APPLIED ECONOMICS

GLENDALE ELEMENTARY SCHOOL DISTRICT
DEMOGRAPHIC AND ENROLLMENT ANALYSIS
2018/19 UPDATE
FINAL REPORT

PREPARED FOR:

GLENDALE ELEMENTARY SCHOOL DISTRICT
7301 NORTH 58TH AVENUE
GLENDALE, ARIZONA 85301

DECEMBER 11, 2019

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EXECUTIVE SUMMARY

The purpose of this Demographic and Enrollment Analysis for the Glendale Elementary School District (District) is to identify current and historic demographic, development and enrollment trends, and to anticipate future trends to create District-level and sub-District enrollment projections by grade through 2028/29. The Demographic and Enrollment Analysis for the 2018/19 school year incorporates updated information on enrollment, housing and occupancy rates, household and population characteristics and residential development. The following is a summary of major findings.

- Total Kindergarten through 8th grade (K-8) enrollment on the 40th day of school in the 2019/20 year was 11,449 students, down 455 students (3.8 percent) from 2018/19. This represents the sixth consecutive year of decline following three-year growth period from 2011/12 through 2013/14. Enrollment levels have been inconsistent, with periods of modest growth and decline, resulting in a net loss of about 2,500 students since peaking at roughly 13,900 in 2006/07. Heavy losses between 2007/08 and 2010/11 were driven by poor economic conditions after the collapse of the housing market. District enrollment reached a low of 12,700 students in 2010/11 following four consecutive years of decline. A short-lived period of increasing enrollment that began in 2011/12 ended in 2014/15. Current K-8 enrollment is now below 2000/01 levels.

- Despite increasing occupancy rates and a modest amount of new construction activity in the District, the number of in-coming Kindergarteners continues to be impacted by the below average birth rates that began during the recession. This trend is likely to continue for several more years. The lagged effects of lower birth rates during the recession and the impact of increased competition from alternative education providers is evidenced by the significant decline in K-2 enrollment since 2014/15. The older cohorts generally follow the K-2 trends in succession, which explains the recent declines in the 3-5 and 6-8 cohorts; enrollment in the 6-8 cohort declined this year for the first time since a slight drop occurred in 2014/15.

- Enrollment is fairly evenly distributed throughout the residential areas of the District, although about 66 percent of in-District students reside west of Grand Avenue. This is primarily due to a higher concentration of multifamily and higher-density single family housing in this area. Lower concentrations of enrollment in the northeast part of the District may be due in part to increased competition from charter schools. About 560 enrolled students (4.7 percent) reside outside District boundaries. This is down significantly from the 720 out-of-District students that were enrolled in 2016/17, but relatively similar to the number of out-of-District students that were enrolled last year.

- Enrollment declines during the past five years were widespread throughout the District but concentrated in the grids east of Grand Avenue and south of Glendale Avenue. This new pattern is likely due to the numerous charter schools that are located just outside of the District's southern border; these schools have recently experienced significant K-8 enrollment growth, a topic that will be discussed later in this report. The small number of grids that saw an increase in enrollment since 2013/14 are more numerous in the eastern half of the District, where there has tended to be less competition from alternative providers.

- Between 2000 and 2010, Census data on the age of householders shows declines in the age categories that drive elementary enrollment (25 to 34 and 35 to 44) and growth in the 45 to 54 age group, which drives secondary enrollment; these trends have continued into 2018 and the

share of householders over 55 years has increased considerably. The highest annual growth rate in the past eight years was in householders aged 55 to 64 years, which is indicative of the aging-in-place that is occurring in many neighborhoods within the District.

- In the 2018/19 school year there were two charter schools serving K-8 students within the District and an additional 10 charter schools operating within a mile of District boundaries. In total, these 12 schools enroll nearly 4,700 K-8 students. A new charter school, Academy of Math and Science Glendale, is under construction in the District (45th Avenue and Glendale) and is currently enrolling Kindergarten through 7th grade students for the 2019/20 school year. Charter school enrollment in 2018/19 totaled nearly 4,700 students, which represents a 74 percent increase over the 2,700 students enrolled in 2014/15. This dramatic increase is largely due to the opening of three new nearby schools in 2015/16 (Ethos Academy, Academy of Math and Science Camelback and Western School of Science and Technology) and another this year (Edison School of Innovation); together, these four schools enrolled nearly1,900 K-8 students in 2018/19.

- Residential development in the District has been modest during the past ten years, which is typical of a mature area that is mostly built-out. Fewer than 600 net new housing units were added during the decade, or less than 60 per year and single family housing accounted for 84 percent of all units added.

- The identified residential potential in the District is estimated to be less than 5,000 units. Only about 40 percent of the total potential is for single family housing, due to the lack of available land for development. Multifamily housing has not been a major contributor to new housing in recent years, but there is significant long-term future potential. Residential development is expected to surge in the next year and remain strong for another three years as several new single family subdivisions and multifamily projects enter production. Single family growth is expected to slow in the middle of the projection period while multifamily remains active. Housing production in the last half of the projection period is expected to be somewhat higher than in recent years, but still limited.

- Projections of the District's school-age population and enrollment-population (EP) ratio suggest that enrollment will decline by an average of 260 students per year during the first five-year period (through 2024/25); losses are expected to continue during the second four years of the projection period, but at a slower rate (with declines averaging about 150 students per year). Overall, the projections result in a net decrease of about 1,900 students over the next nine years for enrollment totaling 9,542 students by 2028/29, which represents a 16.7 percent decline in enrollment from current levels.

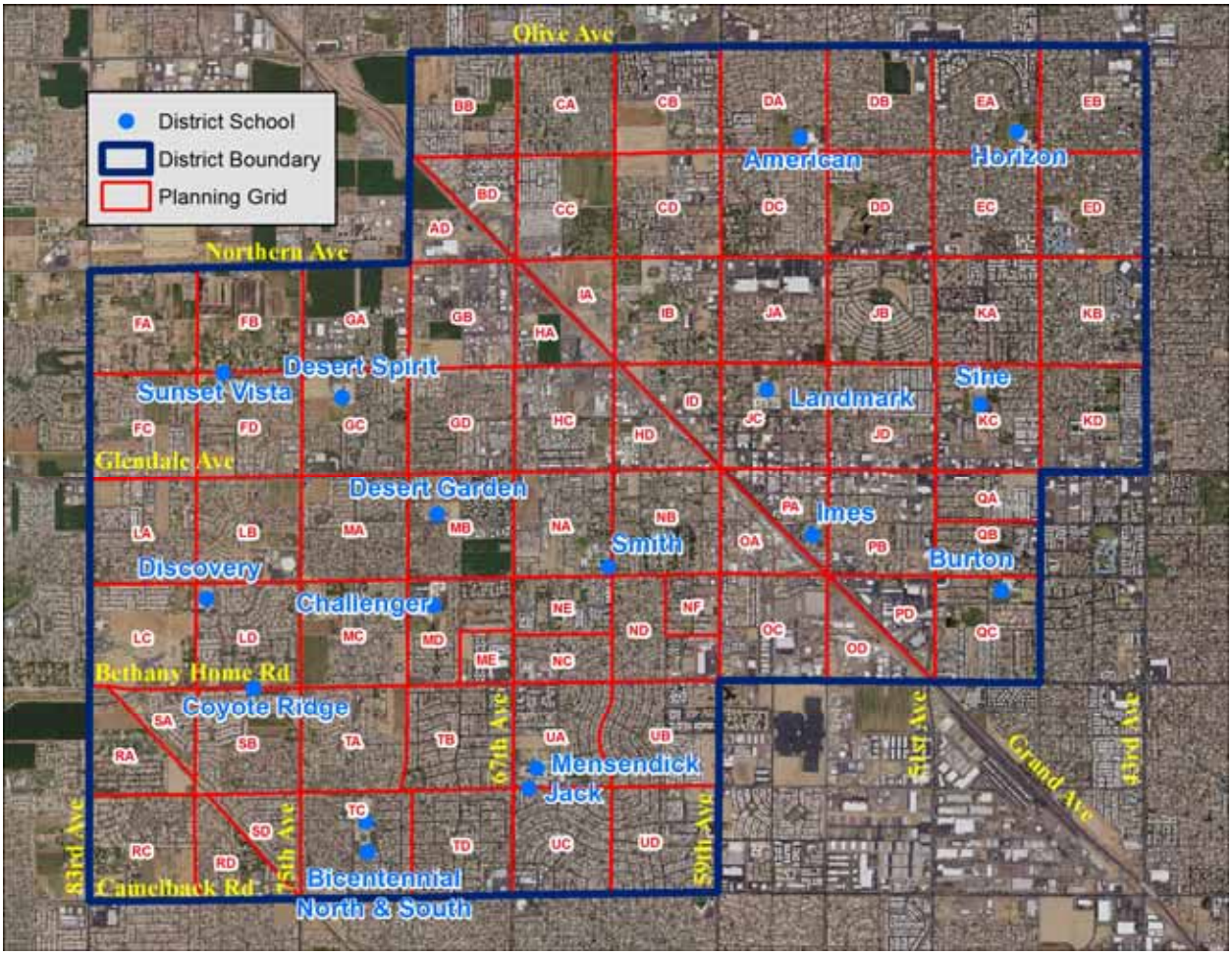
- Small-area projections indicate declines in enrollment in every attendance area, except Bicentennial South, over the next five years; substantial declines (over 20 percent) are projected in the Discovery, Horizon and Sine areas during this period. Overall, enrollment in nine of the 17 attendance areas is projected to decline by 10 percent or more by 2024/25. Losses moderate during the second 5-year period and two attendance areas are expected to see minor enrollment gains (American and Bicentennial South); four of the 17 attendance areas are projected to have enrollment losses of 10 percent or more during the second half of the period.

1.0 INTRODUCTION

The demographic and enrollment analysis for the Glendale Elementary School District (District) incorporates information on current and historic enrollment, housing occupancy rates and residential development and demographic characteristics into 10-year enrollment projections. The District is split into 75 sub-areas, or grids, as shown in **Map 1.** Most of the grids are quarter-sections of approximately 160 acres each, except along Grand Avenue and the Grand Canal in the southwestern corner of the District where the quarter-sections are split diagonally. Four other quarter-sections are also split in order to coincide with attendance area boundaries.

In addition to the District-wide enrollment forecasts, this report includes enrollment projections at the grid level. These small-area projections provide sufficient detail to support facility and attendance area planning activities and are developed by combining the location of current students by grid with the expected number of housing additions and the students generated from that new housing.

MAP 1
DISTRICT LOCATION AND PLANNING GEOGRAPHY



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The balance of this report is 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.

Section 3, Residential Development, presents information on current construction activity, vacancy rates and the potential future supply of new housing by unit type. It provides housing growth forecasts using estimates of construction timing based on current activity, ownership and zoning status of vacant land available for residential development.

District-level enrollment projections are provided in Section 4. These projections are created by combining the expected residential housing additions with the existing District population, accounting for regional and local trends in socioeconomic conditions.

Section 5, Sub-District Projections, describes the anticipated change in enrollment within the District based on factors, such as additions to housing inventory, occupancy rates and population per household trends. These projections are created by combining the grid location of current students in the District with the expected number of housing additions, the school-age persons generated from them, and the likely share of those persons that will attend a District school. The small-area projections are aggregated by current attendance area in order to provide baseline projections, but they can also be summed to examine alternative attendance areas. These projections are then adjusted to predict enrollment by school based on the current relationship between where students live and where they attend school.

The information and observations contained in this report are based on our present knowledge of the land use and development patterns of the area under analysis, the current physical and socioeconomic conditions of the affected areas, and regional forecasts. Estimates and projections made in this report are based on hypothetical assumptions. However, 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.

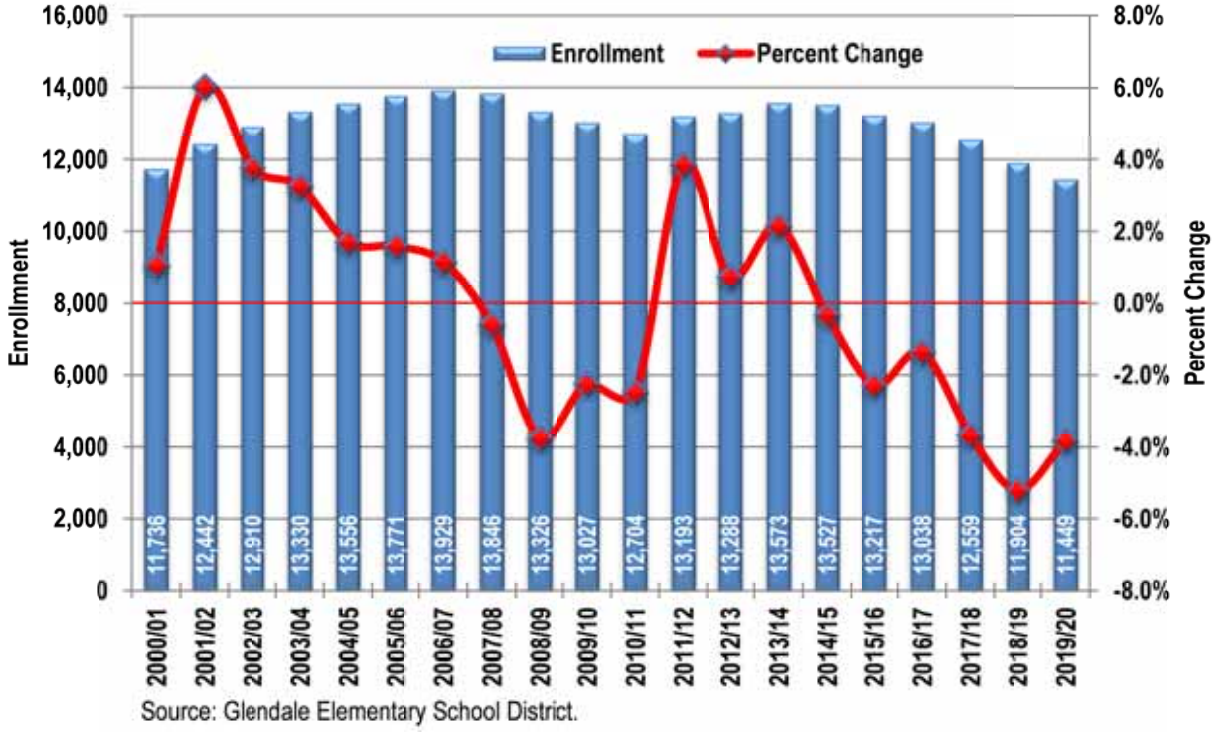
2.0 EXISTING CONDITIONS

2.1 ENROLLMENT

Total Kindergarten through 8th grade (K-8) enrollment on the 40th day of school in the 2019/20 year was 11,449 students, down 455 students (3.8 percent) from 2018/19, as illustrated in **Figure 1**. This represents the sixth consecutive year of decline following three-year growth period from 2011/12 through 2013/14. Enrollment levels have been inconsistent, with periods of modest growth and decline, resulting in a net loss of about 2,500 students since peaking at roughly 13,900 in 2006/07. Heavy losses between 2007/08 and 2010/11 were driven by poor economic conditions after the collapse of the housing market. District enrollment reached a low of 12,700 students in 2010/11 following four consecutive years of decline. A short-lived period of increasing enrollment that began in 2011/12 ended in 2014/15. Current K-8 enrollment is now below 2000/01 levels.

Despite increasing occupancy rates and a modest amount of new construction activity in the District, the number of in-coming Kindergarteners continues to be impacted by the below average birth rates that began during the recession. This trend is likely to continue for several more years.

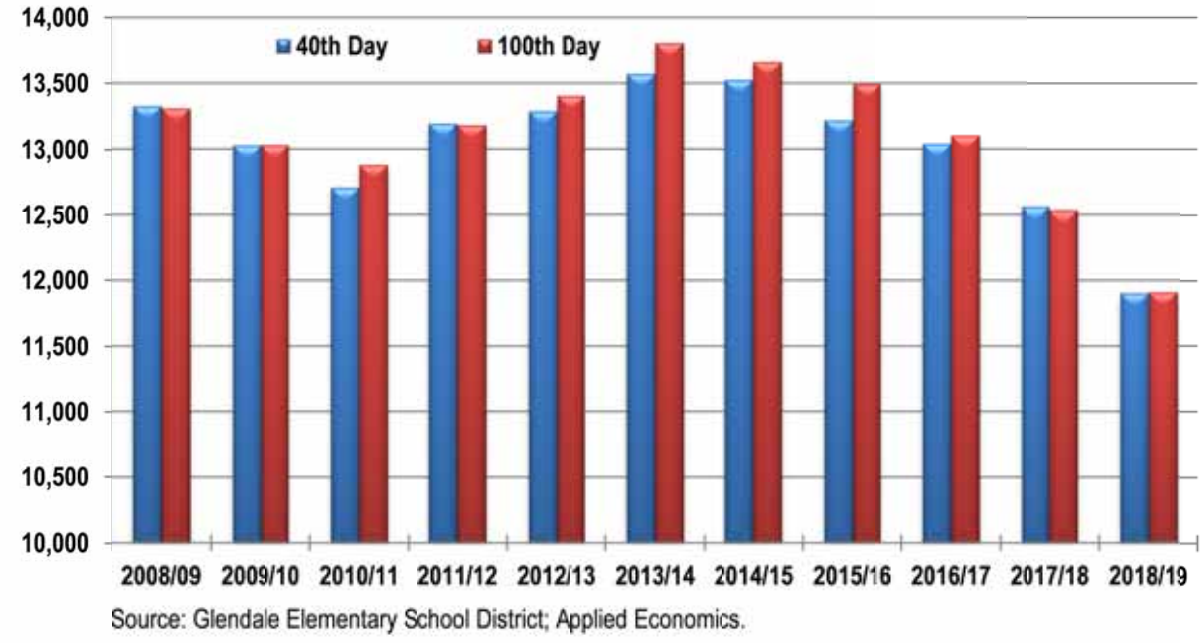
FIGURE 1
HISTORIC K-8 ENROLLMENT TRENDS



Source: Glendale Elementary School District.

