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CITY OF EAST HOPE

2020 TRANSPORTATION PLAN

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EAST HOPE

TRANSPORTATION PLAN

PROJECT NO. 44046

SUBMITTED TO:

THE CITY OF EAST HOPE

JANUARY 2021

PREPARED BY:

WELCH-COMER
ENGINEERS | SURVEYORS

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City Council Approval

Approval from the East Hope City Council dated: _____, 20____

_____

Vernon Fleisher

Acknowledgements

City Council

Vernon Fleisher, Mayor
Debbie Field, Council President
Ian Barrett
Tom Grimm
Lonna Bernard
Don Wells

City Staff

Christy Franck, City Clerk/Treasurer
Marty Lowell, Public Works

Steering Committee

In addition to the staff & council listed above who were all on the steering committee:

Dave Merritt, Resident

Stakeholders

Steve Klatt, Bonner County
Bill Roberson, ITD District 1
Susan Kiebert, Bonner County Area Transportation Team
Brian Quail, City of Hope
Russell Schenck, City of Clark Fork
Stuart Eigler, Sam Owens Fire Department
Ross Davis, Davis Grocery & Mercantile
Dawn Wells, United States Postal Office in East Hope

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A. Steering Committee Meeting Agendas and Minutes

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Chapter 1 Introduction

Background

East Hope is located on the North-East side of Pend Oreille Lake, alongside US 200. The town is bounded by Lake Pend Oreille to the south, Kaniksu National Forest to the north, the city of Hope to the West, and Clark Fork to the East. East Hope's 3.8 miles of roads navigate up the steep hillside backdropping the city, where they service East Hope's 222 full-time residents. However, during the spring and summer months, East Hope's population swells to approximately 300 residents, which is an increase of 35%. The number of residents fluctuates depending on the time of year. East Hope's transportation system serves the community by connecting residential homes to local businesses and US-200 to travel throughout Bonner County around the perimeter of Lake Pend Oreille.

Figure 1-1: The small town of East Hope resides on the east side of Lake Pend Oreille, pictured above.

East Hope currently has jurisdiction over 3.8 miles of road. East Hope's transportation system includes 24 streets with many that serve as exclusive access points to private roads and houses. The City serves as a hub for the surrounding communities with services critical to the area such as the Post Office and grocery store.

What is a Transportation Plan?

A transportation plan provides a guideline and framework for the jurisdiction to make improvements to their existing transportation system and expand that system through meaningful, practical capital improvements. This plan will serve as guidance as the City pursues funding, partnerships with adjacent jurisdictions, and design documents for future projects. A transportation plan is not a design document – the drawings included herein are not ready for construction, as they are conceptual in nature.

The primary focus of the plan is to prioritize the maintaining of existing infrastructure. The secondary focus is to provide the city with affordable and useful capital improvement projects that utilize existing right-of-way (ROW) and land geometry to solve existing transportation problems.

Process

The transportation plan was developed by first gathering information. The planning team conducted site visits to East Hope to talk with city staff, drive every road with public works director Marty Lowell, determine pavement condition, note road deficiencies, and perform stakeholder interviews. The team also gathered information like crash history, traffic counts, maintenance history, and budget. Stakeholder and public meetings were conducted as well to address problems brought forth by East Hope's daily transportation users. The plan was developed by the team with direct involvement from steering committee members, city staff, residents, and stakeholders. Figure 1-2 shows the process and timeline for the transportation plan.

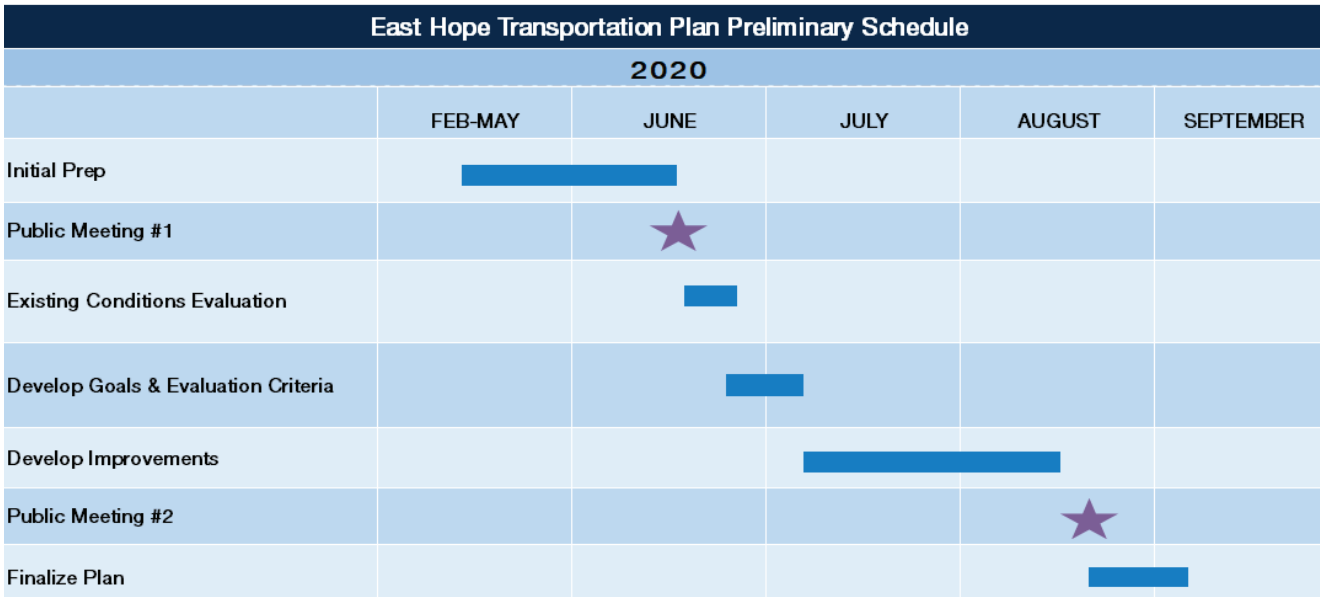


Figure 1-2: East Hope Transportation Plan Preliminary Schedule

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. The City of East Hope had specific goals for their transportation plan:

- Staff and the city council wanted a transportation plan that could feasibly be implemented and used by staff as a road map for the future.
- East Hope wanted the plan to focus on the maintenance and improvement options for their transportation system.
- East Hope, knowing that funding is limited, wanted the plan to list options for possible cooperation between Bonner County and the Cities of Hope and Clark Fork.

To achieve these goals, the focus of the plan was to provide low cost options of maintenance that could be achievable with East Hope's current transportation budget. This transportation plan also opened conversations with officials over at the City of Clark Fork, City of Hope, and Bonner County to potentially collaborate on a maintenance plan to provide lower maintenance project costs.

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

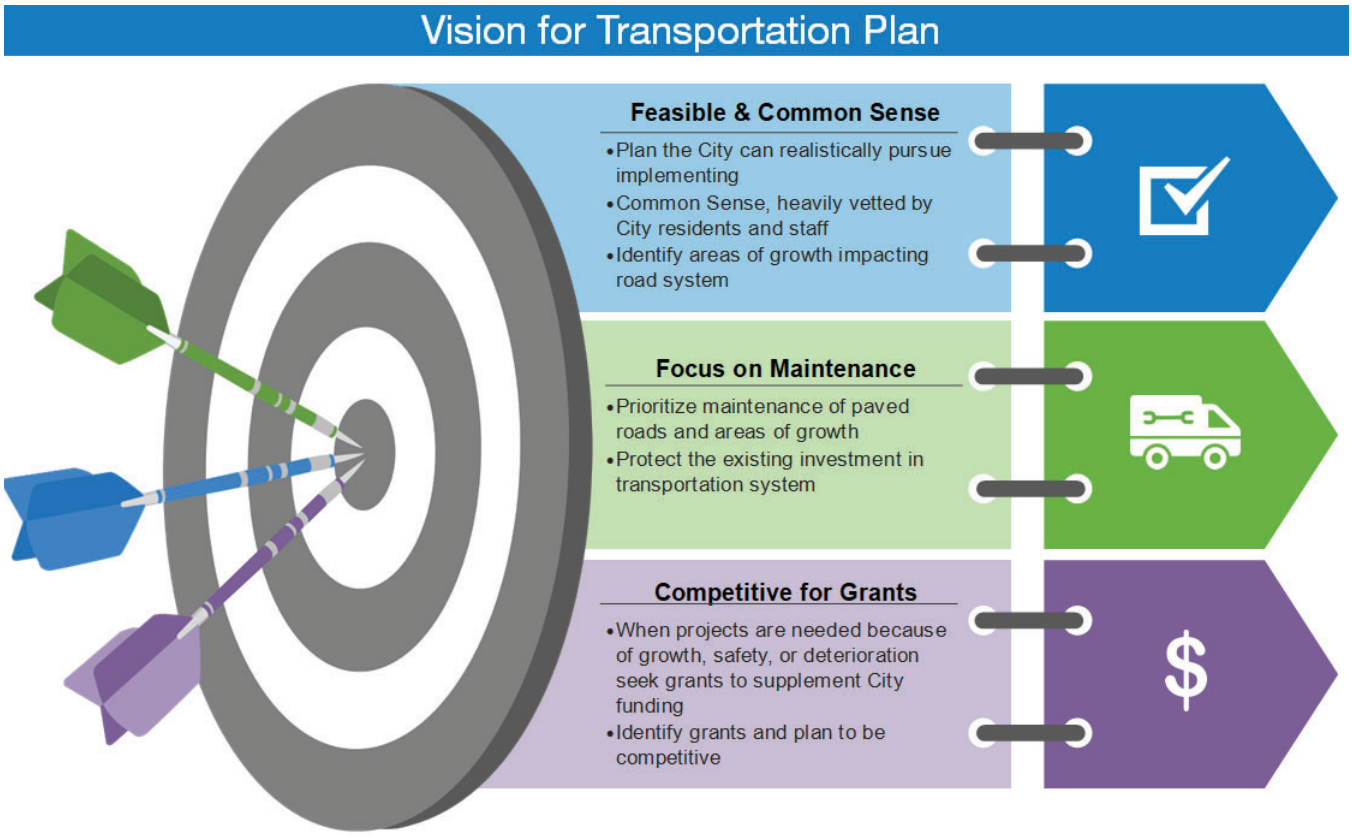
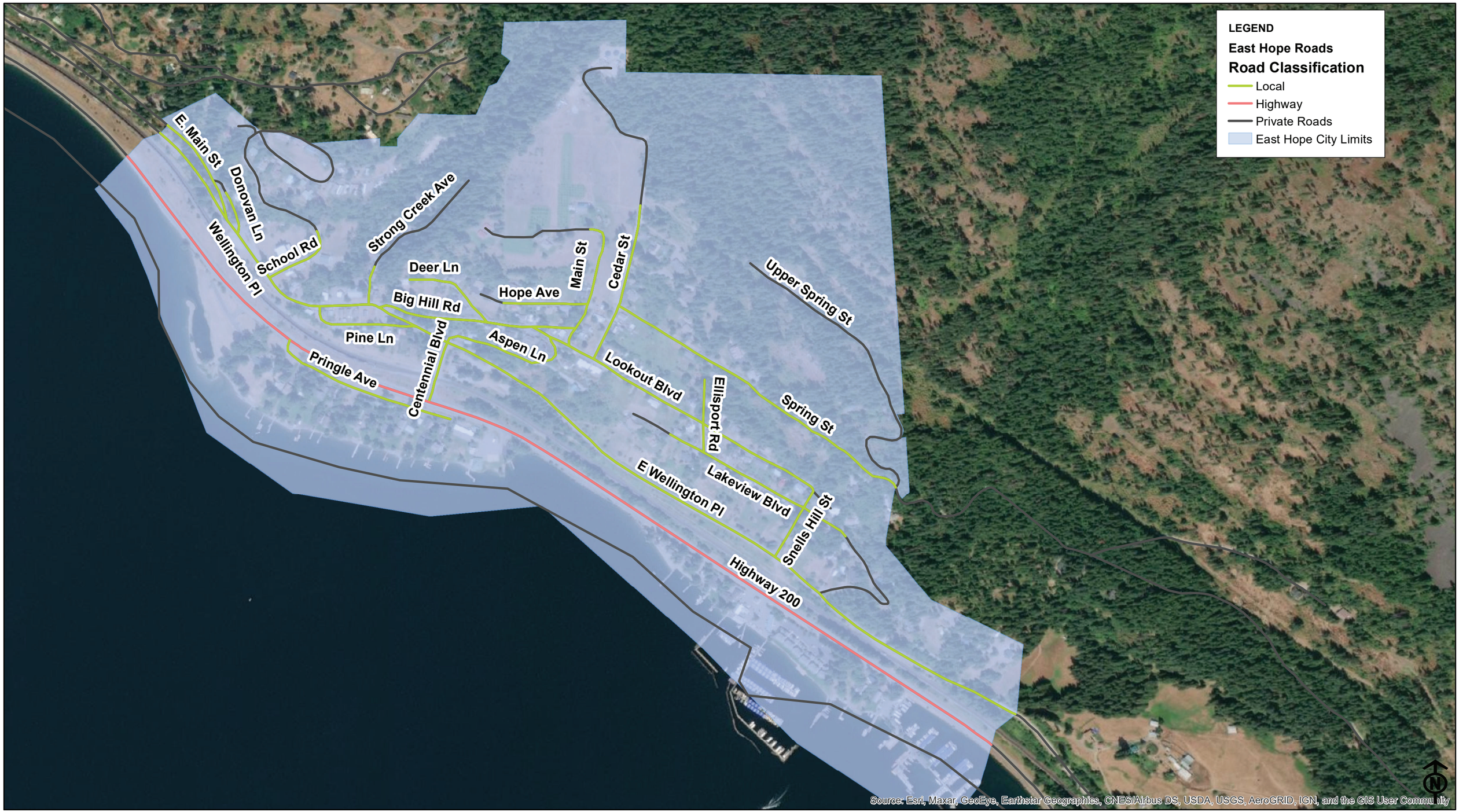


Figure 1-3: - The goals for the East Hope Transportation Plan



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East Hope Transportation Plan

Local Roads 2020

Sources:
Bonner County Idaho, GIS
ESRI

PROJECT NO.....44046
DRAWN BY.....CSH
FILENAME.....44046_EastHopeRoadSUM_11x17L_09082020
DATE.....09/08/2020

Chapter 2 The People of East Hope

CURRENT POPULATION AND DEMOGRAPHICS

According to data reported by the US Census, East Hope's Population has remained steady between 200 and 222 residents since the early 1990's and has been slowly increasing for the last 20 years. This trend is assumed to continue at this small growth rate established between the 2000 and 2020 years.

