



MEMORANDUM

To: Jefferson County Public Schools

Date: September 13, 2023

From: Kate Doiron
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Project No.: F2466.01.001

Re: Enrollment Trends and Boundary Alignment and Enrollment Reporting

FLO worked with Jefferson County Public Schools (Jeffco) to analyze historical student enrollment, demographic characteristics, residential development, and prior changes to school boundaries and articulation areas. This memo shows how the 2022-23 school year elementary, middle, and high school boundary lines and articulation patterns align with enrollment patterns and trends and how these have evolved over time. The results of this analysis provide a historical understanding of enrollment trends. This analysis will serve as a foundation for future analyses to understand current enrollment across the district (including special program access and school choice) and identification of potential boundary changes to align with Jeffco's goals of equitable access and sustainable school capacity utilization.

Executive Summary

Analysis was conducted on Jeffco enrollment trends from 2013–14 to 2022–23, using historical enrollment counts by school; and from 2017–18 to 2022–23, using the more detailed student information system (SIS) data. This report consists of a student enrollment assessment (reviewing historical enrollment, demographics, density, grade progression ratios [GPRs], transfer rates, and residence versus attendance [residence/attendance] statistics), a review of the Jeffco Membership Projections Report (Projections Report), and an analysis of attendance area boundary and utilization changes over time. Key findings included in this report are as follows:

School-Age Population

The decline in school-age population in the last ten years (4.1 percent) was even greater than the decline in enrollment in the district, suggesting that membership decline was attributable to population loss, not to enrollment in private schools or net transfers.

- Jeffco enrollment declined by 10.4 percent since 2013–14, with enrollment by grade peaking between 2015–16 and 2019–20.

- Enrollment declines have occurred throughout the district in nearly all 17 articulation areas, with a decline in student density across the district since 2017–18.
- Jeffco experienced an 18 percent decline in facility utilization between 2013–14 and 2022-23 as a result of the decline in student enrollment.
- Since 2017–18, there have been no significant changes in student race/ethnicity. There were increases in primary home language other than English (PHLOTE) and declines in limited English proficiency.
- A high percentage of Jefferson County child residents enrolled in K-12 schools attended public schools (90.6 percent) according to the most recent American Community Survey data.
- From 2000 to 2020, total fertility rates (TFRs) (the number of children that would be expected to be born to a woman over her childbearing years) in Jefferson County declined from 1.91 to 1.36 and were lower than the national average for the same period (also declining).
- Jeffco had a 33 percent increase in the number of households without children in 2020 compared to 2000, indicating a significant change in household composition.
- Development is generally decreasing throughout the district, but some larger planned developments could affect enrollment in those areas in the future.
- While transfer rates have increased in the past two years, indicating an increase in the percentage of students enrolling in schools outside their attendance area, the total number of schools students choosing to attend outside of their attendance area has remained level.
- Only one half of the boundary changes implemented in the last ten years resulted in an enrollment balancing effect within two years, indicating there are factors other than a boundary change that may have a larger impact on where students attend school.
- The high number of boundary changes that took effect in 2017–18 appear to have had a subsequent, although delayed, effect on balanced enrollment at the district level, with middle school changes having the largest effect.

1A—Student Enrollment Assessment

The purpose of Task 1A was to understand Jeffco’s student enrollment trends across space and over time. This can be characterized through various metrics, including historical enrollment, student demographics, student density, grade progression ratios (GPRs), transfer rates, and residence/attendance statistics. FLO reviewed several datasets from Jeffco to complete this task, including school and articulation area boundaries and locations, historical enrollment data, and SIS data from 2017–18 to 2022–23.

Enrollment

Jeffco has experienced a 10.4 percent decrease in student enrollment over the last decade, a decrease of 8,919 students. This decline is attributed to several factors, including the COVID-19 pandemic, a declining birthrate, and an increase in charter school membership. The largest decline in enrollment is attributed to the COVID-19 pandemic, accounting for a decrease of 6,970 students over the last three years, with significant losses occurring in second, fifth, seventh, and eighth grade cohorts.

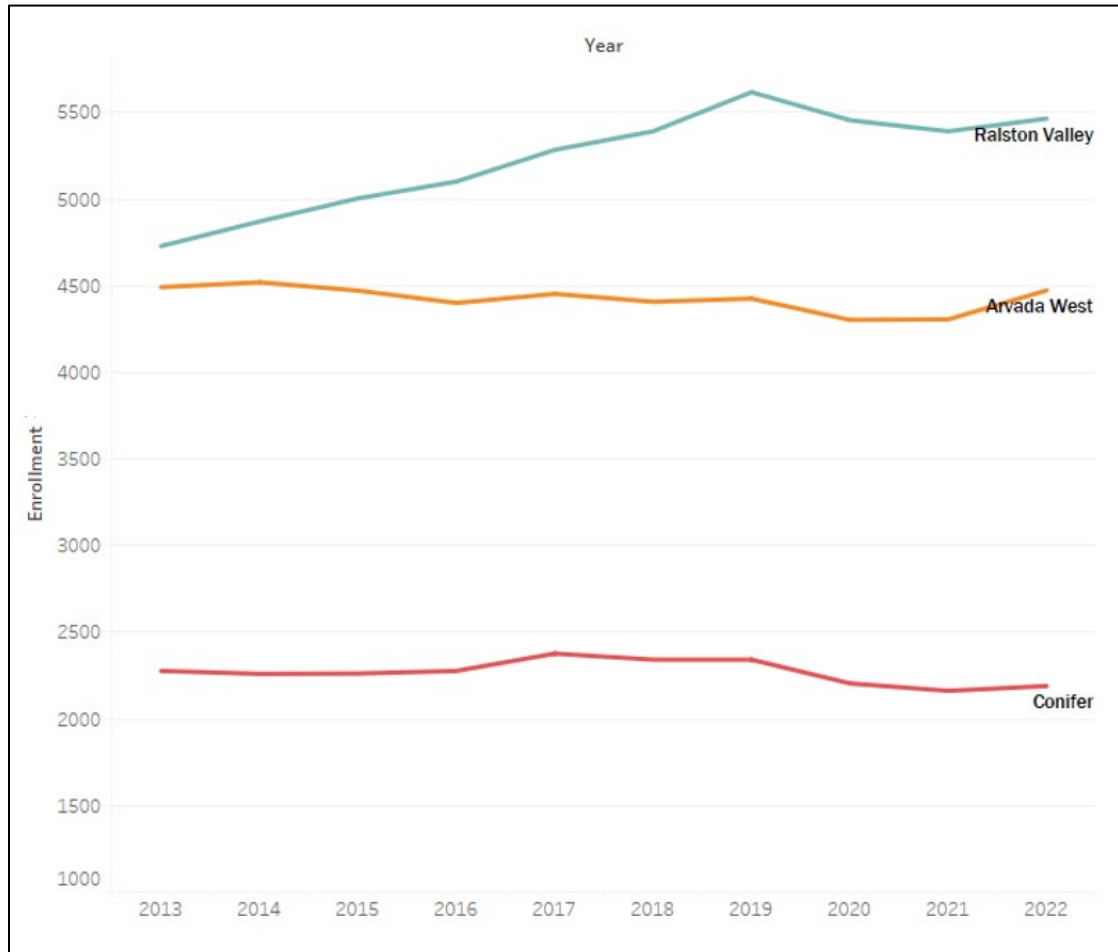
District-wide enrollment can be grouped by articulation area to assess trends throughout the district (see Attachment 1 for boundary maps). While schools may have moved in and out of articulation areas in the past, the following figures show enrollment for the group of schools assigned to that articulation area in 2022-23, so past declines or increases are not due to moves. Overall enrollment has declined across most articulation areas. The peak of enrollment for each articulation area in the last ten years is shown in dark green (Table 1) and the lowest enrollment is shown in blue, revealing the lowest enrollment totals in recent years.

Table 1. Jeffco Historical Enrollment by Articulation Area

Articulation Area	Year									
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Alameda	3,616	3,382	3,254	3,222	3,105	2,982	2,962	2,850	2,569	2,541
Arvada	4,292	4,256	4,326	4,107	4,037	3,856	3,700	3,448	3,184	3,036
Arvada West	4,491	4,519	4,471	4,400	4,452	4,407	4,425	4,302	4,305	4,472
Bear Creek	5,922	5,838	5,734	5,578	5,457	5,250	5,139	4,971	4,792	4,619
Chatfield	6,232	6,319	6,163	6,029	6,164	6,143	6,121	5,759	5,579	5,455
Columbine	4,388	4,366	4,331	4,348	4,272	4,142	4,180	3,961	3,912	3,841
Conifer	2,277	2,260	2,262	2,277	2,377	2,342	2,342	2,205	2,162	2,190
Dakota Ridge	4,578	4,602	4,502	4,509	4,419	4,339	4,370	4,196	4,058	3,936
Evergreen	2,794	2,868	2,901	3,028	3,030	2,967	2,934	2,672	2,514	2,479
Golden	4,161	4,112	4,108	4,164	4,363	4,302	4,303	4,134	3,985	3,997
Green Mountain	3,876	3,924	3,896	3,881	3,829	3,749	3,776	3,664	3,499	3,512
Jefferson	1,986	1,958	2,127	2,026	1,916	1,805	1,658	1,520	1,393	1,357
Lakewood	4,546	4,624	4,573	4,580	4,490	4,458	4,303	4,210	3,942	3,794
Pomona	3,417	3,471	3,416	3,336	3,236	3,154	3,080	2,874	2,689	2,464
Ralston Valley	4,728	4,870	5,003	5,100	5,283	5,390	5,616	5,454	5,390	5,463
Standley Lake	4,671	4,675	4,655	4,525	4,521	4,433	4,319	4,116	3,799	3,690
Wheat Ridge	4,148	4,016	4,425	4,076	4,005	3,886	3,829	3,690	3,581	3,527

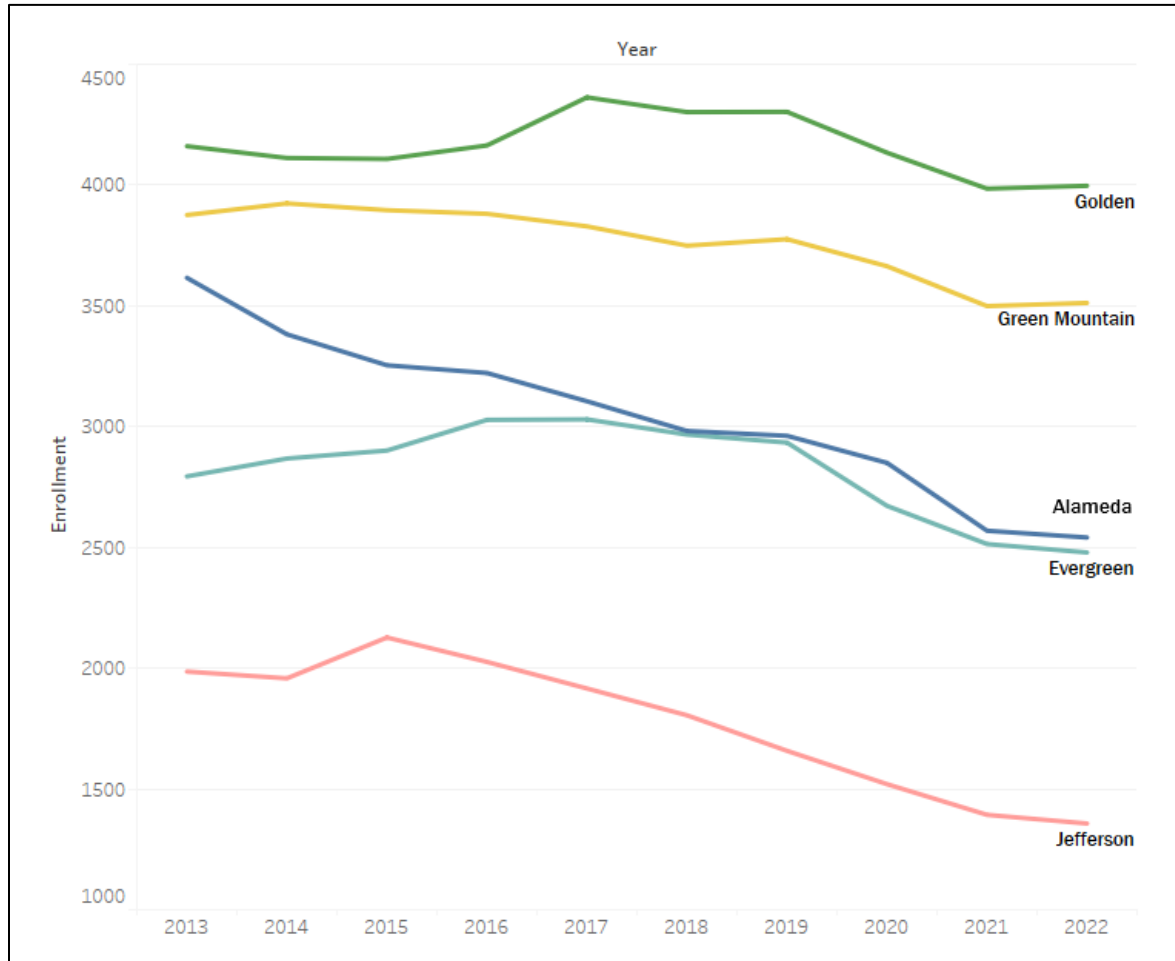
Viewing enrollment patterns by articulation area reveals that these patterns vary throughout the district. Patterns can be grouped by increasing enrollment, recent leveling enrollment, or declining enrollment. Enrollment has had a net increase since 2013-14 in one out of 17 articulation areas (Ralston Valley). There has been a very recent increase in enrollment in two articulation areas (Arvada West, Conifer) (Figure 1).

