



Northwest Local School District, OH

Demographic Study Report 2021

01/05/2022

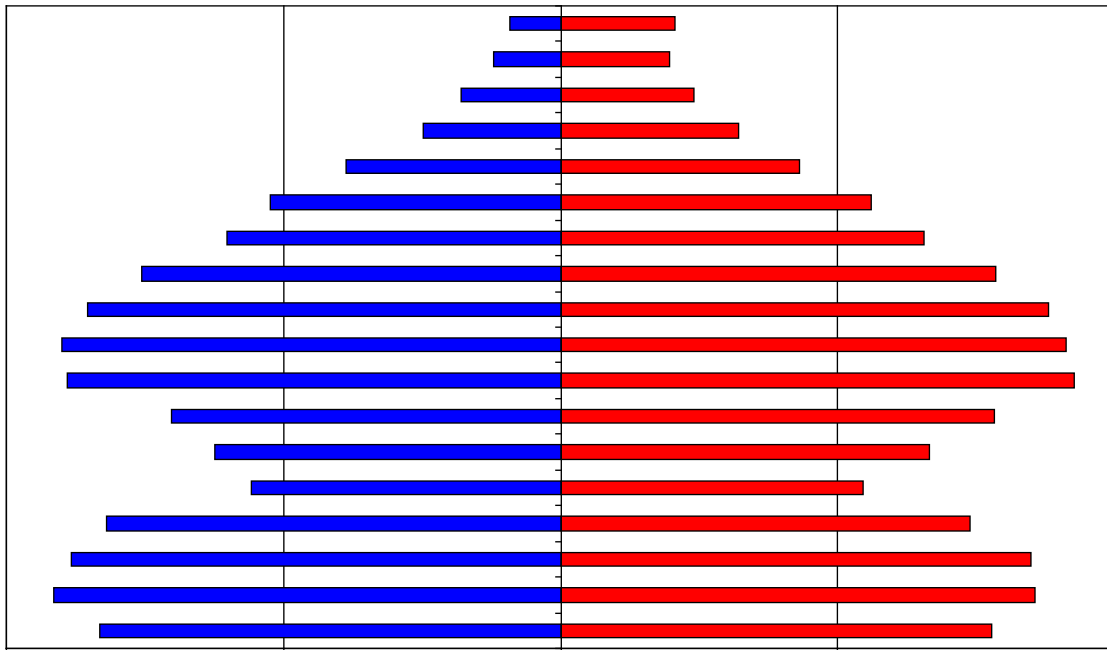




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Executive Summary

1. The resident total fertility rate for the Northwest Local School District over the life of the forecasts is below replacement level. (1.92 vs. the replacement level of 2.1)
2. Most in-migration to the district continues to occur in the 0-to-9 and 25-to-44 year old age groups.
3. The local 18-to-24 year old population continues to leave the district, going to college or moving to other urbanized areas. This population group accounts for the largest segment of the district's out migration flow and will increase steadily over the next 10 years. The second largest migration outflow is in the 70+ age groups.
4. The primary factors causing the district's enrollment to decrease over the next 10 years is the increase in empty nest households, the relatively low number of elderly housing units turning over coupled with a flat rate of in migration of young families.
5. Changes in year-to-year enrollment over the next ten years will primarily be due to small cohorts entering and moving through the school system in conjunction with larger cohorts leaving the system.
6. The elementary enrollment will slowly increase over the next 10 years school years.
7. The median age of the district's population will increase from 39.4 in 2010 to 40.0 in 2030.
8. Even if the district continues to have some amount of annual new housing unit construction over the next 10 years, the rate, magnitude and price of existing home sales will become the increasingly dominant factor affecting the amount of population and enrollment change.
9. Total district enrollment is forecasted to decrease by 301 students, or -3.5%, between 2020-21 and 2025-26. Total enrollment will decrease by 98 students, or -1.2%, from 2025-26 to 2030-31.

INTRODUCTION

By demographic principle, distinctions are made between projections and forecasts. A projection extrapolates the past (and present) into the future with little or no attempt to take into account any factors that may impact the extrapolation (e.g., changes in fertility rates, housing patterns or migration patterns) while a forecast results when a projection is modified by reasoning to take into account the aforementioned factors.

To maximize the use of this study as a planning tool, the ultimate goal is not simply to project the past into the future, but rather to assess various factors' impact on the future. The future population and enrollment change of each school district is influenced by a variety of factors. Not all factors will influence the entire school district at the same level. Some may affect different areas at dissimilar magnitudes and rates causing changes at varying points of time within the same district. The forecaster's judgment, based on a thorough and intimate study of the district, has been used to modify the demographic trends and factors to more accurately predict likely changes. Therefore, strictly speaking, this study is a forecast, not a projection; and the amount of modification of the demographic trends varies between different areas of the district as well as within the timeframe of the forecast.

To calculate population forecasts of any type, particularly for smaller populations such as a school district, realistic suppositions must be made as to what the future will bring in terms of age specific fertility rates and residents' demographic behavior at certain points of the life course. The demographic history of the school district and its interplay with the social and economic history of the area is the starting point and basis of most of these suppositions particularly on key factors such as the age structure of the area. The unique nature of each district's and attendance area's demographic composition and rate of change over time must be assessed and understood to be factors throughout the life of the forecast series. Moreover, no two populations, particularly at the school district and attendance area level, have exactly the same characteristics.

The manifest purpose of these forecasts is to ascertain the demographic factors that will ultimately influence the enrollment levels in the district's schools. There are of course, other non-demographic factors that affect enrollment levels over time. These factors include, but are not limited to transfer policies within the district; student transfers to and from neighboring districts; placement of "special programs" within school facilities that may serve students from outside the attendance area; state or federal mandates that dictate the movement of students from one facility to another (No Child Left Behind was an excellent example of this factor); the development of charter schools in the district; the prevalence of home schooling in the area; and the dynamics of local private schools.

Unless the district specifically requests the calculation of forecasts that reflect the effects of changes in these non-demographic factors, their influences are held constant for the

life of the forecasts. Again, the main function of these forecasts is to determine what impact demographic changes will have on future enrollment. It is quite possible to calculate special "scenario" forecasts to measure the impact of school policy modifications as well as planned economic and financial changes. However, in this case the results of these population and enrollment forecast are meant to represent the most likely scenario for changes over the next 10 years in the district and its attendance areas.

The first part of the report will examine the assumptions made in calculating the population forecasts for the Northwest Local School District. Since the results of the population forecasts drive the subsequent enrollment forecasts, the assumptions listed in this section are paramount to understanding the area's demographic dynamics. The remainder of the report is an explanation and analysis of the district's population forecasts and how they will shape the district's grade level enrollment forecasts.

DATA

The data used for the forecasts come from a variety of sources. The Northwest Local School District provided enrollments by grade and attendance center for the school years 2015-16 to 2020-21. The historic enrollment was geocoded to the student's home address and then summed to establish the enrollment given the new elementary boundaries. Birth and death data for the years 2000 through 2018 were obtained from the Ohio Department of Health. The net migration values were calculated using Internal Revenue Service migration reports for the years 2000 through 2018. The data used for the calculation of migration models came from the United States Bureau of the Census, 2005 to 2010, and the models were designed using demographic and economic factors. The base age-sex population counts used are from the results of the 2010 Census.

Recently the Census Bureau began releasing annual estimates of demographic variables at the block group and tract level from the American Community Survey (ACS). There has been wide scale reporting of these results in the national, state and local media. However, due to the methodological problems the Census Bureau is experiencing with their estimates derived from ACS data, particularly in areas with a population of less than 60,000, the results of the ACS are not used in these forecasts. For example, given the sampling framework used by the Census Bureau, each year only 930 of the over 31,000 current households in the district would have been included. For comparison 4,400 households in the district were included in the sample for the long form questionnaire in the 2000 Census. As a result of this small sample size, the ACS survey result from the last 5 years must be aggregated to produce the tract and block group estimates.

To develop the population forecast models, past migration patterns, current age specific fertility patterns, the magnitude and dynamics of the gross and net migration, the current age specific mortality trends, the distribution of the population by age and sex, the rate and type of existing

housing unit sales, and future housing unit construction are considered to be primary variables. In addition, the change in household size relative to the age structure of the forecast area was addressed. While there was a slight drop in the average household size in the Northwest Local School District as well as most other areas of the state during the previous 20 years, the rate of this decline has been forecasted to slow over the next ten years.

ASSUMPTIONS

For these forecasts, the mortality probabilities are held constant at the levels calculated for the year 2010. While the number of deaths in an area are impacted by and will change given the proportion of the local population over age 65, in the absence of an extraordinary event such as a natural disaster or a breakthrough in the treatment of heart disease, death rates rarely move rapidly in any direction, particularly at the school district or attendance area level. Thus, significant changes are not foreseen in district's mortality rates between now and the year 2030. (At this point in time, there is insufficient data of the geographic and age level impacts of COVID-19 on mortality rates. We assume that most areas will return to their traditional mortality rate levels by 2022.) Any increases forecasted in the number of deaths will be due primarily to the general aging of the district's population and specifically to the increase in the number of residents aged 65 and older.

Similarly, fertility rates are assumed to stay fairly constant for the life of the forecasts. Like mortality rates, age specific fertility rates rarely change quickly or dramatically, particularly in small areas. Even with the recently reported rise in the fertility rates of the United States, overall fertility rates have stayed within a 10% range for most of the last 40 years. In fact, the vast majority of year to year change in an area's number of births is due to changes in the number of women in child bearing ages (particularly ages 20-29) rather than any fluctuation in an area's fertility rate.

The **resident** total fertility rate (TFR), the average number of births a woman will have while living in the school district during her lifetime, is estimated to be 1.92 for the total district for the ten years of the population forecasts. A TFR of 2.1 births per woman is considered to be the theoretical "replacement level" of fertility necessary for a population to remain constant in the absence of in-migration. Therefore, in the absence of migration, fertility alone would be slightly below the level needed to maintain the current level of population and enrollment within the Northwest Local School District over the course of the forecast period. At the current TFR and given the number of women in prime child bearing age in the district (ages 20-34 year old), the district will consistently see the number of total resident births be on average over 100 lower than the average enrollment in grade one.

A close examination of data for the Northwest Local School District has shown the age specific pattern of net migration will be nearly constant throughout the life of the

forecasts. While the number of in and out migrants has changed in past years for the Northwest Local School District (and will change again over the next 10 years), the basic age pattern of the migrants has stayed nearly the same over the last 30 years. Based on the analysis of data it is safe to assume this age specific migration trend will remain unchanged into the future. This pattern of migration shows most of the local out-migration occurring in the 18-to-24 year old age group as young adults leave the area to go to college or move to other urbanized areas. The second group of out-migrants is those householders aged 70 and older who are downsizing their residences. Most of the non-college in-migration occurs in the 0-to-9 and 25-44 age groups (the bulk of the which come from areas within 100 miles of the Northwest Local School District) primarily consisting of younger adults and their children.

As the Hamilton County area is not currently contemplating any major expansions or contractions, the forecasts also assume that the current economic, political, social, and environmental factors, as well as the transportation and public works infrastructure (with a few notable exceptions) of the Northwest Local School District and its attendance areas will remain the same through the year 2030. Below is a list of assumptions and issues that are specific to the Northwest Local School District. These issues have been used to modify the population forecast models to more accurately predict the impact of these factors on each area's population change. Specifically, the forecasts for the Northwest Local School District assume that throughout the study period:

- a. The national, state or regional economy does not go into deep recession at any time during the 10 years of the forecasts; (Deep recession is defined as four consecutive quarters where the GDP contracts greater than 1% per quarter)
- b. Interest rates have reached a historic low and will not fluctuate more than one percentage point in the short term; the interest rate for a 30 year fixed home mortgage stays below 4.5%;
- c. The rate of mortgage approval stays at 2015-2020 levels and lenders do not return to "sub-prime" mortgage practices;
- d. There are no additional restrictions placed on home mortgage lenders or additional bankruptcies of major credit providers;
- e. The rate of housing foreclosures does not exceed 125% of the 2015-2020 average of Hamilton County for any year in the forecasts;
- f. All currently planned, planned, approved and permitted housing developments are built out and completed by 2029. All new housing units constructed are occupied by 2030. Speculative new home construction plans are not included.
- g. The average annual unemployment rates for the Hamilton County and the Cincinnati Metropolitan Area will remain below 7.5% for the 10 years of the forecasts;

- h. The intra district student transfer policy remains unchanged over the next 10 years;
- i. The rate of students transferring out of the Northwest Local School District will remain at the 2015-16 to 2020-21 average;
- j. The inflation rate for gasoline will stay below 5% per year for the 10 years of the forecasts;
- k. The state of Ohio does not change the current policy on open enrollment or school vouchers anytime in the next 10 years;
- l. There will be no building moratorium within the district;
- m. Businesses within the district and the Northwest Local School District area will remain viable;
- n. There are no charter schools opened in the district anytime over the next 10 years;
- o. The number of existing home sales in the district that are a result of “distress sales” (homes worth less than the current mortgage value) will not exceed 20% of total homes sales in the district for any given year;
- p. Housing turnover rates (sale of existing homes in the district) will remain at their current levels. The majority of existing home sales are made by home owners over the age of 60;
- q. The district will have at least an average of 1,000 existing home sales per year for the next 10 years;
- r. The district will have at least an average of 100 new single-family home constructed per year over the next 10 years;
- s. Private school and home school attendance rates will remain constant;
- t. The rate of foreclosures for commercial property remains at the 2015-2020 average for Hamilton County;
- u. The Northwest Local School District and all surrounding school districts return to full time in-person instruction by the fall of 2021.

If a major employer in the district or in the Hamilton County or the Greater Cincinnati Metropolitan Area (particularly in western suburban areas) closes, reduces or expands its operations, the population forecasts would need to be adjusted to reflect the changes brought about by the change in economic and employment conditions. The same holds true for any type of natural disaster, major change in the local infrastructure (e.g., highway construction, water and sewer expansion, changes in zoning regulations etc.), a further economic downturn, any additional weakness in the housing market or any instance or situation that causes rapid and dramatic population changes that could not be foreseen at the time the forecasts were calculated.

The high proportion of high school graduates from the Northwest Local School District that attend college or move to urban areas outside of the district for employment is a significant demographic factor. Their departure is a major reason for the extremely high out-migration in the 18 to 24 age group, and was taken into account when calculating these

forecasts. The out-migration of graduating high school seniors is expected to continue over the period of the forecasts and the rate of out-migration has been forecasted to remain the same over the life of the forecast series.

Finally, all demographic trends (i.e., births, deaths, and migration) are assumed to be linear in nature and annualized over the forecast period. For example, if 1,000 births are forecasted for a 5-year period, an equal number, or proportion of the births are assumed to occur every year, 200 per year. Actual year-to-year variations do and will occur, but overall year to year trends are expected to be constant.

METHODOLOGY

The population forecasts presented in this report are the result of using the Cohort-Component Method of population forecasting (Siegel, and Swanson, 2004: 561-601) (Smith et. al. 2004). As stated in the **INTRODUCTION**, the difference between a projection and a forecast is in the use of explicit judgment based upon the unique features of the area under study. Strictly speaking, a cohort projection refers to the future population that would result if a mathematical extrapolation of historical trends. Conversely, a cohort-component forecast refers to the future population that is expected because of a studied and purposeful selection of the components of change (i.e., births, deaths, and migration) and forecast models are developed to measure the impact of these changes in each specific geographic area.

Five sets of data are required to generate population and enrollment forecasts. These five data sets are:

- a. a base-year population (here, the 2010 Census population for the Northwest Local School District and its attendance areas);
- b. a set of age-specific fertility rates for the district to be used over the forecast period and its attendance areas;
- c. a set of age-specific survival (mortality) rates for the district and its attendance areas;
- d. a set of age-specific migration rates for the district and its attendance areas; and;
- e. the historical enrollment figures by grade.

The most significant and difficult aspect of producing enrollment forecasts is the generation of the population forecasts in which the school age population (and enrollment) is embedded. In turn, the most challenging aspect of generating the population forecasts is found in deriving the rates of change in fertility, mortality, and migration. From the standpoint of demographic analysis, the Northwest Local School District is classified as a “small area” population (as compared to the population of the state of Ohio or to that of the United States). Small area population forecasts are more complicated to calculate because local variations in fertility, mortality, and migration may be more irregular than those at

the regional, state or national scale. Especially challenging is the forecast of the migration rates for local areas, because changes in the area's socioeconomic characteristics can quickly change from past and current patterns (Peters and Larkin, 2002.)

The population forecasts for Northwest Local School District were calculated using a cohort-component method with the populations divided into male and female groups by five-year age cohorts that range from 0-to-4 years of age to 85 years of age and older (85+). Age- and sex-specific fertility, mortality, and migration models were constructed to specifically reflect the unique demographic characteristics of each of the attendance areas in the Northwest Local School District.

The enrollment forecasts were calculated using a modified average survivorship method. Average survivor rates (i.e., the proportion of students who progress from one grade level to the next given the average amount of net migration for that grade level) over the previous five years of year-to-year enrollment data were calculated for grades two through twelve. This procedure is used to identify specific grades where there are large numbers of students changing facilities for non-demographic factors, such as private school transfers or enrollment in special programs.

