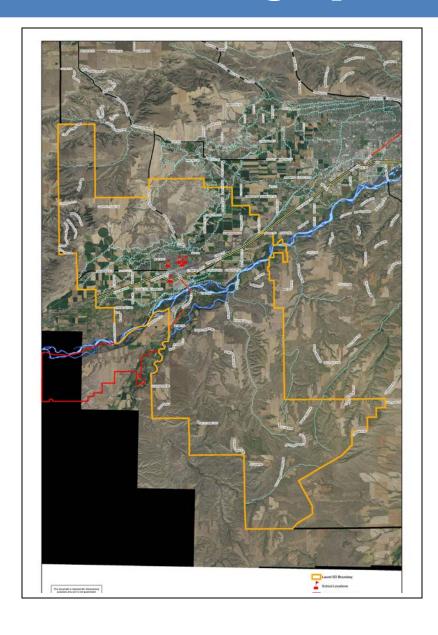


2018

Laurel Public Schools Demographic Study



K-12 Consultants



Forward

On January 26, 2018 K-12 Consultants of Billings, Montana was asked to prepare a Demographics Study to determine the number of K-12 students that Laurel Public Schools should be prepared to accommodate in the next 5, 10 and 15 years. This study is an investigation into the factors contributing to a continuing growth of students, including:

- The number of children that should be anticipated and planned for in the near and longterm future determined by established statistical methodologies for projecting students,
- The numbers of children that could result from housing construction on existing, proposed, and potential future residential land subdivisions or other types of land development in the Laurel area, and
- An analysis of past trends with out-of-district students and preparing an estimate of the number of K-12 out-of-district students that may attend Laurel schools in the future.

This report provides conclusions regarding the number of students in grades K -12 that Laurel Public Schools should plan on accommodating in the next 5, 10 and 15 year periods.

John Eisen, ALEP K-12 Consultants



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Introduction

School enrollment and related space needs are, in part, directly tied to the local and regional economy and residential construction. The Laurel area, including the area within the Laurel Elementary and High School Districts, is continuing to grow along with the local construction industry along with a healthy overall regional economy. Population, employment and housing trends all indicate a gradually improving economic environment from the downturn experienced through the recession in 2009. The City of Laurel is planning for additional capacity for water and waste water treatment to accommodate a growing population and address issues with aging infrastructure.

The Laurel Area Economy

Between 2014 and 2016 Yellowstone County's employment and overall economy is comprised of:

- 9% mining
- 6% nonresident travel
- 7% higher education and state government
- 11% federal government
- 10% transportation
- 11% trade center services
- 14% trade center wholesale, retail
- 14% trade center health care
- 8% manufacturing
- 8% construction
- 2%% other

Source: Bureau of Business and Economic Research, University of Montana

Between 2001-02 and 2013-14, Yellowstone County's net migration increased by +107%, compared to:

- Gallatin County +35%
- Lewis and Clark County +249%
- Butte-Anaconda area +126%
- Missoula County -3%
- Ravalli County -72%
- Flathead County -34%
- Cascade County -70%

Source: U.S. Census Bureau



Between 2017 and 2020, Yellowstone County's economy is projected to grow by 2.7%, compared to:

- Gallatin County +5.8%
- Lewis and Clark County +1.8%
- Missoula County +3.2%
- Cascade County +2.1%
- Flathead County +3.3%
- Montana +2.9%

Source: Bureau of Business and Economic Research, University of Montana

Laurel is an incorporated city with a healthy local economy but over 62% of Laurel residents commute to Billings and other areas for employment. Laurel's employment and overall economy reflects a strong business sector oriented mostly around retail with a significant industrial component with the CHS Refinery and BNSF/Montana Rail Link presence. The local economy and its occupational characteristics are comprised of:

- 32% Sales and office occupations
- 21.7% Management, business, science, and arts occupations
- 7% higher education and state government
- 17.7% Production, transportation, and material moving occupations
- 16% Service occupations
- 12.6% Natural resources, construction, and maintenance occupations
 Source: City of Laurel Growth Management Plan

Although the Bakken oil boom has dramatically slowed, there are indications of a resurgence in oil activity and related population growth. An example is the Williston school board is asking their voters to pass another bond for more new school construction. The Yellowstone County economy and the Laurel community continue to benefit from the indirect impacts of the Bakken oil field developments. Even though Laurel is more than 300 miles from the epicenter of the drilling and extraction activity in the Williston area, it is an attractive location for the indirect and service activities associated with the oil industry. A number of North Dakota cities are closer to Williston, but at best they have roughly half the population of Yellowstone County. This means that industries such as finance, wholesale trade and professional services are probably much larger and have more depth and resources in Billings and indirectly in Laurel than in the North Dakota cities. (Source: Montana Business Quarterly)



A regional outlook, as observed by the University of Montana Bureau of Business and Economic Research, shows that through the end of 2017 Eastern Montana has the strongest earnings growth of any region in the state, attributed to oil development in the Williston basin Bakken Formation, along the Montana-North Dakota border. Local Billings area businesses are experiencing strong benefits from the oil industry growth by tapping into the significant demand for support services.

Paul Polzin, director emeritus of the Montana Bureau of Business and Economic Research states,

- "Although Yellowstone County's economic base of higher education, government, transportation and health industries are stable, the construction sector is very strong."
- "Other than Gallatin County, Yellowstone County is the leader in non-farm income now and projected for at least the next five-years."
- "Although declining, the repair, engineering and other services in Yellowstone County have captured a significant amount of Bakken-related business."
- "Yellowstone County and Billings/Laurel growth prospects look bright relative to other parts of the state even in light of the declining oil boom just across the North Dakota border and there is a growing demand for commercial real estate, warehousing and industrial space."





Study Purpose

This study will develop an understanding of the population trends within the Laurel Elementary and High School Districts; both in the 5 to 13 age grouping comprising K-8th elementary and middle school grades and the 14 to 18 age grouping that comprises high school. The intent is to determine the extent and general timing of future population growth that indicates a need for modifying and/or expanding the existing buildings and also the need for additional educational facilities.

The objectives of this study are to:

- A. Prepare short and long term student enrollment projections using a variety of statistical analysis methodologies.
- B. Estimate the number of students resulting from new residential construction that are likely to attend Laurel Schools within short and longer range time periods.

The general methodology for this study is to:

- Prepare enrollment projections using birth rates to determine future kindergarten class sizes and develop forecasts of future student numbers utilizing past enrollment information and a Cohort Survival methodology.
- Discuss with City of Laurel and Yellowstone County planning representatives and appropriate engineering firms any known or anticipated land development or growth plans and the location and character of all known or potential land development projects within the school district.
- Discuss with the Laurel Public Works department the availability and capacity of public water and sewer to land within the school district.
- Determine the likely utilization of undeveloped land within the district and determine the
 potential number of future students that may be generated with full build-out of all
 identified land development projects.



