



March 31, 2014

Neshaminy School District
 Attn: Mr. Robert L. Copeland, Superintendent
 2001 Old Lincoln Highway
 Langhorne, PA 19047

RE: **Neshaminy School District
 Demographic Study emphasizing K and Grade 1 Enrollments**

Dear Mr. Copeland:

Thank you for the opportunity of exploring the impact of a possible change to full-day Kindergarten in the Neshaminy School District. We have based our projection on an analysis of the historic change of nearby districts, similar in enrollment and geography, who have previously completed that change. A narrative of the methodology, the findings of that analysis, and a projection of Kindergarten and Grade 1 enrollments are presented herein.

Because the Kindergarten and Grade 1 research effort relative to Enrollments, Births and Residential Building Permits, in the three comparative districts as well as Neshaminy, far outweighed the data collection for historic Neshaminy enrollments, we have proceeded with a full K-12 projection for the District.

Methodology

Historic enrollments for Public School Districts in the southeastern Pennsylvania counties of Berks, Bucks, Montgomery and Delaware were reviewed to determine which of those 66 Districts had Full Day Kindergarten Only (vs. AM/PM or AM/PM/Full) in October 2012. On average, 38% of the Districts had Full Day Kindergarten only with ranges from a low of 23% in Bucks County to a high of 47% in Montgomery County.

Full Day Kindergarten Review	Total	FDK	%
Bucks	13	3	23.1%
Montgomery	21	10	47.6%
Berks	17	7	41.2%
Delaware	15	5	33.3%
Combined	66	25	37.9%

Recent Transition	+6Yrs	-6Yrs	%
Bucks	12	1	
Montgomery	20	1	
Berks	14	3	
Delaware	15	0	
Combined	61	5	8.2%

Those 25 Districts that had Full Day Kindergarten Only were reviewed for Kindergarten status in October 2006 to determine which of the districts, had made the transition during that 6-year interval for which enrollment data was readily available.

Five of the Districts were recent transitions and were reviewed for further suitability to be included in the study.

Current Kindergarten enrollments were compared with the Neshaminy Kindergarten enrollment which had increased from 425 in year 2008 to 505 in year 2012.

Lower Moreland and Kutztown, with enrollments at 150 and 100, respectively, were eliminated from the study as being too small. Governor Mifflin, Bensalem and Wilson School Districts remained and were used in the study as comparative districts.

Recent Transitions by K Enrollment	District	K Enroll
Bucks	Bensalem	340
Montgomery	Lower Moreland	150
Berks	Gov. Mifflin	300
Berks	Kutztown	100
Berks	Wilson	400



Data regarding Live Births, Residential Building Permits and historical Kindergarten and Grade 1 enrollments was collected for each of these three school Districts. While Bensalem SD is a single municipality school district, Wilson SD is comprised of 4 municipalities and a small portion of a 5th; and Governor Mifflin SD is comprised of 5 municipalities. It is noted here for comparative purposes that Neshaminy is comprised of 6 municipalities. The Births and Permit data is documented in the Appendix.

For each school district a Cohort Survival analysis was made for 3 years before moving to Full Day Kindergarten and for 3 years after the change (except Neshaminy for which enrollment is only available for 2 years after). But this was not sufficiently accurate to account for in-migration due to New Housing, so a second Cohort Survival analysis was made that decreased each grades enrollment by a housing increment in each of the 6 years analyzed. This decrease ranged between 0 and 8 students per grade though the average was 2 per year in Governor Mifflin, 3 in Bensalem and 5 per year in Wilson.

From this Cohort Survival analysis, “before” and “after” Survival Ratios (S/R) were obtained for Birth to Kindergarten and for Kindergarten to Grade 1.

Results

Gov Mifflin		K		1st
S/R Before		0.891		1.169
S/R After		0.958		1.033
Change %		7.50%		-11.63%
Bensalem		K		1st
S/R Before		0.541		1.141
S/R After		0.632		1.002
Change %		16.74%		-12.20%
Wilson		K		1st
S/R Before		1.147		1.229
S/R After		1.247		1.123
Change %		8.72%		-8.65%
Combined Average				
Change %		10.99%		-10.83%

The findings are that, on average, a District that moves to Full Day Kindergarten will experience a 10.99% increase in their Birth to Kindergarten Survival Ratio; and a 10.83% decrease in their Kindergarten to Grade 1 Survival Ratio.

*It is to be noted that this is **not** a percent increase/decrease in enrollment. It is a percent increase/decrease in the Survival Ratio.*

Across the three comparative districts, changes in Birth to Kindergarten S/R ranged from 7.5% to 16.7%, and changes in Kindergarten to Grade 1 S/R ranged from -8.6% to -12.2%.

It is understood that, with analysis of even more “similar” districts, the “change” could be made more accurate. However, this Consultant is comfortable with moving forward with a projection for Neshaminy based on these results.

These changes indicate increases in Kindergarten enrollments and little change in Grade 1 enrollments.

The table at the right exhibits the projected October Kindergarten and Grade 1 enrollments for a 5-year and a 5-10 year extended period, in both an adjusted and a standard projection.

The Adjusted projection uses the S/R and New Housing changes resulting from the analysis and the Standard projection does not.

Kindergarten projections in the initial 5-year period are 47-56 students larger than the standard projection, the equivalent of 3 classrooms.