Figure 1. Net or Recent Increase in Articulation Area Enrollment (2013–14 to 2022–23)



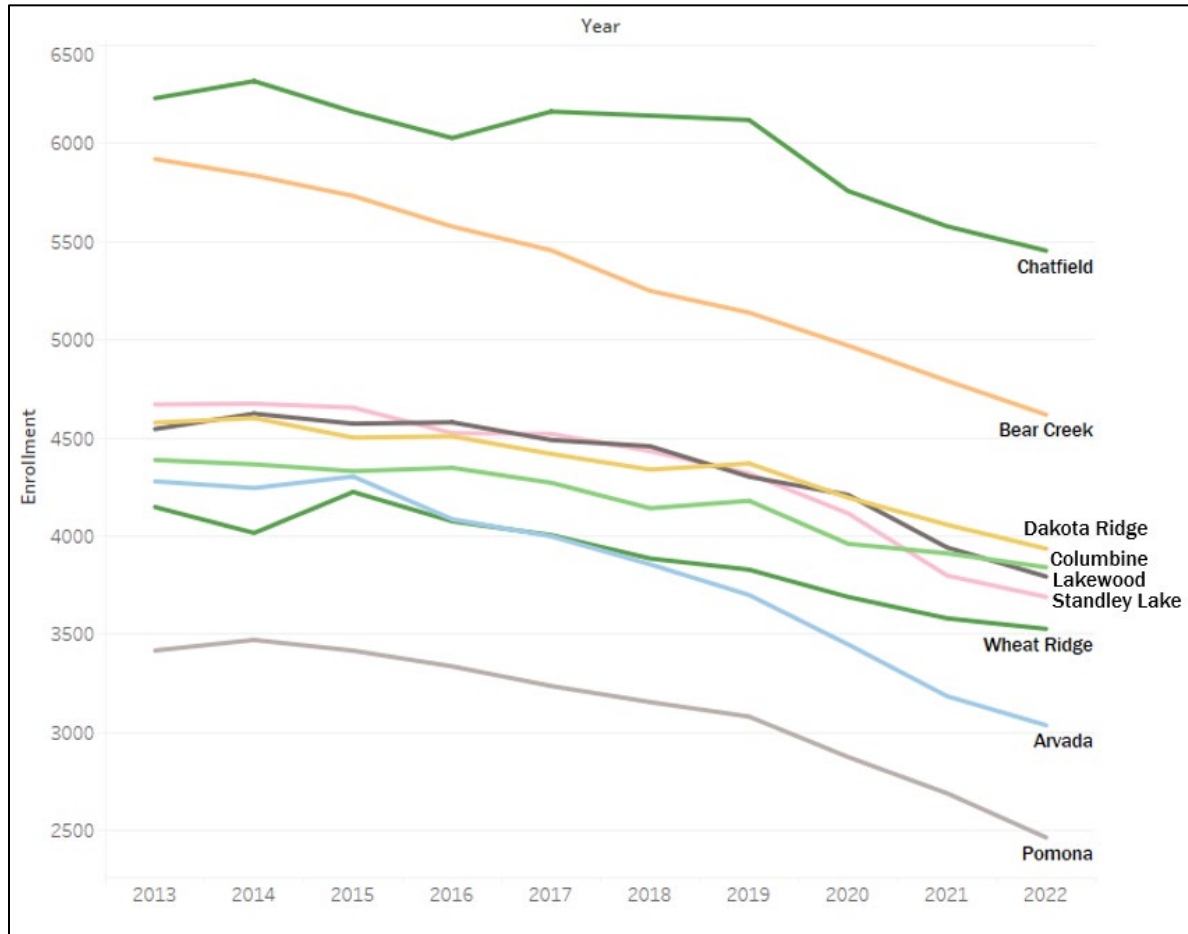
Five articulation areas (Alameda, Golden, Green Mountain, Evergreen, Jefferson) have recently started leveling out following declines up to the 2020–21 school year (Figure 2).

Figure 2. Recent Leveling in Articulation Area Enrollment (2013–14 to 2022–23)



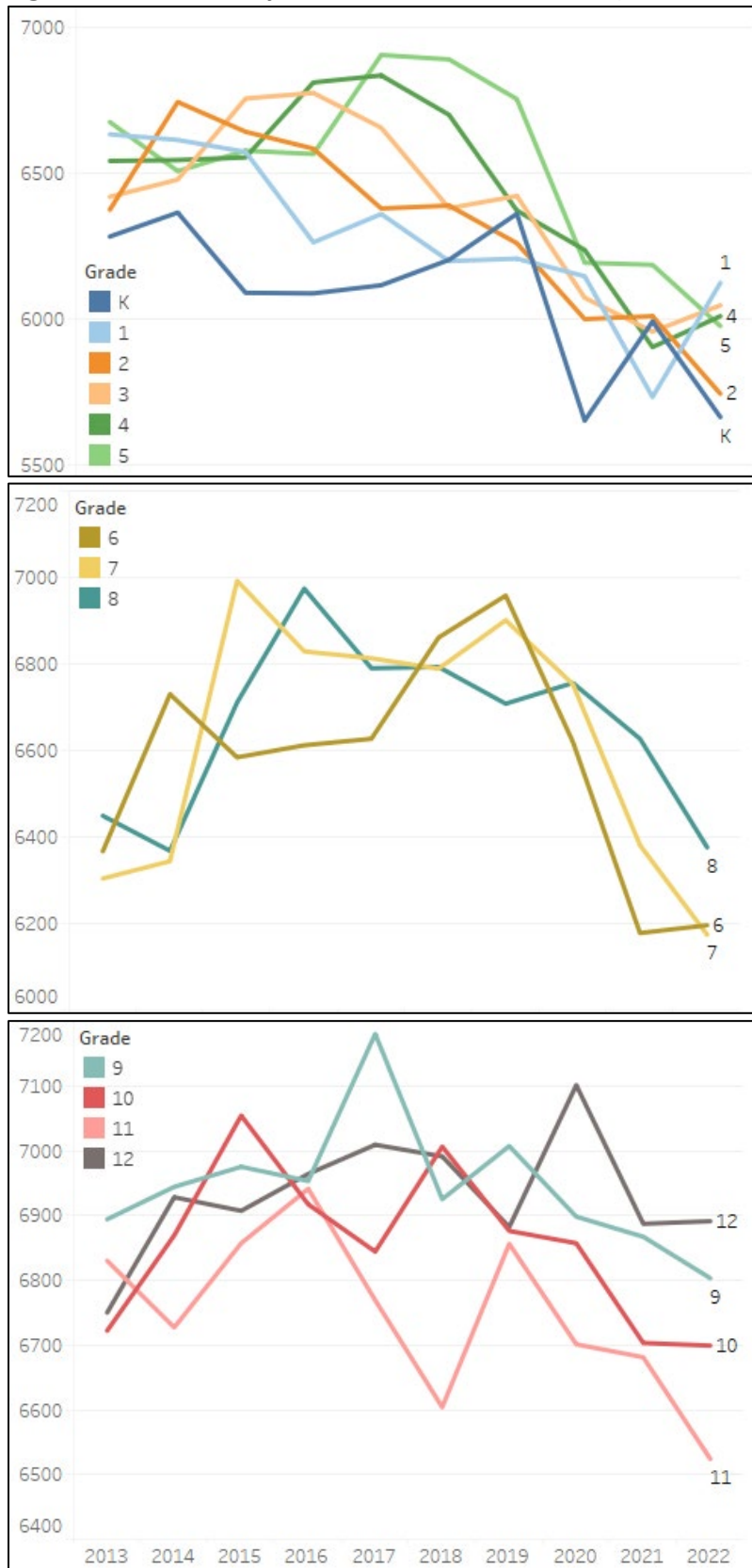
The remaining nine articulation areas have all declined with little to no recovery since the 2016–17 school year, with some schools declining since the start of the historical enrollment data (Bear Creek, Pomona) (Figure 3). Combined with the above graphs in Figures 1 and 2, the predominant trend of the district has been an overall decline in enrollment at 2022-23 schools over time. Declines are also spread throughout almost the entire district area.

Figure 3. Declining Articulation Area Enrollment for 2022-23 Schools (2013–14 to 2022–23)



When viewed by grade over the same period, most grades had a height of enrollment between 2014–15 and 2019–20, with steep and continuing declines across much of the district from 2020–21 onward (Figure 4). Notable outliers are first grade recovering in 2022–23 and third, fourth, tenth, and twelfth grades leveling off.

Figure 4. Enrollment by Grade for 2022-23 Schools (2013-14 to 2022-23)



Student Demographics and Density

FLO reviewed the SIS enrollment data for the school years 2017–18 to 2022–23 to characterize both student demographics (race/ethnicity and language proficiency) and student density based on the students' home location in each school year.

There were no significant changes in the student race and ethnicity distribution over this period, with only slight variations from year to year (Table 2). The majority of students (66 percent) in the 2022–23 school year were white, and the next largest category, Hispanic or Latino, was 24.6 percent. All other categories fall below five percent. There is a small, steady downward trend in students identifying as Asian and a steady upward trend in students identifying as Black or African American or two or more races over the period.

Table 2. District-Wide Student Race/Ethnicity, 2017–18 through 2022–23

Race/ Ethnicity	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Asian	3.2%	3.1%	3.1%	3.1%	3.0%	3.0%
Native Hawaiian or Other Pacific Islander	0.2%	0.2%	0.1%	0.2%	0.1%	0.1%
Hispanic or Latino	24.4%	22.9%	24.4%	24.6%	24.5%	24.6%
White	66.5%	67.8%	66.5%	66.2%	66.3%	66.0%
American Indian or Alaska Native	0.6%	0.7%	0.6%	0.5%	0.5%	0.5%
Black or African American	1.2%	1.3%	1.3%	1.3%	1.3%	1.4%
Two or More Races	3.9%	4.0%	4.0%	4.1%	4.2%	4.4%

Measures of language proficiency had more significant changes over the past six years (Table 3). English proficiency, with a primary home language other than English (PHLOTE), rose steadily from 0.9 percent to 2.7 percent, while limited English proficiency declined from 4.5 percent to 3.1 percent. Former English language learners also rose steadily from 1.7 percent to 2.3 percent. The number of students for whom language proficiency was not applicable declined from 89.1 percent to 88.2 percent.

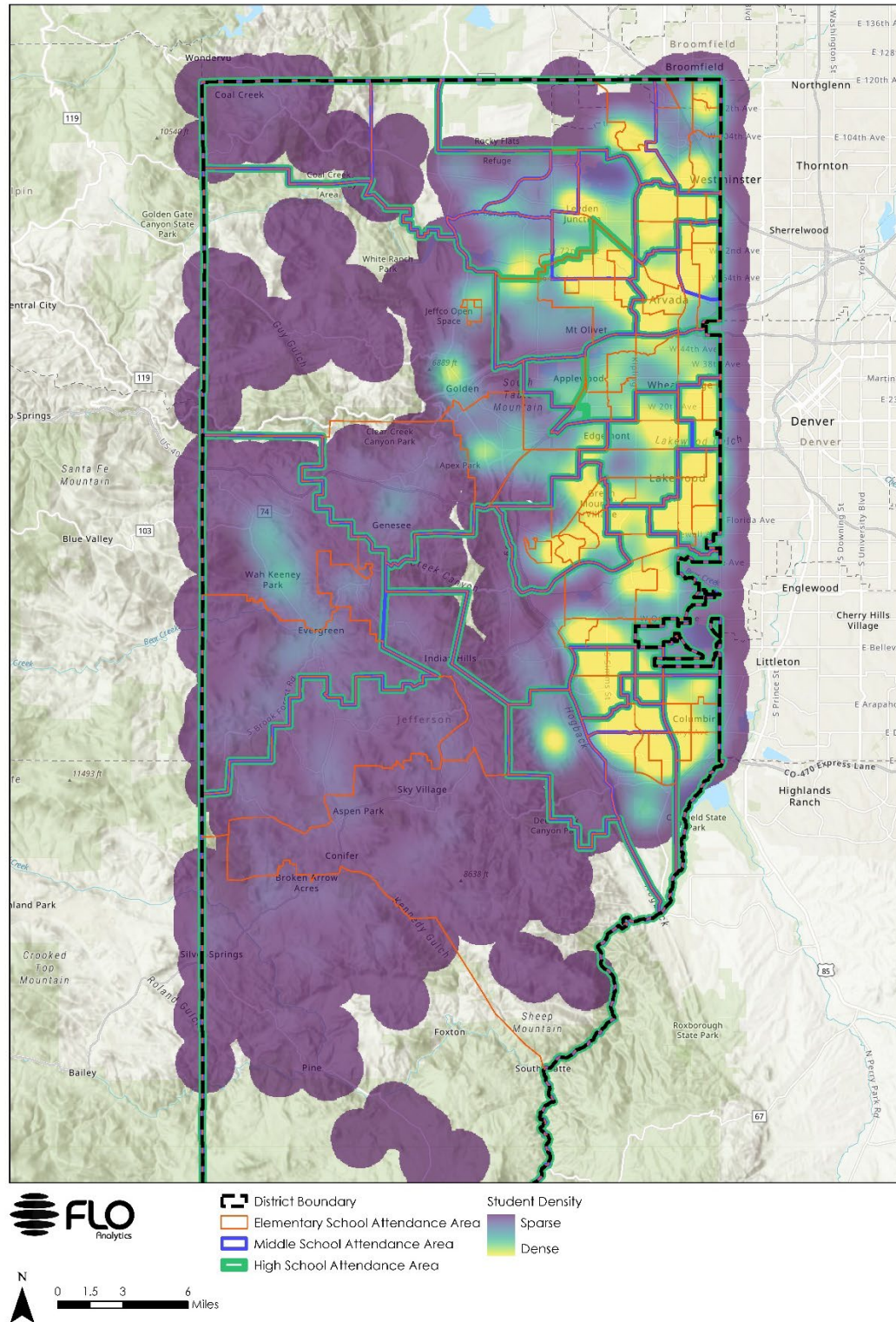
Table 3. District-Wide Measures of Student Language Proficiency, 2017–18 through 2022–23

