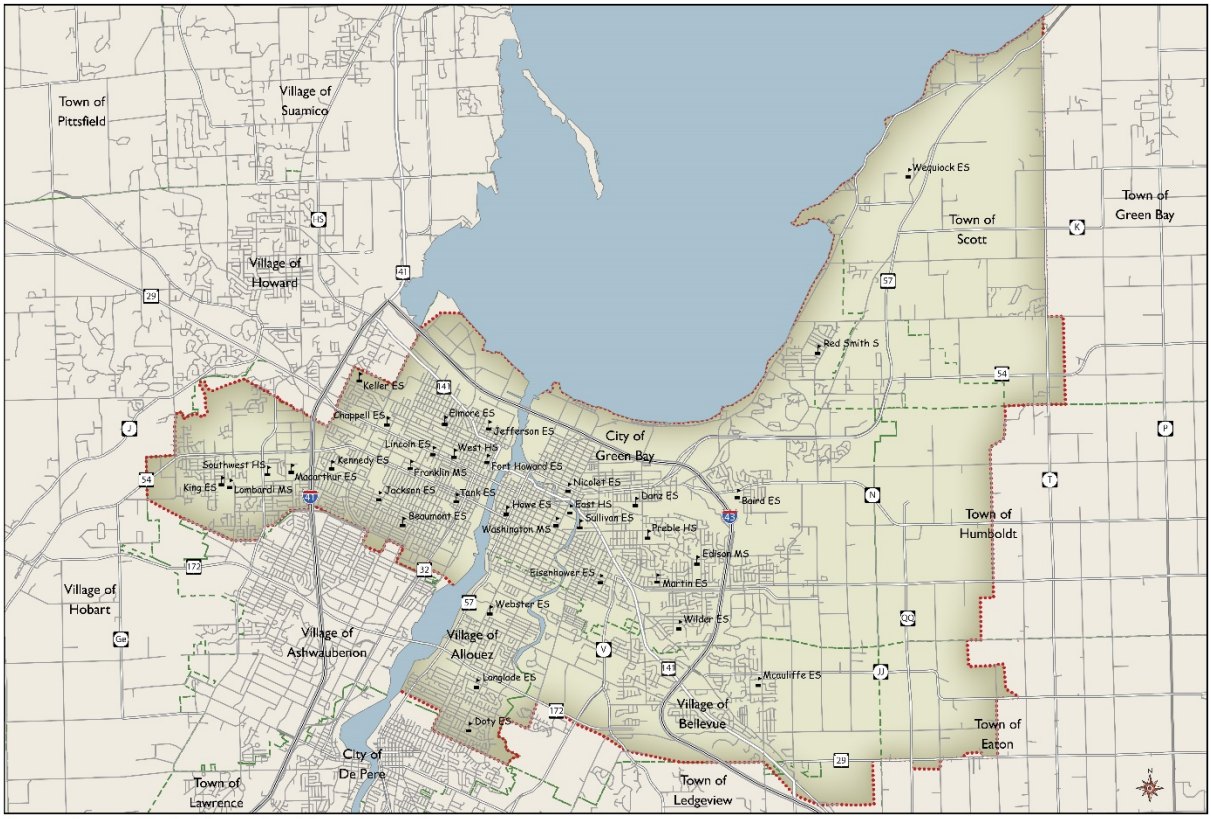
Planning for the Schools of Tomorrow



School Enrollment Projections Series
Green Bay Area Public School District

September 2016

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Introduction

This report offers a summary of the Enrollment Projection Analysis completed for the Green Bay Area Public School District by the Applied Population Laboratory, University of Wisconsin-Madison. Projections (2016/17-2025/26) are provided for the district as a whole, by grade grouping, and for each individual grade.

3rd Friday District Enrollment History

Figure 1-A and Tables 1 and 2 display the last ten years of 3rd Friday enrollment history and the change in enrollment over time for the Green Bay Area Public School District.

Figure 1-A

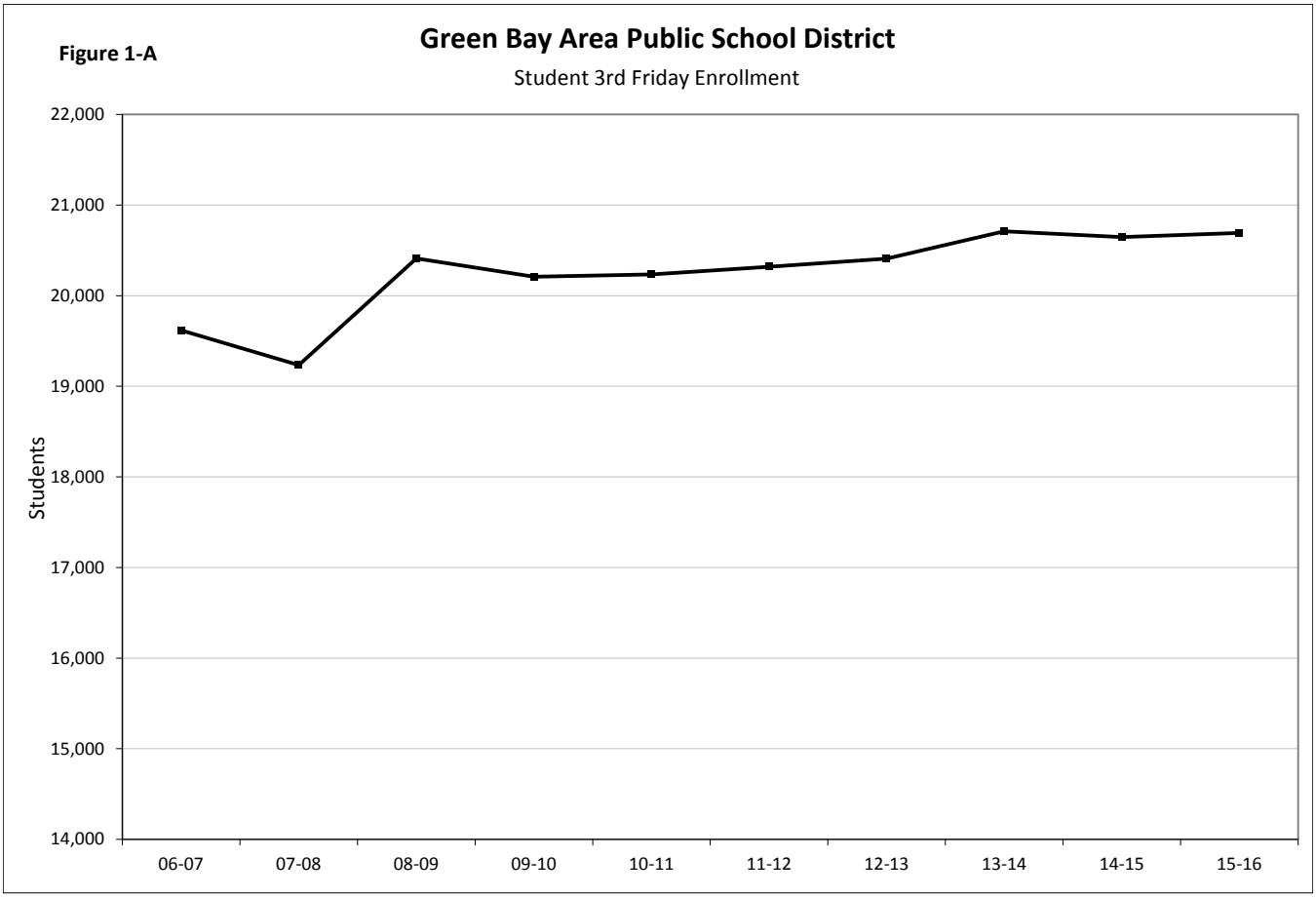


TABLE 1
Student 3rd Friday Enrollment
Green Bay Area Public School District

	SCHOOL YEAR									
	06-07	**07-08**	**08-09**	**09-10**	**10-11**	**11-12**	**12-13**	**13-14**	**14-15**	**15-16**
4K			1,148	1,185	1,305	1,331	1,405	1,377	1,314	1,322
K	1,521	1,508	1,580	1,572	1,491	1,641	1,667	1,732	1,561	1,611
1	1,514	1,473	1,504	1,568	1,543	1,464	1,600	1,644	1,725	1,571
2	1,468	1,493	1,447	1,490	1,539	1,526	1,487	1,603	1,596	1,670
3	1,417	1,444	1,511	1,425	1,457	1,528	1,516	1,476	1,570	1,572
4	1,422	1,393	1,438	1,495	1,411	1,450	1,524	1,535	1,450	1,566
5	1,406	1,378	1,397	1,403	1,499	1,403	1,432	1,494	1,514	1,435
6	1,430	1,381	1,362	1,358	1,381	1,426	1,362	1,426	1,457	1,478
7	1,400	1,418	1,397	1,357	1,341	1,376	1,419	1,369	1,423	1,463
8	1,455	1,379	1,422	1,395	1,385	1,331	1,359	1,399	1,375	1,430
9	1,556	1,509	1,418	1,452	1,409	1,383	1,337	1,384	1,404	1,371
10	1,684	1,550	1,515	1,417	1,419	1,448	1,360	1,353	1,391	1,395
11	1,636	1,647	1,544	1,510	1,445	1,443	1,428	1,388	1,351	1,370
12	1,709	1,662	1,727	1,582	1,610	1,569	1,513	1,531	1,515	1,439
TOTAL	**19,618**	**19,235**	**20,410**	**20,209**	**20,235**	**20,319**	**20,409**	**20,711**	**20,646**	**20,693**
K-12	19,618	19,235	19,262	19,024	18,930	18,988	19,004	19,334	19,332	19,371
K-5	8,748	8,689	8,877	8,953	8,940	9,012	9,226	9,484	9,416	9,425
6-8	4,285	4,178	4,181	4,110	4,107	4,133	4,140	4,194	4,255	4,371
9-12	6,585	6,368	6,204	5,961	5,883	5,843	5,638	5,656	5,661	5,575

TABLE 2
Student 3rd Friday Enrollment Changes
Green Bay Area Public 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	1,322	1,305	-9	-	-	-0.7	-	-	-0.2
K	90	-30	-30	5.9	-2.0	-1.8	0.7	-0.5	-0.5
1	57	29	107	3.8	1.9	7.3	0.4	0.5	1.8
2	202	71	144	13.8	4.8	9.4	1.5	1.2	2.4
3	155	40	44	10.9	2.8	2.9	1.2	0.7	0.7
4	144	-11	116	10.1	-0.8	8.0	1.1	-0.2	2.0
5	29	93	32	2.1	6.6	2.3	0.2	1.7	0.6
6	48	-49	52	3.4	-3.4	3.6	0.4	-0.9	0.9
7	63	-59	87	4.5	-4.2	6.3	0.5	-1.1	1.6
8	-25	-70	99	-1.7	-4.8	7.4	-0.2	-1.2	1.9
9	-185	-147	-12	-11.9	-9.4	-0.9	-1.3	-2.4	-0.2
10	-289	-265	-53	-17.2	-15.7	-3.7	-1.9	-3.9	-0.9
11	-266	-191	-73	-16.3	-11.7	-5.1	-1.8	-2.9	-1.3
12	-270	-99	-130	-15.8	-5.8	-8.3	-1.8	-1.4	-2.1
TOTAL	**1,075**	**617**	**374**	**5.5**	**3.1**	**1.8**	**0.6**	**0.8**	**0.5**
K-12	-247	-688	383	-1.3	-3.5	2.0	-0.1	-0.9	0.5
K-5	677	192	413	7.7	2.2	4.6	0.9	0.5	1.1
6-8	86	-178	238	2.0	-4.2	5.8	0.2	-1.0	1.4
9-12	-1,010	-702	-268	-15.3	-10.7	-4.6	-1.7	-2.7	-1.1

Figure 1-B shows 3rd Friday enrollment history broken down by grade groupings (4K, K-5, 6-8, and 9-12).