Local Area Population Trends

Both Yellowstone County and the City of Billings have enjoyed a consistent and ongoing growth in population for many years, averaging 1.28% and 1.04% respectively since 2006. The population within the City of Laurel has grown but at a somewhat lower rate of .56%. The Laurel Growth Management Plan calls for a higher desired annual growth rate of .75%

Table 1 Local Population Trends, 2000 - 2016

Year	Yellowstone County Population	% Change	Billings Population	% Change	Laurel Population	% Change
2006	139,582	1.42%	100,185	1.55%	6,492	
2007	141,518	1.39%	101,798	1.61%	6,539	.72%
2008	144,255	1.93%	103,959	2.12%	6,622	1.27%
2009	146,455	1.53%	105,845	1.81%	6,681	.89%
2010	148,398	1.32%	104,170	-1.58%	6,718	.55%
2011	149,845	.98%	105,603	1.02%	6,829	1.65%
2012	151,888	1.36%	107,102	1.42%	6,939	1.61%
2013	154,060	1.43%	108,953	1.73%	7,030	1.31%
2014	155,634	1.02%	108,889	06%	6,930	-1.42%
2015	157,048	.91%	110,263	1.30%	6,939	.13%
2016	158,437	.88%	110,323	.54%	6,865	-1.07%
Average		1.28%		1.04%		.56%
Change 2006-2016	+18,855	+21.5%	+10,138	+10.1%	+3731	+5.7%

Source: U.S. Census Bureau, Small Area Income and Poverty Estimates (SAIPE) Program



Laurel School District Growth Trends

Laurel enrollments are growing. Data from the Montana Office of Public Instruction and local schools (Tables 2 and 3) indicates that Laurel K-8 Schools have increased in students more than any other district with the exception of Billings SD2 and the smaller K-8 districts such as Elysian, Elder Grove and Canyon Creek. Laurel is the only high school district in the area that has shown enrollment growth over the past 10 years.

Table 2
Local Area Schools K-8 Enrollments 2007 to 2017

School District	2007 Enrollment	2017 Enrollment	Enrollment Change 2007-2017	Rate of Change 2007-2017
Laurel	1,278	1,431	+153	+12%
Elysian	118	352	+234	+198%
Blue Creek	221	242	+21	+9.5%
Lockwood	1,149	1,129	-20	-1.7%
Billings	10,025	11,296	+1,271	+12.7%
Canyon Creek	177	245	+68	+38.4%
Elder Grove	357	610	+253	+70.9%
Park City	221	204	-17	-7.7%
Columbus	503	487	-16	-3.2%
Red Lodge	329	321	-8	-2.4%
Roundup	405	439	+34	+8.4%
Joliet	233	255	+22	+9.4%

Table 3
Local Area Schools 9-12 Enrollments 2007 to 2017

School District	2007 Enrollment	2017 Enrollment	Enrollment Change 2000-2017	Rate of Change 2000-2017
Laurel	616	640	+24	+3.9%
Billings	5,457	5,354	-103	-1.9%
Park City	100	98	-2	-2%
Columbus	229	218	-11	-4.8%
Red Lodge	187	161	-26	-13.9%
Roundup	197	175	-22	-11.2%
Joliet	134	109	-25	-18.7%

Source: Montana Office of Public Instruction and individual schools



The student population in Laurel has increased and decreased over the past 10 years but has generally shown an increase upward. This has much to do with the local economy and housing demand. This current growth trend as compared to other schools can possibly be attributed at least three key factors:

- 1. Business activity in the area has increased because of ongoing activity in the North Dakota oil fields and Wyoming mineral extraction industry. There are many service and supply businesses in Lockwood that work with the regional mining and oil industry. As these industries expand or decline, the Laurel economy is impacted. Families move to or leave the area with the availability of employment.
- 2. The Laurel School District is situated adjacent to Billings and contains a significant amount of the readily buildable land. As long as new housing is in demand residential construction is expected to continue but, because public water and/or sewer is not generally available outside of the Laurel city limits, this new housing will be developed at a lower density than if these services were to be made available.
- 3. Potential feeder schools such as Elder Grove and Elysian are growing at unprecedented rates. Laurel in capturing a portion of the significant increases in student numbers in the areas K-8 school districts. The growth of Laurel's K-8 student population is impressive at over 12% in the past 10-years but nothing compared to Elysian School at 198% and Elder Grove at over 70%. Almost none of Elysian School's students attend high school in Laurel however approximately 20% of the eighth graders from Elder Grove School choose to attend high school in Laurel rather than in Billings.



Laurel School Enrollment Projections

Laurel Schools have experienced ups and downs with enrollment in the past but current enrollments are 177 students more than 10-years ago. With the community considering school improvements and even the construction of new facilities there are important questions to ask.

- ➤ Will the growth of the last 10 years repeat itself?
- Will growth be more or less than past years?
- ➤ How many students should the schools be planning for in the future both in its elementary schools, middle school and high school?

To address this question, K-12 Consultants has utilized two methodologies to estimate future student growth.

- Method #1 utilizes two different statistical approaches to calculating the number of future students.
- Method #2 utilizes the analysis of potential new housing construction to estimate the number of possible future students.

Method #1 – Student Enrollment Projections

This methodology is a compilation of two projection models:

- The first model uses historic enrollment data over the past 10 years to develop trends which are then utilized to calculate estimates of future students. This method assumes that historic student growth rates will re-occur in future years.
- The second model uses Yellowstone County birth rates and exponential regression modeling to estimate future kindergarten class sizes. With this data, estimates of future students were determined utilizing a Cohort Survival calculation.



Overview

Enrollment projections have been calculated in four steps.

Step 1: Based on actual enrollments from 2007 to 2017, enrollment trends were developed. Using this data, enrollment projections were developed for school years 2018-19 to 2027-28.

Step 2: Live births were projected out to 2027 using Yellowstone County live birth records from 2004 to 2017 provided by the State of Montana Vital Statistics Division and then utilizing exponential regression modeling. This process is used to project future kindergarten class sizes.

Step 3: Kindergarten class sizes were projected out to 2032 using a calculated birth rate retention of .0693.

Step 4: Student enrollments were projected out to 2032 by incorporating kindergarten populations from Step 3 into Cohort Survival calculations for grades K-12. These projections are presented in 10 and 15 year totals.

Results of these two methodologies vary but are good indicators that substantial growth in grades K-12 student population should be anticipated through at least to school year 2032-33, the limit of this analysis.

These projection methodologies are excellent *indicators* of potential future student numbers. They are time-tested techniques of forecasting future student enrollments. However, the two methodologies used are both based on past occurrences to develop trends which are then used to forecast future numbers of students. There is an inherent risk in relying on historic trends to forecast possible futures; past trends are not necessarily destiny. It can be somewhat misleading to incorporate general Yellowstone County birthrates to project future kindergarten class sizes in a specific community area like the Laurel. It is likely that in Laurel there may be a somewhat different median age and a different birthrate than is generally found in the overall Yellowstone County.

To solely utilize past student enrollment numbers to develop trends for forecasting future student numbers assumes the past will repeat itself. Will past trends be repeated? Perhaps, but not likely. Many events can happen that could change predictions such as a resurgence in the Bakken oil play, another recession, recruitment of a major employer, loss of a major employer, increased economic growth and increased housing construction especially in the area between Billings and Laurel and the resulting out-of-district 9th grade students.



Out-of-District Students

This year Laurel schools have117 students (5.6% of total enrollment) attending from outlying areas not located within the Laurel school district's boundary. These students have been tracked by district administration for the past seven years. Out-of-district students are expected to be a growing component of the total student in Laurel.

- Primarily due to a significant decrease in out-of-district kindergarten students, the total number of out-of-district students in kindergarten through 8th grade has seen a slight decrease of 3 students or -7%) in the past seven years but the number of high school students has increased by 25 students (+46%).
- This increase in high school students may in part be a result of a growth in students coming from Elder Grove School, Park City and Joliet. Elder Grove will be experiencing significant student enrollment growth because of considerable housing construction within that school district and the west Billings area. As typically about 20% of its graduating 8th graders come to Laurel for high school, this school in particular is very likely to contribute an increasing number of students to Laurel High School. Over the years there have been from 6 to 9 Elder Grove students go to Laurel for high school each year. It is expected that within the upcoming 10 years that number should average closer to 15 students or more each year.
- 10-year projections of out-of-district students based on trends over the past seven years indicate:
 - ✓ Kindergarten will not be a factor with very few new students.
 - ✓ Grades 1-4 may increase by less than 10 students but a 47% growth.
 - ✓ Grades 5-8 may increase by about 13 students, a 57% growth.
 - ✓ Grades 9-12 will grow substantially with 83 to perhaps 98 or more students depending on the increase from Elder Grove School, a 105% or more growth.