Measures of Language Proficiency	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
PHLOTE, English Proficient	0.9%	1.2%	1.6%	2.0%	2.3%	2.7%
Limited English Proficient	4.5%	4.4%	3.9%	3.7%	3.6%	3.1%
Fluent English Proficient, Exited Year 1	0.4%	0.7%	0.7%	0.8%	0.7%	0.6%
Fluent English Proficient, Monitor Year 2	0.8%	0.8%	0.9%	0.9%	0.7%	0.5%
Fluent English Proficient, Monitor Year 1	0.9%	0.9%	0.9%	0.8%	0.5%	0.8%
Non-English Proficient	1.6%	1.4%	1.5%	1.4%	1.5%	1.7%
Not Applicable	89.1%	88.7%	88.7%	88.4%	88.4%	88.2%
Former English Language Learner	1.7%	1.8%	1.8%	2.1%	2.2%	2.3%
Note PHLOTE = primary home language other than English.						

Student density is characterized in Figures 5 and 6, with yellow representing areas with the densest concentrations of student home locations from the SIS, and purple as the areas with the least dense concentrations. The figures show that student density is concentrated on the eastern side of the district. From 2017–18 to 2022–23, the pattern of student density remained similar, but the yellow areas decreased in vibrancy between the two periods across the district, meaning there were fewer

students in the high-density areas in 2022–23 than there were in 2017–18. This is likely a result of the decline in student enrollment, not a result of students moving to a different area.

Figure 5. Student Density by Home Location, 2017–2018



Map Legend:

- District Boundary
- Elementary School Attendance Area
- Middle School Attendance Area
- High School Attendance Area

Student Density:

- Sparse (Purple)
- Dense (Yellow)

Map Labels: Coal Creek, Golden Gate Canyon State Park, White Ranch Park, Jefferson Open Space, Golden, Mt. Olivet, Appleton, Wheat, Edgewater, Lakewood, Columbian, Highlands Ranch, Foxton, Southgate, Sheep Mountain, Rosborough State Park, Pine, Silver Springs, Broken Arrow Acres, Conifer, Aspen Park, Sky Village, Jefferson, Indian Hills, Evergreen, Wah Keeney Park, Genesee, Great Creek Canyon Park, Apex Park, South Table Mountain, Arapahoe, and others.

Grade Progression Ratios and Transfer Rates

Using the 2017–18 to 2022–23 SIS data, FLO calculated the GPRs for each grade level by year (Table 4). A GPR (or cohort survival as described in the Projections Report) shows how many students were at one grade level in one year compared to the next grade level up in the following year. For example, if there were 100 students enrolled in kindergarten in 2021–22, and the following year there were 112 students enrolled in first grade, then the ratio would be 112 divided by 100, or 1.12. GPRs are indicators of past enrollment trends that can be used to project future enrollment. In Table 4, numbers above one indicate that there were more students in a particular grade in the following year, and numbers below one show a loss of students in the following year. The lowest GPRs, predictably as a result of the pandemic, occurred between the 2019–20 school year and the 2020–21 school year, especially in the lower grades. The lowest GPR over the entire time span were students from kindergarten in 2019–20 going into first grade in 2020–21, with a ratio of 0.948. There is a slight decline from fifth to sixth grade compared to the previous grade comparison indicating some students leave the district to attend middle school. The highest GPRs in the table are from students from eighth grade going into ninth grade, possibly enrolling or reenrolling in public school from private schools or homeschool. There are also high GPRs from 11th grade into 12th grade. GPRs have generally recovered to pre-pandemic levels in the last two years and have more than recovered for the K to first grade progression. For a more in-depth review of the GPR tables by articulation area, see Attachment 2.

Table 4. GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017-18 to 2018-19	2018-19 to 2019-20	2019-20 to 2020-21	2020-21 to 2021-22	2021-22 to 2022-2023
K–1st	0.988	0.996	0.948	1.010	1.012
1st–2nd	0.991	1.001	0.952	0.973	0.995
2nd–3rd	0.991	1.002	0.955	0.983	0.993
3rd–4th	0.992	0.994	0.954	0.969	0.998
4th–5th	0.992	1.002	0.958	0.990	1.001
5th–6th	0.979	0.998	0.962	0.987	0.988
6th–7th	0.982	0.994	0.955	0.962	0.984
7th–8th	0.990	0.989	0.973	0.982	0.990
8th–9th	1.025	1.039	1.030	1.023	1.030
9th–10th	0.976	0.996	0.977	0.977	0.980
10th–11th	0.967	0.978	0.969	0.979	0.976
11th–12th	1.038	1.047	1.044	1.036	1.034

Transfer rates, or the percentage of students who choose to attend schools outside of their attendance area, were also assessed at the district level by grade group to determine if there was a trend in school choice over time. Table 5 shows a retention rate (students attended their attendance area school) and a transfer rate (students attended a school outside their attendance area). Retention rates generally increased for all grade groups between 2018–19 and 2020–21, and then decreased in the last two years.

Table 5. Attendance Area Retention and Transfer Rates by Grade Group, 2017-18 to 2022-23

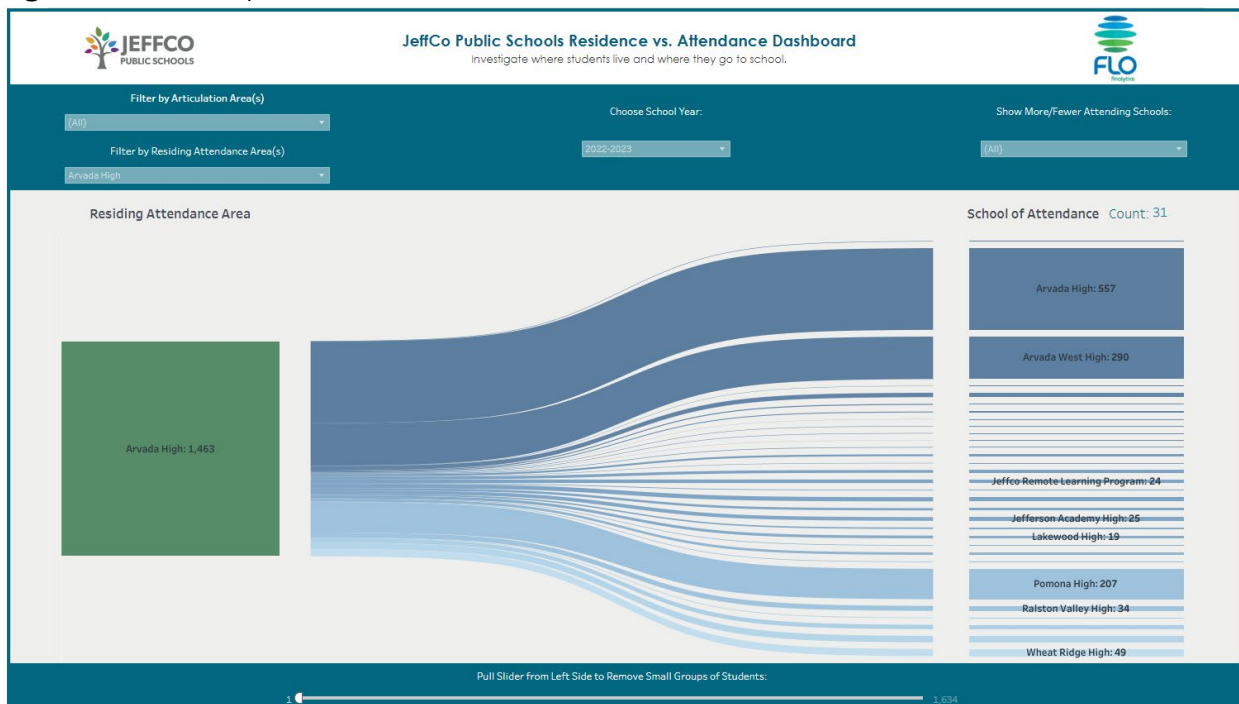
	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Elementary	63 / 37	64.6 / 35.4	64.5 / 35.5	63.5 / 36.5	62.0 / 38.0	62.2 / 37.8
Middle	71.2 / 28.8	74.5 / 25.5	74.8 / 25.2	73.6 / 26.4	70.8 / 29.2	71.9 / 28.1
High	69.3 / 30.7	71.3 / 28.7	71.4 / 28.6	71.0 / 29.0	68.2 / 31.8	69.2 / 30.8
Note Prekindergarten students are included in the rates. Attendance-area-only schools are included in the rates. For the purposes of these calculations, elementary schools include 3-5, K-4, K-5, K-6, PK-2, PK-5, and PK-6 grade groups; middle schools include 5-8, 6-8, and K-8 grade groups; and high schools include 7-12 and 9-12 grade groups.						

Residence/Attendance Dashboard

FLO was tasked with creating residence/attendance matrices for Jeffco to show choice patterns in and out of attendance area boundaries. Assessing where students reside within each attendance area boundary and where they attend school can help districts understand school choice and can assist in boundary change considerations (e.g., by incorporating an area with existing high transfer rates into a particular school). The large number of 2023-24 Jeffco schools (124) and the large number of different types of grade group configurations, combined with the available SIS data from 2017-18 to 2022-23, meant that producing static residence/attendance matrices in a spreadsheet format would be too large and difficult to interpret. The best way to truly investigate the school choice patterns at Jeffco was to bring the data into a Tableau dashboard (Figure 7). This dashboard can be accessed at the following web address:

<https://public.tableau.com/app/profile/floanalytics/viz/JeffcoStudentResidenceAttendance/ResidenceAttendanceDashboard>

Figure 7. Residence/Attendance Tableau Dashboard



Users can choose a school year (from 2017–28 to 2022–23) and filter by the residing school on the left. The residing school has a label for the number of students who reside within that attendance area boundary. The center of the dashboard shows all of the flows of students from that attendance area out to the attending schools on the right side of the dashboard. If the attending schools are unfiltered, then the dashboard shows all of the schools that students from the chosen attendance area attend. The count of schools is also listed. The attending schools can be filtered by the list of schools or by a minimum or maximum number of students attending that school from that attendance area, using the slider (e.g., if the user wanted to see only schools where more than ten students are transferring to other schools).

The dashboard count of schools transferred into from a residing attendance area is helpful at a detailed level. For example, the high school students that live within the Arvada High attendance area choose to attend a total of 30 other schools that are not Arvada High. This information can also be reviewed from a district-wide perspective. The average number of schools that students attend outside their attendance area is shown by grade group in Table 6. The number of elementary schools that students may choose to attend outside of their attendance area school remains above 30 throughout the period, while middle and high schools have average numbers between 25 and 29. There is no clear trend between 2017–18 and 2022–23 for any of the grade groups, which means levels of school choice remain the same over time.

Table 6. Average Number of In-District Schools Transferred into from a Residing Attendance Area

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Elementary	34	32	30	30	31	31
Middle	27	25	25	26	27	28
High	26	29	28	27	28	28
Note For the purposes of these calculations, elementary schools include 3-5, K-4, K-5, K-6, PK-2, PK-5, and PK-6 grade groups; middle schools include 5-8, 6-8, and K-8 grade groups; and high schools include 7-12 and 9-12 grade groups.						

1B—Review of Jeffco’s Demographic and Residential Development Analysis

FLO reviewed Jeffco's demographic and residential development from the most recent (2022–23) Projections Report. Historical, 2022-23 school year, and projected demographic characteristics and population trends in the region largely influence the number of students enrolled in a district. Information including historical birth data and annual birth-to-kindergarten ratios were reviewed, along with Jeffco household demographics and development information. Some data from the Projections Report were supplemented with publicly available population data to better understand trends.