Figure 1-B

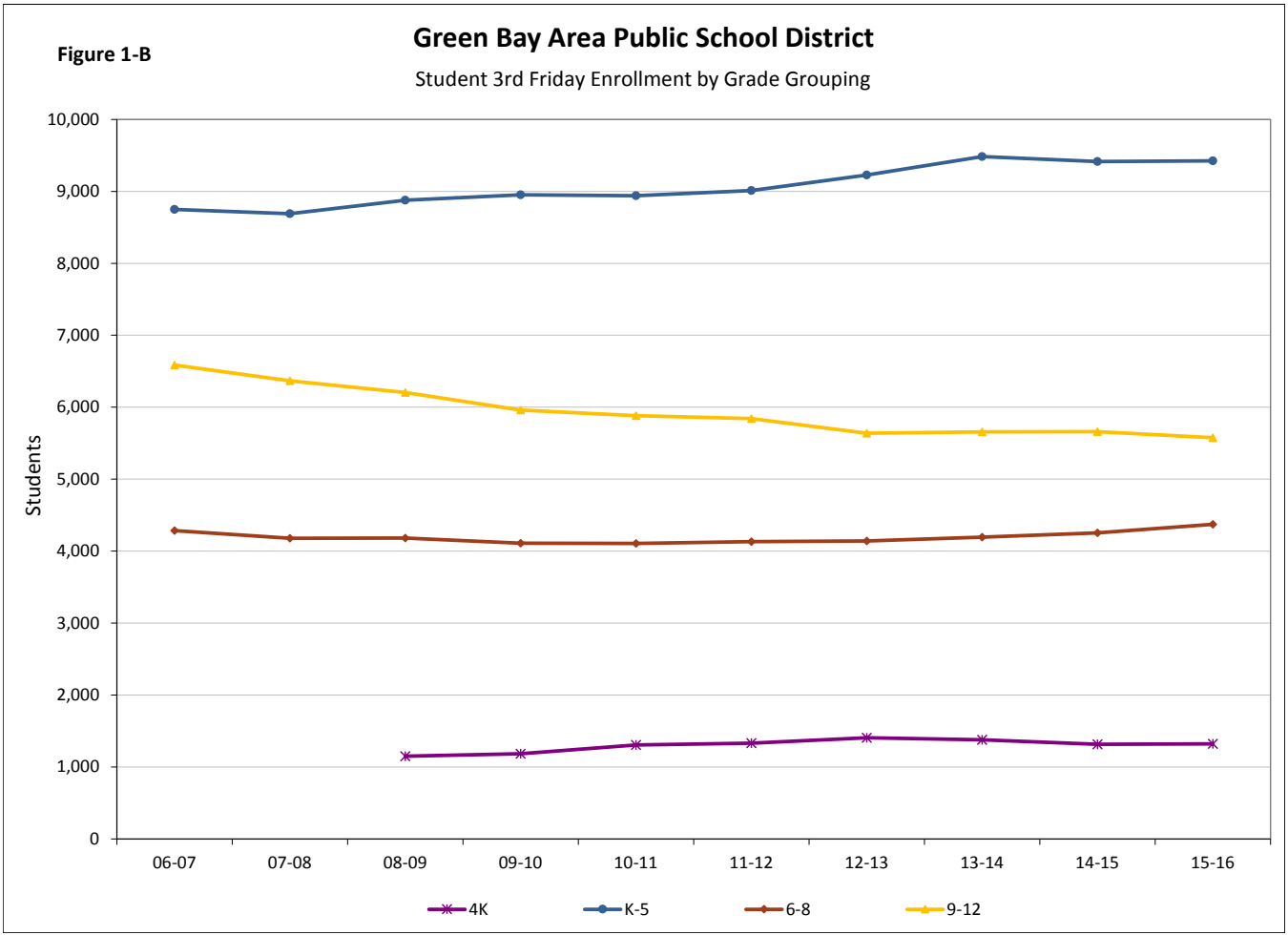
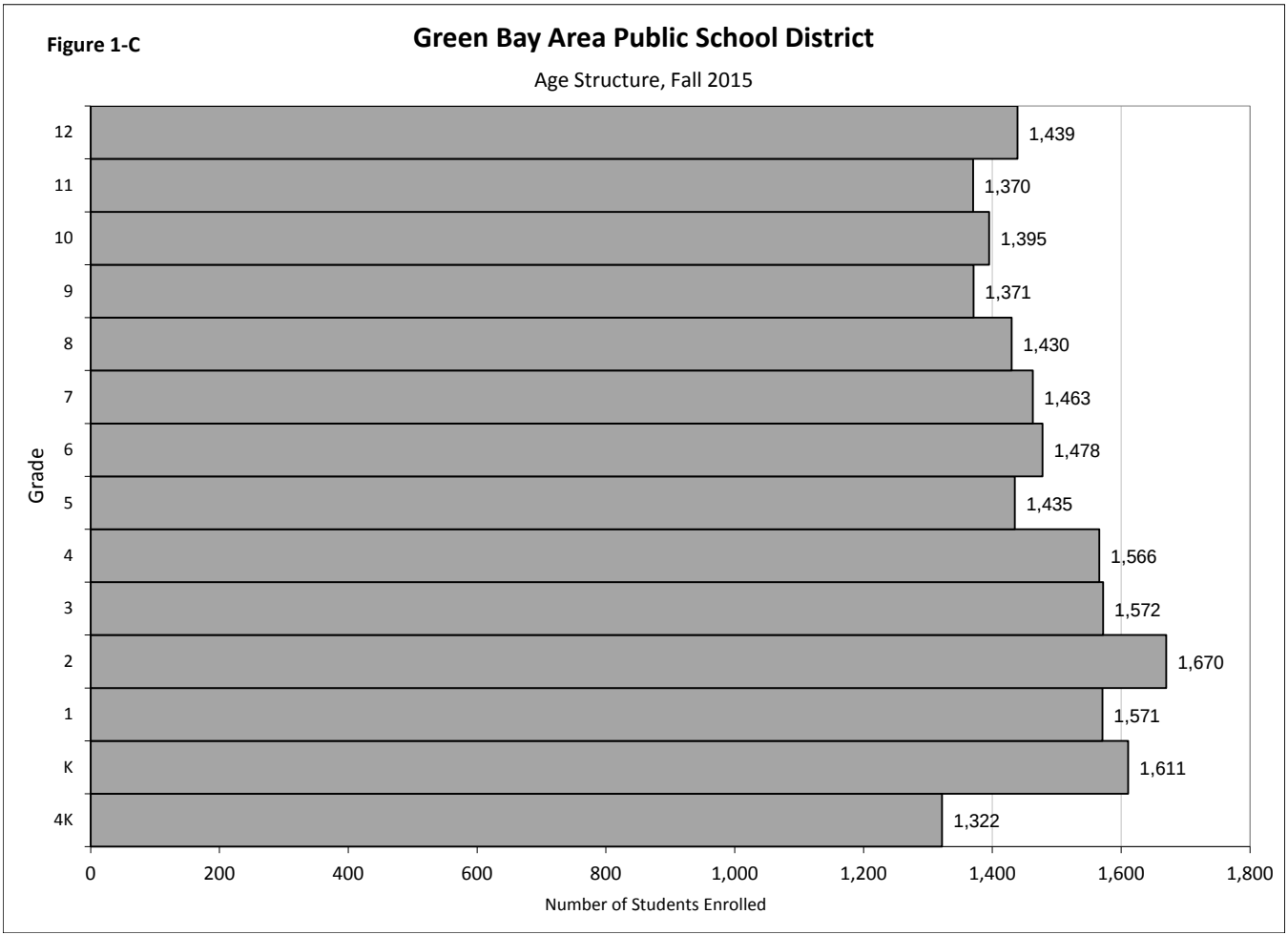


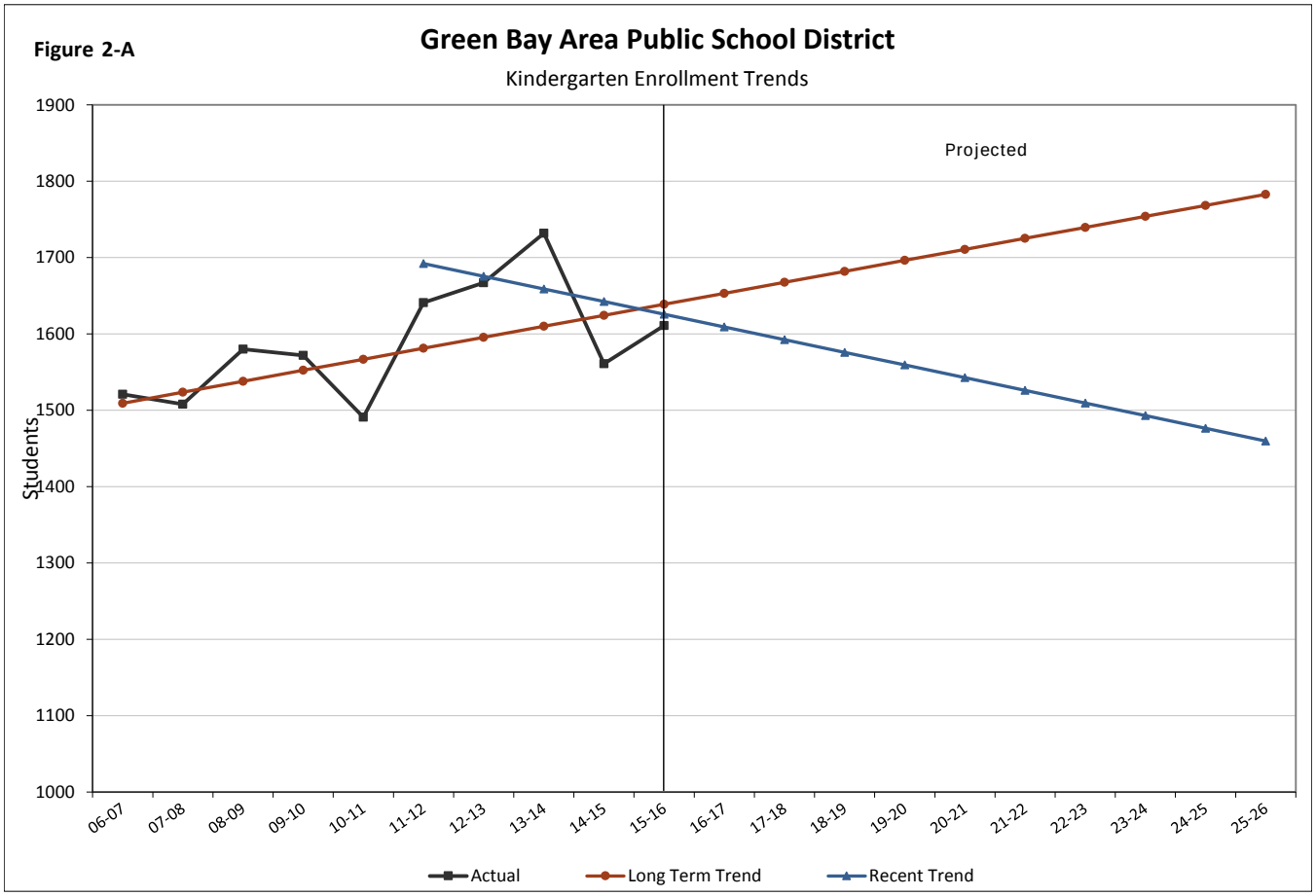
Figure 1-C shows the age structure in the Fall of 2015 of the student population with the number of 4 year-old kindergarteners at the bottom and the number of 12th graders at the top.

