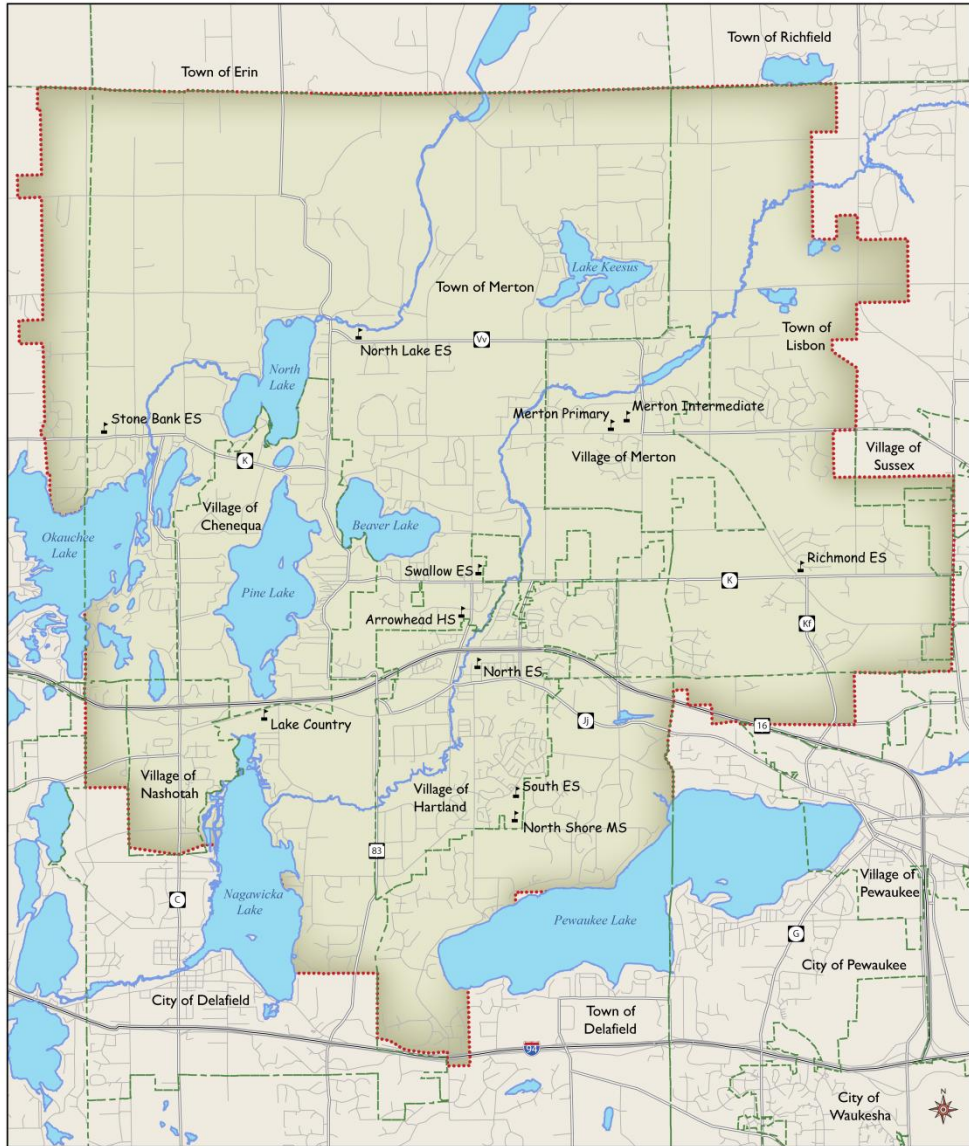


# Planning for the Schools of Tomorrow



Arrowhead Union High School District  
▲ Arrowhead Union Schools

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## School Enrollment Projections Series Arrowhead Union High School

October 2010

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## Introduction

This report offers a summary of the Enrollment Projection Analysis completed for the Arrowhead Union High School 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

Table 1-A and Figure 1-A display the last ten years of enrollment history in the K-8 feeder schools while Tables 1-B and 2 and Figure 1-B show the last ten years of enrollment history for Arrowhead Union High School. District 9-12 enrollment has increased overall since 2001, from 2,035 students in the 2001/02 school year to 2,278 students in 2010/11. This is an increase of 243 students, or a 12% (1.3% annually) increase in the number of students enrolled over ten years.

**TABLE 1-A**  
**Student Enrollment**  
**K-8 Feeder Schools**

	SCHOOL YEAR									
	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11
K	388	395	396	415	436	439	474	466	464	393
1	403	400	439	419	442	458	455	482	463	472
2	398	417	427	456	442	464	479	467	498	476
3	407	410	444	439	495	472	475	493	480	508
4	459	432	421	471	478	518	493	483	503	488
5	443	477	460	439	490	492	532	502	500	520
6	522	469	485	468	483	518	511	545	528	512
7	540	554	471	501	500	490	513	514	561	535
8	494	547	554	485	525	508	499	540	527	556
<b>TOTAL</b>	<b>4,054</b>	<b>4,101</b>	<b>4,097</b>	<b>4,093</b>	<b>4,291</b>	<b>4,359</b>	<b>4,431</b>	<b>4,492</b>	<b>4,524</b>	<b>4,460</b>
K-8	4,054	4,101	4,097	4,093	4,291	4,359	4,431	4,492	4,524	4,460
K-5	2,498	2,531	2,587	2,639	2,783	2,843	2,908	2,893	2,908	2,857
6-8	1,556	1,570	1,510	1,454	1,508	1,516	1,523	1,599	1,616	1,603



**TABLE 1-B**  
**Student Enrollment**  
**Arrowhead Union High School**

	SCHOOL YEAR									
	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11
9	540	563	622	634	556	541	564	549	574	572
10	536	532	571	609	639	557	546	570	544	578
11	468	548	525	567	605	626	554	548	566	549
12	491	481	564	536	579	617	648	568	567	579
<b>TOTAL</b>	<b>2,035</b>	<b>2,124</b>	<b>2,282</b>	<b>2,346</b>	<b>2,379</b>	<b>2,341</b>	<b>2,312</b>	<b>2,235</b>	<b>2,251</b>	<b>2,278</b>

**TABLE 2**  
**Student Enrollment Changes**  
**Arrowhead Union High School**

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
9	32	16	31	5.9	3.0	5.7	0.7	0.7	1.4
10	42	103	21	7.8	19.2	3.8	0.9	4.8	0.9
11	81	137	-77	17.3	29.3	-12.3	1.9	7.3	-3.1
12	88	88	-38	17.9	17.9	-6.2	2.0	4.5	-1.5
<b>TOTAL</b>	<b>243</b>	<b>344</b>	<b>-63</b>	<b>11.9</b>	<b>16.9</b>	<b>-2.7</b>	<b>1.3</b>	<b>4.2</b>	<b>-0.7</b>