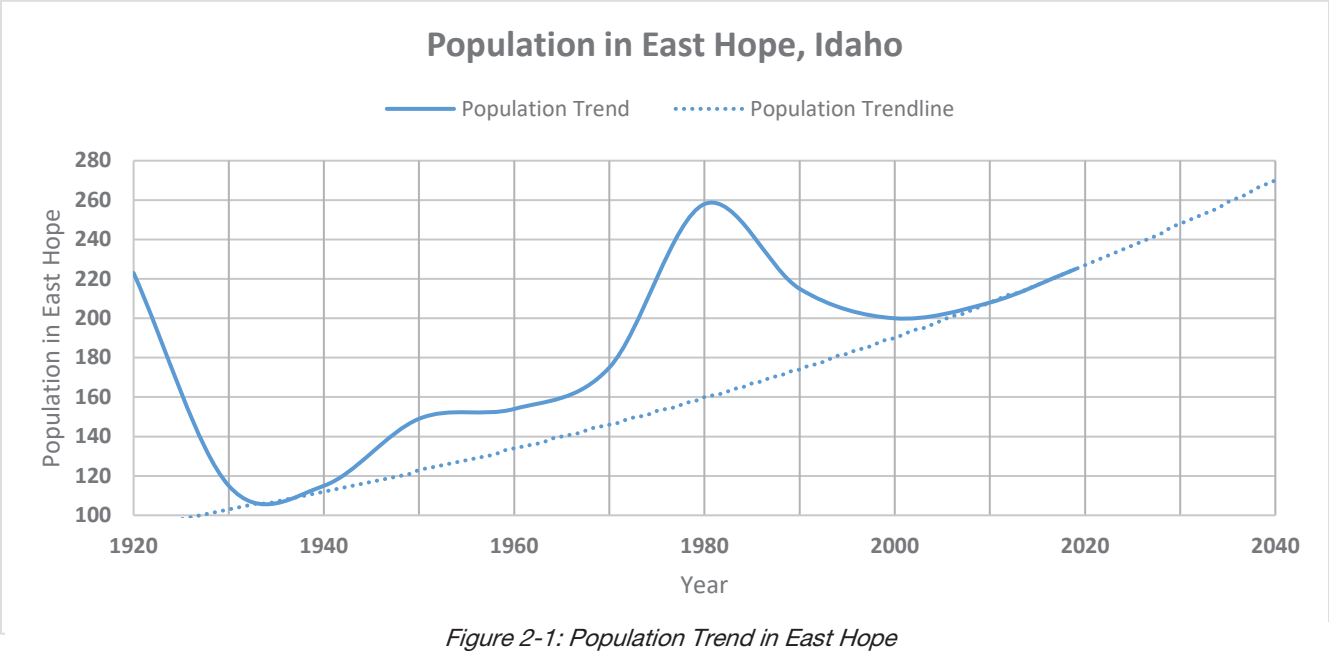


Figure 2-1: Population Trend in East Hope

Population within East Hope has fluctuated between 115 and 258 for the past 100 years, as shown in Figure 2-1. The rate at which the population grows has been relatively positive from 1940 to 2019 with a significant increase in 1970 and 1980 and large decrease from 1980 to 2000. The population is shown to be steadily increasing for the last 20 years. This increase is anticipated to continue to grow as people are drawn to the region with the desire to live a slower paced lifestyle in a small, lakefront town. Population growth causes increased numbers of licensed drivers, in turn increasing traffic volumes. The growth rate used for future population prediction is 0.87%, calculated from the change in population from 2000 to 2019 per data from the US Census Bureau. Future population estimates for full-time residents in 2020 and 2040 are 227 and 270 respectively. However, the seasonal influx of summer residents results in a 30-40% annual population increase.

GROWTH

East Hope's current land use indicates that there is ample opportunity for new housing locations if the larger, northernmost parcels were to develop. Current land development is seen just south of Highway 200 and west of Pringle Ave., with six new houses anticipated. These new houses attribute to an expected population increase of about 15, using the US Census Bureau's 2010 average household size of 2.58.

The population is anticipated to increase. However, it should be noted that there is a finite amount of land that could feasibly and economically be developed into building lots that would increase the

population. Parcels within East Hope could be developed into building lots; this buildout is not anticipated by the city. However, for this transportation plan, buildout will be considered to get a conservative estimate of a potential population increase within the city.

The amount of area that could be built out was determined using Bonner County's 2018 parcel data and choosing land that is exceptionally large, with at most 1 house, while excluding land that will not be economically feasible to develop for households due to high land development costs. These land development areas are shown below in Figure 2-2 as well as the city's existing build out land locations. Additionally, the City has the opportunity to expand into the Area of City Impact (ACI), shown in Figure 2-3 on the following page.

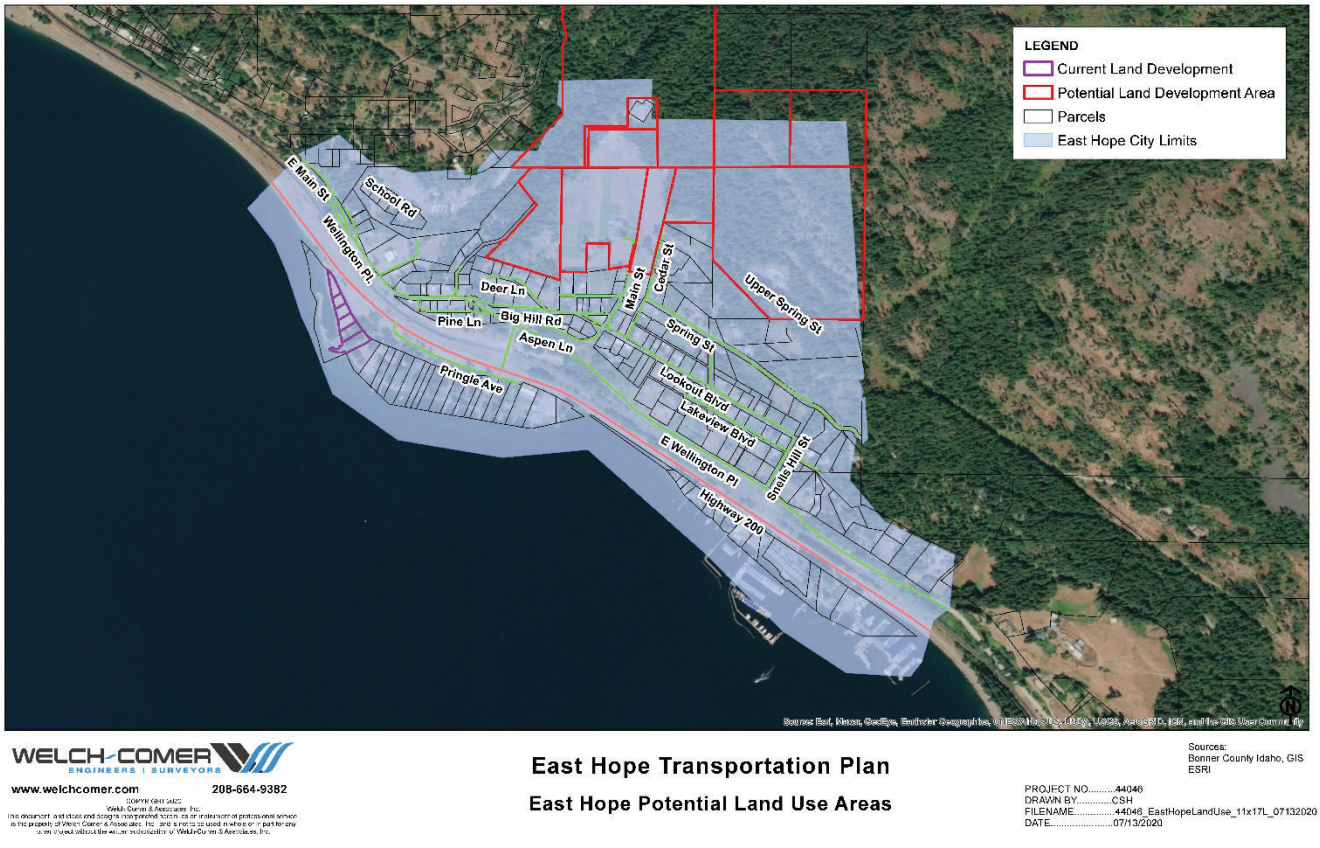
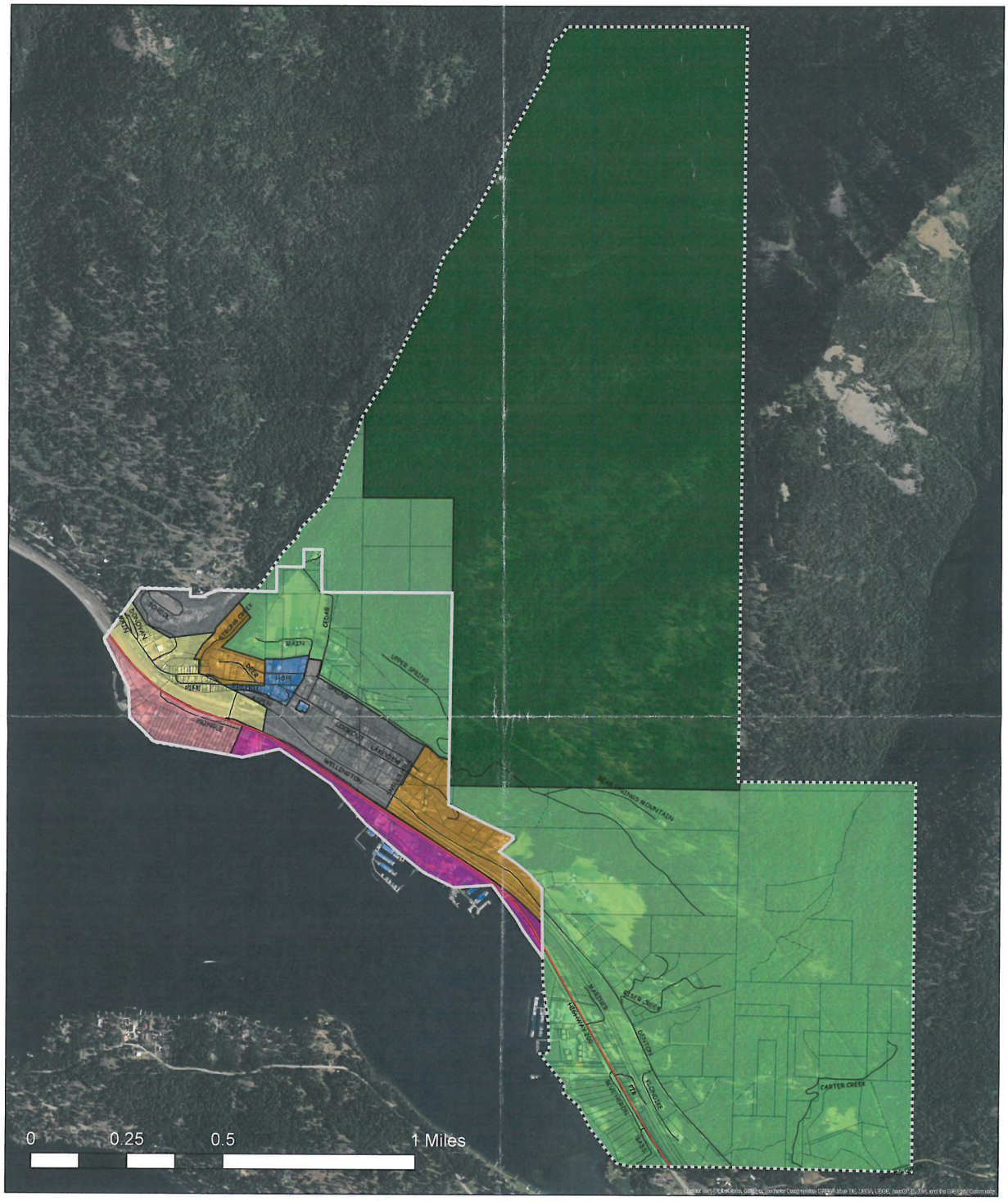


Figure 2-2: Potential Land Use Areas

When these potential Land Development Areas, shown in Figure 2-2, are redeveloped and built out, the total potential land development area would be approximately 48 acres in the city limits and 681 additional acres in the ACI. Assuming existing properties within these areas keep 3 acres each, and new houses developed in these areas will have 1 acre lots, these land development areas could potentially facilitate 39 new houses in East Hope and roughly 100 new citizens to the city. This will slightly increase the average daily traffic (ADT) experienced at intersections like Big Hill/Wellington Place, Aspen/Wellington Place, and Snell Hill/Wellington. Additionally, the potential acreage in the ACI could result in addition of 400 one-acre lots and 1000 citizens to East Hope if the City were to incorporate those areas and develop the parcels.

City of East Hope, Idaho Projected Land Use Map, October 10, 2017



Legend

- City Boundary
- Area of City Impact
- Highway 200

Comprehensive Plan Designations

- Residential Medium Density Slope
- Residential Waterfront
- Residential Medium Density Traditional
- Residential - Medium Low Density
- Residential - Low Density
- Community/Mixed Use
- Commercial Waterfront
- Forest Preserve

EAST HOPE IDAHO Founded 1902 Incorporated 1915

N W E S

The City of East Hope, Idaho hereby certifies that this is the official "City of East Hope, Idaho Projected Land Use Map, October 10, 2017" adopted on October 10, 2017 by the East Hope City Council at Resolution #142. This map supersedes and replaces any previous Projected Land Use Maps.