Figure 1-C



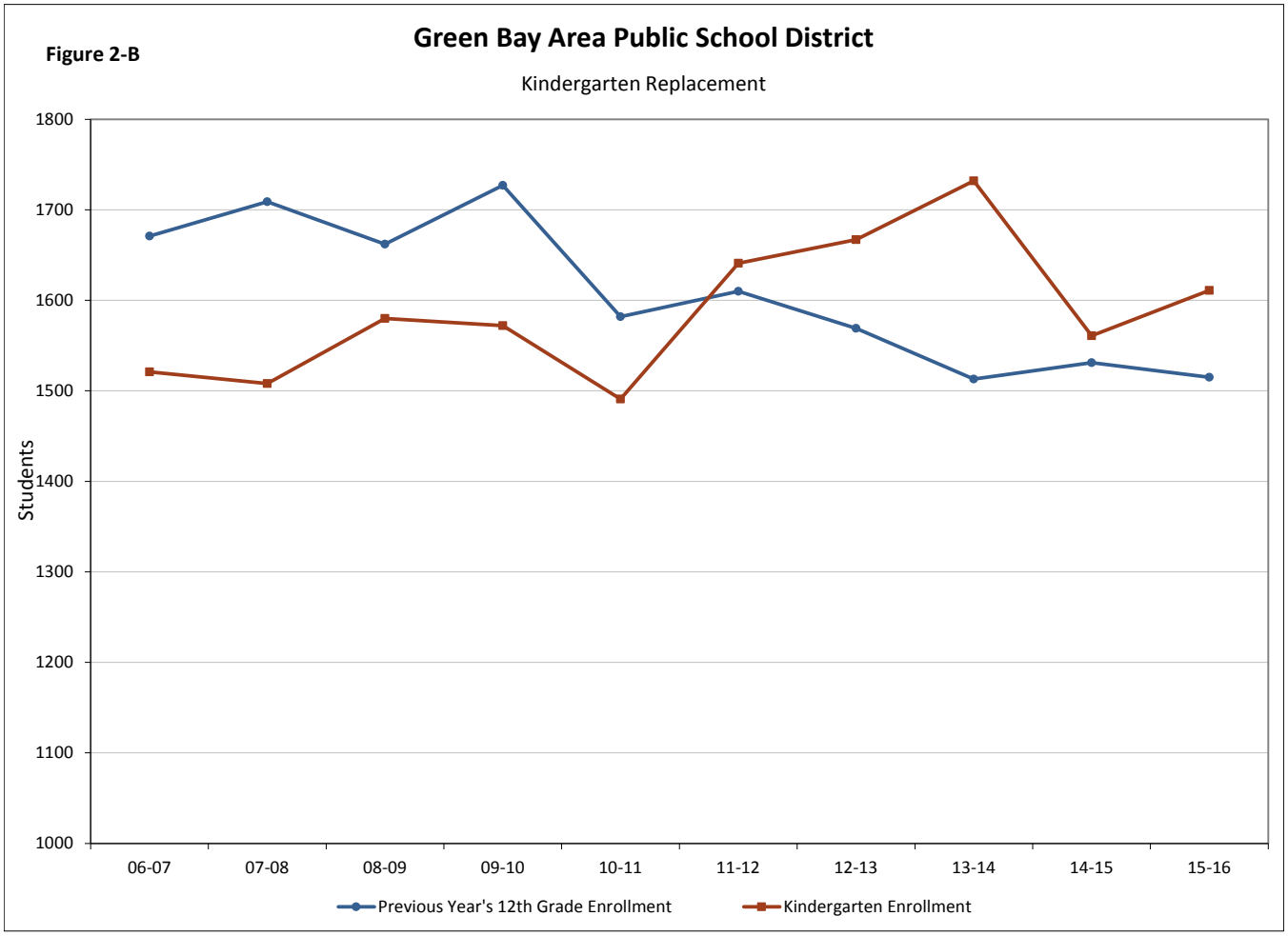
Kindergarten Enrollment Trends

Examining trends in kindergarten enrollment is particularly informative for gaining perspective on future district enrollment, as today's kindergartners will gradually make up tomorrow's students at the higher grade levels as they age and move through the school system. Figure 2-A shows kindergarten enrollment history in black, and trend lines depicting kindergarten enrollment in red and blue. The long term trend shows an increasing trend in enrollment, while the recent trend shows a decline in kindergarten enrollment. The recent trend will be used to project future kindergartners in the Kindergarten Trend model found later in the report.



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. Table 2-B shows kindergarten replacement. In the Green Bay Area Public School District, for the first five years kindergarteners did not replace outgoing 12th graders. However, the last five years kindergartners have replaced outgoing 12th graders.

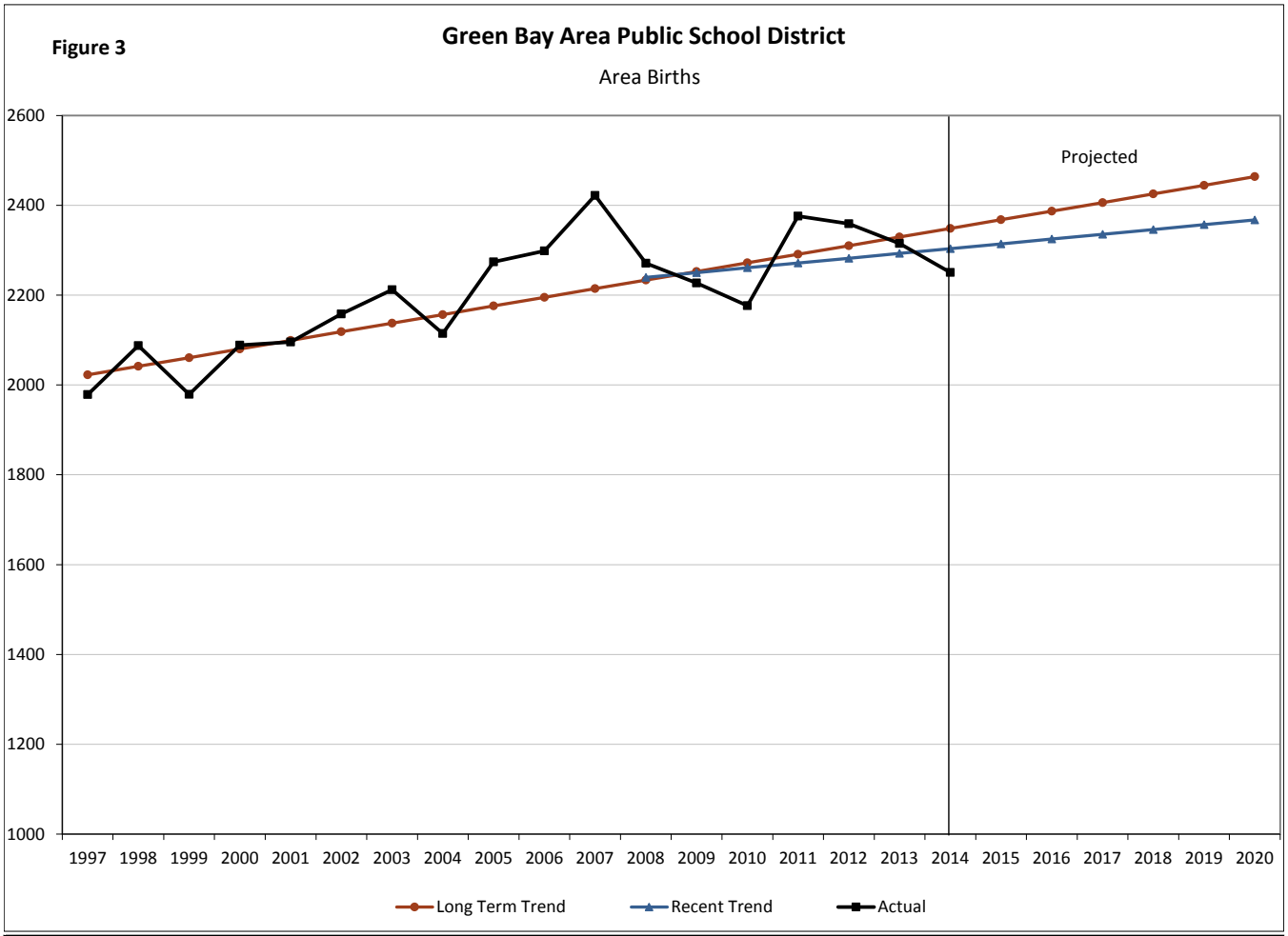
Figure 2-B



Birth Trends and Projections

We use historical and projected birth data to forecast the number of kindergarten students who will enroll in the Green Bay Area Public School District in 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 count resident births from the City of Green Bay, villages of Allouez and Bellevue, and the towns of Eaton and Humboldt. 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 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. Both trends are increasing.

Figure 3



Year	1997	1998	1999	2000	2001	2002	2003	2004	2005
# of Births	1,979	2,088	1,979	2,089	2,096	2,158	2,212	2,115	2,274
Year	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**
# of Births	2,299	2,422	2,271	2,227	2,177	2,376	2,359	2,315	2,251

Source: WI Department of Health Services

Population Estimates

This section examines population trends for municipalities that fall within the Green Bay Area Public School District. 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 Figures 4-A and 4-B provide U. S. Census population counts and Wisconsin Department of Administration (DOA) estimates for district area municipalities from 2010 to 2015. These municipal populations can be compared with estimates for Brown County and the State of Wisconsin. The last five years' population estimates indicate continued general population growth in the district area.

TABLE 3
Total Population by Municipality: 2010-2015
Green Bay Area Public School District

Municipality	POPULATION					
	Census 2010	est. 2011	est. 2012	est. 2013	est. 2014	est. 2015
C. Green Bay	104,057	104,250	104,250	104,300	104,710	105,051
V. Allouez	13,975	13,966	13,959	13,932	13,795	13,790
V. Bellevue	14,570	14,624	14,650	14,697	14,760	15,047
T. Eaton	1,508	1,515	1,522	1,526	1,532	1,566
T. Green Bay	2,035	2,040	2,047	2,046	2,045	2,074
T. Humboldt	1,311	1,316	1,309	1,317	1,303	1,319
District Area	**137,456**	**137,711**	**137,737**	**137,818**	**138,145**	**138,847**
Brown County	248,007	249,192	250,281	251,495	253,156	255,376
State of Wisconsin	5,686,986	5,694,236	5,703,525	5,717,110	5,732,981	5,753,324

Municipality	PERCENT CHANGE					
	2010 to 2011	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2010 to 2015
C. Green Bay	0.2%	0.0%	0.0%	0.4%	0.3%	1.0%
V. Allouez	-0.1%	-0.1%	-0.2%	-1.0%	0.0%	-1.3%
V. Bellevue	0.4%	0.2%	0.3%	0.4%	1.9%	3.3%
T. Eaton	0.5%	0.5%	0.3%	0.4%	2.2%	3.8%
T. Green Bay	0.2%	0.3%	0.0%	0.0%	1.4%	1.9%
T. Humboldt	0.4%	-0.5%	0.6%	-1.1%	1.2%	0.6%
District Area	0.2%	0.0%	0.1%	0.2%	0.5%	1.0%
Brown County	0.5%	0.4%	0.5%	0.7%	0.9%	3.0%
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

