Planning for the Schools of Tomorrow

School Enrollment Projections Series

River Valley School District

October 2015

Page Intentionally Left Blank

Table of Contents

Introduction

This report offers a summary of the Enrollment Projection Analysis completed for the River Valley School District by the Applied Population Laboratory, University of Wisconsin-Madison. Projections from 2016/17 to 2025/26 are provided for the district as a whole, and individually for each grade and grade grouping. The projection process uses a combination of historical enrollment data, birth trends and projections, housing starts data, and population trends and projections to create reasonable assumptions about future growth scenarios and the likely impact on the school district.

District Enrollment History

Figure 1-A and Tables 1 and 2 display the last ten years of enrollment history for the River Valley School District. District enrollment has decreased over the last ten years. Enrollment shows a decrease since 2006/07 by 193 students, or a 13.4% decrease. The slight increase in the 2013/14 school year was due to the addition of 4K.

Figure 1-A

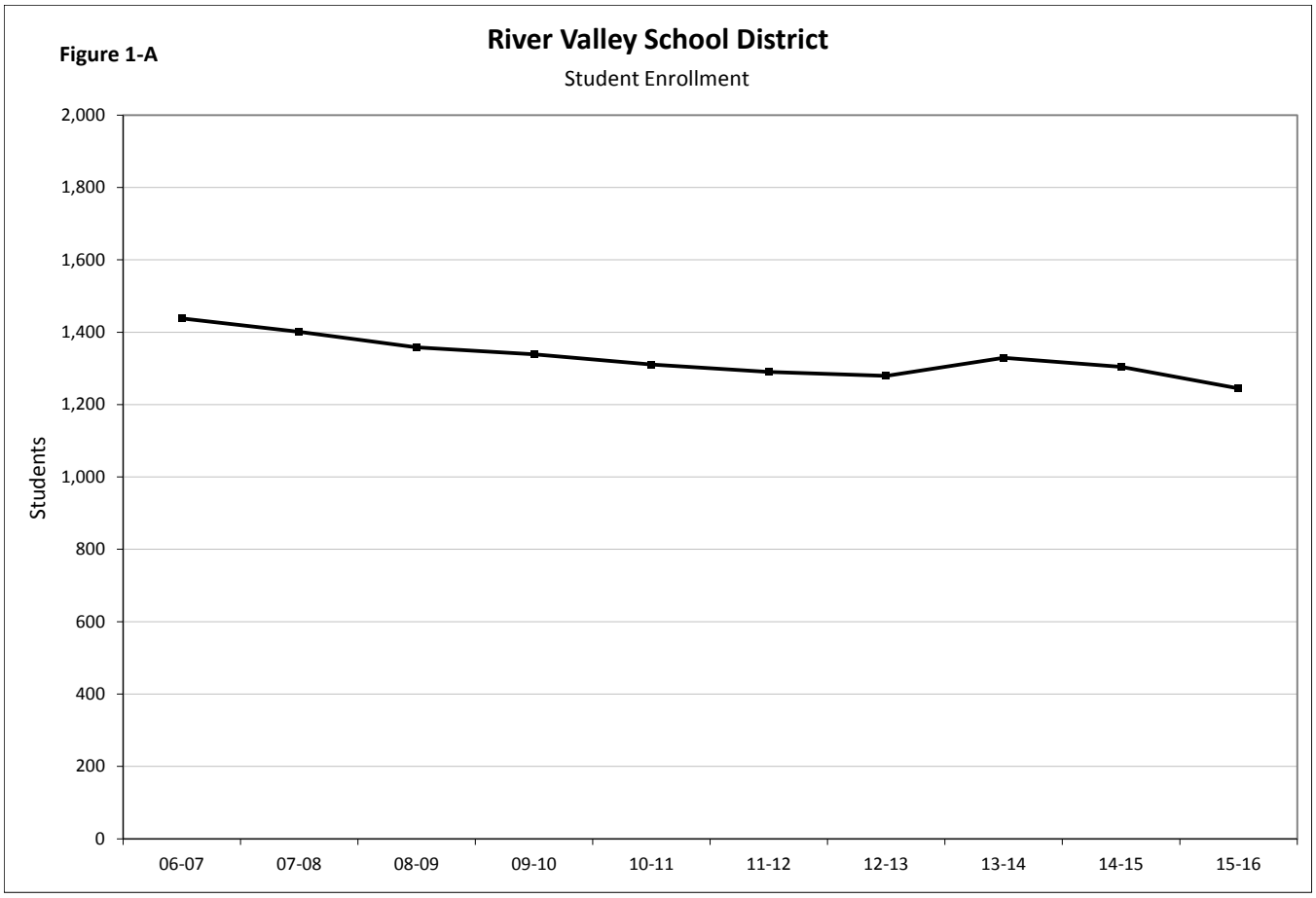


TABLE 1
Student Enrollment
River Valley School District

	SCHOOL YEAR									
	06-07	**07-08**	**08-09**	**09-10**	**10-11**	**11-12**	**12-13**	**13-14**	**14-15**	**15-16**
4K	0	0	0	0	0	0	0	62	57	64
K	95	89	106	88	82	83	89	92	97	65
1	102	90	85	97	85	75	84	93	88	82
2	96	97	91	84	88	86	73	77	84	80
3	93	99	92	91	82	94	85	75	73	82
4	102	92	97	94	89	86	97	89	72	73
5	80	96	92	95	89	89	95	93	89	71
6	106	93	100	100	108	104	93	104	108	100
7	101	115	92	97	100	109	100	93	100	105
8	114	108	113	94	97	104	113	96	85	102
9	133	131	116	120	111	112	113	120	104	89
10	129	122	130	120	124	110	111	117	123	104
11	147	120	121	130	122	118	117	113	110	123
12	140	149	123	129	134	120	109	105	114	105
TOTAL	**1,438**	**1,401**	**1,358**	**1,339**	**1,311**	**1,290**	**1,279**	**1,329**	**1,304**	**1,245**
K-12	1,438	1,401	1,358	1,339	1,311	1,290	1,279	1,267	1,247	1,181
K-5	568	563	563	549	515	513	523	519	503	453
6-8	321	316	305	291	305	317	306	293	293	307
9-12	549	522	490	499	491	460	450	455	451	421

TABLE 2
Student Enrollment Changes
River Valley School District

	ABSOLUTE CHANGE			PERCENT CHANGE			AVERAGE ANNUAL PERCENT CHANGE		
GRADE	**'06 to '15**	**'06 to '10**	**'11 to '15**	**'06 to '15**	**'06 to '10**	**'11 to '15**	**'06 to '15**	**'06 to '10**	**'11 to '15**
4K	64	0	64	N/A	N/A	N/A	N/A	N/A	N/A
K	-30	-13	-18	-31.6	-13.7	-21.7	-3.5	-3.4	-5.4
1	-20	-17	7	-19.6	-16.7	9.3	-2.2	-4.2	2.3
2	-16	-8	-6	-16.7	-8.3	-7.0	-1.9	-2.1	-1.7
3	-11	-11	-12	-11.8	-11.8	-12.8	-1.3	-3.0	-3.2
4	-29	-13	-13	-28.4	-12.7	-15.1	-3.2	-3.2	-3.8
5	-9	9	-18	-11.3	11.3	-20.2	-1.3	2.8	-5.1
6	-6	2	-4	-5.7	1.9	-3.8	-0.6	0.5	-1.0
7	4	-1	-4	4.0	-1.0	-3.7	0.4	-0.2	-0.9
8	-12	-17	-2	-10.5	-14.9	-1.9	-1.2	-3.7	-0.5
9	-44	-22	-23	-33.1	-16.5	-20.5	-3.7	-4.1	-5.1
10	-25	-5	-6	-19.4	-3.9	-5.5	-2.2	-1.0	-1.4
11	-24	-25	5	-16.3	-17.0	4.2	-1.8	-4.3	1.1
12	-35	-6	-15	-25.0	-4.3	-12.5	-2.8	-1.1	-3.1
TOTAL	**-193**	**-127**	**-45**	**-13.4**	**-8.8**	**-3.5**	**-1.5**	**-2.2**	**-0.9**
K-12	-257	-127	-109	-17.9	-8.8	-8.4	-2.0	-2.2	-2.1
K-5	-115	-53	-60	-20.2	-9.3	-11.7	-2.2	-2.3	-2.9
6-8	-14	-16	-10	-4.4	-5.0	-3.2	-0.5	-1.2	-0.8
9-12	-128	-58	-39	-23.3	-10.6	-8.5	-2.6	-2.6	-2.1

Figure 1-B shows enrollment history broken down by grade groupings (4K, K-5, 6-8, and 9-12). Elementary school enrollment has decreased over the last ten years by 2.2% annually. Middle school enrollment has decreased by 0.5% annually the past ten years, while high school enrollment decreased by 2.6% annually.