BY:

Vernon Fleischer
Mayor, East Hope, Idaho

City Clerk, East Hope, Idaho

10-10-2017
Date

DISCLAIMER: This map is based upon Bonner County and Idaho State Tax Commission GIS data and does not represent survey level accuracy and can contain errors inherent with mapping at this scale. Map details and the associated data are created solely for the planning purposes identified within this map. Location of boundaries are intended to be representative. Ruen-Yeager & Associates, Inc. relies on third party source data to create this map. While every effort is made to ensure accuracy and currency of the mapping data, the company does not accept any responsibility or liability for any losses or damages arising from anyone who may use this information.

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Created By:	Date:	Project:	File Name:
LMA	10/16/2017	S133024	East Hope Final Comp Plan Map

Figure 2-3: Area of City Impact (ACI) Map

Chapter 3 The Existing Transportation System

Traffic Volumes & Growth

East Hope does not regularly collect traffic data due to its population and high level of service. The most recent traffic counts done in East Hope were in May, October, and December 2007. These results were used and included in the previous 2008 Transportation plan. The intersections where counts were performed were on Lookout Blvd. with Main St. and Cedar St., and on Wellington Place with Aspen Ln, Big Hill Rd, Strong Creek Rd, School Rd, E. Main St, and Donovan Ln. These are all assumed to be Level of Service (LOS) A due to their average daily traffic and low intersection delay.

Figure 3-1: Segment of Spring St.

Existing Transportation Reports and Notes

East Hope had a Transportation Study done in December 2008 by James A. Sewell and Associates, LLC. This transportation summary suggested several Capital Improvement Projects (CIPs) to East Hope; out of these projects, only drainage problem projects were completed. Many of these CIPs listed were also found to have negative public opinions, the only projects that had neutral or positive opinions consisted of those addressing drainage problems, widening of select streets, adding pull-outs, realigning select intersections, and adding a bike path along Wellington Pl. Negative public opinion was common for projects with costs higher than $31,000 which were ranked lower priority.

A street inventory was also done in December 6, 2019 on all East Hope's roads. This street inventory provided input on deficiencies in drainage and asphalt quality; Items like culverts and signs were also included, all with location stationing relative to each road. Deficiencies noted during the asphalt analysis were summarized in Table 3-1 below.

Table 3-1: Summary of East Hope's Roads and Notable Deficiencies

Road Name	Length (ft)	Notable Deficiencies
Aspen Ln.	891	Guardrail from station 3+75 to 5+81. Possible guardrail update project. Uneven street width.
Big Hill Rd.	1351	Possible drainage problem. Intersection w/ Lookout Blvd pavement needs to be repaired.
Cedar St.	1094	Spring at station 3+65 damaging road.
Deer Ln.	506	Raveling and Aging, alligator cracking at spots
Donovan Ln.	153	Narrow, and hidden behind obstructions
Ellisport St.	346	No notable deficiencies
Hope Ave.	555	No notable deficiencies
Lakeview Blvd.	1532	Culvert causing water to run across road at Sta-11+12.
Lookout Blvd.	2145	Existing grade of road allows large amount of runoff to stagnate/flow towards private properties.
Main St.	871	Steep grade on southern section. Deficiencies on northern section.
Pine Lane	1320	Unpaved
Pringle Ave.	1273	Large longitudinal crack through middle of road.
School Rd.	365	Narrow with little room to maneuver.
Snells Hill	495	Southern section needs new pavement, incredibly steep grade.
Spring St.	2223	Significant rutting.
Strong Creek Ave.	194	Narrow
W. Main St.	387	Intersection of W. Main, Donovan Ln., and Wellington Pl. deemed risk for crashes
Wellington Pl.	3390	Large potholes along the wheel path of the road.

CRASH HISTORY

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

Crash Severity Types:

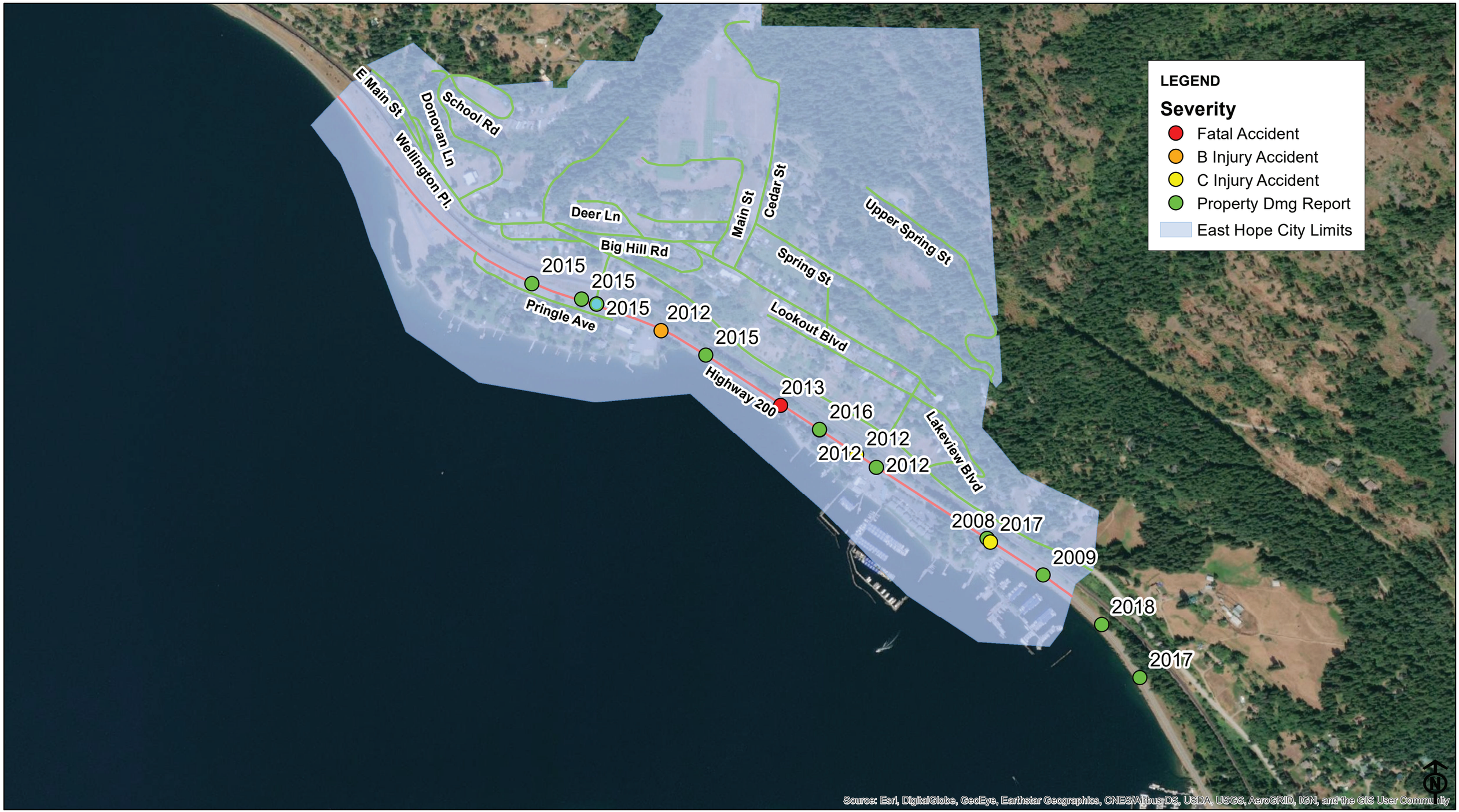
- **Fatal** - Crashes where a person died either at the scene or as a result of injuries sustained during the crash.
- **'A' Injury** - Crashes where at least one person suffered an incapacitating injury as part of the crash are considered 'A' injury.
- **'B' Injury** – Crashes where at least one person 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.

Large portions of the roads within East Hope are steep and narrow with few pullout spaces. However, the community within East Hope know how to work around the existing Transportation system deficiencies, thus, few crashes are ever seen within the city limits. Crash data was collected through communication with Bonner County, the Local Highway Technical Assistance Council (LHTAC), and the Idaho Transportation Department (ITD).

The crash data collected shows the crash locations and crash severity within East Hope's city limits. In the years between 2005 and 2019, there have been 13 reported crashes. 9 crashes were reported as property damage, 2 accidents were C class, 1 accident was B class, and lastly, 1 fatal crash. All these reported crashes were located on Highway 200, mostly east of the Centennial Road. These crash locations fall out of the jurisdiction of East Hope, thus, no capital improvement projects listed within this transportation plan will address fixes to these reported crashes. These crashes and details are shown in Table 3-2. The crash locations can be seen on Figure 3-2.

Table 3-2: Summary of Crashes Within East Hope City Limits

Severity	Year	Street	Driver Action	Lane Departure	Contributing Circumstance
Property Damage	2008	US Highway 200	Going Straight	FALSE	None
Property Damage	2009	US Highway 200	Going Straight	FALSE	None
Property Damage	2012	US Highway 200	Enter/Leave Parking Lot	FALSE	Improper Turn
Property Damage	2012	US Highway 200	Going Straight	FALSE	Animals in Roadway
Property Damage	2015	US Highway 200	Negotiating Curve	TRUE	Drowsiness
Property Damage	2015	US Highway 200	Fleeing Pursuit	FALSE	Failed to Yield
Property Damage	2015	US Highway 200	Going Straight	FALSE	Following Too Close
Property Damage	2015	US Highway 200	Going Straight	FALSE	Animal(s) in Roadway
Property Damage	2016	US Highway 200	Going Straight	FALSE	Following Too Close
C Injury	2012	US Highway 200	Going Straight	FALSE	Following Too Close
C Injury	2017	US Highway 200	Going Straight	TRUE	Distracted IN or ON Vehicle
B Injury	2012	US Highway 200	Going Straight	FALSE	Speeding
Fatal Accident	2013	US Highway 200	Going Straight	TRUE	Drug Impaired



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East Hope Transportation Plan

East Hope Crash Areas

Figure 3-2: East Hope Crash Locations

Sources:
Bonner County Idaho, GIS
ESRI

PROJECT NO.....44046
DRAWN BY.....CSH
FILENAME.....44046_EastHopeCrashAreas_11x17L_07132020
DATE.....07/13/2020

PAVEMENT CONDITION

The pavement condition of East Hope was evaluated utilizing the "Pavement Surface Condition Field Rating Manual for Asphalt Pavement" by the Northwest Pavement Management Association. An on-site visit and walkthrough of each street was done on July 7th, 2020 to evaluate the existing pavement for a range of common defects seen in asphalt pavement. Deficiencies looked for within this analysis included:

- Rutting and Wear
- Alligator cracking
- Longitudinal Cracking
- Non-Wheel Path Longitudinal Cracking
- Transverse Cracking
- Raveling and Aging
- Patching
- Corrugation and Waves
- Sags and Humps
- Block Cracking

For each of these deficiencies, a rating was assigned to best categorize the level of severity and extent along the road. A summary table (Table 3-3 below) was created to show the findings of this pavement analysis.

Table 3-3: East Hope Pavement Condition Summary

Section	Length (ft)	Pavement Surface Defects	Severity	Length of Defect	Rating	Recommended Maintenance
Donovan Ln.	175	Alligator Cracking	High	50	10% to 24%	Dig out & Overlay (Possible Rebuild)
		Longitudinal Cracking	Medium	100	25% to 49%	
E. Main St.	375	Alligator Cracking	Low	25	1% to 9%	Chip Seal
		Longitudinal Cracking	Low	25	1% to 9%	
School Rd.	500	Transverse Cracking	Low		1 per 100'	Chip Seal
Strong Creek Rd.	175	Longitudinal Cracking	Low	45	10% to 24%	Chip Seal (Low Priority)
		Raveling and Aging	Low		Localized	
Big Hill Rd. (Wellington to Deer)	680	Alligator Cracking	Low		10% to 24%	Chip Seal
		Longitudinal Cracking	Low	200	10% to 24%	
		Transverse Cracking	High		1 per 100'	
		Raveling and Aging	Low		Wheel Path	
Big Hill Rd. (Deer to Main)	610	Alligator Cracking	Medium	80	1% to 9%	Chip Seal
		Longitudinal Cracking	Low	100	1% to 9%	
		Transverse Cracking	High		1 per 100'	
Deer Ln.	490	Alligator Cracking	Medium	140	10% to 24%	Chip Seal (Low Priority)
		Raveling and Aging	Low		Localized	
		Patching	Low		1% to 9%	
Main St. (Lookout to Big Hill)	120	Alligator Cracking	Low		80% to 100%	Dig out & Overlay (Possible Abandon)
		Transverse Cracking	Medium		5-9 per 100'	
		Waves and Corrugation	Low		Localized	
Main St. (Big Hill to Hope)	210	Longitudinal Cracking	Low	40	10% to 24%	Chip Seal

Main St. (Hope to End)	530	Alligator Cracking	High	114	10% to 24%	Dig out & Overlay (Possible Rebuild)
		Transverse Cracking	High		2-4 per 100'	
Hope Ave.	570	Patching	Low		1% to 9%	Chip Seal
Lookout Blvd (Big Hill to Aspen)	150	Transverse Cracking	Medium		2-4 per 100'	Chip Seal
		Waves and Corrugation	Low		25% or more	
Lookout Blvd (Aspen to Ellisport)	1170	No Issues, Recently Repaved	-	-	-	Chip Seal
Lookout (Ellisport to Snell)	817	Alligator Cracking	Low		1% to 9%	Chip Seal
		Longitudinal Cracking	Low		1% to 9%	
		Raveling and Aging	Low		Localized	
		Patching	Low		1% to 9%	
Aspen Ln	877	Alligator Cracking	Medium	400	10% to 24%	Guard Rail Update/Dig Out and Overlay
		Transverse Cracking	High		2-4 per 100'	
		Raveling and Aging	High		Localized	
		Patching	High		1% to 9%	
Cedar St.	1060	No Issues, Recently Repaved	-	-	-	Chip Seal
Spring St.	717	Alligator Cracking	High	317	10% to 24%	Mill and Inlay
		Longitudinal Cracking	Low	249	10% to 24%	
		Transverse Cracking	Low		2-4 per 100'	
		Raveling and Aging	Low		Localized	
		Rutting	Medium		317', Localized	
Ellisport Rd. (Lakeview to Lookout)	165	No Issues, Recently Repaved	-	-	-	Chip Seal
Ellisport Rd. (Lookout to North End)	165	Alligator Cracking	Low		1% to 9%	Chip Seal
		Longitudinal Cracking	Low		1% to 9%	
		Patching	Low		1% to 9%	
		Waves and Corrugation	Low		25% or more	
Lakeview (Ellisport to Snell)	740	No Issues, Recently Repaved	-	-	-	Chip Seal
Snells Hill (Wellington to Lakeview)	369	Alligator Cracking	High	293	25% to 49%	Dig out & Overlay (Possible Rebuild)
		Rutting	High	293	25% to 49%	
Snells Hill (Lakeview to Lookout)	143	Longitudinal Cracking	Low	23	1% to 9%	Dig out & Overlay (Possible Rebuild)
Lakeview (Snell to East End)	320	Patching	Low		Localized	Chip Seal
		Raveling and Aging	Low		Typical	