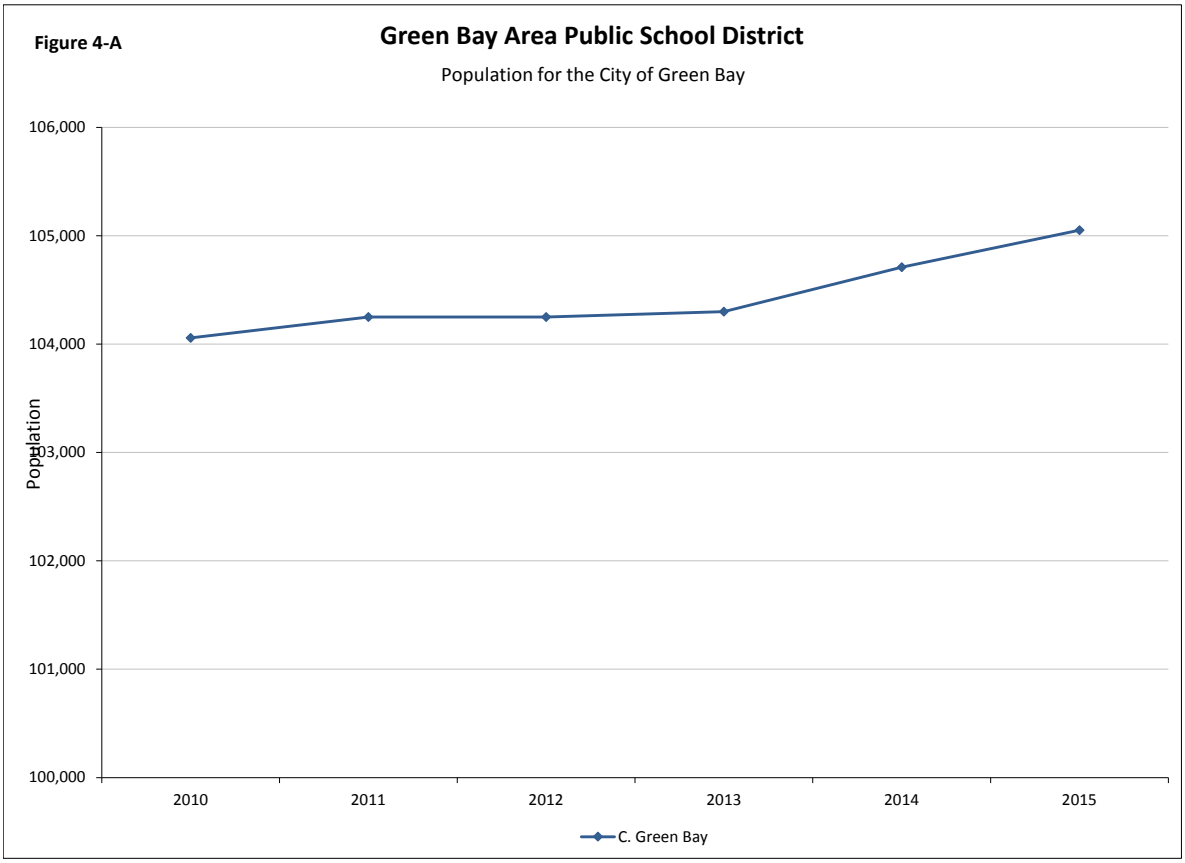


Figure 4-B

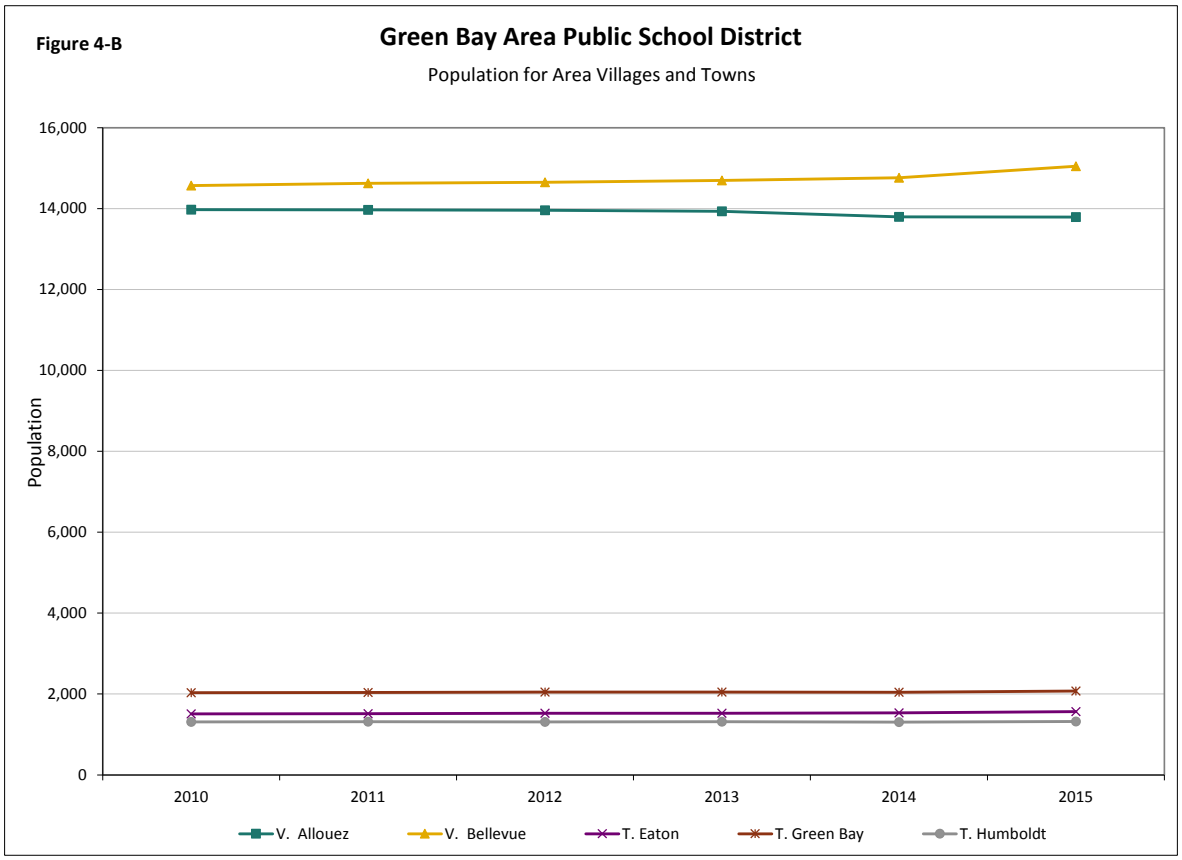


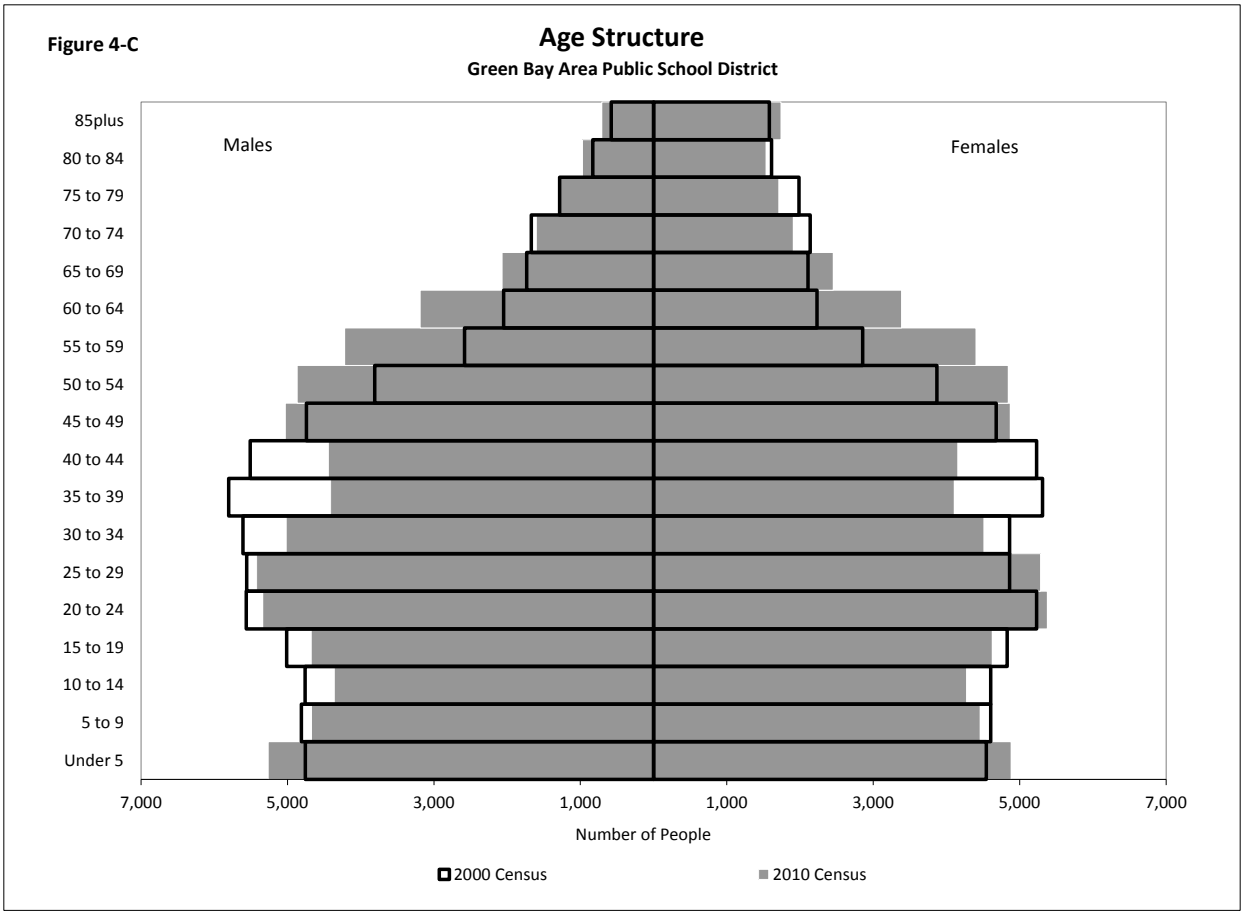
Table 4 and Figure 4-C compares the 2000 and 2010 population by age for the Green Bay Area Public School District from the U.S. Census Bureau. The school age populations of 5-9 and 10-14 year-olds declined, but children under 5 years-old increased over this ten year period. Females age 20-29 also increased during this time.

TABLE 4
Population by Age and Gender, 2000-2010
Green Bay Area Public School District

	2010 Total				2000 Total		
Age	**Males**	**Females**	**Total**	**Age**	**Males**	**Females**	**Total**
Under 5	5,263	4,884	10,147	Under 5	4,757	4,545	9,302
5 to 9	4,673	4,460	9,133	5 to 9	4,810	4,604	9,414
10 to 14	4,361	4,275	8,636	10 to 14	4,760	4,605	9,365
15 to 19	4,676	4,626	9,302	15 to 19	5,012	4,828	9,840
20 to 24	5,337	5,379	10,716	20 to 24	5,562	5,231	10,793
25 to 29	5,423	5,286	10,709	25 to 29	5,557	4,863	10,420
30 to 34	5,016	4,510	9,526	30 to 34	5,607	4,863	10,470
35 to 39	4,412	4,106	8,518	35 to 39	5,802	5,311	11,113
40 to 44	4,442	4,154	8,596	40 to 44	5,510	5,231	10,741
45 to 49	5,030	4,870	9,900	45 to 49	4,740	4,678	9,418
50 to 54	4,866	4,843	9,709	50 to 54	3,810	3,869	7,679
55 to 59	4,218	4,403	8,621	55 to 59	2,581	2,857	5,438
60 to 64	3,187	3,388	6,575	60 to 64	2,048	2,233	4,281
65 to 69	2,069	2,455	4,524	65 to 69	1,732	2,110	3,842
70 to 74	1,600	1,909	3,509	70 to 74	1,669	2,138	3,807
75 to 79	1,284	1,710	2,994	75 to 79	1,283	1,985	3,268
80 to 84	972	1,536	2,508	80 to 84	829	1,612	2,441
85plus	708	1,739	2,447	85plus	577	1,580	2,157
	67,537	68,533	136,070		66,646	67,143	133,789

Source: U. S. Census Bureau

Figure 4-C


Age Structure
Green Bay Area Public 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
7,000
5,000
3,000
1,000
1,000
3,000
5,000
7,000
Number of People
2000 Census
2010 Census

Residential Development

Table 5 shows the number of housing starts in the Green Bay Area Public School District over the past ten years.