Figure 1-B

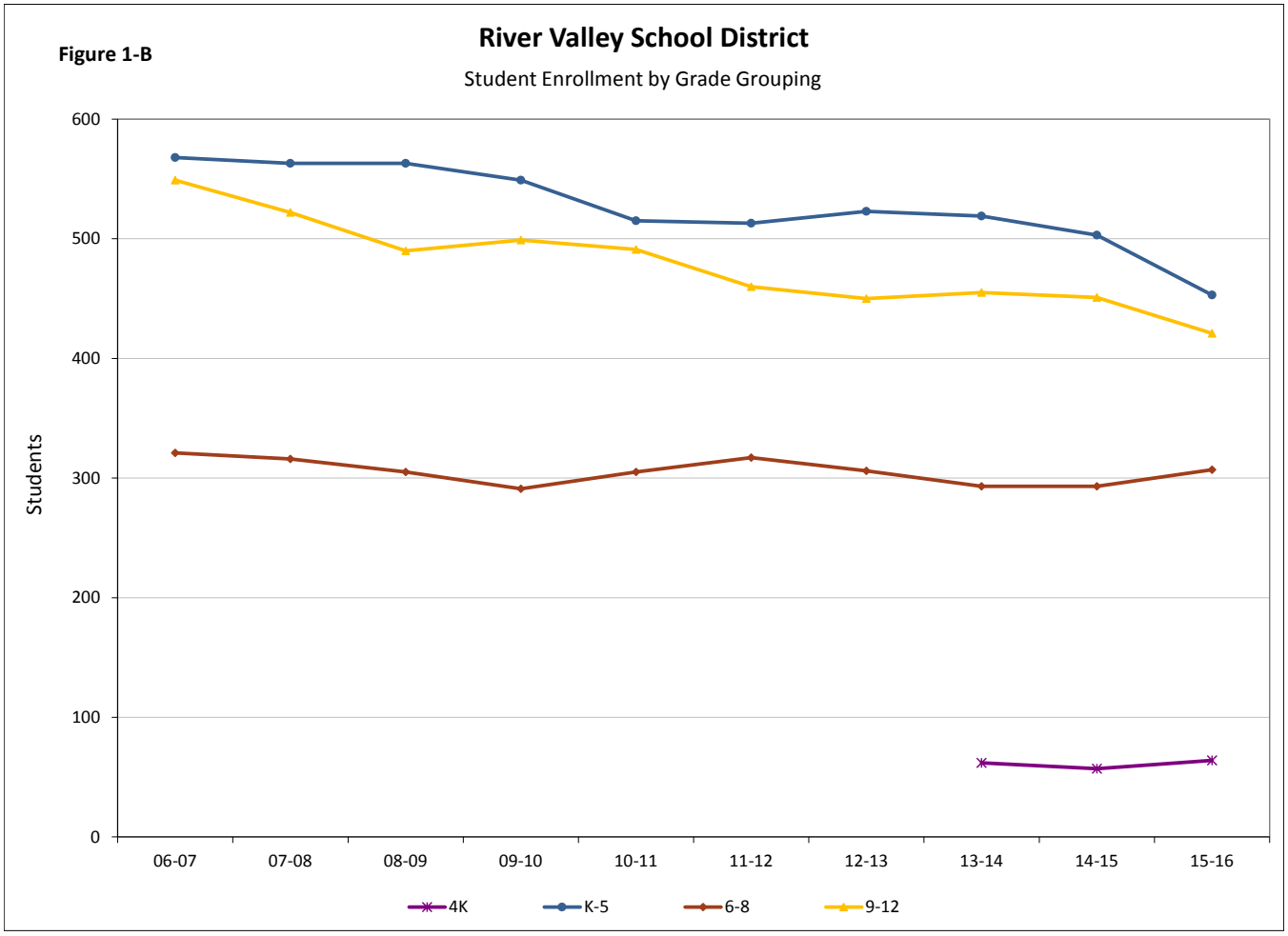
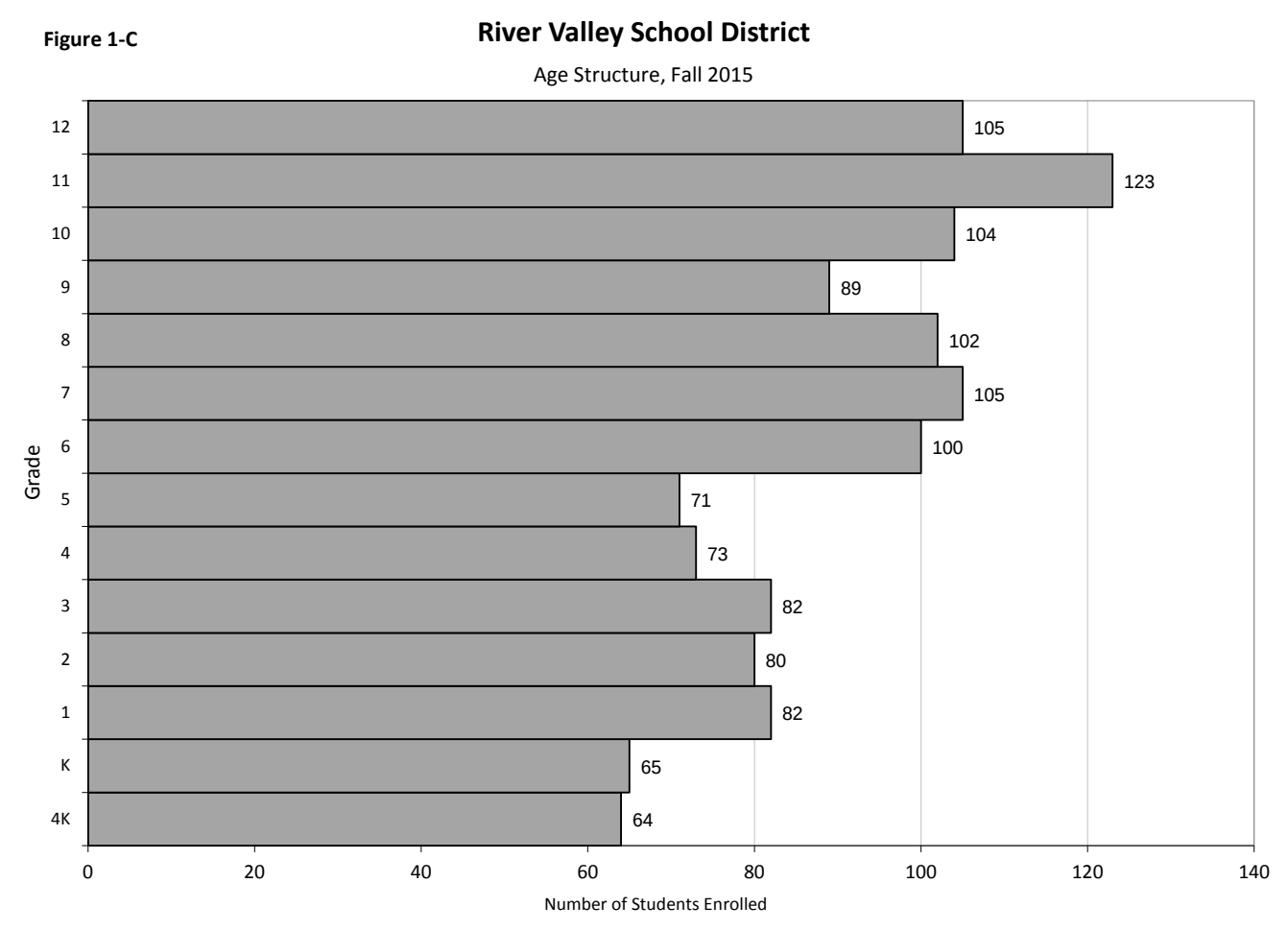


Figure 1-C shows the age structure in Fall 2015 of the student population with the number of 4 year old kindergarteners at the bottom and the number of 12th graders at top. 4K, K, and 5th grades are the smallest in 2015/16. The largest grades this current school year include 7th, 11th, and 12th grades.

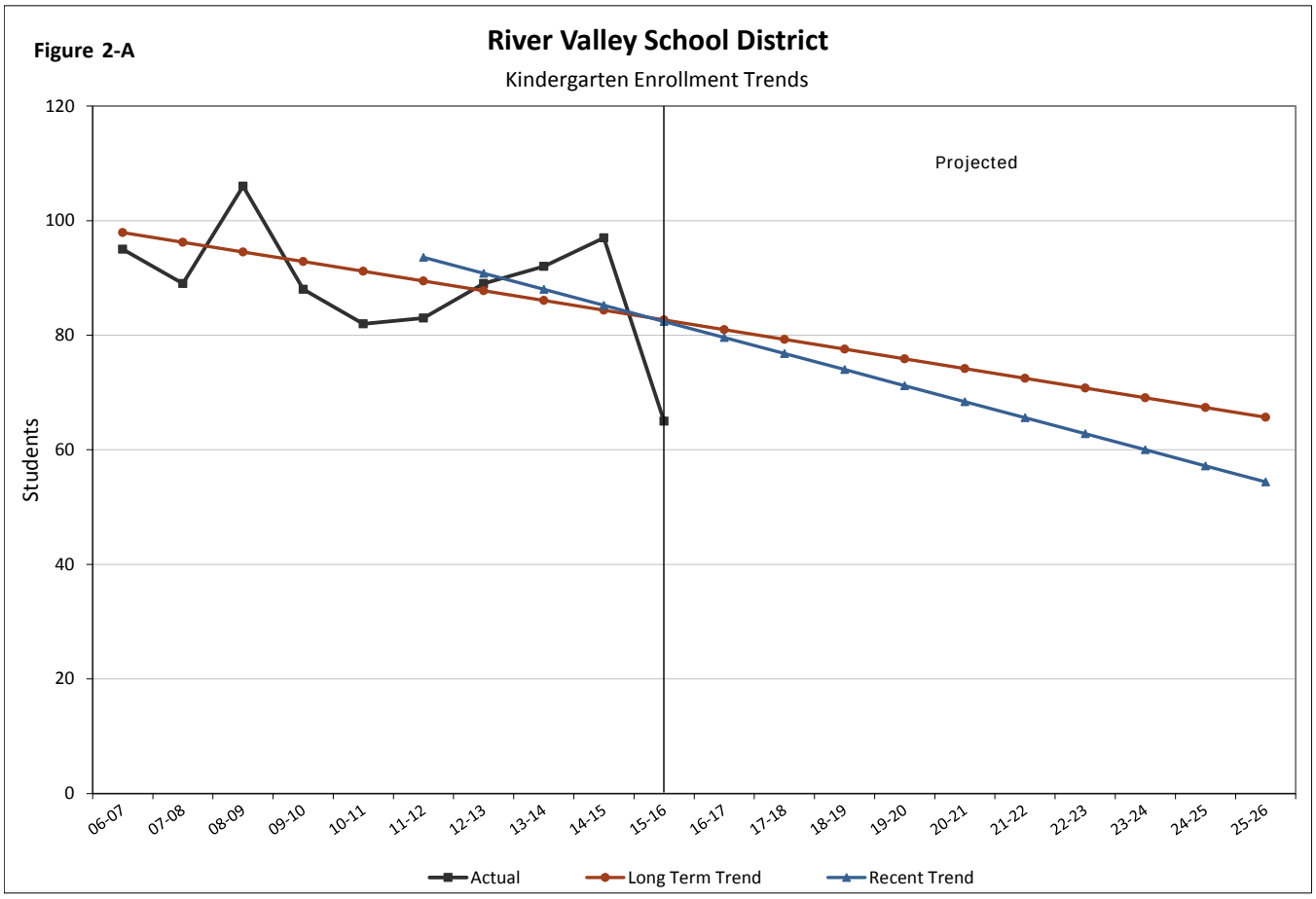
Figure 1-C



Kindergarten Enrollment Trends

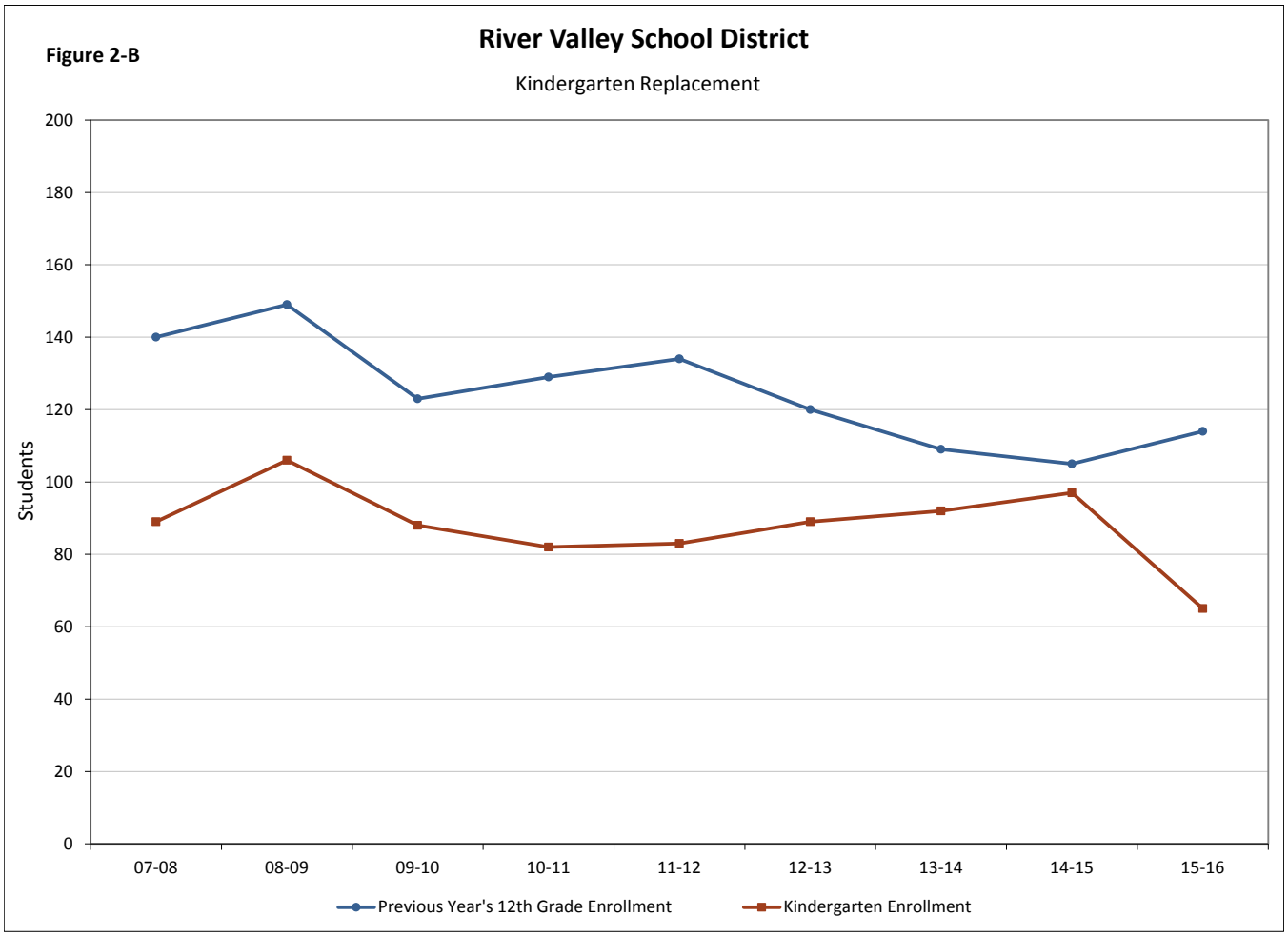
Examining trends in kindergarten enrollment is particularly informative for gaining perspective on future district enrollment, as today's kindergarteners will gradually make up tomorrow's students at the higher grade levels as they age and move through the school system. When kindergarten enrollment is decreasing, elementary and middle school enrollment might be expected to decrease in the near future, while high school enrollment may decrease further in the future. Figure 2-A shows kindergarten enrollment history in black, and trend lines depicting kindergarten enrollment in red and blue. The "Long Term Trend" line (shown in red) averages kindergarten enrollment changes between 2006/07 and 2015/16. The "Recent Trend" line emphasizes kindergarten enrollment changes over the last five years. In the River Valley School District, both the long term and recent trends show decreasing kindergarten enrollment. The long term trend will be used to project future kindergartners in the Kindergarten Trend model found later in the report.

