

WAYZATA PUBLIC SCHOOLS

Independent School District 284
Wayzata, Minnesota

BOARD OF EDUCATION

Work Session - December 20, 2010 - 4:00 PM
210 County Rd. 101 N., Plymouth, MN 55447

AGENDA

- | | |
|---|----|
| 1. CALL TO ORDER/ROLL CALL | 3 |
| 2. ADMINISTRATIVE | |
| 3. TEACHING AND LEARNING | |
| 4. FINANCIAL | |
| A. Student Enrollment and Attendance Areas - H. Reinhardt - <i>20 minutes</i> | 4 |
| B. Facilities Planning Update - J. Westrum, Wold Architects & Engineers - <i>30 minutes</i> | |
| C. Board Facility Input - J. Westrum - <i>60 minutes</i> | |
| 5. HUMAN RESOURCES | |
| 6. BOARD REPORTS | |
| 7. SCHOOL BOARD | |
| A. Tentative Board Agenda for January 10, 2011 - <i>5 minutes</i> | 27 |
| 8. ADJOURN | 28 |

WAYZATA PUBLIC SCHOOLS
Independent School District 284
Wayzata, Minnesota

VISION

A model of excellence among learning communities

MISSION

The mission of the Wayzata School District is to prepare all students for the future by providing a challenging education which builds academic competence, develops responsible citizenship, encourages creativity, promotes lifelong learning, advances critical thinking skills, instills a commitment to personal wellness, and fosters respect for self and others.

District Directions for 2008-2010

To ensure high achievement on the part of each student and to realize our vision, the district's directions for 2008-2010 are:

- *Provide a more personalized education for each student.*
- *Eliminate the predictability of student achievement based on race.*
- *Provide opportunities for students to engage in global connections.*
- *Prepare students in skills that they will need to function effectively in the future including creative thinking, diplomacy, problem solving and teamwork.*
- *Enhance the sense of ownership and engagement in the district by all segments of the community.*

WAYZATA PUBLIC SCHOOLS
Independent School District 284
Wayzata, Minnesota

BOARD OF EDUCATION

Work Session – December 20, 2010

AGENDA SECTION: 1. CALL TO ORDER/ROLL CALL

ITEM: _____

COMMENTS BY: Board Chair Peterson

Susan H. Droegemueller, Board Clerk, will call the roll:

	<u>PRESENT</u>	<u>ABSENT</u>
Ms. Linda A. Cohen	_____	_____
Ms. Susan H. Droegemueller	_____	_____
Ms. Susan Gaither	_____	_____
Ms. Patricia L. Gleason	_____	_____
Mr. Jay A. Hesby	_____	_____
Mr. John A. Moroz	_____	_____
Ms. Carter G. Peterson	_____	_____
Dr. Chace B. Anderson, Ex Officio	_____	_____

WAYZATA PUBLIC SCHOOLS

KIMBERLY LANE RESIDENT ENROLLMENT PROJECTIONS

Hazel H. Reinhardt

November 2010

With the housing market beginning to stir from its doldrums, potential enrollment growth in some Wayzata School District elementary schools is again a reality. This report looks specifically at Kimberly Lane Elementary School.

Projecting resident K-5 enrollment by attendance area is challenging because enrollment by school is relatively small and the opportunity for assumptions to cancel each is limited. To overcome some of these challenges, two methodologies will be used to project enrollment. Using two different methodologies allows for a comparison of results and can provide greater confidence in the projections. The cohort survival method shows how the size of existing cohorts affect future enrollment. Further, the methodology provides projections by grade. The housing starts method reflects the effect of new housing units on enrollment. (See Appendix for an explanation of the methodologies and detailed assumptions.)

Previous Projections June 2010

Projections made in June 2010 showed substantial growth at Kimberly Lane. The cohort survival method projections were based on kindergarten trends prior to and including 2009-10. The housing starts method was based on projected additional housing units provided by developers. (See *Wayzata K-5 Enrollment Projections, June 2010* for more details.)

PROJECTED NEW SINGLE-FAMILY DETACHED HOUSING UNITS				
Attendance Area	2010-11	2011-12	2012-13	2013-14
Birchview	3	2	2	1
Gleason Lake	8	19	15	12
Greenwood	27	97	100	40
Kimberly Lane	102	174	134	51
Oakwood	0	0	0	0
Plymouth Creek	11	23	6	0
Sunset Hill	0	0	0	0
District	151	315	257	104

The additional single-family detached units shown are projected to be built and occupied over the next four years. Four years is about the maximum that developers are able to confidently estimate.

The next table shows the projection for non-single-family detached units.

PROJECTED NEW NON SINGLE-FAMILY DETACHED HOUSING UNITS				
Attendance Area	2010-11	2011-12	2012-13	2013-14
Birchview	0	0	0	0
Gleason Lake	0	0	0	0
Greenwood	0	15	20	7
Kimberly Lane*	20	50	35	12
Oakwood	0	0	0	0
Plymouth Creek	30	40	10	0
Sunset Hill	0	0	0	0
District	50	105	65	19

*67 of the units are apartments; 20 in 2011-12; 35 in 2012-13; 12 in 2013-14

A summary of the housing start method projections by school are shown in the next table. The district total is the sum of the individual schools. Projected resident K-5 enrollment is flat at five of the schools--Birchview, Gleason Lake, Oakwood, Plymouth Creek and Sunset Hill. The projected increase in single-family detached units is also very low in these five attendance areas. The housing starts method projects growth in Greenwood (100 students) and Kimberly Lane (164 students). Both these areas are projected to have large increases in single-family detached units.

