Demographic Study

Public School Enrollments

for

Spring-Ford Area School District

857 South Lewis Road, Royersford, PA 19468-2732

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The Methodology used in projecting enrollments is the recommended method of the Pennsylvania Department of Education (PDE) and is known as “Cohort Survival” or “Grade Level Progression”.

The Spring-Ford School District (AGSD) had a student population of over 7,800 students (Oct 2021) in 11 schools, organized as a Grade K-4 Elementary, followed by a Gr 5-7 Middle School, a Grade 8 Center, a Grade 9 Center and a Grade 10-12 High School.

The Constituent Municipalities in the School District include four (4) municipalities, three in Montgomery County; Limerick Township, Upper Providence Township and Royersford Borough, as well as Spring City Borough in Chester County;

Non-Public School enrollment levels start at 17.0% in Kindergarten, and 9.4% in Grade 1-4, increasing to 13.9% in Grades 5-8 and ending at 12.2% in Grades 9-12. Non-Public enrollment grew 153 students per year from 2017 to 2022 or a total of 767 students.

Population Trends are such that the school district area had a population of only 24,264 in 1990 which increased to 52,983 in the peak year of 2020, more than doubling in 30 years.

Population by Age Group from 2010 to 2020 reveals a decrease in Pre-School and School Age groups despite general population growth.

The AGSD, with a year 2020 constituent population of 31,907 continues to grow at a moderately increasing rate.

Live Births in the district have been slightly decreasing since year 2005 with a current 6-year average of 471. The 6-year trend is for 10 fewer births per year.

Historic Residential permitting for new construction was at 614 units in year 2000, and decreased to a recent 6-year average of 178 units per year.

Future Residential Permitting 2022-26 is anticipated to rise above the recent 6-year average to over 500 units per year and include a significant increase in Multi-Family housing.

School Age Children will be generated by this significant increase in anticipated permitting such that 814 students are added to the standard projection based on planned occupancies.

District-wide Enrollment will increase by only 146 students, to just over 8,000 students, despite the influx of 814 students from new housing.

Less accurate 6th to 10th year extended projections are not reported in this summary.

Elementary School Enrollment for Grades K-4 will decrease by 129 students to 2,262, despite the addition of 313 students.

Middle School Enrollments **fo**r Grades 5-7 will increase by only 98 students, to 1,964 students, despite the influx of 188 students from new housing.

Grade 8 Enrollments will increase by only 9 students, to 665 students, despite the addition of 63 students from new housing.

Grade 9 Enrollments will increase by only 60 students, to 683 students, with the addition of 63 students from new housing.

High School Enrollments for grades 10-12 will increase by only 109 students, to 2,064 students, despite the influx of 250 students from new housing.

A comparison of future enrollment and building capacity, not including modular classrooms, is as follows;

	DEP Capacity	Utilization	Target Capacity	Enroll 2026	Excess Capacity	*Excess %*
Elem Schools Gr K-4						
Brooke	488	90%	439	421	18	*4%*
Evans	674	90%	607	512	95	*14%*
Limerick	370	90%	333	215	118	*32%*
Oaks	672	90%	605	502	103	*15%*
Royersford	464	90%	418	336	82	*18%*
Spring City	232	90%	209	164	45	*19%*
Upper Providence	560	90%	504	478	26	*5%*
	3,460	90%	3,114	2,627	487	
Interm School Gr 5-7	2,564	85%	2,179	1,964	215	*8%*
Middle School Gr 8	911	85%	774	665	109	*12%*
Middle School Gr 9	925	80%	740	683	57	*6%*
High School Gr 10-12	2,919	80%	2,335	2,064	271	*9%*
TOTAL	**10,779**		**9,142**	**8,002**	**1,140**	

Sundance Associates has been retained by ICS, the Planning Consultant to the Spring Ford Area School District to prepare a demographic study of the district and to project enrollments from school year 2022-23 to school year 2026-27.