Figure 2-A



In addition to examining kindergarten enrollment on its own, comparing kindergarten enrollment to outgoing 12th graders offers a snapshot of how the age structure of district enrollment is shifting either from older to younger, or younger to older. Districts tend to experience overall growth when kindergarten enrollment outpaces outgoing students, and they tend to experience decline when kindergarteners do not fully replace the number of graduates. In the River Valley School District, kindergarteners did not replace outgoing 12th graders during this time period.

Figure 2-B

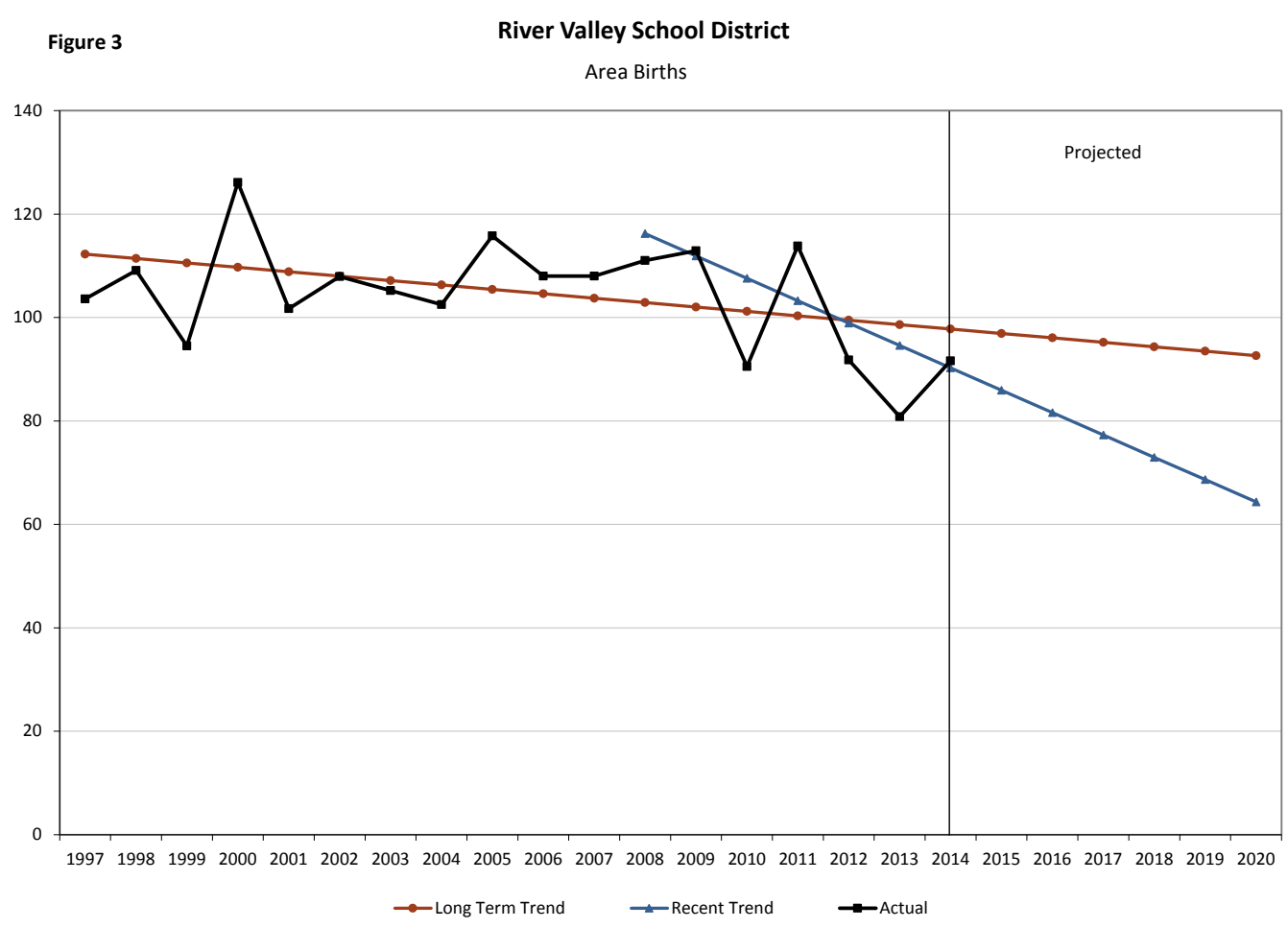


Birth Trends and Projections

We use historical and projected birth data to forecast the number of kindergarten students who will enroll in the River Valley School District in the future years. Figure 3 shows (in black) the number of births to mothers living in municipalities that fall within school district boundaries, by year, from 1997-2014, as collected from the Wisconsin Department of Health Services.

We extrapolate these birth trends into the future to correspond with our Baseline and Recent Trend projection models, using the B:K grade progression ratios to transform births into future kindergarteners. The red line in Figure 4 represents birth trends over the longer term (between 1997 and 2014). The blue line examines birth patterns for the last seven years and corresponds to the Recent Trend projection models shown later in this report.

Figure 3



Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
# of Births	104	109	95	126	102	108	105	103	116
Year	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
# of Births	108	108	111	113	91	114	92	81	92

Source: WI Department of Health Services

Population Trends

This section examines population trends of the recent past for municipalities that fall within the River Valley School District area. Changes in the total population of the district area, particularly when examined by age, provide clues into how the school age population may be changing.

Table 3 and Figure 4-A provide the Census population counts for 2010 and Wisconsin Department of Administration (DOA) estimates for district area municipalities from 2011 to 2015. These municipal populations can be compared to Sauk County and the State of Wisconsin. The district area grew an estimated 0.4% from 2010 to 2015.

TABLE 3
Total Population by Municipality: 2010-2015
River Valley School District

Municipality	POPULATION					
	Census 2010	est. 2011	est. 2012	est. 2013	est. 2014	est. 2015
V.Lone Rock	888	890	887	885	883	880
T.Buena Vista	1,869	1,877	1,883	1,891	1,886	1,888
V.Plain	773	771	770	770	771	767
V.Spring Green	1,628	1,628	1,632	1,634	1,631	1,627
T.Bear Creek	595	598	598	598	604	608
T.Franklin	652	651	646	650	649	650
T.Spring Green	1,697	1,699	1,701	1,702	1,705	1,701
V.Arena	834	834	830	824	827	827
T.Arena	1,456	1,461	1,465	1,466	1,476	1,485
T.Clyde	306	308	307	307	309	311
T.Wyoming	302	303	302	301	302	299
District Area	**11,000**	**11,020**	**11,021**	**11,028**	**11,043**	**11,043**
Sauk County	61,976	61,951	61,994	62,041	62,092	62,207
State of Wisconsin	5,686,986	5,694,236	5,703,525	5,717,110	5,732,981	5,753,250

Municipality	PERCENT CHANGE					
	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2010 to 2015
V.Lone Rock	0.2%	-0.3%	-0.2%	-0.2%	-0.3%	-0.9%
T.Buena Vista	0.4%	0.3%	0.4%	-0.3%	0.1%	1.0%
V.Plain	-0.3%	-0.1%	0.0%	0.1%	-0.5%	-0.8%
V.Spring Green	0.0%	0.2%	0.1%	-0.2%	-0.2%	-0.1%
T.Bear Creek	0.5%	0.0%	0.0%	1.0%	0.7%	2.2%
T.Franklin	-0.2%	-0.8%	0.6%	-0.2%	0.2%	-0.3%
T.Spring Green	0.1%	0.1%	0.1%	0.2%	-0.2%	0.2%
V.Arena	0.0%	-0.5%	-0.7%	0.4%	0.0%	-0.8%
T.Arena	0.3%	0.3%	0.1%	0.7%	0.6%	2.0%
T.Clyde	0.7%	-0.3%	0.0%	0.7%	0.6%	1.6%
T.Wyoming	0.3%	-0.3%	-0.3%	0.3%	-1.0%	-1.0%
District Area	0.2%	0.0%	0.1%	0.1%	0.0%	0.4%
Sauk County	0.0%	0.1%	0.1%	0.1%	0.2%	0.4%
State of Wisconsin	0.1%	0.2%	0.2%	0.3%	0.4%	1.2%

Source: U. S. Census Bureau & Demographic Services Center, WIDOA

Figure 4-A

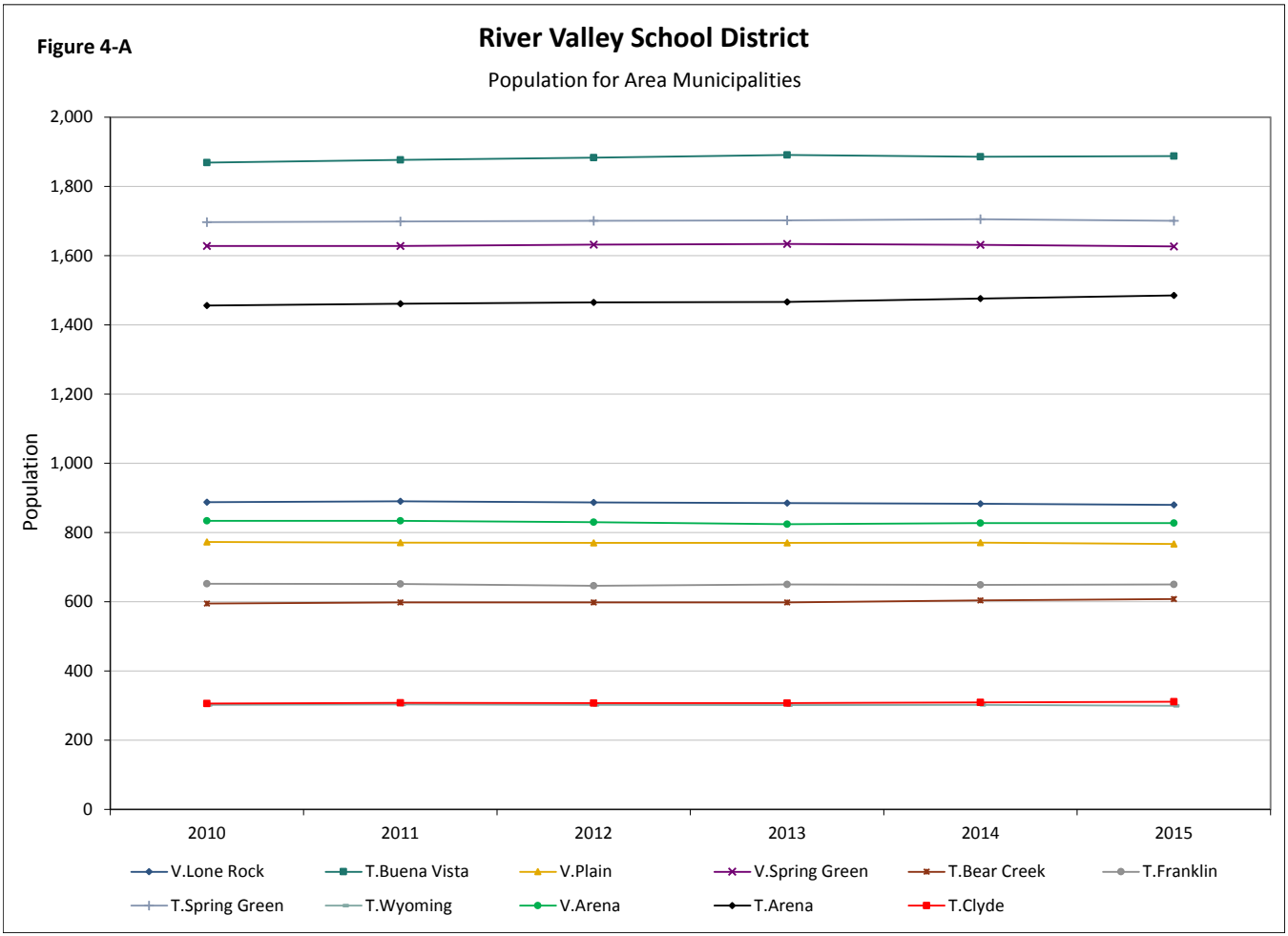

River Valley School District
Population for Area Municipalities
Population
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
0
2010
2011
2012
2013
2014
2015
V.Lone Rock
T.Buena Vista
V.Plain
V.Spring Green
T.Bear Creek
T.Franklin
T.Spring Green
T.Wyoming
V.Arena
T.Arena
T.Clyde

