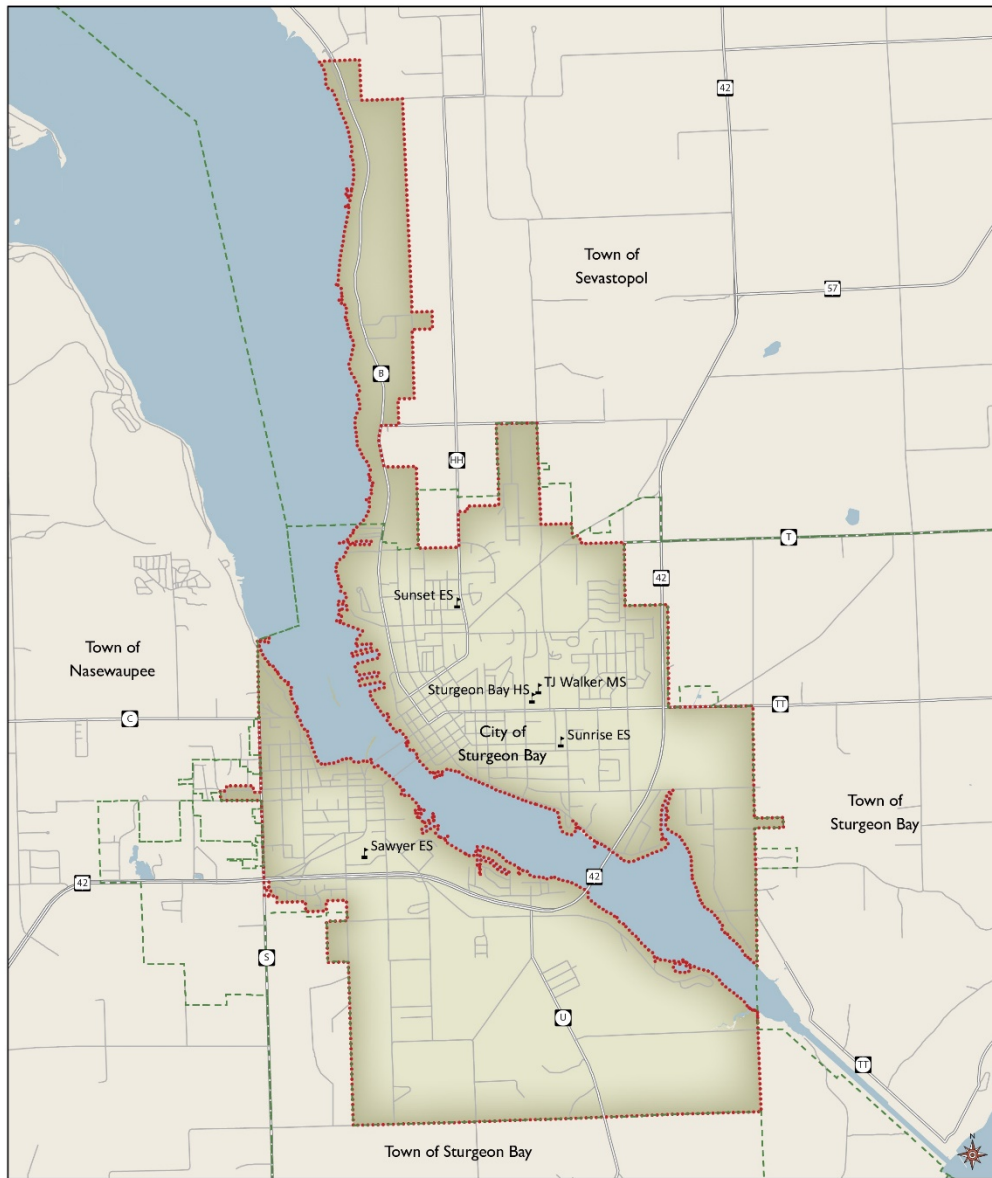


# Planning for the Schools of Tomorrow



Sturgeon Bay School District

📍 Schools

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## School Enrollment Projections Series Sturgeon Bay School District

May 2019

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## Introduction

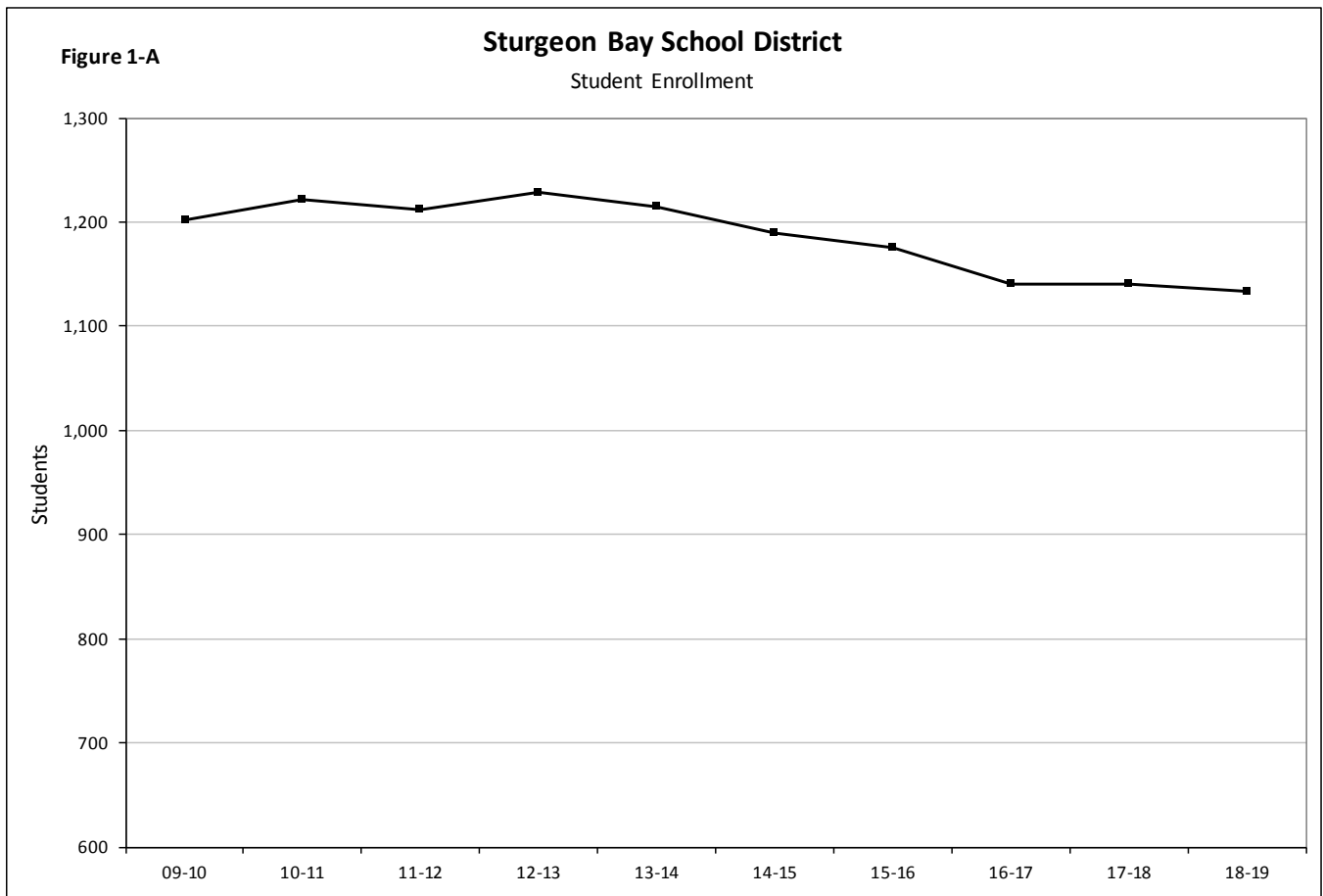
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This report offers a summary of the Enrollment Projections Analysis completed for the Sturgeon Bay School District by the Applied Population Laboratory, University of Wisconsin-Madison. District enrollment projections are provided for the district as a whole and individually for each grade and grade grouping. The projection process uses a combination of historical enrollment (3<sup>rd</sup> Friday seat count), birth trends and projections, housing and population trends to create reasonable assumptions about future growth scenarios and the likely impact on the school district.

## District Enrollment History

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Figure 1-A and Tables 1 and 2 display the last ten years of enrollment history in the Sturgeon Bay School District. 4K-12 enrollment has declined 5.7% since 2009/10, or a 0.6% annual decline. Over the past five years the enrollment, on average, declined 1.2% annually.



**TABLE 1**  
**Student Enrollment**  
**Sturgeon Bay School District**

	SCHOOL YEAR									
	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19
4K	74	95	75	86	83	75	68	62	66	78
K	83	82	92	79	84	80	69	61	65	56
1	75	82	83	97	67	81	71	67	70	60
2	80	75	82	83	97	70	78	66	66	69
3	74	83	76	82	81	98	72	74	69	63
4	66	74	94	80	79	74	96	75	76	75
5	76	62	72	95	81	79	69	100	72	75
6	83	80	70	75	99	84	85	70	103	79
7	65	86	83	80	78	96	82	90	70	102
8	87	72	90	80	82	80	99	79	93	72
9	100	108	83	103	95	93	95	102	101	105
10	105	105	114	77	99	100	89	96	102	101
11	109	105	100	110	77	94	103	94	96	100
12	125	112	98	102	113	86	100	104	92	98
<b>TOTAL</b>	<b>1,202</b>	<b>1,221</b>	<b>1,212</b>	<b>1,229</b>	<b>1,215</b>	<b>1,190</b>	<b>1,176</b>	<b>1,140</b>	<b>1,141</b>	<b>1,133</b>
4K-K	157	177	167	165	167	155	137	123	131	134
1-2	155	157	165	180	164	151	149	133	136	129
3-5	216	219	242	257	241	251	237	249	217	213
6-8	235	238	243	235	259	260	266	239	266	253
9-12	439	430	395	392	384	373	387	396	391	404

**TABLE 2**  
**Student Enrollment Changes**  
**Sturgeon Bay School District**

GRADE	ABSOLUTE CHANGE			PERCENT CHANGE			AVERAGE ANNUAL PERCENT CHANGE		
	'09 to '18	'09 to '13	'14 to '18	'09 to '18	'09 to '13	'14 to '18	'09 to '18	'09 to '13	'14 to '18
4K	4	9	3	5.4	12.2	4.0	0.6	3.0	1.0
K	-27	1	-24	-32.5	1.2	-30.0	-3.6	0.3	-7.5
1	-15	-8	-21	-20.0	-10.7	-25.9	-2.2	-2.7	-6.5
2	-11	17	-1	-13.8	21.3	-1.4	-1.5	5.3	-0.4
3	-11	7	-35	-14.9	9.5	-35.7	-1.7	2.4	-8.9
4	9	13	1	13.6	19.7	1.4	1.5	4.9	0.3
5	-1	5	-4	-1.3	6.6	-5.1	-0.1	1.6	-1.3
6	-4	16	-5	-4.8	19.3	-6.0	-0.5	4.8	-1.5
7	37	13	6	56.9	20.0	6.3	6.3	5.0	1.6
8	-15	-5	-8	-17.2	-5.7	-10.0	-1.9	-1.4	-2.5
9	5	-5	12	5.0	-5.0	12.9	0.6	-1.3	3.2
10	-4	-6	1	-3.8	-5.7	1.0	-0.4	-1.4	0.3
11	-9	-32	6	-8.3	-29.4	6.4	-0.9	-7.3	1.6
12	-27	-12	12	-21.6	-9.6	14.0	-2.4	-2.4	3.5
<b>TOTAL</b>	<b>-69</b>	<b>13</b>	<b>-57</b>	<b>-5.7</b>	<b>1.1</b>	<b>-4.8</b>	<b>-0.6</b>	<b>0.3</b>	<b>-1.2</b>
4K-K	-23	10	-21	-14.6	6.4	-13.5	-1.6	1.6	-3.4
1-2	-26	9	-22	-16.8	5.8	-14.6	-1.9	1.5	-3.6
3-5	-3	25	-38	-1.4	11.6	-15.1	-0.2	2.9	-3.8
6-8	18	24	-7	7.7	10.2	-2.7	0.9	2.6	-0.7
9-12	-35	-55	31	-8.0	-12.5	8.3	-0.9	-3.1	2.1



Figure 1-B shows enrollment history broken down by school (4K-K, 1-2, 3-5, 6-8, and 9-12). Sunset and Sawyer enrollment has decreased the most over the past ten years (-1.6% and -1.9% annually, respectively). Sunrise enrollment increased then decreased resulting in a moderate decline of 0.2% annually in the last ten years. Middle school enrollment increased by 0.9% annually, while high school enrollment has decreased by 0.9% annually over the last ten years.