HOUSING START METHOD PROJECTIONS RESIDENT ENROLLMENT JUNE 2010				
	2009-10	2013-14	Change	
			Number	Percentage
Birchview	556	554	-2	-0.4%
Gleason Lake	589	598	9	1.5%
Greenwood	562	662	100	17.8%
Kimberly Lane	753	917	164	21.8%
Oakwood	452	450	-2	-0.4%
Plymouth Creek	657	636	-21	-3.2%
Sunset Hill	460	463	3	0.7%
District	4,029	4,280	251	6.2%

Comparison of June 2010 Enrollment Projections

Risk can be assessed and confidence increases when projections based on different methodologies with different strengths and weaknesses are compared. The two methods yielded very similar projections for Gleason Lake and Kimberly Lane. For these two schools, the difference between

the projections is about 2 percent. For both schools the housing start method projects slightly lower enrollment. About a 6 percent difference between the two methods occurs at Oakwood and Sunset Hill. At Oakwood the housing start projection is lower while at Sunset Hill the housing start projection is higher.

COMPARISON OF JUNE 2010 PROJECTIONS 2013-14				
Attendance Area	Housing Start Method	Cohort Survival Method	Difference	
			#	%
Birchview	554	616	-62	-11.2%
Gleason Lake	598	611	-13	-2.2%
Greenwood	662	484	178	+26.9%
Kimberly Lane	917	937	-20	-2.2%
Oakwood	450	476	-26	-5.8%
Plymouth Creek	636	698	-62	-10.7%
Sunset Hill	463	433	30	+6.5%
District	4,280	4,274	6	--

- In the Housing Start Method, the district is the sum of the attendance areas. In the Cohort Survival Method, the district was projected independently of each attendance area.

-Cohort survival based on kindergarten at 114 percent of the kindergarten pool. Migration is based on past year for the district and Plymouth Creek; the average of the past two years for Gleason Lake, Greenwood, and Kimberly Lane; and the average of the past three years for Birchview, Oakwood and Sunset Hill.

Revised Kimberly Lane Projections

Housing Starts Method

Based on changes in elementary attendance boundaries, adopted November 8, 2010, the enrollment projections for Kimberly Lane were updated. The boundary changes moved most of the

PROJECTED NEW SINGLE-FAMILY DETACHED HOUSING UNITS				
Attendance Area	2010-11	2011-12	2012-13	2013-14
Birchview	3	2	2	1
Gleason Lake	8	19	15	12
Greenwood	(27) 84	(97) 172	(100) 140	(40) 71
Kimberly Lane	(102) 47	(174) 99	(134) 67	(51) 0
Oakwood	0	0	0	0
Plymouth Creek	11	23	(6) 33	(0) 20
Sunset Hill	0	0	0	0
District	151	315	257	104

Numbers in parentheses are those of the June 2010 projections. Numbers in bold are those after proposed boundary changes

projected housing unit growth from the Kimberly Lane attendance area to the Greenwood and Plymouth Creek attendance areas. The above table shows the June data in parentheses. The bold numbers reflect the November 8 boundary changes.

As the next table shows, changing attendance boundaries will make a difference in projected enrollment at Kimberly Lane.

KIMBERLY LANE HOUSING STARTS PROJECTIONS		
Year	Enrollment	
	June Projection	November Projection
2009-10	753	753
2010-11	786	747
2011-12	880	803
2012-13	922	821
2013-14	917	800

Cohort Survival Method

A new cohort survival projection was also made for Kimberly Lane. The new projection was based on actual 2010-11 enrollment with the kindergarten projections based on 120 percent of the Wayzata kindergarten pool and migration based on typical Kimberly Lane rates by grade. The updated cohort survival projection is shown in the next table. These projections are also lower than the projections made in June 2010.

In 2013-14, the revised cohort survival projections show a Kimberly Lane enrollment of 817 students while the housing start method shows an enrollment of 800. Changing the attendance boundaries will make a difference in future enrollment at Kimberly Lane.

KIMBERLY LANE COHORT PROJECTION						
Grade	Year					
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
K	104	102	100	100	99	100
1	143	124	122	119	119	118
2	115	155	134	132	129	129
3	138	125	168	146	143	140
4	138	148	133	179	156	153
5	145	146	156	141	189	164
Total	783	799	813	817	835	804

APPENDIX

METHODOLOGIES

Cohort Survival Method

The most common and most robust model for projecting school enrollment is the cohort survival method. However, it is difficult to calibrate survival rates to anticipate housing development, especially in areas where it has not previously occurred. The strength of this method is that it begins with aging the student population. Therefore, any difference in grade size is reflected in the projections as these grades enter and/or leave the elementary grades.