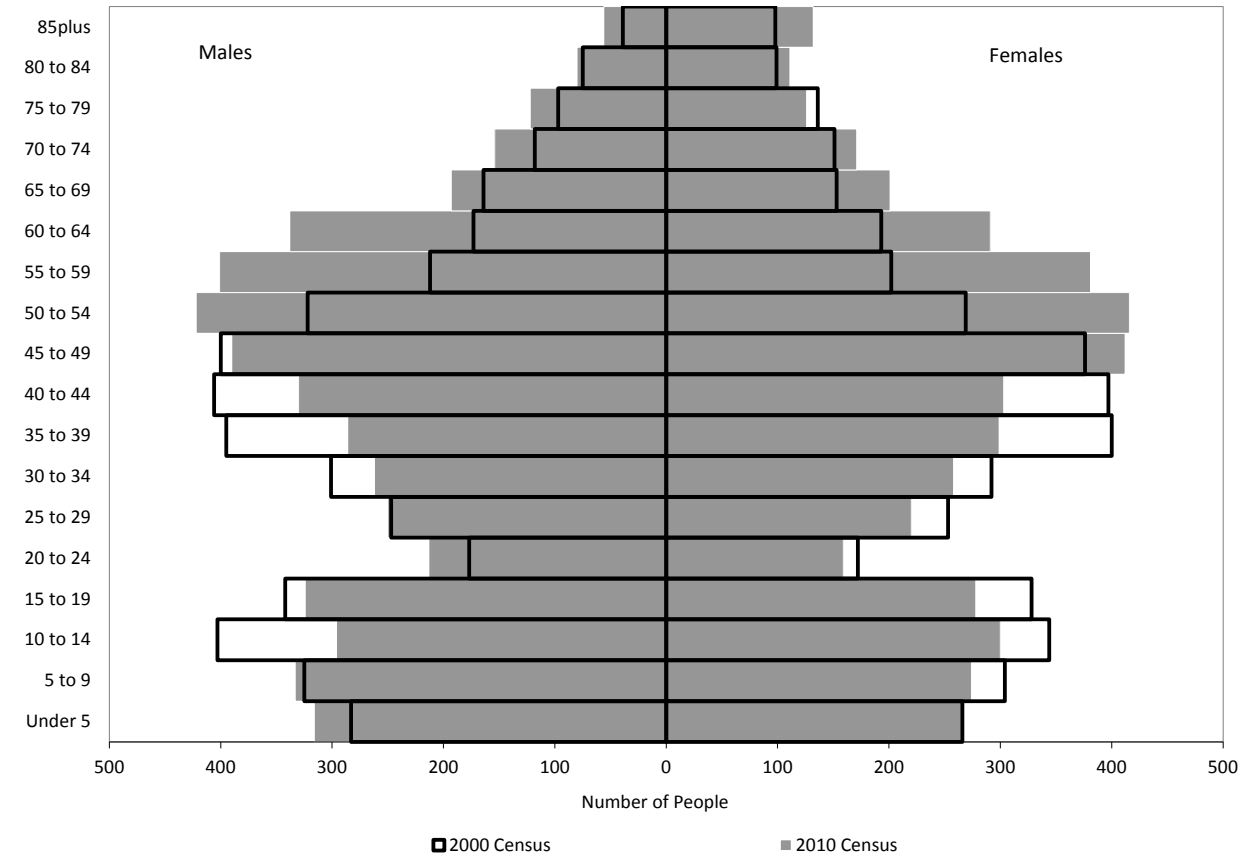
Table 4 and Figure 4-B illustrate the population for the school district showing the change in age structure between 2000 and 2010. In the school district, the number of children under age 5 increased, while the number of 5-19 year olds decreased significantly. The number of people age 30-44 also decreased from 2000 to 2010, which is the typical age of parents with children attending school. As would be expected, the proportion of 50-69 year olds increased, as the Baby Boom generation aged another ten years.

TABLE 4
Population by Age and Gender, 2000-2010
River Valley School District

	2010 Total				2000 Total		
Age	**Males**	**Females**	**Total**	**Age**	**Males**	**Females**	**Total**
Under 5	316	266	582	Under 5	283	266	549
5 to 9	333	274	607	5 to 9	325	304	629
10 to 14	296	300	596	10 to 14	403	344	747
15 to 19	324	278	602	15 to 19	342	328	670
20 to 24	213	159	372	20 to 24	177	172	349
25 to 29	250	220	470	25 to 29	247	253	500
30 to 34	262	258	520	30 to 34	301	292	593
35 to 39	286	299	585	35 to 39	395	400	795
40 to 44	330	303	633	40 to 44	406	397	803
45 to 49	390	412	802	45 to 49	400	376	776
50 to 54	422	416	838	50 to 54	322	269	591
55 to 59	401	381	782	55 to 59	212	202	414
60 to 64	338	291	629	60 to 64	173	193	366
65 to 69	193	201	394	65 to 69	164	153	317
70 to 74	154	171	325	70 to 74	118	151	269
75 to 79	122	126	248	75 to 79	97	136	233
80 to 84	80	111	191	80 to 84	75	99	174
85plus	56	132	188	85plus	39	98	137
	4,766	4,598	9,364		4,479	4,433	8,912

Source: U. S. Census Bureau

Figure 4-B


Age Structure
River Valley School District
Males
Females
85plus
80 to 84
75 to 79
70 to 74
65 to 69
60 to 64
55 to 59
50 to 54
45 to 49
40 to 44
35 to 39
30 to 34
25 to 29
20 to 24
15 to 19
10 to 14
5 to 9
Under 5
500
400
300
200
100
0
100
200
300
400
500
Number of People
2000 Census
2010 Census

Past Housing Development

Table 5 shows the number of housing starts in the River Valley School District over the past ten years. Area housing starts have fluctuated from a high of 67 single family homes in 2005, to a low of 13 new single family housing starts in 2011. The housing totals in the table do include the entire municipality although only a portion of some of the towns are in the school district.

Examining trends in recent housing development can help to explain how in-migration into the River Valley School District area might be affecting school enrollment. If the number of housing starts in the district area is expected to be reasonably consistent for the next several years, then we assume that in-migration of school-age children will also remain relatively consistent. If the number of housing starts is expected to increase significantly above and beyond recent levels, in-migration may play an increasing role in school district enrollment. However, it is important to recognize that the number of housing starts in any given year is dependent upon a large number of confounding variables (decisions of local, county, and state policy makers, residential developers, interest rates, demand for housing, etc.), making future growth patterns difficult to predict.

The majority of housing development over the last ten years has occurred in the towns of Buena Vista and Arena and the Village of Spring Green. Most of the development in the area has consisted of single-family homes. Households in single family homes, on average, contain more school-aged children than in two-family and multi-family complexes. The entire district area has experienced a significant decline in housing development over the past ten years, a common trend throughout the state.

It is also important to consider that turnover in ownership of existing housing stock also contributes to changes in enrollment. A district can maintain or even increase enrollment depending upon the cycle of resident homeowners, regardless of housing starts. For instance, a younger community will have a higher child-per-household ratio, whereas an older community will have a lower child-per-household ration. However, within a few years a turnover in ownership in an older community may result in an increase in the child-per-household number. As younger families move into the area, the school district will tend to see new students enrolling into the district's schools. Absent new housing development or housing turnover, families age in place and the number of school-aged children eventually declines. Turnover in ownership does not happen overnight, however, and slow turnover may happen for several years at varying rates.

Figure 5-A shows the number of residential building permits issued by municipality for communities that fall within the school district. Figure 5-B shows housing starts in the area by type of housing unit—single family home, duplex, and multi-family housing unit.

TABLE 5
School District Area Housing Starts
River Valley School District

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
District Area										
TOTAL	**92**	**66**	**55**	**28**	**21**	**23**	**15**	**17**	**15**	**19**
Single Family	**67**	**64**	**43**	**23**	**21**	**23**	**13**	**17**	**15**	**19**
Two Family	**1**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**
Multi-family	**24**	**0**	**12**	**5**	**0**	**0**	**0**	**0**	**0**	**0**
V.Lone Rock										
TOTAL	**5**	**0**	**2**	**4**	**1**	**1**	**0**	**1**	**0**	**0**
Single Family	5	0	2	4	1	1	0	1	0	0
Two Family	0	0	0	0	0	0	0	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
T.Buena Vista										
TOTAL	**11**	**15**	**20**	**1**	**0**	**6**	**4**	**3**	**2**	**3**
Single Family	11	15	20	1	0	6	4	3	2	3
Two Family	0	0	0	0	0	0	0	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
V.Plain										
TOTAL	**1**	**3**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
Single Family	1	3	1	0	1	0	0	0	0	0
Two Family	0	0	0	0	0	0	0	0	0	0
Multi-family	0	0	4	0	0	0	0	0	0	0
V.Spring Green										
TOTAL	**32**	**5**	**11**	**9**	**2**	**2**	**2**	**2**	**1**	**1**
Single Family	8	5	3	4	2	2	0	2	1	1
Two Family	0	0	0	0	0	0	2	0	0	0
Multi-family	24	0	8	5	0	0	0	0	0	0
T.Bear Creek										
TOTAL	**8**	**8**	**3**	**3**	**2**	**3**	**1**	**2**	**4**	**5**
Single Family	8	8	3	3	2	3	1	2	4	5
Two Family	0	0	0	0	0	0	0	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
T.Franklin										
TOTAL	**5**	**4**	**2**	**1**	**0**	**1**	**0**	**3**	**1**	**4**
Single Family	5	4	2	1	0	1	0	3	1	4
Two Family	0	0	0	0	0	0	0	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
T.Spring Green										
TOTAL	**11**	**12**	**7**	**2**	**3**	**2**	**3**	**1**	**3**	**2**
Single Family	11	12	7	2	3	2	3	1	3	2
Two Family	0	0	0	0	0	0	0	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
V.Arena										
TOTAL	**9**	**8**	**1**	**2**	**1**	**0**	**0**	**0**	**1**	**0**
Single Family	8	6	1	2	1	0	0	0	1	0
Two Family	1	2	0	0	0	0	0	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
T.Arena										
TOTAL	**10**	**8**	**3**	**3**	**10**	**6**	**4**	**3**	**2**	**3**
Single Family	10	8	3	3	10	6	4	3	2	3
Two Family	0	0	0	0	0	0	0	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
T.Clyde										
TOTAL	**0**	**1**	**1**	**1**	**1**	**1**	**0**	**1**	**1**	**1**
Single Family	0	1	1	1	1	1	0	1	1	1
Two Family	0	0	0	0	0	0	0	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
T.Wyoming										
TOTAL	**0**	**2**	**0**	**2**	**0**	**1**	**1**	**1**	**0**	**0**
Single Family	0	2	0	2	0	1	1	1	0	0
Two Family	0	0	0	0	0	0	0	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0

