

DELANO SCHOOL DISTRICT #879

ENROLLMENT PROJECTIONS

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8/5/2014

DELANO PUBLIC SCHOOLS ENROLLMENT PROJECTIONS

Executive Summary

- Over the past ten years, Delano Public School enrollment increased by 398 students or 20.6 percent
 - During this same ten years, nonresident enrollment increased from 8.7 percent of total enrollment to 14.1 percent of total enrollment. Clearly, nonresident enrollment growth played an important role in the substantial increase in enrollment
- Projected enrollment
 - Cohort Survival method projections show enrollment increasing; however, K-4 enrollment is projected to decrease due to the recent decline in births
 - K-4 enrollment is projected to be down in the next five years due to the lower number of births and remain depressed throughout the projection period. In ten years, only the high kindergarten/high migration assumption results in K-4 enrollment equal to today's K-4 enrollment
 - Middle school (Grades 5-8) enrollment is projected to increase in the next five years but then decrease in the second five projection years as the smaller elementary grades that reflect the recent decline in births move into middle school. However, middle school enrollment is higher ten years from now than it is today
 - High school enrollment is projected to increase throughout the projection period

CHAPTER 1

DISTRICT WIDE ENROLLMENT PROJECTIONS

Introduction

School age population is closely related to other population characteristics. For example, age can affect the number of births in a school district. A larger number of women of prime childbearing age results in more births and larger kindergarten classes five years later. Moving from one locale to another is also related to age; and the movement of families with children under 18 years of age can have a major effect on school enrollment. Population “turnover” is ongoing in a mobile society and enrollment changes throughout the school year as families and children move. In this study, enrollment projections are for the fall headcount, that is, headcount on or about October 1.

While population changes affect the total number of school age children residing in a school district, Minnesota students and their families have education choices. Therefore, when analyzing public school enrollment, choice must be considered as well as population dynamics. Choice includes nonpublic schools, home schools, and the public choices of open enrollment, charter schools and alternative schools. Two others choices exist: a) dropping out of high school, and b) delaying entering kindergarten.

Enrollment Trends

Enrollment in the Delano Public Schools

Current Enrollment/Past Trends

Total enrollment in the Delano Public Schools is 398 students or 20.6 percent higher in 2013-14 than in 2004-05; however, enrollment growth has slowed in recent years. Further, nonresident enrollment is now 14.1 percent of total enrollment compared to 8.7 percent ten years ago.

K-12 TOTAL ENROLLMENT									
2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
1,935	2,047	2,148	2,226	2,232	2,274	2,255	2,265	2,298	2,333

Source: Delano School District, Fall Enrollment. Excludes Early Childhood and ALC

Like all population changes, school enrollment change results from two different phenomena. The difference between the size of the incoming kindergarten class and the previous year’s Grade 12, called natural increase or decrease, measures the change in past birth numbers or cohort change. For example, the Baby Boom (1946-1964) and the Baby Bust (1965-1976) set in motion cycles of rising and falling enrollment that were reflected as natural increase/decrease. As the next table shows, in the

past ten years, Delano's kindergarten classes have been larger than the previous year's Grade 12 in some years but smaller in other years. The negative numbers have been larger than the positive numbers, which has depressed enrollment growth in the past ten years.

COMPONENTS OF ENROLLMENT CHANGE				
Fall to Fall	Total		Natural Increase/ Decrease	Net Migration
	#	%		
2004 to 2005	112	5.8%	5	107
2005 to 2006	101	4.9%	15	86
2006 to 2007	78	3.6%	3	75
2007 to 2008	6	0.3%	-33	39
2008 to 2009	42	1.9%	-8	50
2009 to 2010	-19	-0.8%	-49	30
2010 to 2011	10	0.4%	-46	56
2011 to 2012	33	1.5%	12	21
2012 to 2013	35	1.5%	-1	36

The other phenomenon affecting school enrollment is migration, an indirectly derived estimate. Migration is the term used when people move across a boundary or border, in this case, the school district boundary. Net migration is calculated by the progression from grade-to-grade of public school students. For example, public school Kindergarten students are moved to Grade 1 in the following year, Grade 1 students to Grade 2, etc. Because the probability of death is very low among children, the same number of students should be in the next higher grade the following year. Therefore, if the number of students changes, migration is assumed to have occurred. A positive number indicates a net flow into the public schools and a negative number reflects a net flow out of the public schools.