TABLE 5
School District Area Housing Starts
Green Bay Area Public School District

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
District Area										
TOTAL	**407**	**309**	**239**	**122**	**172**	**291**	**86**	**126**	**216**	**412**
Single Family	**302**	**171**	**135**	**94**	**136**	**75**	**70**	**85**	**110**	**107**
Two Family	**17**	**2**	**14**	**4**	**4**	**42**	**0**	**4**	**4**	**0**
Multi-family	**88**	**136**	**90**	**24**	**32**	**174**	**16**	**37**	**102**	**305**
C. Green Bay										
TOTAL	**261**	**175**	**156**	**58**	**124**	**232**	**56**	**76**	**164**	**315**
Single Family	164	79	80	58	88	20	40	44	65	62
Two Family	9	0	2	0	4	38	0	4	4	0
Multi-family	88	96	74	0	32	174	16	28	95	253
V. Allouez										
TOTAL	**2**	**10**	**9**	**1**	**3**	**2**	**0**	**2**	**2**	**6**
Single Family	2	2	1	1	3	2	0	2	2	6
Two Family	0	0	0	0	0	0	0	0	0	0
Multi-family	0	8	8	0	0	0	0	0	0	0
V. Bellevue										
TOTAL	**99**	**97**	**62**	**49**	**33**	**42**	**16**	**39**	**38**	**74**
Single Family	93	63	42	21	33	38	16	30	31	22
Two Family	6	2	12	4	0	4	0	0	0	0
Multi-family	0	32	8	24	0	0	0	9	7	52
T. Eaton										
TOTAL	**13**	**13**	**5**	**6**	**6**	**6**	**5**	**4**	**6**	**8**
Single Family	13	13	5	6	6	6	5	4	6	8
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. Green Bay										
TOTAL	**21**	**13**	**7**	**7**	**6**	**6**	**7**	**1**	**6**	**7**
Single Family	19	13	7	7	6	6	7	1	6	7
Two Family	2	0	0	0	0	0	0	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
T. Humboldt										
TOTAL	**11**	**1**	**0**	**1**	**0**	**3**	**2**	**4**	**0**	**2**
Single Family	11	1	0	1	0	3	2	4	0	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

Source: Demographic Services Center, WIDOA

Area housing starts have fluctuated from a high of 407 units in 2005 (including 302 single family homes), to a low of 70 new single family housing starts in 2011. The district area has seen an increase in new housing starts since 2011 with significant numbers of new multi-family units. New housing in the table include the entire municipality. The majority of housing development over the last several years has occurred in the City of Green Bay and Village of Bellevue. Most of the development in the area has consisted of single-family homes although the several multi-family units were constructed throughout this time period. Households in single family homes, on average, contain more school-aged children than in two family and multi-family complexes.

Examining trends in recent housing development can help to explain how in-migration into the Green Bay Area Public 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.

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 occur for several years at varying rates.

Figures 5-A and 5-B show the number of residential building permits issued by municipality for communities that fall within the Green Bay Area Public 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.

Figure 5-A

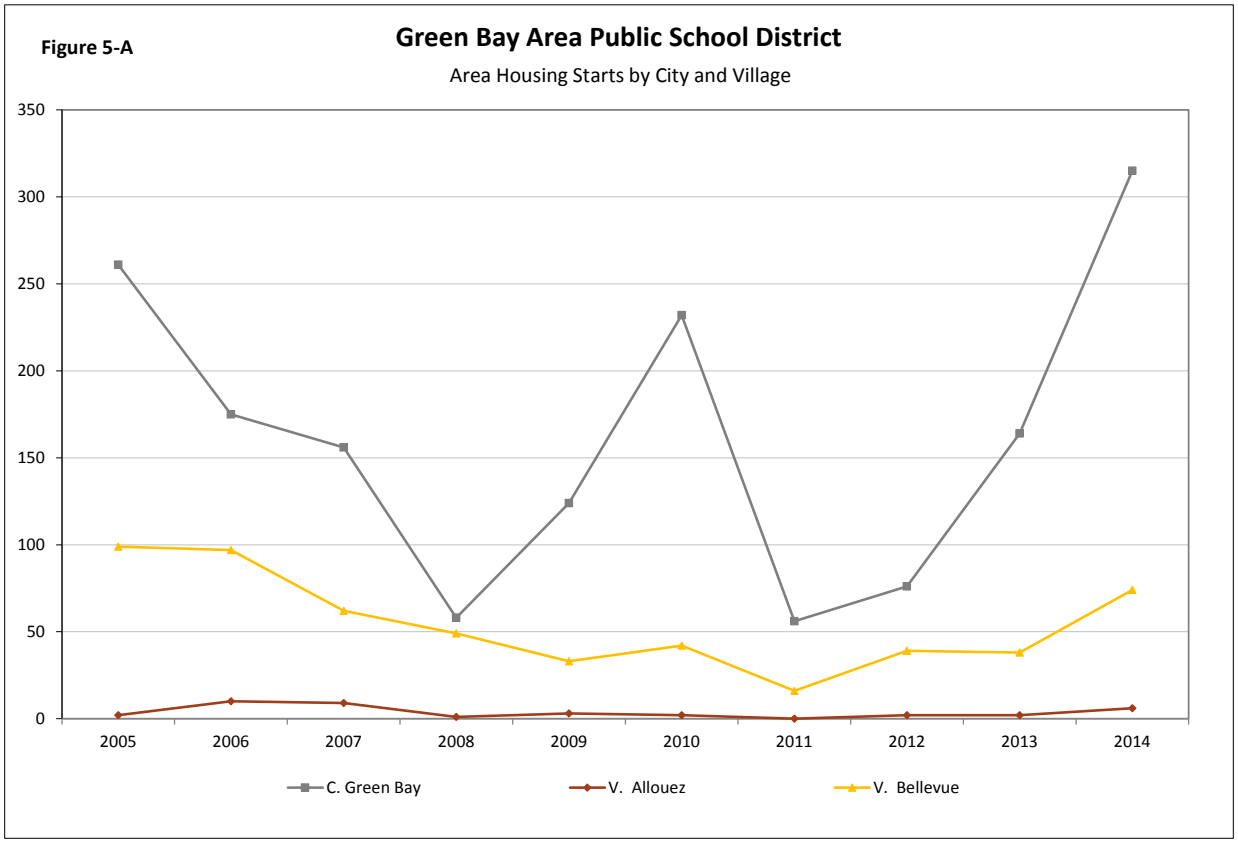


Figure 5-B

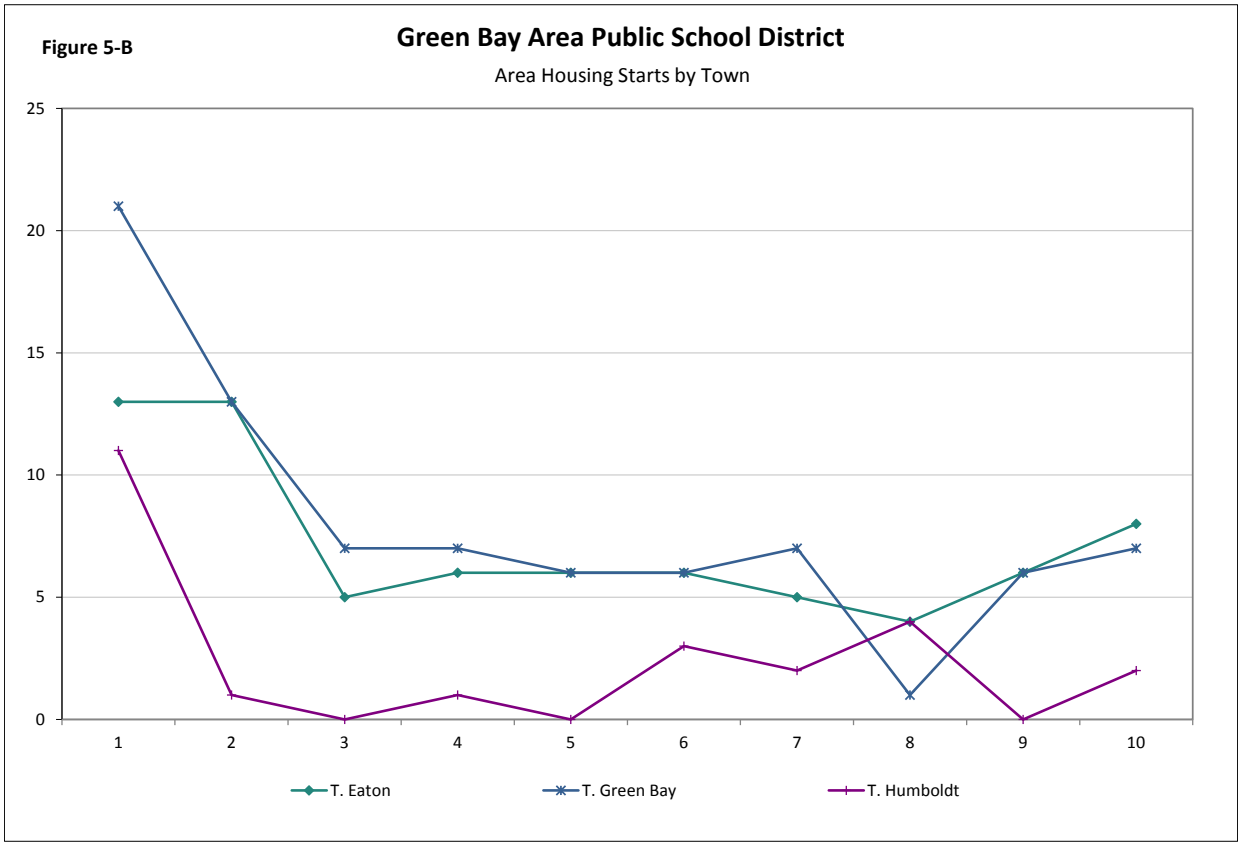
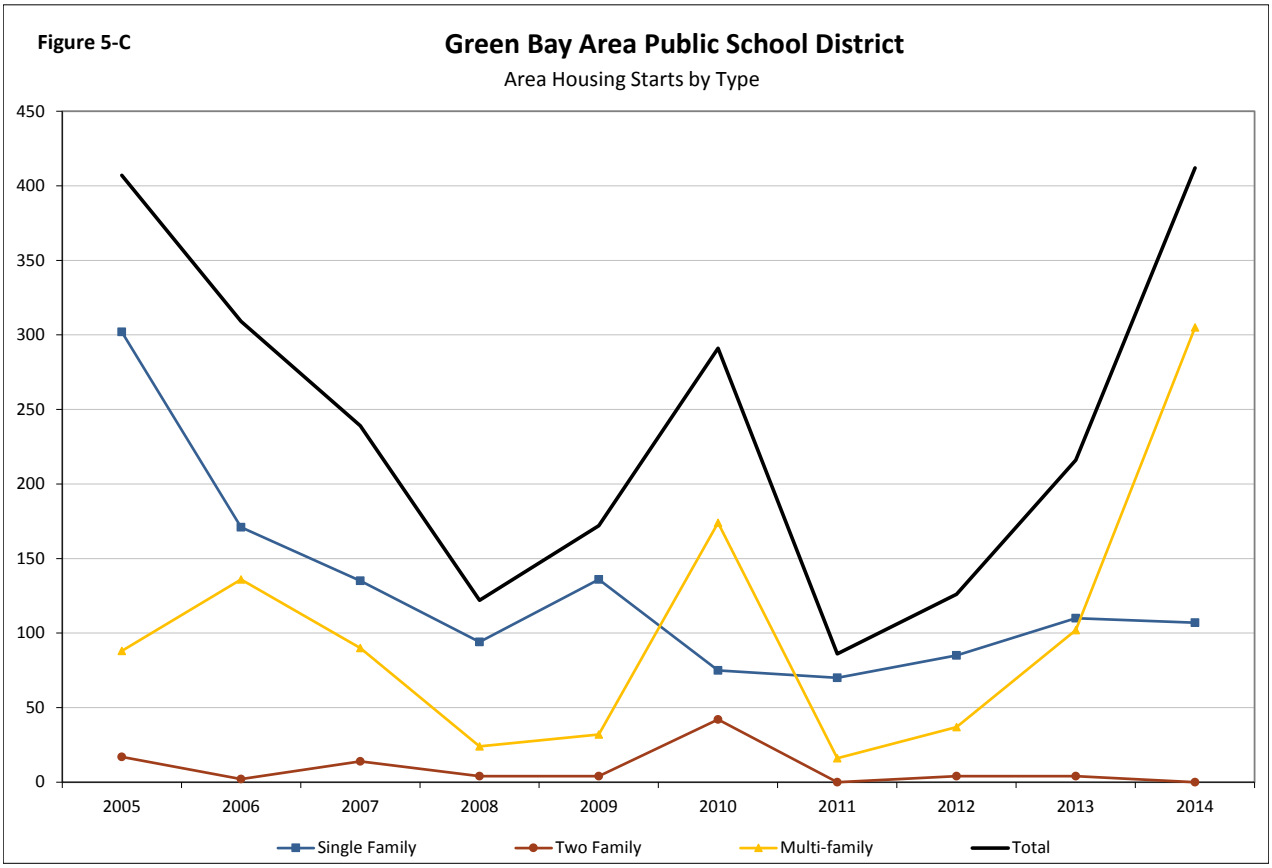


Figure 5-C



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 will impact future enrollment.