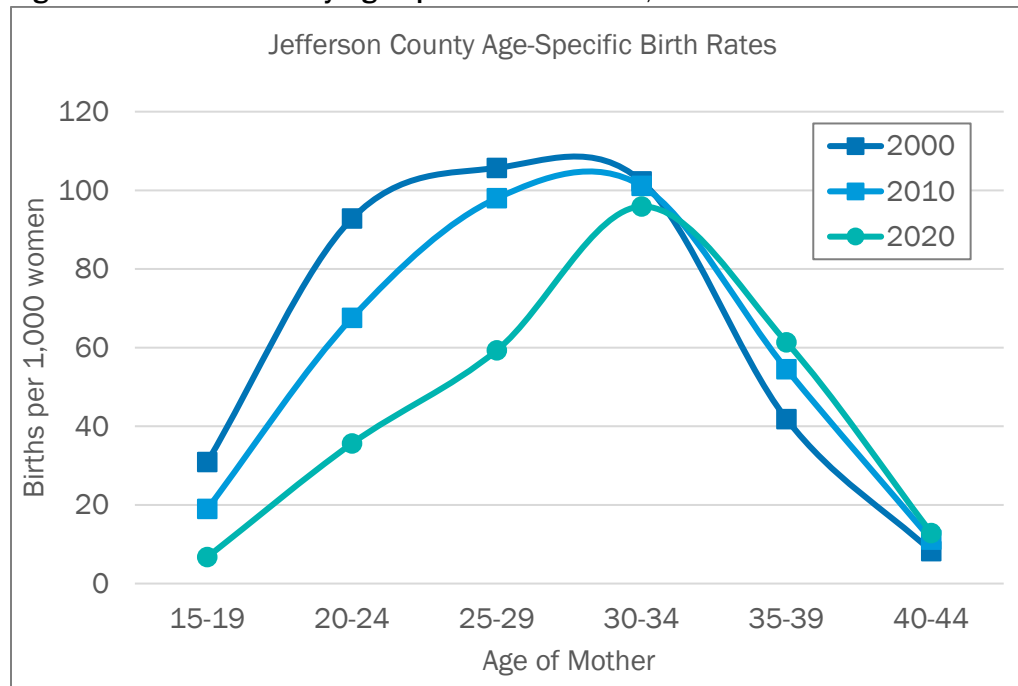
Birth and Fertility Data Review

The Projections Report includes live birth counts by articulation area, important indicators of future kindergarten memberships. The Projections Report shows that the total number of live births in the district declined almost steadily from 6,270 in 2007 to 5,550 in 2021 (with the lowest number of births in 2020 at 5,464). This decline has occurred even as the overall Jefferson County population has increased 9.1 percent since 2010 (Jeffco Public Schools 2023).

To take a closer look at why births have declined even as overall population has grown, we compiled Jefferson County population data and births by five-year age group of mothers (Colorado Department

of Public Health and Environment 2023). The biggest decline in births to county residents occurred between 2000 and 2010, with most of the change attributable to a 24 percent drop in the number of women aged 30 to 39. Birth rates also fell slightly among women under age 30 in this same period (Figure 8), contributing to the decline in births. Between 2010 and 2020, the population of women aged 30 to 39 rebounded, and there was a 33 percent increase in the total number of births to women aged 30 and older. Despite the increase for the 30 to 39 age group, the total number of births for the county remained fairly consistent. This was due to steep declines in birth rates among women under age 30, as shown in Figure 8 by the large dip in the 2020 line for women ages 15 to 19, 20 to 24, and 25 to 29.

Figure 8. Jefferson County Age-Specific Birth Rates, 2000-2020



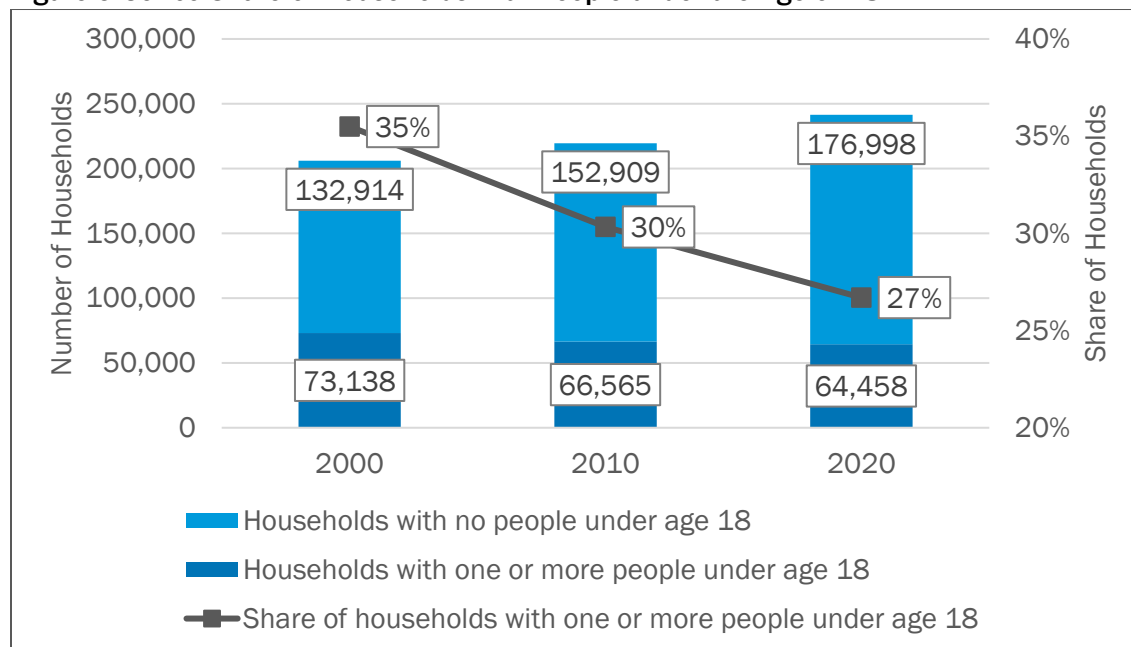
TFR is the number of children that would be expected to be born to a woman over her childbearing years, based on age-specific birth rates at a given time. Using the birth rates shown in Figure 7, we calculated Jefferson County's TFR as 1.91 in 2000, 1.76 in 2010, and 1.36 in 2020. The gap between the Jefferson County and U.S. TFRs widened in the 2010s, even as the national rate also fell over the same period, from 1.93 in 2010 to 1.64 in 2020 (Osterman et al. 2023).

Population Data Review

The Projections Report shows that the population of school-aged children in Jefferson County decreased by 9.8 percent between 2000 and 2010, with another decrease of 18.4 percent between 2010 and 2020. This is particularly true for the under-age-five population. The median age for all county residents has increased from 36.8 to 40.2 since 2000. The Projections Report notes that housing was probably a significant factor in predicting kindergarten enrollment in the late 1990s and early 2000s. Birth rates in 2007 and 2008 correlated with kindergarten enrollment (five years later in 2012–13 and 2013–14), but otherwise there is not a close correlation for birth rates from 2009 to 2015 and subsequent kindergarten enrollment in 2014–15 through 2020–21. Kindergarten and first grade membership in 2020–21 dipped below 2015 births for the first time, indicating declining membership of younger school-aged children.

Due to an aging population and lower birth rates, FLO explored Census household data further to determine other underlying trends. Fewer households in Jeffco included in the 2020 Census included any children, compared with previous censuses in 2000 and 2010 (U.S. Census Bureau 2020). While the number of Jeffco households increased by more than 35,000 between 2000 and 2020, the number of households with one or more people under 18 was 8,680 (12 percent) fewer in 2020 than in 2000, while the number without people under 18 was 44,084 (33 percent) greater. Consequently, the share of households with people under 18 fell from 35 percent in 2000 to 27 percent in 2020 (Figure 9).

Figure 9. Jeffco Share of Households with People under the Age of 18



Population counts by detailed age group from the U.S. Census published every ten years provide the most reliable indicator of Jeffco's school-age population. The May 2023 release of 2020 Census age data allows us to estimate the ratio of Jeffco membership to school-age population during the 2019–20 school year, prior to the COVID-19 pandemic, and to compare it to the ratio ten years earlier, in the 2009–10 school year (U.S. Census Bureau 2020). Jeffco membership was 2.6 percent lower in 2019–20 than in 2009–10 (Table 7). The decline in school-age population was even greater, suggesting that the membership decline was attributable to population loss, not to student enrollment in private schools or net transfers.

Table 7. Jeffco Membership and School-Age Population

	2009-10	2019-20	Percent Change
Membership ^(a)	83,421	81,266	-2.6%
School-Age Population ^(b)	89,371	85,751	-4.1%
Ratio of Membership to Population	0.933	0.948	
^(a) Membership includes district residents and incoming transfer students. ^(b) Approximate population age 5 to 17 at the beginning of the school year, based on single year of age counts from the U.S. Census conducted on April 1 of the school year.			

American Community Survey results confirm the relatively high public-school share among Jeffco residents (U.S. Census Bureau 2021). The most recent estimate, based on responses over the five-year period from 2017 to 2021, is that 90.6 percent of Jeffco residents enrolled in K-12 schools attended public schools, not significantly different from the 91.8 percent reported ten years earlier based on responses between 2007 and 2011.¹

Development Review

As a result of the overall enrollment decline discussed above, Jeffco has consolidated schools to ensure all students have the proper resources and services to set them up for success (Regional Opportunities for Thriving Schools—Phase 1). A total of 16 elementary schools open in 2022–23 were consolidated, with 15 closing for the 2023–24 school year and the one closing for the 2024–25 school year. The District recommended two additional school closures on August 24, 2023, which would bring the total number of schools closed to 21 since the spring of 2021. One approach to minimizing potential future boundary changes for students is to analyze new building developments and housing permits in areas where consolidations have occurred.

The Projections Report notes that housing permits in Jefferson County, including single-family and multifamily, decreased by 12.3 percent between 2021 and 2022. The Projections Report also notes that although new housing is still occurring, there is still a decline in population in some grades and areas due to generally low student yields for single and multi-family housing (i.e., the number of housing units needed to “generate” one student are high). There are some areas of the county with significant potential development. The Projections Report notes current or future potential developments in the following areas:

- Indiana Street corridor north of West 64th Avenue in Ralston Valley
- Along Highway 93 to Highway 72 in Golden
- Central Areas of Lakewood, Wheat Ridge, and Arvada
- Rooney Valley and Ken Caryl areas

The Projections Report indicates the Lakewood, Wheat Ridge, and Arvada areas have primarily smaller infill housing projects, within current neighborhoods, that would not impact student enrollment. The Rooney Valley and Ken Caryl areas have referrals that indicate a demand for housing and mixed-use projects, so future growth is expected and anticipated by Jeffco in these areas. Developments in Ralston Valley and Golden align with expected enrollment increases in those two articulation areas. Neither Ralston Valley nor Golden articulation areas had recent school consolidations, so potential future boundary changes with respect to developments in those areas are not expected to affect students involved in the 2022-23 consolidations.

It is important to note that projecting the number of students who will enroll in Jeffco from new developments (i.e., based on student generation rates) is challenging because there is no way to know with certainty the number of children (and ages) in families who will move into a single-family home, an apartment, or another type of residence. Development plans can also change (i.e., timeline for when housing will be completed and ready for occupancy) and the rate at which the housing is sold and when residents will move in are variable as well. Student enrollment is also affected by whether residents of the new development are moving from within the district or are new to the district.

¹ The 2021 five-year ACS estimate of 90.6 percent has a margin of error (MOE) of +/-1.0 percent. The 2011 five-year ACS estimate of 91.8 percent has an MOE of +/-0.7 percent.

1C—Boundary and Articulation Pattern Alignment Assessment

The goal of Task 1C was to characterize each Jeffco attendance area boundary change from the past ten years as to whether there was an enrollment balancing effect from that change. To review and catalog changes in school attendance boundaries over the past ten years, Jeffco provided FLO with GIS-format attendance area boundaries from 2013–14 to 2022–23. Historical enrollment data for 2022-23 schools from the past ten years, obtained from the Projections Report, were used to determine changes in enrollment year over year. Capacity information for each school was also acquired from Jeffco to assess changes in utilization.

Assessment

The boundary alignment assessment set out to answer two questions arising from the historical boundary and enrollment information:

1. Did individual boundary changes have the expected effect on utilization for the two schools involved in the change?
2. Did overall utilization for the district become more balanced (i.e., schools have more similar utilization district-wide) as a result of boundary changes?

FLO used GIS software to geographically merge Jeffco boundaries from year to year, determining where boundary changes had occurred, and which schools were involved in each change (see Attachment 3 for a list of schools involved in boundary changes). The unique boundary changes were then compiled for all school years from 2013–14 to 2022–23.

Capacity information was used to calculate utilization for each school year from 2013–14 to 2022–23 based on the historical enrollment data for 2022-23 schools. Individual boundary changes between pairs of schools were flagged as having the expected effect on enrollment (either increasing or decreasing utilization) or as not having the expected effect. In some instances, two or more schools swapped boundary areas in a given year; for example, in 2017-18, an area from Meiklejohn ES changed to West Woods ES and a different area from West Woods ES changed to Meiklejohn ES. In these cases, the expected effect of the boundary changes could not be determined.