This method for estimating migration does not distinguish between physical movement across the district's boundaries and education choices, such as transferring from a nonpublic school to a public school, transferring to a charter school or open enrolling in another public school outside the district. Further, students who move into or out of a school district but never enroll in the district's public schools are not reflected in the migration numbers in this report.

Based on the described methodology, net migration has been positive every year. This net in migration added 500 students in the past ten years. About one-third of this net in migration represents open enrollment into the district.

Student Choices in the Delano School District

Minnesota students and their families have education choices. Nonpublic schools have been an option for many years. More recently, home schools became another option. Since its inception, public school options are attracting more students. Open enrollment allows residents of one district

to attend public schools in another district. Charter schools are another public option. All these choices mean competition for a district’s public schools.

Nonpublic Enrollment and Home Schools

Today, nonpublic enrollment falls into two categories—traditional nonpublic schools and home schools. Most traditional nonpublic schools are associated with religious institutions and many home school curriculums also have religious ties.

NONPUBLIC SETTINGS			
Year	Traditional Nonpublic Schools	Home Schools	Total
2004-05	272	34	306
2005-06	304	40	344
2006-07	283	52	335
2007-08	219	36	255
2008-09	210	28	238
2009-10	223	39	262
2010-11	220	30	250
2011-12	169	37	206
2012-13	167	48	215
2013-14	143	59	202

One private school closed at end of 2010-11 school year
Source: Delano School District

In Minnesota, 7.7 percent of all enrolled students were enrolled in traditional nonpublic schools and 1.8 percent of enrolled students were home schooled in 2012-13. In the Delano School District, traditional nonpublic schools accounted for 7.0 percent of enrolled students and home schooled students accounted for 2.0 percent. The proportion of ISD #879 residents in nonpublic settings is slightly lower than the statewide percentages. Combining home school students and nonpublic students, 9.0 percent of Delano district residents were in nonpublic settings. In Minnesota, 9.5 percent were enrolled in nonpublic settings.

In the past ten years, traditional nonpublic enrollment decreased statewide while home schooled children increased. Traditional nonpublic enrollment in the Delano School District decreased as well. In that period, one traditional nonpublic school closed. Home schooled students increased over the past ten years in the Delano School District.

Public Options

Open Enrollment. Open enrollment allows Minnesota students to attend public schools outside their district of residence. The application to open enroll is made by the student and his/her parents and families generally provide their own school transportation. No tuition is charged.

Some students attend public schools outside their home district because their home district enters into an agreement with another district, usually to provide specialized services. This is called a tuition agreement, but this arrangement is not technically a student choice.

Since its beginning, open enrollment has attracted more and more students statewide and in the Delano School District. In 2013-14, 329 nonresident students open enrolled into the Delano Public Schools while 180 district residents attended public schools elsewhere through open enrollment.

PUBLIC OPTIONS					
Year	In	Out			Net
	Open Enrollment & Tuition	Open Enrollment & Tuition	Charter Schools	Other Options* (ALC and Other)	
2004-05	168	151	1	9	16
2005-06	213	163	1	7	49
2006-07	227	170	1	20	56
2007-08	215	156	3	15	56
2008-09	243	162	6	16	75
2009-10	261	163	4	18	94
2010-11	277	160	8	19	109
2011-12	287	155	3	22	129
2012-13	323	173	3	20	147
2013-14	329	180	13	24	136

Other Options not included in the net; ALC missing for 2004-05 and 2005-06

Source: Delano School District

Nonresident students who open enroll into the Delano Public Schools accounted for 14.1 percent of Delano's total enrollment in 2012-13. Students leaving the district to attend public schools elsewhere represented 7.3 percent of district school age residents. In 2012-13, 7.2 percent of Minnesota students chose open enrollment.

Charter Schools. Charter schools are another public education option. While 4.5 percent of Minnesota students attend charter schools, only 0.1 percent of Delano School District residents attend charter schools in 2012-13.

As the public option data show, the Delano Public Schools are a net gainer among students selecting public options. The net gain has increased over the past decade.

Summary of District School Age Residents

To estimate market share (capture rate), there must be an estimate of a district's school age population or more precisely, a district's school age population enrolled in school. A district's enrolled population can be constructed based on resident students in the district's schools and then adding district residents attending traditional nonpublic schools, residents being home schooled and residents opting for open enrollment out, charter schools and other public options. Based on 2004-05

and 2013-14, the estimated resident school age population increased by 189 students. During this same period, resident enrollment in the Delano Public Schools increased by 237 students. These data show that the Delano Public Schools' market share increased, which is atypical in Minnesota. Based on the estimated 2013-14 enrolled population of 2,423, the Delano Public Schools captured 82.7 percent of the district's school age population. In 2004-05, using the same definition, market share was 79.1 percent. Delano's current market share is higher than the state wide average.