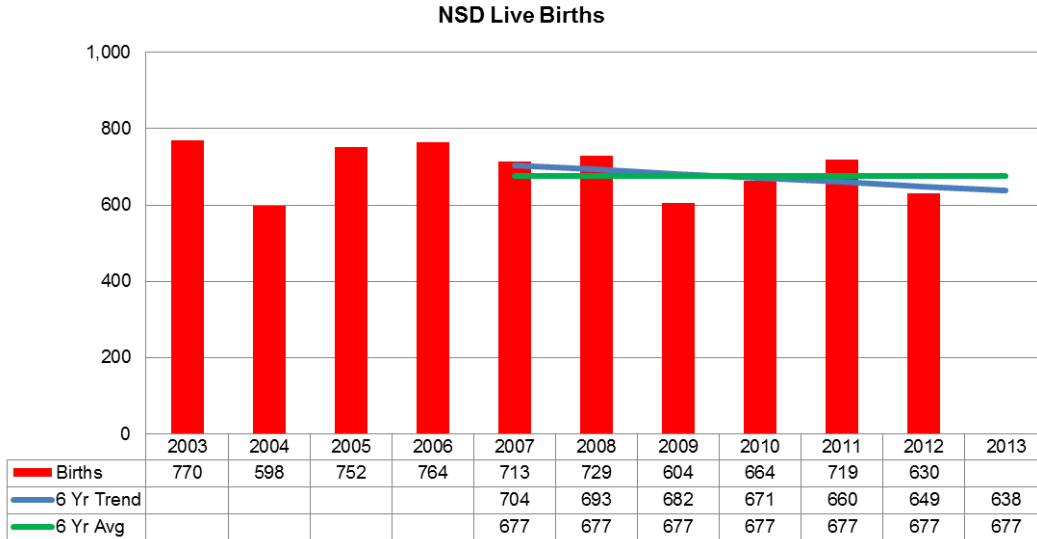
Grade 1 projections exhibit a 6 student increase by the end of the initial 5-year period. These students are likely from New Housing as discussed in greater detail on page 4.

		Kindergarten		Grade 1	
		Adj	Std	Adj	Std
Projected	2014	454	406	729	726
	2015	499	447	573	573
	2016	540	484	630	630
	2017	471	424	679	682
	2018	505	455	592	598
Extended	2019	505	455	635	642
	2020	505	455	635	642
	2021	505	455	635	642
	2022	505	455	635	642
	2023	506	455	635	642



Notes on Births (Five Years Earlier)

Live Births by the end of the initial 5-year projection period are estimates, these children are not yet born. The estimate used is the average of the prior 6 years (2007-12). This is the accepted practice for use of a Cohort Survival methodology for a school district enrollment projection.



The **average** of the last 6 years is 677 births per year, of which 75% would enroll five years later in the Neshaminy SD. However, the 6-year **trend**, with some volatility, has been for 11 births less each year. If that trend were to continue, the 2013 Births (officially unavailable at this time) would be at 638, not the 677 used in the projection.

Five years later, the October 2018 Kindergarten enrollment would be 476 and not the 505 as projected...*lower by nearly 30 students. This note on methodology is provided so the reader might understand the importance of staying abreast of the Live Births in the District.* Additional Live Births data by Municipality is available in the Appendix.

The October 2018 Kindergarten enrollment is the only projection in the initial 5 years that is based on an average and not a documented count. However each additional year of projection uses one additional year of an "average", such that the year 2023 K-Grade 5 elementary projection is based on averages in its' entirety. *This note on methodology is provided so the reader might understand the relatively poor accuracy of K-Grade 5 projections on an extended 5-10 year period.*

Adjustments for the Impact of New Housing

The Kindergarten and Grade 1 projection was also adjusted for New Housing. While there is no residential construction activity in Hulmeville Borough, Langhorne Borough or Langhorne Manor Borough, there is unusual activity in the other three municipalities.

In Pennell Borough, where permits have averaged 1.5 per year over the last 6 years, there are permits for a mix of 24 units this year. In Lower Southampton, a 131 unit Townhouse Project is approved and under construction, while in Middletown, a 143 unit Townhouse Project is approved and under construction. Neither municipality has experienced any multi-family permitting in the last 6 years. These 298 units are "above the average" that is "built into" the standard projection.



The projection will be adjusted in accordance with a schedule for completion over the next three years as follows;

Proposed Housing (Above Average)			2014	2015	2016	Total
Penndel Borough	Single Family	3 Bdrm	2			2
	Twins	3 Bdrm	10			10
	Apartments	2 Bdrm	12			12
Lower Southampton	Emerald Walk THs	3 Bdrm	31	50	50	131
Middletown	Big Oak Crossings THs	3 Bdrm	43	50	50	143
			98	100	100	298

This schedule of development is then translated into a schedule of additional Public School Age Children by applying multipliers for the specific unit type and number of bedrooms. These multipliers are found in Rutgers University, Center for Urban Policy Research, "Residential Demographic Multipliers for Pennsylvania" by Burchell, Listokin, et al, June 2006.

A total of 106 additional K-12 students will arrive from this proposed new housing. 34 new students will arrive in 2014, with 36 arriving in years 2015 and 2016.

Public School Age Children			Mult.	2014	2015	2016	Total
Penndel Borough	Single Family		0.56	1.1			1
	Twins		0.36	3.6			4
	Apartments		0.19	2.3			2
Lower Southampton	Emerald Walk THs		0.36	11.2	18.0	18.0	47
Middletown	Big Oak Crossings THs		0.36	15.5	18.0	18.0	51
				34	36	36	106

Therefore, 2 to 3 students in each grade level, in each of these years are from new housing. These new students have been included in the K and Grade 1 Tables exhibited on page 2.