Source: Demographic Services Center, WIDOA

Figure 5-A

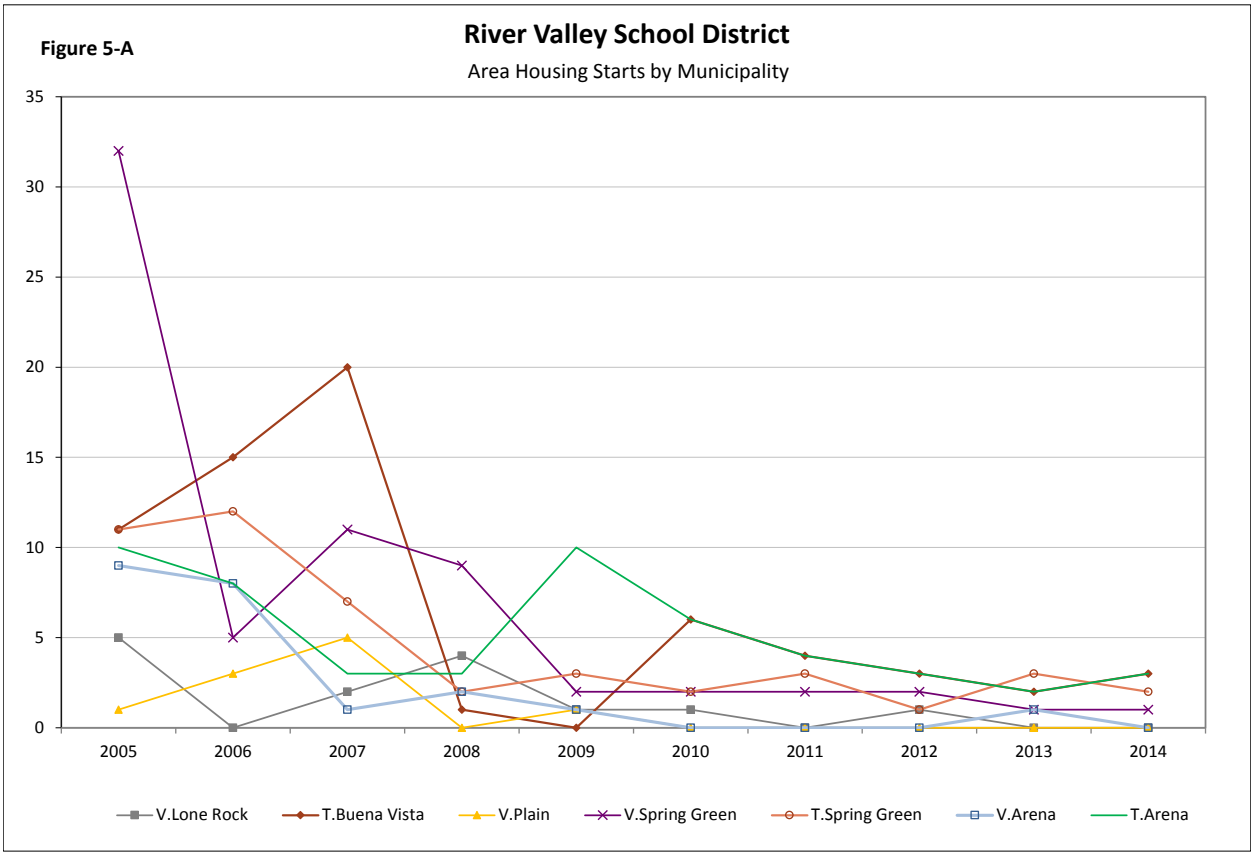
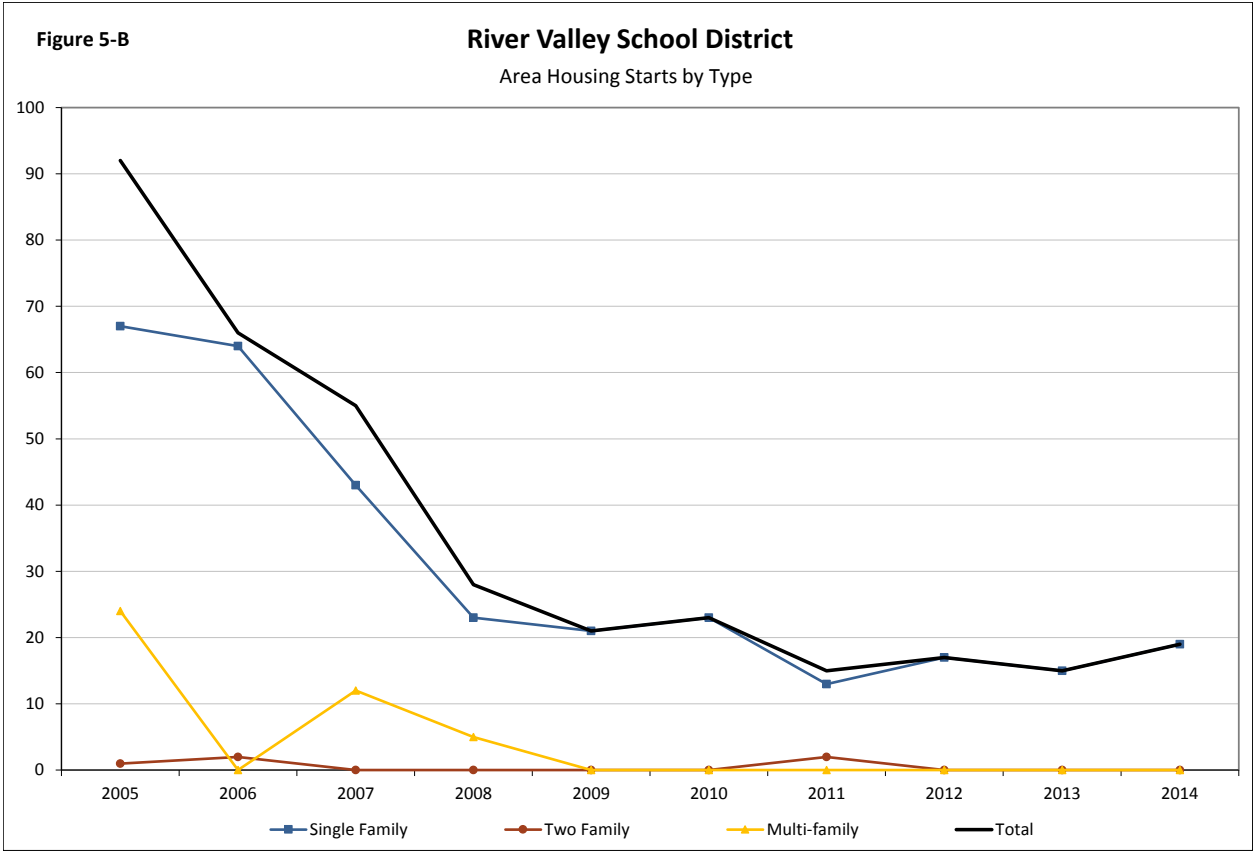


Figure 5-B



Method

In order to generate school enrollment projections, we rely on a commonly used demographic technique called the "cohort survival" method or the "grade progression ratio" method. This method advances current students through the school system over time and applies rates of transfer (or "survival") as the students who are now in school age from year to year and grade to grade. It is through these rates of transfer that we make assumptions about how migration into and out of the district and transfers to and from different schools or home schooling will impact future enrollment.

Grade Progression Ratios

Grade progression ratios are used to measure district enrollment changes, year to year and grade to grade that have occurred within the school district in the recent past. By examining these, we can better understand recent changes in enrollment. We use these ratios as the rates of transfer to inform future student projections.

Table 6 shows the grade progression ratios for the River Valley School District. The ratios measure the effects of in- and out-migration and the transfer of students between private and public schools. The ratios are calculated for several pairs of years and then averages of these based on different time frames are calculated for each grade.

TABLE 6
Grade Progression Ratios
River Valley School District

YEAR CHANGES	B:K	K:1	1:2	2:3	3:4	4:5	5:6	6:7	7:8	8:9	9:10	10:11	11:12
06-07/07-08	0.810	0.947	0.951	1.031	0.989	0.941	1.163	1.085	1.069	1.149	0.917	0.930	1.014
07-08/08-09	1.002	0.955	1.011	0.948	0.980	1.000	1.042	0.989	0.983	1.074	0.992	0.992	1.025
08-09/09-10	0.829	0.915	0.988	1.000	1.022	0.979	1.087	0.970	1.022	1.062	1.034	1.000	1.066
09-10/10-11	0.793	0.966	0.907	0.976	0.978	0.947	1.137	1.000	1.000	1.181	1.033	1.017	1.031
10-11/11-12	0.745	0.915	1.012	1.068	1.049	1.000	1.169	1.009	1.040	1.155	0.991	0.952	0.984
11-12/12-13	0.805	1.012	0.973	0.988	1.032	1.105	1.045	0.962	1.037	1.087	0.991	1.064	0.924
12-13/13-14	0.852	1.045	0.917	1.027	1.047	0.959	1.095	1.000	0.960	1.062	1.035	1.018	0.897
13-14/14-15	0.882	0.957	0.903	0.948	0.960	1.000	1.161	0.962	0.914	1.083	1.025	0.940	1.009
14-15/15-16	0.579	0.845	0.909	0.976	1.000	0.986	1.124	0.972	1.020	1.047	1.000	1.000	0.955
Baseline	**0.817**	**0.942**	**0.941**	**1.000**	**1.007**	**0.982**	**1.128**	**0.983**	**1.009**	**1.074**	**1.013**	**0.996**	**1.003**
5 Year Trend	**0.773**	**0.955**	**0.943**	**1.002**	**1.018**	**1.010**	**1.119**	**0.981**	**0.994**	**1.087**	**1.008**	**0.995**	**0.954**
2 Year "Trend"	**0.730**	**0.901**	**0.906**	**0.962**	**0.980**	**0.993**	**1.142**	**0.967**	**0.967**	**1.065**	**1.013**	**0.970**	**0.982**