Disparity between District enrollment on the 40th day and 100th day, shown in **Figure 2**, can have significant implications for staffing and budgeting. Beginning in 2013/14, the difference between these figures started widening. Roughly 140 students were added between the 40th and 100th day in 2014/15, while nearly 280 students were added in 2015/16. However, since 2013/14 the gains in 100th day enrollment achieved each year have been lost in the subsequent year as the 40th day enrollment figures continue to decline. These increases during the school year were likely driven by a relatively large in-flux of population during the economic recovery, as evidenced by falling housing vacancy rates. More new residents likely attend District schools initially, and then look at alternative providers the following year. Since 2016/17, vacancy rates have declined more slowly and the 40th day enrollment total remains nearly unchanged at the 100th day, being up only 8 students in 2018/19.

FIGURE 2
40TH VERSUS 100TH DAY ENROLLMENT

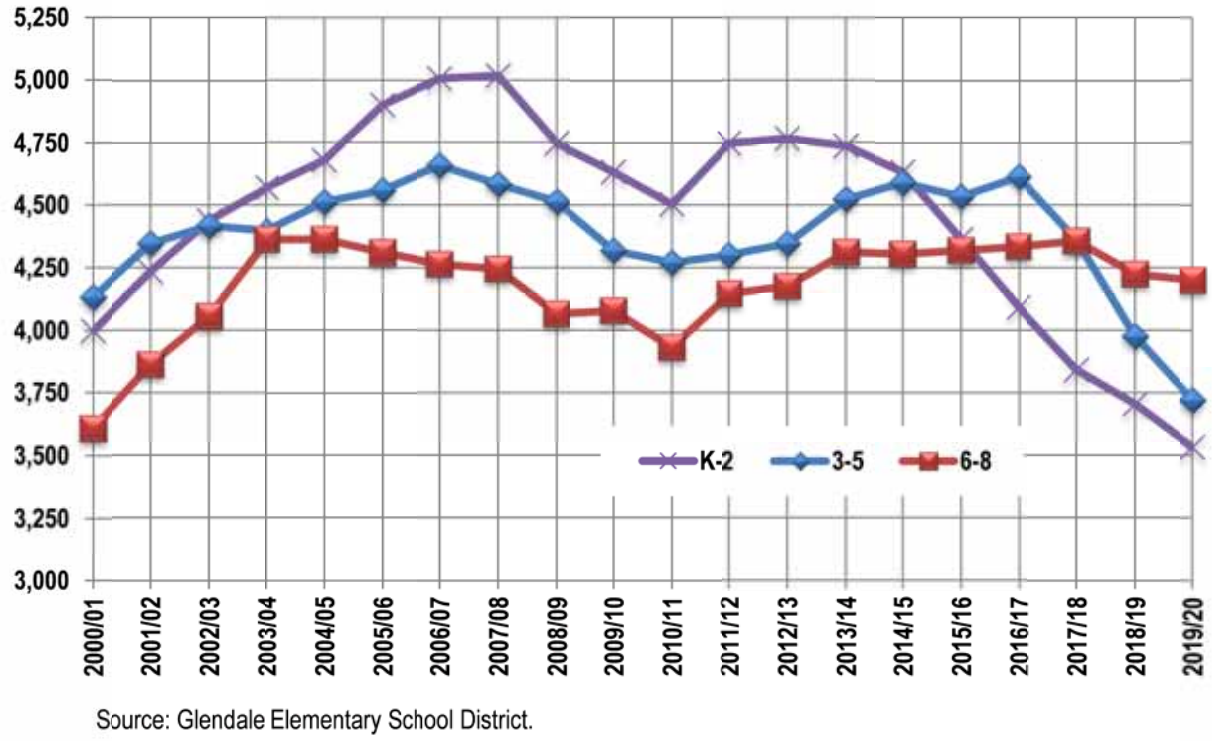


Source: Glendale Elementary School District; Applied Economics.

Figure 3 represents the historic distribution of students by grade cohort since the 2000/01 school year. For this purpose, the grades are grouped into equal sized cohorts, representing three grades each. This allows for comparison of relative cohort sizes over time. At the beginning of the period, the 3rd through 5th grade (3-5) cohort and the Kindergarten through 2nd grade (K-2) cohort were approximately equal sized, while the 6th through 8th grade (6-8) cohort was significantly smaller. This distribution is reflective of the affordable nature of much of the housing in the District, which attracted younger families, and the transient nature of the District's population.

Higher birth rates associated with the economic boom in the early 2000s resulted in substantial growth in the K-2 cohort, which peaked in 2007/08 with 18 percent more students than the 6-8 cohort in that year. However, when the recession hit the K-2 cohort was the most affected since many younger families left the District. While this cohort stabilized from 2011/12 through 2013/14, the lagged effects of lower birth rates during the recession and the impact of increased competition from alternative education providers is evidenced by the significant decline in K-2 enrollment since 2014/15. The older cohorts generally follow the K-2 trends in succession, which explains the recent declines in the 3-5 and 6-8 cohorts; enrollment in the 6-8 cohort declined this year for the second straight time since a slight drop occurred in 2014/15.

FIGURE 3
ENROLLMENT BY GRADE COHORT

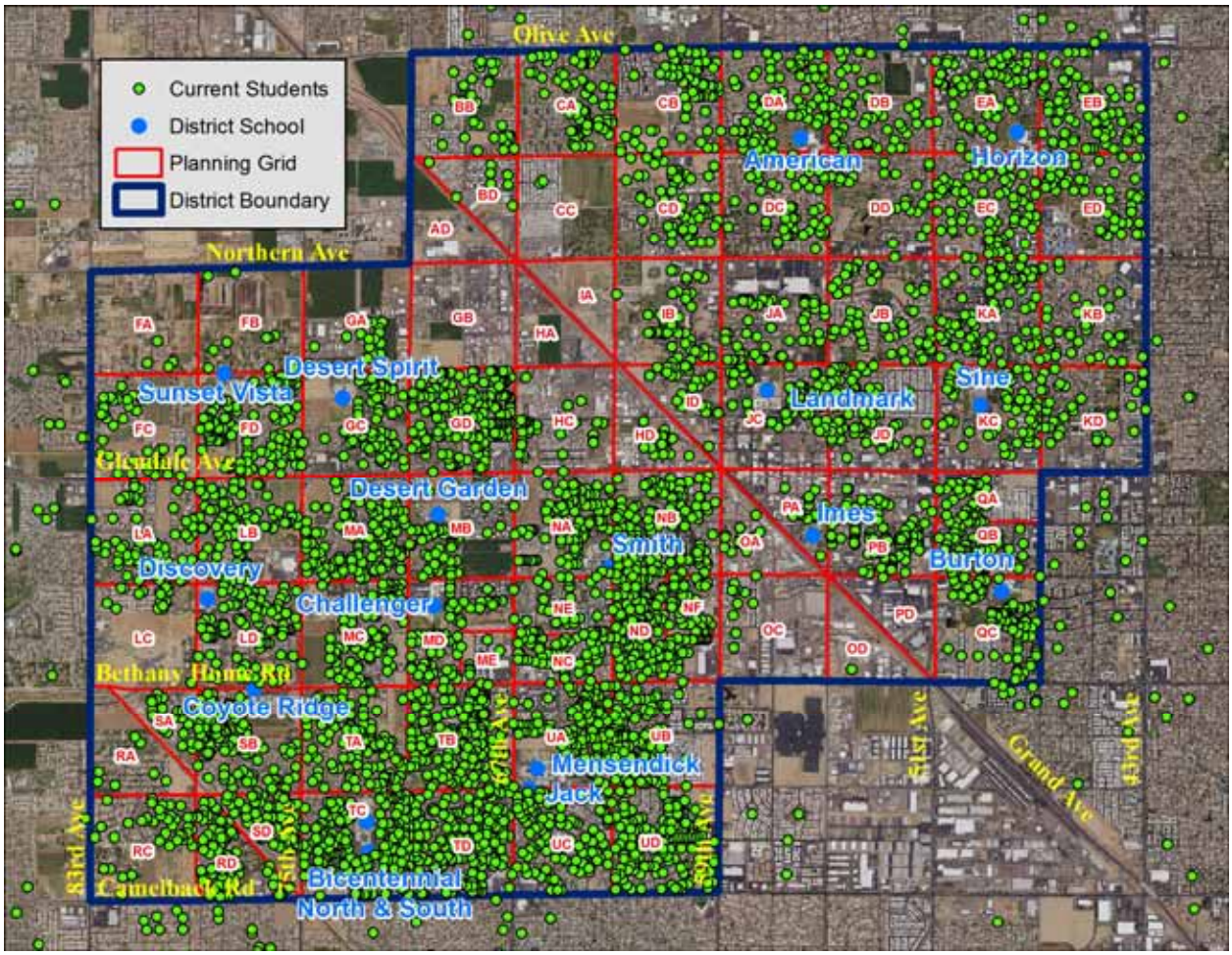


Source: Glendale Elementary School District.

Understanding how enrollment at the District level is behaving is important, but analyzing the trends for smaller areas of geography provides valuable insight into current conditions and what is likely to occur in the future. For this study, enrollment information by grid was compiled using data provided by the District. Address information was used to geocode the students and verify the District's grid assignments.

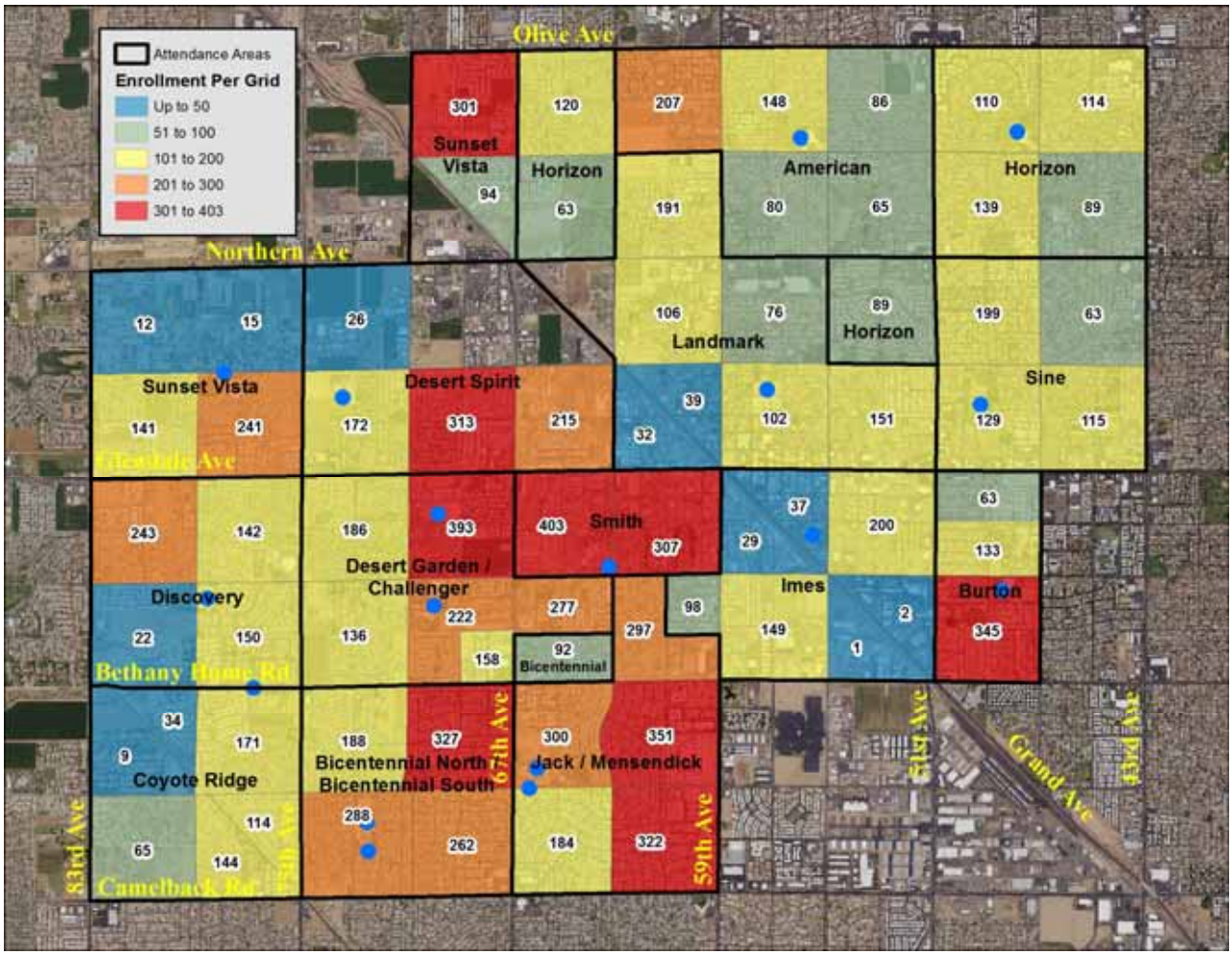
In addition to the distribution of enrollment by grade cohort, the geographic distribution of enrollment also provides valuable insight into the conditions and trends impacting the District. **Map 2** illustrates the geographic location of students enrolled in District schools in the 2018/19 school year. Enrollment is fairly evenly distributed throughout the residential areas of the District, although about 66 percent of in-District students reside west of Grand Avenue, up from 62 percent two years ago. This is primarily due to a higher concentration of multifamily and higher-density single family housing in this area. Lower concentrations of enrollment in the northeast part of the District may be due in part to increased competition from charter schools. About 560 enrolled students (4.9 percent) reside outside District boundaries. This is down significantly from the 720 out-of-District students that were enrolled in 2016/17, but relatively similar to the number of out-of-District students that were enrolled last year.

MAP 2
GEOGRAPHIC DISTRIBUTION OF STUDENTS ENROLLED IN DISTRICT SCHOOLS



Map 3 normalizes the distribution of the student point data by showing the number of students in each grid. The lowest levels of enrollment density are found in the industrial areas along Grand Avenue and on both sides of Northern Avenue in the western half of the District. The highest enrollment levels per grid are generally located west of Grand Avenue, in the residential areas between 59th and 67th Avenues, although two pockets of strong enrollment are located along Grand Avenue, in the southernmost and northernmost corners of the District.

