APPLIED ECONOMICS

DEER VALLEY UNIFIED SCHOOL DISTRICT

DEMOGRAPHIC AND ENROLLMENT UPDATE

FALL 2015/16

FINAL REPORT

PREPARED FOR:

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

JANUARY 12, 2016

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EXECUTIVE SUMMARY

This report presents the key findings of the 2015/16 Demographic and Enrollment Update performed for the Deer Valley Unified School District by Applied Economics. The purpose of this analysis 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 through 2025/26. The update includes new student enrollment data, along with revised residential real estate market data and development information.

- The fall in housing occupancy and construction levels during the recession and growth in charter school enrollment contributed to enrollment declines from 2009/10 through 2013/14. During that period, the District enrollment decline and the increase in charter school enrollment were nearly equal at 3,000 students. Enrollment rebounded with an increase of about 380 students in 2014/15, and another 340 in 2015/16, due to a combination of an improving economy and the on-going impact of the reinstitution of all-day Kindergarten.

- The largest changes in population have been in the older age groups. Both the 45 to 64 years of age and the 65 and over group increased at rates significantly higher than the population in general or any other age group. One clear example of the shifts in the District population is the fact that between 2010 and 2015 there was a loss of about 2,200 persons in the under 5 age group and a gain of about 2,200 persons in the 65 and over group.

- In the 2014/15 school year, there were 17 charter schools operating within the Deer Valley School District boundaries, serving about 7,200 K-12 students. Within a mile of the District boundaries are an additional seven charter schools with enrollment totaling about 2,400 K-12 students. The bulk of the enrollment tends to be in the younger grades, with lower levels in middle school and until the 11^{th} and 12^{th} grades, which see significant increases, particularly in the 12^{th} grade.

- Single family permitting has been concentrated in the low-to-medium density classifications overall, but has trended toward lower density housing in recent years. Multifamily housing has been limited since 2009/10, as that market has been concentrated in a few areas elsewhere in the metro region. Vacancy rates throughout the District have improved substantially, dropping by 50 percent since 2010. Average vacancy is less than 5 percent overall, serving as strong evidence of the attractiveness of the area.

- The narrow range of future housing types could impact the age levels of the resident population, though differences in the actual housing product should provide some degree of diversity. Employment and income growth will be the chief drivers in the progress of the housing market, and while there are challenges, the District is better positioned for growth than some areas of the Valley.

- Housing growth in the near term will continue to take place in small subdivisions or on remaining parcels within major developments while waiting for larger tracts of land to be available. Construction activity for single family homes is expected to lag over the next two years. Then construction levels are expected to increase and remain strong throughout most of the projection period. Multifamily housing is expected to grow more consistently than in recent years but not at exceptional levels.

- District enrollment has increased for the second consecutive year, though enrollment is still about 2,600 students below the peak of 36,408 in 2008/09. The net capture rate increased for the first time in six years, but only gained a tenth of a percent. The rate is expected to increase slightly as the impact of higher kindergarten enrollment works up through the grades, reaching about to 0.732 by 2019/20. It is likely that the rate could fall again in the future to 0.714 by 2025/26.

- Enrollment is projected to grow by about half a percent next year and between 0.6 and 1.4 percent per year over the next ten years. Increased occupancy and student generation rates are expected to be largely offset by a slow decline in capture rates and lower levels of construction after 2020/21. In total, enrollment is projected to increase by more than 3,200 students over the next 10 years, reaching 37,000 by 2025/26. Growth should be stronger in the latter half of the projection period, due to a combination of diminishing effects from the earlier elimination of all-day Kindergarten and a recent upswing in birth rates that should begin to impact the school-age population over the next five to seven years.

- About 80 percent of the elementary school students living within District boundaries are attending their designated school in 2015/16, while roughly 83 percent of 7th and 8th grade students are attending their designated middle school. At the high school level that portion jumps to 90 percent.

- Elementary schools currently at capacity as defined by the School Facilities Board (SFB) include Sierra Verde and Stetson Hills. Norterra Canyon had been at 100 percent capacity for the previous five years, and is projected to exceed 100 percent again next year. By the 2018/19 school year, only Norterra Canyon and Stetson Hills are expected to be at capacity, with Stetson Hills declining to about 98 percent by 2020/21.

- At the high school level, Mountain Ridge is currently operating at about 104 percent of SFB capacity and is projected to drop to about 96 percent of capacity next year and continue to decline through 2023/24. Enrollment at Boulder Creek is anticipated to peak in 2018/19, when 2,665 students would slightly exceed the 2,660 SFB capacity. Enrollment is then expected to decline substantially. Sandra Day O'Connor is also projected to experience enrollment declines. Barry Goldwater, currently at just under 80 percent of capacity, is expected to experience substantial increases in enrollment, exceeding 90 percent capacity in 2018/19 and 100 percent just two years later and reaching 132 percent by the end of the projection period.

1.0 INTRODUCTION

This report presents the key findings of the 2015/16 Demographic and Enrollment Update performed for the Deer Valley Unified School District by Applied Economics. The purpose of this analysis 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 through 2025/26. The update includes new student enrollment data, along with revised residential real estate market data and development information. The findings are divided into four sections: existing conditions, residential development, District-level projections, and sub-area projections.

The Deer Valley Unified School District is located in the northern part of the Phoenix metropolitan area in Maricopa County. The District extends from Bell Road on the south to the Maricopa County line on the north. The eastern boundary is generally along the 40th Street alignment and the western boundary extends to 99th Avenue, although the southern end of the District (from Jomax Road down to Bell Road) only covers the area between 7th Avenue and 83rd Avenue. The District includes portions of the City of Phoenix, as well as smaller portions of the cities of Glendale, Peoria, Cave Creek and unincorporated County areas. **Map 1** shows the District boundary and the 255 planning area grids created for this study.

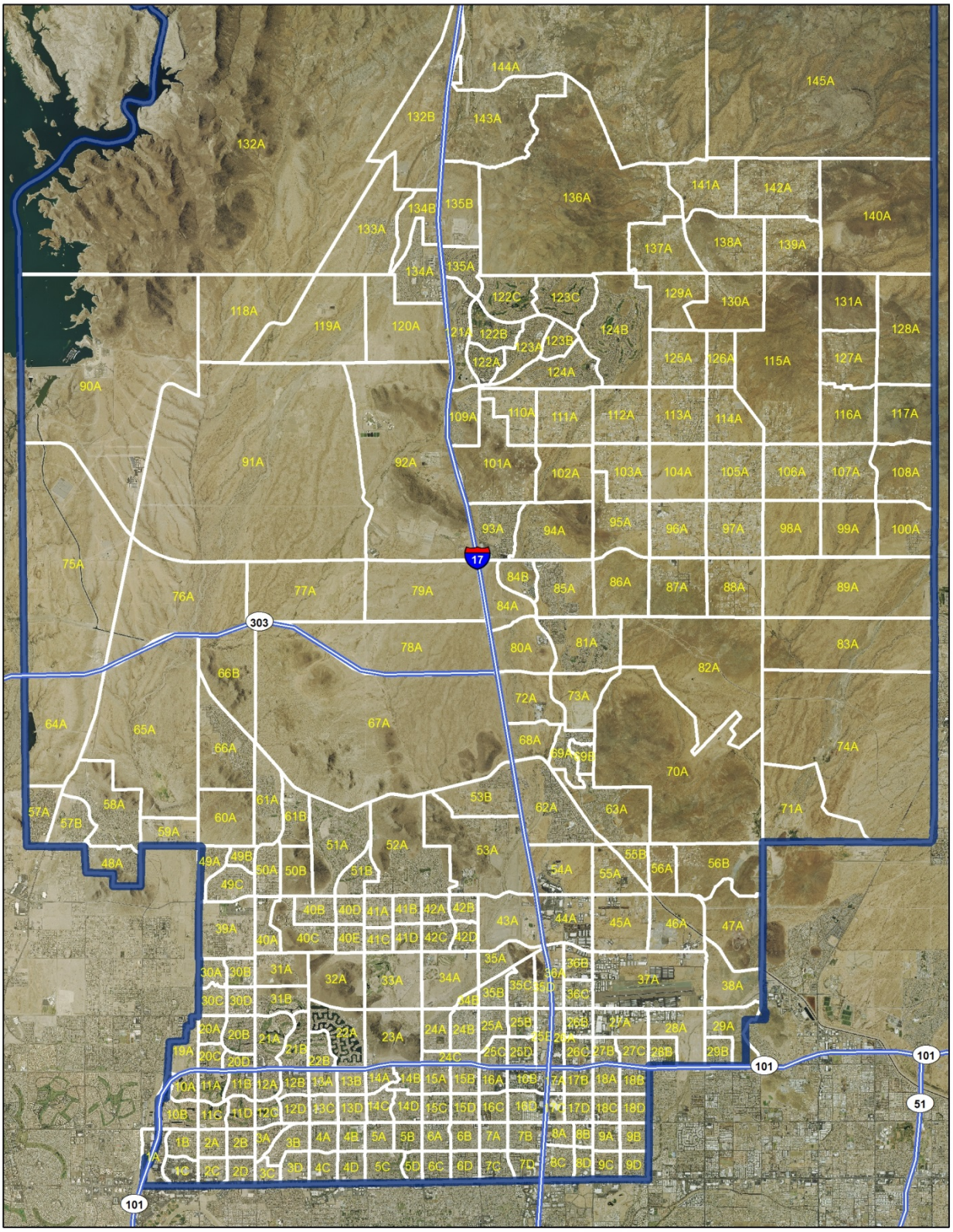
Section 2, Existing Conditions, provides a historical look at District enrollment and its distribution by geography and grade cohort. This section also compares demographic data from the 2000 and 2010 Census as well as 2015 estimates, to identify trends in District population and housing that affect District enrollment. In addition, there is data about local alternative education providers which can impact District enrollment.

Section 3, Residential Development, includes a look at recent housing construction activity using data compiled by the Maricopa Association of Governments and The Construction Monitor, trends in residential vacancy, and describes the potential future supply of new housing by type of development, and predicts the timing of construction based on location, ownership, and current planning. This section also includes a discussion of significant projects in the District and issues affecting residential development.

Section 4, District Projections, combines forecast residential development and existing District population, housing and enrollment conditions to create District-level projections. These projections are based on expected changes in household growth, occupancy rates, population per household, and per household generation rates.

Finally, Section 5, Sub-district Projections, utilizes an assortment of sub-district demographic data, such as population per household, age, and race/ethnicity, to determine student generation rates for various components of the District. Student generation rates are then applied to the current and future supply of housing and households (occupied housing units) by small geographic planning area (or "grid"), to estimate enrollment by place of residence. This includes students by school attendance areas. The relationship between the number of students that live within an attendance area and the actual school of attendance is also included to show the impact of student movement, including out-of-district students, on school enrollment.

MAP 1
DISTRICT LOCATION AND GRID PLANNING GEOGRAPHY

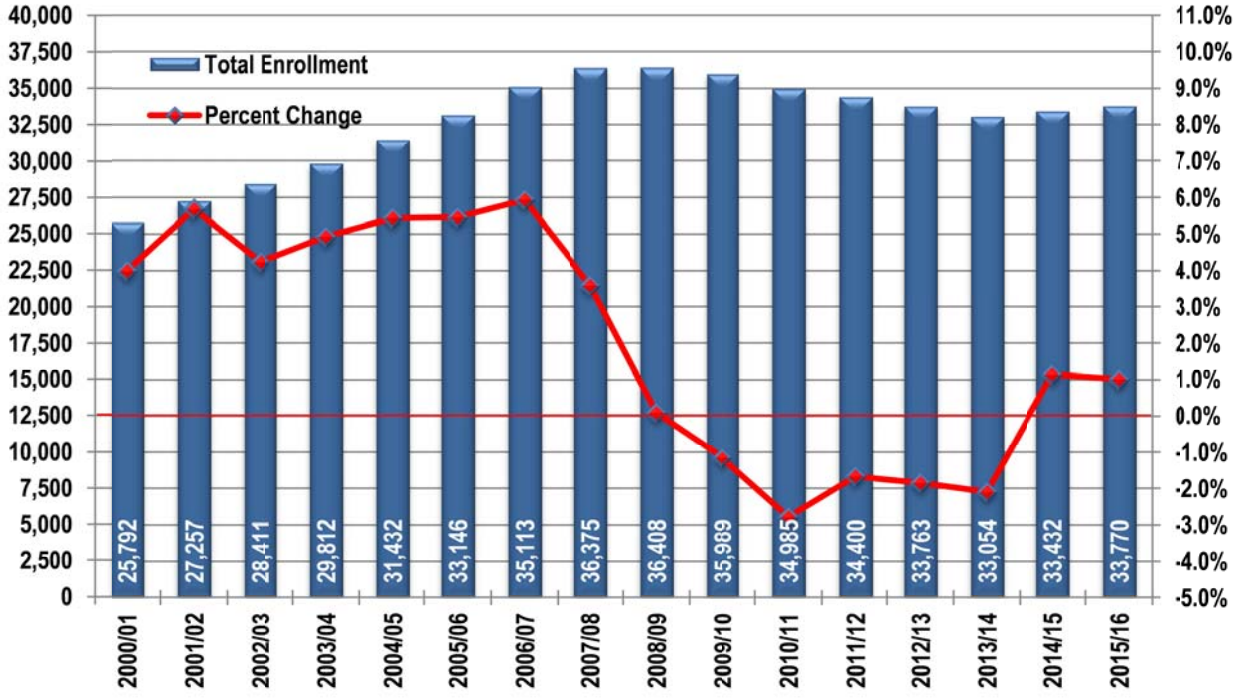


2.0 EXISTING CONDITIONS

2.1 CURRENT & HISTORICAL ENROLLMENT

Between 2000/01 and 2010/11, enrollment in the Deer Valley Unified School District grew by 35.6 percent, adding about 9,200 students. As shown in **Figure 1**, the bulk of the enrollment growth occurred between the 2000/01 to 2006/07 school years, with year-over-year increases generally exceeding 5 percent. The growth was fueled by a wave of new housing construction fostered by easy lending practices. By 2007, these helped lead to the crash of the mortgage industry and housing market, and a severe recession and loss of employment. The ensuing fall of housing occupancy and construction levels during the recession contributed to an enrollment decline of 1.2 to 2.8 percent per year over the next four years. Enrollment rebounded with an increase of about 380 students in 2014/15, and another 340 in 2015/16, due to a combination of an improving economy and the reinstitution of all-day Kindergarten.

FIGURE 1
ENROLLMENT AND ENROLLMENT CHANGE: 2000/01 – 2015/16



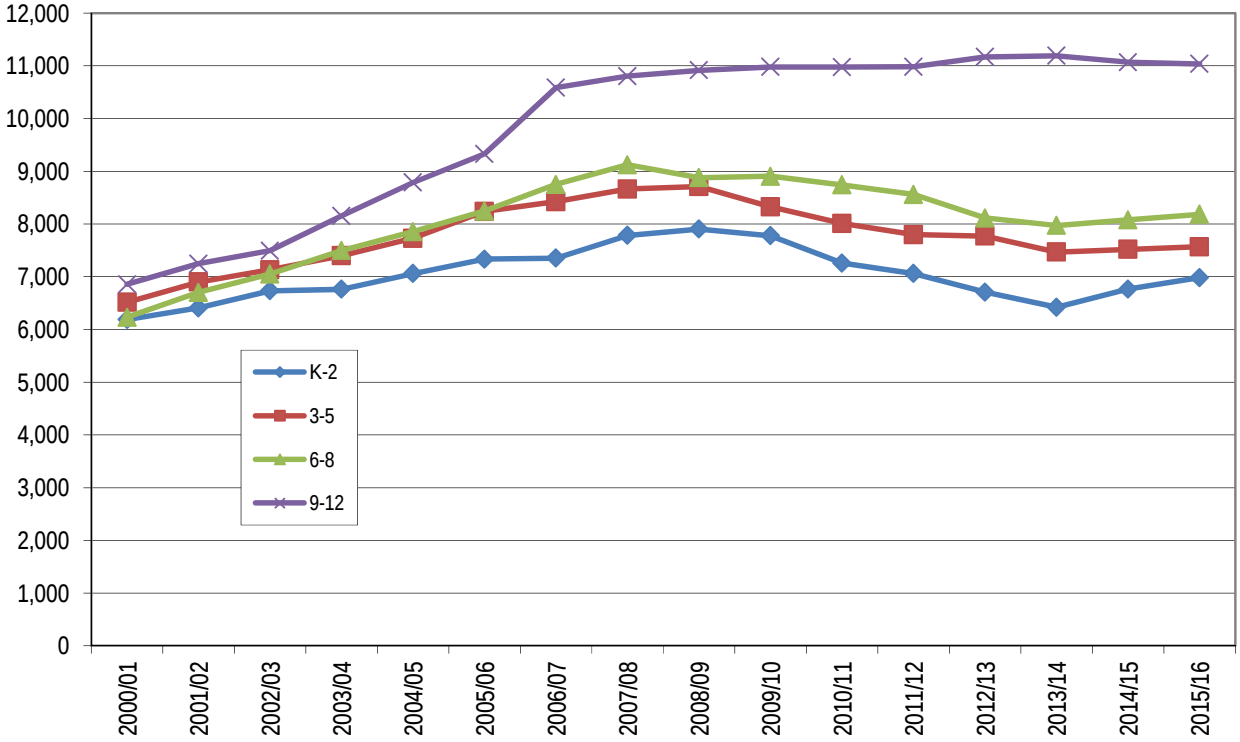
Sources: Deer Valley Unified School District; Applied Economics, 2015.

The breakdown by grade cohort provides a good understanding of the past and current structure of enrollment in the District and lends insight as to what may happen in the future. For this purpose, the grades are divided into four cohorts: three groups of three grades each for grades K-8 and the high school group, which contains four grades. **Figure 2** displays the historic distribution of students by cohort in District schools since 2000/01. Currently, the 9th to 12th grade cohort is the largest, with about 11,000 students, the 6th to 8th grade cohort includes nearly 8,200 students, the 3rd to 5th grade cohort includes roughly 7,600 students, and the Kindergarten to 2nd grade cohort is the least populous with just under 7,000 students. The 9th to 12th grade cohort contains one more grade level than the other cohorts, but also contains more students (2,760) per grade than any of the elementary categories, and far more than the K-2 cohort at 2,330 per grade.