Wellington (Centennial to Snell)	2570	Alligator Cracking	Low		50% to 79%	Pothole Repair/ Dig Out/Chip Seal
		Longitudinal Cracking	Low		80% to 100%	
		Patching	Low		Localized	
		Pot Holes	Medium		≤ 1 per 100'	
		Block Cracking	Low		Low	
Wellington (Snell to City Limit)	1918	Alligator Cracking	Low		50% to 79%	Pothole Repair/ Dig Out/Chip Seal
		Longitudinal Cracking	Low		50% to 79%	
		Pot Holes	High		≤ 1 per 100'	
		Sags and Humps	Low		Localized	
Pringle (East Entrance to East End)	505	Longitudinal Cracking	Low		25% to 49%	Chip Seal
		Transverse Cracking	Medium		5 to 9 per 100'	
Pringle (East Entrance to West End)	736	Longitudinal Cracking	High		25% to 49%	Patching/Chip Seal
		Transverse Cracking	Low		2-4 per 100'	

These results were then discussed to create recommended maintenance plans pertaining to the asphalt quality while keeping in mind the priority, economic impact, and public feedback. The maintenance plan can be found in Chapter 5.

The most frequent deficiencies observed on East Hope's roads were: Alligator Cracking, Longitudinal Cracking, Transverse Cracking, and Raveling and Aging. These deficiencies and their severity ranking criteria are described in the following sections.

Alligator Cracking

Alligator fatigue cracking is associated with loads and limited to areas of repeated traffic loading. Alligator cracking is also indicative of failing subgrade. Alligator cracking begins as a set of longitudinal cracks within the wheel well that begin to crack between each other and interconnect. After interconnecting, the result produces many pieces of discontinuous asphalt resembling the pattern of an alligator.

Figure 3-3: Main St. Alligator Cracking

Severity:

- **Low -** Branched, longitudinal, discontinuous thin cracks are beginning to interconnect and form the typical alligator pattern with no spalling.
- **Medium –** Cracking is completely interconnected and has fully developed an alligator pattern. Some spalling may appear at the edges of cracks. The cracks may be greater than ¼" wide, but the pavement pieces are still in place.
- **High –** The pattern of cracking is well developed. Spalling is very apparent at the crack. Individual pieces may be loosened and may rock under traffic. Pieces may be missing. Pumping of fines up through the cracks may be evident.

Longitudinal Cracking

Longitudinal cracks run roughly parallel to the roadway center line. Longitudinal cracking is separated into two conditions: non-wheel path and wheel path longitudinal cracking. Cracks that reside within six inches of a lane edge are to be assumed as not longitudinal cracks. Most longitudinal cracks without large amounts of spalling can be crack sealed and then chip sealed over to repair the roadway surface. For longitudinal cracks with large amounts of spalling, dig outs or mills and overlays are usually required to repair the roadway surface. Longitudinal cracks, if not attended to quickly, can sometimes degrade further to alligator cracking.

Severity:

- **Low –** The cracks have very little or no spalling along the edges and are less than ¼" in width. If the cracks are sealed and the width of the crack prior to sealing is invisible, they should be classified as Low Severity.
- **Medium –** The cracks have little or no spalling but they are greater than ¼" in width. There may be a few randomly spaced low severity connecting cracks near the main crack or at the corners of intersecting cracks.
- **High –** Cracks are spalled and there may be several randomly spaced cracks near the main crack or at the corners of intersecting cracks. Pieces are visibly missing along the crack. At some point, this longitudinal cracking becomes alligator cracking.

Figure 3-4: Spring St. Longitudinal Cracking

Transverse Cracking

Transverse cracks run perpendicular to the roadway center line. They are mainly caused by surface shrinkage due to low temperatures, hardening of the asphalt. They may extend partially or fully across the roadway. Transverse cracks were only counted if above two feet in length.

Figure 3-5: Main St. Transverse Cracking

Severity:

- **Low –** The cracks have very little or no spalling along the edges and are less than ¼" in width. If the cracks are sealed and the width of the crack prior to sealing is invisible, they should be classified as Low Severity.
- **Medium –** The cracks have little or no spalling, but they are greater than ¼" in width. There may be a few randomly spaced low severity connecting cracks near the main crack or at the corners of intersecting cracks. Pieces are visibly missing along the crack.
- **High –** Cracks are spalled and there may be several randomly spaced cracks near the main crack or at the corners of intersecting cracks. Pieces are visibly missing along the crack.

Raveling and Aging

Raveling and aging are pavement surface deteriorations that occurs when aggregate particles are dislodged (raveling) or oxidation causes loss of the asphalt binder (aging). The severity is rated by the degree of aggregate and binder loss. The overall severity within the segment is rated as the most predominate observed level.

Severity:

- **Low –** The aggregate and/or binder has started to wear away but has not progressed significantly. The pavement only appears slightly aged and slightly rough.
- **Medium –** The aggregate and/or binder has worn away and the surface texture is moderately rough and pitted. Loose particles may be present, and fine aggregate is partially missing from the surface.
- **High –** The aggregate and/or binder have worn away significantly, and the surface texture is deeply pitted and very rough. Fine aggregate is essentially missing from the surface, and pitting extends to a depth approaching one half the coarse aggregate size.

Areas that showed high levels of asphalt wear included: the south portion of Snells Hill, the portion of Main St. north of Big Hill Rd., Aspen Ln., and the span of East Hope's jurisdiction on Wellington Pl.

Snells Hill

Snells Hill has many deficiencies listed in the asphalt analysis, including high severity of alligator cracking and rutting, as well as instances of low severity longitudinal cracking. The lower section of Snells Hill between Wellington Pl. and Lakeview Rd. is where these high severity defects are found. Along this lower section the Alligator Cracking and Rutting takes up to 40% of the entire wheel path length of the road. Subgrade failure is suspected to be the main cause of these high severity deficiencies.

The northern portion of Snell's Hill contains low severity longitudinal cracking and the asphalt looks to be in relatively good condition. The intersection between Lakeview Blvd and Snells Hill had been recently repaved as part of a new waterline that was installed in 2018; thus, no maintenance or redesign is needed as of now.

Figure 3-6: Snells Hill High Severity Alligator Cracking

Main St.

Main St.'s northern section from Hope Ave. to the transition into private road contained high severity alligator cracking and high severity transverse cracking. Alligator cracking is present for 114' out of the 530' northern section; this equates to nearly 11% of the roadway wheel path length. Two to four, 2' or higher length, transverse cracks were observed every 100' along the road. Most of the cracks exhibited vegetation growing within them.

The southern section of Main St. from Lookout Blvd. and Big Hill Rd. had low severity alligator and waves/corrugation. Medium severity transverse cracking was found to be present through the 120' section. Though the severity might not be as extreme as the northern section, the frequency is higher than most sections. The alligator cracking was present through 80% to 100% of the wheel path along this section. The transverse cracking is also found to be 5-9 cracks per 100'. Waves and corrugation were found to be localized closer to the Big Hill intersection.

Figure 3-7: Main St. (Northern Section) High Severity Alligator Cracking

Aspen Ln.

Aspen Ln. had multiple defects along the 877' road. Along this section, defects included: alligator cracking, longitudinal cracking, raveling, aging, and patching. All defects had a high severity rating besides alligator cracking, which had a medium severity rating.

The alligator cracking covers a length of 400' or about 23% of the wheel path length along Aspen Ln. The transverse cracking appears at a frequency 2-4 per 100'. Raveling and aging was present within the wheel path at localized points. Existing patching had defects including settlement, spalling, and removal of material was present in roughly 1% to 9% of the total wheel path length.

Figure 3-8: Aspen Ln. (Patching, Aging and Raveling)

WELLINGTON PL.

The stretch of Wellington Pl. owned by East Hope had many defects including alligator cracking, longitudinal cracking, patching, potholes, and block cracking. Severity for alligator and longitudinal cracking was determined to be low, but frequent along the road. Alligator cracking appeared at 50% to 79% of the total wheel path length for the entire section of road. Longitudinal cracking was present in 80% to 100% the total length of the wheel path between Centennial Rd. and Snell Hill and 50% to 79% from Snell Hill to the Eastern City Limits. Less than 1 pothole per 100' was observed. However, the potholes had depths that ranged from 1" to 2" which places them in the high severity rating. Block cracking followed the southern side of the road, the severity for the block cracking was determined to be low because of the large area between them and smaller crack size.

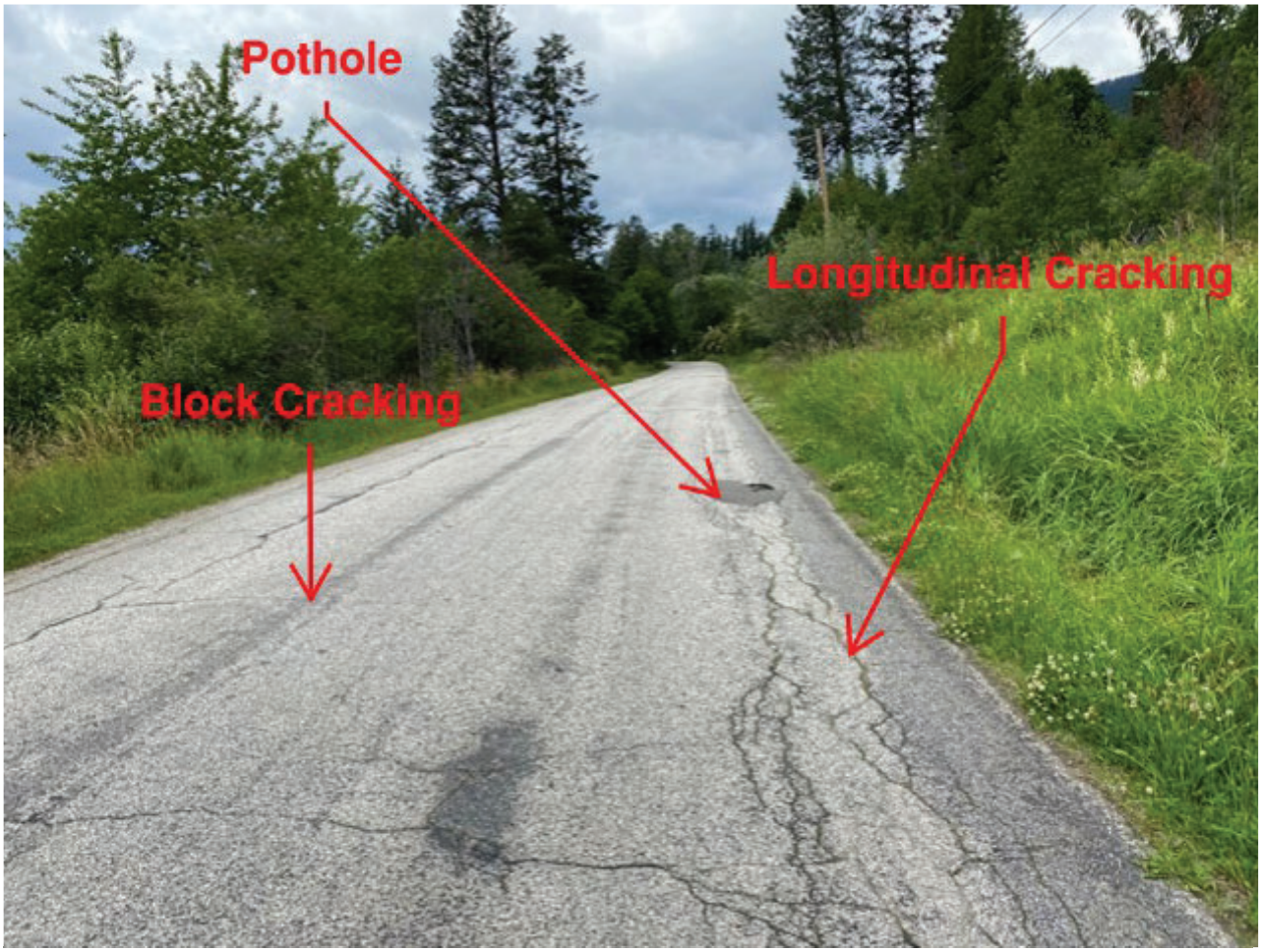

Figure 3-9: Denton and Wellington, Longitudinal (Right) and Block Cracking (Left) , Pot Hole (Right)

PAVEMENT CONDITION MAP

The existing pavement was evaluated by considering the severity *and* frequency of the defects observed. Each of the classifications could then be used to sort and classify the overall pavement condition. A matrix was created to help classify the priority of road repair. The matrix is shown in Figure 3-10.

