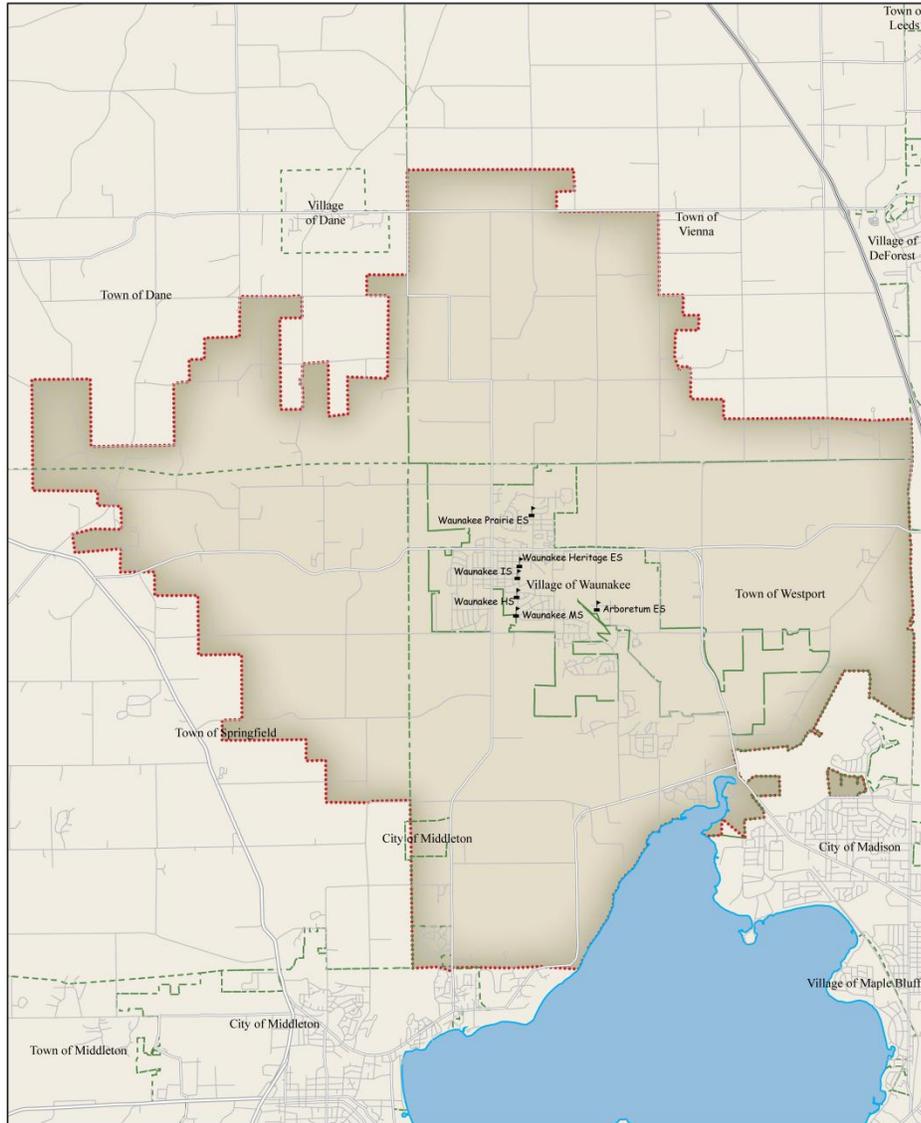


Planning for the Schools of Tomorrow



School Enrollment Projections Series Waunakee Community School District

February 2009



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Executive Summary

The district-wide resident enrollment for the Waunakee Community School District for the current 2008-2009 school year is 3,414 students. This report takes into consideration past resident enrollment, current and projected births, and overall trends in population and housing to determine projected future enrollment and how rapidly future increases in enrollment will occur.

- In the last five years the district has experienced an increase in enrollment primarily due to increases in grades K-4 enrollment. However, the district has seen increases in all grade levels.
- Birth trends indicate that the district may see a significant increase in future births. Kindergarten enrollment has also increased over the past ten years. These two factors indicate that Kindergarten enrollment should continue to increase in the coming years.
- Households in single family homes, on average, contain more school-aged children than multi-family complexes. Single family housing starts peaked in 2005 then the district has seen a decline in single family housing development.
- Several subdivisions for single family housing have been approved in the district area. If home construction continues to increase the district may see an in-migration of families. However, indications of a slowing housing market may mean a decrease in home construction in the near term.
- All five models project overall total enrollment increases in the foreseeable future. The Two Year “Trend” and Kindergarten Trend models indicate the greatest projected increase due to recent in-migration and high birth rates.
- The Five Year Trend and Residential Model also project a significant increase, but not as great as the Two Year “Trend” and Kindergarten Trend models. Higher birth trends coupled with anticipated housing development results in projected increases in student enrollment.
- The Baseline model projects the slowest increase in enrollment because of the assumption that slower birth rates will result in fewer kindergartners. The projections from this model are least likely to occur do to the recent levels of births and in-migration into the district.
- District-level projections should be viewed as having high reliability over the next few years, but increasingly for the lower elementary grades, actual enrollment total will likely deviate from the projection models over time.



Introduction

This report offers a summary of the Enrollment Projection Analysis completed for the Waunakee Community School District by the Applied Population Laboratory, University of Wisconsin-Madison. Projections (2009-2018) 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, 1999-2008

Figure 1-A and Tables 1 and 2 display the last ten years of enrollment history in the Waunakee Community School District. Enrollment history includes resident students only and excludes open enrollment/tuition paid students and pre-K students. Resident enrollment has grown steadily since 1999, from 2,718 students in the 1999/00 school year to 3,414 students in 2008/09. This is a growth of 696 students, or a 25.6% (3% annually) increase in the number of students enrolled in the district.

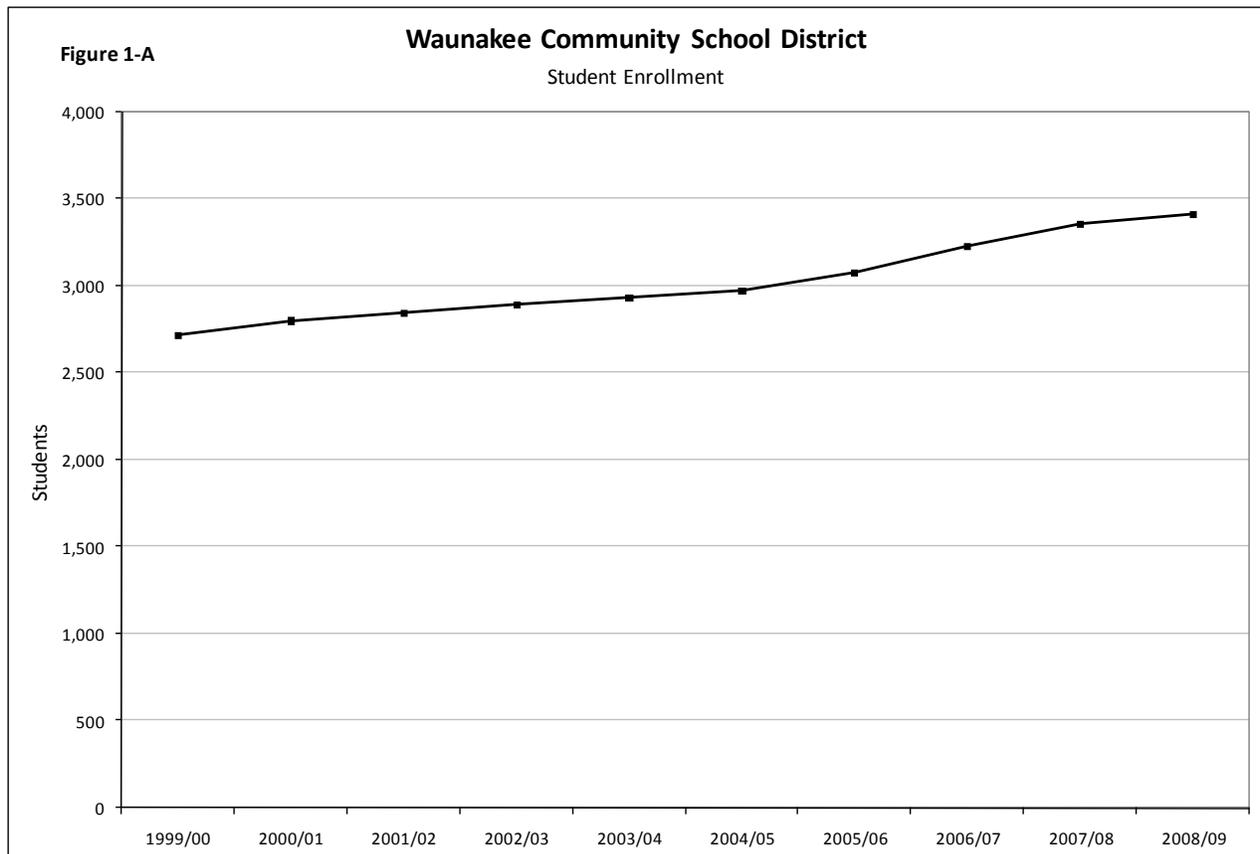


TABLE 1
Student Enrollment
Waunakee Community School District

	SCHOOL YEAR									
	99-00	00-01	01-02	02-03	03-04	04-05	05-06	06-07	07-08	08-09
K	172	184	205	189	181	208	228	223	248	246
1	224	209	206	213	187	192	214	254	237	260
2	200	222	208	214	221	181	209	223	266	247
3	206	208	222	213	213	241	193	221	236	271
4	231	213	209	227	219	221	251	217	239	239
5	209	228	211	226	238	224	230	264	226	256
6	189	218	238	202	230	251	239	242	278	230
7	247	226	254	261	236	249	287	266	266	304
8	230	244	223	250	261	236	250	292	276	266
9	207	237	250	227	255	265	243	258	292	279
10	194	213	230	245	216	251	269	243	267	293
11	214	191	206	224	247	210	249	275	247	271
12	195	209	184	200	229	246	215	251	283	252
K-12	2,718	2,802	2,846	2,891	2,933	2,975	3,077	3,229	3,361	3,414
K-4	1,033	1,036	1,050	1,056	1,021	1,043	1,095	1,138	1,226	1,263
5-6	398	446	449	428	468	475	469	506	504	486
7-8	477	470	477	511	497	485	537	558	542	570
9-12	810	850	870	896	947	972	976	1,027	1,089	1,095

TABLE 2
Student Enrollment Changes
Waunakee Community School District

GRADE	ABSOLUTE CHANGE			PERCENT CHANGE			AVERAGE ANNUAL PERCENT CHANGE		
	'99 to '08	'99 to '03	'04 to '08	'99 to '08	'99 to '03	'04 to '08	'99 to '08	'99 to '03	'04 to '08
K	74	9	38	43.0	5.2	18.3	4.8	1.3	4.6
1	36	-37	68	16.1	-16.5	35.4	1.8	-4.1	8.9
2	47	21	66	23.5	10.5	36.5	2.6	2.6	9.1
3	65	7	30	31.6	3.4	12.4	3.5	0.8	3.1
4	8	-12	18	3.5	-5.2	8.1	0.4	-1.3	2.0
5	47	29	32	22.5	13.9	14.3	2.5	3.5	3.6
6	41	41	-21	21.7	21.7	-8.4	2.4	5.4	-2.1
7	57	-11	55	23.1	-4.5	22.1	2.6	-1.1	5.5
8	36	31	30	15.7	13.5	12.7	1.7	3.4	3.2
9	72	48	14	34.8	23.2	5.3	3.9	5.8	1.3
10	99	22	42	51.0	11.3	16.7	5.7	2.8	4.2
11	57	33	61	26.6	15.4	29.0	3.0	3.9	7.3
12	57	34	6	29.2	17.4	2.4	3.2	4.4	0.6
K-12	696	215	439	25.6	7.9	14.8	2.8	2.0	3.7
K-4	230	-12	220	22.3	-1.2	21.1	2.5	-0.3	5.3
5-6	88	70	11	22.1	17.6	2.3	2.5	4.4	0.6
7-8	93	20	85	19.5	4.2	17.5	2.2	1.0	4.4
9-12	285	137	123	35.2	16.9	12.7	3.9	4.2	3.2



Figure 1-B shows enrollment history broken down by grade groupings (K-4, 5-6, 7-8, and 9-12). K-4 enrollment has increased over the last ten years (2.5% annually) with a greater increase over the last five years. 5-6 enrollment also increased by 2.5% annually and 7-8 enrollment has increased by 2.2% annually. However, it is in the high school that the district has seen the largest enrollment increase of 35%, or 4% annually.

