APPLIED ECONOMICS

APACHE JUNCTION UNIFIED SCHOOL DISTRICT
DEMOGRAPHIC AND ENROLLMENT ANALYSIS
2018/19

DRAFT REPORT

PREPARED FOR:

APACHE JUNCTION UNIFIED SCHOOL DISTRICT
1575 WEST SOUTHERN AVENUE
APACHE JUNCTION, AZ 85120

MARCH 5, 2019

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EXECUTIVE SUMMARY

The Demographic and Enrollment Analysis for the Apache Junction Unified School District (District) incorporates information on enrollment, demographic trends, housing occupancy rates, household characteristics and residential development into 10-year, District-level and small-area projections of enrollment by grade which provide sufficient detail to support facility and attendance area planning activities.

Some of the main findings and conclusions from this report include:

- Total Kindergarten through 12th grade (K-12) enrollment in the District was 3,595 students on the 40th day of the 2018/19 school year, just 11 students less than last year. The losses over the past four years follow a long series of losses that began in 2007/08 when enrollment peaked at 6,093 students. Enrollment declined steadily from 2007/08 through 2014/15, losing roughly 2,500 students during the period; these losses were precipitated by the effects of the regional recession and competition from other education providers, and likely worsened by the closure of District schools.

- Enrollment generally increased in each of the grade cohorts during the early 2000's, however growth in the middle and high school grades was much stronger due to the fact that new housing tended to attract older families. In 2008/09, enrollment began dropping in all of the cohorts, but the declines were somewhat stronger in the Kindergarten to 2nd grade (K-2) and 3rd to 5th grade (3-5) cohorts; by 2010/11, the older cohorts became the largest in terms of average class size. Since then, declines in all of the cohorts have continued, but the average size of the K-2 and 9th to 12th grade (9-12) cohorts has dropped more rapidly, leaving the 6th to 8th grade (6-8) cohort as the largest for the past seven years.

- The number of people aged 5 to 13 (K-8 students) in 2018 is nearly unchanged from 2000, although the group's share of the total population has dropped from 9.6 percent in 2000 to 7.6 percent in 2018. This trend has had an obvious impact on District enrollment at the elementary level and the effect is likely to persist given a similar decline in the share of the population under 5 years has also occurred. The size of the high school age group, grew slightly between 2000 and 2010 but has since declined, leaving the size of the age group nearly unchanged since 2000; however, this group also now comprises a slightly smaller share of the total District population than it did in 2000.

- In 2000 the prime child-rearing age group, ages 25 to 44 years, comprised about 18 percent of the total population, but it now comprises about 16 percent of the total population. In 2000, persons over 45 years comprised about 57 percent of the total population; since 2010, this age group has grown by more than three percent per year, adding a staggering 4,200 persons in the past eight years (of which 4,000 were over 65 years of age). Persons over 45 years now comprise more than 63 percent of the total District population.

- There are currently five charter schools operating within the District's boundaries that serve nearly 1,060 K-12 students**.** Although the number of schools has remained unchanged since 2010/11, total enrollment has gradually increased, adding about 360 students in the past eight years**.** Charter school enrollment growth in the last three years has been due entirely to the addition of high school (9-12) students; at the same time, the number of 7th and 8th grade students has decreased and the number of K-6 students in charter schools has remained stable.

- Residential development in the District has been stable in recent years. There have been 1,600 housing units permitted in the past ten years, an average of 160 units per year. This represents a significant decrease from the pre-recession years when total permitting activity averaged over 700 units per year. Most new residential growth has been widely dispersed throughout the City of Apache Junction and Gold Canyon areas. The southeastern portion of the District continues to see only a few housing starts.

- The identified residential potential in the District is currently estimated to be nearly 175,000 units. The Superstition Vistas and Lost Dutchman Heights conceptual planning areas hold about 95 percent of the development potential. New subdivisions are expected to open in the District, producing strong and stable production levels throughout most of the projection period. Although a limited amount of formally age-restricted development is expected at this time, individual projects could effectively be considered "age-restricted" due to builder marketing and buyer preferences. Several major builders have entered the local residential market with a range of pricing options, which can help to stabilize the local market and widen the age levels of residents.

- District population and household totals are expected to gradually increase throughout the projection period but population per household is expected to steadily decline, due to the aging of the population, which slightly dampens the impact of increases in households on total population and (even more so) on enrollment. By 2028/29, it is projected that roughly 30,100 households will house a District population of about 63,900 people with a per-household population of 2.12 persons. As the population ages, the school-age population per household is expected to continue to, falling to about 0.22 persons per household by 2028/29.

- The impact of the increase in the school-age population on District enrollment will be determined by "capture rates," which account for the difference between the school-age population and District enrollment. Since 2010/11, the District's capture rate has fallen by nearly 24 percent, dropping to 55.1 percent in 2018/19. Assuming that the District's capture rate continues to fall at the two-year average rate of -0.9 percent per year (which is slightly less than half of the rate of decline for the past 10 years), the District will have a net difference between the school-age population and enrollment of 3,362 school-age persons by 2028/29. Therefore, despite a moderate level of local housing construction, the dampening effects associated with competition from alternative providers and demographic changes (low birth rates and an aging population) are expected to result in a decline in enrollment throughout the projection period.

- During the first five years, the majority of the growth is expected to come from new development in Lost Dutchman Heights, Peralta Canyon, and in pockets in the far northwestern corner of the District. As a result, only Four Peaks Elementary and Peralta Trail Elementary will experience an increase in enrollment, adding 11 and 52 students, respectively. By 2023/24, enrollment declines are projected at Desert Vista Elementary (-74 students), Cactus Canyon Middle School (-52 students) and Apache Junction High School (-28 students).

- In the second five years of the projection period, construction at Peralta Canyon slows as development moves southward and activity increases in Lost Dutchman Heights. During this period, enrollment increases are projected to continue at Peralta Trail (36 additional students) and 43 new students will be added at Cactus Canyon Middle School. By 2028/29, enrollment is expected to decline by another 58 students at Desert Vista Elementary and Four Peaks Elementary will see enrollment drop by 84 students. Enrollment is also projected to decrease at Apache Junction High School by another 51 students in the second five-year period.

1.0 INTRODUCTION

The 2018/19 Demographic and Enrollment Analysis for the Apache Junction Unified School District (District) incorporates 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 in 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", as shown on **Map 1**. The planning grids divide the District into 70 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 District enrollment levels and a detailed review of student distribution by grade and geography. This section also compares 2000 and 2010 Census data, and presents 2018 estimates that identify trends in key District population and housing characteristics that impact enrollment.

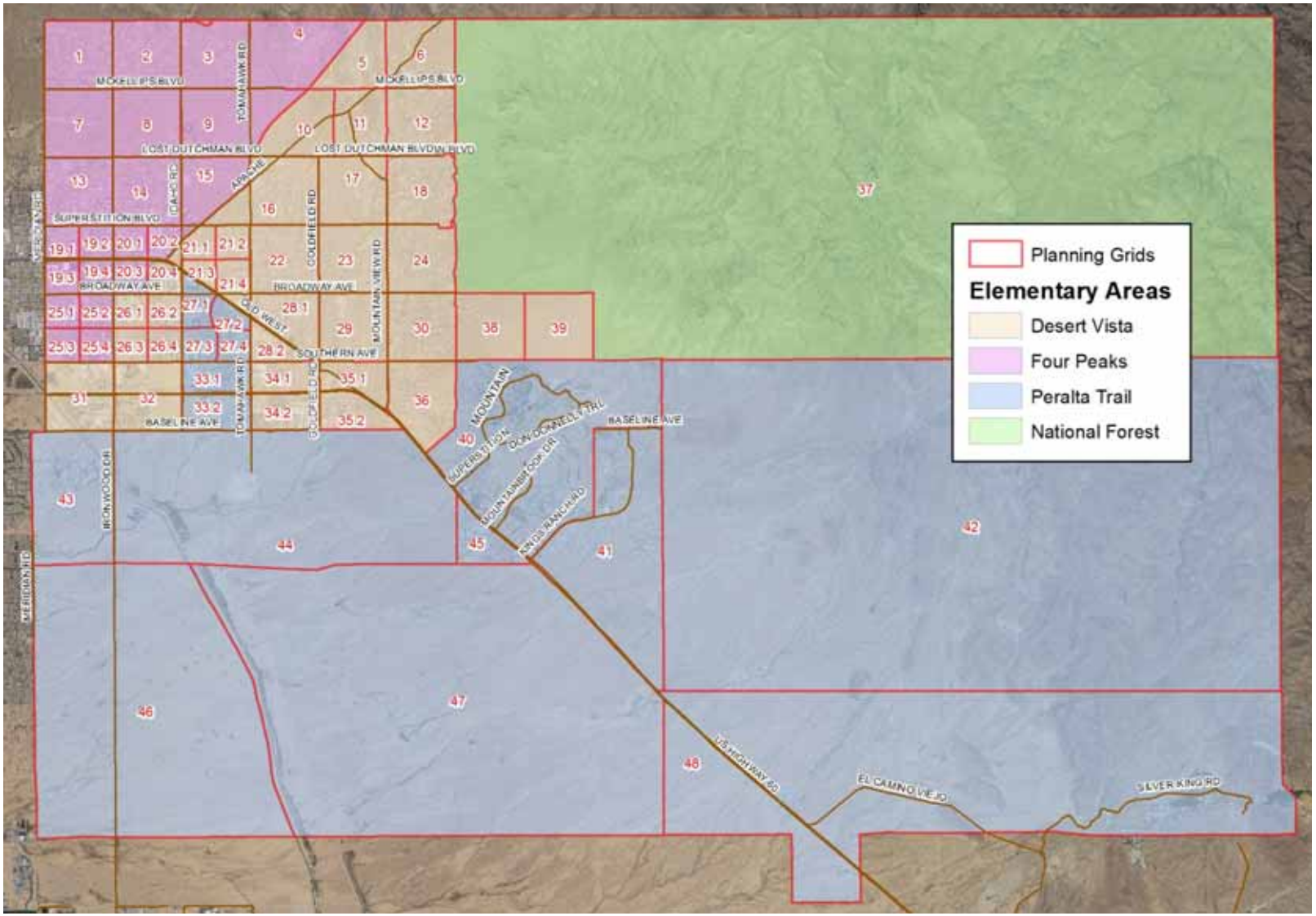
Section 3, Residential Development, presents information on current construction activity, housing vacancy rates and the potential future supply of additional housing units. It provides estimates for the timing of housing construction based on regional growth forecasts, current construction activity, and the land ownership and zoning status of vacant land available for future residential development. The housing potential is segmented both by the type and density of housing product and 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 the expected additions in residential housing and the associated change in school-age population. The projections of future enrollment are also impacted by the assumption of the share of the District's population that will choose to attend District schools. These projections account for regional and local 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 conditions and demographic trends at the grid level to estimate future enrollment by place of residence. The 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 shows 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
GRID PLANNING AREAS



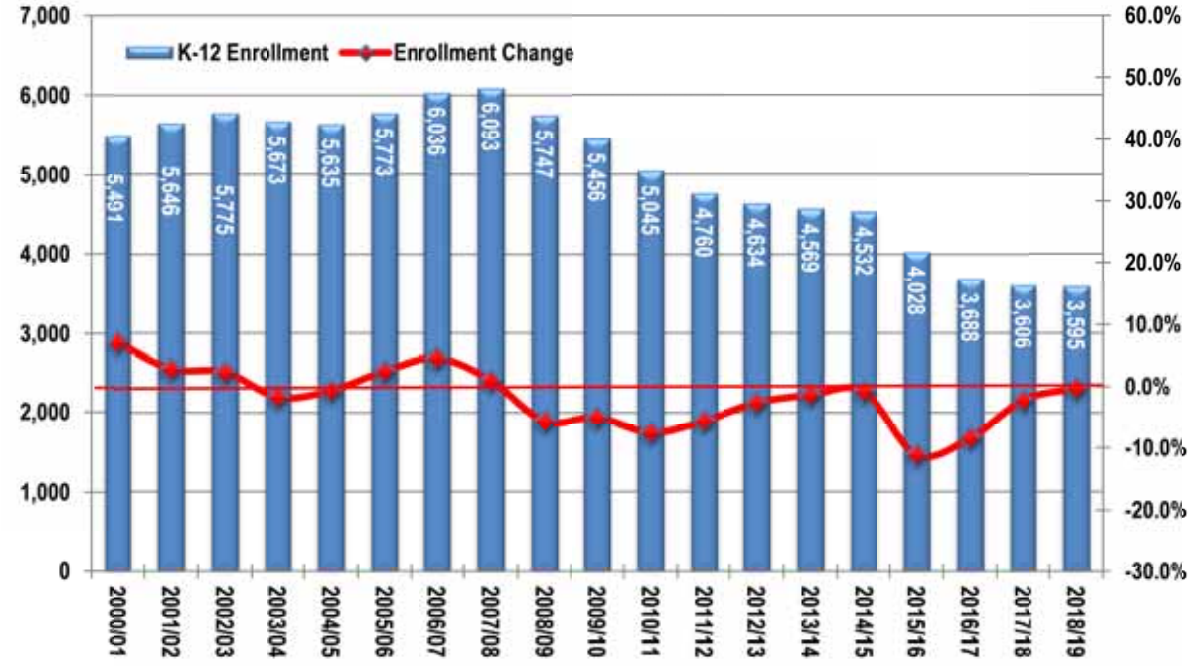
2.0 EXISTING CONDITIONS

2.1 ENROLLMENT

Although the housing boom in the early 2000's led to some enrollment increases in the first half of that decade, those gains have been more than erased by losses over the last 11 years. Total Kindergarten through 12th grade (K-12) enrollment in the District was 3,595 students on the 40th day of the 2018/19 school year, just 11 students less than last year. This small decline represents the stabilization of enrollment following the closure of Superstition Mountain Elementary School in 2014/15. The losses over the past four years follow a long series of losses that began in 2007/08 when enrollment peaked at 6,093 students.

As illustrated by **Figure 1**, K-12 enrollment declined significantly from 2007/08 through 2014/15, losing roughly 2,500 students during that period. These declines were precipitated by the effects of the regional recession, which was much more devastating for younger families with children, and the increase in alternative providers. In addition, the losses were likely worsened by the closure of two schools, which followed the rejection of two budget override attempts (in 2010 and 2014) and were necessary to cut costs and balance the District's budget. Unfortunately, these closures appear to have accelerated the decline in enrollment Districtwide during that period.