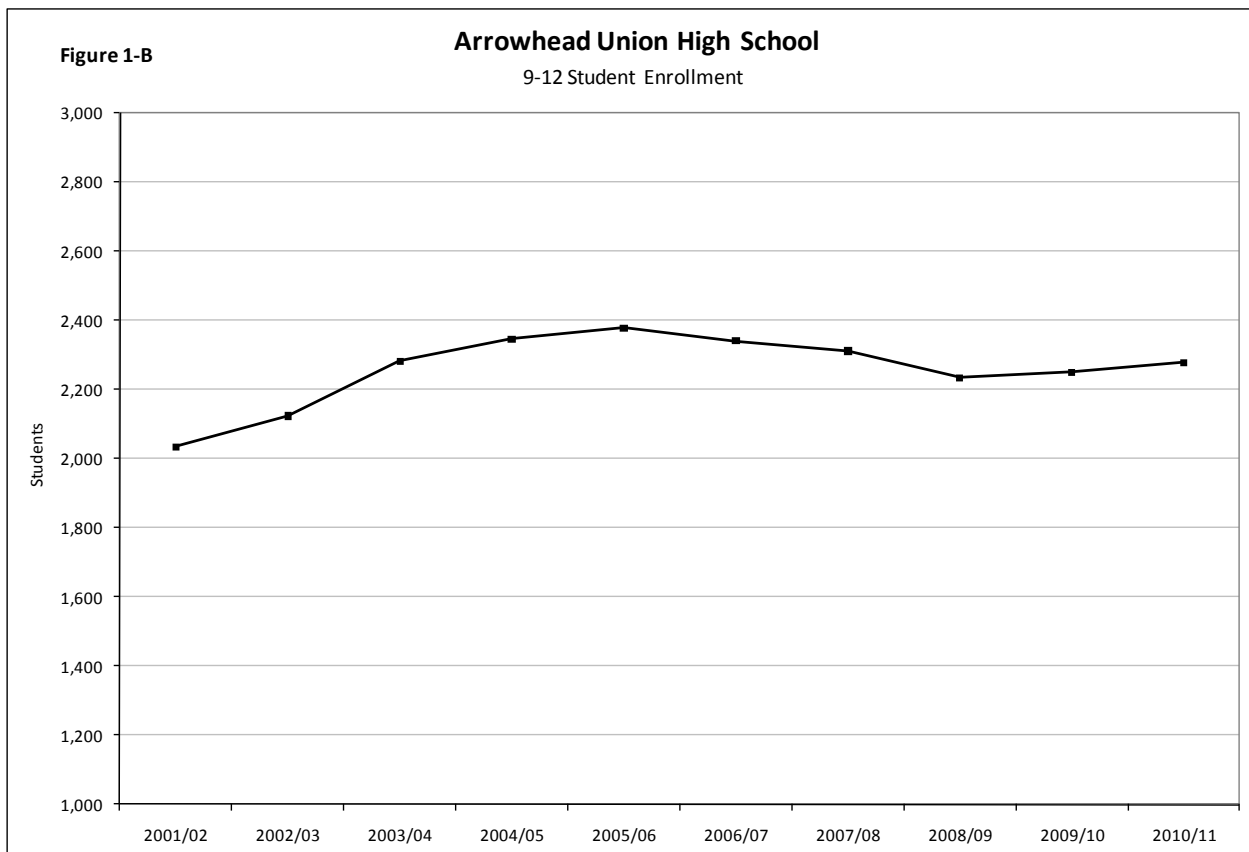
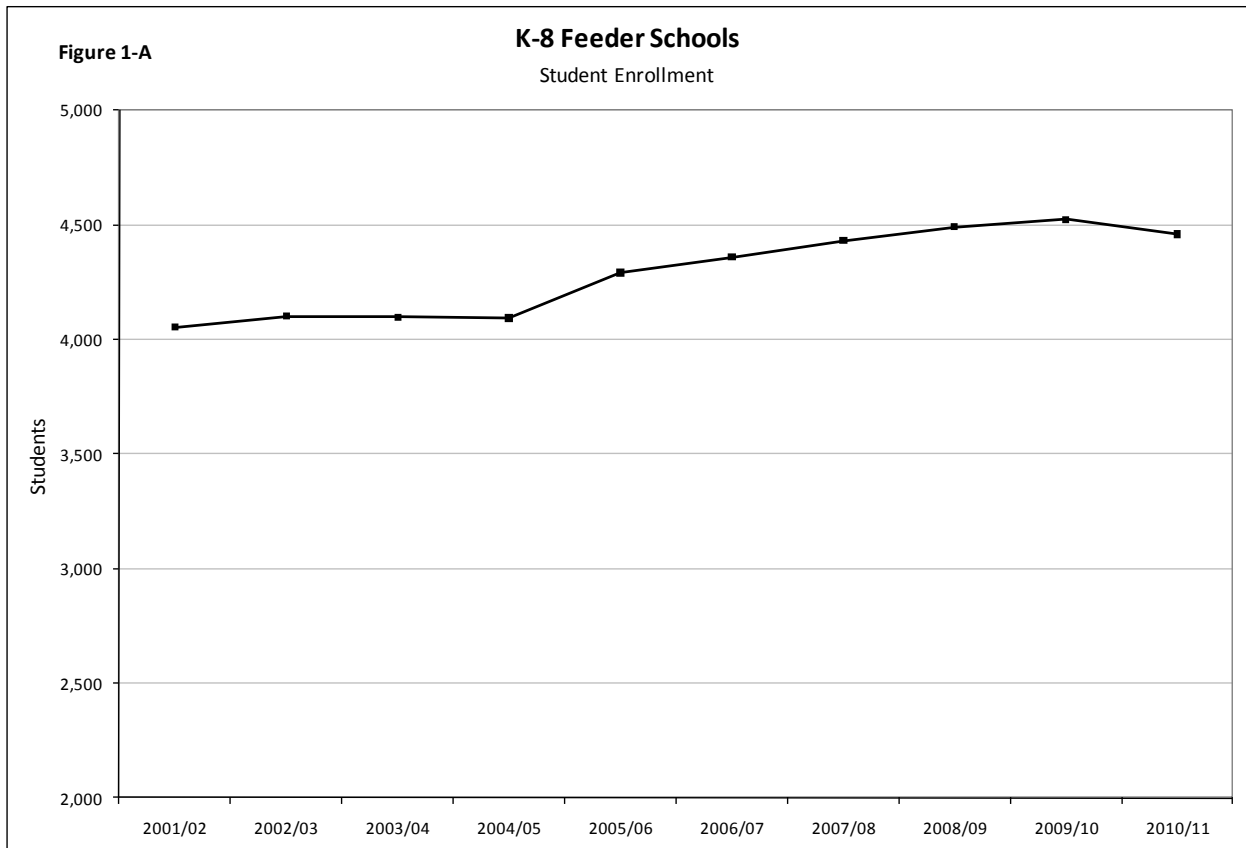
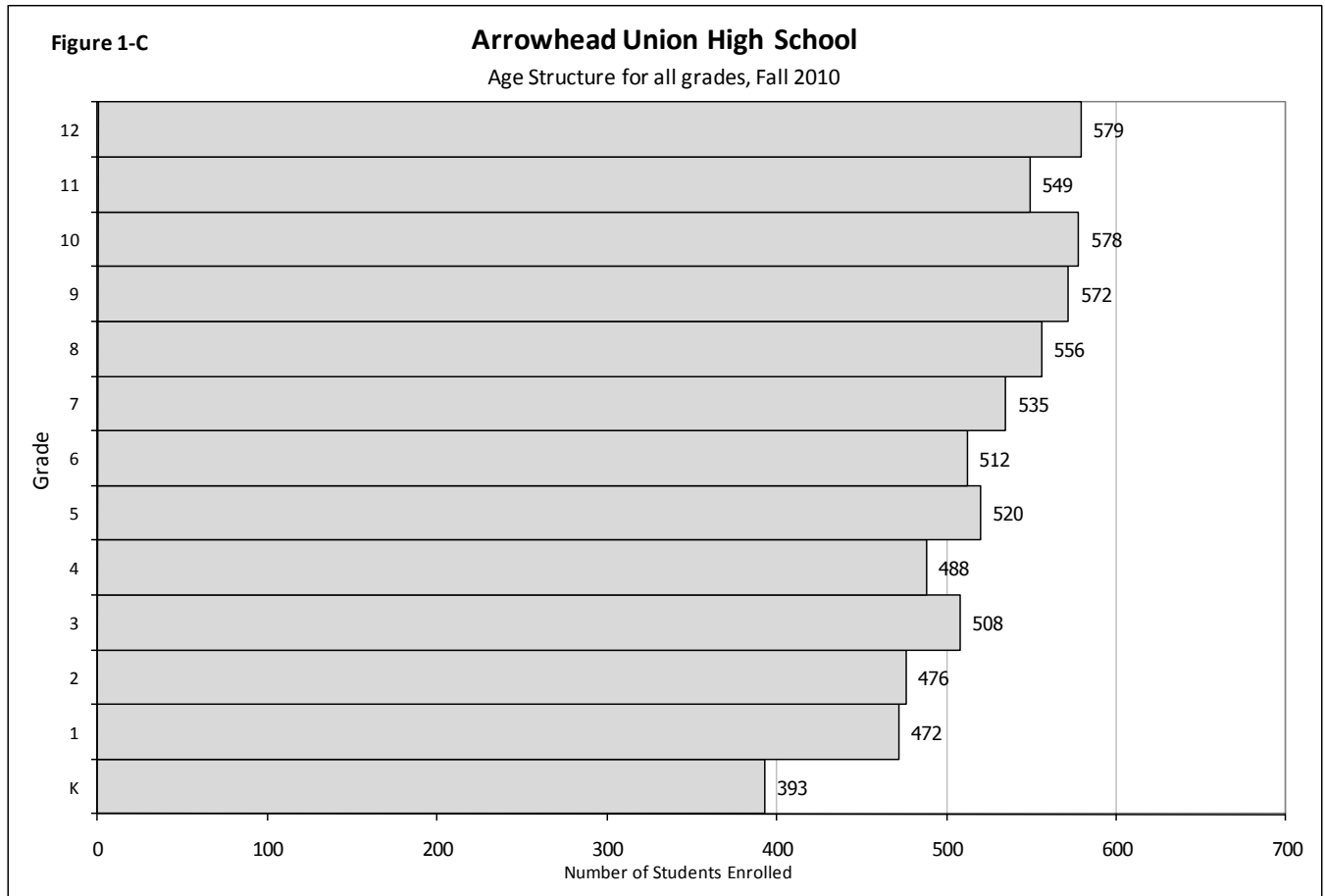


