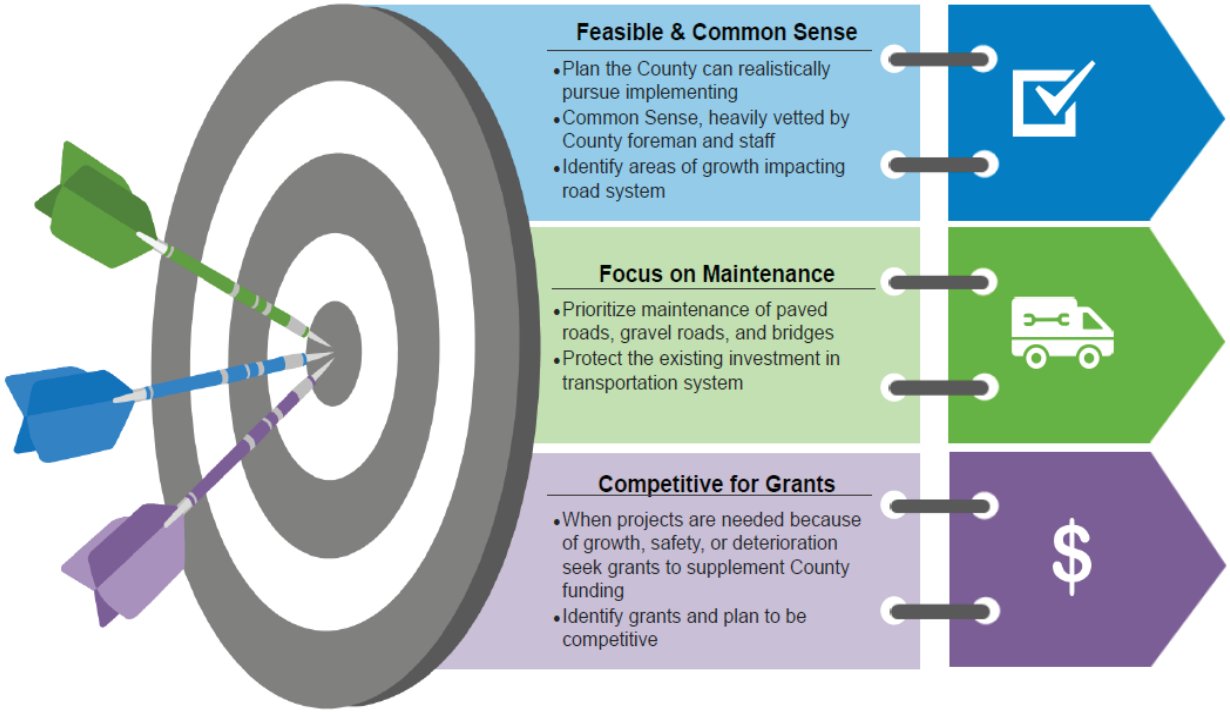
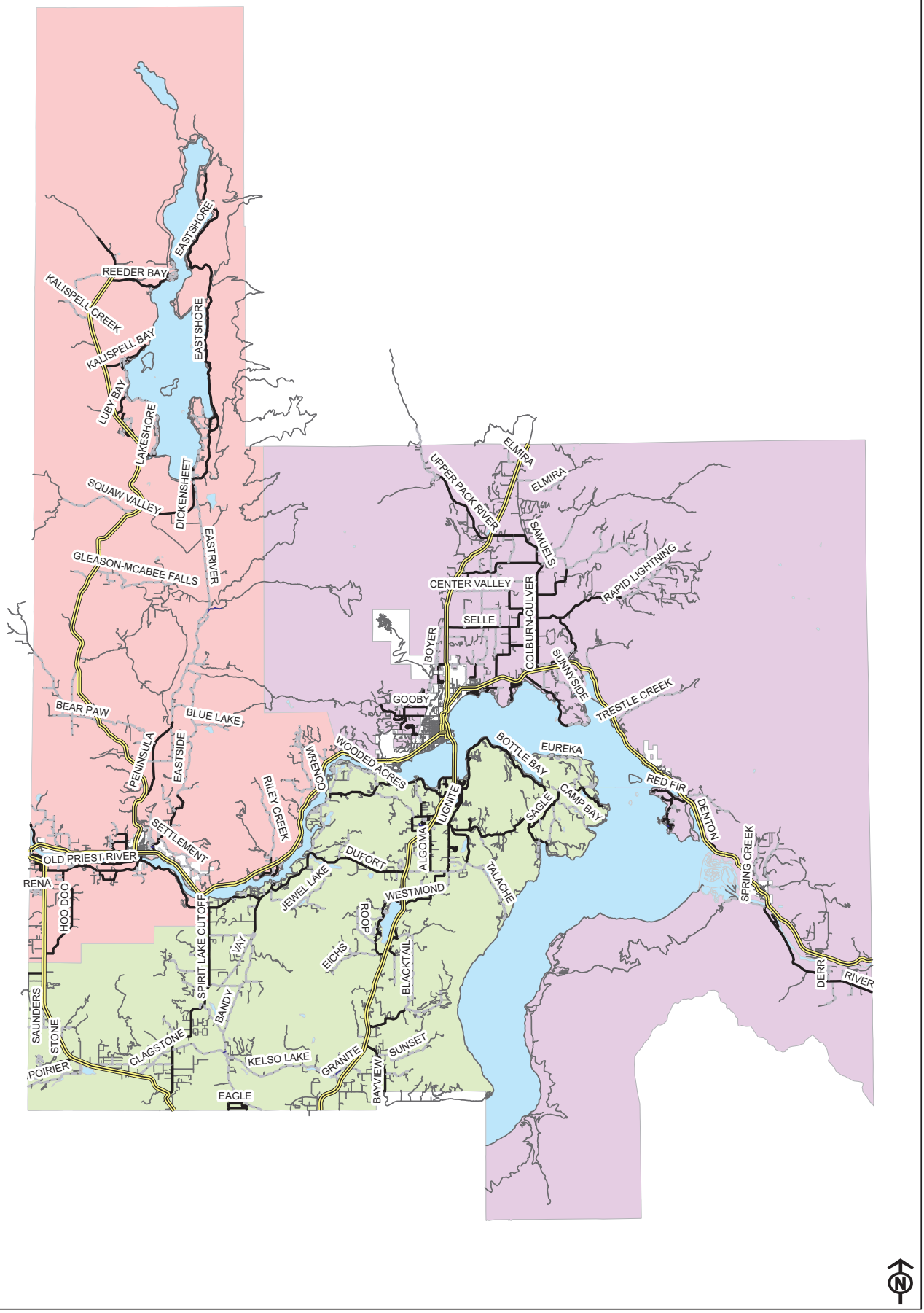


Figure 1-3 - The goals for Bonner County's Transportation Plan



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Bonner County

Road Surfaces

Sources:
Aerial (see above)
Bonner County GIS
ITD

PROJECT NO.....44039
DRAWN BY.....JRg
FILENAME.....RoadsNew
DATE.....10-05-2018

Chapter 2 The People of Bonner County

CURRENT POPULATION AND DEMOGRAPHICS

Population has steadily increased in Bonner County since the early 1970's and this trend is expected to continue. More than two-thirds of the population in Bonner County lives in rural areas, rather than urban clusters or urbanized areas. Because of low population density and vast area in the County, serving residents with a safe and effective transportation system is challenging.

In Bonner County, the three largest industries for employment, as estimated in 2016 by the US Census Bureau are Educational Services (including health care and social assistance), manufacturing, and retail trade, as shown in Table 2-1. High employment in manufacturing and retail trade results in high levels of trucks on county collector and arterial roads.

Table 2-1 Highest Employment Industries in Bonner County

Agriculture/Forestry/Mining	4.7%
Construction	8.6%
Manufacturing	13.4%
Wholesale trade	2.4%
Retail trade	13.2%
Transportation and Warehousing, and Utilities	6.3%
Information	1.4%
Finance/Insurance/Real Estate	5.1%
Professional, scientific, and management, and administrative and waste management services	7.7%
Educational Services/Health Care/Social Assistance	19.6%
Arts/Entertainment/Recreation/Accommodation/Food Services	9.9%
Other services, except public administration	4.6%
Public administration	3.0%

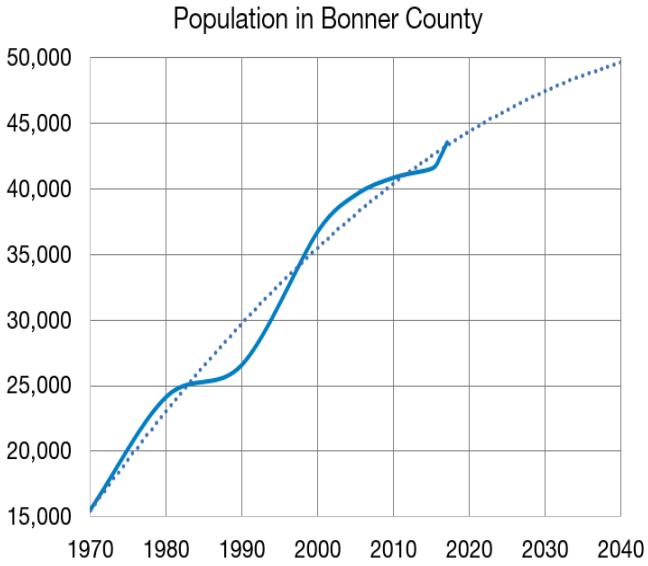


Figure 2-1 - Population Trends in Bonner County

Population has grown in the county each year for the past 40 years, as shown in Figure 2-1. The rate at which population grows has been moderately erratic – there have been decades with incredible growth in the 1970s, 1990s, and one appears to be starting again in 2015. Population growth causes increased numbers of licensed drivers, in turn increasing traffic volumes in the county.

GROWTH

The County Planning Department tracks building location permits each year and uses GIS to depict areas where these permits could indicate clusters of growth. The County anticipates that growth will be steady as people are drawn to the slower paced life style of northern Idaho.

Recent growth in Bonner County's jurisdiction has been concentrated around some of the highest ADT roads: Colburn-Culver Rd., Vay Rd., Blanchard-Elk Rd., Cocolalla Loop, Spirit Lake Cutoff, and US 95 in District 1 (intersections with Bottle Bay Rd., Sagle Rd., Dufort Rd., and Lakeshore Dr.). Since growth in these areas will exacerbate existing issues with the nearby transportation infrastructure, necessary improvements to those roads were ranked with high priorities.

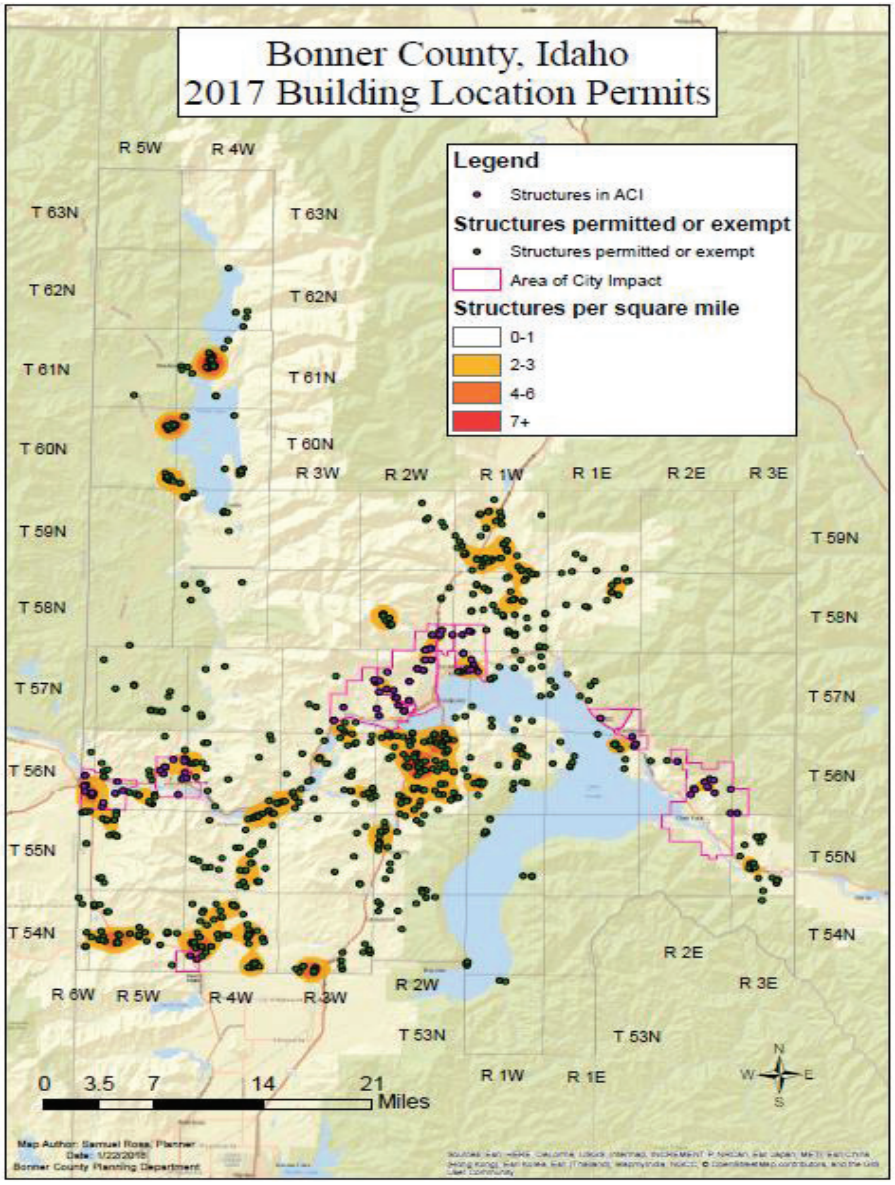


Figure 2-2 - Growth in certain areas is demonstrated by clusters of building permits.

Chapter 3 The Existing Transportation System

TRAFFIC VOLUMES & GROWTH

The County collects traffic volumes on an as needed basis and these volumes were used in the planning. In tables 3-1 through 3-3, the highest volume roads in each district are summarized. Because of the different surfacing requirements discussed in Chapter 5, the roads shown are those with an anticipated average daily traffic (ADT) of at least 250 by the year 2028. These are roadways that, if not already hard surfaced, may be eligible for surfacing within the next 10 years. A growth rate of just less than 1 percent per year was used in the growth projections.

Figure 3-1 Junction of a paved and an unpaved road

Table 3-1: Highest Volume Roads in District 1

Road Name	Block	Most Current ADT	Year	ADT 2028	ADT 2038
Dufort Rd	100	2470	2018	2700	2950
Sagle Rd	100	2419	2015	2720	2970
Blanchard-Elk Rd	100	1400	2018	1530	1670
Garfield Bay Rd	100	811	2014	920	1010
Clagstone Rd	9600	672	2005	830	900
Bayview Rd	100	627	2017	690	760
Bottle Bay Rd	1000	583	2016	650	710
Lignite Rd	1900	542	2017	600	650
Clagstone Rd	8500	502	2014	570	620
Bayview Rd	2800	372	2017	410	450
W. Garfield Bay Rd	100	321	2000	410	450
Clagstone Rd	6500	356	2014	400	440
Edgemere Cutoff	500	354	2014	400	440
Vay Rd	3000	356	2014	400	440
Gypsy Bay Rd	100	291	2010	340	370
Lakeshore Dr	12000	299	2014	340	370
Blacktail Rd. (North)	100	150	2018	160	180
Granite Loop	1800	284	2010	330	360
Vay Rd	200	291	2014	330	360
Lakeshore Dr	9000	280	2014	320	350
E Dufort Rd	100	252	2010	300	320
Mountain View Rd. - Blanchard	100	252	2007	300	330
Beers-Humbird Rd	100	248	2010	290	320
Blanchard Cutoff	100	246	2010	290	320
Gypsy Bay Rd	200	234	2005	290	310
Kelso Lake Rd	7100	241	2007	290	320
W. Garfield Bay Rd	100	237	2007	290	310
Little Blacktail Rd	100	235	2010	280	300
Roop Rd	100	233	2006	280	310
Wooded Acres Dr	1300	233	2018	280	310
Sunset Rd	200	242	2010	280	310
Clagstone Rd	5600	219	2005	270	290
Talache Rd	4900	229	2010	270	290

Table 3-2: Highest Volume Roads in District 2

Road Name	Block	Most Current ADT	Year	ADT 2028	ADT 2038
Leclerc Rd	100	1207	2004	1500	1640
Eastriver Rd	100	900	2018	980	1080
Hoo Doo Loop	200	780	2014	880	970
Kalispell Bay Rd.	100	400	2018	440	480
Manley Creek Rd.	100	330	2011	380	420
Freeman Lake Rd	1000	288	2014	330	360
Williams Dr	100	285	2007	340	380
Jim Low Rd	100	265	2007	320	350
Gleason-McAbee Falls Rd	300	246	2006	300	330
Rena Rd	100	243	2004	300	330
W Lakeshore Rd	200	228	2017	250	280
W. Settlement Rd	100	228	2010	270	290
Freeman Lake Rd	1500	222	2014	250	280
Wrenco Loop	300	218	2014	250	270
Wells Ln	100	199	2001	250	280

Figure 3-2 Eastriver Rd. at Fox Creek Rd.

Table 3-3: Highest Volume Roads in District 3

Road Name	Block	Most Current ADT	Year	ADT 2028	ADT 2038
Selle Rd	200	1440	2018	1570	1720
Colburn-Culver Rd. (SH-200)	10400	1400	2018	1530	1670
Upper Pack River Rd.	1200	920	2008	1100	1200
Samuels Rd	100	860	2018	940	1030
N. Kootenai Rd	800	733	2007	880	970
Colburn-Culver Rd. (US-95)	100	700	2018	770	840
N. Kootenai Rd	1800	557	2007	670	740
Samuels Rd	100	530	2003	660	730
Rapid Lightning Rd	6300	502	2014	570	620
W. Pine St	10100	457	2005	560	610
Gold Creek Rd	100	398	2014	450	490
River Rd	100	364	2018	470	510
Denton Rd	100	353	2015	400	430
N. Kootenai Rd	1200	335	2014	380	420
N. Boyer Rd	11200	328	2006	400	440
N. Kootenai Rd	2500	313	2014	350	390
E. Spring Creek Rd	600	312	2015	350	380
W. Oden Bay Rd	300	311	2014	350	390
Woodland Dr	100	308	2014	350	380
Upland Dr	100	289	2005	360	390
Elmira Rd	200	282	2010	330	360
W Spring Creek Rd	100	272	2017	300	330
Sunnyside Rd	3900	255	2017	280	310
Upper Gold Creek Rd	100	235	2008	280	310
S Center Valley Rd	100	228	2003	290	310
Hidden Valley Rd	100	219	2012	250	280

CRASH HISTORY

Crashes are given a severity rating as part of the data collection process.

Crash Severity Types:

- **Fatal** - Crashes where a person died either at the scene or as a result of injuries sustained during the crash.
- **'A' Injury** - Crashes where at least one person suffered an incapacitating injury as part of the crash are considered 'A' injury.
- **'B' Injury** – Crashes where at least one person suffered an obvious, but not incapacitating injury.
- **'C' Injury** – Crashes where at least one person may have suffered an injury.
- **Property Damage Only** (PDO) – Crashes where property was damaged, but no person was injured.