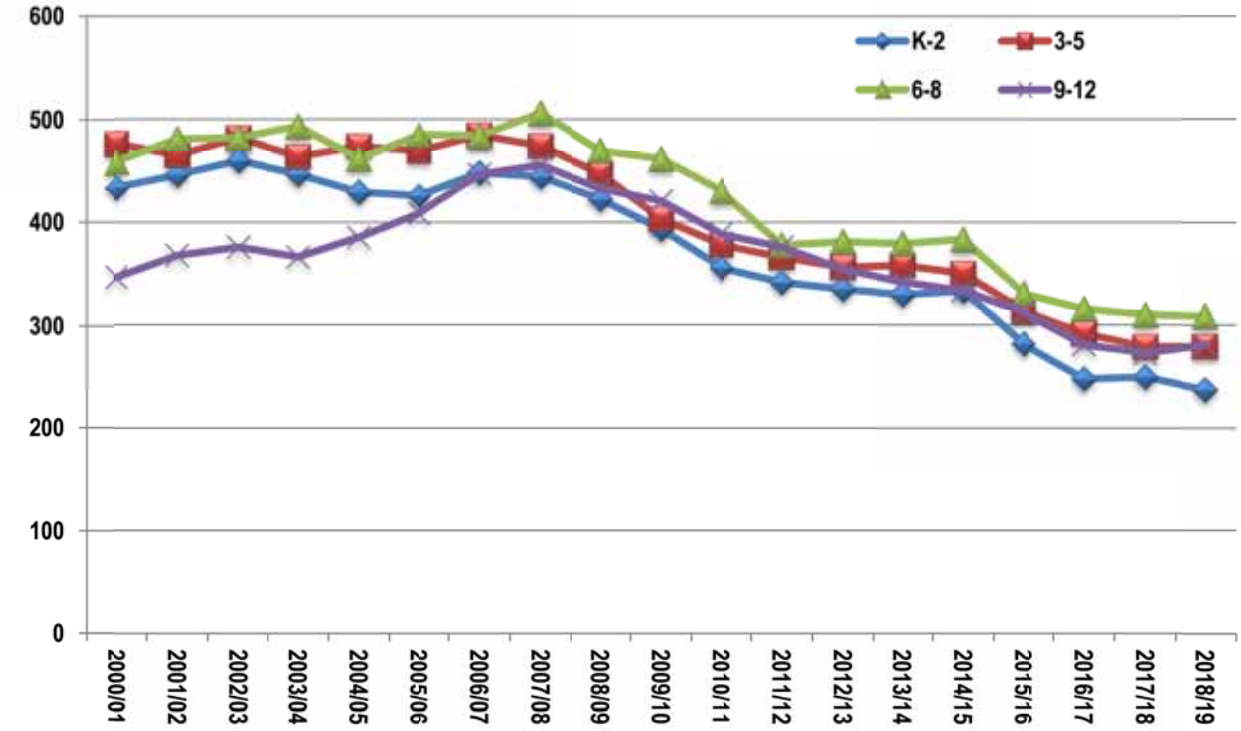
FIGURE 1
K-12 ENROLLMENT AND RATE OF CHANGE: 2000/01 – 2018/19



Source: Arizona Department of Education; Apache Junction Unified School District.

Figure 2 shows the composition of District enrollment by grade cohort (based on the average number of students per grade in each cohort). Although enrollment generally increased in each of the grade cohorts during the early 2000's, growth in the middle and high school grades was much stronger due to the fact that new housing tended to attract older families. In 2008/09, enrollment began dropping in all of the cohorts, but the declines were somewhat stronger in the Kindergarten to 2nd grade (K-2) and 3rd to 5th grade (3-5) cohorts; by 2010/11, the older cohorts became the largest in terms of average class size. Since then, declines in all of the cohorts have continued, but the average size of the K-2 and 9th to 12th grade (9-12) cohorts has dropped more rapidly, leaving the 6th to 8th grade (6-8) cohort as the largest for the past seven years.

FIGURE 2
AVERAGE ENROLLMENT BY GRADE LEVEL: 2000/01-2018/19



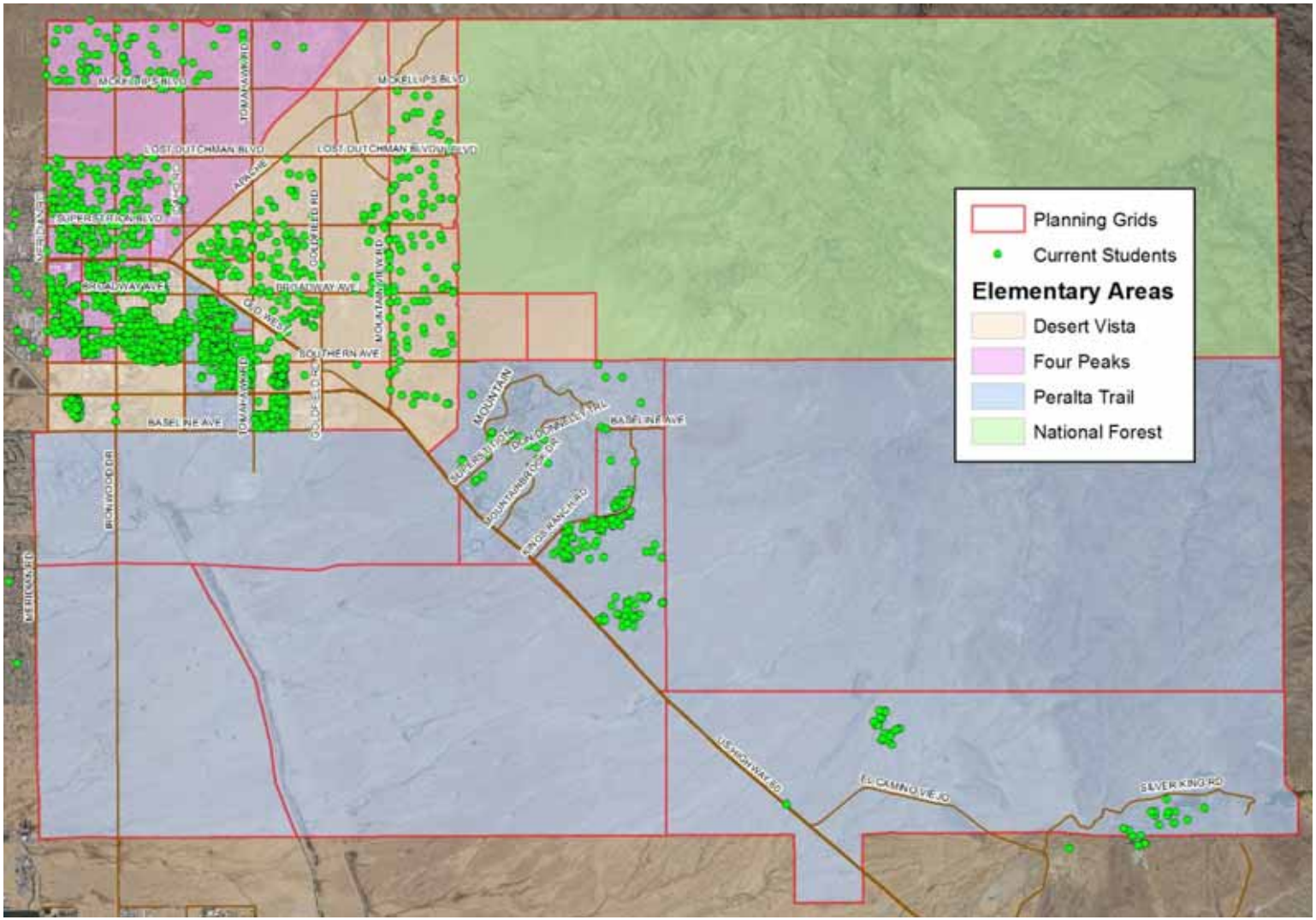
Source: Arizona Department of Education; Apache Junction Unified School District.

In 2018/19, enrollment in each of the four cohorts is at historic lows, although enrollment in the 9-12 cohort increased by 30 students over last year's all-time low of 1,092 students. Since 2007/08, K-2 enrollment has dropped by 621 students, 3-5 enrollment is down 585 students, the number of 6-8 students has dropped by 593, and 9-12 enrollment has decreased by 699 students. The heaviest declines occurred between 2008/09 and 2011/12 and spiked again in 2015/16 and 2016/17. In the last two years total K-12 enrollment has only declined by 93 students, the majority of which (70) were K-2 and 3-5 students.

In general, change in the average enrollment by grade cohort over the past 19 years is not caused by any single factor, but by varying degrees of multiple factors. In addition to the unique demographic nature of the District and the effects of recent school closures, the collapse of the regional housing market, the accompanying recession and falling birth rates have also contributed to enrollment changes throughout the region. In addition, the presence of alternative education providers that compete for enrollment of the District's school-age population is another factor that will be discussed further in Section 2.3.

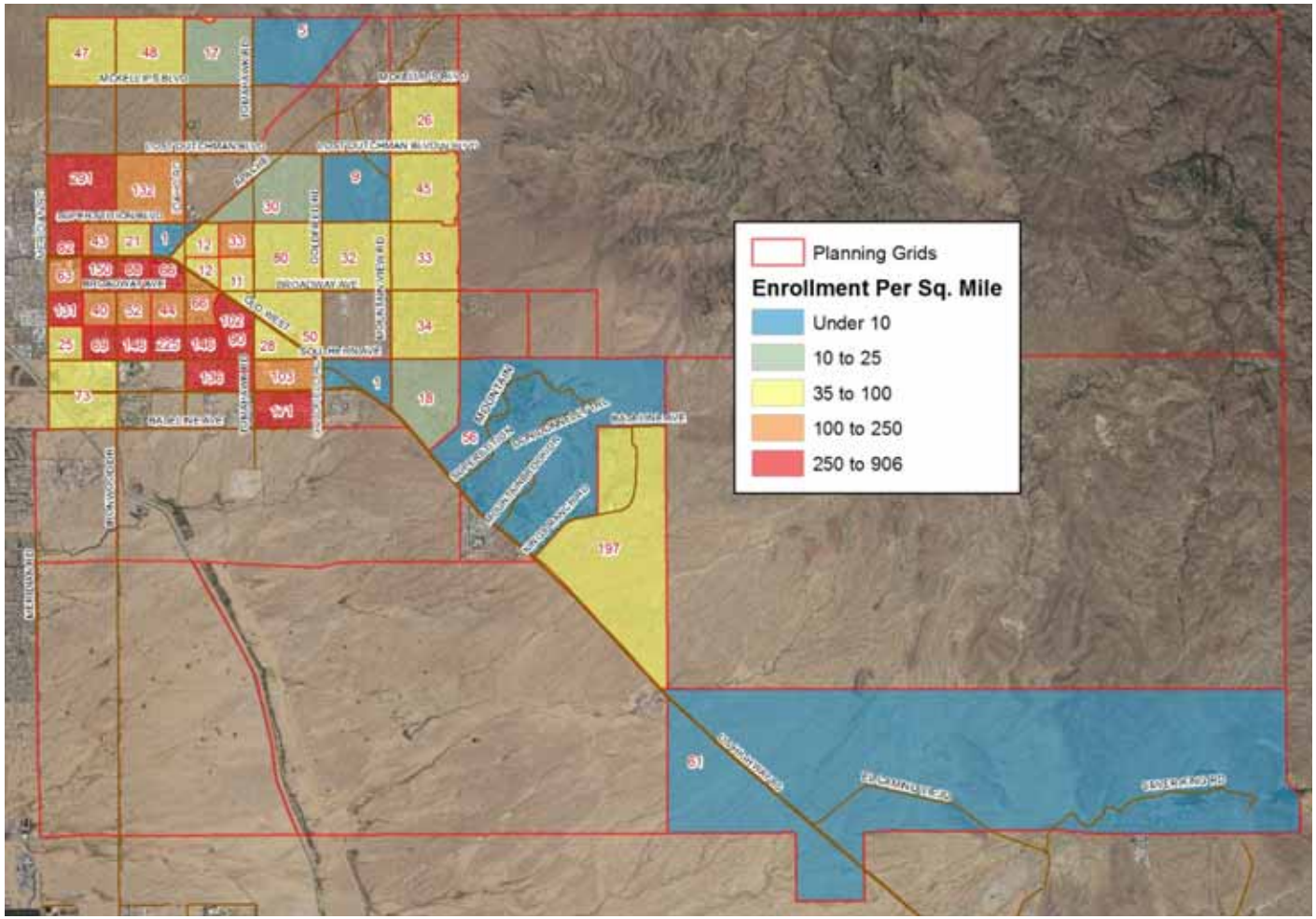
In addition to the composition of enrollment by grade level, the geographic distribution of enrollment also provides valuable insight into the conditions and trends impacting the District. **Map 2** shows the current point location of students attending District schools, including those living outside District boundaries in the immediately surrounding area.

MAP 2
GEOGRAPHIC DISTRIBUTION OF 2018/19 K-12 STUDENTS



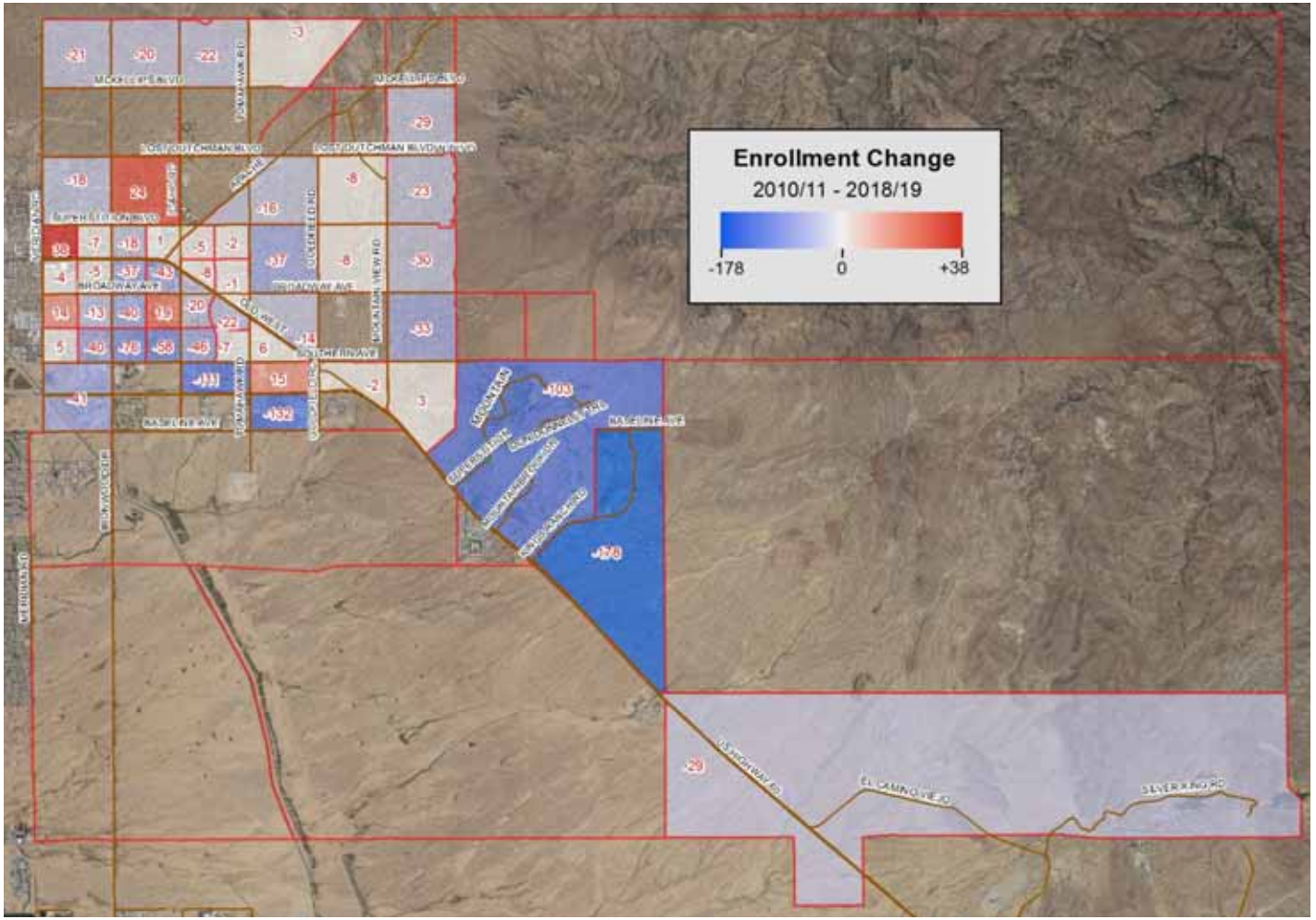
Map 3 normalizes the distribution of the student point data by showing the number of students per planning grid. The highest enrollment concentrations are found in the northern part of the District, west of Goldfield Road and South of Lost Dutchman Boulevard. In fact, over 2,800 K-12 students currently reside in this area, which accounts for about 75 percent of total District enrollment. Much lower concentrations of enrollment are found in the rest of the District where the land is either undeveloped or includes low-density, larger-lot properties.