The result of each projection method including out-of-district students is listed in Table 4.



Table 4
Potential New Students by School Year 2032-2033

Methodology	K	1-4	5-8	9-12
Forecasting 10- year future student numbers based on past enrollment trends	10 Years 165 total students 23 more students 16% increase	10 Years 640 total students 10 out of district 650 total students 53 more students 9% increase	10 Years 817 total students 13 out of district 830 total students 138 more students 20% increase	10 Years 668 students 98 out of district 766 total students 126 more students 20% increase
Forecasting 10 and 15 future student numbers based on birthrate trends and a Cohort Survival calculation	10 Years: 201 total students 59 more students 42% increase 15 years 256 total students 114 more students 80% increase	10 Years: 748 total students 151 more students 25% increase 15 years 957 total students 360 more students 60% increase	10 Years: 736 total students 44 more students 6% increase 15 years 847 total students 155 more students 22% increase	10 Years: 746 total students 106 more students 17% decrease 15 years 796 total students 156 more student 24% increase

Refer to the following tables for details and yearly totals.

		9-12 total	616	634	615	622	632	612	650	999	699	654	640			
		5-8 total 9	588	929	588	920	929	589	909	620	648	029	692			
		1-4 total	295	563	292	292	548	578	632	929	657	634	265			
		K total	128	146	137	146	143	166	142	135	145	155	142			
	Total	K-12 Total	1,894	1,919	1,907	1,905	1,899	1,945	2,030	2,077	2,119	2,113	2,071	177	1,989	
		12	133	146	130	147	179	123	152	155	167	159	133	0	162	
		11	158	137	150	178	130	152	156	178	169	148	163	2	172	
		10	160	156	188	136	156	169	162	178	153	177	164	4	180	
		6	165	195	147	161	167	168	180	155	180	170	180	15	170	
		8	171	137	146	144	130	162	133	173	154	168	152	-19	152	
llments		7	134	149	150	140	157	135	172	149	169	147	178	44	153	
Public Schools Historic Enrollments Grades K-12 K-12 Consultants January 2018	Grade	9	144	137	151	149	136	157	149	160	144	175	186	42	153	n year.
Schools Histori Grades K-12 K-12 Consultants January 2018	Gra	2	139	153	141	137	153	135	152	138	181	180	176	37	153	ISI OI GACI
iblic Sche Gr K-12 Jan		4	140	142	130	152	136	142	134	167	185	177	152	12	151	
Laurel Pu		3	145	131	159	129	144	123	169	171	169	158	126	-19	148	IS, COULT AS
_		2	132	158	135	145	122	160	168	162	159	142	157	25	149	Public script
		1	145	132	143	141	146	153	161	156	144	157	162	17	149	vided by Laurer
		¥	128	146	137	146	143	166	142	135	145	155	142	14	144	Imeni data pio
	Year		2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	10-Year Change	10-Year Average	Grades K-12 nistoric enfoliment data provided by Laurer Public Schools, count as of October 1st of each year.

Б	ade Groupir	Grade Grouping Historic Enrollments	rollments		
Time Frame	У	1-4 Elem	SW 8-9	9-12 HS	K-12
Existing Students 2007	128	295	288	616	1894
Existing Students 2017	142	269	692	640	2,071
10-Year Change	14	32	104	24	177
10-Year Average	144	965	611	637	1 989

Laurel Public Schools Enrollment Projections Based on Past Enrollment Counts K-12 Consultants January 2018

A. Kindergarten enrollment change rate based on an average annual enrollment increase between 2007 and 2017 of 1.5% B. 1-4 enrollment change rate based on an average annual enrollment increase between 2007 and 2017 of .70% C. 5-8 enrollment change rate based on an average annual enrollment increase between 2007 and 2017 of +1.67% D. 9-12 enrollment change rate based on an average annual enrollment increase between 2007 and 2017 of 4.1.67% E. K-12 enrollment change rate based on an average annual enrollment increase between 2007 and 2017 of 4.2% E. K-12 enrollment change rate based on an average annual enrollment increase between 2007 and 2017 of 1.% F. Predicted values in yellow

Year		Kindergarten	ı		1-4			2-8			9-12			K-12	
	Enrollment	change	% change	Enrollment	change	% change	Enrollment	change	% change	Enrollment	change	% change	Enrollment	change	% change
2007-08	128			295			288			616			1,894		
2008-09	146	18	14.1%	563	-	0.2%	929	-12	-2.0%	634	18	2.9%	1,919	52	1.3%
2009-10	137	6-	-6.2%	299	4	%2'0	288	12	2.1%	615	-19	-3.0%	1,907	-12	%9:0-
2010-11	146	6	%9.9	295	0	%0:0	220	-18	-3.1%	622	7	1.1%	1,905	-5	-0.1%
2011-12	143	£-	-2.1%	548	-19	-3.4%	929	9	1.1%	632	10	1.6%	1,899	9	-0.3%
2012-13	166	23	16.1%	578	30	2.5%	589	13	2.3%	612	-20	-3.2%	1,945	46	2.4%
2013-14	142	-24	-14.5%	632	54	9:3%	909	17	2.9%	650	38	6.2%	2,030	85	4.4%
2014-15	135	<i>L</i> -	-4.9%	929	24	3.8%	620	14	2.3%	999	16	2.5%	2,077	47	2.3%
2015-16	145	10	7.4%	657	-	0.2%	648	28	4.5%	699	3	0.5%	2,119	42	2.0%
2016-17	155	10	%6.9	634	-23	-3.5%	029	22	3.4%	654	-15	-2.2%	2,113	φ	-0.3%
2017-18	142	-13	-8.4%	297	-37	-5.8%	692	22	3.3%	640	-14	-2.1%	2,071	-42	-2.0%
2018-19	144	7	1.50%	601	4	0.70%	704	12	1.67%	643	3	0.42%	2,092	21	%66.0
2019-20	146	7	1.50%	909	4	0.70%	715	12	1.67%	645	3	0.42%	2,112	21	1.00%
2020-21	148	7	1.50%	610	4	0.70%	727	12	1.67%	648	3	0.42%	2,133	21	1.00%
2021-22	151	7	1.50%	614	4	0.70%	739	12	1.67%	651	3	0.42%	2,155	21	1.00%
2022-23	153	7	1.50%	618	4	0.70%	752	12	1.67%	654	3	0.42%	2,176	22	1.00%
2023-24	155	7	1.50%	622	4	0.70%	764	13	1.67%	929	3	0.42%	2,198	52	1.01%
2024-25	158	2	1.50%	627	4	0.70%	777	13	1.67%	629	-4	0.42%	2,221	22	1.01%
2025-26	160	2	1.50%	631	4	0.70%	790	13	1.67%	662	3	0.42%	2,243	22	1.01%
2026-27	162	2	1.50%	635	4	0.70%	803	13	1.67%	999	3	0.42%	2,266	23	1.02%
2027-28	165	2	1.50%	640	4	0.70%	817	13	1.67%	899	3	0.42%	2,289	23	1.02%
TOTAL 10-YEAR STUDENT CHAN	TOTAL 10-YEAR STUDENT CHANGE	23	16%		43	%4		125	18%		28	4%		218	11%

Past 10 Years Enrollment Trends:
Kindergarten has increased by 14 students, a 10.9% growth
1-4 has increased by 35 students, a 6.2% growth
5-8 has increased by 104 students, a 17.7% growth
9-12 has increased by 24 students, an 3.9% growth
K-12 overall has increased by 177 students, a 9.3% growth