The survivorship rates were modified or adjusted to reflect the average rate of forecasted in and out migration of 5-to-9, 10-to-14 and 15-to-17 year old cohorts to each of the attendance centers in Northwest Local School District for the period 2010 to 2015. These survivorship rates then were adjusted to reflect the forecasted changes in age-specific migration the district should experience over the next five years. These modified survivorship rates were used to project the enrollment of grades 2 through 12 for the period 2015 to 2020. The survivorship rates were adjusted again for the period 2020 to 2025 to reflect the predicted changes in the amount of age-specific migration in the district for the period.

The forecasted enrollments for kindergarten and first grade are derived from the 5-to-9 year old population of the age-sex population forecast at the elementary attendance center district level. This procedure allows the changes in the incoming grade sizes to be factors of forecasted population change and not an extrapolation of previous class sizes. Given the potentially large amount of variation in Kindergarten enrollment due to parental choice, changes in the state's minimum age requirement, and differing district policies on allowing children to start Kindergarten early, first grade enrollment is deemed to be a more accurate and reliable starting point for the forecasts. (McKibben, 1996) The level of the accuracy for both the population and enrollment forecasts at the school district level is estimated to be $\pm 2.0\%$ for the life of the forecasts.

REFERENCES

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Appendix A: Supplemental Tables

Table 1: Forecasted District Total Population Change, 2010 to 2020

	2010	2015	2010-2015 Change	2020	2015-2020 Change	2010-2020 Change
Colerain	18,347	18,460	0.6%	18,410	-0.3%	0.3%
Monfort Heights	15,985	16,130	0.9%	16,200	0.4%	1.3%
Pleasant Run	16,497	16,920	2.6%	17,260	2.0%	4.6%
Struble	15,242	15,410	1.1%	15,440	0.2%	1.3%
Taylor	11,247	11,660	3.7%	11,960	2.6%	6.3%
District Total	77,318	78,580	1.6%	79,270	0.9%	2.5%

Table 2: Household Characteristics by Elementary Area, 2010 Census

	HH w/ Pop Under 18	% HH w/ Pop Under 18	Total Households	Household Population	Persons Per Household
Colerain	2,148	29.3%	7,341	18,374	2.50
Monfort Heights	1,915	29.6%	6,460	15,973	2.47
Pleasant Run	2,387	39.9%	5,982	16,354	2.73
Struble	2,025	32.3%	6,273	15,135	2.41
Taylor	1,598	38.0%	4,200	11,159	2.66
District Total	10,072	33.3%	30,255	76,995	2.54

Table 3: Householder Characteristics by Elementary Area, 2010 Census

	Percentage of Householders aged 35-54	Percentage of Householders aged 65+	Percentage of Householders Who Own Homes
Colerain	39.3%	27.0%	86.7%
Monfort Heights	38.4%	27.3%	83.0%
Pleasant Run	43.8%	16.3%	76.2%
Struble	38.2%	25.6%	67.4%
Taylor	39.1%	22.1%	71.1%
District Total	39.7%	24.0%	77.7%



Table 4: : Percentage of Households that are Single Person Households and Single Person Households that are over age 65 by Elementary Area, 2010 Census

	Percentage of Single Person Households	Percentage of Single Person Households and are 65+
Colerain	24.2%	10.7%
Monfort Heights	26.5%	11.8%
Pleasant Run	20.2%	6.2%
Struble	31.2%	12.8%
Taylor	25.7%	9.6%
District Total	25.6%	10.4%

Table 5: Elementary Enrollment (K-5), 2020, 2025, 2030

	2020	2025	2020-2025 Change	2030	2025-2030 Change	2020-2030 Change
Colerain	582	627	7.7%	626	-0.2%	7.6%
Monfort Heights	539	541	0.4%	568	5.0%	5.4%
Pleasant Run	828	862	4.1%	867	0.6%	4.7%
Struble	870	791	-9.1%	803	1.5%	-7.7%
Taylor	844	846	0.2%	832	-1.7%	-1.4%
District Total	3,663	3,667	0.1%	3,696	0.8%	0.9%

Table 6: Age Under One to Age Ten Population Counts, by Year of Age, by Elementary Area: 2010 Census

	Under 1 year	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years
Colerain	172	184	178	164	188	171	199	189	221	222	218
Monfort Heights	169	157	165	209	194	188	188	165	216	212	241
Pleasant Run	227	219	239	271	240	233	250	238	221	263	258
Struble	197	226	235	212	178	197	193	206	190	212	213
Taylor	175	177	156	164	150	160	148	148	182	166	188
District Total	940	962	973	1,020	950	948	978	944	1,031	1,076	1,118



Table 7: Comparison of District Resident Enrollment by Grade with 2010 Census Counts by Age, 2015-2020

2010 Census	Under 1 year	1 year	2 years	3 years	4 years	5 years	6 years	7 years	8 years	9 years	10 years	11 years	12 years	13 years
Northwest Local School District	940	962	973	1,020	950	948	978	944	1,031	1,076	1,118	1,078	1,102	1,079
2020 Grade	5	6	7	8	9	10	11	12						
2020 Enrollment	640	680	700	744	678	721	594	565						
% of Census Counts by Age	68.1%	70.7%	71.9%	72.9%	71.4%	76.1%	60.7%	59.9%						
2019 Grade	4	5	6	7	8	9	10	11	12					
2019 Enrollment	664	707	715	766	688	737	688	562	620					
% of Census Counts by Age	70.6%	73.5%	73.5%	75.1%	72.4%	77.7%	70.3%	59.5%	60.1%					
2018 Grade	3	4	5	6	7	8	9	10	11	12				
2018 Enrollment	651	716	709	766	696	730	731	701	642	619				
% of Census Counts by Age	69.3%	74.4%	72.9%	75.1%	73.3%	77.0%	74.7%	74.3%	62.3%	57.5%				
2017 Grade	2	3	4	5	6	7	8	9	10	11	12			
2017 Enrollment	642	714	690	743	656	712	688	685	722	613	628			
% of Census Counts by Age	68.3%	74.2%	70.9%	72.8%	69.1%	75.1%	70.3%	72.6%	70.0%	57.0%	56.2%			
2016 Grade	1	2	3	4	5	6	7	8	9	10	11	12		
2016 Enrollment	622	672	700	720	647	692	678	667	707	717	642	637		
% of Census Counts by Age	66.2%	69.9%	71.9%	70.6%	68.1%	73.0%	69.3%	70.7%	68.6%	66.6%	57.4%	59.1%		

Appendix B: Population Forecasts

Northwest Local School District Total Population

Total	2010	2015	2020	2025	2030
0-4	4,846	4,300	4,320	4,260	4,100
5-9	4,976	4,880	4,270	4,230	4,310
10-14	5,504	5,020	4,910	4,310	4,250
15-19	5,703	5,340	4,840	4,720	4,150
20-24	4,571	5,050	4,770	4,390	4,340
25-29	4,725	4,730	5,190	4,940	4,540
30-34	4,362	4,930	4,960	5,390	5,110
35-39	4,515	4,650	5,190	5,200	5,640
40-44	5,164	4,680	4,830	5,380	5,370
45-49	6,143	5,180	4,700	4,810	5,320
50-54	6,120	6,070	5,130	4,660	4,760
55-59	5,284	5,990	5,930	5,000	4,550
60-64	4,495	5,100	5,780	5,730	4,850
65-69	3,202	2,350	2,650	3,070	3,030
70-74	2,582	2,780	2,010	2,270	2,610
75-79	2,202	2,240	2,400	1,730	1,930
80-84	1,690	2,020	2,030	2,230	1,600
85+	1,262	1,580	1,950	2,180	2,400
Total	77,345	76,890	75,860	74,500	72,860
Median Age	39.4	39.5	39.5	39.8	40.0

Colerain Elementary School

Total	2010	2015	2020	2025	2030
0-4	886	860	880	820	780
5-9	1,002	900	830	810	860
10-14	1,229	1,040	930	860	840
15-19	1,367	1,190	1,000	890	830
20-24	978	1,010	920	820	730
25-29	940	1,040	1,070	990	880
30-34	815	1,030	1,130	1,160	1,070
35-39	912	900	1,110	1,210	1,240
40-44	1,216	1,000	990	1,200	1,290
45-49	1,665	1,280	1,060	1,010	1,180
50-54	1,683	1,640	1,260	1,050	1,000
55-59	1,448	1,650	1,610	1,230	1,030
60-64	1,274	1,400	1,590	1,550	1,190
65-69	893	690	730	860	810
70-74	711	800	610	640	720
75-79	592	610	690	520	530
80-84	435	540	560	640	480
85+	328	410	500	570	640
Total	18,374	17,990	17,470	16,830	16,100
Median Age	44.4	45.1	44.4	43.6	43.2

	2010 to 2015	2015 to 2020	2020 to 2025	2025 to 2030
Births	4,310	4,340	4,300	4,130
Deaths	4,880	5,380	5,810	5,960
Natural Increase	-570	-1,040	-1,510	-1,830
Net Migration	100	100	120	110
Change	-470	-940	-1,390	-1,720

	2010 to 2015	2015 to 2020	2020 to 2025	2025 to 2030
Births	850	870	850	800
Deaths	1,330	1,460	1,580	1,630
Natural Increase	-480	-590	-730	-830
Net Migration	90	90	90	80
Change	-390	-500	-640	-750

Differences between period Totals may not equal Change due to rounding.

Differences between period Totals may not equal Change due to rounding.



Monfort Heights Elementary School

Total	2010	2015	2020	2025	2030
0-4	894	820	820	840	820
5-9	968	920	850	820	850
10-14	1,123	1,000	950	880	840
15-19	1,099	1,060	940	890	820
20-24	823	920	890	780	740
25-29	896	940	1,020	1,000	880
30-34	794	1,010	1,040	1,130	1,090
35-39	846	910	1,120	1,150	1,230
40-44	1,038	900	970	1,190	1,210
45-49	1,289	1,020	890	970	1,180
50-54	1,330	1,280	1,020	880	950
55-59	1,225	1,300	1,240	990	860
60-64	1,018	1,180	1,250	1,210	960
65-69	720	490	590	630	610
70-74	617	580	380	460	510
75-79	539	540	500	330	400
80-84	445	490	490	470	300
85+	322	400	480	520	530
Total	15,985	15,760	15,440	15,140	14,780
Median Age	42.6	41.7	40.5	40.3	40.5

	2010 to 2015	2015 to 2020	2020 to 2025	2025 to 2030
Births	800	810	820	790
Deaths	1,150	1,260	1,300	1,270
Natural Increase	-350	-450	-480	-480
Net Migration	150	140	130	130
Change	-200	-310	-350	-350

Differences between period Totals may not equal Change due to rounding.

Pleasant Run Elementary School

Total	2010	2015	2020	2025	2030
0-4	1,197	960	1,000	980	960
5-9	1,204	1,170	920	980	960
10-14	1,247	1,180	1,150	900	960
15-19	1,263	1,230	1,160	1,130	880
20-24	1,042	1,240	1,200	1,140	1,110
25-29	1,033	1,020	1,220	1,180	1,120
30-34	1,017	1,010	1,020	1,190	1,160
35-39	1,157	1,040	1,020	1,020	1,210
40-44	1,174	1,170	1,050	1,030	1,030
45-49	1,264	1,170	1,160	1,030	1,020
50-54	1,260	1,250	1,150	1,150	1,030
55-59	1,080	1,240	1,220	1,120	1,120
60-64	941	1,040	1,190	1,180	1,090
65-69	592	510	570	650	650
70-74	387	530	450	500	570
75-79	275	340	450	390	430
80-84	190	260	310	420	360
85+	173	190	240	290	380
Total	16,497	16,550	16,480	16,280	16,040
Median Age	36.1	37.2	37.8	38.1	38.6

	2010 to 2015	2015 to 2020	2020 to 2025	2025 to 2030
Births	990	1,030	1,000	980
Deaths	860	960	1,090	1,170
Natural Increase	130	70	-90	-190
Net Migration	-110	-100	-80	-80
Change	20	-30	-170	-270

Differences between period Totals may not equal Change due to rounding.



Struble Elementary School

Total	2010	2015	2020	2025	2030
0-4	1,047	900	870	860	800
5-9	998	1,030	880	840	840
10-14	1,027	980	1,000	860	820
15-19	1,048	1,010	950	970	840
20-24	1,000	1,020	980	930	960
25-29	1,086	970	1,000	960	910
30-34	980	1,060	970	970	940
35-39	905	1,000	1,080	980	990
40-44	1,003	920	1,010	1,090	1,000
45-49	1,157	990	910	1,000	1,080
50-54	1,074	1,140	980	900	990
55-59	905	1,050	1,120	960	880
60-64	698	870	1,020	1,080	930
65-69	597	380	460	560	590
70-74	519	520	330	400	480
75-79	511	450	460	290	350
80-84	422	470	400	420	270
85+	266	360	440	460	480
Total	15,242	15,120	14,860	14,530	14,150
Median Age	37.4	38.0	38.6	39.5	39.9

	2010 to 2015	2015 to 2020	2020 to 2025	2025 to 2030
Births	920	890	880	830
Deaths	940	1,050	1,100	1,140
Natural Increase	-20	-160	-220	-310
Net Migration	-110	-110	-100	-90
Change	-130	-270	-320	-400

Differences between period Totals may not equal Change due to rounding.

Taylor Elementary School

Total	2010	2015	2020	2025	2030
0-4	822	760	750	760	740
5-9	805	860	790	780	800
10-14	878	820	880	810	790
15-19	926	850	790	840	780
20-24	727	860	780	720	800
25-29	770	760	880	810	750
30-34	756	820	800	940	850
35-39	695	800	860	840	970
40-44	733	690	810	870	840
45-49	768	720	680	800	860
50-54	774	760	720	680	790
55-59	627	750	740	700	660
60-64	564	610	730	710	680
65-69	400	280	300	370	370
70-74	348	350	240	270	330
75-79	285	300	300	200	220
80-84	198	260	270	280	190
85+	173	220	290	340	370
Total	11,247	11,470	11,610	11,720	11,790
Median Age	34.6	35.0	35.8	36.2	37.0

	2010 to 2015	2015 to 2020	2020 to 2025	2025 to 2030
Births	750	740	750	730
Deaths	600	650	740	750
Natural Increase	150	90	10	-20
Net Migration	80	80	80	70
Change	230	170	90	50

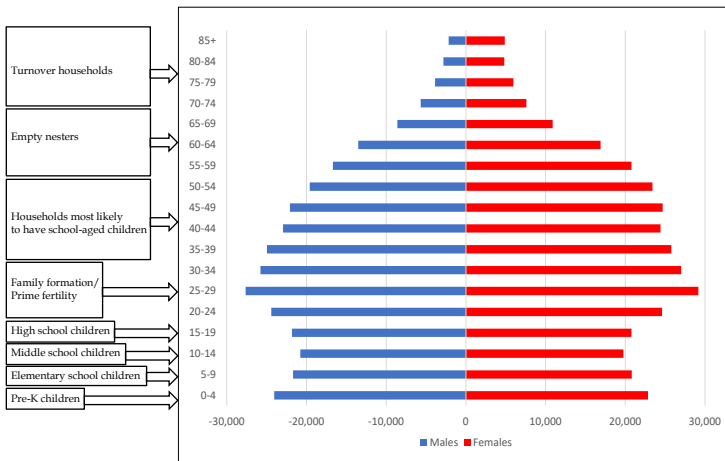
Differences between period Totals may not equal Change due to rounding.

Appendix C: Population Pyramids

Population pyramids are an effective tool to graphically represent age-sex composition of a given geographical area. They are designed to provide a detailed picture of structure of a population, with age and sex group intervals represented as horizontal bars stacked on one another. Most commonly, the pyramids are represented in 5-year age intervals, with the oldest group being open ended (on top). Male population groups are presented on the left, and female groups are given on the right side of the graph. For the purpose of this report, pyramids are represented as absolute numbers, since these types of pyramids show differences in overall population numbers between age-sex groups and between different geographical areas. Since the size of population between different attendance zones, regions and the district as a whole varies significantly, the pyramids are represented at different scale groupings, varying from: very small (up to 400 per age-sex group); small; (up to 800 per age-sex group); medium-sized (up to 1,200 per age-sex group); large (up to 1,600 per age-sex group); and very-large (up to 2,000 per age-sex group). The scales for the regions as well as for the whole district are naturally larger and are adjusted accordingly.

The shapes of the pyramids, along with the magnitude of the scales, are powerful tool with which one can quickly gain insight into population dynamics of analyzed area. Various types of shapes offer demographers visual aids in determining possible underlying trends regarding not just the age-sex composition of the area, but also provide clues to population components of change (fertility, mortality and migration). They might also provide insight into possible type of housing, workforce, education level and presence of group quarters (such as correctional institutions, colleges, senior care facilities, etc.) All of these factors should be considered when analyzing population trends of a certain area and more importantly while trying to ascertain future trends that this area might experience.

With all of this in mind, one can consider a population pyramid as a demographic fingerprint of a certain area. Consider the pyramid below:

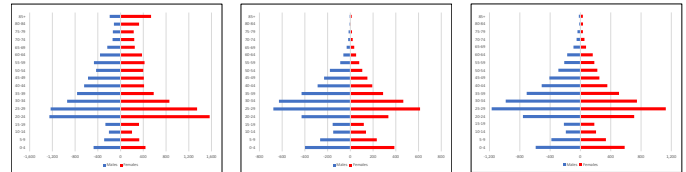


We can classify age groups into eight approximate categories (with an obvious note that 5-year age groups will not perfectly match school levels):

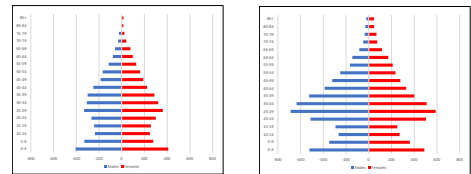
- a) Ages 0-4 - Pre-K children;
- b) Ages 5-9 - Elementary school children;
- c) Ages 10-14 - Middle school children;
- d) Ages: 15-19 - High school children;
- e) Ages: 20-34 - Family formation/prime fertility;
- f) Ages 35-54 - Households most likely to have school-aged children;
- g) Ages 55-74 - Empty nesters; and
- h) Ages 75 - Turnover households.