MAP 3
2018/19 K-12 ENROLLMENT BY PLANNING GRID AND DENSITY



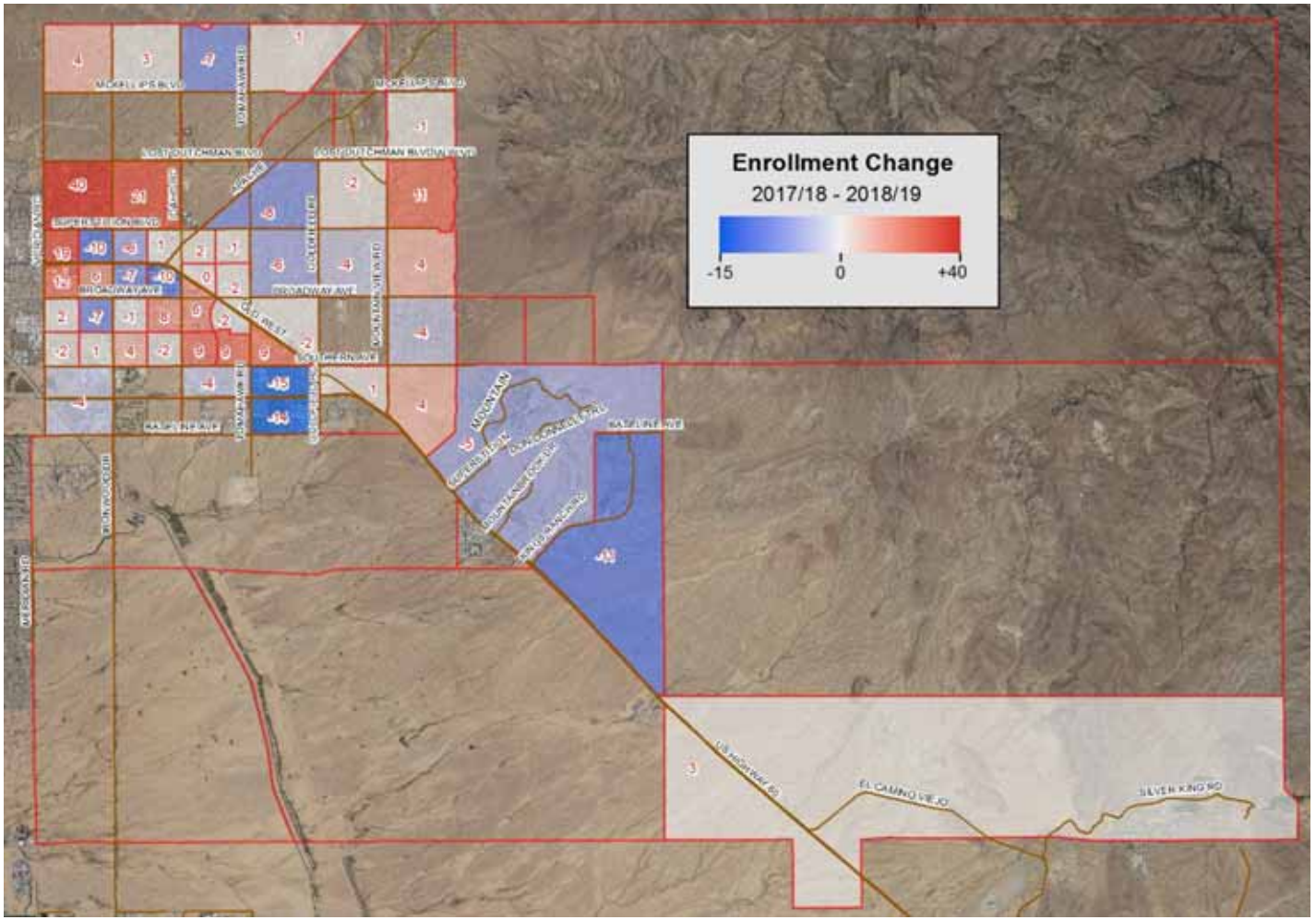
Map 4 shows the change in K-12 enrollment by planning grid since the 2010/11 school year. Only 9 of the 70 grids showed an increase in enrollment during this period, resulting in a net increase of nearly 1,600 K-12 students District-wide in the past eight years. Most of the losses have occurred in the central portion of the District, where the households that came to the District during the boom in the early 2000's are now aging.

MAP 4
CHANGE IN ENROLLMENT BY PLANNING GRID: 2010/11 – 2018/19



Map 5 shows the change in K-12 enrollment by planning grid for just the past year. At this level, many more increases in enrollment can be seen, particularly in the northwest portion of the District, between Broadway Avenue and Lost Dutchman Boulevard, where recent residential construction has occurred.

MAP 5
CHANGE IN ENROLLMENT BY PLANNING GRID: 2017/18 – 2018/19



2.2 DEMOGRAPHIC TRENDS

As shown on **Table 1**, the composition of the District population has become slightly more ethnically diverse and generally older since 2000. Between 2000 and 2010, the population of the District grew by about two percent per year, increasing from about 47,400 people to roughly 57,000. Since 2010, the average annual growth rate has fallen to 0.8 percent per year, increasing the total population by nearly 3,100 persons.

Today, roughly 86 percent of the District population is made up of White persons, down slightly from about 91 percent in 2000. The population of other racial groups is comparatively small, although the share of African American and Asian persons each increased by about one percent, and the share of Hispanic persons increased by about two percent since 2000.

The number of people aged 5 to 13 (Kindergarten to 8th grade students) in 2018 is nearly unchanged from 2000, although the group's share of the total population has dropped from 9.6 percent in 2000 to 7.6 percent in 2018. Since 2010, this age group has decreased by nearly 360 persons, falling at an average annual rate of about 1.0 percent. This trend has had an obvious impact on District enrollment at the elementary level and the effect is likely to persist given a similar decline in the share of the population under 5 years has also occurred (about one percent since 2000). Since 2010, however the actual number of persons under 5 years has increased slightly (58 people).

The size of the high school age group, ages 14 to 17 years, grew slightly between 2000 and 2010 but has since declined, leaving the size of the age group nearly unchanged since 2000; however, this group also now comprises a slightly smaller share of the total District population than it did in 2000. Overall, the District's school-age population (persons ages 5 through 17) has decreased slightly as a share of total population, falling from 13.6 percent in 2000, to 12.5 percent in 2010, and 10.9 percent in 2018. In absolute terms, however, the gain of roughly 700 school-age persons in the District between 2000 and 2010 was almost completely offset by the loss of 600 school-age persons since 2010.

The prime child-rearing age group, ages 25 to 44 years, grew by about 2,500 persons between 2000 and 2010 and comprised about 18 percent of the total population. Between 2010 and 2018, however, this age group declined by more than 500 people and it now comprises about 16 percent of the total population; this change can be partially attributed to the recession, which had a disproportionate impact on younger householders throughout the state and the District. In 2000, persons over 45 years comprised about 57 percent of the total population, and by 2010 this age group's share had risen to about 59 percent. Since 2010, this age group has grown by more than three percent per year, adding a staggering 4,200 persons in the past eight years (of which 4,000 were over 65 years of age); persons over 45 years now comprise more than 63 percent of the total District population.

By far, the fastest growing age group over the past eight years has consisted of people aged 65 years and older (3.2 percent per year), more than triple the average annual growth of the total population during the same period. As a result of the decline in the share of younger households, the District's population per household between 2000 and 2018 has fallen from 2.3 to 2.17; this trend is indicative of the aging in place that is occurring in large portions of the District and explains some of the K-12 enrollment declines that have occurred.

There were approximately 6,500 housing units added in the District between 2000 and 2010, which equates to an average annual growth rate of two percent; due to the collapse of the housing market, the growth rate has averaged just 0.5 percent per year since 2010. Nearly all of the nearly 7,800 units added over the past eight years have been single family; the share of renter-occupied housing units increased from just 10.5 percent to 18.8 percent of total inventory between 2000 and 2018. The overall housing

occupancy rate in 2018 was 74.5 percent, which is considerably higher than the pre-recession rate of 70.4 percent in 2000. Of the 27,626 households (occupied housing units) in the District in 2018, only 15.6 percent were headed by persons aged 25 to 44 years (the prime child-rearing years), while 45 percent of households were headed by persons over the age of 65 years. Since 2010, the average annual growth rate of householders over 65 years has been more than double the growth rate of total households in the District (2.8 versus 1.2 percent); at the same time, the number of householders aged 25 to 44 has declined, suggesting the continued aging in place of the population and an older home buyer profile.

TABLE 1
POPULATION, HOUSING AND HOUSEHOLD CHARACTERISTICS

	2000 Census **		2010 Census		2018 Estimate		Change (2000-2010)		Change (2010-2018)	
	Total	Percent	Total	Percent	Total	Percent	Total	Percent*	Total	Percent*
Population										
Total	47,377	100.0%	56,919	100.0%	59,992	100.0%	9,542	1.9%	3,073	0.8%
By Race & Ethnicity:										
White	42,955	90.7%	49,228	86.5%	51,834	86.4%	6,273	1.4%	2,606	0.7%
African American	227	0.5%	710	1.2%	823	1.4%	483	12.1%	113	2.1%
Native American	344	0.7%	453	0.8%	630	1.1%	109	2.8%	177	4.8%
Asian	279	0.6%	541	1.0%	815	1.4%	262	6.9%	274	6.0%
Hispanic	3,553	7.5%	6,519	11.5%	5,840	9.7%	2,966	6.3%	-679	-1.6%
Other	19	0.0%	30	0.1%	49	0.1%	11	4.5%	19	7.3%
By Age:										
Age 0-4	2,608	5.5%	2,594	4.6%	2,652	4.4%	-14	-0.1%	58	0.3%
Age 5-13	4,526	9.6%	4,918	8.6%	4,561	7.6%	392	0.8%	-357	-1.1%
Age 14-17	1,917	4.0%	2,214	3.9%	1,960	3.3%	297	1.5%	-254	-1.7%
Age 18-24	2,805	5.9%	3,199	5.6%	3,136	5.2%	394	1.3%	-63	-0.3%
Age 25-44	7,726	16.3%	10,235	18.0%	9,709	16.2%	2,509	2.9%	-526	-0.8%
Age 45-64	13,386	28.3%	17,557	30.8%	17,765	29.6%	4,171	2.7%	208	0.2%
Age 65 Up	13,559	28.6%	16,202	28.5%	20,209	33.7%	2,643	1.8%	4,007	3.2%
Housing Units										
Total	29,263	100.0%	35,812	100.0%	37,082	100.0%	6,549	2.0%	1,270	0.5%
Occupied	20,595	70.4%	25,345	70.8%	27,626	74.5%	4,750	2.1%	2,281	1.2%
Owner	17,530	59.9%	20,346	56.8%	20,646	55.7%	2,816	1.5%	300	0.2%
Renter	3,065	10.5%	4,999	14.0%	6,980	18.8%	1,934	5.0%	1,981	4.9%
Vacant	8,668	29.6%	10,467	29.2%	9,456	25.5%	1,799	1.9%	-1,011	-1.4%
Seasonal Vacant	7,180	24.5%	7,480	20.9%	7,416	20.0%	300	0.4%	-64	-0.1%
By Unit Type:										
Single Family	23,591	80.6%	29,892	83.5%	30,974	83.5%	6,301	2.4%	1,082	0.5%
Multifamily	5,672	19.4%	5,920	16.5%	6,108	16.5%	248	0.4%	188	0.4%
Households										
Total	20,595	100.0%	25,345	100.0%	27,626	100.0%	4,750	2.1%	2,281	1.2%
By Age of Householder:										
15 to 24	695	3.4%	509	2.0%	694	2.5%	-186	-3.1%	185	4.5%
25 to 34	2,275	11.0%	1,895	7.5%	1,652	6.0%	-380	-1.8%	-243	-1.9%
35 to 44	3,190	15.5%	2,892	11.4%	2,648	9.6%	-298	-1.0%	-244	-1.3%
45 to 54	3,105	15.1%	4,296	17.0%	4,027	14.6%	1,191	3.3%	-269	-0.9%
55 to 64	3,835	18.6%	5,497	21.7%	6,142	22.2%	1,662	3.7%	645	1.6%
Over 65	7,495	36.4%	10,256	40.5%	12,464	45.1%	2,761	3.2%	2,208	2.8%
Population Per	2.30		2.25		2.17		-0.13	-0.2%	-0.07	-0.5%

Sources: U.S. Bureau of the Census, 2000 and 2010; Applied Economics, 2019.

* Annual compound rate of growth.

** Housing unit count adjusted for changes to the Censis definition of a housing unit in 2010.

Statistical analysis of information on households by age shows a strong correlation between the number of households in the 25 to 34, 35 to 44 and 45 to 54 age groups and the number of elementary and high school-age persons. Regression statistics, provided in **Table 2**, show the early elementary population (persons aged 5 to 9) numbering .74 persons per household for householders aged 25 to 34 years and .43 for householders aged 35 to 44 years. In the case of the older elementary population (persons aged 10 to 13); the population averages 0.40 children per household for householders ages 25 to 34 and 0.49 children per household for householders ages 35 to 44.

