APPLIED ECONOMICS

DEER VALLEY UNIFIED SCHOOL DISTRICT

DEMOGRAPHIC AND ENROLLMENT UPDATE

FALL 2017/18

FINAL REPORT

PREPARED FOR:

DEER VALLEY UNIFIED SCHOOL DISTRICT
20402 N 15TH AVE
PHOENIX, AZ 85027

APRIL 2, 2018

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EXECUTIVE SUMMARY

This report presents the key findings of the 2017/18 Demographic and Enrollment Update performed for the Deer Valley Unified School District (DVUSD or District) by Applied Economics. The purpose of this analysis is to identify current and historical demographic, development and enrollment trends, and to anticipate future trends to create District and sub-District enrollment projections through 2027/28. The update includes new student enrollment data, along with revised residential real estate market and development information.

- Total Kindergarten through 12th grade (K-12) enrollment was 33,539 students in the fall of the 2017/18 school year representing a decrease of just 79 students (or 0.2 percent) from last year. Enrollment in the 9th to 12th grade (9-12) cohort increased for the first time since 2013/14, however, enrollment in each of the Kindergarten to 8th grade (K-8) cohorts declined by about one percent this year.
- Enrollment levels continue to be largest in the older cohorts, with average enrollment per grade in the 9-12 cohort being slightly higher than in the 6th to 8th grade (6-8) cohort. Kindergarten to 2nd grade (K-2) enrollment has remained relatively flat for the past 3 years.
- The data indicates a general aging of the population since 2000, which directly impacts District enrollment. The population under 5 in the District has remained nearly unchanged since 2010. The population aged 5 to 13 years, generally comprising K-8 students, has also been stagnant since 2010, declining by just 54 persons. The high school age population (14 to 17 years) has increased by about 1,500 persons over the past seven years. The population in the 25 to 44 age group, typically considered prime child-rearing years, has grown only 0.3 percent per year since 2010. The population aged 45 and older has comprised about 90 percent of the District's population growth since 2010.
- The profile of occupied housing units shifted from 20.3 percent renter-occupied units in 2000 to 31.3 percent in 2017. Since rental units tend to have higher turnover rates, this trend can serve to stabilize the age structure of the student population because these households tend be replaced by new households with similar characteristics. A greater proportion of owner-occupied units will typically increase the student population in the near-term, but it will decrease over time due to the aging in place of those households.
- At the beginning of the 2017/18 school year, there were 17 charter schools operating within District boundaries serving approximately 6,700 K-12 students, which is an increase of 2,400 students since 2008/09. The bulk of charter school enrollment continues to be in the younger grades, with lower levels after 7th grade. The number of schools increased every year between 2008/09 and 2011/12, reaching a peak of 22 schools before declining to 17 schools in 2014/15. Since that time, the number of schools has remained unchanged, but enrollment has declined every year.
- Housing development in the District is subject to limitations due to terrain, land ownership, and infrastructure availability. Overall, development in the District should progress much as it has in the past, with a stable single family market supplemented by a strong level of multifamily additions and more high-density, single family housing.
- District population and households are expected to increase throughout the projection period as new housing supply enters the market and occupancy rates remain stable. Nearly 11,000 new households are expected to be formed in the next ten-year period. However, the population per household is expected to continue to decline, falling to 2.668 by 2027/28. These changes are expected to result in a population in 2027/28 of 284,400 persons occupying 106,600 households.

- District enrollment is projected to decline by about 300 students by 2027/28 as a result of the continuing decrease in the school-age population per household and the District's enrollment-population ratio. Total K-12 enrollment in 2027/28 is forecast to be 33,250 students from a school-age population of 52,000. Although the number of school-age persons in the District is projected to increase slightly (3,650 persons) by 2027/28, it will be too small to counteract the effects of the decline in the enrollment-population ratio. While the changes in household population rates are based on identified demographic trends, the enrollment-population ratio is more variable because it is based on the numerous combinations of choices by individuals and is, therefore, subject to change.
- Kindergarten to 8th grade enrollment is expected to remain fairly stable over the next ten years, totaling about 22,565 students in 2027/28. While overall enrollment may remain nearly unchanged, the total is comprised of potential losses at 15 elementary schools and gains at 14 elementary schools. Substantial enrollment increases are expected in the Esperanza and Sonoran Foothills attendance areas, each with over 40 percent growth in enrollment; moderate increases are also expected at Norterra Canyon. *The fact that all of the growth areas are clustered in one part of the district will likely necessitate the addition of another elementary school over the next five or so years to serve new students in that area.*
- Deer Valley Middle School is expected to gain over 200 students during the next ten years, but most of this growth will likely be offset by the loss of about 175 students at Hillcrest. Out of District enrollment is expected to provide some future growth and overall middle school enrollment is projected to increase by about 200 students by 2027/28. Based on the capacity of these facilities, there does not appear to be any need to add middle school facilities during the projection period.
- Changes in the high school attendance areas are expected to be more dramatic during the projection period. Barry Goldwater is expected to grow by 28 percent in the first five years and 17 percent after that, gaining 1,079 students during the ten-year projection period. However, total high school enrollment is projected to decline by about 300 students in the next ten years. Most of this decline is expected during the second five-year period as smaller classes advance through the grades. This may imply the need to adjust high school attendance areas to accommodate the growth in the Goldwater area and better utilize other existing facilities.

1.0 INTRODUCTION

The 2017/18 Demographic and Enrollment Update for the Deer Valley Unified School District (DVUSD or District) incorporates new information on enrollment, demographic trends and residential development into 10-year District-level and small-area projections of enrollment by grade. The District-level projections use long-term demographic and housing trends for the District and projected trends for the region to create a macroeconomic, top-down analysis of population and enrollment.

In addition to the District-level enrollment forecasts, projections are developed for small-area planning geographies, referred to as "grids", that are generally one-quarter square mile, or 160 acres, as shown on **Map 1**. The planning grids divide the District into 255 sub-areas that provide sufficient detail to support facility and attendance area planning activities. The data and analysis supporting the enrollment projections are separated into four sections: Existing Conditions, Residential Development, District-Level Projections and Sub-District Projections.

Section 2, Existing Conditions, provides a historical context for interpreting the current DVUSD enrollment levels and a detailed review of student distribution by grade and geography. Census data from 2000 and 2010 are compared with 2017 estimates to identify trends in key population and housing characteristics that impact District enrollment. Birth rate and student mobility information are also provided to help understand the current changes in enrollment. Finally, charter and private school enrollment data is presented for those providers operating within DVUSD boundaries, to help explain recent enrollment changes as compared to changes in the school-age population.

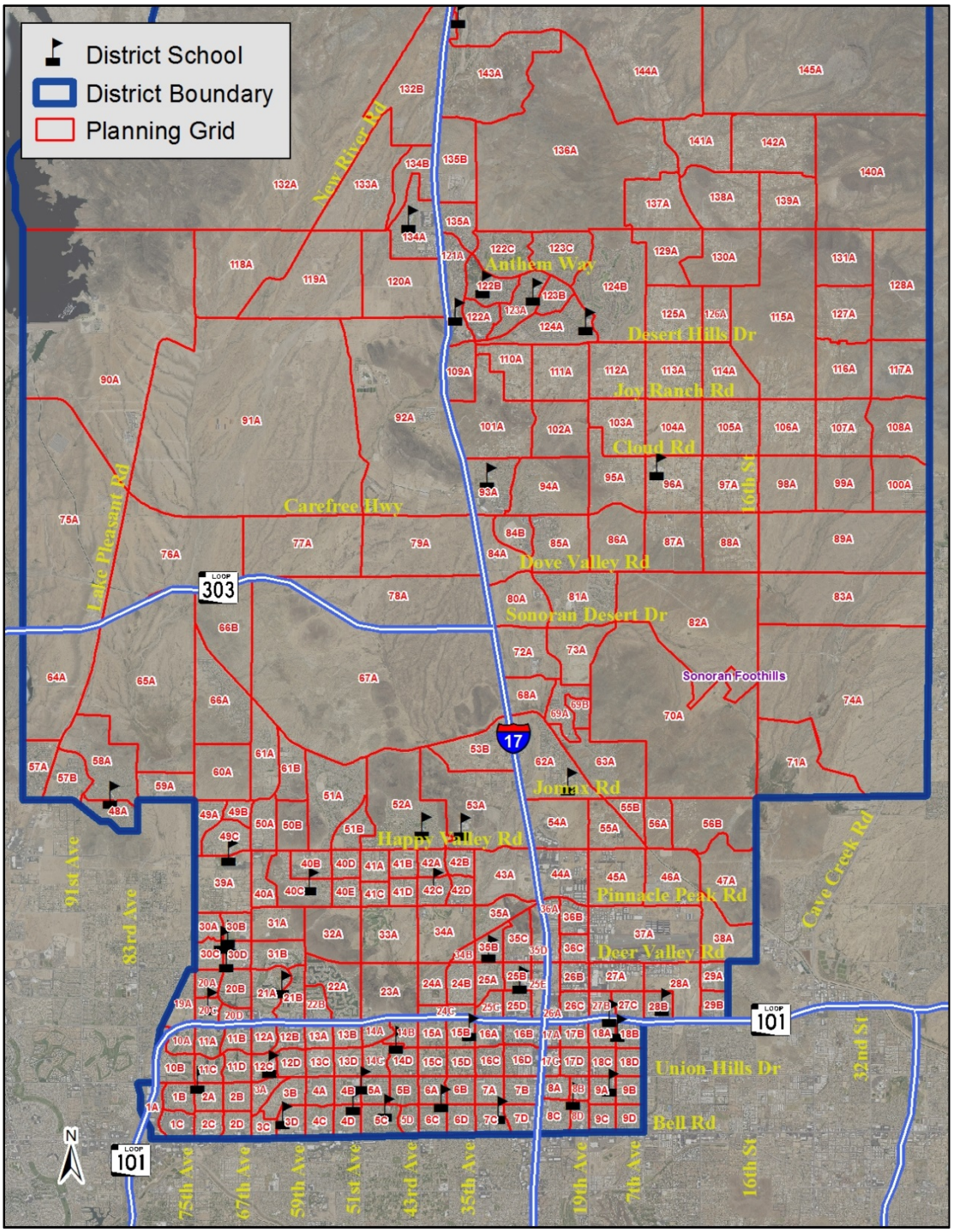
Section 3, Residential Development, presents information on current construction activity, housing vacancy rates and the potential future supply of new housing units. It provides estimates for the timing of housing construction based on current construction activity, regional growth forecasts, and the ownership and zoning status of land available for future residential development. Future new housing potential is categorized by unit type and density, as well as the timing of known housing projects within the District. These projections are instrumental in predicting the future level and distribution of enrollment within the District.

District-level enrollment projections are provided in Section 4. These projections are created by analyzing past demographic and housing market trends and extending them based on expected housing unit additions and the associated change in school-age population. Enrollment projections are also impacted by the assumption that is made regarding the share of the District's population that will choose to attend District schools. In total, these projections take into account local and regional trends in socioeconomic conditions and economic growth forecasts.

Section 5, Sub-District Projections, details enrollment projections by attendance area and school. District-level student generation rates are combined with expected housing additions, market characteristics and demographic trends at the grid level to estimate future enrollment by place of residence. This grid-level data is aggregated to form projections by attendance area and can also be used to examine potential changes to facilities and boundaries. The relationship between the number of students that reside within an attendance area and that school's enrollment illustrates the impact of student movement, including students from outside the District. This relationship is applied to attendance area projections to forecast enrollment by school.

The information and observations contained in this report are based on present knowledge of the land use and development patterns of the area under analysis, current physical and socioeconomic conditions, and regional forecasts. Estimates and projections made in this report are based on hypothetical assumptions. Even if the assumptions outlined in this report occur, there will usually be differences between the estimates and projections and the actual results because events and circumstances frequently do not occur precisely as expected. Applied Economics is under no obligation to update this report for events occurring after the date of its release.

MAP 1
DISTRICT LOCATION AND GRID PLANNING GEOGRAPHY

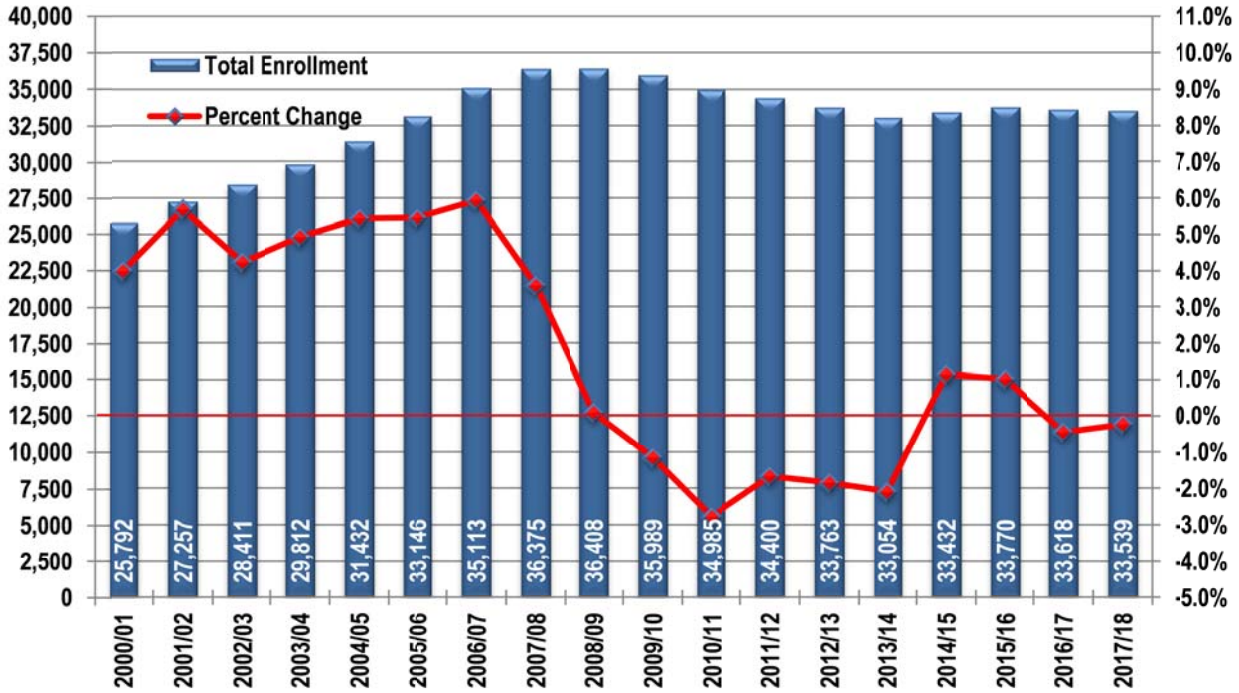


2.0 EXISTING CONDITIONS

2.1 CURRENT & HISTORICAL ENROLLMENT

Total Kindergarten through 12th grade (K-12) enrollment in DVUSD was 33,539 students in the fall of the 2017/18 school year; this represents a decrease of just 79 students (or 0.2 percent) compared to last year; enrollment also dropped by about 150 students in 2016/17. As illustrated in **Figure 1**, District enrollment grew by 4 to 6 percent per year between 2000/01 and 2006/07, adding more than 9,300 students, due to a wave of new housing construction. This "bubble" in the housing market ultimately collapsed, causing widespread employment losses and dwindling occupancy rates during the ensuing recession. Enrollment declined between 1.2 and 2.8 percent per year between 2008/09 and 2013/14, ultimately reaching a low of about 33,000 students. The large drop in the 2010/11 school year includes the loss of about 400 Kindergarten students as a result of the elimination of the District's free all-day program; the reinstatement free all-day Kindergarten helped fuel the enrollment increase in 2014/15.

FIGURE 1
TOTAL ENROLLMENT BY YEAR AND ANNUAL GROWTH RATE: 2000/01 – 2017/18

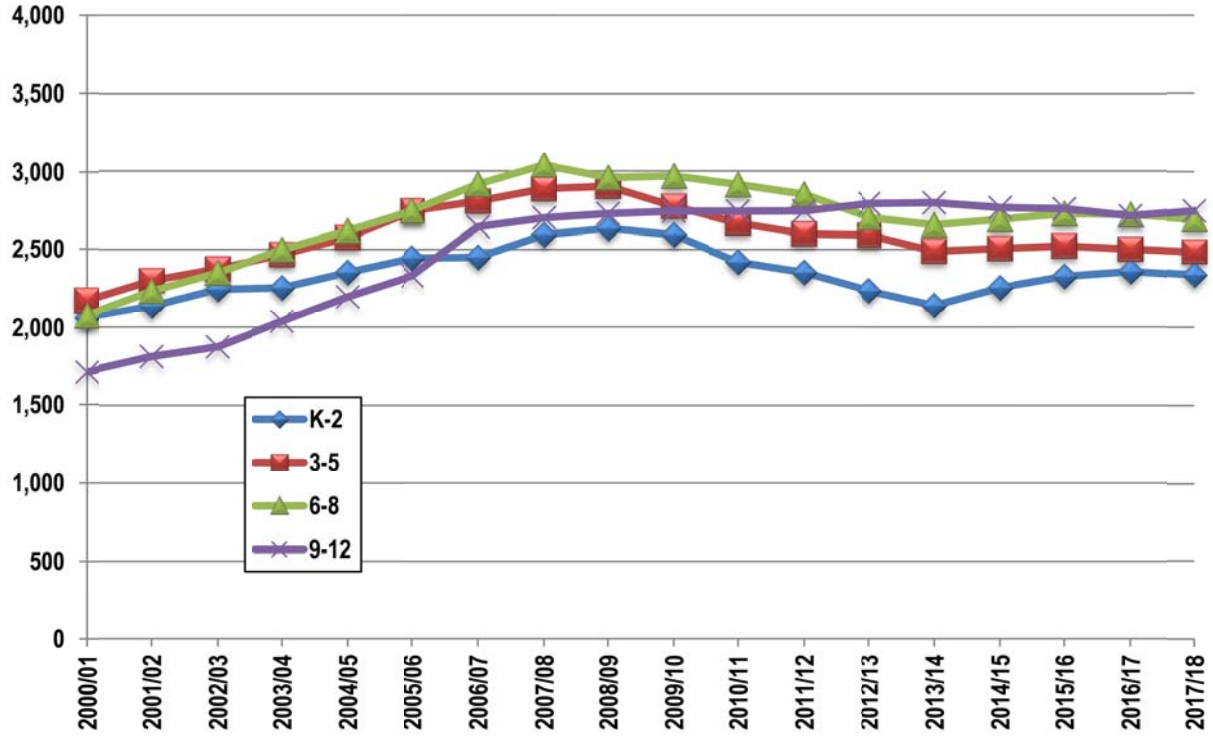


Sources: Deer Valley Unified School District; Applied Economics, 2018.

2.1.1 Grade Cohorts

The breakdown of enrollment by grade cohort provides a good understanding of past and current enrollment characteristics and lends insight into structural trends that will continue to shape enrollment in the coming years. For this purpose, the grades are grouped into the following cohorts: Kindergarten through 2nd grade (K-2), 3rd through 5th grade (3-5), 6th through 8th grade (6-8) and 9th through 12th grade (9-12). By showing the average enrollment per grade in **Figure 2**, the differences between the three- and four-grade groupings is normalized.

FIGURE 2
AVERAGE ENROLLMENT PER GRADE BY GRADE COHORT: 2000/01 – 2017/18



Source: Deer Valley Unified School District; Applied Economics, 2018.

Between 2000/01 and 2007/08 every grade experienced high levels of growth, although faster growth in 9-12 and slower growth in K-2 is reflective of a shift that occurred in the housing market as rising values limited the supply of entry-level options for younger families. Following the collapse of the housing market, enrollment in Kindergarten through 8th grade (K-8) entered a period of decline that persisted through the 2013/14 school year. The most significant losses were in the K-2 cohort, while losses in the 6-8 cohort were less severe. Although growth in the 9-12 cohort was hindered, it continued to increase slightly through the 2013/14 school year. These trends are evidence of the disproportionate impact of the Great Recession on younger families, which resulted in widespread enrollment decline in the younger grades.

Between 2013/14 and 2016/17, enrollment in each of the K-8 cohorts increased and enrollment in the 9-12 cohort decreased by about one percent per year. While there are many factors that impact enrollment, a major source of the 9-12 decline is simply the ripple effect of the smaller class sizes in the younger cohorts progressing forward. The 2nd grade class from the K-2 cohort of 2009/10 (the first year of recessionary decline) entered 9th grade in 2016/17, and by 2018/19 that cohort will comprise grades 9 through 11. While this phenomenon tends to be muted over time, as well as by any significant overall enrollment change, it may impact enrollment in the 9-12 cohort to some degree through 2025/26.

In 2017/18, enrollment in the 9-12 cohort increased by a little more than one percent (134 students) for the first time since 2013/14; however, enrollment in each of the K-8 cohorts declined by about one percent this year. Enrollment levels continue to be highest in the older cohorts, with average enrollment per grade in the 9-12 cohort (at 2,750 students) being slightly higher than in the 6-8 cohort (at 2,695 students). At about 7,000 students, total K-2 enrollment has remained relatively flat for the past 3 years.

In general, the inconsistent nature of changes in enrollment by grade cohort is not caused by any single factor, but by varying degrees of multiple factors. The Great Recession resulted in inconsistent enrollment changes throughout the region due to the variable rates of recovery by householder demographics. While the size of an incoming Kindergarten class certainly plays a major role in shaping enrollment in each successive grade level, a myriad of factors, including open enrollment, special program additions or closures within the District or in neighboring Districts, new competition from alternative providers and the economic climate, ultimately affect enrollment to a greater extent in some cohorts than others.

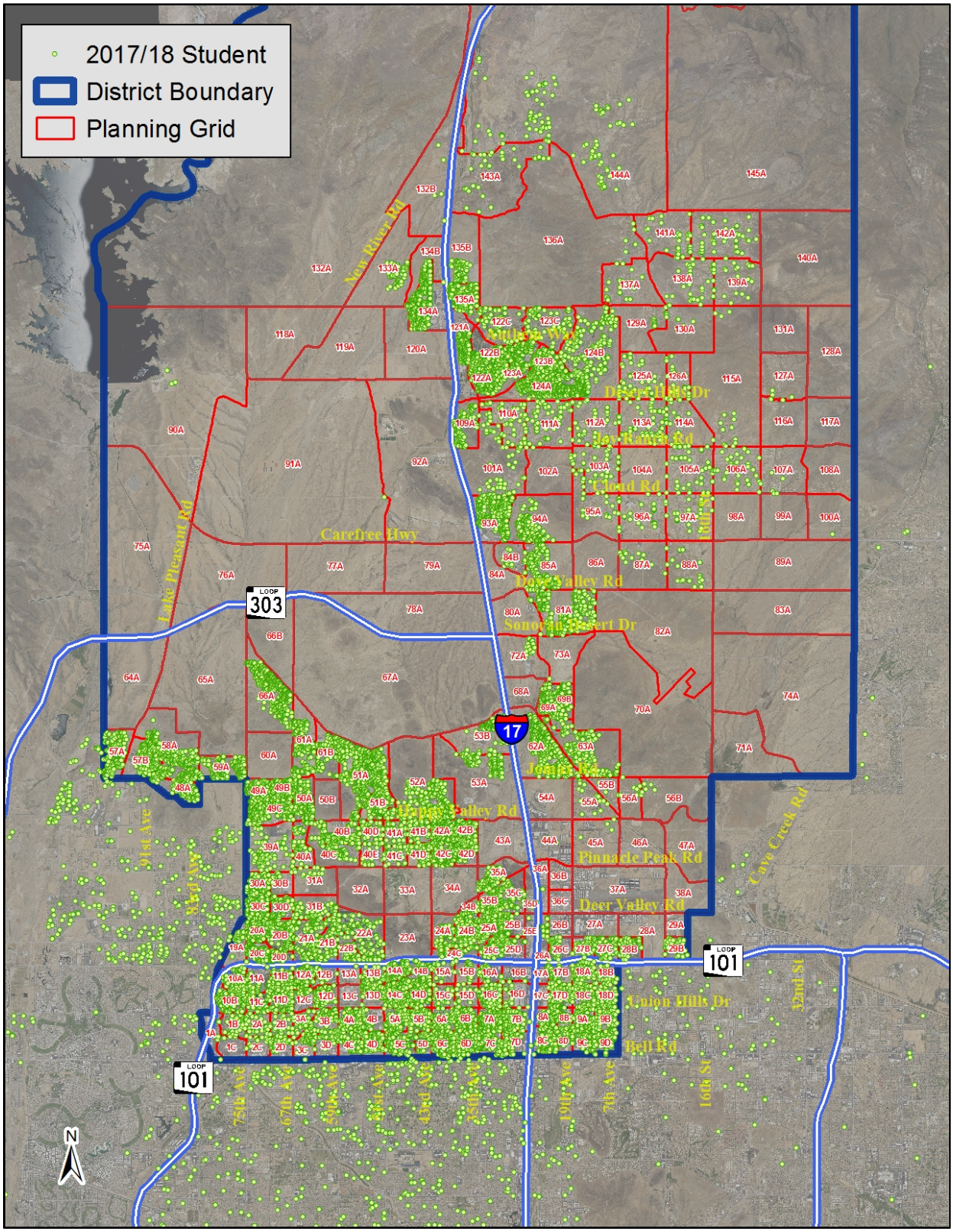
2.1.2 Geographic Distribution

In addition to looking at enrollment by grade, it is also useful to analyze the geographic distribution of students. **Map 2** shows the current point location of students attending District schools, including those living outside District boundaries. In all, 2,165 of the District's 33,539 K-12 students (6.5 percent) reside outside District boundaries, up from about 1,800 students in 2015/16. The majority of the in-District students reside in the southwestern portion of the District, which is a well-established, primarily residential, area. Large student concentrations exist in new and growing subdivisions between the Loop 101 and Jomax Road, as well as in the northeastern part of the District, north of Desert Hills Drive and east of Interstate 17 in Anthem.