Using different kinds of typologies, we can classify elementary attendance zones into 8 different types, as follows:

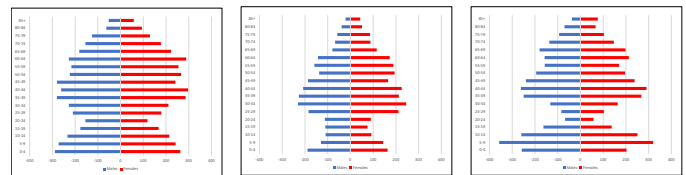
- a) Multi-family - high SES (socioeconomic status): characterized by high proportion of population in their 20s and early 30s, most likely to be renting apartments. In addition, characterized by higher SES.



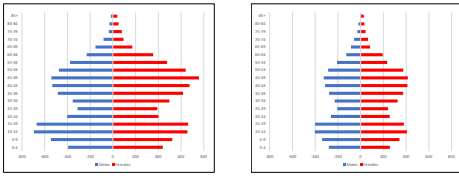
- b) Multi-family - low SES: characterized by high proportion of population in their 20s and early 30s, most likely to be renting apartments. In addition, characterized by lower SES.



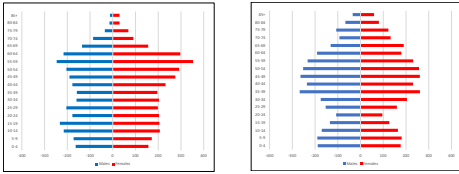
- c) Young suburban: characterized by high proportions of population in their 30s and 40s, as well as young children (pre-K and elementary schoolers).



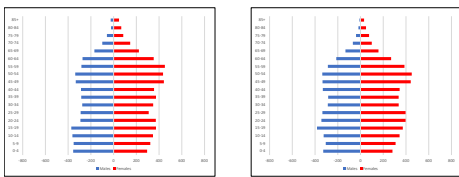
- d) Old suburban: characterized by high proportions of population in their 40s and 50s, as well as older children (middle and high schoolers).



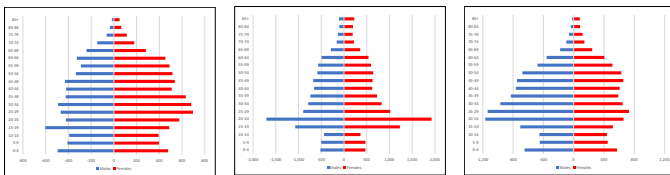
e) Turnover: characterized by population in 50s and 60s, empty nest households more likely to sell the house and downsize.



f) Mixed: characterized by mixed population of various ages and types of housing.



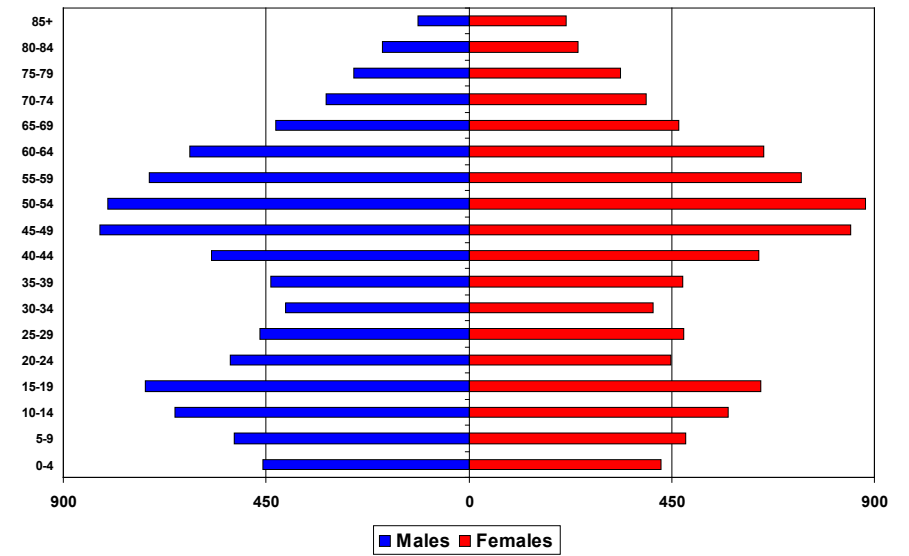
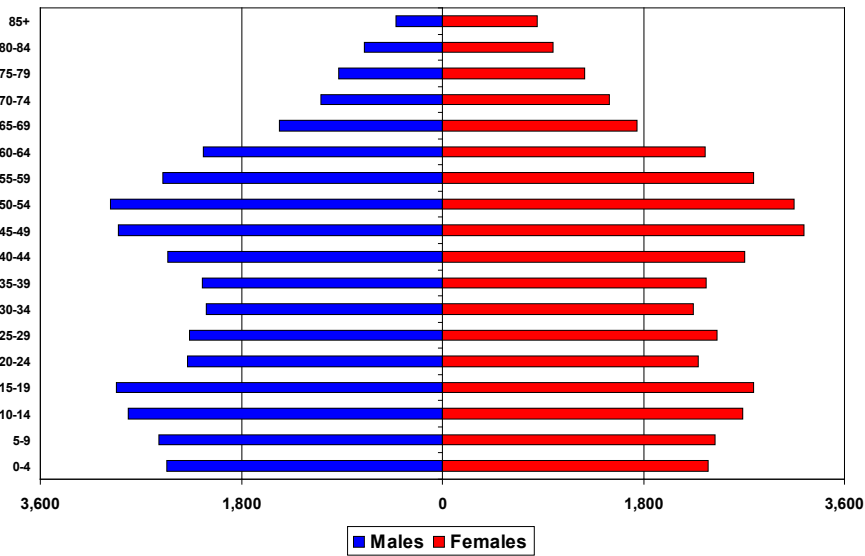
g) Group quarters: characterized by presence of one specific group of population that is living in either retirement homes, correctional facilities, army bases, student dorms, etc.





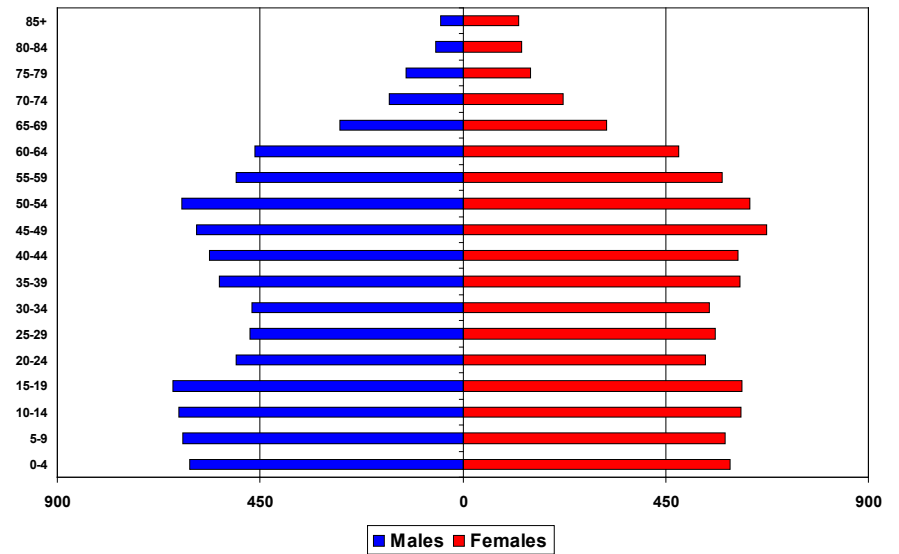
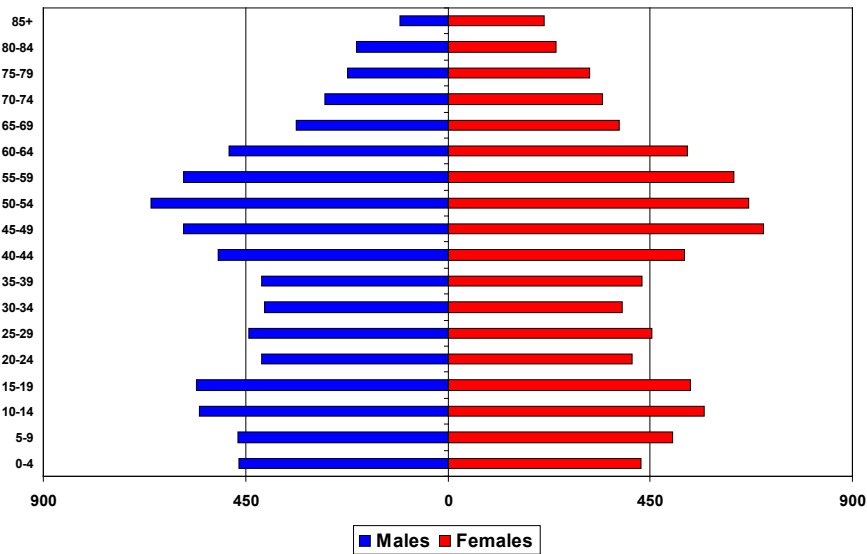
Northwest Local School District Total Population - 2010 Census

Colerain Elementary School Total Population - 2010 Census

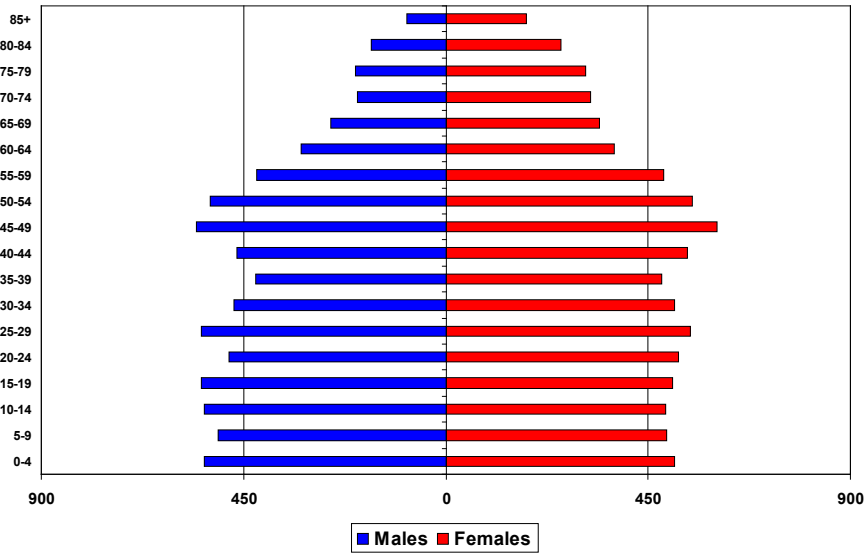


Monfort Heights Elementary School Population - 2010 Census

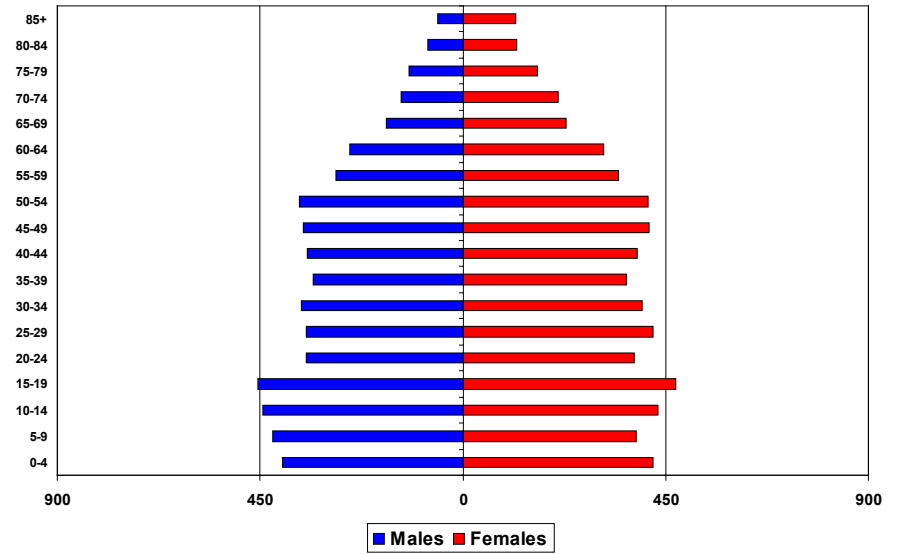
Pleasant Run Elementary School Population - 2010 Census



Struble Elementary School Population - 2010 Census



Taylor Elementary School Population - 2010 Census





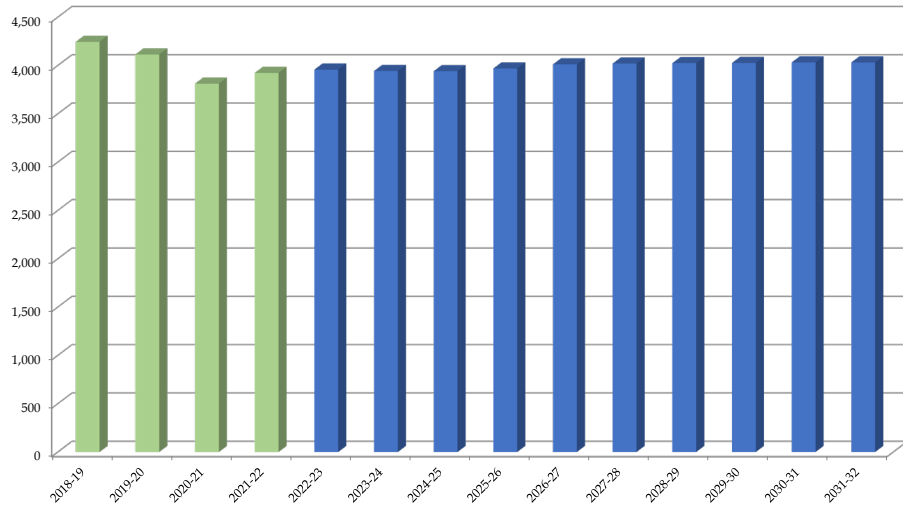
Appendix D: Enrollment Forecasts

Northwest Local School District: Total Enrollment

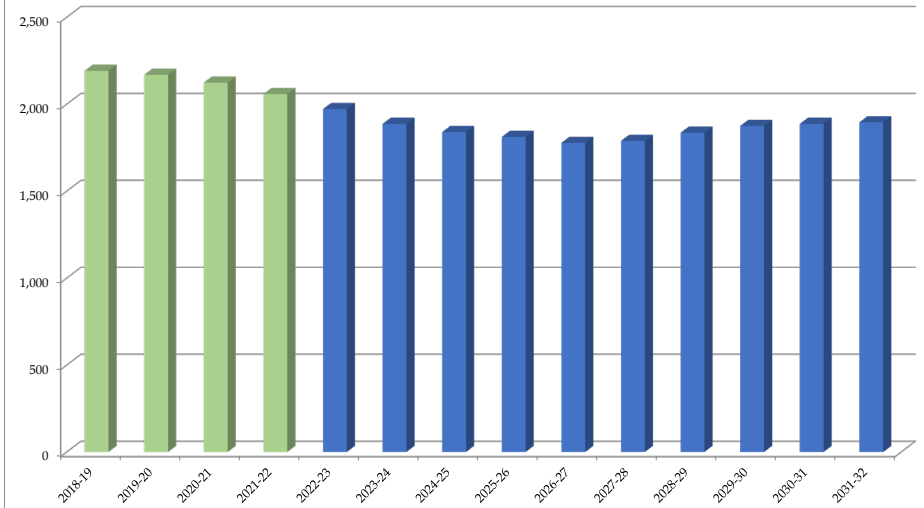
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
PK	231	220	149	227	227	227	227	227	227	227	227	227	227	227
K	657	617	589	648	651	647	645	642	641	640	641	639	637	632
1	659	639	586	603	644	642	640	638	635	635	634	635	633	632
2	621	633	630	594	601	634	632	631	638	635	635	634	635	633
3	651	634	616	625	594	598	631	629	630	637	634	634	637	638
4	716	664	602	622	621	587	591	622	626	627	634	631	635	638
5	709	707	640	604	619	608	575	580	615	619	619	626	628	632
Elementary Total	4244	4114	3812	3923	3957	3943	3941	3969	4012	4020	4024	4026	4032	4032
6	766	715	680	661	610	626	615	583	590	626	630	630	637	639
7	696	766	700	711	659	608	623	613	581	588	624	628	628	635
8	730	688	744	686	703	653	602	616	607	575	582	617	622	622
Middle School Total	2192	2169	2124	2058	1972	1887	1840	1812	1778	1789	1836	1875	1887	1896
9	731	737	678	762	700	713	664	611	631	620	587	594	630	635
10	701	688	721	666	749	688	700	653	600	621	609	576	583	619
11	642	562	594	626	606	683	628	638	595	547	565	556	525	532
12	619	620	565	571	620	600	676	622	632	589	541	559	550	520
13	27	26	25	20	20	20	20	20	20	20	20	20	20	20
High School Total	2720	2633	2583	2645	2695	2704	2688	2544	2478	2397	2322	2305	2308	2326
Total Enrollment	9156	8916	8519	8626	8624	8534	8469	8325	8268	8206	8182	8206	8227	8254
Total: All Grades	9156	8916	8519	8626	8624	8534	8469	8325	8268	8206	8182	8206	8227	8254
Change		-240	-397	107	-2	-90	-65	-144	-57	-62	-24	24	21	27
Percent Change		-2.6%	-4.5%	1.3%	0.0%	-1.0%	-0.8%	-1.7%	-0.7%	-0.7%	-0.3%	0.3%	0.3%	0.3%
Total: Elementary	4244	4114	3812	3923	3957	3943	3941	3969	4012	4020	4024	4026	4032	4032
Change		-130	-302	111	34	-14	-2	28	43	8	4	2	6	0
Percent Change		-3.1%	-7.3%	2.9%	0.9%	-0.4%	-0.1%	0.7%	1.1%	0.2%	0.1%	0.0%	0.1%	0.0%
Total: Middle School	2192	2169	2124	2058	1972	1887	1840	1812	1778	1789	1836	1875	1887	1896
Change		-23	-45	-66	-86	-85	-47	-28	-34	11	47	39	12	9
Percent Change		-1.0%	-2.1%	-3.1%	-4.2%	-4.3%	-2.5%	-1.5%	-1.9%	0.6%	2.6%	2.1%	0.6%	0.5%
Total: High School	2720	2633	2583	2645	2695	2704	2688	2544	2478	2397	2322	2305	2308	2326
Change		-87	-50	62	50	9	-16	-144	-66	-81	-75	-17	3	18
Percent Change		-3.2%	-1.9%	2.4%	1.9%	0.3%	-0.6%	-5.4%	-2.6%	-3.3%	-3.1%	-0.7%	0.1%	0.8%
Forecasts revised November 2021														
Green cells (2021-2022 and earlier) are historical data														
Blue cells (2022-2023 and later) are forecasted years														