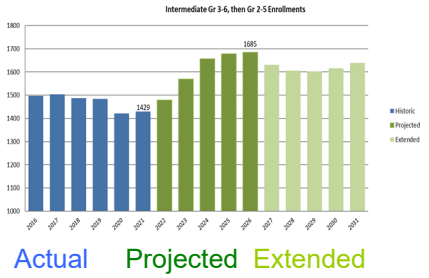
Actual enrollment data (Fall 2016– 2021) is from the official annual October submissions to PDE. Birth data is from the official web site of the Pennsylvania Department of Health.

The actual enrollments for this demographic study begin with the October 1 enrollment reports for the 2016-17 school year and end with the October 1 enrollment reports for 2021-22 school year. In projection graphs, the actual enrollments appear in blue.

The five-year enrollment projections begin with the 2022-23 school year and end with the 2026-27 school year and appear in dark green. The extended and less accurate 6-10 year projection is in light green.

Extensive data and graphics that support understanding of general demographic trends are provided, however, it is important to understand that they are for support purposes only. This projection is made based on Live Births and Historic Enrollment, *the two primary determinants of future enrollments*. The standard projection is then adjusted with an overlay of students from new housing.

The information in this demographic report is suitable for inclusion in any document to be forwarded to the Pennsylvania Department of Education for matters concerning school facilities.



Actual Projected Extended

Although many techniques have been used to predict demographic trends including future enrollment, the method most widely employed and accepted for predicting future school enrollment is the **"Cohort-Survival" method. This method is considered the most reliable.** It captures the key determinants of enrollment, yet also allows for changes in historical trends, is relatively simple to apply and the data requirements are reasonable and usually easily fulfilled.

The major assumption underlying the cohort survival method is that the past to a large extent is a reasonable predictor of the future: that is, given the number of births and historical enrollment, the net effect of all other factors remain in relative balance.

The major assumption underlying the cohort survival method is that the past to a large extent is a reasonable predictor of the future.

The most important factors are Live Birth counts and historical, grade level Enrollment counts.

However, any of the following factors could cause a significant change in projected student enrollments, and adjustments to the standard methodology may be made for:

- Boundary adjustments, school openings or consolidation
- Changes/additions in program offerings
- Preschool programs
- Change in grade configuration
- General Economic Conditions, Interest rates/unemployment shifts
- Magnet/Charter/Private school opening or closure
- Zoning changes
- New housing activity; planned, but not built, housing
- In and Out-Migration

The cohort-survival method requires the calculation of the ratio of the number of children in one grade in one year compared to the number of children who "survive" the year and enroll in the next grade the following year (see detailed Mathematical Analysis, page 14). Fluctuations in such data from year to year create a pattern over time from which an average rate may be calculated to project enrollment.

The reliability of the cohort-survival method is related to both the number of years one is projecting as well as the relative volatility of the historical data. Projections covering five years or less, especially at the elementary level, tend to be more reliable than projections going out more than five years. In addition, in some communities the numbers of births, population, household size, and net migration rates have held relatively steady which increases the reliability of the results. In other communities, one or more such variables exhibit extreme variation leading to less reliable results.

The Institute of Educational Sciences, 1997 publication "Accuracy of Enrollment Forecast Methods", reviews three special-purpose forecasting methods ... and three methods of universal applicability (the cohort-survival, percentage- survival, and law-of-growth methods) to help administrators grasp enrollment forecasting technicalities. ***A comparison shows that the cohort-survival method consistently produced lower error rates for each five-year projection for median or mean error rates.***