This concludes the projection for K and Grade 1 as commissioned.

Having completed the due diligence to project Kindergarten and Grade 1, there was little effort left to complete a District-wide projection and that also has been done. Those results are presented as Table 1.1 to 1.4, attached herewith and include the impacts of Full Day Kindergarten and New Housing.

Please feel free to telephone with questions, or to schedule a Presentation/Review meeting with the Board.

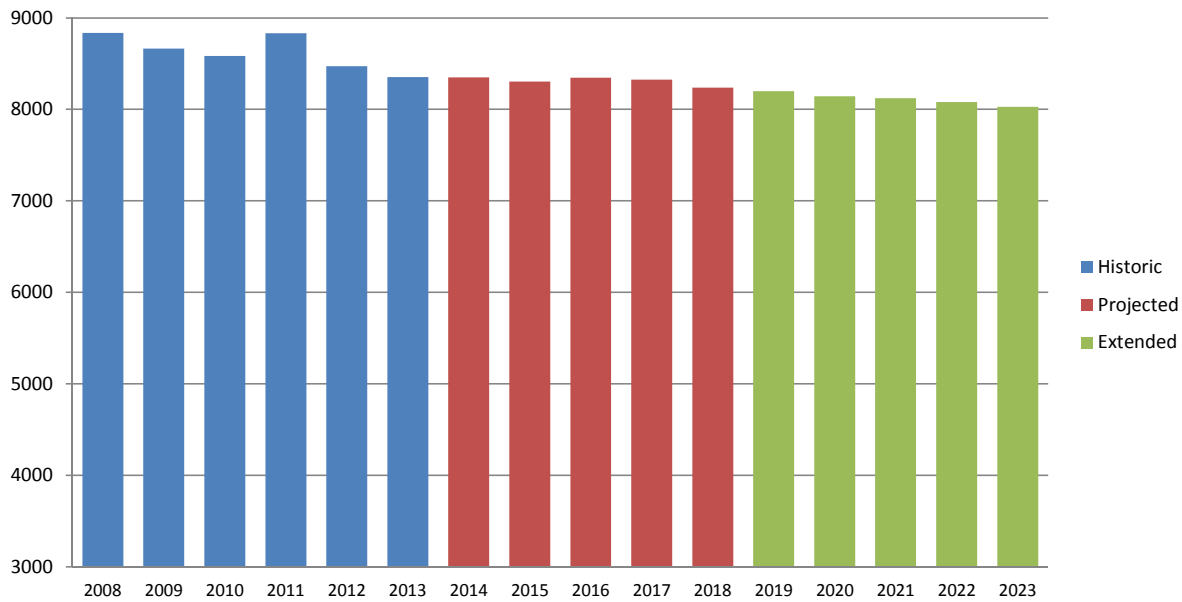
Very Truly Yours,

George B. Sundell
 Principal Consultant
 SUNDANCE ASSOCIATES

Table 1.1

All Schools														UG		TOTAL	Average	Change
	PK:KK	K	1	2	3	4	5	6	7	8	9	10	11	12	9-12			
Historic	2008	427	723	616	646	636	685	694	726	764	659	752	732	776	1	8,837		
	2009	449	630	655	635	669	617	711	704	701	708	708	745	734	0	8,666		
	2010	489	653	594	653	635	673	644	726	728	724	693	671	704	0	8,587		
	2011	510	699	627	605	661	651	703	654	716	780	715	786	718	8	8,833	8,625	
	2012	505	707	641	626	617	665	679	702	650	672	657	659	692	1	8,473		
	2013	515	659	667	637	641	617	682	675	709	618	629	653	654	0	8,356		-481
Projected	2014	454	729	618	675	651	645	644	691	676	700	598	630	641	0	8,352		
	2015	499	573	683	626	690	655	672	652	692	668	678	600	619	0	8,307		
	2016	540	630	538	691	640	694	683	681	653	684	647	679	589	0	8,349	8,314	
	2017	471	679	588	542	704	641	721	689	680	643	659	645	664	0	8,325		
	2018	505	592	634	593	552	705	666	727	688	669	620	657	631	0	8,238		-118
Extended	2019	505	635	552	639	603	553	733	672	726	677	645	618	643	0	8,201		
	2020	505	635	593	557	650	604	575	739	670	714	652	643	605	0	8,143		
	2021	505	635	593	598	567	651	628	580	738	659	688	651	629	0	8,122	8,115	
	2022	505	635	593	598	609	568	677	633	578	726	636	686	637	0	8,081		
	2023	506	635	593	598	609	610	590	683	632	569	699	634	671	0	8,029		-209