TABLE 2
HOUSEHOLDER AGE AND SCHOOL AGE POPULATION ANALYSIS

POPULATION 5 TO 9 OUTPUT

Regression Statistics	
Multiple R	0.9899037
R Square	0.9799093
Adjusted R Square	0.9644534
Standard Error	9.234902
Observations	68

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	274536.2946	137268.1	1609.553	4.32642E-56
Residual	66	5628.70536	85.28341		
Total	68	280165			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
25 to 34	0.7392008	0.083245526	8.879766	7.11E-13	0.572995735	0.905405846
35 to 44	0.4306485	0.056492919	7.623054	1.25E-10	0.317856791	0.543440293

POPULATION 10 TO 13 OUTPUT

Regression Statistics	
Multiple R	0.98352618
R Square	0.96732375
Adjusted R Square	0.95167714
Standard Error	9.69158901
Observations	68

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	2	183515.8248	91757.91	976.9077	3.19186E-49
Residual	66	6199.175237	93.9269		
Total	68	189715			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
25 to 34	0.39807715	0.087362208	4.556629	2.3E-05	0.223652872	0.572501423
35 to 44	0.49144143	0.059286623	8.289246	8.04E-12	0.373071866	0.609810988

For high school-age persons, the regression analysis shows that the highest generation of students per household in the 35 to 44 age group, which averages 0.45 persons (ages 14 to 17) per household. The 25 to 34 age group averages 0.21 high school persons per household and the 45 to 54 age group averages just .09 high school persons per household. Note that all of these regressions provide relationships valid at a 95 percent level of confidence.

TABLE 2 (Continued)
HOUSEHOLDER AGE AND SCHOOL AGE POPULATION ANALYSIS

POPULATION 14 TO 17 OUTPUT

Regression Statistics	
Multiple R	0.982463329
R Square	0.965234193
Adjusted R Square	0.948779861
Standard Error	9.480719984
Observations	68

ANOVA

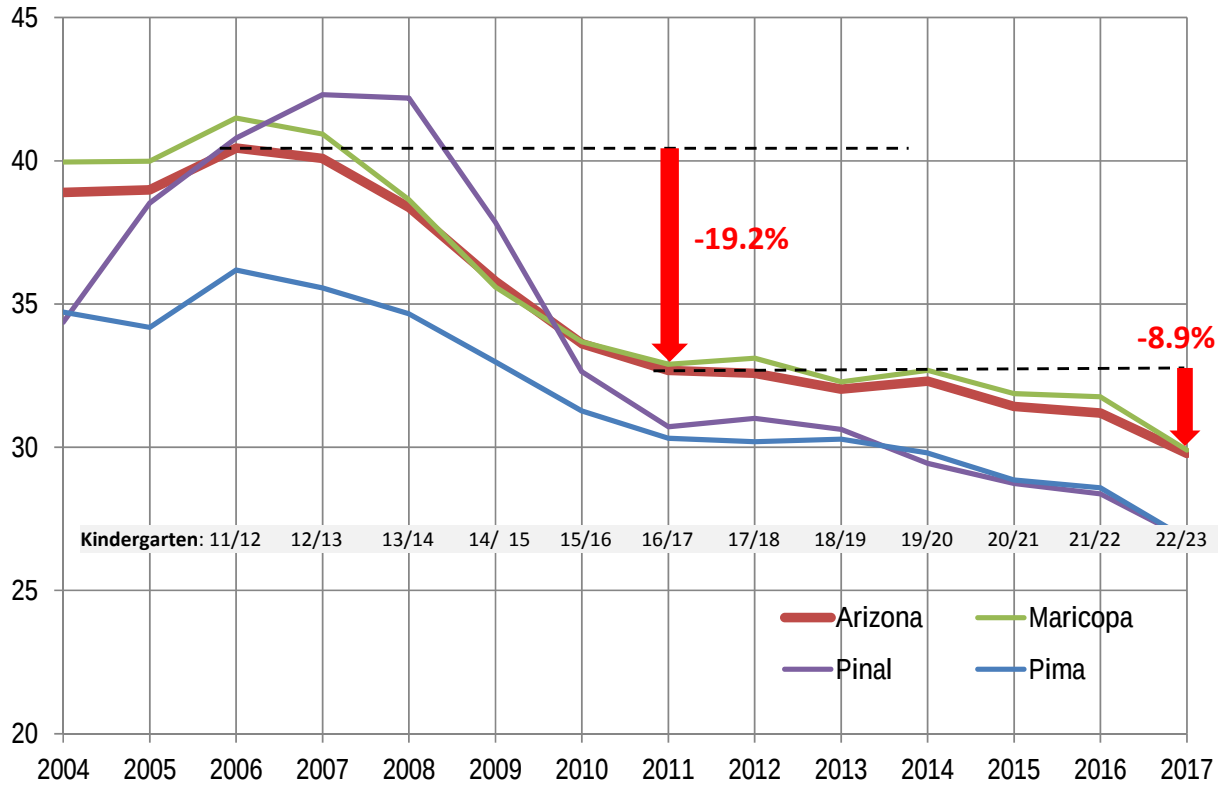
	df	*SS*	*MS*	*F*	*Significance F*
Regression	3	162209.5367	54069.846	601.5511	8.15781E-47
Residual	65	5842.463342	89.884051		
Total	68	168052			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A
25 to 34	0.2086049	0.099244972	2.1019191	0.03944	0.010399005	0.406810796
35 to 44	0.45032265	0.099658867	4.5186411	2.69E-05	0.251290149	0.649355151
45 to 54	0.091295206	0.036191389	2.5225671	0.014107	0.019016011	0.163574401

Another major factor affecting enrollment in schools is the recent decline in the birth rate, both regionally and nationally. As shown in **Figure 3**, the birthrate (births per 1,000 for the population aged 15 to 45) in Arizona declined by 19.2 percent between 2006 and 2011. Between 2011 and 2014 the rate continued to decline, although much more slowly. However, since 2015 the rate has declined slightly faster again, falling by another 8.9 percent in three years, which brings the total compound rate reduction to 26.4 percent since 2006.

Despite the continued decline in the birth rate, the total number of births has been fairly stable because the population aged 15 to 45 is now increasing faster. The impact of the declining birth rate on Kindergarten enrollment is delayed five years. In Pinal County, the birthrate declined by about 27.2 percent between 2008 and 2011, which then impacted kindergarten enrollment between 2013/14 and 2016/17. Birth rates were relatively stable from 2011 to 2013, before falling another 8.9 percent between 2011 and 2017. This latest drop in the birthrate may impact the size of the incoming kindergarten class in 2020/21 and will continue to affect incoming classes through at least 2022/23. Between this factor and the push by charter schools to attract Kindergarteners, nearly all school Districts in the Phoenix Metropolitan Area experienced declines in Kindergarten enrollment over the past several years, and these declines are likely to continue for a few more years.

FIGURE 3
BIRTHRATES IN ARIZONA AND SELECTED COUNTIES: 2004 – 2017



Sources: Arizona Department of Health Services; Applied Economics, 2018.

2.3 CHARTER AND PRIVATE SCHOOL ENROLLMENT

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, although 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, 2018/19 charter enrollment in the District has been estimated using Average Daily Membership (ADM).

There are five charter schools operating within the District's boundaries that serve nearly 1,060 K-12 students, as listed on **Table 3.** Although the number of schools has remained unchanged since 2010/11, total enrollment has gradually increased, adding about 360 students in the past eight years**.** Imagine Prep, which operates a middle school and a high school on one campus, is the largest charter school in the District, with enrollment totaling 539 6th through 12th grade students in 2018/19.

TABLE 3
ENROLLMENT IN LOCAL CHARTER SCHOOLS

Name	Address	City	Zip	Grades	Total K-12 *
Imagine Prep Superstition	1843 W. 16th Avenue	Apache Junction	85220	9th-12th	389
Imagine Superstition Middle	1843 W. 16th Avenue	Apache Junction	85220	6th-8th	150
Apache Trail High School	945 West Apache Trail	Apache Junction	85220	9th-12th	189
Avalon Elementary	1045 South San Marcos Drive	Apache Junction	85220	K-8th	312
Sonoran Desert School	6724 S. Kings Ranch Road	Gold Canyon	85118	5th-12th	17
Total					1,057

Source: Arizona Department of Education; Applied Economics, 2019.
* Estimated based on 40th-day ADM data.

Table 4 shows charter school enrollment by grade over the past nine years. Enrollment gains spiked in 2015/16 when Imagine Prep added a 6th grade class; this resulted in enrollment growth at both campuses which continued into the following year. Charter school enrollment growth in the last three years has been due entirely to the addition of high school (9-12) students; at the same time, the number of 7th to 8th grade (7-8) students enrolled has decreased and the number of Kindergarten to 6th grade (K-6) students in charter schools has remained stable.

TABLE 4
HISTORICAL ENROLLMENT IN LOCAL CHARTER SCHOOLS BY GRADE

Year	#Schools	K	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Total K-12	Annual Change
2010-11	5	36	41	34	30	41	34	17	47	51	65	59	109	137	701	
2011-12	5	49	31	41	34	32	41	26	36	57	67	68	100	141	723	22
2012-13	5	53	47	27	40	32	28	40	48	45	55	88	69	99	671	-52
2013-14	5	46	51	52	37	31	28	22	72	64	62	76	89	114	744	73
2014-15	5	41	42	38	45	37	29	30	48	78	90	97	87	103	765	21
2015-16	5	61	47	47	37	48	33	65	83	71	129	104	95	105	925	160
2016-17	5	36	46	49	37	36	46	59	74	108	126	141	126	119	1,003	78
2017-18	5	45	37	41	49	36	35	70	68	89	140	140	146	125	1,021	18
2018-19 *	5	52	43	40	35	45	34	59	85	76	138	155	138	157	1,057	36

Source: Arizona Department of Education; Applied Economics, 2019.
* Estimated based on 40th-day ADM data.

The Private School Survey, conducted by the National Center for Education Statistics, is the only consistent source of private school enrollment data available; this most current report was released in 2017 and contains 2015/16 data. According to the Survey, there are currently no private schools operating in the District.

As expected, the charter schools are concentrated in the northwestern portion of the District (shown in **Map 6)**. This is in keeping with the tendency of charter schools to locate along major transportation corridors and in established areas with high population density. Students living in the District are not limited to attending schools located within the District; many families may choose to have their children attend schools located outside of the District that are either in close proximity to a place of work or located along a commute route. The added element of choice creates a complex flow of students that can have a significant effect on District enrollment.

MAP 6
LOCAL AREA CHARTER SCHOOLS

3.0 RESIDENTIAL DEVELOPMENT

3.1 HOUSING CONSTRUCTION

Residential development in the District has been stable in recent years due to modest production levels. There have been 1,600 housing units permitted in the past ten years, as shown on **Table 5**, at an average of 160 units per year. This represents a significant decrease from the pre-recession years when total permitting activity averaged over 700 units per year due to high production levels at Gold Canyon Ranch, Peralta Trails, Superstition Mountain, and Superstition Foothills.

The residential building permits shown below 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 retirement either housing or multifamily. RV and park model units are also not included. About 40 percent of the total has been for manufactured housing, with another 24 percent for medium-density single family housing. Multifamily development has been uneven and has accounted for about 11 percent of the total additions over the past decade. Age-restricted subdivisions have not been a major source of new housing in recent years, although the marketing of some non-age-restricted subdivisions can sometimes attract predominantly older buyers.

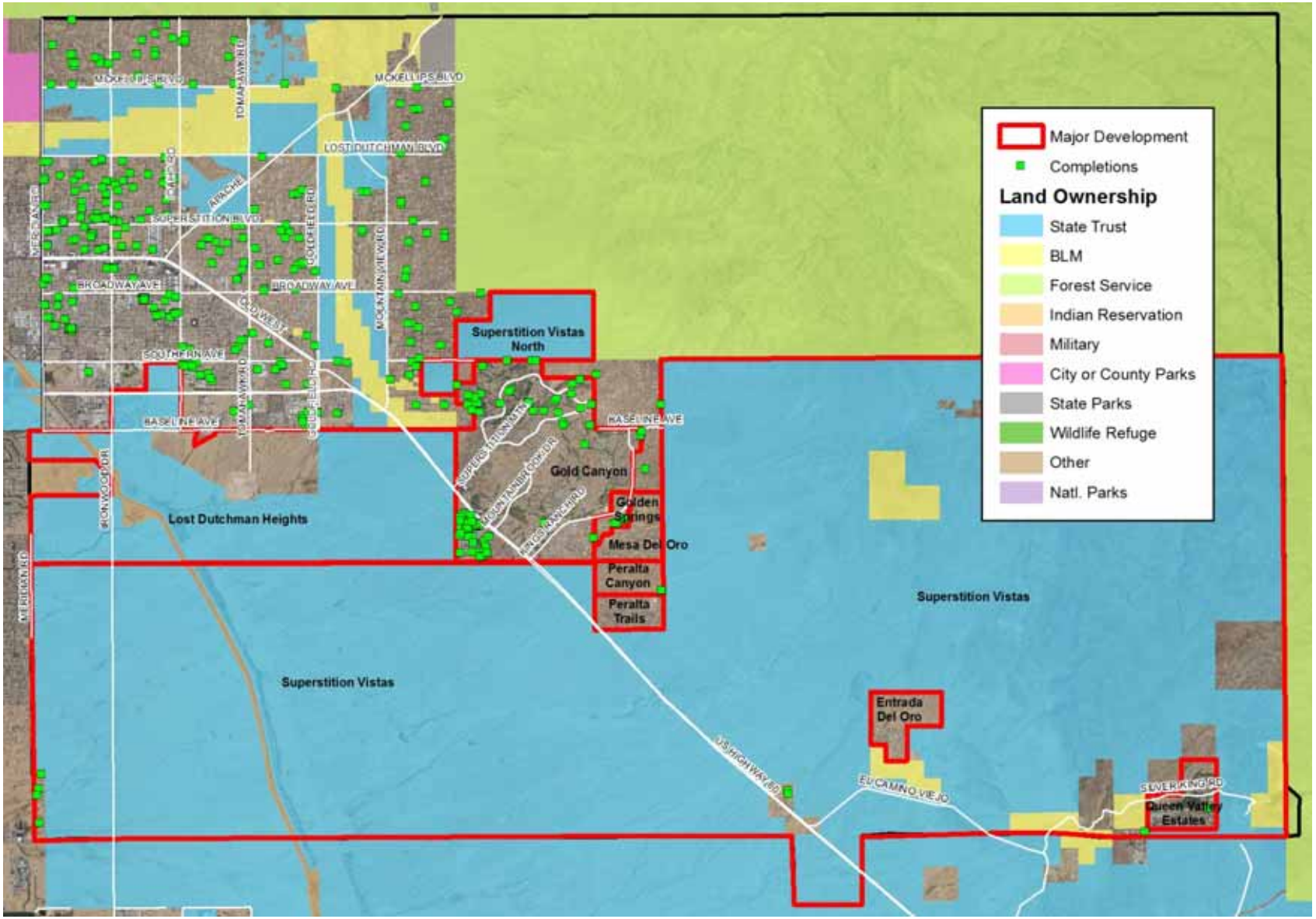
TABLE 5
HOUSING PERMITS

Housing Type	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	Total
Non-Retirement Housing											
Single Family 2 du/ac or less	11	6	7	7	7	6	12	19	13	21	109
Single Family 2.01 - 3.5 du/ac	52	48	37	9	9	13	6	6	5	17	202
Single Family 3.51 - 4.5 du/ac	8	49	40	82	30	29	41	48	30	26	383
Single Family 4.51 - 6 du/ac	-	-	-	-	-	-	-	-	-	-	-
Single Family 6.01du/ac & Over	-	14	11	23	21	10	-	-	2	12	93
Manufactured Housing	43	98	18	71	100	55	65	69	61	48	628
Total Single Family	114	215	113	192	167	113	124	142	111	124	1,415
Multifamily, Low Density	-	-	-	23	76	16	2	23	34	-	174
Total Multifamily	-	-	-	23	76	16	2	23	34	-	174
Total Non-Retirement	114	215	113	215	243	129	126	165	145	124	1,589
Retirement Housing											
Single Family 4.51 - 6 du/ac	-	-	-	-	-	-	-	-	2	8	10
Total	114	215	113	215	243	129	126	165	147	132	1,599

Sources: Maricopa Association of Governments; Pinal County; Applied Economics, 2019.