All-day Kindergarten was discontinued shortly after the onset of the housing market crash, and of the 3,350-student enrollment decline between 2008/09 and 2013/14, nearly half were from the K-2 cohort. Such changes at the Kindergarten level have a lasting impact on enrollment, as the smaller class progresses through successive grades. Upon the reinstatement of all-day Kindergarten in 2014/15, enrollment increased by nearly 380 students, nearly three quarters of which were Kindergarteners.

As enrollment increased in the early-to-mid 2000s, it also began to shift in composition. Around the 2006/07 school year it became apparent that there was a widening separation between high school enrollment and the enrollment in lower grades. This can be attributed to an older homebuyer profile due to escalating housing costs prior to the recession, and therefore an increase in the number of older students.

FIGURE 2
ENROLLMENT BY GRADE COHORT: 2000/01 – 2015/16

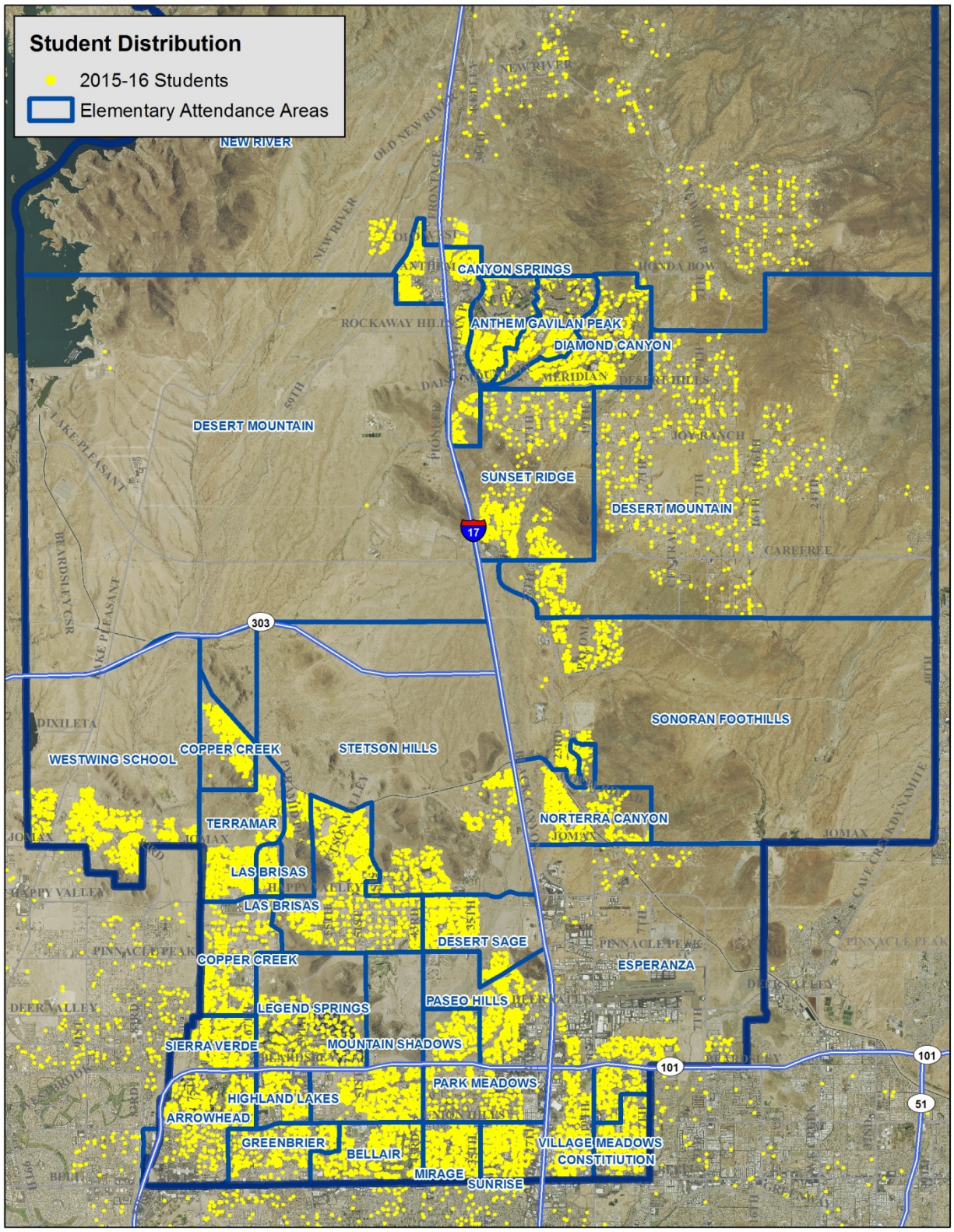


Source: Deer Valley Unified School District; Applied Economics, 2015.

The lagging effects of the recession have the potential to impact each successive cohort for years to come. The years of decline in the K-2 cohort has translated into waning numbers at the middle grade levels as these students have advanced. However, as the housing market continues to recover and market fundamentals become more stable, enrollment fluctuations should be less pronounced.

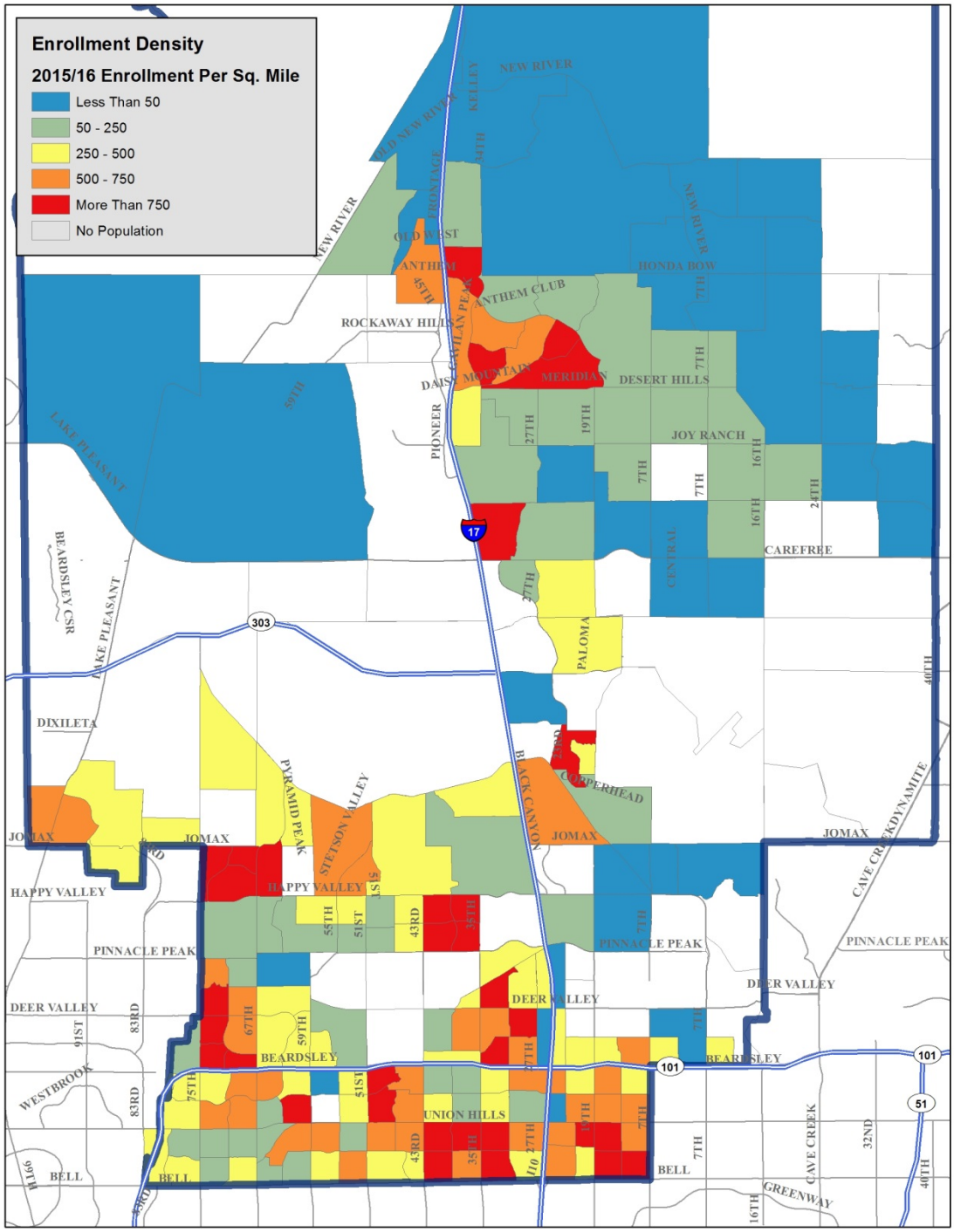
In addition to looking at enrollment by grade, it is also useful to analyze the geographic distribution of students. As shown in **Map 2,** the majority of the students currently enrolled in the District live in the southwestern portion of the District, which is a well-established and primarily residential area. Large student concentrations exist in new and growing subdivisions between the Loop 101 and Jomax Road, as well as in the northeastern part of the District north of Desert Hills Drive, and east of Interstate 17 in Anthem.

MAP 2
2015/16 STUDENT DISTRIBUTION



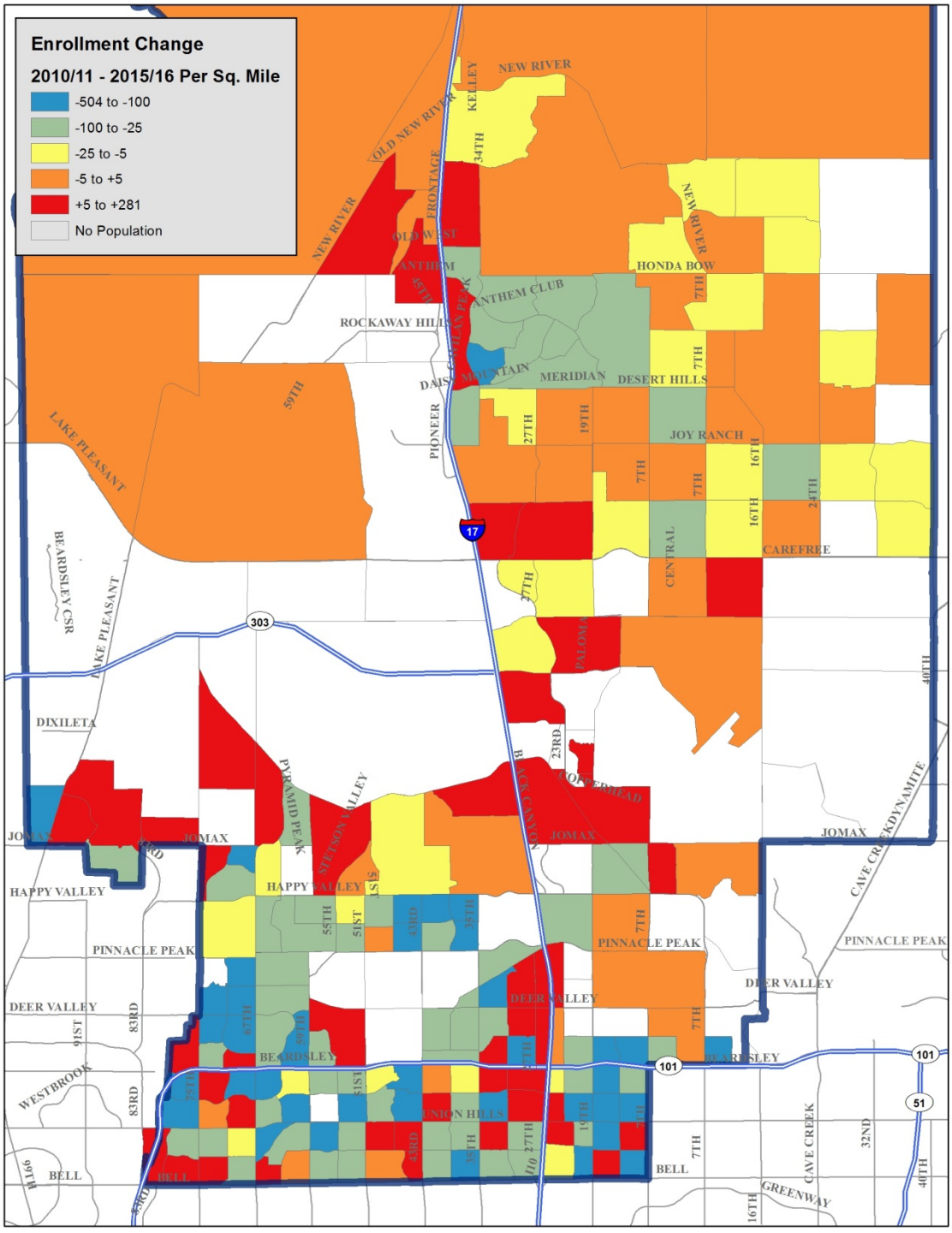
Map 3 normalizes the distribution of the student data by showing the number of students per square mile for the planning areas (grids) used in the analysis. The map shows higher density areas primarily concentrated in the well-established neighborhoods near the District's southern border and the Loop 101 Freeway, and in the Anthem area to the north. Due to the significant amount of state and federal land within the District, there are many areas with little to no population.

MAP 3
ENROLLMENT DENSITY: 2015/16



Map 4 displays changes in enrollment between 2010/11 to 2015/16. Many areas experienced losses, especially in the Anthem area, and in the older, southern portion of the District. Growth rates were significant in the corridor of new developments east of I-17, in the Stetson Valley area at Happy Valley and west of 51st Avenue, and in pockets along Loop 101 intermixed with the areas of severe losses.

MAP 4
CHANGE IN ENROLLMENT: 2010/11 TO 2015/16



2.2 DEMOGRAPHIC TRENDS

Table 1 provides a detailed portrayal of District population and housing over time with survey data from the U.S. Bureau of the Census, and current estimates by Applied Economics. Like many parts of the Valley, the District experienced a significant increase in population from 2000 to 2010, growing by an average of over 4 percent annually. Most of that growth occurred in the first half of the decade prior to the nationwide economic recession. Since 2010, population has been virtually flat, increasing by less than 1 percent per year. The racial and ethnic composition of the District population has changed little since 2010, with a slight decline in the White share of population and similarly minor increases in the African-American, Asian, and Hispanic share.

Since the 2000 Census the data shows a general aging of the population, which impacts District enrollment. The youngest age group, children under 5 years old, increased by 2.7 percent annually between 2000 and 2010, a time of high growth until late in that period. But in the last five years the pre-school population has fallen by 2.8 percent per year, losing 2,200 persons. The elementary school aged population, persons 5 to 13 years old, declined from 14.5 percent of the District population in 2000 to 13.6 percent in 2010, and an estimated 12.6 percent in 2015. The population in this age group actually declined by 0.6 percent per year between 2010 and 2015, falling from 32,582 to 31,646 persons. The high school age population, persons 14 to 17 years old, remained reasonably stable, only changing from 6.3 to 6.1 percent of the total population between 2000 and 2015.

The largest changes in population have been in the older age groups. Both the 45 to 64 and 65 and over age groups increased at rates significantly higher than the population in general or any other age group. Annual growth rate for these two groups has been about 7.1 percent between 2000 and 2010, and 2.3 percent per year from 2010 to 2015. One clear example of the shifts in the District population is the fact that between 2010 and 2015 there was a loss of about 2,200 persons in the under 5 age group and a gain of about 2,200 persons in the 65 and over group.

There were 35,904 new housing units added during the 2000 to 2010 time period, an average of about 3,600 per year, with another 3,519 by 2015, at only 700 per year on average. Multifamily housing additions increased at a slightly higher rate than single family in both time periods. Occupancy levels dropped from 93.7 percent to 90.4 percent between 2000 and 2010 as an impact from the recession. By 2015, occupancy had recovered to a large extent, reaching 92.0 percent. The ownership profile shifted from 20.3 percent renter occupied units in 2000, to 24.9 percent in 2010 and on to 26.8 percent by 2015. This is significant due to the fact that rental units tend to have fewer school-age children, especially in the higher grades, though higher turnover in these units can serve to stabilize the student population to some degree as new families move in rather than aging over an extended period of time. A greater proportion of owner-occupied units typically increase student population in the near term, but then decreases over time.

Household size has declined by 0.2 percent annually since the 2000 Census. This can be attributed to the older home-buyers profile in the District, plus the effects of an aging existing population.