MAP 3
CURRENT ENROLLMENT PER GRID



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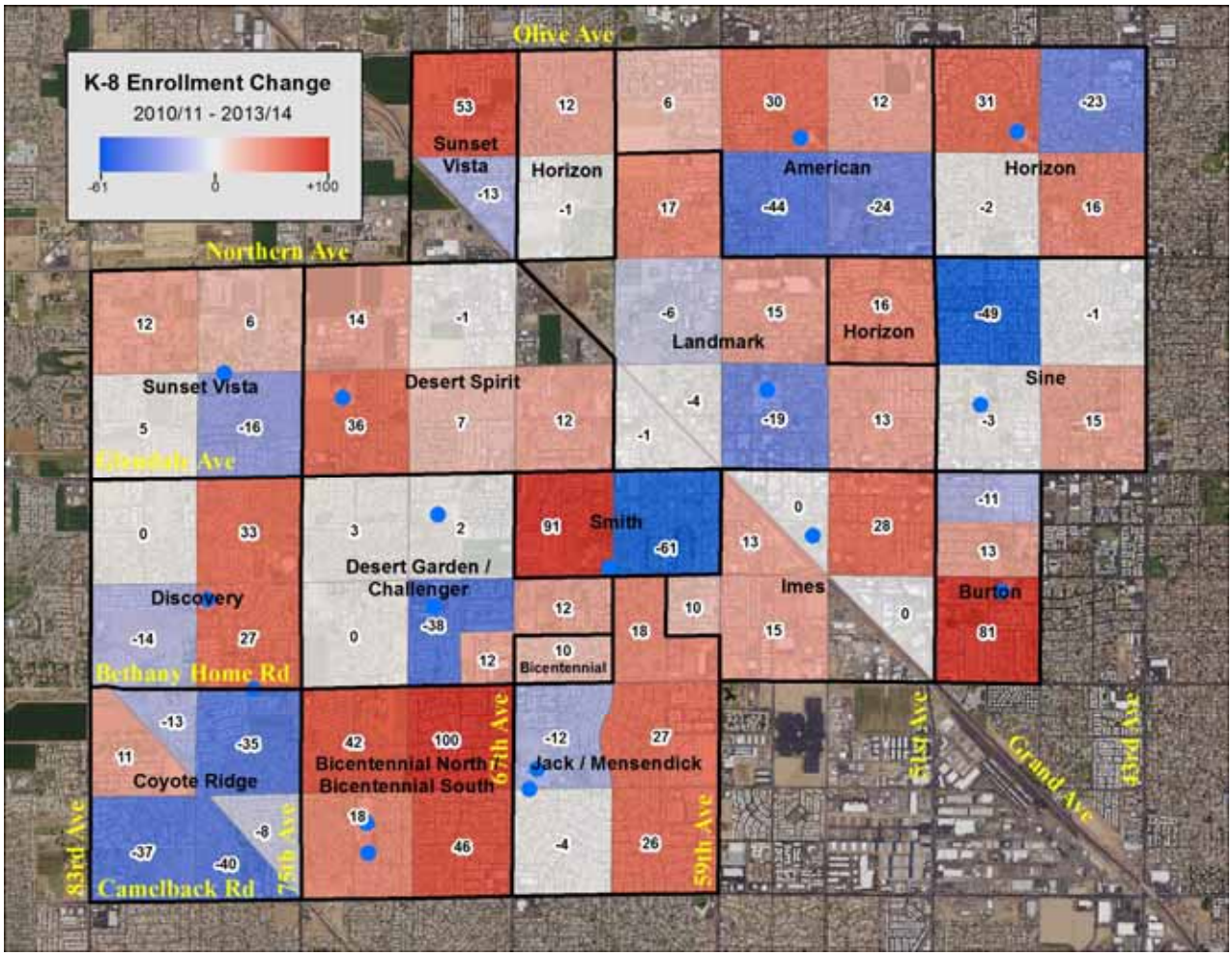
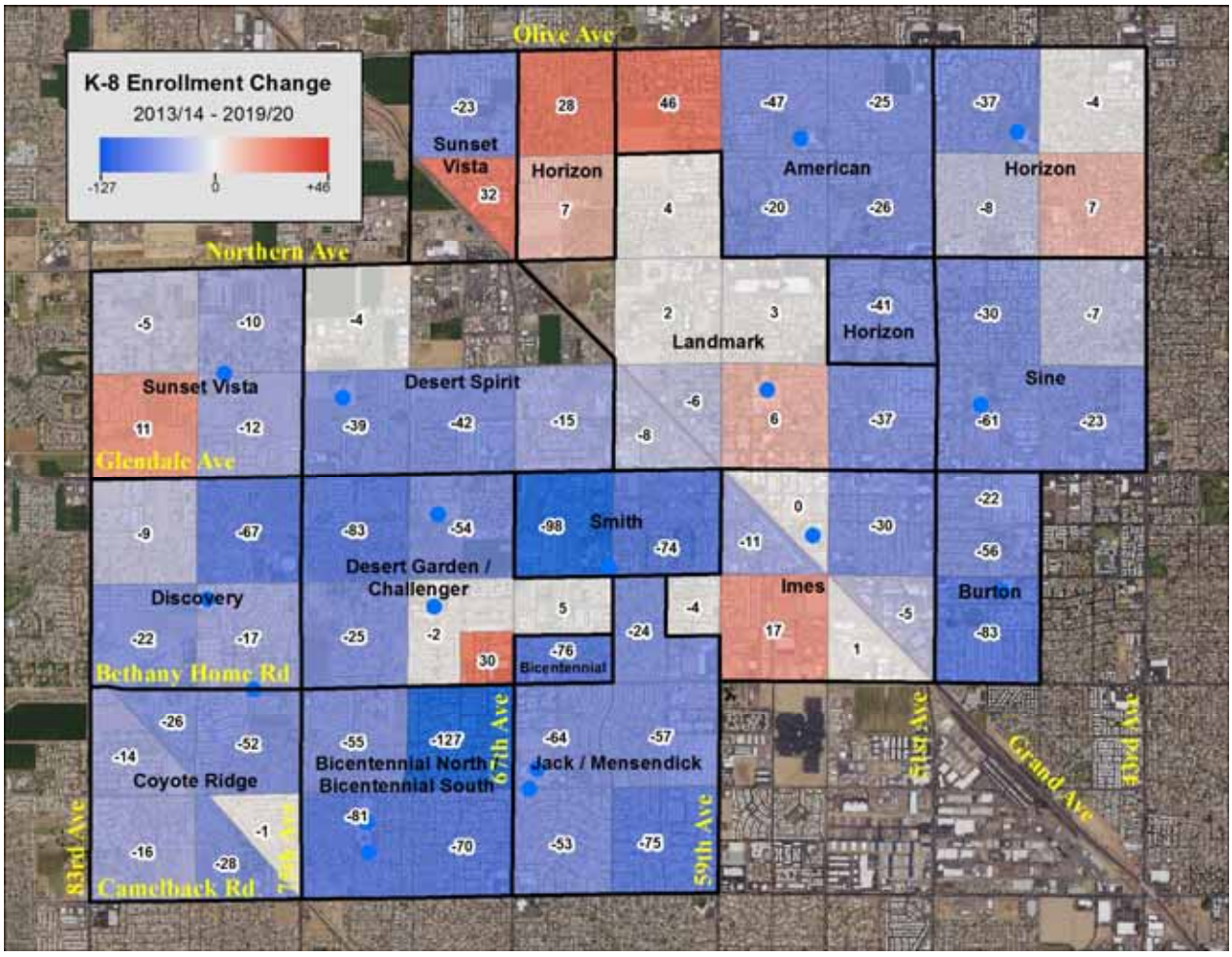
The change in enrollment by grid between 2010/11 and 2013/14 is illustrated in **Map 4.** It shows a widely scattered mix of enrollment gains and losses throughout the District. **Map 5** shows the change in enrollment by grid since 2013/14. Unlike the previous period, enrollment declines during the past five years were widespread throughout the District but concentrated in the grids east of Grand Avenue and south of Glendale Avenue. This new pattern is likely due to the numerous charter schools that are located just outside of the District's southern border; these schools have recently experienced significant K-8 enrollment growth, a topic that will be discussed later in this report. The small number of grids that saw an increase in enrollment since 2013/14 are more numerous in the eastern half of the District, where there has tended to be less competition from alternative providers.

MAP 4
CHANGE IN ENROLLMENT: 2010/11 – 2013/14



MAP 5
CHANGE IN ENROLLMENT: 2013/14 – 2019/20



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2.2 DEMOGRAPHIC TRENDS

Table 1 contains Census data on population and housing in the District for 2000 and 2010, along with estimates for 2018. Understanding changes in the population, age distribution, ethnic composition and housing characteristics can help explain recent enrollment trends, as well as predict future changes. The changes between 2010 and 2018 may be slightly smaller by comparison, but they reinforce trends revealed by the data from the previous Census. The percentage change from 2000 to 2010 and 2010 to 2018 is shown as a compound annual rate so that growth can be compared between the two time periods.

TABLE 1
DEMOGRAPHIC TRENDS

	2000 Census		2010 Census		2018 Estimate		Change 2000-2010		Change 2010-2018	
	Total	Percent	Total	Percent	Total	Percent	Total	Percent*	Total	Percent*
Population										
Total	90,501	100.0%	97,573	100.0%	108,327	100.0%	7,072	0.8%	10,754	1.3%
By Race & Ethnicity:										
White	45,253	50.0%	32,358	33.2%	35,565	32.8%	-12,895	-3.3%	3,207	1.2%
African American	5,415	6.0%	7,419	7.6%	9,307	8.6%	2,004	3.2%	1,888	2.9%
Native American	1,887	2.1%	1,702	1.7%	1,512	1.4%	-185	-1.0%	-190	-1.5%
Asian	1,775	2.0%	3,284	3.4%	4,193	3.9%	1,509	6.3%	909	3.1%
Hispanic	36,066	39.9%	52,671	54.0%	57,599	53.2%	16,605	3.9%	4,928	1.1%
Other	105	0.1%	139	0.1%	151	0.1%	34	2.9%	12	1.0%
By Age:										
Under 5	8,860	9.8%	9,100	9.3%	9,093	8.4%	240	0.3%	-7	0.0%
5 to 13	13,961	15.4%	15,509	15.9%	16,185	14.9%	1,548	1.1%	676	0.5%
14 to 17	5,451	6.0%	6,554	6.7%	7,567	7.0%	1,103	1.9%	1,013	1.8%
18 to 21	6,563	7.3%	6,545	6.7%	6,394	5.9%	-18	0.0%	-151	-0.3%
22 to 54	42,252	46.7%	43,729	44.8%	49,034	45.3%	1,477	0.3%	5,305	1.4%
55 to 59	3,439	3.8%	4,436	4.5%	5,417	5.0%	997	2.6%	981	2.5%
60 to 74	6,500	7.2%	7,975	8.2%	10,448	9.6%	1,475	2.1%	2,473	3.4%
75 and up	3,475	3.8%	3,725	3.8%	4,188	3.9%	250	0.7%	463	1.5%
Housing Units										
Total	33,493	100.0%	37,623	100.0%	38,136	100.0%	4,130	1.2%	513	0.2%
Occupied	31,435	93.9%	31,884	84.7%	34,551	90.6%	449	0.1%	2,667	1.0%
Owner	16,620	49.6%	15,789	42.0%	15,204	39.9%	-831	-0.5%	-585	-0.5%
Renter	14,815	44.2%	16,095	42.8%	19,347	50.7%	1,280	0.8%	3,252	2.3%
Vacant	2,058	6.1%	5,739	15.3%	3,585	9.4%	3,681	10.8%	-2,154	-5.7%
By Unit Type:										
Single Family	20,260	60.5%	22,890	60.8%	23,344	61.2%	2,630	1.2%	454	0.2%
Multifamily	13,233	39.5%	14,733	39.2%	14,792	38.8%	1,500	1.1%	59	0.0%
Households										
Total	31,435	100.0%	31,884	100.0%	34,551	100.0%	449	0.1%	2,667	1.0%
By Age of Householder:										
15 to 24	3,085	9.8%	2,410	7.6%	2,089	6.0%	-675	-2.4%	-321	-1.8%
25 to 34	6,972	22.2%	6,148	19.3%	6,462	18.7%	-824	-1.2%	314	0.6%
35 to 44	7,040	22.4%	6,738	21.1%	6,864	19.9%	-302	-0.4%	126	0.2%
45 to 54	5,550	17.7%	6,761	21.2%	7,656	22.2%	1,211	2.0%	895	1.6%
55 to 64	3,640	11.6%	4,692	14.7%	5,847	16.9%	1,052	2.6%	1,155	2.8%
65 to 74	2,740	8.7%	2,763	8.7%	3,204	9.3%	23	0.1%	441	1.9%
Over 75	2,345	7.5%	2,372	7.4%	2,429	7.0%	27	0.1%	57	0.3%
Population Per	2.88		3.06		3.14		0.18	0.6%	0.08	0.3%

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

* Annual compound rate of change.

Population growth in the 1990's was largely due to the revitalization of downtown Glendale, rather than the construction of new housing. Improved occupancy rates continued in the early-to-mid 2000s, but then declined dramatically in the last few years of the decade, following the collapse of the housing market. In total, the District's population grew by nearly 7,100 people from 2000 to 2010, equating to an annual growth rate of 0.8 percent, compared to 1.3 percent annual growth from 2000 to 2018. Between 2010 and 2018 the occupancy rate improved dramatically (from 85 to 91 percent), resulting in a higher annual growth rate and the addition of nearly 10,800 residents.

The age distribution of the population remained relatively stable between 2000 and 2010, with slight decreases in the 22 to 54 year old population as a share of total population, and increases in the 55 to 74 year old cohort. This can be attributed to the disproportionate effect of the economic collapse on younger householders. Between 2010 and 2018, lower recession-era birth rates resulted in virtually no growth in the population under 5 years and the school-age (5 to 13 years) population. Overall, the share of the population that is 13 years or younger dropped from 25 to 23 percent between 2010 and 2018, which is a significant factor impacting future District enrollment. The fastest growing segment between 2010 and 2018 was the population over 54 years, suggesting aging-in-place of existing homeowners. Despite limited growth in the younger cohorts, population per household increased from 2.88 to 3.06 between 2000 and 2010, and increased further in 2018, to 3.14.

Between 2000 and 2010, more than 4,100 housing units were added to the inventory, equating to a compound annual growth rate of 1.2 percent. Between 2010 and 2018, however, the annual growth rate dropped to 0.2 percent with the addition of just 513 units. The mix of single and multifamily units has remained relatively unchanged during this time period; in fact, the District has maintained about a 60/40 split between single family and multifamily units over the past 18 years.

Between 2000 and 2010, Census data on the age of householders shows declines in the age categories that drive elementary enrollment (25 to 34 and 35 to 44) and growth in the 45 to 54 age group, which drives secondary enrollment; these trends have continued into 2018 and the share of householders over 55 years has increased considerably. The highest annual growth rate in the past eight years was in householders aged 55 to 64 years, which is indicative of the aging-in-place that is occurring in many neighborhoods within the District.

While rental units turn over more frequently, they usually maintain a similar householder profile from one tenant to the next. Although owner-occupied units tend to turnover less frequently, the lower mobility rates that resulted from the recession may have held older homeowners in place even longer, leading to enrollment declines in some areas. In the long-term, there is potential for increased housing turnover and some regeneration of the school-age population, however, these population changes happen much more slowly than those that result from new construction, and hence have a lesser impact on short-term enrollment levels.

2.3 ALTERNATIVE EDUCATION 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. In the 2018/19 school year there were two charter schools serving K-8 students within the District and an additional 10 charter schools operating within a mile of District boundaries, as listed on **Table 2**. In total, these 12 schools enroll nearly 4,700 K-8 students. A new charter school, Academy of Math and Science Glendale, is under construction in the District (45th Avenue and Glendale) and is currently enrolling Kindergarten through 7th grade students for the 2019/20 school year. The largest nearby schools are the Academy of Math and Science Camelback (1,140 K-8 students) and Imagine Cortez Park, which enrolled nearly 800 students between its elementary and middle campuses at the beginning of the 2018/19 school year.

TABLE 2
ENROLLMENT IN LOCAL NON-DISTRICT SCHOOLS

Charter Schools:

School Name	Address	City	Zip	Grades	Total K-8*
Charter Schools - In District					
Camelback Academy	7634 W. Camelback Road	Glendale	85303	KG-8th	555
Ethos Academy	8840 N. 43rd Avenue	Glendale	85302	KG-8th	354
Academy of Math and Science Glendale	4520 W. Glendale Avenue	Glendale	85301	KG-7th	---
Total In-District					909
Charter Schools - Nearby**					
ACCLAIM Academy	7624 W. Indian School Road	Phoenix	85033	KG-8th	380
Academy of Math and Science Camelback	6633 W. Camelback Road	Phoenix	85033	KG-8th	1,143
Imagine Cortez Park Elementary	3535 W. Dunlap Avenue	Phoenix	85051	KG-5th	556
Imagine Cortez Park Middle	3535 W. Dunlap Avenue	Phoenix	85051	6th-8th	240
North Pointe Preparatory	10215 N. 43rd Avenue	Phoenix	85051	7th-12th	243
Westland School	4141 N. 67th Avenue	Phoenix	85033	KG-12th	201
Westland School Brighton Campus	8632 W. Northern Avenue	Glendale	85305	KG-12th	217
Great Hearts Academies- Maryvale Prep	6301 W. Indian School Road	Phoenix	85033	KG-8th	414
Western School of Science and Technology	6515 W. Indian School Road	Phoenix	85033	7th-12th	207
Edison School of Innovation (New)	8340 W. Northern Avenue	Glendale	85305	KG-8th	183
Total Neaby					3,784
Grand Total					4,693

Source: Arizona Department of Education; Applied Economics, 2019.

* 2018-19 ADM

** Charter schools located within approximately one mile of the District's boundaries.

*** Opening 2019/20.

Private Schools:

School Name	Address	City	Zip	Grades	Total K-8
Private Schools - In District					
Grace Lutheran School	5600 W. Palmaire Avenue	Glendale	85301	KG-8th	103
Our Lady Of Perpetual Help	7521 N. 57th Avenue	Glendale	85301	KG-8th	256
Total In-District					359
Private Schools - Nearby*					
Glenview Adventist Academy	6801 N. 43rd Avenue	Phoenix	85019	KG-8th	119
St Louis The King School	4331 W. Maryland Avenue	Glendale	85301	KG-8th	230
Total Nearby					349
Grand total					708

Source: NCES Private School Universe Survey (PSS), 2015-16 Data, 2019; Applied Economics 2019.