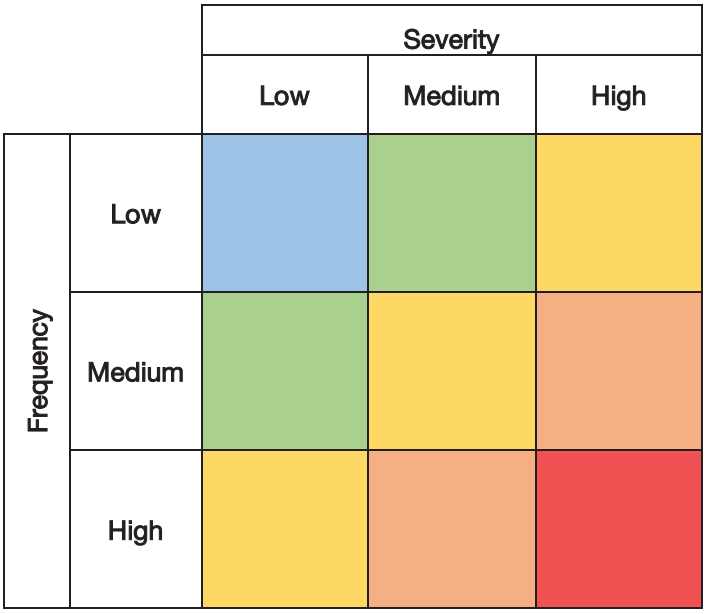

Figure 3-10 Pavement Condition Priority Matrix

This pavement analysis matrix was used to rate the pavement quality of each road and help create the pavement condition map.

For roads where multiple defects are observed, the largest severity is used to rate the overall condition of the road. The pavement rating was then used to illustrate low to high severity roads in the pavement condition map shown below in Figure 3-11.

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East Hope Transportation Plan

East Hope Asphalt Priority Scale

Figure 3-11: Pavement Condition Analysis

Sources:
Bonner County Idaho, GIS
ESRI

PROJECT NO.....44046
DRAWN BY.....CSH
FILENAME.....44046_EastHopeAsphalt_11x17L_07132020
DATE.....07/13/2020

NARROW ROADWAYS

East Hope's existing roadways are classified as low volume, rural minor access roads. This classification was defined through the American Association of State Highway and Transportation Official's (AASHTO) *Guidelines for Geometric Design of Low-Volume Roads, 2nd Edition* definition of Rural Minor Access Roads, which states, "*Rural minor access roads serve almost exclusively to provide access to adjacent property.*".

AASHTO specifies that the minimum width standard for this classification be at least 18' across. Currently, only 4 streets out of East Hope's total 24 streets meet this standard. However, designs using values lower than what is specified are permitted if certain conditions can be adequately proven. These conditions include:

- Design will not substantially affect crash risk.
- Existing environment constrains design.

Because East Hope does not have any crashes within their existing roadway jurisdiction and steep hill sides constrain expansion of the road, the existing geometry of the road is acceptable. This finding will benefit the Capital Improvement Project preliminary design process by drastically decreasing improvement costs of trying to design to AASHTO full-width standards.

Although the current road widths are acceptable in design, it is recommended to widen the roads in areas where economically feasible to provide better access for emergency services, allow opportunity for passing, and increase overall safety for all travel modes.

PEDESTRIAN AND BICYCLE FACILITIES

East Hope is known to be a frequently visited bicycle town for those who wish to train by utilizing the towns steep hills. Despite frequent use by pedestrians and bicyclists, East Hope's transportation system has only one dedicated pedestrian facility, a cross walk at Wellington Pl. near ITD's recently reconstructed bridge. Low traffic volumes and slow speeds enable some pedestrians and cyclists to feel comfortable sharing the roadways throughout East Hope with motor vehicles.

In the 2008 Transportation Plan, some Capital Improvement Projects proposed adding pedestrian and bicycle facilities in the form of a trail to the south of Wellington, and a tunnel from city center to the marina. Although the tunnel was met with negative feedback, the trail was met with neutral to positive feedback from the community.

Although pedestrian and bicycle facilities are lower priority to maintaining existing roads, some consideration should be had to facilitate East Hope's existing non-motorized traffic. Capital Improvement Projects specified for bicycle and pedestrian traffic were created within this Transportation plan to help establish a safer environment for this type of traffic. In future updates to this plan and as funding allows, further pedestrian and bicycle facilities should be investigated in areas where the City has existing right-of-way.

Drainage Issues

Through the public meetings in East Hope and stakeholder interviews, stormwater drainage has been listed as a primary concern for many roads within East Hope. During the on-site asphalt evaluation process, many roadways were observed to have insufficient road super elevation to direct water towards existing trenches and overgrowth of plants within the existing trenches prohibiting water from flowing.

Figure 3-12: Known Drainage Issue Location (Lookout Blvd)

No Capital Improvement Projects have been specified to address specific drainage issues. Instead, it should be noted that any improvements to existing roads should include adjusting the existing grade when possible to properly route surface water towards established flow paths.

The city should prioritize cleaning out their existing ditches and or adding ditches when possible to reduce the amount of surface runoff water left stagnant on the road.

Functional Classification

East Hope currently does not have an official functional classification map of all the roads within the city limits. 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. Using the Federal Highway Administration (FHWA) definitions of roadway classes, we have classified the existing roads.

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.

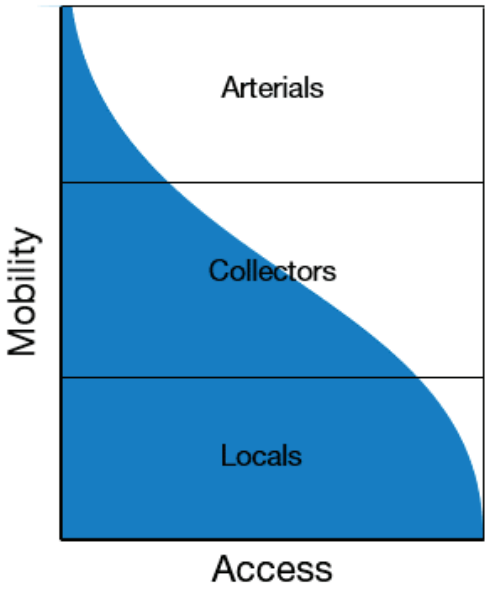

Figure 3-13: Relationship Between Mobility and Access

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 3-13 demonstrates the relationship between mobility and access for each functional classification.

The functional classification system for East Hope was evaluated as part of the transportation plan using these definitions. No arterials were found to be present through East Hope; most of the roads were classified as rural local access roads with some minor and major collectors. Roads that are private are considered rural local access roads. Table 3-3 and Figure 3-14 shows our estimated classification of each road in East Hope's jurisdiction.

Table 3-3: East Hope Function Classification

Classification	Roads
Rural Major Collector	Centennial Blvd Wellington Pl E Wellington Pl
Rural Minor Collector	Big Hill Rd Lookout Blvd Snells Hill St.
Rural Local	Aspen Ln Cedar St. Deer Ln Donovan Ln E Main St Ellisport St. Hope Ave Lakeview Blvd Lookout Blvd Main St Pine Ln Pringle Ave School Rd Spring St Strong Creek Ave Upper School Rd Upper Spring St

CLASSIFYING THE ROADS

It should be noted that our classification is what we believe to be accurate to what would be the existing official classification; however, these roads are not officially classified. It is recommended that East Hope work to officially classify their roads in their transportation network. Appropriate classification of roads helps with design, maintenance, and funding for transportation projects.

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East Hope Transportation Plan

East Hope Road Classifications

Figure 3-14: Bonner County Functional Classifcation Map

Sources:
Bonner County Idaho, GIS
ESRI

PROJECT NO.....44046
DRAWN BY.....CSH
FILENAME.....44046_EastHopeRoads_11x17L_07132020
DATE.....07/13/2020

Chapter 4 Public Involvement

Role of the Public

One of the primary 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 Steering Committee was formed and two public meetings were held: the first to get the communities input on their transportation system, the second to update the community on the plan development. The team also reached out to many stakeholders for interviews, including:

- City of East Hope Planning Department
- Bonner County Area Transportation Team (BCATT)
- Bonner County Sheriff's Department
- Sam Owen Fire District
- United States Postal Service
- Ellisport Sewer District
- Avista Power
- Ziply Fiber
- Kaniksu Network
- The Old Church in East Hope
- Davis Grocery & Mercantile
- Idaho Transportation Department (ITD)

Steering Committee

The steering committee was made of the following members:

- Vernon Fleisher, Mayor
- Debbie Field, Council President
- Ian Barrett, City Council
- Tom Grimm, City Council
- Lonna Bernard, City Council
- Don Wells, City Council/Resident
- Christy Franck, City Clerk/Treasurer
- Marty Lowell, Public Works
- Dave Merritt, Resident

Kickoff Meeting

The design team met with the steering committee on February 11, 2020. 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 outside funding opportunities to stretch the City's budget.

After this meeting, Marty Lowell and the design team conducted a full inventory of the roadways in East Hope by car. Throughout the site visit with Marty, the design team discussed the observed pavement deterioration, characteristics of the roadway network, and pervasive historic drainage issues.

First Public Meeting

The first public meeting was held June 16, 2020. In this meeting, the community addressed issues such as:

- ROW vacation
- Updating signing
- Relocating utilities
- Drainage issues
- Steep single-lane roads
- Collaboration between East Hope and adjacent jurisdictions: Bonner County, City of Hope, and City of Clark Fork.

Snell Hill Rd received many complaints about its steep grade and poor asphalt quality. School Rd. was also mentioned to be too narrow with no pull-out areas to allow traffic to pass.

Second Public Meeting

The second public meeting was held August 24, 2020. In this meeting, the design team presented their preliminary report and solutions to the items identified in the previous meetings. The community provided the following feedback:

- Additional detail/explanation on the two different funding strategies would help clarify the critical nature of grant funding.
- There is potential for abandoning Snells Hill and revising the accesses to the 3 parcels that currently access from Snells Hill. This option would pair well with the Ellisport extension, to maintain the same number of accesses from Wellington to the rest of East Hope for emergency vehicles.
- A public hearing will be required to adopt the plan, which will happen at a special session in late September or the early October council meeting.
- Davis Market currently utilizes the area between the rock wall and Wellington for parking. In the DS01 concept drawing, having that area as parking with landscaping on either side would benefit the Market.

Additionally, one written comment was received at the second public meeting. That comment, along with the sign-in sheet from the meeting, can be found in Appendix B.

Stakeholder Interviews

Stakeholder interviews were held to gather more comments about East Hope's existing transportation system. Below is a summary of the issues addressed through the stakeholder interviews:

- Snells Hill grade is too steep and pavement quality is poor.
- Intersection between E. Main St., Donovan Ln. and Wellington Pl. is dangerous.
- School Rd. is too narrow for emergency service trucks.

Because of the small size of East Hope's transportation system, some stakeholder interviewees were unsure what input to provide. This included Bonner County Sheriff's department and the Lake Pend Oreille School District.

Chapter 5 Maintenance

CHIP SEAL

Paved or BST roads are maintained by crack sealing and chip sealing, as needed. Preserving the surface saves East Hope 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 5-1 shows how periodic maintenance helps extend the overall life of a roadway to preserve East Hope's investment. There are many benefits to implementing chip seals on existing roadway surfaces; Figure 5-2 lists those benefits.

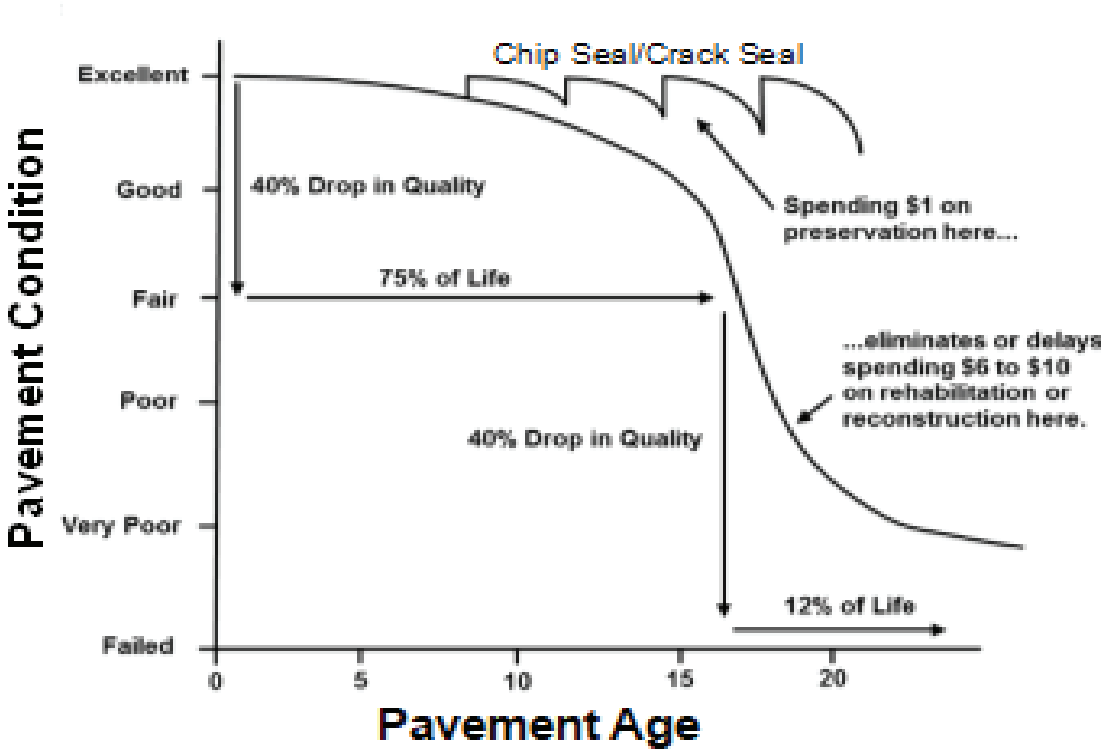


Figure 5-1: Figure showing the benefit of maintaining the surface of paved roads

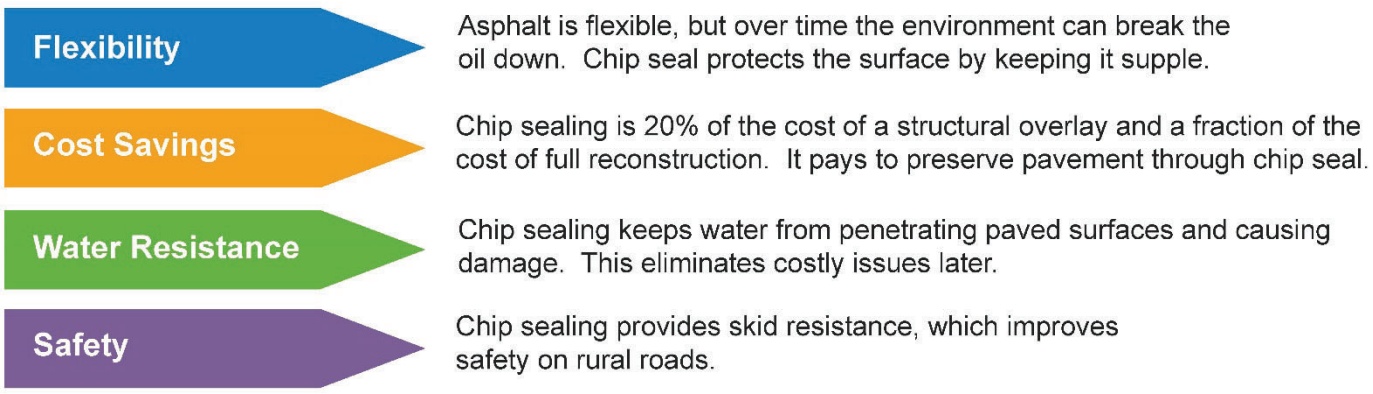


Figure 5-2: Benefits of Chip Seal

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. Generally, 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.