Next 10 Years Projected Enrollment:
Kindergarten may increase by 23 students, a 16.2% growth
1-4 may increase by 43 students, a 7.2% growth
5-8 may increase by 125 students, an 18.1% growth
9-12 may increase by 28 students, a 4.4% growth
K-12 overall may increase by 218 students, a 10.5% growth

Laurel Public Schools Kindergarten Enrollment Projections This projection uses the past 10 years of actual birth rates to determine future kindergarten class sizes. K-12 Consultants January 2018

- A. Live births projected using exponential regression model with change coefficient of 1.094464
- A. Kindergarten projected class size based on average birth rate retention of 6.0%
- B. Known values in yellow
- C. Predicted values in blue

Year	Yellowstone County Live Births	Change From Previous Years	Year of Kindergarten Enrollment	Kindergarten Class Size	Change From Previous Years	% of Yellowstone County Births as Kindergarten Students
2004	1868					
2005	1876	8	2010-11	137		7.30%
2006	1981	105	2011-12	145	8	7.32%
2007	1951	-30	1012-13	128	-17	6.56%
2008	2001	50	2013-14	146	18	7.30%
2009	1985	-16	2014-15	137	-9	6.90%
2010	1047	-938	2015-16	146	9	13.94%
2011	1972	925	2016-17	143	-3	7.25%
2012	2075	103	2017-18	166	23	8.00%
2013	1930	-145	2018-19	156	-10	8.07%
2014	2026	96	2019-20	163	7	8.07%
2015	2039	13	2020-21	165	2	8.07%
2016	1931	-108	2021-22	156	-9	8.07%
2017	1909	-22	2022-23	154	-2	8.07%
2018	2004	95	2023-24	162	8	8.07%
2019	2105	100	2024-25	170	8	8.07%
2020	2210	105	2025-26	178	8	8.07%
2021	2320	110	2026-27	187	9	8.07%
2022	2436	116	2027-28	197	10	8.07%
2023	2558	122	2028-29	206	9	8.07%
2024	2686	128	2029-30	217	11	8.07%
2025	2820	134	2030-31	228	11	8.07%
2026	2961	141	2031-32	239	11	8.07%
2027	3110	148	2032-33	251	12	8.07%

10 years

Conclusions -

Based on Yellowstone County birth rate trends over the past 14 years and projected future birth rates, kindergarten enrollment is anticipated to gradually increase.

In 10 years there may be 197 kindergarten students, an increase of 31 over current enrollment, an 18.7% increase. In 15 years there may be 251 kindergarten students, an increase of 85 over current enrollment, a 51.2% increase.

Laurel Public Schools Enrollment Projections This projection uses a Cohort Survival methodology K-12 Consultants January 2018

A. 2017-18 are current year actual enrollment numbers for grades K-12 B. Known values in yellow, predicted values in blue

Year						Grade	le le							Total
	У	1	2	3	4	2	9	7	8	6	10	11	12	K-12 Total
2017-18	142	162	157	126	152	176	186	178	152	180	164	163	133	2,071
2018-19	159	147	165	156	128	156	180	191	178	171	175	157	156	2,119
2019-20	167	165	150	164	158	132	160	185	191	200	166	167	150	2,155
2020-21	168	173	168	149	166	163	135	165	185	215	194	159	160	2,200
2021-22	159	174	176	191	151	171	167	139	165	208	209	185	152	2,223
2022-23	157	165	177	175	169	155	175	172	139	186	202	200	177	2,249
2023-24	165	163	168	176	177	174	159	180	172	157	180	193	192	2,256
2024-25	173	171	166	167	178	182	178	164	180	194	152	172	185	2,262
2025-26	182	179	174	165	169	183	187	183	164	203	188	145	165	2,287
2026-27	191	189	183	173	167	174	188	192	183	185	197	180	139	2,341
2027-28	201	198	193	182	175	172	178	194	192	206	180	188	172	2,431
2028-29	211	208	202	192	184	180	176	183	194	216	200	172	180	2,498
2029-30	221	219	212	201	195	189	184	181	183	218	210	191	165	2,569
2030-31	232	229	223	211	204	201	194	189	181	206	212	201	183	2,666
2031-32	244	241	234	222	214	210	206	200	189	204	200	203	192	2,759
2032-33	256	253	246	233	225	220	215	212	200	213	198	191	194	2,856
10-Year Change	29	36	36	99	23	-4	-8	16	40	26	16	25	39	360
15-Year Change	114	91	88	107	73	44	29	34	48	33	34	28	61	785

Grac	Grade Grouping Enrollment Projections	nrollment Pro	jections		
Time Frame	Kindergarten	1-4	5-8	9-12	K-12
Existing Students	142	262	692	640	2,071
Students In 10 Years	201	748	736	746	2,431
10-Year Change	69	151	44	106	360
Students in 15 Years	256	957	847	962	2,856
15-Year Change	114	360	155	156	785

		1-4 total 5-8 total 9-12 total	18	21	19	17 22 81	23	20	56	23		
		K total	10	∞	4	ო	က	9	ო	0		
	Total	K-12 Total	92	132	126	123	131	136	139	117	22	91
		12	11	18	19	12	12	25	29	18	7	14
		11	12	23	20	25	26	31	21	21	6	18
Schools Out-of-District Historic Enrollments Grades K-12 K-12 Consultants January 2018		10	14	20	18	28	29	19	20	23	6	17
		6	17	24	24	16	18	18	24	17	0	14
		8	10	2	10	7	8	2	6	8	-5	9
		7	3	8	2	3	3	4	8	7	7	4
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s Out-of-District Grades K-12 K-12 Consultants January 2018	้อ	9	2	3	1	7	7	4	3	2	3	3
Laurel Public Schools Ou Gr K-12 Jan		4	2	2	1	4	2	5	3	2	0	2
		3	2	1	7	4	9	0	3	2	3	3
		2	1	9	8	-	1	8	2	4	3	3
		1	8	6	9	8	8	4	2	4	7 -	5
		¥	10	8	4	3	3	9	3	0	-10	3
	Year		2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	7-Year Change	7-Year Average

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	rade Groupir	Grade Grouping Historic Enrollments	rollments		
Time Frame	У	1-4 Elem	5-8 MS	9-12 HS	K-12
Existing Students 2010	10	13	18	54	92
Existing Students 2017	0	15	23	62	117
7-Year Change	-10	2	2	25	22
7-Year Average	ε	13	16	69	91

Laurel Public Schools Out-of-District Enrollment Projections Based on Past Enrollment Counts K-12 Consultants

A. Kindergarten enrollment change rate based on an average annual enrollment decrease between 2010 and 2017 of -15%% B. 1-4 enrollment change rate based on an average annual enrollment increase between 2010 and 2017 of 4% C. 5-8 enrollment change rate based on an average annual enrollment increase between 2010 and 2017 of 44.7% D. 9-12 enrollment change rate based on an average annual enrollment increase between 2010 and 2017 of 74% E. K-12 enrollment change rate based on an average annual enrollment increase between 2010 and 2017 of 6.5% E. Known values in yellow
F. Predicted values in blue

Enrolment change 95 95 37	Enrollment change % 95 95 132 -5 123 -3 131 8	Enrollment change 95 132 126 126 126 137 131 131 131 137 137 136 137 136 137 137 136 137 137 137 137 137 137 137 137 137 137	Brollment change 95 37 132 37 123 -3 1131 8 1139 3 117 -22 117 125 8 117 125 8 1135 8	Brollment change 95 37 123 -6 1123 -3 1139 5 1139 122 117 -22 117 123 8 1137 142 9	Brollment change 95 95 123 123 131 8 131 132 131 132 131 132 131 132 131 132 131 132 131 132 131 131	Brollment change 95 95 95 95 95 95 95 9	Enrollment change 95 192 37 112 46 113 8 113 8 113 113 8 113 113 113 113 1	Enrollment change 95 136 136 137 138 139 139 139 131	Enrollment change 95 195 195 195 195 195 195 195 195 195	Section Change	Enrollment change 95 128 43 138 138 142 9 142 9 151	Enrollment change 95 192 37 172 -6 173 173 173 173 173 173 173 173 173 173	See Chrollment change Chrollment change See Chrollment chang	Second Product Change Ch
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Past 10 Years Enrollment Trends:

Kindergarten has decreased substantially and is not a factor 1-4 has increased by 2 students, a 4%-growth 5-8 has increased by 5 students, a 28%-growth 9-12 has increased by 55 students, a 46%-growth

K-12 overall has increased by 22 students, a 23% growth

9th grade attending from Elder Grove School 6-9 students

Next 10 Years Projected Enrollment:

Kindergarten will not be a factor in school enrollment 1-4 may increase by 7 students, a 47% growth 5-8 may increase by 13 students, a 57% growth 9-12 may increase by 83 students, a 105% growth K-12 overall may increase by 104 students, an 88% growth

9th grade attending from Elder Grove School an additional 12-15 students

Next 15 Years Projected Enrollment

Kindergarten may not be a factor in school enrollment

1-4 may increase by 12 students, an 82% growth 5-8 may increase by 23 students, a 99% growth

9-12 may increase by 153 students, a 194% growth K-12 overall may increase by 188 students, a 161% growth

9th grade attending from Elder Grove an additional 15-20 students



Method #2 – Students Resulting from New Residential Construction.

This methodology identifies land with a good potential for residential development and calculates the number of school age children that will likely result from new housing construction. The subdivision process is complex and costly and there are numerous issues that have a direct impact on the amount of land that is changed from vacant or farming to housing.

Laurel School District Land Use

Laurel schools are comprised of an elementary district and a high school district. Together they include a very large land area at over 100,727 acres or 157 square miles. This is not counting a relatively small area of the high school district that is actually within Carbon County. For comparison, Lockwood School District has 30,272 acres, Elder Grove has 39, 345, but Elysian School District has only 5,588 acres of land. Of the school district's total land area, a little over 91% is classified as "agricultural" by the Montana Department of Revenue and another 4% is classified as "vacant" land. This means that about 95,700 acres or 95% of the land within the school district is "undeveloped" and potentially available for some sort of development, either residential, commercial or some type of industrial use. In reality, of this large total land area, only a fairly small geographic zone that is generally situated between the Yellowstone River and north of Laurel approximately to the airport can accurately be considered to have potential for development into residential uses.

Land within the school district is located both within the City of Laurel and outside of the City limits within Yellowstone County and a small area within Carbon County. The potential for future approval of public water and sewer into the areas outside of the current Laurel City Limits would make a significant difference in the number of students coming to Laurel schools. With additional infrastructure, new housing densities could increase by 100% or more with 7,000 or 9,600 square foot lots permitted compared to the current one-acre or larger lots with no water or sewer services.

Land use within the school district area includes (see note below):

- 4,694 residential structures (single family, mobile homes and apartments)
- 356 commercial or industrial structures (storage, warehouses, offices, shops, barns)
- 91,873 acres of "Agriculture" land (irrigated and dry land farming)
- 3,749 acres of "Vacant" land, not used for any activity
 Source: Montana Department of Revenue and Yellowstone County GIS Department

Note: Data about land area and the number of structures within the Laurel School Districts was provided by the Yellowstone County GIS Department. No similar data is available for the Laurel High School District area located within Carbon County.



Laurel School District and the Laurel Growth Management Plan

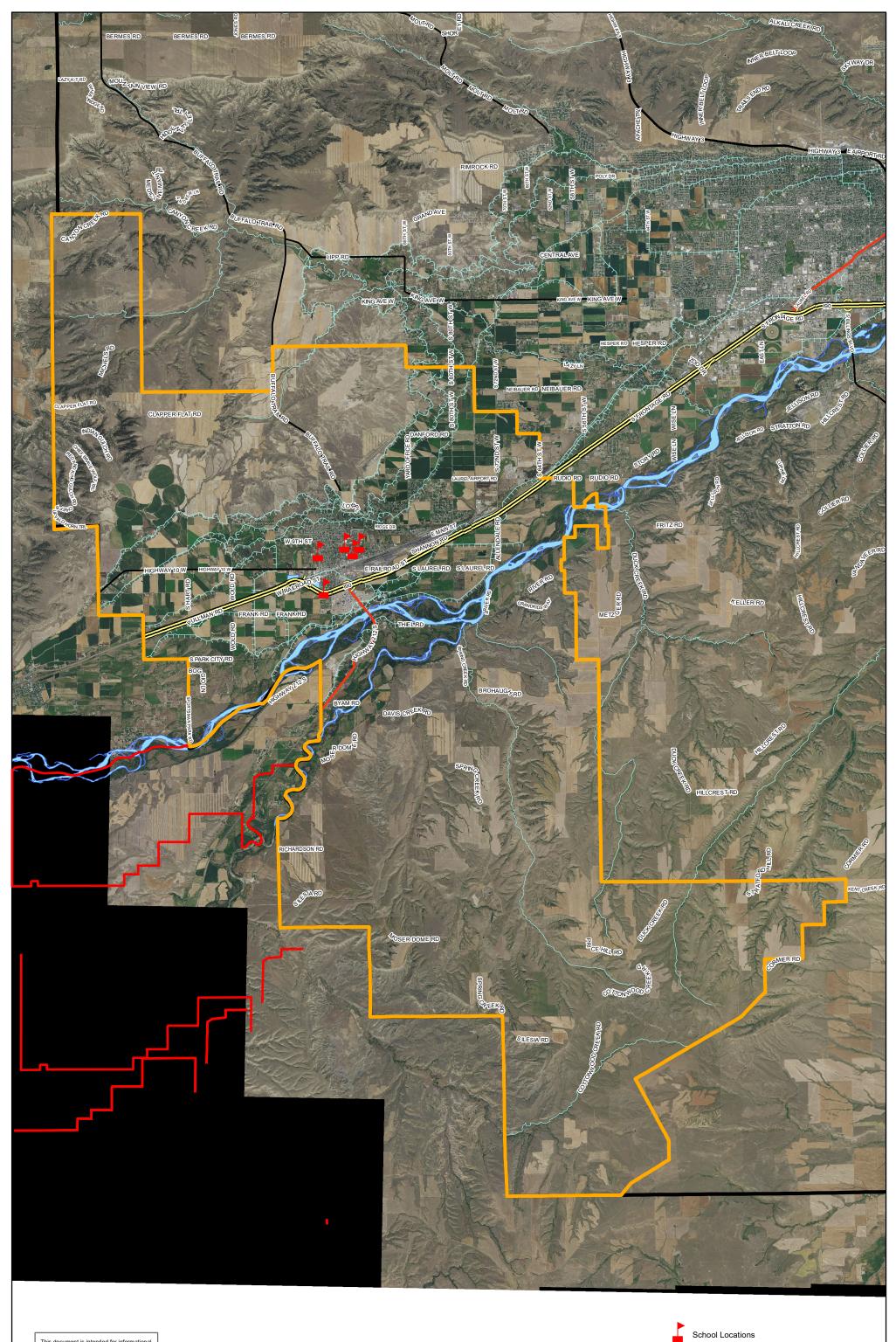
The Laurel Growth Management Plan is the official planning document that is intended to provide general guidance for the long-term growth and development in the Laurel area. It provides elected officials and other decision makers an understanding of the public's vision for future growth and development, and recommendations on how to achieve that vision within Laurel and surrounding areas in the next 20 years. The Growth Management Plan states that the Laurel community strives to be a safe, livable and economically viable community with which its citizens are proud to identify with.