Recent development activity in the District is illustrated on **Map 7,** where housing completions are illustrated in green. Most of the land in the District is unavailable for development at this time and new residential growth has been widely dispersed throughout the City of Apache Junction and Gold Canyon areas. The southeastern portion of the District continues to see only a few housing starts.

MAP 7
RESIDENTIAL COMPLETIONS



3.2 FUTURE DEVELOPMENT POTENTIAL

The identified residential potential in the District is currently estimated to be nearly 175,000 units. This includes defined projects and raw land with development potential beyond a practical ten-year horizon. **Table 6** shows projected unit counts by type of product and the estimated time period that construction **could begin** on lots within projects, since developments generally under construction over a number of years; it is also possible some projects will not begin at all. The Infill category includes generally rural lots and small custom projects that are likely to be under development intermittently over a number of years. Much of the City of Apache Junction would be included in this category. Both the unit potential on this table and the timing estimates will change as new information is acquired.

The estimated housing potential is very similar to past development in the near-term. Although a limited amount of formally age-restricted development is expected at this time, individual projects could effectively be considered "age-restricted" due to builder marketing and buyer preferences.

The Superstition Vistas and Lost Dutchman Heights conceptual planning areas hold an enormous development potential, about 95 percent of what is shown here. Since the plans are conceptual, the type and amount of development could be significantly different than what is currently estimated. Both retirement and multifamily housing may be under-estimated since future development trends are likely to shift, however, it is premature to speculate on such changes.

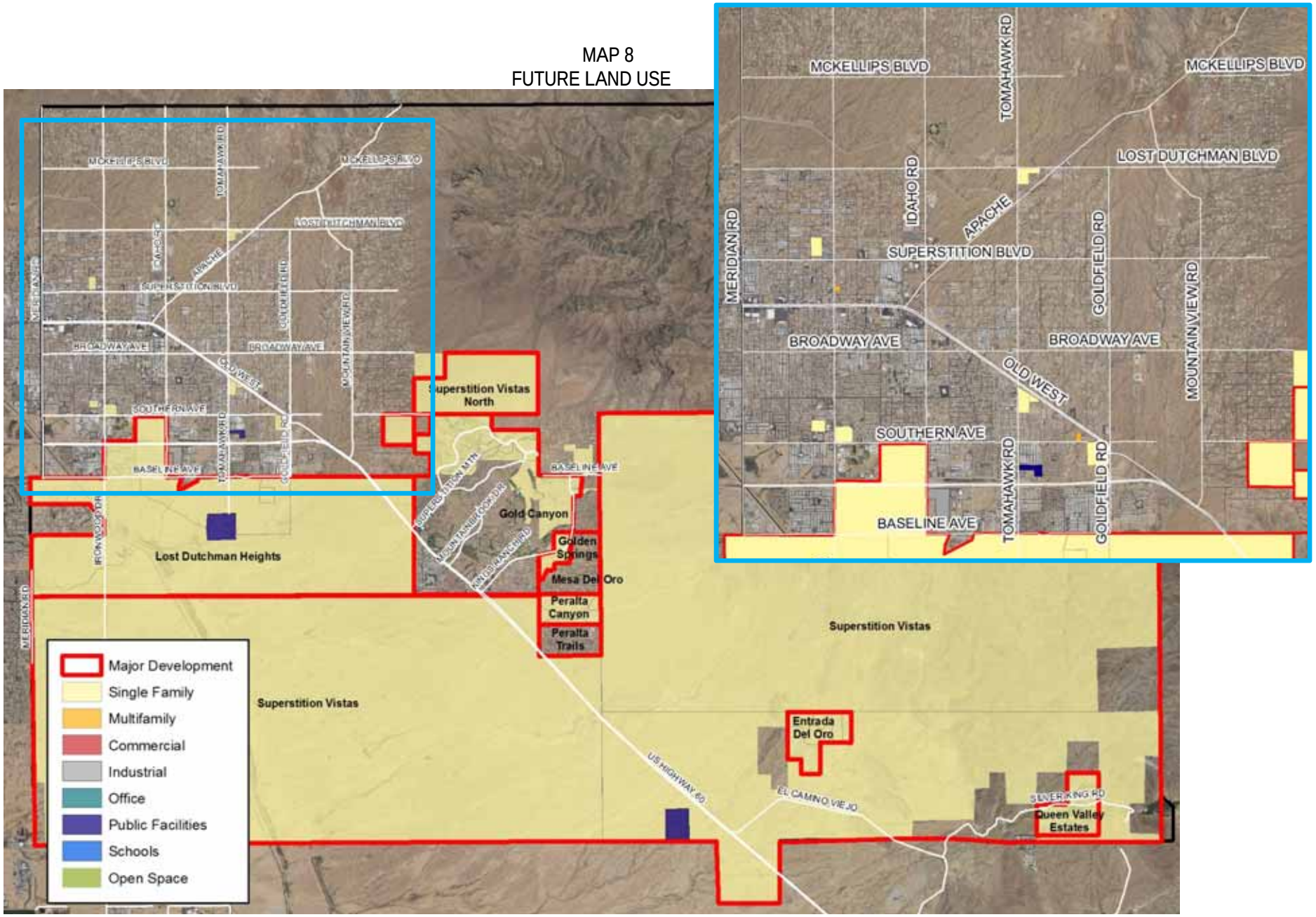
TABLE 6
POTENTIAL NEW HOUSING BY DEVELOPMENT TIMELINE

	Active		Vacant Land					
Housing Type	Projects	Infill	1 Year	2-3 Years	3-5 Years	5-10 Years	10+ Years	Total
Non-Retirement Housing								
Single Family 2 du/ac or less	-	314	172	-	-	-	18,344	18,830
Single Family 2.01 - 3.5 du/ac	157	145	83	468	-	156	34,100	35,109
Single Family 3.51 - 4.5 du/ac	-	1,607	-	-	151	4,666	111,637	118,061
Single Family 4.51 - 6 du/ac	-	-	-	108	-	-	-	108
Single Family 6.01du/ac & Over	91	-	-	83	259	-	-	433
Single Family Attached	-	38	52	-	-	-	-	90
Manufactured Housing	-	1,083	-	-	-	-	-	1,083
Total Single Family	248	3,187	307	659	410	4,822	164,081	173,714
Multifamily, Low Density	-	542	-	-	29	25	46	642
Multifamily, Standard Courtyard	-	-	-	-	-	-	98	98
Total Multifamily	-	542	-	-	29	25	144	740
Total Non-Retirement	248	3,729	307	659	439	4,847	164,225	174,454
Retirement Housing								
Single Family 4.51 - 6 du/ac	91	-	-	-	-	-	-	91
Total	339	3,729	307	659	439	4,847	164,225	174,545

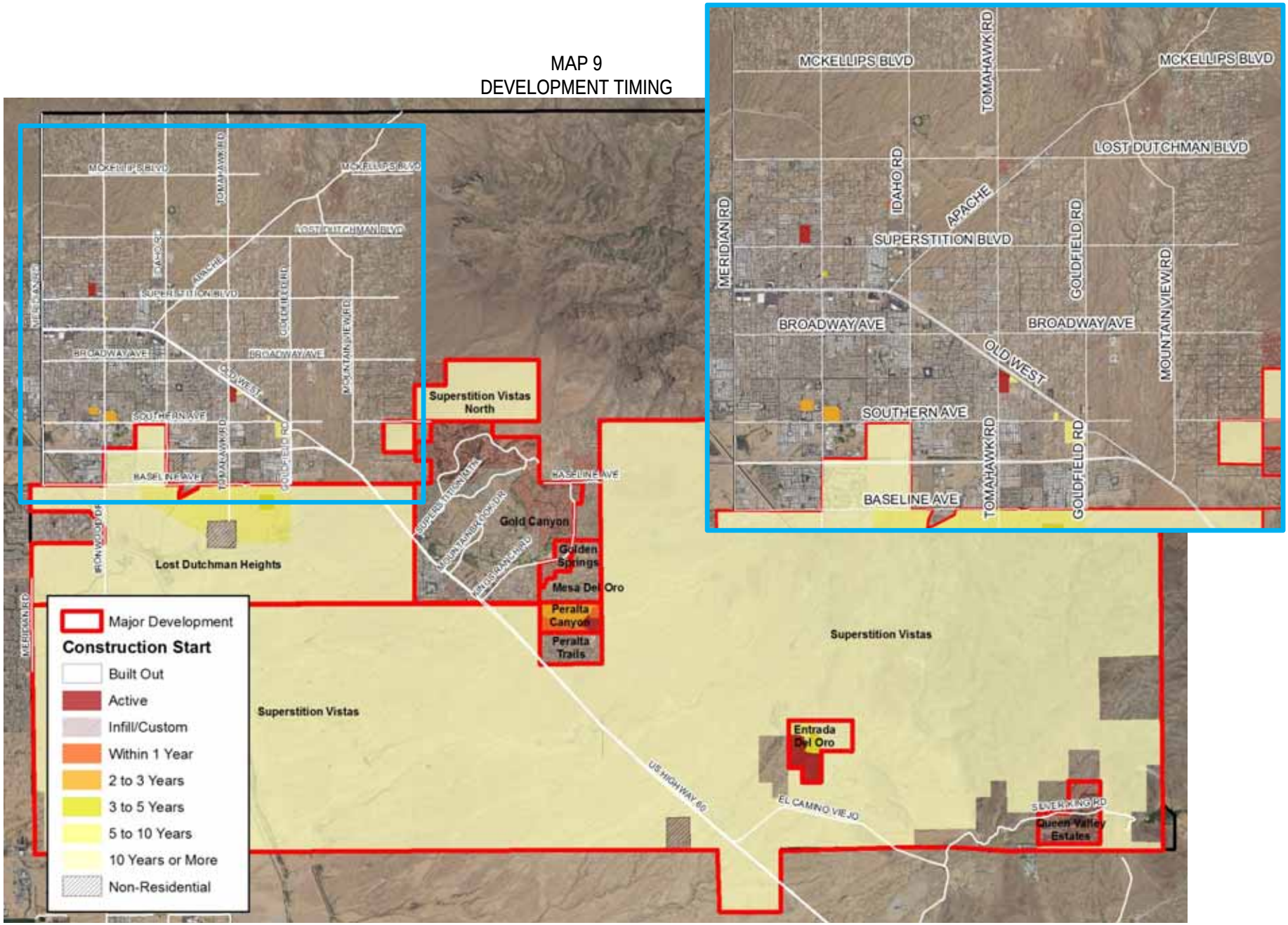
Sources: City of Apache Junction; Arizona State Land Department; Pinal County; Applied Economics, 2019.

Maps 8 and 9 show currently active and future development areas by land use and the estimated timing to begin development as presented on the table above.

MAP 8
FUTURE LAND USE



MAP 9
DEVELOPMENT TIMING



3.3 MARKET CONDITIONS

Economic indicators for the Phoenix metropolitan area continue to be positive. According to the Arizona Office of Economic Opportunity, the population in Maricopa County has increased by more than 470,000 persons since 2010, reaching an estimated total population of 4,294,460 in July 2018. The labor force in the Phoenix metropolitan area has increased by more than 109,000 persons in 2018, according to preliminary BLS estimates, reaching nearly 2,442,600 workers in November, and the metro area's 2018 average unemployment rate of 4.1 percent to date compares favorably to the 3.9 percent national average.

The metro area residential real estate market has rebounded dramatically since the last recession. As reported by the Arizona Republic from Arizona Regional Multiple Listing Service data, median home prices reached a record of $265,000 in June 2006, before falling to $120,000 by September 2011, about four years into the recession. According to the National Association of Realtors, the Phoenix metro area's median house price reached $272,200 in the third quarter of 2018 and prices are still rising due to limited supply.

While housing costs continue to escalate in metro Phoenix, it is still a more affordable location than other parts of the west. According to the Cushman & Wakefield "Housing Opportunity Index", which measures the percentage of new and existing homes sold that were affordable to families at the area's median income level, most west coast cities had very low affordability indexes. Phoenix had an index of 63.1 percent in the fourth quarter of 2017, followed closely by Salt Lake City (62.1 percent), Houston (60 percent), San Antonio (59.2 percent) and Las Vegas (58.7). In the Southwest region, only Tucson and Albuquerque had higher affordability ratings at 72.7 and 71.6 percent, although they are both much smaller markets.

The vibrancy of the local housing market is also demonstrated by a 2018 report on master planned communities by RCLCO (formerly Robert Charles Lesser & Co.). Of the 48 communities with the highest sales nationwide, six are in Arizona. Texas has the greatest number of communities (15) while Florida has four of the top seven selling master planned communities. By comparison, however, Arizona has only a quarter the population of Texas, and a third of Florida. Three of the Arizona communities are within the Phoenix metro area; they include Eastmark in Mesa (#6), Verrado in Buckeye (#13) and Vistancia in Peoria (#19).

The depth and severity of the 2007-2009 recession didn't just pause or slow housing construction, it also changed the geographic direction of new development. The Southeast Valley has long been a desirable housing market, accounting for 37 percent of all single family completions with over 11,000 units in 2000. By 2006, competition from outlying areas and decreasing land availability had steadily reduced that proportion to 16 percent. The onset of the recession reversed that trend as the Southeast Valley increased its market share from 18 to 36 percent between 2008 and 2010; over the past three years, the area has accounted for 35 percent of single family completions.

A much different dynamic has occurred in areas with more entry-level housing. Housing growth in Pinal County, including the city of Maricopa and the San Tan Valley, grew rapidly in the 2000's and accounted for about 25 percent of the metro housing completions in 2006. However, that proportion began falling during the recession and dropped to just 13 percent in 2015, before increasing slightly in 2017. In the Northwest Valley, new housing construction was also strong, averaging about 14 percent of the metro total from 2000 to 2006; activity in the Northwest plummeted during the recession and currently accounts for just 3 to 4 percent of the metro total.

In response to the disrupted housing market, developers and builders have altered or added products and strategies. In recognition of existing financial constraints, some builders have introduced new product lines for entry-level buyers, while others have targeted the move-up market with additional options or focused on added values, such as more energy efficient homes. Smaller lot sizes have also been introduced, with cluster or court designs, as well as increases in townhouse/row house and single family attached construction.

The main challenge to the local residential market is currently affordability, particularly for younger people. Impediments to purchasing a house delay new household formation. The primary factors preventing young people from entering the market are high levels of student debt and difficulties obtaining a down payment, according to a recent survey by real estate website PropertyShark. Since wage rates have not kept pace with housing costs, the problem is difficult to resolve. Coupled with increases in rental rates, the time frame for first time purchases becomes even more extended. In addition to the impacts specifically on young people, construction prices are increasing due to labor shortages and increases in material costs.