District Wide Enrollments K-12

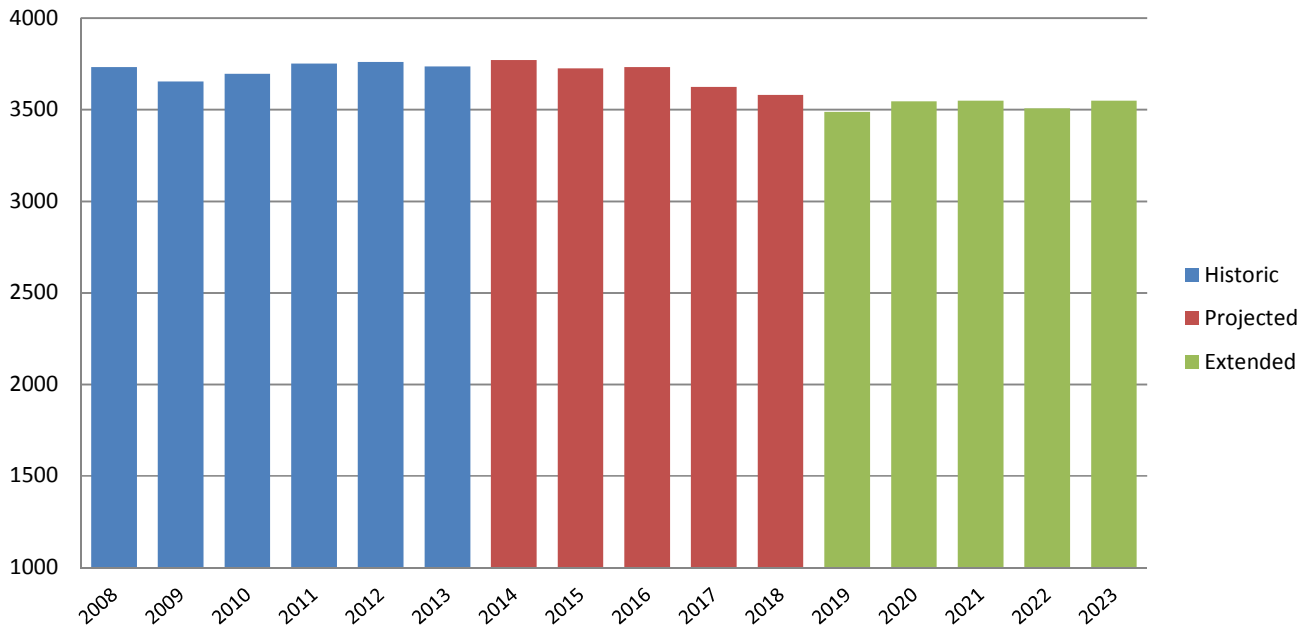


Neshaminy School District
Elementary K -Grade 5 Enrollments

Table 1.2

	Year	PKSE	PK3	PK4	K	1	2	3	4	5	PK-5	Period	
											TOTAL	Average	Change
Historic	2008	0	0	0	427	723	616	646	636	685	3,733		
	2009	0	0	0	449	630	655	635	669	617	3,655		
	2010	0	0	0	489	653	594	653	635	673	3,697		
	2011	0	0	0	510	699	627	605	661	651	3,753	3,723	
	2012	0	0	0	505	707	641	626	617	665	3,761		
	2013	0	0	0	515	659	667	637	641	617	3,736		3
Projected	2014	0	0	0	454	729	618	675	651	645	3,771		
	2015	0	0	0	499	573	683	626	690	655	3,726		
	2016	0	0	0	540	630	538	691	640	694	3,733	3,687	
	2017	0	0	0	471	679	588	542	704	641	3,624		
	2018	0	0	0	505	592	634	593	552	705	3,581		-155
Extended	2019	0	0	0	505	635	552	639	603	553	3,488		
	2020	0	0	0	505	635	593	557	650	604	3,545		
	2021	0	0	0	505	635	593	598	567	651	3,550	3,528	
	2022	0	0	0	505	635	593	598	609	568	3,508		
	2023	0	0	0	506	635	593	598	609	610	3,550		-30

