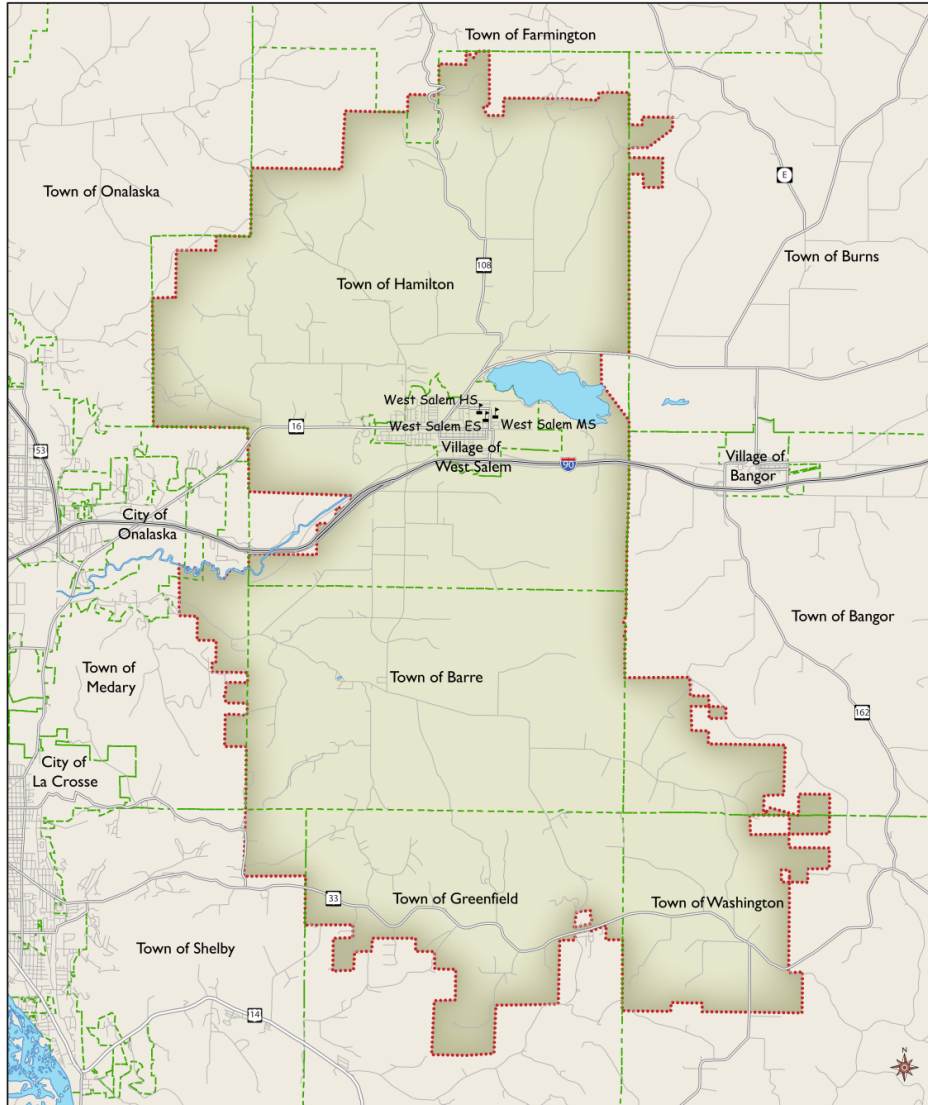


# Planning for the Schools of Tomorrow



West Salem School District

- West Salem Schools
- Municipalities
- School District
- Water

Prepared by the Applied Population Laboratory  
University of Wisconsin-Madison  
Department of Community & Environmental Sociology

## School Enrollment Projections Series West Salem School District

December 2010



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## Introduction

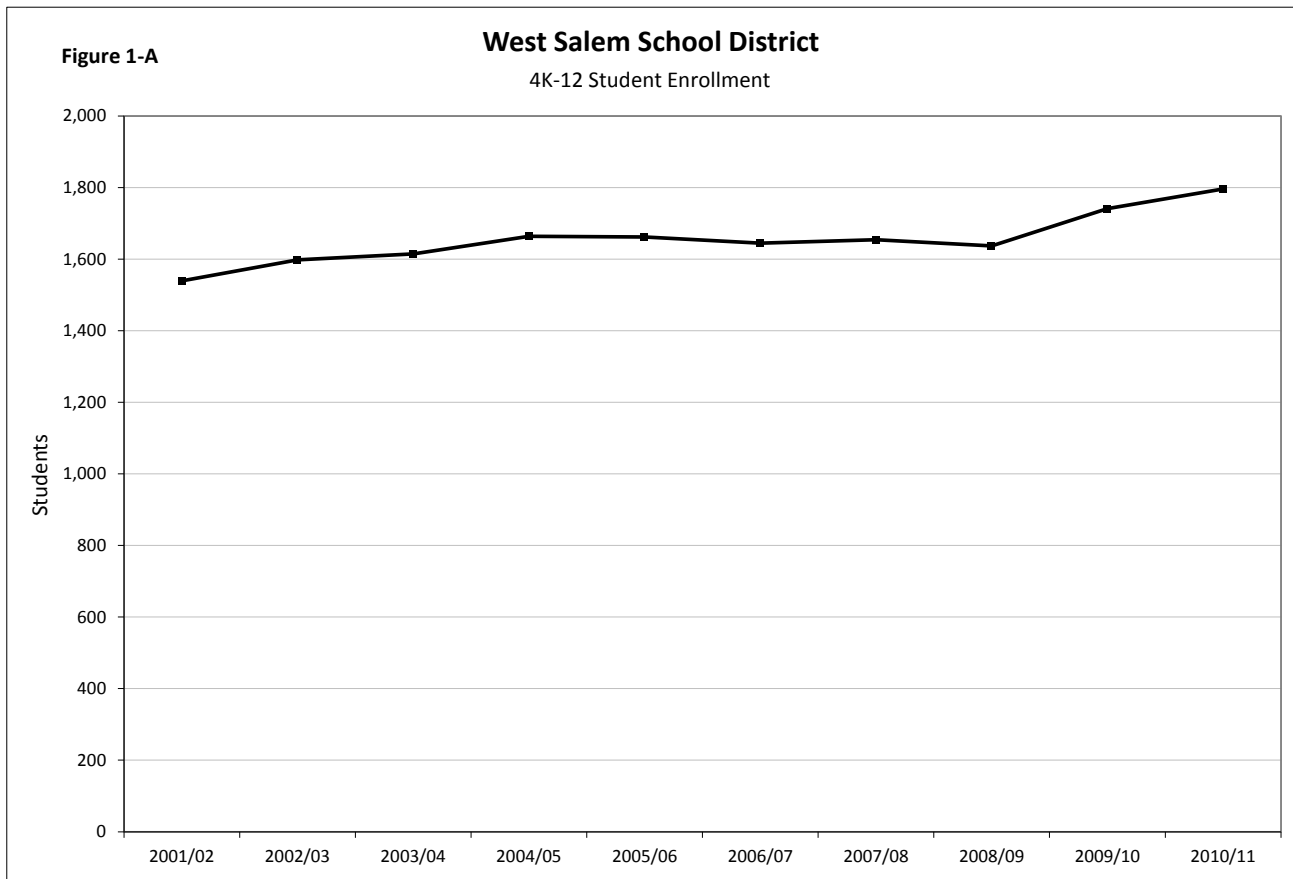
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This report offers a summary of the Enrollment Projection Analysis completed for the West Salem School District by the Applied Population Laboratory, University of Wisconsin-Madison. Projections (2011-2020) are provided for the district as a whole, 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, 2001-2010

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Figure 1-A and Tables 1 and 2 display the last ten years of enrollment history for grades 4K-12 in the West Salem School District. District 4K-12 enrollment has increased overall since 2001, from 1,539 students in the 2001/02 school year to 1,796 students in 2010/11. This is a net gain of 257 students, or a 16.7% increase in the number of students enrolled over ten years. The 4K program in the district began in 2009, which helped to increase the total enrollment.



**TABLE 1**  
**Student Enrollment**  
**West Salem School District**

	SCHOOL YEAR									
	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11
4K									94	93
K	114	125	114	130	123	110	114	104	120	138
1	94	122	130	115	137	126	110	104	107	122
2	134	102	123	121	109	131	125	110	103	113
3	110	135	99	128	125	123	133	133	119	111
4	104	115	138	105	128	129	119	133	136	121
5	129	105	117	140	106	128	127	120	136	140
6	120	131	107	124	146	107	129	130	123	143
7	124	127	139	112	124	143	114	136	130	132
8	121	124	127	138	114	115	148	112	138	135
9	131	135	133	134	144	124	126	151	121	148
10	118	133	133	136	132	142	127	128	155	114
11	125	118	131	141	135	131	147	126	134	157
12	115	126	124	140	139	136	135	150	125	129
<b>4K-12</b>	<b>1,539</b>	<b>1,598</b>	<b>1,615</b>	<b>1,664</b>	<b>1,662</b>	<b>1,645</b>	<b>1,654</b>	<b>1,637</b>	<b>1,741</b>	<b>1,796</b>
K-5	685	704	721	739	728	747	728	704	721	745
6-8	365	382	373	374	384	365	391	378	391	410
9-12	489	512	521	551	550	533	535	555	535	548

**TABLE 2**  
**Student Enrollment Changes**  
**West Salem School District**

GRADE	ABSOLUTE CHANGE			PERCENT CHANGE			AVERAGE ANNUAL PERCENT CHANGE		
	'01 to '10	'01 to '05	'06 to '10	'01 to '10	'01 to '05	'06 to '10	'01 to '10	'01 to '05	'06 to '10
K	24	9	28	21.1	7.9	25.5	2.3	2.0	6.4
1	28	43	-4	29.8	45.7	-3.2	3.3	11.4	-0.8
2	-21	-25	-18	-15.7	-18.7	-13.7	-1.7	-4.7	-3.4
3	1	15	-12	0.9	13.6	-9.8	0.1	3.4	-2.4
4	17	24	-8	16.3	23.1	-6.2	1.8	5.8	-1.6
5	11	-23	12	8.5	-17.8	9.4	0.9	-4.5	2.3
6	23	26	36	19.2	21.7	33.6	2.1	5.4	8.4
7	8	0	-11	6.5	0.0	-7.7	0.7	0.0	-1.9
8	14	-7	20	11.6	-5.8	17.4	1.3	-1.4	4.3
9	17	13	24	13.0	9.9	19.4	1.4	2.5	4.8
10	-4	14	-28	-3.4	11.9	-19.7	-0.4	3.0	-4.9
11	32	10	26	25.6	8.0	19.8	2.8	2.0	5.0
12	14	24	-7	12.2	20.9	-5.1	1.4	5.2	-1.3
<b>4K-12</b>	<b>257</b>	<b>123</b>	<b>151</b>	<b>16.7</b>	<b>8.0</b>	<b>9.2</b>	<b>1.9</b>	<b>2.0</b>	<b>2.3</b>
K-5	60	43	-2	8.8	6.3	-0.3	1.0	1.6	-0.1
6-8	45	19	45	12.3	5.2	12.3	1.4	1.3	3.1
9-12	59	61	15	12.1	12.5	2.8	1.3	3.1	0.7



Figure 1-B shows enrollment history broken down by grade groupings (K-5, 6-8, 9-12). All grade groupings have increased since the 2001/02 school year. From 2001-2005, the elementary school enrollment increased by 43 students (6.3%), the middle school grades (6-8) only gained 19 students (5.2%), and grades 9-12 increased the most with 61 students (12.5%). In the second half of the decade, grades 6-8 were the only grade grouping that saw any substantial enrollment increase.