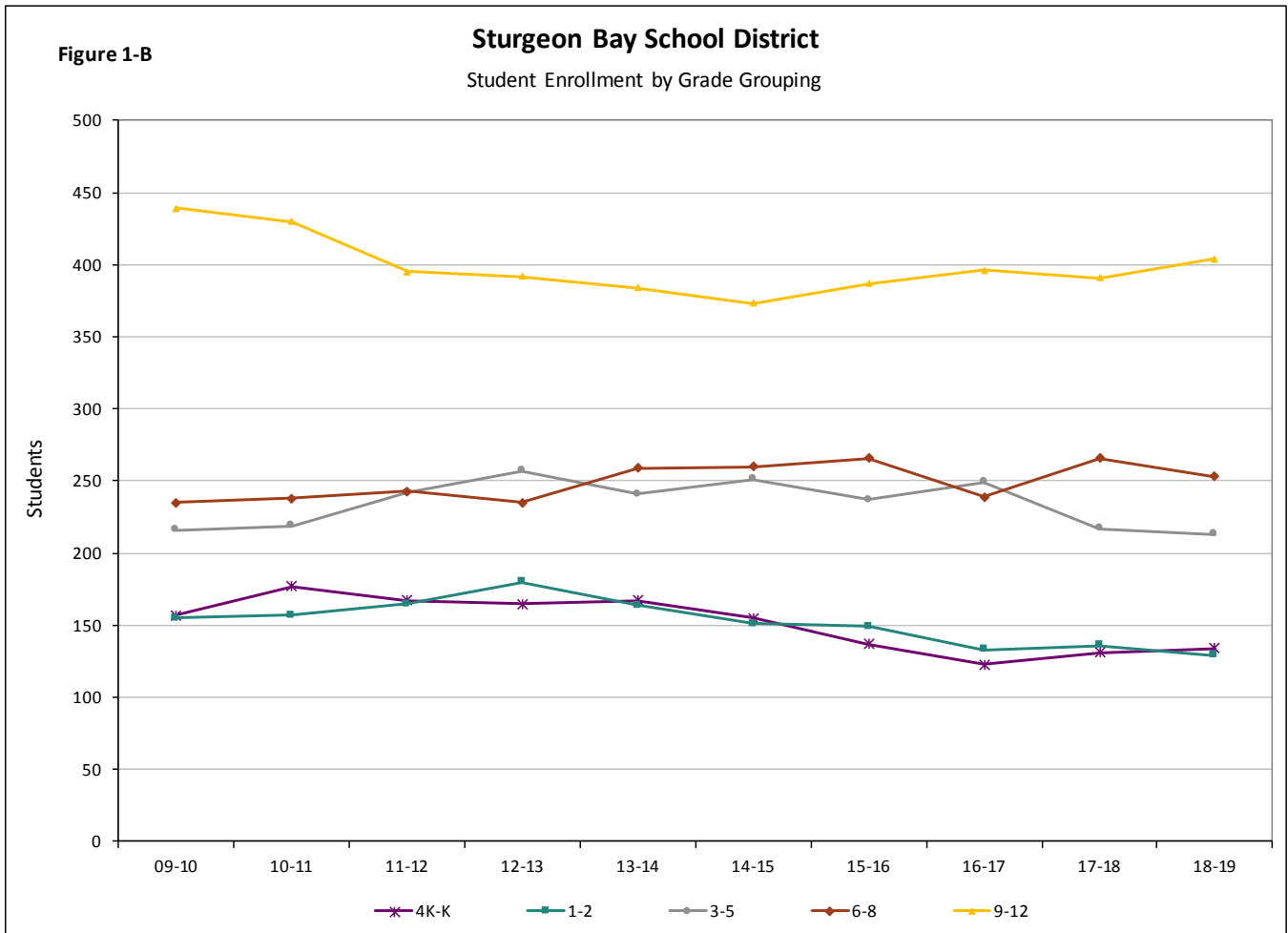
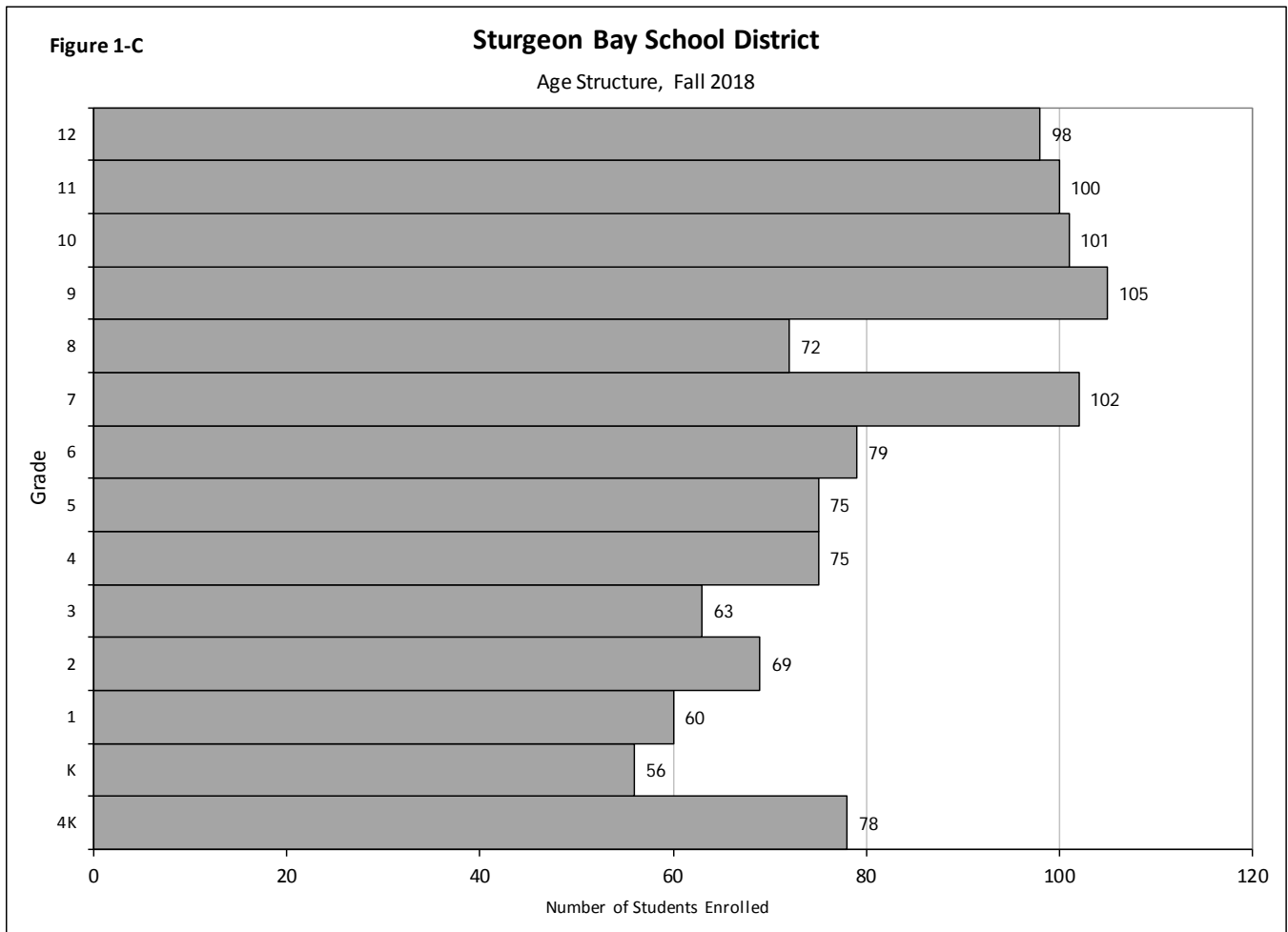


Figure 1-C shows the age structure in Fall 2018 of the student population with the number of 4-year-old kindergarteners at the bottom and the number of 12<sup>th</sup> graders at the top. The average class size for grades 9-12 is 101 with 9<sup>th</sup> grade being the largest among high school grades. Grades 6-8 average class size is smaller than high school at 84 with 7<sup>th</sup> grade being largest among middle school grades. Grades 3-5 average class size is 71, grades 1-2 average class size is the smallest at 65, and grades 4K-K average class size is 67.