The City of Laurel has continued to grow since its early days but since the 1950's, the biggest increase in population occurred between 1970 and 1980, a period when many of the existing schools were constructed. During this decade, the population increased by over 1,000 people, a 24% increase. Between the 2000 and 2010 Census, the population increased .7% annually and for projections into the next 10 or 15 years a .75% annual growth rate should be anticipated. Residents under the age of 18 are fairly evenly distributed throughout the Laurel area and are about 25% of the total population.

It is stated that the Laurel community desires growth and economic development. Along with this growth will come the construction of new housing and more children attending Laurel schools. The City of Laurel has come to realize that, until improvements are made to its aging water and sewer systems, there is limited opportunity for growth, both residentially and commercially. It is not until new infrastructure is in place the City can plan for annexing existing subdivisions outside of City limits. Water and sewer systems and their infrastructure are key to community growth and the resulting population of school age children. The availability of public water and sewer has a direct impact on allowable lot sizes in new residential development, the resulting number of houses and eventually the number of children coming to Laurel schools. The Growth Management Plan projects a demand for 629 new dwelling units by 2030, 12 years from now.

Refer to the following graphics that illustrate characteristics of the district's land utilization:

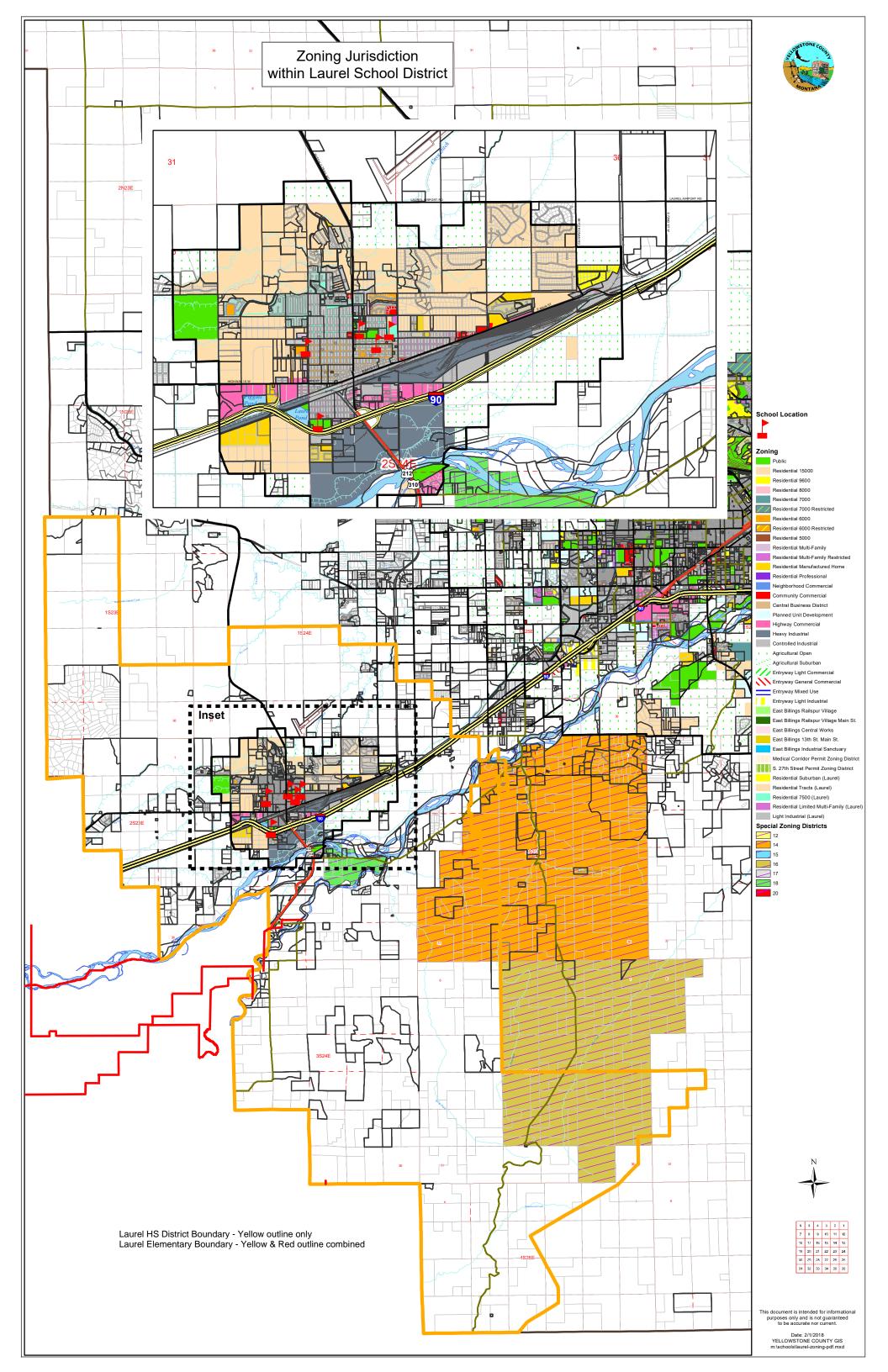
- Aerial Photograph with Elementary and High School District Boundary.
- Laurel School District with Zoning.
- Laurel School District with Structures (within Yellowstone County) locates existing residential and commercial/industrial structures within the school district.