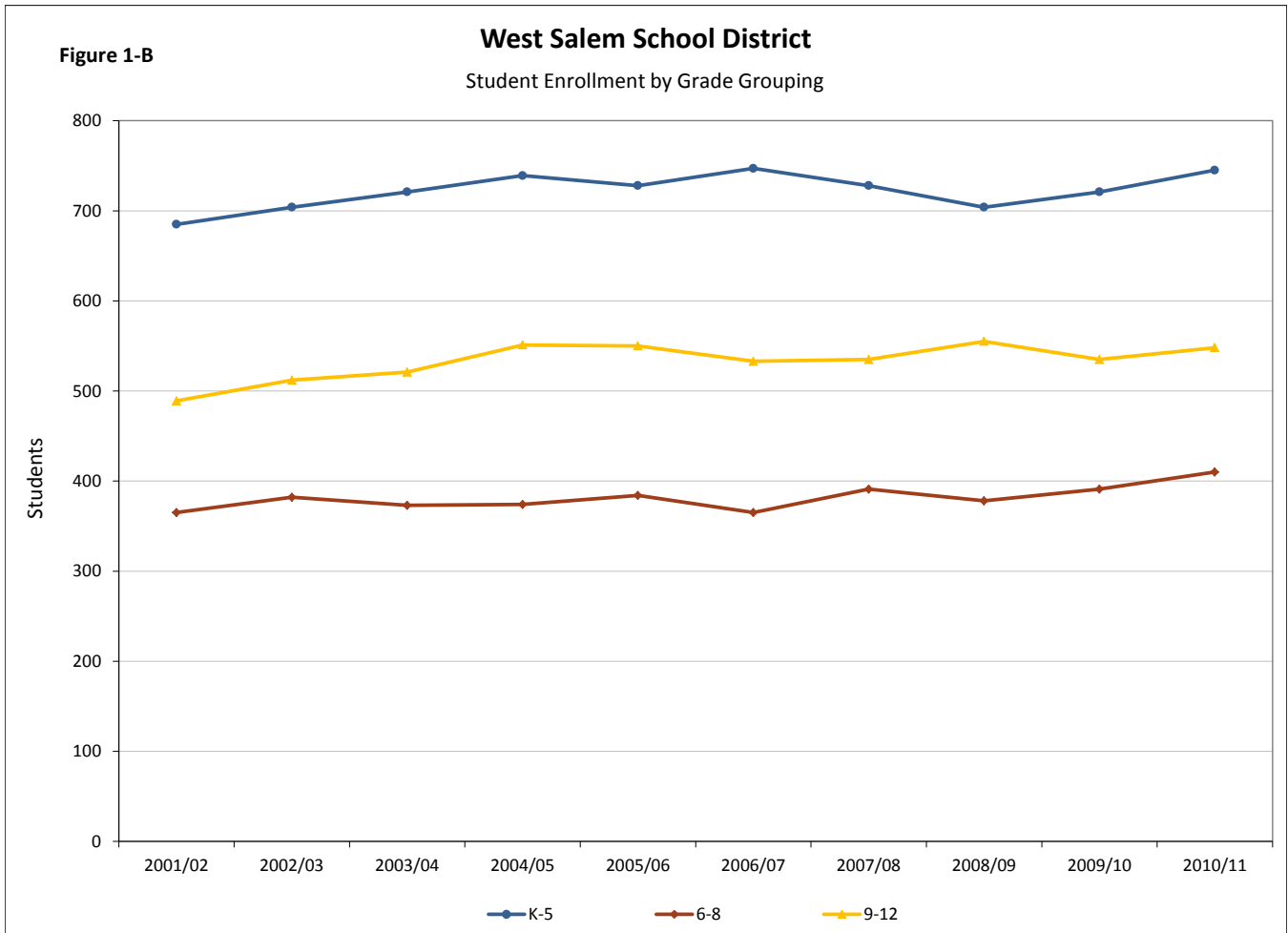
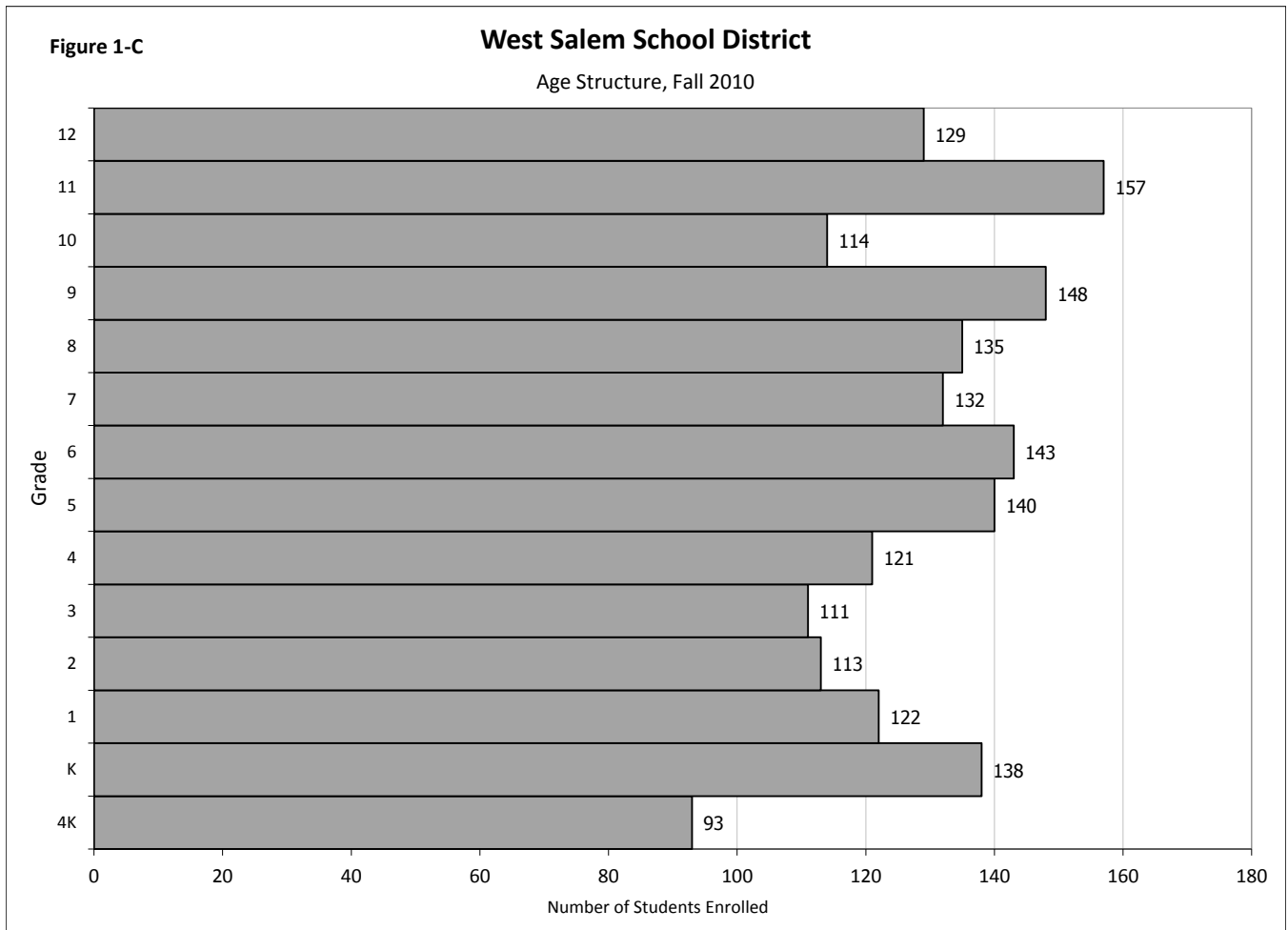
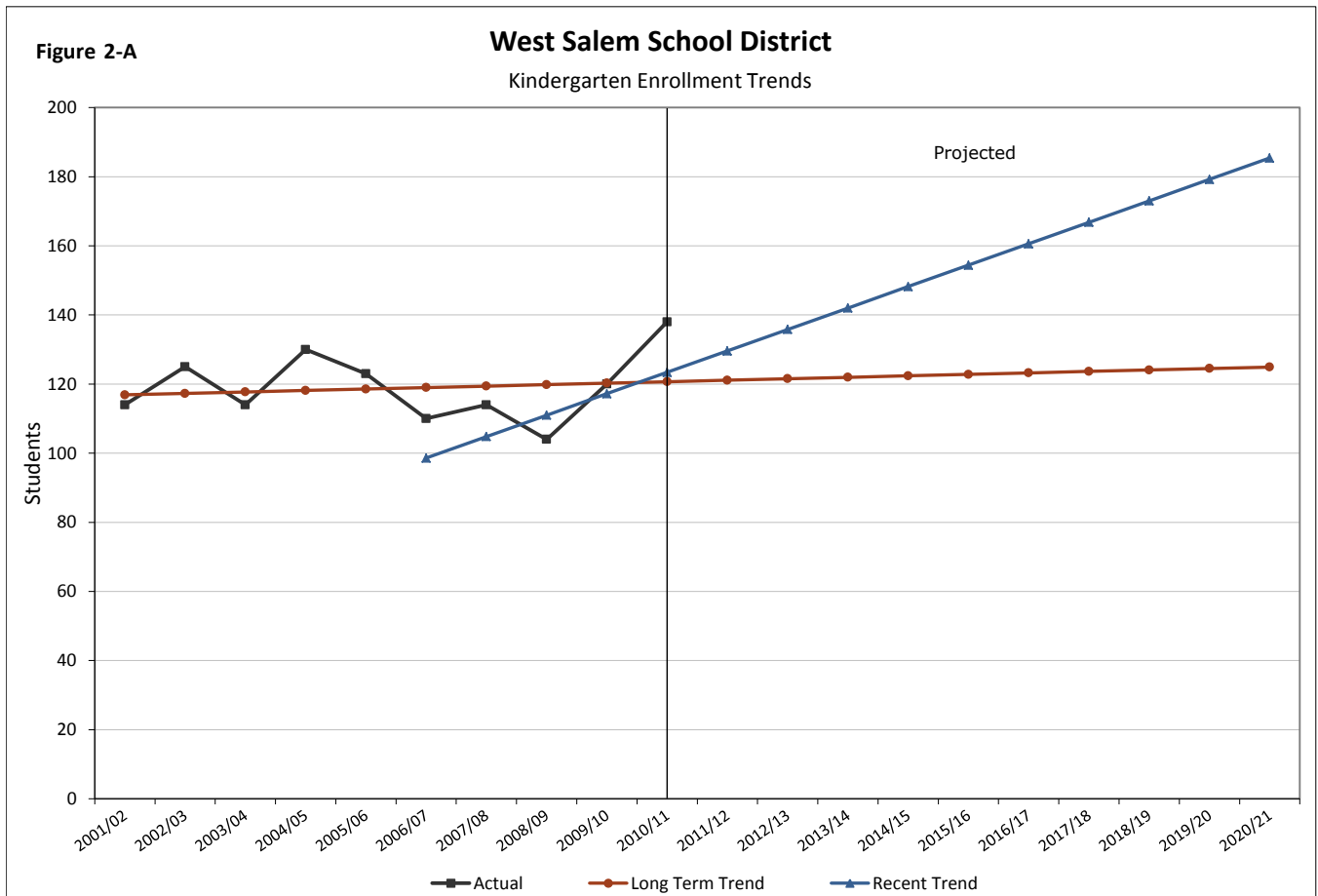


Figure 1-C shows the age structure in the fall of 2010 of the student population for the West Salem School District with the number of 4 year old kindergartners at the bottom and the number of 12<sup>th</sup> graders at the top. The largest cohort of students is the 11<sup>th</sup> graders, with 157 students, while the smallest is the 4 year old kindergartners with 93 students.