TABLE 1
POPULATION AND HOUSING TRENDS

	2000 Census		2010 Census		2015 Estimate		Change (2000-2010)		Change (2010-2015)	
	Total	Percent	Total	Percent	Total	Percent	Total	Percent*	Total	Percent*
Population										
Total	159,234	100.0%	239,040	100.0%	250,291	100.0%	79,806	4.1%	11,251	0.9%
By Race & Ethnicity:										
White	134,862	84.7%	189,437	79.2%	197,362	78.9%	54,575	3.5%	7,925	0.8%
African American	3,333	2.1%	5,623	2.4%	6,064	2.4%	2,290	5.4%	441	1.5%
Native American	1,175	0.7%	1,786	0.7%	1,870	0.7%	611	4.3%	84	0.9%
Asian	3,736	2.3%	11,727	4.9%	12,525	5.0%	7,991	12.1%	798	1.3%
Hispanic	15,933	10.0%	30,090	12.6%	32,042	12.8%	14,157	6.6%	1,952	1.3%
Other	193	0.1%	377	0.2%	429	0.2%	184	6.9%	52	2.6%
By Age:										
Under 5	12,717	8.0%	16,602	6.9%	14,392	5.8%	3,885	2.7%	-2,210	-2.8%
5 to 13	23,031	14.5%	32,582	13.6%	31,646	12.6%	9,551	3.5%	-936	-0.6%
14 to 17	10,016	6.3%	14,368	6.0%	15,377	6.1%	4,352	3.7%	1,009	1.4%
18 to 24	13,474	8.5%	20,143	8.4%	20,880	8.3%	6,669	4.1%	737	0.7%
25 to 44	56,869	35.7%	71,267	29.8%	73,875	29.5%	14,398	2.3%	2,608	0.7%
45 to 64	33,731	21.2%	64,693	27.1%	72,480	29.0%	30,962	6.7%	7,787	2.3%
65 and up	9,396	5.9%	19,385	8.1%	21,641	8.6%	9,989	7.5%	2,256	2.2%
Housing Units										
Total	60,589	100.0%	96,493	100.0%	100,012	100.0%	35,904	4.8%	3,519	0.7%
Occupied	56,782	93.7%	87,217	90.4%	92,011	92.0%	30,435	4.4%	4,794	1.1%
Owner	44,491	73.4%	63,211	65.5%	65,189	65.2%	18,720	3.6%	1,978	0.6%
Renter	12,291	20.3%	24,006	24.9%	26,822	26.8%	11,715	6.9%	2,816	2.2%
Vacant	3,807	6.3%	9,276	9.6%	8,001	8.0%	5,469	9.3%	-1,275	-2.9%
Seasonal Use	1,190	2.0%	2,111	2.2%	2,210	2.2%	921	5.9%	99	0.9%
By Unit Type:										
Single Family	50,715	83.7%	79,651	82.5%	82,424	82.4%	28,936	4.6%	2,773	0.7%
Multifamily	9,874	16.3%	16,842	17.5%	17,588	17.6%	6,968	5.5%	746	0.9%
Households										
Total	56,782	100.0%	87,217	100.0%	92,011	100.0%	30,435	4.4%	4,794	1.1%
Population Per	2.80		2.74		2.72		-0.06	-0.2%	-0.02	-0.2%

Sources: U.S. Bureau of the Census, 2000 and 2010; Applied Economics, 2015.

* Annual compound rate of change.

2.3 ALTERNATIVE PROVIDERS

Public school districts have 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 but it is difficult to learn of new schools prior to opening. Over time, charter schools also move, change names, or go out of business, which also creates tracking difficulties. While there may be issues with reporting lags, the Arizona Department of Education provides reliable information on charter school enrollment.

In the 2014/15 school year, there were 17 charter schools operating within the Deer Valley School District boundaries, serving about 7,200 K-12 students. The schools are listed on **Table 2** along with their addresses and enrollment. Within a mile of the District boundaries are an additional seven charter schools with enrollment totaling about 2,400 K-12 students.

Private schools do not have the reporting requirements charter entities do so data is often less accessible, although enrollments tend to not fluctuate as much as in charter schools, and the schools are generally more stable. There were five private schools located within the District boundaries in the 2013/14 school year, the most recent data available, serving 1,074 students. The Caepe School, which had 59 students closed following the 2013/14 school year, leaving just over 1,000 students in four schools within the District.

TABLE 2
ENROLLMENT IN LOCAL NON-DISTRICT SCHOOLS BY SCHOOL

Charter Schools School Name	Address	City	Zip	Total K-12
Adams Traditional Academy	2323 W Parkside Lane	Phoenix	85027	854
AMCS at Anthem dba Caurus Academy	41900 N 42nd Ave	Anthem	85086	188
Canyon Pointe Academy	4941 W Union Hills Dr	Glendale	85308	401
Challenge Charter School	5801 W Greenbriar Dr	Glendale	85308	575
Deer Valley Academy	18424 N 51st Ave	Glendale	85308	29
Desert Heights Preparatory Academy	3540 W Union Hills Dr	Phoenix	85016	405
E-Institute at Grovers	4744 W Grovers Ave	Glendale	85308	32
E-Institute at Union Hills	3515 W Union Hills	Phoenix	85308	190
Great Hearts Academies - Anthem Prep	39808 N Gavilan Peak Pkwy	Anthem	85086	730
Happy Valley School	7140 W Happy Valley Rd	Peoria	85383	749
Hearn Academy	17606 N 7th Ave	Phoenix	85022	597
Imagine Bell Canyon	18052 N Black Canyon Highway	Phoenix	85053	404
Ombudsman - Charter West	3624 W Bell Rd	Glendale	85308	102
Pinnacle Pointe Academy	6753 W Pinnacle Peak Rd	Glendale	85310	314
Reid Traditional Schools' Valley Academy	1520 W Rose Garden Lane	Phoenix	85027	788
Ridgeline Academy-A Challenge Foundation Academy, Inc.	33625 N N Valley Parkway	Phoenix	85085	609
Stepping Stones Academy	35812 N 7th St	Phoenix	85086	205
Total				7,172

Source: Arizona Department of Education; Applied Economics, 2015.

Private Schools* School Name	Address	City	Zip	Total K-12
Arrowhead Christian Academy	4030 W Yorkshire Dr	Glendale	85308	130
Atonement Lutheran	4001 W Beardsley Rd	Glendale	85308	115
Joy Christian School	21000 N 75Th Ave	Glendale	85308	630
North Valley Christain Academy	42101 N 41St Dr Ste 101	Anthem	85086	140
The Caepe School	39905 N Gavilan Pkwy	Anthem	85086	59
Total				1,074

Source: National Center for Education Statistics; Private School Review; Applied Economics, 2015.
* Data for 2013/14 school year.

Table 3 shows the enrollment in charter schools by grade over the past seven years. Enrollment has increased by 3,400 students, with the largest growth occurring by 2011/12. The number of schools increased every year between 2008/09 and 2011/12, but has declined each year since. Despite the waning number of schools after 2011/12, enrollment has continued to increase every year. The average yearly growth rate is over 10 percent overall, or about 570 students per year, with the largest gain in the 2010/11 school year with 929 students. Part of the increase could be attributed to the opening of new schools, but the majority of enrollment growth took place among the existing campuses. The bulk of the enrollment tends to be in the younger grades, with lower levels until the 11th and 12th grades, which see significant increases, particularly in the 12th grade.

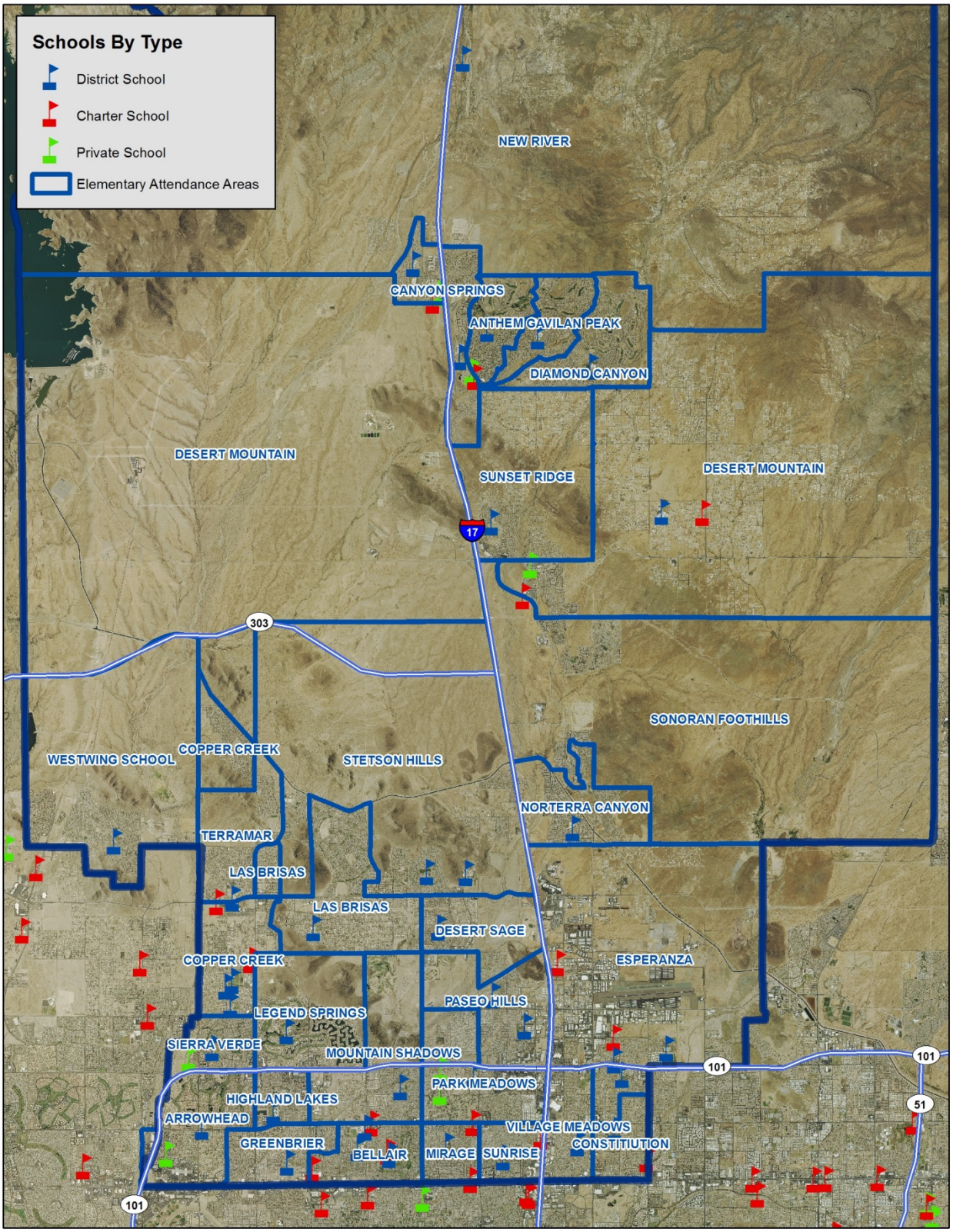
TABLE 3
ENROLLMENT IN LOCAL NON-DISTRICT CHARTER SCHOOLS BY GRADE

Year	# Schools	KG	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Total	Annual Change
2008-09	14	582	529	494	478	366	332	314	159	128	86	61	92	151	3,772	
2009-10	15	663	575	530	487	477	385	337	141	116	20	54	105	166	4,056	284
2010-11	18	864	675	624	559	556	516	429	198	157	48	49	116	194	4,985	929
2011-12	22	960	835	713	708	650	560	480	223	186	65	59	95	180	5,714	729
2012-13	20	1,019	899	811	728	708	544	511	257	212	64	72	113	242	6,180	466
2013-14	18	1,057	938	875	796	694	654	538	379	328	152	120	141	223	6,895	715
2014-15	17	856	915	826	758	717	620	562	342	328	143	107	157	244	7,172	277

Source: Arizona Department of Education; Applied Economics, 2015.

As can be seen on **Map 5** the charter schools are generally located near the southern boundary of the District, along arterial streets. There are also a number of charter schools located outside the District but in close proximity, including seven within one mile of district boundaries.

MAP 5
DEER VALLEY AREA SCHOOLS BY ENTITY TYPE



3.0 RESIDENTIAL DEVELOPMENT

3.1 HOUSING CONSTRUCTION

As shown on **Table 4**, there have been nearly 16,000 housing units permitted in the District in the past ten years, with over half during the first two years of the period. Residential building permit activity has been uneven over the past few years since the recession and housing market collapse. Prior to that, construction had already begun declining as major developments had previously peaked. The highest levels of residential development in the District were between 2003/04 and 2005/06, with single family permits averaging almost 4,600 units per year and elevated levels of development at Anthem, Sonoran Foothills, Sonoran Mountain Ranch, Stetson Valley, Valley Vista, and Westwing Mountain. Once activity at those projects had peaked, some built out while others continued construction at diminished levels. It is apparent that the market recession exacerbated a long term trend that had already begun.

Single family permitting has been concentrated in the low-to-medium density classifications overall, but has trended toward lower density housing in recent years. In 2005/06, housing at 3.5 density units per acre or less accounted for just over 60 percent of the single family total, but in 2014/15 was nearly 90 percent of the total. Multifamily housing has also been limited since 2009/10, as that market has been concentrated in a few areas elsewhere in the metro region, particularly in and near Desert Ridge and the downtowns of Phoenix, Tempe, and Scottsdale.

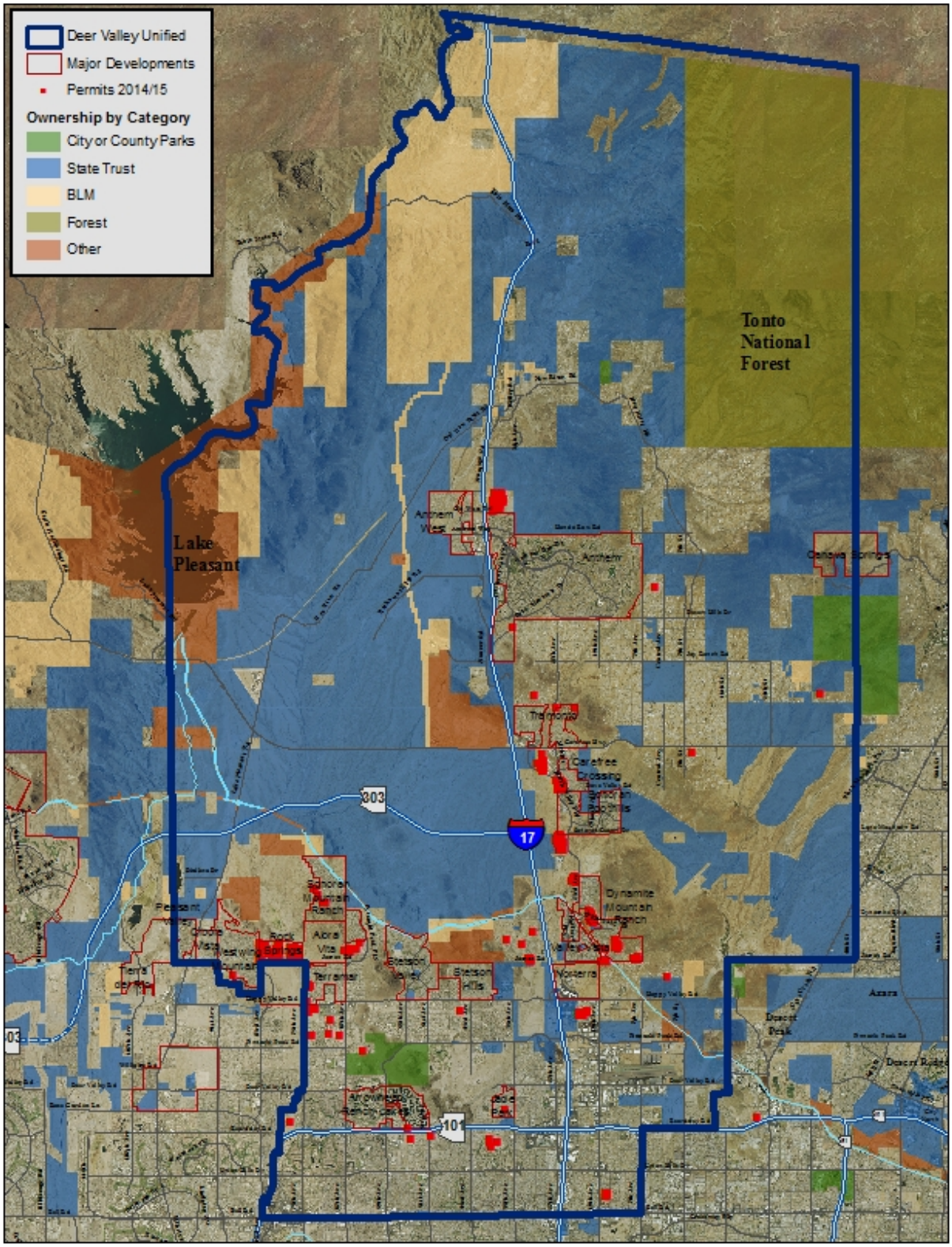
TABLE 4
HOUSING PERMITS

Housing Type	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	Total
Non-Retirement Housing											
Single Family 2 du/ac or less	1,202	781	284	132	135	75	108	193	336	213	3,459
Single Family 2.01 - 3.5 du/ac	1,760	1,107	558	321	237	147	266	456	269	310	5,431
Single Family 3.51 - 4.5 du/ac	1,670	328	135	72	55	35	86	42	70	67	2,560
Single Family 4.51 - 6 du/ac	101	59	-	-	-	7	44	49	-	-	260
Single Family 6.01du/ac & Over	-	61	-	-	-	-	-	-	-	-	61
Single Family Attached	-	-	-	-	-	-	-	-	-	-	-
Manufactured Housing	-	-	-	-	-	-	-	-	-	-	-
Total Single Family	4,733	2,336	977	525	427	264	504	740	675	590	11,771
Multifamily to 12 du/ac	4	82	146	30	-	-	-	-	5	10	277
Multifamily 12.0 du/ac & Over	800	352	252	1,255	359	8	334	-	-	389	3,749
Total Multifamily	804	434	398	1,285	359	8	334	-	5	399	4,026
Total	5,537	2,770	1,375	1,810	786	272	838	740	680	989	15,797

Sources: Maricopa Association of Governments; Construction Monitor; Maricopa County Assessor; Applied Economics, 2015.

Development in the District is strongly influenced by geography and land ownership. Some of the fluctuations in housing construction are a result of the somewhat disjointed availability of developable land. As shown on **Map 6**, development areas are separated by mountainous terrain, canals, and confined by large tracts of State Land not yet available for private development. Permits taken out in 2014/15 are largely concentrated at Rock Springs in the west, and in numerous subdivisions along the 23rd Avenue corridor on the east side of I-17. There is also some development scattered in the rural area south and east of Anthem, with some infill activity in the southern portion of the District.