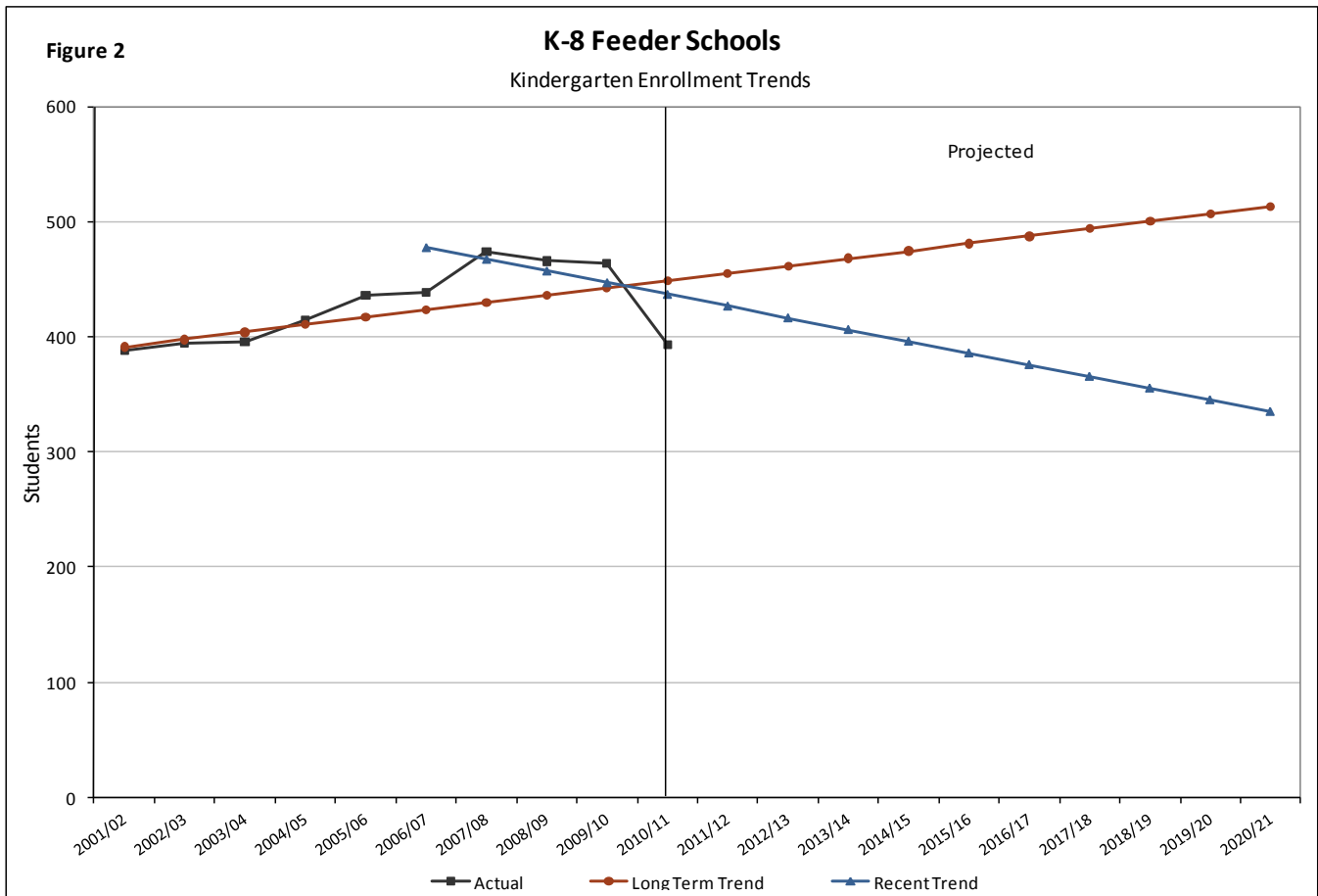
Figure 1-C shows the age structure in the fall of 2010 of the student population for the feeder schools and Arrowhead High School with the number of kindergarteners at the bottom and the number of 12<sup>th</sup> graders at the top.