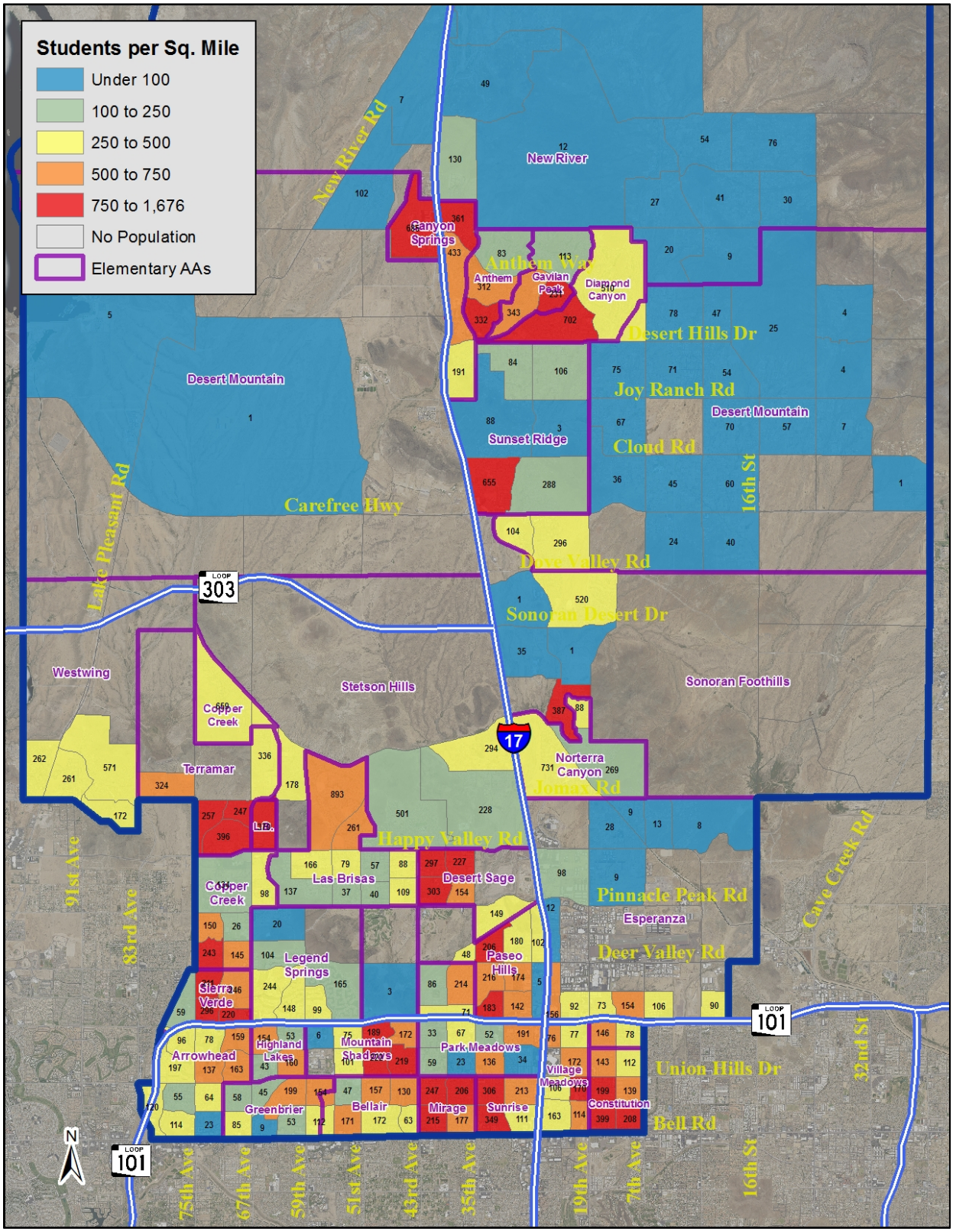
Map 3 displays the number of DVUSD students residing in each planning area (grid) used in the analysis. Higher-density areas are primarily concentrated in the established neighborhoods near the District's southern border, along the Loop 101 Freeway, and in the Anthem area to the north. Due to the significant amount of state and federal land within the District, there are large areas with little to no population.

Map 4 displays changes in enrollment between 2012/13 to 2017/18. Enrollment declines were widespread over this period, but generally more significant in the established areas in the southern portion of the District; losses were also severe in the Anthem area. Overall, enrollment from inside DVUSD boundaries has decreased by about 1,030 students; the 800-student increase in out-of-District enrollment has offset much of this loss, resulting in a net decrease of 224 students since 2012/13. Growth rates were significant in the corridor of new developments east of I-17, in the Stetson Valley area, north of Happy Valley Road and west of 51st Avenue, and in pockets along Loop 101.

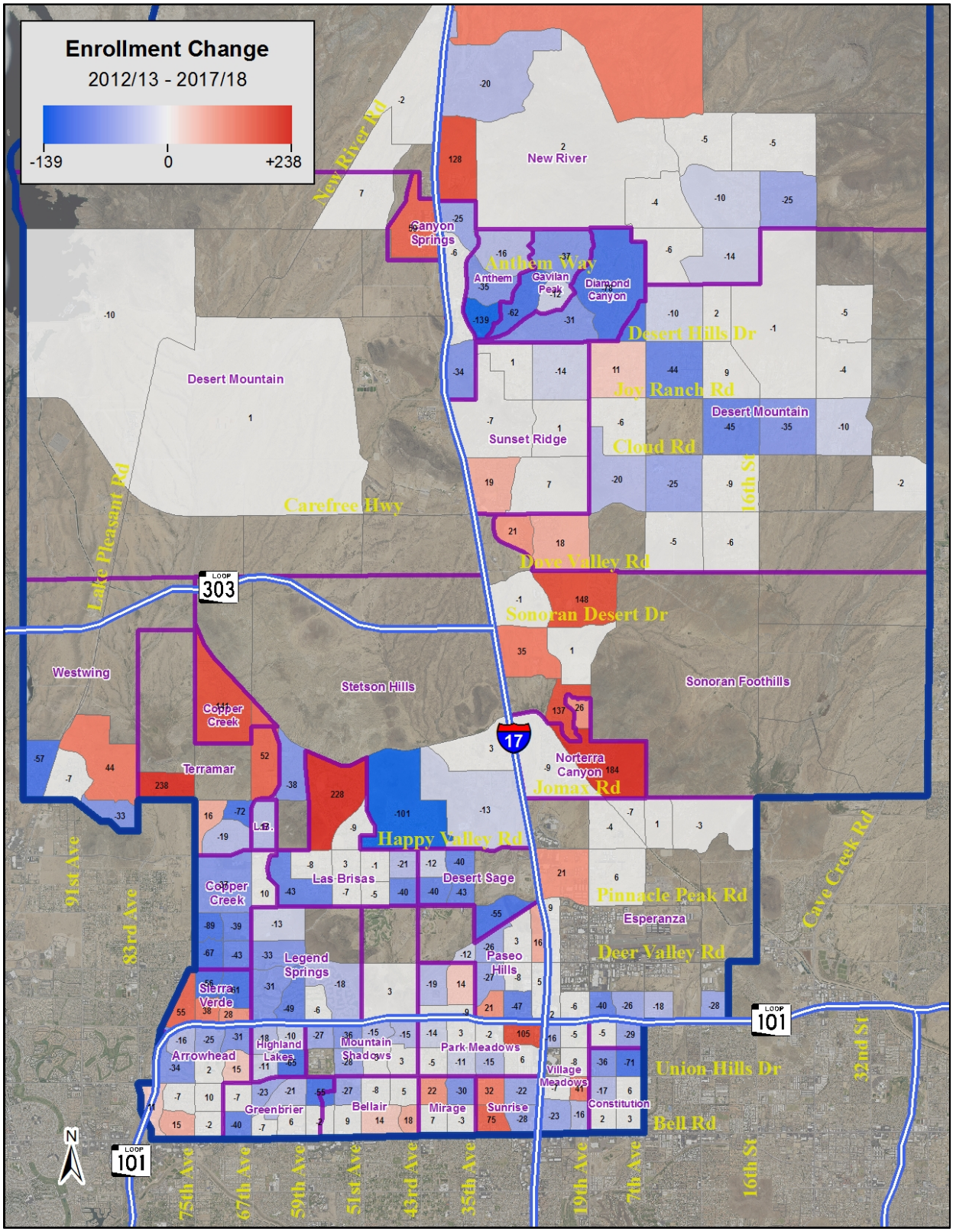
MAP 2
GEOGRAPHIC DISTRIBUTION OF 2017/18 K-12 ENROLLMENT



MAP 3
2017/18 K-12 ENROLLMENT DENSITY WITH COUNT BY PLANNING GRID



MAP 4
CHANGE IN ENROLLMENT: 2012/13 TO 2017/18



2.1.3 Mobility

Turn-over and retention characteristics of enrollment are important to understanding the long-term trends in student behavior that will drive enrollment in the future. **Table 1** summarizes the key measurements of student movement, including the loss of students from the District one year to the next, the share that new students each year comprise of the total, and the share of students retained from the prior year.

TABLE 1
DISTRICT MOBILITY RATES

Year	K	1	2	3	4	5	6	7	8	9	10	11	12	Total
2008_09	2,666	2,668	2,578	2,794	2,937	2,990	2,879	3,053	2,967	3,026	2,883	2,589	2,478	36,508
Lost	17%	17%	14%	13%	15%	13%	13%	12%	16%	12%	16%	15%	96%	
New	86%	18%	16%	15%	14%	14%	13%	15%	10%	15%	9%	9%	6%	
Retained	58%	82%	83%	85%	87%	85%	87%	87%	88%	84%	87%	84%	88%	
2009_10	2,469	2,676	2,637	2,600	2,815	2,904	2,992	2,940	2,991	2,943	2,890	2,670	2,428	35,955
Lost	17%	15%	16%	15%	15%	15%	14%	12%	16%	14%	15%	14%	97%	
New	82%	18%	15%	17%	15%	14%	13%	14%	12%	13%	10%	9%	6%	
Retained	49%	84%	84%	84%	85%	85%	85%	86%	87%	84%	86%	85%	88%	
2010_11	2,075	2,526	2,667	2,666	2,585	2,788	2,836	2,988	2,919	2,901	2,794	2,693	2,511	34,949
Lost	15%	13%	14%	14%	15%	15%	14%	11%	17%	11%	13%	12%	98%	
New	80%	24%	15%	13%	13%	13%	13%	14%	11%	15%	10%	10%	7%	
Retained	49%	86%	87%	86%	86%	85%	85%	87%	89%	83%	89%	87%	90%	
2011_12	2,133	2,339	2,584	2,652	2,627	2,529	2,737	2,871	2,980	2,852	2,858	2,716	2,600	34,478
Lost	21%	18%	18%	17%	18%	17%	18%	13%	17%	15%	17%	17%	99%	
New	83%	29%	20%	18%	18%	17%	16%	18%	13%	16%	11%	11%	7%	
Retained	44%	80%	81%	81%	82%	83%	83%	82%	87%	83%	85%	83%	86%	
2012_13	2,067	2,394	2,380	2,553	2,652	2,602	2,501	2,753	2,881	2,953	2,735	2,653	2,489	33,613
Lost	13%	14%	12%	11%	10%	9%	9%	8%	13%	6%	8%	7%	95%	
New	84%	18%	12%	11%	10%	9%	10%	13%	8%	12%	8%	7%	6%	
Retained	50%	87%	85%	88%	89%	90%	90%	91%	92%	87%	94%	92%	96%	
2013_14	1,941	2,193	2,298	2,354	2,513	2,620	2,599	2,629	2,774	2,869	3,007	2,718	2,722	33,237
Lost	16%	14%	14%	12%	12%	12%	12%	9%	14%	11%	12%	12%	97%	
New	76%	27%	20%	19%	17%	16%	14%	15%	11%	16%	9%	8%	6%	
Retained	55%	84%	86%	86%	88%	88%	88%	89%	91%	86%	89%	88%	91%	
2014_15	2,221	2,207	2,367	2,436	2,493	2,612	2,680	2,736	2,681	2,856	2,816	2,868	2,633	33,606
Lost	17%	16%	15%	12%	12%	12%	12%	10%	15%	11%	11%	12%	97%	
New	78%	21%	20%	17%	16%	15%	13%	15%	11%	19%	9%	8%	6%	
Retained	54%	83%	84%	85%	88%	87%	88%	89%	89%	85%	89%	89%	91%	
2015_16	2,373	2,327	2,294	2,433	2,572	2,569	2,645	2,799	2,749	2,812	2,780	2,743	2,772	33,868
Lost	18%	14%	14%	12%	13%	13%	11%	10%	15%	10%	12%	13%	98%	
New	74%	19%	17%	17%	16%	14%	13%	15%	11%	17%	9%	8%	6%	
Retained	54%	81%	85%	86%	87%	87%	87%	89%	90%	85%	90%	88%	90%	
2016_17	2,337	2,361	2,382	2,363	2,526	2,617	2,587	2,770	2,811	2,818	2,758	2,670	2,618	33,618
Lost	16%	15%	13%	12%	13%	13%	12%	11%	15%	11%	10%	10%	98%	
New	74%	16%	15%	15%	15%	15%	13%	15%	11%	18%	9%	8%	6%	
Retained	53%	84%	84%	87%	87%	87%	87%	89%	89%	85%	89%	90%	92%	
2017_18	2,331	2,327	2,347	2,459	2,414	2,577	2,607	2,704	2,775	2,917	2,766	2,708	2,607	33,539
AVERAGE														
Lost	17%	15%	14%	13%	14%	13%	13%	11%	15%	11%	12%	12%	97%	
New	80%	21%	17%	16%	15%	14%	13%	15%	11%	16%	9%	9%	6%	
Retained	51%	83%	85%	86%	86%	86%	87%	88%	89%	85%	89%	88%	91%	

Sources: Deer Valley Unified School District; Applied Economics, 2018.

The share of students leaving the District after each year ranges from a high of 17 percent for Kindergarteners (excluding the 97 percent of 12th graders who leave), to a low of 11 percent for 7th and 9th graders. The other grades range from 12 to 15 percent of students leaving per year.

The share of the next year's enrollment coming from new students ranges from a high of 21 percent in 1st grade (excluding the 80 percent of Kindergarteners that are new), to a low of 6 percent in 12th grade. The share of new students declines steadily from 2nd grade through 8th grade as older families stabilize, although there is a slight increase in 7th grade, possibly from students returning to District middle schools from alternative providers. The strong up-tick to 15 percent in 9th grade is a reflection of students returning to District schools from alternative providers for high school, while the lower shares in 10th through 12th grade reflect the reluctance of parents and students to move once in high school.

The share of students retained from the year before ranges from 83 percent in 1st grade to 91 percent in 12th grade. The rates tend to increase with the grade level, with the exception of 9th grade where some students that have been attending District schools seek alternative providers for the same reasons that attract new students in the same class.

Using the mobility data, it is also possible to track the share of students that stay in the District over time. Overall, the data compiled for 1st through 8th grades shows that about 56 percent of 1st graders are likely to attend a District school through 8th grade. The largest drop (15 percent) occurs from 1st to 2nd grade, followed by 10 percent from 2nd to 3rd grade, declining all the way down to 2 percent per year in 7th and 8th grade. The long-term survival rate varies significantly by elementary attendance area (i.e. where the student attended first grade), ranging from 38 percent in the Constitution attendance area to 80 percent in the Stetson Hills attendance area, as shown in **Figure 3**.

FIGURE 3
SHARE OF STUDENTS STAYING IN THE DISTRICT FROM 1ST TO 8TH GRADE

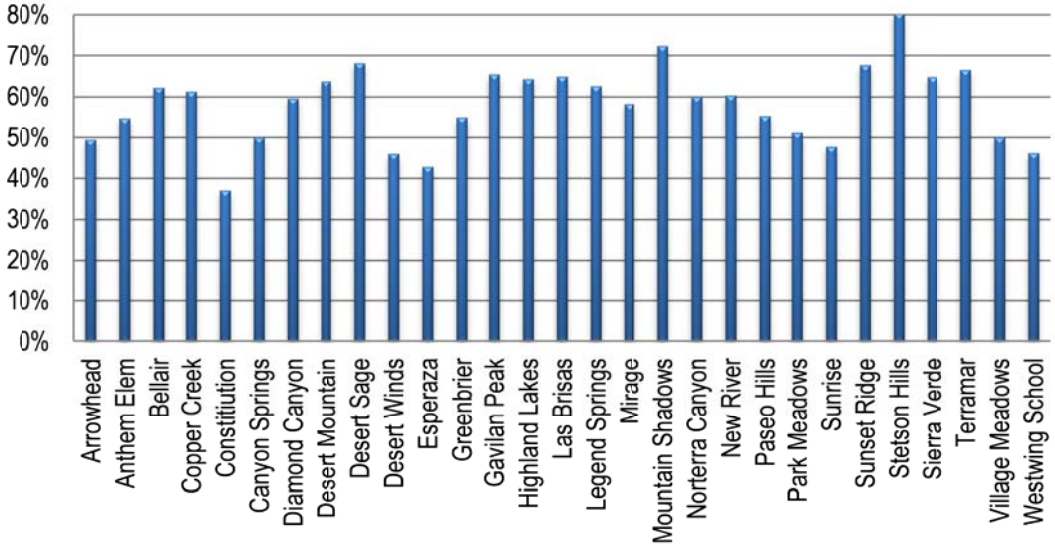
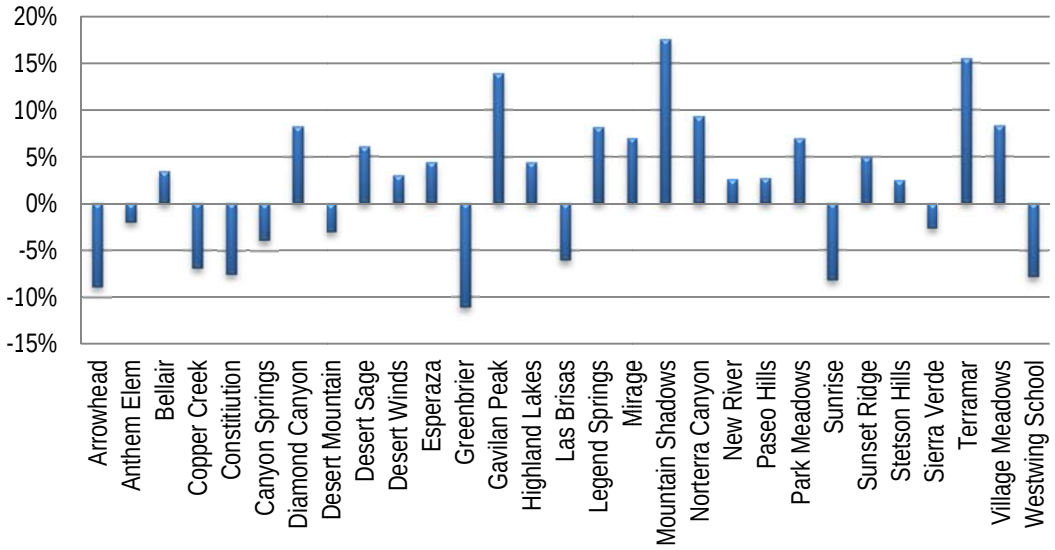


Figure 4 depicts the recent change, for each attendance area, in the share of students that stay in the District from 1st to 8th grade. Note that the share of continuing students increased by more than 10 percent this year in the Mountain Shadows (18 percent), Terramar (16 percent) and Gavilan Peak (14 percent) attendance areas. The largest decreases in the share of continuing students occurred in the Greenbrier (11 percent) and Arrowhead (9 percent) attendance areas this year.

FIGURE 4
CHANGE IN THE SHARE OF STUDENTS STAYING IN THE DISTRICT FROM 1ST TO 8TH GRADE:
2016/17 TO 2017/18



The movement of students between 8th and 9th grade has become a very important part of the enrollment projections for high schools. **Table 2** details the impact of these shifts using the comparison of the number of 8th grade students in each attendance area to the number of 9th grade students in each attendance area the next year, and the relationship between the number of 8th graders by attendance area and the number of 9th graders by school the next year. The 8th to 9th grade shift by attendance area shows that the progression rate has moved from under 100 percent to over 100 percent for the District and most of the attendance areas, again showing the impact of students returning to District schools for high school.

The relationship between the number of 8th graders by attendance area and the number of 9th graders by schools shows the same rates at which 9th grade enrollment now typically exceeds 8th grade enrollment in the previous year. However, it also reveals a significant amount of movement between schools from 8th to 9th grade.

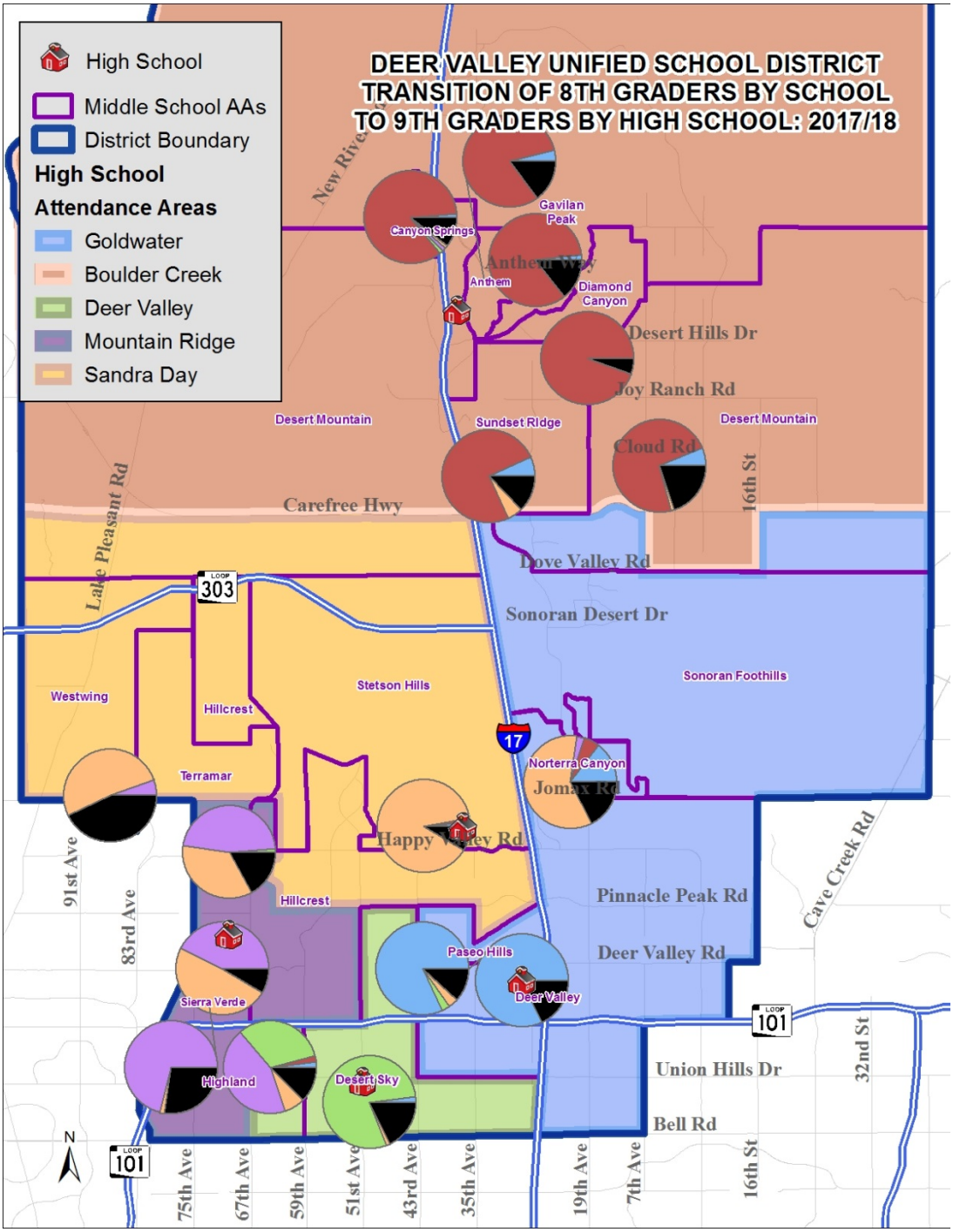
TABLE 2
8TH TO 9TH GRADE TRANSITION STATISTICS

AA/SCHOOL	2010_11	2011_12	2012_13	2013_14	2014_15	2015_16	2016_17	2017_18
8TH GRADERS BY ATTENDANCE AREA								
MOUNTAIN RIDGE	546	550	516	469	473	430	454	457
DEER VALLEY	448	465	403	405	375	379	385	365
BARRY GOLDWATER	617	666	595	595	589	533	622	589
SANDRA DAY	552	560	613	534	576	594	589	582
BOULDER CREEK	680	647	634	660	548	678	630	645
OUT OF DISTRICT	76	92	120	106	120	135	131	137
TOTAL	2,919	2,980	2,881	2,769	2,681	2,749	2,811	2,775
9TH GRADERS BY ATTENDANCE AREA								
MOUNTAIN RIDGE	562	537	552	528	471	482	471	468
DEER VALLEY	457	426	448	412	421	403	373	371
BARRY GOLDWATER	568	563	619	534	564	578	540	621
SANDRA DAY	606	574	592	614	576	609	565	608
BOULDER CREEK	637	677	654	667	713	614	709	683
OUT OF DISTRICT	71	75	88	112	111	126	160	166
TOTAL	2,901	2,852	2,953	2,867	2,856	2,812	2,818	2,917
PROGESSION OF 8TH GRADERS BY ATTENDANCE AREA TO 9TH GRADERS BY ATTENDANCE AREA								
MOUNTAIN RIDGE	99.1%	98.4%	100.4%	102.3%	100.4%	101.9%	109.5%	103.1%
DEER VALLEY	91.8%	95.1%	96.3%	102.2%	104.0%	107.5%	98.4%	96.4%
BARRY GOLDWATER	93.7%	91.2%	92.9%	89.7%	94.8%	98.1%	101.3%	99.8%
SANDRA DAY	99.7%	104.0%	105.7%	100.2%	107.9%	105.7%	95.1%	103.2%
BOULDER CREEK	96.8%	99.6%	101.1%	105.2%	108.0%	112.0%	104.6%	108.4%
OUT OF DISTRICT	131.5%	98.7%	95.7%	93.3%	104.7%	105.0%	118.5%	126.7%
TOTAL	97.0%	97.7%	99.1%	99.5%	103.1%	104.9%	102.5%	103.8%
9TH GRADERS BY SCHOOL								
MOUNTAIN RIDGE	580	549	561	578	533	567	604	577
DEER VALLEY	512	432	499	453	472	451	424	435
BARRY GOLDWATER	480	486	543	511	506	495	413	492
SANDRA DAY	667	696	686	627	597	649	603	675
BOULDER CREEK	644	670	645	683	726	630	747	718
OTHER	18	19	19	17	22	20	27	20
TOTAL	2,901	2,852	2,953	2,869	2,856	2,812	2,818	2,917
PROGESSION OF 8TH GRADERS BY ATTENDANCE AREA TO 9TH GRADERS BY SCHOOL								
MOUNTAIN RIDGE	102.3%	100.5%	102.0%	112.0%	113.6%	119.9%	140.5%	127.1%
DEER VALLEY	102.8%	96.4%	107.3%	112.4%	116.5%	120.3%	111.9%	113.0%
BARRY GOLDWATER	79.2%	78.8%	81.5%	85.9%	85.0%	84.0%	77.5%	79.1%
SANDRA DAY	109.7%	126.1%	122.5%	102.3%	111.8%	112.7%	101.5%	114.6%
BOULDER CREEK	97.9%	98.5%	99.7%	107.7%	110.0%	115.0%	110.2%	114.0%
TOTAL	97.0%	97.7%	99.1%	99.6%	103.1%	104.9%	102.5%	103.8%

Sources: Deer Valley Unified School District; Applied Economics, 2018.