High-density, single family construction can be expected to continue in two forms. In suburban areas, smaller lot sizes allow for lower prices on family-sized houses of three or four bedrooms. Some buyers are willing to sacrifice house size for a location near social amenities, which is driving significant infill development in downtowns and other commercial areas. One method of providing affordable product places high-density housing on small, infill lots. Single family rental complexes, such as those built by NexMetro (Avilla) have proven to be very successful in recent years, and more such properties are expected.

Multifamily housing has become a major residential sector in the Phoenix metro region since the recession. According to the 2016 second quarter Cushman & Wakefield Marketbeat report, 1,927 multifamily units were absorbed in the first half of the year, with 5,924 units under construction and another 17,874 planned. In the 2018 quarter two report, absorption totaled 4,032 multifamily units, with 15,405 units under construction and 33,633 units planned. Of the multifamily units under construction, about half are in three submarkets: Central Phoenix, Chandler/Queen Creek, and Tempe. Some 1,939 units are under construction in Scottsdale, which is nearly equal to the combined total for Mesa/Gilbert and the Northwest Valley. There is very little activity in East or West Phoenix. One notable change in the multifamily market is the increase in high-density projects that come with major amenities and high rents. Part of this can be attributed to lifestyle choices that include a desire for high-density, urban environments. Construction of such properties can be expected to continue, especially in central urban areas, but should slow as rents moderate. More traditional multifamily complexes are expected to begin construction in outer areas that have seen less multifamily activity recently.

The general consensus is that the next recession will likely begin in about 2020. No period of expansion is endless, and there have been some signs of economic slowing already. However, the next recession should be mild and housing is not anticipated to decline significantly. The reason is that the next downturn will likely be related to inflation and interest rates, not uncontrolled housing speculation. In Arizona, the increases in non-service sector employment, continued low housing costs relative to other metro areas, and the increasing diversity of housing products should also provide a greater level of economic stability.

3.4 DEVELOPMENT PROJECTS

The residential market in the District has been stable in recent years and is now entering an expansion period, as several major builders have entered the local market with a range of pricing options. This increased diversity can help to stabilize the local market and widen the age levels of residents, since entry-level housing typically attracts younger families and older households are found in more expensive projects.

In 2001 Del Webb opened Peralta Trails and the 832-lot community was built-out in 2005. In 2018, construction began on Peralta Canyon, an 850-lot housing project directly north of Peralta Trails. Models were started in February 2018 and the first closings occurred in the fall. There are multiple subdivisions under development; Lennar Homes is active in three subdivisions and is joined by Beazer, KB, Gehan, and David Weekley Homes. All of these builders are currently active in this initial phase of 390-lots and high levels of production are expected over the next two to three years. The remaining parcels will likely begin development in about 2021, depending on housing absorption levels in the current phase.

Gold Canyon, an unincorporated community in Pinal County, began development in the late 1990's and since then over 2,000 houses have been constructed. There are about 400 lots remaining in the final phases of the development and adjacent subdivisions. The community is a large and varied development and it is anticipated that the closing-out period will entail minimal levels of production, therefore, total build-out is not expected within the next 10 years. Subdivisions in the area that continue to see construction include Hieroglyphic Trails, Golden Springs and Vista Del Corazon; however, these subdivisions have not had more than 3 homes completed per year within the last 5 years. Superstition Mountain is another multi-parcel development that has been active since the late 1990's; a minimal amount of construction has occurred in this development over the past six years and this trend is expected to continue.

Entrada Del Oro, located southeast of Gold Canyon and north of Highway 60, opened in the mid-2000's and about 340 houses were constructed before the recession caused activity to cease in 2011. KB Homes has purchased the remaining 30 lots of phase 1 and plans to construct entry-level houses, priced around $200,000. Land in phases 2 and 3 is being actively marketed and includes parcels that connect to existing local streets. There are no known builders involved in this project at this time, but that could change quickly and likely will be influenced by absorption rates at the KB subdivision.

Smaller subdivisions, north of the US 60, are being built or planned throughout the City of Apache Junction. Stagecoach Trails is a 105-lot subdivision located along Superstition

Boulevard and Ironwood Drive by Kauffman Homes. Prices start under $200,000 and the homes are being marketed to families. Construction began in mid-2017 and is expected to continue through the first half of the projection period. The 100-lot Bel Agave subdivision, also by Kauffman Homes, is located at the northeast corner of Tomahawk Road and 19th Avenue, but it is a gated, retirement community.

Bella Corona is an 83-lot subdivision of single-family homes on 10 acres near Ironwood Drive and 20th Avenue. Bela Flora Communities received approval from the Apache Junction City Council in 2018; the project is expected to be opened during 2019/20 and a three year build-out is expected.

Superstition Vistas is a community plan endorsed by the City of Apache Junction, Pinal County, the Arizona State Land Department (ASLD), and multiple other agencies. In 2012, a Comprehensive Plan Amendment was approved for the 175,000-acre area to include a large percentage of single family residential, industrial, commercial and mixed-use opportunities. Over 60,000 acres of this project are located within the District and could yield more than 130,000 housing units. To date, there have been no plans by ASLD, any jurisdictions, or private developers to move forward on this endeavor. While there is no expectation of development until after the projection period, that could change if a builder or ASLD elects to move forward on any of this land

Lost Dutchman Heights, previously known as Portalis, is a 7,600-acre master planned component of Superstition Vistas. Similar to Superstition Vistas, there have not been requests to develop the area owned by ASLD. However, in 2019 Kauffman Homes was granted approval to rezone 40 acres of privately owned land within the Lost Dutchman Heights planning area. This property is surrounded by undeveloped, ASLD-owned land and located 0.5 miles northeast of the Apache Junction Landfill. The project is slated for 259 homes and is anticipated to begin construction in about 2021. It is possible that success at this project could help spur interest in the surrounding area.

Overall housing absorption levels were stable in 2017/18 and they are expected to increase substantially with new production at Peralta Canyon and some other smaller subdivisions. While development activity is not expected to attain past production levels, it is anticipated that new subdivisions will open in the District, responding to market pressures and land scarcity in adjoining areas. This is anticipated to produce strong and stable production levels throughout most of the projection period. Opening tracts of land at Superstition Vistas or Lost Dutchman Heights earlier than expected would significantly increase activity levels, but this is not expected at this time.

4.0 DISTRICT PROJECTIONS

4.1 POPULATION & HOUSING

Long-term demographic projections for the District, shown in **Table 7,** are calculated using housing unit additions by type, occupancy rates and demographic trends that impact household size. Currently, the District contains approximately 27,626 households (occupied housing units), up about 135 units from last year, with a population per household of about 2.17 persons.

TABLE 7
HISTORIC AND PROJECTED POPULATION AND HOUSING

		Housing Units				Occupancy	Households		
Year	Population	Total	New	Standard	Age	Rate	Total	Change	Pop/HH
2000/01*	47,377	29,263				70.4%	20,595		2.300
2001/02	48,965	30,300	1,037	1,037	0	70.4%	21,337	742	2.295
2002/03	50,985	31,608	1,308	1,132	176	70.5%	22,270	933	2.289
2003/04	52,311	32,490	882	874	8	70.5%	22,904	634	2.284
2004/05	53,442	33,254	764	764	0	70.5%	23,456	552	2.278
2005/06	54,638	34,061	807	771	36	70.6%	24,039	583	2.273
2006/07	55,751	34,819	758	738	20	70.6%	24,587	549	2.267
2007/08	56,387	35,281	462	454	8	70.7%	24,927	340	2.262
2008/09	56,605	35,483	202	202	0	70.7%	25,084	157	2.257
2009/10	56,682	35,597	114	114	0	70.7%	25,179	95	2.251
2010/11	56,919	35,812	215	215	0	70.8%	25,345	166	2.246
2011/12	57,319	35,925	113	113	0	71.4%	25,653	308	2.234
2012/13	57,885	36,140	215	192	23	72.0%	26,037	385	2.223
2013/14	58,499	36,383	243	167	76	72.7%	26,447	410	2.212
2014/15	58,934	36,512	129	113	16	73.3%	26,779	332	2.201
2015/16	59,365	36,638	126	124	2	74.0%	27,112	333	2.190
2016/17	59,629	36,803	165	142	23	74.2%	27,308	196	2.184
2017/18	59,856	36,950	147	113	34	74.4%	27,491	183	2.177
2018/19	59,992	37,082	132	132	0	74.5%	27,626	135	2.172
2019/20	60,464	37,410	328	308	20	74.6%	27,908	282	2.167
2020/21	61,002	37,775	365	345	20	74.7%	28,218	310	2.162
2021/22	61,393	38,061	286	252	34	74.8%	28,469	252	2.156
2022/23	61,854	38,385	324	296	28	74.9%	28,750	281	2.151
2023/24	62,283	38,692	307	273	34	75.0%	29,019	269	2.146
2024/25	62,694	39,025	333	333	0	75.0%	29,269	250	2.142
2025/26	63,061	39,338	313	301	12	75.0%	29,504	235	2.137
2026/27	63,411	39,638	300	300	0	75.0%	29,729	225	2.133
2027/28	63,681	39,895	257	257	0	75.0%	29,921	193	2.128
2028/29	63,882	40,120	225	200	25	75.0%	30,090	169	2.123
2019/20 - 2028/29			3,038	2,865	173			2,464	

Source: Applied Economics, 2019.

Bolding Indicates Actuals

* Includes adjustments to account the change in the definition of a housing unit in 2010.

District population and household totals are expected to gradually increase throughout the projection period as new housing is added to inventory. However, population per household is expected to steadily decline due to the aging of the population, which slightly dampens the impact of increases in households on total population and (even more so) on enrollment.

Over the next ten years, approximately 3,000 new housing units are projected to be added to the inventory in the District while the occupancy rate is expected to stabilize at 75 percent. This would result in the addition of nearly 2,500 new households and a population increase of about 3,900 persons. By 2028/29, it is projected that roughly 30,100 households will house a District population of about 63,900 people with a per-household population of 2.12 persons.

4.2 DISTRICT ENROLLMENT

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, as shown on **Table 8**. The first element, student generation, refers to the expected size of the school-age population (persons aged 5 to 17 years old) per household. The average number of school-age persons per household has decreased from 0.281 in 2010/11 to 0.236 in 2018/19. As the population ages, the school-age population per household is expected to continue to decline through the end of the projection period, falling to about 0.22 persons per household by 2028/29.

Due to the increasing number of educational alternatives available and existing open enrollment policies, it is necessary to apply an enrollment-to-population ratio, or "capture rate", to the projected school-age population when forecasting District enrollment. Please note, 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 the District. In addition to competition from alternative providers, there are a number of factors that could alter the trend in either direction, including specific program offerings within the District or in neighboring Districts.

In the 2018/19 school year the estimated population aged 5 to 17 years within the District was 6,522 persons, while total enrollment was 3,595 students; this results in a difference between enrollment and the school-age population of 2,927 persons and a net enrollment-population ratio (or capture rate) of 55.1 percent. The District's capture rate is much lower than most Districts in the Phoenix metro area; this is likely due to its proximity to schools in neighboring districts and the high level of out-commuting of the workforce to those areas. Since 2010/11, the District's capture rate has fallen by nearly 24 percent (from 72.3 percent to 55.1 percent); at the same time, the school-age population declined by roughly nine percent and enrollment at in-District charter schools increased by 51 percent (from 700 to 1,060 K-12 students).

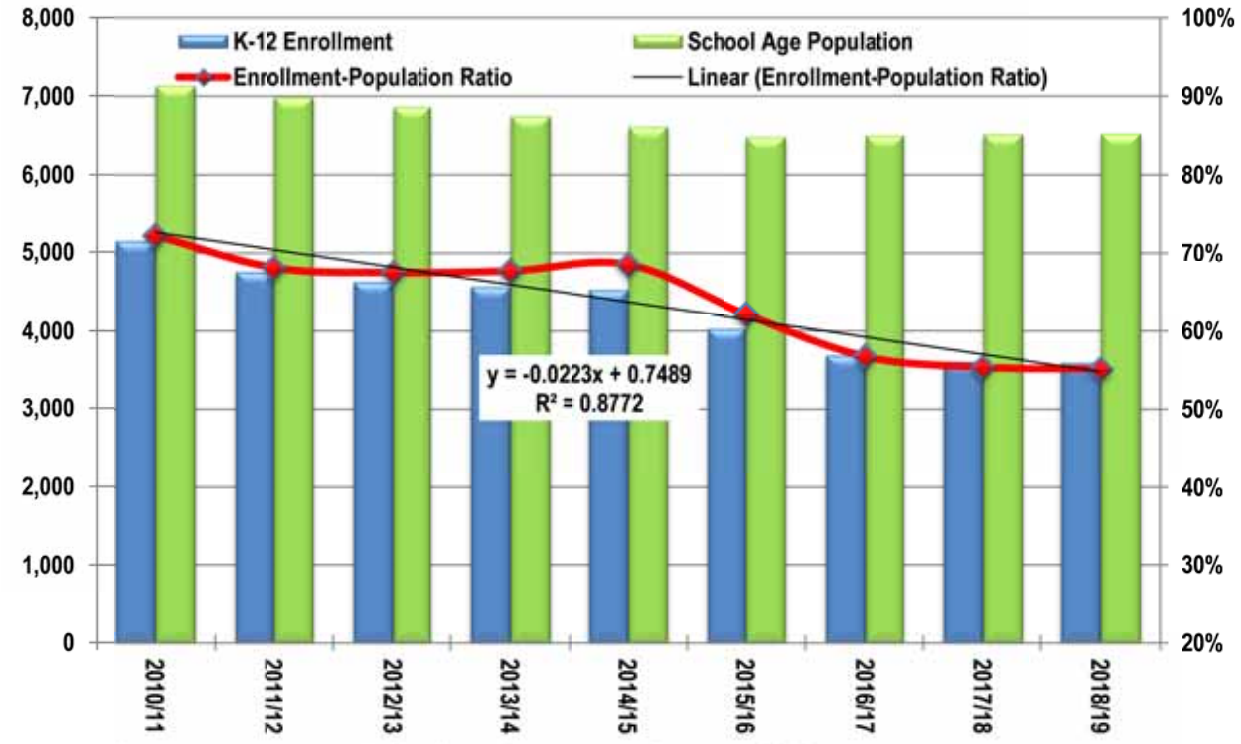
The relationship between school-age population and District enrollment is represented in **Figure 4**. The green bars show the school-age population, which can be considered the potential enrollment in the District, while the blue bars show actual enrollment. The historic capture rate is represented by the red line, which is keyed to the percentages on the right axis of the chart. Note that while the trend line on the enrollment-population ratio for the last eight years shows an overall downward trend of about 2.2 percent per year, the last two years have been relatively stable.