Elementary PreK-Gr 5 Enrollments

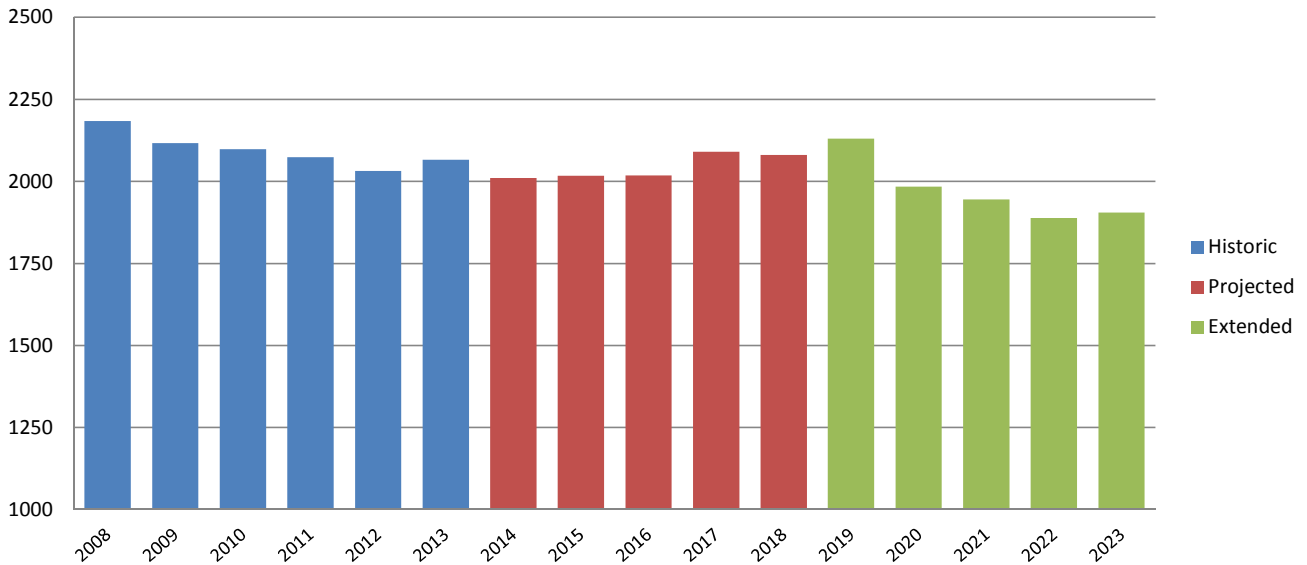


Neshaminy School District
Middle School Grade 6-8 Enrollments

Table 1.3

		Gr 5-6			Period	Period	
		6	7	8	Average	Change	
Historic	2008	694	726	764	2,184		
	2009	711	704	701	2,116		
	2010	644	726	728	2,098		
	2011	703	654	716	2,073	2095	
	2012	679	702	650	2,031		
	2013	682	675	709	2,066	-118	-5.4%
Projected	2014	644	691	676	2,010		
	2015	672	652	692	2,016		
	2016	683	681	653	2,018	2043	
	2017	721	689	680	2,090		
	2018	666	727	688	2,081	15	0.7%
	Extended	2019	733	672	726	2,130	
2020		575	739	670	1,984		
2021		628	580	738	1,945	1970	
2022		677	633	578	1,888		
2023		590	683	632	1,905	-176	-8.3%

Middle School Gr 6-8 Enrollments

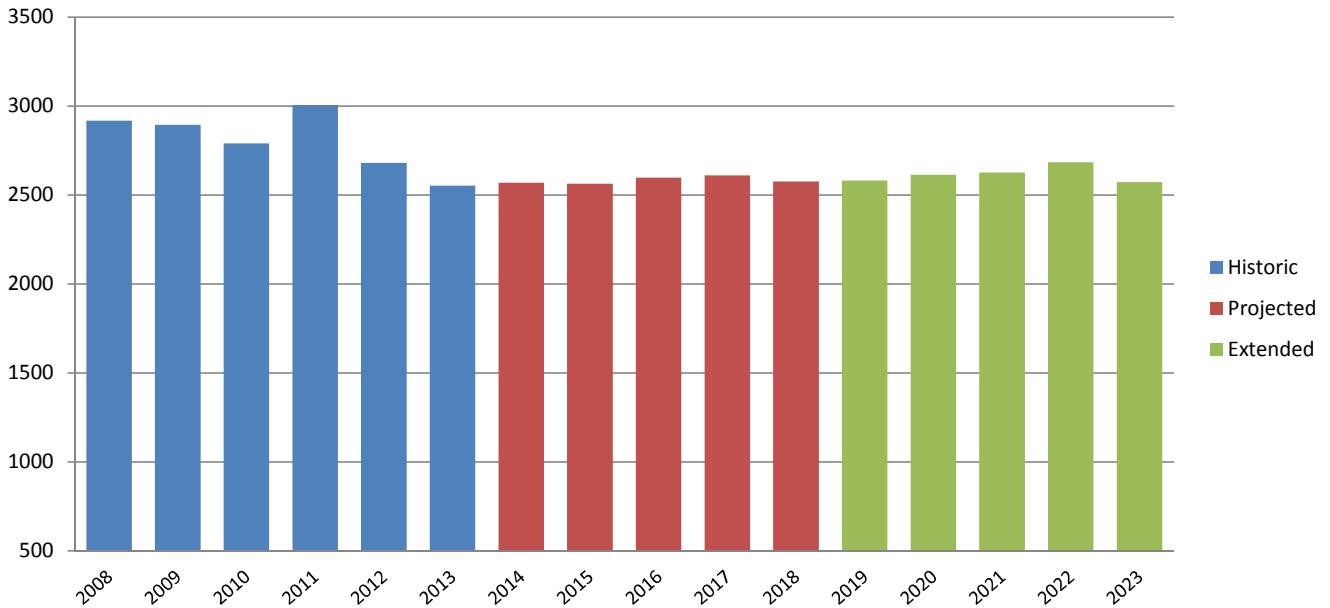


Neshaminy School District
High School Grade 9-12 Enrollments

Table 1.4

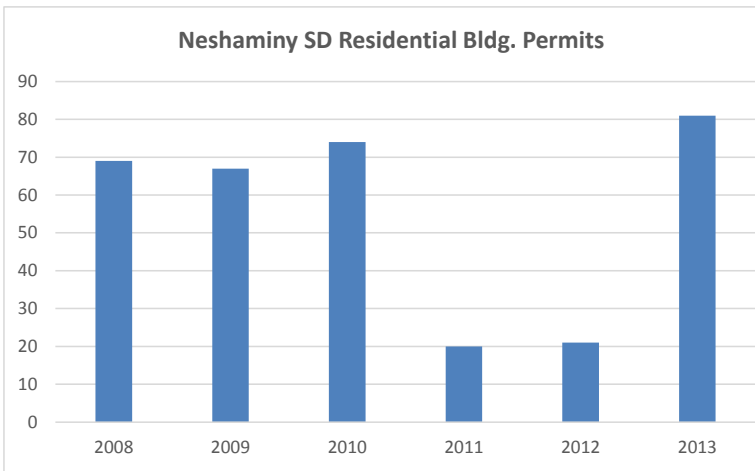
						Gr 7-8	Period	Period		
		9	10	11	12	9-12 UG	TOTAL	Average	Change	
Historic	2008	659	752	732	776	1	2,920			
	2009	708	708	745	734	0	2,895			
	2010	724	693	671	704	0	2,792			
	2011	780	715	786	718	8	3,007	2808		
	2012	672	657	659	692	1	2,681			
	2013	618	629	653	654	0	2,554		-366	-12.5%
Projected	2014	700	598	630	641	0	2,570			
	2015	668	678	600	619	0	2,565			
	2016	684	647	679	589	0	2,599	2584		
	2017	643	659	645	664	0	2,611			
	2018	669	620	657	631	0	2,577		23	0.9%
Extended	2019	677	645	618	643	0	2,583			
	2020	714	652	643	605	0	2,614			
	2021	659	688	651	629	0	2,628	2617		
	2022	726	636	686	637	0	2,684			
	2023	569	699	634	671	0	2,574		-3	-0.1%