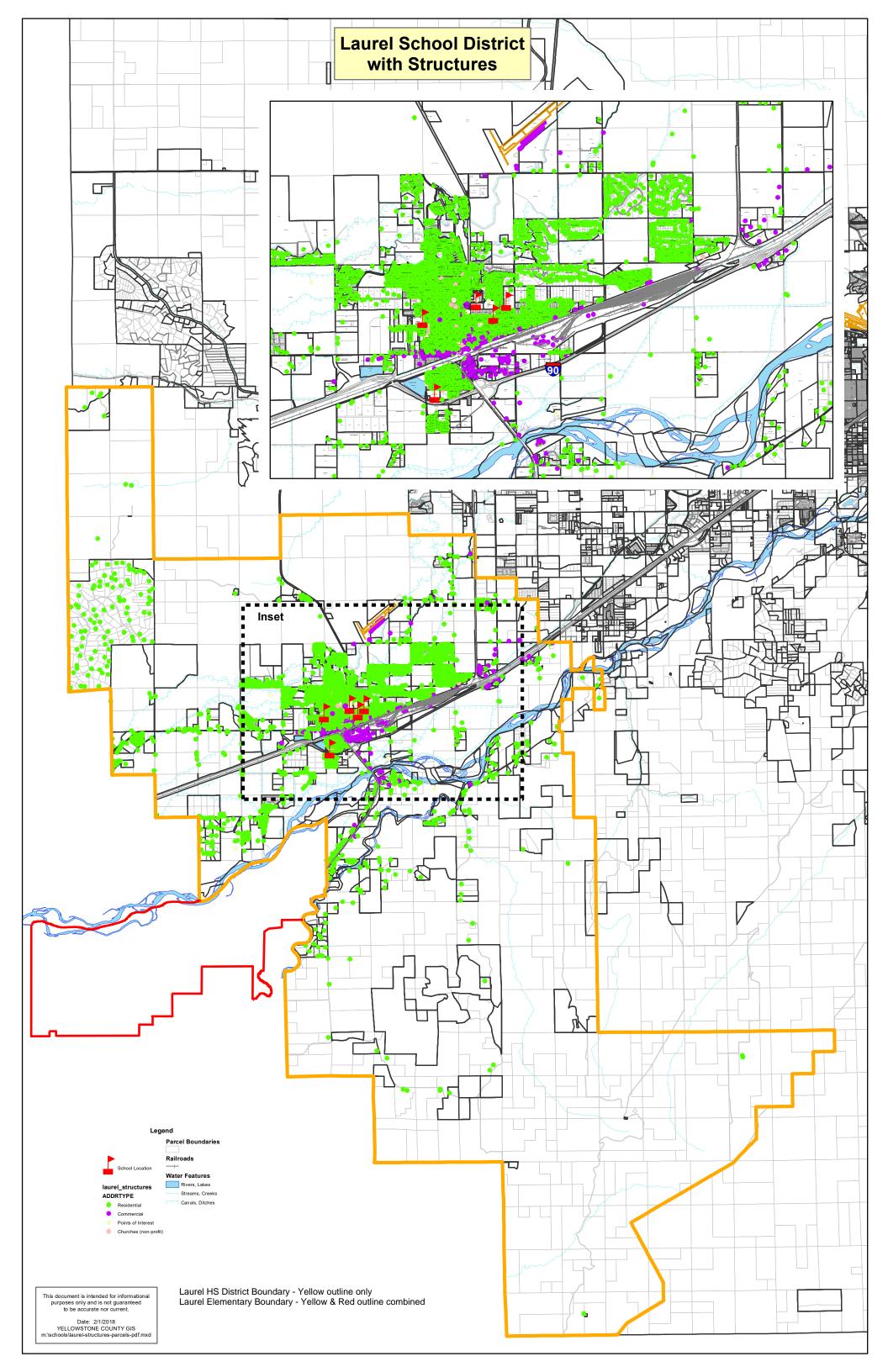


This document is intended for informational purposes only and is not guaranteed to be accurate nor current.

Date: 2/1/2018 YELLOWSTONE COUNTY GIS m:\schools\laurel-aerials-pdf.mxd <u>-</u>

Laurel HS District Boundary - Yellow outline only Laurel Elementary Boundary - Yellow & Red outline combined







Development Potential in the Laurel School District

There is a considerable amount of land within the school district that is vacant or used for agricultural purposes but much of this land also has a good potential for gradual conversion to residential uses that will generate future students for the schools. There are many factors that directly influence how a parcel of land is developed. These include local and regional economy, developer financing, market demand and extension of water and sewer services. All of these factors with the exception water and sewer services are decisions made by a developer, but the decision to provide public water and sewer into an unserved area is an agreement between a developer and the City of Laurel.

City and County Planning Mechanisms Influencing Land Development

The City of Laurel Planning Board oversees planning, zoning, and subdivisions within the Laurel Planning Area, the Yellowstone County Planning Board does this for land east of Laurel to the Billings Planning Area and the Carbon County Planning Board oversees land subdividing within the High School District land located in Carbon County. The relatively small land area within Carbon County has minimal housing construction potential and is not considered a significant factor in this study.

Additional Students Resulting From New Housing Construction

Anticipated Housing Construction Density

The conversion of vacant, agricultural or other undeveloped land to residential neighborhoods has a direct impact on Laurel Schools. The construction of new homes throughout the area has had an ongoing impact on the school. Currently with no public water or sewer services outside of the Laurel city limits residential subdivisions have been at relatively low density typically with one-acre lots or larger. This has typically resulted in one house per acre and in many instances even less per acre. It is a goal of the City of Laurel to improve infrastructure and eventually provide services to limited areas outside City limits but until this expanded infrastructure is in place, low density residential development will continue. The Growth Management Plan identifies two areas west and north of the current City Limits as key areas for future residential growth. Each of these areas includes undeveloped land and neither is currently served by public water or sewer, which is the main challenge the City is facing in encouraging development in these areas. Population projections in the Growth Management Plan indicate a demand for 460 to 629 new housing units within the next 12 years.

Potential Land Development and Residential Construction

Information obtained from the City of Laurel Planning Department and Public Works Department brought forward eight specific land development projects that have potential for residential development or are in some point in the subdivision approval process. Other land parcels have been identified to have good potential for housing development and that are also consistent with the analysis contained in the Laurel Growth Management Plan.



Impacts of Housing Construction on Student Enrollment

In addition to student growth calculated by enrollment projections, there will further new students from the construction of new housing. The actual timing of this housing development cannot realistically be estimated as it is fully the decision of the land owner or the beneficiaries of land held in an estate, etc. Family economic situations and the local economy have a significant role in when and how vacant land transitions to residential development. We foresee this growth to be gradual, starting with the completion of existing subdivisions and the approval and start of construction of two subdivisions currently in the preliminary or final approval process, and a gradual transition from vacant or farm land to housing on parcels to the east and west of the City of Laurel. There may be:

- 32 students resulting from two potential new subdivisions,
- 41 students from available lots within existing subdivisions
- There is a potential for up to approximately 613 more students resulting from the buildout of land with residential development potential identified by the Laurel Growth Management Plan or this Demographics Study.

This study makes some assumptions regarding future housing construction that are considered to be realistic and necessary to provide a reasonably accurate portrayal of future student enrollments.

- Some of the parcels identified are approved subdivisions that will be expanded, some have housing under construction, some are for sale and some are currently farmed.
- If all parcels were developed there would be approximately 1,475 housing units built.
- This construction would result in approximately 686 children attending Laurel schools.
 - ✓ K-4 245 new elementary or middle school students
 - ✓ 5-8 229 new middle school students
 - ✓ 9-12 212 new high school students
- The actual timing of this housing development cannot realistically be estimated as it is
 fully the decision of the land owner or the beneficiaries of land held in an estate, etc.
 Family economic situations and the local economy have a significant role in when and
 how vacant land transitions to residential development.

These land parcels and development impacts on Laurel Schools are summarized in Table 4.

Potential Land Development Impacts on Laurel Schools Table 5

Refer to Potential Residential Development Map for Locations

Map	Parcel	Acres	Potential Land	Estimated Housing Mix	Potential Housing	Potential Children
					Units	Schools K-12
A	Regal Community Park	8	6 acres residential	Mobile Hone	26	26
ပ	Elena Subdivision		8 residential lots	Single Family	8	4
Ω	Daylight Acres Sub	15	11 acres residential	Single Family	13	9
Ш	Neumann/Carlson	40	30 acres residential	Multi Family	240	110
Щ	Branstetter	08	60 acres residential	Single Family	09	28
5	Fox	162	122 acres residential	Single Family	122	99
Ŧ	Foos	124	93 acres residential	Single Family	93	43
_	Schessler	187	140 acres residential	Single Family	140	99
٦	Fox	160	120 acres residential	Single Family	120	22
¥	Cotter	3	2 acres residential	Single Family	8	4
Γ	Brookwood Subdivision		33 unbuilt lots	Single Family	33	16
M	Pheasant Brook Sub		4 unbuilt lots	Single Family	4	2
Z	Montana Meadows Sub		1 unbuilt lot	Single Family	1	1
0	Little Dude Ranchettes Sub		5 unbuilt lots	Single Family	5	3
۵	Iron Horse Subdivision		31 unbuilt lots	Single Family	31	15
Ø	Ronan	223	167 acres residential	Single Family	167	22
~	Brenden	31	23 acres residential	Single Family	92	43
S	Miller	28	43 acres residential	Single Family	172	08
F	Erlenbusch/ Carr, Guenthner/Johnston	114	85 acres	Single Family	85	40
Misc	Other misc. subdivisions		25 unbuilt lots	Single Family	25	12
Total					1,475	989