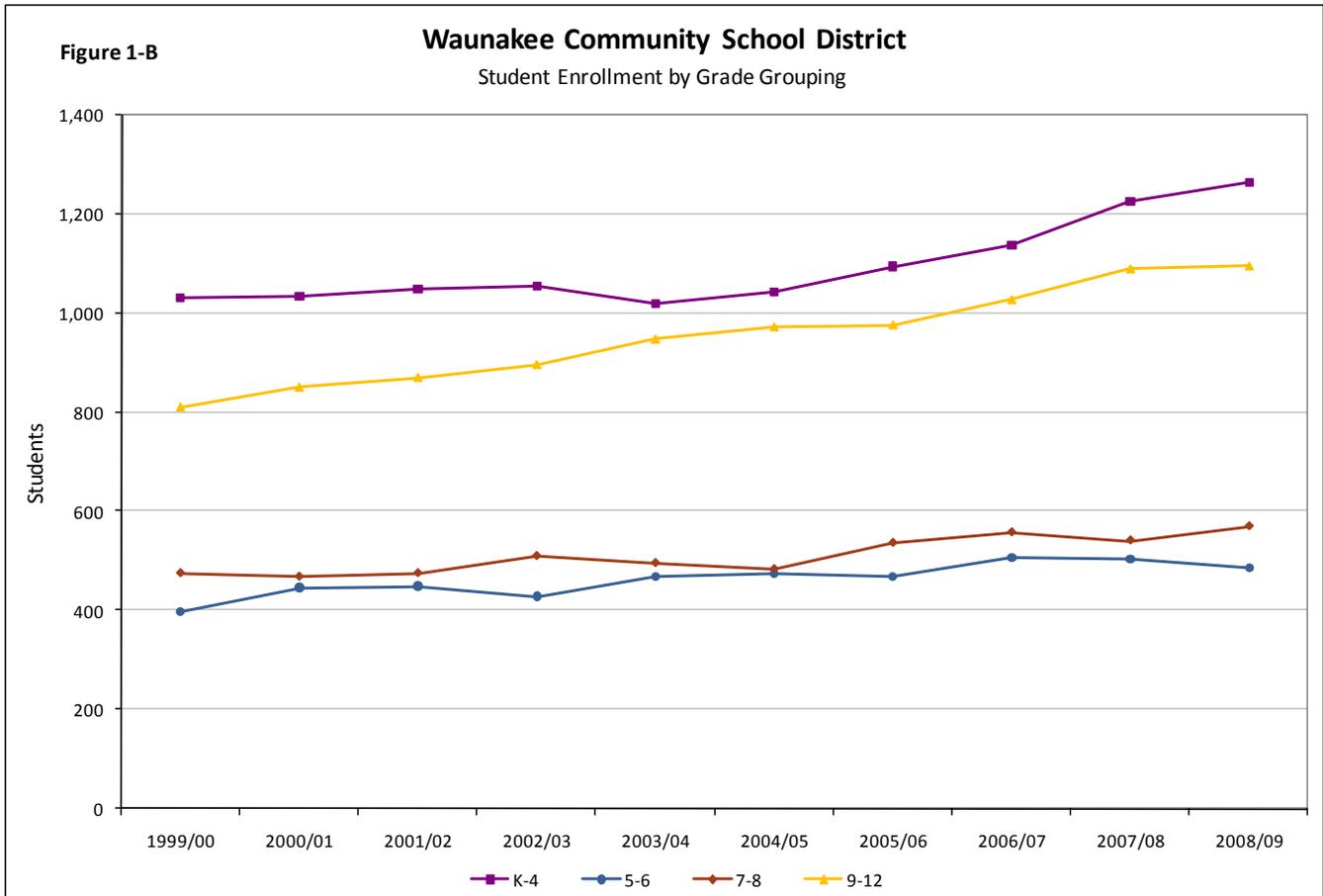
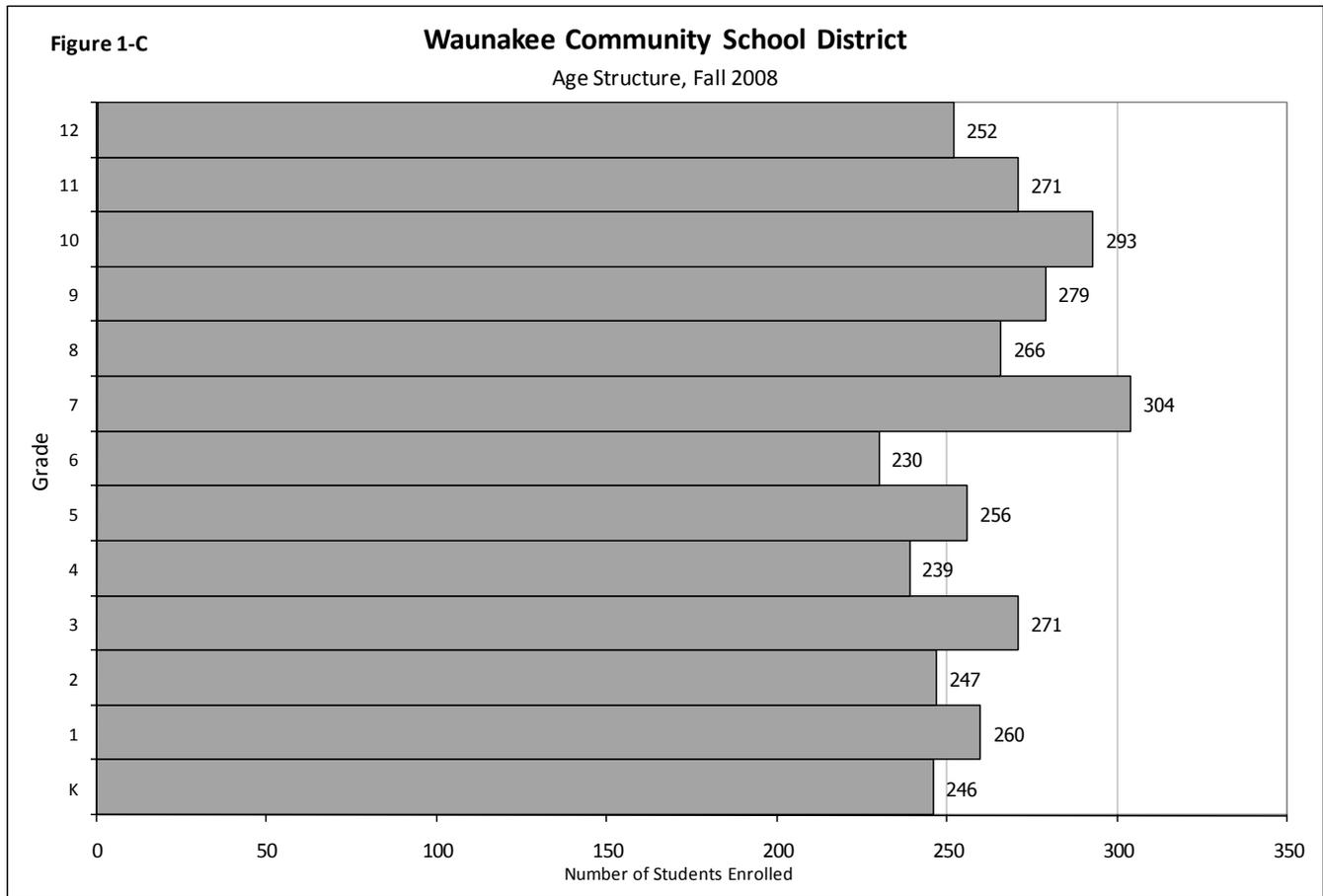
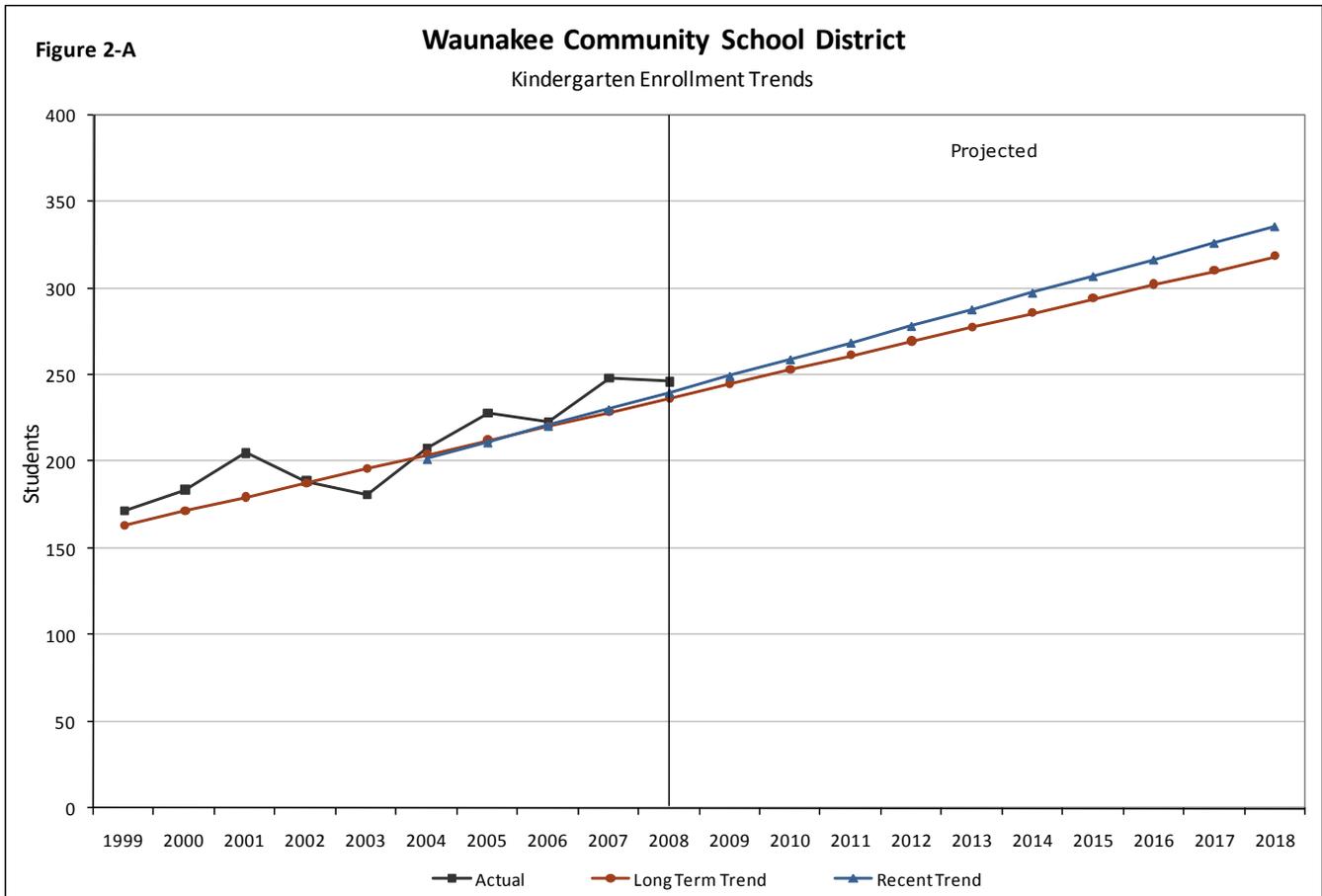


Figure 1-C shows the age structure in fall 2008 of the student population with the number of kindergarteners at the bottom and the number of 12th graders at top. High school and middle school cohorts are relatively large, in comparison to other age groups. The 7th grade cohort is the largest when compared to all other grades.