*Shaded progression ratios are excluded from the Baseline Average

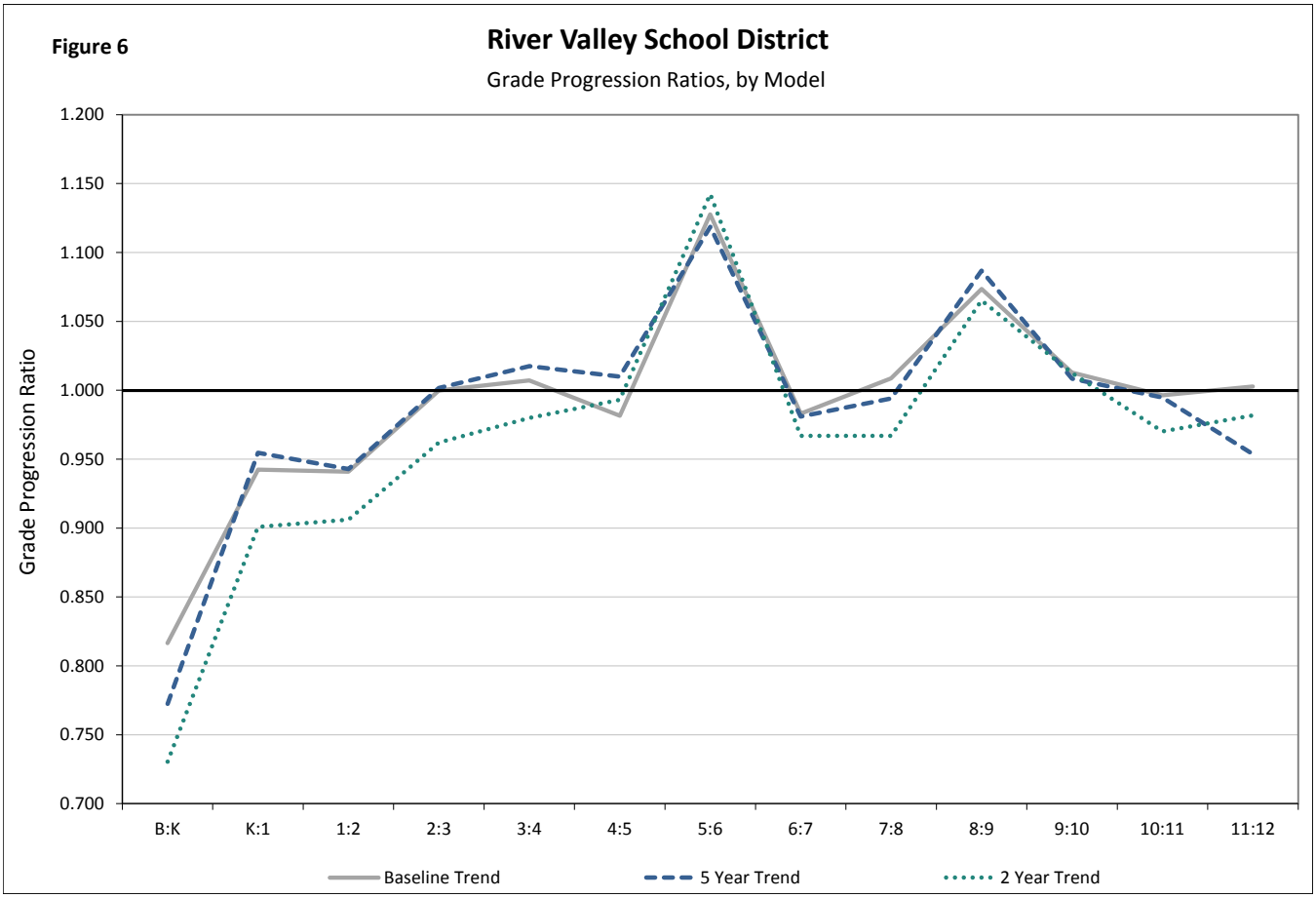
The grade progression ratios can be interpreted in the following manner. The Baseline ratio for 3:4 is 1.007. This means that in the River Valley School District, the fourth grade class is on average 0.7% larger each year than the third grade class was the previous year (the result of transfers from other schools and in-migration into the district). The K:1 Baseline ratio of 0.942 indicates that on average, approximately 94.2% of the kindergarten grade class moves to next year's first grade class.

In order to predict future enrollment under different growth assumptions, three sets of grade progression ratios are calculated:

- Baseline averages the past ten years of progression ratios, with outlying ratios (those outside of one standard deviation of the mean) excluded;
- Five-year Trend averages the past five years of progression ratios with no exclusions;
- Two-year Trend averages the past two years of progression ratios with no exclusions.

These short-, medium- and long-range bases produce varying projections that indicate a range of likely enrollment outcomes in the future. Figure 6 shows the differences between these three sets of grade progression ratios.

Figure 6



To generate 4K enrollment projections, we assume that the number of children born in the district area who will enter the 4K program will be similar to the past two years. The B:4K Two Year "Trend" grade progression ratio will be used to project future 4K enrollment for all models. Table 7 shows observed transfer ratios between birth to 4K and 4K to kindergarten for the last two school years and the grade progression ratio trend averages. The 4K:K ratios are not used in the enrollment projections that follow.

TABLE 7
4K Grade Progression Ratios
River Valley School District

	B:4K	4K:K
13-14/14-15	0.508	1.565
14-15/15-16	0.653	1.140
2 Year "Tend"	**0.580**	**1.352**

School Enrollment Projections

When considering all of the projections provided in this report for decision making, it is important to recognize that population projections of all types, including school enrollment projections, are more accurate in the immediate future than they are further into the future. This is especially true for grades K-5, because the students who will enter kindergarten after 2019/20 have not yet been born. Overall, our projections are more reliable over the next five years (up to the 2020/21 school year) than they are in the latter half of the next decade. When considering these projections, it is important to remember that projections made for individual grade groupings are less reliable than those projections made for the district as a whole.

The Baseline model (Table 8) projects enrollments using the assumption that average trends year to year, grade to grade, will continue into the future. This model assumes that long term (past ten years) trends in enrollment, migration, and births will be representative of future trends in the district. This model projects that 4K-12 enrollment will decrease over the next five years, decreasing from 1,245 students in 2015/16 to 1,133 students in 2020/21. This is a decrease of 112 students over the next five years.

TABLE 8
Baseline Projection Model
River Valley School District

	SCHOOL YEAR									
	16-17	**17-18**	**18-19**	**19-20**	**20-21**	**21-22**	**22-23**	**23-24**	**24-25**	**25-26**
4K	58	49	51	59	61	61	60	60	59	59
K	87	81	69	72	78	79	78	77	77	76
1	61	82	76	65	68	73	74	73	73	72
2	77	58	77	72	61	64	69	70	69	69
3	80	77	58	77	72	61	64	69	70	69
4	83	81	78	58	77	72	62	64	69	70
5	72	81	79	76	57	76	71	60	63	68
6	80	81	91	89	86	64	86	80	68	71
7	98	79	79	90	88	85	63	84	79	67
8	106	99	79	80	91	88	85	64	85	79
9	110	114	106	85	86	97	95	92	68	91
10	90	111	115	108	86	87	99	96	93	69
11	104	90	111	115	107	86	87	98	96	92
12	123	104	90	111	115	108	86	87	98	96
TOTAL	**1,228**	**1,185**	**1,160**	**1,156**	**1,133**	**1,101**	**1,078**	**1,075**	**1,067**	**1,049**
K-12	1,170	1,136	1,109	1,097	1,072	1,040	1,018	1,015	1,008	990
K-5	459	459	436	420	413	425	417	414	421	424
6-8	284	259	250	259	264	237	234	228	232	217
9-12	427	418	422	419	395	378	367	373	355	349

The 5 Year Trend model (Table 9) uses the grade progression ratios from the last five years and recent birth trends in the school district area to project what future enrollments would look like if more recent patterns were representative of future trends. With recent migration rates and birth trends weighted more heavily, 4K-12 enrollment in the River Valley School District is projected to decrease from 1,245 students in 2015/16 to 1,120 students in 2020/21. This is a decrease of 125 students over the next five years.

TABLE 9
5 Year Trend Projection Model
River Valley School District

	SCHOOL YEAR									
GRADE	**16-17**	**17-18**	**18-19**	**19-20**	**20-21**	**21-22**	**22-23**	**23-24**	**24-25**	**25-26**
4K	58	49	51	59	61	61	60	60	59	59
K	82	77	65	68	72	72	69	67	65	62
1	62	78	73	62	65	69	68	66	64	62
2	77	59	74	69	59	61	65	64	62	60
3	80	77	59	74	69	59	61	65	65	62
4	83	82	79	60	75	70	60	62	66	66
5	74	84	82	80	60	76	71	60	63	67
6	79	82	94	92	89	67	85	79	68	70
7	98	78	81	92	90	87	66	83	78	66
8	104	98	77	80	92	90	87	66	83	77
9	111	113	106	84	87	100	98	94	71	90
10	90	112	114	107	85	88	101	98	95	72
11	103	89	111	114	106	84	88	100	98	95
12	117	99	85	106	109	101	81	84	96	93
TOTAL	**1,219**	**1,177**	**1,152**	**1,147**	**1,120**	**1,086**	**1,060**	**1,050**	**1,032**	**1,002**
K-12	1,162	1,128	1,101	1,088	1,059	1,025	999	991	973	943
K-5	459	457	432	412	400	407	395	386	385	379
6-8	282	258	253	265	271	245	238	228	228	214
9-12	421	413	417	411	387	374	367	377	360	350

The 2 Year “Trend” model (Table 10) uses the grade progression ratios from the last two years to project what future enrollments would look like if even more recent patterns were representative of future trends. For the 2 Year “Trend” model, 4K-12 enrollment is projected to decrease from 1,245 students in 2015/16 to 1,018 students in 2020/21. This is a decrease of 227 students over the next five years.

TABLE 10
2 Year "Trend" Projection Model
River Valley School District

	SCHOOL YEAR									
GRADE	**16-17**	**17-18**	**18-19**	**19-20**	**20-21**	**21-22**	**22-23**	**23-24**	**24-25**	**25-26**
4K	58	49	51	59	61	61	60	60	59	59
K	77	72	62	64	68	68	65	63	61	59
1	59	70	65	56	58	62	61	59	57	55
2	74	53	63	59	50	52	56	55	53	52
3	77	71	51	61	57	48	50	54	53	51
4	80	75	70	50	60	56	48	49	53	52
5	72	80	75	70	50	59	55	47	49	52
6	81	83	91	86	79	57	68	63	54	56
7	97	78	80	88	83	77	55	65	61	52
8	102	93	76	77	85	80	74	53	63	59
9	109	108	100	81	82	91	85	79	57	67
10	90	110	110	101	82	84	92	86	80	57
11	101	87	107	106	98	79	81	89	84	78
12	121	99	86	105	104	96	78	80	88	82
TOTAL	**1,197**	**1,130**	**1,086**	**1,062**	**1,018**	**969**	**929**	**904**	**872**	**832**
K-12	1,140	1,081	1,035	1,003	957	909	869	844	813	773
K-5	440	422	386	359	343	345	336	328	326	321
6-8	279	255	247	251	247	214	197	182	178	167
9-12	420	405	402	393	366	350	336	334	308	285

For this method, we perform a trend analysis to project the number of future kindergarten students, rather than relying upon the traditional birth to kindergarten (B:K) grade progression ratio. Then, the 5 Year Trend progression ratios are used for projecting the other grades (1-12) in the district. In other words, this model assumes that the number of new kindergarteners each year over the next decade will continue to follow a trend similar to the long term kindergarten trend, regardless of the number of observed births in the school district area. According to this hybrid projection model (Table 11), 4K-12 enrollment would decrease over the next five years from 1,245 students in 2015/16 to 1,142 students in 2020/21, or a decrease of 103 students.

TABLE 11
Kindergarten Trend Projection Model
River Valley School District

GRADE	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
4K	58	49	51	59	61	61	60	60	59	59
K	81	79	78	76	74	72	71	69	67	66
1	62	77	76	74	72	71	69	68	66	64
2	77	59	73	71	70	68	67	65	64	62
3	80	77	59	73	71	70	68	67	65	64
4	83	82	79	60	74	73	71	70	68	66
5	74	84	82	80	60	75	73	72	70	69
6	79	82	94	92	89	67	84	82	80	79
7	98	78	81	92	90	87	66	82	81	79
8	104	98	77	80	92	90	87	66	82	80
9	111	113	106	84	87	100	98	94	71	89
10	90	112	114	107	85	88	101	98	95	72
11	103	89	111	114	106	84	88	100	98	95
12	117	99	85	106	109	101	81	84	96	93
TOTAL	**1,218**	**1,178**	**1,166**	**1,168**	**1,142**	**1,108**	**1,083**	**1,077**	**1,063**	**1,037**
K-12	1,161	1,129	1,115	1,109	1,081	1,048	1,023	1,017	1,004	978
K-5	458	458	446	433	422	429	420	410	401	391
6-8	282	258	253	265	271	245	237	230	243	238
9-12	421	413	417	411	387	374	367	377	360	349

Comparison of Projection Models

Figures 7-11 and Tables 12-16 compare the four enrollment projection models broken down by total 4K-12 and K-12 district enrollment and by grade groupings.