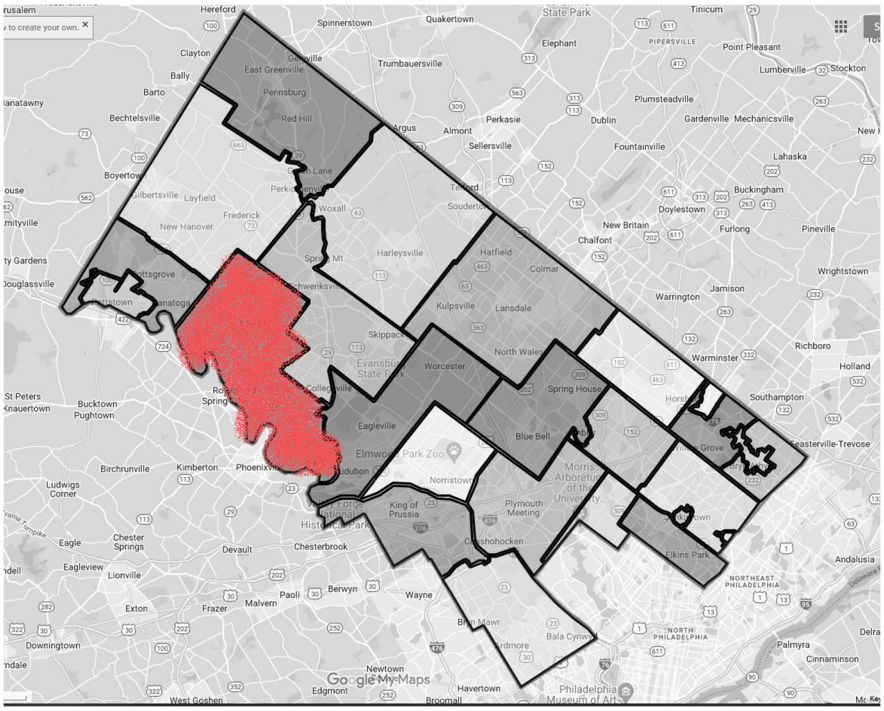
The Spring-Ford Area School District is a K-12 school district based in Montgomery County, Pennsylvania, United States, which expands into Chester County. The District is made up of Limerick Township and Upper Providence Township, along with the boroughs of Royersford and Spring City.

The school district has 7 elementary schools (K–4), a 5-7 grade Middle School, an 8th grade center, a 9th grade center, and a senior high school (10–12).

The growing community of approximately 50,990 straddles the US-422 bypass and offers the best of both a small-town atmosphere and proximity to metropolitan attractions. The district is characterized by small towns, suburban neighborhoods and rural areas, with the name being denoted through the combination of Spring City and Royersford, to make the name Spring-Ford. The location offers easy access to the cultural appeal of Philadelphia, as well as the warmth and nurturing feel of suburban America.

The district is approximately twenty miles northwest of Philadelphia, PA, twenty-five miles south of Reading, PA, and five miles north of Valley Forge, PA.