Grade Progression Ratios

Table 6 shows the grade progression ratios for the Green Bay Area Public 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
Green Bay Area Public 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	0.720	0.968	0.986	0.984	0.983	0.969	0.982	0.992	0.985	1.037	0.996	0.978	1.016
07-08/08-09	0.739	0.997	0.982	1.012	0.996	1.003	0.988	1.012	1.003	1.028	1.004	0.996	1.049
08-09/09-10	0.716	0.992	0.991	0.985	0.989	0.976	0.972	0.996	0.999	1.021	0.999	0.997	1.025
09-10/10-11	0.694	0.982	0.982	0.978	0.990	1.003	0.984	0.987	1.021	1.010	0.977	1.020	1.066
10-11/11-12	0.739	0.982	0.989	0.993	0.995	0.994	0.951	0.996	0.993	0.999	1.028	1.017	1.086
11-12/12-13	0.728	0.975	1.016	0.993	0.997	0.988	0.971	0.995	0.988	1.005	0.983	0.986	1.049
12-13/13-14	0.727	0.986	1.002	0.993	1.013	0.980	0.996	1.005	0.986	1.018	1.012	1.021	1.072
13-14/14-15	0.672	0.996	0.971	0.979	0.982	0.986	0.975	0.998	1.004	1.004	1.005	0.999	1.091
14-15/15-16	0.719	1.006	0.968	0.985	0.997	0.990	0.976	1.004	1.005	0.997	0.994	0.985	1.065
Baseline	**0.723**	**0.987**	**0.986**	**0.986**	**0.991**	**0.986**	**0.981**	**0.998**	**0.995**	**1.010**	**0.999**	**0.997**	**1.059**
5 Year Trend	**0.717**	**0.989**	**0.989**	**0.989**	**0.997**	**0.988**	**0.974**	**1.000**	**0.995**	**1.004**	**1.004**	**1.001**	**1.073**
2 Year "Trend"	**0.696**	**1.001**	**0.969**	**0.982**	**0.990**	**0.988**	**0.976**	**1.001**	**1.005**	**1.000**	**0.999**	**0.992**	**1.078**

*Shaded progression ratios are excluded from the Baseline Average

The grade progression ratios can be interpreted in the following manner. The Baseline ratio for 5:6 is .981. This means that in the Green Bay Area Public School District, on average 98.1% of the fifth grade class move to sixth grade (the result of transfers from other schools and out-migration into the district). The B:K (birth to kindergarten) Baseline ratio of .723 indicates that, on average, 72.3% of births from the district enroll in kindergarten in Green Bay Area Public School District. Outliers (ratios outside of one standard deviation of the mean) are not included in the calculation of the Baseline average ratios.

In order to examine future enrollment under different growth assumptions, we generate three sets of grade progression ratios that correspond to the different projection models shown later in this report. In addition to the Baseline ratios (averages 10 years of enrollment), we examine rates of transfer in the last 5 years and the last 2 years effectively weighing enrollment change patterns from different time periods more heavily than the Baseline. Any significant deviations from the rates of in- and out-migration in the district area will have a corresponding effect on enrollment. These additional models allow us to examine alternative outcomes compared to the overall trends of the Baseline model. Figure 6 shows the differences between these three sets of grade progression ratios.

Figure 6

Green Bay Area Public School District

Grade Progression Ratios, by Model

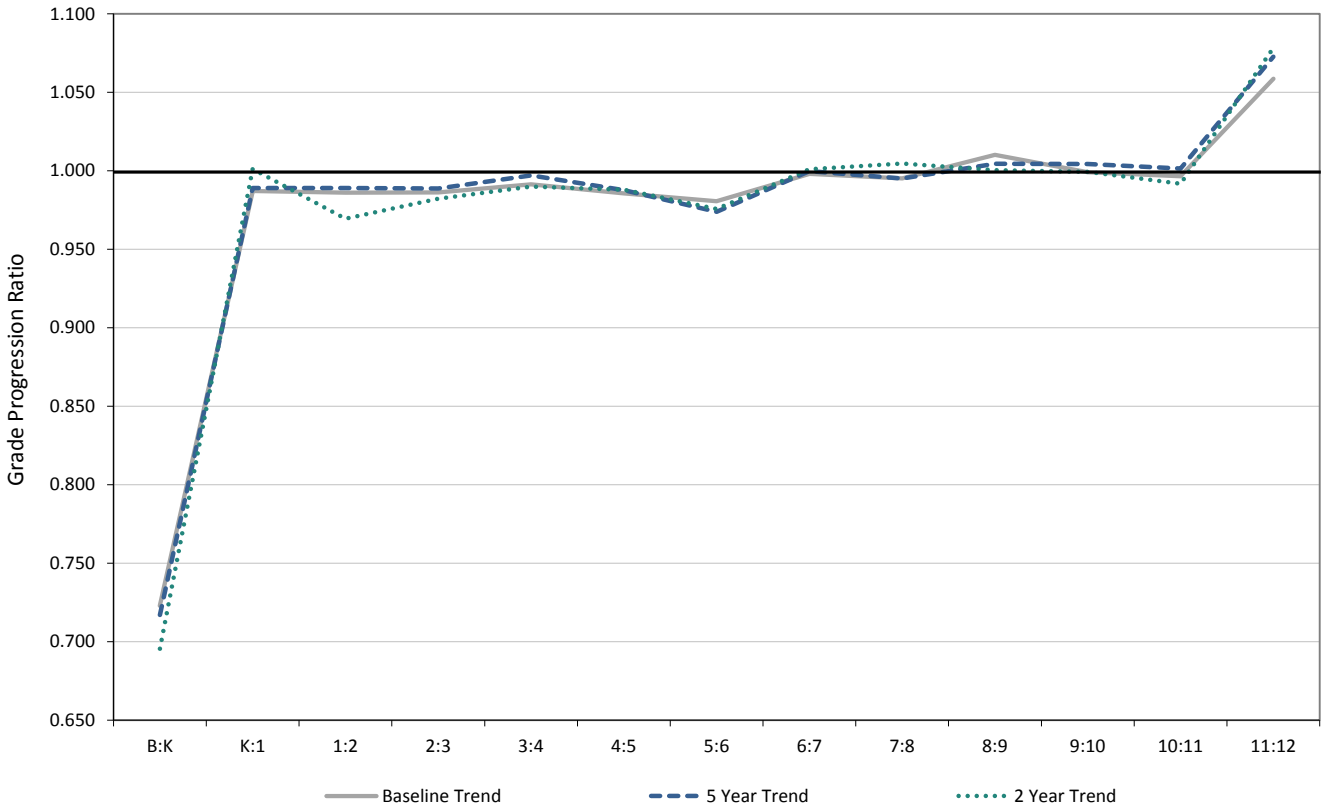


Table 7 shows the observed transfer ratio between birth to 4K and 4K to K for the last seven years and the baseline, five year, and two year grade progression ratio averages. 4K:K ratios are provided but not used in any of the models. Each corresponding grade progression average will be used to project 4K enrollment in the baseline, five year, and two year trend models on the following pages.

TABLE 7
4K Grade Progression Ratios
Green Bay Area Public School District

	B:4K	4K:K
08-09/09-10	0.552	1.369
09-10/10-11	0.588	1.258
10-11/11-12	0.581	1.257
11-12/12-13	0.590	1.252
12-13/13-14	0.593	1.233
13-14/14-15	0.586	1.134
14-15/15-16	0.603	1.226
Baseline	**0.585**	**1.247**
5 Year Trend	**0.591**	**1.220**
2 Year "Tend"	**0.594**	**1.180**

3rd Friday 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 farther into the future.

Baseline Projections

The Baseline model (Table 8) projects enrollment using the assumption that average trends year to year, grade to grade, will continue into the future. This model assumes that long term trends (past ten years) in enrollment and migration will be representative of future trends in the district.

TABLE 8
Baseline Projection Model
Green Bay Area Public 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	1,364	1,344	1,311	1,351	1,385	1,396	1,407	1,418	1,429	1,440
K	1,669	1,709	1,684	1,643	1,683	1,721	1,735	1,749	1,763	1,776
1	1,590	1,648	1,688	1,663	1,622	1,662	1,699	1,713	1,726	1,740
2	1,549	1,568	1,625	1,664	1,640	1,599	1,639	1,675	1,689	1,702
3	1,647	1,528	1,547	1,603	1,641	1,617	1,577	1,616	1,652	1,665
4	1,558	1,633	1,515	1,533	1,589	1,627	1,603	1,563	1,602	1,638
5	1,544	1,536	1,609	1,493	1,511	1,566	1,604	1,580	1,541	1,579
6	1,407	1,514	1,506	1,578	1,464	1,482	1,536	1,572	1,549	1,511
7	1,475	1,405	1,511	1,503	1,575	1,461	1,479	1,533	1,569	1,546
8	1,456	1,468	1,398	1,504	1,496	1,568	1,454	1,472	1,525	1,562
9	1,445	1,471	1,483	1,412	1,519	1,511	1,584	1,469	1,487	1,541
10	1,370	1,443	1,469	1,482	1,411	1,517	1,510	1,582	1,467	1,486
11	1,390	1,365	1,438	1,464	1,477	1,406	1,512	1,505	1,577	1,462
12	1,450	1,472	1,445	1,523	1,550	1,563	1,488	1,601	1,593	1,669
TOTAL	**20,915**	**21,104**	**21,229**	**21,415**	**21,562**	**21,696**	**21,825**	**22,047**	**22,170**	**22,318**
K-12	19,551	19,759	19,918	20,064	20,177	20,300	20,419	20,630	20,741	20,878
K-5	9,558	9,622	9,667	9,598	9,685	9,791	9,856	9,896	9,973	10,101
6-8	4,338	4,386	4,415	4,585	4,535	4,511	4,469	4,577	4,644	4,619
9-12	5,655	5,751	5,836	5,881	5,957	5,998	6,094	6,157	6,124	6,158

The 5 Year Trend model (Table 9) uses the grade progression ratios from the last five years and recent birth trends to project what future enrollments would look like if more recent patterns were representative of future trends.