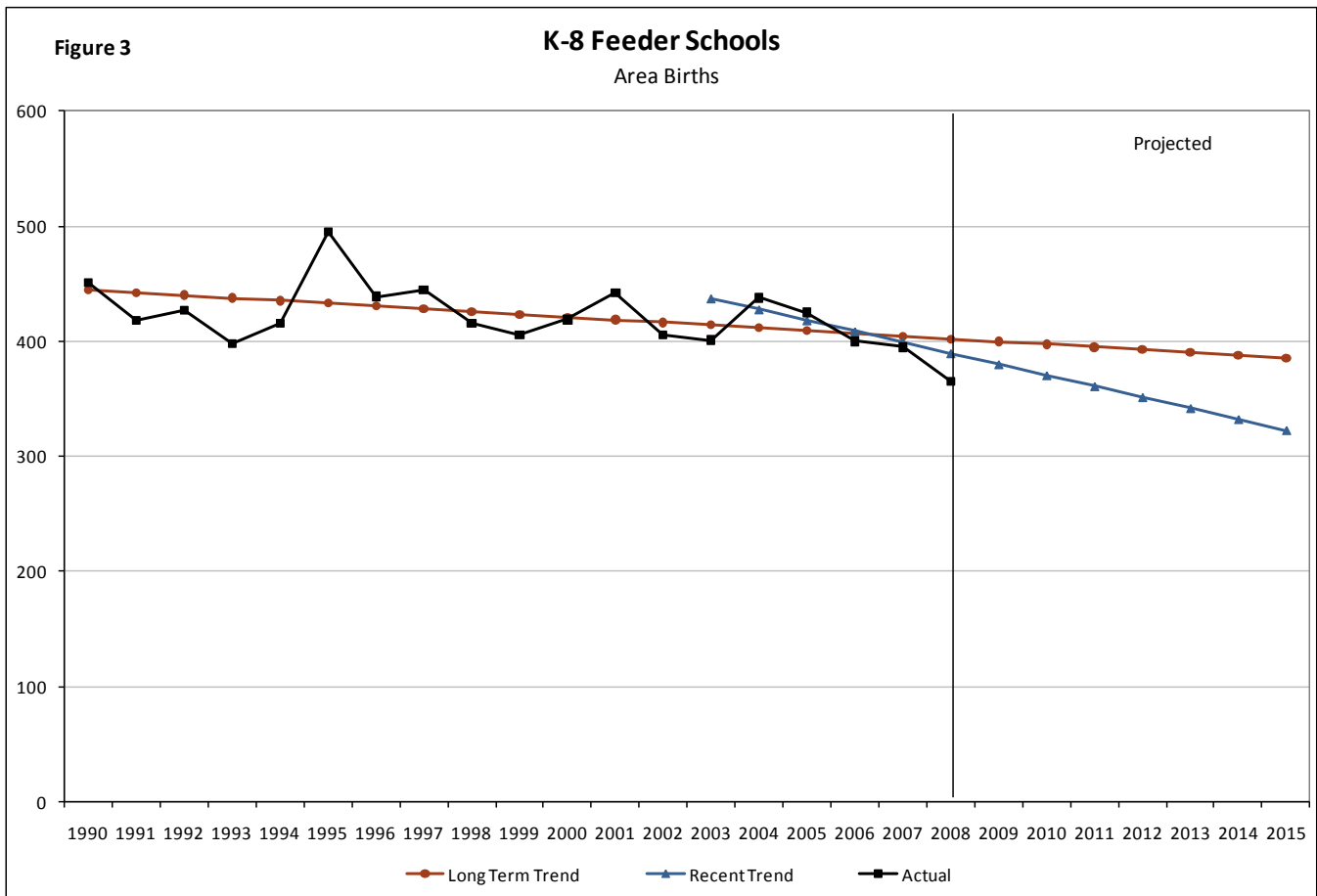
## Kindergarten Trends and Projections

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 and middle school enrollment might be expected to increase in the near future, while high school enrollment may increase farther in the future. Figure 2 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 emphasizes kindergarten enrollment changes over the last five years. In the feeder schools, the long term trend indicates increasing kindergarten enrollment while the recent trend indicates a decrease in kindergarten enrollment.



## Birth Trends and Projections

Historical and projected birth data is used to forecast kindergarten students who will enroll in the feeder schools of Arrowhead Union High School. Figure 3 shows (in black) the number of births to mothers living in municipalities that fall within school district boundaries, by year, from 1990-2008, as collected from the Wisconsin Department of Health and Family Services. 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 slightly while the recent birth trends indicate even greater decreases 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>	451	418	427	398	416	495	439	445	416	406
<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>	419	442	406	401	438	425	400	395	365	

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 Arrowhead Union High School 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 Waukesha County and the State of Wisconsin. The district area grew quickly from 1995 to 2000 by 12%. General population growth appears to be slowing when from 2000 to 2005 growth slowed to 6% and then slowed to 2% from 2005 to 2010.

**TABLE 3**  
**Population of Municipalities: 1980-2010**  
**Arrowhead Union High School**

Municipality	POPULATION						
	Census 1980	est. 1985	Census 1990	est. 1995	Census 2000	est. 2005	est. 2010
C. Delafield	4,083	4,512	5,347	5,944	6,472	6,876	6,996
T. Delafield	4,597	4,862	5,735	6,809	7,820	8,286	8,247
T. Lisbon	8,352	8,878	8,277	8,690	9,359	9,733	9,924
T. Merton	6,025	5,932	6,430	6,876	7,988	8,347	8,478
V. Chenequa	532	483	601	614	583	586	602
V. Hartland	5,559	6,240	6,906	7,585	7,905	8,365	8,522
V. Merton	1,045	1,055	1,199	1,390	1,926	2,376	2,660
V. Nashotah	513	558	567	662	1,266	1,372	1,366
<b>District Area</b>	<b>30,706</b>	<b>32,520</b>	<b>35,062</b>	<b>38,570</b>	<b>43,319</b>	<b>45,941</b>	<b>46,795</b>
Waukesha County	280,203	285,904	304,715	328,631	360,767	377,348	383,864
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	
C. Delafield	10.5%	18.5%	11.2%	8.9%	6.2%	1.7%	0.9%
T. Delafield	5.8%	18.0%	18.7%	14.8%	6.0%	-0.5%	0.6%
T. Lisbon	6.3%	-6.8%	5.0%	7.7%	4.0%	2.0%	0.7%
T. Merton	-1.5%	8.4%	6.9%	16.2%	4.5%	1.6%	0.7%
V. Chenequa	-9.2%	24.4%	2.2%	-5.0%	0.5%	2.7%	0.4%
V. Hartland	12.3%	10.7%	9.8%	4.2%	5.8%	1.9%	0.9%
V. Merton	1.0%	13.6%	15.9%	38.6%	23.4%	12.0%	4.2%
V. Nashotah	8.8%	1.6%	16.8%	91.2%	8.4%	-0.4%	0.9%
<b>District Area</b>	<b>5.9%</b>	<b>7.8%</b>	<b>10.0%</b>	<b>12.3%</b>	<b>6.1%</b>	<b>1.9%</b>	<b>0.9%</b>
Waukesha County	2.0%	6.6%	7.8%	9.8%	4.6%	1.7%	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**  
**Arrowhead Union High School**