* Private schools located within approximately one mile of the District's boundaries.

In the 2015/16 school year (the most recent data available) there were two private K-8 schools located in the District, with about 360 students, and another two within a mile of District boundaries that enroll an additional 350 students. The largest of these private schools are Our Lady of Perpetual Help and St. Louis The King, with 2015/16 enrollment of more than 200 students each.

Table 3 shows the charter enrollment by grade since 2010/11. Charter school enrollment in 2018/19 totaled nearly 4,700 students, which represents a 74 percent increase over the 2,700 students enrolled in 2014/15. This dramatic increase is largely due to the opening of three new nearby schools in 2015/16 (Ethos Academy, Academy of Math and Science Camelback and Western School of Science and Technology) and another this year (Edison School of Innovation); together, these four schools enrolled nearly1,900 K-8 students in 2018/19.

TABLE 3
HISTORIC ENROLLMENT IN LOCAL CHARTER SCHOOLS BY GRADE

Year	# Schools	KG	1st	2nd	3rd	4th	5th	6th	7th	8th	Total	Change
In District												
2010-11	1	82	64	70	51	55	40	54	25		441	
2011-12	1	77	76	74	70	57	52	44	53	27	530	89
2012-13	1	75	62	75	74	68	49	43	39	41	526	(4)
2013-14	1	69	70	68	62	68	59	46	36	36	514	(12)
2014-15	1	68	73	71	72	59	62	51	41	33	530	16
2015-16	2	116	82	83	80	69	59	59	42	39	629	99
2016-17	2	94	113	88	94	83	67	60	59	40	698	69
2017-18	2	117	98	134	96	92	87	82	75	58	839	141
2018-19*	2	112	117	104	110	97	99	104	84	82	909	70
Nearby**												
2010-11	6	170	162	154	157	158	144	142	299	276	1,662	
2011-12	6	193	174	177	157	169	161	163	311	307	1,812	150
2012-13	6	226	207	203	193	149	156	154	331	312	1,931	119
2013-14	6	243	240	195	183	196	163	157	316	324	2,017	86
2014-15	7	245	250	235	223	199	230	159	308	321	2,170	153
2015-16	9	362	285	302	272	284	236	262	441	455	2,899	729
2016-17	9	344	357	310	306	285	292	272	517	428	3,111	212
2017-18	9	317	352	345	316	337	298	334	550	512	3,361	250
2018-19*	10	474	400	386	390	367	396	325	512	534	3,784	423
Total												
2010-11	7	252	226	224	208	213	184	196	324	276	2,103	
2011-12	7	270	250	251	227	226	213	207	364	334	2,342	239
2012-13	7	301	269	278	267	217	205	197	370	353	2,457	115
2013-14	7	312	310	263	245	264	222	203	352	360	2,531	74
2014-15	8	313	323	306	295	258	292	210	349	354	2,700	169
2015-16	11	478	367	385	352	353	295	321	483	494	3,528	828
2016-17	11	438	470	398	400	368	359	332	576	468	3,809	281
2017-18	11	434	450	479	412	429	385	416	625	570	4,200	391
2018-19*	12	586	517	490	500	464	495	429	596	616	4,693	493

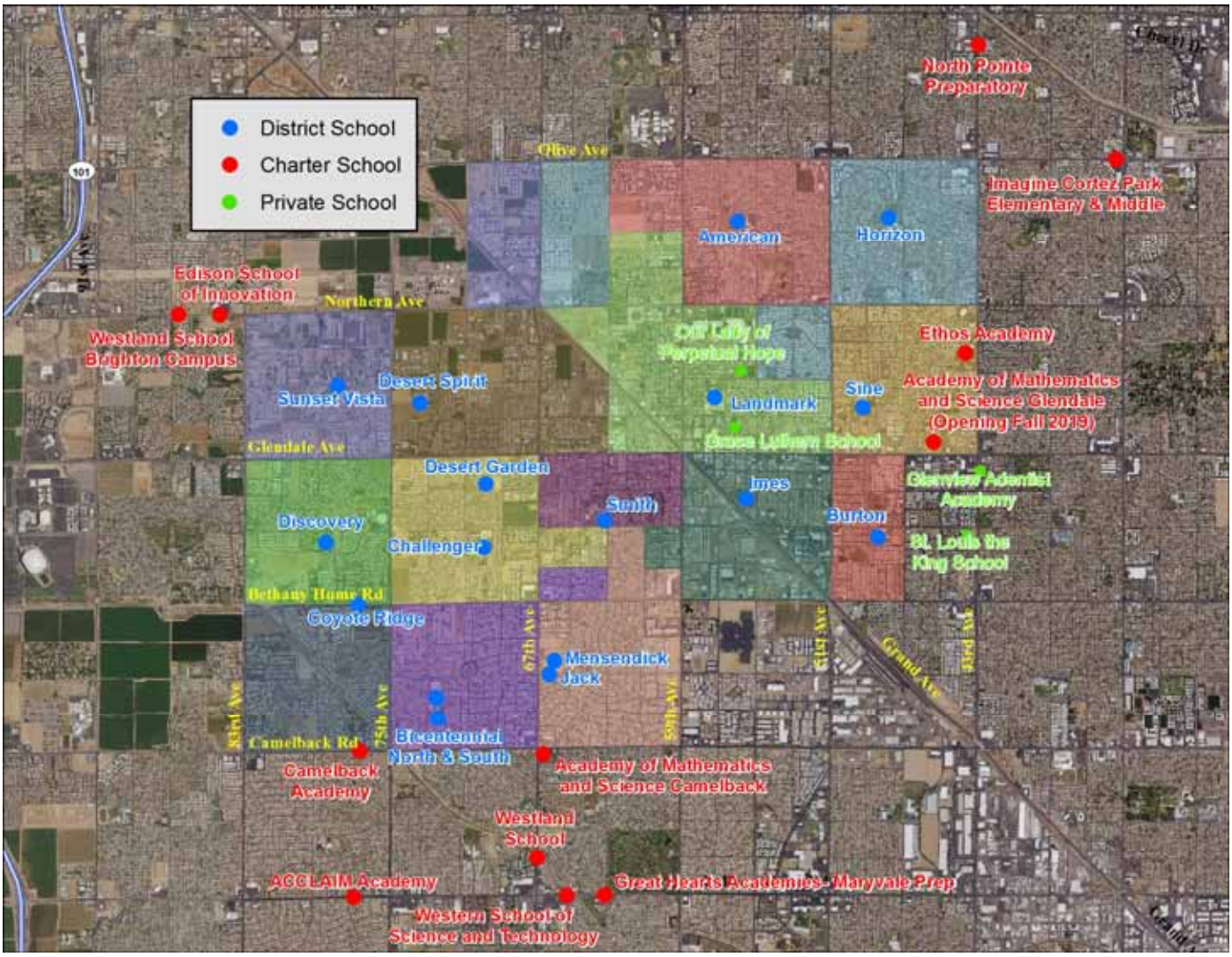
Source: Arizona Department of Education; Applied Economics, 2019.

* 2018-19 ADM

** Charter schools located within approximately one mile of the District's boundaries.

Map 6 shows the location of schools by type in the District. The largest of the charters, the Academy of Math and Science Camelback, is located just outside the District's southern border; since opening, the school has increased its enrollment drastically, growing from 397 students in 2015/16 to roughly 1,140 K-8 students this year, which likely had a significant effect on District enrollment in the area. The second largest, Imagine Cortez Park, is located about a mile east of the District's northeast border, near 35th and Dunlap Avenues. The new Academy of Math and Science Glendale that is opening in 2019/20 is located just inside the District's eastern boundary (45th Avenue and Glendale) and is expected to cause significantly elementary enrollment declines in the District schools nearby.

MAP 6
AREA SCHOOLS BY ENTITY TYPE



3.0 RESIDENTIAL DEVELOPMENT

3.1 HOUSING CONSTRUCTION

Residential development in the District has been modest during the past ten years, as illustrated on **Table 4** below. This is not unusual for a mature area that is mostly built-out. Fluctuations in housing activity appear relatively pronounced due to the limited number of projects involved. Fewer than 600 net new housing units were added during the decade, or less than 60 per year. The spike in production in 2017/18 is attributable to rapid development at Alice Park.

The residential building permits shown below are grouped into housing categories that reflect correlations between the 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 or multifamily housing. Single family housing accounted for 84 percent of all units added, with a fairly even split between densities less than 3.5 lots-per-acre and over 4.5 lots-per-acre; this is due to the divergent development in the District, with low-density, infill housing concentrated in the area west of 67th Avenue and higher density construction more widely located throughout the District.

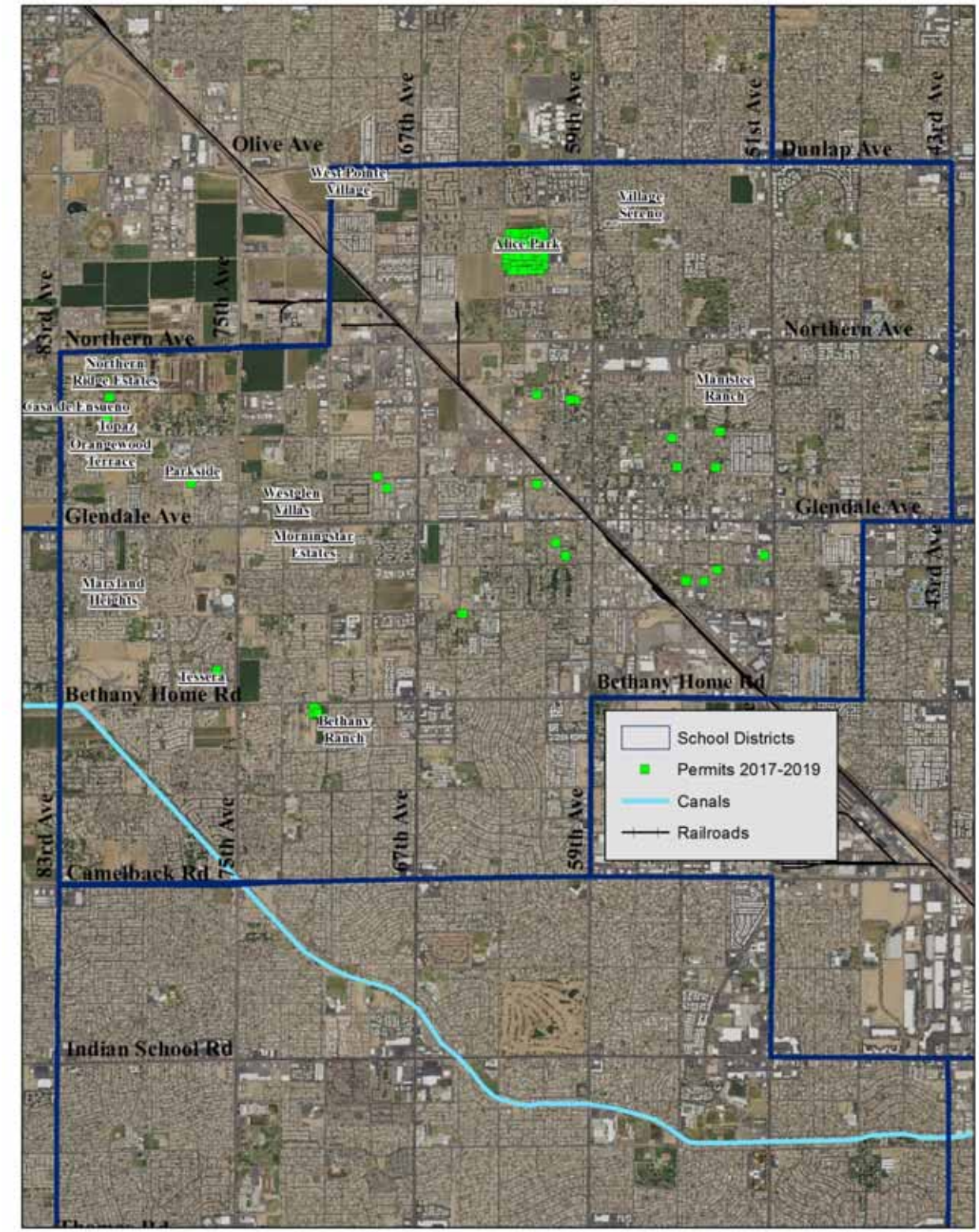
TABLE 4
HOUSING PERMITS

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	-	-	15	2	2	-	4	6	6	3	38
Single Family 2.01 - 3.5 du/ac	4	12	16	28	68	21	17	18	-	-	184
Single Family 3.51 - 4.5 du/ac	(1)	5	1	7	16	(5)	4	8	8	11	54
Single Family 4.51 - 6 du/ac	2	2	16	49	1	-	3	1	-	128	202
Single Family 6.01du/ac & Over	2	-	-	-	-	-	-	-	-	-	2
Total Single Family	7	19	48	86	87	16	28	33	14	142	480
Multifamily, Low Density	-	4	4	-	1	2	-	-	-	-	11
Multifamily, Standard Courtyard	-	28	-	-	-	-	-	-	-	-	28
Total Multifamily	-	32	4	-	1	2	-	-	-	-	39
Total Non-Retirement	7	51	52	86	88	18	28	33	14	142	519
Retirement Housing											
Multifamily, Low Density	-	-	-	-	-	-	-	-	52	-	52
Total	7	51	52	86	88	18	28	33	66	142	571

Sources: Maricopa Association of Governments; Construction Monitor; Maricopa County Assessor; Applied Economics, 2019.

Recent development activity in the District is illustrated on **Map 7,** which depicts housing permits issued from the end of 2017 to early 2019. There has been a heavy concentration of permit activity at Alice Park (63rd Avenue between Northern and Olive). A new area of concentration is at Bethany Ranch (71st Avenue and Bethany Home Road), a subdivision where housing construction began in early 2019.

MAP 7
RESIDENTIAL PERMITTING



APPLIED ECONOMICS

3.2 FUTURE DEVELOPMENT POTENTIAL

The identified residential potential in the District is estimated to be less than 5,000 units. This includes defined projects and raw land with development potential beyond a practical ten-year horizon. **Table 5** shows projected unit counts by type of product and the estimated time period that construction **could begin** on lots within those projects; it is also possible that some areas will not develop at all. The Infill category generally includes rural lots and small custom projects that are likely to be under development intermittently over a number of years; this type of development could be anywhere in the District, but it is more likely to be found in the western portion. Both the unit potential and the timing estimates on this table will change as new information is acquired.

Only about 40 percent of the total potential is for single family housing, due to the lack of available land for development. Multifamily housing has not been a major contributor to new housing in recent years, but there is significant long-term future potential. There are two dormant projects in the District, near 79th Avenue and Glendale Avenue, which were started in the 1970's but never completed; the condominium or triplex housing units that were built are occupied, but there has been no movement to complete these projects and none is expected in the foreseeable future. There is considerable activity forecast in the near-term (within the next one to three years), while development levels in the later years of the projection period are less certain.