In the years between 2011 and 2016, there have been 21 fatal crashes, 52 'A' injury crashes, 226 'B'/'C' injury crashes, and 403 property damage only crashes for a total of 702 crashes on roads under Bonner County jurisdiction, based on data obtained from LHTAC. This data shows that neither the total number of crashes nor the number of fatal or 'A' injury crashes are increasing significantly. The crashes per type per year are shown in Figure 3-3.

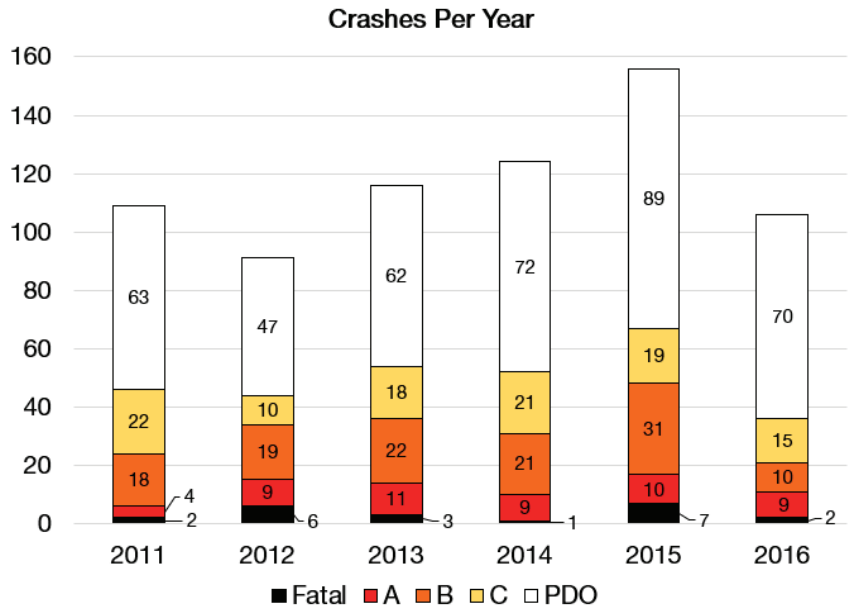


Figure 3-3 Crash Per Type Per Year

Of the 21 fatal crashes between 2011 and 2016, nine of the drivers were alcohol or drug impaired. Of the 52 'A' injury crashes, 18 were drug or alcohol impaired. In tables 3-4 and 3-5 , the fatal and injury 'A' crashes where drugs or alcohol were not a factor, are summarized. With impairment removed, about half of the fatal and injury 'A' crashes involved negotiating curves. The County can combat this type of crash by adding delineators to the roads with significant numbers of curves and/or sharp, hairpin curves. Roads with fatal or injury 'A' negotiating curve crashes include Dufort Rd., Bottle Bay Rd., and Lakeview Rd., each of which is a good candidate for delineators & curve warning sign upgrades.

Table 3-4: Summary of 'A' Injury Crashes (not alcohol or drug related)

Severity	Year	Street	Driver Action	Lane Departure	Contributing Circumstance
A Injury	2013	Baldy Mountain Rd	Going Straight	TRUE	Drove Left of Center
A Injury	2013	Blanchard Cut Off Rd	Going Straight	FALSE	None
A Injury	2015	Blanchard Elk Rd	Going Straight	FALSE	Following Too Close
A Injury	2014	Bottle Bay Rd	Negotiating Curve	TRUE	Drove Left of Center
A Injury	2015	Bottle Bay Rd	Going Straight	TRUE	Inattention
A Injury	2011	Cocolalla Loop	Going Straight	TRUE	Steering
A Injury	2014	Crosswhite Rd	Going Straight	TRUE	Drove Left of Center
A Injury	2012	Dufort Rd	Passing	TRUE	Speed Too Fast For Conditions
A Injury	2013	Dufort Rd	Going Straight	TRUE	Inattention
A Injury	2012	Dufort Rd. @ driveway	Entering/Leaving Parking Lot, Alley	TRUE	Inattention
A Injury	2013	Eastriver Rd	Going Straight	FALSE	Speed Too Fast For Conditions
A Injury	2016	Eastriver Rd	Negotiating Curve	TRUE	Speed Too Fast For Conditions
A Injury	2012	Eastside Rd	Negotiating Curve	TRUE	Other
A Injury	2013	FSR 332	Negotiating Curve	TRUE	Drove Left of Center
A Injury	2016	Grouse Creek Rd	Negotiating Curve	TRUE	Speed Too Fast For Conditions
A Injury	2016	Hoo Doo Loop	Negotiating Curve	TRUE	Speed Too Fast For Conditions
A Injury	2015	Kelso Clagstone Cutoff @ Clagstone Rd	Negotiating Curve	TRUE	Other Vehicle Defect
A Injury	2015	Kelso Lake Rd	Negotiating Curve	TRUE	Speed Too Fast For Conditions
A Injury	2015	Lakeview Rd	Negotiating Curve	TRUE	Speed Too Fast For Conditions
A Injury	2016	Lakeview Rd	Going Straight	TRUE	Other Vehicle Defect
A Injury	2012	Lignite Rd	Racing	TRUE	Inattention
A Injury	2014	Peninsula Rd	Negotiating Curve	TRUE	Exceeded Posted Speed
A Injury	2014	Rapid Lightning Rd	Negotiating Curve	TRUE	Speed Too Fast For Conditions
A Injury	2014	Rapid Lightning Rd	Going Straight	FALSE	Failed to Maintain Lane
A Injury	2012	River Rd	Negotiating Curve	TRUE	Inattention
A Injury	2012	Sagle Rd	Negotiating Curve	TRUE	Speed Too Fast For Conditions
A Injury	2016	Selle Rd	Going Straight	FALSE	None
A Injury	2015	SH 41 @ Blanchard Elk Road	Turning Left	FALSE	None
A Injury	2015	Spades Rd	Going Straight	FALSE	Speed Too Fast For Conditions
A Injury	2013	Spirit Lake Cutoff	Going Straight	FALSE	Animal(s) in Roadway
A Injury	2013	Spirit Lake Cutoff	Negotiating Curve	TRUE	Inattention
A Injury	2016	Spring Creek Rd	Negotiating Curve	TRUE	Failed to Maintain Lane
A Injury	2015	US 95 @ Driveway	Negotiating Curve	FALSE	Inattention
A Injury	2015	US 95 @ Sagle Road	Turning Left	FALSE	None

Table 3-5: Summary of Fatal Crashes (not alcohol or drug related)

Severity	Year	Street	Driver Action	Lane Departure	Contributing Circumstance
Fatal	2016	Bayview Rd	Negotiating Curve	TRUE	Failed to Maintain Lane
Fatal	2012	Camp Bay Rd	Going Straight	FALSE	Other
Fatal	2015	Delay Farms Rd	Stopped in Traffic	FALSE	Improperly Parked
Fatal	2013	Elmira Rd	Going Straight	FALSE	Failed to Obey Stop Sign
Fatal	2015	Elmira Rd	Going Straight	FALSE	Failed to Obey Stop Sign
Fatal	2015	FS-2651 Rd	Negotiating Curve	TRUE	Failed to Maintain Lane
Fatal	2013	Heath Lake Rd	Negotiating Curve	FALSE	Inattention
Fatal	2012	Kelso Lake Rd	Going Straight	TRUE	Drove Left of Center
Fatal	2015	Lakeview Rd	Negotiating Curve	TRUE	Inattention
Fatal	2012	Reeder Creek Rd	Negotiating Curve	TRUE	Speed Too Fast For Conditions
Fatal	2012	River Rd	Passing	TRUE	Improper Overtaking
Fatal	2015	US 95	Negotiating Curve	TRUE	Failed to Maintain Lane

Figure 3-4 An example of a sharp curve on Spirit Lake Cutoff

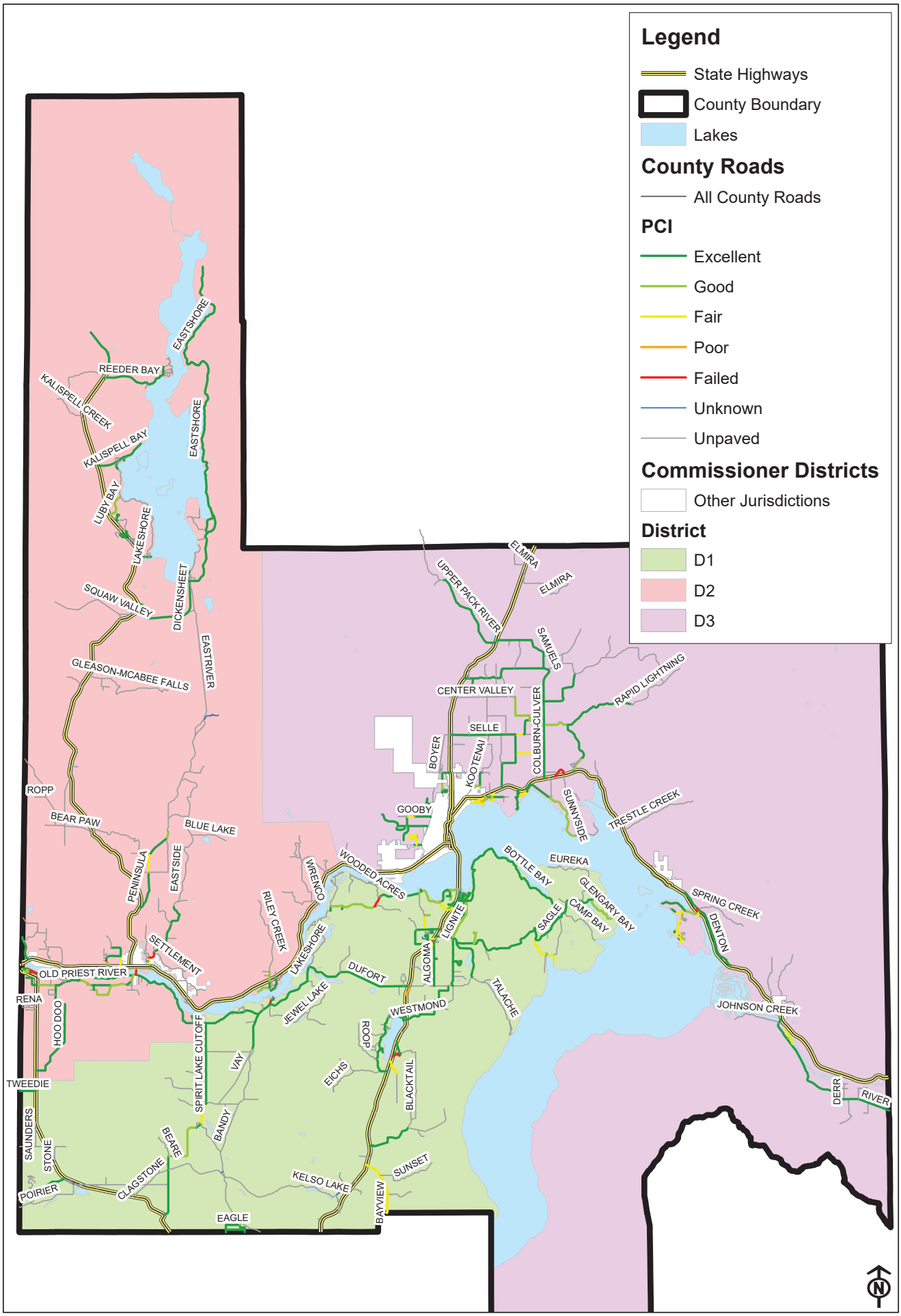
PAVEMENT CONDITION

Pavement condition index (PCI) is the rating system utilized in this report for analyzing pavement conditions. PCI scales from 0-100, with higher numbers indicating more surface integrity remaining. In this report, roads with PCI of 85 or more are considered in "excellent" condition, between 75 and 85 considered "good" condition, between 55 and 75 considered "fair" condition, between 40 and 55 considered "poor" condition, and any road below 40 PCI considered "failed".

PCI loosely relates to Remaining Service Life (RSL), which is an estimate of how many years before a road will need to be reconstructed. Chip sealing maintenance (discussed further in Chapter 5) serves to extend the RSL and increase the PCI of a road at relatively low cost and is most effective when the road has a "good" or "excellent" PCI already. When roads degrade below "fair" condition, overlays or reconstruction become the appropriate method of repair. Overlays and reconstruction are both significantly more expensive than chip seal, requiring more time and materials to complete.

The majority of hard-surfaced, county-maintained roads in Bonner County have good or excellent pavement condition. A few roads have degraded to poor or failed condition, including Old Highway 95, Butler Creek Rd., 0.6 miles in the middle of the paved portion of Lakeshore Dr., Eastside Rd. south of Settlement Rd, and Albeni Cove Rd. Standard chip sealing is planned as a temporary fix for each of these roads, and if deterioration worsens then the County will either chip seal on a 3-year rotation instead of every 7 years or overlay the roads. See Figure 3-6 for a map of county road pavement conditions.

Figure 3-5 Eastside Rd. south of Settlement Rd.



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Bonner County

Pavement Condition Index

Sources:
Aerial (see above)
Bonner County GIS
ITD

PROJECT NO.....44039
DRAWN BY.....JRG
FILENAME.....PavCondition
DATE.....10-10-2018

FUNCTIONAL CLASSIFICATION

ITD maintains a federal functional classification map for the State of Idaho. In rural areas, the FHWA designates classifications of roadways including: principal arterials (interstate system and other principle arterials), minor arterial roads, collector roads, and local roads. Definitions for each functional class are summarized below:

Rural Principal Arterial System - Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel. The principal arterial system includes two sub-categories: the interstate system and other principle arterials.

Rural Minor Arterial Road System - The rural minor arterial road system should form a rural network to link cities, larger towns, and other traffic generators. Arterials are usually spaced at intervals so that all developed areas of the State are within a reasonable distance of an arterial highway. Arterials normally provide service at high speeds with minimum interference.

Rural Collector Road System - The rural collector routes generally serve travel of primarily intra-county rather than statewide importance. Moderate speeds and more interference should be expected on collector roadways. Collector roadways are broken into two sub-categories: major collectors and minor collectors. Major collector roads provide service to larger towns not directly served by the higher roadway classification systems and to traffic generators of intra-county importance (such as schools, parks, and important economic centers). Minor collector roads provide service to the remaining smaller communities and link the locally important traffic generators with roads of higher classification.

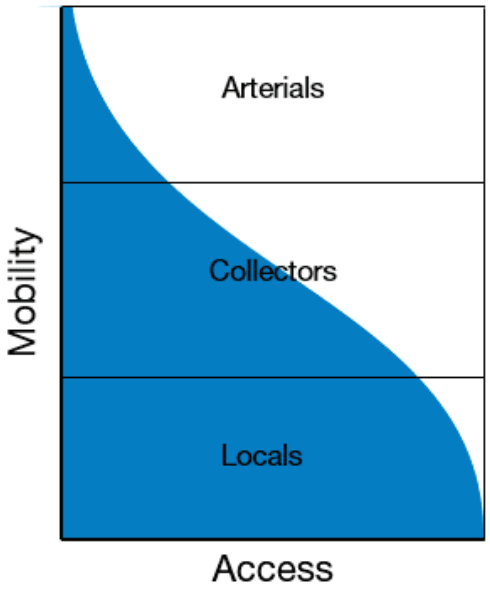


Figure 3-7 Relationship Between Mobility and Access

Rural Local Road System – The local road system provides access to adjacent land and is intended for travel over relatively short distances.

The purpose of classifying roadways is to understand the purpose of the roadway and how its purpose relates to both mobility and access. Figure 3-7 demonstrates the relationship between mobility and access for each functional classification.

It is important to properly classify the roads within a region so that design standards and access control standards are applied to allow the road to function property. In many cases, not all federal transportation funding can only be used on roads that are classified as a major collector or higher. The functional classification system in Bonner County was evaluated as part of the transportation plan and found to be appropriate. Refer to Table 3-6 and to Figure 3-8 for the Bonner County roadway classification. Figure 3-8 is a functional classification map. Importantly, these tables and figures illustrate what the County envisions the functional classifications to be for each road, not necessarily what FHWA currently has the road classified. Bonner County is beginning the process of changing the classifications of the roads where the two entities do not agree currently.

Table 3-6 Bonner County Function Classification

Classification	District 1	District 2	District 3
Arterials	US 95	US 2	US 95
Rural Minor Arterial	SH 41	SH 41 SH57	SH 200
Rural Major Collector	Bayview Rd. Bottle Bay Rd. Dufort Rd. Garfield Bay Rd. Lakeshore Dr. Sagle Rd. Spirit Lake Cutoff	Dickensheet Rd. Eastriver Rd. Eastshore Rd. Kalispell Bay Rd. Le Clerc Rd. Old Priest River Rd. Peninsula Rd. Reeder Bay Rd. Wrenco Loop	Baldy Mountain Rd. Colburn-Culver Rd. N. Kootenai Rd. Rapid Lightning Rd. River Rd. Samuels Rd. Selle Rd. Upper Pack River Rd. W. Pine St.
Rural Minor Collector	Bandy Rd. Blacktail Rd. Blanchard Cutoff Blanchard-Elk Rd. Clagstone Rd. Cocolalla Loop E. Dufort Rd. Edgemere Cutoff Gypsy Bay Rd. Kelso Lake Rd. Lignite Rd. S. Sagle Rd. Talache Rd. Vay Rd. Westmond Rd.	Cavanaugh Bay Rd. Eastside Rd. Freeman Lake Rd. Hoo Doo Loop Luby Bay Rd. Outlet Bay Rd. W. Lakeshore Rd.	Center Valley Rd. Denton Rd. E. Spring Creek Rd. Gold Creek Rd. Grouse Creek Rd. Johnson Creek Rd. Peninsula Rd. Shingle Mill Rd. Sunnyside Rd. Trestle Creek Rd. Upper Gold Creek Rd. W. Spring Creek Rd. Whiskey Jack Rd.