High School Grade 9-12 Enrollments



Neshaminy School District

Base Data for Enrollment Projection-Residential Building Permits



Sum of Neshaminy SD							6-year
	2008	2009	2010	2011	2012	2013	Average
Total	69	67	74	20	21	81	55
Units	69	67	74	20	21	81	All
Units	0	0	0	0	0	0	Single

Housing Unit Building Permits for: HULMEVILLE BOROUGH, PA (Bucks County)							6-year
	2008	2009	2010	2011	2012	2013	Average
Total	7	3	3	0	0	0	2.2
Units	7	3	3	0	0	0	
Units	0	0	0	0	0	0	

Housing Unit Building Permits for: LANGHORNE BOROUGH, PA (Bucks County)							6-year
	2008	2009	2010	2011	2012	2013	Average
Total	0	0	0	0	0	0	0.0
Units	0	0	0	0	0	0	
Units	0	0	0	0	0	0	

Housing Unit Building Permits for: LANGHORNE MANOR BOROUGH, PA (Bucks County)							6-year
	2008	2009	2010	2011	2012	2013	Average
Total	0	0	0	0	0	0	0.0
Units	0	0	0	0	0	0	
Units	0	0	0	0	0	0	

Housing Unit Building Permits for: LOWER SOUTHAMPTON TOWNSHIP, PA (Bucks County)							6-year
	2008	2009	2010	2011	2012	2013	Average
Total	5	38	39	6	3	55	24.3
Units	5	38	39	6	3	55	
Units	0	0	0	0	0	0	

Housing Unit Building Permits for: MIDDLETOWN TOWNSHIP, PA (Bucks County)							6-year
	2008	2009	2010	2011	2012	2013	Average
Total	57	26	30	10	17	24	27.3
Units	57	26	30	10	17	24	
Units	0	0	0	0	0	0	

Housing Unit Building Permits for: PENNDDEL BOROUGH, PA (Bucks County)							6-year
	2008	2009	2010	2011	2012	2013	Average
Total	0	0	2	4	1	2	1.5
Units	0	0	2	4	1	2	
Units	0	0	0	0	0	0	

Governor Mifflin School District

Base Data for K and Grade 1 Enrollment Projection

GOVERNOR MIFFLIN						all Berks	
	Brecknock Twp	Cumru Twp	Mohnton Bor	Kenhorst Bor	Shillington Bor		
							TOTAL
2001	65	135	35	32	49		316
2002	40	131	41	27	62		301
2003	47	136	28	34	62		307
2004	39	143	40	35	60		317
2005	45	142	35	37	65		324
2006	40	126	40	24	66		296
2007	44	143	43	43	65		338

	Sum of Gov Mifflin SD						
	2006	2007	2008	2009	2010	2011	2012
Total Permits	50	65	37	19	17	4	10
Single-Family	50	60	37	19	17	4	5
Multi-Family	0	5	0	0	0	0	5
3-Yr Avg	51	51	51				
4-Yr Avg				13	13	13	13
PSAC (.84)	42	55	31	16	14	3	8
Single Grade	3.2	4.2	2.4	1.2	1.1	0.3	0.6

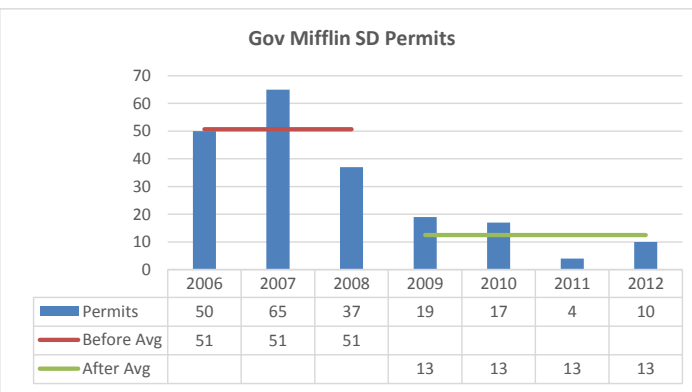
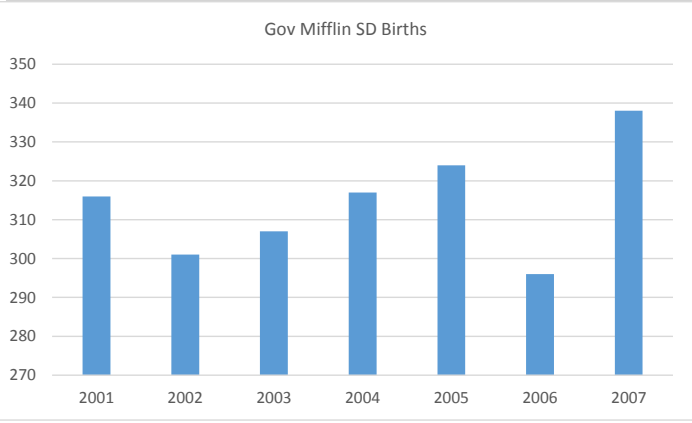
BRECKNOCK TOWNSHIP, PA (Berks County)							
	2006	2007	2008	2009	2010	2011	2012
Total Units	12	12	4	2	4	1	2
Units in Single-	12	12	4	2	4	1	2
Units in All Multi-	0	0	0	0	0	0	0