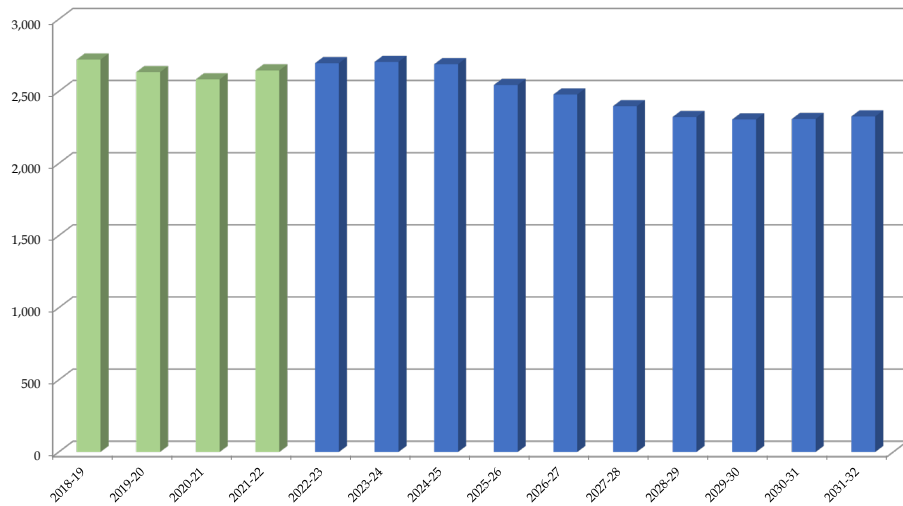
Northwest Local School District: PK-5th Total Enrollment



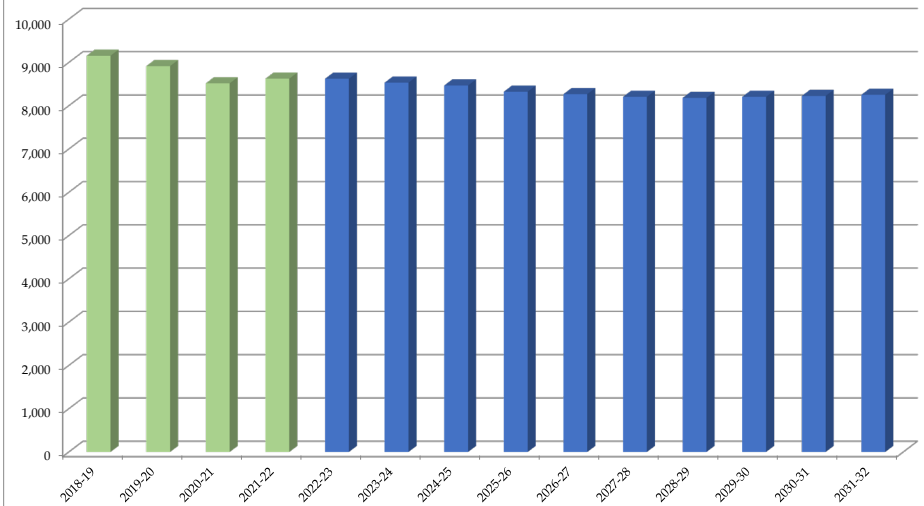
Northwest Local School District: 6th-8th Total Enrollment



Northwest Local School District: 9th-13th Total Enrollment



Northwest Local School District: PK-13th Total Enrollment



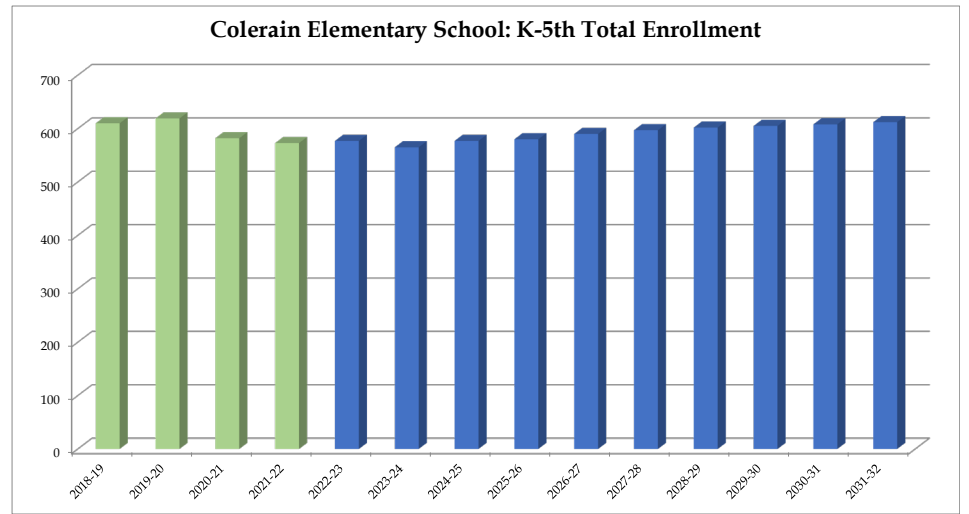


Colerain Elementary School

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
K	89	93	95	91	92	93	94	94	95	95	96	96	97	98
1	106	89	95	91	94	95	96	97	97	98	98	99	99	100
2	95	106	91	96	93	95	96	98	99	99	100	100	101	101
3	107	100	98	87	98	94	96	98	100	101	101	102	102	103
4	109	113	93	111	88	99	95	97	100	102	103	103	104	104
5	104	118	110	97	112	89	100	96	99	102	104	105	105	106
Total	610	619	582	573	577	565	577	580	590	597	602	605	608	612

Total: Elementary	610	619	582	573	577	565	577	580	590	597	602	605	608	612
Change		9	-37	-9	4	-12	12	3	10	7	5	3	3	4
Percent Change		1.5%	-6.0%	-1.5%	0.7%	-2.1%	2.1%	0.5%	1.7%	1.2%	0.8%	0.5%	0.5%	0.7%

Forecasts revised November 2021
 Green cells (2021-2022 and earlier) are historical data
 Blue cells (2022-2023 and later) are forecasted years



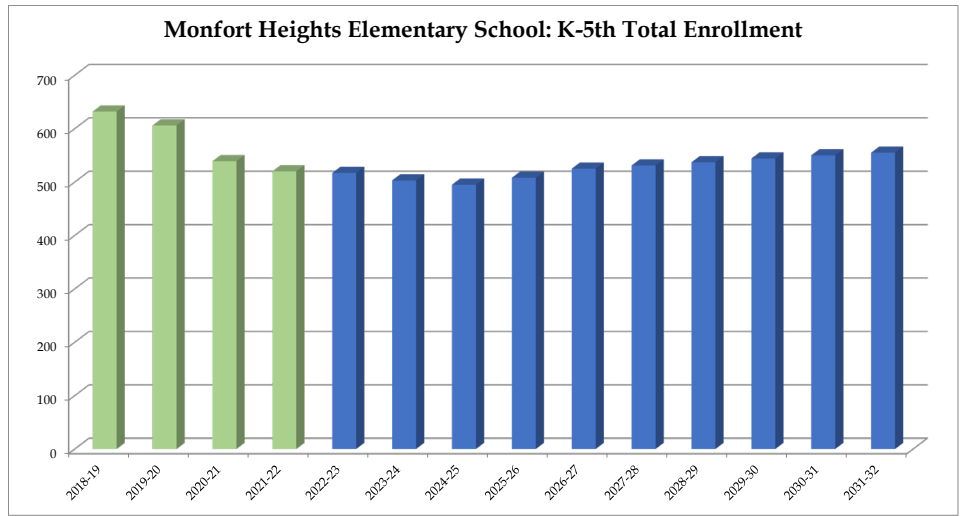


Monfort Heights Elementary School

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
K	105	94	87	88	94	94	95	95	95	96	98	99	100	99
1	113	102	75	76	90	91	91	92	92	93	94	96	97	98
2	107	112	92	73	74	87	88	88	90	90	91	92	94	95
3	88	102	105	95	71	71	84	84	85	87	87	88	89	91
4	108	89	98	97	94	70	70	82	83	84	86	86	87	88
5	111	107	82	91	94	90	67	67	80	81	81	83	83	84
Total	632	606	539	520	517	503	495	508	525	531	537	544	550	555

Total: Elementary	632	606	539	520	517	503	495	508	525	531	537	544	550	555
Change		-26	-67	-19	-3	-14	-8	13	17	6	6	7	6	5
Percent Change		-4.1%	-11.1%	-3.5%	-0.6%	-2.7%	-1.6%	2.6%	3.3%	1.1%	1.1%	1.3%	1.1%	0.9%

Forecasts revised November 2021
 Green cells (2021-2022 and earlier) are historical data
 Blue cells (2022-2023 and later) are forecasted years



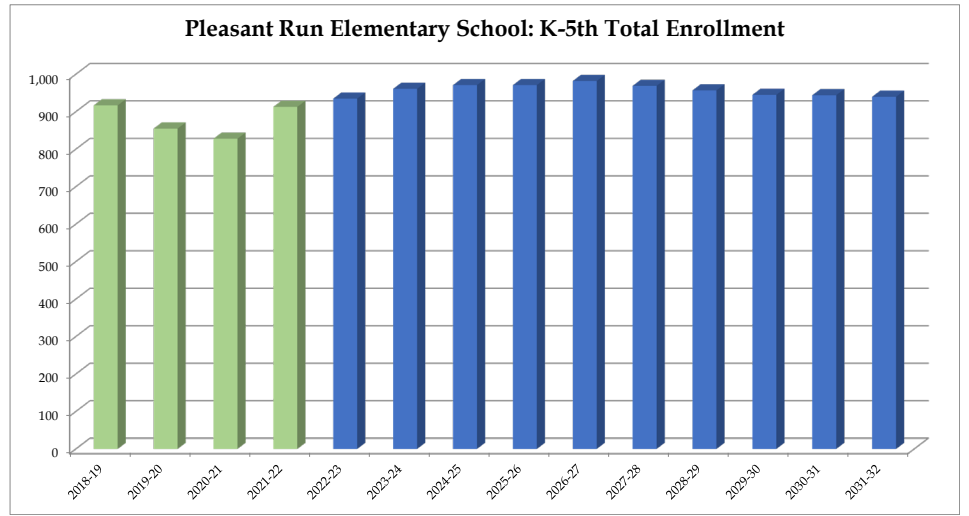


Pleasant Run Elementary School

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
K	139	151	122	170	170	167	163	161	159	157	155	153	149	148
1	147	133	151	149	171	168	165	161	159	157	155	153	151	148
2	137	127	154	162	152	174	171	168	166	164	162	160	158	156
3	143	139	125	150	160	149	171	168	166	164	162	160	162	160
4	168	145	139	134	149	158	148	169	166	164	162	160	162	164
5	183	160	137	148	133	145	153	144	166	163	161	159	162	164
Total	917	855	828	913	935	961	971	971	982	969	957	945	944	940

Total: Elementary	917	855	828	913	935	961	971	971	982	969	957	945	944	940
Change		-62	-27	85	22	26	10	0	11	-13	-12	-12	-1	-4
Percent Change		-6.8%	-3.2%	10.3%	2.4%	2.8%	1.0%	0.0%	1.1%	-1.3%	-1.2%	-1.3%	-0.1%	-0.4%

Forecasts revised November 2021
 Green cells (2021-2022 and earlier) are historical data
 Blue cells (2022-2023 and later) are forecasted years



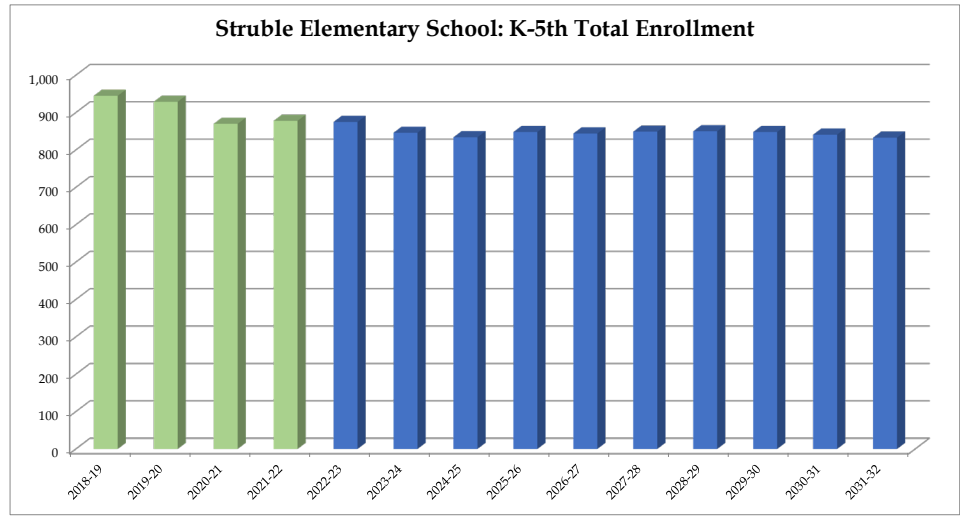


Struble Elementary School

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
K	169	130	137	148	148	147	148	147	146	145	144	142	141	139
1	159	162	120	148	141	142	143	144	143	142	141	140	138	137
2	144	162	148	124	147	137	138	139	143	142	141	140	139	137
3	162	151	159	153	125	148	138	139	140	144	143	142	141	140
4	160	164	143	161	151	123	145	135	138	139	143	142	141	140
5	151	160	163	144	163	149	122	144	134	137	138	142	141	140
Total	945	929	870	878	875	846	834	848	844	849	850	848	841	833

Total: Elementary	945	929	870	878	875	846	834	848	844	849	850	848	841	833
Change		-16	-59	8	-3	-29	-12	14	-4	5	1	-2	-7	-8
Percent Change		-1.7%	-6.4%	0.9%	-0.3%	-3.3%	-1.4%	1.7%	-0.5%	0.6%	0.1%	-0.2%	-0.8%	-1.0%

Forecasts revised November 2021
 Green cells (2021-2022 and earlier) are historical data
 Blue cells (2022-2023 and later) are forecasted years



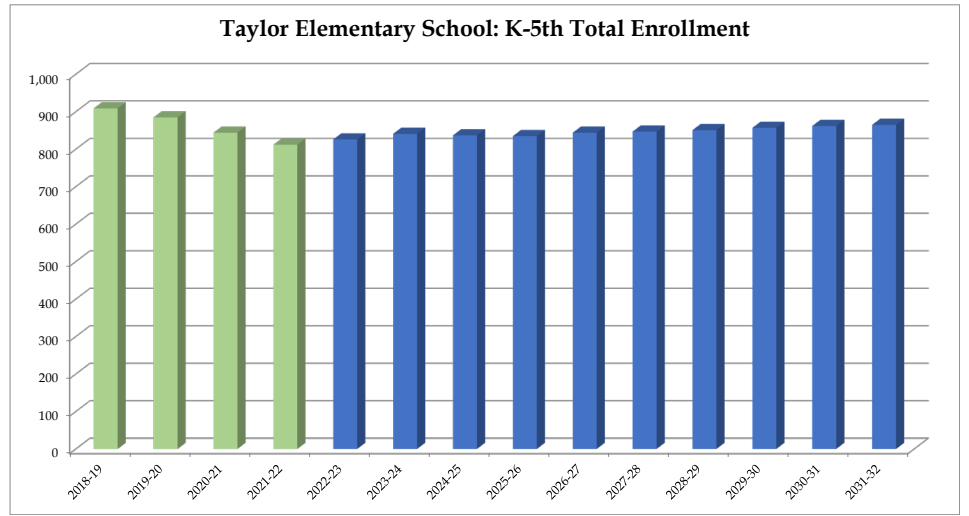


Taylor Elementary School

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
K	155	149	148	151	147	146	145	145	146	147	148	149	150	148
1	134	153	145	139	148	146	145	144	144	145	146	147	148	149
2	138	126	145	139	135	141	139	138	140	140	141	142	143	144
3	151	142	129	140	140	136	142	140	139	141	141	142	143	144
4	171	153	129	119	139	137	133	139	139	138	140	140	141	142
5	160	162	148	124	117	135	133	129	136	136	135	137	137	138
Total	909	885	844	812	826	841	837	835	844	847	851	857	862	865