Another way to look at relationship between 8th graders and 9th graders is the high school chosen by 8th graders from each school. This information is detailed in Appendix A and summarized in **Map 5**. It primarily shows the distribution of 9th graders from each school follows logical patterns, with most students choosing the school indicated by their residence. However, in some cases, like Norterra Canyon, the 8th grade class splits to go to several high schools with the majority going to Sandra Day O'Conner and Goldwater. West Wing is notable for the large number of 8th grade students leaving the District for high school, the distance to Sandra Day O'Conner High School appearing to be a major obstacle.

MAP 5
TRANSITION OF 8TH GRADERS BY SCHOOL IN HIGH SCHOOL



2.2 DEMOGRAPHIC TRENDS

Table 3 displays Census data for key population and housing characteristics of the District for 2000 and 2010, along with Applied Economics' estimates for 2017. Changes in the District's population with regard to age and ethnicity, as well as in housing growth and types of housing development, help to explain recent demographic trends. Like many parts of the Valley, the District experienced a significant increase in population from 2000 to 2010, growing by more than 4 percent annually. Most of that growth occurred in the first half of the decade, prior to the nationwide economic recession. Since 2010, population growth has been sluggish, increasing by about 1 percent per year.

The racial and ethnic composition of the District population has changed little since 2010, with a slight decline in the White share of population and minor increases in the African-American and Asian shares. The Hispanic share of population remained relatively constant, growing at a rate roughly equal to that of the overall population during the five-year period.

The data indicates a general aging of the population since 2000, which directly impacts District enrollment. The population under 5 years of age increased by 2.7 percent per year between 2000 and 2010, and was undoubtedly greater during the high-growth period in the first half of the decade. Despite the impact of the recession in 2007 on younger families generally and the widespread decline in birth rates, the population under 5 in the District has remained nearly unchanged since 2010, decreasing by about 150 people, or just 0.1 percent. The population aged 5 to 13, generally comprising Kindergarten through 8th grade, has also been stagnant since 2010, dropping just 54 persons. The high school age population (14 to 17 years) increased by 1.5 percent, about 1,500 persons, over the past seven years.

The population in the 25 to 44 age group, typically considered prime child-rearing years, has grown only 0.3 percent per year since 2010, illustrating the correlation of this age group with the population under the age of 13. The population over the age of 45 grew at the fastest pace between 2000 and 2010; in fact, the annual rate of growth in the 65 and Up category was nearly twice that of the overall population. This trend has continued and has added about 18,400 persons aged 45 or older since 2010, which is more than nine times the amount of the other categories combined. The 45 to 64 and 65 and Up categories, which together comprised about 27 percent of the population residing in the District in 2000, now account for around 40 percent of the total population. The population aged 45 and older has comprised about 90 percent of the District's population growth since 2010.

There were about 35,900 new housing units added between 2000 and 2010, which translates to an annual growth rate of about 5 percent. Since 2010, 4,500 new units have been added to the inventory, representing a growth rate of less than 1 percent. Multifamily housing additions increased at a slightly higher rate than single family in both time periods. Occupancy levels dropped from 93.7 percent to 90.4 percent between 2000 and 2010 as a result of the recession. By 2017, occupancy had fully recovered, reaching 94.2 percent.

The profile of occupied housing units shifted from 20.3 percent renter-occupied units in 2000, to 24.9 percent in 2010 and 31.3 percent in 2017. The implication for DVUSD enrollment is the fact that rental units tend to have higher turnover rates; this trend can serve to stabilize the age structure of the student population since these households tend be replaced by new households with similar characteristics, rather than aging in place. A greater proportion of owner-occupied units will typically increase the student population in the near-term, but it will then decrease over time. Household size has declined by 0.1 percent annually since the 2000 Census. This can be attributed to the reduction in home ownership and the overall aging of the existing population.

TABLE 3
POPULATION AND HOUSING TRENDS

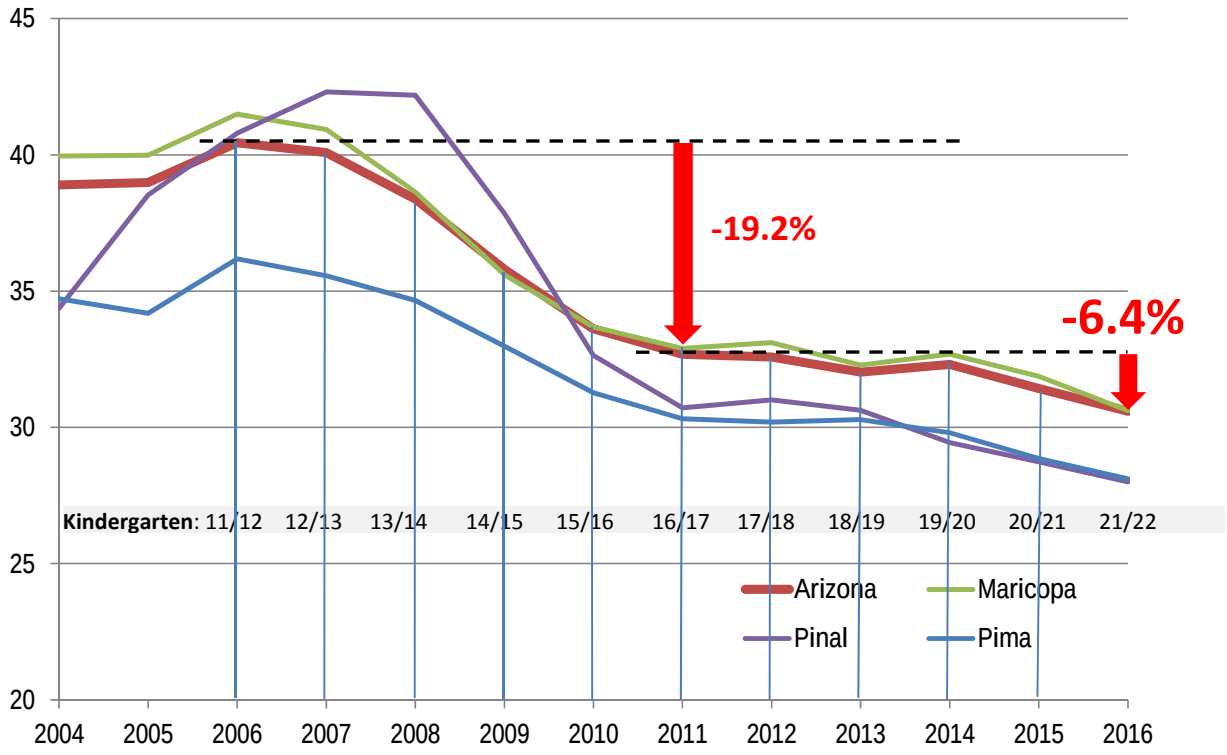
	2000 Census		2010 Census		2017 Estimate		Change (2000-2010)		Change (2010-2017)	
	Total	Percent	Total	Percent	Total	Percent	Total	Percent*	Total	Percent*
Population										
Total	159,234	100.0%	239,040	100.0%	259,392	100.0%	79,806	4.1%	20,352	1.2%
By Race & Ethnicity:										
White	134,862	84.7%	189,437	79.2%	201,454	77.7%	54,575	3.5%	12,017	0.9%
African American	3,333	2.1%	5,623	2.4%	6,529	2.5%	2,290	5.4%	906	2.2%
Native American	1,175	0.7%	1,786	0.7%	1,793	0.7%	611	4.3%	7	0.1%
Asian	3,736	2.3%	11,727	4.9%	15,805	6.1%	7,991	12.1%	4,078	4.4%
Hispanic	15,933	10.0%	30,090	12.6%	33,403	12.9%	14,157	6.6%	3,313	1.5%
Other	193	0.1%	377	0.2%	408	0.2%	184	6.9%	31	1.1%
By Age:										
Under 5	12,717	8.0%	16,602	6.9%	16,754	6.5%	3,885	2.7%	152	0.1%
5 to 13	23,031	14.5%	32,582	13.6%	32,528	12.5%	9,551	3.5%	-54	0.0%
14 to 17	10,016	6.3%	14,368	6.0%	15,895	6.1%	4,352	3.7%	1,527	1.5%
18 to 24	13,474	8.5%	20,143	8.4%	19,016	7.3%	6,669	4.1%	-1,127	-0.8%
25 to 44	56,869	35.7%	71,267	29.8%	72,695	28.0%	14,398	2.3%	1,428	0.3%
45 to 64	33,731	21.2%	64,693	27.1%	77,221	29.8%	30,962	6.7%	12,528	2.6%
65 and up	9,396	5.9%	19,385	8.1%	25,282	9.7%	9,989	7.5%	5,897	3.9%
Housing Units										
Total	60,589	100.0%	96,493	100.0%	101,022	100.0%	35,904	4.8%	4,529	0.7%
Occupied	56,782	93.7%	87,217	90.4%	95,137	94.2%	30,435	4.4%	7,920	1.2%
Owner	44,491	73.4%	63,211	65.5%	63,531	62.9%	18,720	3.6%	320	0.1%
Renter	12,291	20.3%	24,006	24.9%	31,607	31.3%	11,715	6.9%	7,601	4.0%
Vacant	3,807	6.3%	9,276	9.6%	5,885	5.8%	5,469	9.3%	-3,391	-6.3%
Seasonal Use	1,190	2.0%	2,111	2.2%	2,254	2.2%	921	5.9%	143	0.9%
By Unit Type:										
Single Family	50,715	83.7%	79,651	82.5%	83,066	82.2%	28,936	4.6%	3,415	0.6%
Multifamily	9,874	16.3%	16,842	17.5%	17,956	17.8%	6,968	5.5%	1,114	0.9%
Households										
Total	56,782	100.0%	87,217	100.0%	95,137	100.0%	30,435	4.4%	7,920	1.2%
By Age of Householder:										
15 to 24	2,850	5.0%	3,669	4.2%	4,151	4.4%	819	2.6%	482	1.8%
25 to 34	12,325	21.7%	14,836	17.0%	15,545	16.3%	2,511	1.9%	709	0.7%
35 to 44	16,467	29.0%	20,509	23.5%	18,794	19.8%	4,042	2.2%	-1,715	-1.2%
45 to 54	12,330	21.7%	21,395	24.5%	24,083	25.3%	9,065	5.7%	2,688	1.7%
55 to 64	7,135	12.6%	15,461	17.7%	18,640	19.6%	8,326	8.0%	3,179	2.7%
65 to 74	3,670	6.5%	7,684	8.8%	9,773	10.3%	4,014	7.7%	2,089	3.5%
Over 75	2,005	3.5%	3,663	4.2%	4,152	4.4%	1,658	6.2%	489	1.8%
Population Per	2.80		2.74		2.73		-0.06	-0.2%	-0.01	-0.1%

Sources: U.S. Bureau of the Census, 2000 and 2010; Applied Economics, 2017.

* Annual compound rate of change.

Another major factor affecting enrollment in schools is the recent decline in the birth rate, both regionally and nationally. As shown in **Figure 5**, the birthrate (births per 1,000 for the population aged 15 to 45) in Arizona declined sharply between 2006 and 2011 (19.2 percent), with the Maricopa County rate declining by 23.7 percent. Since 2011 the rate has continued to decline, although much more slowly, while the total number of births has stabilized because the population aged 15 to 45 has increased somewhat during the period. The impact of the declining birth rate on Kindergarten enrollment is delayed five years, implying that the number of potential Kindergarten students declined by about 24 percent between the 2011/12 and 2016/17 school years. In fact, most school districts in Maricopa County experienced declines in Kindergarten enrollment during that period.

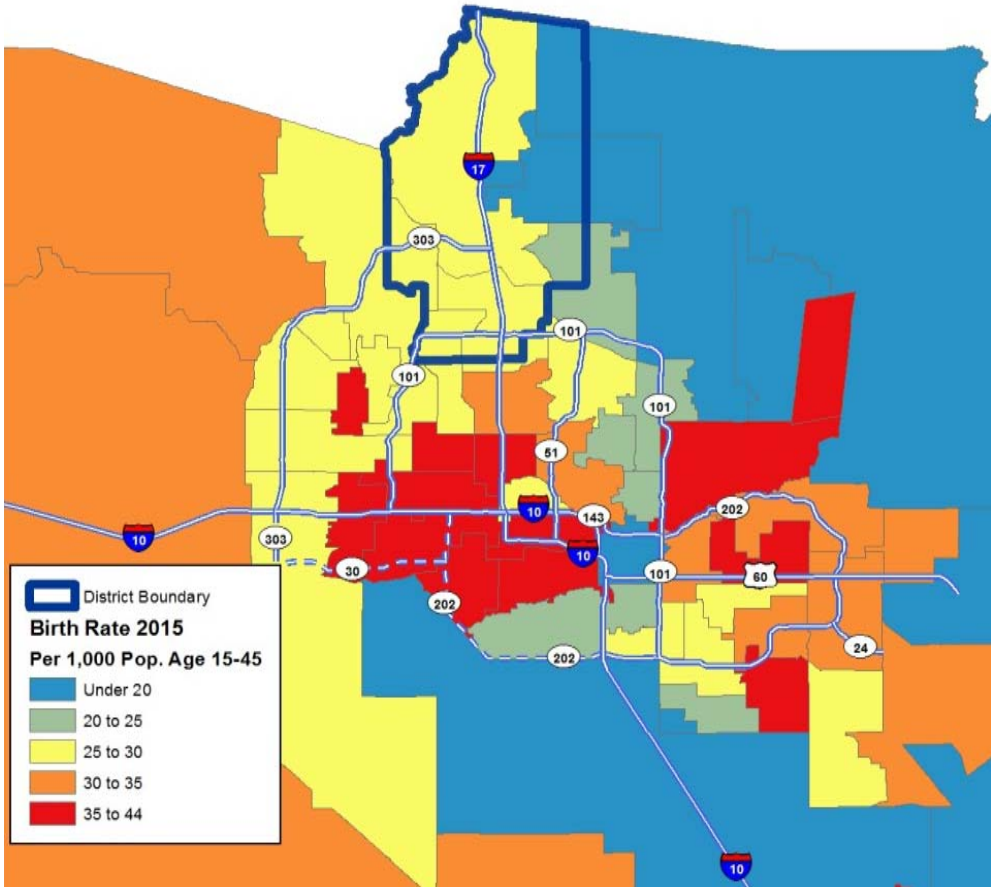
FIGURE 5
BIRTHRATES IN ARIZONA AND SELECTED COUNTIES: 2004 – 2016



Sources: Arizona Department of Health Services; Applied Economics, 2017.

MAP 6
BIRTH RATES
2015

With respect to sub-county birthrates, most of the populated parts of the District are near the county average. However, Anthem has much lower than average birthrates, which has been evident in the enrollment trends for the schools in the area. The southwest Valley and isolated parts of the southeast Valley boast the highest birthrates in the region, while the northeast Valley features the lowest rates.



MAP 7
CHANGE IN BIRTHRATES
2011 - 2015

During the economic recovery period (2011 through 2015), birth rates declined across most of the District, indicative of an aging population and the absence of new younger families due to the higher than average home prices in many areas. New development in the the southwestern portion of the District has attracted some younger families, thereby causing the birthrate to rise slightly.

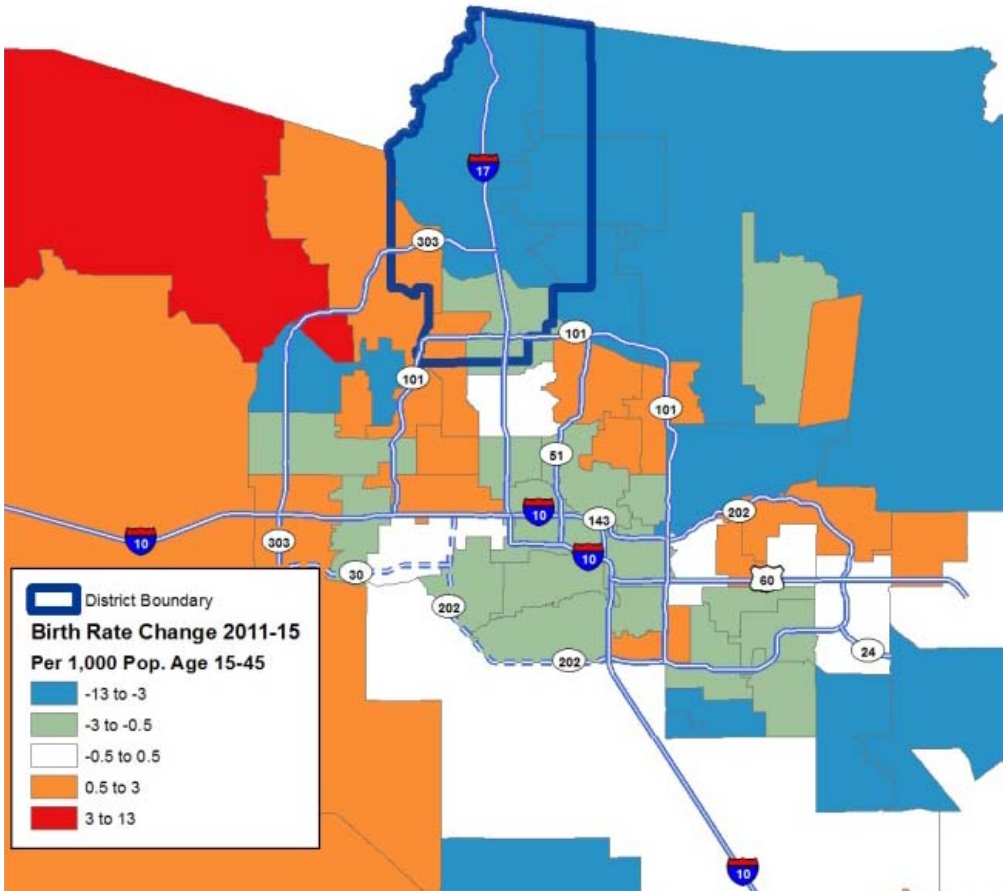


Table 4 shows near-term Kindergarten enrollment projections for the District based on both the county and District methods. The Maricopa County data shows the historical decline, increase and recent stability in the number of births. The lagged relationship of this trend to enrollment shows the District's share of births beginning at about 4.1 percent in the 2009/10 school year and then immediately plummeting to 3.3 percent when free full-day Kindergarten was eliminated in the 2010/11 school year. The share stayed around 3 percent until that full-day program was restored in 2014/15. The lagged share of births has stabilized over the past three years at a level slightly above the 2009/10 rate, averaging 4.3 percent for the three-year period. Held constant and applied to the known births through 2016, this rate would result in District Kindergarten enrollment of between 2,300 and 2,400 students over the next four years.

TABLE 4
PROJECTED KINDERGARTEN ENROLLMENT BASED ON PAST
MARICOPA COUNTY AND DISTRICT BIRTHS

Year	Births*	School Year	Kindergarten Enrollment	Share of Lagged Births
Maricopa County				
2004	60,480	2009/10	2,462	4.07%
2005	62,232	2010/11	2,065	3.32%
2006	66,160	2011/12	2,136	3.23%
2007	65,931	2012/13	2,005	3.04%
2008	62,667	2013/14	1,939	3.09%
2009	57,663	2014/15	2,216	3.84%
2010	54,229	2015/16	2,363	4.36%
2011	53,361	2016/17	2,337	4.38%
2012	54,475	2017/18	2,331	4.28%
2013	53,848	2018/19	2,315	4.30%
2014	55,285	2019/20	2,377	4.30%
2015	54,600	2020/21	2,348	4.30%
2016	54,021	2021/22	2,323	4.30%
Deer Valley Unified School District *				
2010	2,919	2015/16	2,363	80.9%
2011	2,953	2016/17	2,337	79.1%
2012	2,979	2017/18	*2,315*	*77.7%*
2013	2,863	2018/19	*2,233*	*78.0%*
2014	2,893	2019/20	*2,257*	*78.0%*
2015	2,906	2020/21	*2,267*	*78.0%*
2016**	2,951	2021/22	*2,301*	*78.0%*

Sources:
Arizona Department of Health Servcices, 2004 - 2017.
Deer Valley Unified School District, 2004 - 2017.
Applied Economics, 2018.

* Births estimated based on birth rate and population for sub-areas in the District
Sub-county from before 2010 is not comparable.
** Estimated based on 2015 rates and 2016 population.
Coloring indicates projections

Using the estimated births in the District, and the lagged historical share of those compared to Kindergarten enrollment (about 78 percent), District Kindergarten enrollment would range from about 2,200 to 2,300 students over the next four years. These estimates do show somewhat lower expected levels of Kindergarten enrollment compared with the county birth-based estimates.

2.3 ALTERNATIVE PROVIDERS

Public school districts face increasing competition for students from charter and private schools, as well as from neighboring public school districts through open enrollment policies. Charter schools report enrollment to the state as do district schools and, while there is a one-year lag in the reported data, the Arizona Department of Education (ADE) is usually a reliable source of enrollment figures. Therefore, 2017/18 charter enrollment has been estimated using Average Daily Membership (ADM).

At the beginning of the 2017/18 school year, there were 17 charter schools operating within District boundaries serving approximately 6,700 K-12 students, as listed on **Table 5**. The largest charter school is Great Heart's Anthem Prep with nearly 800 K-12 students. The next-largest are Reid Traditional Schools' Valley Academy (768 K-8 students), Adams Traditional Academy (665 K-8 students) and The Hearn Academy (647 K-8 students). Three other schools enroll more than 500 students each, including Ridgeline Academy with nearly 600 students.

TABLE 5
ENROLLMENT IN LOCAL CHARTER SCHOOLS

School Name	Address	City	Zip	Grades	Total K-12 *
Adams Traditional Academy	2323 W. Parkside Ln.	Phoenix	85027	KG-8th	665
AMCS at Anthem dba Caurus Academy	41900 N. 42nd Ave.	Anthem	85086	KG-8th	401
Canyon Pointe Academy	4941 W. Union Hills Dr.	Glendale	85308	KG-6th	258
Challenge Charter School	5801 W Greenbriar Dr	Glendale	85308	KG-6th	501
Deer Valley Academy	18424 N. 51st Ave.	Glendale	85308	9th-12th	20
Desert Heights Preparatory Academy	3540 W. Union Hills Dr.	Glendale	85308	5th-12th	483
E-Institute at Grovers	4744 W. Grovers Ave.	Glendale	85308	9th-12th	32
E-Institute at Union Hills	3515 W. Union Hills Dr.	Phoenix	85308	9th-12th	126
Great Hearts Academies - Anthem Prep	39808 N. Gavilan Peak Pkwy.	Anthem	85086	KG-12th	796
Happy Valley School	7140 W. Happy Valley Rd.	Peoria	85383	KG-6th	546
Imagine Bell Canyon	18052 N. Black Canyon Hwy.	Phoenix	85053	KG-8th	356
Ombudsman - Charter West	2909 W. Bell Road	Phoenix	85053	9th-12th	212
Pinnacle Pointe Academy	6753 W. Pinnacle Peak Rd.	Glendale	85310	KG-6th	135
Reid Traditional Schools' Valley Academy	1520 W. Rose Garden Ln.	Phoenix	85027	KG-8th	768
Ridgeline Academy	33625 N. North Valley Pkwy.	Phoenix	85085	KG-8th	591
Stepping Stones Academy	35812 N. 7th St.	Phoenix	85086	KG-8th	206
The Hearn Academy	17606 N. 7th Ave.	Phoenix	85023	KG-8th	647
Total					6,743

Source: Arizona Department of Education; Applied Economics 2018.
* Estimated based on 40th-day ADM data.

Table 6 shows the enrollment in charter schools by grade over the past ten years. Enrollment has increased by 2,400 students since the 2008/09 school year and all of this growth occurred between 2009/10 and 2013/14. The largest single-year increase of 936 students was in the 2010/11 school year, the same year that free full-day Kindergarten was eliminated in the District. The number of schools increased every year between 2008/09 and 2011/12, reaching a peak of 22 schools before declining to 17

schools in 2014/15. Since that time, the number of schools has remained unchanged, but enrollment has declined every year. Prior to this year, the largest drop in charter enrollment occurred in 2014/15, following the closure of two schools; the re-establishment of all-day Kindergarten in the District that year also likely contributed to the decline in Kindergarten charter enrollment that year. The decrease of 381 K-12 students this year was due mostly to declines at three charter schools: Adams Traditional Academy (down 135 students), Happy Valley School (down 158 students) and Pinnacle Pointe Academy (down 104 students); smaller changes occurred at the remaining charter schools. These losses are significant in that they are likely caused by the same decline in school-age population that is impacting District schools. The bulk of charter school enrollment continues to be in the younger grades, with lower levels after 7th grade.

TABLE 6
ENROLLMENT IN LOCAL CHARTER SCHOOLS BY GRADE

School Year	#Schools	KG	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Total K-12	Annual Change
2008-09	15	651	594	559	526	415	419	356	218	194	86	61	92	151	4,322	
2009-10	17	749	660	595	566	527	435	487	275	213	64	90	105	166	4,932	610
2010-11	20	941	756	700	623	628	566	531	348	265	88	85	143	194	5,868	936
2011-12	22	1,040	912	784	778	703	633	605	340	311	106	90	124	189	6,615	747
2012-13	20	1,098	977	890	804	776	594	636	392	330	109	109	117	218	7,050	435
2013-14	19	1,135	1,012	946	877	772	724	590	454	384	152	120	141	223	7,530	480
2014-15	17	914	988	903	832	790	689	624	393	400	143	107	157	244	7,184	(346)
2015-16	17	908	902	921	831	751	724	637	414	368	127	149	166	275	7,173	(11)
2016-17	17	831	864	903	840	770	654	658	421	390	111	159	191	332	7,124	(49)
2017-18*	17	742	781	744	782	721	660	614	481	420	156	145	207	290	6,743	(381)

Source: Arizona Department of Education; Applied Economics 2018.
* Estimated based on 40th-day ADM data.

Private schools do not have the same reporting requirements as charter or district schools and data is often less accessible, although private school enrollment tends to be more stable than charter schools. The Private School Survey, conducted by the National Center for Education Statistics, is the only consistent source of private school enrollment data; however, it is only published every 2 years, therefore, the 2015/16 enrollment figures provided are the most current available. In the 2017/18 school year there were four private schools operating in the District serving about 900 K-12 students, as shown in **Table 7**.