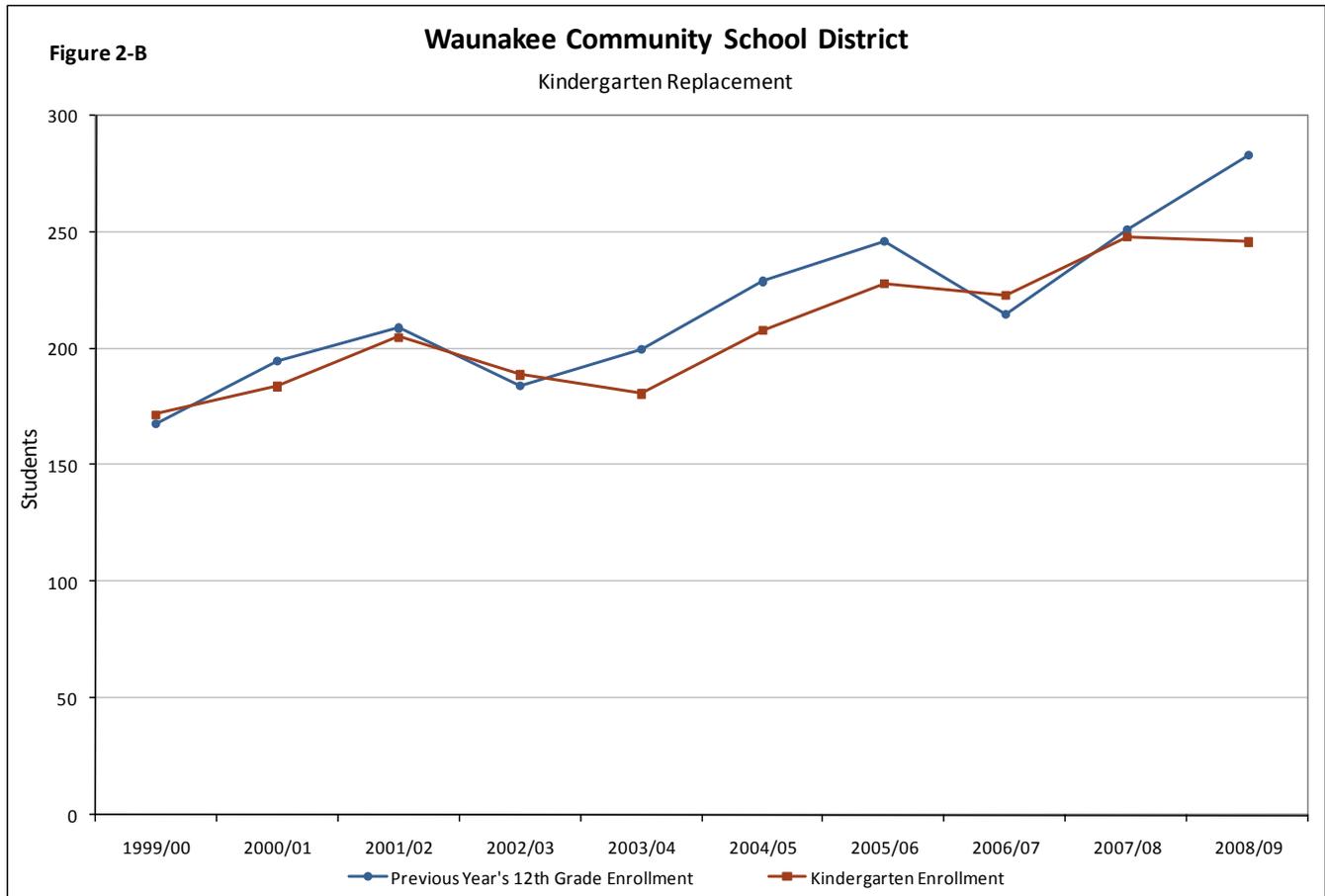


Kindergarten Enrollment Trends

Examining trends in kindergarten enrollment is particularly informative for gaining perspective on future district enrollment, as today’s kindergarteners will gradually make up tomorrow’s students at the higher grade levels as they age and move through the school system. If 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-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 1999 and 2008. The “Recent Trend” line emphasizes kindergarten enrollment changes over the last five years. In the Waunakee Community School District, kindergarten enrollment is trending upwards.



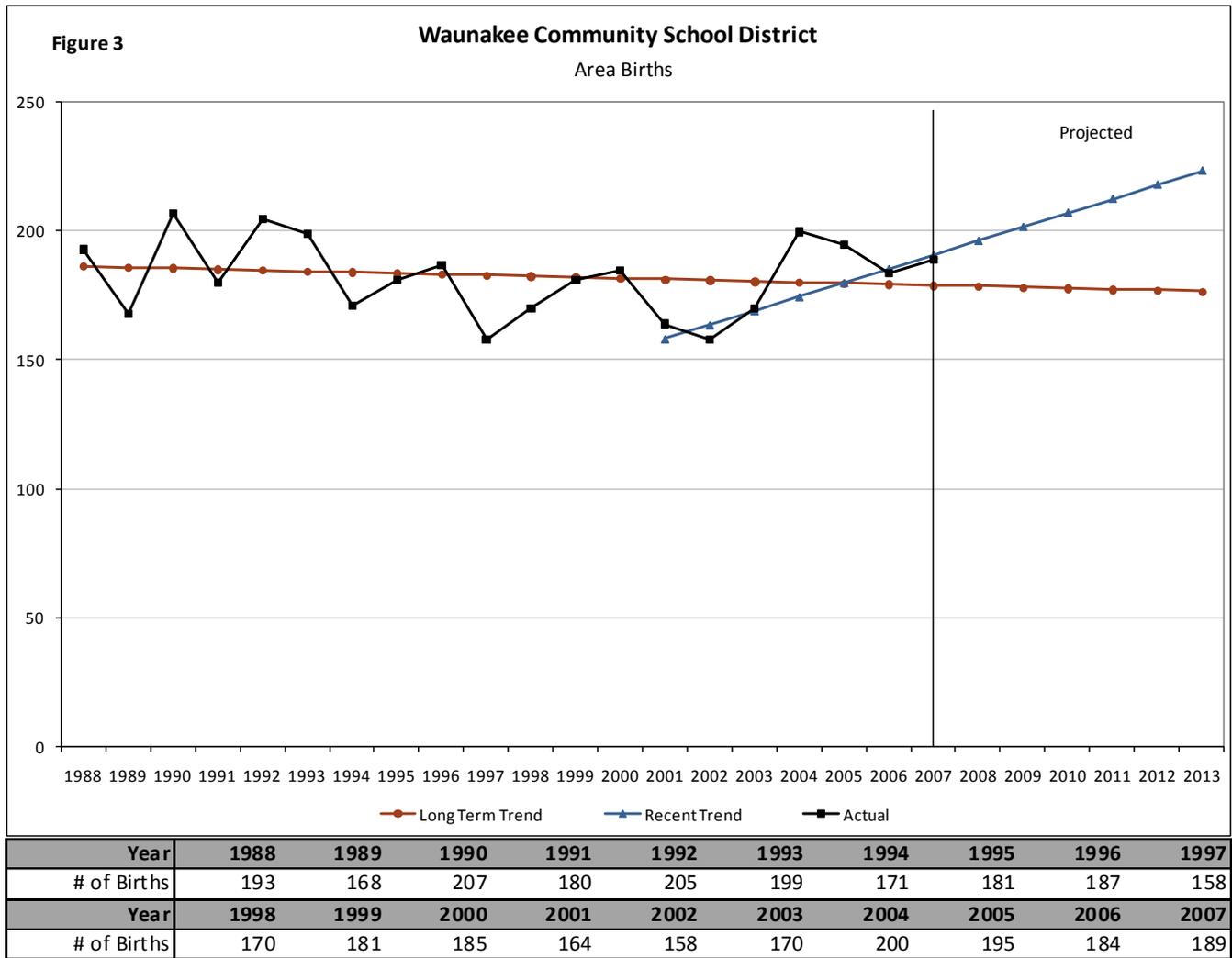
In addition to examining kindergarten enrollment on its own, comparing kindergarten enrollment to outgoing 12th graders offers a snapshot of how the age structure of district enrollment is shifting either from older to younger, or younger to older. In the Waunakee Community School District, in 1999, 2002 and 2006 kindergartners replaced outgoing 12th graders from the previous year, but in all other years outgoing 12th graders from the previous year were greater than the number of kindergartners.



Birth Trends and Projections

We use historical and projected birth data to forecast the number of kindergarten students who will enroll in the Waunakee Community School District in future years. Figure 3 shows (in black) the number of births to mothers living in municipalities that fall within school district boundaries, by year, from 1988-2007, as collected from the Wisconsin Department of Health and Family Services.

We extrapolate these birth trends into the future to correspond with our Baseline and Recent Trend projection models, using the B:K grade progression ratios to transform births into future kindergarteners. The red line in Figure 3 represents birth trends over the long term (between 1988 and 2007). The blue line examines birth patterns for the last seven years and corresponds to the Recent Trend projection models shown later in this report.



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 Waunakee Community School District area. Changes in the total population of the district area, particularly when examined by age, provide clues into how the school age population may be changing.

Table 3 and Figure 4-A provide Wisconsin Department of Administration (DOA) estimates for district area municipalities from 1990 to 2008. These municipal estimates can be compared with estimates for Dane County and the State of Wisconsin. The Waunakee Community School District area grew quickly from 1990-2000. Since that point in time, estimated population growth continued but has slowed.

TABLE 3
Population Estimates of Municipalities: 1990-2008
Waunakee Community School District

Municipality	POPULATION						
	Census 1990	est. 1995	Census 2000	est. 2005	est. 2006	est. 2007	est. 2008
V. Waunakee	5,897	7,219	8,995	10,361	10,755	11,010	11,105
T. Springfield	2,650	2,782	2,762	2,819	2,848	2,867	2,891
T. Vienna	1,351	1,381	1,294	1,329	1,355	1,395	1,401
T. Westport	2,732	3,105	3,586	3,776	3,809	3,819	3,825
District Area	12,630	14,487	16,637	18,285	18,767	19,091	19,222
Dane County	367,085	393,857	426,526	458,297	464,424	468,514	471,559
State of Wisconsin	4,891,769	5,101,581	5,363,715	5,580,757	5,617,744	5,648,124	5,675,000

Municipality	PERCENT CHANGE						AVG. ANNUAL 1990-2008
	1990 to 1995	1995 to 2000	2000 to 2005	2005 to 2006	2006 to 2007	2007 to 2008	
V. Waunakee	22.4%	24.6%	15.2%	3.8%	2.4%	0.9%	4.9%
T. Springfield	5.0%	-0.7%	2.1%	1.0%	0.7%	0.8%	0.5%
T. Vienna	2.2%	-6.3%	2.7%	2.0%	3.0%	0.4%	0.2%
T. Westport	13.7%	15.5%	5.3%	0.9%	0.3%	0.2%	2.2%
District Area	14.7%	14.8%	9.9%	2.6%	1.7%	0.7%	2.9%
Dane County	7.3%	8.3%	7.4%	1.3%	0.9%	0.6%	1.6%
State of Wisconsin	4.3%	5.1%	4.0%	0.7%	0.5%	0.5%	0.9%