Figure 7

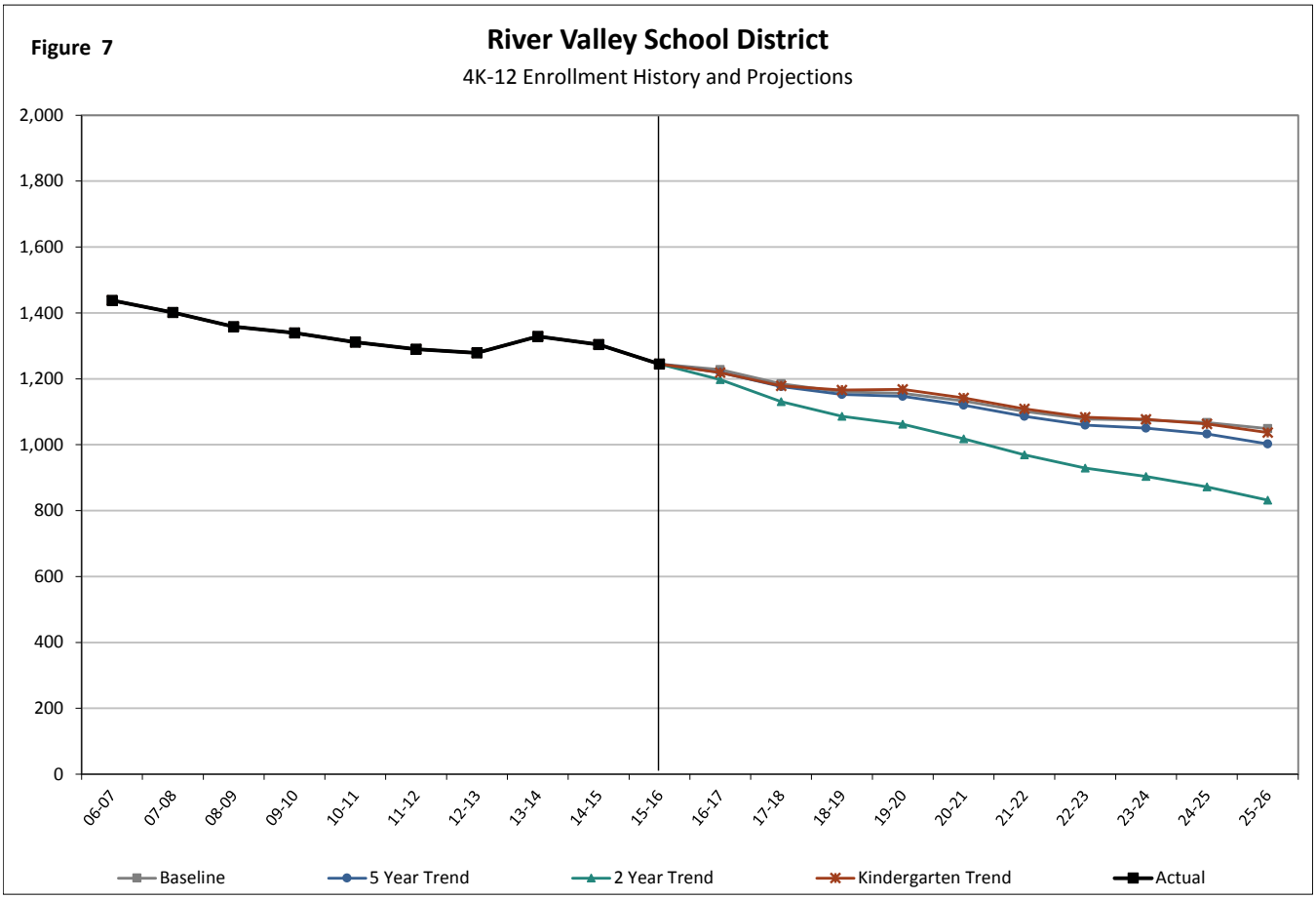


TABLE 12
Summary of 4K-12 Enrollment Projections
River Valley School District

	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Baseline	1,228	1,185	1,160	1,156	1,133	1,101	1,078	1,075	1,067	1,049
5 Year Trend	1,219	1,177	1,152	1,147	1,120	1,086	1,060	1,050	1,032	1,002
2 Year "Trend"	1,197	1,130	1,086	1,062	1,018	969	929	904	872	832
Kindergarten Trend	1,218	1,178	1,166	1,168	1,142	1,108	1,083	1,077	1,063	1,037

4K-12 enrollment is 1,245 in 2015/16. 4K-12 enrollment projections five years from now (2020/21) forecast a range of enrollment from 1,018 to 1,142.

Figure 8

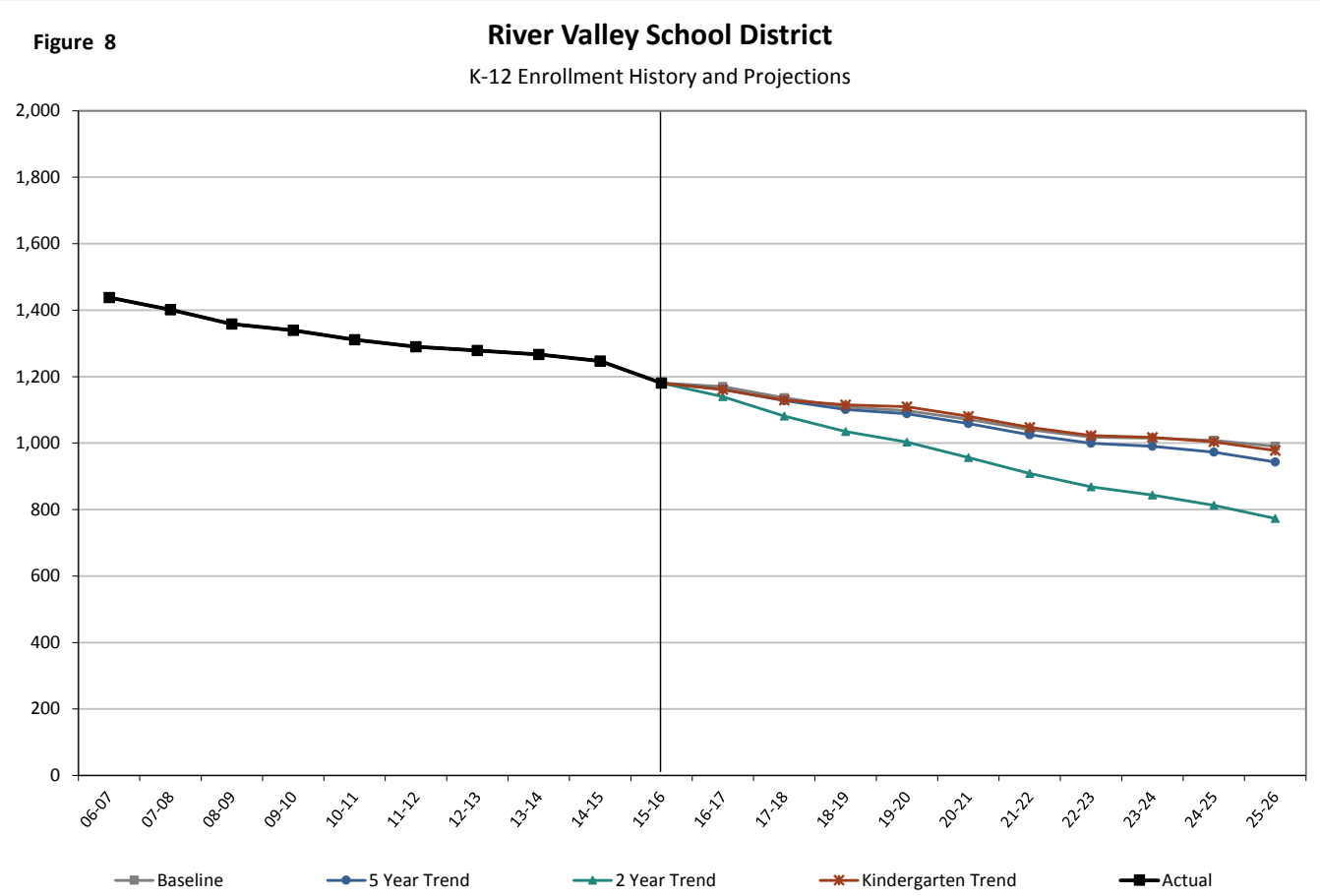


TABLE 13
Summary of K-12 Enrollment Projections
River Valley School District

	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Baseline	1,170	1,136	1,109	1,097	1,072	1,040	1,018	1,015	1,008	990
5 Year Trend	1,162	1,128	1,101	1,088	1,059	1,025	999	991	973	943
2 Year "Trend"	1,140	1,081	1,035	1,003	957	909	869	844	813	773
Kindergarten Trend	1,161	1,129	1,115	1,109	1,081	1,048	1,023	1,017	1,004	978

K-12 enrollment is 1,181 for the 2015/16 school year. All models project decreasing enrollment with the Two Year Trend model indicating the greatest amount of decrease, while the Kindergarten Trend model projects the least amount of decrease. K-12 enrollment projections five years from now (2020/21) forecast a range of enrollment from 957 to 1,081.

Figure 9

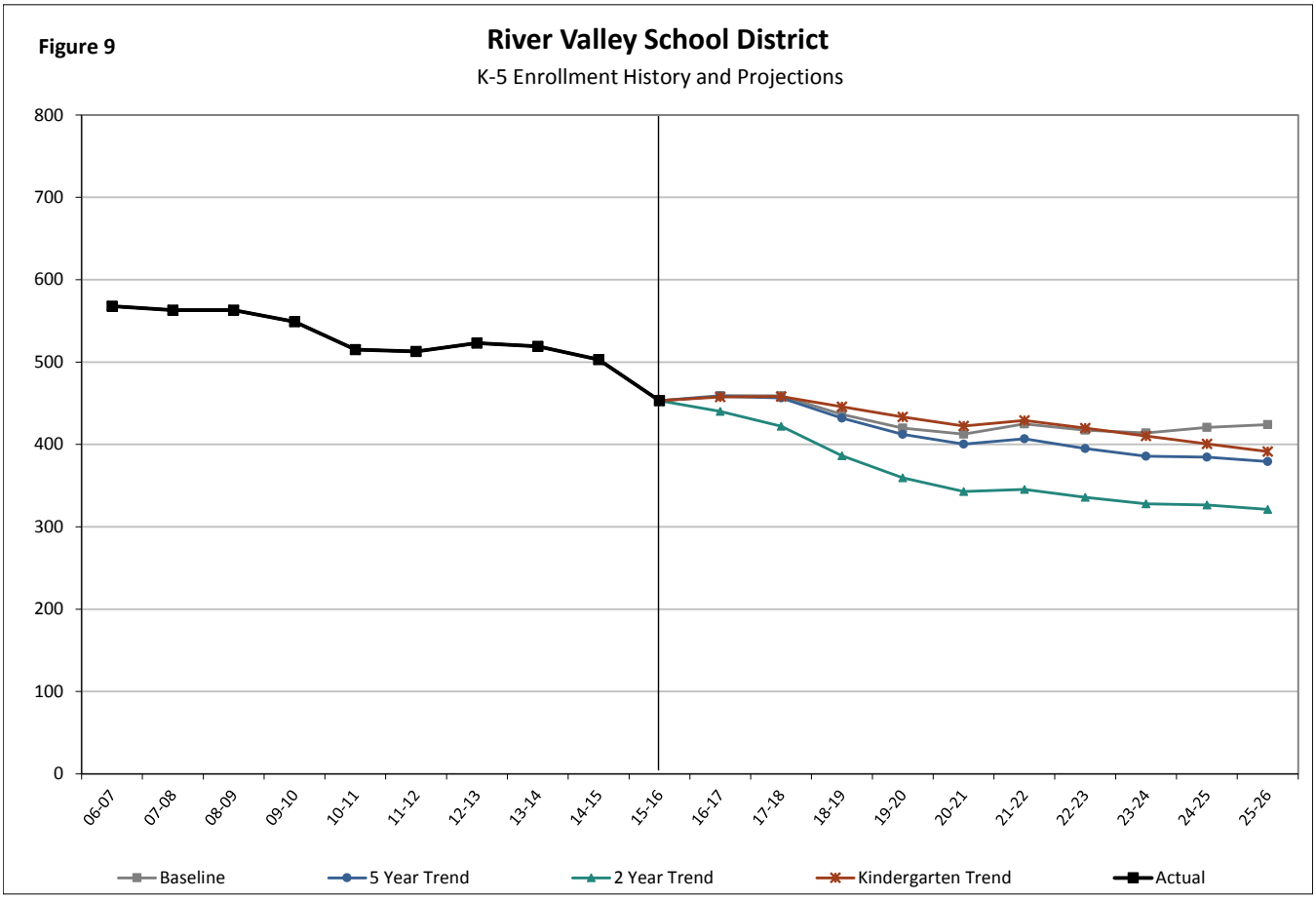


TABLE 14
Summary of K-5 Enrollment Projections
River Valley School District

	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Baseline	459	459	436	420	413	425	417	414	421	424
5 Year Trend	459	457	432	412	400	407	395	386	385	379
2 Year "Trend"	440	422	386	359	343	345	336	328	326	321
Kindergarten Trend	458	458	446	433	422	429	420	410	401	391

K-5 enrollment in 2015/16 is 453. All models project decreasing K-5 enrollment over the next five years. The Kindergarten Trend model projects the least amount of enrollment decline. K-5 enrollment projections five years from now (2020/21) forecast a range of enrollment from 343 to 422.