TABLE 8
HISTORICAL SCHOOL-AGE POPULATION AND ENROLLMENT

Year	Households	School-Age Population *		K-12 Enrollment		Net Difference	Enrollment - Population Ratio
		Total	Per Household	Total	Per Household		
2000/01	20,595	6,443	0.313	5,491	0.267	-952	85.2%
2010/11	25,345	7,132	0.281	5,153	0.203	-1,979	72.3%
2011/12	25,653	6,986	0.272	4,760	0.186	-2,226	68.1%
2012/13	26,037	6,863	0.264	4,634	0.178	-2,229	67.5%
2013/14	26,447	6,747	0.255	4,569	0.173	-2,178	67.7%
2014/15	26,779	6,612	0.247	4,532	0.169	-2,080	68.5%
2015/16	27,112	6,479	0.239	4,028	0.149	-2,451	62.2%
2016/17	27,308	6,499	0.238	3,688	0.135	-2,811	56.7%
2017/18	27,491	6,515	0.237	3,606	0.131	-2,909	55.3%
2018/19	27,626	6,522	0.236	3,595	0.130	-2,927	55.1%

Source: Applied Economics, 2019.
* Population age 5 through 17, corresponds with Kindergartern through 12th grade.

FIGURE 4
SCHOOL-AGE POPULATION AND ENROLLMENT



Sources: Apache Junction Unified School District; Applied Economics, 2019.

The capture rate may fluctuate upward or downward depending on the real or perceived quality of education offered by the District, the number, convenience, and perceived value of other education options, and a myriad of other factors that are beyond the scope of this study. However, we are not aware of many school Districts in Arizona experiencing a capture rate increase over the past several years and nearly all have experienced some level of decline. As a result, the enrollment projections contained herein have been formulated under three scenarios.

The "Mid" scenario, presented in **Table 9**, assumes that the District's capture rate continues to fall, but at the two-year average rate of -0.9 percent per year, which is slightly less than half of the ten-year rate of decline. These rates, combined with continued growth in the resident school-age population, would produce a net difference between the school-age population and enrollment of 3,362 school-age persons by 2028/29 and District enrollment of 3,389 K-12 students; this represents an decrease in total enrollment of about 200 students from the 3,595 students enrolled in 2018/19.

TABLE 9
PROJECTED SCHOOL-AGE POPULATION AND ENROLLMENT: MID SCENARIO

		School-Age Population *		K-12 Enrollment		Net	Enrollment -
Year	Households	Total	Per Household	Total	Per Household	Difference	Population Ratio
2010/11	25,345	7,132	0.281	5,153	0.203	-1,979	72.3%
2011/12	25,653	6,986	0.272	4,760	0.186	-2,226	68.1%
2012/13	26,037	6,863	0.264	4,634	0.178	-2,229	67.5%
2013/14	26,447	6,747	0.255	4,569	0.173	-2,178	67.7%
2014/15	26,779	6,612	0.247	4,532	0.169	-2,080	68.5%
2015/16	27,112	6,479	0.239	4,028	0.149	-2,451	62.2%
2016/17	27,308	6,499	0.238	3,688	0.135	-2,811	56.7%
2017/18	27,491	6,515	0.237	3,606	0.131	-2,909	55.3%
2018/19	27,626	6,522	0.236	3,595	0.130	-2,927	55.1%
2019/20	27,908	6,546	0.235	3,593	0.129	-2,953	54.9%
2020/21	28,218	6,574	0.233	3,602	0.128	-2,972	54.8%
2021/22	28,469	6,594	0.232	3,575	0.126	-3,019	54.2%
2022/23	28,750	6,618	0.230	3,544	0.123	-3,074	53.6%
2023/24	29,019	6,640	0.229	3,504	0.121	-3,136	52.8%
2024/25	29,269	6,666	0.228	3,491	0.119	-3,175	52.4%
2025/26	29,504	6,690	0.227	3,471	0.118	-3,219	51.9%
2026/27	29,729	6,714	0.226	3,450	0.116	-3,264	51.4%
2027/28	29,921	6,735	0.225	3,422	0.114	-3,313	50.8%
2028/29	30,090	6,751	0.224	3,389	0.113	-3,362	50.2%

Source: Applied Economics, 2019.

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

Bolding indicates historical data.

The "Low" scenario, detailed in **Table 10**, assumes that the District's capture rate drops over the next ten years at a rate that is consistent with trends that have been observed in the District over the past 10 years. This assumption results in enrollment declining by about 600 students over the next 10 years. The "High" scenario assumes that the District is able to hold the current capture rate during the whole projection period. Under this scenario, District K-12 enrollment would grow by 126 students and total nearly 3,700 students by 2028/29.

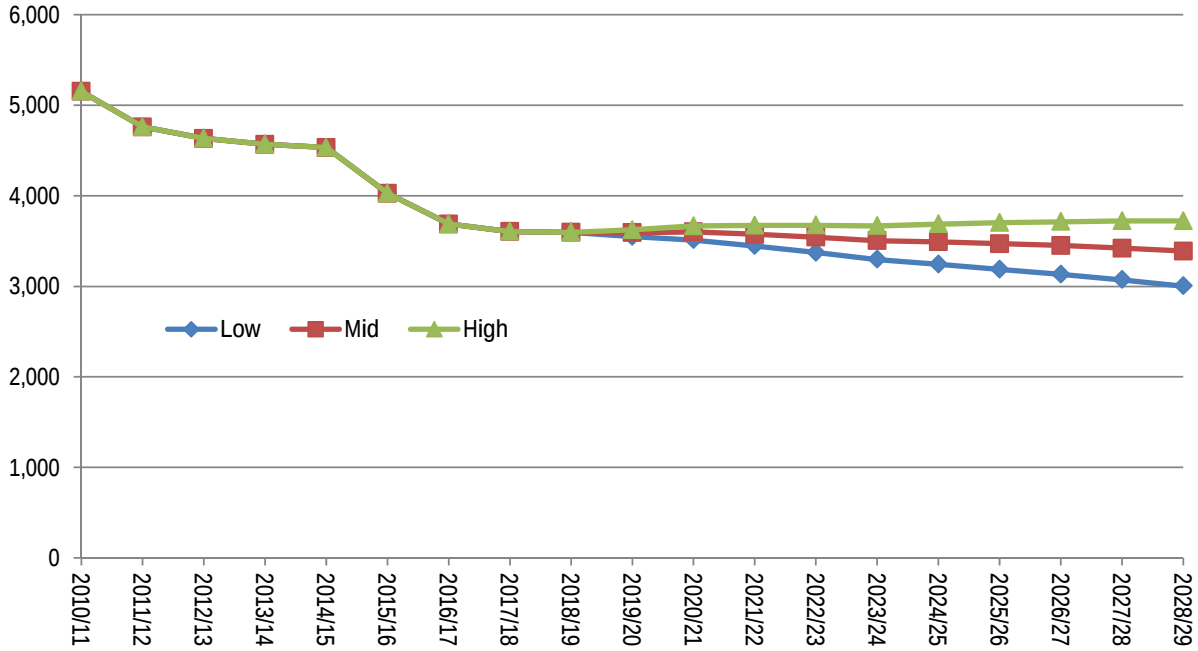
TABLE 10
PROJECTED K-12 ENROLLMENT BY SCENARIO

	Capture Rate Scenario			Enrollment Change		
Fall	Low	Mid	High	Low	Mid	High
2010/11	**5,153**	**5,153**	**5,153**			
2011/12	**4,760**	**4,760**	**4,760**	**-393**	**-393**	**-393**
2012/13	**4,634**	**4,634**	**4,634**	**-126**	**-126**	**-126**
2013/14	**4,569**	**4,569**	**4,569**	**-65**	**-65**	**-65**
2014/15	**4,532**	**4,532**	**4,532**	**-37**	**-37**	**-37**
2015/16	**4,028**	**4,028**	**4,028**	**-504**	**-504**	**-504**
2016/17	**3,688**	**3,688**	**3,688**	**-340**	**-340**	**-340**
2017/18	**3,606**	**3,606**	**3,606**	**-82**	**-82**	**-82**
2018/19	**3,595**	**3,595**	**3,595**	**-11**	**-11**	**-11**
2019/20	3,548	3,593	3,624	-47	-2	29
2020/21	3,511	3,602	3,665	-37	9	41
2021/22	3,445	3,575	3,673	-66	-27	8
2022/23	3,373	3,544	3,674	-72	-31	1
2023/24	3,296	3,504	3,667	-77	-40	-7
2024/25	3,242	3,491	3,687	-54	-13	20
2025/26	3,187	3,471	3,701	-55	-20	14
2026/27	3,131	3,450	3,713	-56	-21	12
2027/28	3,071	3,422	3,721	-60	-28	8
2028/29	3,003	3,389	3,721	-68	-33	0
2019/20 - 2028/29				-592	-206	126

Source: Applied Economics, 2019.
Bolding indicates actuals.

Figure 5 compares the K-12 enrollment projections by scenario, illustrating the magnitude of the various assumptions regarding the District's future net capture rate over time. As the presence of alternative providers has grown in the state, the capture rate has increasingly become one of the most important factors affecting projections, and in many districts it is the most important factor in determining enrollment.

FIGURE 5
PROJECTED K-12 ENROLLMENT BY SCENARIO



Source: Applied Economics, 2019.

4.3 ENROLLMENT BY GRADE LEVEL

Table 11 provides a more detailed review of past and projected enrollment changes by showing enrollment at the elementary, middle and high school level. The projected enrollment figures that follow are based on the "mid" scenario, which assumes that the District's capture rate continues to fall at the two-year average rate of -0.9 percent per year. Since 2010/11, total enrollment has decreased by 30 percent; although all of the grade levels have declined, slightly more of the losses have occurred in the Kindergarten to 5th grade (K-5) cohort and the 9-12 cohort. Since 2010/11, Kindergarten to 8th grade (K-8) enrollment has declined by 28 percent, while 9-12 enrollment has declined by 34 percent. Over the past eight years, the share of enrollment in the 6-8 cohort has increased by about two percent, while the share of students in the K-5 cohort remained unchanged and the share of 9-12 students decreased by about two percent. At roughly 43 percent, the K-5 cohort continues have the largest share of total enrollment, followed by the 9-12 cohort (31 percent) and then the 6-8 cohort (26 percent).

TABLE 11
ENROLLMENT BY LEVEL – MID SCENARIO: 2010/11-2028/29

	Enrollment by Level				K-12 Total		
Fall	K-5	6-8	K-8	9-12	Enrollment	Change	% Growth
2010/11	**2,205**	**1,251**	**3,456**	**1,697**	**5,153**	**-303**	**-5.6%**
2011/12	**2,123**	**1,133**	**3,256**	**1,504**	**4,760**	**-393**	**-7.6%**
2012/13	**2,074**	**1,143**	**3,217**	**1,417**	**4,634**	**-126**	**-2.6%**
2013/14	**2,063**	**1,138**	**3,201**	**1,368**	**4,569**	**-65**	**-1.4%**
2014/15	**2,049**	**1,150**	**3,199**	**1,333**	**4,532**	**-37**	**-0.8%**
2015/16	**1,786**	**992**	**2,778**	**1,250**	**4,028**	**-504**	**-11.1%**
2016/17	**1,618**	**947**	**2,565**	**1,123**	**3,688**	**-340**	**-8.4%**
2017/18	**1,584**	**930**	**2,514**	**1,092**	**3,606**	**-82**	**-2.2%**
2018/19	**1,548**	**925**	**2,473**	**1,122**	**3,595**	**-11**	**-0.3%**
2019/20	1,544	917	2,461	1,132	3,593	-2	-0.1%
2020/21	1,559	910	2,469	1,133	3,602	9	0.3%
2021/22	1,548	906	2,454	1,121	3,575	-27	-0.7%
2022/23	1,556	875	2,431	1,113	3,544	-31	-0.9%
2023/24	1,550	860	2,410	1,094	3,504	-40	-1.1%
2024/25	1,576	825	2,401	1,090	3,491	-13	-0.4%
2025/26	1,560	839	2,399	1,072	3,471	-20	-0.6%
2026/27	1,527	854	2,381	1,069	3,450	-21	-0.6%
2027/28	1,480	901	2,381	1,041	3,422	-28	-0.8%
2028/29	1,423	923	2,346	1,043	3,389	-33	-1.0%

Source: Applied Economics, 2019.
Bolding indicates actuals.

This trend of decreasing enrollment in the highest and youngest grades is expected to continue through the projection period at a fairly steady rate. By the end of the projection period, K-8 enrollment is expected to decrease by about five percent, with the strongest losses occurring in the Kindergarten through 5th grades, and 9-12 enrollment is projected to decline by seven percent.

Reviewing individual grades on **Table 12** can provide some additional insight into enrollment patterns and the progressive impact of Kindergarten class size. For instance, the effects of smaller Kindergarten classes between 2014/15 and 2016/17 can generally be seen in each successive grade over time and, while

the impact can be somewhat muted due to other factors, the lagged impact can ultimately affect middle and high school enrollment.

TABLE 12
ENROLLMENT BY GRADE – MID SCENARIO: 2010/11-2028/29

Year	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12 Total
2010/11	380	362	353	356	408	346	397	419	435	446	430	395	426	5,153
2011/12	334	358	333	356	362	380	359	390	384	385	392	359	368	4,760
2012/13	322	335	348	340	371	358	383	378	382	352	364	361	340	4,634
2013/14	345	322	322	366	334	374	362	385	391	340	330	345	353	4,569
2014/15	317	347	335	341	379	330	370	368	412	333	341	321	338	4,532
2015/16	261	287	297	311	309	321	279	350	363	358	288	303	301	4,028
2016/17	217	258	268	285	294	296	320	317	310	332	306	226	259	3,688
2017/18	251	233	264	260	274	302	308	320	302	279	296	277	240	3,606
2018/19	219	250	242	276	278	283	285	317	323	287	280	286	269	3,595
2019/20	244	227	254	253	283	283	286	304	327	302	277	266	287	3,593
2020/21	256	254	232	267	261	289	288	307	315	307	293	264	269	3,602
2021/22	259	262	255	240	270	262	289	304	313	291	293	275	262	3,575
2022/23	254	262	263	263	243	271	262	304	309	289	277	274	273	3,544
2023/24	245	258	263	272	267	245	272	277	311	286	276	260	272	3,504
2024/25	236	252	262	275	279	272	248	291	286	291	276	262	261	3,491
2025/26	225	242	256	273	281	283	275	264	300	267	280	262	263	3,471
2026/27	215	232	246	268	280	286	287	294	273	281	258	266	264	3,450
2027/28	204	221	236	258	275	286	290	307	304	256	272	245	268	3,422
2028/29	190	211	226	248	266	282	292	312	319	286	249	260	248	3,389

Source: Applied Economics, 2019.

In addition to the progressive effect of incoming Kindergarten classes, changes in the local housing market and householder characteristics can have a significant impact on enrollment at the various grade levels. For instance, all else equal, re-occupied and new single family housing tend to yield a larger percentage of younger students than existing housing units.

Despite the region's economic recovery and a moderate level of local housing construction, the dampening effects associated with competition from alternative providers and demographic changes (low birth rates and an aging population) are expected to result in declines in enrollment throughout the projection period. By 2028/29, it is expected that District enrollment will drop to 3,389 K-12 students, down about six percent from current enrollment.