TABLE 7
ENROLLMENT IN LOCAL PRIVATE SCHOOLS

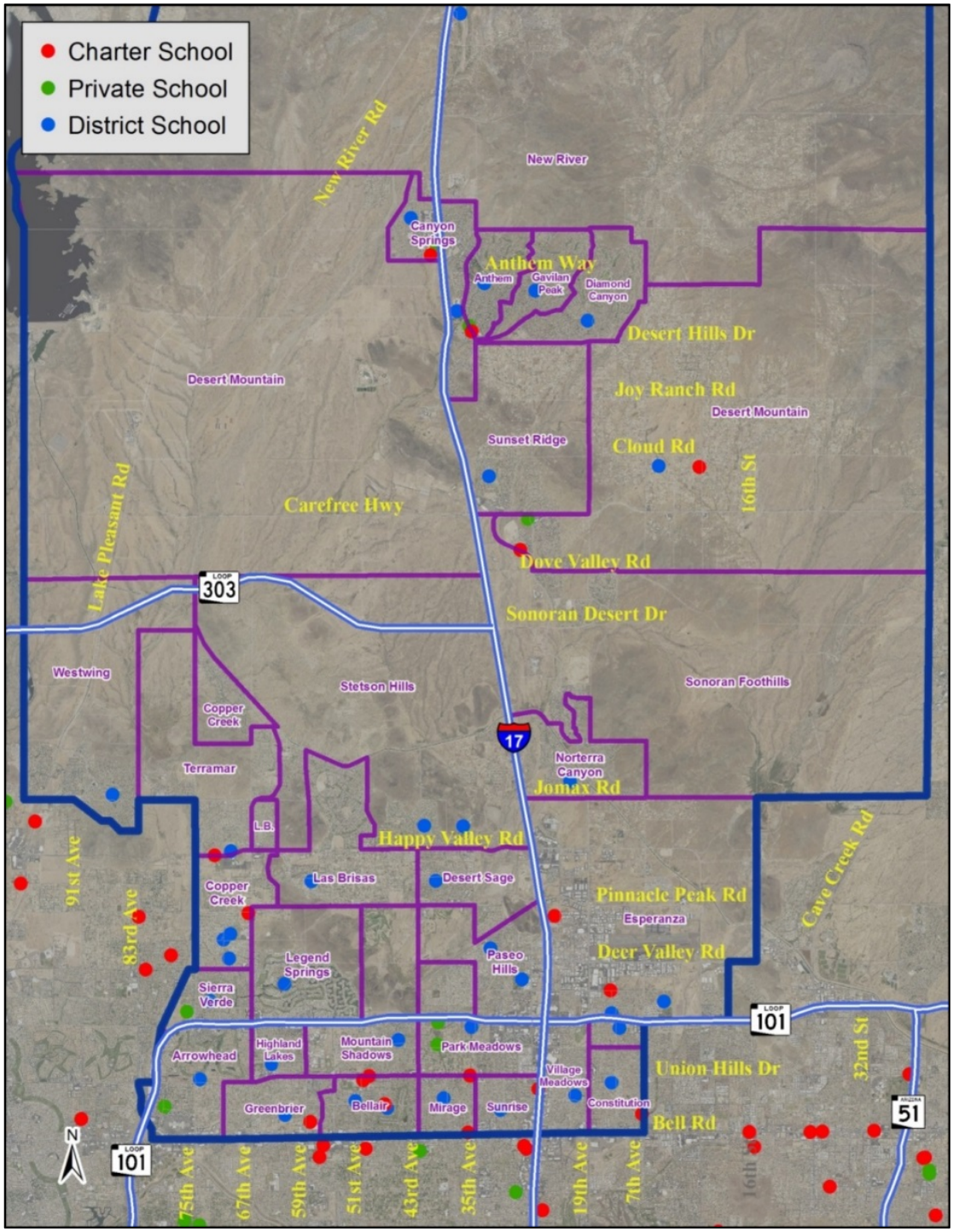
School Name	Address	City	Zip	Grades	Total K-12*
Arrowhead Christian Academy	4030 W Yorkshire Dr.	Glendale	85308	KG-12	131
Atonement Lutheran	4001 W Beardsley Rd.	Glendale	85308	KG-8	69
Joy Christian School	21000 N. 75Th Ave.	Glendale	85308	KG-12	630
North Valley Christain Academy	42101 N. 41St Dr.	Anthem	85086	KG-8	99
Total					929

Source: Private School Universe Survey (PSS) 2015; Applied Economics 2018.
* Enrollment data for 2015/16 school year.

The non-District schools are generally concentrated in the southern portion of the District, as shown in **Map 8**. This is in keeping with the tendency of charter schools to locate along major transportation corridors and in established areas with high population density. Charter and private schools located north

of Loop 101 are primarily concentrated along Interstate 17. It is important to note that there are also a significant number of charter and private schools located just outside of DVUSD boundaries, along with neighboring districts' facilities. Students living in the District are not limited to attending schools located within the District and vice-versa, resulting in a complex flow of incoming and outgoing students that impacts all areas of the District to some degree.

MAP 8
DEER VALLEY AREA SCHOOLS BY ENTITY TYPE



3.0 RESIDENTIAL DEVELOPMENT

3.1 HOUSING CONSTRUCTION

Housing development in the District has been moderate over the last few years. Single family development has averaged about 65 percent of total construction over the past ten years, a trend that continued in 2016/17, while multifamily development has provided consistent additions to the local inventory, averaging about 330 new units per year. Residential permits over the past ten-year period totaled 9,300 units, of which 6,000 were for single family houses.

The residential building permits shown on **Table 8** are grouped into housing categories that reflect correlations between types of housing and the age structure of the households likely to occupy them. Group quarter facilities, such as nursing homes, are not included as either retirement housing or multifamily. While total permitting has been relatively stable by year and by basic housing type, there have been shifts within the categories. In 2007/08, nearly 60 percent of the single family units permitted were in the 2.0 to 3.5 unit-per-acre density range, and just 14 percent were in more densely developed subdivisions. In 2016/17 there was a wider range of single family development, with 38 percent in the 2.0 to 3.5 density range and 42 percent at higher density levels.

Peak housing development in the District was during the period from 2000 to 2007, when Anthem, Anthem West, and Dynamite Mountain Ranch were in their strongest construction phase. In 2007/08 construction in the District began winding down, due to the recession and the build-out or slow down at existing major projects. Over the past ten years, single family permitting has averaged 600 lots per year. Even if you omit the high (2007/08) and low (2010/11) totals of that period, the annual average is still about 600 lots per year, which indicates a significant level of stability in the local housing market.

TABLE 8
HOUSING PERMITS

Housing Type	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	Total
Single Family 2 du/ac or less	284	132	135	75	108	193	336	211	190	136	1,800
Single Family 2.01 - 3.5 du/ac	558	321	237	147	266	443	328	332	353	254	3,239
Single Family 3.51 - 4.5 du/ac	135	72	55	35	86	42	11	43	90	210	779
Single Family 4.51 - 6 du/ac	-	-	-	7	44	49	-	-	20	19	139
Single Family 6.01du/ac & Over	-	-	-	-	-	-	-	-	-	49	49
Single Family Attached	-	-	-	-	-	-	-	-	-	-	-
Total Single Family	977	525	427	264	504	727	675	586	653	668	6,006
Multifamily, Low Density	146	30	-	-	-	-	25	10	67	5	283
Multifamily, Standard Courtyard	252	1,255	359	8	334	-	-	389	69	275	2,941
Multifamily, Urban/Lifestyle	-	-	-	-	-	-	-	-	-	80	80
Total Multifamily	398	1,285	359	8	334	-	25	399	136	360	3,304
Total	1,375	1,810	786	272	838	727	700	985	789	1,028	9,310

Sources: Maricopa Association of Governments; Construction Monitor; Maricopa County Assessor; Applied Economics, 2017.

Viewing the building permits by quarter, on **Table 9**, also demonstrates how stable permitting levels are in the District, especially with regard to single family permits. While production typically goes down during the third and fourth quarters, permitting in the District has shown fairly solid levels of activity throughout the year, once again indicating a strong local housing market.

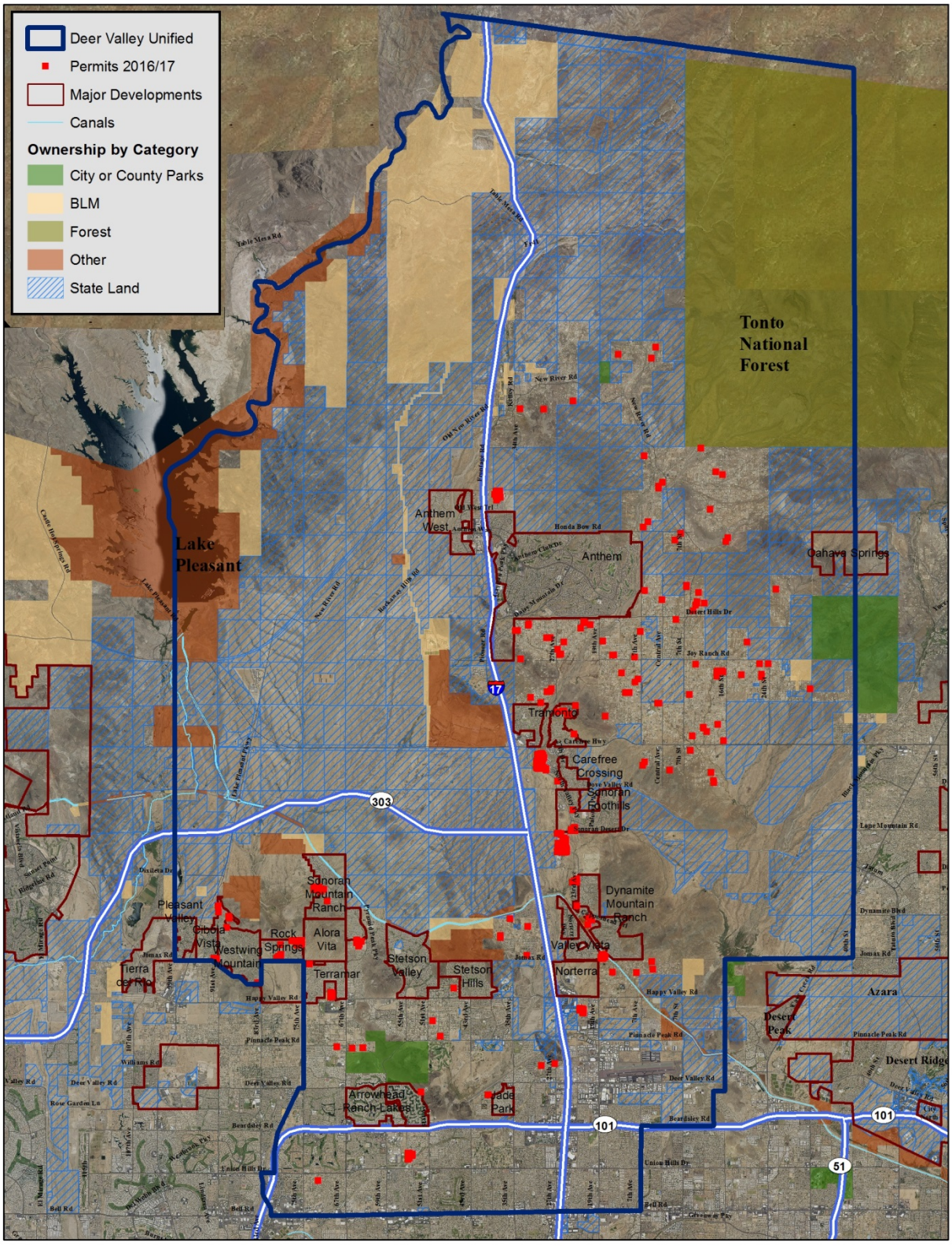
TABLE 9
HOUSING PERMITS BY QUARTER

	2014/15					2015/16					2016/17				
Housing Type	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Total	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Total	Qtr 3	Qtr 4	Qtr 1	Qtr 2	Total
Single Family 2 du/ac or less	64	38	53	56	211	58	38	41	53	190	35	32	30	39	136
Single Family 2.01 - 3.5 du/ac	76	58	91	107	332	115	73	82	83	353	63	39	59	93	254
Single Family 3.51 - 4.5 du/ac	15	1	9	18	43	14	13	26	37	90	36	64	54	56	210
Single Family 4.51 - 6 du/ac	-	-	-	-	-	6	3	9	2	20	4	1	10	4	19
Single Family 6.01du/ac & Ov	-	-	-	-	-	-	-	-	-	-	-	-	-	49	49
Total Single Family	155	97	153	181	586	193	127	158	175	653	138	136	153	241	668
Multifamily, Low Density	-	-	-	10	10	22	40	5	-	67	-	-	5	-	5
Multifamily, Standard Courtyar	29	9	304	47	389	57	-	12	-	69	-	246	29	-	275
Multifamily, Urban/Lifestyle	-	-	-	-	-	-	-	-	-	-	-	-	-	80	80
Total Multifamily	29	9	304	57	399	79	40	17	-	136	-	246	34	80	360
Total	184	106	457	238	985	272	167	175	175	789	138	382	187	321	1,028

Sources: Maricopa Association of Governments; Construction Monitor; Maricopa County Assessor; Applied Economics, 2017.

Development in the District is spread out over a large area, as illustrated on **Map 9**. The corridor along Norterra/North Valley Parkway, just east of I-17, stretches over about six miles, from Happy Valley Road to Carefree Highway, and contains numerous active subdivisions. There has also been a significant amount of activity in the western portion of the District, at Rock Springs and Stetson Valley, and two new projects are starting near Westwing Mountain and another at 67th Avenue, north of Dynamite Boulevard. In the northern part of the District, north of Carefree Highway and east of I-17, a notable amount of new housing is being added to inventory on custom lots that are dispersed over 15 to 18 square miles.

MAP 9
RESIDENTIAL PERMITTING



3.2 FUTURE DEVELOPMENT POTENTIAL

Identified residential development potential in the District, with an expectation of possible construction starts within twenty years, is currently estimated to be over 44,000 units. There is some additional potential that is considered to be very speculative at this time that is not included on this table. **Table 10** shows the development potential by type of housing product and the estimated time period expected for the **beginning** of construction, since developments are generally under construction over a number of years. The Infill category includes generally rural lots and infill projects that are likely to be under development intermittently over a number of years. Examples of this include the rural areas north of Carefree Highway and the mostly built-out areas in the southern portion of the District. Both the unit potential on this table and the timing estimates will change as new information is acquired.

The total housing potential includes about 80 percent single family development that is heavily concentrated in the 2.0 to 3.5 lots-per-acre density range. This is not characteristic of current or recent past development and suggests that future housing will most likely include more multifamily and smaller lot subdivisions. Because it is difficult to identify future multifamily sites, potential development in this category can be underestimated. With single family, the estimated potential is complicated by the fact that much of the land in the District consists of physically rough terrain. In all likelihood, the gross densities estimated here will be fairly accurate, but the actual building envelopes will be smaller as a significant amount of land will remain open space.

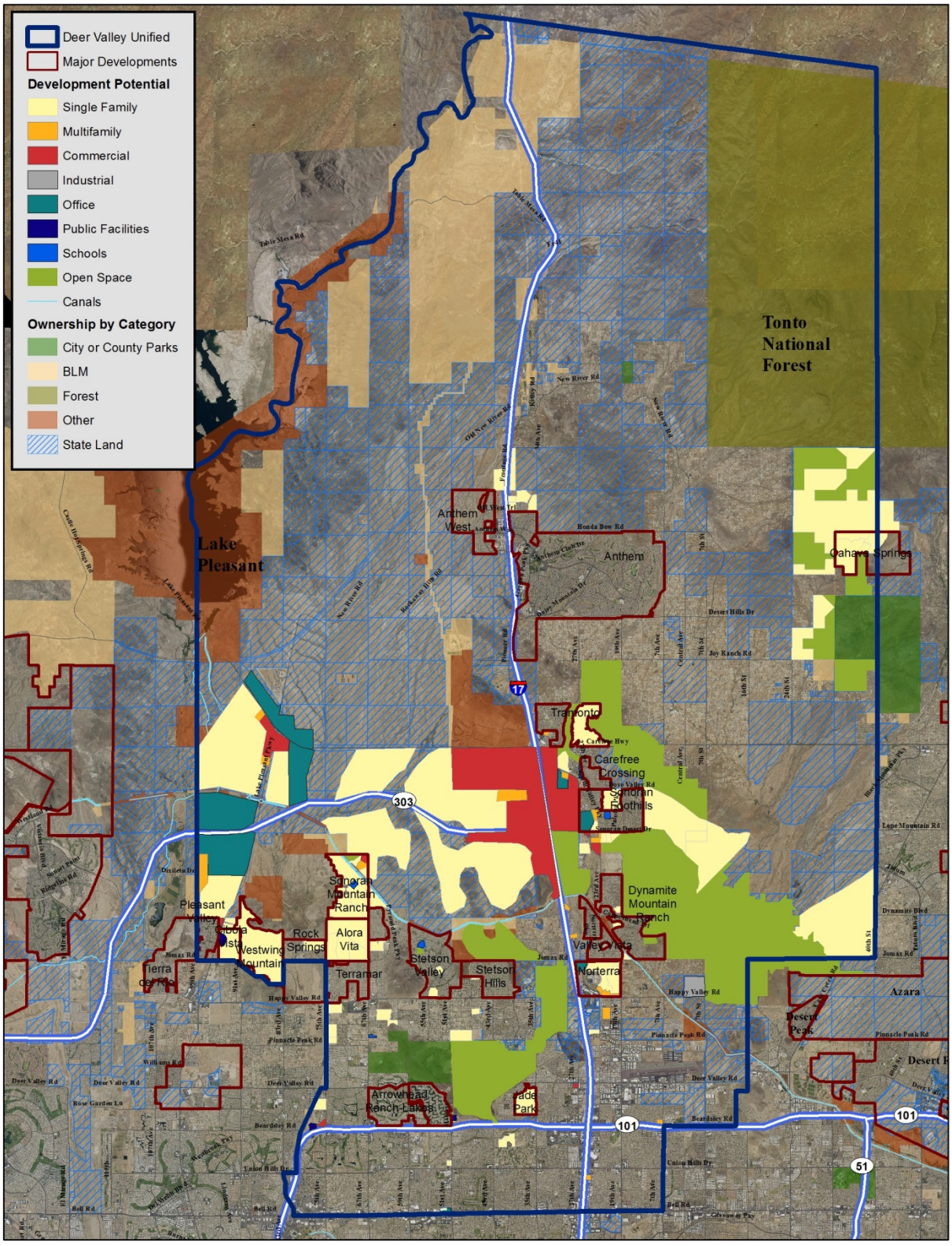
TABLE 10
POTENTIAL NEW HOUSING BY DEVELOPMENT TIMELINE

	Active		Vacant Land					
Housing Type	Projects	Infill	1 Year	2-3 Years	3-5 Years	5-10 Years	10+ Years	Total
Single Family 2 du/ac or less	65	2,049	-	45	602	54	1,238	4,053
Single Family 2.01 - 3.5 du/ac	839	463	40	1,112	2,462	3,423	20,803	29,142
Single Family 3.51 - 4.5 du/ac	262	-	327	75	306	-	1,440	2,410
Single Family 4.51 - 6 du/ac	-	-	-	82	101	113	-	296
Single Family 6.01du/ac & Over	101	-	33	-	-	-	-	134
Single Family Attached	-	-	-	-	-	-	-	-
Manufactured Housing	-	-	42	-	-	-	-	42
Total Single Family	1,267	2,512	442	1,314	3,471	3,590	23,481	36,077
Multifamily, Low Density	65	-	138	-	-	308	-	511
Multifamily, Standard Courtyard	56	700	-	-	747	-	4,483	5,986
Multifamily, Urban/Lifestyle	305	-	295	498	734	-	-	1,832
Total Multifamily	426	700	433	498	1,481	308	4,483	8,329
Total	1,693	3,212	875	1,812	4,952	3,898	27,964	44,406

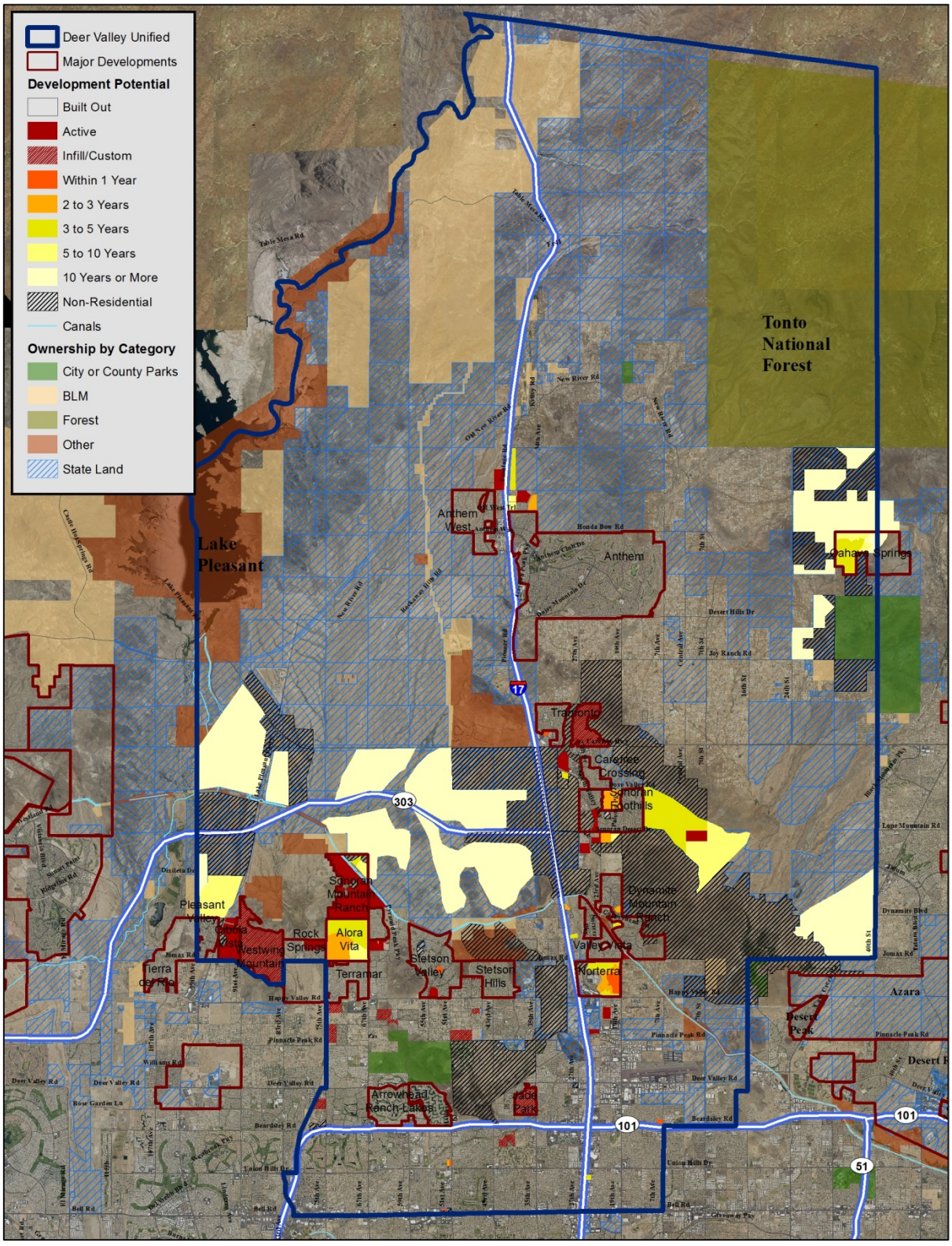
Sources: City of Phoenix; City of Glendale; City of Peoria; Arizona State Land Department; Maricopa County; Applied Economics, 2017.

Maps 10 and 11 show currently active and future development areas by land use and the estimated timing to begin development, as presented on the table above. Over the next ten years, the major development areas are expected to be at Norterra (near I-17 and Jomax Road), Alora Vita (67th Avenue and Jomax Road), and along Dove Valley Road (around 7th Avenue and east). Development is also expected on smaller parcels in various parts of the District.

MAP 10
FUTURE LAND USE



MAP 11
DEVELOPMENT TIMING



3.2.1 MARKET CONDITIONS

The overall state of the economy in the U.S. remains strong. According to data from the Bureau of Labor Statistics, August 2017 marked the 83rd consecutive month of employment growth since October of 2010, although the rate of growth has declined since peaking in 2014. The national unemployment rate of 4.4 percent is also a positive factor since a healthy national economy allows for greater household mobility; this is an especially important factor for Arizona since there is typically substantial in-migration from other regions of the country.

Maricopa County experienced population increases of over 100,000 persons per year in 2004 and 2005. With the onset of the recession and lack of employment-driven in-migration, population growth fell drastically, to a low of about 3,000 persons between 2009 and 2010. While still not at pre-recession levels, population growth in the county has averaged about 74,000 persons per year over the past five years, recording a high of just over 81,000 persons added between 2015 and 2016.

Although there are some lingering effects, the general economic climate in the Phoenix metropolitan region continues to be healthy and appears to have recovered from the recession of 2007-09. According to the Bureau of Labor Statistics, between August 2007 and August 2017 the Phoenix area added 279,400 private sector jobs. The local unemployment rate for August 2017 was 4.3 percent, which is on par with the average rate for the current year and lower than the statewide rate of 5.1 percent.

According to the second quarter DAUM Commercial Real Estate report, the metro industrial market improved in 2017 with total net absorption of 1.2 million square feet. The vacancy rate fell to 9.3 percent overall and dropped to 7.2 percent in the Northwest submarket, the lowest rate in the metro region. Demand remains strong with 5.4 million square feet under construction, including over 2.0 million square feet in the Northwest. The metro office market has also seen improvement, with net absorption of 749,000 square feet and a vacancy rate of 17.7 percent; however, vacancy rates are higher in the North Phoenix (20.1 percent) and Northwest Phoenix (19.6 percent) submarkets. Approximately 1.5 million square feet of new construction was delivered in the first half of 2017, with 805,000 square feet under construction in the third quarter, primarily in the Scottsdale and Airport submarkets.

Residential construction slowed drastically during the 2007-09 recession. Since the housing market collapse followed a period of extreme expansion, the metro region was left with thousands of vacant, improved lots that were ready for construction but with little demand. As the market recovered, builders cautiously focused on developing in stable geographic areas, rather than outlying areas, and utilized vacant, existing lots rather than investing in new land. As the economy improved, the finished-lot supply dwindled. Demand continues to increase with improved employment conditions and the removal of foreclosures from credit scores. This has led to renewed construction activity and an increase in land sales in areas that had seen little new home development in recent years.