DELANO SCHOOL DISTRICT ESTIMATED RESIDENT SCHOOL AGE POPULATION				
Year	Delano Public Schools Resident Enrollment	Nonpublic Settings	Public Options*	Total
2004-05	1,767	306	161	2,234
2005-06	1,834	344	171	2,349
2006-07	1,921	335	191	2,447
2007-08	2,011	255	174	2,440
2008-09	1,989	238	184	2,411
2009-10	2,013	262	185	2,460
2010-11	1,978	250	187	2,415
2011-12	1,978	206	180	2,364
2012-13	1,975	215	196	2,386
2013-14	2,004	202	217	2,423

*Includes Other Options

History of Resident Enrollment by Grade

The history of public school enrollment contains several patterns with implications for the future. First, the size of the kindergarten class fluctuated from year to year, which is not unusual. However, the 2013-14 kindergarten was exceptionally large.

Future enrollment is heavily influenced by current grade size. A way of expressing grade size differences is to calculate the "average" number of students per grade. For example, the average elementary grade (K-4) has 175 students. The average middle school grade (Grades 5-8) has 179 students while the average for a high school grade is 186 students. The size of the average elementary grade compared to the average middle school grade suggests that enrollment will be flat if kindergarten remains near its current level.

Minnesota's largest graduating high school class since 1978 graduated in 2009. Statewide, graduating classes will be getting smaller. Based on Delano's enrollment history, Delano's most recent largest senior class has not yet graduated.

ENROLLMENT										
Grade	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
K	146	134	143	144	137	160	148	146	169	180
1	124	160	148	156	155	137	167	160	153	180
2	144	138	156	148	164	162	144	172	163	159
3	159	148	148	161	151	172	171	152	181	174
4	144	166	165	148	164	160	169	172	160	180
5	117	159	183	173	152	166	165	175	176	166
6	163	140	164	188	179	161	176	166	183	176
7	184	179	160	184	199	183	165	197	166	203
8	171	194	189	164	182	203	187	165	198	171
9	166	178	204	210	168	199	209	199	165	204
10	154	172	176	206	210	167	200	211	197	160
11	134	151	171	174	203	207	162	193	206	184
12	129	128	141	170	168	197	192	157	181	196
Total	1,935	2,047	2,148	2,226	2,232	2,274	2,255	2,265	2,298	2,333

Source: Delano School District. Excludes Early Childhood and ALC

Enrollment Projections

Projection Background

Some factors affecting future school enrollment are known. However, other important factors are less clear. First, the trends around which there is confidence.

Trends Where Confidence is High

- Aging. The population in the U.S. and Minnesota is aging. By 2020, 16-17 percent of Minnesota's population will be 65 years old or older. In 2010, the elderly made up 12.9 percent of the population. There is no historical precedent for this high proportion of older population; therefore, society is entering uncharted waters as to the effects of this change. However, we know that aging will affect the housing market and reduce geographic mobility because older people move less frequently than younger people.
- Decrease in the school age population per household. From 2000 to 2010, the number of school age children per household decreased sharply as Baby Boomer households empty nested and started to "age in place." After 2010, households with children will be headed primarily by Generation X parents who are members of a much smaller generation. Gen X (1965-1976) is only 60 percent the size of the Baby Boom (1946-1964) generation, which means the percentage of households with 5-17 year-olds will continue to decrease but more slowly.