When the cohort survival method is applied to school enrollment, the first step is to "age" a grade to the next higher grade. However, because mortality is so low in the school age population, the entire grade is assumed to "survive" to the next higher grade in the following year.

Once a grade or cohort has been "aged" to the next grade, net migration is added to or subtracted from that grade. Using survival rates accomplishes both "aging" and migration in a single step. Over time, the size of a cohort will increase or decrease as a result of migration as its progresses through the grades.

To project kindergarten, resident births will be used as a proxy for kindergarten five years later. Of course, not every child born in the district will enter the district's kindergarten classes five to six years later. However, some of the "native born" who leave before enrolling in kindergarten will be replaced by children born elsewhere who move into the district before entering kindergarten. If the numbers are equal, the net effect is zero and the kindergarten class would be 100 percent of resident births. In the Wayzata Public Schools, the capture rate is above 100 percent indicating that many resident kindergarten students are born elsewhere.

Revised Cohort Survival Projections (July 2010)

On July 1, 2010, resident kindergarten registration was significantly higher than the projected resident kindergarten in the June 2010 cohort survival projections. Therefore, it seemed prudent to make another set of cohort survival projections based on a larger number of resident kindergarten students. If the number of resident kindergarten students is similar to the July registration, 2010-11 kindergarten will be 120 percent of the resident kindergarten pool. (See the July 2010 report.) Based on this finding, resident kindergarten will be projected to be 120 percent of the resident kindergarten pool through 2014-15.

Besides more resident kindergarten students, each school's share changed. Birchview and Plymouth Creek gained share. Gleason Lake, Kimberly Lane and Sunset Hill lost share. The shares of Greenwood and Oakwood remained about the same.

The next table shows the percentage of resident kindergarten students enrolled in each school. The three years were averaged and this average was used to project resident kindergarten by school.

RESIDENT KINDERGARTEN				
School	2008-09	2009-10	2010-11*	3-yr. avg.**
Birchview	15.2%	14.6%	17.7%	15.8%
Gleason Lake	15.2%	15.6%	13.0%	14.6%
Greenwood	13.7%	10.6%	11.6%	12.0%
Kimberly Lane	14.6%	18.7%	15.7%	16.3%
Oakwood	10.8%	12.3%	12.6%	11.9%
Plymouth Creek	17.2%	17.0%	19.6%	17.9%
Sunset Hill	13.3%	11.2%	9.8%	11.5%

*Anticipated kindergarten enrollment as of July 1, 2010

**Percentage used to make kindergarten projections

The next table shows the projected resident kindergarten at each school. The district total is based on 120 percent of the resident kindergarten pool. With this assumption, resident kindergarten never falls below 600 students. The 2010-11 projection reflects the students registered as of July 1, 2010.

RESIDENT KINDERGARTEN PROJECTIONS					
School	2010-11*	2011-12	2012-13	2013-14	2014-15
Birchview	114	98	97	97	96
Gleason Lake	84	91	90	89	89
Greenwood	75	75	75	73	74
Kimberly Lane	101	102	100	100	99
Oakwood	81	74	73	73	73
Plymouth Creek	126	111	110	110	109
Sunset Hill	63	72	71	70	70
District	644	623	616	612	610

*Anticipated kindergarten enrollment as of July 1, 2010

The difference between the June and July cohort projections is small for Gleason Lake, Oakwood and Sunset Hill. Greenwood is still too low because the survival rates do not anticipate the projected housing growth. Therefore, the housing starts projection is the best projection for Greenwood.

The July cohort survival projection (120 percent of the pool) produces higher enrollment at Birchview and Plymouth Creek and lower enrollment at Kimberly Lane.

Year over year survival rates were analyzed and the "best" representative rate was selected for each school. An average of more than one year is desirable because averages create trend lines by removing the annual fluctuations.

Housing Starts Method

The housing starts method is a variation on the housing unit method and is another way of projecting school enrollment. When a district has thousands of existing housing units, the addition of a couple hundred more units doesn't affect total enrollment in a significant way. However, new units are often concentrated in specific neighborhoods and that can have a significant effect on enrollment in individual attendance areas. Additional housing units become a major focus because the projections are for individual elementary schools. If enrollment grows beyond the capacity of a particular building, attendance boundaries need to be adjusted or building capacity increased.

The importance of housing emerges from a number of Housing Occupancy and Enrollment Studies in three states. The following principles emerged from these studies:

- Housing unit type affects the number of school age children per unit. Detached single-family housing units have the highest school age child per unit ratio. Attached single-family units, such as townhouses, have significantly fewer children per unit than single-family detached units and apartment units have even fewer school age children per unit. The only exception is units, specifically designated for low income families with children. For enrollment projection purposes, single-family detached units are the only units that warrant careful attention. This holds true for the Wayzata School District as well where 84.4 percent of resident public school enrollment comes from single-family detached units.
- New units yield more students than existing units. New single-family detached units yield more school age children per unit than existing single-family detached units. As existing units sell (turnover), the school age child per unit ratio falls in those units. The only exception is turnover in recently built units.
- As the population ages, more housing units are being built for mature adults (55+ years) and for seniors. These units will have zero school age children per household.