PUBLIC TRANSPORTATION

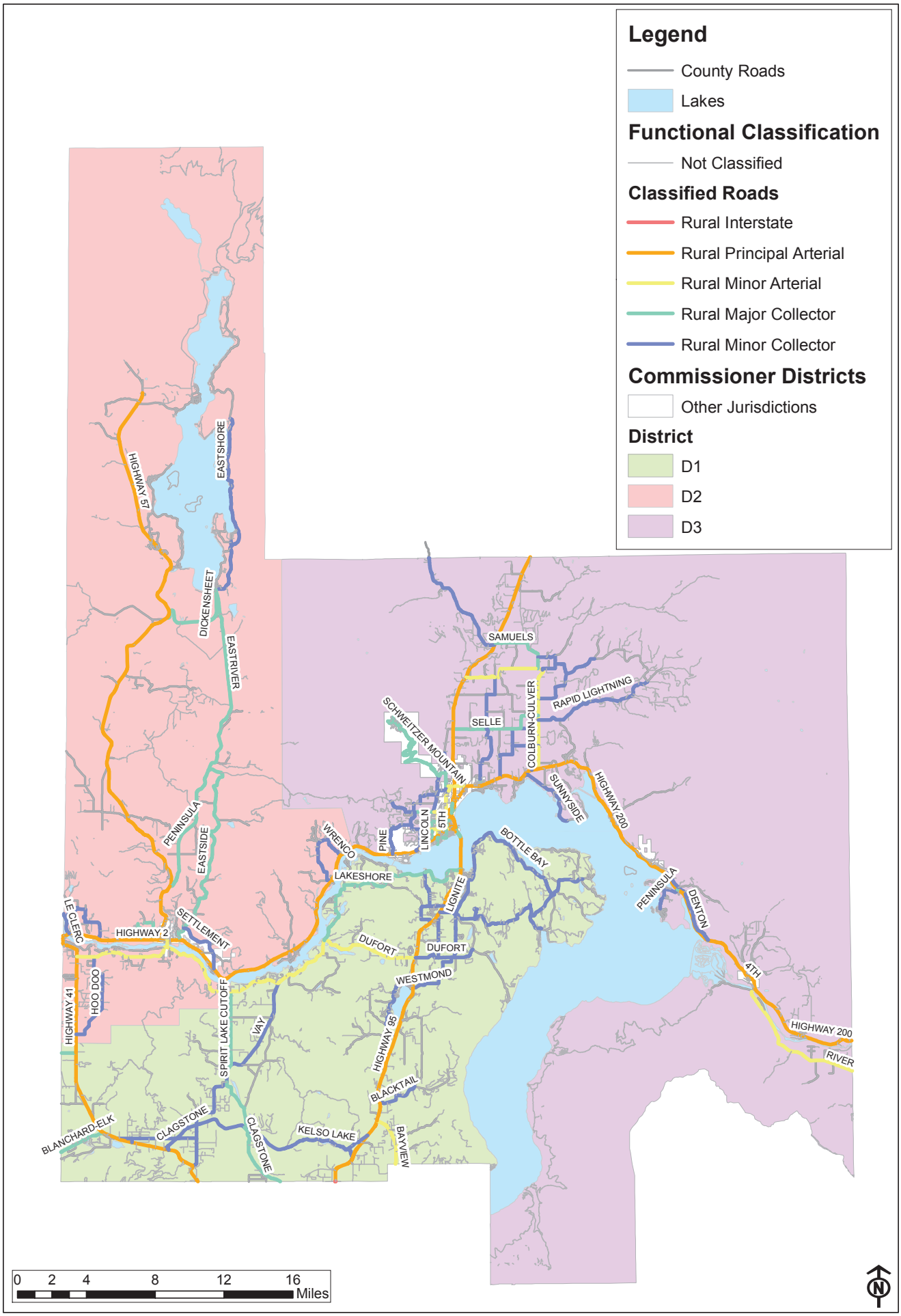
In the urban areas of Sandpoint, Ponderay, Kootenai, and Dover, Selkirks Pend Oreille Transit (SPOT) provides free public transportation. In rural areas, there is little public transportation available.

TRUCKING & FREIGHT

US 2 and US 95 are the routes that primarily carry truck traffic in Bonner County. There are several log mills adjacent to US 2 on the west side of the County. ITD is working on a US 2 study between the Washington State Line and Sandpoint. In Washington, the north-south freeway is nearing completion and this new connectivity in Idaho could potentially increase traffic on US 2 in Idaho.

Local Highway Technical Assistance Council (LHTAC) encourages Local Highway Jurisdictions (LHJ's) to "opt-in" to allow ITD to issue truck permits. Current regulations allow 105,000 lbs. on local routes, and 80,000 lbs. on states routes. State legislators decided to allow trucks up to 129,000 lbs. on state routes after an engineering study has been conducted. Once an LHJ opts-in, ITD will then issue Over-Legal Permits for roadways in their jurisdiction. The permitting process will require LHJ's to notify ITD of bridge postings, spring breakup limits, and related construction activities. LHJ's must also provide ITD with maps indicating routes, allowable weights, and a point of contact for the jurisdiction.

Coordination amongst agencies is crucial considering that few local roads are engineered or constructed to ITD standards. This will lead to the improvement in enforcement capabilities and ensure a complete freight network across the state. Bonner County is working with ITD to develop route maps for overheight, overweight, and overwidth trucks.



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Bonner County

Functional Classifications

Sources:
Aerial (see above)
ITD GIS
Bonner County GIS
LHTAC

PROJECT NO.....44039
DRAWN BY.....JRG
FILENAME.....FuncClass
DATE.....10-03-2018

Pedestrian and Bicycle Facilities

In the County, pedestrian and bicycle facilities are infrequent.

ITD has designated the route between the Washington State line and Montana State line on US 2, US 95, and SH 200, and River Road as US Bikeway 10. Alternate routes to US Bikeway 10 are shown as SH 41, Old Priest River Road, Dufort Road, Lakeshore Drive south of the Pend Oreille River, and SH 200 east of Clark Fork. There are concerns with the alternate routes on Dufort Road and Lakeshore Drive because these roads are narrow and winding with little shoulder. ITD mapping of US bikeway 10 is included in Appendix E.

Currently, a shared-use path exists along US 95 between Sagle Road and ends just north of Kootenai Cutoff. Bonner County maintains the shared use path outside of City boundaries within ITD right of way. In 2018, Bonner County improved the intersection of US 95/Bottle Bay Road to include a pedestrian/bicycle tunnel so that trail users did not have to cross Bottle Bay Rd.

There is a shared-use path along US 2 between Dover and Sandpoint that is not under the jurisdiction of Bonner County.

The Trust for Public Land partnered with pedestrian, bicycle, and trails groups in Bonner County to produce the Bonner County Trails Plan in June 2016. That plan includes maps of the existing trails systems (both pedestrian/bicycle trails and snowmobile trails) as well as a set of proposed trails & bike lanes for the jurisdictions to create over time. Refer to the full document on the City of Sandpoint website for more information.

Figure 3-9 US 95/Bottle Bay Road Pedestrian/Bicycle Tunnel

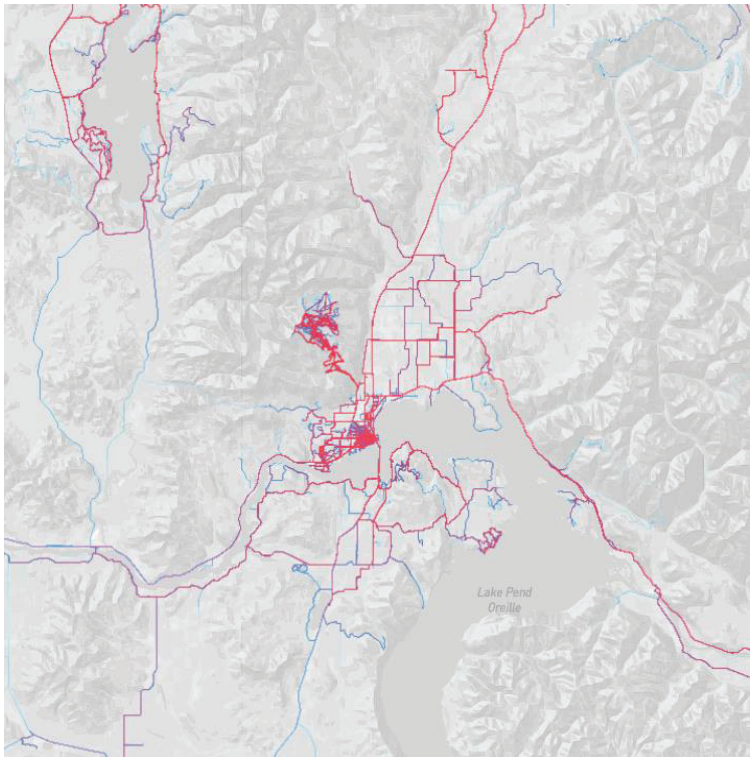


Figure 3-10 Excerpt from STRAVA Heap Map
https://www.strava.com/heatmap#10.40/-116.71558/48.25484/bluered/ride

One tool used to determine the routes within the County most used for pedestrian and bicycle activity was the STRAVA heat map. Refer to Figure 3-10 and to the STRAVA website for more information. This heat map indicates that Bottle Bay, Dufort Road, Sagle Road, Culburn-Culver Road, and the areas around Priest Lake that are most heavily used by pedestrians and bicyclists.

STATE HIGHWAY SYSTEM

Idaho Transportation Department (ITD) has jurisdiction over and maintains US 95, SH 57, SH 41, US 2, and SH 200 in Bonner County. The County and ITD need to work together on improvements to the State Highway intersections with County roadways.

URBAN/RURAL INTERFACE

One of the identified issues with multi-jurisdictional roads in Bonner County is that the smaller cities around Sandpoint are considered "urban" due to their proximity to Sandpoint. Cities like Ponderay, Kootenai, and Dover fall into this category. Funding applications for roads which cross between one of these cities and the county jurisdictions can be more competitive for some funding (i.e. Strategic Initiatives) and less competitive in other instances. While small cities have smaller tax bases and thus smaller road budgets, partnerships between the county and the small cities can target rural funding sources which are much less competitive than the urban funds those cities must utilize by themselves.

BRIDGES

Bonner County has 35 vehicular bridges over 20' long in their jurisdiction, with two in District 1, 13 in District 2, and the remaining 20 in District 3. Bridges in the county have been analyzed by state bridge inspectors based on the sufficiency rating system. Sufficiency Rating is a rating (0 to 100) which indicates a bridge's sufficiency to remain in service. The Sufficiency Rating is generated from bridge inspection and inventory records in Idaho's AASHTOWare Bridge Management software. A bridge with a Sufficiency Rating of zero would represent an entirely insufficient bridge and a rating of 100 would indicate an entirely sufficient bridge.

The Sufficiency Rating calculation is based 55% on the structural evaluation, 30% on the serviceability and obsolescence of its design, and 15% on its importance for public use. The Sufficiency Rating is an important tool that is often used at the local and federal level to prioritize bridge repair, rehabilitation, or replacement.

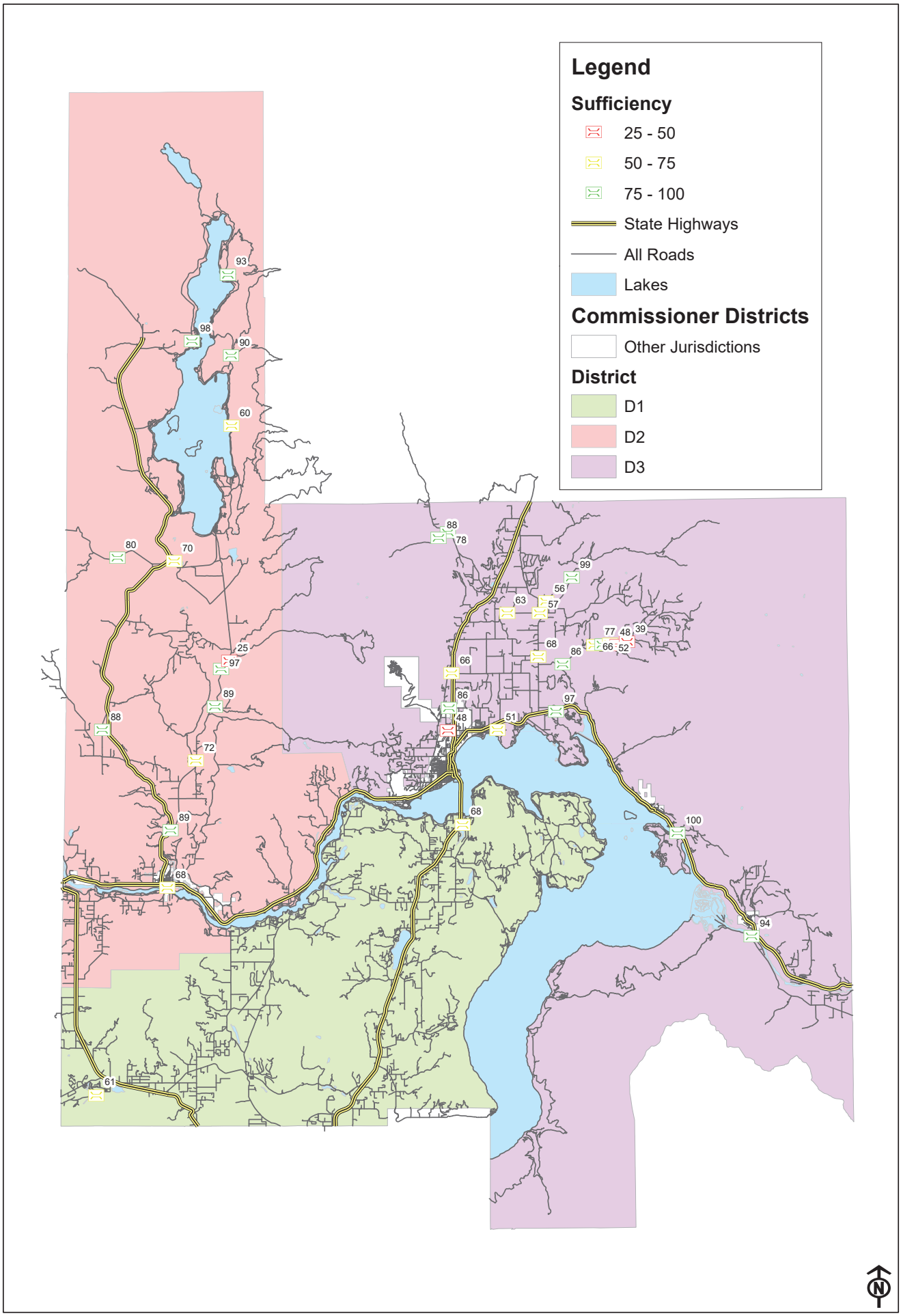
The following is a breakdown of Sufficiency Ratings for Bonner County Bridges:

- Sufficiency Rating Below 50: 4 Bridges
    - 30120 (East River Loop)
    - 30135 (North Fork Spur) – Closed to Traffic
    - 30225 (Rapid Lightning #4)
    - 30230 (Rapid Lightning #5)
- Sufficiency Rating 50 – 75: 14 Bridges
- Sufficiency Rating Above 75: 17 Bridges

While Sufficiency Rating is an overall rating of the bridge's sufficiency to remain in service, a flag for Structural Deficiency (SD) identifies a bridge in which one of the most important elements of the bridge is rated "poor": the deck, substructure, and/or superstructure.
Six bridges in the County are flagged Structurally Deficient:

- 30120 (East River Loop)
- 30130 (Grouse Creek)
- 30220 (Rapid Lightning #3)
- 30225 (Rapid Lightning #4)
- 30230 (Rapid Lightning #5)
- 30245 (Hunt Creek)

See Figure 3-11 for a map of the bridges with sufficiency ratings.



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Bonner County

Bridge Sufficiency Ratings

Sources:
Aerial (see above)
Bonner County GIS
ITD

PROJECT NO.....44039
DRAWN BY.....JRG
FILENAME.....BridgesNew
DATE.....10-05-2018

RAILROADS

Several railroads exist in Bonner County – Union Pacific, Burlington Northern Santa Fe, Montana Rail Link, and Pend Oreille Valley Railroad.

ITD has several railroad crossing improvement projects planned in the next few years in Bonner County. These projects include installing gates, warning signs, and insulated concrete planking to enhance safety. These ITD railroad projects are listed below:

Kootenai St UPRR Railroad Crossing, Key No. 18863, 2019

- Colburn-Culver UPRR Railroad Crossing, Key No. 19833, 2021
- Selle Road UPRR Railroad Crossing, Key No. 19995, 2020a
- Mountain View Dr. BNSF Railroad Crossing, Key No. 20164, 2020

Other projects include installing a type 1 signal including constant warning detection, planking, and a cabinet.

- S. Granite Lake BNSF Railroad Crossing, Key No. 20359, 2023/2024
- Elmira Road UPRR Railroad, Key No. 20621, 2021
- Woodland Drive BNSF Railroad Crossing, Key No. 20656, 2023/2024

ITD and BNSF also have plans to close the Heath Lake Road railroad crossing (Key No. 20366).

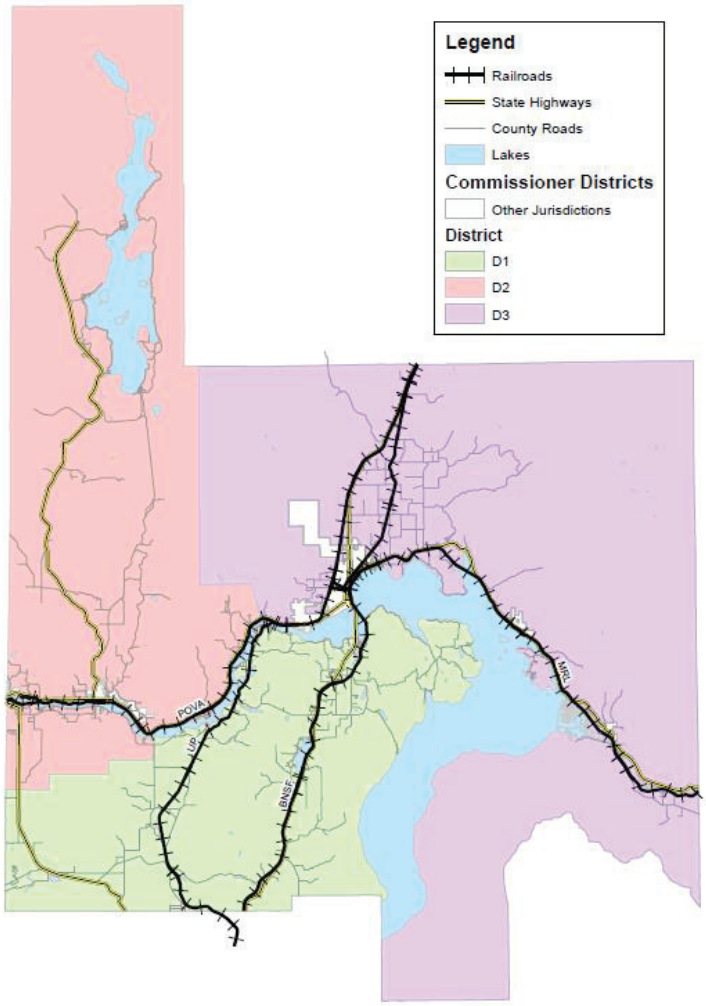


Figure 3-12 Bonner County Railroads

Figure 3-13 Gravel, at-grade railroad crossings like this one have planned improvements in 2020 by Bonner County

Bonner County has an at-grade railroad crossing improvement project for all 19 gravel crossings planned for construction in 2020. The County won Local Highway Safety Improvement Program (LHSIP) funding for this project of $844,132.60 with a 7.34% match of $66,867.40 by the county for a total project cost of $911,000. The following roads have crossing improvements planned:

Thama Drive (1/2 gravel)
Berry Lane
N Boyer Road
W Selle Road
Race Track Road
Forest Siding Road
Elmira Road
Firestone Lane
McGhee Road (1/2 gravel)
Gypsy Bay Road
Lakeshore Drive
River Lake Drive
Jewel Lake Road
Edgemere Cutoff
Kelso Lake Road
Kelso Clagstone Cutoff
Homestead Rd (1/2 gravel, gated)
Granite Loop (x2, 1 gated)
Barnhart Road

Chapter 4 Public Involvement

ROLE OF THE PUBLIC

One of the main functions of a Transportation System is to serve the public as a means of connecting traffic generators with destinations safely and efficiently. Therefore, engaging the public was important to the relevancy and success of the plan. The public involvement strategy was developed to gather the best available information. A Transportation Advisory Committee (TAC) was formed and two TAC meetings were held; a presentation was given to the Bonner County Area Transportation Team (BCATT), and one public open house was held. The team also conducted interviews with many stakeholders including:

- City of Sandpoint Planning Department
- ITD District 1 Traffic Department
- City of Ponderay Police Department
- SPOT
- North Idaho Bikeways
- Trail Mix
- Lake Pend Oreille School District
- West Bonner School District
- City of Sandpoint Fire Department
- City of Ponderay
- Sam Owen Fire District
- West Priest River Fire District

TAC

The TAC was made of the following members:

- Steve Klatt, Director of Road and Bridge
- Matt Mulder, P.E., Staff Engineer
- Jason Topp, District 1 Foreman
- Dan Brower, District 2 Foreman
- Tom Klopman, District 3 Foreman
- Wayne Newcomb, Resident, Former Commissioner and Logger
- Brian Wood, Woods Crushing and Hauling
- Don Davis, Resident, Retired ITD District 1 Planner, Trail Mix

The first TAC meeting was held in February 2018. In this meeting the following goals for the plan were established:

1. Document to help budget and plan for both maintenance and construction

2. Create a common sense and feasible plan

3. Focus on bridge maintenance, which had not been addressed in many years.

In this meeting, we discussed observations gathered through many field visits with the District foremen. In each District, the TAC team also discussed: 1) gravel roads to consider paving, 2) paved roads to consider rehabilitation or reconstruction, 3) safety improvements at State Highway intersections with County roads, 4) County road intersection improvements, 5) bridge improvements, 6) other road work, 7) general maintenance need, 8) safety improvements (other than intersections), 9) pedestrian and bicycle improvements, and 10) long-term improvements.