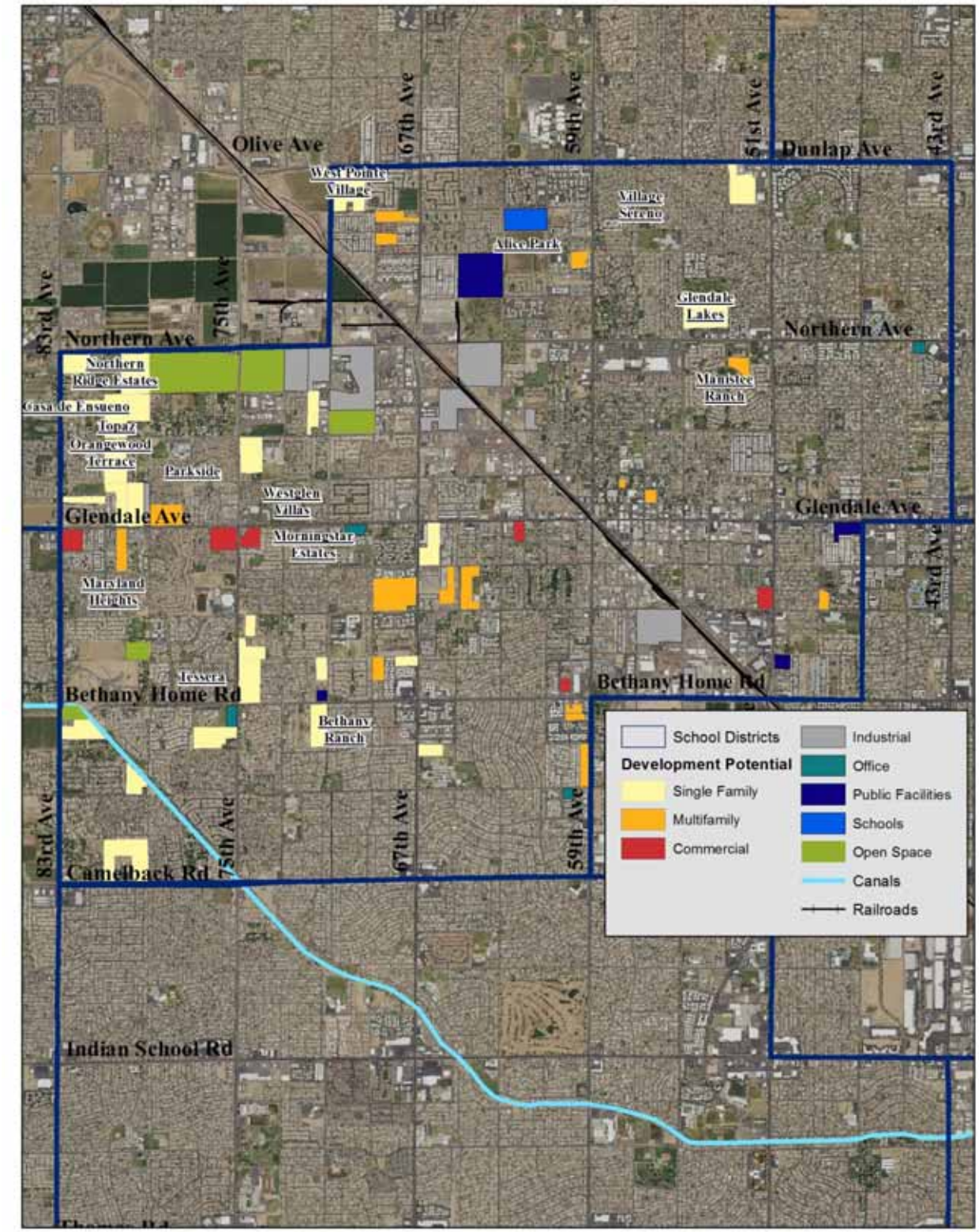
TABLE 5
POTENTIAL NEW HOUSING BY DEVELOPMENT TIMELINE

	Active		Vacant Land						
Housing Type	Projects	Infill	Dormant	1 Year	2-3 Years	3-5 Years	5-10 Years	10+ Years	Total
Single Family 2 du/ac or less	-	15	-	-	-	-	-	49	64
Single Family 2.01 - 3.5 du/ac	-	11	-	89	51	-	30	99	280
Single Family 3.51 - 4.5 du/ac	50	451	-	195	-	-	82	36	814
Single Family 4.51 - 6 du/ac	-	-	-	-	-	22	230	121	373
Single Family 6.01du/ac & Over	-	-	-	-	208	-	-	104	312
Single Family Attached	-	-	30	-	-	-	-	-	30
Manufactured Housing	-	-	-	-	-	-	-	-	-
Total Single Family	50	477	30	284	259	22	342	409	1,873
Multifamily, Low Density	-	-	44	96	350	76	-	161	727
Multifamily, Standard Courtyard	-	761	-	108	-	192	-	1,078	2,139
Total Multifamily	-	761	44	204	350	268	-	1,239	2,866
Total	50	1,238	74	488	609	290	342	1,648	4,739

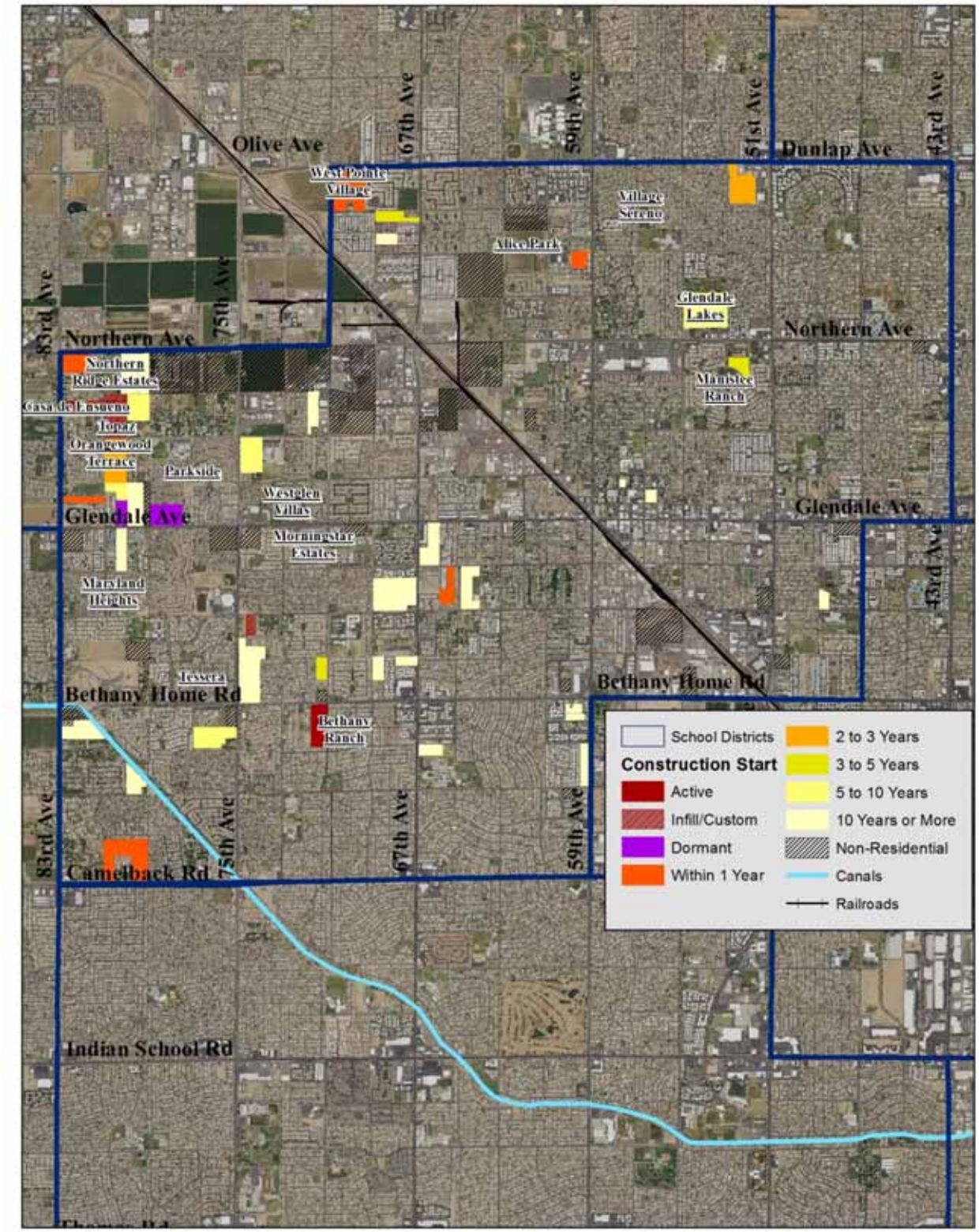
Sources: City of Glendale;Applied Economics, 2019.

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. There are a few vacant parcels in the northern part of the District, although most new growth is expected in the west, especially between 67th and 83rd Avenues. Other parcels could be opened by redevelopment, but since it is not possible to specifically identify them in advance that estimated potential is included in the Infill category.

MAP 8
FUTURE LAND USE



MAP 9
DEVELOPMENT TIMING



3.2.1 MARKET CONDITIONS

The overall state of the U.S. economy remains strong as the second longest economic expansion in over a century continues. According to data from the Bureau of Labor Statistics (BLS) the unemployment rate has averaged 4.0 percent over the first seven months of 2018, holding steady at 3.9 percent to 4.0 percent between April and July. Hourly earnings have increased, though modestly. Regional and local trends frequently differ from national ones, but overall economic conditions have increased household mobility, which is an important factor for Arizona where there is typically substantial in-migration from other regions of the country.

Conditions in the Phoenix metropolitan region continue to be positive. Population in Maricopa County has increased by 482,400 persons since the depths of the recession in 2010, reaching an estimated total population of 4,307,000 in July 2017. Growth has averaged 73,000 persons per year since 2012, but has been slightly above that for the last three years.

The civilian labor force in the Phoenix metropolitan area in the first half of 2018 increased by 18,900 persons according to preliminary BLS estimates, reaching 2,354,800 workers in July, while the number of unemployed persons fell by 4,400 during the year to 100,700. The July unemployment rate of 4.3 percent is higher than the low of 3.4 percent in May, but it is still a healthy rate that is lower than those seen in January and February of this year. The average of 4.1 percent through 2018 to date compares favorably to the 4.0 percent national average. There have been strong employment gains in the construction, manufacturing, and professional services sectors, with modest losses in the trade/transportation/utilities sector in 2018.

The 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. In June 2018, twelve years after the previous record, median house price reached $268,000, with prices still escalating, driven largely by low levels of 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 at 62.1 percent. Dallas and San Antonio, had indexes of 49.6 and 59.2 percent, respectively’ with Houston at 60.0 percent. Las Vegas was rated at 58.7 and Denver 50.3 percent. In the Southwest region, only Tucson and Albuquerque had higher affordability ratings at 72.7 and 71.6 percent, though they both are 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 nationwide with the highest sales, six are in Arizona. Texas has the greatest number of communities at 15 while Florida has four of the top seven selling master planned communities. However, Arizona has only a quarter the population of Texas, and a third of Florida. The Arizona communities are all located in the Phoenix metro area, but are widely dispersed from Eastmark in Mesa (#6) to 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, but caused alterations in the geographic direction of new development. The broad outcomes of some of this shifting can be seen in housing completions data from the Maricopa Association of Governments. The north and northeastern portions of the metro area accounted for about 15 to 20 percent of all single family

completions during the housing "boom" years of 2004 to 2006. Between 2007 and 2010, at the depth of the recession, these areas still accounted for 18 percent of single family completions and in the last three years about 21 percent. This is a low-growth region and generally affluent, showing higher levels of financial stability during the recession. The Southeast Valley has long been a desirable housing market, accounting for 36 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 17 percent. The onset of the recession reversed that trend, with the Southeast Valley increasing its market share from 19 to 38 percent between 2008 and 2011, and an average of 34 percent of single family completions over the past three years.

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, accounting for about 26 percent of the metro housing completions by 2006. The area's share of growth began falling during the recession and dropped to just 15 percent by 2011, increasing just slightly by 2017. In the Northwest Valley, new housing construction was also strong, averaging about 14 percent of the metro total from 2000 to 2006. The activity in the Northwest plummeted during the recession and currently accounts for only about 4 percent of the metro total.

While the housing market is improving, along with the economy overall, it has not returned to normal except possibly in terms of median sales price. In response to the disrupted housing market, developers and builders have altered or added products and strategies. Because of financial constraints there have been new product lines introduced for entry-level buyers by some builders, 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 challenges to the local residential market currently involve affordability, in particular for younger people. Impediments to purchasing a house delay new household formation. The primary factors for young people are high levels of student debt and difficulties in obtaining a down payment, according to a recent survey by real estate website PropertyShark. Since wage rates have not kept pace with housing cost increases, 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.

Higher 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 locations near social amenities, which is driving significant infill development in downtowns and other commercial areas. One method of providing affordable product is high-density housing on small infill lots. Single family rental complexes, such as those built by NexMetro (Avilla) and Christopher Todd, have proven to be very successful in recent years and more such properties are expected.

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 mixed signals 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, especially metro Phoenix, 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.

3.2.2 DEVELOPMENT PROJECTS

The residential market activity in the District has fluctuated in the past few years. While the recession slowed the housing market throughout the metro region, there was still a market for small projects with limited infrastructure costs, such as infill development in older neighborhoods with relatively low land costs. Ten non-retirement projects in the District were built-out after 2008, ranging from 58 acres to less than two, averaging about 18 acres and 58 housing units. Alice Park, which is expected to build-out in early 2019, has 187 lots on 35 acres. The housing market in the District is generally in an expansion period and activity is increasing, but it is limited somewhat due to the lack of available land.

Garrett-Walker Homes has become very active in the District. As Alice Park was building-out in early 2019, the company opened Bethany Ranch at 71st Avenue and Bethany Home Road. This subdivision consists of 56 single family lots with prices starting at about $224,000 as of early June 2019; build-out is expected to be attained in 2020.

The company has also started land preparation on West Pointe Village, at 71st Avenue and Olive (right). This project contains 89 single family lots on about 26 acres. Garrett-Walker is also working on a higher-density portion of this project on the west side of 71st Avenue, in the Peoria Unified School District, that is expected to be similar to Bethany Ranch. House production is expected later in 2019, with build-out in 2020/21.

KB Homes has begun ground preparation at 83rd Avenue and Northern for Northern Ridge Estates. This 53-lot subdivision is on about 12 acres and is scheduled to open in the fall of 2019.

At 79th Avenue and Camelback Road Taylor Morrison Homes has begun work on El Prado, a 119-lot subdivision on a 29 acre parcel (left). House construction is anticipated to begin in late 2019 and continue into 2021/22.

Aside from Alice Park and some infill construction, there has been little single family development in the last two to three years. Between 2013/14 and 2016/17 single family permitting averaged about 23 units per year; in 2019/20 there will be a total of 317 lots in four active subdivisions by three major builders. This is a substantial increase from previous activity levels, but it is not sustainable given the amount of land that is available.

There are two multifamily projects expected to begin construction in 2019/20 that should have an impact on District enrollment. At 59th Avenue, north of Northern, is a development called 59 Evergreen. This

will be a standard 96-unit, 2-story garden apartment complex. Plans for a "tot lot" and a larger share of three-bedroom units indicate the possibility for a significant level of family occupancy. Construction is expected to start in 2019. The other project, Libertad Glendale, is at 65th Avenue and Maryland (south of Glendale. This will be an affordable housing development that is targeted to families, and the 108 multifamily units are scheduled to open in 2020.

At a site at 51st Avenue and Olive/Dunlap, originally planned for retail development, Empire Group has plans for a high-density, single family rental project that will contain 208 units. The project has generated some controversy and approval at this time is not certain. If approved construction should be expected to start in late 2019 or early 2020 and proceed rapidly. The single family rental product has quickly gained popularity in the metro region, but there doesn't seem to be consistency in the resident make-up, so it is difficult to gauge the student impact.

Other projects that are expected to open in the first half of the projection period include Orangewood Terrace, a 51-lot low-density project at 79th Avenue and Orangewood (north of Glendale Avenue), and the final parcel at Manistee Ranch (51st and Northern) that is planned for 76 townhouse units. Neither of these projects will likely have a significant impact on District enrollment.

The Glendale Lakes Golf Course at 55th Avenue and Northern closed in March 2019. Discussions are ongoing with local residents about the future plans for the city-owned property; while little certain, apartments will not to be a component of any future development. If developed as conventional single family at densities similar to adjacent subdivisions, there could be about 90 to 120 lots with about three-quarters of the property developed as residential. Land values are higher now than when those subdivisions were built in the 1960's and 1970's, so higher densities should be expected, and around 150 lots would be a reasonable estimate as a conventional subdivision. The actual configuration will be determined in coming months, but development is not forecast to start for at least four to five years or later.

While there are no large tracts of available land in the District, there are a number of vacant parcels that could become available for development. These are primarily in the western portion of the District and are similar in size to parcels entering production now. Another factor that could increase new housing development is a change in 2019 in rules for tax credit projects that deemphasizes access to mass transit, such as light rail, in the approval process. This could prompt more interest in such projects in the District. It should be noted though, that tax credit projects could be for senior citizens rather than low income families.

In summary, residential development is expected to surge in the next year and remain strong for another three years as several new single family subdivisions and multifamily projects enter production. Single family growth is expected to slow in the middle of the projection period while multifamily remains active. Housing production in the last half of the projection period is expected to be somewhat higher than in recent years, but still limited; plans at Glendale Lakes could modify the timing of that forecast somewhat.

4.0 DISTRICT PROJECTIONS

4.1 POPULATION AND HOUSING

Long-term enrollment projections for the District are calculated based on regional growth trends, demographic characteristics and current school-age population data for the District. The District can expect an increase in new housing construction over the next five years as housing projects in the northern and western portions of the District enter production, as shown in **Table 6**. Infill development in the last half of the projection period will generally return to near current levels, although some increase in multifamily projects is anticipated.