The strength of the housing starts method is in estimating the student yield from new units. The weakness is in quantifying the effect of school age children aging in place in existing units. This weakness is further compounded by not being able to quantify the effect of sales (turnover) of existing units on school age population. Stated simply, the yield of new units is taken at face value (gross effect) with no way to estimate the net effect of the new units. Hence, the housing starts method tends to over project enrollment.

The Housing Occupancy and Enrollment Study for the Wayzata School District provide data for refinement in the housing starts method. As a result of that study, K-5 yields are available for existing units, for recently sold existing units and for new units. Because these data are available, the housing starts method will be refined and calculated as follows.

Existing Single-Family Detached Units X Percent Selling Annually = Existing Units (no change) and Existing Single-Family Detached Units (with new residents)

A. Existing Single-Family Detached Units (with no change) X K-5 yield = Projected students

B. Existing Single-Family Detached Units (with new residents) X K-5 yield = Projected students

C. New Single-Family Detached Units X K-5 yield = Projected students

Add Projected Students from A, B, and C = Projected students from Single-Family Detached Units

Add Projected Students from Single-Family Detached Units to Projected Students from Non Single-Family Detached Units = Total Student Population

The importance of turnover versus new units is underscored in the projections. In four years, turnover accounts for 900 students while new single-family units account for 610 students.

The next two tables show annual single-family detached unit sales and the K-5 public school yields by attendance area. These most recent data will be used to project K-5 enrollment by attendance area.

Annual single-family detached unit sales are significantly higher in the Kimberly Lane and Plymouth Creek attendance areas (7.5% and 7.2% respectively) than elsewhere in the district. Birchview has the lowest percentage of annual turnover (3.0%). Gleason Lake, Sunset Hill and Oakwood have similar percentages of sales annually (3.5%, 3.5% and 3.7% respectively). Annual sales of existing units are just slightly higher for Greenwood (4.0%).

PERCENT OF SINGLE-FAMILY DETACHED UNITS WITH TURNOVER ANNUALLY	
Attendance Area	%
Birchview	3.0%
Gleason Lake	3.5%
Greenwood	4.0%
Kimberly Lane	7.5%
Oakwood	3.7%
Plymouth Creek	7.2%
Sunset Hill	3.5%

K-5 YIELDS PER SINGLE-FAMILY DETACHED UNIT				
Attendance Area	Non Movers	Movers		Total
		Unit Built Pre 2007	Unit Built 2007 or Later	
Birchview	0.19	0.27	0.25	0.19
Gleason Lake	0.19	0.17	0.25	0.19
Greenwood	0.29	0.48	0.63	0.31
Kimberly Lane	0.39	0.64	0.72	0.43
Oakwood	0.18	0.20	0.60	0.18
Plymouth Creek	0.25	0.36	0.52	0.28
Sunset Hill	0.18	0.15	0.13	0.18
District	0.23	0.31	0.56	0.24

The difference in K-5 yields by moving status and year built varies among the attendance areas. For example, there is very little difference between movers by year unit built and non-movers in the Sunset Hill attendance area. The differences in yields in the Gleason Lake and Oakwood areas are also small, except that units built in 2007 or later have a higher yield, especially in Oakwood. The biggest differences are in the Kimberly Lane attendance area. Differences in Greenwood and Plymouth Creek are also large. These data underscore the importance of estimating the moving status of families by each attendance area in order to achieve more accurate projections.

The K-5 student yields in townhomes are so low that parsing the data further is unnecessary. Furthermore, projecting the effect of the townhomes is not necessary. In four years, the 50 additional townhomes in the Kimberly Lane attendance area will produce six K-5 students while the 80 additional townhomes in the Plymouth Creek attendance area will produce seven K-5 students.

K-5 YIELD IN TOWNHOMES	
Attendance Area	K-5 Yield
Birchview	0.01
Gleason Lake	0.01
Greenwood	0.00
Kimberly Lane	0.12
Oakwood	0.03
Plymouth Creek	0.09
Sunset Hill	0.00
District	0.04

HOUSING START PROJECTION--JUNE 2010					
KIMBERLY LANE					
	2009-10	2010-11	2011-12	2012-13	2013-14
Housing Units					
Carry Forward		1,622	1,724	1,898	2,032
Non Movers		1,500	1,595	1,756	1,880
Movers		122	129	142	152
New		102	174	134	51
Projections					
Non Movers		585	622	685	733
Movers		78	83	91	97
New		73	125	96	37
Total	703	736	830	872	867
Non S-F Units	50	50	50	50	50
Total	753	786	880	922	917

HOUSING START PROJECTION--REVISED					
KIMBERLY LANE					
	2009-10	2010-11	2011-12	2012-13	2013-14
Housing Units					
Carry Forward		1,622	1,669	1,768	1,835
Non Movers		1,500	1,544	1,635	1,697
Movers		122	125	133	138
New		47	99	67	0
Projections					
Non Movers		585	602	638	662
Movers		78	80	85	88
New		34	71	48	0
Total	703	697	753	771	750
Non S-F Units	50	50	50	50	50
Total	753	747	803	821	800