Housing Unit Building Permits for: CUMRU TOWNSHIP, PA (Berks County)							
	2006	2007	2008	2009	2010	2011	2012
Total Units	37	51	33	17	13	2	3
Units in Single-	37	46	33	17	13	2	3
Units in All Multi-	0	5	0	0	0	0	0

Housing Unit Building Permits for: KENHORST BOROUGH, PA (Berks County)							
	2006	2007	2008	2009	2010	2011	2012
Total Units	0	1	0	0	0	0	0
Units in Single-	0	1	0	0	0	0	0
Units in All Multi-	0	0	0	0	0	0	0

Housing Unit Building Permits for: MOHNTON BOROUGH, PA (Berks County)							
	2006	2007	2008	2009	2010	2011	2012
Total Units	1	0	0	0	0	1	0
Units in Single-	1	0	0	0	0	1	0
Units in All Multi-	0	0	0	0	0	0	0

Housing Unit Building Permits for: SHILLINGTON BOROUGH, PA (Berks County)							
	2006	2007	2008	2009	2010	2011	2012
Total Units	0	1	0	0	0	0	5
Units in Single-	0	1	0	0	0	0	0
Units in All Multi-	0	0	0	0	0	0	5



School Year	Births 5 Yrs. Ago	"s"
2006-07	316	0.889
2007-08	301	0.897
2008-09	307	0.915
2009-10	317	0.946
2010-11	324	0.963
2011-12	296	0.970

K "s"	1st Gr.
281	327
270	344
281	307
300	318
312	308
287	323

School Year	Births 5 Yrs. Ago	"s"
2006-07	316	0.880
2007-08	301	0.884
2008-09	307	0.909
2009-10	317	0.943
2010-11	324	0.960
2011-12	296	0.970

K "s"	1st Gr.
278	324
266	340
279	305
299	317
311	307
287	323

New Housing Adjust per Grade

HISTORIC DATA		
2006-07	316	0.889
2007-08	301	0.897
2008-09	307	0.915
2009-10	317	0.946
2010-11	324	0.963
2011-12	296	0.970

AP		
281		327
270	1.224	344
281		307
300	1.132	318
312	1.027	308
287	1.035	323

Housing Adj HISTORIC DATA		
2006-07	316	0.880
2007-08	301	0.884
2008-09	307	0.909
2009-10	317	0.943
2010-11	324	0.960
2011-12	296	0.970

278		324
266	1.223	340
279	1.147	305
299	1.136	317
311	1.027	307
287	1.039	323

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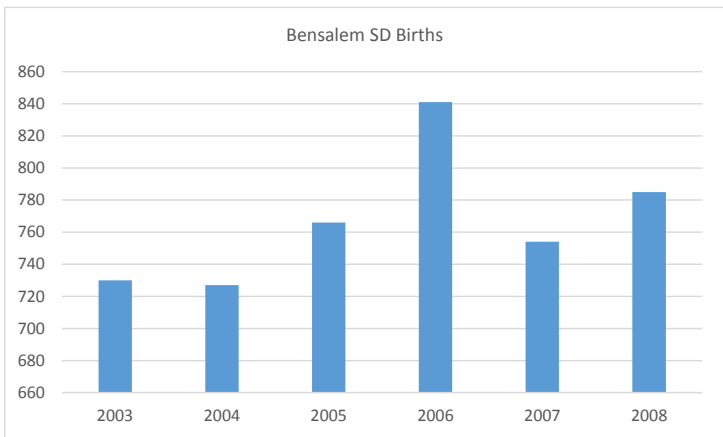
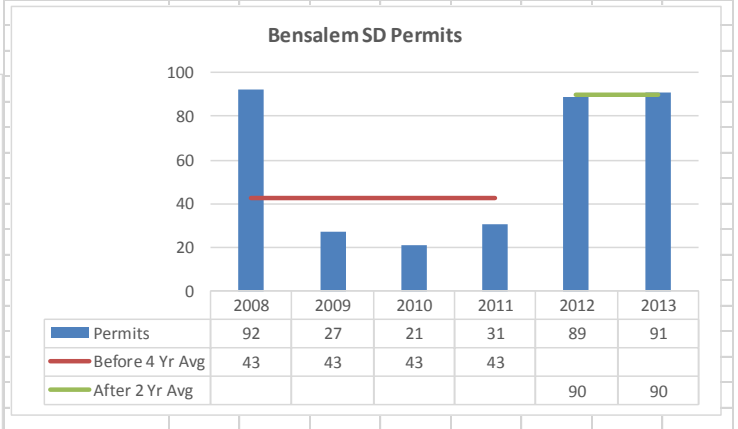
Bensalem School District

Base Data for K and Grade 1 Enrollment Projection

Bensalem Twp

2003	730
2004	727
2005	766
2006	841
2007	754
2008	785

BENSALEM TOWNSHIP, PA						
	2008	2009	2010	2011	2012	2013
Total Permits	92	27	21	31	89	91
Single-Family	92	27	21	31	29	70
Multi-Family	0	0	0	0	60	21
3-Yr Avg	43	43	43	43		
3-Yr Avg					90	90
PSAC (.84)	77	23	18	26	75	76
Single Grade	6	2	1	2	6	6