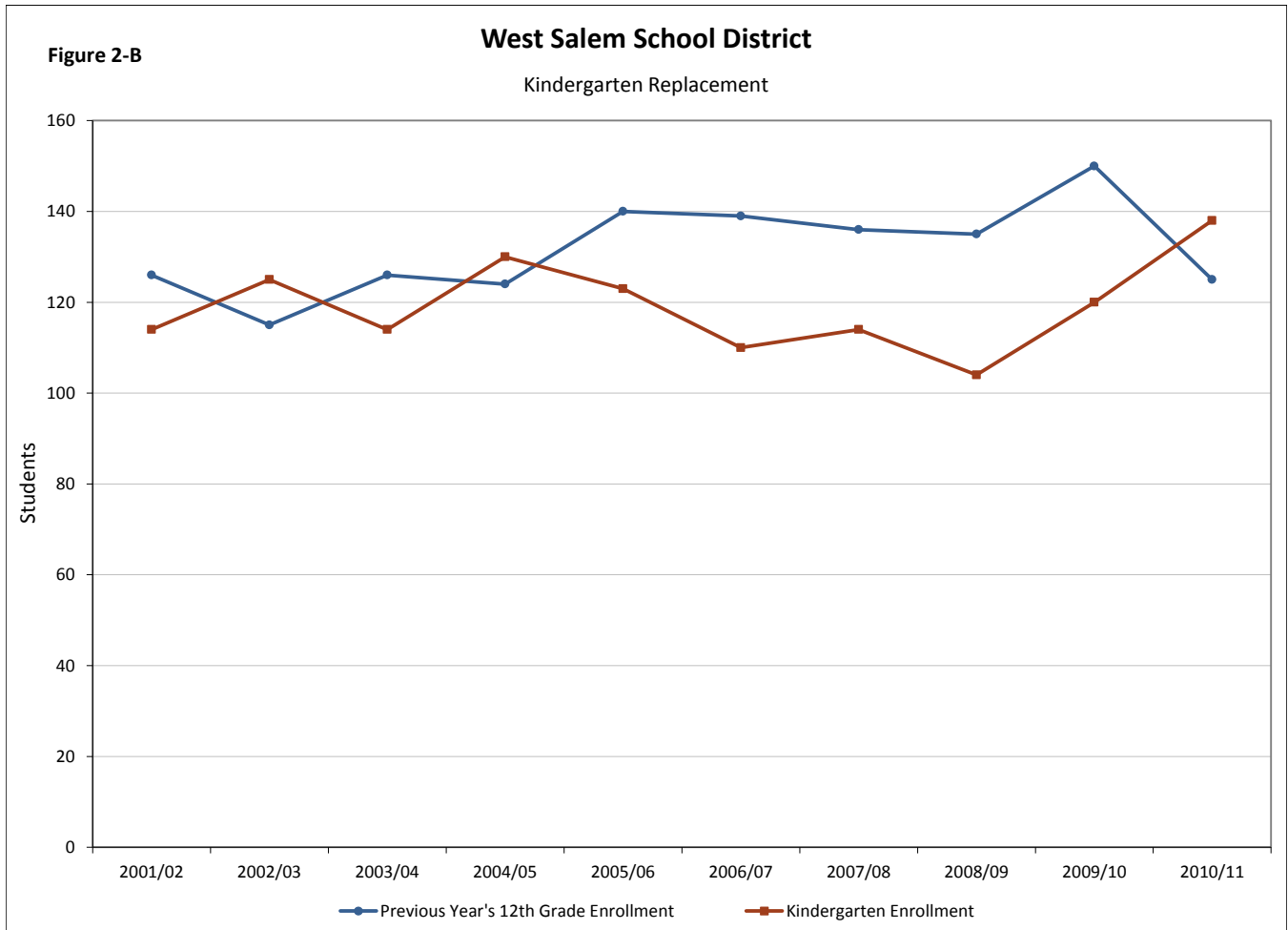


## Kindergarten Trends and Projections

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. When kindergarten enrollment is increasing, elementary school enrollment might be expected to increase in the near future while middle school and high school enrollment will increase further into 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 2001 and 2010. The "Recent Trend" line (shown in blue) emphasizes kindergarten enrollment changes over the last five years. Both trends indicate increasing kindergarten enrollment, but the recent trend shows a more significant increase.

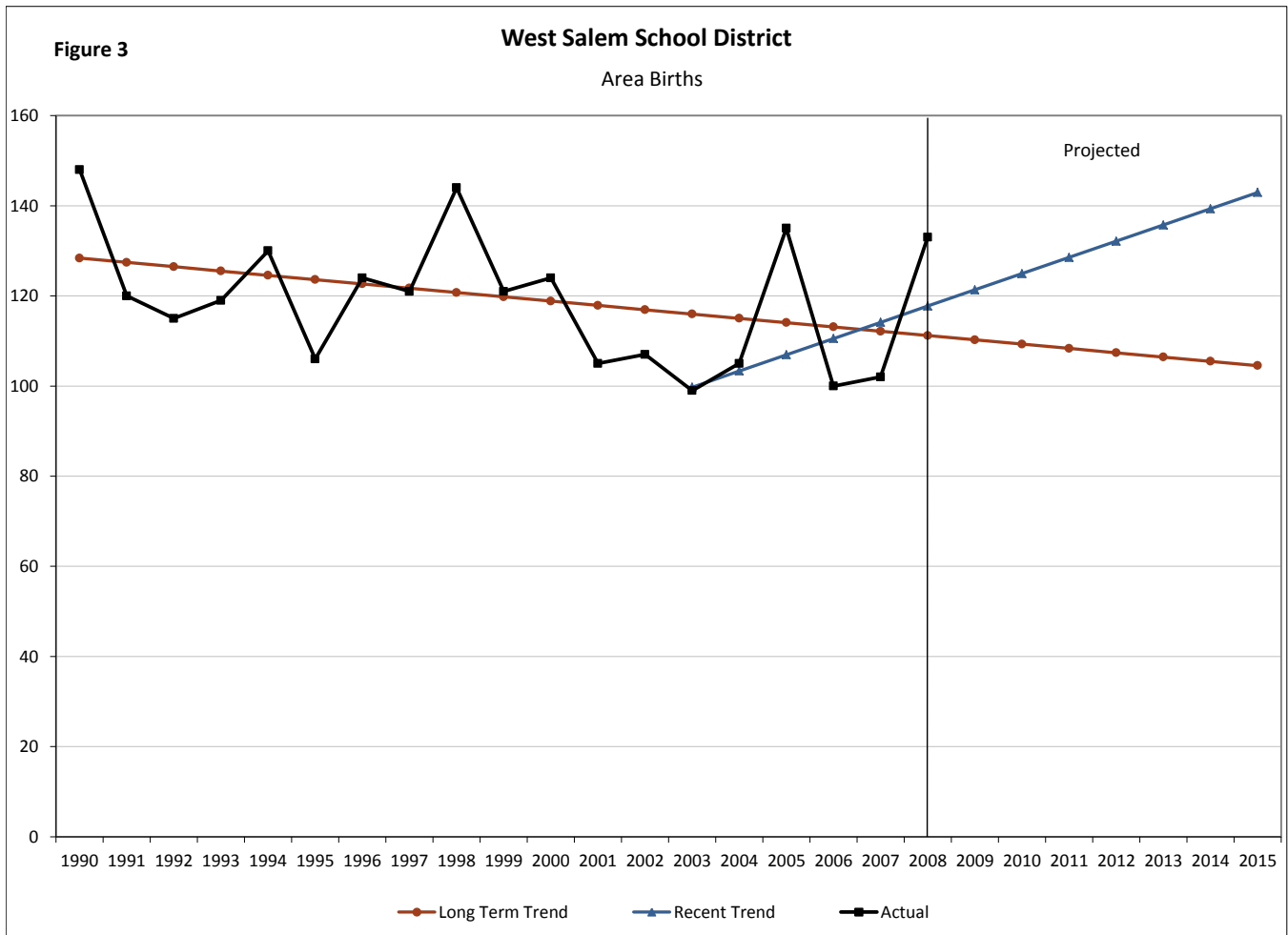


In addition to examining kindergarten enrollment on its own, comparing kindergarten enrollment to outgoing 12<sup>th</sup> graders offers a snapshot of how the age structure of district enrollment is shifting either from older to younger, or younger to older. A district may experience overall growth when kindergarten enrollment outpaces outgoing 12<sup>th</sup> grade students, and they tend to experience decline when kindergartners do not fully replace the number of graduates. At the beginning of the decade, there was a fluctuation between a higher number of kindergartners versus 12<sup>th</sup> graders, but for the past couple of years (except this year), there were fewer incoming kindergartners than outgoing 12<sup>th</sup> graders from the previous year.



## Birth Trends and Projections

Historical and projected birth data is used to forecast kindergarten students who will enroll in the schools of the West Salem School District. Figure 3 shows (in black) the number of births to mothers living in the municipalities that fall within school district boundaries, by year, from 1900-2008, as collected from the Wisconsin Department of Health Services. We count resident births from the Village of West Salem and the Towns of Barre, Greenfield, Hamilton, and Washington. The red line represents birth trends over the long term and the blue line examines birth patterns for the last six years. Long term birth trends are decreasing while the recent birth trends indicate a significant increase in births over time.



<b>Year</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
<b># of Births</b>	148	120	115	119	130	106	124	121	144	121
<b>Year</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	
<b># of Births</b>	124	105	107	99	105	135	100	102	133	

Source: WI Department of Health Services



## Population Estimates and Projections

This section examines population trends of the recent past and projected population change into the future for municipalities that fall within the West Salem 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 provides Wisconsin Department of Administration (DOA) estimates for district area municipalities from 1980 to 2010. These municipal estimates can be compared with estimates for La Crosse County and the State of Wisconsin. General population growth occurred from 2000 to 2010, increasing by 9.4%, a higher rate as compared to the county and the state in the last 10 years.