TABLE 9
5 Year Trend Projection Model
Green Bay Area Public 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	1,397	1,376	1,342	1,354	1,371	1,377	1,384	1,390	1,396	1,403
K	1,656	1,696	1,671	1,629	1,644	1,664	1,672	1,680	1,687	1,695
1	1,593	1,638	1,677	1,652	1,612	1,626	1,646	1,654	1,661	1,669
2	1,554	1,576	1,620	1,659	1,634	1,594	1,608	1,628	1,636	1,643
3	1,651	1,536	1,558	1,601	1,640	1,616	1,576	1,590	1,610	1,617
4	1,567	1,646	1,532	1,553	1,597	1,635	1,611	1,571	1,585	1,605
5	1,547	1,548	1,626	1,513	1,534	1,577	1,615	1,591	1,552	1,566
6	1,398	1,506	1,507	1,583	1,473	1,494	1,536	1,573	1,550	1,511
7	1,478	1,397	1,506	1,507	1,583	1,473	1,494	1,535	1,572	1,549
8	1,456	1,470	1,390	1,498	1,500	1,575	1,466	1,486	1,528	1,564
9	1,436	1,462	1,477	1,396	1,505	1,506	1,582	1,472	1,493	1,535
10	1,377	1,443	1,469	1,483	1,402	1,512	1,513	1,589	1,478	1,499
11	1,397	1,379	1,445	1,471	1,485	1,404	1,514	1,515	1,591	1,480
12	1,469	1,498	1,479	1,550	1,577	1,593	1,506	1,624	1,625	1,707
TOTAL	**20,975**	**21,172**	**21,298**	**21,451**	**21,558**	**21,647**	**21,722**	**21,898**	**21,965**	**22,044**
K-12	19,579	19,795	19,956	20,097	20,187	20,270	20,339	20,508	20,569	20,641
K-5	9,568	9,640	9,683	9,608	9,661	9,713	9,729	9,714	9,732	9,795
6-8	4,331	4,374	4,404	4,589	4,556	4,542	4,495	4,594	4,649	4,625
9-12	5,680	5,782	5,869	5,900	5,970	6,015	6,115	6,199	6,187	6,221

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. This model should be interpreted with some caution- if future migration into the school district continues as it has in the past two years, only then should this model be appropriate.

TABLE 10
2 Year "Trend" Projection Model
Green Bay Area Public 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	1,406	1,385	1,351	1,363	1,380	1,386	1,393	1,399	1,405	1,411
K	1,606	1,645	1,621	1,580	1,595	1,614	1,622	1,629	1,637	1,644
1	1,613	1,608	1,647	1,622	1,582	1,597	1,616	1,624	1,631	1,639
2	1,523	1,564	1,559	1,596	1,573	1,534	1,548	1,567	1,574	1,581
3	1,640	1,496	1,536	1,531	1,568	1,545	1,507	1,520	1,539	1,546
4	1,556	1,624	1,481	1,520	1,516	1,552	1,529	1,492	1,505	1,524
5	1,547	1,537	1,604	1,463	1,502	1,497	1,533	1,511	1,474	1,487
6	1,400	1,510	1,500	1,565	1,428	1,466	1,461	1,496	1,474	1,438
7	1,479	1,402	1,511	1,502	1,567	1,429	1,467	1,463	1,498	1,476
8	1,470	1,486	1,408	1,518	1,509	1,574	1,436	1,474	1,469	1,505
9	1,430	1,470	1,487	1,409	1,519	1,509	1,575	1,436	1,474	1,470
10	1,370	1,430	1,469	1,486	1,408	1,518	1,508	1,574	1,435	1,473
11	1,383	1,359	1,418	1,457	1,474	1,396	1,505	1,496	1,561	1,423
12	1,477	1,492	1,465	1,529	1,571	1,589	1,505	1,623	1,613	1,683
TOTAL	**20,902**	**21,006**	**21,056**	**21,142**	**21,190**	**21,206**	**21,205**	**21,303**	**21,289**	**21,300**
K-12	19,496	19,621	19,705	19,779	19,810	19,820	19,813	19,904	19,884	19,888
K-5	9,486	9,473	9,447	9,314	9,336	9,340	9,356	9,343	9,360	9,421
6-8	4,349	4,398	4,419	4,585	4,503	4,469	4,364	4,433	4,441	4,418
9-12	5,661	5,750	5,839	5,880	5,971	6,012	6,093	6,128	6,083	6,049

For the Kindergarten Trend model (Table 11), we perform a kindergarten trend analysis to project the number of future kindergarten students, rather than relying upon the traditional birth to kindergarten (B:K) progression ratio. Then, the 5 Year Trend progression ratios are used for projecting the other grades (1-12) in the district.

TABLE 11
Kindergarten Trend Projection Model
Green Bay Area Public School District

GRADE	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
4K	1,397	1,376	1,342	1,354	1,371	1,377	1,384	1,390	1,396	1,403
K	1653	1668	1682	1696	1711	1725	1740	1754	1768	1783
1	1,593	1,635	1,649	1,664	1,678	1,692	1,706	1,721	1,735	1,749
2	1,554	1,576	1,617	1,631	1,646	1,660	1,674	1,688	1,702	1,716
3	1,651	1,536	1,558	1,599	1,613	1,627	1,641	1,655	1,669	1,683
4	1,567	1,646	1,532	1,553	1,594	1,608	1,622	1,636	1,650	1,664
5	1,547	1,548	1,626	1,513	1,534	1,574	1,588	1,602	1,616	1,629
6	1,398	1,506	1,507	1,583	1,473	1,494	1,533	1,547	1,560	1,573
7	1,478	1,397	1,506	1,507	1,583	1,473	1,494	1,533	1,546	1,560
8	1,456	1,470	1,390	1,498	1,500	1,575	1,466	1,486	1,525	1,539
9	1,436	1,462	1,477	1,396	1,505	1,506	1,582	1,472	1,493	1,532
10	1,377	1,443	1,469	1,483	1,402	1,512	1,513	1,589	1,478	1,499
11	1,397	1,379	1,445	1,471	1,485	1,404	1,514	1,515	1,591	1,480
12	1,469	1,498	1,479	1,550	1,577	1,593	1,506	1,624	1,625	1,707
TOTAL	**20,973**	**21,141**	**21,279**	**21,499**	**21,673**	**21,821**	**21,962**	**22,210**	**22,354**	**22,516**
K-12	19,576	19,765	19,937	20,145	20,302	20,444	20,578	20,820	20,958	21,114
K-5	9,565	9,609	9,664	9,657	9,776	9,886	9,971	10,055	10,139	10,223
6-8	4,331	4,374	4,404	4,589	4,556	4,542	4,493	4,566	4,632	4,672
9-12	5,680	5,782	5,869	5,900	5,970	6,015	6,115	6,199	6,187	6,219

Comparison of Projection Models

Figures 7-10 and Tables 12-15 compare the four enrollment projection models broken down by total 4K-12 district enrollment and by grade groupings (K-5, 6-8, and 9-12).

Figure 7

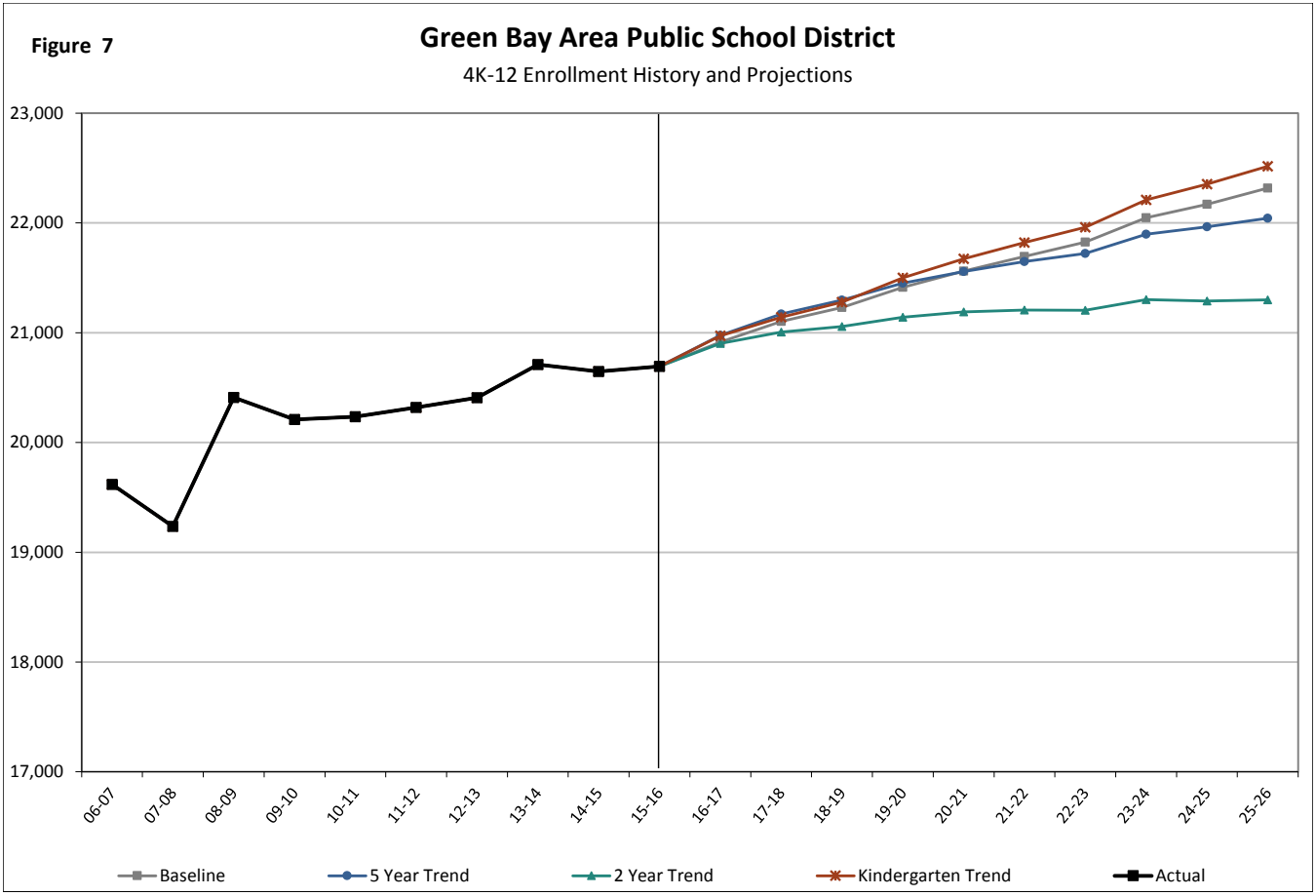


TABLE 12
Green Bay Area Public School District
Summary of 4K-12 Enrollment Projections

	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Baseline	20,915	21,104	21,229	21,415	21,562	21,696	21,825	22,047	22,170	22,318
5 Year Trend	20,975	21,172	21,298	21,451	21,558	21,647	21,722	21,898	21,965	22,044
2 Year "Trend"	20,902	21,006	21,056	21,142	21,190	21,206	21,205	21,303	21,289	21,300
Kindergarten Trend	20,973	21,141	21,279	21,499	21,673	21,821	21,962	22,210	22,354	22,516

Summary of K-12 Enrollment Projections

	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Baseline	19,551	19,759	19,918	20,064	20,177	20,300	20,419	20,630	20,741	20,878
5 Year Trend	19,579	19,795	19,956	20,097	20,187	20,270	20,339	20,508	20,569	20,641
2 Year "Trend"	19,496	19,621	19,705	19,779	19,810	19,820	19,813	19,904	19,884	19,888
Kindergarten Trend	19,576	19,765	19,937	20,145	20,302	20,444	20,578	20,820	20,958	21,114