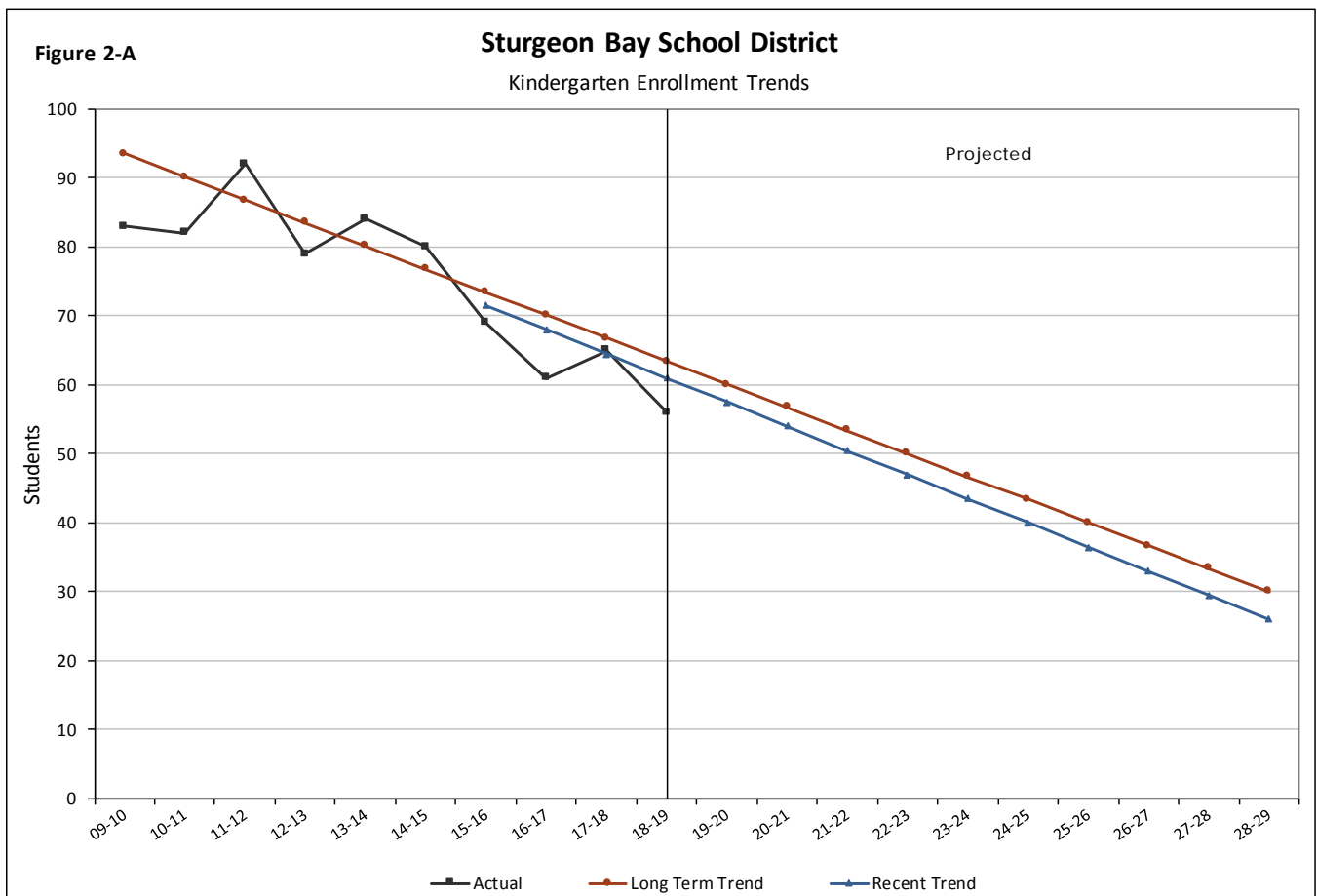




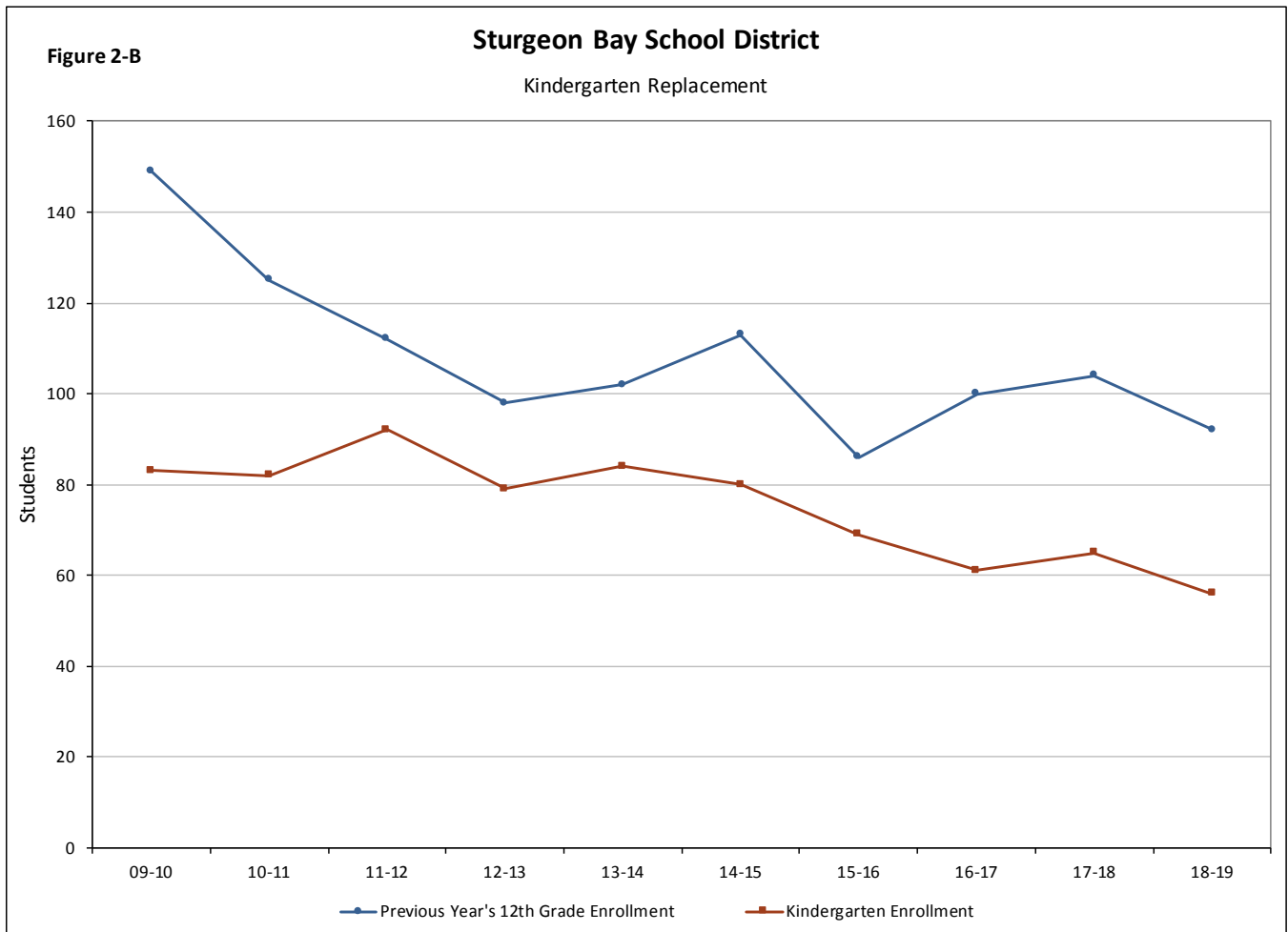
## Kindergarten Trends

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 farther in the future.

Figure 2-A shows kindergarten enrollment history in black, and trend lines depicting future kindergarten enrollment in red and blue. The “Long Term Trend” line (shown in red) averages kindergarten enrollment changes from 2009/10 through 2018/19. The “Recent Trend” line (shown in blue) emphasizes kindergarten enrollment changes over the last four years. In the Sturgeon Bay School District, recent and long-term trends in kindergarten enrollment points to decreases over time. The long-term trend will be used to project kindergartners in the Kindergarten Trend projections later in this report.



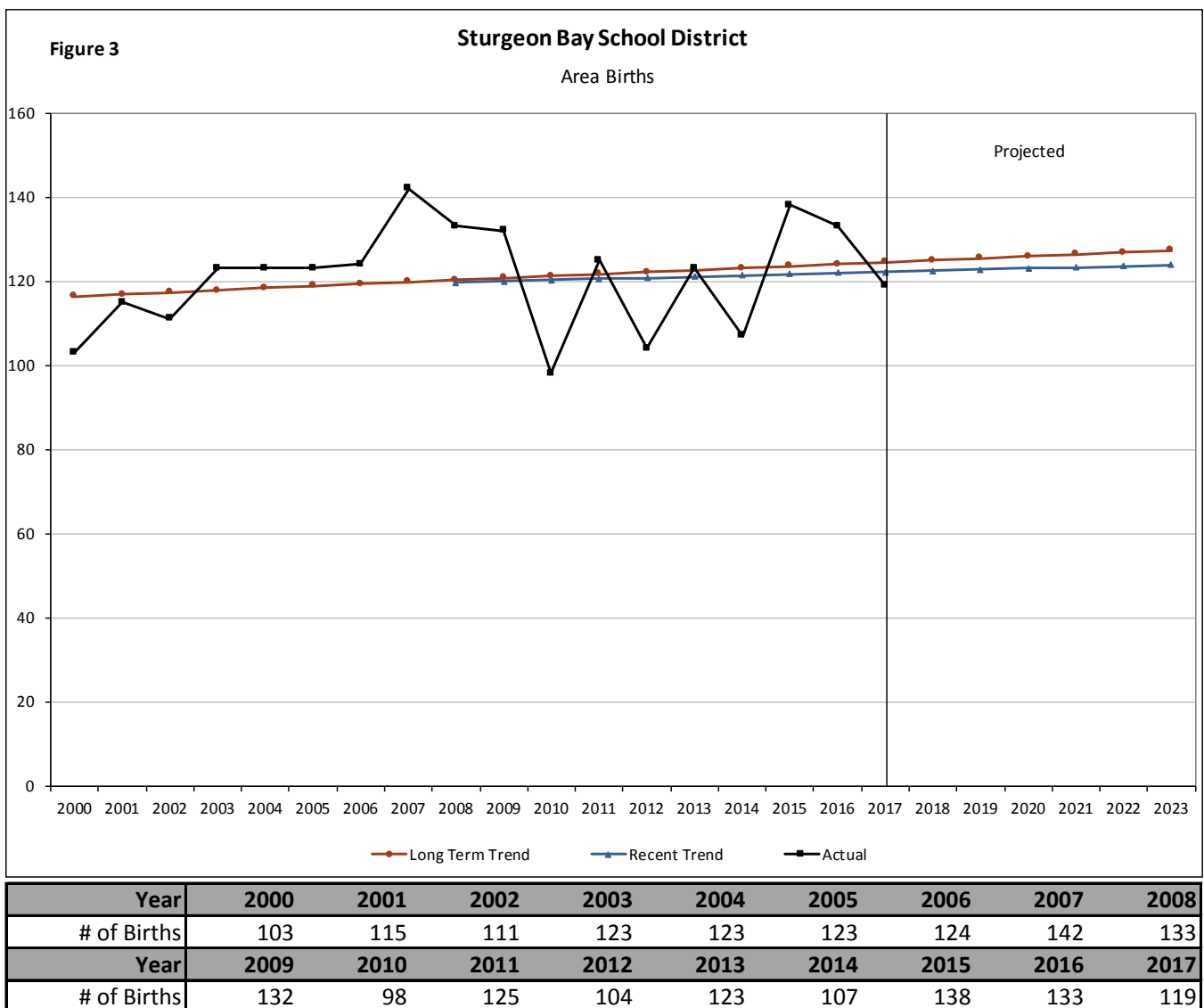
In addition to examining kindergarten enrollment on its own, comparing incoming kindergarteners to the previous year's outgoing 12<sup>th</sup> graders offers a snapshot of how the age structure of district enrollment is shifting either from older to younger, or younger to older. Districts tend to experience overall growth when kindergarten enrollment outpaces outgoing students, and they tend to experience decline when kindergarteners do not fully replace the number of graduates. As illustrated in Figure 2-B, kindergarteners did not replace outgoing 12<sup>th</sup> graders all ten years.



## Birth Trends and Projections

We use historical and projected birth data to forecast the number of 4K and 5K students who will enroll in the Sturgeon Bay School District in future years. Birth data, as collected and summarized by the Wisconsin Department of Health Services, is available at the municipal level. The birth history presented below is the historical births in the City of Sturgeon Bay.

Figure 3 shows the number of births to mothers living in the city, by year, from 2000 through 2017. We extrapolate long-and short-range birth trends into the future to correspond with our baseline and recent trend projection models. The red line represents the birth trend over the past 18 years, and is utilized in the Baseline model. The blue line denotes birth patterns for the last ten years and is applied in the Five Year and Two Year trend models.



Source: WI Department of Health Services



## Population Estimates and Age Structure

This section examines population trends of the recent past for the City of Sturgeon Bay, Town of Sevastopol, and the Sturgeon Bay 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 provides the U.S. Census population counts for 2010 and the Wisconsin Department of Administration's estimates on a biennial basis for 2012 to 2018 for the city and town. Since 2010, the population in the district area has increased by 2.7%, while Door County's population has increased by 2.4%, the same as the City of Sturgeon Bay.

**Table 3**  
**Total Population by Municipality: 2010-2018**  
**Sturgeon Bay School District**

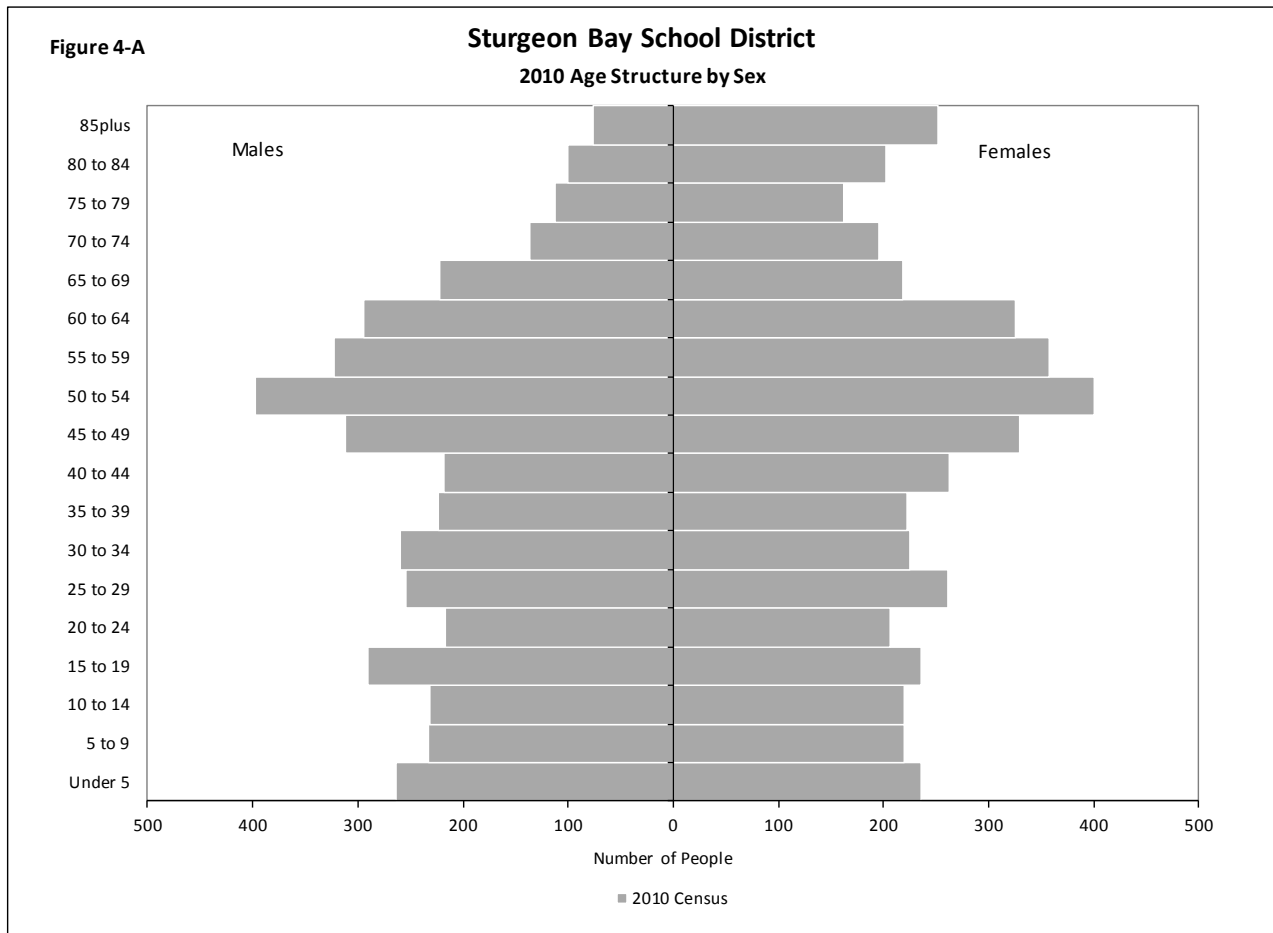
Municipality	POPULATION				
	Census 2010	est. 2012	est. 2014	est. 2016	est. 2018
C. Sturgeon Bay	9,144	9,132	9,155	9,237	9,363
T. Sevastopol	2,628	2,637	2,662	2,685	2,723
<b>District Area</b>	<b>11,772</b>	<b>11,769</b>	<b>11,817</b>	<b>11,922</b>	<b>12,086</b>
Door County	27,785	27,867	27,976	28,127	28,463
State of Wisconsin	5,686,986	5,703,525	5,732,981	5,775,120	5,816,231

Municipality	PERCENT CHANGE				
	2010 to 2012	2012 to 2014	2014 to 2016	2016 to 2018	2010 to 2018
C. Sturgeon Bay	-0.1%	0.3%	0.9%	1.4%	2.4%
T. Sevastopol	0.3%	0.9%	0.9%	1.4%	3.6%
<b>District Area</b>	<b>0.0%</b>	<b>0.4%</b>	<b>0.9%</b>	<b>1.4%</b>	<b>2.7%</b>
Door County	0.3%	0.4%	0.5%	1.2%	2.4%
State of Wisconsin	0.3%	0.5%	0.7%	0.7%	2.3%

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



Figure 4-A and Table 4 illustrates the population for the Sturgeon Bay School District for the 2010 counts by age and gender from the U.S. Census Bureau. These data are somewhat dated but still provide the illustration that the district school age population (age 0-14) is smaller in comparison to other age categories, especially the middle age population (age 45-59). Most likely, students of residents from this age category (now age 52 to 66) are either in high school or have completed their 4K-12 education.