Municipality	POPULATION					CHANGE 2000 to 2025
	Census 2000	est. 2010	Projections			
			2015	2020	2025	
C. Delafield	6,472	6,996	7,653	8,035	8,388	1,916
T. Delafield	7,820	8,247	9,410	9,955	10,464	2,644
T. Lisbon	9,359	9,924	10,266	10,506	10,715	1,356
T. Merton	7,988	8,478	9,088	9,447	9,776	1,788
V. Chenequa	583	602	578	574	569	-14
V. Hartland	7,905	8,522	9,156	9,543	9,898	1,993
V. Merton	1,926	2,660	2,934	3,189	3,431	1,505
V. Nashotah	1,266	1,366	1,669	1,815	1,953	687
<b>District Area</b>	<b>43,319</b>	<b>46,795</b>	<b>50,754</b>	<b>53,064</b>	<b>55,194</b>	<b>11,875</b>
Waukesha County	360,767	383,864	407,003	421,489	434,657	73,890
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
C. Delafield	9.4%	5.0%	4.4%	29.6%
T. Delafield	14.1%	5.8%	5.1%	33.8%
T. Lisbon	3.4%	2.3%	2.0%	14.5%
T. Merton	7.2%	4.0%	3.5%	22.4%
V. Chenequa	-4.0%	-0.7%	-0.9%	-2.4%
V. Hartland	7.4%	4.2%	3.7%	25.2%
V. Merton	10.3%	8.7%	7.6%	78.1%
V. Nashotah	22.2%	8.7%	7.6%	54.3%
<b>District Area</b>	<b>8.5%</b>	<b>4.6%</b>	<b>4.0%</b>	<b>27.4%</b>
Waukesha County	6.0%	3.6%	3.1%	20.5%
State of Wisconsin	5.2%	3.6%	3.0%	19.2%

Municipality	ANNUAL RATE OF CHANGE			
	2010-15	2015-20	2020-25	2000-25
C. Delafield	2.3%	1.2%	1.1%	1.2%
T. Delafield	3.5%	1.4%	1.3%	1.4%
T. Lisbon	0.9%	0.6%	0.5%	0.6%
T. Merton	1.8%	1.0%	0.9%	0.9%
V. Chenequa	-1.0%	-0.2%	-0.2%	-0.1%
V. Hartland	1.9%	1.1%	0.9%	1.1%
V. Merton	2.6%	2.2%	1.9%	3.3%
V. Nashotah	5.5%	2.2%	1.9%	2.3%
<b>District Area</b>	<b>2.1%</b>	<b>1.1%</b>	<b>1.0%</b>	<b>1.1%</b>
Waukesha County	1.5%	0.9%	0.8%	0.9%
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 Waukesha 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 Arrowhead Union High School. Population projections indicate the growth of school age populations.

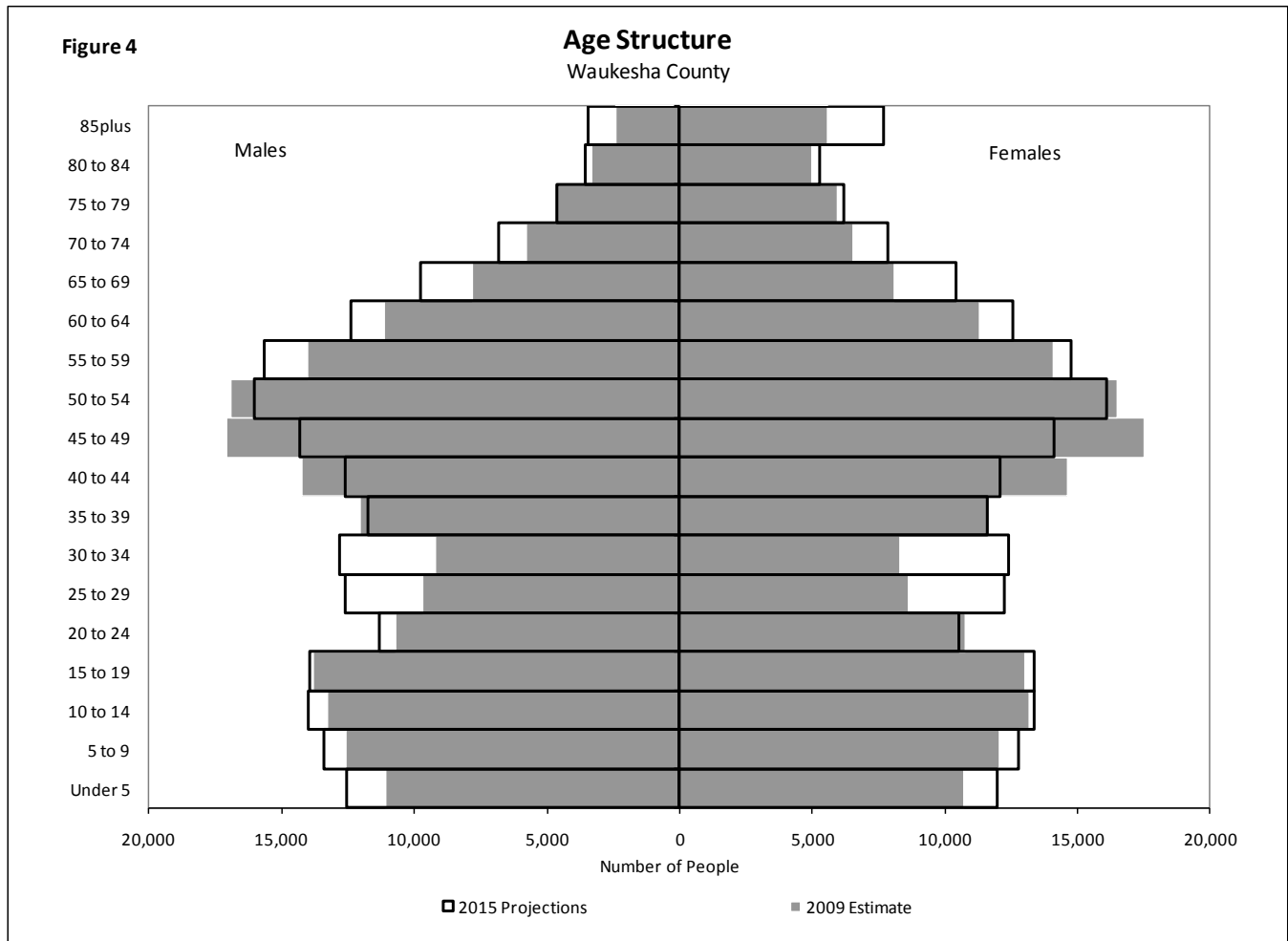
**TABLE 5**  
**Population Projections by Age: 2010-2035**  
**Arrowhead Union High School**

Waukesha County						
Age Group	2010	2015	2020	2025	2030	2035
0-4	23,157	24,518	25,790	26,373	26,554	26,632
5-9	25,665	26,170	27,522	28,640	29,015	29,005
10-14	27,807	27,370	27,819	29,082	30,107	30,370
15-19	27,429	27,309	26,881	27,253	28,426	29,372
20-24	22,262	21,824	21,716	21,324	21,576	22,465
25-29	22,402	24,817	24,349	24,199	23,675	23,908
30-34	20,686	25,209	27,764	27,137	26,752	26,111
35-39	23,309	23,370	28,088	30,655	29,867	29,213
40-44	28,252	24,726	24,753	29,485	32,022	31,134
45-49	33,196	28,445	24,906	24,874	29,544	32,021
50-54	32,509	32,146	27,566	24,108	24,039	28,515
55-59	27,218	30,444	30,124	25,807	22,551	22,467
60-64	22,175	24,931	27,921	27,615	23,642	20,653
65-69	16,126	20,223	22,785	25,507	25,244	21,619
70-74	11,908	14,699	18,494	20,863	23,372	23,189
75-79	10,279	10,808	13,346	16,850	19,099	21,498
80-84	8,595	8,853	9,356	11,558	14,690	16,784
85-89	5,620	6,454	6,677	7,139	8,848	11,399
90-94	2,604	3,331	3,833	4,002	4,345	5,419
95-99	815	1,082	1,417	1,667	1,772	1,967
100 & Over	184	274	382	519	644	726
<b>Totals</b>	<b>392,198</b>	<b>407,003</b>	<b>421,489</b>	<b>434,657</b>	<b>445,784</b>	<b>454,467</b>

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



Figure 4 shows population estimates for 2009 by age for Waukesha 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 growth of school age populations during this time period.