Total: Elementary	909	885	844	812	826	841	837	835	844	847	851	857	862	865
Change		-24	-41	-32	14	15	-4	-2	9	3	4	6	5	3
Percent Change		-2.6%	-4.6%	-3.8%	1.7%	1.8%	-0.5%	-0.2%	1.1%	0.4%	0.5%	0.7%	0.6%	0.3%

Forecasts revised November 2021
 Green cells (2021-2022 and earlier) are historical data
 Blue cells (2022-2023 and later) are forecasted years





Colerain Middle School

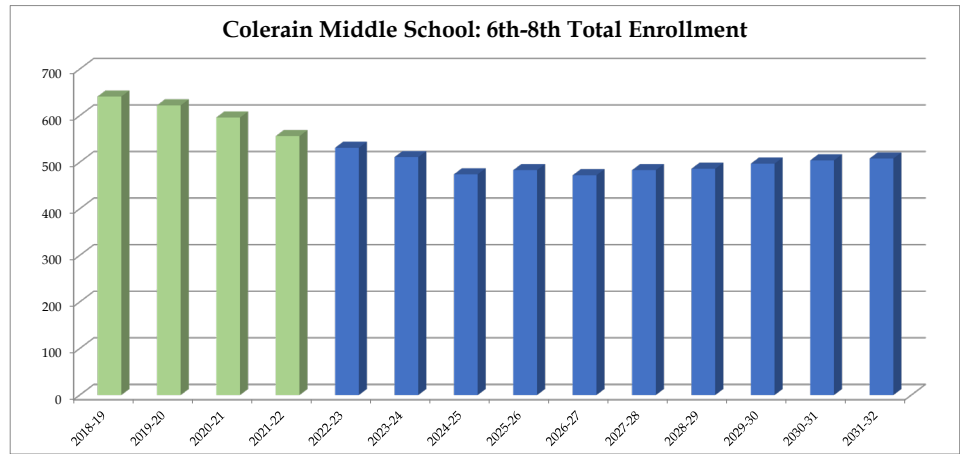
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
6	226	193	181	191	156	170	154	165	159	165	168	170	172	172
7	201	234	190	188	189	154	168	152	163	157	163	166	168	170
8	214	195	225	177	186	187	152	166	150	161	155	161	164	166
Total	641	622	596	556	531	511	474	483	472	483	486	497	504	508

Total: Middle School	641	622	596	556	531	511	474	483	472	483	486	497	504	508
Change		-19	-26	-40	-25	-20	-37	9	-11	11	3	11	7	4
Percent Change		-3.0%	-4.2%	-6.7%	-4.5%	-3.8%	-7.2%	1.9%	-2.3%	2.3%	0.6%	2.3%	1.4%	0.8%

Forecasts revised November 2021

Green cells (2021-2022 and earlier) are historical data

Blue cells (2022-2023 and later) are forecasted years





Pleasant Run Middle School

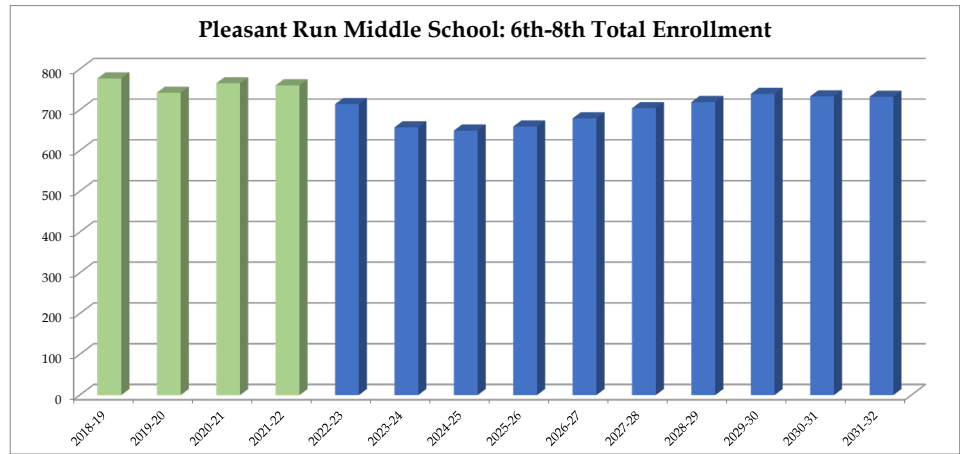
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
6	263	255	252	232	221	202	224	231	222	249	246	243	242	245
7	246	250	262	262	234	223	204	226	233	224	251	248	245	244
8	268	237	251	266	259	232	221	202	224	231	222	248	246	243
Total	777	742	765	760	714	657	649	659	679	704	719	739	733	732

Total: Middle School	777	742	765	760	714	657	649	659	679	704	719	739	733	732
Change		-35	23	-5	-46	-57	-8	10	20	25	15	20	-6	-1
Percent Change		-4.5%	3.1%	-0.7%	-6.1%	-8.0%	-1.2%	1.5%	3.0%	3.7%	2.1%	2.8%	-0.8%	-0.1%

Forecasts revised November 2021

Green cells (2021-2022 and earlier) are historical data

Blue cells (2022-2023 and later) are forecasted years





White Oak Middle School

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
6	277	267	247	238	233	254	237	187	209	212	216	217	223	222
7	249	282	248	261	236	231	251	235	185	207	210	214	215	221
8	248	256	268	243	258	234	229	248	233	183	205	208	212	213
Total	774	805	763	742	727	719	717	670	627	602	631	639	650	656

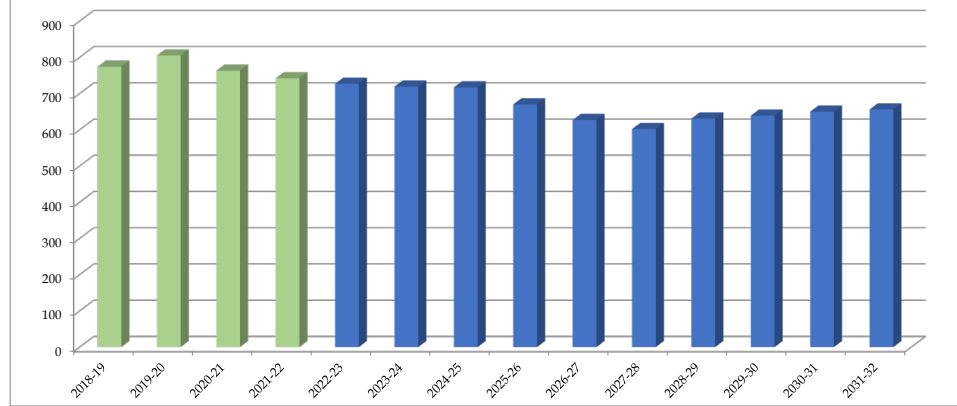
Total: Middle School	774	805	763	742	727	719	717	670	627	602	631	639	650	656
Change		31	-42	-21	-15	-8	-2	-47	-43	-25	29	8	11	6
Percent Change		4.0%	-5.2%	-2.8%	-2.0%	-1.1%	-0.3%	-6.6%	-6.4%	-4.0%	4.8%	1.3%	1.7%	0.9%

Forecasts revised November 2021

Green cells (2021-2022 and earlier) are historical data

Blue cells (2022-2023 and later) are forecasted years

White Oak Middle School: 6th-8th Total Enrollment



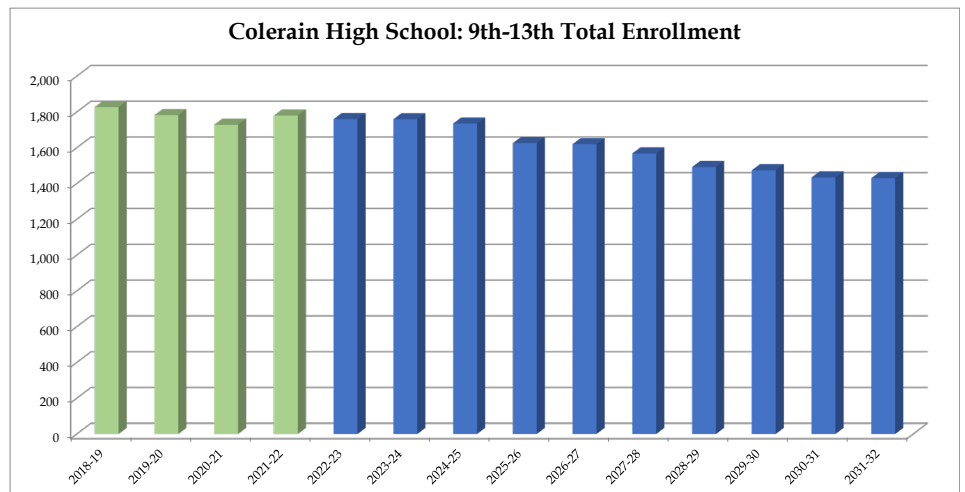


Colerain High School

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
9	473	486	459	508	437	457	434	392	431	398	358	374	384	391
10	477	471	474	454	503	433	452	430	388	427	394	354	370	380
11	443	377	405	406	411	455	392	409	389	351	386	357	320	335
12	416	431	374	405	402	407	450	388	405	385	347	382	353	317
13	18	17	16	7	7	7	7	7	7	7	7	7	7	7
Total	1827	1782	1728	1780	1760	1759	1735	1626	1620	1568	1492	1474	1434	1430

Total: High School	1827	1782	1728	1780	1760	1759	1735	1626	1620	1568	1492	1474	1434	1430
Change		-45	-54	52	-20	-1	-24	-109	-6	-52	-76	-18	-40	-4
Percent Change		-2.5%	-3.0%	3.0%	-1.1%	-0.1%	-1.4%	-6.3%	-0.4%	-3.2%	-4.8%	-1.2%	-2.7%	-0.3%

Forecasts revised November 2021
 Green cells (2021-2022 and earlier) are historical data
 Blue cells (2022-2023 and later) are forecasted years





Northwest High School

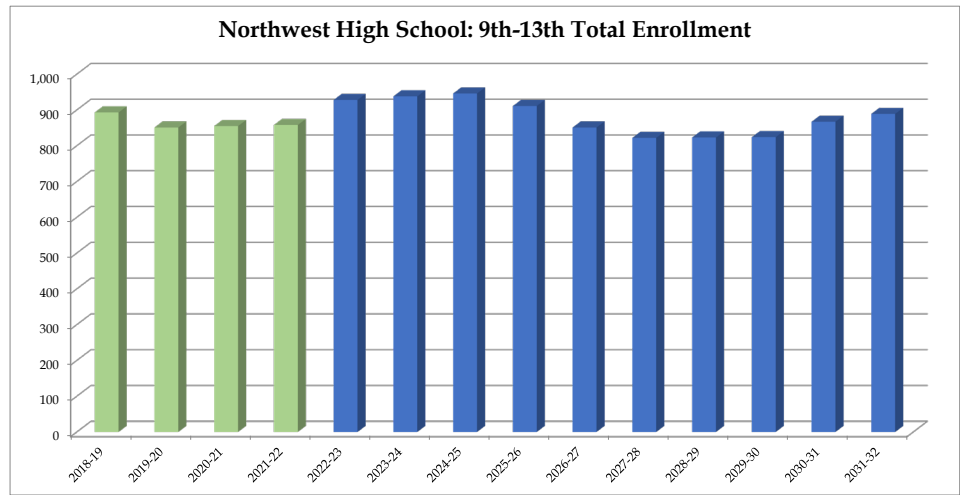
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30	2030-31	2031-32
9	258	251	219	254	263	256	230	219	200	222	229	220	246	244
10	224	217	247	212	246	255	248	223	212	194	215	222	213	239
11	199	185	189	220	195	228	236	229	206	196	179	199	205	197
12	203	189	191	166	218	193	226	234	227	204	194	177	197	203
13	9	9	9	6	6	6	6	6	6	6	6	6	6	6
Total	893	851	855	858	928	938	946	911	851	822	823	824	867	889

Total: High School	893	851	855	858	928	938	946	911	851	822	823	824	867	889
Change		-42	4	3	70	10	8	-35	-60	-29	1	1	43	22
Percent Change		-4.7%	0.5%	0.4%	8.2%	1.1%	0.9%	-3.7%	-6.6%	-3.4%	0.1%	0.1%	5.2%	2.5%

Forecasts revised November 2021

Green cells (2021-2022 and earlier) are historical data

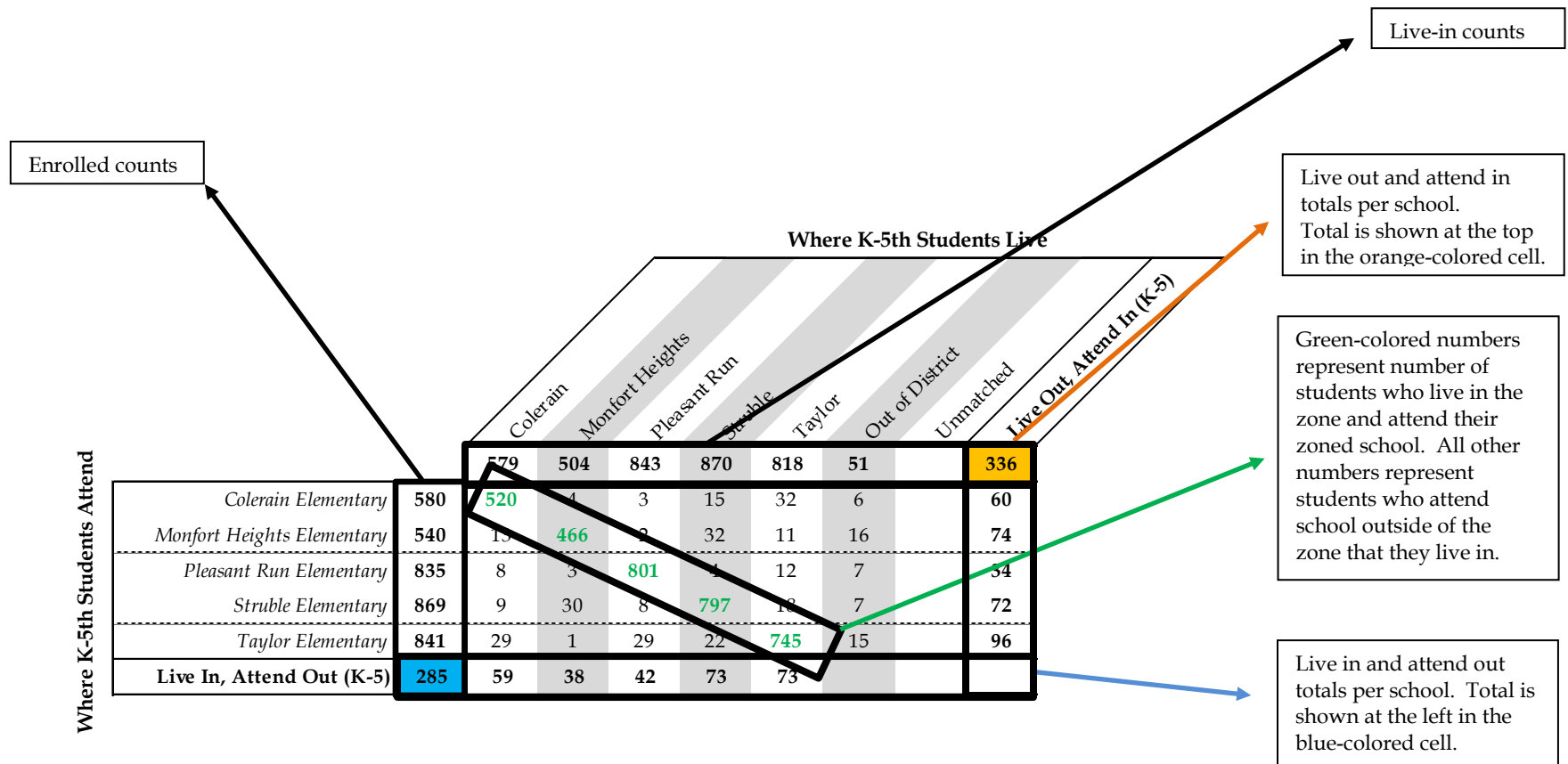
Blue cells (2022-2023 and later) are forecasted years



Appendix E: Live Attend Tables

The following tables display where students live and attend relative to school zones. The schools of attendance are listed on the left while the zones are listed on the top. This student data is from the July 23, 2021 Northwest Local School District student database.