**WAYZATA RESIDENT ENROLLMENT
KIMBERLY LANE**

ENROLLMENT HISTORY					
Grade	2006-07	2007-08	2008-09	2009-10	2010-11
K	125	92	80	120	104
1	122	116	110	107	143
2	112	109	126	125	115
3	118	114	128	131	138
4	117	105	123	139	138
5	132	109	111	131	145
Total	727	644	677	753	783

NET MIGRATION				
	2006-07 to 2007-08	2007-08 to 2008-09	2008-09 to 2009-10	2009-10 to 2010-11
K to 1	-9	18	27	23
1 to 2	-13	10	15	8
2 to 3	2	19	5	13
3 to 4	-13	9	11	7
4 to 5	-8	6	8	6
Total	-41	62	66	57

SURVIVAL RATES				
	2006-07 to 2007-08	2007-08 to 2008-09	2008-09 to 2009-10	2009-10 to 2010-11
K to 1	0.928	1.196	1.338	1.192
1 to 2	0.893	1.086	1.136	1.075
2 to 3	1.018	1.174	1.040	1.104
3 to 4	0.890	1.079	1.086	1.053
4 to 5	0.932	1.057	1.065	1.043

WAYZATA PUBLIC SCHOOLS

GREENWOOD RESIDENT ENROLLMENT PROJECTIONS

Hazel H. Reinhardt

December 2010

With the housing market beginning to stir from its doldrums, potential enrollment growth in some Wayzata School District elementary schools is again a reality. This report looks specifically at Greenwood Elementary School.

Projecting resident K-5 enrollment by attendance area is challenging because enrollment by school is relatively small and the opportunity for assumptions to cancel each is limited. To overcome some of these challenges, two methodologies will be used to project enrollment. Using two different methodologies allows for a comparison of results and can provide greater confidence in the projections. The cohort survival method shows how the size of existing cohorts affect future enrollment. Further, the methodology provides projections by grade. The housing starts method reflects the effect of new housing units on enrollment. (See Appendix for an explanation of the methodologies and detailed assumptions.)

Previous Projections June 2010

Projections made in June 2010 were contradictory for Greenwood. The cohort survival method projections were based on kindergarten trends prior to and including 2009-10 as well as migration rates for the recent past. These migration assumptions do not anticipate future residential development. The housing starts method, however, was based on projected additional housing units provided by developers. (See *Wayzata K-5 Enrollment Projections, June 2010* for more details.)

PROJECTED NEW SINGLE-FAMILY DETACHED HOUSING UNITS				
Attendance Area	2010-11	2011-12	2012-13	2013-14
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The additional single-family detached units shown are projected to be built and occupied over the next four years. Four years is about the maximum that developers are able to confidently estimate.

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Oakwood	0	0	0	0
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*67 of the units are apartments; 20 in 2011-12; 35 in 2012-13; 12 in 2013-14

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similar projections for Gleason Lake and Kimberly Lane. For these two schools, the difference between the projections is about 2 percent. For both schools the housing start method projects slightly lower enrollment. About a 6 percent difference between the two methods occurs at Oakwood and Sunset Hill. At Oakwood the housing start projection is lower while at Sunset Hill the housing start projection is higher. At Oakwood the housing start projection is lower while at Sunset Hill the housing start projection is higher.

The difference between the two methods is about 11 percent at Birchview and Plymouth Creek with the housing start projections being the lower of the projections at both schools.

COMPARISON OF JUNE 2010 PROJECTIONS 2013-14				
Attendance Area	Housing Start Method	Cohort Survival Method	Difference	
			#	%
Birchview	554	616	-62	-11.2%
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District	4,280	4,274	6	--

- In the Housing Start Method, the district is the sum of the attendance areas. In the Cohort Survival Method, the district was projected independently of each attendance area.

-Cohort survival based on kindergarten at 114 percent of the kindergarten pool. Migration is based on past year for the district and Plymouth Creek; the average of the past two years for Gleason Lake, Greenwood, and Kimberly Lane; and the average of the past three years for Birchview, Oakwood and Sunset Hill.

At Greenwood the difference between the two projections is very large (178 students). As mentioned earlier, the cohort survival projection is obviously too low because it did not anticipate the large increase in single-family detached units projected for this attendance area. However, the housing start method doesn't account for the cohort decline which will occur because kindergarten and Grades 1 and 2 are so much smaller than Grades 3, 4, and 5.

Revised Greenwood Projections

Housing Starts Method

Based on changes in elementary attendance boundaries, adopted November 8, 2010, the enrollment projections for Kimberly Lane and Greenwood were updated. The boundary changes moved most of the projected housing unit growth from the Kimberly Lane attendance area to the Greenwood and Plymouth Creek attendance areas. The next table shows the June data in parentheses. The bold numbers reflect the November 8 boundary changes.

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Attendance Area	2010-11	2011-12	2012-13	2013-14
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Kimberly Lane	(102) 47	(174) 99	(134) 67	(51) 0
Oakwood	0	0	0	0
Plymouth Creek	11	23	(6) 33	(0) 20
Sunset Hill	0	0	0	0
District	151	315	257	104

Numbers in parentheses are those of the June 2010 projections. Numbers in bold are those after proposed boundary changes

As the next table shows, changing attendance boundaries makes a difference in projected enrollment at Greenwood.