Mill and Overlay

Roads that have degraded past the opportunity of maintenance by chip seal require the removal and replacement of asphalt to bring the roadway back to standards. A mill and overlay removes and replaces only the top portion of the existing asphalt where the defects are present. This type of maintenance requires the base rock to be in good standing condition and applies to mainly low-severity alligator cracking and waves and corrugation, and medium to high severity longitudinal and transverse cracking.

Dig Out

Roads that have areas of failing base rock underneath the asphalt requires a full dig out, removal, and replacement of the asphalt and base rock. Dig outs are generally used to fix sections of the road as opposed to its entirety. These types of maintenance pertain to medium to high alligator cracking and patching.

Full Depth Reclamation (FDR)

An FDR is recommended when the native material (subgrade) underneath the existing road is not suitable for traffic loading. An FDR grinds and compiles the existing asphalt and subgrade and repurposes it as a portion of the base rock for a new road. After placing this recycled layer of base rock, more base is usually brought in and put on top of the recycled material; this usually results in a raise in the height of the road. This type of maintenance is only recommended to roads that have degraded the length of the road and throughout the base.

Total Reconstruction

A Total Reconstruction is sometimes also necessary when the subgrade is determined to be the cause of failure for these roads. These projects do not reuse the existing material, instead, new subgrade, base, and asphalt is hauled in and excavated material is hauled away. These projects are usually more expensive than an FDR and only used when high severity defects can be reasonably proven to be the effect of failing subgrade rather than aging or failing base rock. Coring and testing to determine these issues adds additional engineering costs to the project.

Current Budget Maintenance Plan

Based on the frequency and severity of defects observed during the asphalt evaluation process, a list of recommended maintenance and project costs for each road in East Hope. These projects costs estimated include the cost for engineering and mobilization to East Hope as well as inflated average

prices for materials from Bonner County maintenance projects due to these projects being significantly smaller jobs.

The schedule for these maintenance projects were created with East Hope's current transportation budget in mind. The schedule was created with 3 to 6-year intervals of saving transportation funds to create larger projects rather than one smaller project per year. This was done to decrease the unit cost for materials and become more competitive during the bidding phase. Through this budget and cost requirements to fix East Hope's deficiencies, it was determined that an increase in budget or outside funding is needed to bring East Hope's roads to a regular chip seal maintenance schedule of 10-years per road. The current budget 30-year maintenance plan is shown below in Table 5-1.

For roads where only portions of the road will be repaired by mill & overlay or dig out, a chip seal is recommended to maintain the remaining portion of asphalt across the road.

Signage

The City should perform a signage audit to determine where new signs should be added (bus stop locations, pedestrian/bicycle facilities, etc) and where existing signs could be revised or updated (for example, the northeast end of Centennial Blvd) to provide clearer direction to visitors.

Pavement Markings

East Hope has one existing crosswalk on Wellington at Pine Lane. Once additional pedestrian facilities and school bus stop audits have been determined, additional crosswalks should be considered as part of those projects at heavily trafficked crossings.

Table 5-1: East Hope Current Budget Maintenance Cost and Schedule

	Section	Length (ft)	Area (SY)	Recommended Maintenance	Chip & Fog Seal	Mill & Overlay	Dig Out	Mobilization & Engineering	Total Cost	
2021	Lakeview (Snell to East End)	335	372	Chip Seal	$5,600	-	-	$1,700	$7,300	$16,300
	Strong Creek Rd.	175	285	Chip Seal	$4,300	-	-	$1,300	$5,600	
	Snells Hill (Lakeview to Lookout)	126	169	Chip Seal	$2,600	-	-	$800	$3,400	
2024	Lakeview (Ellisport to Snell)	740	987	Chip Seal	$14,900	-	-	$4,500	$19,400	$19,400
2027	Main St. (Big Hill to Hope)	182	182	Chip Seal	$2,800	-	-	$900	$3,700	$16,100
	Hope Ave.	570	633	Chip Seal	$9,500	-	-	$2,900	$12,400	
2032	Big Hill Rd. (Deer to Main)	584	779	Dig Out / Chip Seal	$11,700	-	$4,900	$5,000	$21,600	$21,600
2035	Main St. (Hope to End)	570	570	Dig Out / Chip Seal	$8,600	-	$5,600	$4,300	$18,500	$18,500
2038	Lookout Blvd (Big Hill to Aspen)	150	200	Mill & Overlay / Chip Seal	$3,000	$5,700	-	$2,700	$11,400	$16,400
	Ellisport Rd. (Lakeview to Lookout)	189	253	Chip Seal	$3,800	-	-	$1,200	$5,000	
2041	E. Main St.	375	417	Mill & Overlay / Chip Seal	$6,300	$400	-	$2,100	$8,800	$19,800
	School Rd.	500	556	Chip Seal	$8,400	-	-	$2,600	$11,000	
2045	Deer Ln.	490	545	Dig Out / Chip Seal	$8,200	-	$3,400	$3,500	$15,100	$15,100
2051	Donovan Ln.	175	194	Full Depth Reclamation	-	-	$8,400	$2,600	$11,000	$25,800
	Ellisport Rd. (Lookout to North End)	288	385	Mill & Overlay / Chip Seal	$5,800	$1,000	-	$2,100	$8,900	
	Main St. (Lookout to Big Hill)	127	127	Mill & Overlay (Convert to Bike/Pedestrian Path)	-	$4,500	-	$1,400	$5,900	
Future Work	Cedar St.	1060	1415	Chip Seal	$21,300	-	-	$6,400	$27,700	$729,300
	Lookout Blvd (Aspen to Ellisport)	1170	1546	Chip Seal	$23,200	-	-	$7,000	$30,200	
	Lookout Blvd (Ellisport to Snell)	856	1141	Mill & Overlay / Chip Seal	$17,200	$2,900	-	$6,100	$26,200	
	Snells Hill (Wellington to Lakeview)	369	498	Full Depth Reclamation or Total Reconstruction	-	-	$21,500	$6,500	$28,000	
	Big Hill Rd. (Wellington to Deer)	727	1454	Mill & Overlay / Chip Seal	$21,900	$2,300	-	$7,300	$31,500	
	Aspen Ln	909	1010	Full Depth Reclamation	-	-	$43,500	$13,100	$56,600	
	Spring St.	2197	2929	Dig Out / Chip Seal	$44,000	-	$9,100	$16,000	$69,100	
	Pringle (East Entrance to West End)	736	1799	Dig Out / Chip Seal	$27,000	-	$5,400	$9,800	$42,200	
	Wellington (Centennial to Snell)	2586	6896	Chip Seal / Dig Out	$103,500	-	$78,800	$54,700	$237,000	
	Wellington (Snell to City Limit)	1902	5072	Chip Seal / Dig Out	$76,100	-	$58,300	$40,400	$174,800	

*This ‘future work’ table includes the recommended maintenance which would not be funded per the budget and maintenance schedule on the previous page.

Alternative Funding Maintenance Plan

With the current budget, East Hope will not be able to keep up with the maintenance demands of their transportation system. For this reason, we recommend that East Hope pursue and apply for outside funding to help them increase their transportation budget. The Local Rural Highway Investment Program (LRHIP) aids small cities by awarding construction grants of up to $100,000 to smaller cities. It is assumed for this maintenance plan that East Hope will apply for every eligible year possible to help pay for these maintenance costs. It is also assumed that East Hope will save a portion of their transportation budget for projects that cost more than what is given by LRHIP’s grant.

We also encourage East Hope apply for other opportunities for outside funding include the Rural Projects Strategic Initiatives grant. Other outside funding options are described more in depth in Chapter 7. Shown in Table 5-2 is the maintenance plan assuming full grant funding from LRHIP is shown.

Table 5-2: East Hope Outside Funding Budget Maintenance Cost and Schedule

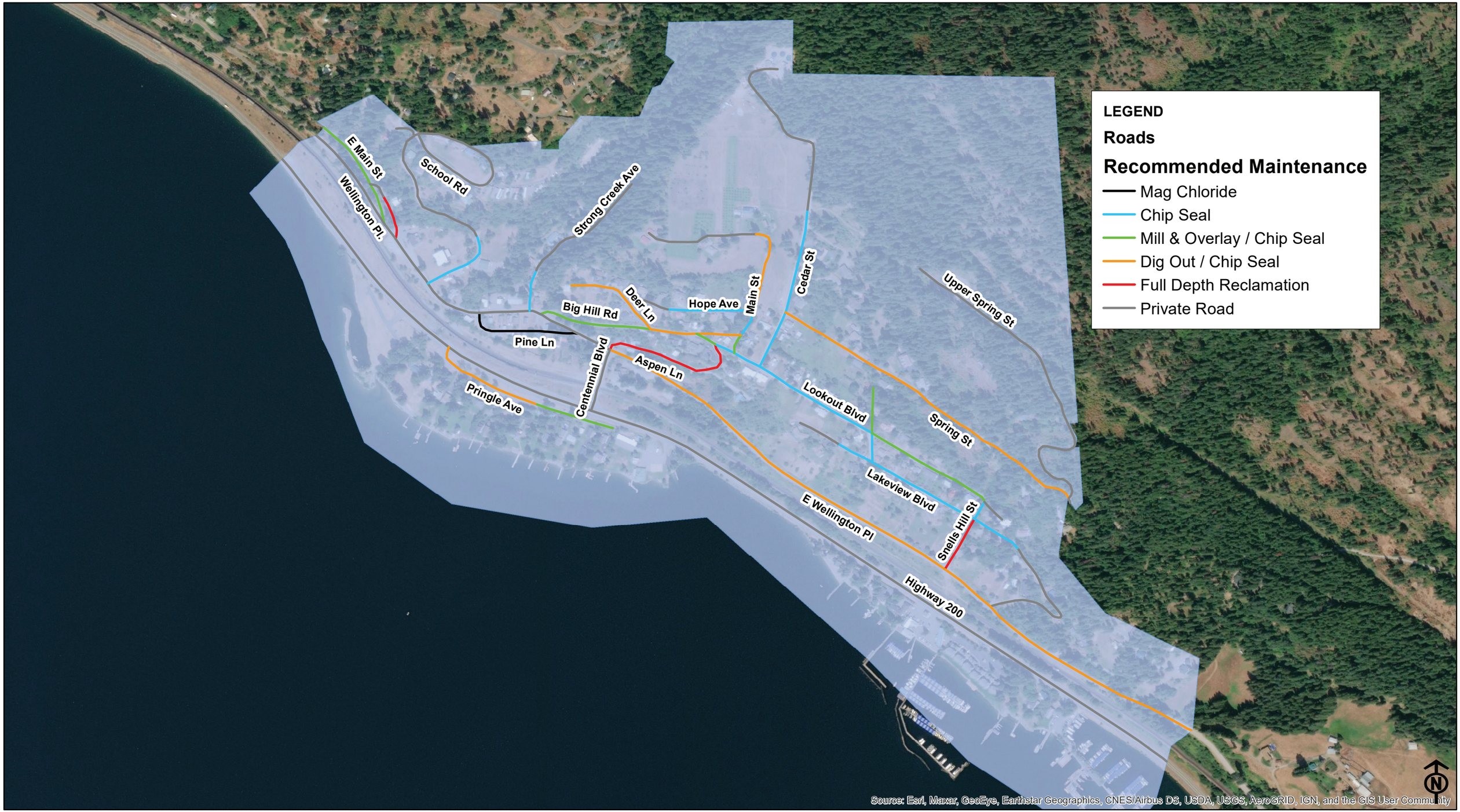
	Section	Length (ft)	Area (SY)	Recommended Maintenance	Chip & Fog Seal	Mill & Overlay	Dig Out/ Fix Potholes	Mobilization & Engineering	Total Cost	
2021	Ellisport Rd. (Lookout to North End)	288	385	Chip Seal	$5,800		-	$1,450	$7,250	$145,250
	Hope Ave.	570	633	Chip Seal	$9,100	-	-	$2,800	$11,900	
	Lookout Blvd (Ellisport to Snell)	856	1141	Chip Seal	$16,300		-	$5,200	$21,500	
	Lakeview (Snell to East End)	335	372	Chip Seal	$5,400	-	-	$1,700	$7,100	
	School Rd.	500	556	Chip Seal	$8,000	-	-	$2,400	$10,400	
	Snells Hill (Lakeview to Lookout)	126	169	Chip Seal	$2,500	-	-	$800	$3,300	
	Strong Creek Rd.	175	285	Chip Seal	$4,100	-	-	$1,300	$5,400	
	Lookout Blvd (Aspen to Ellisport)	1170	1546	Chip Seal	$22,100	-	-	$6,700	$28,800	
	Cedar St.	1060	1415	Chip Seal	$20,200	-	-	$6,100	$26,300	
	Ellisport Rd. (Lakeview to Lookout)	189	253	Chip Seal	$3,700	-	-	$1,200	$4,900	
	Lakeview (Ellisport to Snell)	740	987	Chip Seal	$14,100	-	-	$4,300	$18,400	
2024	Snells Hill (Wellington to Lakeview)	369	498	Full Depth Reclamation	-	-	$29,700	$9,000	$38,700	$90,100
	Big Hill Rd. (Deer to Main)	584	498	Chip Seal	$11,700			$3,600	$15,300	
	Lookout Blvd (Big Hill to Aspen)	150	200	Chip Seal	$2,900		-	$1,000	$3,900	
	Big Hill Rd. (Wellington to Deer)	727	1454	Chip Seal	$21,900			$6,600	$28,500	
	Main St. (Big Hill to Hope)	182	182	Chip Seal	$2,600	-	-	$1,100	$3,700	
2027	Aspen Ln	909	1010	Remove & Replace Existing Asphalt		-	$44,500	$16,100	$60,600	$132,800
	Spring St.	2197	2929	Dig Out & Replace/ Chip Seal	$46,100		$9,100	$17,000	$72,200	
2030	Deer Ln.	490	545	Dig Out & Replace/ Chip Seal	$7,000	-	$2,700	$1,000	$10,700	$146,200
	Wellington (Centennial to Snell)	2586	6896	Fix Potholes/ Chip Seal	$103,500		$4,900	$27,100	$135,500	
2033	Pringle (East Entrance to West End)	736	1799	Dig Out & Replace/ Chip Seal	$27,000	-	$5,400	$3,900	$36,300	$135,900
	Wellington (Snell to City Limit)	1902	5072	Fix Potholes/ Chip Seal	$76,600		$3,100	$19,900	$99,600	

The maintenance plan for each road is shown below in Figure 5-3 and the maintenance schedule assuming outside funding of $100,000 every 3 years is shown on Figure 5-4.