The first column of numbers to the right of the schools of attendance represents the number of students enrolled at each given school. The first row of numbers below the zones represents the total number of students living inside of each given zone. The green-colored numbers represent number of students who attend the school of the zone in which they live. All other numbers represent students who attend school outside of the zone in which they live. The bottom row represents the number of students that “Live-In and Attend-Out” by school. The blue-colored cell shows the total number of students that “Live-in and Attend-Out”. The farthest right column represents the number of students that “Live-Out and Attend-In” by school. The orange-colored cell shows the total number of students that “Live-Out and Attend-In”.



Where PK Students Live (by ES Zone)

		Colerain	Monfort Heights	Pleasant Run	Struble	Taylor	Out of District	Unmatched
Houston Early Learning Center	154	25	23	19	44	40	3	

Where K-5th Students Live

		Colerain	Monfort Heights	Pleasant Run	Struble	Taylor	Out of District	Unmatched	Live Out, Attend In (K-5)
		579	504	843	870	818	51		336
Where K-5th Students Attend	Colerain Elementary	580	520	4	3	15	32	6	60
	Monfort Heights Elementary	540	13	466	2	32	11	16	74
	Pleasant Run Elementary	835	8	3	801	4	12	7	34
	Struble Elementary	869	9	30	8	797	18	7	72
	Taylor Elementary	841	29	1	29	22	745	15	96
	Live In, Attend Out (K-5)	285	59	38	42	73	73		

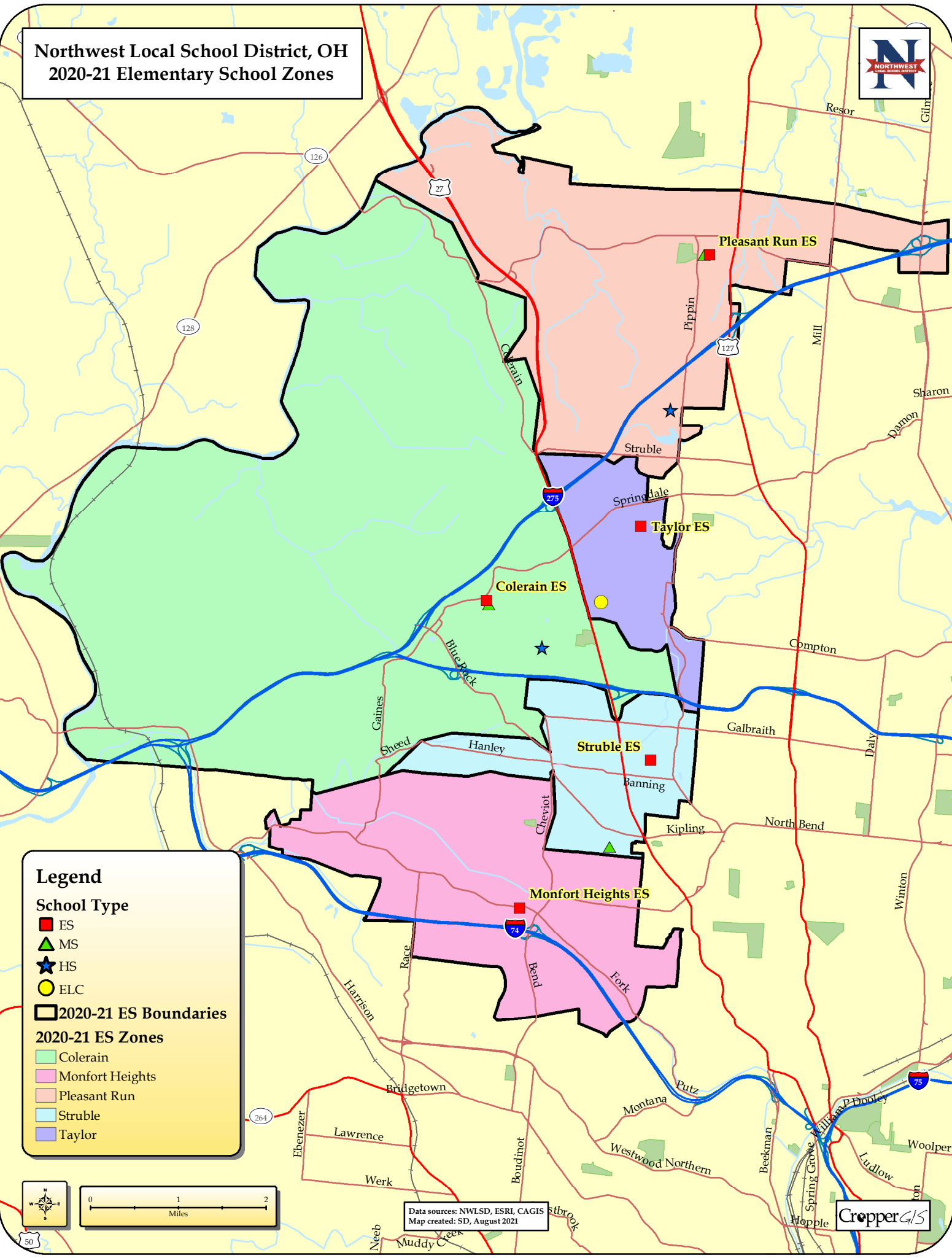
Where 6-8th Students Live

		Colerain	Pleasant Run	White Oak	Out of District	Unmatched	Live Out, Attend In (6-8)
		580	768	744	32		135
Where 6-8th Students Attend	Colerain Middle School	595	542	20	23	10	53
	Pleasant Run Middle School	766	17	732	8	9	34
	White Oak Middle School	761	20	15	713	13	48
	Colerain High School	1	1				
	Northwest High School	1		1			
	Live In, Attend Out (6-8)	105	38	36	31		

Where 9-12th Students Live

		Colerain	Northwest	Out of District	Unmatched	Live Out, Attend In (9-12)
		1,654	859	42		149
Where 9-12th Students Attend	Colerain High School	1,710	1,614	67	29	96
	Northwest High School	845	40	792	13	53
	Live In, Attend Out (9-12)	107	40	67		

**Northwest Local School District, OH
2020-21 Elementary School Zones**



Legend

School Type

- ES
- ▲ MS
- ★ HS
- ELC

2020-21 ES Boundaries

- Colerain
- Monfort Heights
- Pleasant Run
- Struble
- Taylor



Data sources: NWLSD, ESRI, CAGIS
Map created: SD, August 2021



Northwest Local School District, OH Colerain Elementary School 2020-21 Student Density Map



Legend

School Type

- ES
- ▲ MS
- ★ HS
- ELC
- 2020-21 ES Boundaries

Student Density

(Quantile Classification)

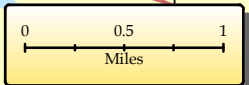
- 37 - 69
- 27 - 36
- 21 - 26
- 17 - 20
- 14 - 16
- 12 - 13
- 10 - 11
- 8 - 9
- 7
- 6

2020-21 ES Zones

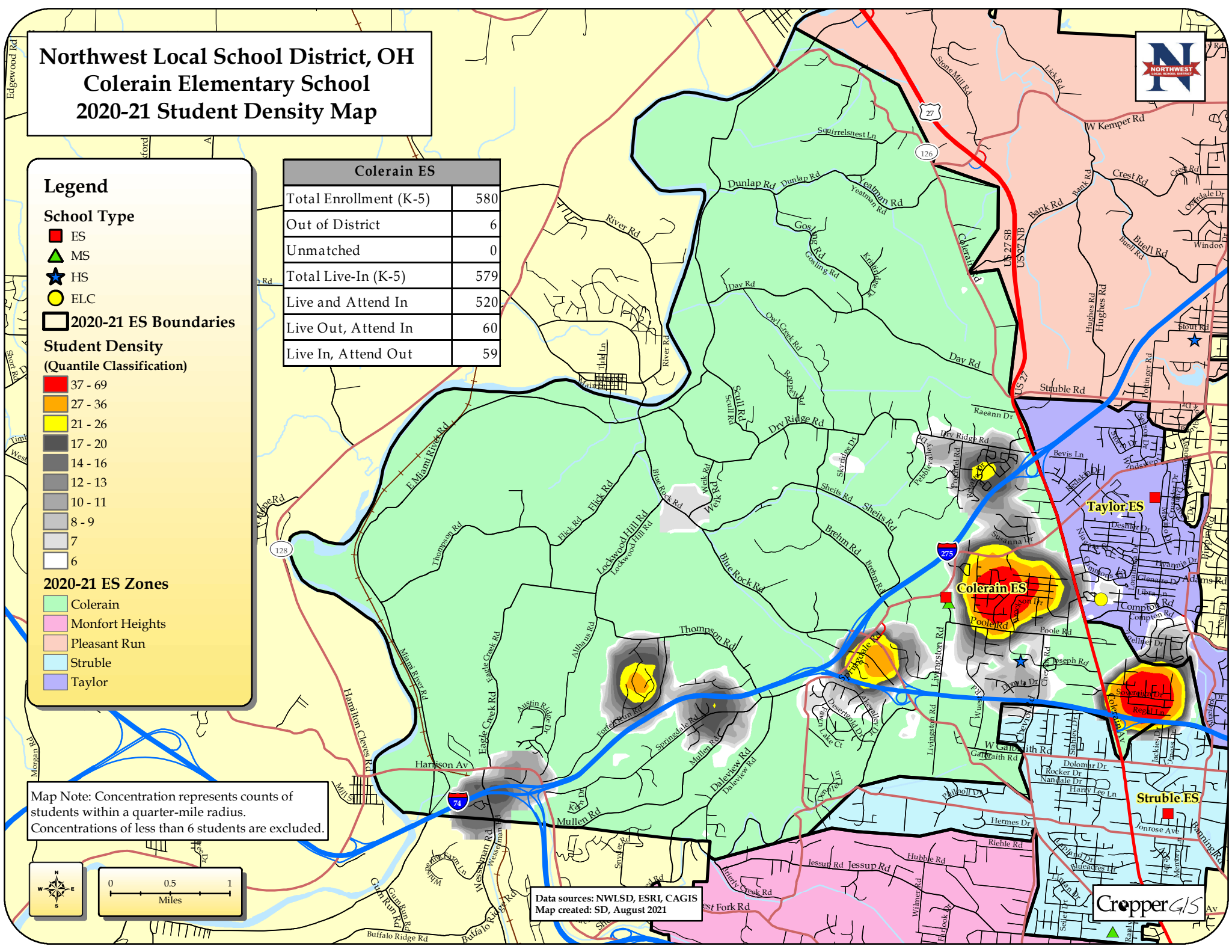
- Colerain
- Monfort Heights
- Pleasant Run
- Struble
- Taylor

Colerain ES	
Total Enrollment (K-5)	580
Out of District	6
Unmatched	0
Total Live-In (K-5)	579
Live and Attend In	520
Live Out, Attend In	60
Live In, Attend Out	59

Map Note: Concentration represents counts of students within a quarter-mile radius. Concentrations of less than 6 students are excluded.



Data sources: NWLSD, ESRI, CAGIS
Map created: SD, August 2021



Northwest Local School District, OH Monfort Heights Elementary School 2020-21 Student Density Map



Legend

School Type

- ES (Red square)
- MS (Green triangle)
- HS (Blue star)
- ELC (Yellow circle)

2020-21 ES Zones

- Colerain (Light green)
- Monfort Heights (Pink)
- Pleasant Run (Light orange)
- Struble (Light blue)
- Taylor (Light purple)

2020-21 ES Boundaries (Black outline)

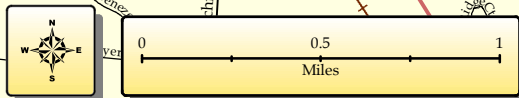
Student Density (Quantile Classification)

- 40 - 62 (Red)
- 32 - 39 (Orange)
- 25 - 31 (Yellow)
- 20 - 24 (Light grey)
- 16 - 19 (Medium grey)
- 13 - 15 (Dark grey)
- 10 - 12 (Very dark grey)
- 8 - 9 (Lightest grey)
- 7 (White)
- 6 (White)

Monfort Heights ES	
Total Enrollment (K-5)	540
Out of District	16
Unmatched	0
Total Live-In (K-5)	504
Live and Attend In	466
Live Out, Attend In	74
Live In, Attend Out	38

Map Note: Concentration represents counts of students within a quarter-mile radius. Concentrations of less than 6 students are excluded.

Data sources: NWLSD, ESRI, CAGIS
Map created: SD, August 2021



Northwest Local School District, OH Pleasant Run Elementary School 2020-21 Student Density Map



Map Note: Concentration represents counts of students within a quarter-mile radius. Concentrations of less than 6 students are excluded.

Pleasant Run ES	
Total Enrollment (K-5)	835
Out of District	7
Unmatched	0
Total Live-In (K-5)	843
Live and Attend In	801
Live Out, Attend In	34
Live In, Attend Out	42

Legend

School Type

- ES (Red square)
- MS (Green triangle)
- HS (Blue star)
- ELC (Yellow circle)

2020-21 ES Zones

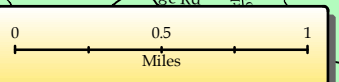
- Colerain (Light green)
- Monfort Heights (Pink)
- Pleasant Run (Light orange)
- Struble (Light blue)
- Taylor (Light purple)

2020-21 ES Boundaries (Black outline)

Student Density (Quantile Classification)

- 60 - 97 (Red)
- 51 - 59 (Orange)
- 43 - 50 (Yellow)
- 36 - 42 (Light yellow)
- 30 - 35 (Light green)
- 24 - 29 (Light blue)
- 19 - 23 (Light purple)
- 14 - 18 (Light grey)
- 9 - 13 (Light grey)
- 6 - 8 (White)

Data sources: NWLSD, ESRI, CAGIS
Map created: SD, August 2021



Northwest Local School District, OH Struble Elementary School 2020-21 Student Density Map



Struble ES	
Total Enrollment (K-5)	869
Out of District	7
Unmatched	0
Total Live-In (K-5)	870
Live and Attend In	797
Live Out, Attend In	72
Live In, Attend Out	73

Legend

School Type

- ES
- ▲ MS
- ★ HS
- ELC

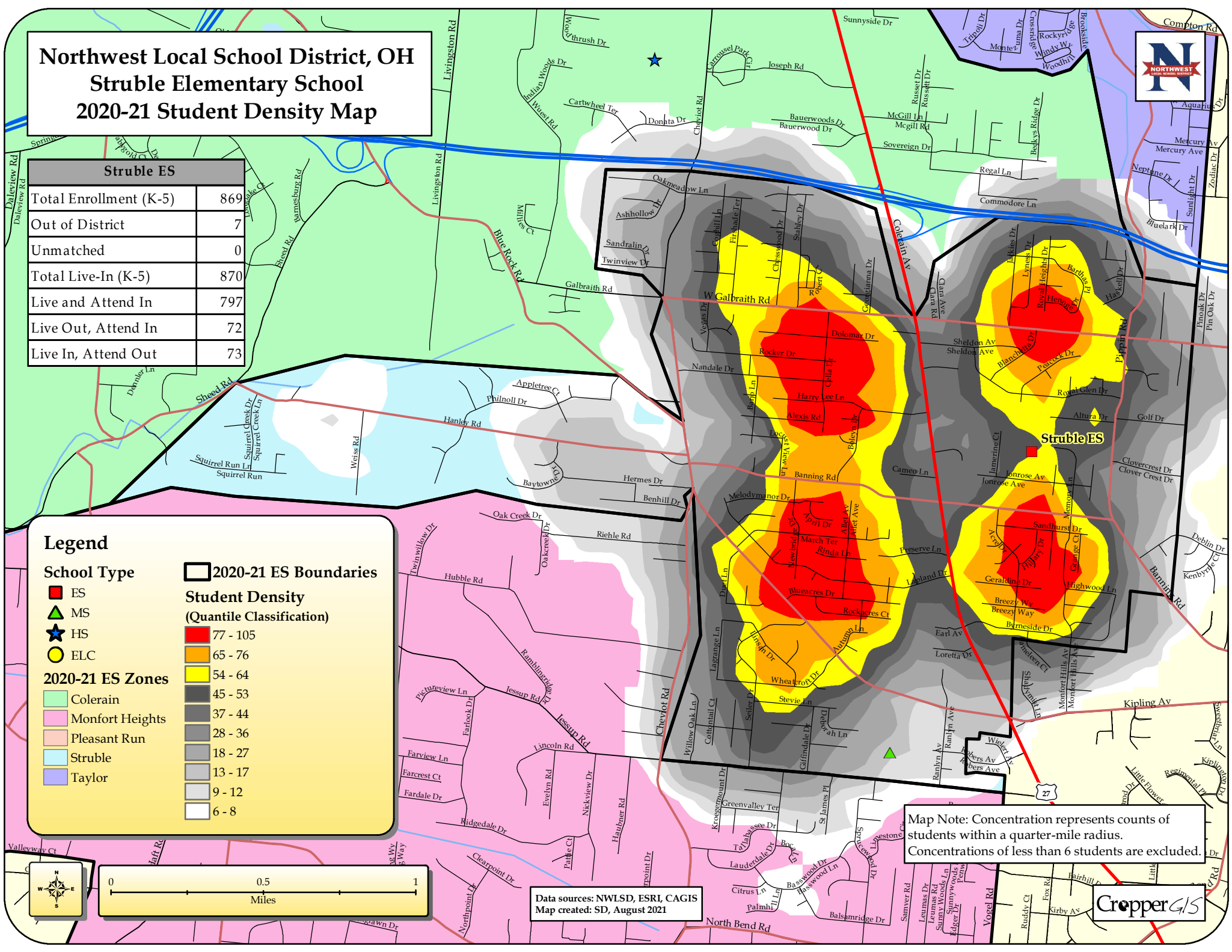
2020-21 ES Zones

- Colerain
- Monfort Heights
- Pleasant Run
- Struble
- Taylor

2020-21 ES Boundaries

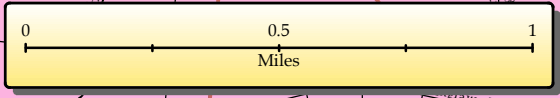
Student Density (Quantile Classification)

- 77 - 105
- 65 - 76
- 54 - 64
- 45 - 53
- 37 - 44
- 28 - 36
- 18 - 27
- 13 - 17
- 9 - 12
- 6 - 8



Map Note: Concentration represents counts of students within a quarter-mile radius. Concentrations of less than 6 students are excluded.