**TABLE 3**  
**Population of Municipalities: 1980-2010**  
**West Salem School District**

Municipality	POPULATION						
	Census 1980	est. 1985	Census 1990	est. 1995	Census 2000	est. 2005	est. 2010
T.Bangor	572	550	598	615	583	602	598
T.Barre	901	905	909	902	1,014	1,118	1,211
T.Greenfield	1,537	1,737	1,617	1,656	1,538	1,705	1,783
T.Hamilton	1,472	1,635	1,633	1,748	2,103	2,365	2,448
T.Washington	611	626	598	602	738	750	757
V.West Salem	3,276	3,642	3,611	3,950	4,738	4,789	4,925
<b>District Area</b>	<b>8,369</b>	<b>9,095</b>	<b>8,966</b>	<b>9,473</b>	<b>10,714</b>	<b>11,329</b>	<b>11,722</b>
La Crosse County	91,056	96,632	97,904	102,269	107,120	110,128	113,758
State of Wisconsin	4,705,642	4,779,021	4,891,769	5,101,581	5,363,715	5,580,757	5,693,476

Municipality	PERCENT CHANGE						AVG. ANNUAL 2000-2010
	1980 to 1985	1985 to 1990	1990 to 1995	1995 to 2000	2000 to 2005	2005 to 2010	
T.Bangor	-3.8%	8.7%	2.8%	-5.2%	3.3%	-0.7%	0.3%
T.Barre	0.4%	0.4%	-0.8%	12.4%	10.3%	8.3%	2.2%
T.Greenfield	13.0%	-6.9%	2.4%	-7.1%	10.9%	4.6%	1.8%
T.Hamilton	11.1%	-0.1%	7.0%	20.3%	12.5%	3.5%	1.8%
T.Washington	2.5%	-4.5%	0.7%	22.6%	1.6%	0.9%	0.3%
V.West Salem	11.2%	-0.9%	9.4%	19.9%	1.1%	2.8%	0.4%
<b>District Area</b>	<b>8.7%</b>	<b>-1.4%</b>	<b>5.7%</b>	<b>13.1%</b>	<b>5.7%</b>	<b>3.5%</b>	<b>1.0%</b>
La Crosse County	6.1%	1.3%	4.5%	4.7%	2.8%	3.3%	0.7%
State of Wisconsin	1.6%	2.4%	4.3%	5.1%	4.0%	2.0%	0.7%

Source: Official Population Estimates (1990-2009). Demographic Services Center, WIDOA



Population projections to 2025 for the district area are provided in Table 4. These projections were completed prior to the economic recession and are potentially over-projecting the general population.

**TABLE 4**  
**Population Projections of Municipalities: 2000-2025**  
**West Salem School District**

Municipality	POPULATION					CHANGE 2000 to 2025
	Census 2000	est. 2010	Projections			
			2015	2020	2025	
T.Bangor	583	598	619	627	634	51
T.Barre	1,014	1,211	1,264	1,337	1,407	393
T.Greenfield	1,538	1,783	1,858	1,937	2,009	471
T.Hamilton	2,103	2,448	2,829	3,058	3,279	1,176
T.Washington	738	757	804	833	860	122
V.West Salem	4,738	4,925	5,262	5,509	5,740	1,002
<b>District Area</b>	<b>10,714</b>	<b>11,722</b>	<b>12,636</b>	<b>13,301</b>	<b>13,929</b>	<b>3,215</b>
La Crosse County	107,120	113,758	116,465	119,783	122,764	15,644
State of Wisconsin	5,363,715	5,693,476	5,988,420	6,202,810	6,390,900	1,027,185

Municipality	PERCENT CHANGE			
	2010-15	2015-20	2020-25	2000-25
T.Bangor	3.5%	1.3%	1.1%	8.7%
T.Barre	4.4%	5.8%	5.2%	38.8%
T.Greenfield	4.2%	4.3%	3.7%	30.6%
T.Hamilton	15.6%	8.1%	7.2%	55.9%
T.Washington	6.2%	3.6%	3.2%	16.5%
V.West Salem	6.8%	4.7%	4.2%	21.1%
<b>District Area</b>	<b>7.8%</b>	<b>5.3%</b>	<b>4.7%</b>	<b>30.0%</b>
La Crosse County	2.4%	2.8%	2.5%	14.6%
State of Wisconsin	5.2%	3.6%	3.0%	19.2%

Municipality	ANNUAL RATE OF CHANGE			
	2010-15	2015-20	2020-25	2000-25
T.Bangor	0.9%	0.3%	0.3%	0.4%
T.Barre	1.1%	1.4%	1.3%	1.6%
T.Greenfield	1.1%	1.1%	0.9%	1.3%
T.Hamilton	3.9%	2.0%	1.8%	2.3%
T.Washington	1.6%	0.9%	0.8%	0.7%
V.West Salem	1.7%	1.2%	1.0%	0.9%
<b>District Area</b>	<b>1.9%</b>	<b>1.3%</b>	<b>1.2%</b>	<b>1.3%</b>
La Crosse County	0.6%	0.7%	0.6%	0.6%
State of Wisconsin	1.3%	0.9%	0.8%	0.8%

Source: Population Projections for Wisconsin Municipalities: 2000-35 (2008)  
 Demographic Services Center, WIDOA



Table 5 shows population projections by age for La Crosse County. Because these projections are for the entirety of the county, they may or may not resemble the future age structure of the population within the West Salem School District. Population projections indicate the growth of school age populations.

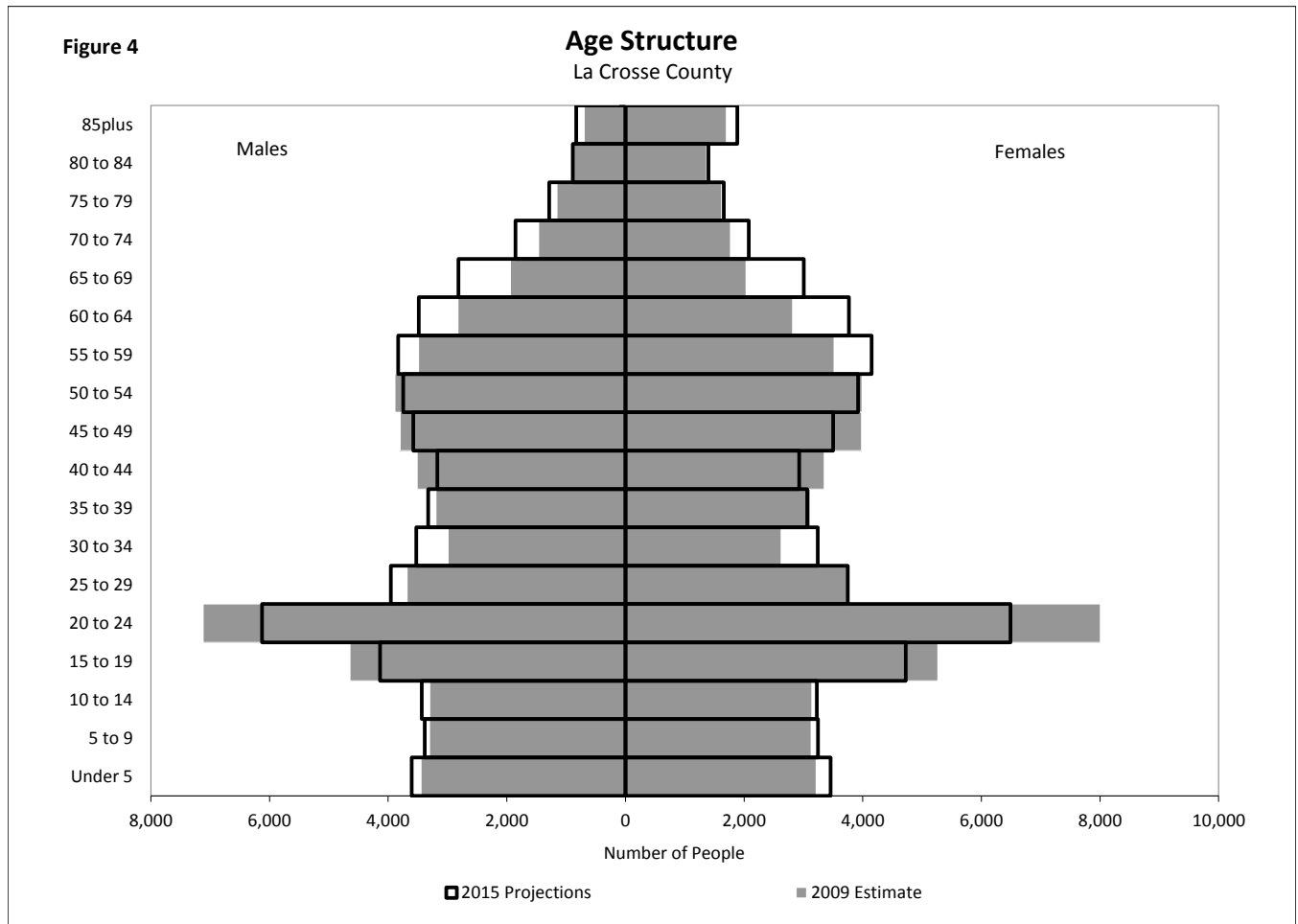
**TABLE 5**  
**Population Projections by Age: 2010-2035**  
**West Salem School District**

<b>La Crosse County</b>						
<b>Age Group</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
0-4	6,541	7,062	7,449	7,560	7,602	7,714
5-9	6,308	6,629	7,180	7,539	7,613	7,642
10-14	6,709	6,661	7,011	7,542	7,865	7,914
15-19	9,747	8,863	8,682	8,985	9,515	9,823
20-24	12,696	12,615	11,415	10,959	11,210	11,777
25-29	7,461	7,704	7,694	6,920	6,623	6,760
30-34	6,358	6,767	7,015	6,984	6,252	5,979
35-39	6,022	6,392	6,822	7,042	6,981	6,241
40-44	7,011	6,100	6,499	6,895	7,083	7,014
45-49	7,667	7,074	6,181	6,561	6,919	7,097
50-54	8,074	7,667	7,108	6,195	6,555	6,901
55-59	7,453	7,982	7,616	7,058	6,137	6,499
60-64	6,070	7,251	7,808	7,446	6,895	6,000
65-69	4,163	5,822	6,994	7,541	7,195	6,691
70-74	3,355	3,932	5,533	6,676	7,238	6,951
75-79	2,785	2,945	3,469	4,898	5,938	6,486
80-84	2,268	2,285	2,443	2,882	4,088	5,001
85-89	1,459	1,486	1,528	1,652	1,959	2,812
90-94	785	904	941	990	1,085	1,303
95-99	213	262	313	336	363	409
100 & Over	44	62	82	103	118	133
<b>Totals</b>	<b>113,189</b>	<b>116,465</b>	<b>119,783</b>	<b>122,764</b>	<b>125,234</b>	<b>127,147</b>

Source: Population Projections for Wisconsin Counties: 2000-35 (2008). Demographic Services Center, WIDOA



Figure 4 shows population estimates for 2009 by age for La Crosse County from the U.S. Census Bureau and population projections for 2015 produced by the Wisconsin Department of Administration Demographic Services Center. Population projections indicate the some growth of school age populations during this time period.