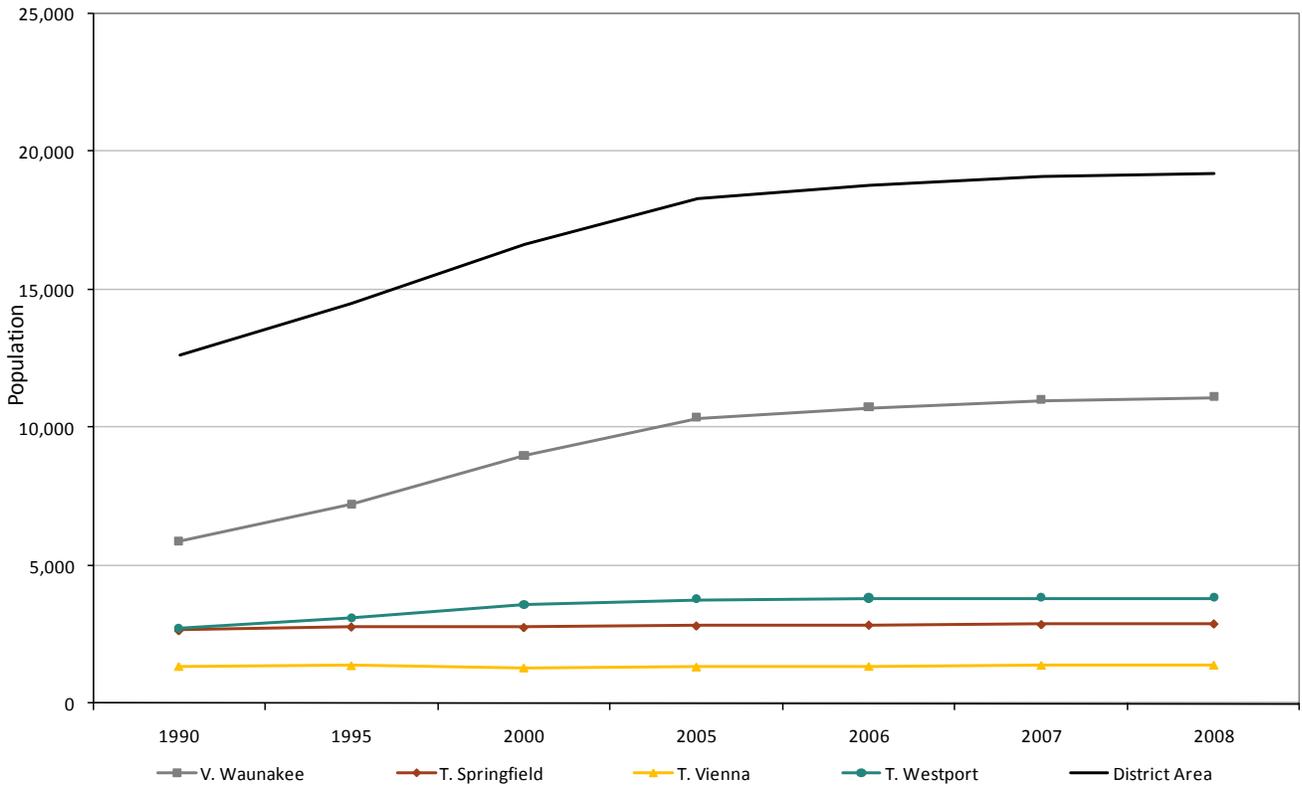
Source: Official Population Estimates (1990-2008). Demographic Services Center, DOA.



Figure 4-A

Waunakee Community School District

Population Estimates for Area Municipalities



Population projections to 2020 for Waunakee Community School District municipalities are provided in Table 4. These projections suggest that area population will continue to increase in the coming years at growth rates similar to 2000-05. Overall, the district area is expected to gain about 7,395 residents between 2000 and 2020.

TABLE 4
Population Projections of Municipalities: 1990-2020
Waunakee Community School District

Municipality	POPULATION							CHANGE 2000 to 2020
	Census 1990	Estimate 1995	Census 2000	Estimate 2005	Projections			
					2010	2015	2020	
V. Waunakee	5,897	7,219	8,995	10,361	11,881	13,409	14,976	5,981
T. Springfield	2,650	2,782	2,762	2,819	2,893	2,984	3,080	318
T. Vienna	1,351	1,381	1,294	1,329	1,343	1,362	1,381	87
T. Westport	2,732	3,105	3,586	3,776	4,030	4,308	4,595	1,009
District Area	12,630	14,487	16,637	18,285	20,147	22,063	24,032	7,395
Dane County	367,085	393,857	426,526	458,297	489,712	523,818	559,005	132,479
State of Wisconsin	4,891,769	5,101,581	5,363,715	5,580,757	5,772,370	5,988,420	6,202,810	839,095

Municipality	PERCENT CHANGE						
	Observed & Estimated			Projected			
	1990-95	1995-00	2000-05	2005-10	2010-15	2015-20	2000-20
V. Waunakee	22.4%	24.6%	15.2%	14.7%	12.9%	11.7%	66.5%
T. Springfield	5.0%	-0.7%	2.1%	2.6%	3.1%	3.2%	11.5%
T. Vienna	2.2%	-6.3%	2.7%	1.1%	1.4%	1.4%	6.7%
T. Westport	13.7%	15.5%	5.3%	6.7%	6.9%	6.7%	28.1%
District Area	14.7%	14.8%	9.9%	10.2%	9.5%	8.9%	44.4%
Dane County	7.3%	8.3%	7.4%	6.9%	7.0%	6.7%	31.1%
State of Wisconsin	4.3%	5.1%	4.0%	3.4%	3.7%	3.6%	15.6%

Municipality	ANNUAL RATE OF CHANGE						
	Observed & Estimated			Projected			
	1990-95	1995-2000	2000-05	2005-10	2010-15	2015-20	2000-20
V. Waunakee	4.5%	4.9%	3.0%	2.9%	2.6%	2.3%	3.3%
T. Springfield	1.0%	-0.1%	0.4%	0.5%	0.6%	0.6%	0.6%
T. Vienna	0.4%	-1.3%	0.5%	0.2%	0.3%	0.3%	0.3%
T. Westport	2.7%	3.1%	1.1%	1.3%	1.4%	1.3%	1.4%
District Area	2.9%	3.0%	2.0%	2.0%	1.9%	1.8%	2.2%
Dane County	1.5%	1.7%	1.5%	1.4%	1.4%	1.3%	1.6%
State of Wisconsin	0.9%	1.0%	0.8%	0.7%	0.7%	0.7%	0.8%

Source: Population Projections for Wisconsin Municipalities: 2000-2035 (2008). Demographic Services Center, DOA.



Table 5 shows population projections by age for Dane County. In the county as a whole, the number of children age 0-4, 5-9, and 10-14 is expected to increase over the coming years. Because these projections are for the entirety of Dane County, they may or may not resemble the future age structure of the population within the Waunakee Community School District area.

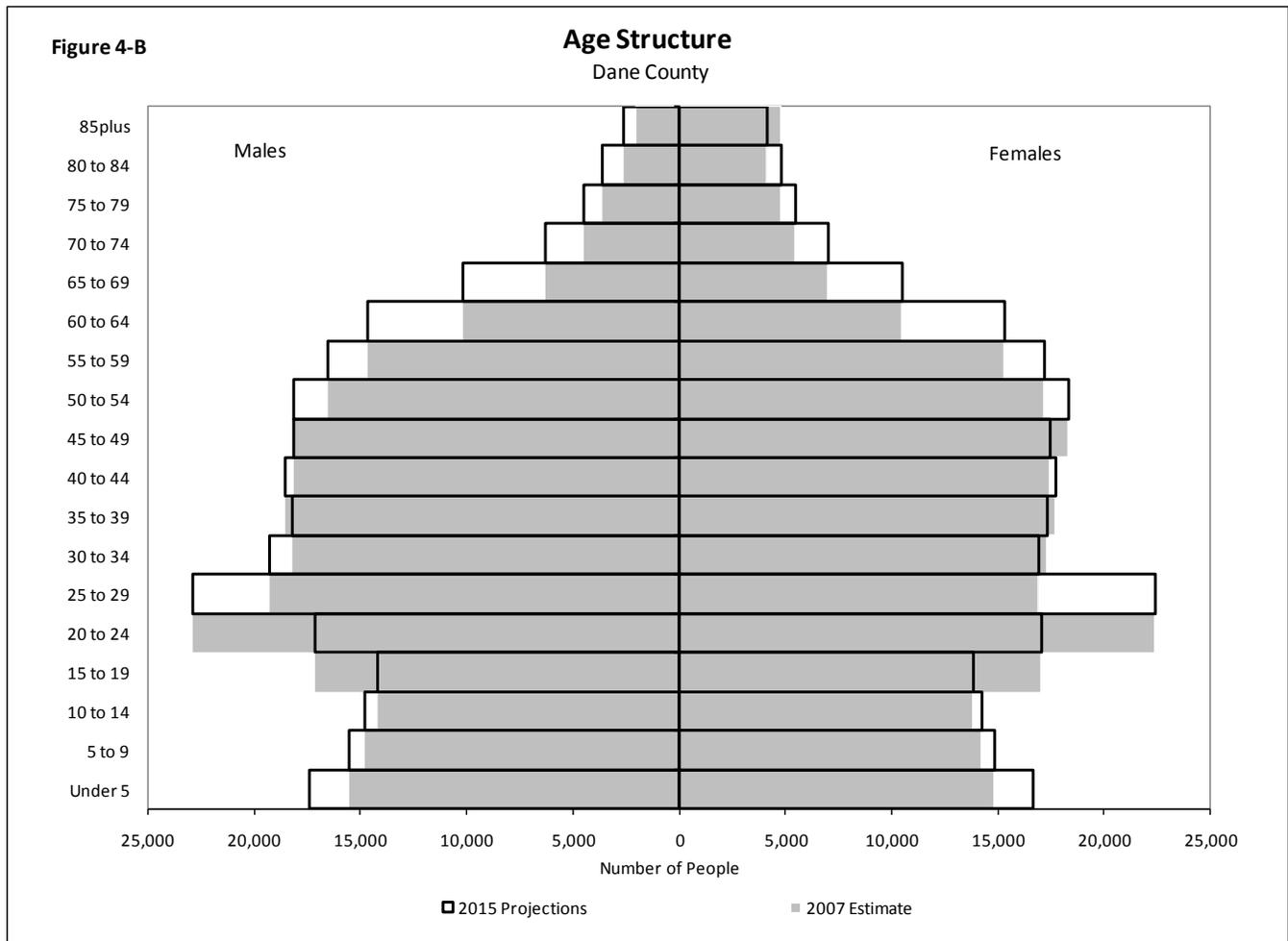
TABLE 5
Population Projections by Age: 2010-2035
Waunakee Community School District

Dane County						
Age Group	2010	2015	2020	2025	2030	2035
0-4	30,809	34,092	36,871	38,543	39,904	41,758
5-9	29,583	31,709	35,058	37,713	39,267	40,496
10-14	28,125	31,553	33,750	37,053	39,641	41,057
15-19	34,069	33,692	37,405	39,501	42,936	45,545
20-24	48,871	49,019	47,969	51,917	54,160	58,180
25-29	39,847	40,808	40,953	39,921	43,101	44,827
30-34	34,782	37,974	38,920	38,925	37,848	40,752
35-39	32,511	34,700	37,916	38,730	38,639	37,469
40-44	33,852	32,817	35,052	38,123	38,836	38,644
45-49	35,764	34,228	33,224	35,361	38,314	38,913
50-54	34,547	35,667	34,196	33,115	35,180	38,022
55-59	31,871	33,660	34,816	33,311	32,215	34,159
60-64	24,852	30,444	32,234	33,285	31,817	30,734
65-69	16,001	23,116	28,417	30,053	31,026	29,632
70-74	10,791	14,875	21,573	26,544	28,117	29,057
75-79	8,645	9,596	13,275	19,303	23,865	25,377
80-84	7,107	7,202	8,054	11,178	16,350	20,349
85-89	4,833	5,086	5,224	5,900	8,256	12,191
90-94	2,065	2,547	2,755	2,885	3,312	4,706
95-99	663	862	1,110	1,244	1,343	1,585
100 & Over	124	171	233	312	373	423
Totals	489,712	523,818	559,005	592,917	624,500	653,876

Source: Population Projections for Wisconsin Counties: 2000-2035 (2008). Demographic Services Center, DOA.



Figure 4-B shows population estimates for 2007 by age for Dane County from the U.S. Census Bureau and population projections for 2015 produced by the Wisconsin Department of Administration Demographic Services Center. At the present time, there are more children of a younger age living in Dane County than older school age children. By 2015 the number of school aged children in Dane County is expected to have increased in all age categories except ages 15-19.



Residential Development

Table 6-A shows the number of housing starts in the Waunakee Community School District over the past ten years. Area housing starts have fluctuated over time. In 2005 single family units peaked with the construction of 211 units, but since that time housing starts have declined in all housing types.