Figure 10

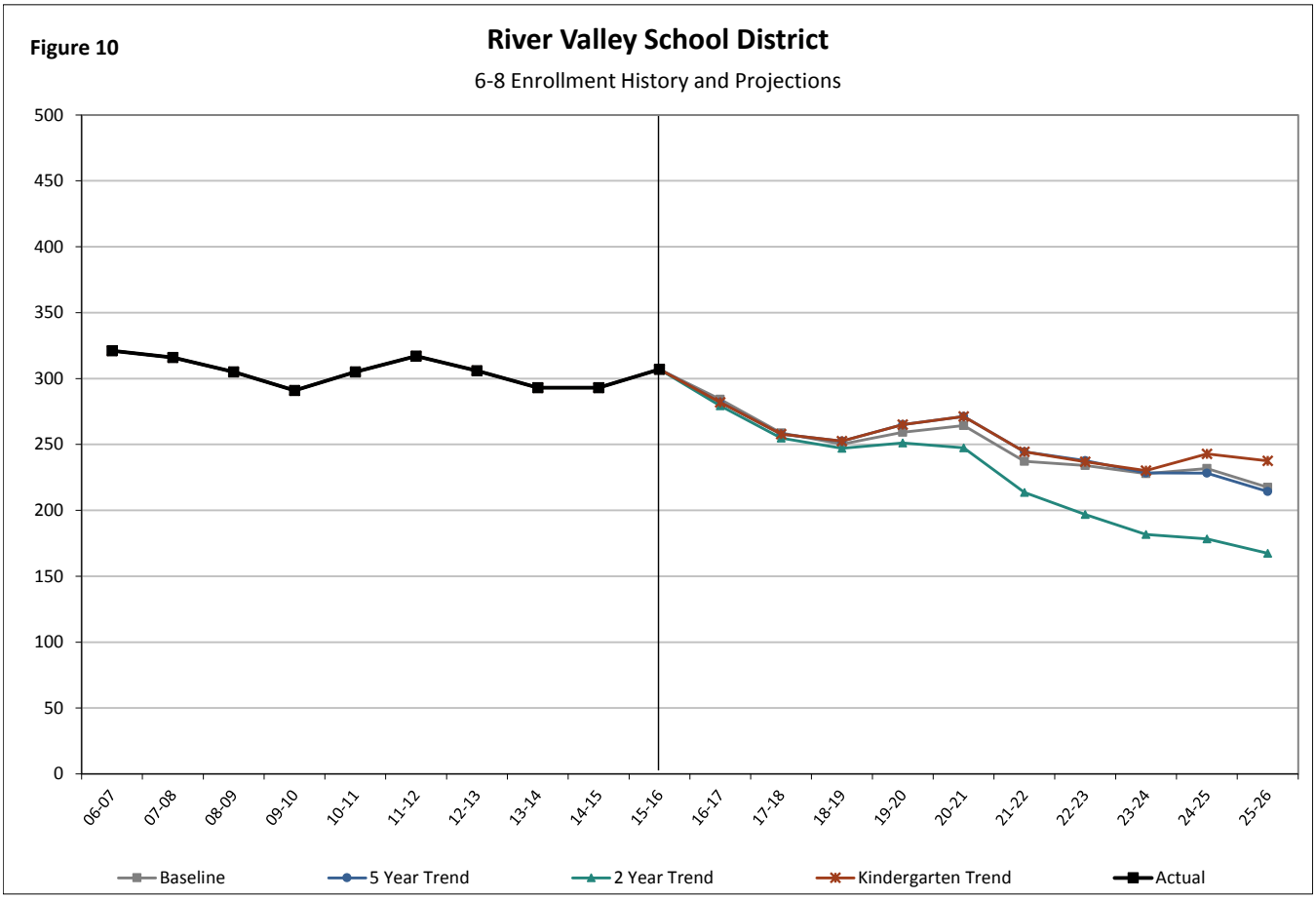


TABLE 15
Summary of 6-8 Enrollment Projections
River Valley School District

	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Baseline	284	259	250	259	264	237	234	228	232	217
5 Year Trend	282	258	253	265	271	245	238	228	228	214
2 Year "Trend"	279	255	247	251	247	214	197	182	178	167
Kindergarten Trend	282	258	253	265	271	245	237	230	243	238

Grades 6-8 enrollment in 2015/16 is 307. At the middle school grade level, all models project enrollment decline. The 5 Year and Kindergarten Trend models project the least amount of enrollment decline. Grades 6-8 enrollment projections five years from now (2020/21) predict a range of enrollment from 247 to 271.

Figure 11

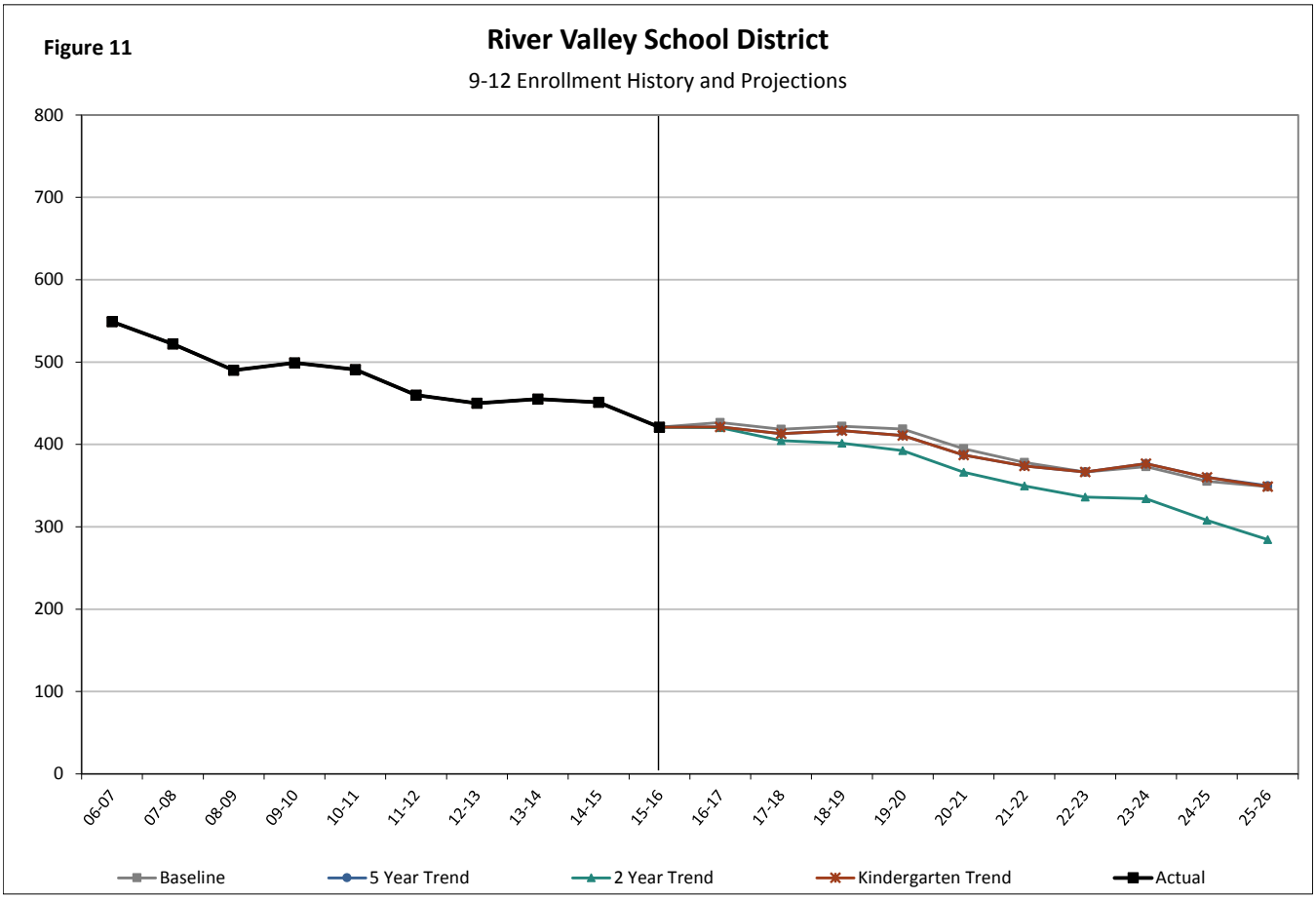


TABLE 16
Summary of 9-12 Enrollment Projections
River Valley School District

	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Baseline	427	418	422	419	395	378	367	373	355	349
5 Year Trend	421	413	417	411	387	374	367	377	360	350
2 Year "Trend"	420	405	402	393	366	350	336	334	308	285
Kindergarten Trend	421	413	417	411	387	374	367	377	360	349

Grades 9-12 enrollment in 2015/16 is 421. At the high school level, all projection models forecast steady enrollment next year followed by decreasing enrollment in the foreseeable future. High school enrollment projections five years from now (2020/21) project a range of enrollment from 366 to 395.

Conclusions

These district-level enrollment projections are based on models that incorporate recent past and current demographic information as well as the district's own enrollment data and assumptions about future housing development in the school district area. Because most of the students in the district's schools over the next few years have already been born or are already in school, and because their grade progression from one year to another is highly predictable, the total district-level projections should be viewed as having high accuracy over the next few years. After a few years, and increasingly for the lower elementary grades, actual enrollment figures will likely deviate from these projections by ever increasing amounts. The reason for this is that birth trends, in-migration of pre-school age children, and transfers into the district are more difficult to predict and therefore this makes meaningful incorporation into enrollment projections a challenge. As with nearly all types of forecasts, accuracy in these enrollment projections decreases over time.

In sum, the information provided in this school enrollment projection report points to decreasing enrollment in the River Valley School District over the next decade. The Kindergarten Trend model indicates the least amount of decrease while the Two Year "Trend" model projects the largest amount of enrollment decline. Enrollment took a sharp decline in the past two years which is why the Two Year "Trend" model projects such low enrollment. Unless the enrollment continues to decline in this same way, this model is not likely to reflect future enrollment. The other three models project fairly similar enrollment. The elementary grades will likely remain steady for two years followed by a decline. In middle school, the enrollment is projected to decline and then slightly increase later. In high school, the district will likely see steady enrollment over the next year followed by some decreasing enrollment.

Because the projections found in this report incorporate the consequences of migration to and from the district, any significant and sustained interruption of current or recent past migration patterns will erode these models' accuracy from the initiation point of the new pattern. The various projection models provide a realistic range of migration and transfer effects on the school district. Enrollment growth should be closely monitored for the next few years, and compared with these projections, to determine the trajectory of future growth. This type of monitoring program might help the district to determine which of the models seems to be the most realistic to use for planning purposes.