For the district-wide assessment, standard deviation was calculated for each year for the district as a whole and for elementary, middle, and high schools. For the purposes of these calculations, elementary schools included 3-5, K-4, K-5, K-6, PK-2, PK-5, and PK-6 grade groups; middle schools included 5-8, 6-8, and K-8 grade groups; and high schools included 7-12 and 9-12 grade groups. Standard deviation is a measure of how dispersed the utilizations of the schools are from the mean utilization of all of the schools in a given year. A higher standard deviation means enrollment is less balanced between schools, and a lower standard deviation means enrollment is more balanced. FLO then determined whether the boundary changes in a given year led to a lower standard deviation, and therefore more balanced enrollment, in the following year.

Findings

The boundary change assessment found 44 unique boundary change areas in the district over the past ten years for schools that were still open in the 2022–23 school year. Most of the changes (55 percent) occurred between the 2016–17 and 2017–18 school years. Table 8 breaks down the changes by grade group and notes whether changes produced the expected effect of increasing or decreasing enrollment in the subsequent year.

Table 8. Boundary Change Effects on Individual School Enrollment

Grade Group	Total Boundary Changes 2013-14 to 2022-23	Was Enrollment Balanced?		
		Yes	No	Unclear
Elementary	22	11	7	4
Middle	13	5	4	4
High	9	7	2	0

Overall, 52 percent of the boundary changes produced the expected enrollment effect. In other words, increasing a school attendance area resulted in an increase in enrollment (and therefore utilization), and decreasing a school attendance area resulted in a decrease in enrollment. Another 30 percent of changes had the opposite effect than expected. In 18 percent of cases, the boundary changes moved students between two or more schools in the same year, so the expected effect could not be determined.

At a broader level, school utilization has declined district-wide from 86 percent to 68 percent. In order to bring up utilization facing continued projected declines in the student population, Jeffco has taken action to close 19 schools, including 16 small elementary schools as part of Phase I of Regional Opportunities for Thriving Schools, and has proposed plans for closing two more schools. The three other schools not included in Phase I were emergency closures of Fitzmorris ES and Allendale ES and a Phase II closure for Moore Middle School.. While overall declines in utilization cannot be solved by localized boundary changes, the boundary changes did have an effect on balancing utilization between schools in some cases in the last ten years. Standard deviation, or the measure of variation between all school utilizations in a given year, can be used to compare if utilization widely varies between schools (high standard deviation) or is more “balanced” or similar between schools (low standard deviation). Past boundary changes appear to have had a possible delayed decrease of the standard deviation of utilization and therefore a positive impact on enrollment balancing (Table 9). A total of 24 boundary changes took effect in 2017–18 at the district level, 55 percent of all changes in the past ten years. This is where we would expect dramatic changes in enrollment balancing, and a lower standard deviation, if boundary changes do have an effect on balancing. While standard deviation did not decrease from 2016–17 to 2017–18 (it remained the same), 2018–19 saw the largest year-to-year decrease in deviation over the entire ten years, from 18.0 to 15.3. This decrease continued into the following year, resulting in the most balanced year (utilizations the most similar) for the district as a whole in 2019–20 (14.6). Smaller change years, with eight changes in 2015–16 and six changes in 2020–21, resulted in no effect on deviation or an increase in deviation, and thus a decrease in balance.

At the elementary school level, the decrease in deviation is not as steep after 2017–18 (from 16.2 to 15.9) but does decline over time. The middle schools see large declines in deviation after 2017–18 (from 16.9 to 13.0), following a short-term increase in 2017–18. Most of the district-level balancing in 2018–19 can be attributed to the middle schools. At the high school level, there is almost no change in deviation close to 2017–18 and deviation increases (and balance decreases) until 2022-23. Mean utilization also declined throughout the past ten years (from 86 percent to 68 percent), driven mostly by elementary utilization.

Table 9. Boundary Change Effects on Utilization for 2022-23 Schools

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
School District										
Boundary Changes	0	0	8	1	24	0	3	6	2	0
Mean Utilization	86%	86%	85%	84%	82%	78%	76%	71%	69%	68%
Standard Deviation	19.1	18.8	18.0	18.0	18.0	15.3	14.6	14.7	15.0	15.9
Elementary										
Boundary Changes	0	0	5	1	10	0	1	3	2	0
Mean Utilization	93%	93%	91%	89%	87%	78%	75%	68%	67%	67%
Standard Deviation	16.5	15.7	15.7	16.3	16.2	15.9	15.3	14.6	15.1	15.8
Middle										
Boundary Changes	0	0	1	0	8	0	2	2	0	0
Mean Utilization	67%	66%	66%	67%	66%	79%	81%	77%	72%	69%
Standard Deviation	15.9	15.6	14.0	15.1	16.9	13.0	9.8	11.0	12.5	14.7
High										
Boundary Changes	0	0	2	0	6	0	0	1	0	0
Mean Utilization	77%	78%	78%	77%	78%	76%	76%	76%	73%	72%
Standard Deviation	13.4	14.3	13.5	14.0	14.6	14.6	15.0	15.9	15.6	16.7
Note: The boundary change count reflects the year in which the boundary changes went into effect.										

Discussion

Boundary changes for school attendance areas may have the effect of sending some students from an affected area to a new school (thus increasing enrollment at that school). However, if a change area contains many students who already transfer to other schools, those students are less likely to attend the new school. This may partially explain the differences in the effect of boundary changes in individual Jeffco schools in the past ten years. Fifty-two percent of boundary changes appear to have the expected effect on enrollment for individual schools, namely to either increase or decrease enrollment to bring overall school utilizations into alignment. If we remove the 18 percent of changes that could not be classified as expected or not expected, the expected changes jump up to 64 percent. This indicates that balancing enrollment at Jeffco in the future could, in part, be accomplished through boundary changes, but a particular focus on the capture rates within articulation areas may help improve that effect.

Achieving a particular utilization target for a given school can be affected by several factors, including not only school attendance area boundaries but also district policies and program placement. The high number of boundary changes that took effect in 2017–18 appear to have a subsequent, although delayed, effect on balanced enrollment at the district level. The delay in increased balance until 2018–19 may be due to students continuing in their current school for the following year regardless of a new boundary change, or there may be other, non-boundary, reasons for the increase in balancing, such as policy changes or program moves. The effect of boundary changes appears to be more impactful at the elementary and middle school levels, potentially due to high school students' access to other means of transportation to attend the schools of their choice, although the continuing high transfer rates throughout this period and across grade levels indicate that boundary changes are only one of many potential factors the District should consider in balancing enrollment and maximizing utilization.

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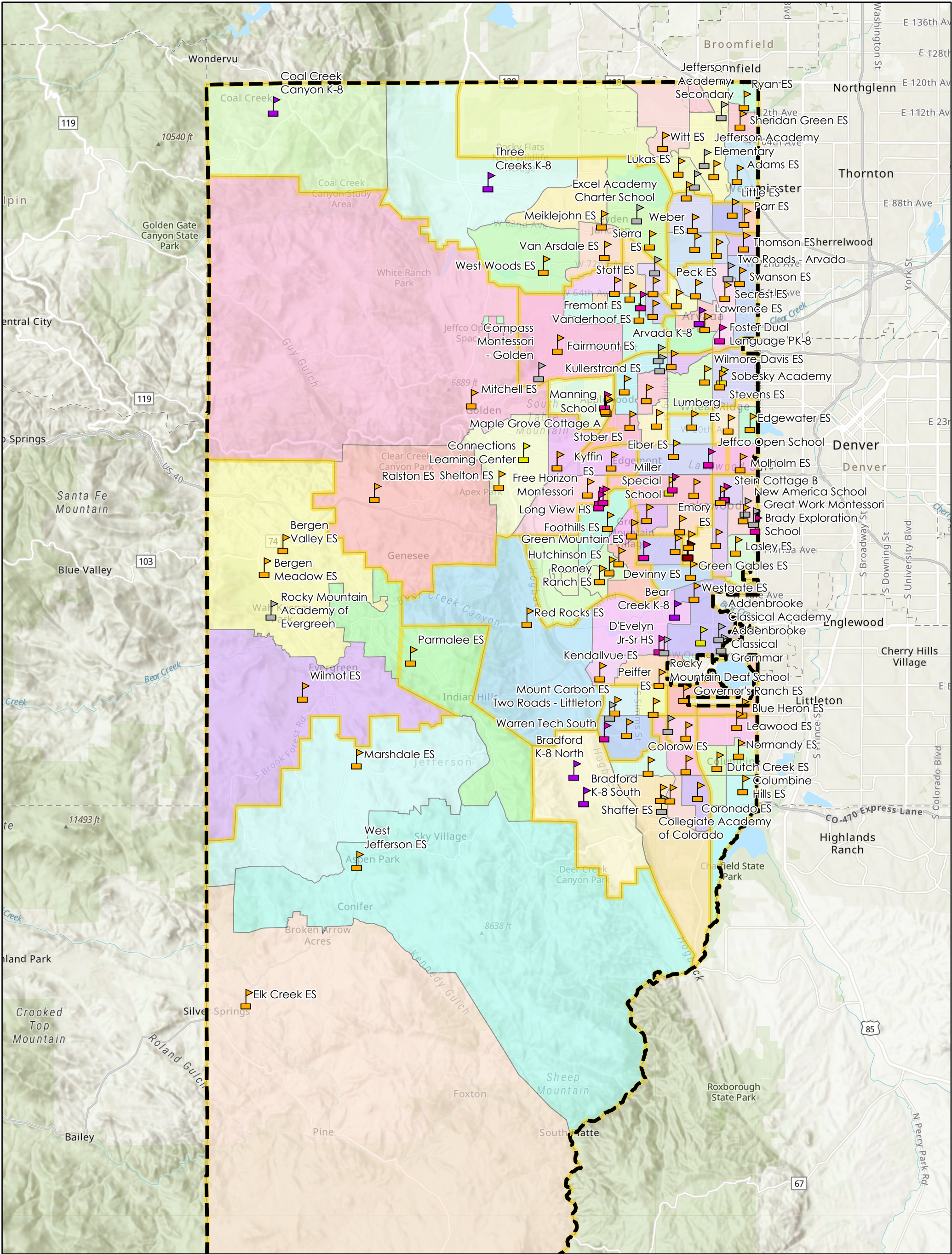
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ATTACHMENT 1

Boundary Maps

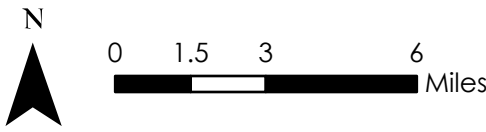


Elementary School Boundaries

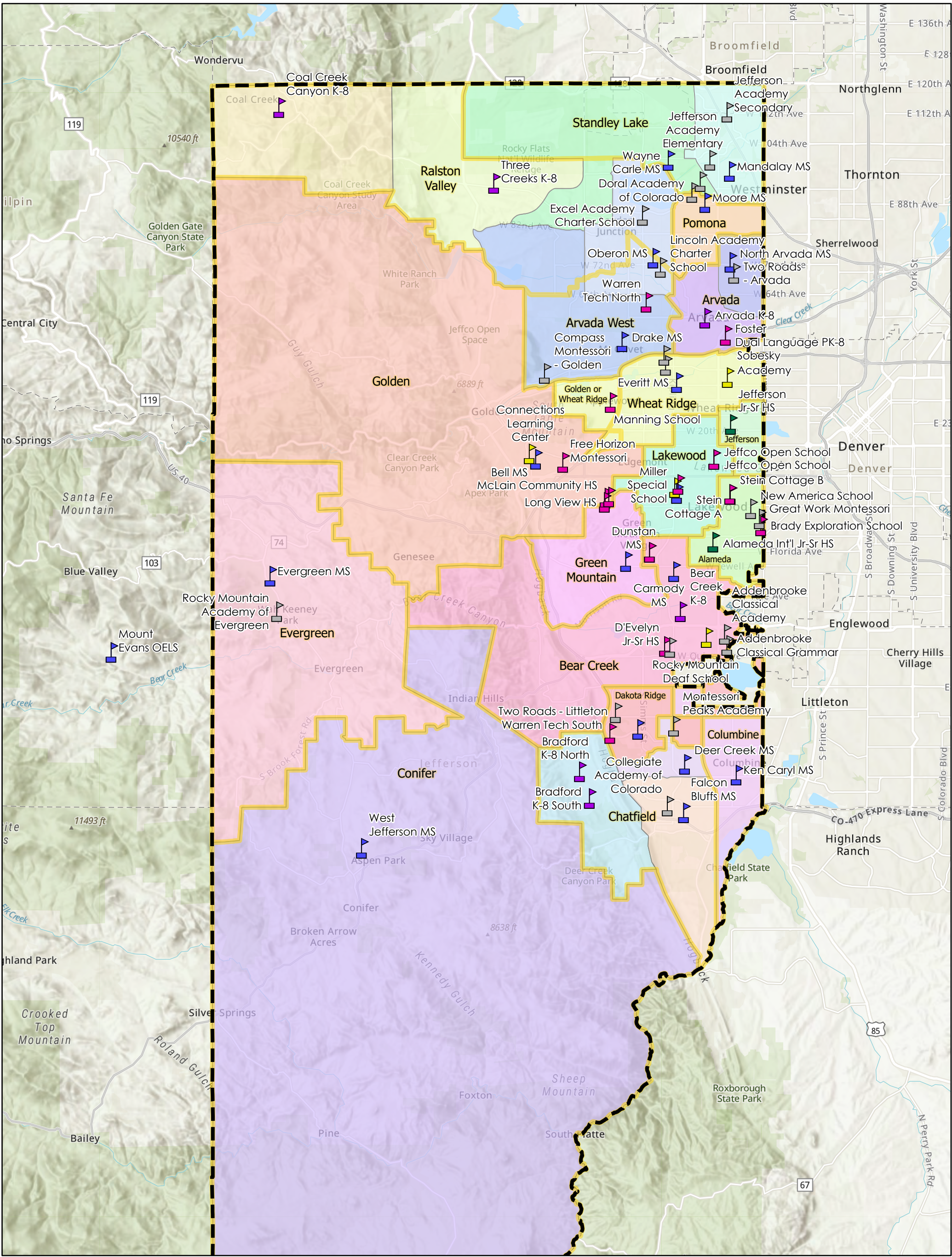


- Pre-K
- ES
- K-8
- Option
- Special
- Charter
- District Boundary
- Articulation Area