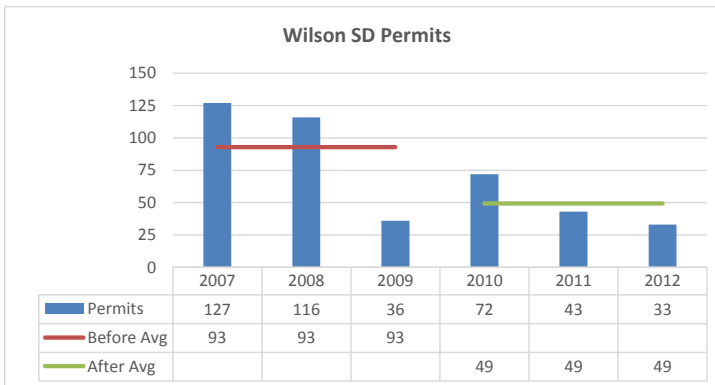
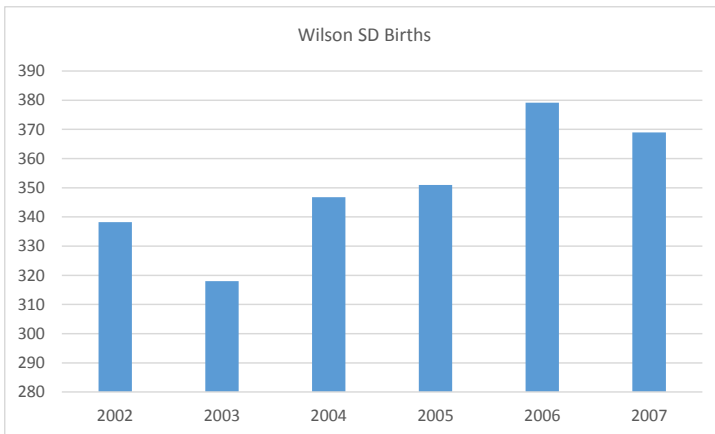
School Year	Births 5 Yrs. Ago	Births "s"	K	1st Gr.	School Year	Births 5 Yrs. Ago	Births "s"	K	1st Gr.	New Housing Adjust per Grade
HISTORIC DATA			APF		Housing Adj HISTORIC DATA					
2009-10	727	0.538	391	495	2009-10	727	0.535	389	493	2
				1,194					1,198	
2010-11	766	0.563	431	467	2010-11	766	0.561	430	466	1
				1,162					1,160	
2011-12	841	0.530	446	501	2011-12	841	0.528	444	499	2
			Full	1074				Full	1065	
2012-13	754	0.667	503	479	2012-13	754	0.659	497	473	6
				1002					1002	
2013-14	785	0.613	481	504	2013-14	785	0.605	475	498	6

Wilson School District

Base Data for K and Grade 1 Enrollment Projection

WILSON SD	Low Heidelberg Twp	Sinking Spring Bor	Spring Twp	West Lawn	Wyomissing B 5%	dissolved in 2006, to Spring Twp.	Berks	TOTAL
2002	28	35	246	26	64			338
2003	34	23	230	28	60			318
2004	42	34	241	27	55			347
2005	41	39	240	27	79			351
2006	45	54	276		83			379
2007	43	61	261		80			369

Sum of Wilson SD						
	2007	2008	2009	2010	2011	2012
Total Permits	127	116	36	72	43	33
Single-Family	127	116	36	72	43	25
Multi-Family	0	0	0	0	0	8
3-Yr Avg	93	93	93			
3-Yr Avg				49	49	49
PSAC (.84)	107	97	30	60	36	28
Single Grade	8.2	7.5	2.3	4.7	2.8	2.1



LOWER HEIDELBERG TOWNSHIP, PA (Berks County)						
	2007	2008	2009	2010	2011	2012
Total Units	42	42	8	16	12	14
Units in Single-	42	42	8	16	12	14
Units in All Multi-	0	0	0	0	0	0

Housing Unit Building Permits for: SINKING SPRING BOROUGH, PA (Berks County)						
	2007	2008	2009	2010	2011	2012
Total Units	35	12	4	3	0	8
Units in Single-	35	12	4	3	0	0
Units in All Multi-	0	0	0	0	0	8

Housing Unit Building Permits for: SPRING TOWNSHIP, PA (Berks County)						
	2007	2008	2009	2010	2011	2012
Total Units	50	62	24	53	31	11
Units in Single-	50	62	24	53	31	11
Units in All Multi-	0	0	0	0	0	0

Housing Unit Building Permits for: WEST LAWN BOROUGH, PA (Berks County)						
	2007	2008	2009	2010	2011	2012
Total Units	0	0	0	0	0	0
Units in Single-	0	0	0	0	0	0
Units in All Multi-	0	0	0	0	0	0

School Year	Births 5 Yrs. Ago	"s"	K	1st Gr.	School Year	Births 5 Yrs. Ago	"s"	K	1st Gr.	New Housing Adjust per Grade
HISTORIC DATA										
2007-08	338	148	388	465	2007-08	338	1,124	380	457	8
2008-09	318	1,220	388	465	2008-09	318	1,195	380	457	8
2009-10	347	1,127	391	495	2009-10	347	1,121	389	493	2
2010-11	351	1,228	431	467	2010-11	351	1,214	426	462	5
2011-12	379	1,177	446	501	2011-12	379	1,169	443	498	3
2012-13	369	1,363	503	479	2012-13	369	1,358	501	477	2