# Residential Development

**TABLE 6**  
**School District Area Housing Starts**  
**Arrowhead Union High School**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
<b>District Area</b>										
<b>TOTAL</b>	<b>459</b>	<b>355</b>	<b>327</b>	<b>304</b>	<b>360</b>	<b>304</b>	<b>180</b>	<b>168</b>	<b>95</b>	<b>122</b>
Single Family	364	307	256	293	357	300	180	154	93	63
Two Family	4	2	7	7	3	4	0	2	2	2
Multi-family	91	46	64	4	0	0	0	12	0	57
<b>C. Delafield</b>										
<b>TOTAL</b>	<b>119</b>	<b>39</b>	<b>81</b>	<b>18</b>	<b>33</b>	<b>33</b>	<b>32</b>	<b>32</b>	<b>12</b>	<b>63</b>
Single Family	38	23	17	16	33	33	32	20	12	6
Two Family	2	2	0	2	0	0	0	0	0	0
Multi-family	79	14	64	0	0	0	0	12	0	57
<b>T. Delafield</b>										
<b>TOTAL</b>	<b>105</b>	<b>61</b>	<b>57</b>	<b>71</b>	<b>39</b>	<b>29</b>	<b>24</b>	<b>27</b>	<b>9</b>	<b>7</b>
Single Family	105	61	56	66	37	25	24	25	9	7
Two Family	0	0	1	5	2	4	0	2	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
<b>T. Lisbon</b>										
<b>TOTAL</b>	<b>54</b>	<b>59</b>	<b>58</b>	<b>59</b>	<b>46</b>	<b>55</b>	<b>32</b>	<b>33</b>	<b>25</b>	<b>16</b>
Single Family	54	59	58	59	46	55	32	33	23	14
Two Family	0	0	0	0	0	0	0	0	2	2
Multi-family	0	0	0	0	0	0	0	0	0	0
<b>T. Merton</b>										
<b>TOTAL</b>	<b>46</b>	<b>51</b>	<b>44</b>	<b>46</b>	<b>55</b>	<b>32</b>	<b>36</b>	<b>29</b>	<b>18</b>	<b>15</b>
Single Family	46	51	44	46	54	32	36	29	18	15
Two Family	0	0	0	0	1	0	0	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
<b>V. Chenequa</b>										
<b>TOTAL</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>2</b>
Single Family	4	3	2	3	4	1	2	3	2	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
<b>V. Hartland</b>										
<b>TOTAL</b>	<b>115</b>	<b>106</b>	<b>28</b>	<b>34</b>	<b>74</b>	<b>71</b>	<b>23</b>	<b>15</b>	<b>13</b>	<b>9</b>
Single Family	101	74	22	30	74	71	23	15	13	9
Two Family	2	0	6	0	0	0	0	0	0	0
Multi-family	12	32	0	4	0	0	0	0	0	0
<b>V. Merton</b>										
<b>TOTAL</b>	<b>12</b>	<b>6</b>	<b>40</b>	<b>67</b>	<b>108</b>	<b>81</b>	<b>27</b>	<b>29</b>	<b>15</b>	<b>9</b>
Single Family	12	6	40	67	108	81	27	29	15	9
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. Nashotah</b>										
<b>TOTAL</b>	<b>4</b>	<b>30</b>	<b>17</b>	<b>6</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>1</b>
Single Family	4	30	17	6	1	2	4	0	1	1
Two Family	0	0	0	0	0	0	0	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0

Source: Demographic Services Center, WIDOA



Table 6 shows the number of housing starts in the Arrowhead Union High School area. Examining trends in recent housing development can help to explain how in-migration into the Arrowhead Union High School 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.