- Shift in size of key adult age groups. The size of the Baby Boom generation and the Baby Bust generation will result in significant changes in the size of adult age groups, which in turn will affect the demand for new housing units. The modest increase in the 20-34 year-old population between 2010 and 2020 is especially significant for the demand for “first” homes (including apartments) and the decrease in 35-54 year-olds will affect the “move up” market. Growth in the 55+ year-old markets will create demand for housing for mature adults and seniors; however, these units will not yield school age children. These population changes by age point to a future very different from the recent past. Demand for additional housing will slow because the adult population age 20+ will increase more slowly and the 35-54 year-old age group that helped fuel the housing boom will decrease from 2010-2020. Furthermore, 60 percent of the increase in adults 20 years of age and older will be persons 65+ years of age. There may be more sellers than buyers in the housing market.
- Fertility. Today, completed fertility is near the replacement level. Completed fertility refers to the number of children born per woman throughout her childbearing years. In the U.S., White non-Hispanic and Black women have near or below replacement fertility. (Replacement is 2.11 children per female at the end of childbearing.) Fertility rates are likely to remain at or near replacement levels. Hispanic women and immigrant women have higher fertility.
- Births. Births fell after 1990 in the U.S. and in Minnesota; however, since 2003, births had been increasing until the past five years. In 2007, births were higher than at any time since 1964; however, 2007 births were well below the peak Minnesota birth year of 1959 (88,000 resident births). Births fell in the U.S. and Minnesota in 2008, 2009, 2010 and 2011, although in Minnesota, births were flat between 2010 and 2011 (+9 births). These declines are attributed to the poor economy. In 2012, Minnesota births started to increase again.

As the history of resident births shows, from 1998 to 2012, resident births in Minnesota increased 5.5 percent while resident births in Wright County increased 33.5 percent. Resident births in Delano City increased in the past fifteen years but in 2012 births were slightly lower than in 1998.

RESIDENT LIVE BIRTHS			
Calendar Year	Minnesota	Wright County	Delano City
1998	65,207	1,372	83
1999	65,953	1,406	74
2000	67,451	1,423	82
2001	66,617	1,499	89
2002	68,037	1,679	70
2003	70,053	1,926	84
2004	70,617	1,888	74
2005	70,950	2,023	82
2006	73,515	2,152	85
2007	73,675	2,183	98
2008	72,382	2,095	103

2009	70,617	1,943	102
2010	68,407	1,900	93
2011	68,416	1,861	89
2012	68,783	1,831	78

Source: Minnesota Department of Health

- Enrollment cycles. Births will increase again and a third enrollment cycle will occur in the first half of this century. Already, kindergarten classes are increasing in some districts, a sign of the beginning of this third enrollment cycle. The end of the third enrollment cycle is projected to be around 2040. (From start to finish, these cycles last about 30 years.)

Unknowns

The unknowns reflect recent changes such as the collapse of the housing market and tighter credit. Another unknown is the longer-term effect of the recession on domestic migration and international immigration, especially in a sluggish economy. Furthermore, will attitude and behavior changes prompted by the recession last?

- Collapse of the housing market and tighter credit. A high level of mobility was possible with a robust housing market with rapid appreciation and easy credit. This has now changed with the cooling of the housing market and tighter credit. The change in the housing market has slowed growth in many school districts. Recently, however, home prices have been increasing and new construction is occurring.
- The recession. Although the recession is over, the sluggish job market slowed population movement between and within states, although, Minnesota is now regaining jobs faster than the nation. The recession also increased public school enrollment as some families decided that nonpublic schools were beyond their current financial resources.

Cohort Survival Method

The most common and most robust model for projecting school enrollment is the cohort survival method. The first step in the cohort survival method is aging the population. In a standard cohort survival model, aging the population involves estimating the number of deaths expected in an age group before it reaches the next older age group. When the cohort survival method is applied to school enrollment, the first step is to move 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. For example, the 2004-05 kindergarten class had 146 members. This same cohort had 204 members in Grade 9 in 2013-14. Some of this increase represents nonpublic students entering the Delano Public Schools.

The projection of future kindergarten class size is important in long-term enrollment projections because these students will be in school over the life of the projection. If a school census

exists, it is a resource for short-term kindergarten projections, i.e., a couple of years. However, school censuses are notoriously inaccurate for children less than four years of age.

To project kindergarten, the best theoretical approach, but the least practical, is to project births based on the age of the female population. These birth projections then must be survived to age five and then adjusted for migration to yield kindergarten projections. Determining the age of females in a school district is the first challenge and then, many assumptions must be made, making this approach impractical.

A simpler approach is to use resident births 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 "native born" children who move out before enrolling in kindergarten will be replaced by children born elsewhere who move into the district before entering kindergarten. If the number of "ins" and "outs" is equal, the net effect is zero and the kindergarten class would be 100 percent of resident births. However, no public school system captures all its potential. Some resident kindergarten students attend private schools or are home schooled. Others may attend a charter school or open enroll at another district. Therefore, a public school's capture rate is expected to be less than 100 percent. If the capture rate is 100 percent or higher, more preschool children are moving into the district than leaving (net in migration).