Colliers International reports that the number of new homes sold in the Greater Phoenix market in the first half of 2017 is about 25 percent higher than the same period in 2016. According to the Arizona Regional Multiple Listing Service, there is only a 2.7 month supply of homes for sale as of second quarter 2017. Median sales prices are up 6.4 percent over the previous year. In response, land sales accelerated in the first half of 2017, well ahead of the pace of the previous year. In fact, residential parcels accounted for more than half of the total land sales in the first half of 2017 and, according to Colliers, residential land sales are off to the fastest start since 2013. Given the increase in demand, the market is also shifting away from infill parcels and back to more suburban areas.

Rapidly increasing housing production and steadily rising home prices have created a level of concern due to the nature and depth of the last recession and the housing market collapse that triggered it. A survey sponsored by Zillow of more than 100 real estate experts anticipates a recession in the U.S. by the end of 2020. However, housing is not expected to be a major factor in the next recession and the downturn is expected to be relatively short.

One reason housing is not expected to be as severely impacted is because the market has changed since the pre-recession period. The National Bureau of Economic Research issued a paper in August 2017 that challenges the role of subprime credit in the boom period from 2001 and 2006. Credit growth between 2001 and 2007 was concentrated in the prime segment, and debt to high risk borrowers was virtually constant for all debt categories during this period. The rise in mortgage defaults during the crisis was concentrated in the middle of the credit score distribution and mostly attributable to real estate investors. In short, defaults by poorer homebuyers with one mortgage remained fairly constant, while higher income buyers used their better credit scores and existing home values to make speculative purchases of more expensive properties, on which they defaulted as the market started to fail. Since that type of speculative purchasing is less prevalent now, the impact on housing during a future economic downturn is likely to be less severe.

However, other economic factors, such as the ongoing shortage of construction labor, could constrain the housing market. It has been reported that about 75 percent of Arizona contractors are having difficulty filling construction jobs, although 74 percent of those contractors plan to hire additional workers. This labor shortage is not a new problem, but it has become more acute as construction volume has increased. At this point the main effects seem to be higher wages and longer construction times to deliver finished houses. Builders seem to be absorbing at least some of the increased costs, but that is not sustainable and at some point home prices will have to increase. Material costs, particularly lumber, have also increased, and recent tariffs on Canadian lumber will add to housing prices. These types of increases will have the greatest effect on the entry-level housing market.

The housing market is also being affected by demographic trends. Older homeowners appear to be remaining in their houses, which reduces turnover. In addition, the millennial generation has largely been absent from the housing market, which is reportedly due to their preference for apartment living. However, in many cases the real issue is not a preference but a barrier created by large student debt. A recent study indicates that the housing market is being disrupted by younger generations being unable or unwilling to enter the market or from upgrading their housing, which adds to the affordability pressure at the entry level.

Despite these factors, the local housing market is fairly stable and can be expected to see increased production. Infill properties will continue to develop at a higher rate than in previous growth periods, but this development will likely a have limited impact on the school-age population. All parts of the metro region are expanding, including the outer suburbs of the West Valley and Pinal County. Multifamily construction is expected to remain strong, along with an increase in high-density, single family housing that includes rental units.

3.2.2 DEVELOPMENT PROJECTS

Housing development in the District is subject to limitations due to terrain, land ownership, and infrastructure availability. All of these factors have an effect on the socio-economic characteristics of the District, particularly in the areas north of Happy Valley Road. These factors serve as an impediment to future large-scale growth, such as an Anthem-type community, but they also tend to create stability and the conditions that support fairly consistent levels of new housing addition over time, as has been the case over the past several years.



The existing pattern of new development is expected to continue over the near and mid-term as the District continues to add new housing inventory. The development projects will vary both in size and place, as has been the case in recent years, and a mix of housing types can be expected. Multifamily housing will continue to be a significant residential component, as well as more high-density single family, such as the courtyard style subdivision seen at right (24 North by Shea Homes).

The District is seeing a significant amount of new housing being added in small or medium sized projects. For instance, west of I-17, Rock Springs should attain build-out in 2018 or early 2019. Pyramid Peak, a joint Lennar-Pulte Homes project next to the canal and northwest of Stetson Valley, began housing production in early 2017 on 234 lots; production has been strong and build-out is expected about mid-2019. Pulte and Lennar are also now active at two parcels within Stetson Valley that contain 146 lots and were once planned for retail development. Mattamy Homes is active on two parcels near West Wing (91st Avenue north of Jomax Road) that have 122 lots. Build-out on the Stetson Valley and West Wing parcels is expected during 2018.

The major development project in the western portion of the District is Alora Vita, located at Jomax Road and 75th Avenue. This project totals two square miles, half of which is in the southwest and falls into the Peoria School District. The land was purchased from the State Land Department several years ago, but there are still payments to be made and final plats to record. The first 322 lots, on about 100 acres at the northeast corner of Jomax Road and 75th Avenue, will be released to three builders, including Shea Homes, Pulte Homes, and Taylor Morrison. House production is expected to begin in early 2019. The second parcel, to the east of the first, could be released in 2018 but development will likely be delayed due to infrastructure issues related to water pressure. The total number of lots in the development (the part within the District) is estimated to be about 1,600 and production is expected throughout the projection period.

The part of the District east of I-17, between Pinnacle Peak Road and Carefree Highway, has also provided a consistent supply of new housing, mostly in relatively small subdivisions in recent years. Stoneledge at North Canyon (south of Carefree Highway on North Valley Parkway) has been active since 2014 and the Meritage project had the highest single family housing production in the District in 2016/17. Build-out of the entire 250-lot project is expected in early 2018. Taylor Morrison has finished the first phase of 102 lots at Sonoran Commons (southeast of I-17 and Sonoran Desert Drive), and the second phase of 110 lots is expected to be built-out late by early 2018. The builder is also working on the first houses at Sonoran Gate, an 80-acre, 255-lot project that is somewhat isolated at Sonoran Desert Parkway

and the Central Avenue alignment, about a mile east of the nearest existing housing. Houses should be available for closings in early 2018. There are three product lines planned, with pricing to range from the low $300,000's to the upper $400,000's.

After the Sonoran Gate project progresses, it is expected that there will state land sales in the adjacent area because of new access from Dove Valley Road or Sonoran Desert Drive. This could lead to additional housing by about 2021 or 2022, although timing is speculative at this point. Another State land parcel, about 145 acres on Dove Valley Road at 22nd Avenue, had been scheduled for auction August 2017. The auction was cancelled because potential bidders felt the property was overpriced. The State Land Department is considering a reappraisal and a new auction at a future date. A parcel that size could yield over 400 single family lots, depending on housing type.



The largest project in this section of the District is at Jomax Road and I-17, the Norterra development on the east side of the USAA campus. This project is planned for approximately 2,000 units, about half multifamily. Ground-breaking was mid-September for the first phase of single family housing with 309 lots (photo at left). Three builders are planning to take part in this first phase, with house construction to begin about May or June of 2018 and closings later that fall. There are to be three or four single family phases, with each to start as a previous one winds down, in order to limit internal competition. There are to also be three or four multifamily sites but while there has been interest expressed, the sites are not being marketed as yet. There is to be an assisted living complex to be built in the near-term, but this is not considered part of the residential unit estimate.

The northern portion of the District has had little activity after the development of Anthem. The Arroyo Norte subdivision is nearing buildout with Richmond American finishing the last lots in 2017. On the west side of I-17, Pulte and Lennar Homes are developing Circle Mountain Ranch with 202 single family lots. Initial development has been very strong and the subdivision is expected to build out in 2019.

Overall, development in the District should progress much as it has in the past, with a stable single family market supplemented by a strong level of multifamily additions. Radical increases are not expected, but there could be some slowing if anticipated land sales do not take place.

4.0 DISTRICT PROJECTIONS

District-level enrollment projections are created by integrating historical enrollment, demographic and housing market trends with the projected housing unit additions and the associated change in the school-age population. The projections of future enrollment are also impacted by assumptions regarding the share of the District's population that will choose to attend District schools. Due to the pronounced demographic and development differences that exist among the different areas of the District, the District-level projections are cross-checked using projections by District sub-area, as presented in Section 5 of this report. These projections account for local and regional trends in socioeconomic conditions and economic growth forecasts.

4.1 POPULATION & HOUSING

The long-term population and housing projections for the District shown in **Table 11** are based on historical and forecast trends in housing construction, occupancy, and economic growth indicators. Currently, the District contains approximately 260,000 persons in 95,600 households (occupied housing units), with a population per household of about 2.71 persons. Occupancy rates appear to have stabilized at just over 94 percent the past two years, after falling during the recession. Population per household is expected to continue to decline due to aging in existing households and the increase in multifamily housing, both of which dampen the impact of the increase in the number of households on total and school-age population.

District population and households are expected to increase throughout the projection period as new housing supply enters the market and occupancy rates remain stable. In the past year, about 800 new housing units were added to inventory and an average of about 1,000 new units are forecast to be added each year during the projection period, yielding 10,700 new units by 2027/28. Because of improvements in the housing occupancy rate, nearly 11,000 new households are expected to be formed in that same ten-year period. However, the population per household is expected to continue to decline, falling to 2.668 by 2027/28. These changes result in a population in 2027/28 of 284,400 persons occupying 106,600 households.

TABLE 11
PROJECTED POPULATION AND HOUSING

Year	Population	Housing Units Total	Housing Units New	Occupancy Rate	Vacant Units	Households Total	Households Change	Pop/HH
2000/01	159,234	60,589		93.7%	3,807	56,782		2.804
2001/02	167,889	63,825	3,236	93.9%	3,893	59,932	3,150	2.801
2002/03	176,834	67,112	3,287	94.1%	3,960	63,152	3,221	2.800
2003/04	189,213	71,390	4,278	94.7%	3,784	67,607	4,454	2.799
2004/05	204,908	76,947	5,557	95.3%	3,617	73,331	5,724	2.794
2005/06	222,031	82,982	6,035	96.0%	3,319	79,663	6,332	2.787
2006/07	235,487	89,123	6,140	95.0%	4,456	84,666	5,003	2.781
2007/08	240,540	92,194	3,072	94.0%	5,532	86,663	1,996	2.776
2008/09	238,701	93,719	1,525	92.0%	7,498	86,222	-441	2.768
2009/10	239,962	95,726	2,007	91.0%	8,615	87,111	889	2.755
2010/11	239,040	96,493	872	90.4%	9,276	87,217	106	2.741
2011/12	240,998	96,765	272	91.0%	8,714	88,051	834	2.737
2012/13	245,326	97,603	838	92.0%	7,792	89,811	1,760	2.732
2013/14	247,717	98,332	729	92.3%	7,551	90,781	970	2.729
2014/15	251,705	99,032	700	93.2%	6,685	92,347	1,566	2.726
2015/16	253,885	100,017	985	93.3%	6,680	93,337	990	2.720
2016/17	257,872	100,806	789	94.2%	5,872	94,934	1,597	2.716
2017/18	259,392	101,628	822	94.1%	6,001	95,627	693	2.713
2018/19	262,643	103,002	1,374	94.2%	5,999	97,003	1,376	2.708
2019/20	265,146	104,088	1,086	94.3%	5,978	98,110	1,107	2.703
2020/21	267,570	105,162	1,074	94.3%	5,954	99,208	1,097	2.697
2021/22	269,912	106,116	954	94.4%	5,922	100,194	986	2.694
2022/23	272,652	107,321	1,205	94.5%	5,903	101,418	1,225	2.688
2023/24	275,780	108,677	1,356	94.6%	5,890	102,787	1,368	2.683
2024/25	278,263	109,698	1,021	94.7%	5,858	103,840	1,053	2.680
2025/26	280,856	110,811	1,113	94.7%	5,829	104,982	1,142	2.675
2026/27	282,759	111,621	810	94.8%	5,782	105,839	857	2.672
2027/28	284,433	112,343	722	94.9%	5,729	106,614	774	2.668
2018/19 - 2027/28			10,715				10,986	

Source: Applied Economics, February 2018.
*Bolding Indicates Actuals

4.2 SCHOOL-AGE POPULATION AND DISTRICT ENROLLMENT

As shown on **Table 13**, District enrollment increased significantly between 2000/01 and 2007; over 10,000 new students were enrolled, or an average of about 1,500 per year. As the recession took hold between 2008/09 and 2013/14, the District lost over 3,000 students, before regaining 700 during the following two years and reaching 33,770 students in 2015/16. There have been losses the past two years, resulting in enrollment for the 2017/18 school year of 33,539 students.

In addition to the volume and market orientation of housing development, trends in per-household student generation rates and capture rates are key factors used in determining future enrollment levels. The first element, student generation, refers to the expected size of the school-age population (persons aged 5 to 17 years old) per household. During the growth period after 2000, the school-age population averaged 0.566 persons per household. This ratio dropped to 0.524 by 2013/14 and, although the student population in the

District has increased, the population per household has continued to fall and is currently 0.506 students per household. This decline in the number of persons per household is likely the result of an aging population and changes in housing types.

Because of the increasing number of educational alternatives and open enrollment policies in the state, it is necessary to apply an enrollment-to-population ratio, or "capture rate," to the school-age population when projecting District enrollment. While households may be generating an average of 0.506 school-age persons, this does not necessarily translate to an equivalent level of enrollment. Please note that in this analysis, the capture rate is based on the *net difference* between the school-age population and District enrollment. This includes the loss of some in-District school-age persons to other providers, and a gain of some students from outside of the District. In the 2017/18 school year, the estimated school-age population, aged 5 to 17, within the District was 48,423 persons, while total enrollment was 33,539. This results in a net difference of 14,884 school-age persons and an enrollment-population ratio of 69.3 percent.

As shown in **Table 12**, the District's enrollment to population ratio is below the average ratio of the districts served by Applied Economics this year. While these rates can be indicative of the actual and/or perceived quality of the education provided by each district, they may be distorted based on location, the availability of alternative providers and the ability of parents to access alternative providers.

TABLE 12
ENROLLMENT-POPULATION RATIO FOR SELECTED DISTRICTS

	Enrollment (1)	School-age Population (2)	Net Capture Rate (3)
Peoria	36,763	40,444	90.9%
Chandler	45,110	55,529	81.2%
Gilbert	34,542	43,199	80.0%
Glendale Elementary	12,559	15,732	79.8%
Buckeye Elementary	5,098	6,654	76.6%
Paradise Valley	31,225	41,875	74.6%
Dysart	24,346	33,648	72.4%
Saddle Mountain	1,698	2,384	71.2%
Deer Valley	33,539	48,423	69.3%
Queen Creek	7,496	11,614	64.5%
Maricopa	6,729	11,555	58.2%
Roosevelt Elementary	8,923	16,261	54.9%
Average (4)	248,028	327,319	75.8%

(1) October 1st, K-12 headcount enrollment as reported by the Districts
(2) Population Ages 5 to 17 for unified districts, and 5 to 13 for elementary districts.
(3) Includes all students attending, including those from outside the district.
(4) Average of the districts shown.

Both the school-age population per household and the District enrollment-population ratio are expected to decline over the next ten years. Due to the ongoing evolution in household and housing characteristics, the school-age population per household is expected to fall from the current rate of 0.506 to 0.488 by 2027/28. The enrollment-population ratio is forecast to decline from the current rate to just under 64 percent in ten years. While the changes in household population rates are based on identified demographic trends, the enrollment-population ratio is more variable because it is based on the numerous combinations of choices by individuals and is, therefore, subject to change.

District enrollment is projected to decline by about 300 students by 2027/28 as a result of the continuing decrease in the school-age population per household and the declining enrollment-population ratio. Total K-12 enrollment in 2027/28 is forecast to be 33,250 students from a school-age population of 52,000. Although the number of school-age persons in the District is projected to increase slightly (3,650 persons) by 2027/28, it will be too small to counteract the effects of the decline in the enrollment-population ratio.

TABLE 13
SCHOOL AGE POPULATION AND ENROLLMENT

		School-Age Population *		K-12 Enrollment		Net	Enrollment -
Year	Households	Total	Per Household	Total	Per Household	Difference	Population Ratio
2000/01	56,782	33,047	0.582	25,792	0.454	7,255	78.0%
2001/02	59,932	34,609	0.577	27,257	0.455	7,352	78.8%
2002/03	63,152	36,185	0.573	28,411	0.450	7,774	78.5%
2003/04	67,607	38,437	0.569	29,812	0.441	8,625	77.6%
2004/05	73,331	41,367	0.564	31,432	0.429	9,935	76.0%
2005/06	79,663	44,590	0.560	33,146	0.416	11,444	74.3%
2006/07	84,666	47,022	0.555	35,113	0.415	11,909	74.7%
2007/08	86,663	47,757	0.551	36,375	0.420	11,382	76.2%
2008/09	86,222	47,144	0.547	36,408	0.422	10,736	77.2%
2009/10	87,111	47,260	0.543	35,989	0.413	11,271	76.2%
2010/11	87,217	46,950	0.538	34,985	0.401	11,965	74.5%
2011/12	88,051	46,987	0.534	34,400	0.391	12,587	73.2%
2012/13	89,811	47,509	0.529	33,763	0.376	13,746	71.1%
2013/14	90,781	47,604	0.524	33,054	0.364	14,550	69.4%
2014/15	92,347	48,004	0.520	33,432	0.362	14,572	69.6%
2015/16	93,337	48,097	0.515	33,770	0.362	14,327	70.2%
2016/17	94,934	48,494	0.511	33,618	0.354	14,876	69.3%
2017/18	95,627	48,423	0.506	33,539	0.351	14,884	69.3%
2018/19	97,003	48,776	0.503	33,498	0.345	15,278	68.7%
2019/20	98,110	49,086	0.500	33,345	0.340	15,741	67.9%
2020/21	99,208	49,486	0.499	33,339	0.336	16,147	67.4%
2021/22	100,194	49,828	0.497	33,286	0.332	16,542	66.8%
2022/23	101,418	50,286	0.496	33,364	0.329	16,922	66.3%
2023/24	102,787	50,811	0.494	33,478	0.326	17,333	65.9%
2024/25	103,840	51,178	0.493	33,443	0.322	17,735	65.3%
2025/26	104,982	51,586	0.491	33,409	0.318	18,177	64.8%
2026/27	105,839	51,851	0.490	33,409	0.316	18,442	64.4%
2027/28	106,614	52,073	0.488	33,249	0.312	18,824	63.9%

Source: Applied Economics, February 2018.

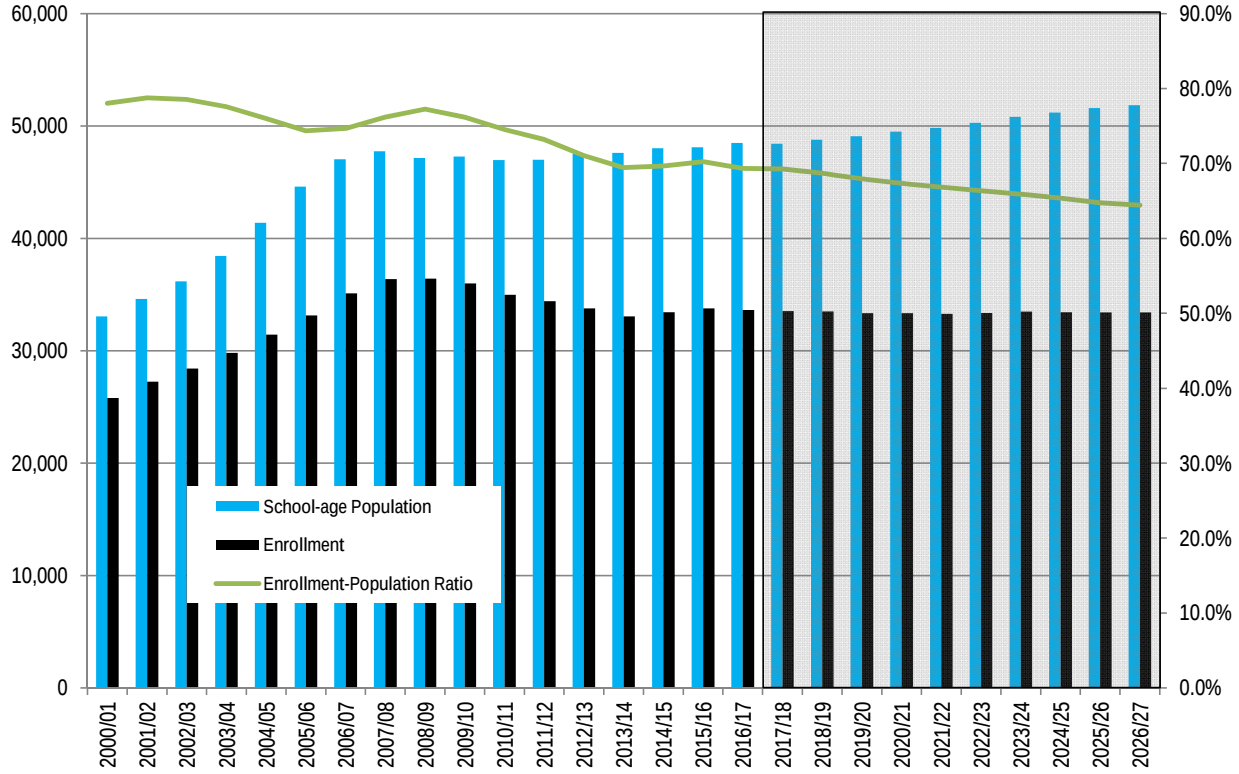
* Population age 5 through 17, corresponds with Kindergarten through 12th grade.

Bolding indicates historical data.

The relationship between school-age population and actual enrollment is illustrated by **Figure 6**. The blue bars represent the school-age population and the black bars indicate actual enrollment. The green line is referenced to the percentages listed on the right and tracks the relationship between student population and enrollment. As shown, the gap between school-age population and enrollment has been widening since the early 2000's, with a significant drop after 2008/09. The grey shaded area highlights the projection period and depicts the continuing downward trend in the enrollment-population ratio, though

not at the severe rate experienced during the recessionary period. It should be pointed out again that the projected "capture rate" is based on prevailing trends and it could be altered by a variety of factors.

FIGURE 6
ACTUAL AND PROJECTED ENROLLMENT: 2000/01-2027/28



4.3 ENROLLMENT BY GRADE LEVEL

Table 14 provides a more detailed review of past and projected enrollment changes by showing enrollment at the elementary, middle and high school levels. The overall decline in 2017/18 enrollment of 79 students resulted from losses in the Kindergarten to 4th (K-4) and middle school grades that were not offset by the high school enrollment increase of 134 students. The enrollment cohorts are more evenly divided currently than they were prior to the recession, with about 35 percent of total enrollment in the K-4 group and 31 to 32 percent in the other cohorts. During the projection period, the K-4 share is expected to grow to about 37 percent of total, while the other groups decline slightly.

K-4 enrollment is expected to increase by 338 students over the next ten years, reaching 12,216 students in 2027/28. In that same period of time, both the middle school and high school cohorts are forecast to decline by 314 students each, totaling 10,349 and 10,684 students respectively. The K-4 group is expected to gain students in most years during the last half of the projection period, with the largest gain occurring in 2023/24. Enrollment changes in the middle school cohort are expected to be inconsistent, with small isolated gains among losses. The high school grades are also expected to alternate between gains and losses, although high school enrollment should be generally more stable than the younger cohorts.

TABLE 14
HISTORICAL AND PROJECTED 40TH DAY ENROLLMENT BY LEVEL: 2000/01-2027/28

		Enrollment by Level				K-12 Total		
Fall	PS	K-4	5-8	K-8	9-12	Enrollment	Change	% Change
2000/01	125	10,571	8,365	18,936	6,856	25,792		12.5%
2001/02	174	11,009	9,001	20,010	7,247	27,257	1,465	5.7%
2002/03	267	11,408	9,509	20,917	7,494	28,411	1,154	4.2%
2003/04	233	11,695	9,965	21,660	8,152	29,812	1,401	4.9%
2004/05	258	12,253	10,391	22,644	8,788	31,432	1,620	5.4%
2005/06	321	12,721	11,096	23,817	9,329	33,146	1,714	5.5%
2006/07	352	12,839	11,688	24,527	10,586	35,113	1,967	5.9%
2007/08	266	13,581	11,989	25,570	10,805	36,375	1,262	3.6%
2008/09	261	13,627	11,866	25,493	10,915	36,408	33	0.1%
2009/10	308	13,185	11,824	25,009	10,980	35,989	-419	-1.2%
2010/11	297	12,499	11,510	24,009	10,976	34,985	-1,004	-2.8%
2011/12	343	12,335	11,083	23,418	10,982	34,400	-585	-1.7%
2012/13	403	11,903	10,691	22,594	11,169	33,763	-637	-1.9%
2013/14	412	11,280	10,583	21,863	11,191	33,054	-709	-2.1%
2014/15	465	11,680	10,684	22,364	11,068	33,432	378	1.1%
2015/16	490	11,989	10,745	22,734	11,036	33,770	338	1.0%
2016/17	453	11,969	10,785	22,754	10,864	33,618	-152	-0.5%
2017/18	434	11,878	10,663	22,541	10,998	33,539	-79	-0.2%
2018/19	433	11,904	10,550	22,454	11,044	33,498	-41	-0.1%
2019/20	431	11,761	10,575	22,336	11,009	33,345	-153	-0.5%
2020/21	431	11,732	10,557	22,289	11,050	33,339	-6	0.0%
2021/22	430	11,743	10,558	22,301	10,985	33,286	-53	-0.2%
2022/23	431	11,857	10,638	22,495	10,869	33,364	78	0.2%
2023/24	432	12,015	10,528	22,543	10,935	33,478	114	0.3%
2024/25	432	12,146	10,400	22,546	10,897	33,443	-35	-0.1%
2025/26	432	12,247	10,295	22,542	10,867	33,409	-34	-0.1%
2026/27	432	12,257	10,285	22,542	10,867	33,409	0	0.0%
2027/28	430	12,216	10,349	22,565	10,684	33,249	-160	-0.5%

Source: Applied Economics, February 2018.
Bolding indicates actuals.

The distribution of enrollment by individual grade is shown in **Table 15,** which provides additional insight into enrollment patterns and the progressive impact of smaller or larger classes. If enrollment was evenly distributed, each K-12 grade would have 7.7 percent of the total. In 2000/01, grades 1 through 6 had over 8 percent of enrollment, while grade 12 only had 5.6 percent of the total. In 2017/18, Kindergarten through 2nd grade each have 7 percent of total enrollment, while grades 7 to 11 have over 8 percent; this clearly demonstrates the shift of enrollment to the older grades. By 2027/28, the distribution of enrollment among the grades should be closer in size, although the upper grades are still expected to be larger, at around 8 percent of the total. The younger grades are projected to grow in size but remain smaller proportionately.