TABLE 6-A
School District Area Housing Starts
Waunakee Community School District

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
District Area										
TOTAL	252	296	143	181	169	192	228	256	154	127
Single Family	131	103	124	142	139	170	210	211	140	115
Two Family	24	8	5	12	6	6	8	22	14	12
Multi-family	97	185	14	27	24	16	10	23	0	0
V. Waunakee										
TOTAL	153	90	104	116	127	134	187	162	110	108
Single Family	87	72	92	109	97	134	169	137	96	96
Two Family	14	6	0	4	6	0	8	22	14	12
Multi-family	52	12	12	3	24	0	10	3	0	0
T. Springfield										
TOTAL	6	5	8	10	11	13	13	17	12	5
Single Family	4	5	8	8	11	13	13	17	12	5
Two Family	2	0	0	2	0	0	0	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
T. Vienna										
TOTAL	9	6	2	8	7	5	9	44	25	3
Single Family	9	6	2	8	7	5	9	44	25	3
Two Family	0	0	0	0	0	0	0	0	0	0
Multi-family	0	0	0	0	0	0	0	0	0	0
T. Westport										
TOTAL	84	195	29	47	24	40	19	33	7	11
Single Family	31	20	22	17	24	18	19	13	7	11
Two Family	8	2	5	6	0	6	0	0	0	0
Multi-family	45	173	2	24	0	16	0	20	0	0

Source: Demographic Services Center, DOA

Examining trends in recent housing development can help to explain how in-migration into the Waunakee Community 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 begin to 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



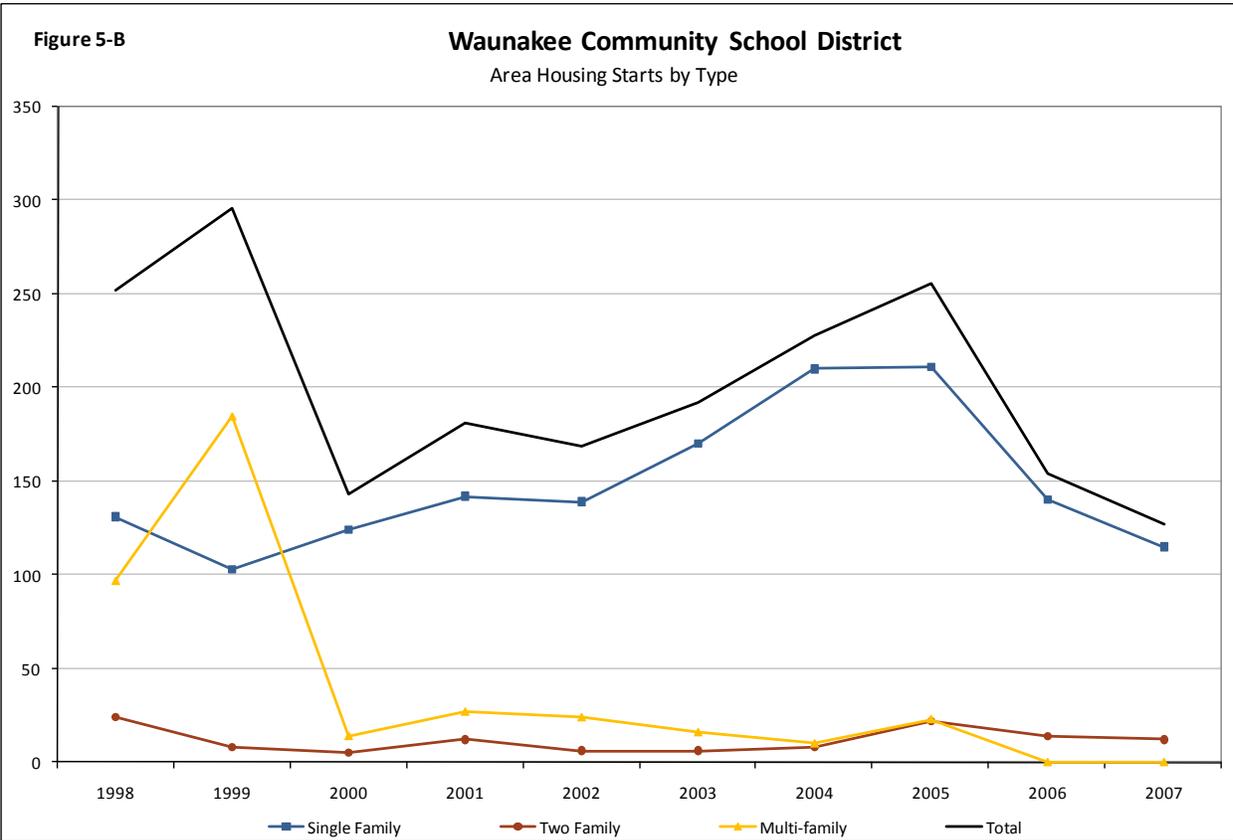
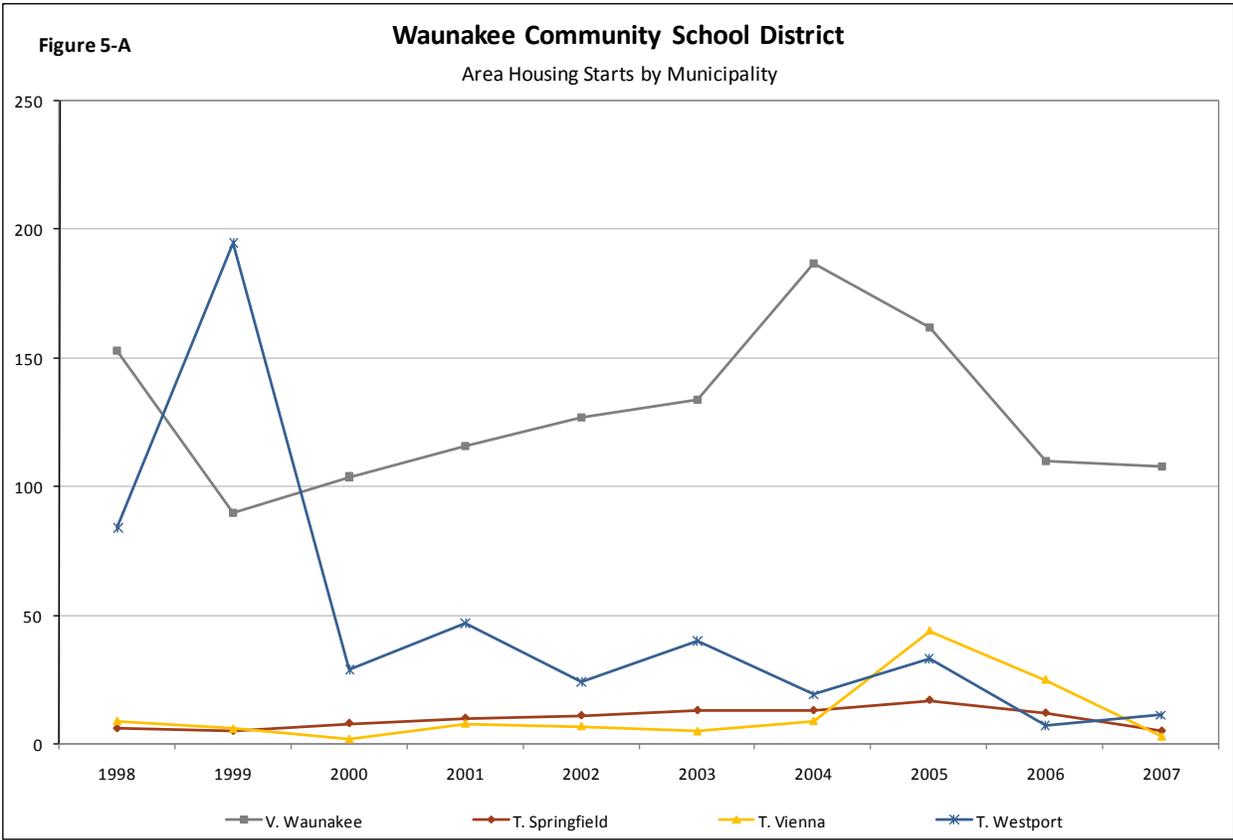
state policy makers, residential developers, interest rates, demand for housing, economy, etc.), making future growth patterns difficult to predict.

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

The majority of housing development in the mid-2000 occurred in the Village of Waunakee. The towns in the district have seen similar housing development trends with the exception of the Town of Westport where a large multi-family residential development was constructed in 1999. Households in two-family and multi-family complexes, on average, contain fewer school-aged children than single family homes.

The entire district area has experienced a decline in development over the past three years (including 2008), especially in the construction of single family homes. There were 58 new single family housing units in 2008 in the Village of Waunakee. This is consistent with housing and economic trends in Dane County, Wisconsin, and the United States as a whole. Figure 5-A shows the number of residential building permits issued by municipality for communities that fall within the Waunakee Community School District area. Figure 5-B shows housing starts in the area by type of housing unit—single family home, duplex, and multi-family housing unit.





Since 1998 the Waunakee Community School District has experienced an increase in housing development, especially in single family units. However, the district has experienced a decline in home construction from 2006 to 2008 indicating a slowing in the housing market. This report identifies residential developments planned in the district's growth areas. In an effort to predict the most reasonable future development patterns in the district, interviews conducted with municipal planning and administrative personnel provided an understanding of specific development plans over the next 10 years. Table 6-B shows the projected housing units in the school district area over the next ten years. When determining these projections the downturn in the economy and the planning decisions of the Village of Waunakee were taken into consideration.¹ A complete list of approved subdivisions and preliminary plats can be found in the appendix (Table A) at the end of the report.

TABLE 6-B
Projected Development
Waunakee Community School District

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Housing Units	40	40	50	50	100	100	125	125	125	125

Table 6-C shows the number of school age children that are projected to move into the school district due to new housing development. The child per household ratio used for each grade grouping is derived from the average children per household for Dane County from the U.S. Census (grades K-4, ratio .39; grades 5-8, ratio .20; grades 9-12 ratio .17). These ratios are multiplied by the projected number of new single family homes to determine the additional number of projected resident students.

TABLE 6-C
Additional Students from Residential Development
Waunakee Community School District

Grade Grouping	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
K-4	8	8	10	10	20	20	25	25	25	25
5-6	8	8	9	9	19	19	24	24	24	24
7-8	8	8	10	10	20	20	25	25	25	25
9-12	7	7	9	9	17	17	21	21	21	21
K-12	30	30	37	37	76	76	95	95	95	95

¹ The Highland development (3,000 housing units) is early in its preliminary planning stage. T. Wall met with the City of Middleton in January to present the conceptual plan.



Method

The method used to create the enrollment projections for the Waunakee Community School District is the grade progression ratio method. The Applied Population Laboratory customizes projections to best fit an individual district's needs by adjusting the basic model based on information about birth trends, recent housing development, economic changes, and/or population projections.

Grade Progression Ratio 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 method". This method advances current students through the school system over time and applies rates of transfer (or "survival") as the students who are now in school age from year to year and grade to grade. It is through these rates of transfer that we make assumptions about how migration into and out of the district and transfers to and from different schools or home schooling will impact future enrollment. In order to project incoming kindergarten students, we gather data on births from the Wisconsin Department of Health and Family Services and assume that a certain percentage of the children born to mothers residing in the school district area will enroll as kindergarteners five years later. 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.

Table 7 shows the grade progression ratios for the Waunakee Community 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
Waunakee Community 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
99-00/00-01	1.036	1.215	0.991	1.040	1.034	0.987	1.043	1.196	0.988	1.030	1.029	0.985	0.977
00-01/01-02	1.108	1.120	0.995	1.000	1.005	0.991	1.044	1.165	0.987	1.025	0.970	0.967	0.963
01-02/02-03	1.127	1.039	1.039	1.024	1.023	1.081	0.957	1.097	0.984	1.018	0.980	0.974	0.971
02-03/03-04	1.090	0.989	1.038	0.995	1.028	1.048	1.018	1.168	1.000	1.020	0.952	1.008	1.022
03-04/04-05	1.173	1.061	0.968	1.090	1.038	1.023	1.055	1.083	1.000	1.015	0.984	0.972	0.996
04-05/05-06	1.241	1.029	1.089	1.066	1.041	1.041	1.067	1.143	1.004	1.030	1.015	0.992	1.024
05-06/06-07	1.304	1.114	1.042	1.057	1.124	1.052	1.052	1.113	1.017	1.032	1.000	1.022	1.008
06-07/07-08	1.550	1.063	1.047	1.058	1.081	1.041	1.053	1.099	1.038	1.000	1.035	1.016	1.029
07-08/08-09	1.482	1.048	1.042	1.019	1.013	1.071	1.018	1.094	1.000	1.011	1.003	1.015	1.020
Baseline	1.218	1.075	1.028	1.038	1.033	1.046	1.044	1.120	0.998	1.023	0.997	0.995	1.006
5 Year Trend	1.300	1.063	1.038	1.058	1.060	1.046	1.049	1.106	1.012	1.018	1.008	1.004	1.015
2 Year "Trend"	1.482	1.056	1.045	1.039	1.047	1.056	1.035	1.096	1.019	1.005	1.019	1.016	1.025