The second TAC meeting was held in April 2018. The purpose of this meeting was to review information gathered in the stakeholder interviews and review the prioritization process for determining which improvements to consider for the transportation plan. TAC meeting minutes are provided in Appendix A.

In July 2018, the team presented the preliminary plan to BCATT to gather insight from others within the regional transportation team. The presentation given to BCATT is included in Appendix B.

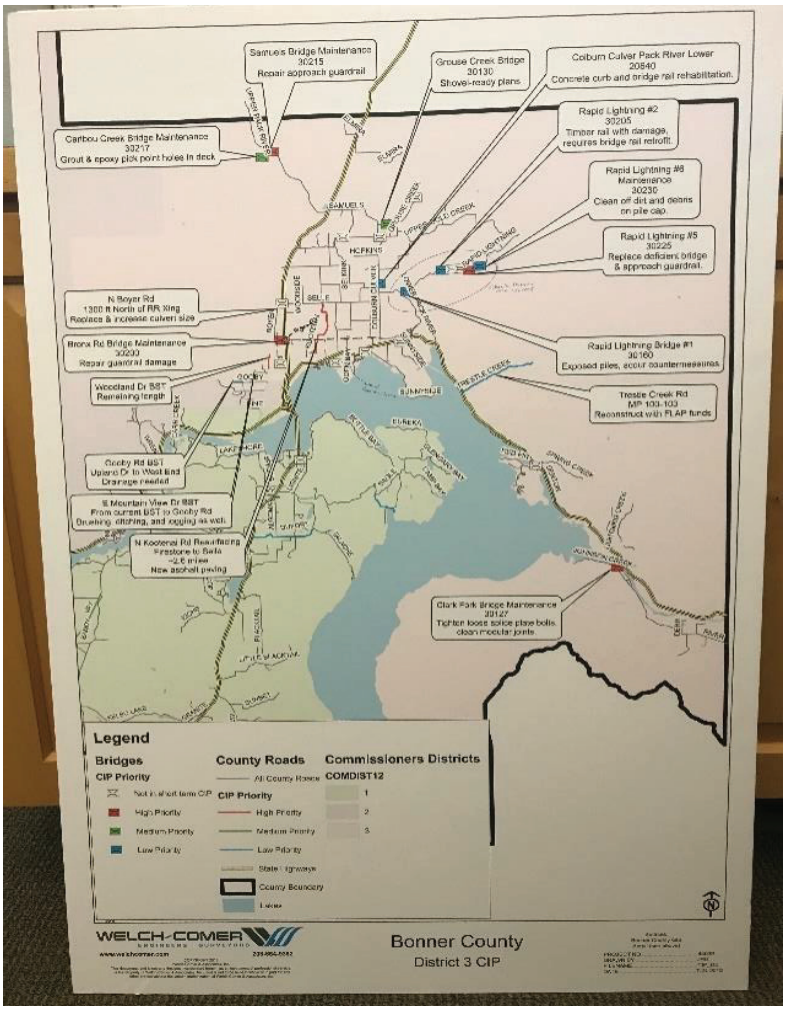


Figure 4-1 Board from the Open House

In September 2018, a public open house was held to gather input on the maintenance and short term and long-term Capital Improvement Plans. The boards presented at the open house, sign in sheet, and comments provided from the public are provided in Appendix C.

Chapter 5 Maintenance

MAINTAINING UNPAVED ROADS

Unpaved roads are maintained by spring and fall regrading, adding base rock, and applying dust control such as magnesium chloride to gravel roads above 100 vpd.

Historically, Bonner County has started dust control on unsurfaced roadways when the ADT reaches 100 vehicles per day. The County considers bituminous surface treatment (BST) when the ADT exceeds 250 vpd, and consider paving when ADT is 500 vpd. This practice still seems appropriate.

In addition to surface maintenance, roads need other periodic maintenance, including the following:

- Once every five years evaluate the pavement condition and enter the condition information into the County's asset management program, iWorQ.
- Maintain records of new signs installed and input that data into iWorQ.
- Road culverts need periodic evaluation and replacement, when necessary. Oftentimes, culverts can become clogged which causes the adjacent roadway subgrade to become saturated. Cleaning culverts and replacing aged or damaged culverts helps to maintain the integrity of the County roadways.
- When signs are damaged or no longer meeting reflectivity standards, replace them.
- Ditching along roadways once every five to seven years to maintain drainage.
- Brushing along roadways once every five to seven years to maintain visibility.

Figure 5-1 Unpaved roads require annual grading and dust control

MAINTAINING PAVED ROADS

Paved or BST roads are maintained each year by crack sealing annually and chip sealing, as needed. Rather than evaluate the roads to chip seal each year, the County wanted to develop a chip seal plan that the County and foreman could follow year to year. A seven-year cycle was set up for chip sealing each of the surfaced roadways. The Table 5-1 through 5-3 show the annual chip seal plan for each district. Figures 5-8 through 5-10 show the chip seal plan for each district on a map.

To ensure each surfaced road is being maintained properly, it may be beneficial to synchronize the maintenance schedules on surfaced roads and complete brushing, ditching, and crack seal the year prior to a chip seal being scheduled.

Figure 5-2 Surfaced road require periodic crack seal and chip seal

WHY DO WE CHIP SEAL?

Oftentimes, the public does not understand the benefit of maintaining surfaced roadways with a chip seal. Preserving the surface saves the County money in the long run, as it greatly extends the life of the pavement. Reconstructing a road is expensive; therefore, maintaining the existing surface is a good investment. Figure 5-3 shows how periodic maintenance helps extend the overall life of a roadway to preserve the County's investment. Figure 5-4 lists the benefits of chip sealing.

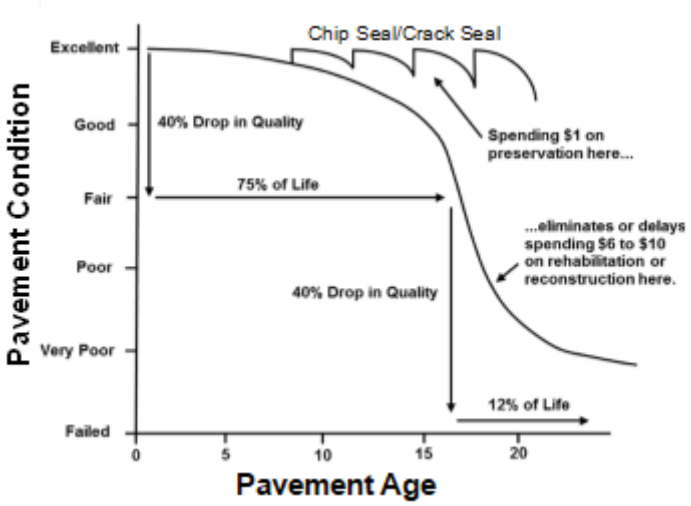


Figure 5-3 Figure showing the benefit of maintaining the surface of paved roads

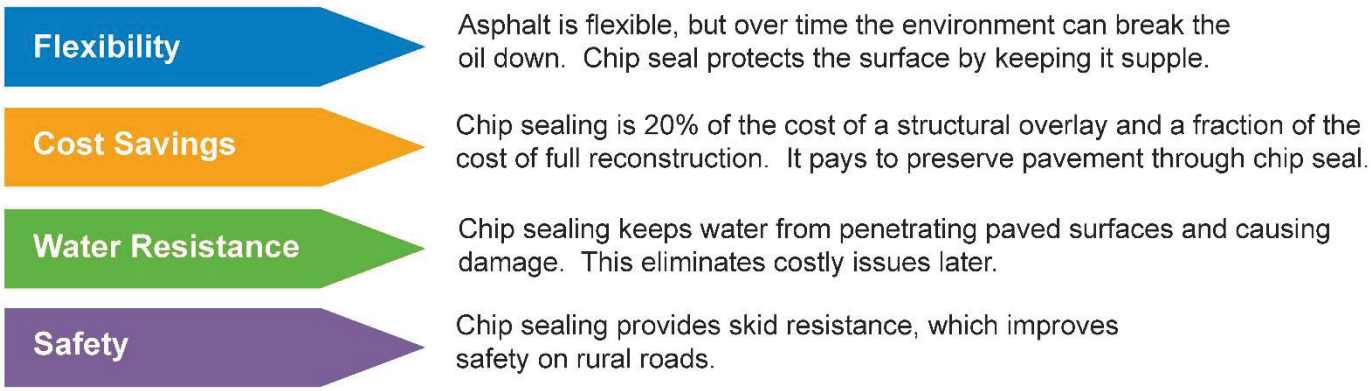


Figure 5-4 Benefits of Chip Seal

WHAT IS CHIP SEAL?

Chip seal is a pavement preservation technique in which one or more layers of uniformly graded rock (or chips) are laid on top of asphalt oil emulsified in water. The chip seal process is:

1) Apply asphalt emulsion to road using an oil distributor.
2) Apply a layer of chips to the surface with a chip spreader.
3) Roll the surface with several rollers to embed the chips in the asphalt emulsion.
4) Sweep up the loose rock.
5) Occasionally, another layer of asphalt emulsion called a “fog seal” is applied to the finished surface.

Figure 5-5 Oil Distributor and Chip Spreader

Table 5-1 District 1 Chip Seal Plan

Year	Road Name	Length (Miles)	Area (SY)
2019	BAYVIEW RD	3.0	33,500
2019	BOTTLE BAY RD	8.0	157,300
2019	CLEARWATER LN	0.1	1000
2019	NORMAN WAY	0.2	2100
2019	OLD HIGHWAY 95 S	0.5	7100
2019	SHERWOODS RD	0.5	5800
2019	SPADES RD	0.3	3500
2019	UPPER GRANITE LOOP	0.3	4300
2019 TOTAL	**TOTAL**	**12.9**	**214,600**
2020	BEACON HILL RD	0.1	900
2020	BLACKTAIL RD	3.3	42,300
2020	BRISBOYS RD	1.0	11,300
2020	BUTLER CREEK SPUR	0.7	7600
2020	COMEBACK BAY LN (3 YR)	1.1	13,900
2020	EAGLE DR	0.7	5700
2020	GUN CLUB RD	1.5	16,900
2020	HAWKINS RD	0.2	2900
2020	IDYLLWILD RD	0.2	3000
2020	IVY DR	0.7	13,500
2020	KELSO CLAGSTONE CUTOFF	0.1	2300
2020	LAKESHORE DR	3.3	46,800
2020	MONARCH RD	0.1	1200
2020	PEND OREILLE DR	0.8	10,500
2020	SCHELL RD	0.3	2400
2020	SKYHAWK DR	1.0	14,000
2020	SOUTHSIDE SCHOOL RD	0.8	10,700
2020	SPIRIT LAKE CUTOFF	1.1	14,500
2020	ST JOE DR	0.4	7300
2020	SUNRISE CIR	0.5	4900
2020	TALACHE RD	2.5	29,700
2020	VAY RD	1.9	20,800
2020	WOOLSEY RD	0.6	6000
2020 TOTAL	**TOTAL**	**22.7**	**289,100**
2021	CLAGSTONE RD	2.4	29,500
2021	COCOLALLA LOOP	4.6	53,600
2021	GLENGARY BAY RD (3 YR)	1.7	19,500
2021	NORTH BEACH RD	0.2	2500
2021	SANDY DR	0.3	2700
2021	SHERRI DR	0.2	3700

2021	SPIRIT LAKE CUTOFF	10.8	145,100
2021 TOTAL	**TOTAL**	**20.1**	**256,600**
2022	EDGEMERE CUTOFF	0.7	71,400
2022	GALLOP CIR	1.0	17,300
2022	LIGNITE RD	2.2	32,900
2022	SABREA SHORES RD	0.1	1300
2022	VAY RD	3.5	49,200
2022	WESTMOND RD	3.8	42,300
2022 TOTAL	**TOTAL**	**11.2**	**214,400**
2023	BELLA CIR	0.2	3100
2023	BIRCH BANKS RD	0.3	3700
2023	BIRCH HAVEN DR	0.8	10,600
2023	BOTTLE BAY RD	2.0	23,500
2023	BUCK RUN	0.4	5100
2023	COMEBACK BAY LN (3 YR)	1.1	13,900
2023	E DUFORT RD	3.8	49,000
2023	HANFORD DR	0.3	3300
2023	HANLEY LN	0.2	2300
2023	JONES RD	0.2	2500
2023	SWEENEY DR	0.3	3200
2023 TOTAL	**TOTAL**	**9.5**	**120,200**
2024	DUFORT RD	4.4	58,800
2024	FERRY RD	0.3	1500
2024	GLENGARY BAY RD (3 YR)	1.7	19,500
2024	GOLD MOUNTAIN DR	0.8	9300
2024	SAGLE RD	11.5	167,900
2024	WATERFRONT DR	0.2	2500
2024 TOTAL	**TOTAL**	**18.9**	**259,500**
2025	ALGOMA SPUR	2.5	32,000
2025	BEVERLY DR	0.3	4000
2025	DUFORT RD	9.0	121,600
2025	GARFIELD BAY RD	1.8	20,700
2025	GREENWOOD AVE	0.1	600
2025	GUN CLUB RD	1.2	13,700
2025	HAWKINS RD	0.3	4900
2025	HAWKINS SPUR	0.2	1900
2025	HORIZON DR	0.2	1600
2025	JERRYS WAY	0.5	6800
2025	KRYSTLE LOOP	0.3	4200
2025	LAKEWOOD DR	0.2	1000
2025	MEADOW LN	0.3	3000

2025	ROY WAY	0.2	2200
2025	S SAGLE RD	2.6	33,700
2025	SPADES RD	0.8	9300
2025	SPORTSMAN ACCESS RD	0.4	3900
2025	WALKER WAY	0.2	3200
2025	WILLIAMS RD	0.2	1800
2025 TOTAL	**TOTAL**	**21.2**	**270,700**
DISTRICT 1 TOTAL	**79 Roads**	**114 Road Miles**	**1,591,700 SY**

Figure 5-6 Bayview Rd., one of the roads scheduled for chip seal in District 1

Table 5-2 District 2 Chip Seal Plan

Year	Road Name	Length (Miles)	Area (SY)
2019	ADAMS RD	0.1	1700
2019	CAMPBELL POINT RD	0.0	200
2019	COURTLEN CT	0.2	2900
2019	COURTLEN ST	0.1	800
2019	JACOB DR	0.2	2500
2019	KALISPELL BAY RD	2.7	37,900
2019	LONG DR	0.5	6500
2019	LUBY BAY RD	1.4	18,000
2019	N NORDMAN RD	2.1	29,500
2019	N RYAN RD	0.3	3000
2019	OUTLET BAY RD	0.6	10,900
2019	PENINSULA RD	2.1	27,100
2019	REEDER BAY RD	4.0	53,500
2019	S RYAN RD	0.2	2000
2019	TRACY LN	0.4	4100
2019	W LAKESHORE RD	0.4	4800
2019 TOTAL	**TOTAL**	**15.1**	**205,400**
2020	ALBENI COVE RD	0.4	4900
2020	BLANCHARD-ELK RD	2.7	44,500
2020	E 3RD ST S	0.4	8100
2020	E 4TH ST S	0.3	5700
2020	E 5TH ST S	0.4	6500
2020	E OCKERT ST S	0.2	2500
2020	E VALLEY ST S	0.2	3000
2020	EASTSHORE RD	9.3	119,400
2020	S BLACKHAWK AVE	0.1	900
2020	S GROVER AVE	0.1	1300
2020	S IOWA AVE	0.1	1100
2020	S MARIAN AVE	0.2	1800
2020	S MONTANA AVE	0.1	1400
2020	S SPRUCE AVE	0.1	1400
2020	SANTA CLAUS LN	0.1	900
2020	WISCONSIN ST	0.2	3600
2020 TOTAL	**TOTAL**	**14.8**	**207,000**
2021	CEDAR LN	0.5	5300
2021	E CEDAR LN	0.5	5300
2021	HOOP LOOP	1.7	24,400

2021	LE CLERC RD	1.3	15,300
2021	OLD PRIEST RIVER RD	5.7	80,200
2021	W CEDAR LN	0.2	2600
2021 TOTAL	TOTAL	9.9	133,100
2022	BODIE CANYON RD	1.5	20,800
2022	CAVANAUGH BAY RD	4.5	60,700
2022	DICKENSHEET RD	5.4	75,500
2022	HOLLY GLENN RD	0.5	7000
2022	HOO DOO LOOP	5.9	79,900
2022	SHANNON LN	0.8	9700
2022 TOTAL	TOTAL	18.6	253,600
2023	EASTSHORE RD	8.2	106,000
2023	EASTSIDE RD	4.3	58,000
2023	KEARBY KORNER	0.1	1700
2023	PINECREST LOOP	0.9	9500
2023	PINECREST RD	0.1	1300
2023 TOTAL	TOTAL	13.7	176,500
2024	CAMPBELL POINT RD	0.2	2100
2024	EASTRIVER RD	5.1	86,000
2024	N RILEY CREEK RD	0.5	6900
2024	RILEY CREEK PARK DR	1.1	13,600
2024	RIVER RUN DR	0.7	10,500
2024 TOTAL	TOTAL	7.5	119,100
2025	FREEMAN LAKE RD	2.7	31,600
2025	PINECREST RD	0.4	4000
2025	RIVERSIDE RD	2.1	26,900
2025	SILVER BIRCH LN	0.9	11,900
2025	SQUAW VALLEY RD	4.6	32,900
2025	TALON CIR	0.0	500
2025	TALON DR	0.2	2700
2025	TWEEDIE RD	0.9	11,900
2025	WRENCO LOOP	4.6	93,600
2025 TOTAL	TOTAL	16.4	216,000
DISTRICT 2 TOTAL	63 Roads	96 Road Miles	1,310,700 SY