Using resident births as a proxy for kindergarten results in kindergarten projections for only a few years into the future. To extend kindergarten projections another five years, Delano's kindergarten will be projected based on the Minnesota Demographic Center's projection of Wright County resident births.

Kindergarten Assumptions

Although births five years earlier are a good proxy for a kindergarten class, kindergarten students must be 5 years-old by September 1. This age requirement means that about one-third of the kindergarten class is born six years earlier not five years earlier. Adjusting birth years to fit the age requirements of kindergarten creates a kindergarten pool.

Constructing a resident birth pool for Delano is complicated by the fact that the Delano School District covers a fairly large geographic area made up of several cities and town ships. After testing several alternatives, the most realistic base for the district's residents births is the sum of the births for the urban areas (cities) for which data are available. These cities are: Delano, Corcoran, Independence, Medina and Minnetrista. Although many of these cities are not wholly in the Delano School District, the pool is reasonable when compared to Delano Public School kindergarten students. Note that the resident births pool decreases after a high point in 2006/2007. This decline in the resident birth pool suggests that future kindergarten classes will be smaller for a few years.

Applying a ratio of Delano's kindergarten to the kindergarten pool takes advantage of actual births in the past several years. With city and county birth data available through 2012, kindergarten classes can be projected from actual births through 2017-18.

Delano's kindergarten as percentage of the "district" pool fluctuated within a ten percentage point range except for the past year when the kindergarten class was exceptionally large. Averaging the percentages is a way to remove some of the annual fluctuations. For example, the average of the

past ten years is 65.0 percent while the average of the past five years is 66.1 percent. The average of the past three years is 67.0 percent, while the average of the past two years is 70.6 percent. As these percentages show, the Delano Public Schools share of the pool has increased over the past ten years. Based on these data, the average of the past five years (66.1 percent) will be used as the low kindergarten assumption and the average of the past two years (70.6 percent) will be used as the high kindergarten assumption in the enrollment projections.

DELANO'S KINDERGARTEN AS A PERCENTAGE OF THE DISTRICT KINDERGARTEN POOL			
Birth Years	District Pool	Percentage	Kindergarten Year
1998; 1999	210	69.5%	2004-05
1999; 2000	225	59.6%	2005-06
2000; 2001	227	63.0%	2006-07
2001; 2002	221	65.2%	2007-08
2002; 2003	221	62.0%	2008-09
2003; 2004	236	67.8%	2009-10
2004; 2005	240	61.7%	2010-11
2005; 2006	244	59.8%	2011-12
2006; 2007	249	67.9%	2012-13
2007; 2008	246	73.2%	2013-14
2008; 2009	241		2014-15
2009; 2010	238		2015-16
2010; 2011	225		2016-17
2011; 2012	213		2017-18

Extending the kindergarten projections beyond 2017-18 is complicated by the fact that the district is in two counties, Wright and Hennepin, and that it is a small percentage of each county. Further, the trends in the Delano School District may be different from those of the two counties.

RESIDENT BIRTHS WRIGHT COUNTY				
Year	Births			Adjusted Projection
	Original Projection	Actual	Difference	
2005	2,103	2,023	-3.8%	
2006	2,181	2,152	-1.3%	
2007	2,258	2,183	-3.3%	
2008	2,336	2,095	-10.3%	
2009	2,413	1,943	-19.7%	
2010	2,491	1,900	-23.7%	
2011	2,536	1,861	-26.6%	
2012	2,582	1,831	-29.1%	
2013	2,627			1,839

2014	2,673			1,871
2015	2,718			1,903
2016	2,751			1,926
2017	2,784			1,949
2018	2,817			1,972

Source: Minnesota Demographic Center

The recent past is also different. Hennepin County birth projections are close to actual births while the Wright County birth projections are much higher than actual births. However, both counties show the same pattern in the future, that is, that the rate of increase in births slows. The original birth projections for Wright County show a 9.1 percent increase in births between 2012 and 2018. When birth projections are adjusted, the increase in births is 7.7 percent. Applying these percentages to the most recent district birth pool of 213 puts the pool at either 229 or 232 in 2018. A district birth pool of 232 in 2018 will be used for the kindergarten projections.

The next table shows the district kindergarten pool based on actual resident births through 2017-18 and the projected pool based on the same rate of increase that was projected for Wright County (9.1 percent). Note that the kindergarten pool is smaller in 2023-24 than in 2013-14.