## Residential Development

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Examining trends in recent housing development can help to explain how in-migration into the West Salem 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 decrease significantly outside recent levels, in-migration may slow in the school district. 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. Table 6 shows the number of housing starts in the West Salem School District area over the last ten years.



**TABLE 6**  
**School District Area Housing Starts**  
**West Salem School District**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>District Area</b>										
<b>TOTAL</b>	<b>77</b>	<b>80</b>	<b>71</b>	<b>81</b>	<b>78</b>	<b>69</b>	<b>80</b>	<b>56</b>	<b>38</b>	<b>47</b>
<b>Single Family</b>	<b>56</b>	<b>62</b>	<b>69</b>	<b>79</b>	<b>76</b>	<b>53</b>	<b>61</b>	<b>43</b>	<b>24</b>	<b>35</b>
<b>Two Family</b>	<b>6</b>	<b>18</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>16</b>	<b>19</b>	<b>8</b>	<b>14</b>	<b>12</b>
<b>Multi-family</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>
<b>T.Bangor</b>										
<b>TOTAL</b>	<b>4</b>	<b>4</b>	<b>1</b>	<b>5</b>	<b>6</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>4</b>
Single Family	4	4	1	5	6	4	2	2	2	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
<b>T.Barre</b>										
<b>TOTAL</b>	<b>4</b>	<b>12</b>	<b>8</b>	<b>20</b>	<b>12</b>	<b>12</b>	<b>14</b>	<b>4</b>	<b>4</b>	<b>3</b>
Single Family	4	12	8	20	12	12	12	4	4	3
Two Family	0	0	0	0	0	0	2	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
<b>T.Greenfield</b>										
<b>TOTAL</b>	<b>14</b>	<b>23</b>	<b>27</b>	<b>23</b>	<b>23</b>	<b>13</b>	<b>15</b>	<b>14</b>	<b>5</b>	<b>10</b>
Single Family	14	23	27	23	23	11	14	14	5	10
Two Family	0	0	0	0	0	2	1	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
<b>T.Hamilton</b>										
<b>TOTAL</b>	<b>20</b>	<b>18</b>	<b>31</b>	<b>27</b>	<b>32</b>	<b>25</b>	<b>19</b>	<b>15</b>	<b>4</b>	<b>3</b>
Single Family	18	18	31	27	32	23	19	10	4	3
Two Family	2	0	0	0	0	2	0	0	0	0
Multi-family	0	0	0	0	0	0	0	5	0	0
<b>T.Washington</b>										
<b>TOTAL</b>	<b>2</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>
Single Family	2	5	2	2	1	1	1	1	1	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
<b>V.West Salem</b>										
<b>TOTAL</b>	<b>33</b>	<b>18</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>14</b>	<b>29</b>	<b>20</b>	<b>22</b>	<b>24</b>
Single Family	14	0	0	2	2	2	13	12	8	12
Two Family	4	18	2	2	2	12	16	8	14	12
Multi-family	15	0	0	0	0	0	0	0	0	0

The district area has seen development mostly of single-family homes over the last ten years, especially in the early 2000s. The Town of Greenfield and Hamilton had a number of single family homes constructed during this time period. The Village of West Salem is the only location where a significant number of two family units were constructed in the past ten years. Households of single family homes, on average, contain more school-aged children than two-family and multi-family complexes. Construction of single family homes peaked in the middle of the decade in the district area after which housing development has declined.



It is also important to consider that turnover in ownership of existing housing stock also contributes to changes in enrollment. A district may 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, whereas an older community will have a lower child-per-household ratio. 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 West Salem School District area. Figure 5-B shows housing starts in the area by type of housing unit.

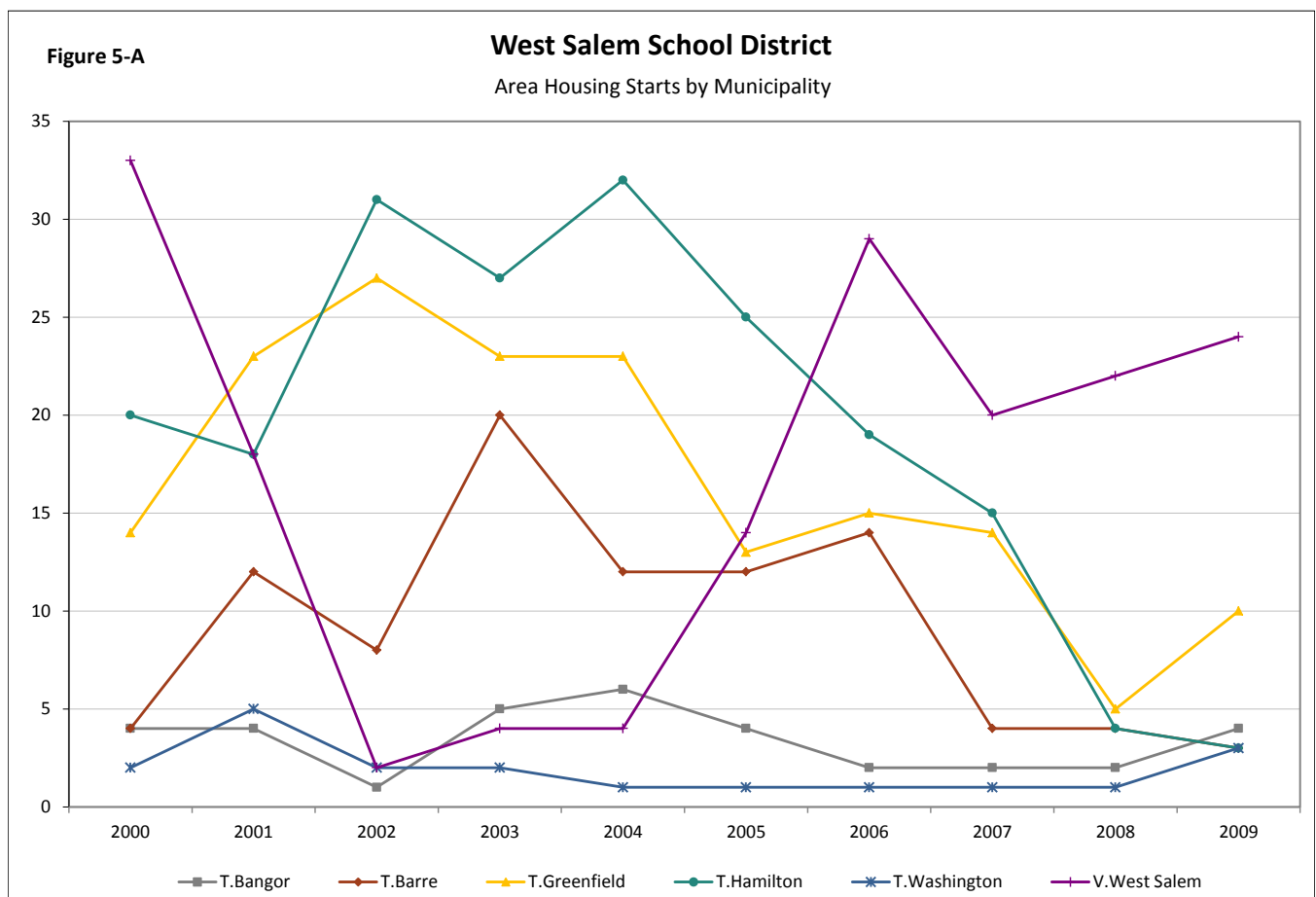
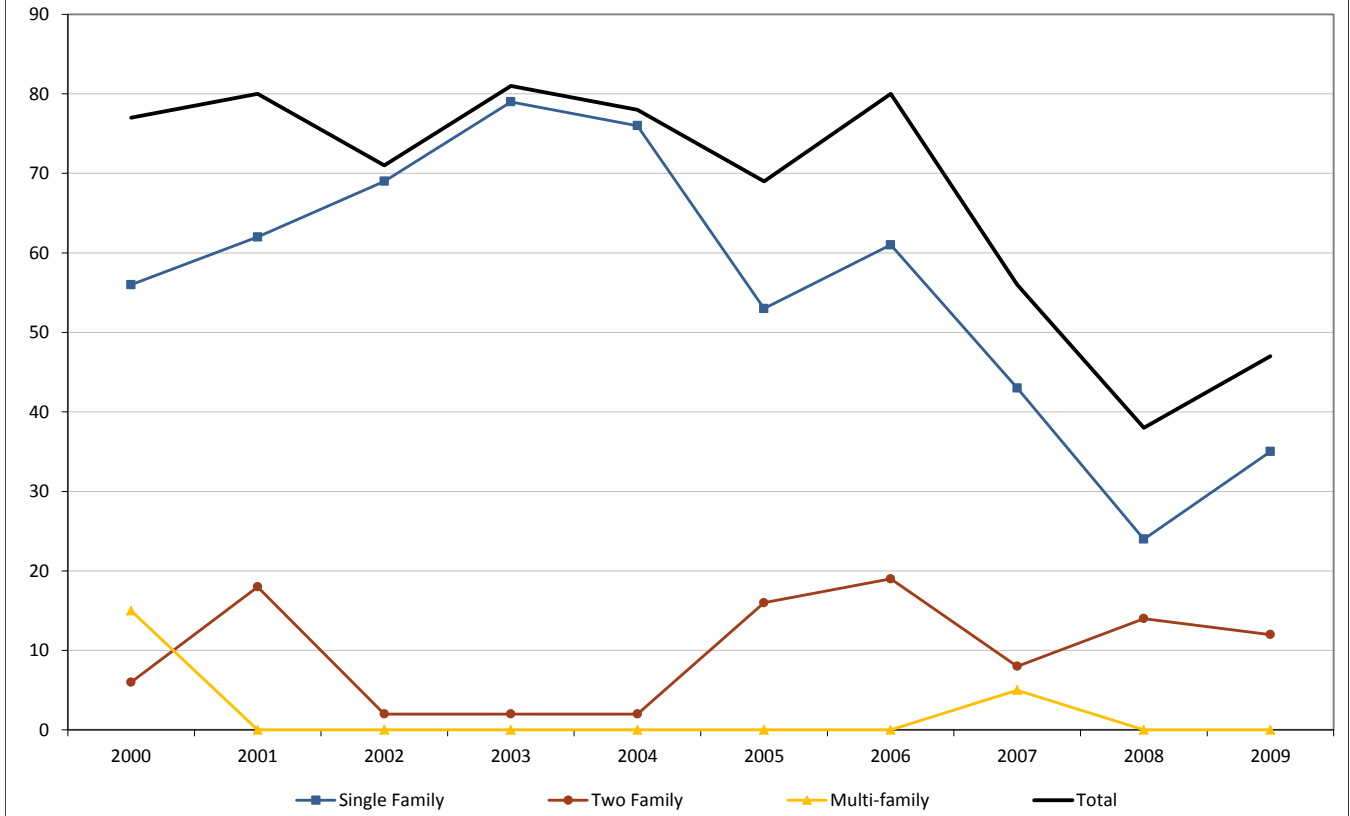