MAP 6
RESIDENTIAL PERMITTING



3.2 HOUSING VACANCY TRENDS

Housing vacancy data is one of the most difficult-to-acquire metrics used to project District population and enrollment. Changes in housing vacancy rates can result in declines or increases in population without any residential construction. The United States Department of Housing and Urban Development (HUD) has an agreement with the U.S. Postal Service (USPS) to receive data on addresses identified by the Post Office as having been vacant the previous quarter. This data has been processed by using the 2010 Census as a benchmark and applying changes in vacancy rates, rather than using absolute numbers of housing units. **Map 7** shows the study areas defined for the vacancy data.

Based on groupings of Census Tracts, areas of similar housing characteristics are combined to increase the relevance of the data. The large Anthem/New River study area is largely State Land, with most of the housing at the Anthem development begun in the late 1990's. Desert Hills consists of numerous rural large lot properties. Stetson Valley includes that development, as well as Rock Springs and Westwing Mountain in the city of Peoria. Sonoran Foothills includes the corridor on the east side of I-17 with numerous active subdivisions and employment centers, including Dynamite Mountain Ranch and Norterra. Deer Valley East is an older residential area, with extensive industrial employment, while Deer Valley West is mostly residential, including Glendale's Arrowhead Lakes master planned community.

Vacancy rates throughout the District have improved substantially, with rates overall dropping by 50 percent, shown on **Table 5**. The Desert Hills and Anthem study areas have changed the least, the former likely due to the stable, rural nature of the area, and the latter most likely due to seasonal housing. Even so, vacancy rates at Anthem decreased by 34 percent. The other study areas averaged nearly 60 percent declines in vacancy since the beginning of 2010. Average vacancy is less than 4 percent in those areas and less than 5 percent overall, serving as strong evidence of the attractiveness of the area. The steep drops in vacancy rates in the growing Stetson Valley and Sonoran Foothills study areas indicate that new housing is being rapidly absorbed, suggesting strong demand. The low rates throughout the southern portion of the District reveal a lack of available housing, and with fewer than 5,000 estimated vacancies in the entire District, on a base of over 100,000 residential units.

MAP 7
VACANCY TRENDS STUDY AREAS

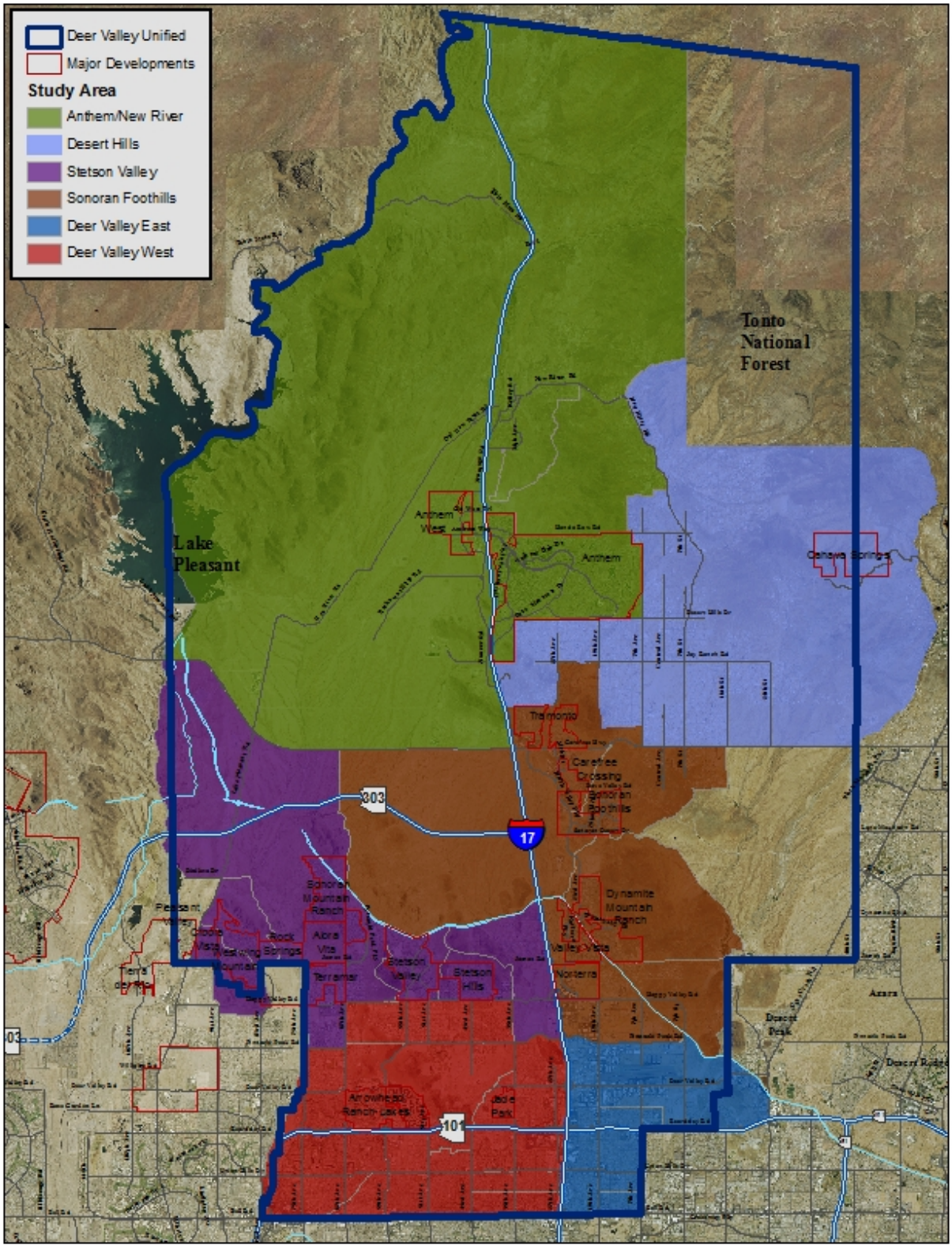


TABLE 5
HOUSING VACANCY TRENDS

Year	Quarter	Deer Valley East	Deer Valley West	Stetson Valley	Sonoran Foothills	Anthem/New River	Desert Hills	District Average
2010	1	10.83%	7.48%	6.94%	12.50%	15.92%	9.63%	9.60%
	2	11.04%	7.43%	6.77%	10.58%	16.24%	9.40%	9.41%
	3	11.03%	7.08%	6.61%	9.81%	15.63%	8.98%	9.04%
	4	10.81%	7.02%	6.56%	10.10%	15.85%	9.85%	9.09%
2011	1	9.96%	6.89%	6.45%	9.75%	15.19%	10.64%	8.82%
	2	9.63%	6.53%	7.11%	9.36%	15.01%	10.38%	8.61%
	3	8.37%	5.64%	7.60%	8.89%	15.67%	12.48%	8.24%
	4	7.95%	5.56%	7.09%	8.64%	15.16%	12.00%	7.97%
2012	1	7.00%	5.36%	6.59%	8.28%	13.87%	11.52%	7.46%
	2	6.70%	5.36%	6.01%	8.08%	13.54%	11.37%	7.28%
	3	7.55%	5.79%	5.58%	7.86%	13.47%	11.00%	7.48%
	4	7.20%	5.35%	5.23%	7.29%	13.73%	10.92%	7.16%
2013	1	6.70%	5.09%	4.94%	6.79%	13.27%	10.62%	6.81%
	2	6.04%	4.93%	4.26%	6.27%	13.05%	10.35%	6.45%
	3	5.63%	4.65%	3.93%	5.90%	12.90%	10.35%	6.17%
	4	5.02%	4.23%	3.75%	5.79%	12.76%	10.18%	5.83%
2014	1	4.81%	4.01%	3.67%	5.87%	12.03%	10.57%	5.64%
	2	4.50%	3.96%	3.51%	5.82%	11.77%	10.28%	5.50%
	3	4.72%	3.82%	3.39%	5.78%	11.82%	10.12%	5.45%
	4	4.54%	3.52%	3.32%	5.83%	11.71%	10.19%	5.28%
2015	1	4.44%	3.42%	3.21%	5.57%	10.63%	9.86%	5.02%
	2	3.85%	3.05%	3.05%	5.48%	10.57%	9.73%	4.73%

Source: U.S. Department of Housing and Urban Development; U.S. Postal Service; U.S. Bureau of the Census; Maricopa Association of Governments; Construction Monitor; Applied Economics, 2015.

3.3 FUTURE DEVELOPMENT POTENTIAL

The future residential development potential within the Deer Valley District is currently estimated to be about 45,000 units. **Table 6** shows the development potential by type of housing product and the estimated time period expected for the *beginning* of construction, although developments often take a number of years to actually complete. About 70 percent of the active units are in the "Custom/Infill" category, which are generally rural, or infill projects that are likely to be under development intermittently over a number of years. Examples of this could include the rural area between Anthem and Carefree Highway, or any infill potential in the southern portion of the District, which is substantially developed already. Both the number of units and the timing of them may change as new information is acquired.

About 90 percent of the estimated units in the 10-plus Years category are on State Land parcels, and the actual configuration of such developments will most likely include a wider range of densities than is indicated under this current estimate. However, even if the entire category is removed, the remaining estimate still shows about 60 percent of the single family development potential in the 2.0 to 3.5 units per acre density range. Such a narrow range of future housing types could impact the age levels of the resident population, though differences in the actual housing product should provide some degree of diversity. Only about 15 percent of single family housing is over 3.5 units per acre, while just over 25 percent of that estimate is estate-type housing, which would favor an older resident profile. The estimated potential includes about 25 percent multifamily, but the number of such units is likely to increase as additional parcels of land are selected for multifamily use.

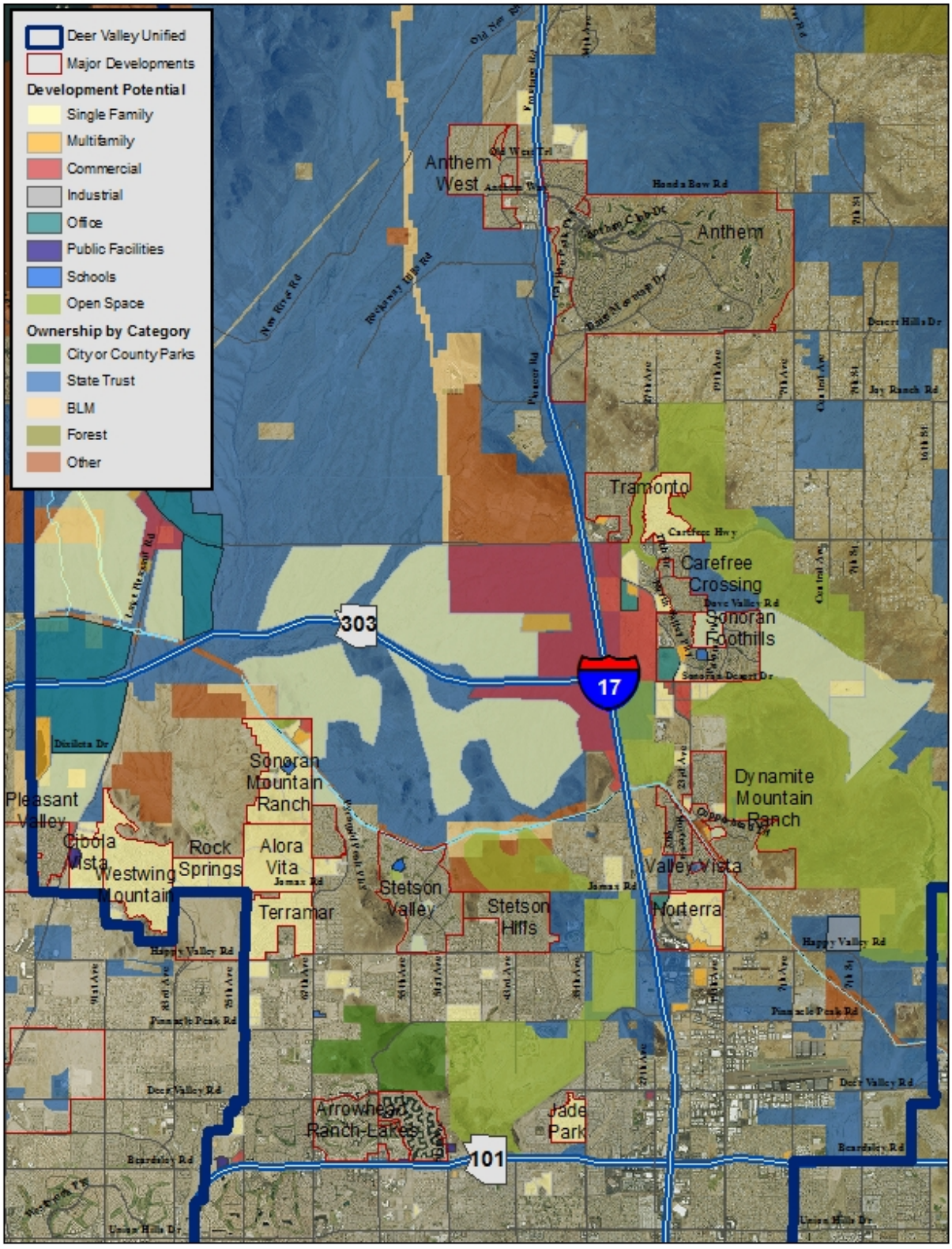
TABLE 6
POTENTIAL NEW HOUSING BY DEVELOPMENT TIMELINE

	Active	Custom/	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	166	2,269	-	45	602	54	1,238	4,374
Single Family 2.01 - 3.5 du/ac	475	456	-	669	2,176	2,917	22,578	29,271
Single Family 3.51 - 4.5 du/ac	410	-	111	593	390	-	1,440	2,944
Single Family 4.51 - 6 du/ac	-	-	39	-	-	214	-	253
Single Family 6.01du/ac & Over	-	-	-	-	-	-	-	-
Single Family Attached	-	-	-	-	-	-	-	-
Manufactured Housing	-	-	-	-	-	-	-	-
Total Single Family	1,051	2,725	150	1,307	3,168	3,185	25,256	36,842
Multifamily to 12 du/ac	105	-	-	-	150	308	-	563
Multifamily 12.0 du/ac & Over	196	700	138	681	376	1,271	4,483	7,845
Total Multifamily	301	700	138	681	526	1,579	4,483	8,408
Total	1,352	3,425	288	1,988	3,694	4,764	29,739	45,250

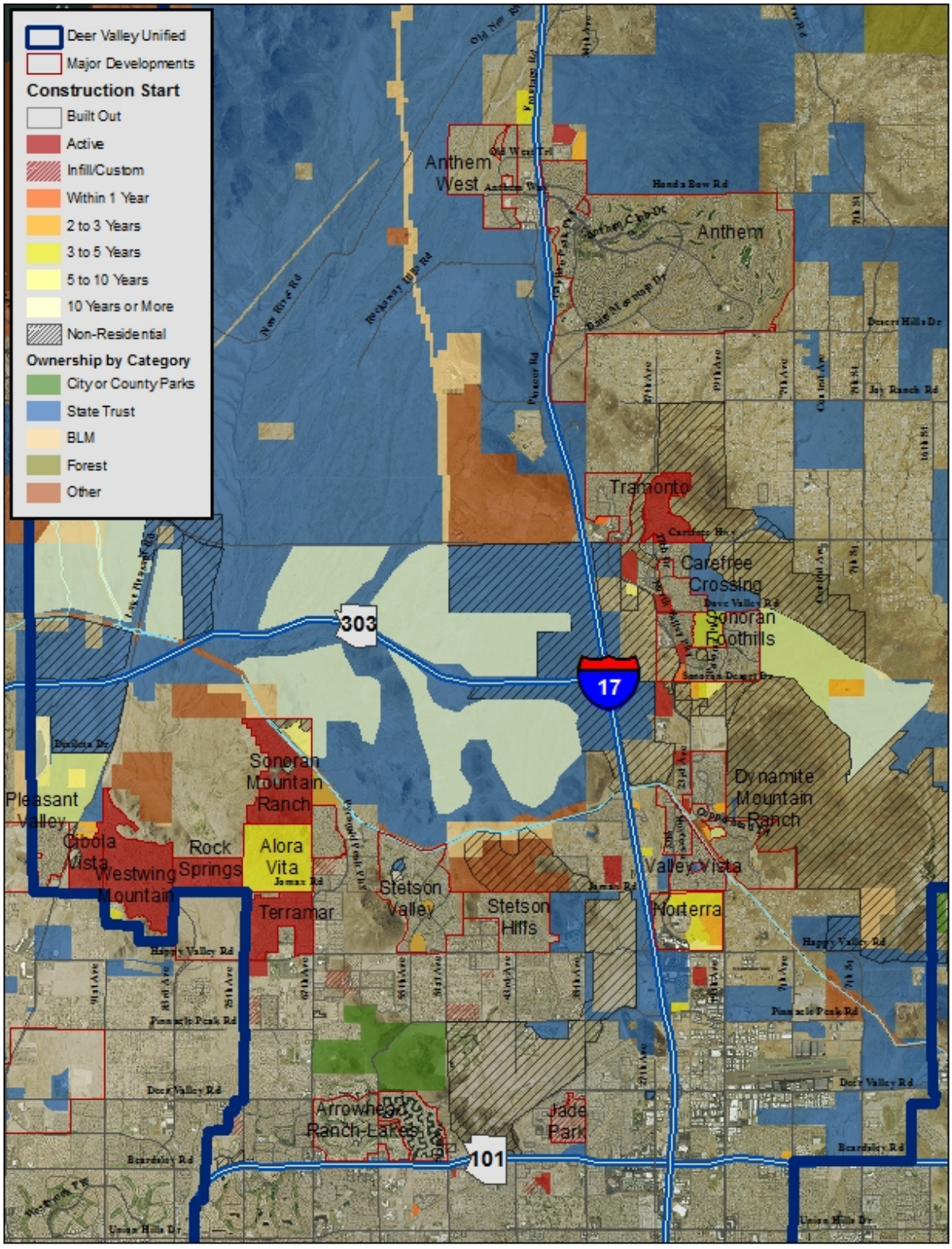
Sources: City of Phoenix; City of Peoria; City of Glendale; Maricopa County; Applied Economics, 2015.