TABLE 6
HISTORIC AND PROJECTED POPULATION AND HOUSING: 2010/11 – 2028/29

			New Units					
Year	Population	Total Units	Total	Single Family	Multi-family	Occ Rate	Households	Pop/HH
2010/11	97,573	37,623	51	19	32	84.7%	31,884	3.060
2011/12	101,192	37,675	52	48	4	87.5%	32,966	3.070
2012/13	101,162	37,761	86	86	0	87.0%	32,852	3.079
2013/14	102,887	37,849	88	87	1	88.0%	33,307	3.089
2014/15	106,765	37,867	18	16	2	91.0%	34,459	3.098
2015/16	105,992	37,895	28	28	0	90.0%	34,106	3.108
2016/17	106,644	37,928	33	33	0	90.2%	34,211	3.117
2017/18	107,342	37,994	66	14	52	90.4%	34,347	3.125
2018/19	108,327	38,136	142	142	0	90.6%	34,551	3.135
2019/20	109,104	38,207	71	71	0	90.8%	34,692	3.145
2020/21	110,815	38,663	456	248	208	91.0%	35,183	3.150
2021/22	112,126	38,907	244	244	0	91.2%	35,483	3.160
2022/23	113,322	39,162	255	113	142	91.4%	35,794	3.166
2023/24	114,235	39,359	197	15	182	92.0%	36,210	3.155
2024/25	114,170	39,423	64	36	28	92.0%	36,269	3.148
2025/26	114,234	39,522	99	91	8	92.0%	36,360	3.142
2026/27	114,398	39,658	136	118	18	92.0%	36,485	3.135
2027/28	114,612	39,832	174	96	78	92.0%	36,645	3.128
2028/29	114,571	39,902	70	48	22	92.0%	36,710	3.121
2019/20-2023/24			1,223	691	532		1,659	
2024/25-2028/29			543	389	154		500	

Source: Applied Economics, 2019.
Bolding indicates actuals.

Occupancy rates are expected to increase very slightly during the first five-year period and then remain constant at 92 percent for the remainder of the projection period. At the same time, per household population is expected to increase gradually through 2022/23 and then decline for the rest of the projection period, as the housing stock and resident population ages; typically, population per household will peak when neighborhoods are occupied for the first time. The District's overall population is expected to increase by nearly 6,300 people (5.8 percent) by 2028/29, reaching a total of about 114,600 people. An additional 2,170 households (6.3 percent) are expected to be created over the same period due to a combination of increased occupancy and new housing units.

4.2 ENROLLMENT

Table 7 shows the relationship between the school-age population in the District and the actual and projected District enrollment. This enrollment to population ratio, or EP ratio, shows the loss of students to other districts, charter and private schools, net of the 560 students coming to the District from elsewhere.

TABLE 7
STUDENT POPULATION, ENROLLMENT, AND CAPTURE: 2010/11 – 2028/29

		School-Age Population *		K-8 Enrollment		Net	Enrollment -
Year	Households	Total	Per Household	Total	Per Household	Difference	Population Ratio
2010/11	31,884	15,509	0.486	12,704	0.398	2,805	81.9%
2011/12	32,966	16,153	0.490	13,193	0.400	2,960	81.7%
2012/13	32,852	16,262	0.495	13,288	0.404	2,974	81.7%
2013/14	33,307	16,654	0.500	13,573	0.408	3,081	81.5%
2014/15	34,459	17,003	0.493	13,527	0.393	3,476	79.6%
2015/16	34,106	16,608	0.487	13,217	0.388	3,391	79.6%
2016/17	34,211	16,440	0.481	13,038	0.381	3,402	79.3%
2017/18	34,347	16,288	0.474	12,559	0.366	3,729	77.1%
2018/19	34,551	16,170	0.468	11,904	0.345	4,266	73.6%
2019/20	34,692	16,128	0.465	11,449	0.330	4,679	71.0%
2020/21	35,183	16,030	0.456	11,127	0.316	4,903	69.4%
2021/22	35,483	16,005	0.451	10,857	0.306	5,148	67.8%
2022/23	35,794	15,983	0.447	10,603	0.296	5,380	66.3%
2023/24	36,210	16,007	0.442	10,367	0.286	5,640	64.8%
2024/25	36,269	15,872	0.438	10,143	0.280	5,729	63.9%
2025/26	36,360	15,752	0.433	9,877	0.272	5,875	62.7%
2026/27	36,485	15,648	0.429	9,749	0.267	5,899	62.3%
2027/28	36,645	15,559	0.425	9,638	0.263	5,921	61.9%
2028/29	36,710	15,429	0.420	9,542	0.260	5,887	61.8%

Source: Applied Economics, 2019.

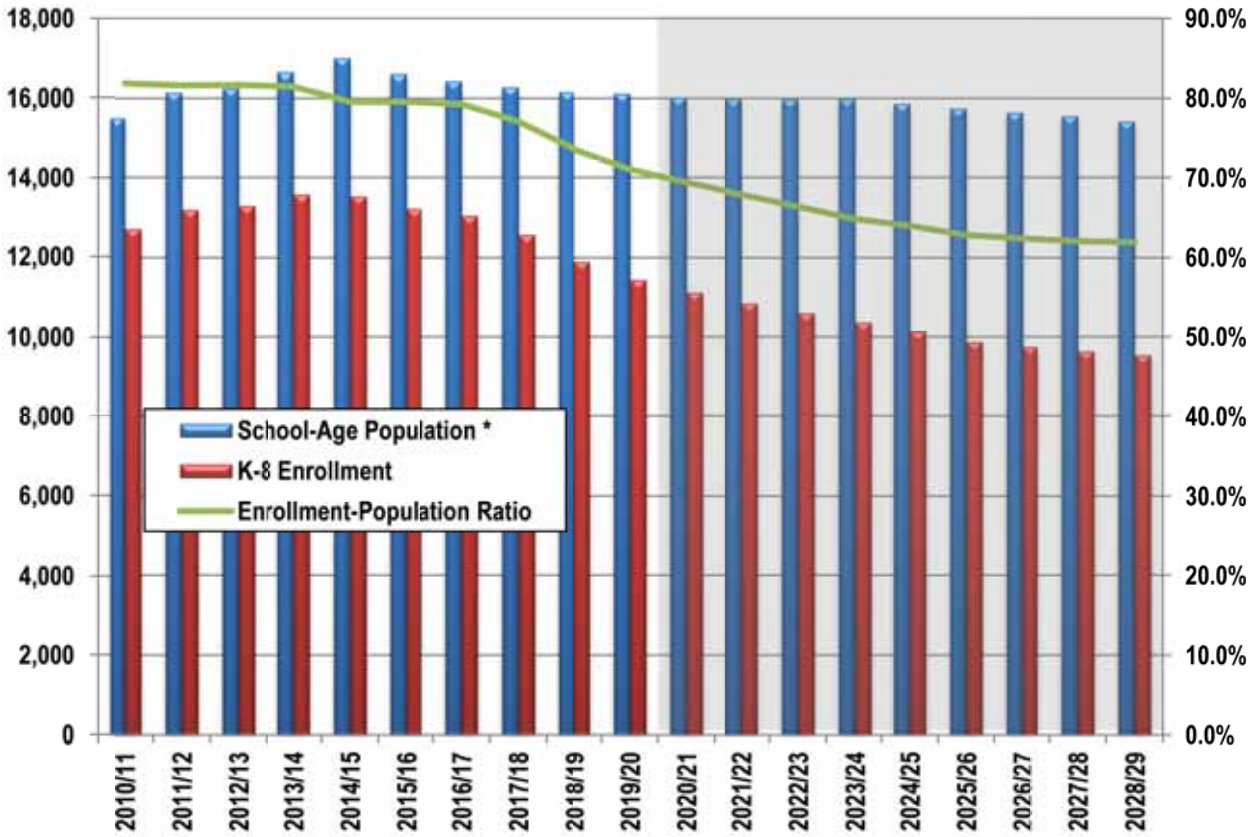
* Population age 5 through 13, corresponds with Kindergarten through 8th grade.

Bolding Indicates Actuals

The difference between the resident school-age population and enrollment in 2019/20 is 4,679 students; since most of the District's students also reside within the District, this net difference implies that net, the District is capturing 71.0 percent (the EP ratio) of the resident students. The District's EP ratio has declined significantly since 2013/14 due to the growth of charter schools in the area, and it is projected to continue to decrease throughout the projection period, ultimately dropping to 61.8 percent by 2028/29.

Figure 4 displays current and projected school-age population and enrollment, and the EP ratio which is keyed to the right axis. These projections suggest that District enrollment will decline by an average of over 250 students per year during the first five-year period (through 2024/25); losses are expected to continue during the second four years of the projection period, but at a slower rate (with declines averaging about 150 students per year). Overall, the projections result in a net decrease of about 1,900 students over the next 9 years, which represents a 16.7 percent decline in enrollment from current levels.

FIGURE 4
STUDENT POPULATION, ENROLLMENT, AND CAPTURE: 2010/11 – 2028/29



The EP ratio 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 EP ratio increases 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, which are detailed in **Table 8**.

The "Low" scenario assumes that the District's EP ratio drops faster over the next ten years than over the past 5 years. This assumption results in total enrollment decreasing by about 2,700 students (23.9 percent) over the next 9 years. The "High" scenario assumes that the District's EP ratio continues to decline, but at the 10-year average rate, not the five year average rate. Under this scenario, total District enrollment would drop by about 1,000 students (8.8 percent) by 2028/29.

The "Mid" enrollment scenario, which is also illustrated in **Figure 4** above, assumes that the District's EP ratio falls at a slightly lower rate than it has over the past five years for the next five years before stabilizing near the end of the projection period. These rates, combined with an overall decline in the resident school-age population, would produce a net difference between the school-age population and enrollment of about 5,900 school-age persons by 2028/29 and District enrollment of 9,542 K-8 students.

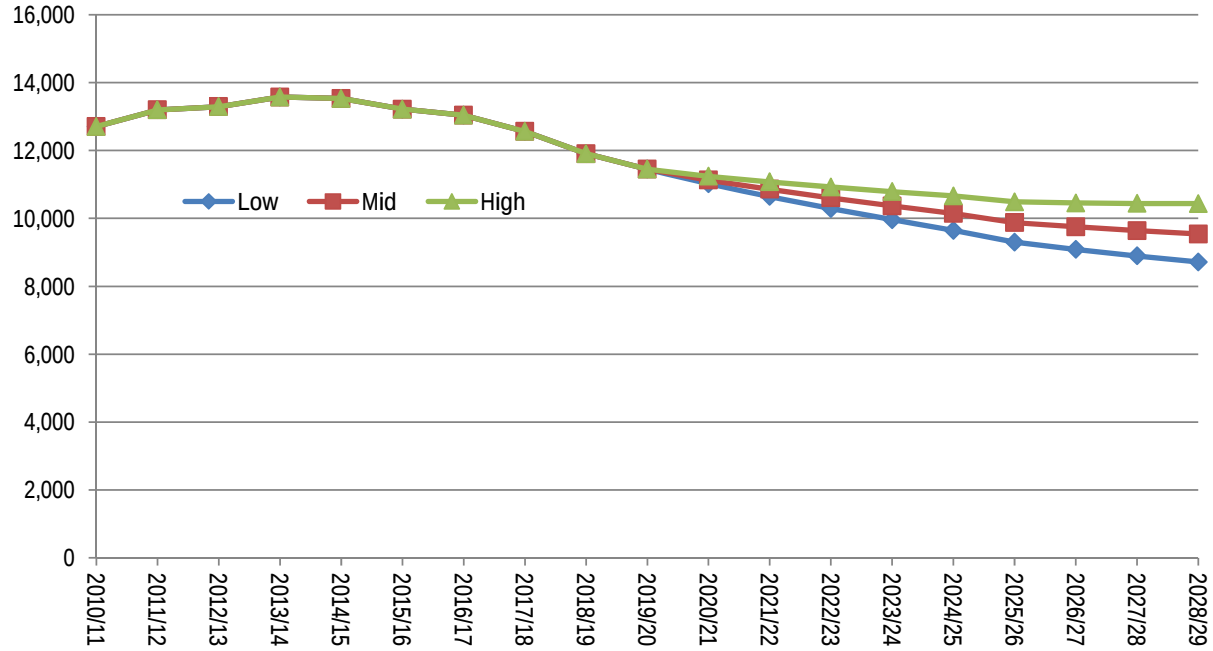
TABLE 8
PROJECTED K-12 ENROLLMENT BY SCENARIO

	Total EP Ratio Scenario			Enrollment Change		
Fall	Low	Mid	High	Low	Mid	High
2010/11	12,704	12,704	12,704			
2011/12	13,193	13,193	13,193	489	489	489
2012/13	13,288	13,288	13,288	95	95	95
2013/14	13,573	13,573	13,573	285	285	285
2014/15	13,527	13,527	13,527	-46	-46	-46
2015/16	13,217	13,217	13,217	-310	-310	-310
2016/17	13,038	13,038	13,038	-179	-179	-179
2017/18	12,559	12,559	12,559	-479	-479	-479
2018/19	11,904	11,904	11,904	-655	-655	-655
2019/20	11,449	11,449	11,449	-455	-455	-455
2020/21	11,018	11,127	11,239	-431	-322	-210
2021/22	10,642	10,857	11,075	-376	-270	-164
2022/23	10,286	10,603	10,922	-356	-254	-153
2023/24	9,957	10,367	10,788	-329	-236	-134
2024/25	9,643	10,143	10,660	-314	-224	-128
2025/26	9,296	9,877	10,487	-347	-266	-173
2026/27	9,085	9,749	10,455	-211	-128	-32
2027/28	8,892	9,638	10,439	-193	-111	-16
2028/29	8,715	9,542	10,437	-177	-96	-2
2020/21-2028/29				-2,734	-1,907	-1,012

Source: Applied Economics, 2019.
Bolding indicates actuals.

Figure 5 compares the K-8 enrollment projections by scenario, illustrating the magnitude of the various assumptions regarding the District's future EP ratio over time. As the presence of alternative providers has grown, the EP ratio has increasingly become one of the most important factors affecting projections, and in many districts it is the most important factor in projecting enrollment.

FIGURE 5
PROJECTED K-12 ENROLLMENT BY SCENARIO



Source: Applied Economics, 2019.

Projected 40th day enrollment by grade cohort is detailed in **Table 9**, and the enrollment trends for each cohort are illustrated in **Figure 6**. Total enrollment is projected to decrease by 320 students next year, or about 2.8 percent. An annual average rate of decline of about 2.4 percent is projected through 2024/25, before dropping to about 1.5 percent per year for the remainder of the projection period. During the first five years of the projection period, the rate of decline by grade level will be greater for the 4-8 cohort as the share of students in each grade cohorts, K-3 and 4-8, declines by 3.1 and 1.4 percent per year, respectively. By the end of the second half of the projection period the size of the K-3 cohort is projected to increase to 46.4 percent while the 4-8 cohort decreases in size down to 53.6 percent. Projected 40th day enrollment by single grade is provided in **Table 10.**

TABLE 9

40TH DAY ENROLLMENT PROJECTIONS BY GRADE COHORT

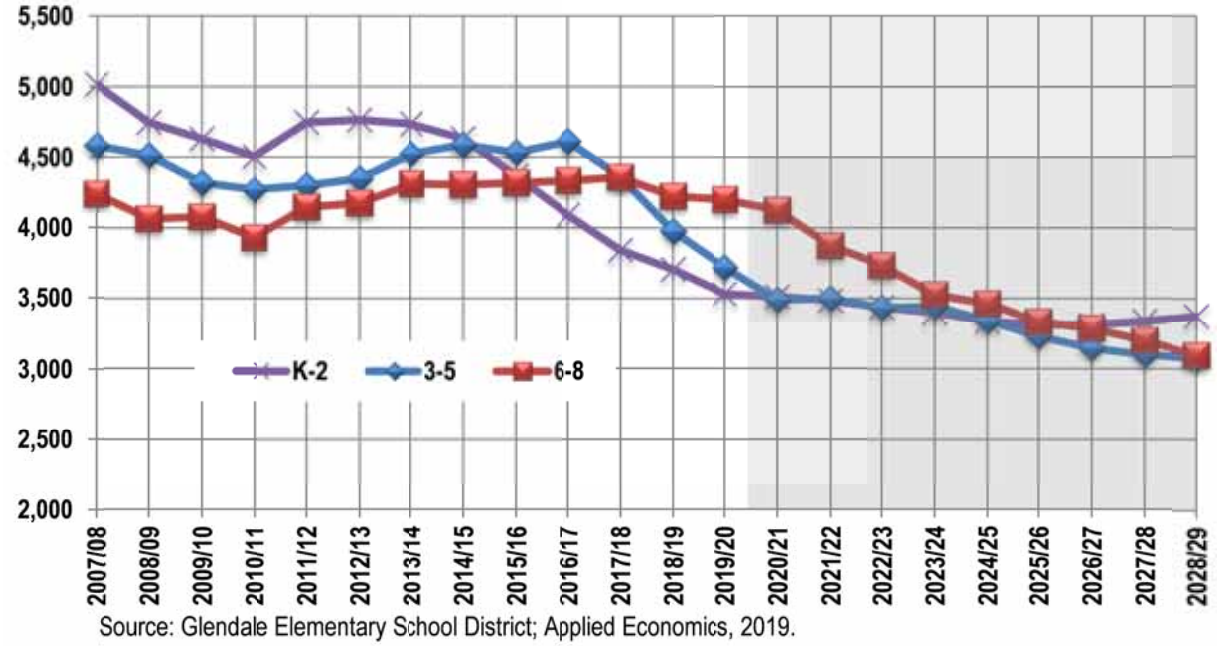
	Enrollment by Level		K-8	Percent	Share of Enrollment	
Year	K-3	4-8	Enrollment	Change	K-3	4-8
2010/11	5,939	6,765	12,704	-2.5%	46.7%	53.3%
2011/12	6,207	6,986	13,193	3.8%	47.0%	53.0%
2012/13	6,287	7,001	13,288	0.7%	47.3%	52.7%
2013/14	6,326	7,247	13,573	2.1%	46.6%	53.4%
2014/15	6,204	7,323	13,527	-0.3%	45.9%	54.1%
2015/16	5,913	7,304	13,217	-2.3%	44.7%	55.3%
2016/17	5,696	7,342	13,038	-1.4%	43.7%	56.3%
2017/18	5,259	7,300	12,559	-3.7%	41.9%	58.1%
2018/19	4,934	6,970	11,904	-5.2%	41.4%	58.6%
2019/20	4,785	6,664	11,449	-3.8%	41.8%	58.2%
2020/21	4,662	6,465	11,127	-2.8%	41.9%	58.1%
2021/22	4,663	6,194	10,857	-2.4%	42.9%	57.1%
2022/23	4,613	5,990	10,603	-2.3%	43.5%	56.5%
2023/24	4,564	5,803	10,367	-2.2%	44.0%	56.0%
2024/25	4,458	5,685	10,143	-2.2%	44.0%	56.0%
2025/26	4,393	5,484	9,877	-2.6%	44.5%	55.5%
2026/27	4,386	5,363	9,749	-1.3%	45.0%	55.0%
2027/28	4,404	5,234	9,638	-1.1%	45.7%	54.3%
2028/29	4,432	5,110	9,542	-1.0%	46.4%	53.6%

Source: Applied Economics, 2019.