Figure 5-B

### West Salem School District

Area Housing Starts by Type



## 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

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 7 shows the grade progression ratios for the West Salem 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 7**  
Grade Progression Ratios  
West Salem 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
01-02/02-03	1.025	1.070	1.085	1.007	1.045	1.010	1.016	1.058	1.000	1.116	1.015	1.000	1.008
02-03/03-04	0.836	1.040	1.008	0.971	1.022	1.017	1.019	1.061	1.000	1.073	0.985	0.985	1.051
03-04/04-05	1.010	1.009	0.931	1.041	1.061	1.014	1.060	1.047	0.993	1.055	1.023	1.060	1.069
04-05/05-06	1.000	1.054	0.948	1.033	1.000	1.010	1.043	1.000	1.018	1.043	0.985	0.993	0.986
05-06/06-07	0.988	1.024	0.956	1.128	1.032	1.000	1.009	0.979	0.927	1.088	0.986	0.992	1.007
06-07/07-08	1.072	1.000	0.992	1.015	0.967	0.984	1.008	1.065	1.035	1.096	1.024	1.035	1.031
07-08/08-09	1.023	0.912	1.000	1.064	1.000	1.008	1.024	1.054	0.982	1.020	1.016	0.992	1.020
08-09/09-10	1.165	1.029	0.990	1.082	1.023	1.023	1.025	1.000	1.015	1.080	1.026	1.047	0.992
09-10/10-11	1.104	1.017	1.056	1.078	1.017	1.029	1.051	1.073	1.038	1.072	0.942	1.013	0.963
<b>Baseline</b>	<b>1.032</b>	<b>1.025</b>	<b>0.982</b>	<b>1.046</b>	<b>1.020</b>	<b>1.012</b>	<b>1.025</b>	<b>1.057</b>	<b>1.001</b>	<b>1.072</b>	<b>1.008</b>	<b>1.001</b>	<b>1.007</b>
<b>5 Year Trend</b>	<b>1.070</b>	<b>0.996</b>	<b>0.999</b>	<b>1.073</b>	<b>1.008</b>	<b>1.009</b>	<b>1.023</b>	<b>1.034</b>	<b>1.000</b>	<b>1.071</b>	<b>0.999</b>	<b>1.016</b>	<b>1.003</b>
<b>2 Year "Trend"</b>	<b>1.135</b>	<b>1.023</b>	<b>1.023</b>	<b>1.080</b>	<b>1.020</b>	<b>1.026</b>	<b>1.038</b>	<b>1.037</b>	<b>1.027</b>	<b>1.076</b>	<b>0.984</b>	<b>1.030</b>	<b>0.977</b>

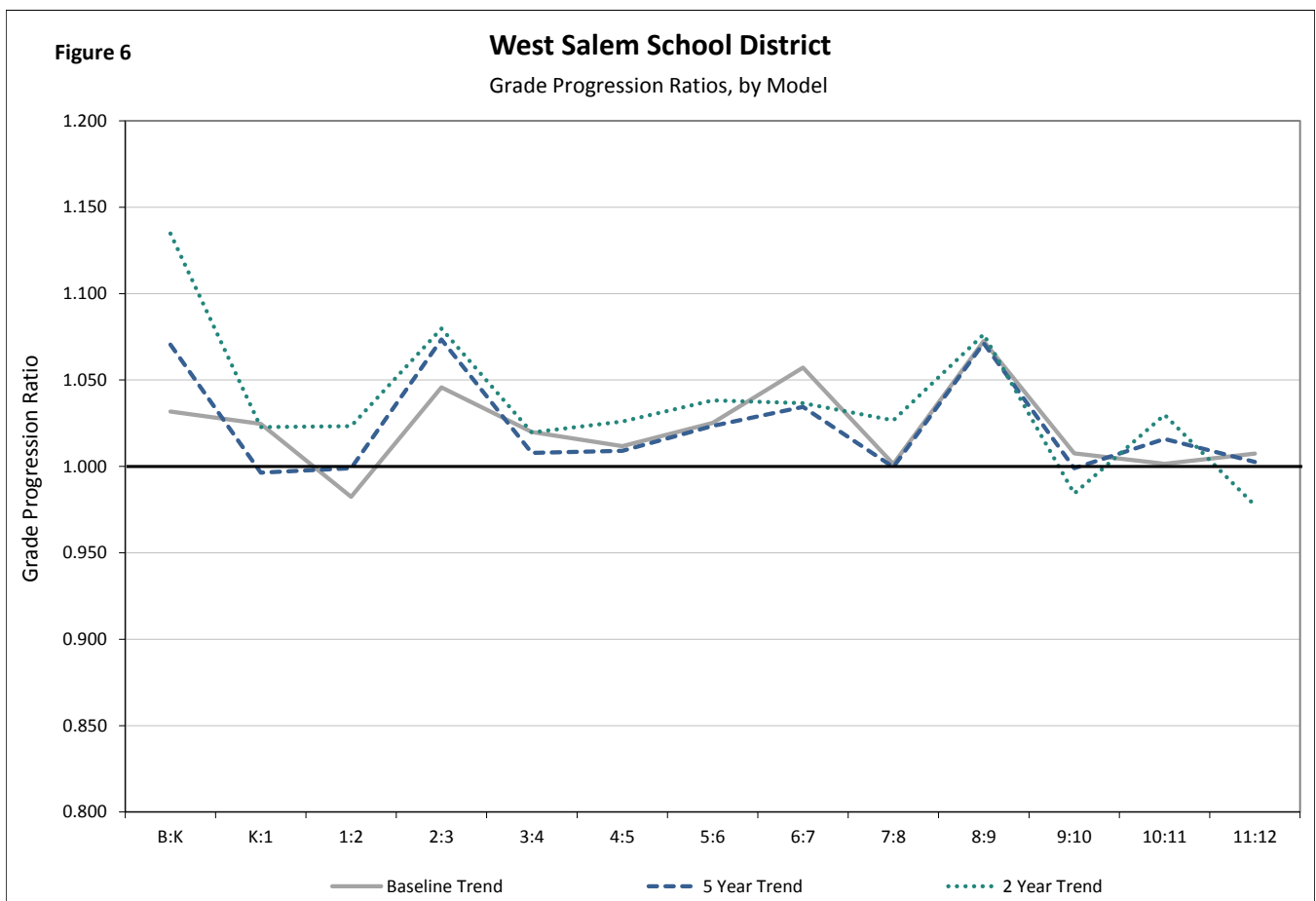
\*Shaded progression ratios are excluded from the Baseline Average

The grade progression ratios can be interpreted in the following manner. The Baseline ratio for K:1 is 1.025. This means that in West Salem School District, the first grade class is on average 2.5% larger each year than the kindergarten class was the previous year (the result of transfers from other schools and migration into the district). The Baseline ratio for 1:2 is 0.982. This means that in the West Salem School District, on average only 98% of first graders from the previous year advance to second grade



(the result of transfers to other schools and out-migration of the 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 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.



## School Enrollment Projections

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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. Overall, our projections are more reliable over the next five years (up to the 2015/16 school year) than they are in the latter half of the next decade.

### 4K Enrollment and Projections

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To generate 4K enrollment projections, we assume that the number of children born in the district area who will enter the 4K program will increase over the next ten years. Table 8 shows observed transfer ratios between birth and 4K for the last two school years, future transfer ratio between birth and 4K (average ratio from the past two years), observed enrollment in the 4K program, and projected enrollment in the 4K program from 2011/12 to 2020/21. These 4K projections will be used for all four projection models.

**TABLE 8**  
**4K Enrollment and Projections**  
**West Salem School District**

<b>Birth/4K Year</b>	<b>B:4K</b>	<b>Enrollment</b>
04-05/09-10	0.925	94
05-06/10-11	0.903	93
06-07/11-12	0.914	104
07-08/12-13	0.914	104
08-09/13-14	0.914	105
09-10/14-15	0.914	106
10-11/15-16	0.914	107
11-12/16-17	0.914	107
12-13/17-18	0.914	108
12-13/18-19	0.914	109
13-14/19-20	0.914	110
14-15/20-21	0.914	110



Baseline Projection

The Baseline model (Table 9) 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 fluctuate over the next decade, but by 2020 have no net gain in student enrollment. In the next ten years, the model projects that both K-5 and 6-8 enrollment will decrease by 39 students (5.4%) and 19 students (4.5%) respectively. However, enrollment in grades 9-12 is projected to increase over the decade by 9.1%.

**TABLE 9**  
**Baseline Projection Model**  
**West Salem School District**

	SCHOOL YEAR									
	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
4K	104	104	105	106	107	107	108	109	110	110
K	115	105	127	122	113	112	111	110	109	108
1	141	118	107	130	125	116	115	114	113	112
2	120	139	116	105	127	122	114	113	112	111
3	118	125	145	121	110	133	128	119	118	117
4	113	121	128	148	124	112	136	131	121	120
5	122	115	122	129	150	125	114	137	132	123
6	144	126	117	125	133	154	128	116	141	135
7	151	152	133	124	132	140	162	136	123	149
8	132	151	152	133	124	132	140	163	136	123
9	145	142	162	163	142	133	142	151	174	146
10	149	146	143	164	164	144	134	143	152	176
11	114	149	146	143	164	164	144	135	143	152
12	158	115	150	147	144	165	166	145	136	144
<b>4K-12</b>	<b>1,827</b>	<b>1,807</b>	<b>1,853</b>	<b>1,860</b>	<b>1,859</b>	<b>1,861</b>	<b>1,842</b>	<b>1,820</b>	<b>1,820</b>	<b>1,827</b>
K-5	730	722	745	755	749	721	717	724	705	691
6-8	427	429	402	382	389	426	431	415	400	408
9-12	566	552	602	617	615	606	586	573	605	618



## 5 Year Trend Projection

The 5 Year Trend model (Table 10) uses the grade progression ratios from the last five years and recent trends in the number of births 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 West Salem School District is projected to increase steadily over the next decade, increasing in total by 204 students (11.2%). Enrollment increases are seen in all grade groups but most significantly in K-5.

**TABLE 10**  
**5 Year Trend Projection Model**  
**West Salem School District**

GRADE	SCHOOL YEAR									
	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
4K	104	104	105	106	107	107	108	109	110	110
K	120	108	131	134	132	136	140	144	148	152
1	138	119	108	131	134	132	136	140	143	147
2	122	137	119	108	131	133	132	136	140	143
3	121	131	147	128	116	140	143	142	146	150
4	112	122	132	149	129	117	141	144	143	147
5	122	113	123	133	150	130	118	143	146	144
6	143	125	116	126	136	153	133	121	146	149
7	148	148	129	119	131	141	159	138	125	151
8	132	148	148	129	119	131	141	159	138	125
9	145	141	158	159	138	128	140	151	170	147
10	148	144	141	158	159	138	128	140	151	170
11	116	150	147	143	161	161	140	130	142	153
12	157	116	151	147	144	161	162	141	130	142
<b>4K-12</b>	<b>1,827</b>	<b>1,808</b>	<b>1,856</b>	<b>1,871</b>	<b>1,886</b>	<b>1,909</b>	<b>1,920</b>	<b>1,935</b>	<b>1,975</b>	<b>2,030</b>
K-5	734	731	761	782	791	789	810	848	865	883
6-8	423	421	393	375	386	425	432	417	408	425
9-12	566	552	597	608	602	589	570	561	593	612



2 Year "Trend" Projection

The 2 Year Trend model (Table 11) uses the 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 Last 2 Year Trend, 4K-12 enrollment is projected to increase from 1,847 students in 2011 to 2,283 students in 2020. This is an increase of 436 students (23.6%) over the next decade. The projections show large gains in grades K-12, but like the 5 Year Trend model, grades K-5 is projected to have the most growth.