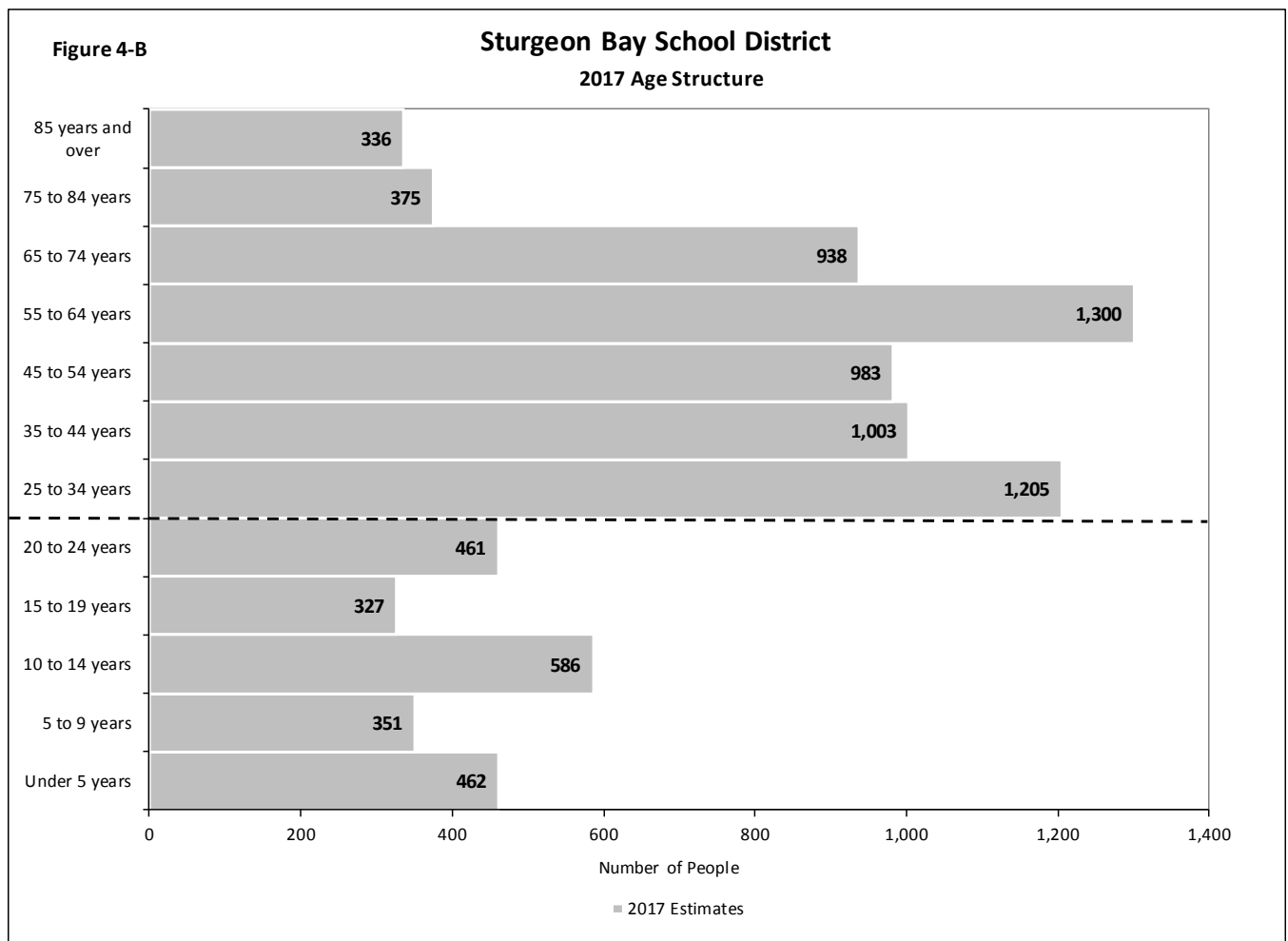
**TABLE 4**  
**Population by Age and Gender, 2010**  
**Sturgeon Bay School District**

Age	Under 5	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to 59	60 to 64	65 to 69	70 to 74	75 to 79	80 to 84	85plus
<b>Males</b>	263	233	231	290	217	254	260	224	218	312	397	323	295	222	136	112	100	76
<b>Females</b>	236	220	220	236	206	261	225	222	262	330	401	358	325	219	195	162	202	252
<b>Total</b>	499	453	451	526	423	515	485	446	480	642	798	681	620	441	331	274	302	328



Figure 4-B illustrates the population for the Sturgeon Bay School District for the 2017 estimates by age from the U.S. Census Bureau. Keep in mind when reviewing this graph ages 0 to 24 are in five-year increments, while ages 25 and older are in ten-year increments. From 2010 to 2017, these observations can be observed:

- The number of young people ages 0-14 decreased by only 4 children.
- Young adults (ages 25-34) in the district increased by 205 people.
- The adult population ages 35-64 has seen a decline of 381 residents.
- Older adults age 65 and over have decreased by 27 residents.



## Housing Trends

Examining trends in recent housing development can help to explain how in-migration into the Sturgeon Bay 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 in-migration of school-age children will also remain relatively consistent. It is important to recognize that the number of housing starts in any given year is dependent upon a large number of confounding variables making future growth patterns difficult to predict.

Table 5 show the number of housing starts by type in the City of Sturgeon Bay and the Town of Sevastopol over the past ten years. The new housing totals in the table include the entire municipality although only a small portion of the Town of Sevastopol is in the Sturgeon Bay School District and small parts of the city are outside the school district. New single family homes were lowest in 2011 with thirteen housing starts, but an increase in new home construction has occurred since that time.

**TABLE 5**  
**School District Area Housing Starts**  
**Sturgeon Bay School District**

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>District Area</b>										
<b>TOTAL</b>	<b>94</b>	<b>15</b>	<b>26</b>	<b>17</b>	<b>30</b>	<b>46</b>	<b>41</b>	<b>47</b>	<b>80</b>	<b>58</b>
Single Family	28	15	18	13	30	36	23	31	29	30
Two Family	2	0	0	0	0	2	2	0	0	0
Multi-family	64	0	8	4	0	8	16	16	51	28
<b>C. Sturgeon Bay</b>										
<b>TOTAL</b>	<b>72</b>	<b>6</b>	<b>17</b>	<b>11</b>	<b>13</b>	<b>23</b>	<b>27</b>	<b>23</b>	<b>70</b>	<b>39</b>
Single Family	8	6	9	7	13	15	11	7	19	11
Two Family	0	0	0	0	0	0	0	0	0	0
Multi-family	64	0	8	4	0	8	16	16	51	28
<b>T. Sevastopol</b>										
<b>TOTAL</b>	<b>22</b>	<b>9</b>	<b>9</b>	<b>6</b>	<b>17</b>	<b>23</b>	<b>14</b>	<b>24</b>	<b>10</b>	<b>19</b>
Single Family	20	9	9	6	17	21	12	24	10	19
Two Family	2	0	0	0	0	2	2	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0

Source: Demographic Services Center, WIDOA

Most of the development in the area has consisted of single-family homes although several multi-family units were constructed throughout this time period. Households in single family homes, on average, tend to contain more school-aged children than in multi-family complexes. Figure 5-A shows the number of residential building permits issued by municipality for communities that fall within the Sturgeon Bay 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

### Sturgeon Bay School District

Area Housing Starts by Municipality

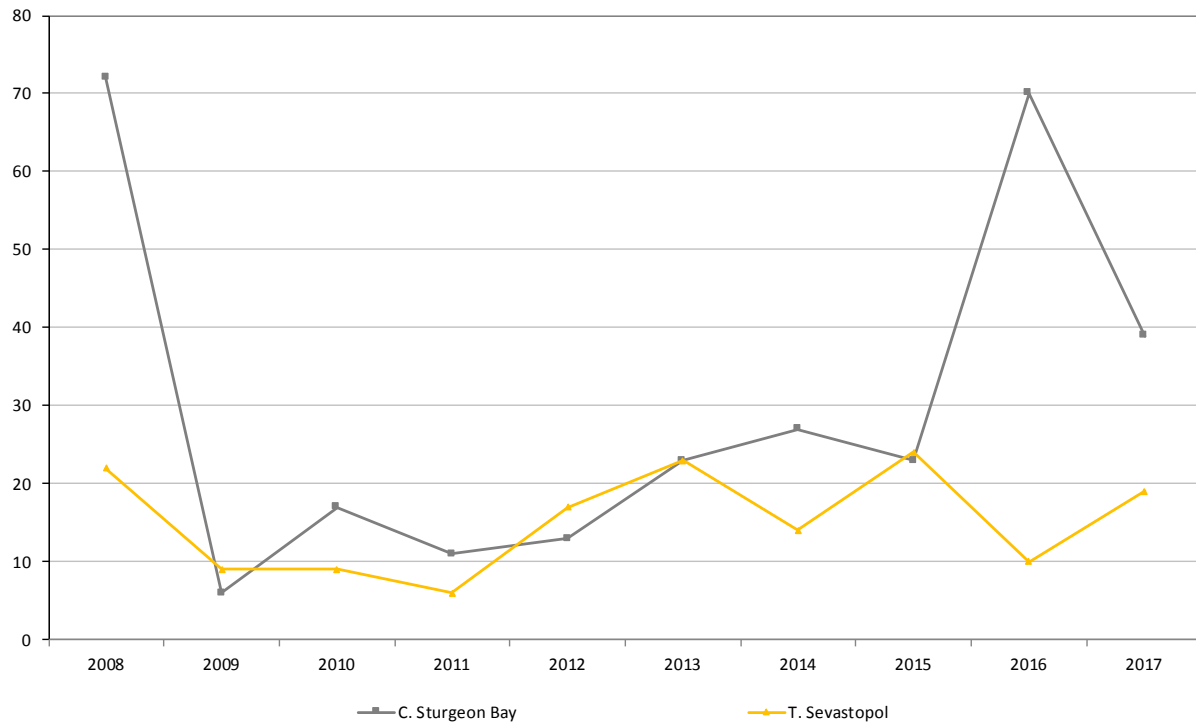
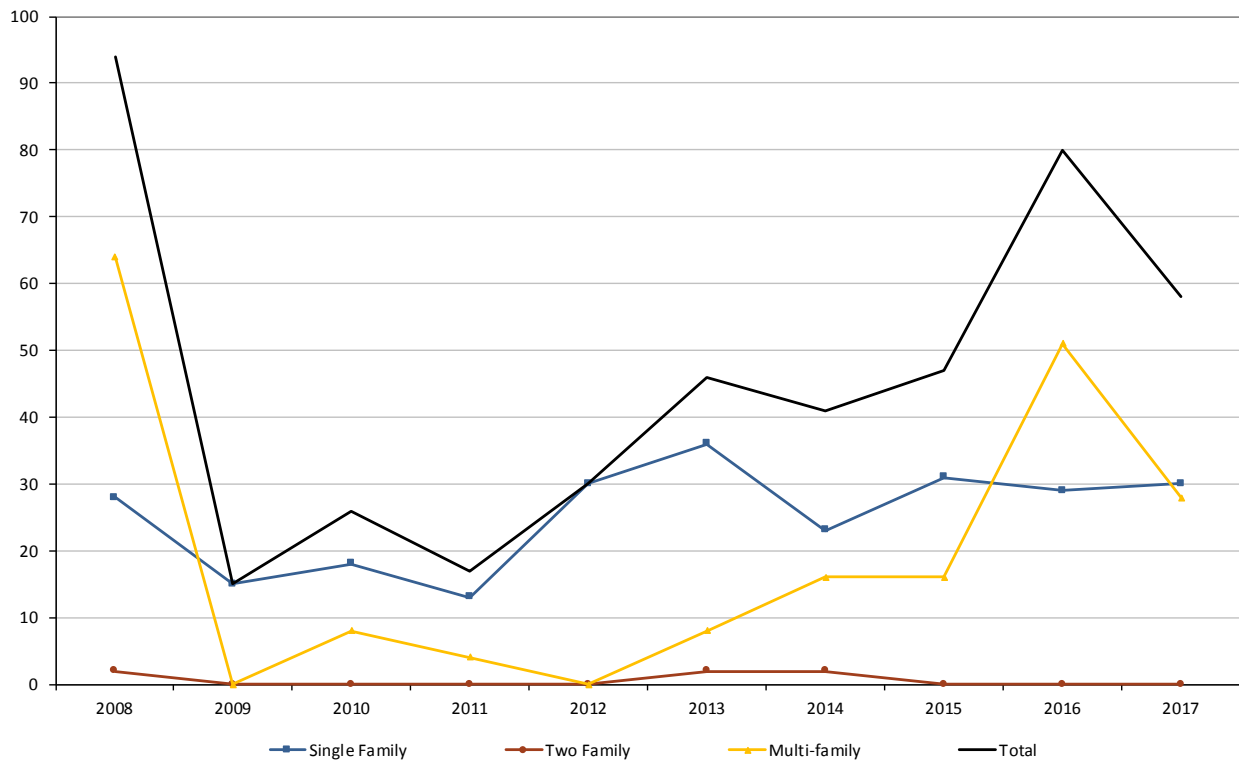