GREENWOOD HOUSING STARTS PROJECTIONS		
Year	Enrollment	
	June Projection	November Projection
2009-10	562	562
2010-11	562	603
2011-12	613	690
2012-13	644	745
2013-14	636	753

Cohort Survival Method

A new cohort survival projection was also made for Greenwood. The new projection was based on actual 2010-11 enrollment with the kindergarten projections based on 120 percent of the Wayzata

GREENWOOD COHORT PROJECTION						
Grade	Year					
	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
K	73	75	75	75	73	74
1	69	86	88	88	88	86
2	87	79	98	101	101	101
3	81	90	81	101	104	104
4	102	88	98	89	111	114
5	97	107	93	103	93	116
Total	509	525	533	557	569	594

kindergarten pool and migration based on 2006-07 to 2007-08, a high year in the recent past. The updated cohort survival projection is shown in the above table. These projections remain well below

the housing starts projection because the highest recent migration rate is too low in light of anticipated residential development.

In 2013-14, the revised cohort survival projections show a Greenwood enrollment of 557 students while the housing start method shows an enrollment of 753. The cohort projections do not anticipate the additional single-family units. For planning purposes, the housing start projections are a much better barometer of future enrollment at Greenwood Elementary School.

APPENDIX

METHODOLOGIES

Cohort Survival Method

The most common and most robust model for projecting school enrollment is the cohort survival method. However, it is difficult to calibrate survival rates to anticipate housing development, especially in areas where it has not previously occurred. The strength of this method is that it begins with aging the student population. Therefore, any difference in grade size is reflected in the projections as these grades enter and/or leave the elementary grades.

When the cohort survival method is applied to school enrollment, the first step is to "age" a grade to the next higher grade. However, because mortality is so low in the school age population, the entire grade is assumed to "survive" to the next higher grade in the following year.

Once a grade or cohort has been "aged" to the next grade, net migration is added to or subtracted from that grade. Using survival rates accomplishes both "aging" and migration in a single step. Over time, the size of a cohort will increase or decrease as a result of migration as its progresses through the grades.

To project kindergarten, resident births will be used as a proxy for kindergarten five years later. Of course, not every child born in the district will enter the district's kindergarten classes five to six years later. However, some of the "native born" who leave before enrolling in kindergarten will be replaced by children born elsewhere who move into the district before entering kindergarten. If the numbers are equal, the net effect is zero and the kindergarten class would be 100 percent of resident births. In the Wayzata Public Schools, the capture rate is above 100 percent indicating that many resident kindergarten students are born elsewhere.

Revised Cohort Survival Projections (July 2010)

On July 1, 2010, resident kindergarten registration was significantly higher than the projected resident kindergarten in the June 2010 cohort survival projections. Therefore, it seemed prudent to make another set of cohort survival projections based on a larger number of resident kindergarten students. If the number of resident kindergarten students is similar to the July registration, 2010-11 kindergarten will be 120 percent of the resident kindergarten pool. (See the July 2010 report.) Based on this finding, resident kindergarten will be projected to be 120 percent of the resident kindergarten pool through 2014-15.

Besides more resident kindergarten students, each school's share changed. Birchview and Plymouth Creek gained share. Gleason Lake, Kimberly Lane and Sunset Hill lost share. The shares of Greenwood and Oakwood remained about the same.

The next table shows the percentage of resident kindergarten students enrolled in each school. The three years were averaged and this average was used to project resident kindergarten by school.

RESIDENT KINDERGARTEN				
School	2008-09	2009-10	2010-11*	3-yr. avg.**
Birchview	15.2%	14.6%	17.7%	15.8%
Gleason Lake	15.2%	15.6%	13.0%	14.6%
Greenwood	13.7%	10.6%	11.6%	12.0%
Kimberly Lane	14.6%	18.7%	15.7%	16.3%
Oakwood	10.8%	12.3%	12.6%	11.9%
Plymouth Creek	17.2%	17.0%	19.6%	17.9%
Sunset Hill	13.3%	11.2%	9.8%	11.5%

*Anticipated kindergarten enrollment as of July 1, 2010

**Percentage used to make kindergarten projections

The next table shows the projected resident kindergarten at each school. The district total is based on 120 percent of the resident kindergarten pool. With this assumption, resident kindergarten never falls below 600 students. The 2010-11 projection reflects the students registered as of July 1, 2010.

RESIDENT KINDERGARTEN PROJECTIONS					
School	2010-11*	2011-12	2012-13	2013-14	2014-15
Birchview	114	98	97	97	96
Gleason Lake	84	91	90	89	89
Greenwood	75	75	75	73	74
Kimberly Lane	101	102	100	100	99
Oakwood	81	74	73	73	73
Plymouth Creek	126	111	110	110	109
Sunset Hill	63	72	71	70	70
District	644	623	616	612	610

*Anticipated kindergarten enrollment as of July 1, 2010

The difference between the June and July cohort projections is small for Gleason Lake, Oakwood and Sunset Hill. Greenwood is still too low because the survival rates do not anticipate the projected housing growth. Therefore, the housing starts projection is the best projection for Greenwood.