**TABLE 11**  
**2 Year "Trend" Projection Model**  
**West Salem School District**

GRADE	SCHOOL YEAR									
	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
4K	104	104	105	106	107	107	108	109	110	110
K	127	115	139	142	140	144	149	153	157	161
1	141	130	118	142	145	144	148	152	156	160
2	125	144	133	120	146	149	147	151	155	160
3	122	135	156	143	130	157	161	159	163	168
4	113	124	137	159	146	132	160	164	162	166
5	124	116	128	141	163	150	136	164	168	166
6	145	129	121	133	146	169	156	141	171	174
7	148	151	134	125	137	152	176	161	146	177
8	136	152	155	137	128	141	156	180	166	150
9	145	146	164	166	148	138	152	168	194	178
10	146	143	144	161	164	145	136	149	165	191
11	117	150	147	148	166	169	150	140	154	170
12	153	115	147	144	145	162	165	146	137	150
<b>4K-12</b>	<b>1,847</b>	<b>1,854</b>	<b>1,926</b>	<b>1,968</b>	<b>2,011</b>	<b>2,060</b>	<b>2,097</b>	<b>2,138</b>	<b>2,203</b>	<b>2,283</b>
K-5	752	764	810	848	870	876	900	943	961	981
6-8	429	432	409	395	412	462	487	483	483	502
9-12	562	554	601	620	622	615	602	603	650	690



## Kindergarten Trend Projection

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) 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 trend in kindergarten enrollment change over the last five years, regardless of the number of observed births in the school district area.

According to this hybrid projection method (Table 12), 4K-12 enrollment is projected to grow over the next decade by 438 students, a 23.8% increase. This model projects a substantial growth of kindergartners due to the increasing number of kindergarten students that have occurred in the past five years.

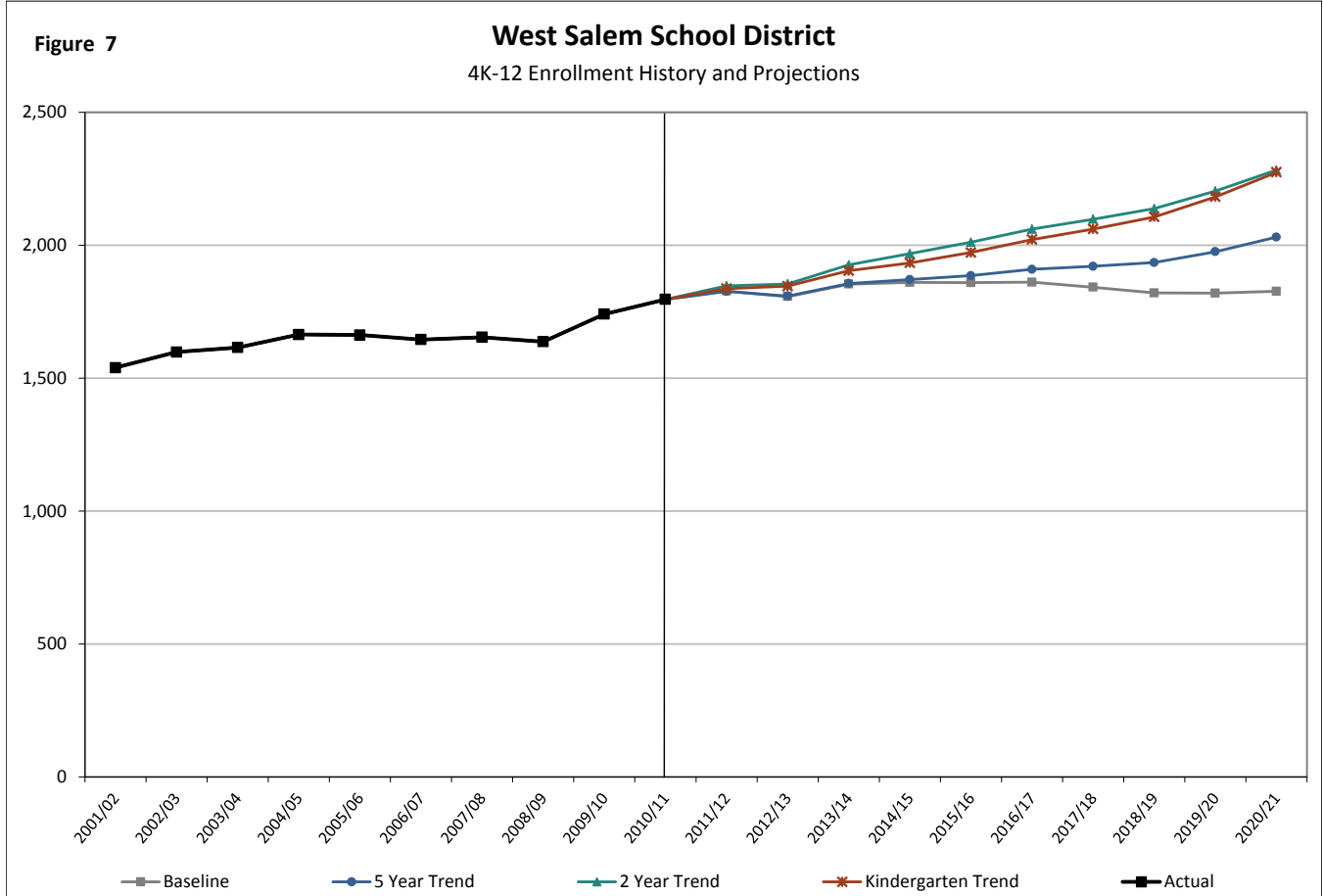
**TABLE 12**  
**Kindergarten Trend Projection Model**  
**West Salem School District**

GRADE	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
4K	104	104	105	106	107	107	108	109	110	110
K	130	136	142	148	154	161	167	173	179	185
1	138	129	135	141	148	154	160	166	172	179
2	122	137	129	135	141	148	154	160	166	172
3	121	131	147	138	145	152	158	165	172	178
4	112	122	132	149	140	146	153	160	166	173
5	122	113	123	133	150	141	148	154	161	168
6	143	125	116	126	136	153	144	151	158	165
7	148	148	129	119	131	141	159	149	156	163
8	132	148	148	129	119	131	141	159	149	156
9	145	141	158	159	138	128	140	151	170	160
10	148	144	141	158	159	138	128	140	151	170
11	116	150	147	143	161	161	140	130	142	153
12	157	116	151	147	144	161	162	141	130	142
<b>4K-12</b>	<b>1,837</b>	<b>1,846</b>	<b>1,904</b>	<b>1,933</b>	<b>1,972</b>	<b>2,021</b>	<b>2,061</b>	<b>2,107</b>	<b>2,182</b>	<b>2,274</b>
K-5	744	768	809	845	878	901	939	978	1,016	1,055
6-8	423	421	393	375	386	425	444	459	463	484
9-12	566	552	597	608	602	589	570	561	593	625



## Comparison of Projection Models

Figures 7-9 and Tables 13-15 compare the four enrollment projection models by total district enrollment and by grade grouping.

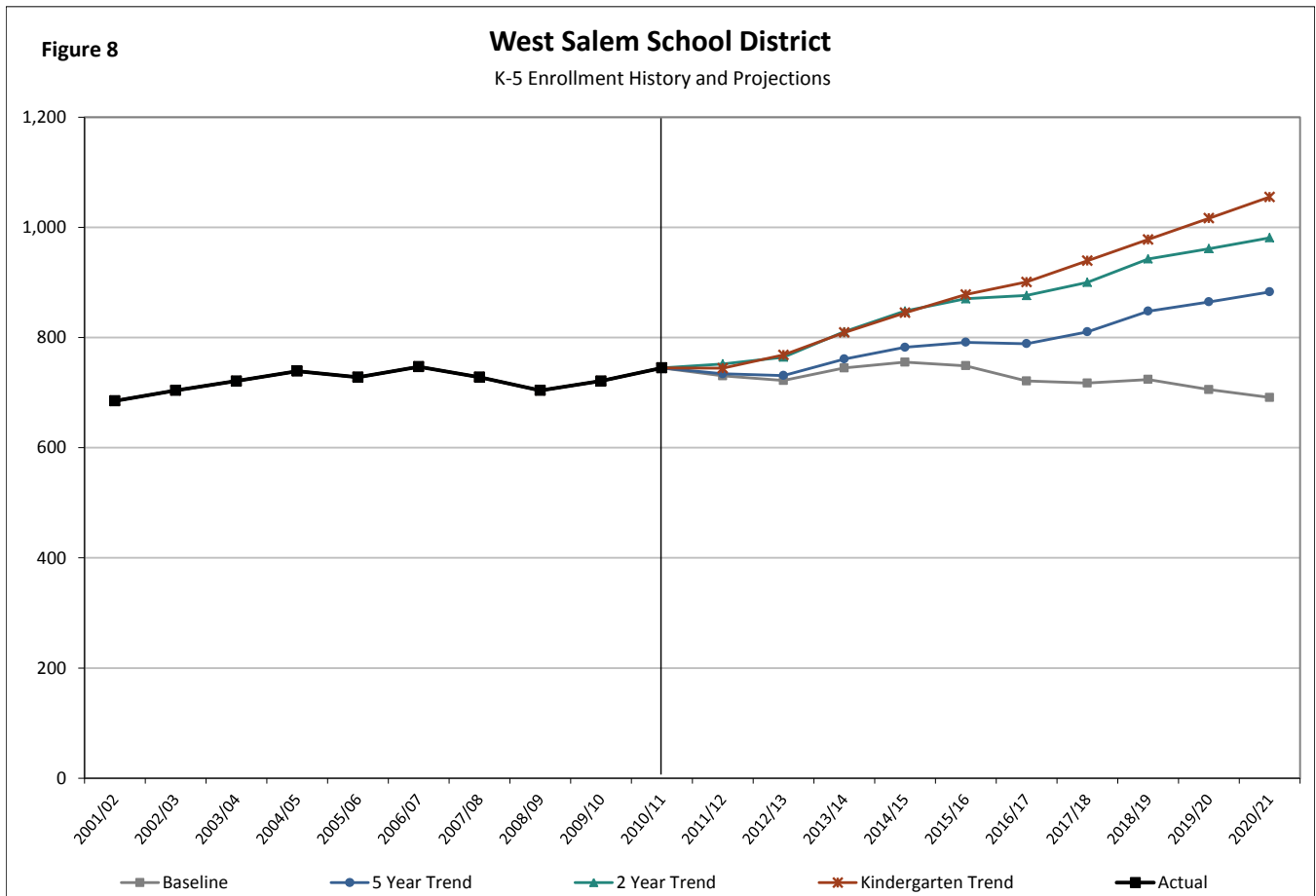


**TABLE 13**  
**Summary of 4K-12 Enrollment Projections**  
**West Salem School District**

	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
Baseline	1,827	1,807	1,853	1,860	1,859	1,861	1,842	1,820	1,820	1,827
5 Year Trend	1,827	1,808	1,856	1,871	1,886	1,909	1,920	1,935	1,975	2,030
2 Year "Trend"	1,847	1,854	1,926	1,968	2,011	2,060	2,097	2,138	2,203	2,283
Kindergarten Trend	1,837	1,846	1,904	1,933	1,972	2,021	2,061	2,107	2,182	2,274

All models except the Baseline project a significant increase in enrollment for the West Salem School District over the next decade. The Baseline model projects steady enrollment during this time period. 4K-12 enrollment projections five years from now (2015-2016) predict a range of enrollment from 1,859 to 2,011.