PROJECTED DISTRICT KINDERGARTEN POOL	
2013-14	246
2014-15	241
2015-16	238
2016-17	225
2017-18	213
2018-19	215
2019-20	219
2020-21	222
2021-22	225
2022-23	228
2023-24	232

Unless more children are born, more preschool children move into the district or more kindergarten students open enroll into the Delano Public Schools, kindergarten classes will be smaller for a few years. As the Millennials (Gen Y) move into their prime childbearing years, births should rise and the kindergarten pool will become larger in the later 2020s.

KINDERGARTEN ASSUMPTIONS		
Year	@66.1%	@70.6%
2013-14	180	180
2014-15	159	170
2015-16	157	168
2016-17	149	159

2017-18	141	150
2018-19	142	152
2019-20	145	155
2020-21	147	157
2021-22	149	159
2022-23	151	161
2023-24	153	164
Total	1,493	1,595

As cited earlier, a 66.1 percent capture rate will be used as the low kindergarten assumption and a 70.6 percent rate will be used for the high kindergarten assumption.

The low kindergarten projection results in 1,493 kindergarten students over ten years while the high projection produces 1,595 kindergarten students in ten years. This compares with 1,507 kindergarten students over the past ten years. The large Gen Y (Millennial) population will begin to enter its prime childbearing years after 2020. When this happens, the kindergarten pool should increase. As the pool increases, so will the size of the kindergarten classes.

Net Migration Assumptions

The method for estimating migration does not distinguish between physical movement across the district’s boundaries and education choices, such as transferring from a nonpublic school to a public school, transferring to a charter school or open enrolling in another public school. Further, students who move into or out of a school district but never enroll in the district’s public schools are not reflected in the migration numbers in this report.

In the past ten years, annual net migration fluctuated from year to year but was positive every year. The next table shows net migration aggregated by the elementary grades (Kindergarten-Grade 4), the middle school grades (Grades 5-8) and the high school grades. Kindergarten to Grade 4 net in migration accounts for most of the total net in migration beginning in 2007-08. The middle school grades also always show net in migration while the high school grades most often show net out migration.

NET MIGRATION									
SCHOOL YEAR TO SCHOOL YEAR									
	04 to 05	05 to 06	06 to 07	07 to 08	08 to 09	09 to 10	10 to 11	11 to 12	12 to 13
K-4	39	37	18	25	24	20	26	27	27
5-8	64	52	37	19	19	23	28	13	31
9-12	4	-3	20	-5	7	-13	2	-19	-22
Total	107	86	75	39	50	30	56	21	36

Net in migration between Kindergarten and Grade 1 is typical in Minnesota's public schools, and Delano Public Schools shows this pattern as well. While the number of students progressing from grade to grade in the remaining elementary grades fluctuates from year to year, the numbers are almost always positive, which indicates that the Delano Public Schools are attracting elementary students. The Delano Public Schools has a net inflow from Grade 6 to Grade 7 and again from Grade 8 to Grade 9, times when nonpublic students transfer into the Delano Public Schools. After Grade 9, the high school grades show losses. This also is typical as students move to ALCs or drop out.

NET MIGRATION BY GRADE SCHOOL YEAR TO SCHOOL YEAR									
	04 to 05	05 to 06	06 to 07	07 to 08	08 to 09	09 to 10	10 to 11	11 to 12	12 to 13
K to 1	14	14	13	11	0	7	12	7	11
1 to 2	14	-4	0	8	7	7	5	3	6
2 to 3	4	10	5	3	8	9	8	9	11
3 to 4	7	17	0	3	9	-3	1	8	-1
4 to 5	15	17	8	4	2	5	6	4	6
5 to 6	23	5	5	6	9	10	1	8	0
6 to 7	16	20	20	11	4	4	21	0	20
7 to 8	10	10	4	-2	4	4	0	1	5
8 to 9	7	10	21	4	17	6	12	0	6
9 to 10	6	-2	2	0	-1	1	2	-2	-5
10 to 11	-3	-1	-2	-3	-3	-5	-7	-5	-13
11 to 12	-6	-10	-1	-6	-6	-15	-5	-12	-10
Total	107	86	75	39	50	30	56	21	36
Percent t	5.5	4.2	3.5	1.8	2.2	1.3	2.5	0.9	1.7

Migration is converted to survival rates for projection purposes. These rates show the percentage change from grade to grade each year. For example, 1.00 indicates no change or 100 percent of the grade progressed to the next highest grade. Any number over 1.00 reflects the percentage increase while a number below 1.00 reflects the percentage decrease. For example, 0.98 indicates a 2 percent decrease.