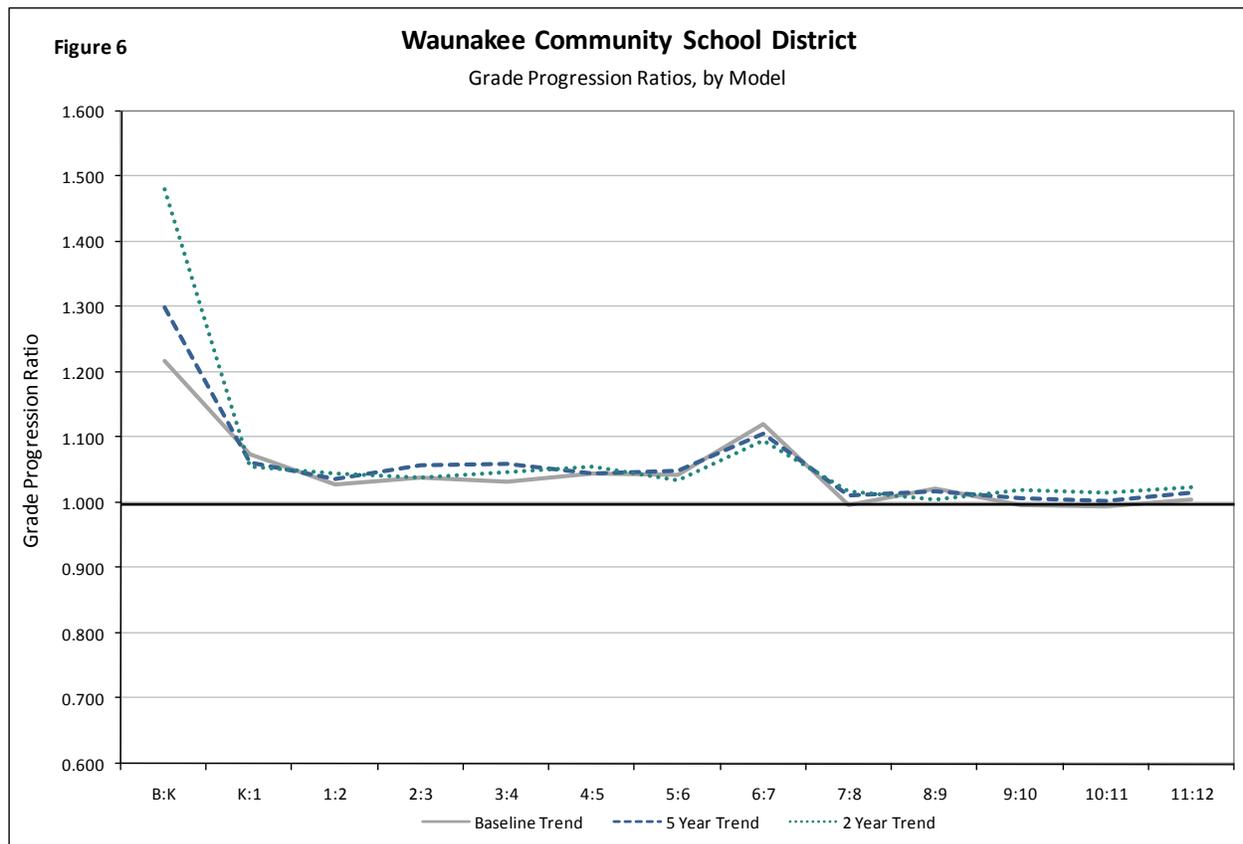
*Shaded progression ratios are excluded from the Baseline Average



The grade progression ratios can be interpreted in the following manner. The Baseline ratio for K:1 is 1.075. This means that in the Waunakee Community School District, the first grade is on average 7.5% larger each year than the kindergarten class was the previous year (the result of transfers from other schools and in-migration into the district). The B:K (birth to kindergarten) Baseline ratio of 1.218 indicates that on average, an additional 22% of births from outside the district enrolled in kindergarten in the Waunakee Community School District. Outliers (ratios outside of one standard deviation of the mean) are not included in the calculation of the Baseline average ratios.

In order to examine future enrollment under different growth assumptions, we generate four sets of grade progression ratios that correspond to the different projection models shown later in this report. In addition to the Baseline ratios (averages 10 years of enrollment), we examine rates of transfer in the last 5 years and the last 2 years, effectively weighing enrollment change patterns from different time periods more heavily than the Baseline. The Residential Development model uses the 5 Year Trend grade progression ratios plus the additional students that may move into the district due to new housing development to project future students.

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 sets of grade progression ratios.



School Enrollment Projections, 2009-2018

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. This is especially true for grades K-4, because the students who will enter kindergarten after 2012 have not yet been born. Overall, our projections are more reliable over the next five years (up to the 2013/14 school year) than they are in the latter half of the decade.

Baseline Projection

The Baseline model (Table 8) projects enrollments using the assumption that average trends year to year, grade to grade, will continue into the future. This model assumes that long term (past ten years) trends in enrollment, migration, and births will be representative of future trends in the district. This model projects that enrollment will increase steadily over the next five to ten years. In total, over the next five years (2013-14), the model projects that K-12 enrollment will increase by 8.8% or 301 students.

TABLE 8
Baseline Projection Model, 2009/10-2018/19
Waunakee Community School District

	SCHOOL YEAR									
	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19
K	231	240	229	228	222	217	217	216	216	215
1	263	247	256	244	244	237	232	231	231	230
2	267	270	254	263	251	250	243	238	238	237
3	256	277	280	263	273	260	260	253	247	247
4	280	265	286	289	272	282	269	268	261	255
5	250	293	277	300	303	285	295	281	281	273
6	267	261	306	289	313	316	297	308	294	293
7	258	299	292	342	324	350	354	333	345	329
8	303	257	299	292	341	323	349	353	332	344
9	272	310	263	305	298	349	330	357	361	339
10	278	271	309	262	305	297	348	329	356	360
11	291	277	270	308	261	303	296	346	328	355
12	273	293	278	271	309	262	305	298	348	330
K-12	3,490	3,560	3,599	3,657	3,715	3,732	3,795	3,812	3,837	3,807
K-4	1,297	1,299	1,305	1,288	1,261	1,246	1,221	1,207	1,193	1,185
5-6	517	554	583	589	615	601	592	589	574	566
7-8	561	556	591	634	665	673	703	686	677	673
9-12	1,114	1,151	1,120	1,147	1,173	1,212	1,279	1,331	1,394	1,384



5 Year Trend Projection

The 5 Year Trend model (Table 9) 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. For the 5 Year Trend, enrollment is projected to increase from 3,414 students in 2008 to 3,915 students in 2013. With recent migration rates and birth trends weighted more heavily, enrollment in the Waunakee Community School District is projected to increase the next five years by 14.6%.

TABLE 9
5 Year Trend Projection Model, 2009/10-2018/19
Waunakee Community School District

GRADE	SCHOOL YEAR									
	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19
K	247	256	244	244	252	260	267	274	281	288
1	261	263	272	259	259	268	276	284	291	299
2	270	271	272	282	269	269	278	287	294	302
3	261	285	287	288	298	285	284	294	303	312
4	287	277	302	304	305	316	302	301	312	321
5	250	300	290	316	318	319	331	316	315	326
6	269	262	315	304	332	334	335	347	331	330
7	254	297	290	348	336	367	369	371	384	366
8	308	257	301	293	352	340	371	373	375	388
9	271	313	262	306	299	359	346	378	380	382
10	281	273	315	264	308	301	361	349	381	383
11	294	282	274	316	265	309	302	363	350	382
12	275	299	286	278	321	269	314	307	368	355
K-12	3,528	3,635	3,710	3,803	3,915	3,995	4,136	4,242	4,365	4,434
K-4	1,327	1,352	1,378	1,377	1,384	1,397	1,407	1,440	1,482	1,522
5-6	518	562	604	620	650	653	666	662	646	656
7-8	562	555	591	642	689	707	740	744	759	754
9-12	1,121	1,166	1,138	1,164	1,193	1,238	1,323	1,396	1,479	1,502



2 Year "Trend" Projection

The 2 Year "Trend" model (Table 10) 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 3,414 students in 2008 to 4,056 students in 2013, or an increase of 19% over the next five.

TABLE 10
2 Year "Trend" Projection Model, 2009/10-2018/19
Waukegan Community School District

GRADE	SCHOOL YEAR									
	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19
K	282	291	278	278	287	296	304	312	320	328
1	260	297	308	294	293	303	313	321	330	338
2	272	271	310	321	307	306	317	327	336	344
3	257	282	282	322	334	319	318	329	339	349
4	284	269	295	295	338	350	334	333	345	355
5	252	300	284	312	312	357	369	352	352	364
6	265	261	310	294	323	323	369	382	365	364
7	252	291	287	340	322	354	354	405	419	400
8	310	257	296	292	347	328	361	360	412	427
9	267	311	258	298	294	349	330	363	362	415
10	284	273	317	263	303	299	355	336	370	369
11	298	289	277	322	267	308	304	361	341	376
12	278	305	296	284	330	274	316	311	370	350
K-12	3,560	3,697	3,799	3,915	4,056	4,165	4,343	4,493	4,661	4,779
K-4	1,353	1,411	1,473	1,510	1,559	1,574	1,585	1,622	1,670	1,715
5-6	518	561	594	606	635	679	738	735	716	728
7-8	562	547	583	632	669	682	715	765	832	827
9-12	1,127	1,178	1,148	1,167	1,195	1,230	1,305	1,371	1,443	1,509



Residential Development Projection

The Residential Development model (Table 11) uses future residential development trends to predict future student enrollments. This method does not provide individual grade-level projections, only grade group projections. The 5 Year Trend grade progression ratios are used to project students then additional students due to new residential development (Table 6-C, p. 16) are added to the totals. Enrollment in the Waunakee Community School District would increase by 17%, from 3,414 students in 2008 to 3,992 students in 2013.

TABLE 11
Residential Development Projection Model, 2009/10-2018/19
Waunakee Community School District

GRADE	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19
K-12	3,559	3,666	3,748	3,841	3,992	4,072	4,232	4,337	4,460	4,530
K-4	1,335	1,360	1,388	1,387	1,404	1,417	1,432	1,465	1,507	1,547
5-6	526	570	613	629	669	672	690	687	670	680
7-8	570	562	600	652	708	727	765	769	783	779
9-12	1,128	1,173	1,146	1,173	1,210	1,255	1,345	1,417	1,500	1,523



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 seven years, regardless of the number of observed births in the school district area.

The Kindergarten Trend model projects a similar increase in enrollment to the 2 Year Trend model. According to this hybrid projection method (Table 12), enrollment is projected to increase from 3,414 students in 2008 to 4,024 students in 2013. This is an increase of 610 students (18%) over the next five years.

TABLE 12
Kindergarten Trend Projection Model, 2009/10-2018/19
Waukegan Community School District

GRADE	09-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19
K	250	259	269	279	288	298	307	317	327	336
1	261	266	276	286	296	306	317	327	337	347
2	270	271	276	286	297	307	318	328	339	350
3	261	285	287	292	303	314	325	336	348	359
4	287	277	302	304	309	321	333	345	356	368
5	250	300	290	316	318	323	335	348	360	373
6	269	262	315	304	332	334	339	352	365	378
7	254	297	290	348	336	367	369	375	389	404
8	308	257	301	293	352	340	371	373	379	394
9	271	313	262	306	299	359	346	378	380	386
10	281	273	315	264	308	301	361	349	381	383
11	294	282	274	316	265	309	302	363	350	382
12	275	299	286	278	321	269	314	307	368	355
K-12	3,531	3,642	3,742	3,872	4,024	4,148	4,338	4,497	4,679	4,814
K-4	1,330	1,359	1,410	1,446	1,493	1,546	1,600	1,653	1,707	1,760
5-6	518	562	604	620	650	657	674	700	725	750
7-8	562	555	591	642	689	707	740	748	768	797
9-12	1,121	1,166	1,138	1,164	1,193	1,238	1,323	1,396	1,479	1,506



Comparison of Projection Models

Figures 7-11 and Tables 13-17 compare the four enrollment projection models broken down by total K-12 district enrollment and by grade groupings.