The July cohort survival projection (120 percent of the pool) produces higher enrollment at Birchview and Plymouth Creek and lower enrollment at Kimberly Lane.

Year over year survival rates were analyzed and the "best" representative rate was selected for each school. An average of more than one year is desirable because averages create trend lines by removing the annual fluctuations.

Housing Starts Method

The housing starts method is a variation on the housing unit method and is another way of projecting school enrollment. When a district has thousands of existing housing units, the addition of a couple hundred more units doesn't affect total enrollment in a significant way. However, new units are often concentrated in specific neighborhoods and that can have a significant effect on enrollment in individual attendance areas. Additional housing units become a major focus because the projections are for individual elementary schools. If enrollment grows beyond the capacity of a particular building, attendance boundaries need to be adjusted or building capacity increased.

The importance of housing emerges from a number of Housing Occupancy and Enrollment Studies in three states. The following principles emerged from these studies:

- Housing unit type affects the number of school age children per unit. Detached single-family housing units have the highest school age child per unit ratio. Attached single-family units, such as townhouses, have significantly fewer children per unit than single-family detached units and apartment units have even fewer school age children per unit. The only exception is units, specifically designated for low income families with children. For enrollment projection purposes, single-family detached units are the only units that warrant careful attention. This holds true for the Wayzata School District as well where 84.4 percent of resident public school enrollment comes from single-family detached units.
- New units yield more students than existing units. New single-family detached units yield more school age children per unit than existing single-family detached units. As existing units sell (turnover), the school age child per unit ratio falls in those units. The only exception is turnover in recently built units.
- As the population ages, more housing units are being built for mature adults (55+ years) and for seniors. These units will have zero school age children per household.

The strength of the housing starts method is in estimating the student yield from new units. The weakness is in quantifying the effect of school age children aging in place in existing units. This weakness is further compounded by not being able to quantify the effect of sales (turnover) of existing units on school age population. Stated simply, the yield of new units is taken at face value (gross effect) with no way to estimate the net effect of the new units. Hence, the housing starts method tends to over project enrollment.

The Housing Occupancy and Enrollment Study for the Wayzata School District provide data for refinement in the housing starts method. As a result of that study, K-5 yields are available for existing units, for recently sold existing units and for new units. Because these data are available, the housing starts method will be refined and calculated as follows.

Existing Single-Family Detached Units X Percent Selling Annually = Existing Units (no change) and Existing Single-Family Detached Units (with new residents)

A. Existing Single-Family Detached Units (with no change) X K-5 yield = Projected students

B. Existing Single-Family Detached Units (with new residents) X K-5 yield = Projected students

C. New Single-Family Detached Units X K-5 yield = Projected students

Add Projected Students from A, B, and C = Projected students from Single-Family Detached Units

Add Projected Students from Single-Family Detached Units to Projected Students from Non Single-Family Detached Units = Total Student Population

The importance of turnover versus new units is underscored in the projections. In four years, turnover accounts for 900 students while new single-family units account for 610 students.

The next two tables show annual single-family detached unit sales and the K-5 public school yields by attendance area. These most recent data will be used to project K-5 enrollment by attendance area.

Annual single-family detached unit sales are significantly higher in the Kimberly Lane and Plymouth Creek attendance areas (7.5% and 7.2% respectively) than elsewhere in the district. Birchview has the lowest percentage of annual turnover (3.0%). Gleason Lake, Sunset Hill and Oakwood have similar percentages of sales annually (3.5%, 3.5% and 3.7% respectively). Annual sales of existing units are just slightly higher for Greenwood (4.0%).

PERCENT OF SINGLE-FAMILY DETACHED UNITS WITH TURNOVER ANNUALLY	
Attendance Area	%
Birchview	3.0%
Gleason Lake	3.5%
Greenwood	4.0%
Kimberly Lane	7.5%
Oakwood	3.7%
Plymouth Creek	7.2%
Sunset Hill	3.5%

K-5 YIELDS PER SINGLE-FAMILY DETACHED UNIT				
Attendance Area	Non Movers	Movers		Total
		Unit Built Pre 2007	Unit Built 2007 or Later	
Birchview	0.19	0.27	0.25	0.19
Gleason Lake	0.19	0.17	0.25	0.19
Greenwood	0.29	0.48	0.63	0.31
Kimberly Lane	0.39	0.64	0.72	0.43
Oakwood	0.18	0.20	0.60	0.18
Plymouth Creek	0.25	0.36	0.52	0.28
Sunset Hill	0.18	0.15	0.13	0.18
District	0.23	0.31	0.56	0.24

The difference in K-5 yields by moving status and year built varies among the attendance areas. For example, there is very little difference between movers by year unit built and non-movers in the Sunset Hill attendance area. The differences in yields in the Gleason Lake and Oakwood areas are also small, except that units built in 2007 or later have a higher yield, especially in Oakwood. The biggest differences are in the Kimberly Lane attendance area. Differences in Greenwood and Plymouth Creek are also large. These data underscore the importance of estimating the moving status of families by each attendance area in order to achieve more accurate projections.