The following maps illustrate the location of this development potential. **Map 8** shows future land use. As would be expected, single family housing comprises most of the future land uses, with pockets of commercial uses, some of which are substantial. Much of the District consists of State Land, with the potential for large-scale future development along the Loop 303. **Map 9** illustrates currently active and future development areas by the estimated timing as presented in the table above. The active areas are in centrally located corridors, with established areas to the north and south.

MAP 8
FUTURE LAND USE



MAP 9
DEVELOPMENT TIMING



The regional real estate market has had an uneven recovery from the collapse of the housing bubble. This has been due to the extent of the damage locally and the sluggish improvement of the economy in general. Lingering issues of damaged credit, foreclosed houses and a general lack of consumer confidence has resulted in chronically low residential demand and has impacted new home construction. Builders have been cautious about making new investments in land, focusing instead on smaller development projects by purchasing finished lots in existing subdivisions.

Several trends converging at this time portend major changes in the housing market in the coming years. The first is simply the continued improvement in the U.S. economy overall, which allows for greater mobility of households, an important factor for a place like Arizona which typically draws substantial in-migration from other regions of the country. Housing demand is also increasing as changes to mortgage underwriting guidelines are increasing the availability of loans. Damage to credit resulting from foreclosure is also receding. It generally takes seven years for a foreclosure to be dropped from a credit report, so those who were foreclosed on in 2008 should be in an improved financial position this year. In coming years more foreclosures will drop from credit reports, resulting in increasing numbers of potential "boomerang buyers". According to a Realty Trac report earlier this year, Phoenix, Miami, Tampa and Las Vegas should see an increase of these returning home buyers. A National Association of Realtors (NAR) study also states that the greatest impact by return buyers will be in California, Florida and Arizona. Expected increases on interest rates could cause some dampening on home sales, but should be largely offset by improvements in employment.

One impediment to new construction is the shortage of labor in the housing industry. This has been a concern among multiple builders across the Valley and also in some reports on market predictions. Lack of local employment caused some people to leave during the recession, while many Latino workers left in reaction to the recession and in response to Senate Bill 1070 and a generally unwelcome environment in Maricopa County. Lack of framers also dampens employment in other building trades. These employment impacts lead to either shortages in new house supply, or higher labor costs, with either factor leading to potentially more expensive homes. The labor issues further contribute to slowing the recovery of the market.

Employment and income growth will be the chief drivers in the progress of the housing market, and while there are challenges, the District is better positioned for growth than some areas of the Valley. In general, both office and industrial vacancies are lower in Deer Valley and the northwest portion of the metropolitan region overall. Office vacancy rates in mid-2015 were just over 20 percent for the metro region, but about 14 percent in Deer Valley (Cushman and Wakefield). Industrial vacancy for the third quarter 2015 was just under 12 percent for the region and just below 9 in the northwest submarket (Daum Commercial Real Estate Services). This was the lowest vacancy rate of any submarket, running slightly better than the popular Northeast submarket. A Kiplinger Letter annual state economic outlook forecasts that Arizona should have job growth of about 3.6 percent in 2016, the second highest in the U.S. (behind Nevada). Given the data on office and industrial occupancy it is reasonable to expect a significant amount of that employment growth to be in the District.

Evidence of local market strength can be seen in the 377,000 square foot expansion of the USAA Phoenix Corporate Campus, which is to increase employment from the current 3,600 to about 4,000 by 2018 or soon thereafter. The adjacent upcoming Norterra mixed use project is also planned to add 500,000 to 700,000 square feet of office space, a hotel, and retail space. To the north, at Dove Valley and 31st Avenue is the site of a future W. L. Gore campus of 682,000 square feet of office, research, and manufacturing space. It isn't expected to be open for a number of years, but will help bolster the long-term economic stability of the I-17 employment corridor. So while labor issues may be an impediment to housing construction, at least in the near term, continued employment growth will promote future residential development.

Current development activity is dispersed among a number of subdivisions, mostly along the I-17 corridor and in the western area of the District near Jomax Road. The 1,050 single family lots in active projects (not custom or infill) are contained in about twenty subdivisions, with only three that have over 100 lots remaining. The Meritage Homes project, Stoneledge at North Canyon (right), has the largest remaining potential of the active projects with about 200 unbuilt lots. Located at North Valley Parkway and Carefree Highway, the development entered its construction phase in mid-2014.



The Rock Springs development in the western portion of the District continues to build strongly, though construction volume has declined since 2013/14. Lennar Homes is the major builder now, with about 150 of the 250 remaining lots. Current construction levels are moderate and unlikely to rise significantly given the labor shortages that are impacting the housing industry.

Construction at Sonoran Commons (North Valley Parkway and Sonoran Desert Drive) is progressing, with building at phase one increasing and phase two starting in mid-2015. To the south at Dynamite Mountain Ranch, Taylor Morrison still has some remaining lots. They completed one subdivision in mid-2015 but have since started another, so construction in the area continues unabated.

Just north of Anthem, Meritage Homes has finished construction on the southern portion of Arroyo Norte. Richmond American and Beazer Homes are active on the northern portion. Construction is at a moderate pace on the remaining 75 lots, with completion expected during 2017. A final parcel to the east is across an unbridged wash and is investor-owned, so there is no certain development timing. That parcel does not currently have a recorded plat, but initial street and lot grading was performed around 2010 and the parcel contains an estimated 45 lots. This would mean lots of over 50,000 square feet (more than an acre), which is substantially larger than lots in the adjacent subdivisions which generally range from about 7,500 to 10,500 square feet. This difference, along with the location as the farthest developable parcel in the area could impede development interest, though having State Land on two sides could be considered a positive aspect.

Even though the southern portion of the District is largely built out, there is still some infill activity taking place. Mandalay Homes began construction on Carmel Estates in or around October 2015. The 39-lot subdivision is located at 55th Avenue north of Union Hills Drive. At the north side of the Loop 101 and 75th Avenue, the Aspera mixed use project includes a Banner Health facility, retail, and a P.B. Bell apartment complex of 286 units (left). MCH Development started construction on a townhouse project at 51st Avenue and Loop 101 in mid-2015.

Until there are releases of major tracts of State Land, which is not expected any time soon, there are few remaining areas for major planned developments. One of these is Alora Vita, a roughly two square mile project at Jomax and 75th Avenue, half of which is located in the District, with the other half in the Peoria School District. This project is still advancing but has encountered a problem with drainage and retention

issues. The developers are seeking to resolve the problem, whether independently or with other adjacent property owners, but it is creating a delay. Housing development is now expected to begin in about three to four years, though that time frame could be moved ahead or back depending on how the retention issues are handled.

Sunbelt Holdings is adding a residential component to the Norterra development at I-17 and Happy Valley Road. Plans are for approximately 1,050 single family houses in three phases. Infrastructure work is to begin in mid to late 2016 with housing construction to follow in early 2017. No builders are yet identified, but plans call for a fairly aggressive development schedule. The multifamily component remains under the control of USAA at this time. Plans are for 800 to 900 units in high density construction, as opposed to the "courtyard" type complexes common in suburban Phoenix. There is no timing estimate yet on the multifamily units. The location is very good for such development, but there are several other multifamily projects planned in the area. While the apartment market remains strong, there is some danger of oversaturation, given the elevated construction levels in recent years.

Housing growth in the near term will continue to take place in small subdivisions or on remaining parcels within developments while waiting for larger tracts of land to be available. Pulte Homes purchased two State Land parcels in Stetson Valley in September 2015. The two parcels, including one that had previously been designated for commercial use, should yield about 140 single family lots. At 67th Avenue and the CAP canal, Lennar and Pulte Homes will develop a State Land parcel auctioned in May 2015 with about 230 single family lots. Pivotal Realty owns parcels at Westwing and Lake Pleasant Parkways in Peoria and has builder interest. Pre-application meetings are in progress with the estimated 140 lots expected to be under construction in 2017.

East of I-17, zoning for an 82 lot subdivision southeast of North Valley Parkway and Sonoran Desert Drive is moving ahead, with Mattamy Homes listed as the applicant. At the northeast corner of the same intersection, a rezoning of a commercial parcel has resulted in a 111-lot subdivision. A Shea Homes partnership is listed as owner of the parcel that began infrastructure development in late 2015 (right).



East of Dove Valley Road and North Valley Parkway is a 145 acre State Land parcel. Taylor Morrison Homes has shown interest in this land in the past, but any plans are being deferred at this time. It is known that the company is interested in a large tract of land to the southeast (in the Paradise Valley School District) that is expected to be auctioned in the spring of 2016. There may be renewed interest after that auction, depending on the result. Farther east, south of Dove Valley Road at the Central Avenue alignment, Taylor Morrison is pursuing development of an 80 acre parcel. The parcel is surrounded by State Land and the company has acquired right of way easements through multiple auction cases in May 2015. Due to the location, there will be substantial off-site improvements necessary before development of the subdivision can begin. Entitlements are being pursued in late 2015, and sales for the 255 lots at Sonoran Gate are planned to commence in mid to late 2017.

Construction activity for single family homes is expected to lag over the next two years as currently active subdivisions are scheduled to build out before major new projects, such as Norterra and the delayed Alora Vita, are underway. After the initial period of build-out and preparation, construction levels are expected to increase and remain strong throughout most of the projection period. Long term construction levels will depend on absorption of State Land parcels in any or all of three areas: Peoria along Lake Pleasant Parkway, east of I-17 on the south side of Dove Valley Road, and mid-District on either side of Loop 303. Multifamily housing is expected to grow more consistently than in recent years but not at exceptional levels due to the labor issue and concerns over general market saturation in the region. Greater local employment growth could increase production, especially in the mid-term, if the shortages in construction labor can be alleviated.

4.0 DISTRICT-LEVEL PROJECTIONS

In this section of the report, the enrollment, demographic, and development information is integrated in order to project changes to District-level enrollment. The level of projected change is based on Applied Economics' housing growth forecast, occupancy rates, and per household student-age population generation rates. Due to the pronounced demographic and development differences that exist among the different areas of the District, the District-level projections are cross-checked using projections by District sub-area as presented in Section 5 of this report. This methodology leads to the creation of ten-year enrollment projections by grade for Kindergarten through 12th grade.

4.1 HOUSING AND POPULATION

Table 7 provides annual housing, household and population projections through 2025/26 based on the projected annual absorption of new housing units and demographic trends. The housing unit construction schedule developed for the 10-year period is based on recent and forecast construction trends, ownership, and data reflecting economic growth in the District. These projections result in a total housing inventory of about 109,750 units in 2025/26, up about 9,700 units from the 2015/16 inventory. This would result in a District-wide population of about 274,400 people, an increase of about 24,100 persons.

More important than the number of new housing units is the number of *occupied* housing units, or households. In the mid-2000's, the District housing occupancy rate was about 96 percent but it decreased as the economic recession deepened, reaching a low of 90.4 percent by 2010/11. Over the past five years, occupancy has slowly improved to 92 percent even while more than 3,500 new housing units have been added to inventory.

High levels of new home construction leading up to the recession combined with the ensuing drop in occupancy rate resulted in a large surplus of units, as additions to the housing inventory far outpaced new household growth between 2006/07 and 2010/11. However, this trend began to reverse in 2011/12 as occupancy rates stabilized. The number of new households is expected to continue to outpace housing unit additions throughout the projection period as housing occupancy rates gradually increase. While 9,700 new housing units are to be added over the next ten years, the number of new households is expected to be about 10,600, based on the combination of new units and higher occupancy rates. This should cause significant increases in the school-age population even as the population per household continues to decline slightly.

TABLE 7
PROJECTED POPULATION AND HOUSING

Year	Population	Housing Units Total	Housing Units New	Occupancy Rate	Vacant Units	Households Total	Households Change	Pop/HH
2000/01	159,234	60,589		93.7%	3,807	56,782		2.804
2001/02	167,889	63,825	3,236	93.9%	3,893	59,932	3,150	2.801
2002/03	176,834	67,112	3,287	94.1%	3,960	63,152	3,221	2.800
2003/04	189,213	71,390	4,278	94.7%	3,784	67,607	4,454	2.799
2004/05	204,908	76,947	5,557	95.3%	3,617	73,331	5,724	2.794
2005/06	222,031	82,982	6,035	96.0%	3,319	79,663	6,332	2.787
2006/07	235,487	89,123	6,140	95.0%	4,456	84,666	5,003	2.781
2007/08	240,540	92,194	3,072	94.0%	5,532	86,663	1,996	2.776
2008/09	238,701	93,719	1,525	92.0%	7,498	86,222	-441	2.768
2009/10	239,962	95,726	2,007	91.0%	8,615	87,111	889	2.755
2010/11	239,040	96,493	872	90.4%	9,276	87,217	106	2.741
2011/12	240,482	96,765	272	90.8%	8,902	87,863	646	2.737
2012/13	242,882	97,603	838	91.1%	8,687	88,916	1,054	2.732
2013/14	245,275	98,343	740	91.4%	8,457	89,886	969	2.729
2014/15	247,513	99,023	680	91.7%	8,219	90,804	919	2.726
2015/16	250,291	100,012	989	92.0%	8,001	92,011	1,207	2.720
2016/17	252,286	100,754	742	92.2%	7,859	92,895	884	2.716
2017/18	254,742	101,717	963	92.4%	7,730	93,987	1,091	2.710
2018/19	257,556	102,819	1,102	92.6%	7,609	95,210	1,224	2.705
2019/20	260,812	104,093	1,274	92.8%	7,495	96,598	1,388	2.700
2020/21	263,672	105,173	1,080	93.0%	7,362	97,811	1,213	2.696
2021/22	265,910	106,116	943	93.1%	7,322	98,794	983	2.692
2022/23	268,098	107,042	926	93.2%	7,279	99,763	969	2.687
2023/24	270,333	108,002	960	93.3%	7,236	100,766	1,003	2.683
2024/25	272,475	108,926	924	93.4%	7,189	101,737	971	2.678
2025/26	274,426	109,750	824	93.5%	7,134	102,616	879	2.674
2015/16 - 2025/26			9,738				10,605	

Source: Applied Economics, November 2015.
*Bolding Indicates Actuals

4.2 SCHOOL-AGE POPULATION AND CAPTURE

Between the 2000/01 and 2010/11 school years, enrollment increased by 36 percent or 9,200 students, while the school-age population (persons age 5 to 17) residing within District boundaries increased by 42 percent or 13,900 students. Changes for both groups included two years of decline as a result of the recession. After 2010, enrollment continued to fall until 2014/15 when enrollment increased by 378 students. In 2015/16, the school-age population increased by 394 persons, while enrollment increased by 338 students.

In addition to the volume and market orientation of household growth, trends in per-household student generation rates and capture rates are key factors used in determining future enrollment levels as shown in **Table 8**. The first element, student generation, refers to the expected size of the school-age population, 5 to 17 years old, per household. The average number of school-age persons per household has decreased from a high of 0.582 in 2000/01 to just 0.511 currently. The District is expected to experience further declines in student generation rates, falling to 0.491 in 2019/20, before rebounding to 0.505 by the end of the projection period.

Due to the increasing number of educational alternatives and open enrollment policies, it is necessary to apply a "capture rate", or enrollment-to-population ratio, to the school-age population in order to project enrollment. While households may be generating 0.511 school-age persons on average, that does not necessarily equate to an equivalent amount of enrollment. Please note that in this analysis, the capture rate is based on the *net difference* between the school-age population and District enrollment. This includes the loss of some in-district school-age persons to other providers, and the addition of students from outside the district. In 2015/16, the school-age population of the District was 47,023, while enrollment was 33,770. This leaves a net difference of 13,253 school-age persons, resulting in an enrollment-population ratio of 0.718, or about 72 percent. Again, this includes the loss to open enrollment, charter and private schools, etc. and the addition to the District of students from elsewhere, also due to open enrollment. The relationship between school-age population and actual enrollment is illustrated by **Figure 3**.

In 2000/01, the District's capture rate was about 0.78, meaning that 78 percent of the school-age population of the District was attending District schools. That level was very typical for a suburban area that also featured a variety of private and parochial schools. Since that time, increasing open enrollment—and especially the introduction and proliferation of public charter schools—has significantly impacted the in-district capture rates for public school districts. Open enrollment causes a shifting of students between districts, with gains and losses offsetting each other to varying degrees, whereas charter schools only subtract from district enrollment. The capture rate in Deer Valley had only decreased to 0.762 by 2009/10, at which point all-day Kindergarten was eliminated from the District. As a result, the capture rate rapidly declined to 0.717 by 2014/15, while charter school enrollment increased by 3,116 students. In 2015/16, the capture rate increased for the first time in six years, but only gained a tenth of a percent. The rate is expected to remain stable for the next couple years, and then increase to 0.732 by 2019/20 before declining again to 0.714 by 2025/26.

The elimination of all-day Kindergarten clearly impacted the District negatively, as students began to attend charter schools or schools in neighboring districts such as Paradise Valley, which continued to offer all-day Kindergarten. While those students could return to the District for 1st grade, many continue at the school where they started, resulting in continued impacts on capture rates. As time goes on, capture rates are expected to stabilize, but the District will continue to face new challenges in the form of increased competition from new or expanding alternative providers. These conflicts are expected to lead to a slow decline in capture rates over the study period.