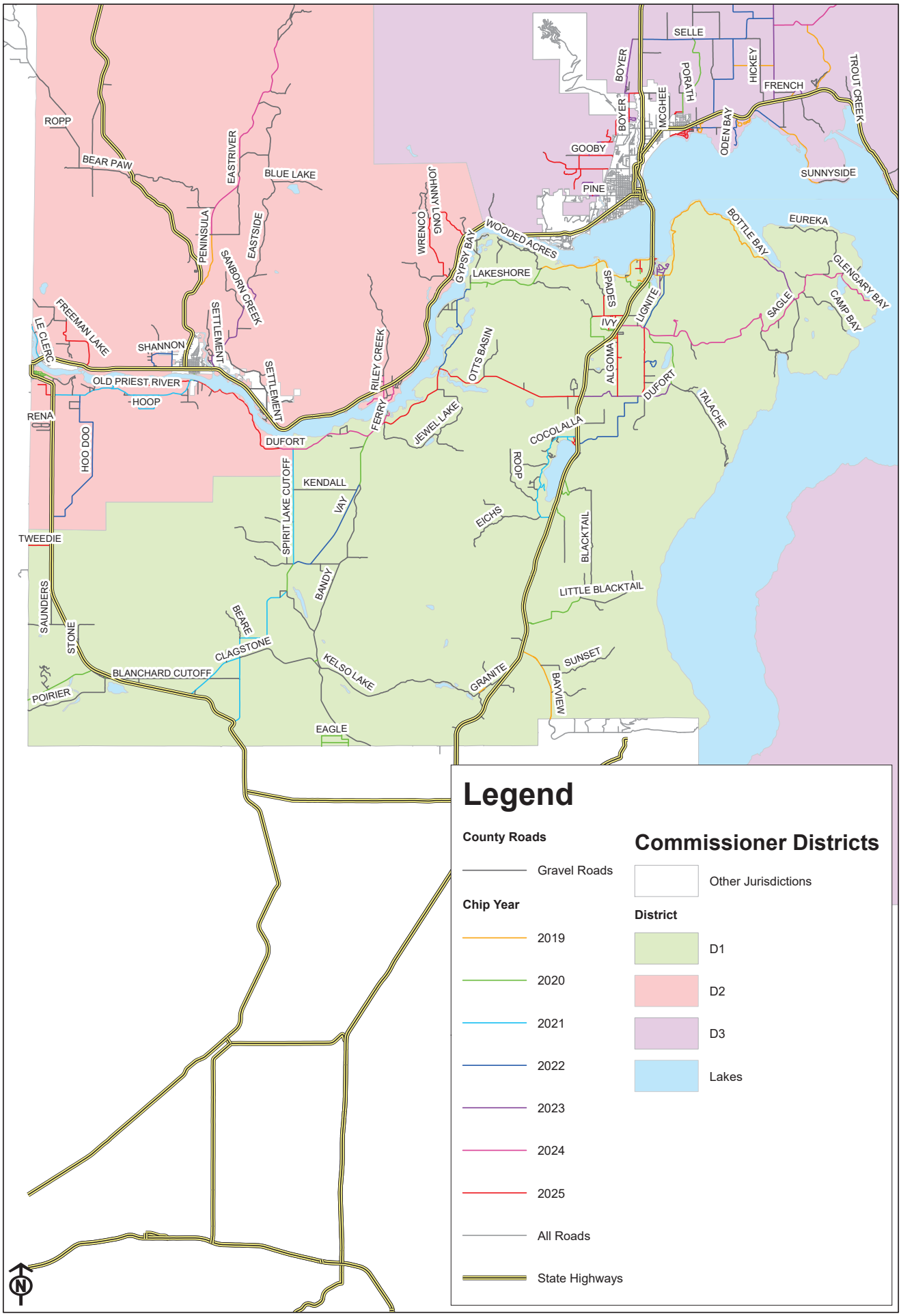
Table 5-3 District 3 Chip Seal Plan

Year	Road Name	Length (Miles)	Area (SY)
2019	CROOKED EAR DR	0.4	6900
2019	E DAVID THOMPSON RD	0.0	100
2019	JACOBSON RD	1.5	21,300
2019	KANIKSU SHORES RD	0.9	11,000
2019	KOOTENAI BAY RD	0.1	900
2019	LIGHTNING CREEK RD	2.5	35,500
2019	LOWER PACK RIVER RD	3.0	39,100
2019	NANCY RD	0.2	1900
2019	ODEN BAY DR	0.6	7100
2019	OLD HIGHWAY	0.3	3200
2019	RED CLOVER CIR	0.0	400
2019	RED CLOVER DR	0.2	2400
2019	SUNNYSIDE EXIT RD	0.1	800
2019	SUNNYSIDE RD	3.1	36,100
2019 TOTAL	**TOTAL**	**12.9**	**166,700**
2020	ELMIRA RD	4.0	5400
2020	N KOOTENAI RD	0.9	11,100
2020	SAMUELS RD	3.7	47,400
2020	UPPER PACK RIVER RD	4.8	67,100
2020 TOTAL	**TOTAL**	**13.3**	**131,000**
2021	E DAVID THOMPSON RD	0.5	6900
2021	EAMESHORE DR	0.2	1600
2021	HOPE SCHOOL RD	0.3	3900
2021	KULLYSPELL DR	0.1	1100
2021	N KULLYSPELL DR	0.1	600
2021	N RIVER LAKE DR	0.5	6400
2021	OSPREY CIR	0.9	11,900
2021	PENINSULA RD	1.3	18,500
2021	RED FIR RD	1.4	18,300
2021	RIVER LAKE DR	0.6	7700
2021	RIVER RD	8.5	119,400
2021	SAM OWENS PARK RD	0.5	5900
2021	W DAVID THOMPSON RD	0.2	1900
2021 TOTAL	**TOTAL**	**15.1**	**204,100**
2022	E SHINGLE MILL RD	2.2	41,600

2022	SELKIRK RD	2.0	25,500
2022	SELLE RD	5.6	72,400
2022	SHINGLE MILL RD	1.3	17,200
2022	SUNNYSIDE RD	1.3	14,900
2022	W ODEN BAY RD	1.3	15,000
2022	WHISKEY JACK RD	1.0	10,600
2022 TOTAL	TOTAL	14.7	197,200
2023	COLBURN-CULVER RD	10.8	151,300
2023	GOLD CREEK RD	2.9	37,100
2023	MOUNTAIN VIEW DR	0.9	9900
2023	N BOYER RD	2.1	24,100
2023	OLD HIGHWAY	0.5	5700
2023	PINECONE RD	0.3	3600
2023	TRESTLE CREEK RD	4.2	39,300
2023	VEDELWOOD DR	0.6	6200
2023	W BRONX RD	0.2	1800
2023	W PINE ST	0.4	4600
2023 TOTAL	TOTAL	22.6	283,600
2024	DENTON RD	4.8	62,100
2024	OLD SAM OWEN DR	0.2	1600
2024	PENINSULA RD	0.8	10,600
2024	RAPID LIGHTNING RD	5.2	67,700
2024 TOTAL	TOTAL	11.0	142,000
2025	BALDY MOUNTAIN RD	2.7	35,400
2025	CROOKED LN	0.2	2500
2025	GOOBY RD	1.3	18,600
2025	JEFFREY DR	0.4	4400
2025	KOOTENAI BAY RD	0.1	1700
2025	LEISURE LN	0.3	4000
2025	LOWER HUMBIRD DR	0.2	3100
2025	MOUNTAIN VIEW DR	0.4	4800
2025	N BOYER RD	0.8	10,500
2025	PENNY LN	0.1	1000
2025	PONDER POINT DR	0.8	8800
2025	PONDER POINT LN	0.2	2100
2025	ROUNDHOUSE CIR	0.1	1400
2025	ROUNDHOUSE DR	0.1	2800
2025	SERENITY PL	0.3	3000
2025	SPUR DR	0.2	3600
2025	SWEETWATER DR	0.7	8700
2025	UPLAND DR	1.4	17,700

2025	UPPER HUMBIRD DR	0.5	9700
2025	W BRONX RD	0.5	5100
2025	WOODLAND DR	0.8	11,700
2025 TOTAL	**TOTAL**	**12.1**	**160,600**
DISTRICT 3 TOTAL	**73 Roads**	**102 Road Miles**	**1,285,200 SY**

Figure 5-7 Peninsula Rd. in District 3



Legend

County Roads

- Gravel Roads

Chip Year

- 2019
- 2020
- 2021
- 2022
- 2023
- 2024
- 2025
- All Roads
- State Highways

Commissioner Districts

- Other Jurisdictions

District

- D1
- D2
- D3
- Lakes

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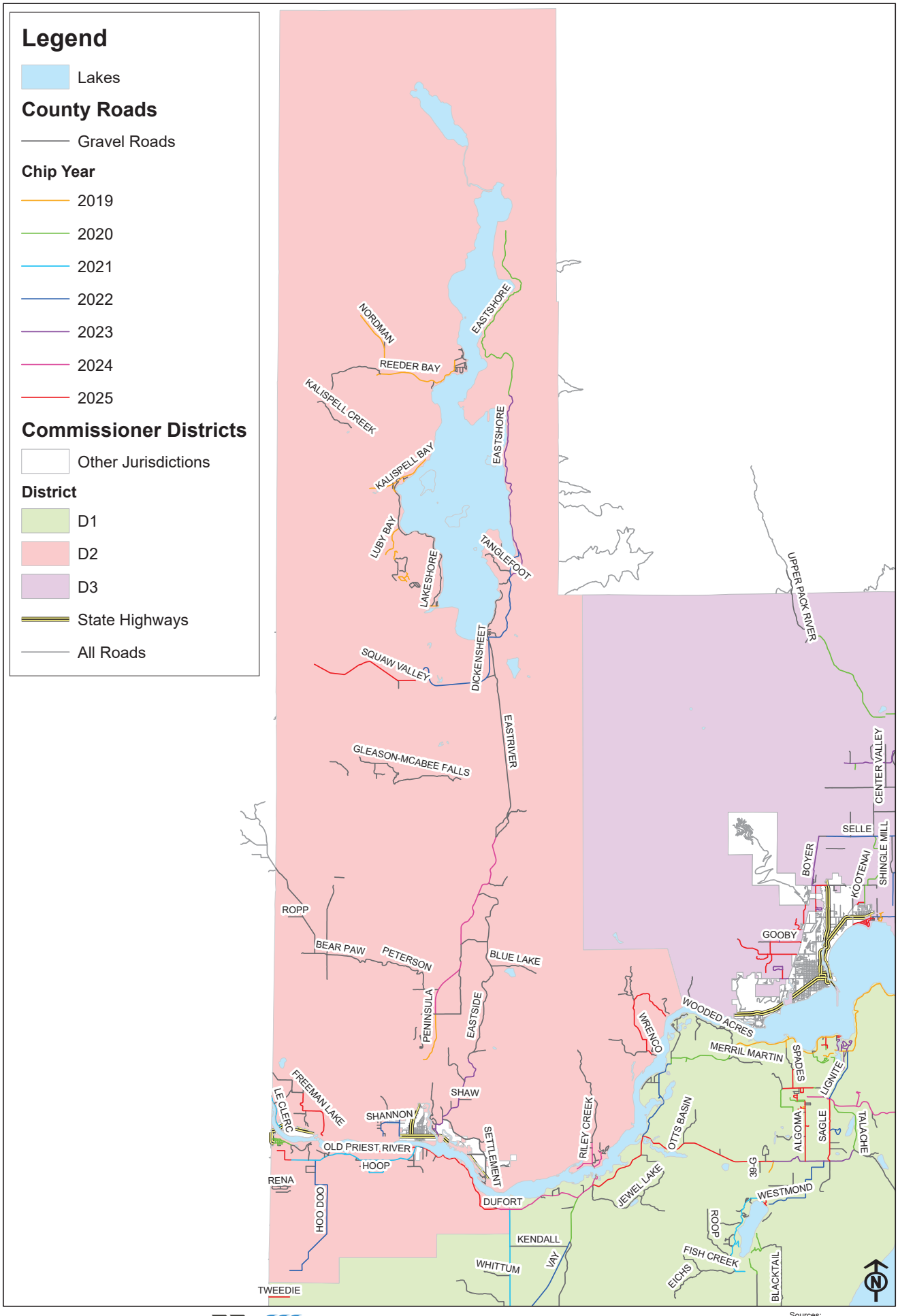
Bonner County

Chip Seal Schedule - District 1

Sources:

Bonner County
ITD
LHTAC
Aerial (see above)

PROJECT NO.....44039
DRAWN BY.....JRG
FILENAME.....Chip1
DATE.....8-20-2018



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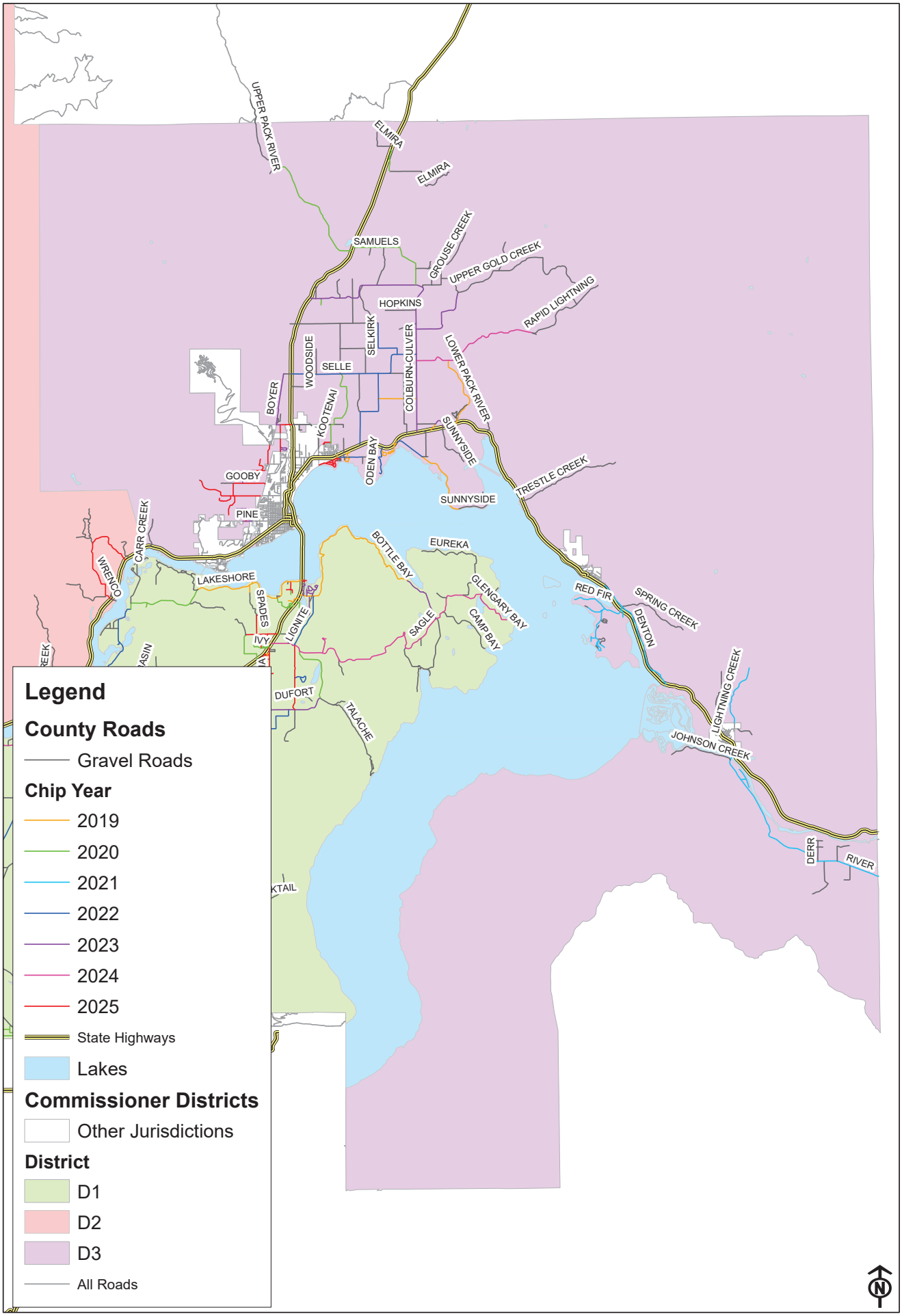
Bonner County

Chip Seal Schedule - District 2

Sources:

Bonner County
ITD
LHTAC
Aerial (see above)

PROJECT NO.....44039
DRAWN BY.....JRG
FILENAME.....Chip2
DATE.....8-20-2018



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Bonner County

Chip Seal Schedule - District 3

Sources:

Bonner County
ITD
LHTAC
Aerial (see above)

PROJECT NO.....44039
DRAWN BY.....JRG
FILENAME.....Chip3
DATE.....8-20-2018

MAINTAINING BRIDGES

It is vital to address maintenance in the Bonner County bridge inventory. Regular and preventative maintenance can help to extend the service life of a bridge. While routine bridge inspections are the primary method for documenting bridge condition, it is good practice for County personnel to be familiar with the bridge inventory and even visit bridges between routine inspections, especially scour critical bridges after high flow events. Additionally, bridge visits could help expose safety issues such as damaged guardrail. The following maintenance practices are recommended:

Figure 5-11 Maintaining bridges must become a priority for the County

- Annual sweeping of concrete bridge decks.
- Sealing of cracks in asphalt overlays
- Maintain smooth approaches onto the bridge to minimize impact force onto the deck. This may require re-grading of gravel or paving of approach aprons.
- Cleaning of timber bridge decks and pile caps to remove dirt and vegetation which could retain moisture and increase potential for decay.
- Removal of large debris in channel that could impede flow or damage structure.
- Review of official bridge inspection reports and address any maintenance recommendations that can be completed by County crews.

COSTS OF MAINTAINING THE EXISTING SYSTEM

Annually, on average, the County has a roads budget of approximately $9 million. Figure 5-12 shows how that budget is distributed, with about $2.5 million allocated for road-work related expenses.

Approximately $1.91 million is needed for annual road maintenance and a small portion is set aside for construction.

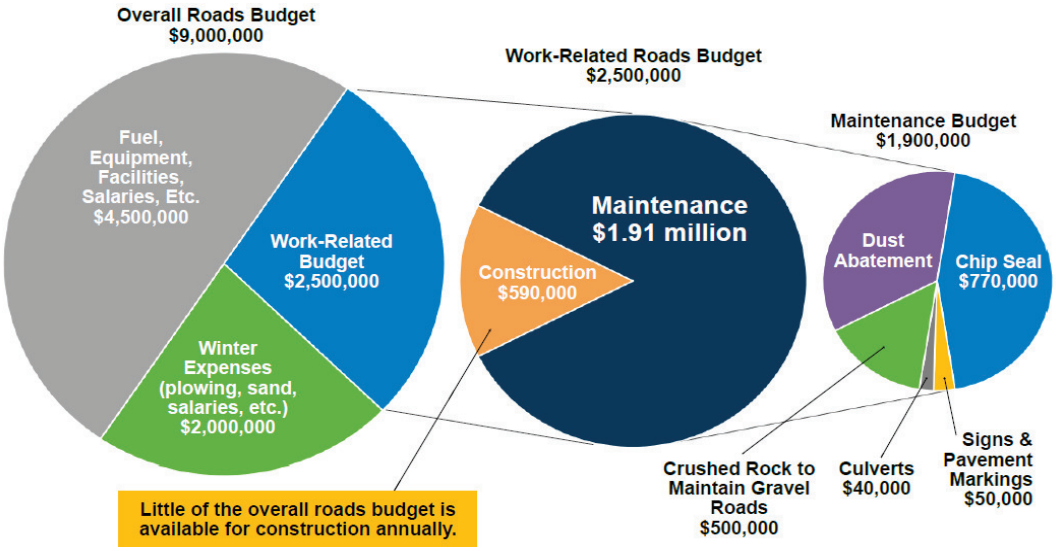


Figure 5-12 Bonner County Road Budget

Chapter 6 Capital Improvements

BRIDGES

HIGH PRIORITY

Although there are bridges in District 1, no bridges in District 1 are on the 'High Priority' project list.