2022-23

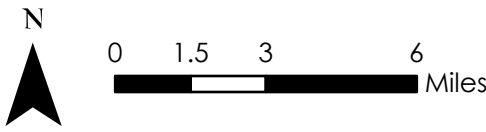


Middle School Boundaries

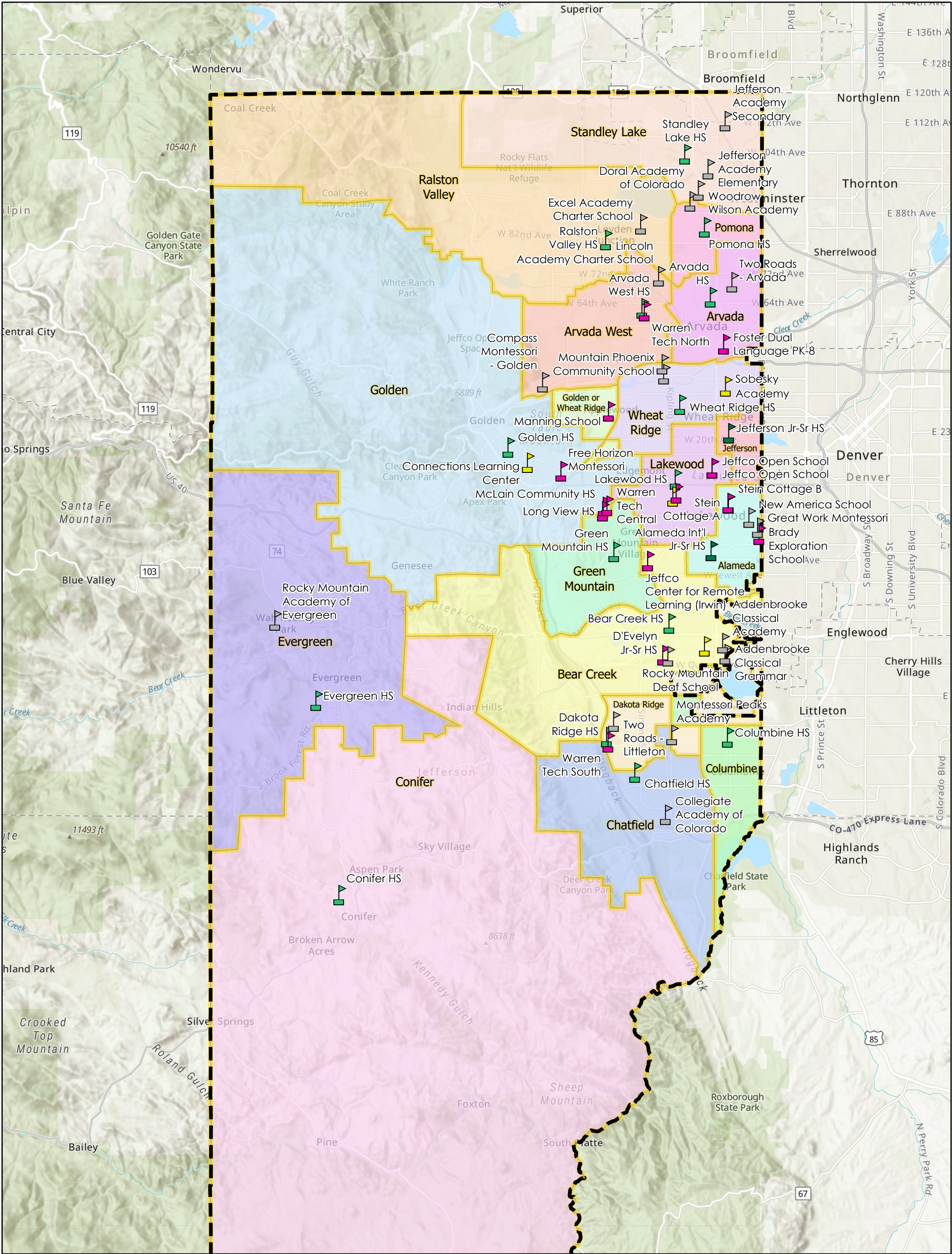


- K-8
- MS & OELS
- Jr/Sr HS
- Option
- Special
- Charter
- District Boundary
- Articulation Area

2022-23

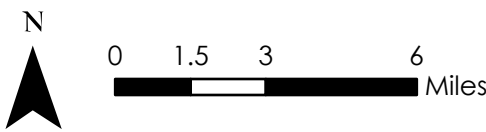


High School Boundaries



- Jr/Sr HS
- Option
- Charter
- Special
- District Boundary
- Articulation Area

2022-23



ATTACHMENT 2

GPR Tables by Articulation Area



Grade Progression Ratios (GPRs) by Articulation Area

Alameda Articulation Area

The Alameda articulation area generally has higher GPRs in K–5 years (above 1.0, meaning students are joining the cohort) and experiences low GPRs for students transitioning from sixth to seventh grade (0.803 and lower, meaning over 20 percent of students are leaving the cohort between those two years) (Table 1). Of the high school students who resided in the Alameda International attendance area in 2022–23, 11.3 percent attended Lakewood High, 6.8 percent attended Bear Creek High, and 4.0 percent attended D'Evelyn Junior/Senior High. Alameda International enrolls grades seven to twelve, indicating that students are attending sixth grade at their elementary school, then transferring out of the articulation area to attend middle school. In 2022–23, 4.0 percent of students residing in the Alameda International attendance area transferred out to D'Evelyn Middle, 3.3 percent to Creighton Middle, and 2.8 percent to Carmody Middle.

Table 1—Alameda GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	0.992	0.967	0.975	0.949	1.000
1st–2nd	1.027	1.004	0.974	0.926	1.064
2nd–3rd	1.013	1.038	0.932	0.917	1.005
3rd–4th	0.976	1.049	0.971	0.897	0.981
4th–5th	0.979	1.072	0.988	0.939	1.063
5th–6th	0.906	1.075	0.866	0.829	0.927
6th–7th	0.763	0.803	0.740	0.699	0.799
7th–8th	0.967	0.932	0.983	0.941	0.956
8th–9th	0.932	0.882	0.984	0.974	0.880
9th–10th	0.840	0.901	0.978	0.926	0.937
10th–11th	0.848	0.918	0.948	0.881	1.017
11th–12th	0.862	0.852	0.946	0.840	0.974

Arvada Articulation Area

The Arvada articulation area generally has higher GPRs in K–5 years and has experienced very low GPRs for students transitioning from eighth to ninth grade (0.634 and lower, meaning over 35 percent of students are leaving the cohort between those two years) (Table 2). Of the high school students who resided in the Arvada High attendance area in 2022–23, 19.8 percent attended Arvada West High, 14.1 percent attended Pomona High, and 3.3 percent attended Wheat Ridge High. Lower numbers of students transferred out to 27 other high schools. Arvada has also experienced, to a lesser degree, a drop in GPRs for students transitioning from fifth to sixth grade (0.894 and lower). Of the students who resided in the Arvada K–8 attendance area in 2022–23, 5.4 percent attended Oberon Middle, 5.1 percent attended Foster K–8, and 4.4 percent attended Drake Middle. Lower numbers of students transferred out to at least 14 other middle schools.

Table 2—Arvada GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	0.940	0.991	0.928	1.046	1.045
1st–2nd	0.950	0.994	0.962	0.909	0.976
2nd–3rd	0.961	0.978	0.942	0.918	1.015
3rd–4th	1.009	1.012	0.904	0.942	0.989
4th–5th	1.008	1.006	0.942	0.989	1.014
5th–6th	0.894	0.828	0.818	0.782	0.826
6th–7th	0.910	0.982	0.962	0.910	0.908
7th–8th	0.978	0.967	0.988	0.925	0.985
8th–9th	0.560	0.604	0.634	0.616	0.611
9th–10th	1.067	0.945	1.014	0.956	0.965
10th–11th	1.011	0.888	0.974	0.888	0.918
11th–12th	0.853	0.918	0.899	0.924	0.827

Arvada West Articulation Area

The Arvada West articulation area has GPRs generally between 0.90 and 1.10 over the 2017–18 to 2022–23 period, which could indicate low numbers of students leaving the articulation area cohorts from year to year, and low numbers of students transferring into schools within the articulation area (Table 3). The outliers are high GPRs for the eighth to ninth grade cohort (between 1.374 and 1.658, meaning more than 37 percent of students are joining the cohort each year) for the 2017–18 to 2022–23 period. Of the students who attended Arvada West High in 2022–23, 15.8 percent transferred in from Arvada High, 8.9 percent from Ralston Valley High, and 5.2 percent from Pomona High. Lower numbers of students transferred in from 16 other high schools.

Table 3—Arvada West GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	1.003	0.993	0.931	1.122	1.057
1st–2nd	1.051	1.003	0.963	1.056	1.056
2nd–3rd	1.024	0.997	0.945	1.012	1.060
3rd–4th	0.948	0.988	0.928	0.952	1.088
4th–5th	1.055	1.069	0.945	1.007	1.061
5th–6th	0.906	1.075	1.123	1.216	1.173
6th–7th	1.066	0.993	1.015	0.982	1.044
7th–8th	0.983	1.029	0.957	0.958	1.031
8th–9th	1.374	1.467	1.578	1.638	1.658
9th–10th	0.971	0.954	0.964	0.944	0.988
10th–11th	0.961	0.993	0.970	0.954	0.934
11th–12th	1.035	0.998	0.995	0.971	0.974

Bear Creek Articulation Area

The Bear Creek articulation area generally has GPRs that are close to 1.0 overall, meaning student cohorts are fairly stable from year to year (Table 4). The GPRs from eighth to ninth grade are consistently above 1.066, meaning students are transferring in to Bear Creek High from other articulation areas. Of the students who attend Bear Creek High in 2022–23, 11.7 percent reside in Denver County School District, 9.1 percent reside in Alameda International, and 2.2 percent reside in Lakewood High. Lower numbers of students transferred in from 17 other high schools. Bear Creek articulation area has also experienced low GPRs for students transitioning from fifth to sixth grade (between 0.844 and 0.737). This means students are transferring out of the articulation area for sixth grade. In 2022-23, Bear Creek K-8 had students transfer out to Addenbrooke Classical Grammar (4.6 percent), Dennison Elementary (2.8 percent), and Montessori Peaks Academy (1.6 percent), along with transfers out to 17 other schools. Carmody Middle had students transfer out to Summit Ridge Middle (11.2 percent), D'Evelyn Junior/Senior (10.4 percent), and Dunstan Middle (4.4 percent), along with transfers out to 38 other schools. The low GPRs for fifth to sixth grade appear to be driven primarily by students transferring out of Carmody Middle.

Table 4—Bear Creek GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	1.053	0.984	0.967	1.005	1.032
1st–2nd	0.949	0.995	0.961	0.985	0.971
2nd–3rd	1.023	1.014	0.995	1.011	0.983
3rd–4th	0.976	0.971	0.981	0.938	1.011
4th–5th	1.006	0.973	0.963	1.005	1.000
5th–6th	0.844	0.800	0.768	0.737	0.774
6th–7th	0.837	1.018	0.958	0.997	1.032
7th–8th	0.985	0.956	0.936	0.957	0.982
8th–9th	1.083	1.076	1.086	1.066	1.091
9th–10th	0.939	0.976	0.971	0.953	0.949
10th–11th	0.901	0.904	0.934	0.938	0.896
11th–12th	0.959	0.991	0.994	0.903	0.885

Chatfield Articulation Area

The Chatfield articulation area generally has higher GPRs in K–5 years (several above 1.0) and has experienced higher GPRs for students transitioning from fifth to sixth grade (between 1.004 and 1.165). In 2022-23, Bradford K-8 North had students transfer in from Carmody Middle (3.8 percent), Ken Caryl Middle (2.2 percent), and Summit Ridge Middle (1.9 percent), along with transfers in from 11 other schools. Deer Creek Middle had students transfer in from Carmody Middle (8.6 percent), Summit Ridge Middle (8.1 percent), and Ken Caryl Middle (6.6 percent), along with transfers in from 14 other schools. Falcon Bluffs Middle had students transfer in from Summit Ridge Middle (2.6 percent), Ken Caryl Middle (2.2 percent), and Douglas County School District (1.7 percent), along with transfers in from 13 other schools. Conversely, Chatfield articulation area has slightly lower GPRs for students transitioning from eighth to ninth grade (between 0.860 and 0.932). Of the students who resided in the Chatfield High School attendance area in 2022–23, 8.1 percent attended Columbine High, 5.8 percent attended Dakota Ridge High, and 2.7 percent attended D'Evelyn Junior/Senior High. Lower numbers of students transferred out to at least 19 other high schools. GPRs have started to recover to pre-COVID levels, where the lowest GPRs were seen from the 2019–20 to 2020–21 cohort progressions.