SURVIVAL RATES SCHOOL YEAR TO SCHOOL YEAR									
	04 to 05	05 to 06	06 to 07	07 to 08	08 to 09	09 to 10	10 to 11	11 to 12	12 to 13

K to 1	1.096	1.105	1.091	1.076	1.000	1.044	1.081	1.048	1.065
1 to 2	1.113	0.975	1.000	1.051	1.045	1.051	1.030	1.019	1.039
2 to 3	1.028	1.073	1.032	1.020	1.049	1.056	1.056	1.052	1.068
3 to 4	1.044	1.115	1.000	1.019	1.060	0.983	1.006	1.053	0.995
4 to 5	1.104	1.102	1.049	1.027	1.012	1.031	1.036	1.023	1.038
5 to 6	1.197	1.031	1.027	1.035	1.059	1.060	1.006	1.046	1.000
6 to 7	1.098	1.143	1.122	1.059	1.022	1.025	1.119	1.000	1.109
7 to 8	1.054	1.056	1.025	0.989	1.020	1.022	1.000	1.005	1.030
8 to 9	1.041	1.052	1.111	1.024	1.093	1.030	1.064	1.000	1.030
9 to 10	1.036	0.989	1.010	1.000	0.994	1.005	1.010	0.990	0.970
10 to 11	0.981	0.994	0.989	0.985	0.986	0.970	0.965	0.976	0.934
11 to 12	0.955	0.934	0.994	0.966	0.970	0.928	0.969	0.938	0.952

One of the advantages of the cohort survival method is that it produces projections for every grade. However, this requires migration assumptions for every grade. At first glance, some of the rates look quite similar. However, the average of survival rates for the past ten years results in the highest projection. In ten years, the average of the past three years survival rates produces just 8 students more than the average of the past five years rates. The three year average will be used for the low migration assumption while the ten year average will be used for the high migration assumption.

COMPARISON OF SURVIVAL RATES			
SAVERAGED			
Grade	Past 10 years	Past 5 years	Past 3 years
K to 1	1.037	1.048	1.065
1 to 2	1.036	1.037	1.029
2 to 3	1.048	1.056	1.059
3 to 4	1.031	1.019	1.018
4 to 5	1.047	1.028	1.032
5 to 6	1.051	1.034	1.017
6 to 7	1.077	1.055	1.076
7 to 8	1.022	1.015	1.012
8 to 9	1.049	1.043	1.031
9 to 10	1.000	0.994	0.990
10 to 11	0.976	0.966	0.958
11 to 12	0.956	0.951	0.953

Because net migration will be projected based on survival rates by grade, the percentage change will be the same each year while the actual number of students added or subtracted by grade may change from year to year.

PROJECTED SURVIVAL RATES		
Grade	Low (Past 3 Years)	High (Past 10 Years)
K to 1	1.065	1.037
1 to 2	1.029	1.036
2 to 3	1.059	1.048
3 to 4	1.018	1.031
4 to 5	1.032	1.047
5 to 6	1.017	1.051
6 to 7	1.076	1.077
7 to 8	1.012	1.022
8 to 9	1.031	1.049
9 to 10	0.990	1.000
10 to 11	0.958	0.976
11 to 12	0.953	0.956

Projection Results

The kindergarten and net migration assumptions are trend lines, which remove annual fluctuations. However, the future, like the past, will be characterized by annual fluctuation, sometimes large. Because there is no reasonable way to forecast when fluctuations around trend lines will occur, it is arbitrary to project them. Furthermore, long-term projections are designed to approximate a future point in time not to yield the best projection for each intervening year between the present and the projection end date. For this reason, long-term projections should not be used for annual budgeting purposes. The district should continue to use its version of the cohort survival methodology for annual enrollment projections.

Four cohort projections are shown in the next table. All four projections show enrollment increasing in the next ten years. In ten years, there is a 206 student difference between the lowest projection and the highest projection. This difference results from different assumptions. The kindergarten assumptions result in a 123-124 student difference over the ten years, while the migration assumptions result in an 82-83 student difference in those same years. As these projections show, the kindergarten assumptions have a larger effect on the outcome than the kindergarten assumptions. Of course, assumptions different from these would result in still different projections.