Figure 8

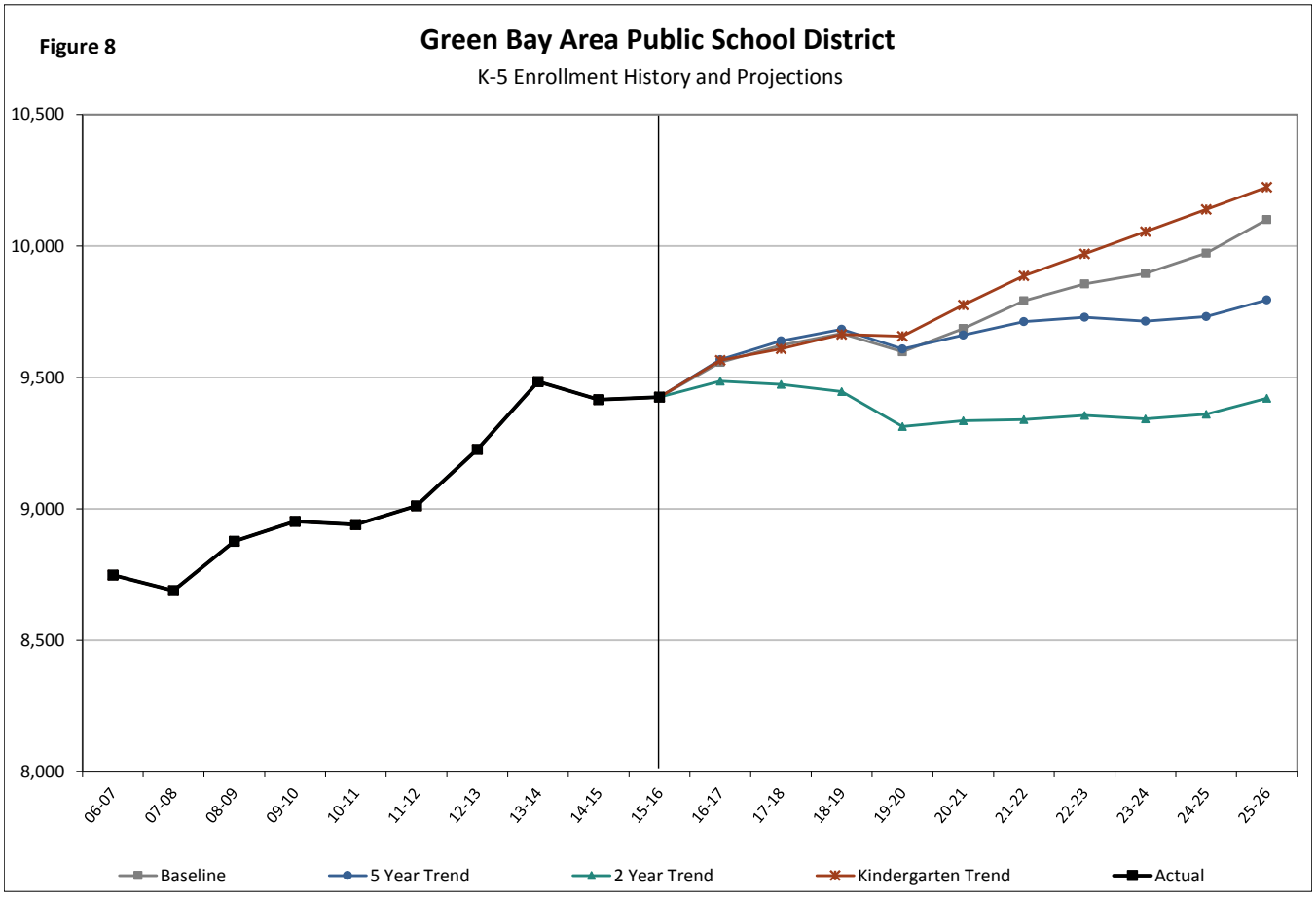


TABLE 13
Green Bay Area Public School District
Summary of K-5 Enrollment Projections

	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Baseline	9,558	9,622	9,667	9,598	9,685	9,791	9,856	9,896	9,973	10,101
5 Year Trend	9,568	9,640	9,683	9,608	9,661	9,713	9,729	9,714	9,732	9,795
2 Year "Trend"	9,486	9,473	9,447	9,314	9,336	9,340	9,356	9,343	9,360	9,421
Kindergarten Trend	9,565	9,609	9,664	9,657	9,776	9,886	9,971	10,055	10,139	10,223

Figure 9

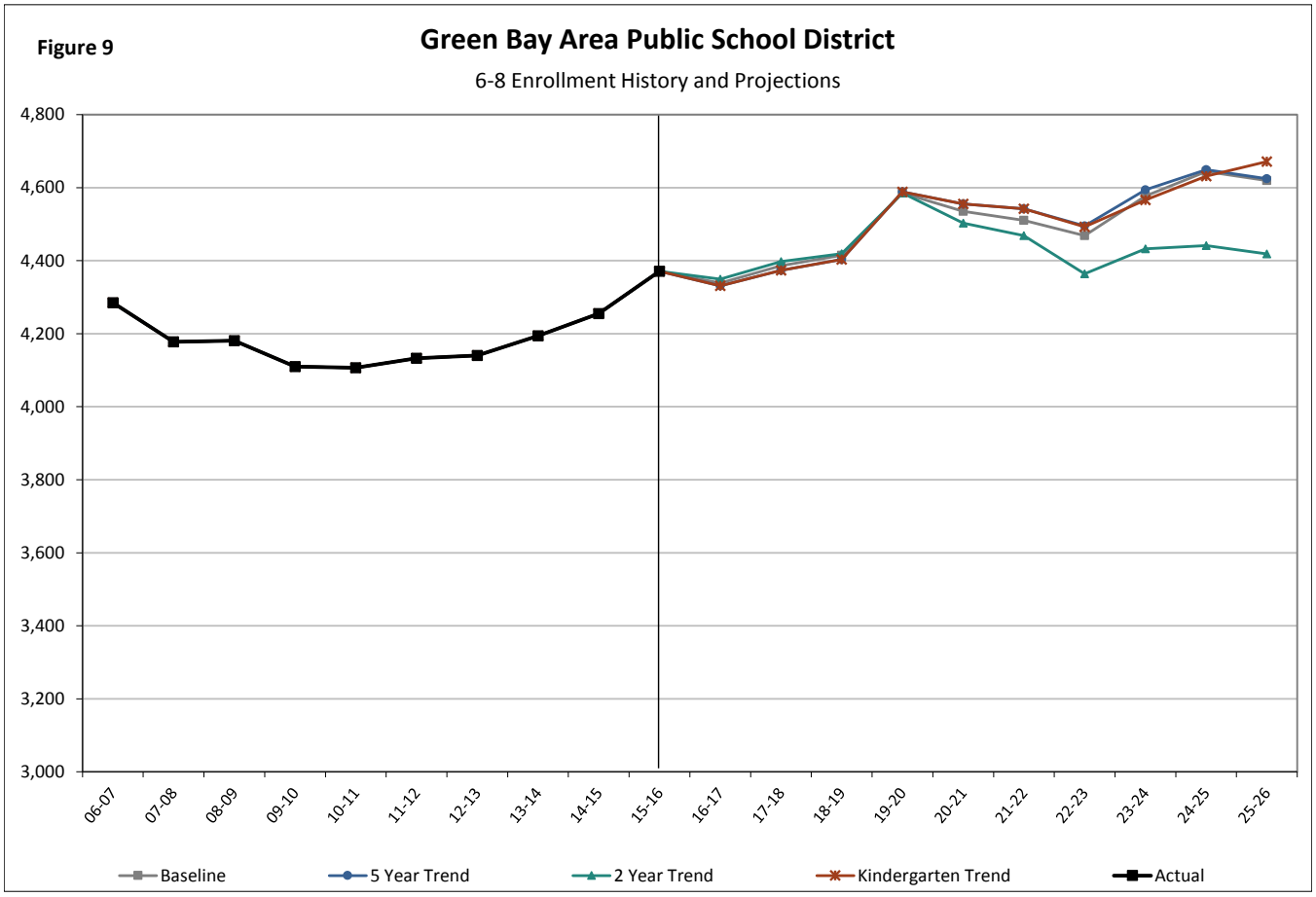


TABLE 14
Green Bay Area Public School District
Summary of 6-8 Enrollment Projections

	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Baseline	4,338	4,386	4,415	4,585	4,535	4,511	4,469	4,577	4,644	4,619
5 Year Trend	4,331	4,374	4,404	4,589	4,556	4,542	4,495	4,594	4,649	4,625
2 Year "Trend"	4,349	4,398	4,419	4,585	4,503	4,469	4,364	4,433	4,441	4,418
Kindergarten Trend	4,331	4,374	4,404	4,589	4,556	4,542	4,493	4,566	4,632	4,672

Figure 10

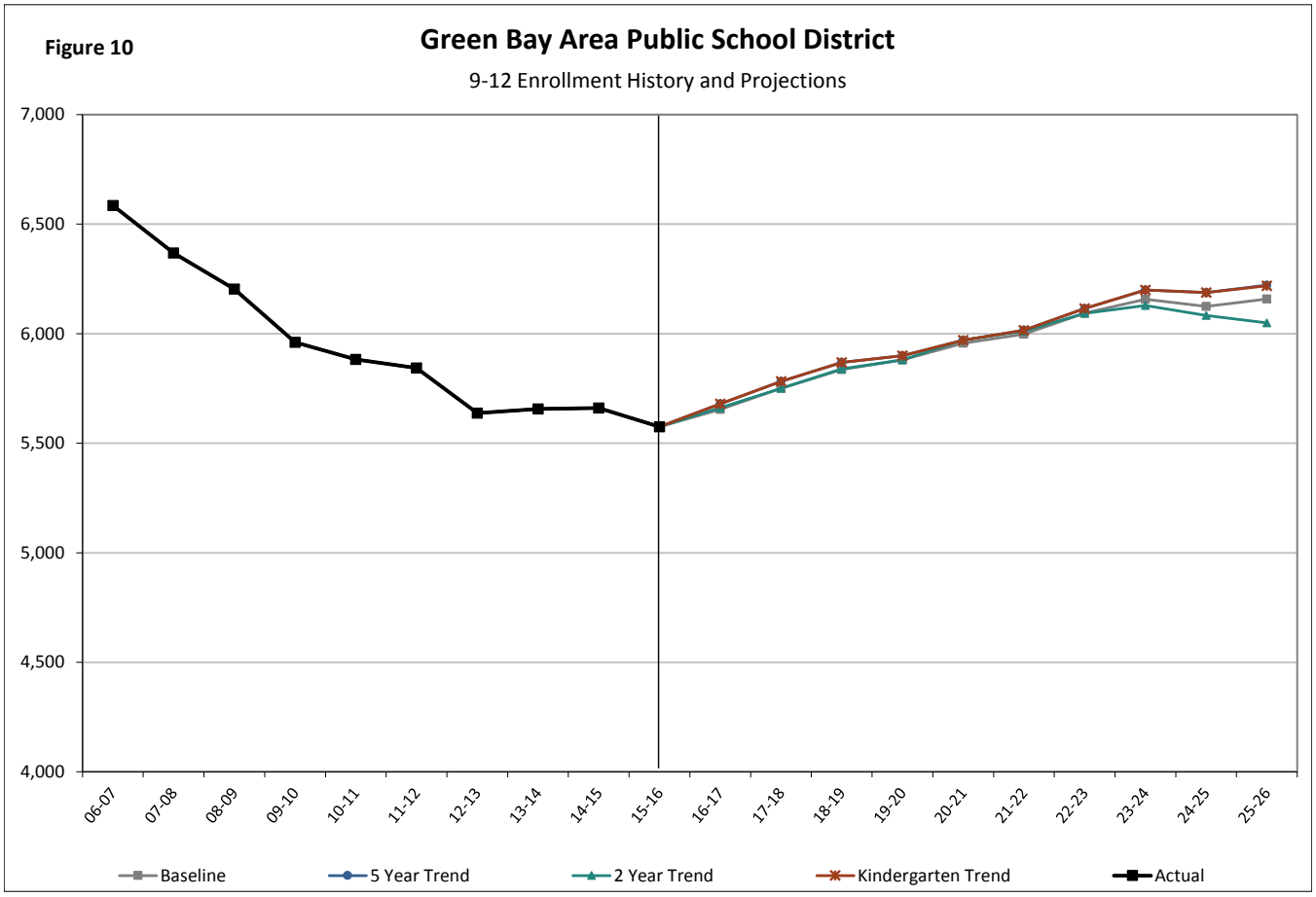


TABLE 15
Green Bay Area Public School District
Summary of 9-12 Enrollment Projections

	16-17	17-18	18-19	19-20	20-21	21-22	22-23	23-24	24-25	25-26
Baseline	5,655	5,751	5,836	5,881	5,957	5,998	6,094	6,157	6,124	6,158
5 Year Trend	5,680	5,782	5,869	5,900	5,970	6,015	6,115	6,199	6,187	6,221
2 Year "Trend"	5,661	5,750	5,839	5,880	5,971	6,012	6,093	6,128	6,083	6,049
Kindergarten Trend	5,680	5,782	5,869	5,900	5,970	6,015	6,115	6,199	6,187	6,219