DICKENSHEET RD. BRIDGE (BRIDGE NO. 20620) - DISTRICT 2

Dickensheet Rd. Bridge crosses Priest River near Priest Lake. The bridge has five loose pins and hanger nuts which need to be tightened as soon as possible. After tightening, they should also be painted with an appropriate formula. Pin and hanger assemblies are fracture critical in that the failure of one assembly can cause the collapse of all or part of the structure. Maintenance of these assemblies is, therefore, of utmost importance. Performing these repairs requires a specialized under bridge inspection truck (UBIT). Additionally, we recommend the means and method of repair to be reviewed by an Engineer prior to commencing work. Repair cost is estimated at $15,000.

Figure 6-1 Dickensheet Rd. Bridge Loose Pin & Hanger Nut

Next steps for this project involve hiring a structural engineer to review the method of repair and provide a recommendation. The County should investigate either renting a UBIT and completing the work with their own crews, put out a simple request for quotes, or directly hire a contractor that could perform this work. Coordinate this work with Clark Fork Bridge in District 3.

Figure 6-2 Bronx Road Bridge Looking West

BRONX RD. BRIDGE MAINTENANCE (BRIDGE NO. 30200) – DISTRICT 3

Bronx Road Bridge has damage on the southwest approach guardrail from a previous accident. Repair cost is estimated at $10,000. The County should evaluate the guardrail damage and decide if the work to replace the guardrail can be completed with their own crews. If so, procure materials and complete the work. If outside assistance is necessary, the County should put out a simple RFI for the guardrail repair and have a contractor perform the work.

Figure 6-3 Broken guardrail posts on Samuels Road Bridge

SAMUELS RD. BRIDGE MAINTENANCE (BRIDGE NO. 30215) – DISTRICT 3

Samuels Road Bridge has six damaged guardrail posts at the northeast corner. Repair cost is estimated at $10,000. The County should evaluate the guardrail post damage and decide if the work to replace the posts can be completed with their own crews. If so, procure materials and complete the work. If outside assistance is necessary, the County should put out a simple RFI for the guardrail repair and have a contractor perform the work.

Rapid Lightning Bridge #4 (Bridge No. 30225) – District 3

Rapid Lightning Bridge #4 is structurally deficient due to the poor condition of the superstructure. Most of the girders have severe checking and splitting, and one girder has impact damage. All deficient girders should be replaced or have helper beams added. There are also multiple defects with the railing due to vehicular impact on both sides. This includes torn rail, a split post on the north side and missing terminal at the southwest corner. Since this rail does not meet current safety standards, we recommend a full rail retrofit for this bridge. The total cost for these repairs (including rail retrofit and addition of helper beams) is estimated at $225,000.

Hire a structural engineer to evaluate options for replacement of the superstructure and guardrail. One option may be to procure a prefabricated bridge that could be installed on the existing abutments. A structural engineer can assist the County in evaluating the best long-term cost-effective solution for the County. For funding, the County could consider chasing LRHIP through LHTAC or Road and Bridge funds through IDPR. For 2020 funds, the LRHIP applications are due mid-November 2018, but "on the shelf" plans are not required for this funding. If funded, the County would need to front the funds to develop a bid package and procure the bridge. IDPR Road and Bridge applications are due in January each year. If successful, IDPR funding would be available mid-July 2019.

Figure 6-4 Rapid Lightning Creek Bridge #4 Looking East

Clark Fork Bridge Maintenance (Bridge No. 30127) – District 3

Clark Fork Bridge has six loose splice bolts in a bottom flange splice plate at the northwest corner of Span 4 & 5. Access to tighten the bolts will require a UBIT. Additionally, the expansion joints are filled with dirt and debris and should be cleaned. Total estimated cost is $10,000. The County should investigate either renting a UBIT and completing the work with their own crews, put out a simple request for quotes, or directly hire a contractor that could perform this work. Coordinate this work with Dickensheet Road Bridge in District 2.

Figure 6-5 Clark Fork Bridge

MEDIUM PRIORITY

POIRIER HIGH BRIDGE (BRIDGE NO. 30165) – DISTRICT 1

Poirier High Bridge has an approach that is retained by gabion walls along the northeast corner. There is undermining and leaning of the gabions and major erosion behind the north abutment wall. Also, the embankment at the southwest corner is retained by a jersey barrier wall which is undermined. The County has been aware of these erosion issues, and installed survey monuments to monitor the gabion wall movement. For the moment, the County should continue to monitor the stability or movement of the gabion wall. If movement is occurring, repairs will be needed; if movement is not happening, repairs may not be necessary despite the precarious appearance. Repairs to the gabion wall and addressing erosion and undermining is estimated at $175,000.

Figure 6-6 Poirier High Bridge deck and sluice gate

SQUAW VALLEY BRIDGE (BRIDGE NO. 30170) – DISTRICT 2

Squaw Valley Bridge has impact damage to the bridge rail which has also heavily damaged an exterior concrete girder. Improvements include retrofitting the rail to current safety standards and repairing the girder spalling with a construction estimate of $120,000. Squaw Valley Bridge has "shovel-ready" plans and is a good candidate for Strategic Initiatives or LRHIP funding. Grouse Creek Bridge has a similar scope, so a combined Strategic Initiatives project could be competitive.

Figure 6-7 Squaw Valley Bridge guardrail

MERRITT BRIDGE (BRIDGE NO. 20615) – DISTRICT 2

The Merritt Bridge crosses the Pend Oreille River. The bridge has several areas to repair:

- Clean gravel from expansion joints and replace expansion joint material
- Repair crack in one steel pile
- Repair concrete spalling in the pile caps
- Repair collision damage to the southwest guardrail
- Seal cracks in the bridge deck with high molecular weight methacrylate

Figure 6-8 Merritt Bridge looking northwest

Repairs to the Merritt Bridge combine to an estimated $250,000 cost. This project has a high enough price tag to warrant applying for Strategic Initiatives funding or cover a portion of the cost with LRHIP. Alternatively, the County could choose the one or two repairs which are the most urgent and pay for those out of their budget. This method will make the urgent repairs soon and allow the County to chase funding for other repairs.

GROUSE CREEK BRIDGE (BRIDGE NO. 30130) – DISTRICT 3

Grouse Creek Bridge has impact damage to the bridge rail at the southwest and northeast corners. This bridge has plans for replacing the existing rail system with a curb-mounted thrie-beam rail system which will meet current safety standards. The total cost of these repairs is estimated at $130,000. Grouse Creek Bridge and Squaw Valley Bridge may be packaged into the same project to get lower prices, as the improvements are similar.

For this project, apply for Strategic Initiatives together with the Squaw Valley Bridge. This project has "shovel-ready" plans and is a good candidate for that funding.

Figure 6-9 Grouse Creek Bridge looking south

LOW PRIORITY

There are no 'low priority' bridges in District 1.

MCABEE FALLS BRIDGE (BRIDGE NO. 20630) – DISTRICT 2

McAbee Falls Bridge has missing expansion joint seals in all of the joints which need to be replaced. The joint materials are estimated at $15,000 for the whole project.

HUNT CREEK BRIDGE (BRIDGE NO. 30245) – DISTRICT 2

Hunt Creek Bridge has scour with undermining at both abutments. Properly designed scour countermeasures are recommended, which will likely increase the bridge's sufficiency rating. Since this bridge is not in a floodway, scour countermeasures here will require less permitting than other bridges. Total cost for scour repair is $300,000.

COLBURN-CULVER PACK RIVER LOWER (BRIDGE NO. 20640) – DISTRICT 3

Colburn-Culver Pack River Lower has crumbling concrete curbs and corrosion of the metal bridge railing. The bridge rail along the east side has impact damage and the railing is overall deemed substandard for safety. Additionally, the steel protective coating on the girders is failing which can be addressed with painting. The total cost for retrofitting the curb and bridge rail and painting the girders is estimated at $545,000. This estimated cost assumes that the existing girders contain lead-based paint.

Figure 6-10 Bridge rail pitting on Colburn-Culver Pack River Lower Bridge

Rapid Lightning Bridge #5 (Bridge No. 30230) – District 3

Rapid Lightning Bridge #5 has been identified for replacement. Bonner County has acquired federal aid funding for bridge replacement. The design process for this bridge replacement is expected to begin in fall 2018. The accepted grant amounts for engineering and construction are $500,000 and $1.655 million respectively, as of October 2018. The County will need to set aside the 7.34% match for the grant funds ($36,700 for engineering and $121,500 for construction), totaling $158,200.

Figure 6-11 Rapid Lightning Bridge #5 looking west

Rapid Lightning Rd. over Pack River Bridge (Bridge no. 30160) – District 3

Rapid Lightning Rd. over Pack River Bridge has exposed piles and undermining below the abutments. Since this bridge is in a floodway, significant environmental permitting is required to enact scour countermeasures. Scour countermeasures and undermining repair is estimated at $75,000.

Figure 6-12 Exposed piles on Rapid Lightning Road over Pack River Bridge

Road Surfacing

There are two main types of road surfacing projects for the county to consider: paving and bituminous surface treatment (BST). BSTs are essentially thicker versions of a chip seal, with some bituminous road oil material applied atop a gravel base layer and well-graded rock chips added to the oil. While this process may be done once in a chip seal, a BST has multiple layers, allowing a relatively high traffic gravel road to become hard surfaced without the expense of paving. (BST projects get chip sealed the following year, which is not included in the cost estimates in this report.) As a rule, the County considers paving roads with average daily traffic (ADT) greater than 500 vehicles per day (vpd) and considers BST on roads with ADTs between 250 vpd and 500 vpd. These cutoffs approximately represent the break-even points between constant maintenance on a lower-quality surface and the up-front cost of resurfacing.

High Priority

There are no high priority road surfacing projects in District 1. District 1 recently had two high priority projects completed – Bayview Road reconstruction and US 95/Bottle Bay intersection improvement.

Eastriver Rd. Landslide Repair – District 2

Landslides took out one lane of Eastriver Rd. in areas between mileposts 10 & 11.2 in March 2017 and spring 2018. Federal emergency funds were allocated to Bonner County to rebuild those areas of road, with engineering beginning in fall 2018 and construction slated for 2020. Estimated cost for the project is $1.85 million.

N. Kootenai Road Reconstruction – District 3

N. Kootenai Road is currently gravel and is seen as a road that would provide another important connection north of the City of Kootenai. If paved, this road will likely take some of the burden off Selle and Colburn-Culver Roads. Extra gravel base and potentially rock outcrop blasting required is going to increase the price of this project. N. Kootenai Road reconstruction is 2.6 miles long and expected to cost $800,000.

Figure 6-13 N. Kootenai Road

Plan to build up the base and replace culverts with County crews and then pave with a Contractor. The County can either budget for this road and complete everything except the paving with their own crews or, alternatively, hire and engineer to design the project. If the project is “on the shelf”, the County could apply for Strategic Initiatives for the project and have a contractor complete all the work. If the County elects to apply for Strategic Initiatives, the County should plan to have the bid package complete by summer 2019 and apply in winter 2019 for a 2020 project. The project may be most successful if the County and City coordinate on a multijurisdictional bid package and jointly submit for a Strategic Initiatives project. Another option for funding N. Kootenai Rd. is STP-Rural. Though this funding is less competitive than Strategic Initiatives, the caveat with this option is that partnering with the City of Kootenai is not an option because Kootenai is designated urban.

WOODLAND DRIVE BST – DISTRICT 3

0.9 miles of BST is planned for Woodland Dr. at an estimated cost of $48,000, which would pair with Gooby Rd. BST to complete the hard surfacing in that area. Hard surfacing multiple roads in the same area can either be completed in one year by county crews or as a single project if being contracted out, either of which decreases the unit cost compared to each road by itself or in different years. It's also possible to chase LRHIP funding to cover the cost of the emulsion and chips.

MEDIUM PRIORITY

VAY RD. & EDGEMERE CUTOFF PAVING – DISTRICT 1

Vay Rd. & Edgemere Cutoff are part of a critical link between Blanchard & Sagle which gets high volumes compared to most of the roads in the county. Paving these two roads will provide a shorter, alternate route to Spirit Lake Cutoff and will allow for less maintenance due to the high truck traffic in the area. Planning level costs for the 3.94 miles of these paving projects are estimated at $1,021,000.

Figure 6-14 Vay Road

This project is essential for commerce between the east and west sides of the County. Should the Strategic Initiatives funding continue to be available, the County should consider budgeting for bid package preparation in the next few years and have a project "on the shelf" and ready for Strategic Initiatives funding within the next five or six years.

LAKESHORE DRIVE BST – DISTRICT 1

Lakeshore Drive is one of the roads with the most vocal public support for hard surfacing. The County has had Lakeshore on their short list of potential projects for a couple of years, and the benefits are obvious. Although there may be few residents on Lakeshore Dr. itself, there are numerous connecting residential streets. Lakeshore Dr. also provides an alternate route to the eastern portion of the Old Town to Sagle/Sandpoint route of Dufort Rd. Traffic counts are only around 340 vehicles per day, so Lakeshore does not meet the standard traffic count warrants for asphalt paving. Estimated materials cost for 3.75 miles of BST is $244,000.

Figure 6-15 Lakeshore Drive

The County should consider budgeting to complete this BST with County crews. This project could also be eligible for LRHIP funding through LHTAC because you can use LRHIP funds and complete the project with County crews. The County could consider applying for LRHIP funds to cover the cost of the oil and chips.

Clagstone Road BST – District 1

Clagstone Rd. has three distinct sections: west of Spirit Lake Cutoff, between Spirit Lake Cutoff and Eagle Rd, and east of Eagle Rd. This project targets the westernmost section, as the eastern section is already hard surfaced, and the middle section has too little traffic for hard surfacing at this time. West of Spirit Lake Cutoff, the ADT on Clagstone is estimated to be 270 vpd in 2028 – a perfect candidate for BST. 2.4 miles of Clagstone will get BST, totaling an estimated $115,000.

The County should budget to complete a BST on the westernmost section of Clagstone within the next 5 to 10 years. This work would most likely be completed with County crews. An alternative would be to chase LRHIP funds to cover the cost of oil and chips.

Eastshore Rd. Maintenance – District 2

Bonner County maintenance of Eastshore Road was recently extended, and the extension requires some ditching, brushing, and widening of the existing BST surface. Bonner County crews can do most or all this work themselves but will need to dedicate the crew time.

E. Mountain View Drive BST – District 3

E. Mountain View Drive currently has partial BST and this project serves to complete the final 0.9 miles of BST to Gooby Rd. The ADT on E. Mountain View Drive was 150 vehicles per day in 2010, but this section of road is very steep, making maintaining the gravel surface difficult. Estimated project cost is $48,000 for 0.9 miles of BST. The county can utilize their own crews and yearly budget to complete this project.

Low Priority

Garfield Bay Rd. CTB & Paving – District 1

Garfield Bay Rd. has some inherent drainage issues which require more than simply overlaying more asphalt onto the existing surface. As such, the plan for Garfield Bay is to utilize cement-treated base (CTB) to improve the subsurface material and then pave atop that CTB. Total project cost for 1.8 miles of length is estimated at $497,000.

Figure 6-16 Garfield Bay Road has drainage and subgrade issues.

E. Dufort Road BST – District 1

E. Dufort Rd. had 250 ADT in 2010, meaning that it has qualified for BST for a few years. As the road is 3.75 miles in length, there is significant cost (estimated at $198,000) associated with completing this project.

Eastriver Road BST – District 2

Eastriver Rd. and Eastside Rd. combine to create an alternate route between Priest Lake and Priest River. Between projects in the short-term CIP and the long-term CIP in this plan, that alternate route is wholly represented. This northern section of that route (between the end of the current hard surfacing on Eastriver and Priest Lake) is the first and most important step toward making that alternate route a reality. Project costs for the 5.06 miles of BST are estimated at $268,000.

GOOBY ROAD BST – DISTRICT 3

Though short, Gooby Rd. is steep and it is difficult to maintain the gravel road. BST will provide ample hard surface but creating drainage conveyance will be critical. At only 0.5 miles in length, Gooby Rd. had 145 ADT in 2007, and estimated project cost is $27,000.

SAFETY

INTERSECTION LIGHTING

Several intersections were identified as needing upgraded lighting. Each of the intersections listed below has nonexistent or poor lighting. Figure 6-17 illustrates an intersection with a single light which only illuminates part of the intersection, a typical occurrence at the junctions between county and state roads. Bonner County recognizes the importance of the connections between County road infrastructure and state highways and will continue working with ITD to improve these and other critical intersections.

Figure 6-17 Bottle Bay Rd. & US 95 during the Bottle Bay Road Safety Audit. Note the sole light on the right-hand side.

District 1

- US 95/Bayview Rd
- US 95/Blacktail Rd. (southern)
- US 95/Lakeshore Dr

District 2

- SH 41/Old Priest River Road
- SH 41/Spirit Lake Cutoff Rd

District 3

- US 95/Selle Road
- US 95/Colburn-Culver
- Selle/Colburn-Culver
- US 95/W Elmira Rd

Install New Guardrail

Several roadways were identified as high priority for upgrades or replacement to existing guardrail. Those identified are listed below; however, the County should continue to identify roads needing upgraded guardrail. This initial list is likely more work than can be afforded in the next 5-7 years but is a starting point for some of the highest priorities. Bonner County recognizes there are numerous guardrail needs throughout the county and will continue to update this list of needs and address more areas as funds allow.

District 1

- Bottle Bay Rd
- Dufort Rd

District 2

- Eastshore Rd

District 3

- Colburn-Culver Rd
- Denton Rd
- Johnson Creek Rd

Replace Existing Guardrail

Significant portions of the guardrail infrastructure in Bonner County have not been updated to the most recent Manual on Uniform Traffic Control Devices (MUTCD) standards. Guardrail end treatments in particular have changed significantly since Bonner County bridges were built and current guardrail was installed. Improving guardrail provides reductions in run-off-the-road accidents in the most dangerous areas on county roads. Several roadways were identified as needing upgrades or replacement to existing guardrail. Those identified are listed below; however, the County should continue to identify roads needing upgraded guardrail and add to this list.

District 1

- Bottle Bay Road
- Dufort Road

District 2

- Dickensheet Rd

Other Intersection Improvements

Oftentimes, there are other intersection improvements that can be identified. For instance, stop signs on long straight roadways may be unexpected to drivers. In these cases, solar powered signs can flash at drivers as they approach the intersection. Another example is adding delineators and curve signing at intersections to assist drivers negotiating curves, reducing lane departure crashes. The County will continue to identify those and other types of low-cost intersection improvements and implement them when appropriate.

Pedestrian and Bicycle

Pedestrian and bicycle improvements are not a high priority for the County, given relatively low pedestrian and bicycle use on their roadways and other higher priorities. The County plans to

consider adding “share the road” signs to Bottle Bay Road, Sagle Road, Durfort Road, and Lakeshore Drive and widening the shoulder on these roads where feasible and cost effective.

LONG TERM PROJECTS

BOTTLE BAY ROAD – DISTRICT 1

Bottle Bay Rd. had a road safety audit conducted in 2015 which indicated several potential projects on that road. As of the date of this report, the Bottle Bay Rd. / US 95 intersection improvement project is nearing completion, the first and most critical of the projects from the audit. Further suggested improvements to this road can be found in that study, located in Appendix J.