Figure 5-B

### Sturgeon Bay School District

Area Housing Starts by Type





It is important to consider that turnover in ownership of existing housing stock and rental properties contribute to changes in enrollment. A district can increase or decrease in 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, while an older community will have a lower child-per-household ratio.

In older communities the slowing of home sales results in a decrease in the child-per-household over time. Eventually as younger families move into the area, the school district will begin to see new students enrolling into the district's schools. A change in home ownership may happen over the course of several years at varying rates and may differ between neighborhoods. Absent new housing development or housing turnover, families age in place and the number of school-aged children declines.

## Projections Method

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In order to generate school enrollment projections, we rely on a commonly used demographic technique called the "cohort survival method," also called the "grade progression ratio method" when applied in an educational setting. 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 will impact future enrollment.

In order to project incoming 4K and 5K students, we gather data on births from the Wisconsin Department of Health Services and assume that, based on recent historical patterns, a certain percentage of the children born to mothers residing in the school district area will enroll in 4K and 5K four to five years later.

### Grade Progression Ratios

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

- Baseline: averages 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.

Table 6 shows the grade progression ratios for the Sturgeon Bay School District and can be interpreted in the following manner. The Two Year "Trend" ratio for K:1 is 1.035. This means that, on average, first grade is on average 3.5% larger than the kindergarten class of the previous year. The B:K (birth to kindergarten) Baseline ratio of .605 indicates that, on average, approximately 60.5% of city births attend kindergarten five years later.



**TABLE 6**  
**Grade Progression Ratios**  
**Sturgeon Bay 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
09-10/10-11	0.667	0.988	1.000	1.038	1.000	0.939	1.053	1.036	1.108	1.241	1.050	1.000	1.028
10-11/11-12	0.748	1.012	1.000	1.013	1.133	0.973	1.129	1.038	1.047	1.153	1.056	0.952	0.933
11-12/12-13	0.639	1.054	1.000	1.000	1.053	1.011	1.042	1.143	0.964	1.144	0.928	0.965	1.020
12-13/13-14	0.618	0.848	1.000	0.976	0.963	1.013	1.042	1.040	1.025	1.188	0.961	1.000	1.027
13-14/14-15	0.588	0.964	1.045	1.010	0.914	1.000	1.037	0.970	1.026	1.134	1.053	0.949	1.117
14-15/15-16	0.521	0.888	0.963	1.029	0.980	0.932	1.076	0.976	1.031	1.188	0.957	1.030	1.064
15-16/16-17	0.558	0.971	0.930	0.949	1.042	1.042	1.014	1.059	0.963	1.030	1.011	1.056	1.010
16-17/17-18	0.561	1.148	0.985	1.045	1.027	0.960	1.030	1.000	1.033	1.278	1.000	1.000	0.979
17-18/18-19	0.504	0.923	0.986	0.955	1.087	0.987	1.097	0.990	1.029	1.129	1.000	0.980	1.021
<b>Baseline</b>	<b>0.605</b>	<b>0.985</b>	<b>0.991</b>	<b>1.006</b>	<b>1.022</b>	<b>0.990</b>	<b>1.047</b>	<b>1.020</b>	<b>1.032</b>	<b>1.156</b>	<b>0.996</b>	<b>0.989</b>	<b>1.021</b>
<b>5 Year Trend</b>	<b>0.546</b>	<b>0.979</b>	<b>0.982</b>	<b>0.998</b>	<b>1.010</b>	<b>0.984</b>	<b>1.051</b>	<b>0.999</b>	<b>1.016</b>	<b>1.152</b>	<b>1.004</b>	<b>1.003</b>	<b>1.038</b>
<b>2 Year "Trend"</b>	<b>0.532</b>	<b>1.035</b>	<b>0.985</b>	<b>1.000</b>	<b>1.057</b>	<b>0.973</b>	<b>1.064</b>	<b>0.995</b>	<b>1.031</b>	<b>1.204</b>	<b>1.000</b>	<b>0.990</b>	<b>1.000</b>

\*Shaded progression ratios are excluded from the Baseline Average

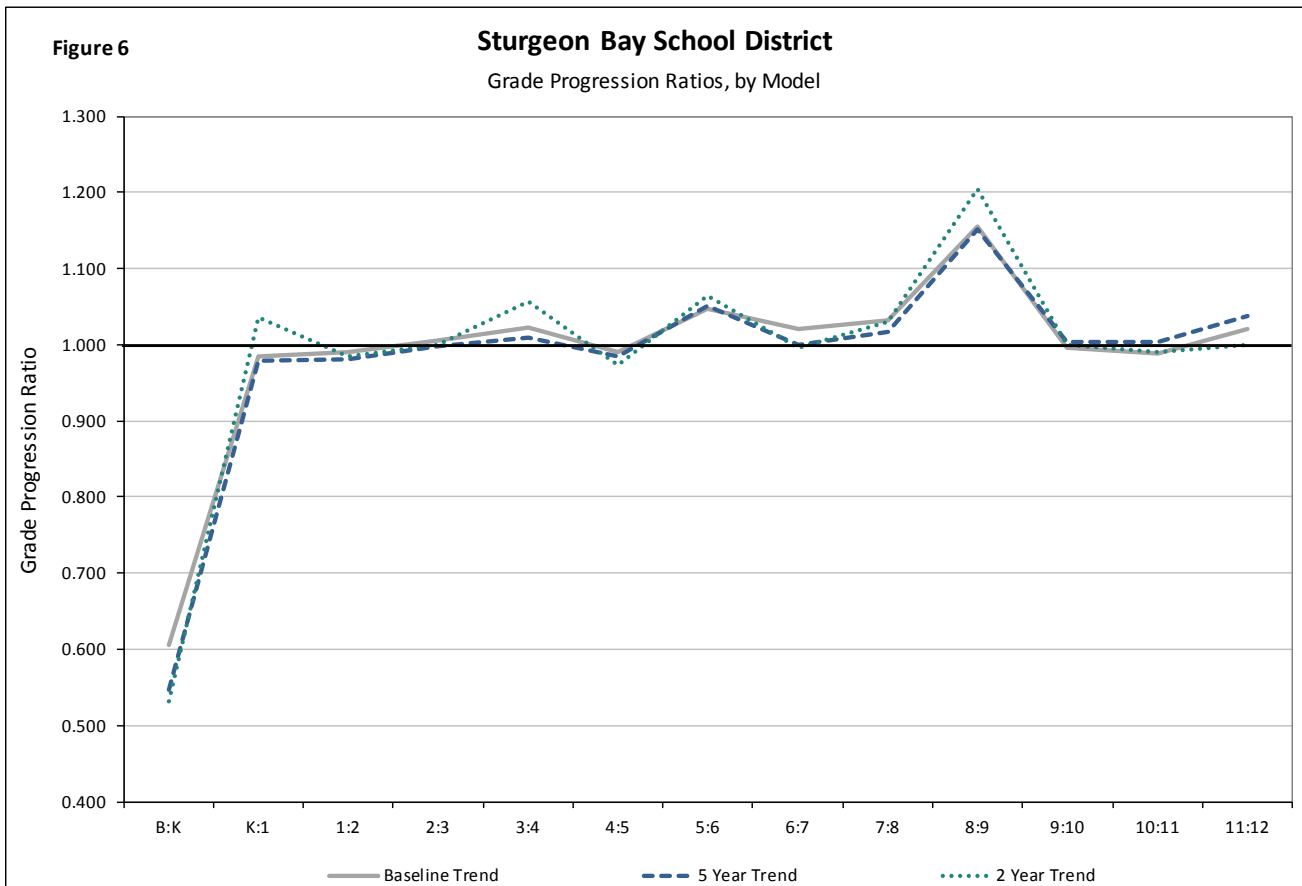


Figure 6 illustrates the patterns between these three grade progression ratios. When the ratio is above 1.0 this indicates that enrollment tends to increase year to year as each cohort of students advances. When the ratio is below 1.0 this indicates that enrollment tends to decrease year to year.



4K Grade Progression Ratios

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Table 7 shows the observed grade progression ratios between births and 4K and between 4K and kindergarten over the last ten years. The five year average grade progression ratio will be used to project 4K enrollment in all projection models found later in the report. The 4K:K ratios are not used in the projection calculations, but provide an indication that 94% to 97% of 4K students enter kindergarten the following year.

**TABLE 7**  
**4K Grade Progression Ratios**  
**Sturgeon Bay School District**

	<b>B:4K</b>	<b>4K:K</b>
<b>09-10/10-11</b>	0.772	1.108
<b>10-11/11-12</b>	0.606	0.968
<b>11-12/12-13</b>	0.632	1.053
<b>12-13/13-14</b>	0.610	0.977
<b>13-14/14-15</b>	0.567	0.964
<b>14-15/15-16</b>	0.622	0.920
<b>15-16/16-17</b>	0.535	0.897
<b>16-17/17-18</b>	0.594	1.048
<b>17-18/18-19</b>	0.669	0.848
<b>Baseline</b>	<b>0.614</b>	<b>0.975</b>
<b>5 Year Trend</b>	<b>0.597</b>	<b>0.936</b>
<b>2 Year "Trend"</b>	<b>0.632</b>	<b>0.948</b>

\*Shaded progression ratios are excluded from the Baseline Average



## School Enrollment Projections

When considering all of the projections provided in this report for decision-making, it is important to recognize that population projections are more accurate in the immediate future than they are farther into the future. This is especially true for grades K-5, because many of the students who may enroll in kindergarten starting in 2024/25 have not yet been born. Overall, our projections are more reliable over the next five years than they are in the latter half of the next decade. Although the grade grouping projections are less reliable than the 4K-12 projections, these projections do serve as a reasonable guide for forecasting future trends and change in enrollment at the individual schools.

### Baseline Projections

The Baseline model (Table 8) projects enrollments using the assumption that long-term or ten year grade progression ratios, year to year and grade to grade, will continue into the future, as well as the longer-range trend in births. This model projects that 4K-12 enrollment in the Sturgeon Bay School District will decline over the next five years, from 1,133 students in 2018/19 to 1,116 in 2023/24, or a decline of only 17 students.