Bolding Indicates Actuals.

FIGURE 6

PROJECTED 40th DAY K-8 ENROLLMENT



Source: Glendale Elementary School District; Applied Economics, 2019.

TABLE 10
40th DAY ENROLLMENT PROJECTIONS BY GRADE

Year	Enrollment by Grade PS	K	1	2	3	4	5	6	7	8	K-8 Total	Percent Change	Total Enrollment
2010/11	273	1,551	1,512	1,441	1,435	1,411	1,424	1,343	1,315	1,272	12,704	-2.5%	12,977
2011/12	277	1,616	1,599	1,532	1,460	1,445	1,395	1,424	1,398	1,324	13,193	3.8%	13,470
2012/13	350	1,574	1,586	1,606	1,521	1,406	1,420	1,402	1,412	1,361	13,288	0.7%	13,638
2013/14	312	1,589	1,564	1,584	1,589	1,501	1,434	1,447	1,417	1,448	13,573	2.1%	13,885
2014/15	305	1,469	1,600	1,564	1,571	1,554	1,464	1,466	1,446	1,393	13,527	-0.3%	13,832
2015/16	382	1,315	1,479	1,571	1,548	1,503	1,483	1,451	1,448	1,419	13,217	-2.3%	13,599
2016/17	356	1,304	1,303	1,484	1,605	1,505	1,503	1,468	1,450	1,416	13,038	-1.4%	13,394
2017/18	458	1,243	1,328	1,270	1,418	1,511	1,432	1,478	1,442	1,437	12,559	-3.7%	13,017
2018/19	381	1,192	1,222	1,291	1,229	1,355	1,391	1,425	1,395	1,404	11,904	-5.2%	12,285
2019/20	369	1,173	1,194	1,164	1,254	1,151	1,313	1,357	1,434	1,409	11,449	-3.8%	11,818
2020/21	359	1,152	1,182	1,178	1,150	1,208	1,131	1,308	1,368	1,450	11,127	-2.8%	11,486
2021/22	350	1,133	1,174	1,179	1,177	1,120	1,201	1,140	1,334	1,399	10,857	-2.4%	11,207
2022/23	342	1,113	1,153	1,170	1,177	1,145	1,112	1,209	1,161	1,363	10,603	-2.3%	10,945
2023/24	334	1,123	1,130	1,146	1,165	1,142	1,134	1,116	1,228	1,183	10,367	-2.2%	10,701
2024/25	327	1,114	1,120	1,103	1,121	1,111	1,111	1,119	1,114	1,230	10,143	-2.2%	10,470
2025/26	318	1,106	1,112	1,095	1,080	1,070	1,082	1,097	1,118	1,117	9,877	-2.6%	10,195
2026/27	314	1,120	1,105	1,088	1,073	1,032	1,043	1,069	1,097	1,122	9,749	-1.3%	10,063
2027/28	310	1,135	1,120	1,082	1,067	1,026	1,006	1,031	1,070	1,101	9,638	-1.1%	9,948
2028/29	307	1,147	1,132	1,094	1,059	1,018	998	993	1,029	1,072	9,542	-1.0%	9,849

Source: Applied Economics, 2019.
Bolding Indicates Actuals.

Projected 100th day enrollment by grade cohort is detailed in **Table 11**. The overall trend in enrollment levels is similar to that of the 40th day projections. Throughout the projection period, 100th day enrollment is expected to be at, or slightly below 40th day enrollment; however, in every year the 40th day projection is less than the previous year's 100th day estimate. **Table 12** provides the full grade level detail for the 100th day projections.

TABLE 11
100TH DAY ENROLLMENT PROJECTIONS BY GRADE COHORT

	Enrollment by Level			K-8	Percent
Year	PS	K-3	4-8	Enrollment	Change
2010/11	275	6,000	6,876	12,876	-1.2%
2011/12	277	6,226	6,955	13,181	2.4%
2012/13	352	6,328	7,077	13,405	1.7%
2013/14	315	6,436	7,370	13,806	3.0%
2014/15	307	6,306	7,357	13,663	-1.0%
2015/16	386	6,061	7,434	13,495	-1.2%
2016/17	357	5,697	7,405	13,102	-2.9%
2017/18	458	5,273	7,259	12,532	-4.4%
2018/19	381	4,944	6,968	11,912	-4.9%
2019/20	369	4,809	6,659	11,468	-3.7%
2020/21	359	4,686	6,460	11,146	-2.8%
2021/22	350	4,686	6,190	10,877	-2.4%
2022/23	342	4,636	5,985	10,621	-2.4%
2023/24	334	4,587	5,798	10,386	-2.2%
2024/25	327	4,481	5,680	10,161	-2.2%
2025/26	318	4,416	5,479	9,895	-2.6%
2026/27	314	4,409	5,358	9,768	-1.3%
2027/28	310	4,428	5,230	9,657	-1.1%
2028/29	307	4,456	5,106	9,562	-1.0%

Source: Applied Economics, 2019.
Bolding Indicates Actuals.

TABLE 12
100th DAY ENROLLMENT PROJECTIONS BY GRADE

	Enrollment by Grade										K-8	Percent	Total
Year	PS	K	1	2	3	4	5	6	7	8	Total	Change	Enrollment
2010/11	275	1,590	1,525	1,443	1,442	1,415	1,441	1,348	1,366	1,306	12,876	-1.2%	13,151
2011/12	277	1,655	1,610	1,522	1,439	1,442	1,391	1,428	1,385	1,309	13,181	2.4%	13,458
2012/13	352	1,599	1,589	1,624	1,516	1,447	1,431	1,405	1,424	1,370	13,405	1.7%	13,757
2013/14	315	1,627	1,586	1,618	1,605	1,496	1,477	1,475	1,441	1,481	13,806	3.0%	14,121
2014/15	307	1,494	1,638	1,588	1,586	1,552	1,473	1,457	1,473	1,402	13,663	-1.0%	13,970
2015/16	386	1,368	1,510	1,620	1,563	1,540	1,503	1,457	1,466	1,468	13,495	-1.2%	13,881
2016/17	357	1,326	1,306	1,480	1,585	1,507	1,524	1,478	1,470	1,426	13,102	-2.9%	13,459
2017/18	458	1,259	1,322	1,293	1,399	1,483	1,449	1,450	1,448	1,429	12,532	-4.4%	12,990
2018/19	381	1,224	1,212	1,279	1,229	1,362	1,376	1,424	1,394	1,412	11,912	-4.9%	12,293
2019/20	369	1,200	1,195	1,169	1,245	1,147	1,314	1,345	1,439	1,414	11,468	-3.7%	11,837
2020/21	359	1,178	1,183	1,183	1,142	1,203	1,132	1,296	1,373	1,455	11,146	-2.8%	11,505
2021/22	350	1,159	1,175	1,184	1,168	1,116	1,202	1,130	1,339	1,404	10,877	-2.4%	11,227
2022/23	342	1,138	1,154	1,175	1,168	1,141	1,113	1,198	1,165	1,368	10,621	-2.4%	10,963
2023/24	334	1,149	1,131	1,151	1,156	1,138	1,135	1,106	1,232	1,187	10,386	-2.2%	10,720
2024/25	327	1,139	1,121	1,108	1,113	1,107	1,112	1,109	1,118	1,234	10,161	-2.2%	10,489
2025/26	318	1,131	1,113	1,100	1,072	1,066	1,083	1,087	1,122	1,121	9,895	-2.6%	10,214
2026/27	314	1,146	1,106	1,093	1,065	1,028	1,044	1,059	1,101	1,126	9,768	-1.3%	10,082
2027/28	310	1,161	1,121	1,087	1,059	1,022	1,007	1,022	1,074	1,105	9,657	-1.1%	9,968
2028/29	307	1,173	1,133	1,099	1,051	1,014	999	984	1,033	1,076	9,562	-1.0%	9,869

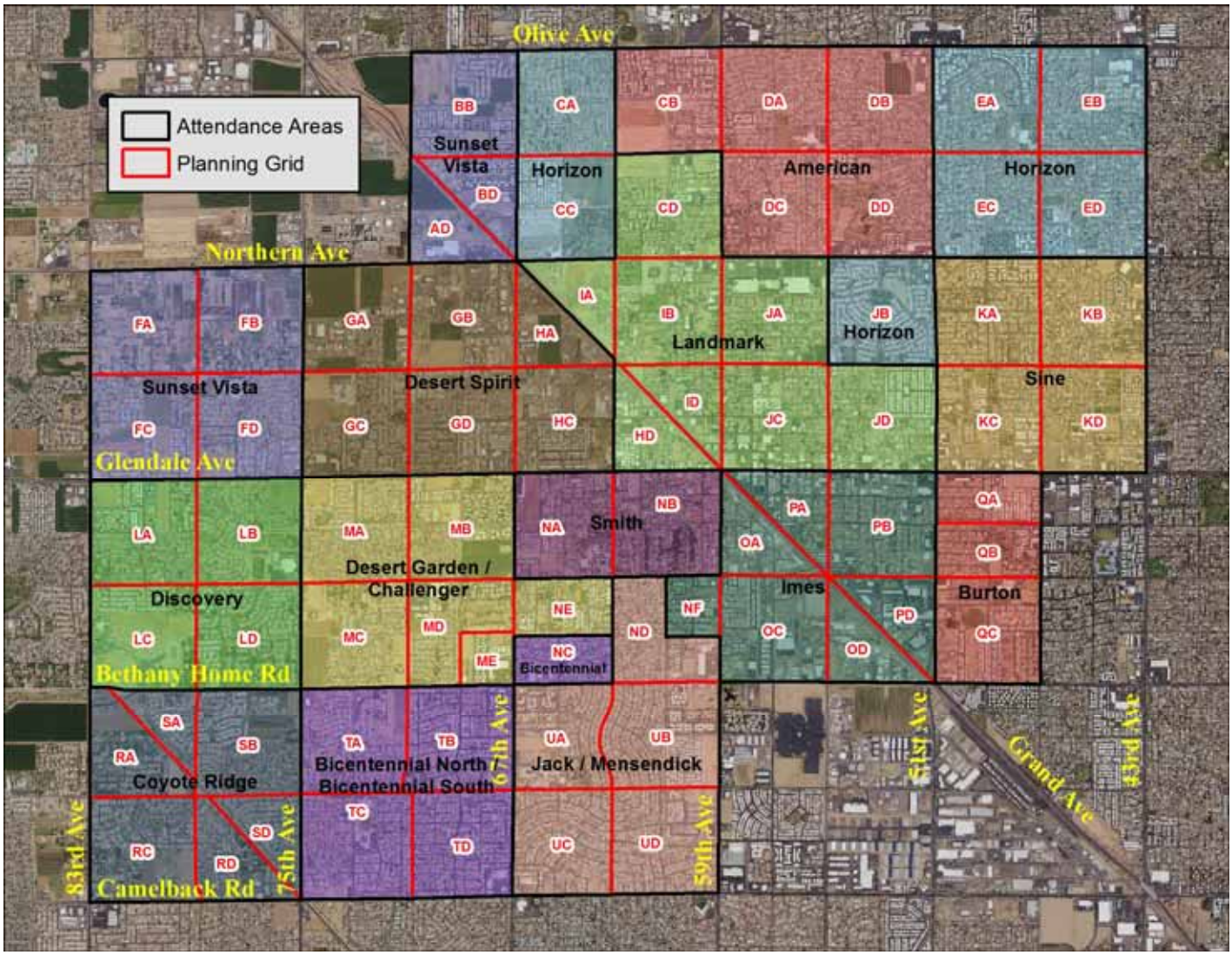
Source: Applied Economics, 2019.
Bolding Indicates Actuals.

5.0 SUB-DISTRICT PROJECTIONS

Sub-District enrollment projections are based on the current number of students in each grid, the expected occupancy of existing housing units and absorption of new housing units, and trends in student generation from existing housing and new construction. Sub-District forecasts are developed by applying the expected levels of District-wide absorption to the supply of 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 priorities assigned to each project or project part.

Sub-District enrollment projections are based on the residency of the District student population, as determined by grid. The grids are overlaid with attendance areas as shown in **Map 10**. Grid level projections for the next ten years are aggregated by attendance area to show potential enrollment changes at each school, adjusting for the fact that the some students do not attend the school designated to serve their neighborhood.

MAP 10
SCHOOL ATTENDANCE AREAS



APPLIED ECONOMICS

Table 13 shows the correspondence between students by attendance area versus students by school based on the current enrollment information. For example, at Landmark there are 284 students attending Kindergarten through 3rd grade, including 244 who reside in the attendance area, 14 from outside the District, and the remaining 26 from other attendance areas. While enrollment by attendance area differs from the enrollment counts at each campus, projecting enrollment by attendance area is the best approach to use since it is tied to the quantifiable demographic and housing characteristics of each neighborhood; school enrollment, on the other hand, is influenced by special programs and parent/student choice.

The Coyote Ridge attracted the most K-3 students from outside the District (32 students), and four other schools had out-of-District enrollment of 20 or more students. Coyote Ridge also attracted the most 4th to 8th grade (4-8) students from outside of the District (56 students) while Discovery and Horizon each enrolled more than 35 out-of-District 4-8 students. Coyote Ridge (K-3 and 4-8), Desert Spirit and Smith (both primarily 4-8) also attracted a sizable number of students from other attendance areas. Of the three schools with net losses, Desert Garden/Challenger lost the most; of the total net loss at Desert Garden/Challenger, most were 4-8 students (101 of the total 121 K-8 student loss). Overall, about 90 percent of students attend the school associated with the area in which they reside.