TABLE 15
HISTORICAL AND PROJECTED 40TH DAY ENROLLMENT BY GRADE: 2000/01-2027/28

Year	PS	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12 Total	Percent Change
2000/01	125	1,996	2,051	2,142	2,207	2,175	2,134	2,150	2,039	2,042	2,039	1,764	1,600	1,453	25,792	
2001/02	174	1,911	2,295	2,202	2,221	2,380	2,300	2,346	2,242	2,113	2,122	1,951	1,667	1,507	27,257	5.7%
2002/03	267	2,061	2,274	2,399	2,298	2,376	2,457	2,409	2,352	2,291	2,113	2,050	1,799	1,532	28,411	4.2%
2003/04	233	1,988	2,439	2,336	2,523	2,409	2,468	2,551	2,502	2,444	2,373	2,101	1,961	1,717	29,812	4.9%
2004/05	258	2,210	2,319	2,532	2,503	2,689	2,537	2,630	2,647	2,577	2,527	2,376	2,053	1,832	31,432	5.4%
2005/06	321	2,236	2,584	2,514	2,736	2,651	2,851	2,708	2,762	2,775	2,706	2,536	2,206	1,881	33,146	5.5%
2006/07	352	2,195	2,513	2,645	2,783	2,703	2,938	2,833	3,033	2,884	2,853	2,906	2,514	2,313	35,113	5.9%
2007/08	266	2,538	2,532	2,713	2,854	2,944	2,866	3,083	2,986	3,054	3,000	2,766	2,696	2,343	36,375	3.6%
2008/09	261	2,669	2,658	2,576	2,786	2,938	2,986	2,878	3,042	2,960	3,008	2,862	2,574	2,471	36,408	0.1%
2009/10	308	2,462	2,692	2,624	2,589	2,818	2,919	2,990	2,922	2,993	2,934	2,897	2,684	2,465	35,989	-1.2%
2010/11	297	2,065	2,526	2,667	2,650	2,591	2,768	2,846	2,983	2,913	2,916	2,809	2,711	2,540	34,985	-2.8%
2011/12	343	2,136	2,338	2,585	2,649	2,627	2,523	2,734	2,863	2,963	2,841	2,847	2,712	2,582	34,400	-1.7%
2012/13	403	2,005	2,371	2,331	2,539	2,657	2,577	2,476	2,744	2,894	2,992	2,827	2,782	2,568	33,763	-1.9%
2013/14	412	1,939	2,190	2,293	2,350	2,508	2,611	2,588	2,619	2,765	2,854	2,979	2,696	2,662	33,054	-2.1%
2014/15	465	2,216	2,197	2,353	2,432	2,482	2,605	2,687	2,718	2,674	2,835	2,805	2,844	2,584	33,432	1.1%
2015/16	490	2,363	2,330	2,290	2,436	2,570	2,561	2,645	2,794	2,745	2,803	2,770	2,728	2,735	33,770	1.0%
2016/17	453	2,337	2,361	2,382	2,363	2,526	2,617	2,587	2,770	2,811	2,818	2,758	2,670	2,618	33,618	-0.5%
2017/18	434	2,331	2,327	2,347	2,459	2,414	2,577	2,607	2,704	2,775	2,917	2,766	2,708	2,607	33,539	-0.2%
2018/19	433	2,298	2,282	2,361	2,426	2,537	2,470	2,605	2,746	2,729	2,857	2,878	2,687	2,622	33,498	-0.1%
2019/20	431	2,282	2,243	2,308	2,433	2,495	2,588	2,489	2,735	2,763	2,801	2,814	2,794	2,600	33,345	-0.5%
2020/21	431	2,321	2,236	2,277	2,387	2,511	2,554	2,618	2,623	2,762	2,847	2,764	2,734	2,705	33,339	0.0%
2021/22	430	2,384	2,273	2,269	2,354	2,463	2,570	2,582	2,758	2,648	2,844	2,809	2,685	2,647	33,286	-0.2%
2022/23	431	2,428	2,338	2,310	2,349	2,432	2,524	2,602	2,724	2,788	2,731	2,808	2,730	2,600	33,364	0.2%
2023/24	432	2,456	2,377	2,372	2,387	2,423	2,488	2,551	2,740	2,749	2,870	2,694	2,728	2,643	33,478	0.3%
2024/25	432	2,460	2,394	2,401	2,440	2,451	2,468	2,504	2,675	2,753	2,818	2,825	2,614	2,640	33,443	-0.1%
2025/26	432	2,453	2,398	2,419	2,471	2,506	2,497	2,484	2,626	2,688	2,822	2,774	2,742	2,529	33,409	-0.1%
2026/27	432	2,439	2,386	2,417	2,483	2,532	2,547	2,507	2,599	2,632	2,749	2,775	2,690	2,653	33,409	0.0%
2027/28	430	2,423	2,370	2,402	2,479	2,542	2,571	2,555	2,620	2,603	2,689	2,702	2,691	2,602	33,249	-0.5%

Source: Applied Economics, February 2018.

5.0 SUB-DISTRICT PROJECTIONS

Sub-District enrollment projections are based on the current number of students in each planning grid, the expected occupancy of existing housing units, the absorption of new housing units, and the expected student generation from existing and newly created households. The small-area forecasts are developed by applying the expected levels of District-wide absorption to the supply of new residential housing on a project-by-project basis. Absorption is first allocated to active residential projects and then to vacant land planned for residential development, according to the development schedule assigned to each project or portion thereof. Using this data, annual projections of enrollment by grade through 2027/28 for each of the planning grids have been developed.

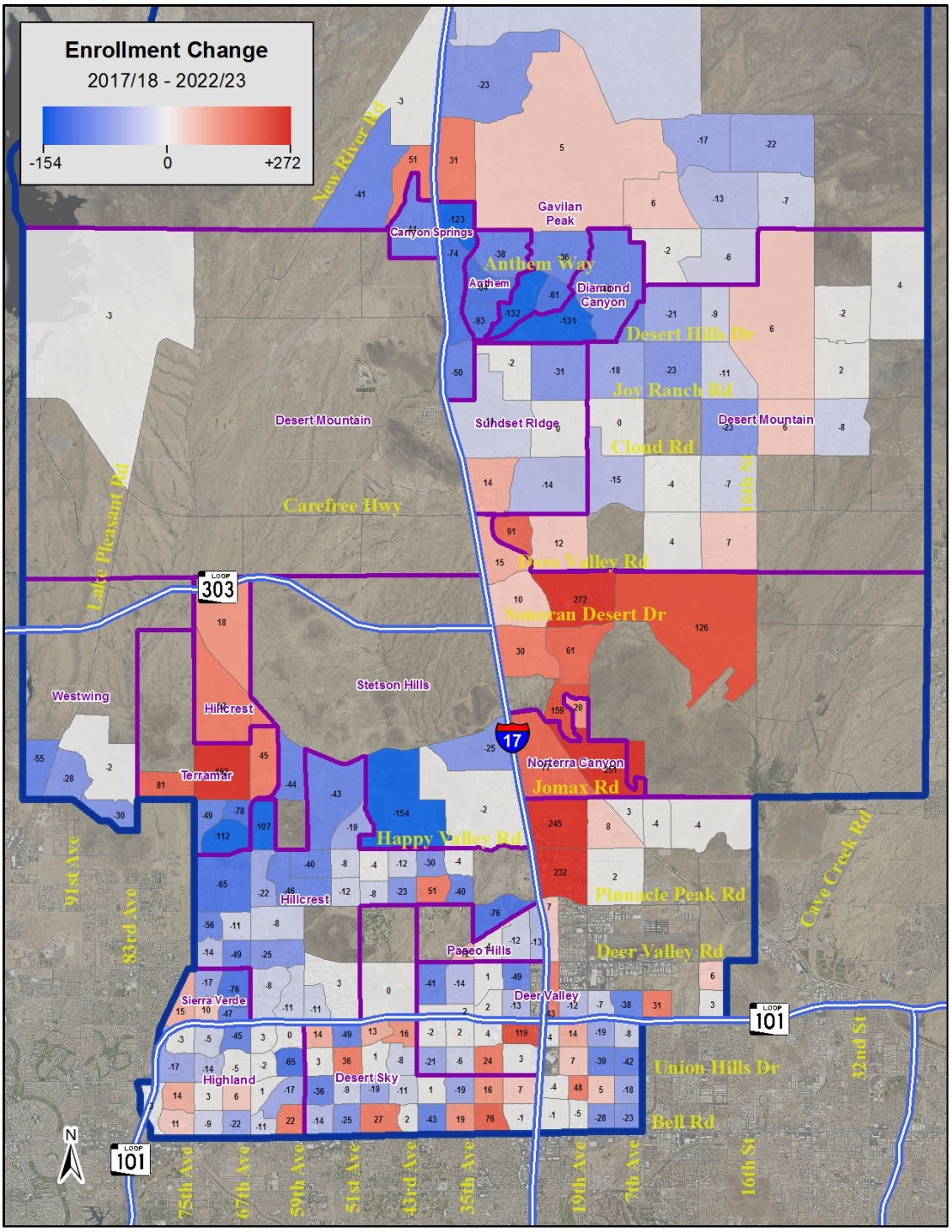
The grid-level projections are then aggregated by attendance area and compared with enrollment by school to provide a cross-check for the District enrollment projections. Matrices showing the relationship between where the students live and where they attend school are provided for elementary, middle, and high school grade levels. These relationships are combined with the attendance area projections to forecast enrollment by school.

5.1 ENROLLMENT PROJECTIONS BY PLANNING GRID & ATTENDANCE AREA

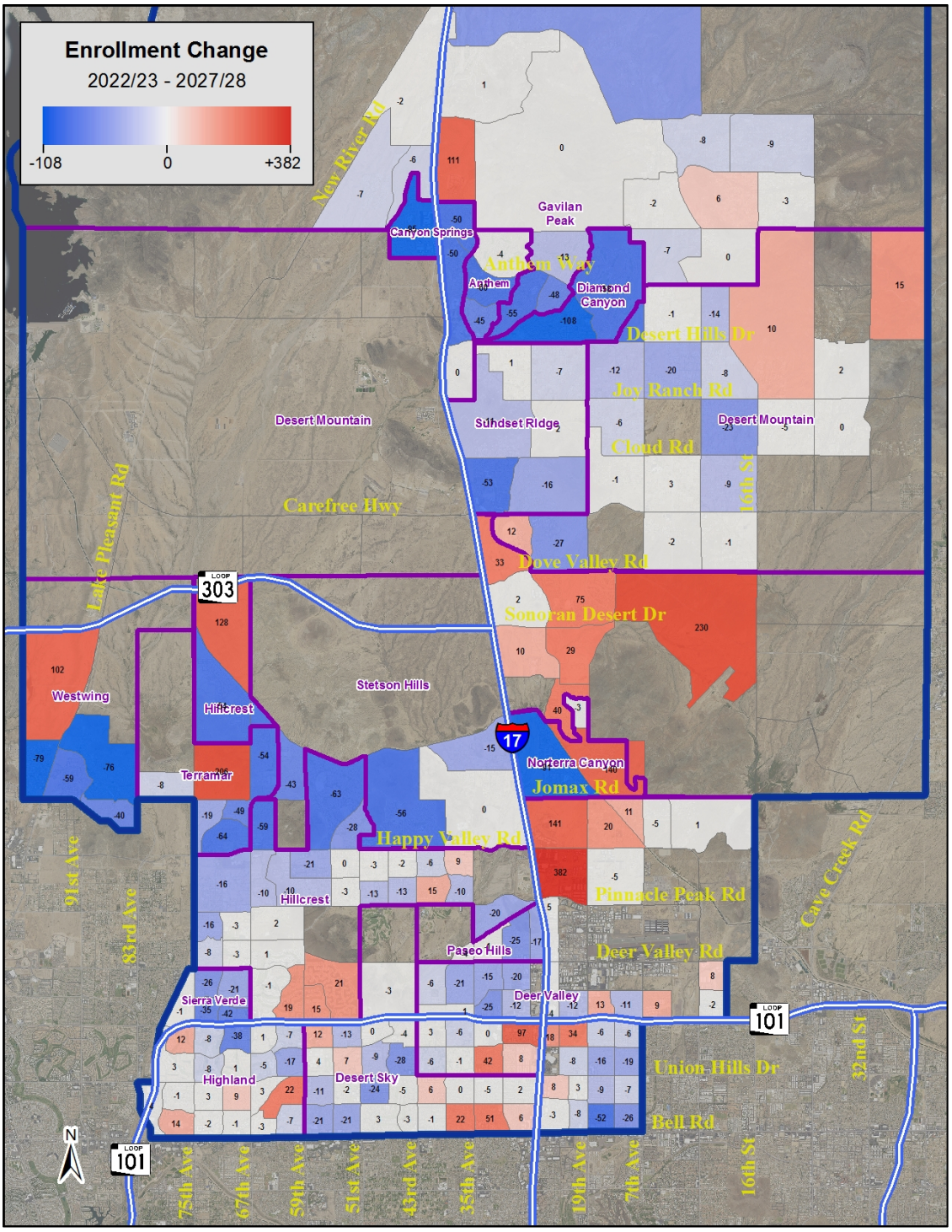
The projected changes in the number of students by grid over the next two five-year periods are depicted on **Maps 12 and 13**. The planning grids are color coded according to the degree of change, with increasing saturations of red for positive change and blue for negative change. During the first five-year period, from 2017/18 to 2022/23, the highest growth is expected near Jomax Road as residential development begins in Norterra West and north to Dove Valley Road in areas that have seen high growth levels in recent years. An additional growth area is expected in the western portion of the District around the Rock Springs and Alora Vita developments. Declines are anticipated in older residential areas, including Anthem and Stetson Valley/Stetson Hills, while the southern portion of the District should see a mix of gains and losses as new infill projects partially offset aging neighborhoods.

The pattern is similar for the second five-year period, 2022/23 to 2027/28, with some losses in current growth areas due to aging, most notably just north of Jomax Road on the east side of I-17. The southern portion of the District should continue to be a mixture of aging and growth. There are a number of major employers in the southern part of the District, creating a strong base of both office and industrial jobs. Older, more affordable housing also helps to create some stability in the school-age population due to turnover. This portion of the District consists of smaller subdivisions that were developed over time. Therefore, grids in this area have different levels of age and household composition, which helps to explain the “patchwork” appearance of enrollment growth in the area.

MAP 12
PROJECTED ENROLLMENT CHANGE BY PLANNING GRID: 2017/18 – 2022/23



MAP 13
PROJECTED ENROLLMENT CHANGE BY PLANNING GRID: 2022/23 – 2027/28



The primary and secondary school attendance areas used to aggregate the planning grid-level projections for the District are shown on **Maps 14A and 14B**. In the secondary map, the District's middle school attendance areas are outlined and labeled, while the high school attendance areas are shaded and keyed to the legend.

Table 16 displays the projected enrollment by attendance area through 2027/28 based on current student data and the demographic trends observed in the District. Enrollment is presented for each level (elementary, middle and high school) based on the attendance area designated for the student's place of residence. This provides a direct link to the demographic analysis and development projections that were used as the basis for predicting enrollment at each school. Projected enrollment from outside of the District boundaries is also included. It is important to note that current attendance area boundaries were applied to historical data for comparison purposes, including estimates for Sonoran Foothills.

Attendance area enrollment is color coded by size, relative to the average size (in students) of the attendance areas by level; larger numbers are represented in red and smaller numbers are in blue. The saturation of the colors increases with the attendance area's variation in size over time. The changes in both color and saturation from year to year provide a visual representation of growth trends within each attendance area. Changes by 5-year period are also provided to highlight these trends.

Kindergarten to 6th grade (K-6) enrollment during the first five- year projection period is forecast to decline by about 1.3 percent overall. Large enrollment increases, however, are expected in the Esperanza and Sonoran Foothills attendance areas, each with over 40 percent growth in enrollment. Legend Springs, Mirage, and Norterra Canyon should have growth of 12 to 14 percent. Declines of over 20 percent are expected at Anthem Elementary and Gavilan Peak.

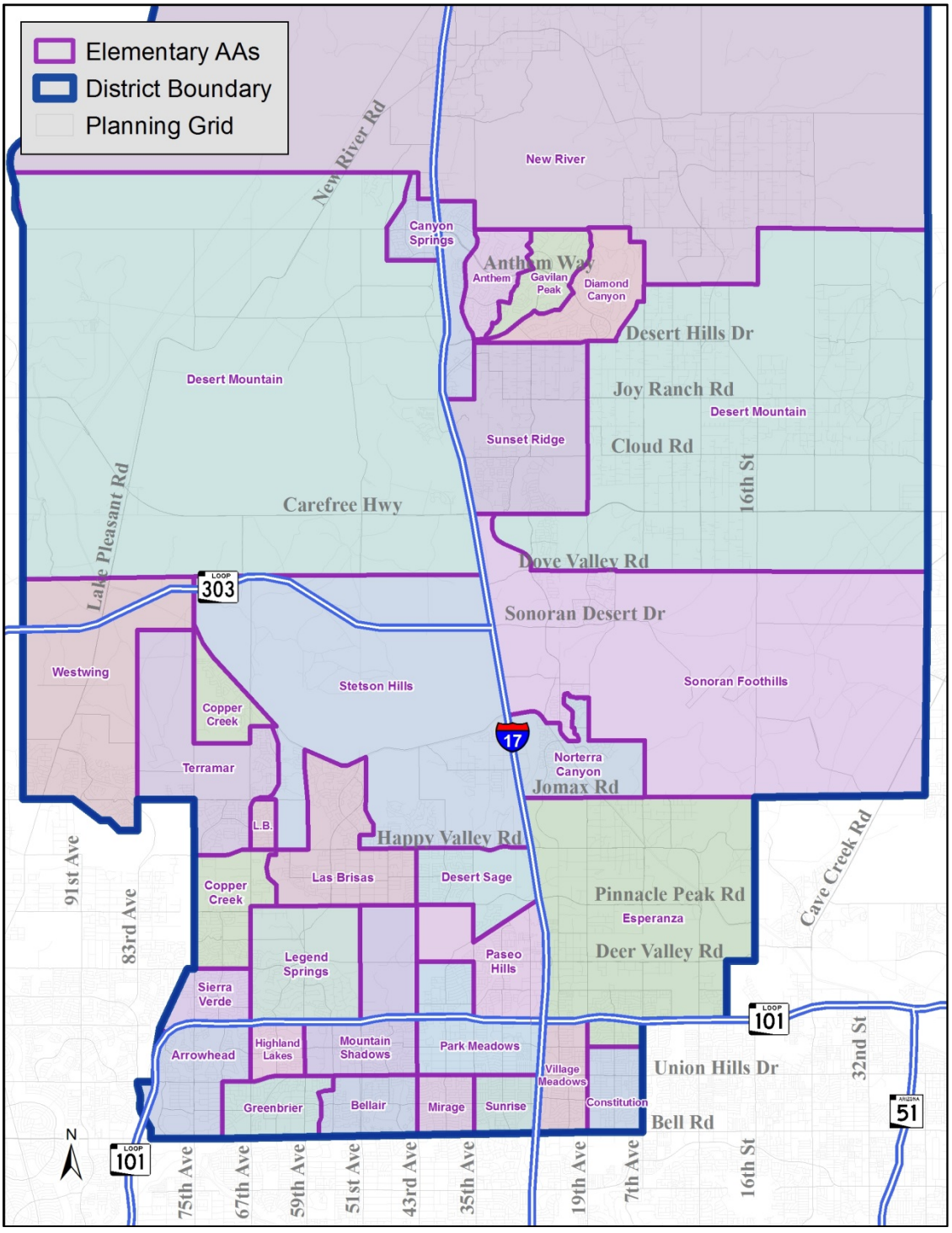
In the second five-year period, Esperanza, New River, and Sonoran Foothills are each expected to grow by slightly more than 20 percent, and Terramar is project to increase by 18 percent. The largest declines in elementary enrollment are expected at Paseo Hills and Sierra Verde, each dropping by about 15 percent.

Overall, elementary enrollment is expected to fall by just 176 students over the next ten years. The Canyon Springs, Diamond Canyon, and West Wing attendance areas are all expected to lose 200 students or more, while Paseo Hills and Sierra Verde each have a loss of 190 students. Esperanza and Sonoran Foothills are each expected to gain over 500 students.

In the middle school attendance areas, growth of 210 students in ten years at Deer Valley Middle School is expected to be offset by a loss of 185 students at Hillcrest. Out of District enrollment is expected to provide some future growth and overall middle school enrollment is projected to increase by about 200 students by 2027/28.

Changes in the high school attendance areas are expected to be more dramatic during the projection period. Growing losses, which follow slight near-term growth, at Boulder Creek are forecast to result in an enrollment decline of 765 students by 2027/28. Mountain Ridge is expected to experience fairly steady losses and drop by 575 students in ten years, and Sandra Day O'Conner is projected to lose 200 students in the second five-year period after experiencing stable enrollment during the first five years. Barry Goldwater is expected to grow by 28 percent in the first five years and 17 percent after that, gaining 1,071 students during the ten-year projection period. Overall, the high schools are expected to lose just over 300 students in the next ten years.

MAP 14A
2017/18 ELEMENTARY ATTENDANCE AREAS



MAP 14B
2017/18 SECONDARY ATTENDANCE AREAS

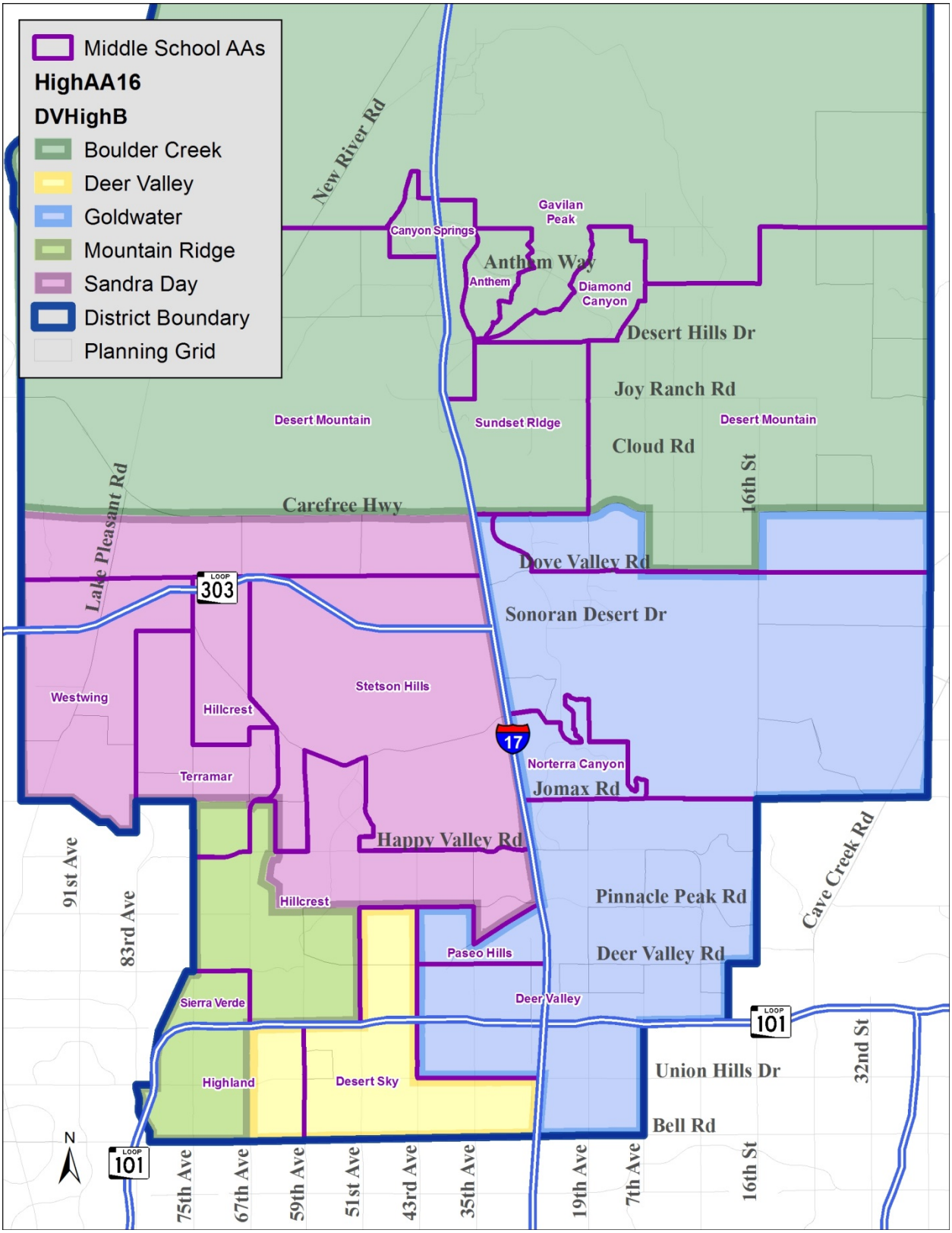


TABLE 16
STUDENTS BY ATTENDANCE AREA: 2012/13 - 2027/28

	Actual						Projected										Change		
Attendance Area*	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	'12-'17	'17-'22	'22-'27
Elementary School																			
Anthem Elem	588	533	558	494	469	453	430	411	392	361	342	341	328	323	322	318	-23%	-24%	-7%
Arrowhead	582	599	631	620	631	597	591	567	553	562	581	584	595	607	619	629	3%	-3%	8%
Bellair	385	411	452	451	446	467	468	440	429	416	416	397	398	393	389	383	21%	-11%	-8%
Canyon Springs	1,175	1,131	1,131	1,143	1,141	1,057	1,007	966	932	905	875	863	851	831	824	814	-10%	-17%	-7%
Constitiution	759	773	766	694	680	670	668	653	618	582	563	544	534	520	507	494	-12%	-16%	-12%
Copper Creek	701	667	633	677	662	685	675	682	680	675	664	656	656	651	648	643	-2%	-3%	-3%
Desert Mountain	917	743	748	764	762	796	781	758	727	705	716	696	694	694	696	695	-13%	-10%	-3%
Desert Sage	589	514	556	558	576	567	572	585	597	593	591	579	572	567	561	554	-4%	4%	-6%
Diamond Canyon	904	829	852	841	810	774	747	719	691	654	647	623	605	590	585	574	-14%	-16%	-11%
Esperanza	622	549	540	519	601	593	646	698	768	835	906	945	983	1,036	1,077	1,122	-5%	53%	24%
Gavilan Peak	643	611	615	616	573	529	485	467	451	431	416	390	373	366	370	361	-18%	-21%	-13%
Greenbrier	353	300	335	312	305	293	290	303	308	304	300	306	310	313	317	320	-17%	2%	7%
Highland Lakes	625	569	559	579	548	542	543	544	538	518	499	505	493	490	481	479	-13%	-8%	-4%
Las Brisas	1,025	1,055	1,090	1,076	1,048	1,018	999	954	945	945	945	938	922	915	909	898	-1%	-7%	-5%
Legend Springs	385	384	398	417	403	378	385	393	409	426	423	430	434	441	447	453	-2%	12%	7%
Mirage	412	435	425	413	414	414	431	443	461	469	465	445	446	442	437	431	1%	12%	-7%
Mountain Shadows	481	468	478	492	517	534	537	533	531	529	528	535	524	522	521	518	11%	-1%	-2%
New River	313	352	368	377	345	350	359	352	347	327	327	338	358	371	384	385	12%	-7%	18%
Norterra Canyon	681	747	851	836	852	856	892	929	941	957	978	982	991	986	981	982	26%	14%	0%
Park Meadows	487	500	539	540	544	536	540	554	560	562	577	588	589	600	610	620	10%	8%	8%
Paseo Hills	945	937	910	914	896	898	890	863	845	838	829	811	771	755	730	708	-5%	-8%	-15%
Sierra Verde	641	617	639	650	680	703	672	642	622	606	608	598	566	549	530	512	10%	-13%	-16%
Sonoran Foothills	510	519	513	624	713	745	807	881	941	1,007	1,066	1,142	1,195	1,226	1,266	1,320	46%	43%	24%
Stetson Hills	858	799	794	792	782	765	723	693	671	661	667	666	690	711	718	717	-11%	-13%	8%
Sunrise	459	492	511	544	546	538	552	561	580	577	587	587	586	589	592	593	17%	9%	1%
Sunset Ridge	886	793	790	825	798	800	780	757	757	754	737	730	723	731	726	725	-10%	-8%	-2%
Terramar	843	876	933	960	968	986	966	930	927	955	975	1,000	1,004	1,022	1,033	1,032	17%	-1%	6%
Village Meadows	467	438	482	492	483	475	481	465	465	475	485	511	509	517	524	530	2%	2%	9%
Westwing School	986	960	961	965	905	894	878	813	764	732	711	664	659	674	678	682	-9%	-20%	-4%
Out Of District	744	777	914	1,074	1,147	1,226	1,266	1,324	1,373	1,406	1,437	1,427	1,431	1,443	1,453	1,457	65%	17%	1%
Total	19,964	19,378	19,972	20,259	20,245	20,139	20,060	19,881	19,824	19,767	19,859	19,820	19,788	19,874	19,934	19,950	1%	-1%	0%

Source: Applied Economics, March 2018.