Table 5—Chatfield GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	0.979	0.988	0.976	1.047	1.024
1st–2nd	1.005	1.022	0.993	0.980	0.986
2nd–3rd	1.012	1.042	0.925	0.978	0.990
3rd–4th	1.017	0.993	0.967	0.980	0.990
4th–5th	0.990	1.000	0.947	1.007	1.021
5th–6th	1.165	1.075	1.004	1.121	1.034
6th–7th	1.027	0.979	0.942	1.002	1.011
7th–8th	0.990	1.004	0.965	0.979	0.963
8th–9th	0.878	0.919	0.860	0.869	0.932
9th–10th	0.992	0.986	0.950	0.957	0.979
10th–11th	0.953	0.979	0.935	0.940	0.978
11th–12th	0.995	0.976	0.948	0.930	0.993

Columbine Articulation Area

The Columbine articulation area has GPRs generally between 0.95 and 1.1 over the 2017–18 to 2022–23 period, which could indicate low numbers of students leaving the articulation area cohorts from year to year, and low numbers of students transferring into schools within the articulation area (Table 6). The outliers are consistently high GPRs for the eighth to ninth graders (1.269 and higher, meaning over 20 percent of students or more are joining the cohort each year), with the highest GPR in the 2021-22 to 2022-23 cohort. Of the students who attended Columbine High School in 2022–23, 10.9 percent transferred in from Denver County School District, 10.4 percent from Dakota Ridge High, and 9.6 percent from Chatfield High. Lower numbers of students transferred in from 17 other high schools.

Table 6—Columbine GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	0.978	0.937	0.914	1.075	0.940
1st–2nd	1.027	0.996	0.955	0.966	1.000
2nd–3rd	0.968	1.015	0.916	1.000	1.000
3rd–4th	1.024	1.012	0.918	0.988	1.024
4th–5th	0.970	1.023	0.967	1.020	1.008
5th–6th	0.972	1.110	0.941	1.013	0.976
6th–7th	1.000	1.106	0.969	0.930	0.992
7th–8th	1.000	1.040	0.924	0.986	0.993
8th–9th	1.269	1.312	1.507	1.484	1.538
9th–10th	0.987	1.029	1.016	0.972	1.043
10th–11th	0.939	1.033	0.961	1.000	0.993
11th–12th	0.945	0.991	1.025	0.967	0.928

Conifer Articulation Area

The Conifer articulation area generally has higher GPRs in recent K–5 years (several above 1.0, meaning more students are joining the cohort each year) and has experienced high GPRs for students transitioning from fifth to sixth grade (between 1.105 and 1.207) and eighth to ninth grade (between 1.086 and 1.227) (Table 7). Of the students who attended West Jefferson Middle in 2022–23, 9.0 percent transferred in from Platte Canyon School District, 5.0 percent from the Evergreen/West Jefferson Middle option area, and 3.0 percent from Evergreen Middle. Lower

numbers of students transferred in from 4 other middle schools. Of the students who attend the Evergreen High in 2022–23, 8.2 percent transfer in from Platte Canyon School District, 5.0 percent from Evergreen High, and 0.4 percent from Bear Creek High. Lower numbers of students transferred in from 4 other high schools. GPRs have generally recovered to pre-COVID levels, where the lowest GPRs were seen from the 2019–20 to 2020–21 cohort progression.

Table 7—Conifer GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–2023
K–1st	0.882	1.112	1.000	1.047	1.027
1st–2nd	1.139	1.022	0.824	1.014	0.993
2nd–3rd	0.915	0.963	1.029	1.053	1.085
3rd–4th	0.993	0.987	0.880	1.028	1.051
4th–5th	1.057	1.020	0.905	1.043	0.986
5th–6th	1.105	1.113	1.135	1.149	1.207
6th–7th	0.967	1.038	0.898	0.949	1.006
7th–8th	0.984	0.943	0.959	1.042	1.030
8th–9th	1.227	1.220	1.133	1.086	1.143
9th–10th	0.971	1.035	0.965	0.979	1.009
10th–11th	0.969	0.991	1.010	0.918	1.011
11th–12th	0.972	0.968	0.961	0.967	1.020

Dakota Ridge Articulation Area

The Dakota Ridge articulation area generally had higher GPRs in K–5 (several above 1.0, meaning students were joining the cohort each year) from 2017–18 to 2018–19 and from 2018–19 to 2019–20, with slight declines in recent years. There were consistently higher GPRs for students transitioning between eighth to ninth grade (1.079 and higher), however from 2021–22 to 2022–23 the number of students attending ninth grade from eighth grade remained level. The general stability among cohorts from year to year means Dakota Ridge has similar numbers of students transferring in or out, or staying within the articulation area, in any given grade.

Table 8—Dakota Ridge GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–2023
K–1st	1.030	1.045	0.916	0.983	1.039
1st–2nd	0.973	1.055	1.003	0.968	0.989
2nd–3rd	1.064	1.075	0.913	0.977	0.989
3rd–4th	1.006	1.030	0.917	0.985	0.994
4th–5th	1.003	1.024	0.945	1.028	0.992
5th–6th	0.900	1.132	1.053	1.027	0.966
6th–7th	1.085	0.945	0.969	0.989	0.987
7th–8th	0.997	0.997	0.976	0.944	0.929
8th–9th	1.029	1.082	1.079	1.170	1.000
9th–10th	0.951	0.994	0.953	0.978	0.964
10th–11th	0.931	0.928	0.945	0.973	0.928
11th–12th	0.943	0.978	0.992	0.909	0.932

Evergreen Articulation Area

The Evergreen articulation area generally has higher GPRs in K–5 years (several above 1.0, meaning students are joining the cohort each subsequent year) and has experienced higher GPRs for

students transitioning from eighth to ninth grade (between 1.084 and 1.141) (Table 9). Of the students who attend Evergreen High School in 2022–23, 5.0 percent transferred in from Clear Creek School District, 4.0 percent from Conifer High, and 2.6 percent from Golden High. Lower numbers of students transferred in from 9 other high schools. GPRs have generally recovered to pre-COVID levels, where the lowest GPRs were seen from the 2019–20 to 2020–21 cohort progressions.

Table 9—Evergreen GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	1.032	1.029	0.949	1.072	1.054
1st–2nd	1.006	1.068	0.937	0.964	1.095
2nd–3rd	1.010	1.045	0.895	1.030	1.025
3rd–4th	1.047	1.059	0.925	1.026	1.107
4th–5th	1.044	1.000	0.991	0.965	1.101
5th–6th	1.075	1.028	0.861	0.878	0.922
6th–7th	1.048	0.984	0.932	0.990	0.984
7th–8th	0.971	0.991	0.953	1.029	1.068
8th–9th	1.084	1.094	1.120	1.141	1.137
9th–10th	0.997	0.969	0.928	0.897	0.942
10th–11th	0.930	0.977	0.928	0.952	0.977
11th–12th	0.936	0.974	0.946	0.966	0.942

Golden Articulation Area

In the Golden articulation area, the highest GPRs over the 2017–18 to 2022–23 period (between 1.196 and 1.300) are between eighth and ninth grades (Table 10). Of the students who attended Golden High School in 2022–23, 6.0 percent transferred in from the Golden/Wheat Ridge Option Area, 4.7 percent from Arvada West High, and 4.0 percent from Wheat Ridge High. Lower numbers of students transferred in from 19 other high schools.

Golden has also experienced low GPRs for students transitioning from fifth to sixth grade (between 0.707 and 0.784). Of the middle school students who resided in the Bell Middle attendance area in 2022–23, 18.3 percent transferred out to Manning, 4.6 percent to D’Evelyn Junior/Senior High, and 2.9 percent to Compass Montessori – Golden. Lower numbers of students transferred out of 32 other schools.

Table 10—Golden GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	1.034	0.982	0.954	1.108	1.044
1st–2nd	1.021	1.000	0.952	0.962	1.019
2nd–3rd	0.958	0.962	0.988	0.975	0.990
3rd–4th	1.021	1.021	0.954	0.946	0.990
4th–5th	0.968	1.006	0.974	0.990	0.981
5th–6th	0.907	0.898	0.801	0.707	0.784
6th–7th	0.804	0.987	0.923	0.914	0.992
7th–8th	0.961	0.987	0.966	0.973	1.020
8th–9th	1.236	1.196	1.198	1.247	1.300
9th–10th	1.000	0.962	0.989	0.992	0.997
10th–11th	0.959	0.939	0.948	0.944	0.958
11th–12th	0.952	0.942	0.933	0.935	0.938

Green Mountain Articulation Area

The Green Mountain articulation area has GPRs generally between 0.95 and 1.03 over the 2017–18 to 2022–23 period, which could indicate low numbers of students leaving the articulation area cohorts from year to year, and also low numbers of students transferring into schools within the articulation area (Table 11). The outlier is a high GPR for the 2021–22 to 2022–23 fifth to sixth graders, indicating a 10 percent increase in the cohort size between those two years. In 2022–23, Dunstan Middle had 7.3 percent of students transfer in from Carmody Middle attendance area, 4.8 percent from Creighton Middle, and 3.2 percent from Alameda International. Lower numbers of students transferred in from 20 other schools. GPRs have generally recovered to pre-COVID levels, where the lowest GPRs were seen from the 2020–21 to 2021–22 cohort progression.

Table 11—Green Mountain GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	1.038	0.990	0.952	0.985	1.025
1st–2nd	0.989	1.000	0.979	0.971	0.974
2nd–3rd	0.972	1.029	0.960	0.957	0.959
3rd–4th	0.979	1.011	0.925	0.955	1.038
4th–5th	0.967	1.039	0.961	0.985	1.020
5th–6th	0.966	1.013	0.963	0.974	1.102
6th–7th	0.976	1.006	0.997	0.975	0.996
7th–8th	1.000	0.997	0.997	0.953	0.975
8th–9th	0.869	0.958	1.006	0.949	0.965
9th–10th	0.960	1.025	0.997	0.883	0.950
10th–11th	0.951	0.944	0.918	0.911	0.965
11th–12th	0.968	0.921	0.945	0.851	0.929

Jefferson Articulation Area

The Jefferson articulation area has low GPRs for the sixth to seventh grade cohort across the 2017–18 to 2022–23 period (Table 12) ranging from 0.597 (low during COVID) to 0.763. The most recent cohort saw a loss of 24.4 percent of the students going into seventh grade in 2022–23 that were in the sixth grade in 2021–22. Jefferson Junior/Senior High enrolls grades seven to twelve, indicating that students are attending sixth grade at their elementary school, then transferring out of the articulation area to attend middle school. In 2022–23, students in the Jefferson Junior/Senior High attendance area had 3.7 percent of students transfer out to Everitt Middle, 2.9 percent to JeffCo Open School, and 1.7 percent to Creighton Middle. There are also low GPRs for the eleventh to twelfth grade cohort, with the lowest GPR of 0.786 between 2021–22 and 2022–23. Of the seniors residing within Jefferson articulation area, 59 attended Jefferson Junior/Senior High, 23 attended Lakewood High, 18 attended Brady Exploration, 12 attended Wheat Ridge, and a further 33 students attended other schools. In 2022–23, Jefferson Junior/Senior High attendance area had 9.4 percent of students transfer out to Lakewood High and another 6.6 percent of students to Wheat Ridge High. Lower numbers of Jefferson Junior/Senior High attendance area students transferred out to 39 other schools (including middle and high schools).