Figure 6-18 Bottle Bay Road RSA recommended several safety improvements.

DUFORT & E DUFORT RD. BST – DISTRICTS 1 AND 2

Dufort Rd. is a crucial alternate route to US 2 between the County’s western side of Newport/Old Town/Priest River and the cities of Sandpoint and Sagle. Most of Dufort is hard surfaced, while E Dufort is currently gravel. Bonner County expects that traffic on Dufort will continue to rise, and the County is aware that Dufort is a popular bicycle route. Bicycling on such a narrow road is dangerous but widening is cost prohibitive along much of Dufort’s length. As such, a signing, delineation, and guardrail project may prove most cost-effective.

CLAGSTONE RD. BST – DISTRICT 1

Clagstone Road currently has significant traffic on either end (west of Spirit Lake Cutoff and east of Eagle Dr.), and that area has been experiencing recent growth. As such, the east end has already been hard surfaced, and the west end is planned for BST in the short-term CIP. The County expects that over the next 10-25 years Clagstone Road will become a critical link to the infrastructure in that area, and the County will investigate the benefits of putting BST on the middle miles of Clagstone Road.

EASTSIDE RD. & EASTRIVER RD. BST – DISTRICT 2

Hard surfacing Eastside & Eastriver roads would provide an alternate route to SH 57 between Priest River and Priest Lake. Residents and tourists alike experience significant delays on SH 57 during the summer, which can be exacerbated by accidents or road work. Additionally, SH 57 is in a fire-prone area which can cause complete closure of the highway in both directions. Creating a hard-surfaced alternate route will be an expensive task but will significantly improve connectivity to and from the popular Priest Lake area as well as provide a necessary emergency route out of Priest Lake.

Figure 6-19 Eastriver Road at Fox Creek Road

Sunnyside Cutoff – District 3

Sunnyside Cutoff allows easy access between the peninsula that Sunnyside Cutoff is on and the Colburn-Culver Rd. area to the northeast of Sandpoint. This project will BST the whole length of Sunnyside Cutoff, totaling 1.25 miles.

W. Spring Creek Road – District 3

In the past, Bonner County has applied for the Federal Lands Access Program (FLAP) for improvements to W Spring Creek Rd, but the project was not selected. Bonner County worked on this road in summer 2018, including widening, straightening, clearing, ditching, and installing new culverts. Continuing to improve the FLAP application for asphalt paving funding will allow the County to hard surface the road at low cost to the County.

Figure 6-20 W. Spring Creek Road

E. Spring Creek Road – District 3

E. Spring Creek Rd. needs culverts and ditching for drainage improvement, as well as rip rap along the toe of the slope at the creek, shown in Figure 6-21. It has a high traffic count of 312 ADT in 2015. The County applied for a federal 319 grant in the middle mile, with the lower 1.4 miles to be done at county expense.

Figure 6-21 E. Spring Creek Road

Bottle Bay Bridge (Bridge No. 30115) – District 1

Bottle Bay Road Bridge over Sagle Slough has extensive undermining below the pile caps and 10 piles are exposed. According to the ITD Scour Committee, the bridge is stable but requires installation of scour countermeasures. This repair is estimated to cost $100,000.

Eastriver Loop Bridge (Bridge No. 30120) – District 2

Eastriver Loop Bridge is a single-lane 1930's steel truss over the North Fork East River. It is deemed structurally deficient. The superstructure and substructure are both in poor condition and there are severe weight restrictions. The bridge should be fully monitored to continually assess the safety of the bridge. Total replacement is estimated to be $3.1 million. Outside grant funding will be required for a project of this size, and the County applied for federal aid bridge funding for this bridge in 2016 and 2017. Those applications fell just below the funding cutoff, and Bonner County intends to improve and resubmit the applications in 2018.

Johnson Cutoff Bridge (Bridge No. 30180) – District 2

Johnson Cutoff Bridge has extensive undermining below the pile caps and 22 timber piles are exposed. According to the ITD Scour Committee, the bridge is stable but requires installation of scour countermeasures. This repair is estimated to cost $75,000.

Whiskey Jack Bridge (Bridge No. 30145) – District 3

The Whiskey Jack Bridge over Boyer Slough is a timber bridge with areas of decay. These areas include the south timber bridge railing and localized decay in two timber girders. The bridge rail should be retrofitted overall to bring the railing up to current safety standards. As part of this project, helper girders could be added adjacent to girders with significant decay. Total cost for repair (rail retrofit and two helper girders) is estimated at $185,000.

Figure 6-22 Whiskey Jack Bridge wooden abutments, rails, and deck

Bronx Rd. Bridge (Bridge No. 30200) – District 3

Bronx Rd. Bridge has extensive undermining below the pile caps. All 24 timber piles are exposed. Per the ITD Scour Committee, the bridge is stable but requires installation of scour countermeasures. This repair is estimated to cost $75,000.

Colburn-Culver Rd. Pack River Upper (Bridge No. 30235) – District 3

Colburn-Culver Rd. Pack River Upper Bridge has sustained damage to the bridge rail along the north side. Additionally, the bridge rail does not meet current safety standards. A rail retrofit is estimated to cost $200,000.

Figure 6-23 Colburn-Culver Pack River Upper Bridge

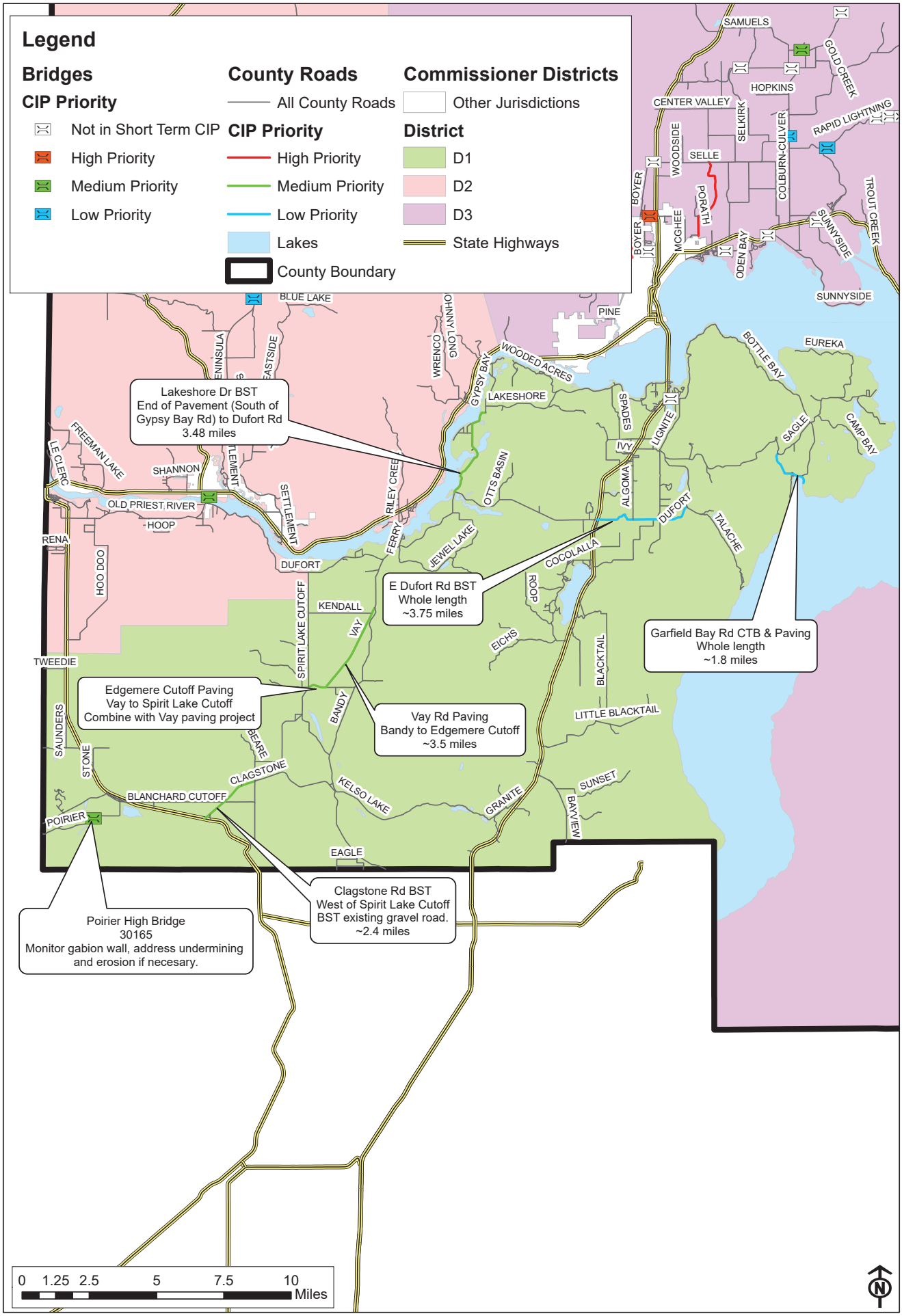
Rapid Lightning Bridge #1 (Bridge No. 30205) – District 3

Rapid Lightning Bridge #1 (the first bridge over Rapid Lightning Creek and the second on Rapid Lightning Rd.) also has a damaged timber rail requiring a retrofit. Estimated cost for this project is $150,000.

Rapid Lightning Bridge #3 (Bridge No. 30220) – District 3

Rapid Lightning Bridge #3 (the third bridge over Rapid Lightning Creek and the fourth on Rapid Lightning Rd.) is structurally deficient due to the poor condition of the substructure. The west abutment mud sill is exposed nearly full length and full depth. Properly designed scour countermeasures should be installed to protect from further scour and potential undermining. The total cost of this repair is estimated at $100,000.

Figure 6-24 Rapid Lightning Bridge #3



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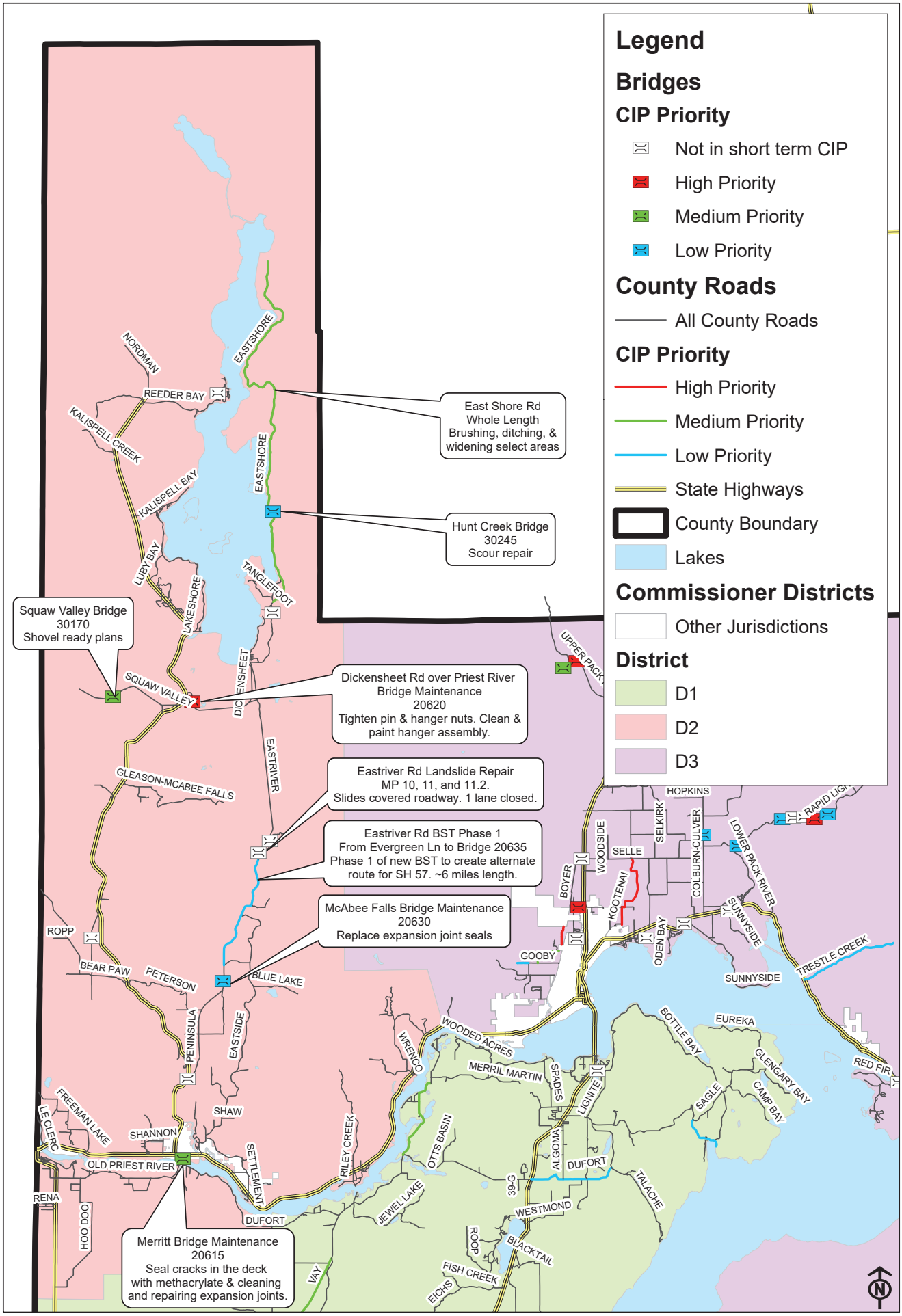
Bonner County

District 1 CIP

Sources:
Bonner County GIS

PROJECT NO.....44039
DRAWN BY.....JRG
FILENAME.....CIP_D1
DATE.....7-24-2018



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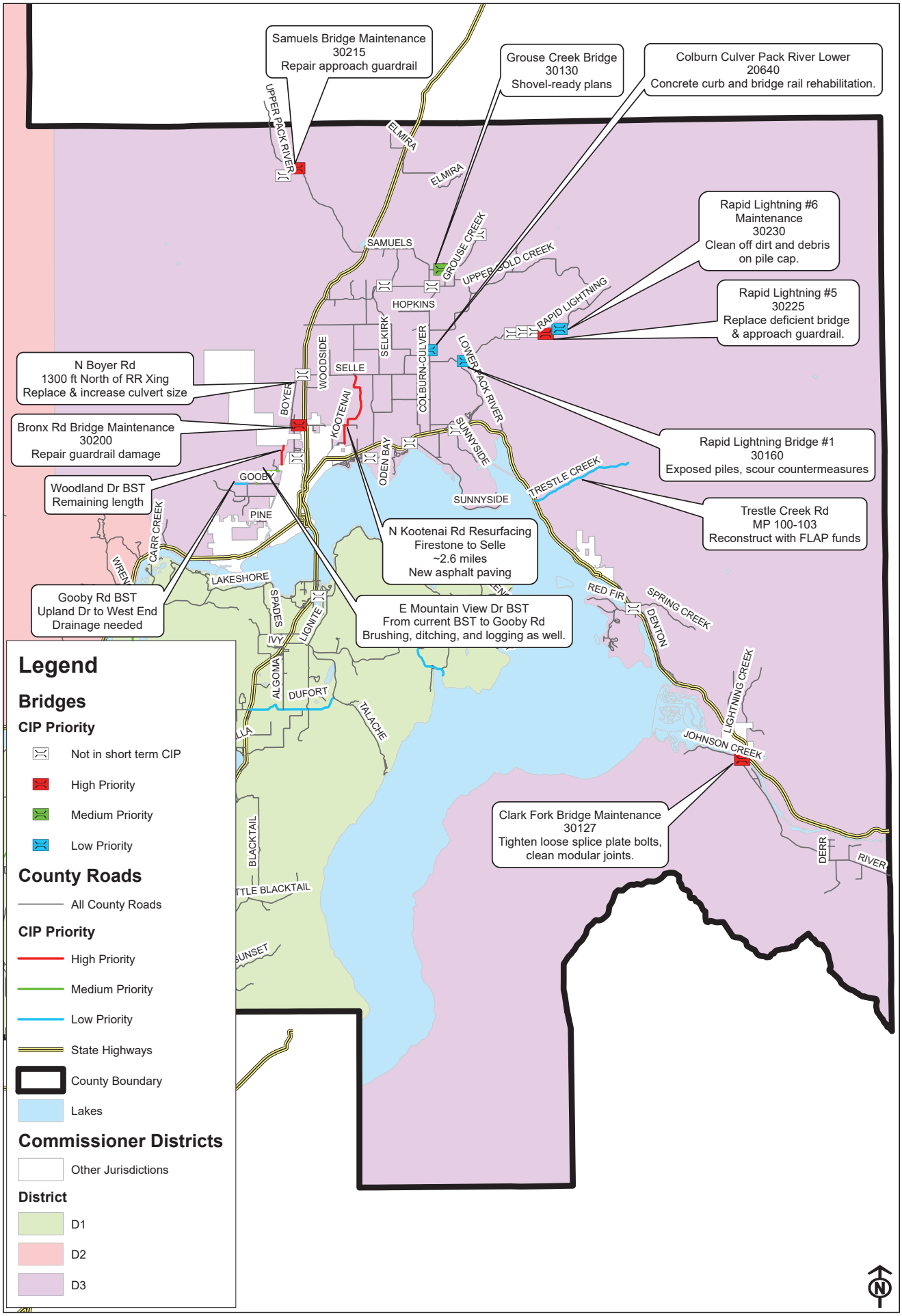
Bonner County
District 2 CIP

Sources:
Bonner County GIS
Aerial (see above)

PROJECT NO.....44039
DRAWN BY.....JRG
FILENAME.....CIP_D2
DATE.....7-24-2018



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Bonner County

District 3 CIP

Sources:
Bonner County GIS
Aerial (see above)