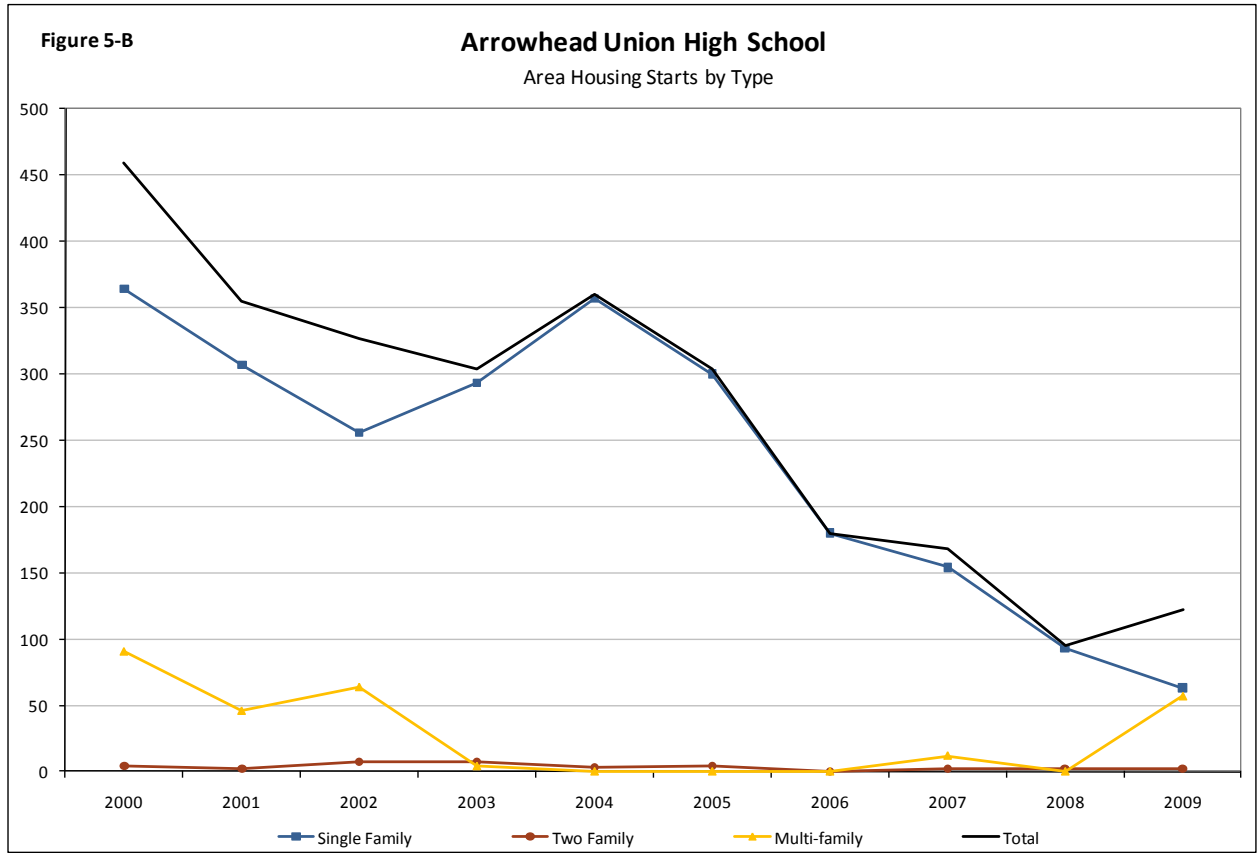
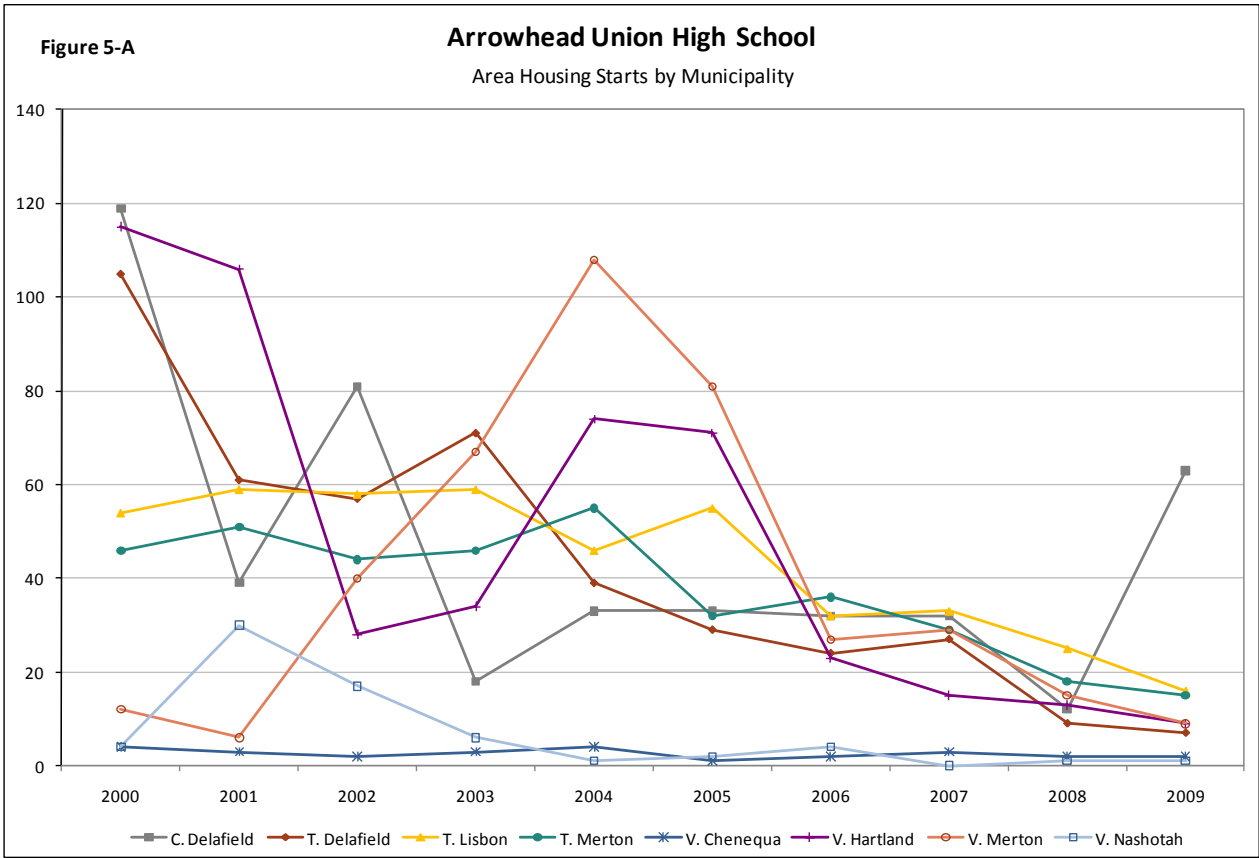
The district area has seen development mostly of single-family homes over the last ten years. With the exception of the smaller villages these municipalities saw a significant development of single family homes in the early 2000s. The City of Delafield and the Village of Hartland are the only locations where multi-family units were constructed. Households in single family homes, on average, contain more school-aged children than two-family and multi-family complexes. Construction of single family homes peaked in 2004 in the district area after which housing development has declined. According to RealtyTrac, 1 in 641 housing units received a foreclosure filing in September 2010 in Waukesha County.

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 Arrowhead Union High School area. Figure 5-B shows housing starts in the area by type of housing unit.







## 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 Arrowhead Union High School. 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**  
**Arrowhead Union High School**

<b>YEAR CHANGES</b>	<b>8:9</b>	<b>9:10</b>	<b>10:11</b>	<b>11:12</b>
<b>01-02/02-03</b>	1.140	0.985	1.022	1.028
<b>02-03/03-04</b>	1.137	1.014	0.987	1.029
<b>03-04/04-05</b>	1.144	0.979	0.993	1.021
<b>04-05/05-06</b>	1.146	1.008	0.993	1.021
<b>05-06/06-07</b>	1.030	1.002	0.980	1.020
<b>06-07/07-08</b>	1.110	1.009	0.995	1.035
<b>07-08/08-09</b>	1.100	1.011	1.004	1.025
<b>08-09/09-10</b>	1.063	0.991	0.993	1.035
<b>09-10/10-11</b>	1.085	1.007	1.009	1.023
<b>Baseline Average</b>	<b>1.116</b>	<b>1.003</b>	<b>0.996</b>	<b>1.026</b>
<b>5 Year Trend</b>	<b>1.078</b>	<b>1.004</b>	<b>0.996</b>	<b>1.028</b>
<b>2 Year "Trend"</b>	<b>1.074</b>	<b>0.999</b>	<b>1.001</b>	<b>1.029</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 8:9 is 1.116. This means that in the Arrowhead Union High School, the ninth grade class is on average 1.2% larger each year than the eighth grade class was the previous year (the result of transfers from other schools and in-migration into the district). The 10:11 Baseline ratio of .996 indicates that on average, 99% of the tenth graders attend eleventh grade the following year. 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.



## School Enrollment Projections

When considering all of the projections provided in this report for decision-making, it is important to recognize that population projections of all types, including school enrollment projections, are more accurate in the immediate future than they are 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. Table 8 shows the eighth grade projections by model that were used to project ninth graders.

**TABLE 8**  
**8th Grade Enrollment Projections**  
**Arrowhead Union High School**

	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
Baseline	544	529	557	540	583	566	583	505	535	519
5 Year Trend	546	528	557	538	576	558	574	489	539	524
2 Year "Trend"	539	527	556	540	572	549	561	470	489	475

### 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 trends (past ten years) in enrollment and migration will be representative of future trends in the district. Enrollment is projected to increase from 2,278 students in 2010 to 2,440 students in 2015. Over the next five years (2015-16), the Baseline model projects that enrollment will increase by 7%.