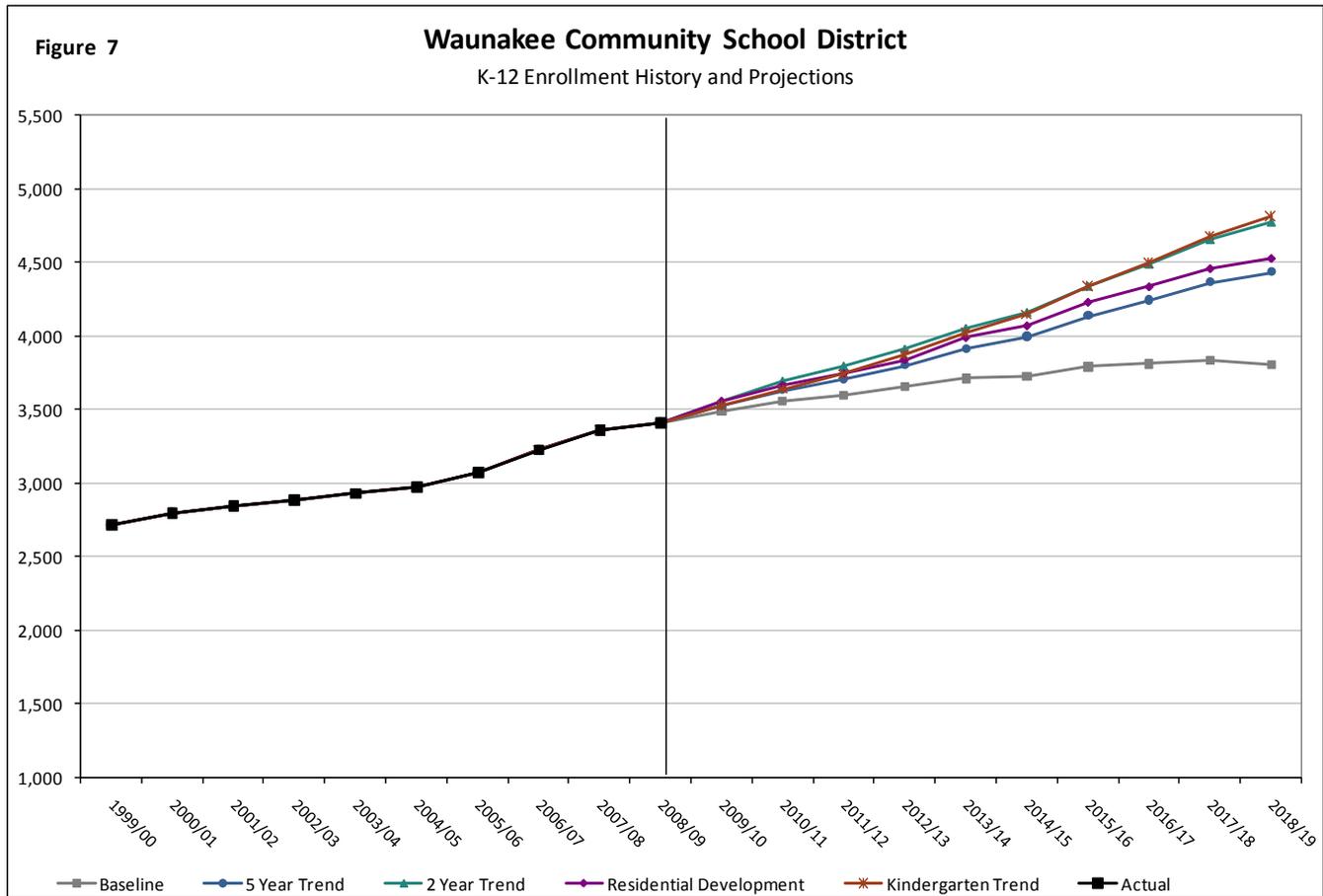


TABLE 13
Summary of K-12 Enrollment Projections, 2009/10-2018/19
Waunakee Community School District

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baseline	3,490	3,560	3,599	3,657	3,715	3,732	3,795	3,812	3,837	3,807
5 Year Trend	3,528	3,635	3,710	3,803	3,915	3,995	4,136	4,242	4,365	4,434
2 Year "Trend"	3,560	3,697	3,799	3,915	4,056	4,165	4,343	4,493	4,661	4,779
Kindergarten Trend	3,531	3,642	3,742	3,872	4,024	4,148	4,338	4,497	4,679	4,814
Residential Development	3,559	3,666	3,748	3,841	3,992	4,072	4,232	4,337	4,460	4,530

All five models project an increase in K-12 enrollment with the 2 Year Trend and Kindergarten Trend models projecting the greatest increase. District-wide enrollment projections five years from now (2013) predict a range of enrollment from 3,715 to 4,056.



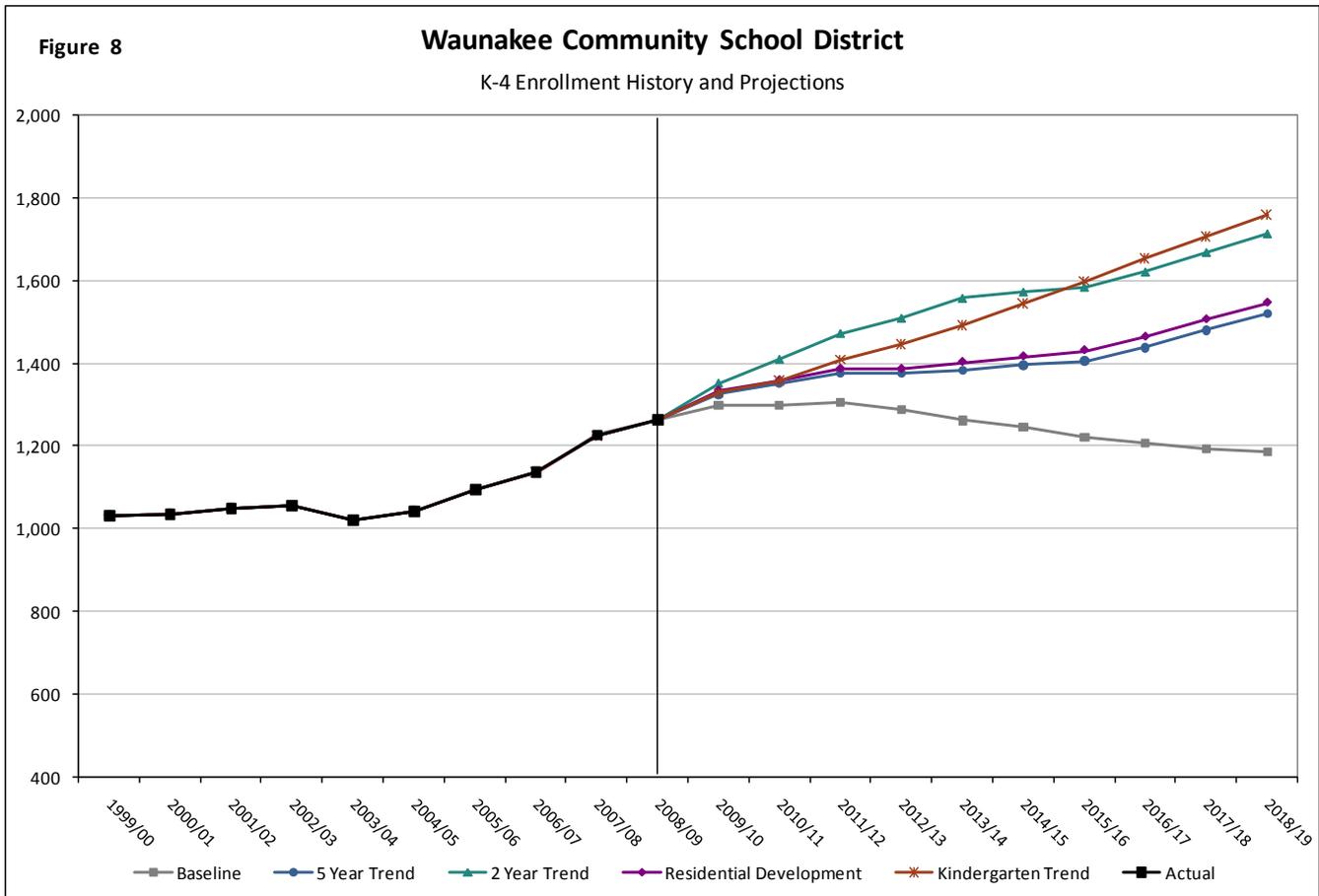


TABLE 14
Summary of K-4 Enrollment Projections, 2009/10-2018/19
Waunakee Community School District

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baseline	1,297	1,299	1,305	1,288	1,261	1,246	1,221	1,207	1,193	1,185
5 Year Trend	1,327	1,352	1,378	1,377	1,384	1,397	1,407	1,440	1,482	1,522
2 Year "Trend"	1,353	1,411	1,473	1,510	1,559	1,574	1,585	1,622	1,670	1,715
Kindergarten Trend	1,330	1,359	1,410	1,446	1,493	1,546	1,600	1,653	1,707	1,760
Residential Development	1,335	1,360	1,388	1,387	1,404	1,417	1,432	1,465	1,507	1,547

For grades K-4 all of the projection models project an increase in student enrollment over the next decade except the Baseline model. In the case of the Baseline model, enrollment peaks in 2011 and then declines during the remaining time period. The 5 Year Trend and Residential Development models project significant and steady increases over the next ten years. The 2 Year "Trend" and Kindergarten Regression models project the largest increase in enrollment.



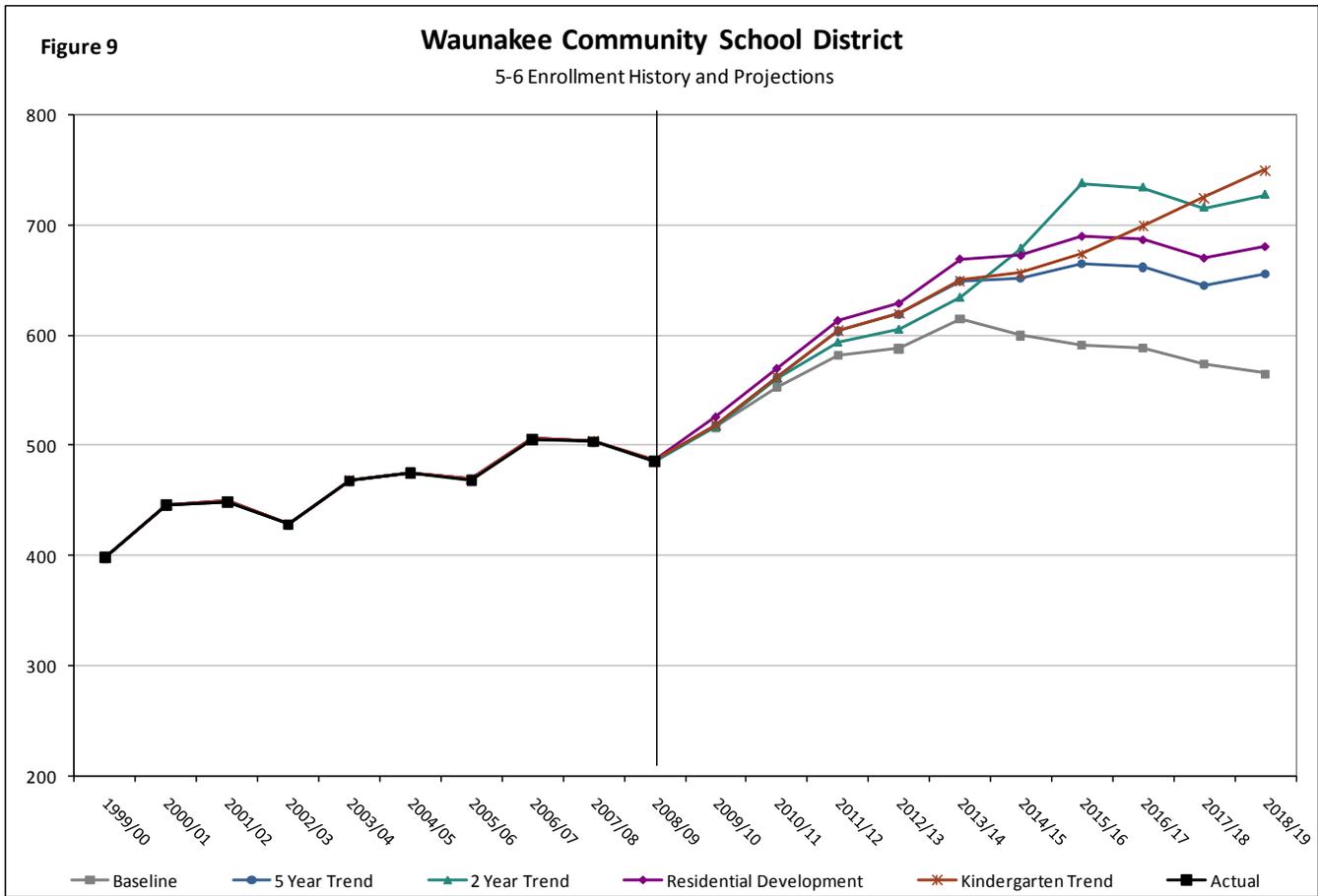


TABLE 15
Summary of 5-6 Enrollment Projections, 2009/10-2018/19
Waunakee Community School District

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baseline	517	554	583	589	615	601	592	589	574	566
5 Year Trend	518	562	604	620	650	653	666	662	646	656
2 Year "Trend"	518	561	594	606	635	679	738	735	716	728
Kindergarten Trend	518	562	604	620	650	657	674	700	725	750
Residential Development	526	570	613	629	669	672	690	687	670	680

At the 5-6 grades, all models project significant increases in enrollment over the next five years. The Baseline model projects similar enrollment to the other models in the next five years. However, the model projects decreased enrollment during the last five years. Enrollment projections five years from now (2013) predict a range of enrollment from 615 to 669.