- Blue highlight indicates approved subdivisions or land that is in the subdivision approval process.
- Yellow highlight indicates land where approved lots are available.
- No color indicates land with subdivision and housing development potential but no known plans or time frame.
- Miscellaneous includes unbuilt lots in subdivisions throughout Laurel and on land within the High School District in Carbon County.
- the Laurel area and input from the Laurel City Planner Noel Eaton, Public Works Director Kurt Markegard and local engineering firms. This list of potential future housing construction is a result of research into possible land development and residential construction in 4. 7.
 - Approximately .46 child per single family residential lot (Source: U.S. Census Bureau, American Fact Finder)
 - Approximately .25 child per multi-family unit (From research into similar other apartment developments in the area.) 9. 7. 8.
 - The Laurel Growth Management Plan projects a demand for 629 new dwelling units within 12 years (2030)

K-12 CONSULTANTS POTENITAL STUDENTS FUTURE DEVELOPMENT 26 STUDENTS NOT USED 4 STUDENTS 6 STUDENTS 110 STUDENTS 28 STUDENTS 56 STUDENTS 43 STUDENTS 65 STUDENTS 55 STUDENTS 4 STUDENTS 2 STUDENTS 1 STUDENTS 43 STUDENTS 77 STUDENTS 80 STUDENTS 16 STUDENTS 15 STUDENTS MISC. 12 STUDENTS 3 STUDENTS KΕΥ Ø 0 • **686 POTENTIAL SCHOOL AGE CHILDREN** Danford Rd 8 ~ L R Ø • POTENTIAL RESIDENTIAL DEVELOPMENT O LAUREL PUBLIC SCHOOLS

NOT TO SCALE FEBRUARY 2018

LAUREL, MONTANA



LAUREL STUDENT ENROLLMENT CONCLUSIONS

It is challenging to predict how many students there will be in Laurel schools over the next 10 to 15 years. This is reliant on the local and regional economy and the construction of new homes. The farther into the future projections are made the more uncertain the numbers become. If, for example, the local, state or regional economy falls into slump or the oil industry has another boom cycle, it will indeed impact the number of children resulting from the construction of new housing. The reasons for families to move into an area or to have children can sway up or down or change with trends, the economy, and local circumstances.

It is well documented that Laurel schools have had an up and down growth pattern with a gradual increase in K-12 enrollment of 177 students over the past 10 years. The 10-year average for K-12 enrollment is 1,989 students compared to the current 2,071 students. There are strong indicators, documented by enrollment projections, continuing land development, and residential construction that ongoing growth of school-age children will continue, likely at a more rapid rate that in the past and additional students should be anticipated and planned for.

Another factor that is increasingly impacting the total number of students, especially in the upper grades, is out-of-district students. Laurel High School is experiencing a growing number of students from Park City, Joliet and Elder Grove School. Elder Grove School, located between Billings and Laurel, is experiencing significant growth because of a rapidly growing number of houses being constructed within their school district. Historically about 20% of Elder Grove's graduating 8th grade students choose to attend high school in Laurel. An increasing number of 9th grade students from Elder Grove should be anticipated.

The estimates in this report have been developed using a variety of time-tested methodologies with the intent of providing accurate and reliable indications of likely futures. The key components that led to the following enrollment conclusions are:

- 1. Projections based upon birth rates and cohort survival calculations rather than incorporating past trends in enrollments. Relying on the past enrollment trends to be repeated is unlikely based upon indicators of future population and student growth.
- 2. Laurel population growth will be at a slightly faster rate in the next 10 years compared to the last 10 years.
- 3. The City of Laurel is planning for upgrades and expansions to its water and sewer infrastructure which can lead to an expanded service area and higher density residential development. Higher density provides more students in the schools.
- 4. Laurel Growth Management Plan projects a demand for 629 new housing units by 2030. This is approximately 52 new housing units constructed each year.
- 5. The number of 9th grade students coming from Elder Grove School is expected to be substantially greater than it has been in the past.



Table 6 summarizes future student enrollments.

Table 6
Summary of Student Enrollment Growth

Enrollment	K-4	5-8	9-12	Total
Current 2017-18	739	692	640	2,071
5 years	873	693	836	2,402
10 years	1,005	795	887	2,687
15 years	1,353	990	1,078	3,421

Note:

Table 6 includes data from calculated enrollment projections, projections of out-of-district students and estimated students from housing construction based upon the housing demand stated in the Laurel Growth Management Plan.

To better understand and evaluate the total student enrollment growth in Table 6 it is necessary to also see the three components that comprise the total: (1) calculated enrollment projections, (2) students resulting from new housing construction, and (3) out-of-district students. The base value is the calculated number of students, to that is added students from a realistic amount of housing construction and those coming from out-of-district.

A. Short Term 5-Year Student Enrollment Growth - 331 Additional Students

Projections of new students based upon birth rates, anticipated housing construction and likely additional out-of-district students provide a good overall understanding of potential student population within the next five years.

Five-Year Impacts from Enrollment Projections

- ✓ There may be an increase of 178 K-12 students based on an analysis of past enrollment trends and cohort survival calculations.
 - K-4 843 students 104 additional students over current enrollment
 - 5-8 641students a decrease of 51 students over current enrollment
 - 9-12 765 students 125 additional students over current enrollment

Five-Year Impacts from Housing Construction

- ✓ There may be 151 or more new housing units and 70 additional students.
 - K-4 25 additional elementary students
 - 5-8 23 additional middle school students
 - 9-12 22 additional high school students



Five-Year Impacts from Out-of-District Students

- ✓ There may be 83 additional students
 - K-4 5 additional elementary students
 - 5-8 29 additional middle school students
 - 9-12 49 additional high school students

B. Mid-Term 10-Year Student Enrollment Growth - 616 Additional Students

We feel that estimating student populations 10 years into the future can result in fairly reliable information. Projections can be based on a longer trend in changing birth rates, a lasting healthy economy with continuing housing construction and ongoing growth from out-of-district students.

10-Year Impacts from Enrollment Projections

- ✓ There may be an increase of up to 360 K-12 students based on an analysis of past trends and cohort survival calculations.
 - K-4 949 students 210 new elementary students over current enrollment
 - 5-8 736 students 44 additional students over current enrollment
 - 9-12 746 students 106 additional students over current enrollment

10-Year Impacts from Housing Construction

- ✓ There may be 300 (to as many as 500 new housing units) and 138 additional students.
 - K-4 49 additional elementary school students
 - 5-8 46 additional middle school students
 - 9-12 43 additional students

10-Year Impacts from Out-of-District Students

- ✓ There may be 118 additional students.
 - K-4 7 additional elementary students
 - 5-8 13 additional middle school students
 - 9-12 98 additional high school students



C. Long Term 15-Year Student Enrollment Growth - 1,350 Additional Students

The farther into the future we attempt to estimate student population the more variables come into play and the more problematic hard numbers become. This is particularly true for an area like Laurel where there is considerable potential for new housing because of the number available tracks of vacant land or land utilized for farming. It is uncertain when the City of Laurel will complete much needed improvements to its water and/or sewer infrastructure but when these services are upgraded it will have an impact on the density of new housing construction.

15-Year Impacts from Enrollment Projections

- ✓ There may be an increase of up to 785 K-12 students based on birth rates and Cohort Survival calculations.
 - K-4 1,213 students 474 additional students over current enrollment
 - 5-8 847 students 155 additional students over current enrollment
 - 9-12 796 students 156 additional students over current enrollment

15-Year Impacts from Housing Construction

It is assumed that by 15-years all currently known or pending subdivisions will have been fully constructed and new students will come from other new subdivisions.

- ✓ There may be 785 new housing units and 360 additional students.
 - K-4 128 additional elementary or middle school students
 - 5-8 120 additional elementary or middle school students
 - 9-12 112 additional high school students

15-Year Impacts from Out-of-District Students

- ✓ There may be 205 additional students
 - K-4 12 additional elementary students
 - 5-8 23 additional middle school students
 - 9-12 170 additional high school students