TABLE 13
2019/20 SCHOOL AND ATTENDANCE AREA ENROLLMENT COMPARISON
KINDERGARTEN THROUGH 3RD GRADE

		Atttendance Area														Out of	Total	Total	Net
School/Code		101	102	103	104	105	107	108	110	112	113	114	115	116	117	District	Attend	Reside	Difference
Landmark	101	244	2	3	2	3	1	3	4			2		3	3	14	284	283	1
Imes	102	2	191	3	1	1	2	1						1		5	207	217	-10
Smith	103		4	282		6		1		1		9		4	3	9	319	309	10
Sine	104	5	4	2	181	1	7		1	1						2	204	209	-5
Jack	105		5	3		573				7		9	1	3	2	21	624	630	-6
Burton	107	2	2		4	2	217	3	1			4				19	254	234	20
American	108	9			3	2	1	232	6		2	1			1	12	269	259	10
Horizon	110	13	6	1	14		3	10	282	1	1	1		1	4	27	364	297	67
Bicentennial South	112	1				8				437		4	3	2	1	25	481	481	0
Discovery	113			1		2		1		6	201	3	9		5	20	248	219	29
Desert Garden	114	4		4		8		1	1	6	3	517	3	3		7	557	577	-20
Coyote Ridge	115		1	1		14				14	6	16	210	7	3	32	304	230	74
Desert Spirit	116	1	1	3		4		2		2	1	6	1	262	2	7	292	299	-7
Sunset Vista	117			5	2	4		3	1	6	4	2	3	13	295	15	353	320	33
Other		2	1	1	2	2	3	2	1	0	1	3	0	0	1	6	25	0	25
Reside Total		283	217	309	209	630	234	259	297	481	219	577	230	299	320	221	4,785	4,564	221
															Attend=Reside		4,124	90.4%	

4TH THROUGH 8TH GRADE

		Atttendance Area														Out of	Total	Total	Net
School/Code		101	102	103	104	106	107	108	110	109	113	111	115	116	117	District	Attend	Reside	Difference
Landmark	101	371	8	5	4	3	2	7	9			2		3	6	19	439	414	25
Imes	102	1	264	2		2	1	1				2	1	1		16	291	299	-8
Smith	103	1	7	364	1	14		5		2		22	1	3	1	21	442	401	41
Sine	104	5	6	1	269		7	1	1	1	1	1		3		10	306	297	9
Mensendick	106		1	5		757				11	2	19		2	3	24	824	824	0
Burton	107	1	2		4	2	284	2	1			3			1	37	337	307	30
American	108	6		2	1		2	296	8			3			1	15	334	327	7
Horizon	110	8			12	1	4	9	395		1			1	1	40	472	427	45
Bicentennial North	109	1		1		8	1	1	1	617		16	1	1		18	666	676	-10
Discovery	113	2	2		1	1		1	2	17	311	11	6	2	7	36	399	338	61
Challenger	111	3	1	3		4			2	3	1	665		2		10	694	795	-101
Coyote Ridge	115	5	3	4		11				14	9	15	295	6	4	56	422	307	115
Desert Spirit	116	3	2	7		7	1		1	5	7	17	1	383	3	9	446	427	19
Sunset Vista	117	4	1	4	3	5		3	3	4	4	15	2	18	456	22	544	484	60
Other		3	2	3	2	9	5	1	4	2	2	4	0	2	1	8	48	0	48
Reside Total		414	299	401	297	824	307	327	427	676	338	795	307	427	484	341	6,664	6,323	341
															Attend=Reside		5,727	90.6%	

Table 14 shows projected housing unit additions in projects aggregated by elementary attendance areas through 2027/28. About 62 percent of the District's long-term development potential is located within the Desert Garden/Challenger, Imes, Landmark, Smith and Sunset Vista attendance areas, although nearly 70 percent of that potential will not be built in the next decade. Half of all the development that will occur in the next ten years is expected to be in American and Sunset Vista attendance areas. Significant building is also expected in the Coyote Ridge, Landmark and Smith attendance. Other attendance areas contain some scattered potential, but few major projects. In total, about 63 percent of the long-term development potential in the District will remain unbuilt at the end of the projection period.

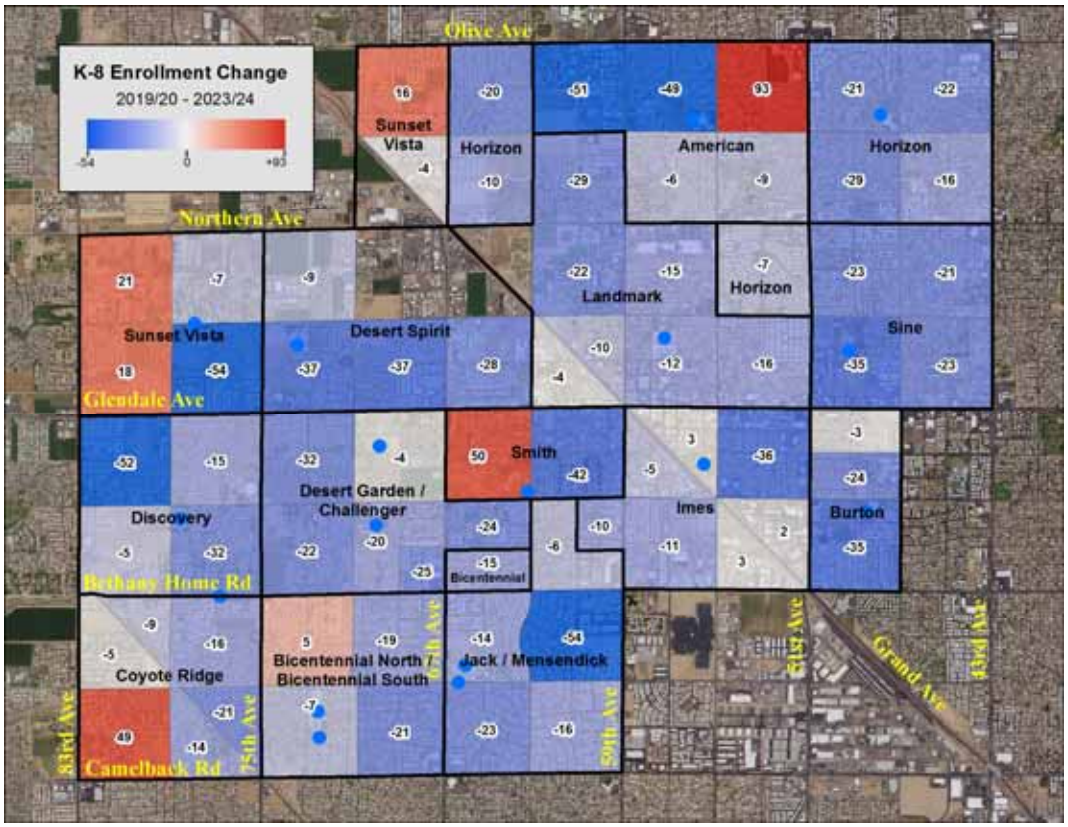
TABLE 14
POTENTIAL HOUSING ADDITIONS BY ATTENDANCE AREAS

	Inventory			Projected Additions											
Attendance Area	Built	Unbuilt	Total	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Total	Remaining
American	16	384	400	59	60	120	28	2	1	26	43	45	28	413	0
Bicentennial N/S	6	50	56	14	42	0	0	0	0	0	0	0	0	56	0
Burton	32	288	320	0	2	0	0	10	3	4	2	11	8	39	249
Coyote Ridge	0	219	219	0	28	52	39	0	0	18	24	18	0	179	40
Desert Garden/Challenger	1	684	685	0	0	1	0	9	15	1	0	1	3	30	654
Desert Spirit	18	156	174	0	0	1	0	0	14	32	32	14	0	95	61
Discovery	0	160	160	0	0	0	0	0	0	0	0	0	0	0	160
Horizon	32	152	184	0	0	0	42	38	3	0	2	7	1	92	60
Imes	191	473	664	2	2	2	1	21	12	3	9	30	7	87	386
Landmark	152	514	666	2	98	3	1	12	7	3	5	16	5	153	360
Jack/Mensendick	9	248	257	0	0	0	0	0	0	0	0	0	0	2	246
Sine	48	149	198	0	0	0	0	8	4	1	3	11	3	30	120
Smith	70	477	547	2	110	2	1	1	1	1	2	1	1	122	355
Sunset Vista	114	785	900	2	113	64	143	96	3	11	15	19	15	478	308
TOTAL	690	4,739	5,429	81	456	244	255	197	64	99	136	174	70	1,776	2,998

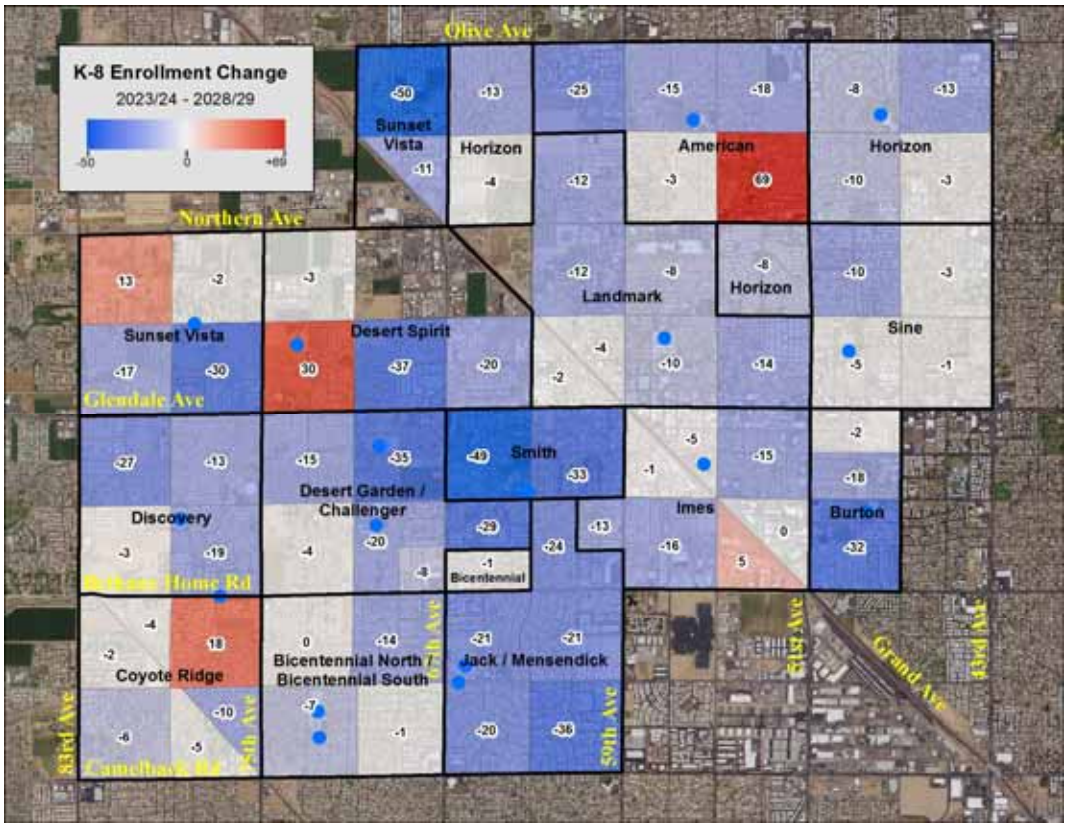
Source: Applied Economics, 2019.

Projections of new students resulting from housing absorption are coupled with current enrollment information, as well as demographic and EP ratio trends, to generate enrollment projections by grid. **Map 11** illustrates the projected pattern of growth over the next five years, while **Map 12** shows growth over the second five year period. During the first five-year period, growth is generally found in areas west of Grand Avenue, including Sunset Vista Desert Garden, Smith and Coyote Ridge; American is the only attendance area east of Grand Avenue to have any substantial growth during this period. Growth in the second half of the projection period is limited to just a few grids in the American, Desert Spirit and Coyote Ridge attendance areas.

MAP 11
CHANGE IN ENROLLMENT: 2019/20 – 2023/24



MAP 12
CHANGE IN ENROLLMENT: 2023/24 – 2028/29



The small-area projections are shown aggregated by current attendance area in **Table 15**. These projections indicate declines in enrollment in every attendance area, except Bicentennial South and Smith, over the next five years. Substantial declines are projected in the Horizon, Landmark, Desert Spirit, Discovery, Challenger and Sine areas between 2019/20 and 2024/25. Overall, enrollment in nine of the 17 attendance areas is projected to decline by 10 percent or more by 2024/25. Losses moderate during the second 5-year period and two attendance areas are expected to see minor enrollment gains (American and Bicentennial South); four of the 17 attendance areas are projected to have enrollment losses of 10 percent or more during the second half of the period. None of the attendance areas show increases in enrollment in both five-year periods.

TABLE 15
ACTUAL AND PROJECTED ENROLLMENT BY ATTENDANCE AREA

	Actual							Projected									Change		
Attendance Area	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	2028/29	'13-'19	'19-'24	'24-'28
American	658	651	694	655	650	650	586	560	610	591	565	563	557	562	574	573	-72	-23	10
Bicentennial South	703	705	580	571	514	479	481	477	497	484	485	481	480	486	491	501	-222	0	19
Bicentennial North	863	859	807	817	831	722	676	651	627	611	615	615	594	603	585	578	-187	-61	-38
Burton	702	731	712	667	649	622	541	503	492	480	479	467	457	440	433	428	-161	-74	-39
Coyote Ridge	674	637	567	596	554	552	537	531	530	536	522	525	518	514	510	513	-137	-12	-12
Desert Garden	727	715	740	708	676	629	577	566	562	560	543	537	529	526	526	527	-150	-40	-10
Challenger	774	779	766	769	811	761	795	796	752	733	702	683	659	643	632	608	21	-112	-75
Desert Spirit	827	851	854	888	870	794	726	711	676	632	616	608	592	596	600	587	-101	-118	-21
Discovery	672	684	672	648	633	567	557	540	496	487	453	438	417	403	391	391	-115	-119	-47
Horizon	772	785	748	762	750	709	724	647	613	600	598	580	562	555	539	538	-48	-144	-42
Imes	548	545	500	521	528	576	516	492	481	476	461	446	431	426	420	416	-32	-70	-30
Landmark	693	725	726	672	714	644	665	619	593	574	562	537	527	519	509	503	-28	-128	-35
Jack	792	717	757	758	693	621	630	624	609	604	589	578	569	565	564	566	-162	-52	-12
Mensendick	935	951	1,012	938	936	861	824	796	787	759	752	735	718	691	675	653	-111	-89	-82
Sine	627	619	653	699	609	572	506	439	426	409	404	402	395	396	390	385	-121	-104	-16
Smith	922	892	883	875	814	807	742	823	791	766	746	737	709	680	671	662	-180	-5	-75
Sunset Vista	811	817	846	773	779	780	804	821	806	807	795	754	731	719	706	698	-7	-50	-56
Out of District	873	864	700	721	548	558	562	533	509	494	480	455	432	423	422	416	-311	-107	-39
TOTAL	13,573	13,527	13,217	13,038	12,559	11,904	11,449	11,127	10,857	10,603	10,367	10,143	9,877	9,749	9,638	9,542	-2,124	-1,306	-601

Source: Applied Economics, 2019.

Table 16 shows the same projected enrollment allocated to schools based on the difference between the attendance area and facility enrollment levels by school. While the differences could change, due to a number of variables that cannot be foreseen, the school projections presented in this format can be useful for staffing and facility planning purposes. Projections of enrollment by school follow a fairly similar pattern to the attendance area projections since the majority of students in the District attend their designated school. Enrollment losses are projected to be most severe at Horizon, Landmark and Desert Spirit in the next five years, although losses at each of these schools are substantially less in the second five-year period. No school is projected to have an enrollment increase during the next five years. Only two schools (American and Bicentennial South) are expected to increase enrollment during the second four years of the projection period; of the remaining schools, three (Challenger, Mensendick and Smith) are projected to have enrollment losses of 70 students or more each during the second four-year period.

TABLE 16
ACTUAL AND PROJECTED ENROLLMENT BY SCHOOL

	Actual							Projected									Change		
School	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	2028/29	'13-'19	'19-'24	'24-'28
American	786	776	779	712	699	672	602	578	633	618	596	589	580	586	603	598	-184	-13	9
Bicentennial South	613	653	586	569	518	466	482	474	492	485	486	480	478	484	489	499	-131	-2	19
Bicentennial North	819	820	797	792	789	695	666	646	613	595	588	589	564	570	558	551	-153	-77	-38
Burton	786	794	767	732	673	649	591	553	543	528	529	516	502	490	481	473	-195	-75	-43
Coyote Ridge	918	872	807	818	753	732	726	718	713	721	700	700	690	688	680	680	-192	-26	-20
Desert Garden	730	698	706	729	656	615	557	539	531	518	501	491	481	479	479	479	-173	-66	-12
Challenger	673	666	633	677	734	682	694	695	660	647	628	610	581	559	536	515	21	-84	-95
Desert Spirit	901	912	910	907	896	802	738	721	681	636	620	607	595	600	600	587	-163	-131	-20
Discovery	754	738	766	742	730	674	647	630	594	588	552	532	511	497	482	481	-107	-115	-51
Horizon	836	861	864	845	854	809	836	754	721	710	704	695	678	675	655	651	0	-141	-44
Imes	542	538	506	503	516	557	498	474	464	456	440	424	412	402	394	388	-44	-74	-36
Landmark	750	810	805	733	768	699	723	676	641	616	604	577	560	552	551	548	-27	-146	-29
Jack	917	813	776	760	692	618	624	621	609	606	589	577	567	563	563	564	-293	-47	-13
Mensendick	999	994	977	934	917	871	824	793	779	744	739	718	701	672	658	636	-175	-106	-82
Sine	673	669	674	750	626	602	510	442	429	411	408	406	405	399	393	388	-163	-104	-18
Smith	924	924	861	916	811	838	761	835	806	778	751	743	712	684	674	673	-163	-18	-70
Sunset Vista	899	940	944	867	866	857	897	918	888	886	872	829	800	789	782	771	-2	-68	-58
Other	53	49	59	52	61	66	73	60	60	60	60	60	60	60	60	60	20	-13	0
TOTAL	13,573	13,527	13,217	13,038	12,559	11,904	11,449	11,127	10,857	10,603	10,367	10,143	9,877	9,749	9,638	9,542	-2,124	-1,306	-601

Source: Applied Economics, 2019.

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