5.0 SUB-DISTRICT PROJECTIONS

Sub-District enrollment projections are based on the current number of students in each study grid, the expected occupancy of existing housing units and 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 project part. Using this data, annual projections of enrollment by grade through 2028/29 for each of the 70 grid areas were developed.

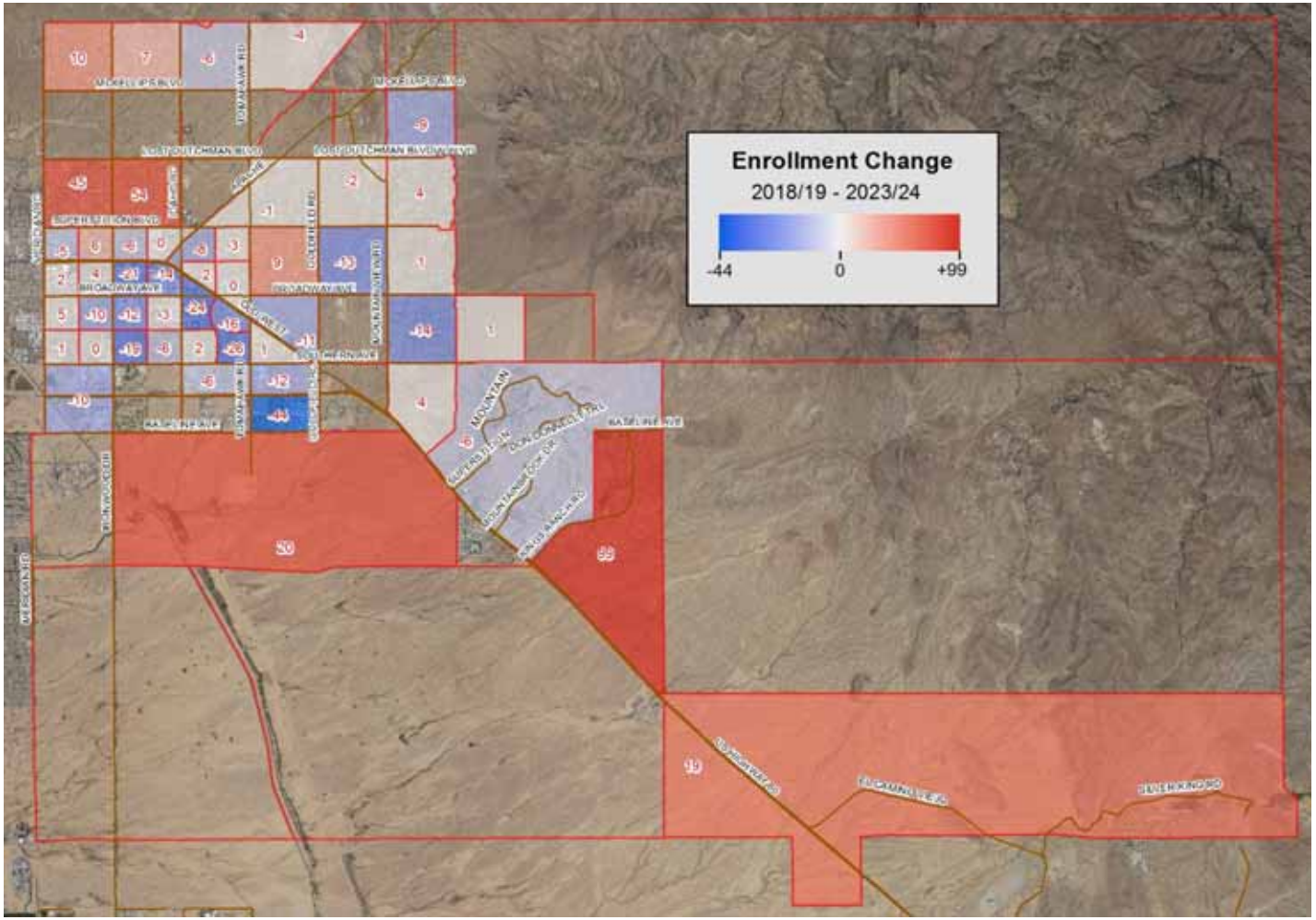
The grid-level projections are aggregated by attendance area and used to cross-check the District enrollment projections. Matrices showing the relationship between where students live and where they attend school are provided for each elementary and middle school attendance area. These relationships are combined with the attendance area projections to forecast enrollment by school.

5.1 PLANNING GRID PROJECTIONS

The projected changes in the number of students by grid over the next two five-year periods are depicted on **Maps 10 and 11**. 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 years, the majority of the growth is expected to come from new development in Lost Dutchman Heights, Peralta Canyon, and in pockets in the far northwestern corner of the District. As a result, the Peralta Trail and Four Peaks attendance areas should experience the impacts of most of the new housing growth during this period, increasing by 45 and 11 elementary students, respectively (as shown in **Table 13**). The Desert Vista attendance area is projected to lose 80 students by 2023/24 due to the aging in place of the residents in that area.

In the second five years of the projection period, construction at Peralta Canyon slows as development moves southward and activity increases in Lost Dutchman Heights. During this period, all of the enrollment growth is projected to occur in the Peralta Trail attendance area (38 students) and declines are projected in the Four Peaks (-80 students) and Desert Vista (-55 students) attendance areas by 2028/29.

MAP 10
K-12 ENROLLMENT CHANGE BY GRID: 2018/19 – 2023/24



MAP 11
K-12 ENROLLMENT CHANGE BY GRID: 2023/24 – 2028/29

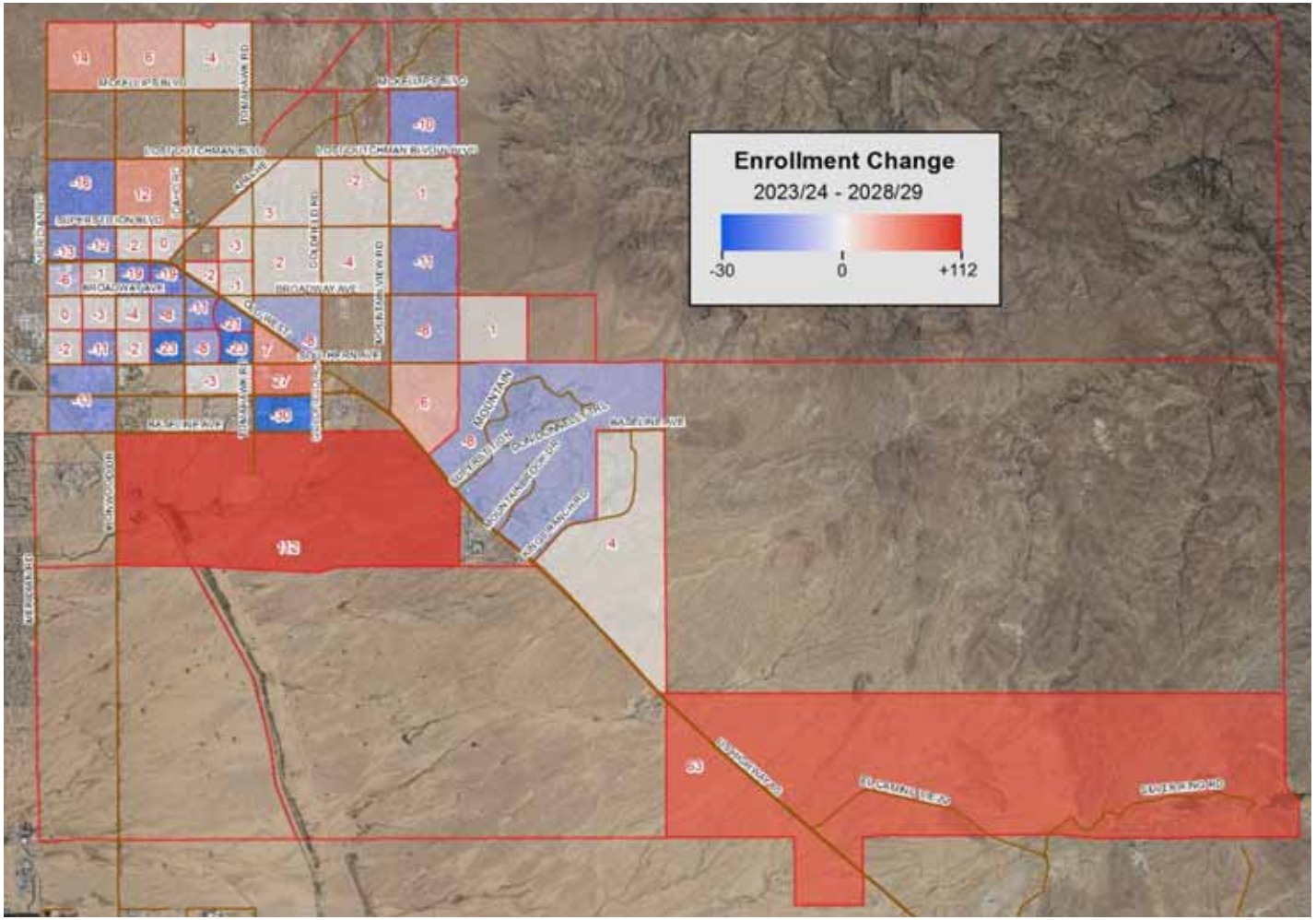


TABLE 13
ENROLLMENT BY ATTENDANCE AREA

	Actual			Projected										2010/11-	2018/19-	2023/24-
	2010/11	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2018/19	2023/24	2028/29
Desert Vista	958	711	660	642	626	602	586	580	577	579	568	548	525	-298	-80	-55
Four Peaks	744	664	701	704	722	726	717	712	705	700	684	659	632	-43	11	-80
Peralta Trail	707	454	424	432	442	447	451	469	481	496	505	509	507	-283	45	38
Out of District	193	63	48	51	57	61	64	61	61	59	57	54	52	-145	13	-10
Total	2,602	1,892	1,833	1,830	1,847	1,837	1,818	1,822	1,824	1,835	1,814	1,770	1,715	-769	-11	-107
Junior High																
Cactus Canyon	854	622	640	631	622	617	613	588	577	564	567	611	631	-214	-52	43
High School																
Apache Junction	1,697	1,092	1,122	1,132	1,133	1,121	1,113	1,094	1,090	1,072	1,069	1,041	1,043	-575	-28	-51
District Total	5,153	3,606	3,595	3,593	3,602	3,575	3,544	3,504	3,491	3,471	3,450	3,422	3,389	-1,558	-91	-115

Source: Applied Economics, 2019.

5.2 ENROLLMENT BY SCHOOL

The variation between elementary enrollment by attendance area and enrollment by school is detailed in **Table 14.** This matrix table shows the movement of students between where they live and where they attend school, including students from outside of the District. Reading the table across shows the number of students attending a school from each attendance area (listed numerically across the top row as defined in the first column) and from outside of 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.

For example, there are 535 students attending Desert Vista Elementary who live in the Desert Vista attendance area. There are also 40 students attending Desert Vista from the Four Peaks attendance area and 45 students attending from the Peralta Trail attendance area. The aggregation of students from all three attendance areas attending Desert Vista Elementary, along with 18 students who reside outside District boundaries, results in a total enrollment of 638 students at the school. There is movement both in and out of the attendance area, but there are 22 fewer students attending Desert Vista than residing in the attendance area, as shown in the rightmost column on the table. As shown in the green shaded row on the table (labeled "Reside/Attend Same"), 81 percent of the 660 students living in the Desert Vista attendance area actually attended the school in 2018/19.

TABLE 14
ENROLLMENT BY SCHOOL VERSUS ATTENDANCE AREA

		Attendance Area *						
School		1	2	3	Outside	Total Attend	Total Reside	Difference
Desert Vista Elementary	1	535	40	45	18	638	660	-22
Four Peaks Elementary	2	49	636	19	18	722	701	21
Peralta Trail Elementary	3	76	25	360	12	473	424	49
Total Reside		660	701	424	48	1,833	1,785	48
Reside/Attend Same (In-District)		81.1%	90.7%	84.9%		85.8%		
Cactus Canyon Junior High		249	209	163	19	640	621	19
Apache Junction High School		425	343	267	87	1,122	1,035	87
Total Reside		674	552	430	106	1,762	1,656	106
District Total		1,334	1,253	854	154	3,595	3,441	154

Source: Apache Junction Unified School District; Applied Economics, 2019.
* Attendance areas breakdown based on elementary attendance areas.

In total, elementary enrollment totals 1,833 students, including 48 students who reside outside District boundaries. Of the District's resident elementary students, about 86 percent attend the school in their attendance area. When compared with other districts in the region, this reflects a fairly low level of movement within the District, as only 14 percent of students attend a school that is not indicated by the geographic location of their residence. At 91 percent, Four Peaks Elementary has the highest percentage of resident enrolled students.

Some of these shifts are due to designated programs, including special education, but most are due to campus-specific offerings and student/parent choice. The movements are fairly stable over time but they add significant uncertainty to projections of enrollment by school (as opposed to attendance areas), as does the movement of students into and out of alternative providers and other public district schools.

Table 15 shows recent actual enrollment and enrollment in 2010/11 by school, along with the projected enrollment for the next 10 years. The projections by school are calculated by applying trends in the relationship between where students attend school and where they reside to the projections by attendance area over time. During the first five-year period, only Four Peaks Elementary and Peralta Trail Elementary will experience an increase in enrollment, adding 11 and 52 students, respectively. By 2023/24, enrollment declines are projected at Desert Vista Elementary (-74 students), Cactus Canyon Middle School (-52 students) and Apache Junction High School (-28 students).

During the second half of the projection period, enrollment increases are projected to continue at Peralta Trail (36 additional students) and 43 new students will be added at Cactus Canyon Middle School. By 2028/29, enrollment is expected to decline by another 58 students at Desert Vista Elementary and Four Peaks Elementary will see enrollment drop by 84 students. Enrollment is also projected to decrease at Apache Junction High School by another 51 students in the second five-year period.

TABLE 15
ENROLLMENT BY SCHOOL

	Actual			Projected										2010/11-	2018/19-	2023/24-
	2010/11	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2018/19	2023/24	2028/29
Elementary																
Desert Vista	615	673	638	622	607	585	571	564	561	562	551	530	506	23	-74	-58
Four Peaks	650	705	722	723	744	749	739	733	726	720	703	677	649	72	11	-84
Peralta Trail	652	514	473	484	496	502	508	525	537	552	560	563	561	-179	52	36
Superstition Mtn.	685	0	0	0	0	0	0	0	0	0	0	0	0	-685	0	0
Total	2,602	1,892	1,833	1,830	1,847	1,837	1,818	1,822	1,824	1,835	1,814	1,770	1,715	-769	-11	-107
Junior High																
Cactus Canyon	854	622	640	631	622	617	613	588	577	564	567	611	631	-214	-52	43
High School																
Apache Junction	1,697	1,092	1,122	1,132	1,133	1,121	1,113	1,094	1,090	1,072	1,069	1,041	1,043	-575	-28	-51
District Total	5,153	3,606	3,595	3,593	3,602	3,575	3,544	3,504	3,491	3,471	3,450	3,422	3,389	-1,558	-91	-115

Source: Applied Economics, 2019.

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