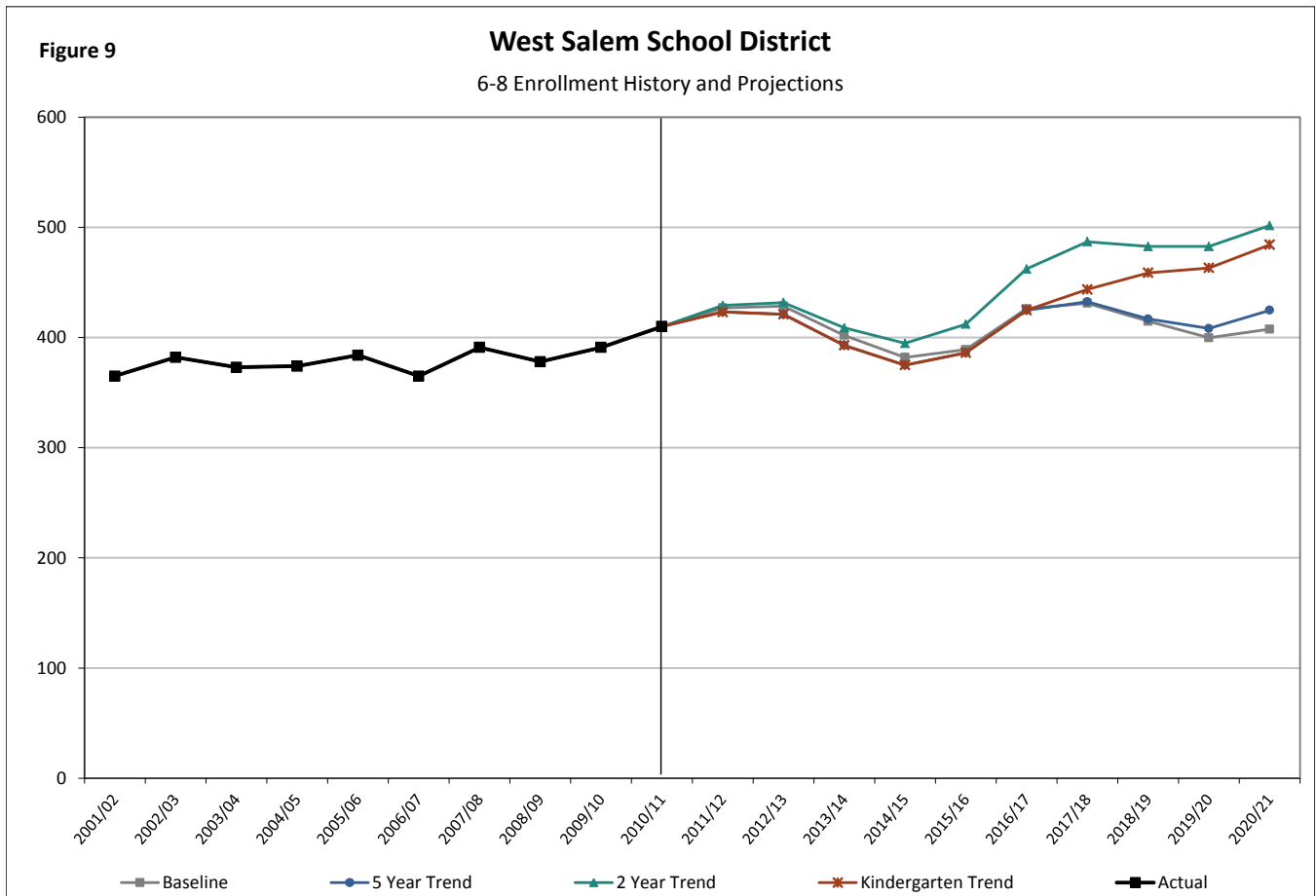


**TABLE 14**  
**Summary of K-5 Enrollment Projections**  
**West Salem School District**

	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
Baseline	730	722	745	755	749	721	717	724	705	691
5 Year Trend	734	731	761	782	791	789	810	848	865	883
2 Year "Trend"	752	764	810	848	870	876	900	943	961	981
Kindergarten Trend	744	768	809	845	878	901	939	978	1,016	1,055

The Baseline model projection is the only model that forecasts a decrease in enrollment over the next ten years. The 5 Year, 2 Year, and Kindergarten Trend models project a substantial increase in students over the next decade ranging between an increase of 149 to 311 students. K-5 enrollment projections five years from now (2015-2016) predict a range of enrollment from 749 to 878.



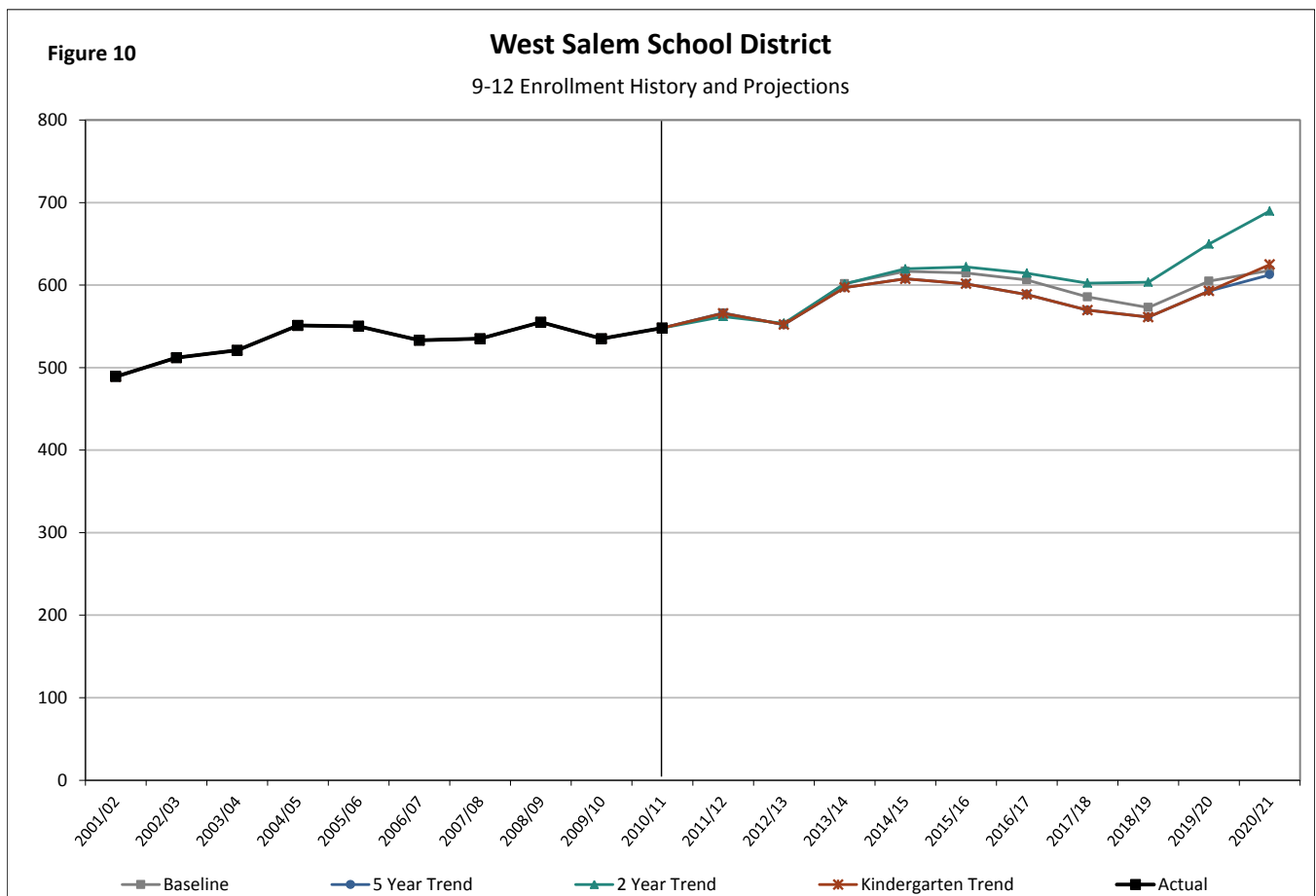


**TABLE 15**  
**Summary of 6-8 Enrollment Projections**  
**West Salem School District**

	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
Baseline	427	429	402	382	389	426	431	415	400	408
5 Year Trend	423	421	393	375	386	425	432	417	408	425
2 Year "Trend"	429	432	409	395	412	462	487	483	483	502
Kindergarten Trend	423	421	393	375	386	425	444	459	463	484

At the middle school grade level, the Baseline model projects a slight decrease in enrollment over the next ten years. The other three models on the other hand forecast varying increases in enrollments in the next decade. Projections five years from now (2015-2016) predict a range of enrollment from 386 to 412.





**TABLE 16**  
**Summary of 9-12 Enrollment Projections**  
**West Salem School District**

	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
Baseline	566	552	602	617	615	606	586	573	605	618
5 Year Trend	566	552	597	608	602	589	570	561	593	612
2 Year "Trend"	562	554	601	620	622	615	602	603	650	690
Kindergarten Trend	566	552	597	608	602	589	570	561	593	625

At the high school grade level, all models project an increase in enrollment over the next ten years. This is mainly due to larger number of elementary and middle school students entering high school in the future. The Baseline, 5 Year Trend, and Kindergarten Trend forecast modest gains in enrollment, while the 2 Year Trend model projects a large increase in the next ten years. Projections five years from now (2015-2016) predict a range of enrollment from 602 to 622.



## Conclusions

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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 demographic information provided in this school enrollment projections report points to increasing total enrollment in the West Salem School District in the near term. The Baseline Trend model projects a steady to slightly increased enrollment, while the 5 Year, 2 Year, and Kindergarten Trend models forecast large enrollment gains. It is likely that housing development will continue to slow in the coming years until the economic recession abates. The district is likely to experience increasing enrollment in grades K-5 if birth trends continue to be similar to the current rates. The district is likely to see enrollment increases over the next two years in grades 6-8 followed by decreased enrollment, while grades 9-12 enrollment will increase in the near term.

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.