* Count based on the number of students by place of residence using 2017/18 attendance areas for all years.

Bold indicates a K-8 school.

TABLE 16 (Continued)
STUDENTS BY ATTENDANCE AREA: 2012/13 - 2027/28

	Actual						Projected										Change		
Attendance Area*	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	'12-'17	'17-'22	'22-'27
Middle School																			
Deer Valley Middle	721	690	660	644	644	605	603	640	694	740	764	782	819	819	800	816	-16%	26%	7%
Desert Sky Middle	664	619	630	654	630	588	552	588	607	619	641	652	648	612	601	595	-11%	9%	-7%
Hillcrest Middle	1,043	952	925	927	978	939	929	890	823	792	825	840	820	794	773	765	-10%	-12%	-7%
Out Of District	202	225	246	249	257	270	310	336	341	383	407	450	471	444	435	439	34%	51%	8%
Total	2,630	2,485	2,461	2,474	2,509	2,402	2,394	2,455	2,465	2,534	2,636	2,723	2,758	2,668	2,608	2,615	-9%	10%	-1%
High School																			
Barry Goldwater	2,073	2,057	2,072	2,097	2,004	2,128	2,208	2,295	2,457	2,576	2,731	2,907	3,005	3,094	3,181	3,207	3%	28%	17%
Boulder Creek	2,440	2,555	2,630	2,521	2,533	2,566	2,604	2,614	2,508	2,422	2,312	2,237	2,135	2,011	1,896	1,796	5%	-10%	-22%
Deer Valley	1,739	1,683	1,659	1,573	1,453	1,448	1,425	1,358	1,344	1,342	1,317	1,359	1,385	1,403	1,424	1,399	-17%	-9%	6%
Mountain Ridge	2,263	2,158	2,034	2,038	1,953	1,892	1,822	1,766	1,721	1,651	1,555	1,446	1,392	1,351	1,331	1,318	-16%	-18%	-15%
Sandra Day	2,240	2,319	2,299	2,308	2,308	2,295	2,352	2,383	2,411	2,384	2,301	2,269	2,237	2,184	2,168	2,086	2%	0%	-9%
Out Of District	414	418	479	474	613	669	633	594	609	609	653	718	744	825	867	879	62%	-2%	35%
Total	11,169	11,191	11,173	11,011	10,864	10,998	11,044	11,009	11,050	10,985	10,869	10,935	10,897	10,867	10,867	10,684	-2%	-1%	-2%

Source: Applied Economics, March 2018.

* Count based on the number of students by place of residence using 2017/18 attendance areas for all years.

5.2 ENROLLMENT BY ATTENDANCE AREA VERSUS SCHOOL

In order to convert the projections of enrollment by attendance area (place of residence) into enrollment by school, it is necessary to quantify the relationship between the place of residence and school of attendance. This is accomplished by analyzing the relationship between the two based on current student information. **Table 17**, **Table 18**, and **Table 19** display the distribution of enrollment by school versus enrollment by attendance area for elementary (K-6), middle (7-8) and high school students. These patterns at the school level provide an informative view of the flow of students between schools and from outside the District. It also provides insight into the success of each school in retaining students within their own attendance area and attracting students from outside their attendance area.

Reading the table across shows the number of students attending a school from each attendance area (listed by initials across the top row as defined in the first column) and from outside the District. Reading down the columns details where students living in each attendance area choose to go to school. The number of students attending the school in their designated attendance area is shaded in green and the rightmost columns show the net difference between attendance area and school enrollment.

For example, at Arrowhead Elementary, there are 428 students enrolled who also live within the Arrowhead attendance area. There are 7 students at Arrowhead who reside in the Bellair attendance area, 5 from Copper Creek, and so on. There are also 62 students who attend Arrowhead from outside the District, resulting in a total enrollment of 541 students. The Arrowhead attendance area contains a student population of 597, although 1 attends Bellair, 13 are at Copper Creek, and so forth. Arrowhead has a net loss of 56 students, or about 9 percent of the resident K-6 student population.

Overall, about 78 percent of the elementary school students living within District boundaries attended their designated school in the 2017/18 school year, while roughly 82 percent of 7th and 8th grade students attended their designated middle school. At the high school level that portion jumps to about 88 percent. The lower rate of attendance at designated schools at the elementary level is likely due to the greater number of educational options for families and the shorter distances between neighboring schools. Schools near the District boundaries also are also more likely to have cross-enrollment with schools in neighboring districts. With middle and high school campuses located further apart, it becomes a more challenging commute for students to attend a school outside of their designated attendance area.

The net difference between each school's enrollment and the number of students that reside within the attendance area provides an estimate of in- and out-migration impacts on enrollment. Among elementary schools, Highland Lakes has the largest net gain in enrollment from outside its attendance area with 472 additional K-6 students, including 122 students from outside the District. Legend Springs, Sierra Verde, and Stetson Hills each have net gains of over 200 students. Highland Lakes, Stetson Hills, Sierra Verde, and West Wing all retain over 90 percent of their attendance area students. Las Brisas had the largest loss of students with 240 attending schools outside of the attendance area, followed by Canyon Springs with a loss of 190. New River only had a loss of 119 students, but that represents 34 percent of the attendance area student population. The greatest losses are at Canyon Springs and New River, with just under 60 percent retention, and at Anthem and Greenbrier with just over 60 percent retention.

At the middle school level, Stetson Hills and Sierra Verde retain about 90 percent of their resident students, while Anthem and Canyon Springs hold just over 60 percent. Highland Lakes has the largest gain of 122 students, including 50 from outside of the attendance area. The high schools all retain about 90 percent or more of their students, except for Barry Goldwater which has a retention rate of just 75 percent and a loss of 342 students.

TABLE 17
SCHOOL VERSUS ATTENDANCE AREA ENROLLMENT (K-6th GRADE): 2017/18

		Attendance Area																													Total	Total		%
School	Code	AEE	ANE	BEE	CCE	COE	CSE	DCS	DME	DSE	ESE	GBE	GPE	HLE	LBE	LEG	MEE	MSE	NOR	NRE	PHE	PME	SEE	SFS	SRE	STE	SVE	TER	VME	WWE	Outside	Attend	Reside	Diff.	Diff
Arrowhead	AEE	428		7	5					3		9		1	3		3	12					2				3	3			62	541	597	-56	-9%
Anthem Elem	ANE		202				139	17	10		1		5						1	29				2	12						8	426	329	97	29%
Bellair	BEE	1		304		1			1	2	3	13			1	2	20	16		1	2	6	15						1		74	463	467	-4	-1%
Copper Creek	CCE	13		4	535	1			2			4		1	8	3	2	5		2		3	1	1			7	26	2	9	60	689	683	6	1%
Constiiution	COE			1		494					41							1			1	1	5						12		27	583	596	-13	-2%
Canyon Springs	CSE		14				440	24	10	6			7		3			2	5	25				11	11	3		3		4	3	571	761	-190	-25%
Diamond Canyon	DCS		48				80	475	8	2			65						3	29		1		3	7						8	729	571	158	28%
Desert Mountain	DME						2		397		1									13				1	12			1			3	430	578	-148	-26%
Desert Sage	DSE			1	3	3	1			470	14			1	21	2	4	8	4		20	10		3	1	4		9	2		23	604	567	37	7%
Esperanza	ESE					34					493							1			5	2	1	1					3		12	552	667	-115	-17%
Greenbrier	GBE	3		45	3						2	178		1	1	1	6	18				1	2	1			2				110	374	293	81	28%
Gavilan Peak	GPE		54				80	44	10	2	1		197					1		30				5	18				3		10	455	280	175	63%
Highland Lakes	HLE	70	2	51	16	6		3		7	4	69		196	27	8	10	29	5	1	4	8	7	7	3	5	6	16	1	1	122	684	212	472	223%
Las Brisas	LBE	1		2	11			1		1	1				720			3	1		3			1		2		10		2	19	778	1,018	-240	-24%
Legend Springs	LEG	33		15	24	1				4	1	10		6	47	332	6	20	1		7	6				3	11	30		3	94	654	378	276	73%
Mirage	MEE	3		6	2	2				1	3	2					339	8	1		2	4	28						7		59	467	414	53	13%
Mountain Shadows	MSE			2		1				1	2						12	382			3	11	7						1		32	454	534	-80	-15%
Norterra Canyon	NOR				6				11	3	24		4		2		2	2	621		3	1		32	4	1			3		14	733	699	34	5%
New River	NRE		2					3	4											208											14	231	350	-119	-34%
Paseo Hills	PHE	1				3			2	3	26				1			3			580	11		1	2	2			13		17	665	700	-35	-5%
Park Meadows	PME			10		11					14				4		6	14	1		47	454	14	1					13		49	638	536	102	19%
Sunrise	SEE			1		8		1			4	1							3		6	1	448						4		54	531	538	-7	-1%
Sonoran Foothills	SFS		1	1	1		5	1	87		6				1			2	35	1	1			516	21	4	1	1			9	694	606	88	15%
Sunset Ridge	SRE		4				9	1	29		1								1	10	2	1		10	476	1		2	1		1	549	573	-24	-4%
Stetson Hills	STE	1	1	1	10		2		6	51	10		1	1	111	3			15		3	4	2	4	3	501		15	1	6	24	776	543	233	43%
Sierra Verde	SVE	31		12	23					4	3	6		4	16	24		6			4	5	1			5	483	21	1	4	132	785	514	271	53%
Terramar	TER	6			38					4	2				43						1	4	1			3		546		8	41	697	718	-21	-3%
Village Meadows	VME					28					7							1			2		1						403		37	479	475	4	1%
Westwing School	WWE	3			5						1				8	2								3	1	6		34		598	108	769	637	132	21%
Other		3	1	4	1	3	3	1	1	3	2	1	1	1	1	1	4	0	2	1	4	2	3	3	2	3	1	1	4	2	0	59	0	59	
Total Reside		597	329	467	683	596	761	571	578	567	667	293	280	212	1,018	378	414	534	699	350	700	536	538	606	573	543	514	718	475	637	1,226	17,060	15,834	1,226	8%
Attend = Reside:		72%	61%	65%	78%	83%	58%	83%	69%	83%	74%	61%	70%	92%	71%	88%	82%	72%	89%	59%	83%	85%	83%	85%	83%	92%	94%	76%	85%	94%		12,416	78.4%		

Sources: Deer Valley Unified School District; Applied Economics, 2018.

TABLE 18
SCHOOL VERSUS ATTENDANCE AREA ENROLLMENT (7TH-8th GRADE): 2017/18

School Name	Code	Attendance Area																	Total Attend	Total Reside	Diff.
		ANE	CSE	DCS	DME	DSM	DVM	GPE	HCM	HLE	NOR	PHE	SFS	SRE	STE	SVE	TER	WWE	Outside			
Anthem Elem	ANE	79	53	11	5			13					1	5					4	171	124	47
Canyon Springs	CSE	2	179	6	3	1		19			1		1	7					1	220	296	-76
Diamond Canyon	DCS	14	26	162	2			34			1			3					2	244	203	41
Desert Mountain	DME		1		160			1					1	7					2	172	218	-46
Desert Sky Middle	DSM				1	524	21		2	9		3				2			69	631	588	43
Deer Valley Middle	DVM					2	514					27	1						10	554	605	-51
Gavilan Peak	GPE	27	27	21	4		1	179		1			2	5					3	270	249	21
Hillcrest Middle	HCM				2	8	9		795	13	1	5	1		6	11	47	15	54	967	939	28
Highland Lakes	HLE	1		1		36	12	1	31	285	6	2	3	4	5	4	9	2	50	452	330	122
Norterra Canyon	NOR				4	1	9		5		135		5	1	2				5	167	157	10
Paseo Hills	PHE					2	18		3			158		1					5	187	198	-11
Sonoran Foothills	SFS		1		23	1	1	1			9		118	5	1				1	161	139	22
Sunset Ridge	SRE	1	8	2	13	3	2	1					5	188	1					224	227	-3
Stetson Hills	STE				1	1	9		43	1	3	2	1		203		3	2	1	270	222	48
Sierra Verde	SVE					4	1		27	19					2	172	4	3	26	258	189	69
Terramar	TER								25	2		1			1		194	4	10	237	268	-31
Westwing School	WWE								5						1		9	230	27	272	257	15
Other		0	1	0	0	5	8	0	3	0	1	0	0	1	0	0	2	1	0	22	0	22
Total Reside:		124	296	203	218	588	605	249	939	330	157	198	139	227	222	189	268	257	270	5,479	5,209	270
Attend = Reside:		64%	60%	80%	73%	89%	85%	72%	85%	86%	86%	80%	85%	83%	91%	91%	72%	89%		4,275	82.1%	

Sources: Deer Valley Unified School District; Applied Economics, 2018.

TABLE 19
SCHOOL VERSUS ATTENDANCE AREA ENROLLMENT (9TH-12th GRADE): 2017/18

School	Code	Attendance Area						Total Attend	Total Reside	Diff.
		BCH	BGH	DVH	MRH	SDH	Outside			
Boulder Creek	BCH	2,455	131		1	5	58	2,650	2,566	84
Barry Goldwater	BGH	35	1,606	36	13	19	77	1,786	2,128	-342
Deer Valley	DVH	6	92	1,292	55	30	254	1,729	1,448	281
Mountain Ridge	MRH	7	42	83	1,731	236	204	2,303	1,892	411
Sandra Day	SDH	46	222	22	84	1,995	73	2,442	2,295	147
Other		17	35	15	8	10	3	88	0	88
Total Reside		2,566	2,128	1,448	1,892	2,295	669	10,998	10,329	669
Attend = Reside:		96%	75%	89%	91%	87%		9,079	87.9%	

Sources: Deer Valley Unified School District; Applied Economics, 2018.

Table 20 shows the pattern of attendance versus residence over the past four years. The opening of Sonoran Foothills in 2015/16 created a new factor in these relationships, likely impacting Esperanza and Paseo Hills, and possibly Desert Mountain. Notable gains have been experienced at Park Meadows and Westwing, and a modest positive trend can be observed at Constitution; all of these schools are located near the District boundaries.

TABLE 20
TOTAL ENROLLMENT ATTENDANCE VERSUS RESIDENCE

	2014-15		2015-16		2016-17		2017-18		Difference			
School	Attend	Reside	Attend	Reside	Attend	Reside	Attend	Reside	2014-15	2015-16	2016/17	2017/18
Arrowhead	566	631	579	620	563	631	541	597	-65	-41	-68	-56
Anthem Elem	535	387	533	348	519	342	426	329	148	185	177	97
Bellair	466	452	460	451	473	446	463	467	14	9	27	-4
Copper Creek	692	633	708	677	709	662	689	683	59	31	47	6
Constitiution	663	766	607	620	585	595	583	596	-103	-13	-10	-13
Canyon Springs	578	856	608	877	595	853	571	761	-278	-269	-258	-190
Diamond Canyon	781	640	764	616	760	598	729	571	141	148	162	158
Desert Mountain	501	570	474	554	449	550	430	578	-69	-80	-101	-148
Desert Sage	543	556	574	558	611	576	604	567	-13	16	35	37
Esperanza	549	540	489	593	553	686	552	667	9	-104	-133	-115
Greenbrier	369	335	365	312	369	305	374	293	34	53	64	81
Gavilan Peak	543	370	516	335	464	309	455	280	173	181	155	175
Highland Lakes	623	232	635	211	664	194	684	212	391	424	470	472
Las Brisas	835	1,090	848	1,076	804	1,048	778	1,018	-255	-228	-244	-240
Legend Springs	646	398	680	417	645	403	654	378	248	263	242	276
Mirage	448	425	444	413	479	414	467	414	23	31	65	53
Mountain Shadows	450	478	464	492	439	517	454	534	-28	-28	-78	-80
Norterra Canyon	976	925	726	688	712	640	733	699	51	38	72	34
New River	275	368	239	377	214	345	231	350	-93	-138	-131	-119
Paseo Hills	742	691	732	707	696	689	665	700	51	25	7	-35
Park Meadows	546	539	565	540	598	544	638	536	7	25	54	102
Sunrise	511	511	563	544	556	546	531	538	0	19	10	-7
Sonoran Foothills	0	0	513	510	604	621	694	606	0	3	-17	88
Sunset Ridge	744	802	623	602	574	576	549	573	-58	21	-2	-24
Stetson Hills	814	583	805	584	800	558	776	543	231	221	242	233
Sierra Verde	739	481	754	495	756	500	785	514	258	259	256	271
Terramar	595	556	644	704	671	720	697	718	39	-60	-49	-21
Village Meadows	458	482	470	492	472	483	479	475	-24	-22	-11	4
Westwing School	778	805	780	709	777	675	769	637	-27	71	102	132
Other	50	0	34	0	62	0	59	0	50	34	62	59
Total	17,016	16,102	17,196	16,122	17,173	16,026	17,060	15,834	914	1,074	1,147	1,226
Attend = Reside:		79.9%		80.0%		80.0%		78.4%				

Sources: Deer Valley Unified School District; Applied Economics, 2018.

At the middle school level, Paseo Hills and Deer Valley Middle School appear to have been affected by the opening of Sonoran Foothills, although in different ways. Otherwise, the attend to reside rates have been fairly stable. Differences at the high schools show a strong negative trend at Barry Goldwater, while significant increases in the retention rate have been experienced at Deer Valley and Mountain Ridge. The attend-reside ratio has been less consistent at Sandra Day O'Conner.

TABLE 20 (continued)
TOTAL ENROLLMENT ATTENDANCE VERSUS RESIDENCE

GRADES 7-8

	2014-15		2015-16		2016-17		2017-18		Difference			
School Name	Attend	Reside	Attend	Reside	Attend	Reside	Attend	Reside	2014-15	2015-16	2016-17	2017-18
Anthem Elem	224	171	208	146	181	127	171	124	53	62	54	47
Canyon Springs	188	275	177	266	206	288	220	296	-87	-89	-82	-76
Diamond Canyon	243	212	267	225	257	212	244	203	31	42	45	41
Desert Mountain	167	178	192	210	191	212	172	218	-11	-18	-21	-46
Desert Sky Middle	642	630	696	654	674	630	631	588	12	42	44	43
Deer Valley Middle	617	791	597	644	590	644	554	605	-174	-47	-54	-51
Gavilan Peak	230	245	261	281	250	264	270	249	-15	-20	-14	21
Hillcrest Middle	989	925	984	927	1,002	978	967	939	64	57	24	28
Highland Lakes	460	327	500	368	484	354	452	330	133	132	130	122
Norterra Canyon	188	178	181	148	150	140	167	157	10	33	10	10
Paseo Hills	220	88	213	207	209	207	187	198	132	6	2	-11
Sonoran Foothills	0	0	58	114	149	164	161	139	0	-56	-15	22
Sunset Ridge	237	249	248	223	232	222	224	227	-12	25	10	-3
Stetson Hills	265	211	264	208	283	224	270	222	54	56	59	48
Sierra Verde	231	158	228	155	253	180	258	189	73	73	73	69
Terramar	218	251	188	256	194	248	237	268	-33	-68	-54	-31
Westwing School	267	282	260	256	252	230	272	257	-15	4	22	15
Other	31	0	15	0	24	0	22	0	31	15	24	22
Total	5,417	5,171	5,537	5,288	5,581	5,324	5,479	5,209	246	249	257	270
Attend = Reside:		77.9%		83.0%		83.0%		82.1%				

Sources: Deer Valley Unified School District; Applied Economics, 2018.

GRADES 9-12

	2014-15		2015-16		2016-17		2016-17		Difference			
School	Attend	Reside	Attend	Reside	Attend	Reside	Attend	Reside	2014-15	2015-16	2016-17	2017-18
Boulder Creek	2,641	2,630	2,578	2,521	2,586	2,533	2,650	2,566	11	57	53	84
Barry Goldwater	1,862	2,072	1,872	2,097	1,739	2,004	1,786	2,128	-210	-225	-265	-342
Deer Valley	1,857	1,659	1,813	1,573	1,713	1,453	1,729	1,448	198	240	260	281
Mountain Ridge	2,205	2,034	2,280	2,038	2,310	1,953	2,303	1,892	171	242	357	411
Sandra Day	2,476	2,299	2,437	2,308	2,384	2,308	2,442	2,295	177	129	76	147
Other	132	0	31	0	132	0	88	0	132	31	132	88
Total	11,173	10,694	11,011	10,537	10,864	10,251	10,998	10,329	479	474	613	669
Attend = Reside:		85.8%		90.0%		90.0%		87.9%				

Sources: Deer Valley Unified School District; Applied Economics, 2018.

Table 21 shows the attend-reside matrix for the District high school attendance areas for the past four years. While most of the schools have fairly stable levels of enrollment shifts between other attendance areas, there are some trends that should be noted. Mountain Ridge has been taking in an increasing number of students from the Sandra Day O'Conner attendance area, while Sandra Day O'Conner has been receiving more students from Barry Goldwater. It is also worth noting that there have been an increasing number of out-of-district students attending Deer Valley and Mountain Ridge.

TABLE 21
HIGH SCHOOL ENROLLMENT VERSUS ATTENDANCE AREA ENROLLMENT

Schools	Attendance Areas: Barry Goldwater	Boulder Creek	Deer Valley	Mountain Ridge	Sandra Day	Out of District	Total
Barry Goldwater							
2014-15	1,648	53	42	22	23	74	1,862
2015-16	1,697	48	36	16	25	50	1,872
2016-17	1,559	41	28	20	23	68	1,739
2017-18	1,606	35	36	13	19	77	1,786
Boulder Creek							
2014-15	85	2,499	-	1	1	55	2,641
2015-16	101	2,419	1	1	4	52	2,578
2016-17	106	2,410	-	2	5	63	2,586
2017-18	131	2,455	-	1	5	58	2,650
Deer Valley High							
2014-15	85	4	1,499	75	20	174	1,857
2015-16	80	4	1,428	79	33	189	1,813
2016-17	83	4	1,294	61	36	235	1,713
2017-18	92	6	1,292	55	30	254	1,729
Mountain Ridge							
2014-15	33	6	78	1,835	133	120	2,205
2015-16	37	6	83	1,859	167	128	2,280
2016-17	37	5	94	1,778	211	185	2,310
2017-18	42	7	83	1,731	236	204	2,303
Sandra Day O'Connor							
2014-15	186	38	15	79	2,102	56	2,476
2015-16	168	37	19	82	2,076	55	2,437
2016-17	178	43	15	77	2,011	60	2,384
2017-18	222	46	22	84	1,995	73	2,442
Vista Peak School							
2014-15	12	5	6	5	1	-	29
2015-16	14	7	6	1	3	-	31
2016-17	16	10	8	1	5	1	41
2017-18	35	17	15	8	10	3	88
Total							
2014-15	2,049	2,605	1,640	2,017	2,280	479	11,070
2015-16	2,097	2,521	1,573	2,038	2,308	474	11,011
2016-17	1,979	2,513	1,439	1,939	2,291	612	10,773
2017-18	2,128	2,566	1,448	1,892	2,295	669	10,998

Source: Deer Valley Unified School District; Applied Economics, 2018.

5.3 ENROLLMENT BY SCHOOL

Tables 22 and 23 show actual enrollment since the 2012/13 school year and projected enrollment by school for 2018/19 through 2027/28, based on applying the existing reside/attend relationships to the projected level of enrollment by resident attendance area. Note that in **Table 22** the 7th & 8th grade enrollment at the K-8 schools is included in the totals for the elementary schools. This leaves only the three 7th and 8th grade middle schools on **Table 23**, along with the five high schools. Color coding indicates a school's relationship to its enrollment capacity, as defined by the School Facilities Board (SFB), with orange indicating where enrollment exceeds the facility capacity.

Norterra Canyon is slightly over capacity currently and is forecast to continue growing, remaining about 100 students over capacity throughout the projection period. Sonoran Foothills is near capacity now and is projected to grow substantially, first exceeding capacity levels in 2019/20 and going over capacity by 400 students in 2025/26. Esperanza and Terramar are at acceptable levels for the near-term but are projected to be over capacity in the last half of the projection period. Sierra Verde and Stetson Hills are over capacity now, but are expected to experience enrollment declines over the new few years.