**TABLE 8**  
**Baseline Projection Model**  
**Sturgeon Bay School District**

	SCHOOL YEAR									
	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
4K	76	80	74	72	73	73	74	74	74	74
K	68	77	81	75	74	76	76	76	77	77
1	55	67	76	80	74	73	75	75	75	75
2	59	55	66	75	80	73	73	74	74	74
3	69	60	55	67	76	80	73	73	74	75
4	64	71	61	56	68	77	82	75	75	76
5	74	64	70	60	56	68	77	81	74	74
6	78	78	67	73	63	58	71	80	85	78
7	81	80	79	68	75	65	59	72	82	86
8	105	83	83	82	70	77	67	61	74	84
9	83	122	96	95	95	81	89	77	71	86
10	105	83	121	96	95	94	81	89	77	71
11	100	103	82	120	95	94	93	80	88	76
12	102	102	106	84	122	97	96	95	82	90
<b>TOTAL</b>	<b>1,121</b>	<b>1,125</b>	<b>1,118</b>	<b>1,104</b>	<b>1,116</b>	<b>1,087</b>	<b>1,085</b>	<b>1,083</b>	<b>1,081</b>	<b>1,096</b>
4K-K	144	158	155	147	148	149	150	150	151	151
1-2	115	122	142	156	153	146	147	149	149	150
3-5	208	194	186	183	200	225	232	229	223	224
6-8	264	241	229	223	208	200	197	214	241	249
9-12	390	410	405	395	407	366	359	341	317	322



Five Year Trend Projections

The Five 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. With recent progression rates and birth trends weighted more heavily, 4K-12 enrollment is projected to decrease over the next five years, from 1,133 students in 2018/19 to 1,057 in 2023/24, or a decline of 76 students.

**TABLE 9**  
**5 Year Trend Projection Model**  
**Sturgeon Bay School District**

GRADE	SCHOOL YEAR									
	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
4K	76	80	74	72	73	73	74	74	74	74
K	61	70	74	68	66	67	67	67	67	68
1	55	60	68	72	66	65	66	66	66	66
2	59	54	59	67	71	65	64	64	65	65
3	69	59	54	59	67	71	65	64	64	64
4	64	70	59	54	59	67	71	65	64	65
5	74	63	68	58	53	58	66	70	64	63
6	79	78	66	72	61	56	61	70	74	68
7	79	79	77	66	72	61	56	61	70	74
8	104	80	80	79	67	73	62	57	62	71
9	83	119	92	92	91	77	84	72	66	72
10	105	83	120	93	93	91	77	84	72	66
11	101	106	84	120	93	93	91	78	85	72
12	104	105	110	87	125	97	96	95	80	88
<b>TOTAL</b>	<b>1,112</b>	<b>1,105</b>	<b>1,085</b>	<b>1,059</b>	<b>1,057</b>	<b>1,015</b>	<b>1,001</b>	<b>987</b>	<b>973</b>	<b>975</b>
4K-K	138	150	147	140	140	140	141	141	141	142
1-2	114	114	127	139	137	130	129	130	130	131
3-5	206	191	181	171	180	196	202	199	193	192
6-8	261	237	223	216	200	190	180	188	206	212
9-12	393	414	406	392	401	358	349	329	303	298



## Two Year "Trend" Projections

The Two Year "Trend" model (Table 10) averages 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. According to this model, 4K-12 enrollment in the Sturgeon Bay School District is projected to decrease over the next five years, from 1,133 students in 2018/19 to 1,099 in 2023/24, or a decline of 34 students.

**TABLE 10**  
**2 Year "Trend" Projection Model**  
**Sturgeon Bay School District**

GRADE	SCHOOL YEAR									
	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
4K	76	80	74	72	73	73	74	74	74	74
K	60	68	72	66	65	65	65	66	66	66
1	58	62	70	74	68	67	68	68	68	68
2	59	57	61	69	73	67	66	67	67	67
3	69	59	57	61	69	73	67	66	67	67
4	67	73	62	60	65	73	77	71	70	70
5	73	65	71	61	59	63	71	75	69	68
6	80	78	69	76	65	63	67	76	80	74
7	79	79	77	69	75	64	62	66	75	80
8	105	81	82	80	71	77	66	64	69	78
9	87	127	98	99	96	85	93	80	77	82
10	105	87	127	98	99	96	85	93	80	77
11	100	104	86	125	97	98	95	84	92	79
12	100	100	104	86	125	97	98	95	84	92
<b>TOTAL</b>	<b>1,117</b>	<b>1,120</b>	<b>1,110</b>	<b>1,095</b>	<b>1,099</b>	<b>1,062</b>	<b>1,055</b>	<b>1,045</b>	<b>1,038</b>	<b>1,042</b>
4K-K	136	148	146	138	138	139	139	139	140	140
1-2	117	119	131	144	141	134	133	134	135	135
3-5	209	197	191	182	193	209	216	212	205	205
6-8	264	238	228	224	211	204	195	206	224	231
9-12	392	417	414	407	416	375	371	352	334	331



## Kindergarten Trend Projections

For this method we perform a kindergarten trend analysis to project the number of future kindergarten students. 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 enrollment patterns, regardless of the number of observed births in the school district area. The Five Year Trend grade progression ratios are used for projecting the other grades (1-12) in the district.

According to this projections method (Table 11), 4K-12 enrollment is projected to decrease over the next five years, from 1,133 students in 2018/19 to 1,007 in 2023/24, or a decline of 126 students.

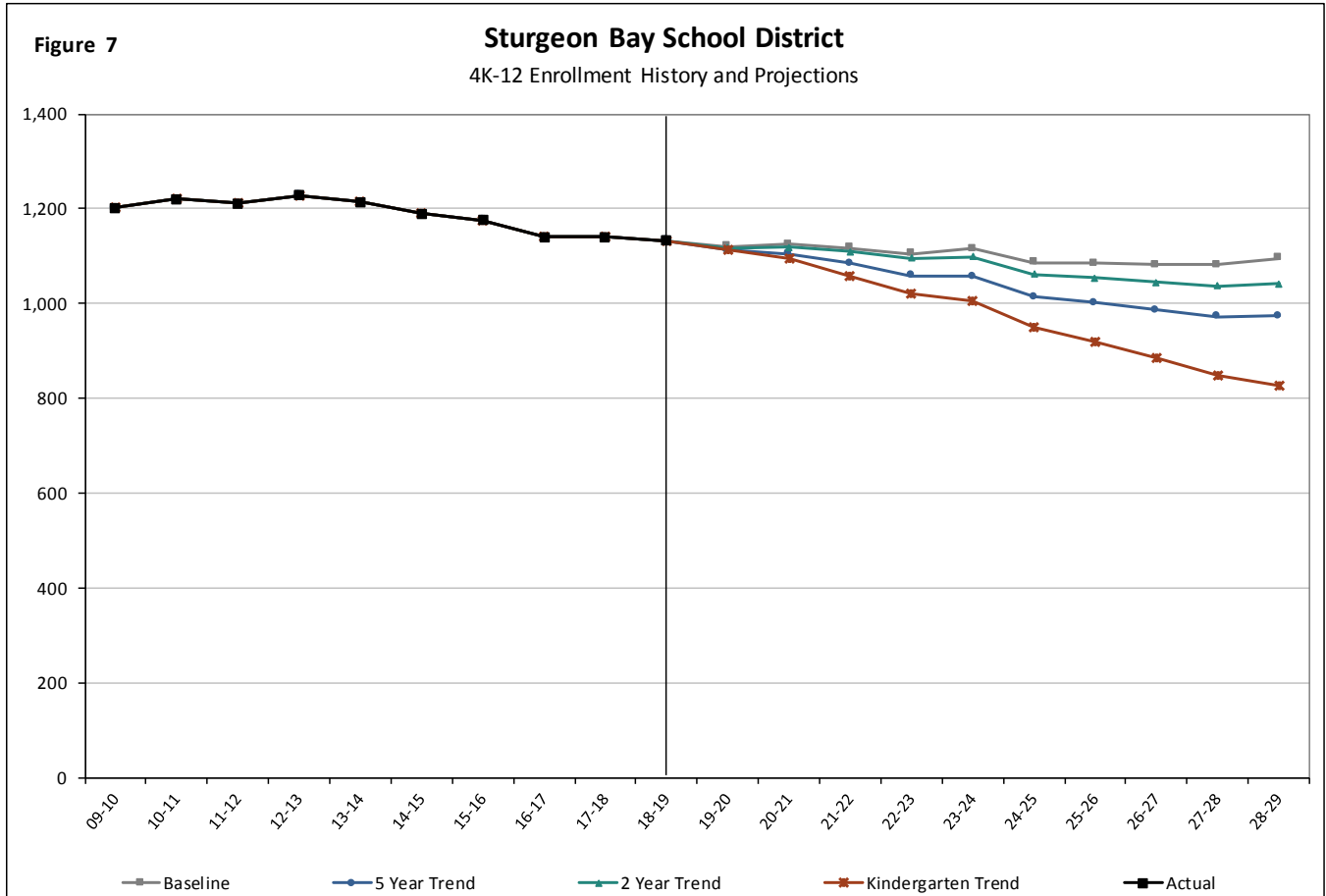
**TABLE 11**  
**Kindergarten Trend Projection Model**  
**Sturgeon Bay School District**

GRADE	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
4K	76	80	74	72	73	73	74	74	74	74
K	61	59	57	55	53	51	49	47	45	43
1	55	60	58	56	54	52	50	48	46	44
2	59	54	59	57	55	53	51	49	47	46
3	69	59	54	59	57	55	53	51	49	47
4	64	70	59	54	59	57	56	54	52	50
5	74	63	68	58	53	58	57	55	53	51
6	79	78	66	72	61	56	61	59	57	55
7	79	79	77	66	72	61	56	61	59	57
8	104	80	80	79	67	73	62	57	62	60
9	83	119	92	92	91	77	84	72	66	72
10	105	83	120	93	93	91	77	84	72	66
11	101	106	84	120	93	93	91	78	85	72
12	104	105	110	87	125	97	96	95	80	88
<b>TOTAL</b>	<b>1,112</b>	<b>1,095</b>	<b>1,059</b>	<b>1,021</b>	<b>1,007</b>	<b>949</b>	<b>919</b>	<b>885</b>	<b>849</b>	<b>827</b>
4K-K	138	140	131	128	127	125	123	121	119	117
1-2	114	114	117	113	109	106	102	98	94	90
3-5	206	191	181	171	170	171	165	159	154	148
6-8	261	237	223	216	200	190	180	178	179	173
9-12	393	414	406	392	401	358	349	329	303	298



## Comparison of Projection Models

Figures 7-12 and Tables 12-17 compare the four enrollment projection models broken down by total 4K-12 district enrollment and by grade groupings (4K-K, 1-2, 3-5, 6-8, and 9-12).



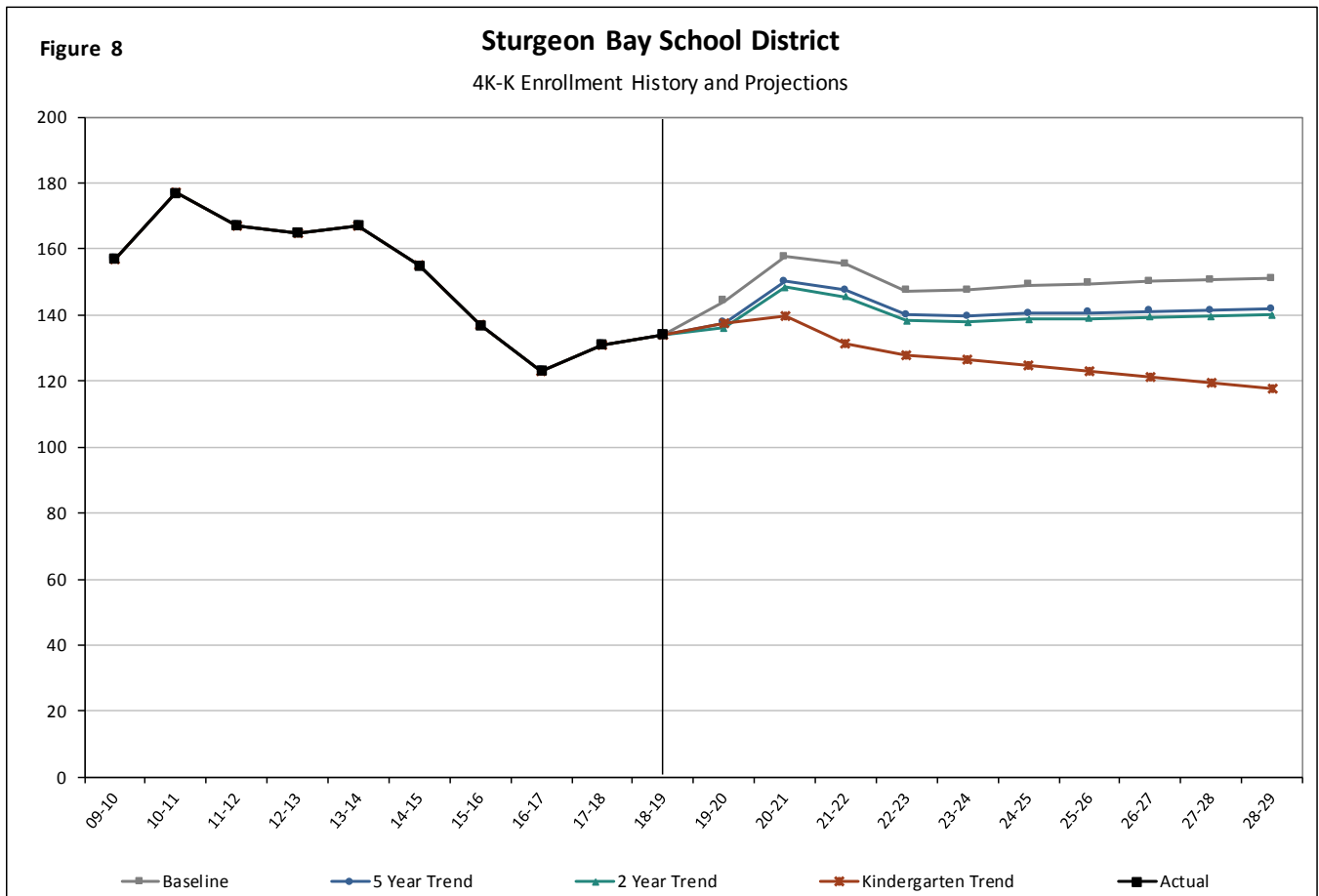
**TABLE 12**  
**Summary of 4K-12 Enrollment Projections**  
**Sturgeon Bay School District**

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Baseline	1,121	1,125	1,118	1,104	1,116	1,087	1,085	1,083	1,081	1,096
5 Year Trend	1,112	1,105	1,085	1,059	1,057	1,015	1,001	987	973	975
2 Year "Trend"	1,117	1,120	1,110	1,095	1,099	1,062	1,055	1,045	1,038	1,042
Kindergarten Trend	1,112	1,095	1,059	1,021	1,007	949	919	885	849	827

From the 2018/19 enrollment of 1,133, all models project 4K-12 enrollment will decline over the next five to ten years. The Kindergarten Trend model projects the greatest decline, while the Baseline model projects the least amount of decline. The projections five years from now (2023/24) range from 1,007 to 1,116 students.