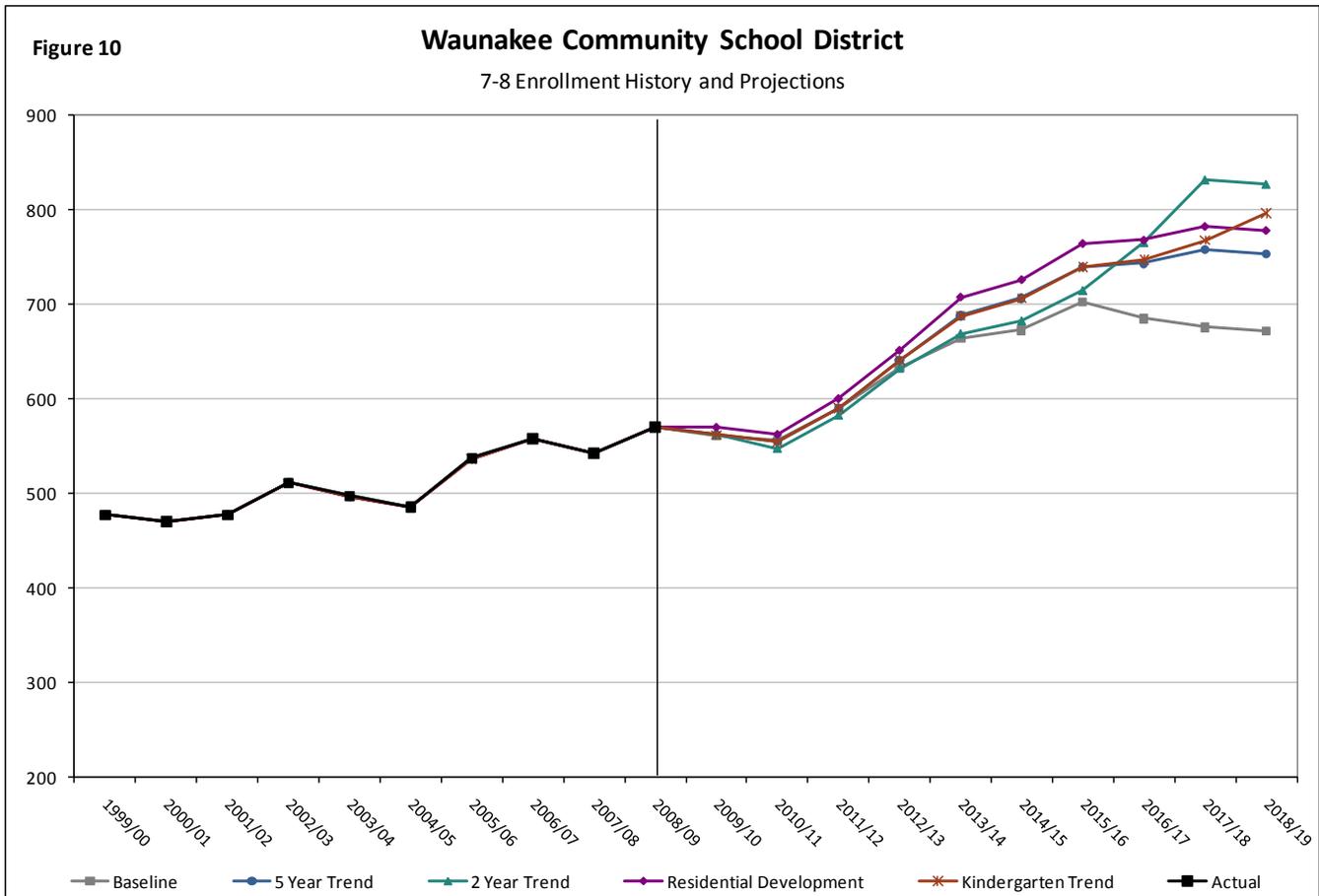


TABLE 16
Summary of 7-8 Enrollment Projections, 2009/10-2018/19
Waunakee Community School District

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baseline	561	556	591	634	665	673	703	686	677	673
5 Year Trend	562	555	591	642	689	707	740	744	759	754
2 Year "Trend"	562	547	583	632	669	682	715	765	832	827
Kindergarten Trend	562	555	591	642	689	707	740	748	768	797
Residential Development	570	562	600	652	708	727	765	769	783	779

At the 7-8 grades, all models project slight decreases in enrollment over the next two years followed by a significant increase of students during the following years. Enrollment projections five years from now (2013) predict a range of enrollment from 665 to 708.



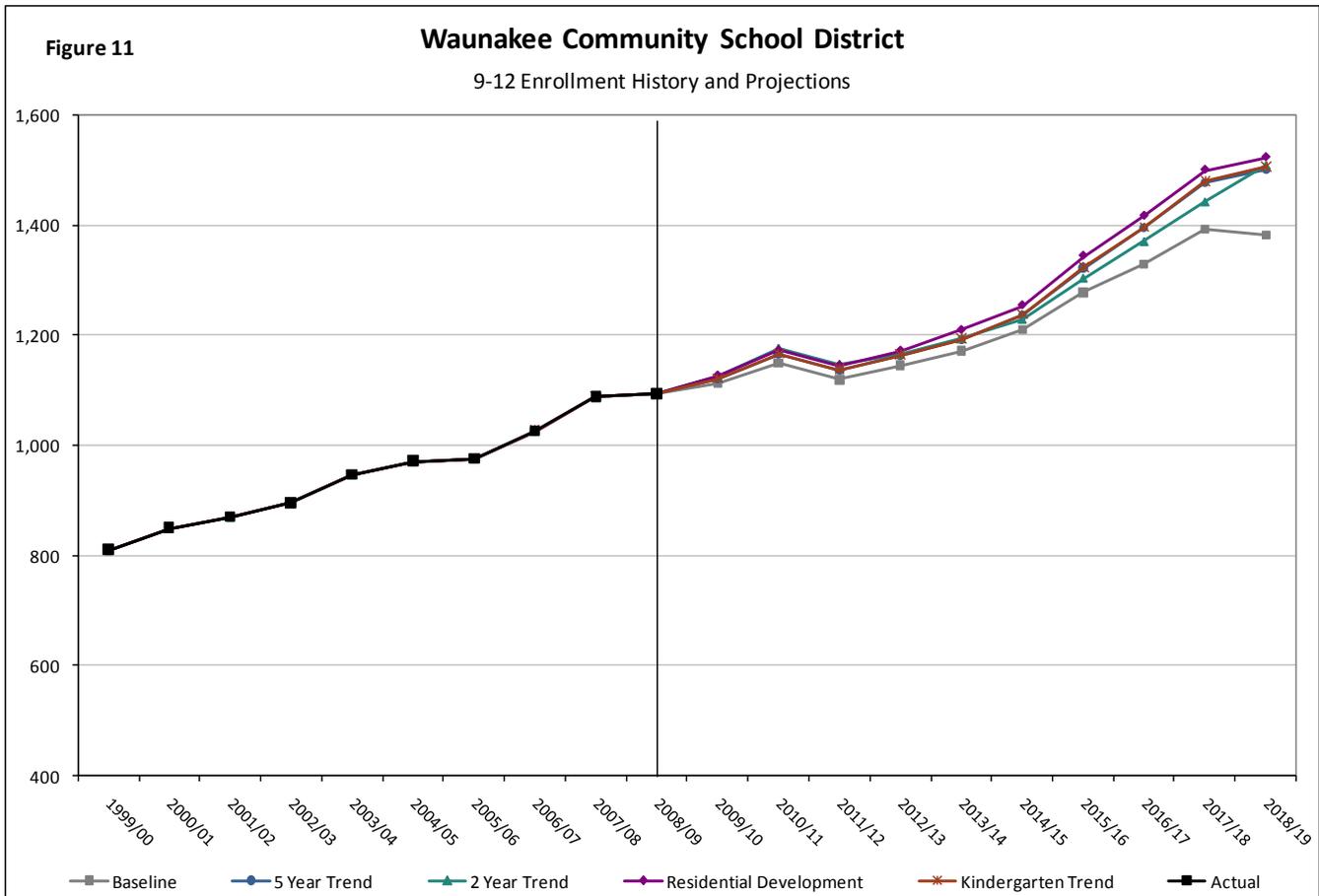


TABLE 17
Summary of 9-12 Enrollment Projections, 2009/10-2018/19
Waunakee Community School District

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Baseline	1,114	1,151	1,120	1,147	1,173	1,212	1,279	1,331	1,394	1,384
5 Year Trend	1,121	1,166	1,138	1,164	1,193	1,238	1,323	1,396	1,479	1,502
2 Year "Trend"	1,127	1,178	1,148	1,167	1,195	1,230	1,305	1,371	1,443	1,509
Kindergarten Trend	1,121	1,166	1,138	1,164	1,193	1,238	1,323	1,396	1,479	1,506
Residential Development	1,128	1,173	1,146	1,173	1,210	1,255	1,345	1,417	1,500	1,523

All models project steady increases in enrollment at the high school level over the next five to ten years. Enrollment projections five years from now (2013) predict a range of enrollment from 1,173 to 1,210.



Conclusions

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

In sum, the information provided in this school enrollment projections report points to increased enrollment in the Waunakee Community School District over the next decade. The 2 Year Trend and Kindergarten Trend models project the greatest increases while the Baseline model projects a more modest increase in enrollment. It is likely by all accounts that housing development will slow in the next several years. However, the grade progression ratios indicate a high level of in-migration. If in-migration continues in the district and recent trends in births also continue into the future, then the district should continue to expect increases in 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.



Appendix

The following table provides the approved subdivisions and the preliminary plats within the Waunakee Community School District.

TABLE A
Approved Subdivisions & Preliminary Plats
Waunakee Community School District

Approved Subdivisions - Village of Waunakee

Single Family
Meadowbrook (phase 1)
Single Family 2 total units
Northridge
Single Family 45 total units
Savannah Village
Single Family 10 total units
Southbridge
Single Family 84 total units
Shenandoah
Single Family 20 total units
Westview Meadows
Single Family 20 total units

Preliminary Plats - Village of Waunakee

Single Family
Kippley
Single Family 320 total units
Meadowbrook (phase 2)
Single Family 24 total units
Pulvermacher
Single Family 275 total units
Multi-Family
Kippley
Multi-Family 44 total units
Meadow Brook (phase 2)
Multi-Family 160 total units
Pulvermacher
Multi-Family 50 total units

Approved Subdivisions - Town of Westport

Single Family
Carriage Ridge (West)
Single Family 32 total units
Tuscany Ridge
Single Family 12 total units

Preliminary Plats - Town of Westport

Single Family
Carriage Ridge (North)
Single Family 40 total units
Highland
Single Family 3,000 total units

Approved Subdivisions - Town of Springfield

Single Family
Springfield Ridge
13 total units
CSM Splits

Town of Vienna

Single Family
CSM Splits