None of the middle schools are over-crowded currently, and none are expected to grow beyond capacity during the projection period. The high schools, however, are experiencing some capacity issues that may need to be addressed. Both Boulder Creek and Mountain Ridge are currently over their SFB capacities, but they are each forecast to have enrollment declines that should return them to less crowded conditions in the next three years. At Barry Goldwater, enrollment is expected to increase, pushing the school to exceed its capacity after 2023/24. Since District enrollment is expected to decline overall, there will be capacity available elsewhere, providing a few years to address the issue.

TABLE 22
ELEMENTARY SCHOOL ENROLLMENT: 2012/13 - 2027/28

School	SFB Capacity	Actual						Projected									
		2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
Elementary																	
Anthem Elem	928	844	768	784	757	724	613	587	535	512	482	449	442	415	410	418	424
Arrowhead	841	577	539	596	614	601	576	592	604	621	642	664	664	659	657	651	644
Bellair	681	471	460	482	477	486	467	459	442	432	423	426	409	406	400	394	387
Canyon Springs	1,098	805	760	787	810	809	809	769	757	742	720	716	711	709	693	689	682
Constitiution	747	543	578	684	624	618	604	618	609	585	572	564	555	542	525	509	493
Copper Creek	926	787	748	719	728	732	708	706	707	702	698	699	697	702	703	705	705
Desert Mountain	1,329	812	739	699	689	651	615	602	583	556	541	551	538	546	549	553	556
Desert Sage	938	600	553	595	624	655	645	672	701	719	717	710	699	680	663	647	628
Desert Winds	847	432	377	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diamond Canyon	1,040	1,024	959	1,036	1,031	1,017	973	942	921	899	867	853	818	816	798	794	786
Esperanza	806	399	360	567	530	577	579	626	672	729	792	861	899	937	991	1,033	1,082
Gavilan Peak	919	805	779	790	795	723	735	712	698	669	652	634	610	587	581	576	560
Greenbrier	802	383	337	389	388	385	397	407	421	426	426	417	423	422	421	423	425
Highland Lakes	1,294	1,080	1,068	1,086	1,134	1,146	1,134	1,139	1,162	1,153	1,135	1,107	1,109	1,094	1,089	1,080	1,083
Las Brisas	894	814	820	833	849	829	797	796	771	785	797	804	803	789	789	785	779
Legend Springs	902	626	603	648	681	645	652	672	674	704	712	718	741	754	768	781	793
Mirage	957	448	438	460	470	500	487	511	536	556	563	561	546	543	533	524	513
Mountain Shadows	869	463	472	466	498	479	493	500	502	503	507	505	509	500	502	503	504
New River	559	267	274	275	239	209	229	239	235	233	218	216	209	220	227	237	238
Norterra Canyon	945	1,051	1,074	1,164	909	863	925	968	1,000	1,026	1,046	1,066	1,076	1,091	1,067	1,058	1,055
Park Meadows	807	542	547	585	610	622	648	645	659	658	656	677	681	680	686	693	697
Paseo Hills	1,012	961	959	963	942	914	864	851	822	791	777	774	762	727	712	702	693
Sierra Verde	938	881	967	969	982	1,010	1,040	1,012	980	957	926	915	896	853	829	809	792
Sonoran Foothills	950	0	0	0	589	786	855	916	983	1,041	1,111	1,172	1,243	1,309	1,351	1,390	1,438
Stetson Hills	972	1,055	1,025	1,085	1,070	1,074	1,045	1,022	1,002	988	992	990	989	1,014	1,044	1,059	1,069
Sunrise	768	492	493	506	564	562	543	558	563	571	553	551	548	552	562	569	573
Sunset Ridge	1,039	1,057	998	975	889	821	797	773	752	754	752	756	753	739	749	743	740
Terramar	1,039	800	816	861	866	894	967	944	906	898	918	940	963	966	971	977	972
Village Meadows	726	488	430	503	500	478	487	491	473	478	492	507	531	533	544	556	565
Westwing School	1,040	1,075	1,031	1,046	1,038	1,024	1,041	1,041	992	952	936	925	889	889	901	906	908
Other																	
Total	27,613	20,582	19,972	20,553	20,897	20,834	20,725	20,769	20,659	20,637	20,619	20,725	20,711	20,672	20,713	20,762	20,780
Percent of Capacity		74.5%	72.3%	74.4%	75.7%	75.4%	75.1%	75.2%	74.8%	74.7%	74.7%	75.1%	75.0%	74.9%	75.0%	75.2%	75.3%

Source: Applied Economics, March 2018.

>100% Capacity >90% Capacity <50% Capacity

TABLE 23
MIDDLE AND HIGH SCHOOL ENROLLMENT: 2012/13 - 2027/28

School	SFB Capacity	Actual 2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	Projected 2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
Middle School																	
Deer Valley Middle	943	686	666	609	602	599	559	553	577	622	670	701	730	782	794	781	802
Desert Sky Middle	910	690	629	644	695	683	630	598	621	629	640	661	677	681	647	635	628
Hillcrest Middle	1,016	1,039	1,008	992	985	1,004	969	967	910	832	802	839	857	843	820	796	785
Total	2,869	2,415	2,303	2,245	2,282	2,286	2,158	2,118	2,108	2,083	2,112	2,201	2,264	2,306	2,261	2,212	2,215
Percent of Capacity		84.2%	80.3%	78.3%	79.5%	79.7%	75.2%	73.8%	73.5%	72.6%	73.6%	76.7%	78.9%	80.4%	78.8%	77.1%	77.2%
Grades 9-12																	
Barry Goldwater	2,380	1,938	1,880	1,865	1,885	1,783	1,791	1,777	1,793	1,927	2,044	2,199	2,372	2,468	2,557	2,643	2,668
Boulder Creek	2,660	2,458	2,575	2,644	2,593	2,621	2,648	2,726	2,761	2,682	2,625	2,565	2,546	2,487	2,420	2,352	2,288
Deer Valley	2,466	1,915	1,876	1,860	1,818	1,725	1,729	1,688	1,615	1,605	1,596	1,569	1,613	1,635	1,660	1,682	1,649
Mountain Ridge	2,196	2,255	2,291	2,209	2,282	2,324	2,296	2,288	2,224	2,161	2,083	1,983	1,877	1,817	1,784	1,763	1,743
Sandra Day	2,660	2,603	2,569	2,479	2,442	2,407	2,443	2,565	2,616	2,675	2,637	2,553	2,527	2,490	2,446	2,427	2,336
Total	12,362	11,169	11,191	11,057	11,020	10,860	10,907	11,044	11,009	11,050	10,985	10,869	10,935	10,897	10,867	10,867	10,684
Percent of Capacity		90.3%	90.5%	89.4%	89.1%	87.8%	88.2%	89.3%	89.1%	89.4%	88.9%	87.9%	88.5%	88.1%	87.9%	87.9%	86.4%

Source: Applied Economics, March 2018.

>100% Capacity >90% Capacity <50% Capacity

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Kasten Long Commercial Group
Kasten Long Commercial Group

Maricopa Association of Governments
Information Services

Maricopa County Assessor's Office
Maricopa County, AZ

Rose Law Group
Rose Law Group Reporter

APPENDIX A – HIGH SCHOOL CHOICE BY 8TH GRADE SCHOOL

	9th Grade Class Year							
	2010_11	2011_12	2012_13	2013_14	2014_15	2015_16	2016_17	2017_18
ANTHEM ELEM								
BARRY GOLDWATER		7	7	5		2		4
BOULDER CREEK	88	84	86	89	76	97	95	82
MOUTAIN RIDGE	1			1			1	1
SANDRA DAY	2	4	3			3	1	
LEFT DISTRICT	12	28	13	9	11	9	10	15
TOTAL	103	123	109	104	87	111	107	102
CANYON SPRINGS								
BARRY GOLDWATER	6	1	3	3	1	2	1	1
BOULDER CREEK	66	87	73	91	97	73	90	73
MOUTAIN RIDGE								1
DEER VALLEY	1							1
SANDRA DAY		1			3	1	1	1
LEFT DISTRICT	14	21	23	3	9	11	9	9
TOTAL	87	110	99	97	110	87	101	86
DEER VALLEY MIDDLE								
BARRY GOLDWATER	242	252	284	253	271	251	210	254
BOULDER CREEK	2	3	1	1	1	1	1	
DEER VALLEY	8	5	12	7	7	6	8	3
MOUTAIN RIDGE	1	1		1	1	1		2
SANDRA DAY	2	9	1		2	4	1	1
LEFT DISTRICT	104	97	103	70	57	60	58	56
TOTAL	359	367	401	332	339	323	278	316
DESERT MOUNTAIN								
BARRY GOLDWATER	9	3	8	4	2	7	4	6
BOULDER CREEK	104	95	83	86	83	55	73	70
SANDRA DAY	5	1	6	3	3	2	3	1
LEFT DISTRICT	19	25	22	11	15	13	15	19
TOTAL	137	124	119	104	103	77	95	96
DESERT SKY MIDDLE								
BARRY GOLDWATER	9	8	12	7	2	7	8	7
BOULDER CREEK	1		1		2			1
DEER VALLEY	353	299	305	289	293	251	264	265
MOUTAIN RIDGE	2	1	2		5	1	4	3
SANDRA DAY	3	7	4	6		1		5
LEFT DISTRICT	72	67	76	38	41	41	62	59
TOTAL	440	382	400	340	343	301	338	340

	9th Grade Class Year								
	2010_11	2011_12	2012_13	2013_14	2014_15	2015_16	2016_17	2017_18	Average
ANTHEM									
BARRY GOLDWATER	0.0%	5.7%	6.4%	4.8%	0.0%	1.8%	0.0%	3.9%	2.7%
BOULDER CREEK	85.4%	68.3%	78.9%	85.6%	87.4%	87.4%	88.8%	80.4%	82.2%
MOUTAIN RIDGE	1.0%	0.0%	0.0%	1.0%	0.0%	0.0%	0.9%	1.0%	0.4%
SANDRA DAY	1.9%	3.3%	2.8%	0.0%	0.0%	2.7%	0.9%	0.0%	1.7%
LEFT DISTRICT	11.7%	22.8%	11.9%	8.7%	12.6%	8.1%	9.3%	14.7%	12.9%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
CANYON SPRINGS									
BARRY GOLDWATER	6.9%	0.9%	3.0%	3.1%	0.9%	2.3%	1.0%	1.2%	2.2%
BOULDER CREEK	75.9%	79.1%	73.7%	93.8%	88.2%	83.9%	89.1%	84.9%	82.9%
MOUTAIN RIDGE								1.2%	0.1%
DEER VALLEY	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	0.5%
SANDRA DAY	0.0%	0.9%	0.0%	0.0%	2.7%	1.1%	1.0%	1.2%	0.8%
LEFT DISTRICT	16.1%	19.1%	23.2%	3.1%	8.2%	12.6%	8.9%	10.5%	13.5%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
DEER VALLEY MIDDLE									
BARRY GOLDWATER	67.4%	68.7%	70.8%	76.2%	79.9%	77.7%	75.5%	80.4%	72.9%
BOULDER CREEK	0.6%	0.8%	0.2%	0.3%	0.3%	0.3%	0.4%	0.0%	0.3%
DEER VALLEY	2.2%	1.4%	3.0%	2.1%	2.1%	1.9%	2.9%	0.9%	2.1%
MOUTAIN RIDGE	0.3%	0.3%	0.0%	0.3%	0.3%	0.3%	0.0%	0.6%	0.3%
SANDRA DAY	0.6%	2.5%	0.2%	0.0%	0.6%	1.2%	0.4%	0.3%	1.8%
LEFT DISTRICT	29.0%	26.4%	25.7%	21.1%	16.8%	18.6%	20.9%	17.7%	22.6%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
DESERT MOUNTAIN									
BARRY GOLDWATER	6.6%	2.4%	6.7%	3.8%	1.9%	9.1%	4.2%	6.3%	5.0%
BOULDER CREEK	75.9%	76.6%	69.7%	82.7%	80.6%	71.4%	76.8%	72.9%	76.5%
SANDRA DAY	3.6%	0.8%	5.0%	2.9%	2.9%	2.6%	3.2%	1.0%	2.7%
LEFT DISTRICT	13.9%	20.2%	18.5%	10.6%	14.6%	16.9%	15.8%	19.8%	15.8%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
DESERT SKY MIDDLE									
BARRY GOLDWATER	2.0%	2.1%	3.0%	2.1%	0.6%	2.3%	2.4%	2.1%	2.2%
BOULDER CREEK	0.2%	0.0%	0.3%	0.0%	0.6%	0.0%	0.0%	0.3%	0.2%
DEER VALLEY	80.2%	78.3%	76.3%	85.0%	85.4%	83.4%	78.1%	77.9%	80.5%
MOUTAIN RIDGE	0.5%	0.3%	0.5%	0.0%	1.5%	0.3%	1.2%	0.9%	0.7%
SANDRA DAY	0.7%	1.8%	1.0%	1.8%	0.0%	0.3%	0.0%	1.5%	0.9%
LEFT DISTRICT	16.4%	17.5%	19.0%	11.2%	12.0%	13.6%	18.3%	17.4%	15.7%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

	9th Grade Class Year							
	2010_11	2011_12	2012_13	2013_14	2014_15	2015_16	2016_17	2017_18
DIAMOND CANYON								
BARRY GOLDWATER	1	1	2	5			1	1
BOULDER CREEK	89	108	80	105	110	86	122	121
DEER VALLEY								
SANDRA DAY	2		4			1		1
LEFT DISTRICT	23	20	15	18	9	16	12	7
TOTAL	115	129	101	128	119	103	135	130
GAVILAN PEAK								
BARRY GOLDWATER	2	2	1	1	1	3	1	2
BOULDER CREEK	116	101	107	117	129	79	123	94
DEER VALLEY							1	
SANDRA DAY	1	2					3	1
LEFT DISTRICT	31	15	19	11	8	9	15	16
TOTAL	150	120	127	129	138	91	143	113
HIGHLAND LAKES								
BARRY GOLDWATER	3	7	3	7	2	4	3	5
BOULDER CREEK	1				5	9	6	5
DEER VALLEY	79	73	98	105	89	103	80	78
MOUTAIN RIDGE	124	115	92	122	101	67	127	107
SANDRA DAY	3	9	4	2	8	7	4	18
LEFT DISTRICT	38	35	37	18	26	25	43	30
TOTAL	248	239	234	254	231	215	263	243
HILLCREST MIDDLE								
BARRY GOLDWATER	4	7	5	8	3	8	1	4
BOULDER CREEK		2	2		1		1	1
DEER VALLEY	1		2		4	1	2	3
MOUTAIN RIDGE	241	232	248	230	198	219	213	213
SANDRA DAY	293	243	263	258	211	253	214	242
LEFT DISTRICT	56	52	71	54	63	53	46	43
TOTAL	595	536	591	550	480	534	477	506
NORTERRA CANYON								
BARRY GOLDWATER	16	28	37	45	41	37	29	11
BOULDER CREEK	1	1	1	11	6	1	2	4
DEER VALLEY				1	1	1	1	
MOUTAIN RIDGE		1	2	2		1	1	2
SANDRA DAY	37	58	37	28	17	41	47	45
LEFT DISTRICT	12	17	19	25	30	13	16	13
TOTAL	66	105	96	112	95	94	96	75

	9th Grade Class Year								
	2010_11	2011_12	2012_13	2013_14	2014_15	2015_16	2016_17	2017_18	Average
DIAMOND CANYON									
BARRY GOLDWATER	0.9%	0.8%	2.0%	3.9%	0.0%	0.0%	0.7%	0.8%	1.2%
BOULDER CREEK	77.4%	83.7%	79.2%	82.0%	92.4%	83.5%	90.4%	93.1%	84.7%
DEER VALLEY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
SANDRA DAY	1.7%	0.0%	4.0%	0.0%	0.0%	1.0%	0.0%	0.8%	1.0%
LEFT DISTRICT	20.0%	15.5%	14.9%	14.1%	7.6%	15.5%	8.9%	5.4%	13.0%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
GAVILAN PEAK									
BARRY GOLDWATER	1.3%	1.7%	0.8%	0.8%	0.7%	3.3%	0.7%	1.8%	1.4%
BOULDER CREEK	77.3%	84.2%	84.3%	90.7%	93.5%	86.8%	86.0%	83.2%	84.4%
DEER VALLEY	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	0.1%
SANDRA DAY	0.7%	1.7%	0.0%	0.0%	0.0%	0.0%	2.1%	0.9%	0.6%
LEFT DISTRICT	20.7%	12.5%	15.0%	8.5%	5.8%	9.9%	10.5%	14.2%	13.5%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
HIGHLAND LAKES									
BARRY GOLDWATER	1.2%	2.9%	1.3%	2.8%	0.9%	1.9%	1.1%	2.1%	1.6%
BOULDER CREEK	0.4%	0.0%	0.0%	0.0%	2.2%	4.2%	2.3%	2.1%	1.2%
DEER VALLEY	31.9%	30.5%	41.9%	41.3%	38.5%	47.9%	30.4%	32.1%	36.3%
MOUTAIN RIDGE	50.0%	48.1%	39.3%	48.0%	43.7%	31.2%	48.3%	44.0%	45.0%
SANDRA DAY	1.2%	3.8%	1.7%	0.8%	3.5%	3.3%	1.5%	7.4%	2.7%
LEFT DISTRICT	15.3%	14.6%	15.8%	7.1%	11.3%	11.6%	16.3%	12.3%	13.1%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
HILLCREST MIDDLE									
BARRY GOLDWATER	0.7%	1.3%	0.8%	1.5%	0.6%	1.5%	0.2%	0.8%	1.0%
BOULDER CREEK	0.0%	0.4%	0.3%	0.0%	0.2%	0.0%	0.2%	0.2%	0.2%
DEER VALLEY	0.2%	0.0%	0.3%	0.0%	0.8%	0.2%	0.4%	0.6%	0.3%
MOUTAIN RIDGE	40.5%	43.3%	42.0%	41.8%	41.3%	41.0%	44.7%	42.1%	42.1%
SANDRA DAY	49.2%	45.3%	44.5%	46.9%	44.0%	47.4%	44.9%	47.8%	46.0%
LEFT DISTRICT	9.4%	9.7%	12.0%	9.8%	13.1%	9.9%	9.6%	8.5%	10.4%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
NORTERRA CANYON									
BARRY GOLDWATER	24.2%	26.7%	38.5%	40.2%	43.2%	39.4%	30.2%	14.7%	33.0%
BOULDER CREEK	1.5%	1.0%	1.0%	9.8%	6.3%	1.1%	2.1%	5.3%	3.7%
DEER VALLEY	0.0%	0.0%	0.0%	0.9%	1.1%	1.1%	1.0%	0.0%	0.5%
MOUTAIN RIDGE	0.0%	1.0%	2.1%	1.8%	0.0%	1.1%	1.0%	2.7%	1.2%
SANDRA DAY	56.1%	55.2%	38.5%	25.0%	17.9%	43.6%	49.0%	60.0%	41.9%
LEFT DISTRICT	18.2%	16.2%	19.8%	22.3%	31.6%	13.8%	16.7%	17.3%	19.6%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

	9th Grade Class Year							
	2010_11	2011_12	2012_13	2013_14	2014_15	2015_16	2016_17	2017_18
PASEO HILLS								
BARRY GOLDWATER	81	54	61	79	93	79	66	91
BOULDER CREEK						1	1	
DEER VALLEY	5	2	5	1	4	3	3	3
MOUTAIN RIDGE				2	1			
SANDRA DAY	19	23	17	9	5	8	10	4
LEFT DISTRICT	17	16	22	22	12	15	13	13
TOTAL	122	95	105	113	115	106	93	111
SIERRA VERDE								
BARRY GOLDWATER		2			1		1	1
BOULDER CREEK			1		2			
DEER VALLEY	1	1	2	1		2	1	1
MOUTAIN RIDGE	86	76	76	70	94	96	90	86
SANDRA DAY	2	1		1	2	3	1	2
LEFT DISTRICT	6	19	18	27	24	26	19	33
TOTAL	95	99	97	99	123	127	112	123
STETSON HILLS								
BARRY GOLDWATER	3		2	1		1	2	2
BOULDER CREEK			1			1		2
DEER VALLEY	1		1	1				
MOUTAIN RIDGE	1	1		1		5	1	1
SANDRA DAY	117	124	118	137	120	125	114	124
LEFT DISTRICT	15	11	13	14	6	6	13	12
TOTAL	137	136	135	154	126	138	130	141
SUNSET RIDGE								
BARRY GOLDWATER	10	8	7	14	8	5	3	2
BOULDER CREEK	76	84	107	93	101	87	110	105
MOUTAIN RIDGE	1		1		1	1		
SANDRA DAY	9	13	3	4	10	3	2	2
LEFT DISTRICT	11	17	23	8	14	14	13	15
TOTAL	107	122	141	119	134	110	128	124
TERRAMAR								
BARRY GOLDWATER	2	3		4				
BOULDER CREEK		1	1		1			
DEER VALLEY				1		2	2	1
MOUTAIN RIDGE	68	63	64	62	62	66	48	41
SANDRA DAY	24	18	28	19	26	22	41	31
LEFT DISTRICT	14	11	11	8	7	24	9	15
TOTAL	108	96	104	94	96	114	100	88

	9th Grade Class Year								
	2010_11	2011_12	2012_13	2013_14	2014_15	2015_16	2016_17	2017_18	Average
PASEO HILLS									
BARRY GOLDWATER	66.4%	56.8%	58.1%	69.9%	80.9%	74.5%	71.0%	82.0%	69.6%
BOULDER CREEK	0.0%	0.0%	0.0%	0.0%	0.0%	0.9%	1.1%	0.0%	0.2%
DEER VALLEY	4.1%	2.1%	4.8%	0.9%	3.5%	2.8%	3.2%	2.7%	4.3%
MOUTAIN RIDGE	0.0%	0.0%	0.0%	1.8%	0.9%	0.0%	0.0%	0.0%	0.3%
SANDRA DAY	15.6%	24.2%	16.2%	8.0%	4.3%	7.5%	10.8%	3.6%	10.7%
LEFT DISTRICT	13.9%	16.8%	21.0%	19.5%	10.4%	14.2%	14.0%	11.7%	14.9%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SIERRA VERDE									
BARRY GOLDWATER	0.0%	2.0%	0.0%	0.0%	0.8%	0.0%	0.9%	0.8%	1.1%
BOULDER CREEK	0.0%	0.0%	1.0%	0.0%	1.6%	0.0%	0.0%	0.0%	0.4%
DEER VALLEY	1.1%	1.0%	2.1%	1.0%	0.0%	1.6%	0.9%	0.8%	1.0%
MOUTAIN RIDGE	90.5%	76.8%	78.4%	70.7%	76.4%	75.6%	80.4%	69.9%	77.4%
SANDRA DAY	2.1%	1.0%	0.0%	1.0%	1.6%	2.4%	0.9%	1.6%	1.2%
LEFT DISTRICT	6.3%	19.2%	18.6%	27.3%	19.5%	20.5%	17.0%	26.8%	18.8%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
STETSON HILLS									
BARRY GOLDWATER	2.2%	0.0%	1.5%	0.6%	0.0%	0.7%	1.5%	1.4%	0.9%
BOULDER CREEK	0.0%	0.0%	0.7%	0.0%	0.0%	0.7%	0.0%	1.4%	0.4%
DEER VALLEY	0.7%	0.0%	0.7%	0.6%	0.0%	0.0%	0.0%	0.0%	0.2%
MOUTAIN RIDGE	0.7%	0.7%	0.0%	0.6%	0.0%	3.6%	0.8%	0.7%	0.8%
SANDRA DAY	85.4%	91.2%	87.4%	89.0%	95.2%	90.6%	87.7%	87.9%	89.3%
LEFT DISTRICT	10.9%	8.1%	9.6%	9.1%	4.8%	4.3%	10.0%	8.5%	8.3%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
SUNSET RIDGE									
BARRY GOLDWATER	9.3%	6.6%	5.0%	11.8%	6.0%	4.5%	2.3%	1.6%	6.8%
BOULDER CREEK	71.0%	68.9%	75.9%	78.2%	75.4%	79.1%	85.9%	84.7%	74.9%
MOUTAIN RIDGE	0.9%	0.0%	0.7%	0.0%	0.7%	0.9%	0.0%	0.0%	0.4%
SANDRA DAY	8.4%	10.7%	2.1%	3.4%	7.5%	2.7%	1.6%	1.6%	5.3%
LEFT DISTRICT	10.3%	13.9%	16.3%	6.7%	10.4%	12.7%	10.2%	12.1%	12.7%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
TERRAMAR									
BARRY GOLDWATER	1.9%	3.1%	0.0%	4.3%	0.0%	0.0%	0.0%	0.0%	1.0%
BOULDER CREEK	0.0%	1.0%	1.0%	0.0%	1.0%	0.0%	0.0%	0.0%	0.4%
DEER VALLEY	0.0%	0.0%	0.0%	1.1%	0.0%	1.8%	2.0%	1.1%	0.7%
MOUTAIN RIDGE	63.0%	65.6%	61.5%	66.0%	64.6%	57.9%	48.0%	46.6%	58.8%
SANDRA DAY	22.2%	18.8%	26.9%	20.2%	27.1%	19.3%	41.0%	35.2%	26.0%
LEFT DISTRICT	13.0%	11.5%	10.6%	8.5%	7.3%	21.1%	9.0%	17.0%	13.2%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

	9th Grade Class Year							
	2010_11	2011_12	2012_13	2013_14	2014_15	2015_16	2016_17	2017_18
WESTWING SCHOOL								
BARRY GOLDWATER		1		1		2		1
BOULDER CREEK		1	1			1		
DEER VALLEY	1			1	2			
MOUTAIN RIDGE		2	3	2	3	5	4	7
SANDRA DAY	75	78	72	82	94	75	74	67
LEFT DISTRICT	38	37	29	58	26	51	64	56
TOTAL	114	119	105	144	125	134	142	131

	9th Grade Class Year								
	2010_11	2011_12	2012_13	2013_14	2014_15	2015_16	2016_17	2017_18	Average
WESTWING SCHOOL									
BARRY GOLDWATER	0.0%	0.8%	0.0%	0.7%	0.0%	1.5%	0.0%	0.8%	0.5%
BOULDER CREEK	0.0%	0.8%	1.0%	0.0%	0.0%	0.7%	0.0%	0.0%	0.3%
DEER VALLEY	0.9%	0.0%	0.0%	0.7%	1.6%	0.0%	0.0%	0.0%	0.4%
MOUTAIN RIDGE	0.0%	1.7%	2.9%	1.4%	2.4%	3.7%	2.8%	5.3%	2.9%
SANDRA DAY	65.8%	65.5%	68.6%	56.9%	75.2%	56.0%	52.1%	51.1%	75.1%
LEFT DISTRICT	33.3%	31.1%	27.6%	40.3%	20.8%	38.1%	45.1%	42.7%	42.6%
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	122.0%