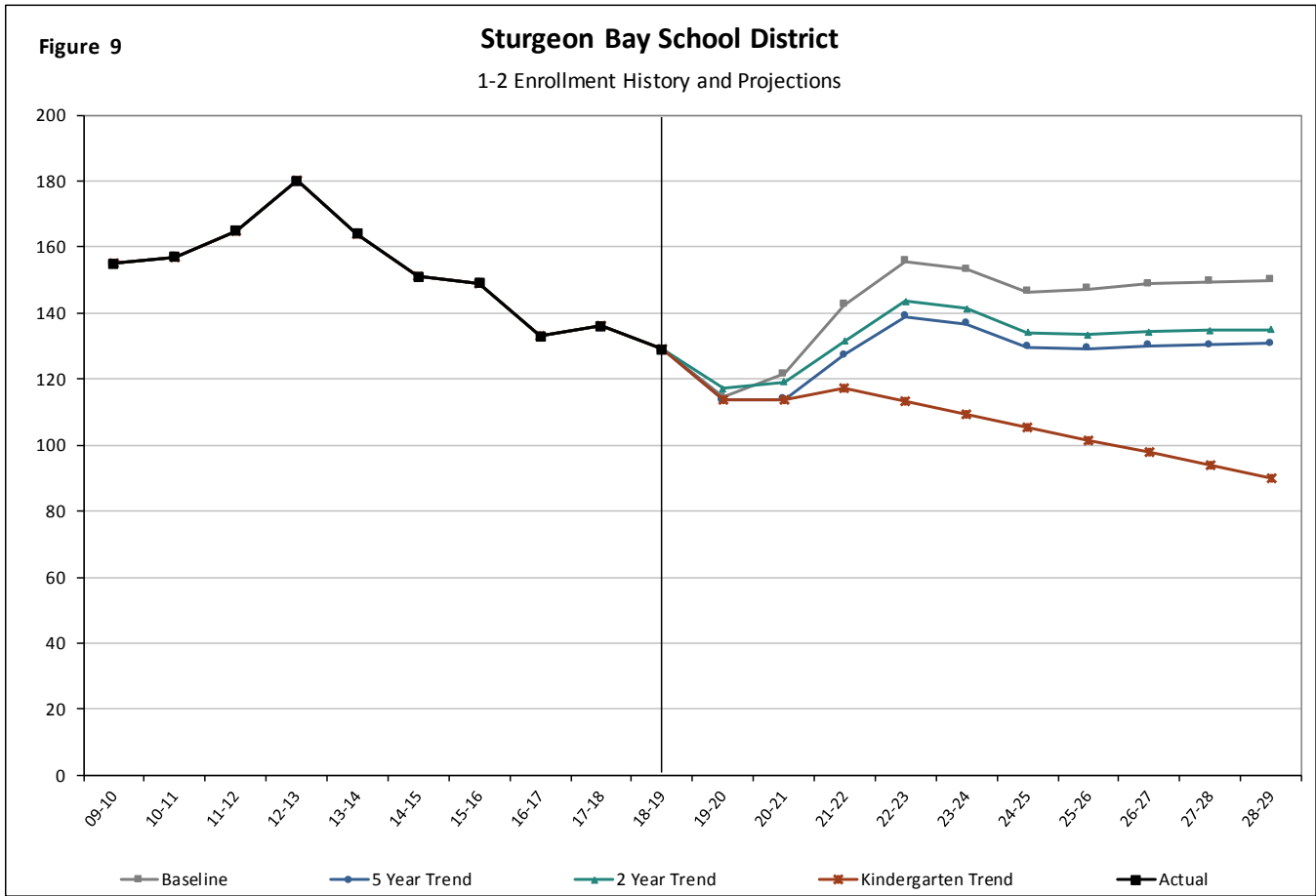


**TABLE 13**  
**Summary of 4K-K Enrollment Projections**  
**Sturgeon Bay School District**

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Baseline	144	158	155	147	148	149	150	150	151	151
5 Year Trend	138	150	147	140	140	140	141	141	141	142
2 Year "Trend"	136	148	146	138	138	139	139	139	140	140
Kindergarten Trend	138	140	131	128	127	125	123	121	119	117

From grades 4K-K current enrollment of 134 all models show increasing enrollment over the next two to three years. The Kindergarten Trend model projects decreasing enrollment over time, while the Baseline, Five Year, and Two Year trend models show enrollment leveling off over the long term. The projections five years from now range from 127 to 148 students.



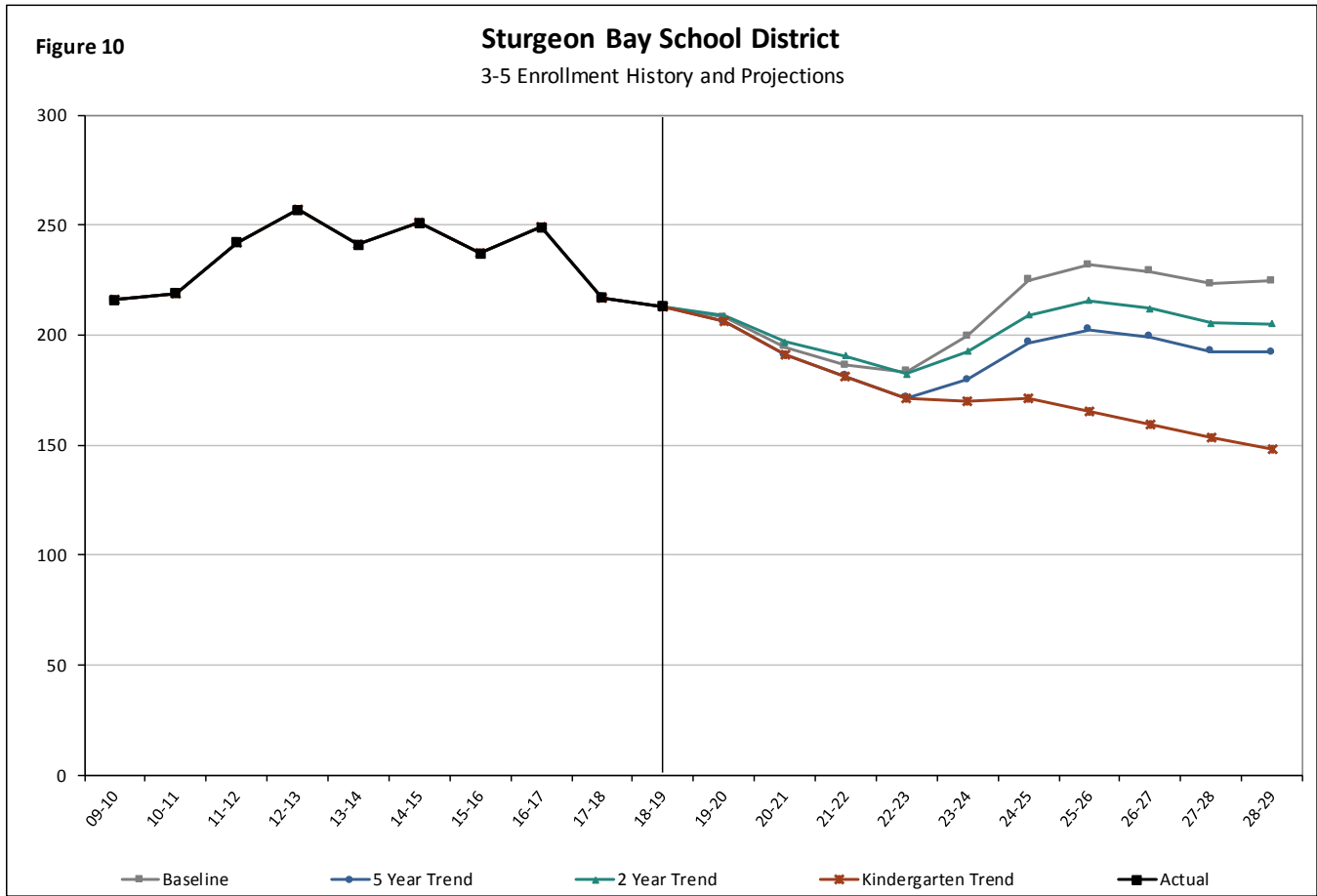


**TABLE 14**  
**Summary of 1-2 Enrollment Projections**  
**Sturgeon Bay School District**

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Baseline	115	122	142	156	153	146	147	149	149	150
5 Year Trend	114	114	127	139	137	130	129	130	130	131
2 Year "Trend"	117	119	131	144	141	134	133	134	135	135
Kindergarten Trend	114	114	117	113	109	106	102	98	94	90

From grades 1-2 current enrollment of 129 all models show decreasing enrollment over the next two years. The Kindergarten Trend model projects continued decreasing enrollment, while the Baseline, Five Year, and Two Year trend models show enrollment increasing then leveling off. The projections five years from now range from 109 to 153 students.



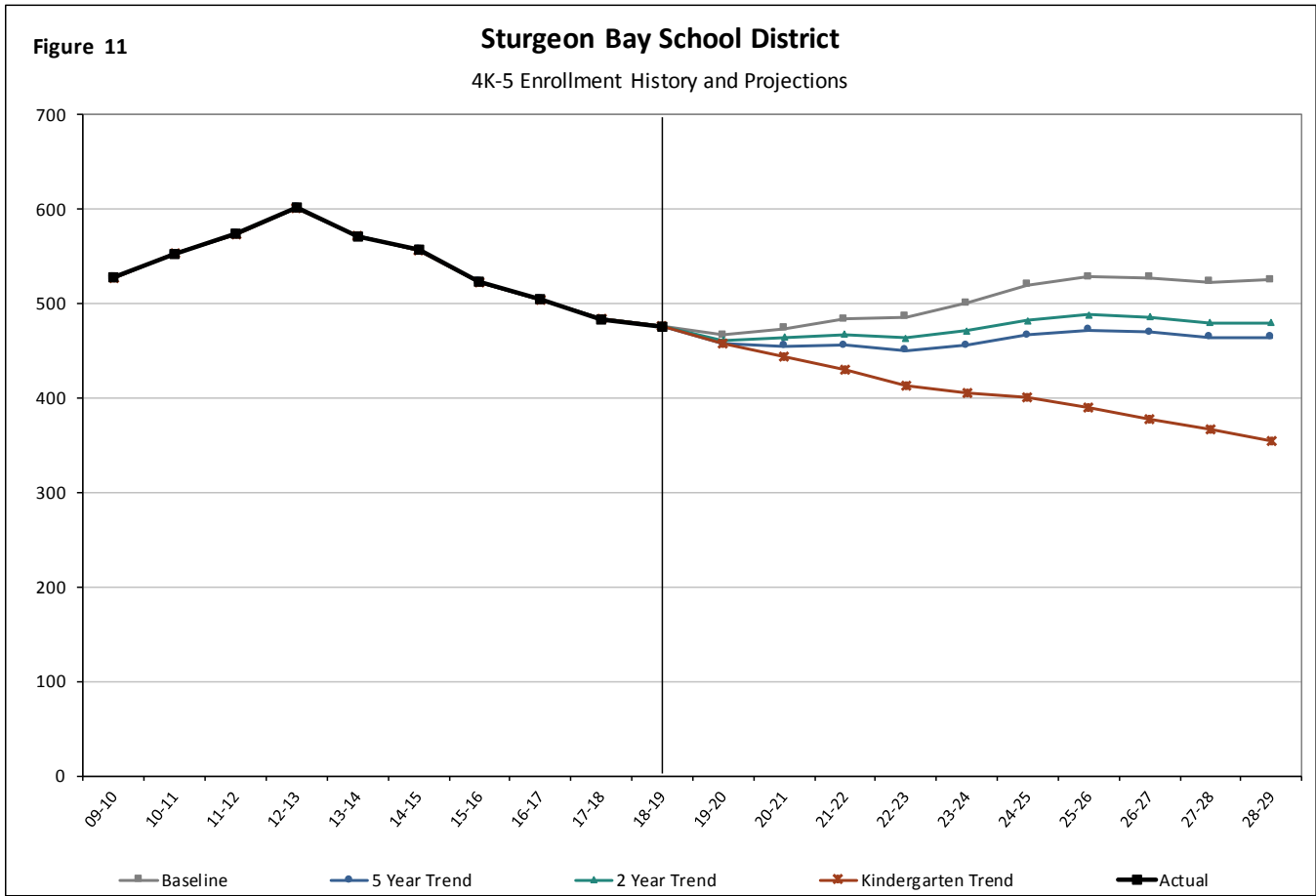


**TABLE 15**  
**Summary of 3-5 Enrollment Projections**  
**Sturgeon Bay School District**

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Baseline	208	194	186	183	200	225	232	229	223	224
5 Year Trend	206	191	181	171	180	196	202	199	193	192
2 Year "Trend"	209	197	191	182	193	209	216	212	205	205
Kindergarten Trend	206	191	181	171	170	171	165	159	154	148