TABLE 8
SCHOOL AGE POPULATION AND ENROLLMENT

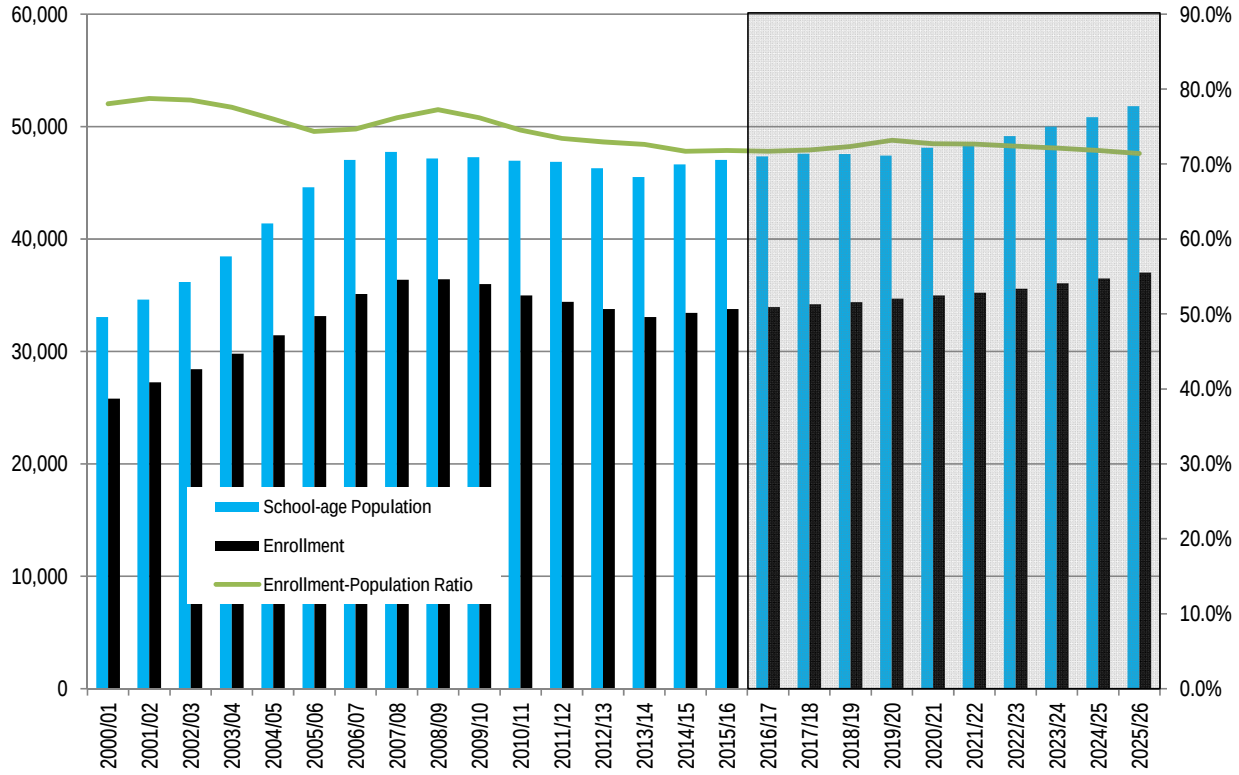
Year	Households	School-Age Population *		K-12 Enrollment		Net Difference	Enrollment - Population Ratio
		Total	Per Household	Total	Per Household		
2000/01	56,782	33,047	0.582	25,792	0.454	7,255	0.780
2001/02	59,932	34,609	0.577	27,257	0.455	7,352	0.788
2002/03	63,152	36,185	0.573	28,411	0.450	7,774	0.785
2003/04	67,607	38,437	0.569	29,812	0.441	8,625	0.776
2004/05	73,331	41,367	0.564	31,432	0.429	9,935	0.760
2005/06	79,663	44,590	0.560	33,146	0.416	11,444	0.743
2006/07	84,666	47,022	0.555	35,113	0.415	11,909	0.747
2007/08	86,663	47,757	0.551	36,375	0.420	11,382	0.762
2008/09	86,222	47,144	0.547	36,408	0.422	10,736	0.772
2009/10	87,111	47,260	0.543	35,989	0.413	11,271	0.762
2010/11	87,217	46,950	0.538	34,985	0.401	11,965	0.745
2011/12	87,863	46,857	0.533	34,400	0.392	12,457	0.734
2012/13	88,916	46,284	0.521	33,763	0.380	12,521	0.729
2013/14	89,886	45,512	0.506	33,054	0.368	12,458	0.726
2014/15	90,804	46,630	0.514	33,432	0.368	13,198	0.717
2015/16	92,011	47,023	0.511	33,770	0.367	13,253	0.718
2016/17	92,895	47,340	0.510	33,940	0.365	13,400	0.717
2017/18	93,987	47,573	0.506	34,191	0.364	13,382	0.719
2018/19	95,210	47,549	0.499	34,399	0.361	13,150	0.723
2019/20	96,598	47,410	0.491	34,686	0.359	12,724	0.732
2020/21	97,811	48,111	0.492	34,973	0.358	13,138	0.727
2021/22	98,794	48,469	0.491	35,216	0.356	13,253	0.727
2022/23	99,763	49,165	0.493	35,583	0.357	13,582	0.724
2023/24	100,766	49,996	0.496	36,056	0.358	13,940	0.721
2024/25	101,737	50,828	0.500	36,489	0.359	14,339	0.718
2025/26	102,616	51,810	0.505	37,001	0.361	14,809	0.714

Source: Applied Economics, November 2015.

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

Bolding indicates historical data.

FIGURE 3
PROJECTED ENROLLMENT: 2000/01-2023/24



4.3 ENROLLMENT

As shown on **Table 9**, District enrollment has increased for the second consecutive year, though enrollment is still about 2,600 students below the peak of 36,408 in 2008/09. Enrollment is projected to grow by about half a percent next year and between 0.6 and 1.4 percent per year over the next ten years. Increased occupancy and student generation rates are expected to be largely offset by a slow decline in capture rates and lower levels of construction after 2020/21. In total, enrollment is projected to increase by more than 3,200 students over the next 10 years, reaching 37,000 by 2025/26. Growth should be stronger in the latter half of the projection period, due to a combination of diminishing effects from the earlier elimination of all-day Kindergarten and a recent upswing in birth rates that should begin to impact the school-age population over the next five to seven years.

The enrollment gains in 2014/15 were primarily from the large increase in the number of students in Kindergarten to 4th grade. After a loss of 623 students in 2013/14, that grade group gained 400 the following year with the reintroduction of free all-day kindergarten. Enrollment increases for this group are expected to be more modest in coming years but still substantial overall. Enrollment in 5th through 8th grades is expected to increase slightly next year and then decrease marginally over the following two years before experiencing more significant growth between 2019/20 and 2022/23. High school enrollment is projected to fluctuate but remain nearly unchanged by the end of the projection period, with a net gain of just 35 students by 2025/26. Inconsistency at the high school level is due to a combination of varying class sizes entering from lower grades and the tendency for the older household profile to include older students. The majority of the newer housing inventory is also likely to be occupied by older householders, so the performance of the new home market should be a major factor in determining future high school enrollment.

TABLE 9
ENROLLMENT BY LEVEL: 2000/01-2024/25

	Enrollment by Level				K-12 Total		
Fall	K-4	5-8	K-8	9-12	Enrollment	Change	% Change
2000/01	10,571	8,365	18,936	6,856	25,792		12.5%
2001/02	11,009	9,001	20,010	7,247	27,257	1,465	5.7%
2002/03	11,408	9,509	20,917	7,494	28,411	1,154	4.2%
2003/04	11,695	9,965	21,660	8,152	29,812	1,401	4.9%
2004/05	12,253	10,391	22,644	8,788	31,432	1,620	5.4%
2005/06	12,721	11,096	23,817	9,329	33,146	1,714	5.5%
2006/07	12,839	11,688	24,527	10,586	35,113	1,967	5.9%
2007/08	13,581	11,989	25,570	10,805	36,375	1,262	3.6%
2008/09	13,627	11,866	25,493	10,915	36,408	33	0.1%
2009/10	13,185	11,824	25,009	10,980	35,989	-419	-1.2%
2010/11	12,499	11,510	24,009	10,976	34,985	-1,004	-2.8%
2011/12	12,335	11,083	23,418	10,982	34,400	-585	-1.7%
2012/13	11,903	10,691	22,594	11,169	33,763	-637	-1.9%
2013/14	11,280	10,583	21,863	11,191	33,054	-709	-2.1%
2014/15	11,680	10,684	22,364	11,068	33,432	378	1.1%
2015/16	11,989	10,745	22,734	11,036	33,770	338	1.0%
2016/17	12,197	10,826	23,023	10,917	33,940	170	0.5%
2017/18	12,394	10,788	23,182	11,009	34,191	251	0.7%
2018/19	12,618	10,707	23,325	11,074	34,399	208	0.6%
2019/20	12,847	10,785	23,632	11,054	34,686	287	0.8%
2020/21	13,029	10,857	23,886	11,087	34,973	287	0.8%
2021/22	13,204	11,030	24,234	10,982	35,216	243	0.7%
2022/23	13,520	11,239	24,759	10,824	35,583	367	1.0%
2023/24	13,958	11,263	25,221	10,835	36,056	473	1.3%
2024/25	14,294	11,302	25,596	10,893	36,489	433	1.2%
2025/26	14,541	11,389	25,930	11,071	37,001	512	1.4%

Source: Applied Economics, November 2015.
Bolding indicates actuals.

The distribution of enrollment by individual grade is shown in **Table 10**. In 2000/01, the District had about 2,000 kindergarteners and 1,500 12th graders, equating to 7.7 percent and 5.6 percent of total enrollment, respectively. This relationship has reversed, with parity reached in 2009/10 with each grade containing about 2,460 students. After that the trend continued toward fewer kindergarten than 12th grade students. In 2015/16, 2,363 kindergarteners comprised 7.0 percent of enrollment, while 2,735 12th graders make up about 8.1 percent of enrollment. These grade levels are expected to equalize again by about 2021/22, with each comprising about 7.5 percent of enrollment. By the end of the study period, the kindergarten class is expected to be about 15 percent larger than the 12th grade class, as compared to 37 percent larger in 2000/2001.

TABLE 10
PROJECTED ENROLLMENT BY GRADE: 2000/01-2024/25

Year	PS	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12 Total	Percent Change
2000/01	125	1,996	2,051	2,142	2,207	2,175	2,134	2,150	2,039	2,042	2,039	1,764	1,600	1,453	25,792	
2001/02	174	1,911	2,295	2,202	2,221	2,380	2,300	2,346	2,242	2,113	2,122	1,951	1,667	1,507	27,257	5.7%
2002/03	267	2,061	2,274	2,399	2,298	2,376	2,457	2,409	2,352	2,291	2,113	2,050	1,799	1,532	28,411	4.2%
2003/04	233	1,988	2,439	2,336	2,523	2,409	2,468	2,551	2,502	2,444	2,373	2,101	1,961	1,717	29,812	4.9%
2004/05	258	2,210	2,319	2,532	2,503	2,689	2,537	2,630	2,647	2,577	2,527	2,376	2,053	1,832	31,432	5.4%
2005/06	321	2,236	2,584	2,514	2,736	2,651	2,851	2,708	2,762	2,775	2,706	2,536	2,206	1,881	33,146	5.5%
2006/07	352	2,195	2,513	2,645	2,783	2,703	2,938	2,833	3,033	2,884	2,853	2,906	2,514	2,313	35,113	5.9%
2007/08	266	2,538	2,532	2,713	2,854	2,944	2,866	3,083	2,986	3,054	3,000	2,766	2,696	2,343	36,375	3.6%
2008/09	261	2,669	2,658	2,576	2,786	2,938	2,986	2,878	3,042	2,960	3,008	2,862	2,574	2,471	36,408	0.1%
2009/10	308	2,462	2,692	2,624	2,589	2,818	2,919	2,990	2,922	2,993	2,934	2,897	2,684	2,465	35,989	-1.2%
2010/11	297	2,065	2,526	2,667	2,650	2,591	2,768	2,846	2,983	2,913	2,916	2,809	2,711	2,540	34,985	-2.8%
2011/12	343	2,136	2,338	2,585	2,649	2,627	2,523	2,734	2,863	2,963	2,841	2,847	2,712	2,582	34,400	-1.7%
2012/13	403	2,005	2,371	2,331	2,539	2,657	2,577	2,476	2,744	2,894	2,992	2,827	2,782	2,568	33,763	-1.9%
2013/14	412	1,939	2,190	2,293	2,350	2,508	2,611	2,588	2,619	2,765	2,854	2,979	2,696	2,662	33,054	-2.1%
2014/15	465	2,216	2,197	2,353	2,432	2,482	2,605	2,687	2,718	2,674	2,835	2,805	2,844	2,584	33,432	1.1%
2015/16	490	2,363	2,330	2,290	2,436	2,570	2,561	2,645	2,794	2,745	2,803	2,770	2,728	2,735	33,770	1.0%
2016/17	492	2,441	2,453	2,409	2,356	2,538	2,659	2,603	2,737	2,827	2,833	2,794	2,681	2,609	33,940	0.5%
2017/18	496	2,394	2,533	2,535	2,478	2,454	2,625	2,702	2,693	2,768	2,917	2,824	2,704	2,564	34,191	0.7%
2018/19	499	2,344	2,480	2,614	2,603	2,577	2,534	2,663	2,791	2,719	2,851	2,905	2,732	2,586	34,399	0.6%
2019/20	503	2,484	2,425	2,555	2,680	2,703	2,657	2,567	2,747	2,814	2,796	2,837	2,809	2,612	34,686	0.8%
2020/21	507	2,597	2,560	2,489	2,610	2,773	2,777	2,682	2,638	2,760	2,884	2,777	2,741	2,685	34,973	0.8%
2021/22	511	2,682	2,670	2,621	2,537	2,694	2,841	2,796	2,749	2,644	2,821	2,861	2,681	2,619	35,216	0.7%
2022/23	516	2,742	2,757	2,733	2,670	2,618	2,760	2,860	2,865	2,754	2,702	2,798	2,762	2,562	35,583	1.0%
2023/24	523	2,776	2,819	2,823	2,785	2,755	2,682	2,779	2,931	2,871	2,815	2,680	2,701	2,639	36,056	1.3%
2024/25	529	2,809	2,852	2,885	2,875	2,873	2,821	2,699	2,847	2,935	2,933	2,792	2,587	2,581	36,489	1.2%
2025/26	536	2,840	2,884	2,917	2,936	2,964	2,940	2,837	2,763	2,849	2,996	2,908	2,695	2,472	37,001	1.4%

Source: Applied Economics, November 2015.

5.0 SUB-DISTRICT PROJECTIONS

Sub-District enrollment projections are based on the current number of students in each planning grid, the expected occupancy of existing housing units, absorption of new housing units, and the expected student generation from existing and newly created households. The small-area forecasts are developed by applying the expected levels of District-wide absorption to the supply of new residential housing on a project-by-project basis. Absorption is first allocated to active residential projects, and then to vacant land planned for residential development according to the development schedule assigned to each project or portion thereof. Using this data, annual projections of enrollment by grade through 2025/26 for each of the District grid areas have been developed. Projections by attendance area are compared with enrollment by school to provide a cross-check for the District enrollment projections. Matrices showing the relationship between where the students live and where they attend school are provided for elementary, middle and high school grade levels.

5.1 ENROLLMENT BY ATTENDANCE AREA

Table 11 displays the projected enrollment by attendance area for 2016/17 through 2025/26 based on current student data and the demographic trends identified for the District. Enrollment is presented by type of school (elementary, middle and high school) with enrollment based solely on the attendance area designated for the student's place of residence. This provides a direct link to the demographic analysis and development projections that is used as the basis for predicting enrollment at each school. A designation for out-of-district students is included as an attendance area. It is important to note that current attendance area boundaries were applied to historical data years for comparison purposes, including estimates for Sonoran Foothills by applying actual historical data from the grids that comprise the area.

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

Overall, total elementary enrollment is expected to grow by about 2,800 students by 2025/26, with an annual growth rate between 0.5 and 2.0 percent with an average of 1.3 percent. Out-of-District students are projected to account for about 20 percent of elementary growth over the next ten years. The Canyon Springs attendance area currently has the largest elementary enrollment and is expected to remain fairly consistent, with a projected loss of only 85 students by 2025/26. The Esperanza attendance area is forecast to more than double its enrollment by the end of the projection period, accounting for about 33 percent of the growth and 6.3 percent of in-District enrollment in 2025/26. It is projected to experience the largest enrollment increase among elementary attendance areas over the next five years and is anticipated to exceed enrollment in the Canyon Springs and Las Brisas attendance areas by 2021/22. The Terramar attendance area is projected to show almost the same percent increase in enrollment during the second half of the projection period as Esperanza.

The Esperanza attendance area has historically produced a smaller level of enrollment relative to other areas, and showed the largest percentage decline over the past five years at 24 percent. While the forecast for the next 10 years indicates an enrollment increase, it remains to be seen if this impact will be realized. Park Meadows is an example of an attendance area that has historically been on the smaller end of the

spectrum in terms of enrollment generation, but is expected to be among the highest enrollment-generating attendance areas by the end of the projection period.

At the middle school level, enrollment has declined in all three of the attendance areas over the past five years, with a total decline of about 10 percent. Hillcrest Middle School current has the greatest number of students, but this is projected to change in the future. Enrollment in the Desert Sky attendance area is projected to remain virtually unchanged over the next ten years while the Deer Valley attendance area grows and the Hillcrest attendance area declines. The increases in the Deer Valley attendance area could reach about 300 students during the projection period, reaching over 950 students. The declines in the Hillcrest area are only during the first five years of the projection period, with some growth and stability during the second five years.

Among the high schools, the Boulder Creek High School attendance area is currently the largest with 2,521 students, but is projected to fall to the third largest by 2025/26, due to an estimated loss of 640 students. Mountain Ridge is expected to decline by 682 students, becoming the smallest high school attendance area by 2024/25. Modest declines are also expected in the Sandra Day O'Connor and Deer Valley attendance areas. The combined losses of about 1,600 students in these four attendance areas should be significantly offset by the projected increase of nearly 1,300 students in the Barry Goldwater attendance area, as well as nearly 400 additional students expected from outside of the district, resulting in a net growth of just 60 students over the next ten years.

Maps 10 and 11 illustrate the projected changes in enrollment by grid over the next two five-year periods, normalized by the geographic size of the grid. In the first projection period, between 2015/16 and 2020/21, the highest concentrations of growth are in areas of major new housing development along the 23rd Avenue corridor east of I-17 between Pinnacle Peak Road and Carefree Highway. There are also small pockets of significant growth in the District's older, more established neighborhoods south of Loop 101, particularly near I-17. Enrollment losses are concentrated in the southwest portion of the District, particularly north of Loop 101 to the CAP canal and west of 55th Avenue. This area is comprised of higher-end estate and ranch-style properties that typically have a very low turnover of households, leading to the aging in place of the current student population resulting in enrollment decline.