**TABLE 9**  
**Baseline Projection Model**  
**Arrowhead Union High School**

	SCHOOL YEAR									
	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
9	620	607	591	622	603	651	632	651	563	597
10	574	622	609	593	624	605	653	634	653	565
11	576	572	620	607	590	621	603	650	632	651
12	563	591	587	636	623	606	638	618	667	648
<b>TOTAL</b>	<b>2,334</b>	<b>2,392</b>	<b>2,407</b>	<b>2,458</b>	<b>2,440</b>	<b>2,483</b>	<b>2,525</b>	<b>2,553</b>	<b>2,515</b>	<b>2,460</b>



5 Year Trend Projection

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The 5 Year Trend model (Table 10) 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. For the 5 Year Trend, enrollment is projected to increase from 2,278 students in 2010 to 2,357 students in 2015. With recent migration rates weighted more heavily, enrollment in the Arrowhead Union High School is projected to increase by 3.5% over the next five years.

**TABLE 10**  
**5 Year Trend Projection Model**  
**Arrowhead Union High School**

GRADE	SCHOOL YEAR									
	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
9	599	589	569	601	580	621	602	619	527	581
10	574	602	591	572	603	582	624	604	621	529
11	576	572	599	589	569	601	580	621	602	619
12	564	592	588	616	605	585	617	596	638	618
<b>TOTAL</b>	<b>2,313</b>	<b>2,354</b>	<b>2,347</b>	<b>2,377</b>	<b>2,357</b>	<b>2,389</b>	<b>2,423</b>	<b>2,440</b>	<b>2,388</b>	<b>2,347</b>



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 2 Year "Trend," enrollment is projected to increase from 2,278 students in 2010 to 2,338 students in 2015, or a 2.6% increase.

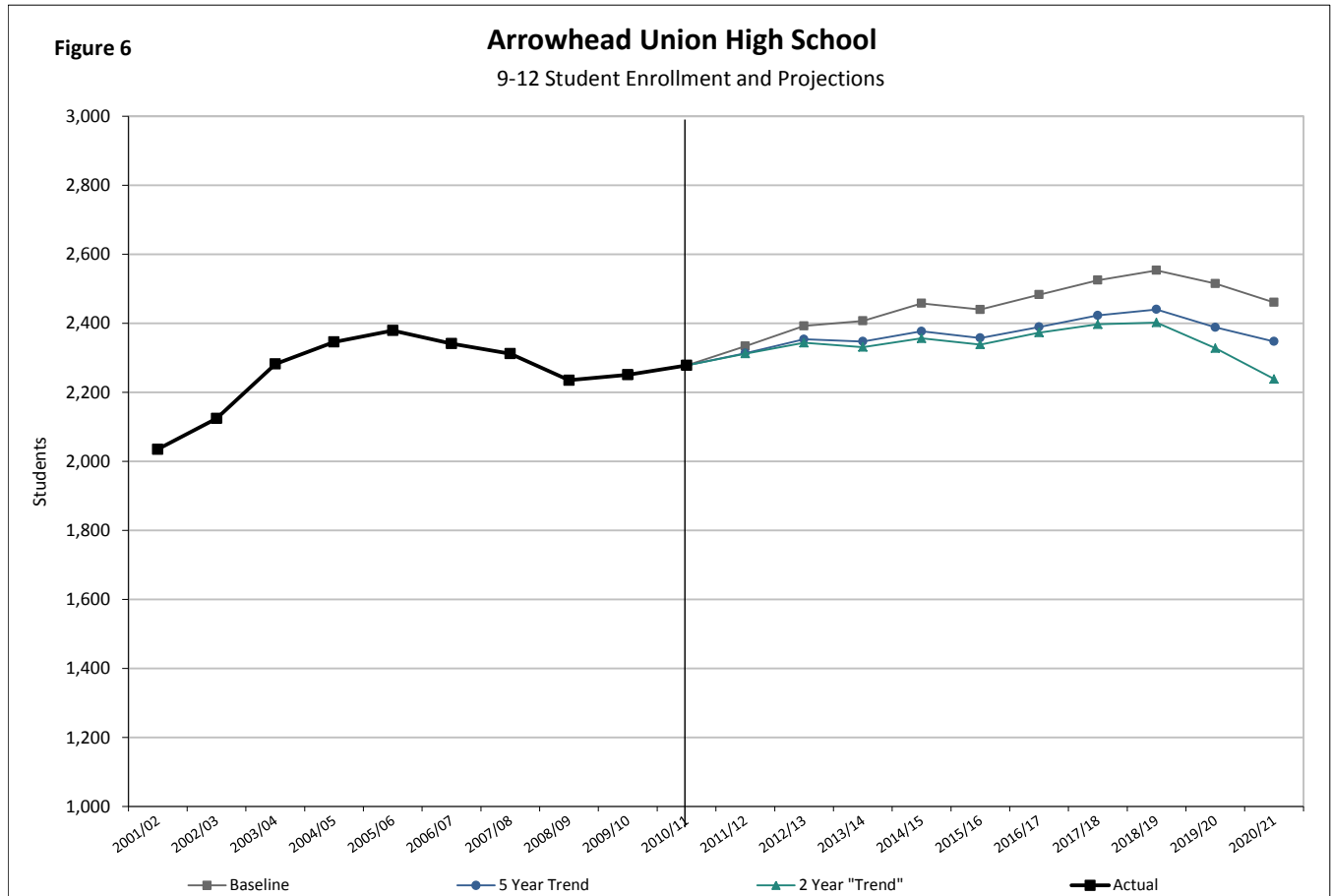
**TABLE 11**  
**2 Year "Trend" Projection Model**  
**Arrowhead Union High School**

GRADE	SCHOOL YEAR									
	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
9	597	579	566	597	580	614	590	602	504	526
10	571	597	579	566	596	579	614	589	602	504
11	579	572	597	579	566	597	580	614	590	602
12	565	595	588	614	596	583	614	596	632	607
<b>TOTAL</b>	<b>2,312</b>	<b>2,343</b>	<b>2,331</b>	<b>2,356</b>	<b>2,338</b>	<b>2,373</b>	<b>2,397</b>	<b>2,402</b>	<b>2,328</b>	<b>2,238</b>



## Comparison of Projection Models

Figure 6 and Table 12 compare the four enrollment projection models by total district enrollment.



**TABLE 12**  
**Summary of 9-12 Enrollment Projections**  
**Arrowhead Union High School**

	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	20-21
Baseline	2,334	2,392	2,407	2,458	2,440	2,483	2,525	2,553	2,515	2,460
5 Year Trend	2,313	2,354	2,347	2,377	2,357	2,389	2,423	2,440	2,388	2,347
2 Year "Trend"	2,312	2,343	2,331	2,356	2,338	2,373	2,397	2,402	2,328	2,238

All models project overall increasing enrollment for the Arrowhead Union High School in the near term with decreases in enrollment beginning in 2019-2020. The Baseline model projects the greatest increase in enrollment. 9-12 enrollment projections five years from now (2015-2016) forecast a range of enrollment from 2,338 to 2,440.



## 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 Arrowhead Union High School. The Baseline Trend model projects the greatest increase in enrollment while the 2 Year Trend model projects a smaller increase in enrollment over time. It is likely that housing development will continue to slow in the coming years until the economic recession abates. However, the current students attending the feeder schools within the district will continue to bring increased enrollment 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.