From grades 3-5 current enrollment of 213 all models show decreasing enrollment over the next four years. The Kindergarten Trend model projects continued declining enrollment long term, while the Baseline, Five Year, and Two Year trend models show enrollment leveling off. The projections five years from now range from 170 to 200 students.



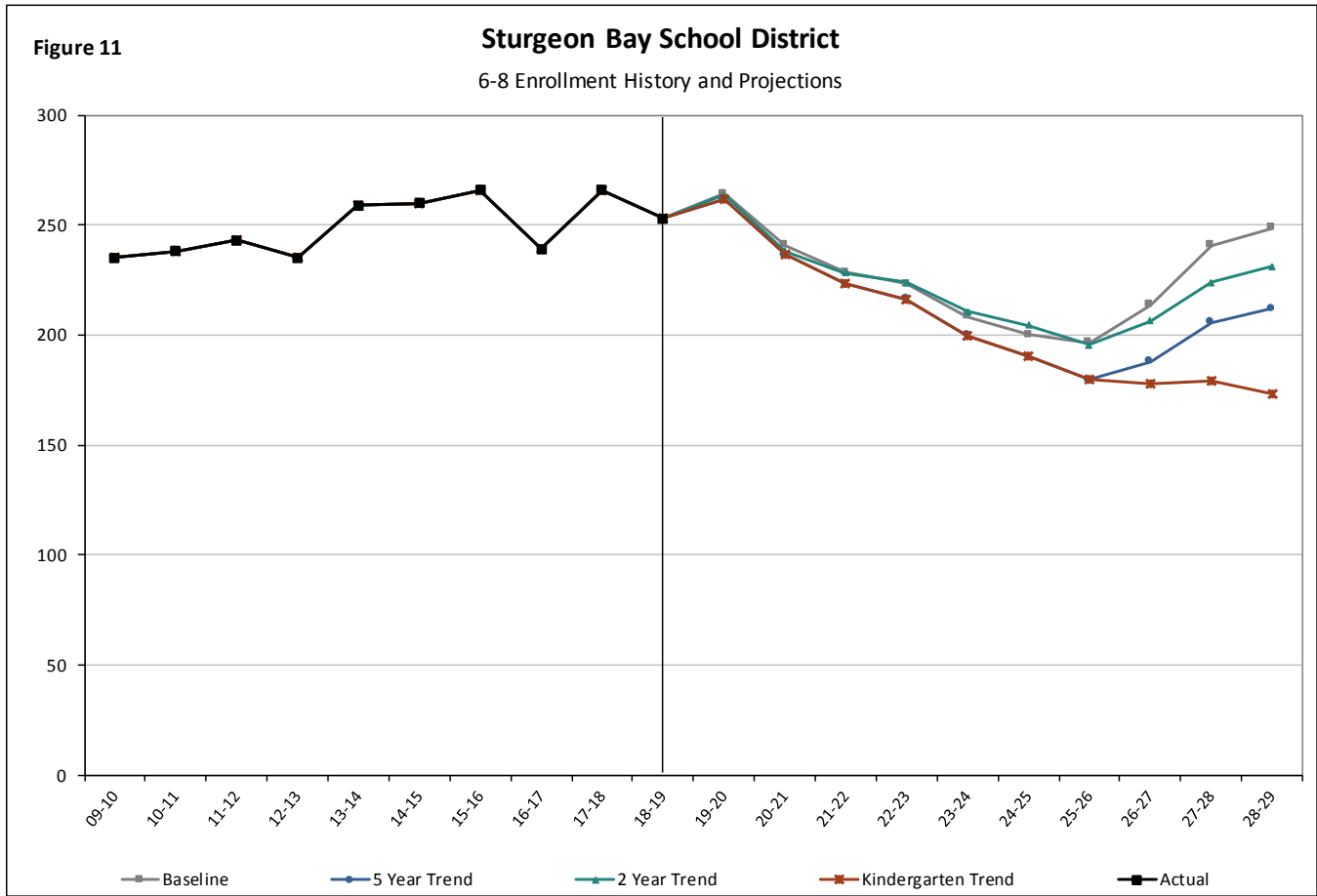


**TABLE 16**  
**Summary of 4K-5 Enrollment Projections**  
**Sturgeon Bay School District**

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Baseline	467	474	484	486	500	520	529	528	523	525
5 Year Trend	458	455	456	450	456	467	472	470	465	465
2 Year "Trend"	462	464	468	464	472	482	488	486	480	480
Kindergarten Trend	458	445	430	413	406	401	390	378	367	355

Current four-year-old kindergarten to fifth grade enrollment is 476. The Kindergarten Trend model projects decreasing enrollment, while the Baseline, Five Year, and Two Year trend models show enrollment increasing slightly then leveling off. The projections five years from now range from 406 to 500 students.



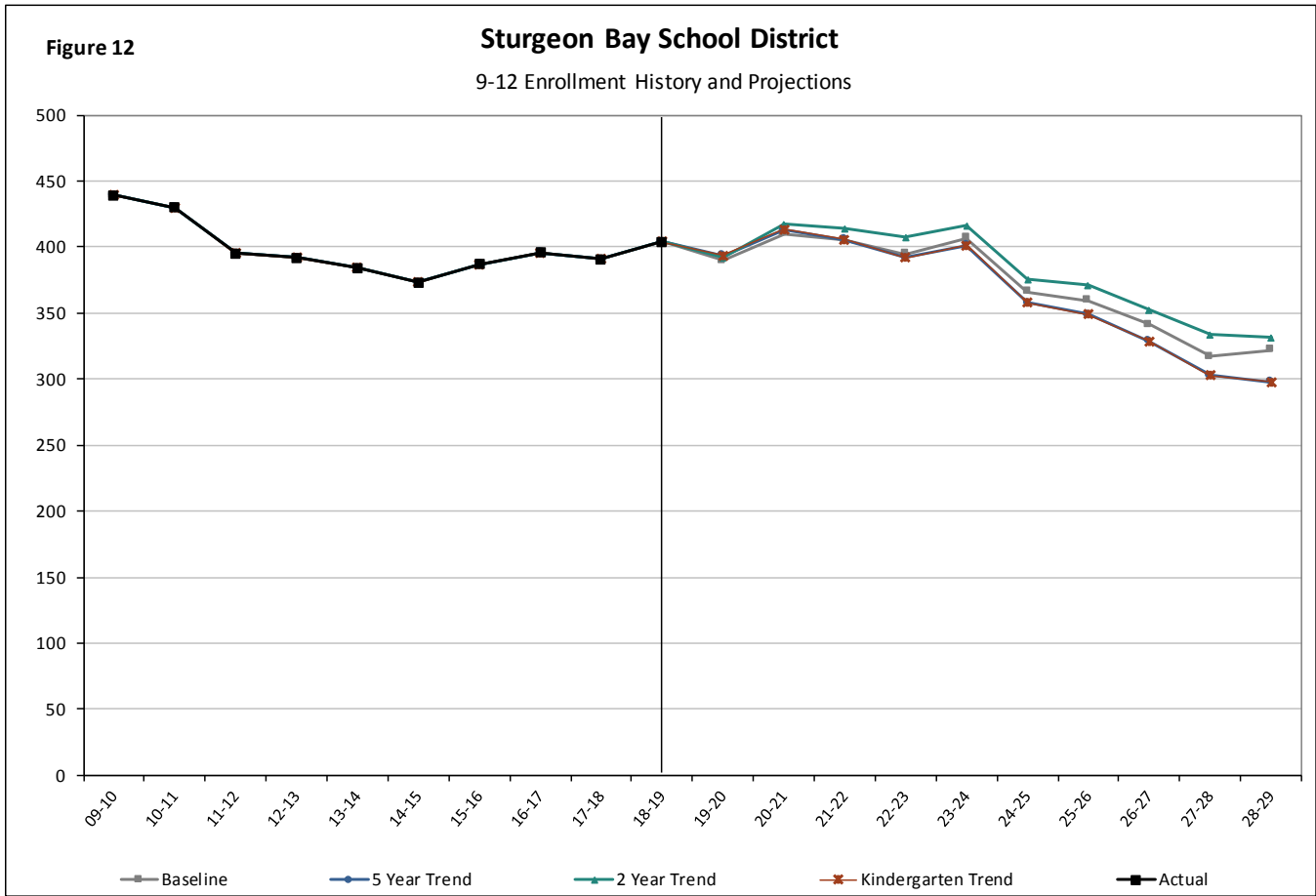


**TABLE 16**  
**Summary of 6-8 Enrollment Projections**  
**Sturgeon Bay School District**

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Baseline	264	241	229	223	208	200	197	214	241	249
5 Year Trend	261	237	223	216	200	190	180	188	206	212
2 Year "Trend"	264	238	228	224	211	204	195	206	224	231
Kindergarten Trend	261	237	223	216	200	190	180	178	179	173

From grades 6-8 current count of 253 students, all models show increasing enrollment next year followed by decline as smaller numbers of elementary students move to middle school. In five years, projections range from 200 to 211 students.





**TABLE 17**  
**Summary of 9-12 Enrollment Projections**  
**Sturgeon Bay School District**

	19-20	20-21	21-22	22-23	23-24	24-25	25-26	26-27	27-28	28-29
Baseline	390	410	405	395	407	366	359	341	317	322
5 Year Trend	393	414	406	392	401	358	349	329	303	298
2 Year "Trend"	392	417	414	407	416	375	371	352	334	331
Kindergarten Trend	393	414	406	392	401	358	349	329	303	298

From the high school 2018/19 count of 404 students, all models project steady enrollment for the next five years followed by decline. The projections five years from now (2023/24) range from 401 to 416 students.



## District Conclusions

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These district-level enrollment projections are based on models that incorporate past and current demographic information and the district's own enrollment. 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 reasonably 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 divergence is that birth trends, in-migration of pre-school age children, and transfers into the district are more difficult to predict, making meaningful incorporation into enrollment projections a challenge. As with nearly all types of forecasts, accuracy in these enrollment projections decreases over time.

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 migration patterns will erode these models' accuracy from the initiation point of the new pattern. Overall, the various projection models provide a realistic range of migration effects on the school district.

In sum, enrollment projections point to the Sturgeon Bay School District experiencing continued enrollment decline. The Baseline model projects less of a decline than the other models. Specifically the district might expect:

- Districtwide decline over the next five years will likely range from 17 to 126 students, averaging a decline of 1.5% to 11%.
- If kindergarten enrollment continues to decline, then 4K-5 enrollment will likely decrease by as much as 4 to 70 students in five years.
- Only the Baseline model which relies on long term births show enrollment increasing by 24 students in five years.
- As the current elementary students progress from grade to grade, the district's middle school will decrease and is projected to decline from 42 to 53 students over the next five years.
- High school enrollment is projected to gain as many as 12 students or lose only a few students over the next five years, and enrollment will likely decline in the long term.

The district should continue to monitor enrollment change, and compare it with these projections, to assess the district's trajectory of future growth and the best-fitting projection model.