The lowest projection is based on the low kindergarten and low migration assumptions. In this projection, enrollment increases by 96 students by 2018-19 and then continues to increase so that in 2023-24, enrollment is 120 students higher than in 2013-14.

The highest projection, based on the high kindergarten and high migration assumptions, shows an enrollment increase of 225 students or 9.6 percent between 2013-14 and 2018-19. Enrollment continues to increase so that in 2023-24, enrollment is 326 students higher than in 2013-14.

ENROLLMENT PROJECTIONS

Year	Low K Low Mig	Low K High Mig	High K Low Mig	High K High Mig
2013-14	2,333	2,333	2,333	2,333
2014-15	2,338	2,354	2,349	2,365
2015-16	2,362	2,395	2,385	2,418
2016-17	2,408	2,456	2,442	2,489
2017-18	2,406	2,467	2,450	2,511
2018-19	2,429	2,503	2,485	2,558
2019-20	2,425	2,507	2,493	2,574
2020-21	2,435	2,525	2,516	2,605
2021-22	2,452	2,544	2,547	2,638
2022-23	2,451	2,540	2,559	2,648
2023-24	2,453	2,535	2,576	2,659

Excludes Early Childhood and ALC

In between the highest and lowest projections are two other projections that differ by 41 students in ten years. Both migration assumptions imply more nonresident students; however, the high migration assumption produces more nonresidents than the low migration assumption. All the projections reflect a decrease in kindergarten resulting from the recent decline in births.

Looking at the projections based on the elementary, middle school and high school grades is instructive. The low migration assumption results in higher elementary projections than the high migration assumption. For the first five projection years, K-4 enrollment is -63 to +9 students different than it is today. Even in 2023-24, K-4 enrollment is lower than it is today except in the high kindergarten/low migration projection.

ENROLLMENT PROJECTIONS				
	K-4	5-8	9-12	Total
2013-14	873	716	744	2,333
2018-19				
Low K/Low Mig	826	625	779	2,429
Low K/High Mig	810	861	832	2,503
High K/Low Mig	882	825	779	2,485
High K/High Mig	865	861	832	2,558
2023-24				
Low K/Low Mig	819	759	875	2,453
Low K/High Mig	803	778	953	2,535
High K/Low Mig	875	810	890	2,576
High K/High Mig	858	831	970	2,659

Excludes Early Childhood and ALC

In the first five projection years, middle school enrollment is 109 to 145 students larger than today. In 2018-19, grades resulting from the kindergarten assumptions have not yet reached the middle school so we see the effects of the migration assumptions only. By 2023-24, the kindergarten

assumptions effect the middle school population and middle school enrollment falls but is larger than in 2013-14.

All four projections show high school enrollment exceeding its current level throughout the ten projection years.

In 2023-24, the 2013-14 kindergarten class will be in Grade 10, which means that all the grades below Grade 10 are products of the projection assumptions. Detailed grade by year projections are at the end of this report.

Housing Unit Method

The housing unit method provides another way of projecting population and school enrollment. While the number of dwelling units (housing units) is related to the number of school age children, dwelling units alone do not determine the number of school age children. The number of school age children per unit is also a key variable in the projection equation.

The chief reason to use the housing unit method is to understand the effect of additional housing units on enrollment. It could be said that housing stock is like DNA. It determines the size and characteristics of the resident school age population. Because the cohort survival method projections are for total enrollment not resident enrollment only, a housing unit method projection is not meaningful. Furthermore, if the Delano Public Schools continue to be successful in attracting more nonresident students, a housing unit method projection is not insightful.

Nonetheless, it is important to keep the following points in mind:

- Dwelling unit type affects the school age child per unit yield. Single-family detached units have the highest school age child per unit yield. Single-family attached, such as townhouses, have significantly fewer children per unit than single-family detached units while apartment units have even fewer school age children per unit, although there are some local exceptions. For enrollment projection purposes, the change in single-family detached housing units is what affects the number of school age children in a district.
- Newer single-family detached units yield more students per unit than older single-family detached units.
- As single-family detached units sell (turnover) the student yield often increases, especially in the newer units.
- The market value of single-family detached units affects the school age child per unit yield. Medium priced to higher priced units yield more school age children than the lowest priced units.
- As the population ages, more dwelling units are being built for mature adults (55+ years) and for seniors. These units will have zero school age children per unit.