Data sources: NWLSD, ESRI, CAGIS
Map created: SD, August 2021



Northwest Local School District, OH Taylor Elementary School 2020-21 Student Density Map



Legend

School Type

- ES
- ▲ MS
- ★ HS
- ELC

Student Density (Quantile Classification)

- 90 - 129
- 71 - 89
- 61 - 70
- 48 - 60
- 39 - 47
- 30 - 38
- 22 - 29
- 15 - 21
- 9 - 14
- 6 - 8

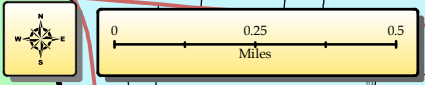
2020-21 ES Boundaries

2020-21 ES Zones

- Colerain
- Monfort Heights
- Pleasant Run
- Struble
- Taylor

Map Note: Concentration represents counts of students within a quarter-mile radius. Concentrations of less than 6 students are excluded.

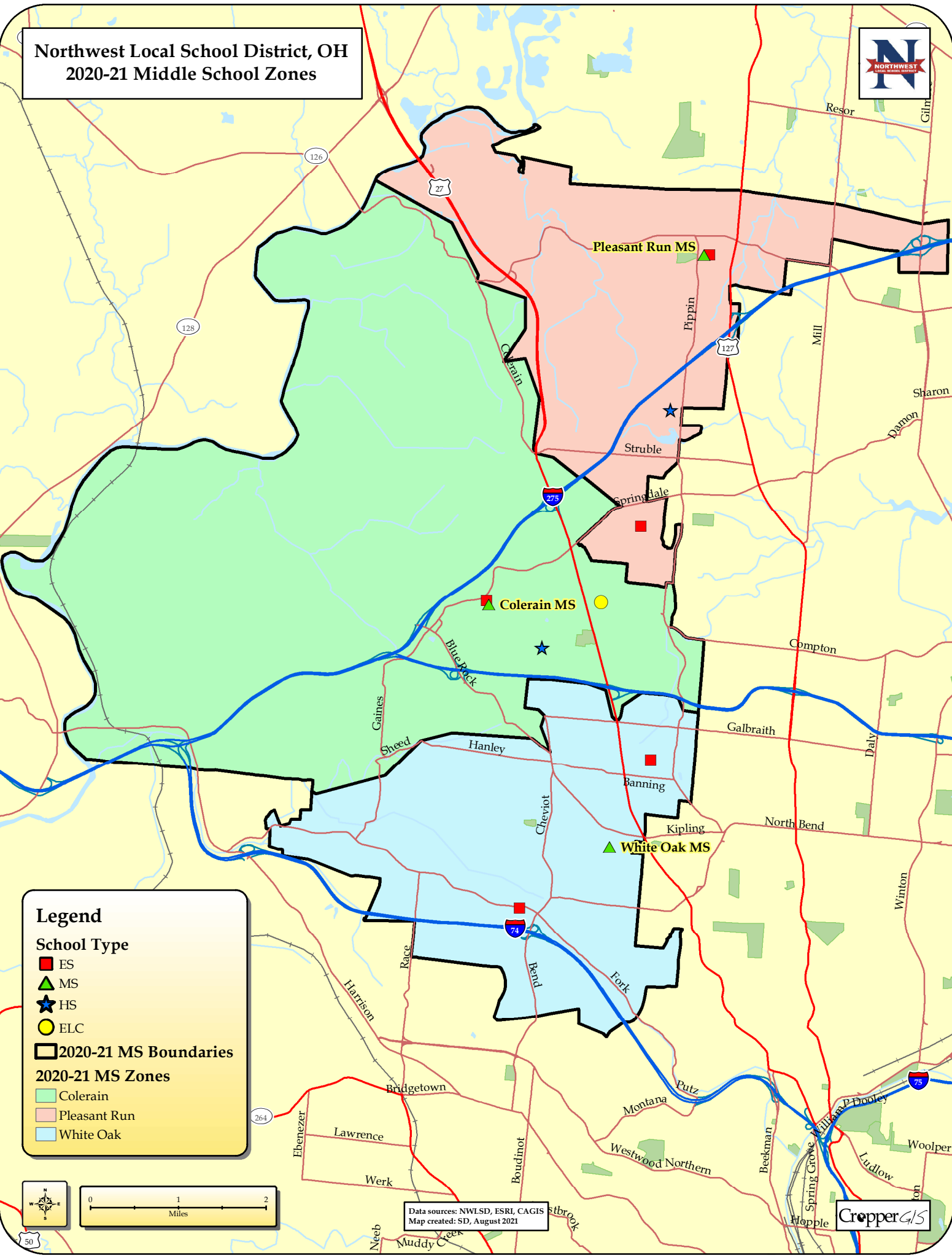
Taylor ES	
Total Enrollment (K-5)	841
Out of District	15
Unmatched	0
Total Live-In (K-5)	818
Live and Attend In	745
Live Out, Attend In	96
Live In, Attend Out	73



Data sources: NWLSD, ESRI, CAGIS
Map created: SD, August 2021

CropperGIS

Northwest Local School District, OH
2020-21 Middle School Zones



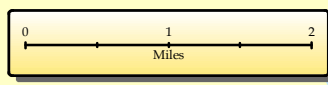
Legend

School Type

- ES
- ▲ MS
- ★ HS
- ELC

2020-21 MS Boundaries

- 2020-21 MS Boundaries
- Colerain
- Pleasant Run
- White Oak



Data sources: NWLSD, ESRI, CAGIS
Map created: SD, August 2021



Northwest Local School District, OH Colerain Middle School 2020-21 Student Density Map



Legend

School Type

- ES
- ▲ MS
- ★ HS
- ELC
- 2020-21 MS Boundaries

Student Density

(Quantile Classification)

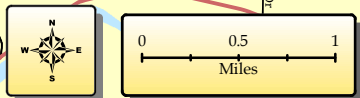
- 34 - 55
- 27 - 33
- 23 - 26
- 19 - 22
- 15 - 18
- 12 - 14
- 10 - 11
- 8 - 9
- 7
- 6

2020-21 MS Zones

- Colerain
- Pleasant Run
- White Oak

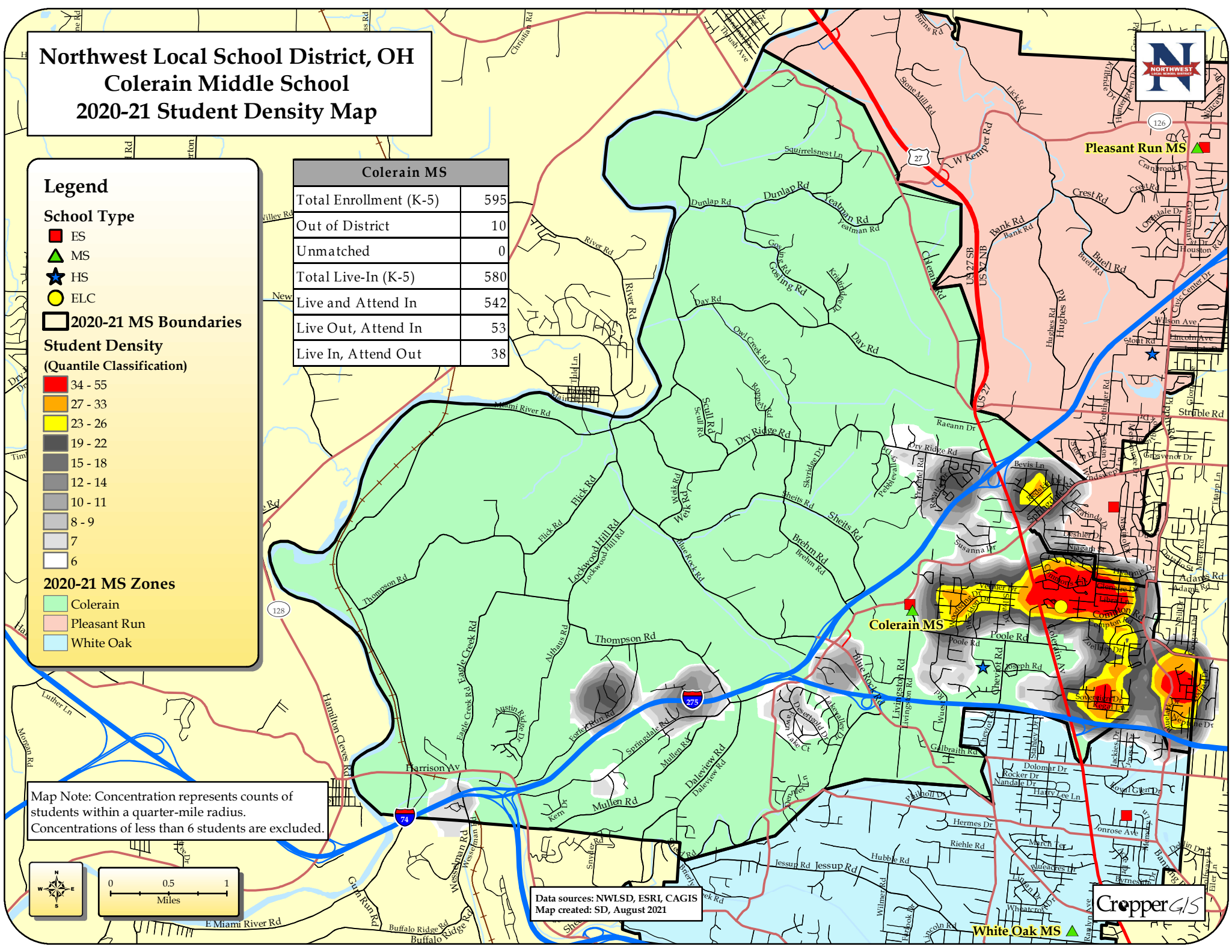
Colerain MS	
Total Enrollment (K-5)	595
Out of District	10
Unmatched	0
Total Live-In (K-5)	580
Live and Attend In	542
Live Out, Attend In	53
Live In, Attend Out	38

Map Note: Concentration represents counts of students within a quarter-mile radius. Concentrations of less than 6 students are excluded.

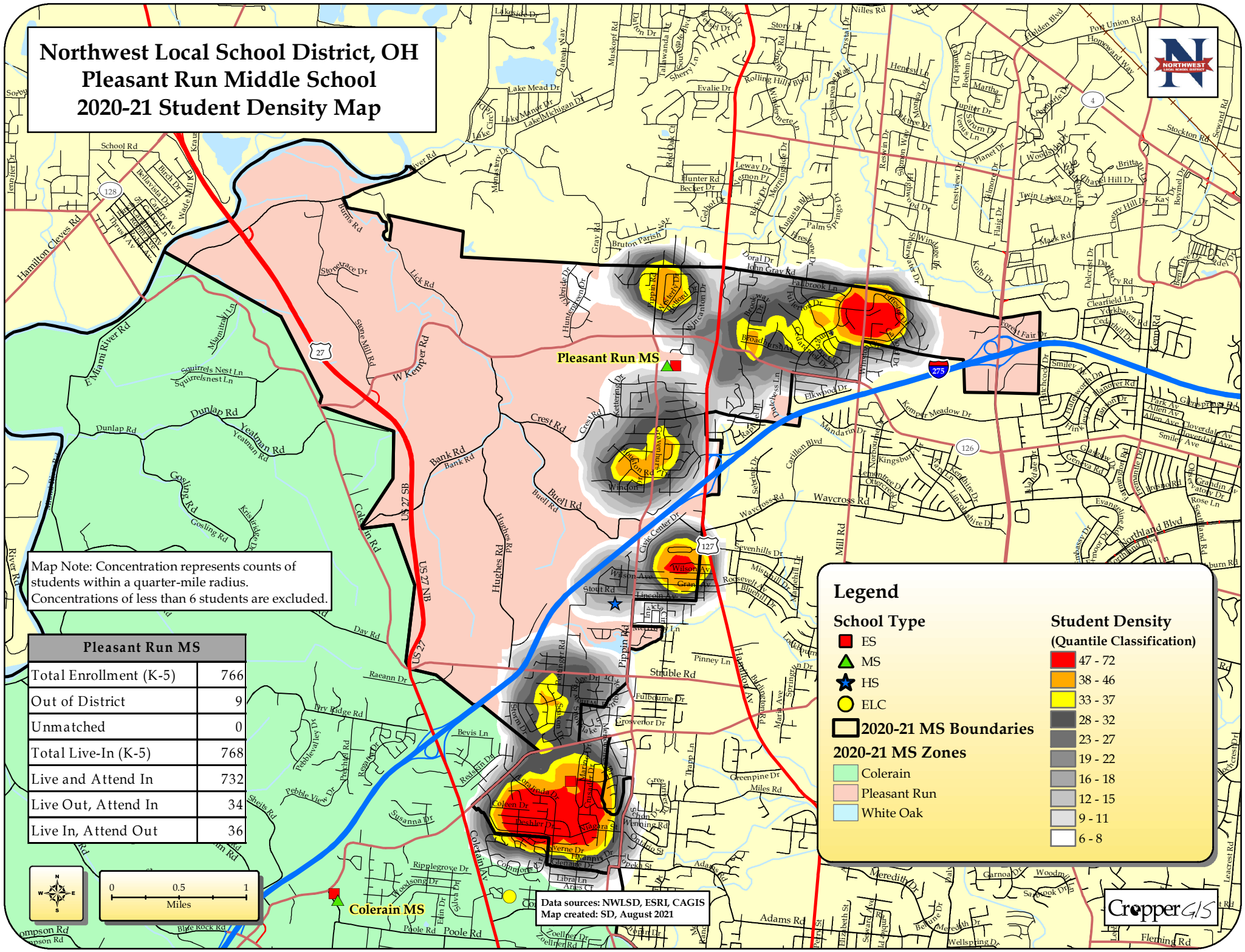


Data sources: NWLSD, ESRI, CAGIS
Map created: SD, August 2021

CropperGIS



Northwest Local School District, OH Pleasant Run Middle School 2020-21 Student Density Map



Map Note: Concentration represents counts of students within a quarter-mile radius. Concentrations of less than 6 students are excluded.

Pleasant Run MS	
Total Enrollment (K-5)	766
Out of District	9
Unmatched	0
Total Live-In (K-5)	768
Live and Attend In	732
Live Out, Attend In	34
Live In, Attend Out	36

Legend

School Type

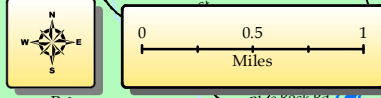
- ES
- ▲ MS
- ★ HS
- ELC
- 2020-21 MS Boundaries

2020-21 MS Zones

- Colerain
- Pleasant Run
- White Oak

Student Density (Quantile Classification)

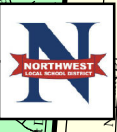
- 47 - 72
- 38 - 46
- 33 - 37
- 28 - 32
- 23 - 27
- 19 - 22
- 16 - 18
- 12 - 15
- 9 - 11
- 6 - 8



Data sources: NWLSD, ESRI, CAGIS
Map created: SD, August 2021



Northwest Local School District, OH White Oak Middle School 2020-21 Student Density Map



White Oak MS	
Total Enrollment (K-5)	761
Out of District	13
Unmatched	0
Total Live-In (K-5)	744
Live and Attend In	713
Live Out, Attend In	48
Live In, Attend Out	31

Map Note: Concentration represents counts of students within a quarter-mile radius. Concentrations of less than 6 students are excluded.