PROJECT NO.....44039
DRAWN BY.....JRG
FILENAME.....CIP_D3
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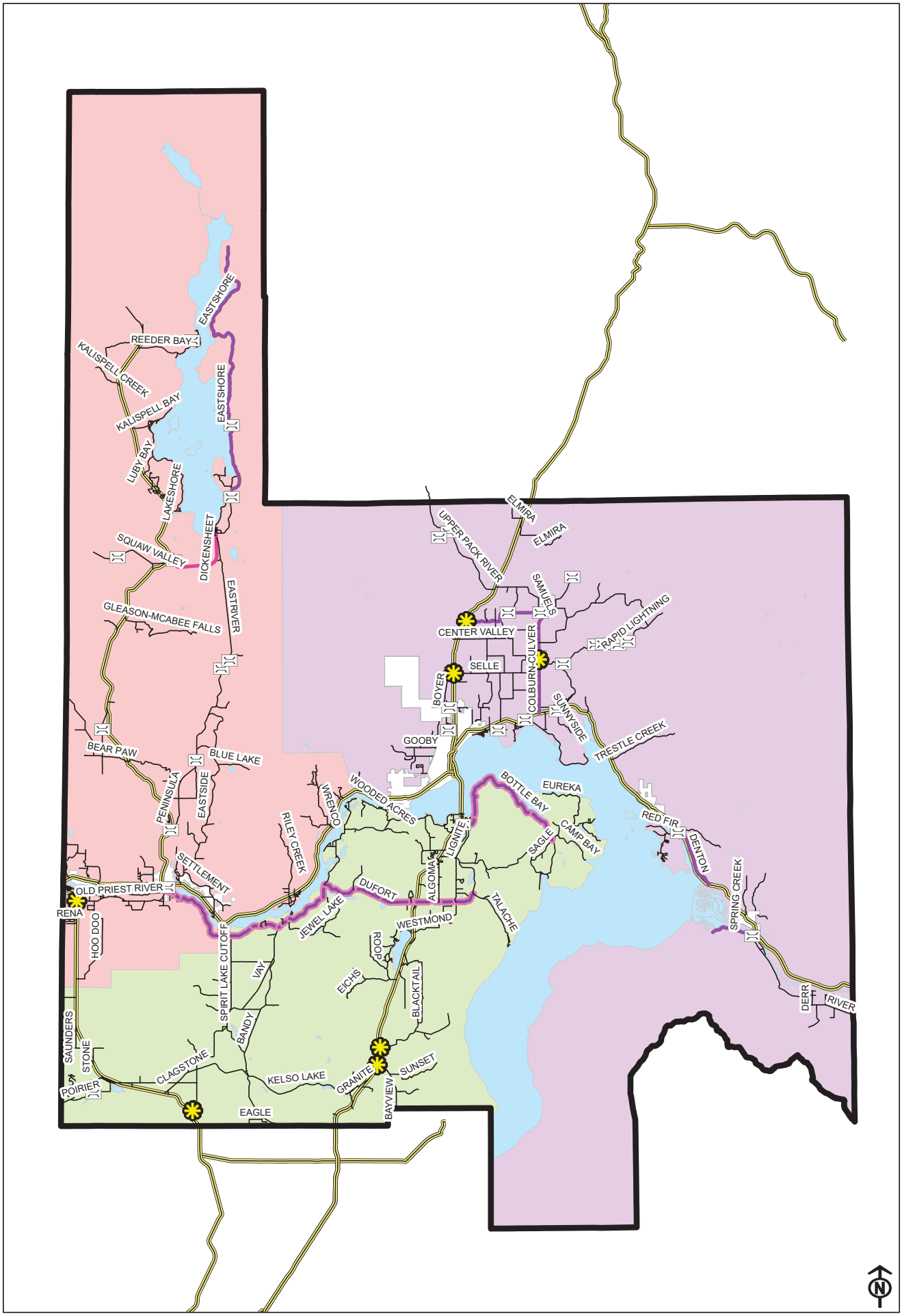

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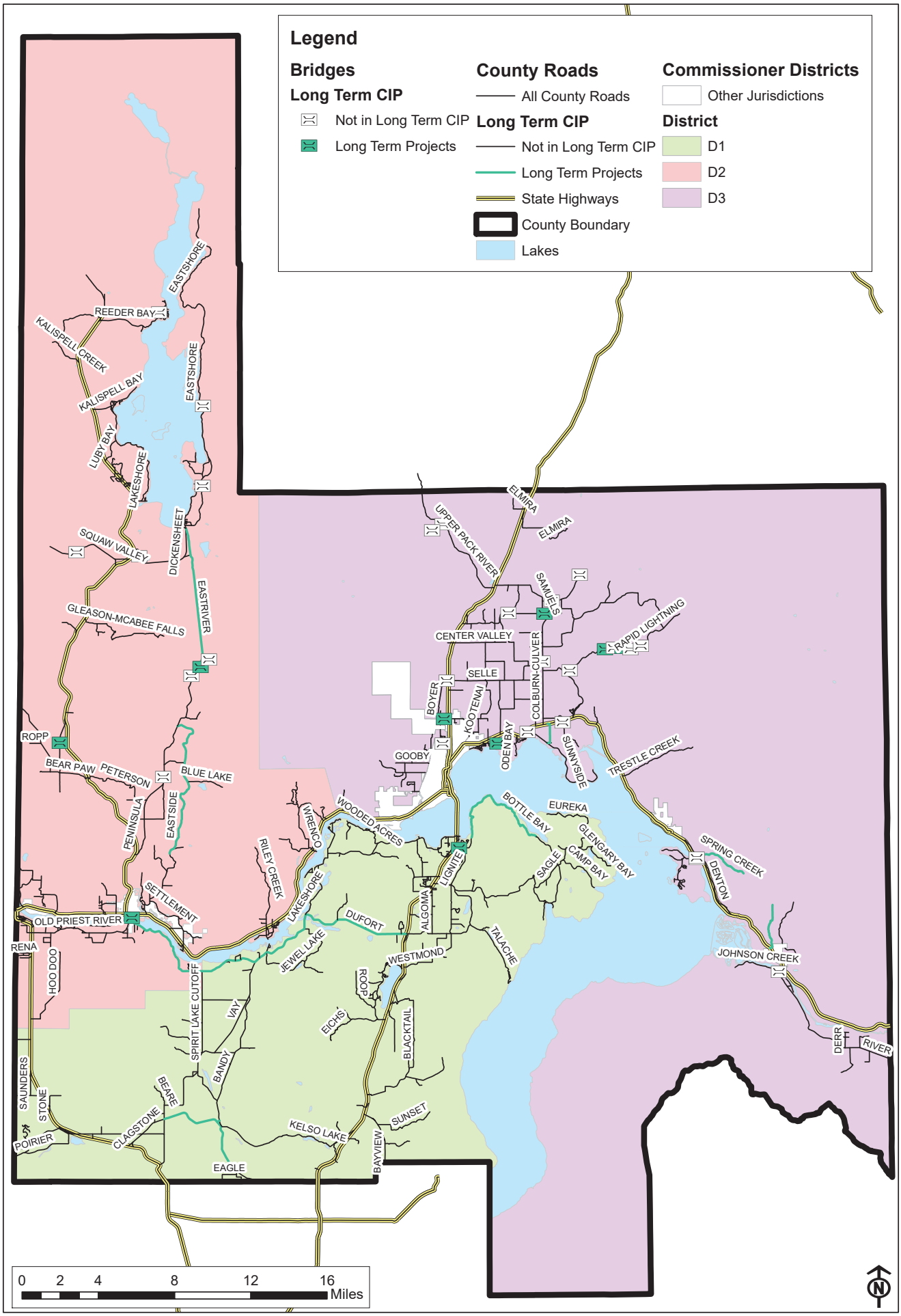
Bonner County

Safety Improvement Projects

Sources:
Bonner County GIS
ITD

PROJECT NO.....44039
DRAWN BY.....JRG
FILENAME.....Safety
DATE.....10-12-2018



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Bonner County
Long Term CIP

Sources:
Bonner County GIS

PROJECT NO. 44039
DRAWN BY. JRG
FILENAME. CIP_LONG
DATE. 10-05-2018

Table 6-1: High Priority CIP

District	Category	Project	Description	Project Cost
2	Bridge	Dickensheet Rd. Bridge	Tighten five loose pin and hanger nuts in span two.	$ 15,000
2	Road Surfacing	Eastriver Rd. Landslide Repair	Rebuild areas of road with landslide damage between MP 10 and 11.2. Construction is planned for 2020.	$ 1,850 ,000
3	Bridge	Bronx Rd. Bridge Maintenance	Repair impact damage to approach guardrail.	$ 10,000
3	Bridge	Samuels Rd. Bridge Maintenance	Repair six damaged posts on northeast guardrail approach.	$ 10,000
3	Bridge	Clark Fork Bridge Maintenance	Tighten the splice plate bolts and clean expansion joints.	$ 10,000
3	Bridge	Rapid Lightning Bridge #4	Replacing rusted rail section, extend all rail ends farther away from the bridge. Scour repair to combat the exposed timber foundation.	$ 225,000
3	Road Surfacing	Woodland Dr. BST	0.9 miles of BST between Crooked Ln. and Gooby Rd.	$ 48,000
3	Road Surfacing	N. Kootenai Rd. Paving & Reconstruction	2.6 miles of paving & road reconstruction between Firestone Rd. and Selle Rd.	$ 800,000

Table 6-2: Medium Priority CIP

District	Category	Project	Description	Project Cost
1	Bridge	Poirier High Bridge	Monitoring gabion basket retaining wall. If the wall appears unstable, designing and replacing the gabion wall will be required. (Cost estimate is for redesign and replacement.)	$ 175,000
1	Road Surfacing	Clagstone Rd. BST	2.4 miles of BST from SH 41 to Spirit Lake Cutoff.	$ 115,000
1	Road Surfacing	Lakeshore Dr. BST	3.75 miles of BST from Gypsy Bay Rd. to Dufort Rd.	$ 244,000
1	Road Surfacing	Vay Rd. & Edgemere Cutoff Paving	Paving Edgemere Cutoff from Spirit Lake Cutoff to Vay, and paving Vay from Edgemere Cutoff to Bandy Rd. Total length is 3.94 miles.	$ 1,021,000
2	Bridge	Squaw Valley Bridge	Damage to the railing and concrete girders, missing or disconnected rail posts, and spalling on the bottom of one girder. Shovel-ready plans exist.	$ 120,000
2	Bridge	Merritt Bridge	Clean expansion joints and add expansion joint material. Repair the crack in one of the steel piles, cracks in the deck, spalling in the pile caps, and collision damage to the southwest guardrail.	$ 250,000
2	Road Surfacing	Eastshore Rd. Maintenance	Ditching, brushing, and widening of the existing BST surface on the Bonner County maintenance extension. County crews can do this work themselves.	--
3	Bridge	Caribou Creek Bridge	Grouting pick point holes and applying epoxy and chip wearing surface protection.	$ 20,000
3	Bridge	Grouse Creek Bridge	Replacing and lengthening the bridge railing.	$ 130,000
3	Road Surfacing	E. Mountain View Dr. BST	0.9 miles of BST from Gooby Rd. to existing BST.	$ 48,000

Table 6-3: Low Priority CIP

District	Category	Project	Description	Project Cost
1	Road Surfacing	E. Dufort Rd. BST	3.75 miles of BST east of US 95.	$ 198,000
1	Road Surfacing	Garfield Bay Rd. CTB & Paving	Add cement treated base to improve subsurface material and pave on top of the CTB for 1.8 miles.	$ 497,000
2	Bridge	McAbee Falls Bridge	Replace missing expansion joint seals in all three joints.	$ 15,000
2	Bridge	Hunt Creek Bridge	Scour repair to combat undermining of concrete spread footings.	$ 300,000
2	Road Surfacing	Eastriver Rd. BST	5.06 miles of BST from Eastside Cutoff to Eastriver Loop Rd.	$ 268,000
3	Bridge	Rapid Lightning Rd. over Pack River Bridge	Scour repair to combat exposed piles.	$ 75,000
3	Bridge	Rapid Lightning Bridge #1	Bridge rail retrofit to repair timber rail impact damage.	$ 150,000
3	Bridge	Colburn-Culver Pack River Lower Bridge	Rehabilitating concrete curb & guardrail, as well as painting the girders for protection.	$ 545,000
3	Bridge	Rapid Lightning Bridge #5	Bridge replacement with federal aid funding. Design is scheduled to begin in fall 2018.	$ 2,155,000
3	Road Surfacing	Gooby Rd. BST	0.5 miles of BST west of Upland Dr.	$ 27,000

Table 6-4: Safety Projects

District	Category	Project	Description
1	Guardrail	Bottle Bay Rd.	Install new and replace failing guardrail
1	Guardrail	Dufort Rd.	Install new and replace failing guardrail
1	Intersection Lighting	US 95 / Bayview Rd.	Moving lighting closer to intersection and/or installing new lights
1	Intersection Lighting	US 95 / Blacktail Rd. (southern)	Moving lighting closer to intersection and/or installing new lights
1	Intersection Lighting	US 95 / Lakeshore Dr.	Moving lighting closer to intersection and/or installing new lights
2	Guardrail	Eastshore Rd.	Install new guardrail
2	Guardrail	Dickensheet Rd.	Replace existing guardrail
2	Intersection Lighting	SH 41 / Old Priest River Rd.	Moving lighting closer to intersection and/or installing new lights
2	Intersection Lighting	SH 41 / Spirit Lake Cutoff	Moving lighting closer to intersection and/or installing new lights
3	Guardrail	Colburn-Culver Rd.	Install new guardrail
3	Guardrail	Denton Rd.	Install new guardrail
3	Guardrail	Johnson Creek Rd.	Install new guardrail
3	Intersection Lighting	US 95 / Selle Rd.	Moving lighting closer to intersection and/or installing new lights
3	Intersection Lighting	US 95 / Colburn-Culver Rd.	Moving lighting closer to intersection and/or installing new lights
3	Intersection Lighting	Selle / Colburn-Culver Rd.	Moving lighting closer to intersection and/or installing new lights
3	Intersection Lighting	US 95 / W. Elmira Rd.	Moving lighting closer to intersection and/or installing new lights

Table 6-5: Long-term Projects

District	Category	Project	Description
1	Road	Bottle Bay Rd.	Projects from 2015 Road Safety Audit.
1	Road	Dufort Rd. & E. Dufort Rd. BST	Widening, signing, delineation, and guardrail improvements where feasible.
1	Road	Clagstone Rd. BST	Completing BST between the hard-surfaced end sections
1	Bridge	Bottle Bay Bridge 30115	Scour countermeasures
2	Road	Eastside Rd. & Eastriver Rd. BST	Hard surfacing both roads to complete an alternate route to SH 57 between Priest River and Priest Lake.
2	Bridge	Eastriver Loop Bridge 30120	Bridge replacement to address structural deficiency
2	Bridge	Johnson Cutoff Bridge 30180	Scour countermeasures
3	Road	Sunnyside Cutoff	Hard surfacing the whole length of Sunnyside Cutoff, 1.25 miles.
3	Road	W. Spring Creek Rd.	FLAP grant application improvement for hard surfacing extension
3	Road	E. Spring Creek Rd.	Hard surfacing between Highway 200 and the planned IDEQ 319 grant hard surfacing.
3	Bridge	Whiskey Jack Bridge 30145	Bridge rail retrofit and girder decay repair
3	Bridge	Bronx Rd. Bridge 30200	Scour countermeasures
3	Bridge	Colburn-Culver Rd. Pack River Upper 30235	Bridge rail retrofit
3	Bridge	Rapid Lightning Bridge #1 30205	Bridge rail retrofit
3	Bridge	Rapid Lightning Bridge #3 30220	Scour countermeasures

Chapter 7 Implementation Plan

Partnering with Other Entities

Partnerships between Bonner County and other adjacent jurisdictions have resulted in significant improvements to the general transportation infrastructure in the county recently. A prime example of one of these partnerships is the Bottle Bay Rd. & US 95 intersection project. In that project, Bonner County received funds through LHTAC and partnered with ITD to improve the connection between Bottle Bay Rd. (which is county maintained) and US 95 (which is ITD maintained). Bonner County actively participates in the Bonner County Area Transportation Team (BCATT), which coordinates work between all the jurisdictions in the county. Local highway districts, cities, and ITD all participate in BCATT, and Bonner County will continue pursuing partnership with those entities.

Outside Funding Opportunities

Local Rural Highway Investment Program (LHRIP)

Annually, the Local Highway Technical Assistance Council (LHTAC) has grants with no federal ties available for up to $100,000 for construction. This program is very competitive but is a good funding source for a "no strings" attached funding. The funds cannot be used for engineering.

This program is also used for local match on federal-aid projects. This could be a good source of funding for match on a federal grant since the County's annual budget is tight.

Strategic Initiatives

This is a funding source for maintenance of existing roadways and must address safety and mobility. The maximum grant award is $1,000,000. Since the money for Strategic Initiatives is entirely state funds, there are fewer restrictions than with federal funding. Engineering is limited to 10% of the total project on roadway projects. Multi-jurisdictional projects, projects with right-of-way already acquired, and ones with "shovel-ready" plans are most competitive for Strategic Initiatives funding. Although Strategic Initiatives funding is set to "sunset" after the 2018 call, there is pressure on the state legislators to continue this funding. For the 2018 call, there is about $24 million allocated.

STP-Rural

STP-Rural is a program managed by LHTAC that has about $20 million available biennially. This program has federal funds and requires a minimum 7.34% local cash match. This program is great for larger projects that cannot be funded with LRHIP or the County's own funds. However, the timeline for this funding sources is usually several years. There may be three to four years from the time the County applies to the time the design phase begins. Construction is normally scheduled at least five years out of the time the project is initially applied for. Additionally, federal-aid has stipulations with the project delivery, design, environmental, public involvement, geotechnical engineering, etc. Because of the federal-aid requirements, this source of funding is usually only feasible on large projects.

Local Highway Safety Improvement Program (LHSIP)

The "Safety" program is administered by LHTAC and provides funding for projects that solve a safety issue that has caused at least one injury "A" or fatal crash in the past five years. The program uses a cost/benefit ratio to determine which projects get funded. The program also requires a 7.34% match and is federally funded.

Federal Lands Access Program (FLAP)

The goal of the Federal Lands Access Program (also called "FLAP", or the "Access Program") is to improve transportation facilities accessing or within Federal lands. Projects receiving FLAP funding focus on high-use recreation sites and economic generators. Calls for projects occur biannually, and no match is required for safety improvements. Bonner County has applied for and received FLAP funds on roads such as W. Spring Creek Rd. in the past. Projects must have estimated cost of at least $100,000 and the county will have to provide a 7.34% match for this funding. A map of federal lands can be found in Appendix K.

IDPR Road and Bridge

The Idaho Department of Parks and Recreation (IDPR) has a program called Road and Bridge that can fund road projects that access a state park with boating, off-road vehicle areas, or snowmobiling. Multiple state parks in Bonner County have these types of recreation, including Priest Lake State Park and Round Lake State Park. The maximum funding in the Road and Bridge program annually is $200,000; projects using these funds must be small.

DEQ 319 Non-Point Source Program

The Idaho Department of Environmental Quality (DEQ) administers annual funding for improving water quality in lakes, streams, rivers, and aquifers. Water quality improvements related to transportation include bank stabilization, realignments to reduce impacts on water bodies, and stormwater runoff improvements. DEQ 319 grant award amounts fund up to $250,000 annually, with a 2/3 match required. Bonner County has previously applied for and received a 319 grant for BST for one mile in the middle of E. Spring Creek Rd.

Transportation Alternatives Program (TAP)

The Transportation Alternatives Program (TAP) is used to funds projects that benefit non-motorized users. This program is also administered by LHTAC. In the past, the maximum funding available per grant award was $500,000 and required a 7.34% local match. However, there may be new criteria when the new call for projects is announced. TAP funds are federal.

Child Pedestrian Safety

This program is a new program administered by LHTAC as part of the Surplus Eliminator Program established by the State Government in 2015. Projects for this program must be "on the shelf" and ready to advertise for bids within 90 days of award. This program can fund paths or sidewalk along or adjacent to existing roadways, connecting gaps in sidewalk, ADA ramps, pedestrian crossings, and paving an existing pathway. The maximum award for this funding source is $250,000 and the local jurisdiction must administer the project. The funds cannot be used for engineering.

CONCLUSION

Bonner County has about 680 miles of county-maintained roads varying from very low traffic to 2500 vehicles per day on high-traffic segments. The Road and Bridge Department has been working with about $2.5 million annually for infrastructure improvements. County staff have determined that maintenance of the existing road system takes priority over adding or improving roads, as maintenance is more cost-effective. Historically, this leaves closer to $600,000 annually for road & bridge improvements. Since county budgets vary year-to-year and past years' budgets will not cover the costs of the recommended road improvements in this plan, the County will need to pursue grant funding to make up the difference between costs and budget.