The K-5 student yields in townhomes are so low that parsing the data further is unnecessary. Furthermore, projecting the effect of the townhomes is not necessary. In four years, the 50 additional townhomes in the Kimberly Lane attendance area will produce six K-5 students while the 80 additional townhomes in the Plymouth Creek attendance area will produce seven K-5 students.

K-5 YIELD IN TOWNHOMES	
Attendance Area	K-5 Yield
Birchview	0.01
Gleason Lake	0.01
Greenwood	0.00
Kimberly Lane	0.12
Oakwood	0.03
Plymouth Creek	0.09
Sunset Hill	0.00
District	0.04

HOUSING START PROJECTION GREENWOOD					
	2009-10	2010-11	2011-12	2012-13	2013-14
Housing Units					
Carry Forward		1,798	1,825	1,922	2,022
Non Movers		1,726	1,752	1,845	1,941
Movers		72	73	77	81
New		27	97	100	40
Projections					
Non Movers		501	508	535	563
Movers		35	35	37	39
New		17	61	63	25
Total	553	553	604	635	627
Non S-F Units	9	9	9	9	9
Total	562	562	613	644	636

HOUSING START PROJECTION--REVISED GREENWOOD					
	2009-10	2010-11	2011-12	2012-13	2013-14
Housing Units					
Carry Forward		1,798	1,882	2,054	2,194
Non Movers		1,726	1,807	1,972	2,106
Movers		72	75	82	88
New		84	172	140	71
Projections					
Non Movers		501	524	572	611
Movers		35	36	39	42
New		58	115	92	47
Total	553	594	675	703	700
Non S-F Units	9	9	9	9	9
Total	562	603	684	712	709
Adjustment*		0	6	33	44
New Total		603	690	745	753

*Because Kimberly Lane single-family units yield more students than Greenwood single-family units, an adjustment was needed to reflect this difference after year one for new units that were "moved" from Kimberly Lane to Greenwood.

**WAYZATA RESIDENT
GREENWOOD**

ENROLLMENT HISTORY					
Grade	2006-07	2007-08	2008-09	2009-10	2010-11
K	80	70	75	68	73
1	85	94	77	85	69
2	116	97	101	81	87
3	98	120	98	105	81
4	105	107	126	98	102
5	114	110	105	125	97
Total	597	597	582	562	509

NET MIGRATION				
	2006-07 to 2007-08	2007-08 to 2008-09	2008-09 to 2009-10	2009-10 to 2010-11
K to 1	14	7	10	1
1 to 2	12	7	4	2
2 to 3	4	1	4	0
3 to 4	9	6	0	-3
4 to 5	5	-2	-1	-1
Total	44	19	17	-1

SURVIVAL RATES				
	2006-07 to 2007-08	2007-08 to 2008-09	2008-09 to 2009-10	2009-10 to 2010-11
K to 1	1.175	1.100	1.133	1.015
1 to 2	1.141	1.074	1.052	1.024
2 to 3	1.034	1.010	1.040	1.000
3 to 4	1.092	1.050	1.000	0.971
4 to 5	1.048	0.981	0.992	0.990

WAYZATA PUBLIC SCHOOLS

Independent School District 284
Wayzata, Minnesota

BOARD OF EDUCATION

Organizational/Regular Board Meeting - January 10, 2011 - 7:00 PM
Wayzata City Hall
600 Rice Street, Wayzata

AGENDA

1. CALL TO ORDER/ROLL CALL
2. ELECTION OF SCHOOL BOARD OFFICERS
3. APPROVAL OF AGENDA AND CONSENT AGENDA
 - A. Approval of Minutes
 1. Regular Board Meeting - December 13, 2010
 - B. Finance and Business Recommendations
 - C. Resolution for Machine-Signed Signatures
 - D. Designation of Official Cash Depositories
 - E. Designation of Official Investment Brokers
 - F. Human Resource Recommendations
 - G. Approve Board Standard Operating Procedures for 2011
 - H. Reaffirm All Current School Board Policies
4. STUDENT CURRICULUM PRESENTATION
5. RECOGNITIONS
 - A. Employee of the Month - January -
 - B. Paraprofessional Recognition Week - January , 2011
 - C. 2010 Class 5A State Football Championship
6. REPORTS FROM ORGANIZATIONS
 - A. Student Council
7. SUPERINTENDENT'S REPORTS AND RECOMMENDATIONS
 - A. Superintendent
 - B. Curriculum and Instruction
 - C. Finance and Business Services
 1. Monthly Financial Reports
 - D. Human Resource Services
 1. Pay Equity Implementation Report
8. OTHER BOARD ACTION
 - A. Approve Board Committee Structure and Appointments for 2011
 - B. Approval of the Board Meeting Schedule for January 2011 through December 2012
9. AUDIENCE OPPORTUNITY TO ADDRESS SCHOOL BOARD
10. BOARD REPORTS
11. NEW BUSINESS
12. ADJOURN

WAYZATA PUBLIC SCHOOLS
Independent School District 284
Wayzata, Minnesota

BOARD OF EDUCATION

Work Session – December 20, 2010

AGENDA SECTION: 8. ADJOURN

ITEM: _____

COMMENTS BY: Board Chair Peterson

If there is no additional business before the School Board, the Chair will adjourn the meeting.