Enrollment growth during the second five-year period should continue to be concentrated in major development areas as well as in the vicinity of the Loop 101/Interstate 17 intersection. There are a number of major employers in this area, creating a strong base of both office and industrial jobs. Older, more affordable housing helps to create some stability in the school-age population due to turnover. This portion of the District did not develop as master planned communities, but in smaller subdivisions over time. Therefore, grids in this area have different levels of age and household composition. This helps to explain the "patchwork" appearance of enrollment growth in the southern part of the District.

TABLE 11
STUDENTS BY ATTENDANCE AREA: 2009/10-2025/26

	Actual						Projected										Change		
Attendance Area*	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	'10-'15	'15-'20	'20-'25
Anthem Elem	663	631	588	533	558	494	462	446	430	416	405	383	365	362	373	369	-25%	-18%	-9%
Arrowhead	686	606	582	599	631	620	640	654	673	674	680	711	732	749	773	803	-10%	10%	18%
Bellair	387	384	385	411	452	451	471	483	488	489	497	496	503	506	512	521	16%	10%	5%
Canyon Springs	1,205	1,186	1,175	1,131	1,131	1,143	1,148	1,143	1,117	1,099	1,073	1,053	1,053	1,067	1,062	1,058	-5%	-6%	-1%
Constitiution	699	708	662	684	683	620	650	677	701	699	707	724	725	729	738	752	-11%	14%	6%
Copper Creek	760	737	701	667	633	677	666	660	633	623	628	636	639	640	646	655	-11%	-7%	4%
Desert Mountain	989	987	917	743	748	764	768	748	726	709	675	647	657	656	677	682	-23%	-12%	1%
Desert Sage	645	611	589	514	556	558	570	578	589	606	614	613	608	607	608	613	-13%	10%	0%
Diamond Canyon	1,008	949	904	829	852	841	809	780	736	705	671	641	636	629	633	626	-17%	-20%	-7%
Esperanza	783	731	720	638	623	593	639	690	761	875	984	1,062	1,135	1,205	1,274	1,346	-24%	66%	37%
Gavilan Peak	694	676	643	611	615	616	576	551	495	481	467	446	429	418	431	418	-11%	-24%	-10%
Greenbrier	398	368	353	300	335	312	302	322	320	336	355	354	364	372	382	394	-22%	14%	11%
Highland Lakes	710	673	625	569	559	579	569	552	546	564	571	576	590	627	624	621	-18%	-1%	9%
Las Brisas	1,052	1,036	1,025	1,055	1,090	1,076	1,055	1,035	1,014	1,008	1,001	1,019	1,017	1,014	1,018	1,027	2%	-7%	3%
Legend Springs	453	407	385	384	398	417	422	422	422	449	466	482	489	503	518	536	-8%	12%	15%
Mirage	458	418	412	435	425	413	390	395	415	421	435	446	434	435	437	440	-10%	5%	1%
Mountain Shadows	527	517	481	468	478	492	532	552	562	571	581	588	585	587	591	598	-7%	18%	3%
New River	385	331	313	352	368	377	377	380	385	379	389	397	413	420	430	439	-2%	3%	13%
Norterra Canyon	693	694	681	747	851	836	905	973	1,047	1,070	1,088	1,119	1,138	1,144	1,179	1,193	21%	30%	10%
Park Meadows	554	516	487	500	539	540	582	603	628	655	689	722	739	767	799	837	-3%	28%	22%
Paseo Hills	951	982	945	937	910	914	933	928	937	926	913	925	937	935	918	909	-4%	0%	0%
Sierra Verde	716	664	641	617	639	650	645	622	597	576	557	545	538	537	519	507	-9%	-14%	-9%
Sonoran Foothills	505	548	510	519	513	624	711	764	802	875	927	970	1,018	1,063	1,109	1,156	na	49%	25%
Stetson Hills	863	886	858	799	794	792	773	756	718	695	681	680	698	690	698	701	-8%	-14%	3%
Sunrise	514	503	459	492	511	544	564	589	604	626	640	649	655	663	674	689	6%	18%	8%
Sunset Ridge	882	911	886	793	790	825	811	799	770	745	734	743	737	742	759	763	-6%	-11%	4%
Terramar	837	824	795	820	836	818	806	809	809	802	820	838	900	972	1,033	1,094	-2%	0%	33%
Village Meadows	511	496	467	438	482	492	499	521	516	513	523	549	568	579	595	615	-4%	6%	18%
Westwing School	1,119	1,033	1,033	1,016	1,058	1,107	1,082	1,085	1,095	1,083	1,064	1,063	1,063	1,056	1,078	1,094	-1%	-4%	3%
Out Of District	624	711	744	777	914	1,074	1,174	1,290	1,375	1,455	1,522	1,549	1,552	1,579	1,610	1,648	72%	42%	8%
Total	21,273	20,719	19,964	19,378	19,972	20,259	20,535	20,806	20,911	21,128	21,357	21,627	21,912	22,252	22,700	23,103	-5%	5%	8%

Source: Applied Economics, November 2015.

* Count based on the number of students by place of residence using 2015/16 attendance areas for all years.

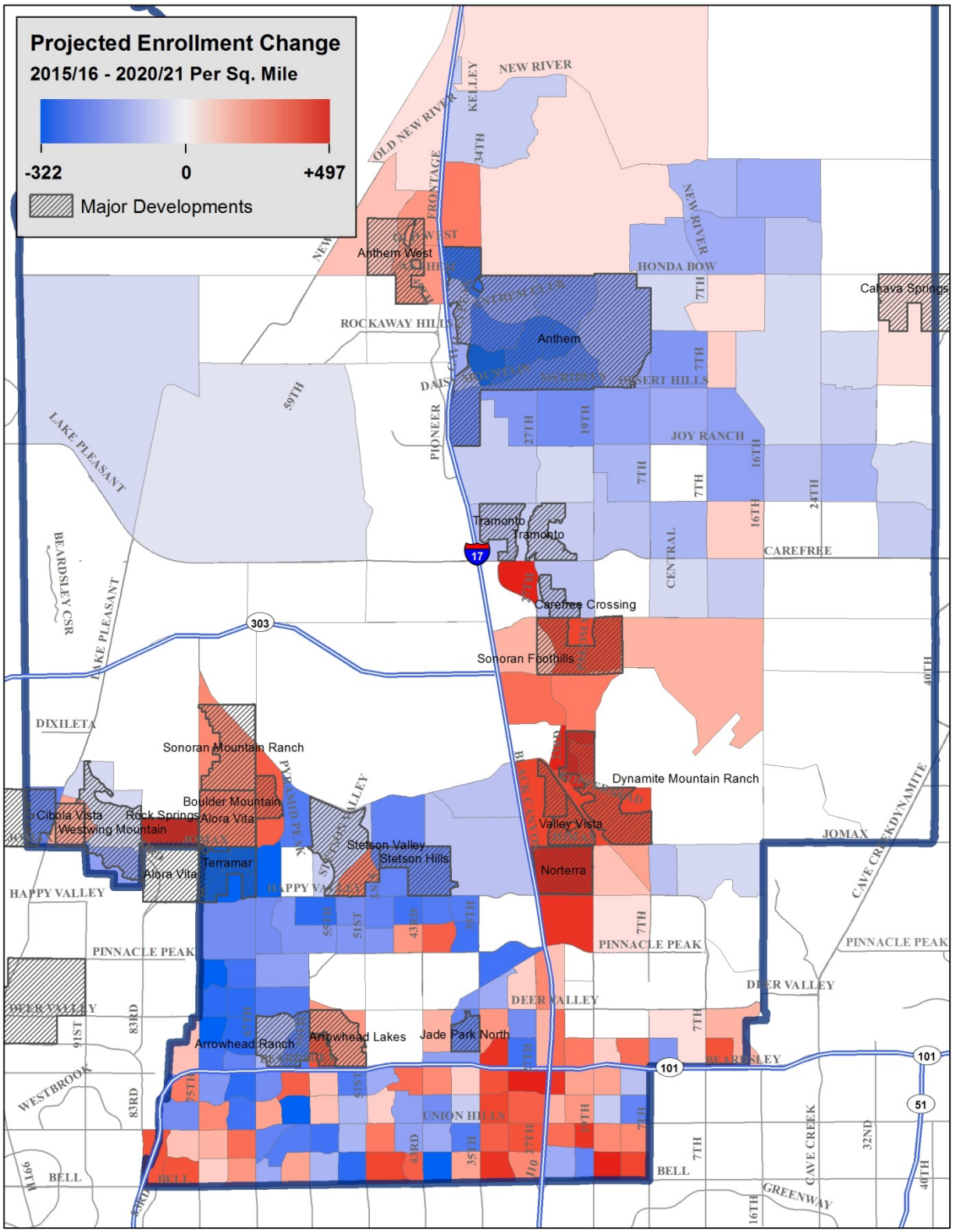
Bold indicates a K-8 school.

TABLE 11 (Continued)
STUDENTS BY ATTENDANCE AREA: 2009/10-2025/26

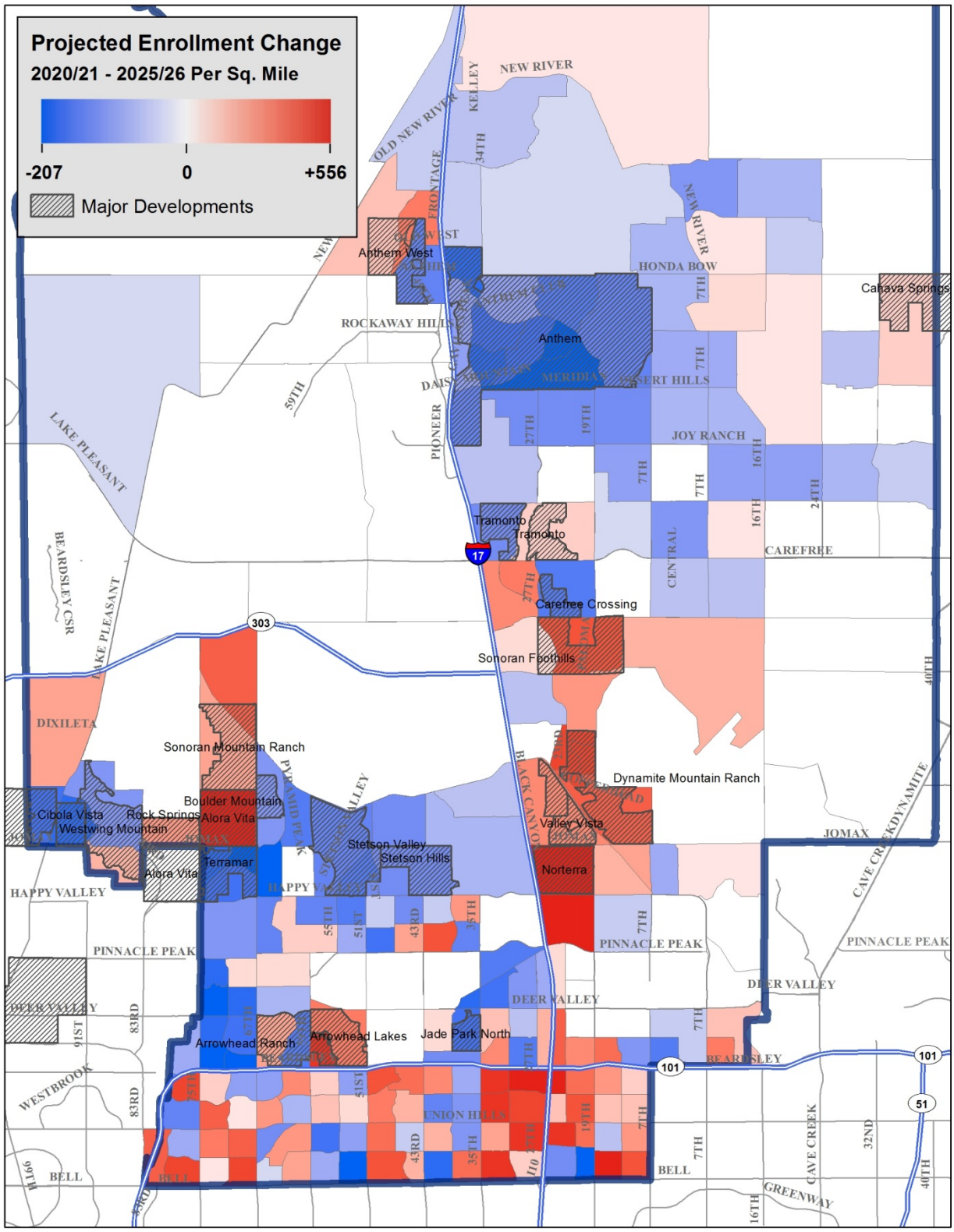
	Actual						Projected										Change		
Attendance Area*	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	'10-'15	'15-'20	'20-'25
Middle School																			
Deer Valley Middle	767	743	721	690	660	644	662	642	687	769	811	826	907	965	964	959	-16%	26%	18%
Desert Sky Middle	749	703	664	619	630	654	655	592	565	584	593	611	667	684	660	637	-13%	-9%	7%
Hillcrest Middle	1,065	1,062	1,043	952	925	927	925	890	896	844	789	770	796	835	811	778	-13%	-15%	-1%
Out Of District	156	191	202	225	246	249	246	251	266	307	337	400	477	485	461	454	60%	35%	35%
Total	2,736	2,699	2,630	2,485	2,461	2,474	2,488	2,376	2,414	2,504	2,529	2,607	2,847	2,969	2,896	2,827	-10%	2%	12%
High School																			
Barry Goldwater	2,072	2,117	2,073	2,057	2,072	2,097	2,125	2,315	2,454	2,601	2,835	2,958	3,070	3,202	3,289	3,393	1%	35%	20%
Boulder Creek	2,346	2,393	2,440	2,555	2,630	2,521	2,569	2,571	2,569	2,561	2,462	2,394	2,248	2,126	1,959	1,881	7%	-2%	-24%
Deer Valley	1,776	1,722	1,739	1,683	1,659	1,573	1,514	1,541	1,511	1,437	1,400	1,334	1,302	1,333	1,397	1,439	-11%	-11%	3%
Mountain Ridge	2,258	2,206	2,263	2,158	2,034	2,038	1,875	1,767	1,690	1,627	1,584	1,505	1,445	1,363	1,345	1,356	-10%	-22%	-14%
Sandra Day	2,210	2,205	2,240	2,319	2,299	2,308	2,347	2,335	2,348	2,330	2,298	2,242	2,167	2,118	2,105	2,137	4%	0%	-7%
Out Of District	312	339	414	418	479	474	487	480	502	498	508	549	593	693	798	865	52%	7%	70%
Total	10,975	10,982	11,169	11,191	11,173	11,011	10,917	11,009	11,074	11,054	11,087	10,982	10,824	10,835	10,893	11,071	0%	1%	0%

Source: Applied Economics, November 2015.
* Count based on the number of students by place of residence using 2015/16 attendance areas for all years.

MAP 10
PROJECTED ENROLLMENT CHANGE: 2015/16 TO 2020/21



MAP 11
PROJECTED ENROLLMENT CHANGE: 2020/21 TO 2025/26



5.2 ENROLLMENT BY SCHOOL

In order to convert the projections of enrollment by attendance area (place of residence) into enrollment by school, it is necessary to quantify the relationship between the place of residence and school of attendance. This is accomplished by analyzing the relationship between the two factors based on current student information. **Table 12**, **Table 13**, and **Table 14** display the distributions of enrollment by school, versus enrollment by attendance area, for elementary (K-6), middle (7-8), and high school students. These patterns at the school level provide an informative view of the flow of students between schools and from outside the District. It also provides insight into the success of each school in retaining students within their own attendance area, and attracting students from outside their attendance area.

In the tables below, the shaded numbers reflect students whose residence area and school of attendance are the same. The columns at the right break out the number of students from outside the District, total school enrollment, the number who reside within the District, and the difference between the number of students attending a school and those residing within its attendance area. For example: at Arrowhead Elementary, there are 472 students enrolled who also live within the Arrowhead attendance area. There are 8 students at Arrowhead who reside in the Bellair attendance area, 3 from Copper Creek, etc. There are 66 students who attend Arrowhead from outside the District, resulting in total enrollment of 579 students. The Arrowhead attendance area contains a student population of 620, though 1 attends Bellair, 10 are at Copper Creek, and so forth. Arrowhead has a net loss of 41 students.

About 80 percent of the elementary school students living within District boundaries are attending their designated school in 2015/16, while roughly 83 percent of 7th and 8th grade students are attending their designated middle school. At the high school level that portion jumps to 90 percent. The lower rate of attendance at designated schools at the elementary level is likely due to the greater number of educational options for families, and the relatively smaller distances between neighboring elementary schools. With middle and high school campuses located further apart, it becomes a more challenging commute for students to attend a District school outside of the designated attendance area.

The net difference between each school's enrollment and the number of students that reside within the attendance area provides an estimate of in- and out-migration impacts on enrollment. Among elementary schools, Highland Lakes has the largest net gain in enrollment from outside its attendance area with 424 additional K-6 students, including 110 students from outside the District. Sierra Verde, Stetson Hills, and Legend Springs each have net gains of over 200 students, including a sizeable number of students from outside the District at Sierra Verde and Legend Springs, though very few at Stetson Hills. The low number of out-of-District students at Stetson Hills is likely a result of its location near the geographic center of the District. Canyon Springs has the most significant net loss among elementary schools, with an out-migration of 279 students and only 10 students enrolled from outside the District (for a net difference of 269). Las Brisas has a net loss of 228 students, while New River and Esperanza elementary schools have net losses of more than 100 students each. Nearly 1,100 students attend from outside the District.