Collaboration on Maintenance Projects

Through collaboration between East Hope's surrounding cities, Hope and Clark Fork, and Bonner County, maintenance may be able to be done at a cheaper cost by including roads to an already established maintenance plan. Namely, cooperation with Bonner County's existing chip seal schedule, detailed in Bonner County's 2018 Transportation Plan, would allow a much cheaper contract cost for East Hope to receive maintenance on their roads. Grants and collaboration with adjacent jurisdictions would allow for small, 'shovel-ready' projects to be completed quickly while complying with existing legal sole-source requirements on expenditures below $10,000.

We recommend East Hope reach out to the adjoining jurisdictions on an annual basis to determine if partnerships are feasible.



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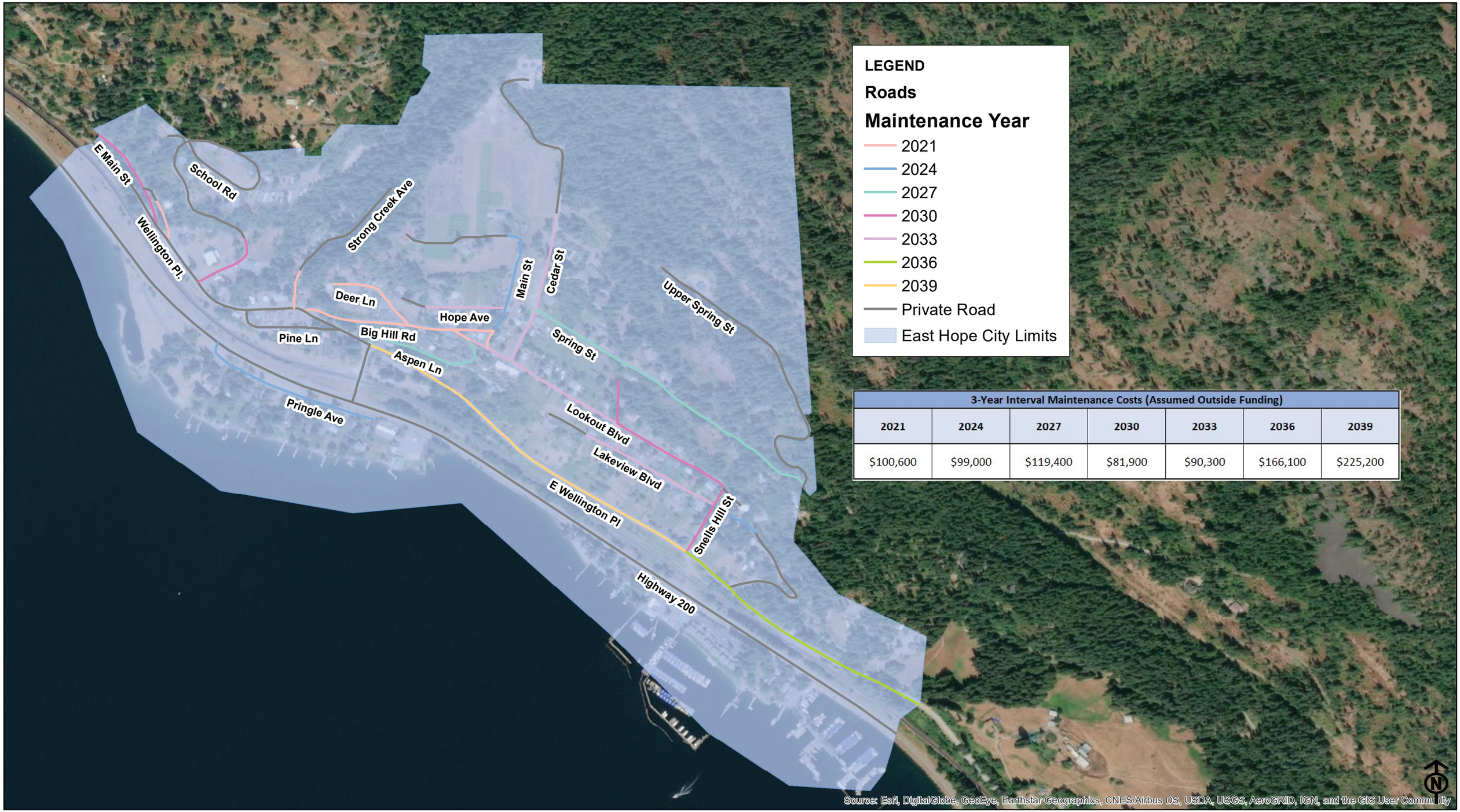
East Hope Transportation Plan

East Hope Maintenance Plan

Figure 5-3: East Hope Road Maintenance Plan Map

Sources:
Bonner County Idaho, GIS
ESRI

PROJECT NO.....44046
DRAWN BY.....CSH
FILENAME.....44046_EastHopeMaintenance_11x17L_08142020
DATE.....08/14/2020



3-Year Interval Maintenance Costs (Assumed Outside Funding)						
2021	2024	2027	2030	2033	2036	2039
$100,600	$99,000	$119,400	$81,900	$90,300	$166,100	$225,200

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East Hope Transportation Plan

Figure 5-4: **Maintenance Cost & Schedule (3-year Intervals w/ Outside Funding)**

Sources:
Bonner County Idaho, GIS
ESRI

PROJECT NO.....44046
DRAWN BY.....CSH
FILENAME.....44046_EastHopeSchedule_11x17L_081320
DATE.....08/13/2020

Chapter 6 Capital Improvements

The capital improvement projects for East Hope were created to address existing issues reported from the citizens of East Hope and stakeholders, as well as issues observed from Welch Comer's team in the field.

Table 6-1: CIP Safety Projects

Safety Projects		
Signing Improvements	Update and relocate signs around East Hope to meet MUTCD standards	$9,000
Adjust Power Pole near Post Office	Adjust the power pole near post office to be out of vehicle travel way getting on to Donovan/E Main St.	$3,000
Aspen Lane Guardrail Update	Update the guardrail along Aspen Lane.	$13,000
Aspen Lane One Way Update	Turn Aspen Ln. to a one way to stop truck traffic from travelling North on Aspen.	$500
Add "Share the Road" Signs	Add "Share the Road" signs to notify vehicles of pedestrian traffic along roads.	$3,000
Sidewalk on Snells Hill	Create a safer pedestrian facility for students getting to their bus stop walking up and down Snells Hill in the winter. This project would be a potential candidate for Child Pedestrian Safety funding.	$40,000

Table 6-2: CIP Major Improvement Projects

Major Improvement Projects		
Snells Hill Improvements	Redesign Snells Hill to have lower grade and widen road.	$36,000
Ellisport Extension	Buy and use existing ROW to extend Ellisport south to connect to Wellington Pl.	$46,000
Intersection (E Main/Wellington Pl)	Adjust intersection geometry by removing access of Donovan Ln. and realigning E. Main St. to reduce close call crashes.	$15,000

Table 6-3: CIP Minor Improvement Projects

Minor Improvement Projects		
Ellisport Bike Path	Create bike path connecting Ellisport Northern section to Spring St. above w/ available ROW.	$6,000
Wellington Rd. Bike Path	Bike Path along south side of Wellington Ave.	$7,000
Removing Main St. Section between Big Hill Rd. and Lookout Blvd.	Remove portion of Main St. and vacating ROW or installing new bike or pedestrian path.	$500
Road Classification	Officially classify roads within East Hope.	$3,000
School Rd.	Widen School Rd. to 18' for emergency service vehicles to pass.	$30,000

Chapter 7 Implementation Plan

Partnering with Other Entities

Partnerships between East Hope and other adjacent jurisdictions could result in significant improvements to the general transportation infrastructure of not just East Hope, but the East area of Lake Pend Oreille. A possible outcome of one of these partnerships could be the inclusion of Bonner County's chip seal projects or the city of Hope or Clark Fork's street maintenance plans. We opened a conversation with Bonner County, Hope and Clark Fork city officials to entertain the idea of a collaboration. We recommend that East Hope continue to work with these entities to be included or create a maintenance plan at a lower cost. The following sections contain summaries of what each entity's response was to being asked on possibly working with East Hope.

Bonner County

Bonner County has endorsed the idea of collaborating with East Hope but stops short of committing because of timing. It is very difficult for the county to address their maintenance needs, primarily chip seal, in the summer months when weather allows for road maintenance. They do say that they may be able to assist when convenient, such as maintenance near East Hope or excess resources are available. East Hope should reach out to Bonner County on an annual basis to explore potential partnerships for roadway maintenance.

City of Hope

The City of Hope has endorsed the idea of collaborating with East Hope and would like to collaborate with neighboring cities to create a larger chip seal project that would decrease the overall project cost. Bryan Quayle, the planning and zoning manager, expressed that the key solution to a collaborative road maintenance plan would be to get Bonner County to assist these smaller cities. East Hope should reach out to Hope on an annual basis to explore potential partnerships for roadway maintenance.

City of Clark Fork

The City of Clark Fork does not have a road maintenance plan for their transportation system. Road maintenance in their city includes chip seals, overlays, or patches roads whenever necessary and feasible. Clark Fork expressed interest in a conversation about collaborating with East Hope and nearby cities to establish a larger chip seal plan. East Hope should reach out to Clark Fork on an annual basis to explore potential partnerships for roadway maintenance.

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 to augment East Hope's annual budget.

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 currently on-hold and unavailable, there is pressure on the state legislators to continue this funding.

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 fully with LRHIP. 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.

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 and if a 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

East Hope's transportation has many deficiencies that have not been addressed and if not acted upon quickly, can progress into more costly repairs. Through this transportation study, the design team determined that East Hope's current transportation budget of $5,500 will not allow them to catch up on maintenance of their roads. Thus, the plan emphasizes maintenance of the existing road system over adding or improving roads/intersections. Seeking outside funding and collaboration with surrounding entities is recommended to fund projects, be competitive in bidding, and decrease unit material costs.

Projects Prioritized by Need

	Maintenance Project			Capital Project		
Priority Number	Project Name/Location	Treatment Type	Cost	Project Name/Location	Scope	Cost
1	Ellisport Rd. (Lookout to North End)	Chip Seal	$ 5,400	Signing Improvements	Update and relocate signs around East Hope to meet MUTCD standards	$ 9,000
2	Hope Ave.	Chip Seal	$ 11,900	Adjust Power Pole	Adjust the power pole near post office to be out of vehicle travel way getting on to Donovan/E Main St.	$ 3,000
3	Lookout Blvd (Ellisport to Snell)	Chip Seal	$ 18,400	Intersection	Adjust intersection geometry by removing access of Donovan Ln. and realigning E. Main St. to reduce close call crashes.	$ 15,000
4	Lakeview Blvd (Snell to East End)	Chip Seal	$ 7,100	Road Classification	Officially classify roads within East Hope.	$ 3,000
5	School Rd.	Chip Seal	$ 10,400	School Rd.	Widen School Rd. to 18' for emergency service vehicles to pass.	$ 30,000
6	Snells Hill (Lakeview to Lookout)	Chip Seal	$ 3,300	Signage Audit	Perform full signage audit for all intersections and areas with existing signs	$ 10,000
7	Strong Creek Rd.	Chip Seal (Low Priority)	$ 5,400	Add “Share the Road” Signs	Add “Share the Road” signs to notify vehicles of pedestrian traffic along roads.	$ 3,000
8	Lookout Blvd (Aspen to Ellisport)	Chip Seal (Low Priority)	$ 28,800	Sidewalk on Snells Hill	Create a safer pedestrian facility for students getting to their bus stop walking up and down Snells Hill in the winter.	$ 40,000
9	Cedar St.	Chip Seal (Low Priority)	$ 26,300	Snells Hill Improvements	Redesign Snells Hill to have lower grade and widen road.	$ 36,000
10	Ellisport Rd. (Lakeview to Lookout)	Chip Seal (Low Priority)	$ 4,900	Aspen Lane Guardrail Update	Update the guardrail along Aspen Lane.	$ 13,000
11	Lakeview Blvd (Ellisport to Snell)	Chip Seal (Low Priority)	$ 18,400	Ellisport Extension	Buy and use existing ROW to extend Ellisport south to connect to Wellington Pl.	$ 46,000
12	Snells Hill (Wellington to Lakeview)	Full Depth Reclamation	$ 38,700	School St. to Hope Connection	Connect School St. to Grandview through Donovan Ln.	$ 34,000
13	Big Hill Rd. (Deer to Main)	Chip Seal	$ 15,300	Ellisport Bike Path	Create bike path connecting Ellisport Northern section to Spring St. above w/ available ROW.	$ 6,000
14	Lookout Blvd (Big Hill to Aspen)	Chip Seal	$ 3,900	Wellington Rd. Bike Path	Bike Path along south side of Wellington Ave.	$ 7,000
15	Big Hill Rd. (Wellington to Deer)	Chip Seal	$ 28,500	Removing Main St. Section	Remove portion of Main St. and vacating ROW or installing new bike or pedestrian path from Big Hill Rd. to Lookout Blvd.	$ 500
16	Aspen Ln	Remove & Replace Existing Asphalt	$ 60,600	Aspen Lane One Way Update	Turn Aspen Ln. to a one way to stop truck traffic from travelling North on Aspen.	$ 500
17	Spring St.	Digout & Replace/Chip Seal	$ 72,200			
18	Main St. (Big Hill to Hope)	Chip Seal	$ 3,700			
19	Deer Ln.	Chip Seal (Low Priority)	$ 10,700			
20	Pringle (East Entrance to West End)	Digout & Replace/Chip Seal	$ 36,300			
21	Wellington (Centennial to Snell)	Fix Potholes/Chip Seal	$ 135,500			
22	Wellington (Snell to City Limit)	Fix Potholes/Chip Seal	$ 99,600			

*This chart provides prioritized projects regardless of cost. (Whereas the tables in Chapter 5 of this report have been adjusted for two different budgetary assumptions.)

