

NORTHFIELD PUBLIC SCHOOLS

ENROLLMENT PROJECTIONS

Hazel H. Reinhardt

June 9, 2014



SUMMARY

- In the past ten years, enrollment decreased by -9 students or -0.2 percent
 - The increasing number of district residents attending a charter school or open enrolling out of the district accounts for flat enrollment
 - The district's school age population is up modestly



SUMMARY

- Projected enrollment
 - Cohort Survival method projections show enrollment decreasing in the next ten years
 - K-5 enrollment projected to be down in next five years due to lower number of births and then partially recover in the second five years
 - Middle school enrollment projected to increase in the next five years but then decrease in second five projections years as the smaller elementary grade reach middle school
 - High school enrollment projected to increase



SUMMARY

- Projected additional housing modest in the near term
 - 88 additional single-family detached units projected in the next two years
 - Nearly half (47 percent) of single-family detached housing units have at least one resident who is 55+ years old
 - Current Northfield Public School student yields per single-family detached unit are low, another indicator that the district's population is aging

TOTAL ENROLLMENT HISTORY

K-12 TOTAL ENROLLMENT

2004-05	3,762
2005-06	3,792
2006-07	3,826
2007-08	3,833
2008-09	3,785
2009-10	3,753
2010-11	3,717
2011-12	3,733
2012-13	3,782
2013-14	3,753

Excludes Early Childhood and ALC


COMPONENTS OF ENROLLMENT CHANGE

Fall to Fall	Total		Natural Increase/ Decrease	Net Migration
	#	%		
2004 to 2005	30	0.8	-58	88
2005 to 2006	34	0.9	-20	54
2006 to 2007	7	0.2	-41	18
2007 to 2008	-48	-1.3	-49	1
2008 to 2009	-32	-0.8	-45	13
2009 to 2010	-36	-1.0	-88	52
2010 to 2011	16	0.4	-46	62
2011 to 2012	49	1.3	-11	60
2012 to 2013	-29	-0.8	-91	62

EDUCATION CHOICES

2011-12

	Minnesota	Northfield
Nonpublic settings	10.0%	6.9%
Traditional schools	8.1%	4.2%
Home schools	1.9%	2.9%
Public Options		
Open enrollment	6.4%	
In		7.0%
Out		3.8%
Charter schools	4.1%	5.9%
Capture Rate	78.8%	81.1%




Grade	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
K	250	254	280	272	247	269	247	267	281	235
1	262	268	249	287	272	251	273	256	269	300
2	249	250	276	250	291	255	258	283	251	266
3	258	258	264	281	253	290	254	271	276	255
4	284	265	258	274	273	248	292	264	270	278
5	262	288	272	264	281	273	256	306	269	278
6	292	299	331	287	293	306	297	264	339	296
7	319	314	294	336	279	282	297	306	269	347
8	312	328	316	298	334	277	290	297	314	269
9	324	336	336	331	305	346	307	310	319	328
10	311	313	332	335	317	311	335	298	307	310
11	327	319	305	322	326	310	298	319	292	296
12	312	300	313	296	314	335	313	292	326	295
Total	3,762	3,792	3,826	3,833	3,785	3,753	3,717	3,733	3,782	3,753




AVERAGE CLASS SIZE

- “Average” class size
 - 269 K-5
 - 304 6-8
 - 307 9-12
- The distribution of students by grade (elementary versus middle school) suggests enrollment will continue to decrease if kindergarten remains near its current level



Calendar Year	Minnesota	Rice County	Northfield City
1998	65,207	671	195
1999	65,953	670	175
2000	67,451	663	159
2001	66,617	721	210
2002	68,037	716	201
2003	70,053	698	191
2004	70,617	797	223
2005	70,950	794	231
2006	73,515	842	242
2007	73,675	796	213
2008	72,382	794	203
2009	70,617	748	206
2010	68,407	720	178
2011	68,416	733	208



Year (Sept to Aug)	District Resident Births
1998; 1999	196
1999; 2000	183
2000; 2001	235
2001; 2002	209
2002; 2003	220
2003; 2004	230
2004; 2005	231
2005; 2006	229
2006; 2007	259
2007; 2008	211
2008; 2009	226
2009; 2010	204
2010; 2011	174
2011; 2012	127
2012; 2013	145




MACRO TRENDS

- Aging population
 - Less mobility
 - Decrease in school age population per household
 - Shift in size of adult age groups
 - Less demand for single-family detached housing
- More births this decade and the next (Gen Y)
 - Another enrollment cycle (third)
 - Rising elementary enrollment in the first half of the cycle
 - Another large graduating class about 2040 (end of cycle)



PROJECTION METHODOLOGIES

- Cohort survival method
 - Projections by grade
 - Reflects recent births and current size of grades
 - Difficult to calibrate survival rates to reflect additional housing units, especially if a large number of units



Birth Years	District Pool	Percentage	Kindergarten
1998; 1999	196	127.6%	2004-05
1999; 2000	183	138.8%	2005-06
2000; 2001	235	119.1%	2006-07
2001; 2002	209	130.1%	2007-08
2002; 2003	220	112.3%	2008-09
2003; 2004	230	117.0%	2009-10
2004; 2005	231	106.9%	2010-11
2005; 2006	229	116.6%	2011-12
2006; 2007	259	108.5%	2012-13
2007; 2008	211	111.4%	2013-14
2008; 2009	226		2014-15
2009; 2010	204		2015-16
2010; 2011	174 (218)		2016-17
2011; 2012	127 (159)		2017-18
2012; 2013	145 (181)		2018-19



KINDERGARTEN CAPTURE RATES

- Cohort survival method
 - Kindergarten Assumptions
 - Low is 110.0%
 - High is 112.1%
 - Longer-term
 - Rice County births are below projected level (-21.5%)
 - Northfield Public Schools at 29 percent of Rice County