Among schools with 7th and 8th grades, Highland Lakes has by far the highest enrollment gains from other District schools, with a net gain of 132 students. Anthem, Hillcrest, Sierra Verde, and Stetson Hills also have net gains of 50 students or more. Canyon Springs has the highest net loss, with 89 students attending schools outside of the designated attendance area. Sonoran Foothills and Terramar also have net losses of over 50 students. Paseo Hills and Westwing are the most balanced of the 7th and 8th grade schools, with difference of just 6 and 4 students, respectively.

At the high school level, Deer Valley and Mountain Ridge have a net in-migration of about 240 students each, with Sandra Day O'Connor bringing in an additional 129. Of that combined 611-student gain, 372 are from students from outside of District boundaries, or about 60 percent. Barry Goldwater has a net out-migration of 225 students, despite gaining 50 students from outside the District, with most losses to Boulder Creek and Sandra Day O'Connor. Excluding the Vista Peak campus, Boulder Creek is currently the most evenly balanced of the high schools, with a net gain of 57 students, 52 of which are from outside the District. Deer Valley and Mountain Ridge attract the largest number of high school students from outside the District, primarily due to their proximity to the District boundary. Intuitively, inter-district enrollment is most prevalent near district borders in populated areas with multiple options.

TABLE 12
SCHOOL VERSUS ATTENDANCE AREA ENROLLMENT (K-6th GRADE): 2014/15

		Attendance Area																														Total	Total	
School	Code	AEE	ANE	BEE	CCE	COE	CSE	DCS	DME	DSE	ESE	GBE	GPE	HLE	LBE	LEG	MEE	MSE	NOR	NRE	PHE	PME	SEE	SFS	SRE	STE	SVE	TER	VME	WWE	Outside	Attend	Reside	Diff.
Arrowhead	AEE	472		8	3					1	1	6		1	4	2	2	10					1					1	1		66	579	620	-41
Anthem Elem	ANE		229				193	23	4	1	3	3	16						1	34	3			1	12						10	533	348	185
Bellair	BEE	1		309	2	1						16			1		13	10			2	9	16			5	1		1		73	460	451	9
Copper Creek	CCE	10		3	548					8		2			11	4	2	8				6		2			10	25	1	10	58	708	677	31
Constitiution	COE					531					41					1						1	4			1			5		23	607	620	-13
Canyon Springs	CSE	2	13		1		481	18	6	3	1		3		1			3	3	41				6	12	1		2		1	10	608	877	-269
Diamond Canyon	DCS		50				88	522	12				63							18					2					1	8	764	616	148
Desert Mountain	DME							4	425		1								1	13	2		1	3	10			4	1		9	474	554	-80
Desert Sage	DSE		1			3	1			462	7				29	2	2	3	2		7	7	3	2		2	2	9	4		26	574	558	16
Esperaza	ESE					29					437										1			1					9		12	489	593	-104
Greenbrier	GBE	2		37						1	2	192				3	6	14			2	1	4				1		2		98	365	312	53
Gavilan Peak	GPE		46				94	41	10	1	1		249	1				1	1	37	2			7	14				2		9	516	335	181
Highland Lakes	HLE	64	5	39	11	10		3	2	11	8	62		187	27	9	10	21	9	2	1	7	6	7	5	4		13	1	1	110	635	211	424
Las Brisas	LBE	3			12					3	3			2	785			1	3		2			2			2	15		1	14	848	1,076	-228
Legend Springs	LEG	29		9	21	1	1		1	2	1	14		12	37	369	4	16	1		2	3	1			6	14	33	1	5	97	680	417	263
Mirage	MEE			5	1	5				5	2						342	6	1		4	11	12					3	6		41	444	413	31
Mountain Shadows	MSE			17						1					1		15	376			7	10	3						3		31	464	492	-28
Norterra Canyon	NOR			1	5	1			8	5	13				2			2	644		3			20	3	4				3	12	726	688	38
New River	NRE						1													224				2	1						11	239	377	-138
Paseo Hills	PHE	1		2		1			3	2	34				1			2			627	17		3		2			18		19	732	707	25
Park Meadows	PME	1		6	1	7				2	4						9	5			20	450	9	2					15		34	565	540	25
Sunrise	SEE					11				2	6						7	1			6	3	479		1	1			1		45	563	544	19
Sonoran Foothills	SFS			2			2		49		2								11					426	13	3		1		2	2	513	510	3
Sunset Ridge	SRE		3				14	5	28				1			1			1	8	1			21	528			5	1		6	623	602	21
Stetson Hills	STE				9		1		4	44	12	3	3		122	1			9		6	7	1	3		543		15	2	6	14	805	584	221
Sierra Verde	SVE	27	1	11	35					3		12		8	17	19		11			2	5	1			4	461	21	1	7	108	754	495	259
Terramar	TER	3			24							1			27	5		1			1	1				6	2	526	1	8	38	644	704	-60
Village Meadows	VME					18					10						1				1								413		27	470	492	-22
Westwing School	WWE	2			3		1		1						9						3	1			1	2	2	29		663	63	780	709	71
Vista Peak	VPS	3		2	1	2			1	1	4	1			2	1		1	1		2	1	3	2				2	3	1		34	0	34
Total Reside		620	348	451	677	620	877	616	554	558	593	312	335	211	1,076	417	413	492	688	377	707	540	544	510	602	584	495	704	492	709	1,074	17,196	16,122	1,074
																													Attend = Reside:			12,900	80.0%	

Sources: Deer Valley Unified School District; Applied Economics, 2015.

TABLE 13
SCHOOL VERSUS ATTENDANCE AREA ENROLLMENT (7TH-8th GRADE): 2014/15

School Name	Code	Attendance Area																	Total Attend	Total Reside	Diff.
		ANE	CSE	DCS	DME	DSM	DVM	GPE	HCM	HLE	NOR	PHE	SFS	SRE	STE	SVE	TER	WWE	Outside			
Anthem Elem	ANE	112	54	8	2			22	1			2		2					5	208	146	62
Canyon Springs	CSE	4	160	1	1			8						3						177	266	-89
Diamond Canyon	DCS	14	22	195	2			28					1	4					1	267	225	42
Desert Mountain	DME			1	176		1	5					2	6					1	192	210	-18
Desert Sky Middle	DSM					586	24		4	5		4			2				71	696	654	42
Deer Valley Middle	DVM					3	562					21	2						9	597	644	-47
Gavilan Peak	GPE	9	19	16	4			208					1	2					2	261	281	-20
Hillcrest Middle	HCM					11	10		793	14	1			4	5	12	71	13	50	984	927	57
Highland Lakes	HLE	4	3	2	1	35	13	6	21	330	2	1	5	7	2	3	15	2	48	500	368	132
Norterra Canyon	NOR				1		2		3		140	1	28	2	1				3	181	148	33
Paseo Hills	PHE					1	25		1	1		178	1						6	213	207	6
Sonoran Foothills	SFS		1	1	6				1		2		44	3						58	114	-56
Sunset Ridge	SRE	2	6	1	14		1	2					29	190					3	248	223	25
Stetson Hills	STE				1		3	1	52		2				197		3	2	3	264	208	56
Sierra Verde	SVE					11			22	17						138	5	8	27	228	155	73
Terramar	TER					1	2		18						1	1	154	3	8	188	256	-68
Westwing School	WWE				1	1			8	1						1	8	228	12	260	256	4
Vista Peak	VSP	1	1		1	5	1	1	3		1		1							15	0	15
Total Reside:		146	266	225	210	654	644	281	927	368	148	207	114	223	208	155	256	256	249	5,537	5,288	249
																		Attend = Reside:		4,391	83.0%	

Sources: Deer Valley Unified School District; Applied Economics, 2015.

TABLE 14
SCHOOL VERSUS ATTENDANCE AREA ENROLLMENT (9TH-12th GRADE): 2014/15

School	Code	Attendance Area						Total Attend	Total Reside	Diff.
		BCH	BGH	DVH	MRH	SDH	Outside			
Boulder Creek	BCH	2,419	101	1	1	4	52	2,578	2,521	57
Barry Goldwater	BGH	48	1,697	36	16	25	50	1,872	2,097	-225
Deer Valley	DVH	4	80	1,428	79	33	189	1,813	1,573	240
Mountain Ridge	MRH	6	37	83	1,859	167	128	2,280	2,038	242
Sandra Day	SDH	37	168	19	82	2,076	55	2,437	2,308	129
Vista Peak	VSP	7	14	6	1	3	0	31	0	31
Total Reside		2,521	2,097	1,573	2,038	2,308	474	11,011	10,537	474
						Attend = Reside:		9,479	90.0%	

Sources: Deer Valley Unified School District; Applied Economics, 2015.

Tables 15 and 16 show actual enrollment since 20010/11 and projected enrollment by school for 2016/17 through 2025/26, based on applying the live/attend relationships above to the projected level of enrollment by resident attendance area. Note that in **Table 15** the 7th & 8th grade enrollment at the K-8 schools is included in the totals for the elementary schools. This leaves only the three 7th and 8th grade middle schools on **Table 16**, along with the five high schools.

Elementary schools currently at capacity as defined by the School Facilities Board (SFB) include Sierra Verde and Stetson Hills. Those at 90 percent capacity include Diamond Canyon, Las Brisas, Norterra Canyon, Paseo Hills and Westwing. Norterra Canyon had been at 100 percent capacity for the previous five years, and is projected to exceed 100 percent again next year. By the 2018/19 school year, only Norterra Canyon and Stetson Hills are expected to be at capacity, with Stetson Hills declining to about 98 percent by 2020/21. Norterra Canyon, on the other hand, is projected to continue growing and reach 1,200 students by 2024/25 with all other factors held constant. Esperanza and Park Meadows are both anticipated to reach 100 percent capacity in 2020/21, followed by Constitution and Sonoran Foothills in 2021/22. By 2025/26 there are projected to be eight elementary schools over 100 percent capacity with an additional six over 90 percent and another six over 80 percent.

Hillcrest Middle School is currently at about 97 percent of capacity, down from about 113 percent in 2011/12. Enrollment at Hillcrest is expected to continue declining, reaching about 87 percent by 2025/26. Deer Valley is projected to reach 90 percent capacity in 2022/23, and 100 percent the following year. Total middle school enrollment is expected to be at about 90 percent capacity in 2023/24 and remain at or near that level the remainder of the projection period.

At the high school level, Mountain Ridge is currently operating at about 104 percent of SFB capacity, while Boulder Creek and Sandra Day O'Connor are above 90 percent. Mountain Ridge enrollment is projected to drop to about 96 percent of capacity next year and continue to decline through 2023/24, marking a low of about 77 percent with very little growth afterwards. Enrollment at Boulder Creek is anticipated to peak in 2018/19, when 2,665 students would slightly exceed the 2,660 SFB capacity. Enrollment is then expected to decline substantially over the following seven years, resulting in a 78 percent capacity by 2025/26. Sandra Day O'Connor is also projected to experience enrollment declines over the period, though to a far lesser degree than Mountain Ridge or Boulder Creek. By the end of the projection period, about 2,360 students would equate to roughly 89 percent capacity. Barry Goldwater, currently just under 80 percent of capacity, is expected to experience substantial increases in enrollment, exceeding 90 percent capacity in 2018/19 and 100 percent just two years later and reaching 132 percent by the end of the projection period.

TABLE 15
ELEMENTARY SCHOOL ENROLLMENT: 2010/11-2025/26

School	SFB Capacity	Actual 2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	Projected 2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Elementary																	
Anthem Elem	928	859	855	844	768	784	757	728	698	691	666	660	648	629	633	628	621
Arrowhead	841	732	638	577	539	596	614	655	699	725	748	778	811	822	837	854	875
Bellair	681	484	473	471	460	482	477	493	502	501	501	517	517	527	532	541	552
Canyon Springs	1,098	918	837	805	760	787	810	801	809	779	768	749	711	709	712	709	706
Constitiution	747	567	578	543	578	684	624	660	690	726	731	735	764	770	778	792	808
Copper Creek	926	847	820	787	748	719	728	733	732	722	723	730	741	746	748	755	766
Desert Mountain	1,329	969	933	812	739	699	689	682	657	635	624	589	564	570	565	579	587
Desert Sage	938	668	645	600	553	595	624	661	690	716	759	785	797	800	802	807	813
Desert Winds	847	429	398	432	377	0	0	0	0	0	0	0	0	0	0	0	0
Diamond Canyon	1,040	1,009	993	1,024	959	1,036	1,031	998	962	922	890	860	824	812	802	806	802
Esperanza	806	532	529	399	360	567	530	564	604	655	746	844	910	986	1,055	1,127	1,202
Gavilan Peak	919	854	853	805	779	790	795	785	785	724	702	673	655	624	603	616	603
Greenbrier	802	525	476	383	337	389	388	422	466	496	538	564	575	575	573	569	565
Highland Lakes	1,294	838	857	1,080	1,068	1,086	1,134	1,098	1,071	1,040	1,048	1,037	1,038	1,056	1,087	1,090	1,086
Las Brisas	894	894	843	814	820	833	849	825	818	806	811	817	837	838	836	841	853
Legend Springs	902	692	648	626	603	648	681	692	702	714	729	763	771	781	795	814	836
Mirage	957	507	453	448	438	460	470	470	489	529	552	579	592	589	590	592	597
Mountain Shadows	869	534	500	463	472	466	498	534	562	586	602	613	641	643	648	657	667
New River	559	312	256	267	274	275	239	241	238	244	242	253	260	271	279	293	304
Norterra Canyon	945	1,013	1,079	1,051	1,074	1,164	909	954	1,017	1,086	1,105	1,126	1,162	1,179	1,182	1,200	1,211
Park Meadows	807	579	566	542	547	585	610	667	705	737	788	828	868	894	926	962	1,005
Paseo Hills	1,012	983	991	961	959	963	942	963	955	959	952	934	945	965	970	955	946
Sierra Verde	938	786	799	881	967	969	982	969	951	923	897	884	862	849	851	838	827
Sonoran Foothills	950	0	0	0	0	0	589	722	780	820	897	945	993	1,040	1,087	1,130	1,179
Stetson Hills	972	1,018	1,092	1,055	1,025	1,085	1,070	1,056	1,030	1,002	976	955	956	961	939	949	949
Sunrise	768	499	479	492	493	506	564	599	637	662	704	732	749	761	772	786	802
Sunset Ridge	1,039	1,185	1,215	1,057	998	975	889	864	849	823	802	797	805	819	826	836	844
Terramar	1,039	790	810	800	816	861	866	896	949	949	956	970	990	1,065	1,151	1,204	1,265
Village Meadows	726	506	497	488	430	503	500	516	545	552	555	578	615	636	648	670	693
Westwing School	1,040	1,112	1,011	1,075	1,031	1,046	1,038	1,002	977	991	979	957	955	940	921	932	949
Other																	
Total	27,613	21,641	21,124	20,582	19,972	20,553	20,897	21,254	21,571	21,715	21,989	22,251	22,555	22,858	23,147	23,532	23,914
Percent of Capacity		78.4%	76.5%	74.5%	72.3%	74.4%	75.7%	77.0%	78.1%	78.6%	79.6%	80.6%	81.7%	82.8%	83.8%	85.2%	

Source: Applied Economics, November 2015.

100% Capacity 90% Capacity 50% Capacity

TABLE 16
MIDDLE AND HIGH SCHOOL ENROLLMENT: 2009/10-2024/25

School	SFB Capacity	Actual						Projected									
		2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26
Middle School																	
Deer Valley Middle	943	757	753	686	666	609	602	607	577	615	693	734	760	864	946	961	964
Desert Sky Middle	910	768	741	690	629	644	695	679	606	573	589	600	628	702	738	727	710
Hillcrest Middle	1,016	1,140	1,143	1,039	1,008	992	985	976	926	922	865	810	803	852	914	906	880
Total	2,869	2,665	2,637	2,415	2,303	2,245	2,282	2,262	2,109	2,110	2,147	2,144	2,191	2,418	2,598	2,594	2,554
Percent of Capacity		92.9%	91.9%	84.2%	80.3%	78.3%	79.5%	78.8%	73.5%	73.5%	74.8%	74.7%	76.4%	84.3%	90.6%	90.4%	89.0%
Grades 9-12																	
Barry Goldwater	2,380	1,878	1,884	1,938	1,880	1,865	1,885	1,922	2,122	2,214	2,353	2,585	2,710	2,823	2,958	3,046	3,151
Boulder Creek	2,660	2,375	2,400	2,458	2,575	2,644	2,593	2,640	2,652	2,665	2,659	2,564	2,509	2,377	2,282	2,142	2,082
Deer Valley	2,466	1,955	1,863	1,915	1,876	1,860	1,818	1,752	1,774	1,746	1,672	1,636	1,577	1,553	1,604	1,692	1,750
Mountain Ridge	2,196	2,355	2,314	2,255	2,291	2,209	2,282	2,102	2,026	1,969	1,907	1,867	1,796	1,744	1,683	1,688	1,713
Sandra Day	2,660	2,413	2,521	2,603	2,569	2,479	2,442	2,485	2,419	2,464	2,447	2,419	2,374	2,311	2,292	2,309	2,359
Total	12,362	10,976	10,982	11,169	11,191	11,057	11,020	10,901	10,993	11,058	11,038	11,071	10,966	10,808	10,819	10,877	11,055
Percent of Capacity		88.8%	88.8%	90.3%	90.5%	89.4%	89.1%	88.2%	88.9%	89.5%	89.3%	89.6%	88.7%	87.4%	87.5%	88.0%	89.4%

Source: Applied Economics, November 2015.

100% Capacity 90% Capacity 50% Capacity

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Project Manager
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Vice President
Sunbelt Holdings

Lynne Dugan
Land Resources Manager
Taylor Morrison

Racelle Escolar
Village Planner
City of Phoenix

Jeff Gunderson
Senior Vice President of Land Development
Lennar Homes

Raymond Moore
Administrator
Arizona State Land Department

Greg Novak
Administrator
Arizona State Land Department

Melissa Sigmund
Principal Planner
City of Peoria

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Information Services

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Maricopa County, AZ

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Rose Law Group Reporter