Table 12—Jefferson GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	0.831	0.951	0.948	0.961	1.052
1st–2nd	0.927	0.895	0.861	0.882	0.990
2nd–3rd	0.896	0.864	0.961	0.907	1.000
3rd–4th	0.956	0.877	0.917	0.935	1.065
4th–5th	0.986	0.974	0.916	0.901	0.983
5th–6th	0.984	0.837	1.000	0.908	0.920
6th–7th	0.763	0.707	0.678	0.597	0.756
7th–8th	0.969	0.902	0.985	1.034	1.045
8th–9th	0.980	0.992	0.958	0.908	1.082
9th–10th	0.825	0.951	0.926	0.939	0.924
10th–11th	0.841	0.872	0.803	0.912	0.991
11th–12th	0.804	0.832	0.890	0.791	0.786

Lakewood Articulation Area

The Lakewood articulation area has GPRs generally between 0.95 and 1.02 over the 2017–18 to 2022–23 period, which could indicate low numbers of students leaving the articulation area cohorts from year to year, and also low numbers of students transferring into schools within the articulation area (Table 13). The two main exceptions are students transferring into Lakewood articulation area from fifth to sixth grade (GPRs from 1.085 to 1.223) and to an even greater extent from eighth to ninth grade (GPRs from 1.599 to 1.764). In 2022–23, Creighton Middle had 7.8 percent of students transfer in from Alameda International attendance area, 3.8 percent from Carmody Middle, 3.4 percent from Denver School District, and 3.3 percent from Dunstan Middle. Lower numbers of students transferred into Creighton Middle from 22 other schools. Also, in 2022–23, Lakewood High had 11.4 percent of students transfer in from the Alameda International attendance area, 9.7 percent from Golden High, 7.0 percent from Wheat Ridge High, 6.5 percent from Denver School District, and 6.4 percent from Green Mountain High. Lower numbers of students transferred into Lakewood High from 25 other high schools.

Table 13—Lakewood GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	0.996	0.975	0.980	0.920	1.056
1st–2nd	0.985	0.891	0.906	0.969	1.017
2nd–3rd	0.977	1.016	0.995	0.925	0.920
3rd–4th	0.962	0.957	0.981	0.918	0.970
4th–5th	0.979	0.991	0.951	0.914	0.990
5th–6th	1.223	1.148	1.130	1.085	1.136
6th–7th	1.239	1.046	1.049	1.044	1.035
7th–8th	0.994	1.003	0.983	0.949	1.004
8th–9th	1.642	1.674	1.599	1.688	1.764
9th–10th	0.982	0.994	1.011	1.012	0.973
10th–11th	0.928	0.932	0.977	0.987	0.897
11th–12th	0.980	0.944	0.991	0.916	0.933

Pomona Articulation Area

The Pomona articulation area has high GPRs for the eighth to ninth grade cohorts for all years in the 2017–18 to 2022–23 period (between 1.453 and 1.714), with a GPR of 1.542 from 2021–22 to 2022–23 indicating a 54 percent increase in the cohort attending ninth grade last year (Table 14). This is in contrast to the declining GPRs for the fifth to sixth grade cohorts over time, with the lowest GPR of 0.691 in the last year (i.e., losing 31 percent of the cohort from year to year). In 2022–23, students in the Moore Middle attendance area had 7.9 percent of students transfer out to Oberon Middle, 7.0 percent to Excel Academy, and 6.4 percent to Woodrow Wilson Academy. Lower numbers of students transferred out of Moore Middle attendance area to 25 other schools. The overall retention rate for students who live within the Moore Middle attendance area and attend Moore Middle is 41 percent, whereas the retention rate for Pomona High is 61.9 percent. This indicates that some students who transfer out of the articulation area for middle school return for high school. In 2022–23, Pomona High also had students transfer in from Arvada High (18.3 percent), Westminster School District (9.6 percent), and Standley Lake High (6.1 percent). Lower numbers of students transferred into Pomona High from 18 other high schools.

Table 14—Pomona GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	0.967	0.985	0.889	0.915	0.898
1st–2nd	0.971	1.022	0.916	0.865	0.988
2nd–3rd	0.974	0.946	0.852	0.935	1.011
3rd–4th	1.005	0.914	0.917	0.942	0.965
4th–5th	1.036	0.952	0.947	0.932	0.938
5th–6th	1.020	0.930	0.854	0.845	0.691
6th–7th	1.118	1.000	0.893	0.912	0.897
7th–8th	1.049	0.878	0.990	1.052	0.852
8th–9th	1.714	1.551	1.873	1.453	1.542
9th–10th	0.914	0.968	0.988	0.942	0.983
10th–11th	0.884	0.922	0.921	0.915	0.894
11th–12th	0.836	0.931	0.935	0.893	0.910

Ralston Valley

The Ralston Valley articulation area has high, though declining, GPRs for the eighth to ninth grade cohorts for all years in the 2017–18 to 2022–23 period (between 1.303 and 1.771) (Table 15). The eighth to ninth GPR of 1.36 in 2021–22 to 2022–23 indicates a 36 percent increase in the cohort attending ninth grade last year. This is in contrast to the steadily low GPRs for the fifth to sixth grade cohorts over time (from 0.753 to 0.876), driven primarily by Oberon Middle which in 2022–23 had a 59.6 retention rate, and students transferring out of the attendance area to Lincoln Academy (8.9 percent), Drake Middle (8.1 percent), and Excel Academy (5.9 percent). Lower numbers of students transferred out of Oberon Middle to 25 other schools. In 2022–23, Ralston Valley High had students transfer in from Arvada West High (5.5 percent), Pomona High (2.8 percent), and Standley Lake High (1.9 percent). Lower numbers of students transferred into Ralston Valley High from 12 other schools. The lower percentages of high school students transferring in from other articulation areas combined with the high GPR for the eighth to ninth grades also indicates there are also students who leave the articulation area for middle school that then return for high school.

Table 15—Ralston Valley GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	1.111	1.039	0.947	1.036	1.035
1st–2nd	1.066	1.051	0.953	0.998	0.998
2nd–3rd	1.102	1.025	0.942	0.985	1.037
3rd–4th	1.023	1.067	0.987	0.998	0.995
4th–5th	1.026	1.034	0.935	0.977	0.986
5th–6th	0.876	0.809	0.753	0.853	0.820
6th–7th	0.802	1.050	0.965	0.994	1.018
7th–8th	1.018	1.043	0.968	0.972	1.000
8th–9th	1.771	1.639	1.347	1.303	1.363
9th–10th	0.994	1.008	0.976	0.951	1.004
10th–11th	0.971	0.987	0.994	0.928	1.000
11th–12th	0.991	0.972	0.987	0.918	0.988

Standley Lake Articulation Area

The Standley Lake articulation area has high GPRs for the fifth to sixth grade cohort for much of the 2017–18 to 2022–23 period, ranging from 1.026 to 1.196, and low GPRs for the eighth to ninth cohort, ranging from 0.817 to 0.866 (Table 16). This means students are transferring into the articulation area for Mandalay Middle and Wayne Carle Middle, and then transferring out for high school. In 2022–23, Mandalay Middle had students transfer in from Westminster School District (7.6 percent), Adams Five Star School District (4.6 percent), and Moore Middle (4.4 percent), along with transfers in from 14 other schools. Wayne Carle Middle had students transfer in from Moore Middle (2.3 percent), Oberon Middle (1.9 percent), and Three Creeks K–8 (1.3 percent), along with transfers in from 12 other schools. In 2022–23, Standley Lake High attendance area had 13.3 percent of students transfer out to Jefferson Academy High, 5.2 percent to Pomona High, and 2.6 percent to Ralston Valley High. Lower numbers of students transferred out of Standley Lake High attendance area to 19 other high schools.

Table 16—Standley Lake GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	1.013	0.993	0.976	0.931	1.038
1st–2nd	0.954	0.959	0.934	0.914	1.004
2nd–3rd	0.979	1.021	0.951	0.909	0.932
3rd–4th	0.988	0.997	0.953	0.911	0.992
4th–5th	0.954	0.963	0.924	0.996	0.970
5th–6th	1.048	1.114	1.175	1.026	1.196
6th–7th	1.158	0.981	0.968	0.972	1.010
7th–8th	1.000	0.995	0.980	0.972	0.983
8th–9th	0.843	0.852	0.866	0.827	0.817
9th–10th	1.000	1.003	0.927	0.957	0.991
10th–11th	0.922	0.942	0.952	0.931	0.937
11th–12th	0.919	1.003	0.991	0.867	0.961

Wheat Ridge Articulation Area

The Wheat Ridge articulation area has high GPRs for the eighth to ninth grade cohorts for all years in the 2017–18 to 2022–23 period (between 1.338 and 1.549), with a GPR of 1.442 in 2021–22 to 2022–23 indicating a 44 percent increase in the cohort attending ninth grade last year (Table 17). This is in contrast to the low GPRs for the fifth to sixth grade cohorts over time, with a GPR of 0.532 in the last year (i.e., losing 47 percent of the cohort year to year). In 2022–23, Everitt Middle had a 42.1 percent retention rate, with 26.1 percent of students in the attendance area transferring out to The Manning School, 5.9 percent to Drake Middle, and 3.8 percent to Bell Middle. Other students from the Everitt Middle attendance area attended 39 other schools in 2022–23. The retention rate for Wheat Ridge High in 2022–23 was 57.1 percent, meaning some students return to their articulation area for high school, but also indicating higher rates of transfers into the high school. In 2022–23, Wheat Ridge High had students transfer in from Jefferson Junior/Senior High (5.4 percent), Arvada High (5.1 percent), Denver County School District (4.0 percent), and Lakewood High (3.6 percent). Lower numbers of students transferred into Wheat Ridge High from 24 other schools.

Table 17—Wheat Ridge GPRs for K through 12th Grade Levels, 2017–18 to 2022–23

Progression	2017–18 to 2018–19	2018–19 to 2019–20	2019–20 to 2020–21	2020–21 to 2021–22	2021–22 to 2022–23
K–1st	1.000	0.966	0.926	0.974	1.034
1st–2nd	1.058	1.030	0.939	0.949	1.041
2nd–3rd	1.011	0.997	1.013	0.981	1.018
3rd–4th	0.975	0.961	1.000	0.930	0.991
4th–5th	1.003	0.977	0.951	0.963	0.997
5th–6th	0.619	0.535	0.474	0.559	0.532
6th–7th	0.692	0.949	1.028	1.074	0.989
7th–8th	0.890	0.893	0.906	0.901	0.954
8th–9th	1.495	1.549	1.338	1.384	1.442
9th–10th	0.904	1.021	0.947	0.981	0.925
10th–11th	0.935	0.924	0.943	0.916	0.890
11th–12th	0.954	0.923	0.928	0.882	0.916

ATTACHMENT 3

Historical School Boundary Changes



As follows are the JeffCo school attendance area boundary changes that occurred in the district between the 2013-14 school year and the 2022-23 school year.

Elementary School (ES) Boundary Changes

From 2014-15 to 2015-16

- Fairmount ES to Option Mitchell ES or Fairmount ES
- Stober ES to Vivian ES
- West Woods ES to Van Arsdale ES

From 2015-16 to 2016-17

- Bradford Intermediate (4-6) ES to Bradford Intermediate (4-7) ES
- Stein ES to Emory ES

From 2016-17 to 2017-18

- Bradford Intermediate (4-7) ES to Bradford K-8 North (4-8)
- Deane ES to Emory ES
- Option Mitchell ES or Fairmount ES to Fairmount ES
- Lasley ES to Emory ES
- Meiklejohn ES to West Woods ES
- Meiklejohn ES to Three Creeks K-8
- Mitchell ES to Three Creeks K-8
- Pennington ES to Peak Expeditionary School at Pennington
- Pleasant View ES to Shelton ES (Pleasant View ES closes)
- Pleasant View ES to Welchester ES (Pleasant View ES closes)
- Emory ES to Deane ES
- Emory ES to Rose Stein International ES
- West Woods ES to Three Creeks K-8
- West Woods ES to Meiklejohn ES

From 2018-19 to 2019-20

- Bradford K-8 North (4-8) to Bradford K-8 North (5-8)

From 2019-20 to 2020-21

- Foster ES to Swanson ES (Foster ES closes)
- Marshdale ES to Wilmot ES

From 2020-21 to 2021-22

- Allendale ES to Option Fremont ES or Campbell ES (Allendale ES closes)

Middle School (MS) Boundary Changes

From 2014-15 to 2015-16

- O'Connell MS to Alameda Int'l Jr/Sr HS (O'Connell MS closes)
- Wheat Ridge 5-8 to Jefferson Jr/Sr HS (Wheat Ridge 5-8 closes)
- Wheat Ridge 5-8 to Everitt MS / Jefferson Jr/Sr Option Area (Wheat Ridge 5-8 closes)

From 2016-17 to 2017-18

- Bell MS to Three Creeks K-8
- Deer Creek MS to Bradford K-8 North
- Drake MS to Three Creeks K-8
- Drake MS to Wayne Carle MS
- Dunstan MS to Carmody MS
- Alameda Int'l Jr/Sr HS to Creighton MS
- Alameda Int'l Jr/Sr HS to Carmody MS
- Wayne Carle MS to Drake MS
- Wayne Carle MS to Three Creeks K-8

From 2018-19 to 2019-20

- Evergreen MS to Evergreen MS or West Jefferson MS Option
- West Jefferson MS to Evergreen MS or West Jefferson MS Option

From 2019-20 to 2020-21

- West Jefferson MS to Evergreen MS

HS School (HS) Boundary Changes

2016-17 to 2017-18

- Alameda HS to Lakewood HS
- Alameda HS to Alameda Int'l Jr/Sr HS
- Alameda HS to Bear Creek HS
- Golden HS to Ralston Valley HS
- Green Mountain HS to Bear Creek HS

2019-20 to 2020-21

- Conifer HS to Evergreen HS