Attachment A: Kickoff Meeting Notes

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East Hope Transportation Plan

Kickoff Meeting

February 11, 2020

1. Introductions

2. Identify Technical Advisory Committee

3. Why are we doing this?
   a. Proactive instead of reactive
   b. Positive impact on how community develops
   c. Identify partnerships
   d. Attract funding

4. Establish Goals & Objectives
   a. PRIORITIZE
   b. BACK ON TRACK?
   c. MAINTENANCE PLAN
   d. tie improvements to projected revenue.
   e. Stormwater needs. (springs?)
   f. SAFETY

MAINT? CAPACITY SAFETY ECON.

5. Identify Stakeholders

Emergency Services	School District
ITD	Bonner County
City of Hope	UTILITIES
BCATT	RAILROAD.
~~USFS~~ DAVIS MARKET	LHTAC

CHURCH

6. Where are the major deficiencies?

"BIG HILL"	
.	

Attachment B: Public Meetings Sign in Sheets and Comments

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East Hope Transportation Plan
Public Meeting
June 16, 2020 at 5:30 p.m.

Name	Address	Phone	Email	In Person – or- Via Zoom
JACK GRIFFING	330 E. Lakeside, CdA	208-664-9382		In Person
MATT GILLIS	"	"		In Person
KAY BARRETT	716 LAKEVIEW			"
Debbie Field	523 ASPEN			"
VERN Flaskerud				"
THOMAS T. GRIMM	534 Big Hill Rd	303-968-7982		IN-PERSON

Date: 6/16/2020

Subject: East Hope Transportation Plan Public Meeting

Submitted by: Jack Zearfoss and Lynda Hagarty

We own a home at 651 Lookout Blvd. at the corner of Lookout Blvd. and Ellisport Street.

Enclosed are our initial comments regarding the updating of the East Hope Transportation Plan:

1. Vacating of Rights-of-Way (ROW)
    - We would like the updated Transportation Plan to assess the possibility of vacating or modifying existing ROW within the city.
    - If the city is willing to consider vacating or modifying any ROW, we would like to know what conditions would have to be met (ie. surveying, monumentation, platting and recording).
    - We would request that a listing and prioritization of these potential ROW be developed.
    - Identify which segments of these ROW might be vacated or modified.

    Specifically, we submit for consideration that the existing 50 foot ROW for the paved section of Ellisport St. (paved section is 14 ft. wide & 185 ft. long) north of Lookout Blvd. be reduced to 25 feet, and that it be established using the centerline of the existing paved road as the centerline of the ROW. This would result in a ROW that is in keeping with other roads in the city with similar paved widths (such as Lookout Blvd.)

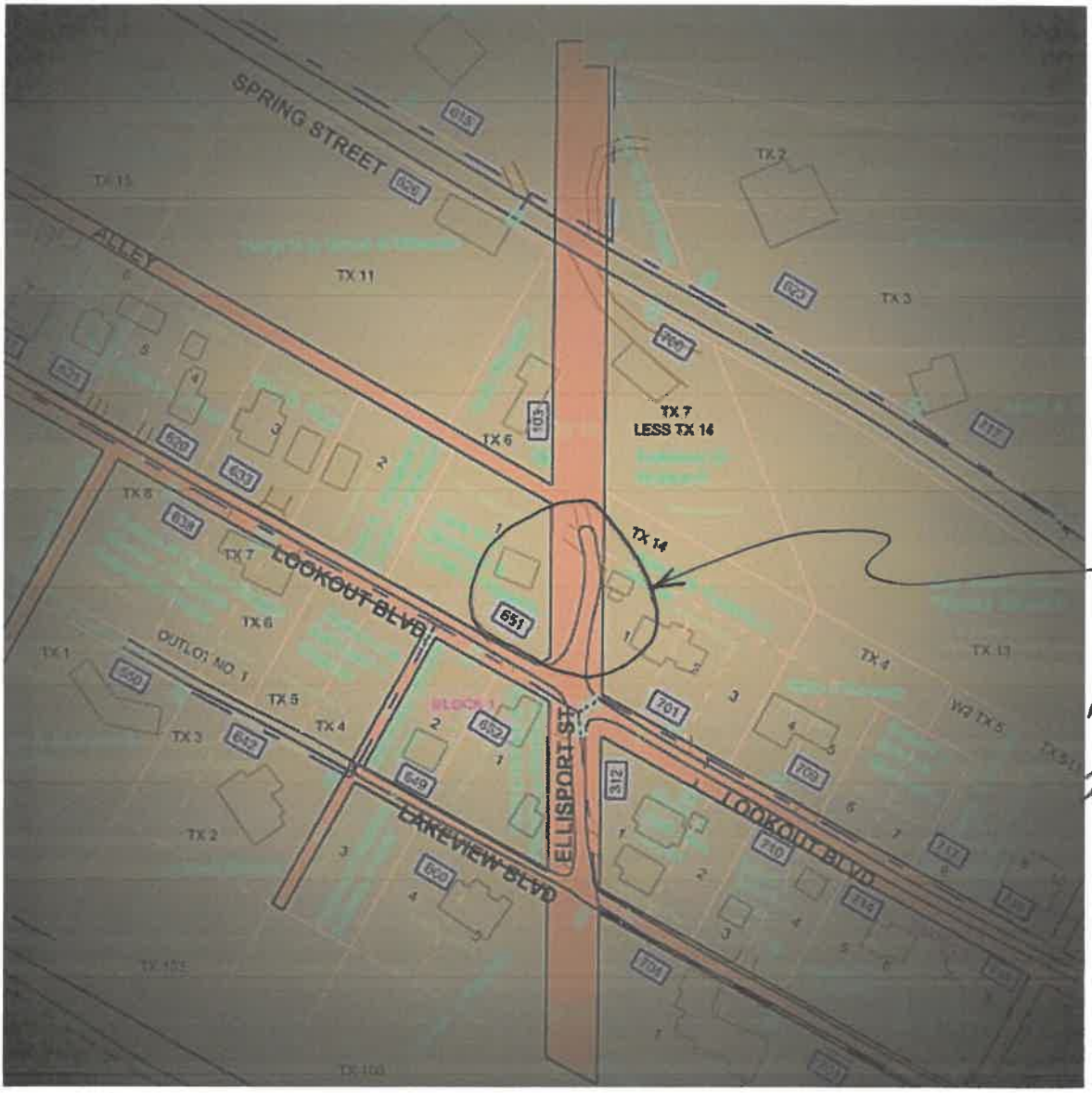
    (Please refer to Attachment 1 for a display of the proposed segment.)

2. Street Signs
    - We would like to have a Dead End sign installed on Ellisport St. as you turn north off of Lookout Blvd.

Jack H Zearfoss II

Lynda A Hagarty

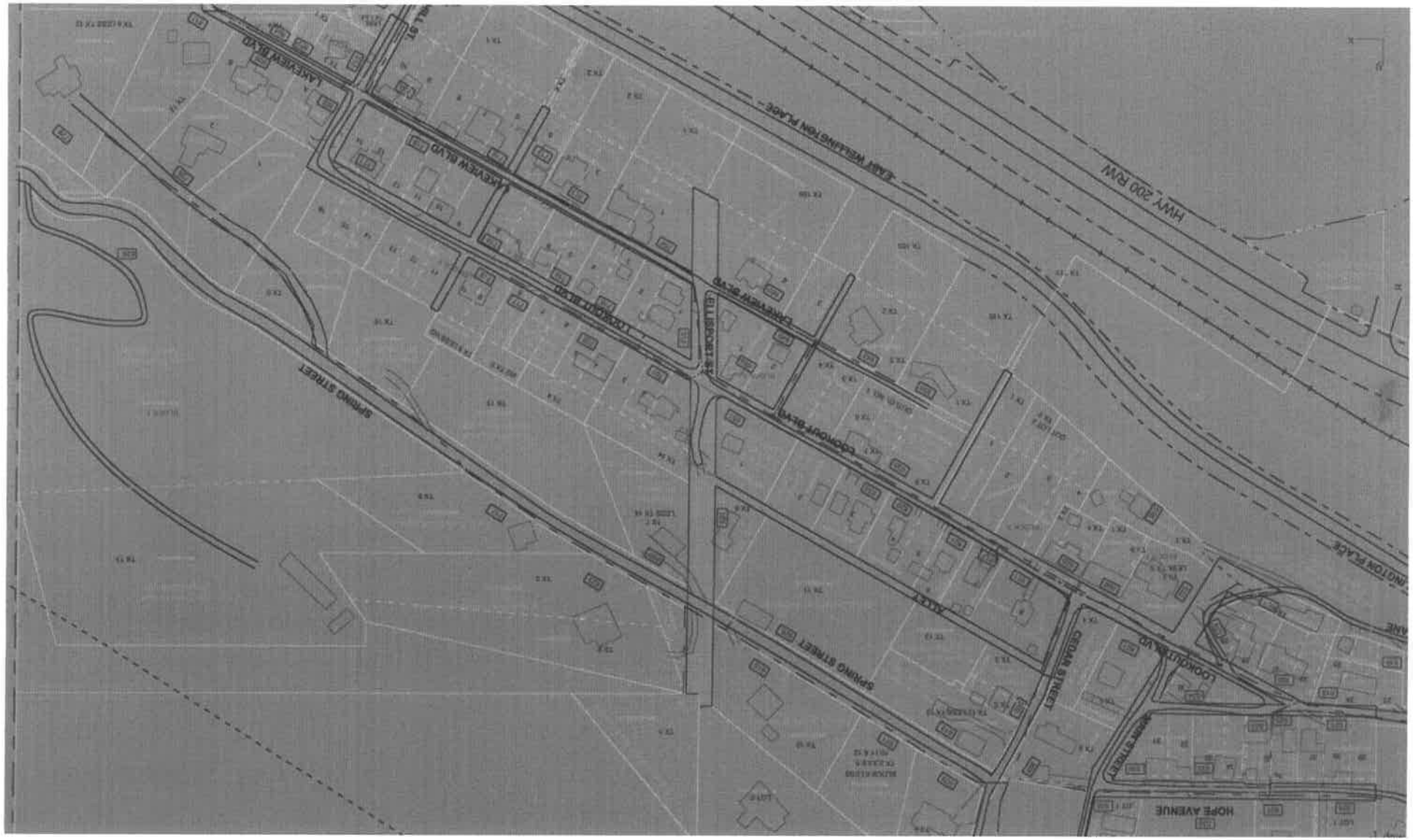
ATTACHMENT 1



AREA FOR RECOMMENDED ROW MODIFICATION TO 25'

6-16-20


Spring St
Ellisport St
Lookout Blvd


LAKEVIEW BLVD
LAKEVIEW BLVD
LOOKOUT BLVD
ELLISDALE ST
LAKEVIEW BLVD
EAST WELLINGTON PLACE
HWY 200 RW
SPRING STREET
SPRING STREET
LOOKOUT BLVD
CEDAR STREET
LOOKOUT BLVD
HOPE AVENUE

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East Hope Transportation Plan
Public Meeting
August 24, 2020 at 5:30 p.m.

Name	Address	Phone	Email	In Person – or- Via GoTo
Don Wells	PO Box 20 Hope Id. 83836	208-920-0193	ddwells74@live.com	
Donna Bernard	402 Pringle Hope, ID	208-252-5254	Donna@Bernardbusiness	In Person
Matt Loosen	110 Osen Ln	208 290-2330		Person
Dave Merrott	box 398	208 264 5708	dave.w7fyv@gmail.com	Person
Tom Grimm	534 Big Hill Rd	303-968-7982	Grimm5838@gmail.com	Person
Deborah Field	P.O. Box 423	208-264-0377	deborahfield99@gmail.	Person
Vernon Fleischer	P.O Box 396	" " 5483	VFleischer@yahoo.com	In Person
Christy Franck	PO Box 186	208-264-5877	easthope.city@gmail.com	In Person
Susan Kiehn		597-4219 Int 264-6701	skiehn@lhtc.org	In Person

Gmail City of East Hope Franck <easthope.city@gmail.com>

Traffic

1 message

Karen Lanphear <hopekazba@gmail.com> Mon, Aug 24, 2020 at 3:24 PM
To: City of East Hope Franck <easthope.city@gmail.com>

Hi I have time conficts for tonight's meeting but I am concerned about the little kids on my street between Snell Hill and the stop sign on Ellisport
Between that area live 4 children under the age if 7 and several dogs none of whom are traffic conscious

Folks, especially gardeners race up the hill and down the street

Please post a sign at the top of Snell... SLOW children at play or 15 mph.

Also, if the City is ever going to repave Lookout. I hope they level the street so everything doesn't flow into my yard.

Thank you for your help.