KINDERGARTEN PROJECTIONS

Year	@110.0%	@112.1%
2013-14	235	235
2014-15	249	253
2015-16	224	229
2016-17	240	244
2017-18	175	178
2018-19	199	203
2019-20	240	244
2020-21	243	248
2021-22	246	251
2022-23	248	252
2023-24	248	252
Total	2,312	2,354



NET MIGRATION

SCHOOL YEAR TO SCHOOL YEAR									
Grade	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-5	26	24	29	6	-19	20	56	-6	30
6-8	68	40	24	19	12	23	17	46	35
9-12	-6	-10	-5	-24	20	9	-11	20	-3
Total	88	54	48	1	13	52	62	60	62

NET MIGRATION BY GRADE

Grade	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	18	-5	7	0	4	4	9	2	19
1 to 2	-12	8	1	4	-17	7	10	-5	-3
2 to 3	9	14	5	3	-1	-1	13	-7	4
3 to 4	7	0	10	-8	-5	2	10	-1	2
4 to 5	4	7	6	7	0	8	14	5	8
5 to 6	37	43	15	29	25	24	8	33	27
6 to 7	22	-5	5	-8	-11	-9	9	5	8
7 to 8	9	2	4	-2	-2	8	0	8	0
8 to 9	24	8	15	7	12	30	20	22	14
9 to 10	-11	-4	-1	-14	6	-11	-9	-3	-9
10 to 11	8	-8	-10	-9	-7	-13	-16	-6	-11
11 to 12	-27	-6	-9	-8	9	3	-6	7	3
Total	88	54	48	1	13	52	62	60	62

PROJECTED SURVIVAL RATES

Grade	Low (past 10 years)	High (past 3 years)
K to 1	1.024	1.037
1 to 2	0.997	1.002
2 to 3	1.017	1.014
3 to 4	1.007	1.014
4 to 5	1.024	1.032
5 to 6	1.097	1.080
6 to 7	1.006	1.024
7 to 8	1.010	1.009
8 to 9	1.056	1.063
9 to 10	0.981	0.978
10 to 11	0.975	0.965
11 to 12	0.988	1.004



ENROLLMENT PROJECTIONS

Year	Low K Low Mig	High K Low Mig	Low K High Mig	High K High Mig
2013-14	3,753	3,753	3,753	3,753
2014-15	3,754	3,758	3,765	3,769
2015-16	3,739	3,748	3,756	3,766
2016-17	3,728	3,741	3,755	3,769
2017-18	3,642	3,658	3,679	3,696
2018-19	3,622	3,643	3,668	3,688
2019-20	3,557	3,582	3,611	3,636
2020-21	3,546	3,576	3,603	3,634
2021-22	3,528	3,564	3,595	3,632
2022-23	3,501	3,542	3,573	3,615
2023-24	3,494	3,540	3,570	3,617

ENROLLMENT PROJECTIONS

	K-5	6-8	9-12	Total
2013-14	1,612	912	1,229	3,753
2018-19				
Low K/Low Mig	1,368	945	1,310	3,622
High K/Low Mig	1,388	945	1,310	3,643
Low K/High Mig	1,391	954	1,322	3,668
High K/High Mig	1,412	954	1,322	3,688
2023-24				
Low K/Low Mig	1,469	756	1,268	3,494
High K/Low Mig	1,496	771	1,273	3,540
Low K/High Mig	1,493	777	1,301	3,570
High K/High Mig	1,520	791	1,306	3,617



SCHOOL PROJECTIONS

- Elementary school projections are based on the high kindergarten and high migration assumptions

ELEMENTARY SCHOOL PROJECTIONS

School	2013-14	2018-19	Change	
			#	%
Bridgewater	556	472	-84	-15.1
Greenvale Park	474	435	-39	-8.2
Sibley	582	508	-74	-12.7
Sum	1,612	1,415	-197	-12.2
District wide	1,612	1,412	-200	-12.4



NEW HOUSING UNITS

- 88 new single-family detached units are anticipated in the next two years
 - 84 in the Sibley attendance area
 - 4 in the Greenvale Park attendance area



STUDENT YIELD BY DWELLING TYPE

Dwelling Type	Number	K-5 Yield	6-8 Yield	9-12 Yield
Single-Family Detached	3,804	0.18	0.10	0.15
Townhomes	108	0.04	0.04	0.05
Duplex/Triplex	217	0.07	0.03	0.05

ANNUAL SALES

EXISTING S-F DETACHED UNITS

2011-2013

Attendance Area	%
Bridgewater	7.0%
Greenvale Park	4.7%
Sibley	8.7%

K-5 RESIDENT YIELD FROM S-F UNITS

Attendance Area	Existing units (pre 2011)				New Units (2011-2013)	
	Non Movers		Movers		#	Yield
	#	Yield	#	Yield		
Bridgewater	1,520	0.20	388	0.23	36	0.41
Greenvale Park	1,927	0.14	311	0.14	17	0.23
Sibley	2,120	0.18	456	0.19	29	0.37
Total	5,567	0.17	1,115	0.19	82	0.36



COMPARISON OF PROJECTIONS

- Cohort projections include nonresidents
- Housing unit projections are for resident only
 - Not all students attend the elementary school in their attendance area
 - Varies by attendance area
- Attendance area projections (housing unit method) appear to be lower, but
 - When all adjustments made, housing unit projections are higher than the cohort projections

K-5 PROJECTIONS

2015-16

	School (Sum)	Attendance Area (Residents Only)
Bridgewater	544	528
Greenvale Park	471	505
Sibley	567	543
Total	1,582	1,576