Legend

School Type

- ES
- ▲ MS
- ★ HS
- ELC
- 2020-21 MS Boundaries

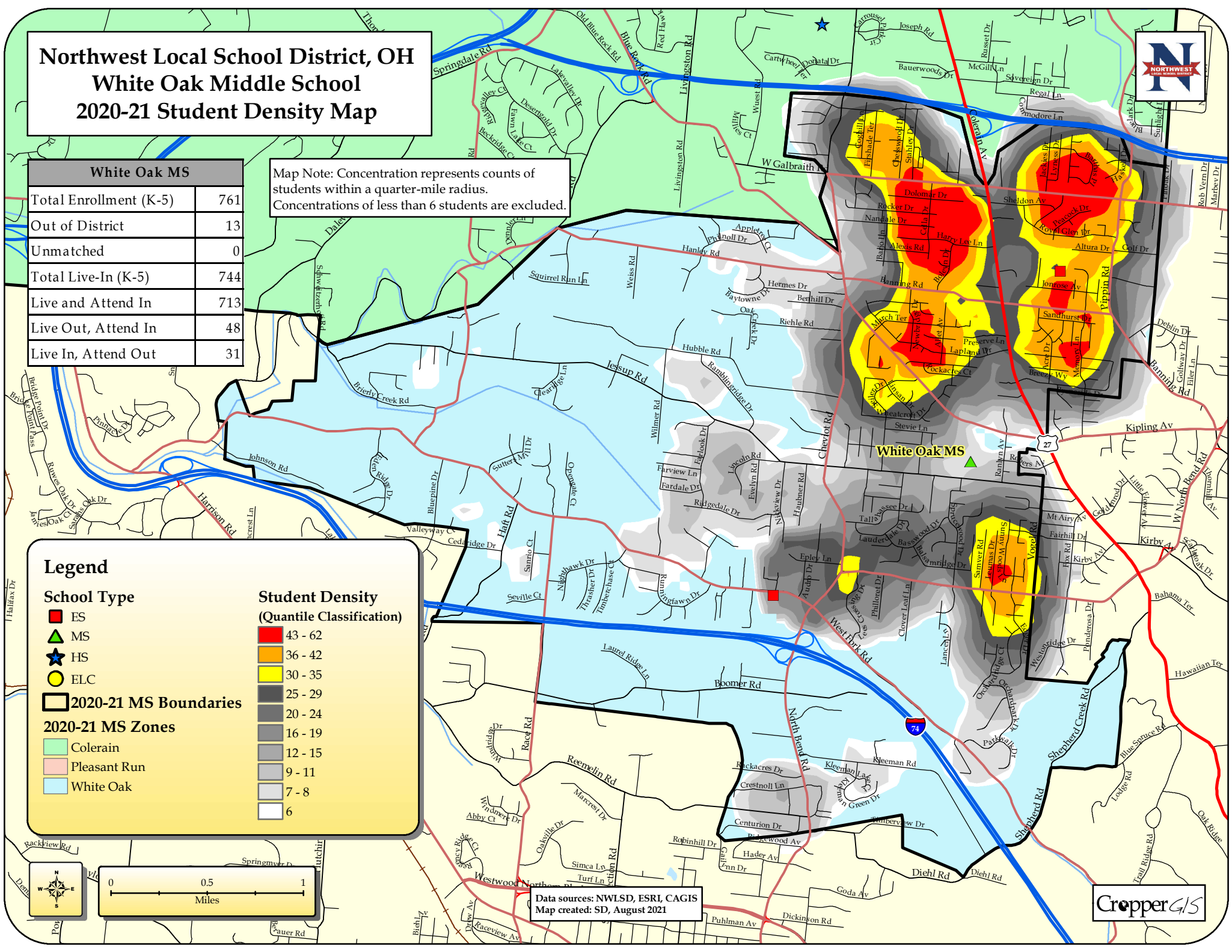
2020-21 MS Zones

- Colerain
- Pleasant Run
- White Oak

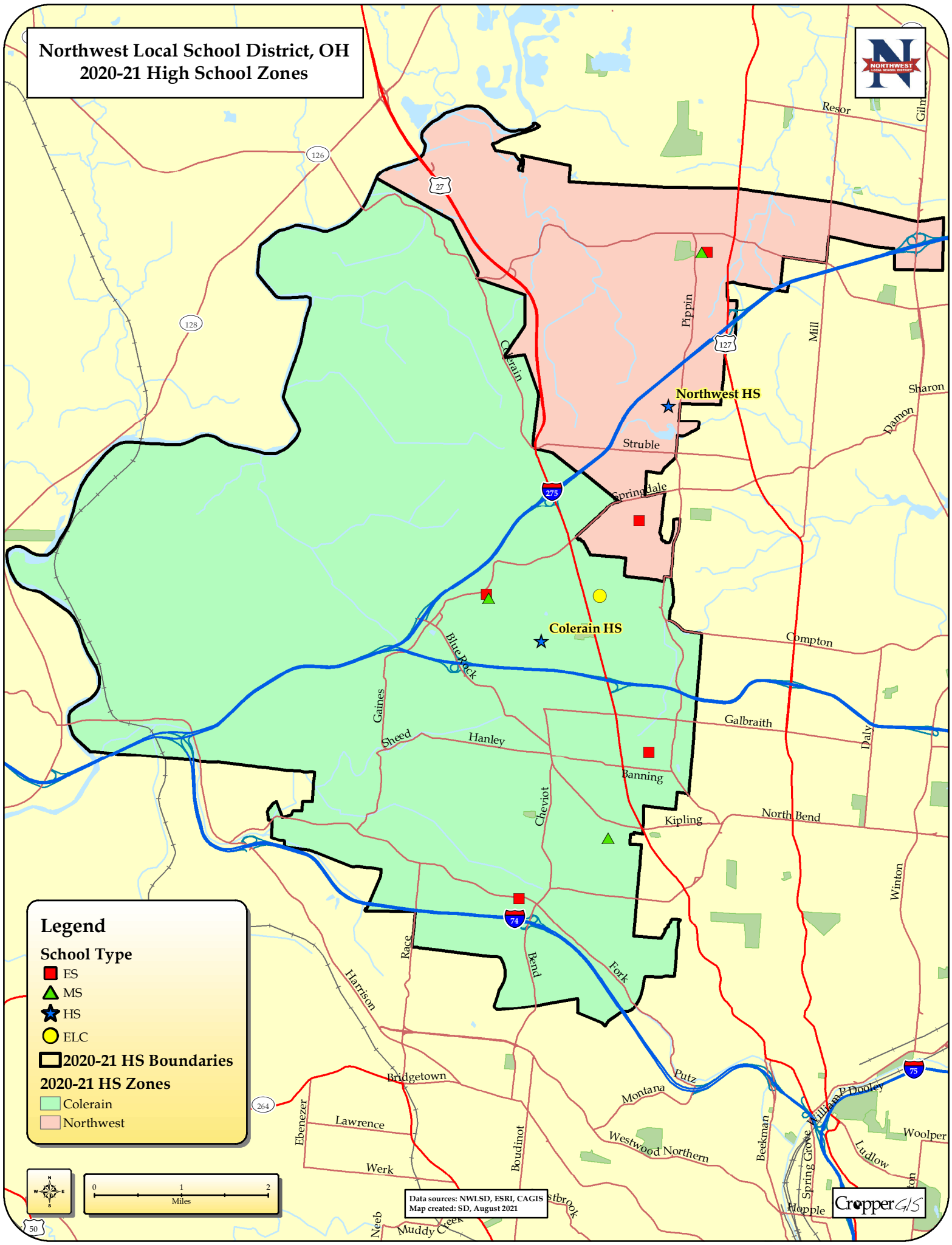
Student Density (Quantile Classification)

- 43 - 62
- 36 - 42
- 30 - 35
- 25 - 29
- 20 - 24
- 16 - 19
- 12 - 15
- 9 - 11
- 7 - 8
- 6

Data sources: NWLSD, ESRI, CAGIS
Map created: SD, August 2021



**Northwest Local School District, OH
2020-21 High School Zones**



Legend

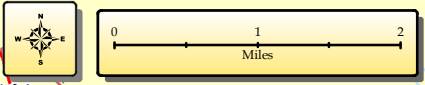
School Type

- ES
- ▲ MS
- ★ HS
- ELC

2020-21 HS Boundaries

2020-21 HS Zones

- Colerain
- Northwest



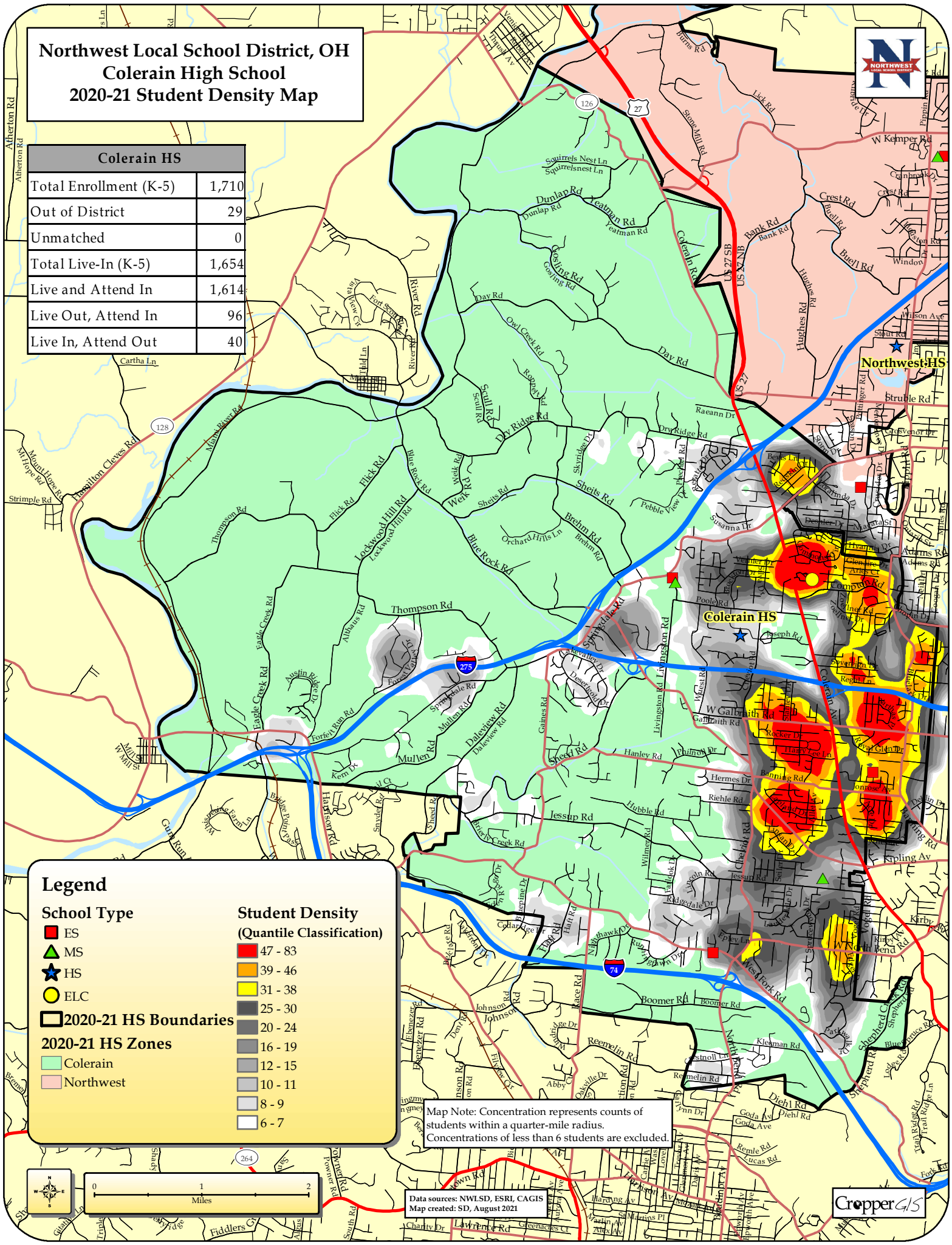
Data sources: NWLSD, ESRI, CAGIS
Map created: SD, August 2021



Northwest Local School District, OH Colerain High School 2020-21 Student Density Map



Colerain HS	
Total Enrollment (K-5)	1,710
Out of District	29
Unmatched	0
Total Live-In (K-5)	1,654
Live and Attend In	1,614
Live Out, Attend In	96
Live In, Attend Out	40



Legend

School Type

- ES
- ▲ MS
- ★ HS
- ELC
- 2020-21 HS Boundaries

2020-21 HS Zones

- Colerain
- Northwest

Student Density (Quantile Classification)

- 47 - 83
- 39 - 46
- 31 - 38
- 25 - 30
- 20 - 24
- 16 - 19
- 12 - 15
- 10 - 11
- 8 - 9
- 6 - 7

Map Note: Concentration represents counts of students within a quarter-mile radius. Concentrations of less than 6 students are excluded.

Data sources: NWLSD, ESRI, CAGIS
Map created: SD, August 2021

CropperGIS

Northwest Local School District, OH Northwest High School 2020-21 Student Density Map



Map Note: Concentration represents counts of students within a quarter-mile radius. Concentrations of less than 6 students are excluded.

Northwest HS	
Total Enrollment (K-5)	845
Out of District	13
Unmatched	0
Total Live-In (K-5)	859
Live and Attend In	792
Live Out, Attend In	53
Live In, Attend Out	67

Legend

School Type

- ES
- ▲ MS
- ★ HS
- ELC

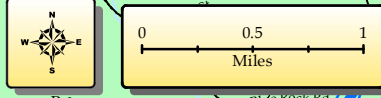
2020-21 HS Boundaries

- Colerain
- Northwest

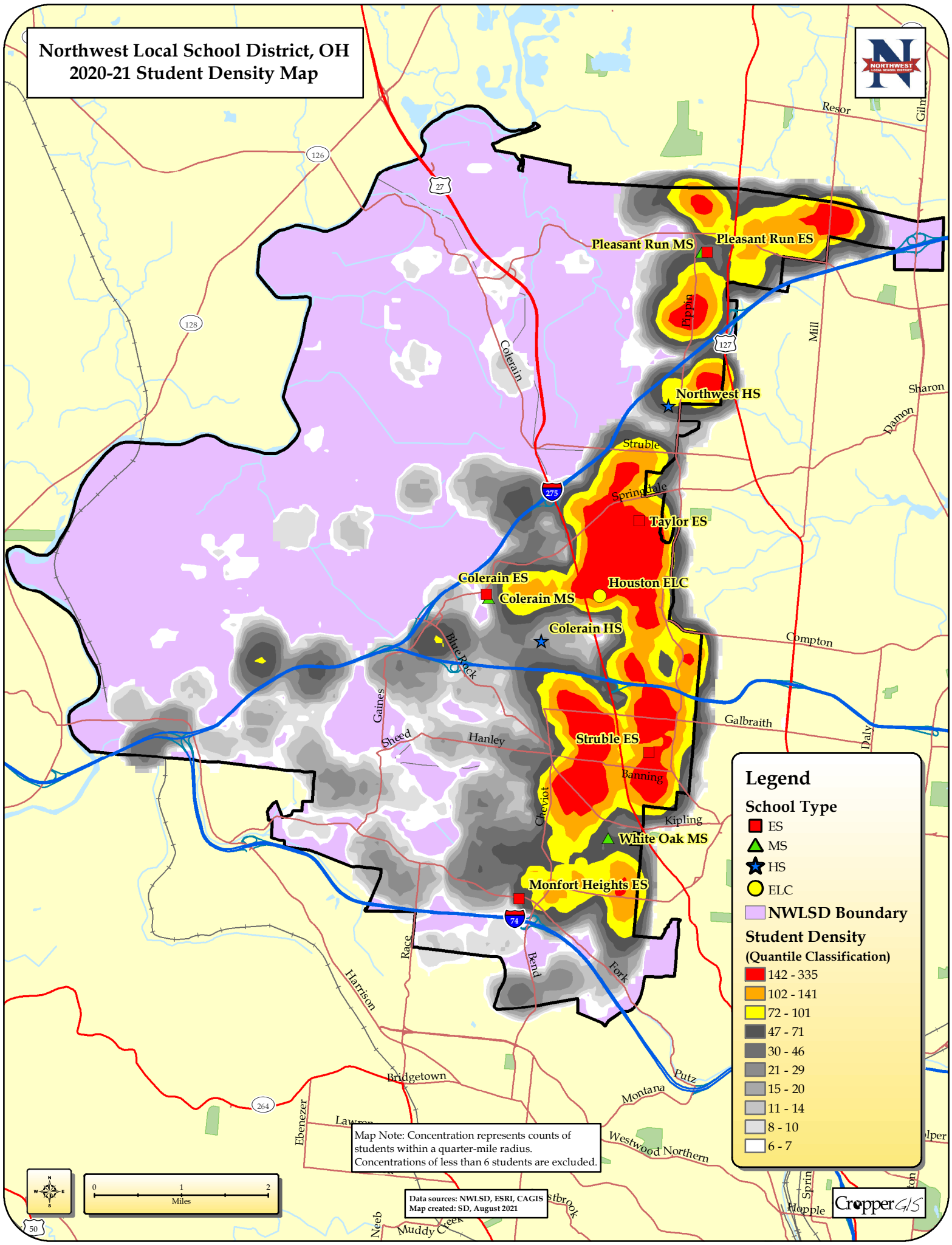
Student Density (Quantile Classification)

- 47 - 89
- 38 - 46
- 32 - 37
- 28 - 31
- 24 - 27
- 20 - 23
- 16 - 19
- 12 - 15
- 9 - 11
- 6 - 8

Data sources: NWLSD, ESRI, CAGIS
Map created: SD, August 2021



Northwest Local School District, OH
2020-21 Student Density Map



Legend

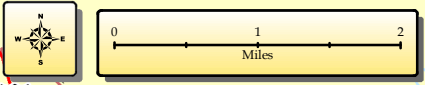
School Type

- ES
- ▲ MS
- ★ HS
- ELC
- NWLSD Boundary

Student Density (Quantile Classification)

- 142 - 335
- 102 - 141
- 72 - 101
- 47 - 71
- 30 - 46
- 21 - 29
- 15 - 20
- 11 - 14
- 8 - 10
- 6 - 7

Map Note: Concentration represents counts of students within a quarter-mile radius. Concentrations of less than 6 students are excluded.



Data sources: NWLSD, ESRI, CAGIS
Map created: SD, August 2021

CropperGIS