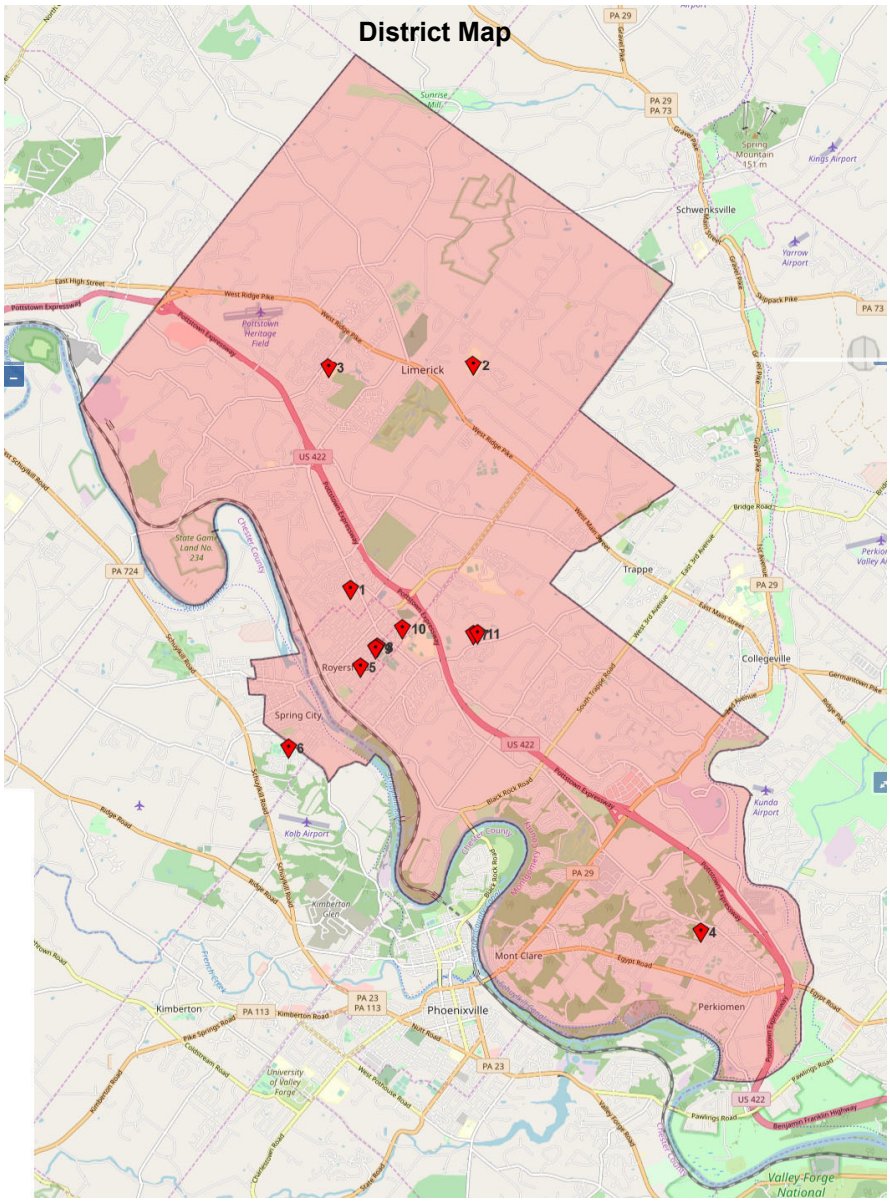
The district has a combined land area of 44.4 square miles, and the 2020 US Census population of the district is 50,990, compared to 47,368 in 2010 and 36,483 in 2000

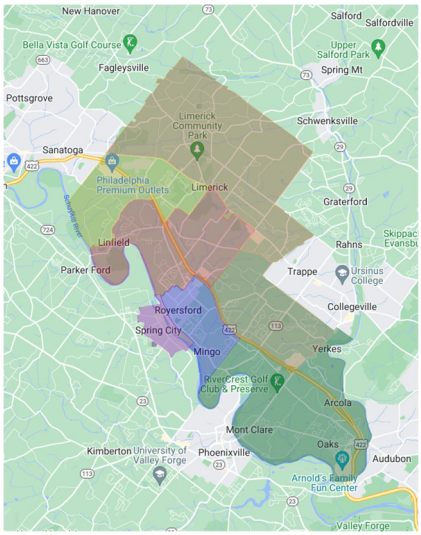


The Spring-Ford Area School District is in north-western Montgomery County extending into Spring City in Chester County.

The Spring-Ford Area School District serves over 7,800 students in grades K-12.

District Map





Seven Elementary School Attendance Areas. Grade 5 and above are district-wide levels.

	School	Street	Municipality	Zip	Grade
1	Brooke El Sch	339 N Lewis Rd	Royersford	19468	KG-4
2	Evans El Sch	125 Sunset Rd	Limerick	19468	PK-4
3	Limerick El Sch	81 Limerick Center Rd	Royersford	19468	KG-4
4	Oaks El Sch	325 Oaks School Dr	Oaks	19456	KG-4
5	Royersford El Sch	450 Spring St	Royersford	19468	KG-4
6	Spring City El Sch	190 Wall Street	Spring City	19475	KG-4
7	S-F Intrmd Sch 5th/6th	833 South Lewis Road	Royersford	19468	5-6
8	S-F MS 7th Grade Ctr	833 South Lewis Road	Royersford	19468	7
9	S-S MS 8th Grade Ctr	700 Washington Street	Royersford	19468	8
10	S-F SHS 9-12 Ctr	350 S Lewis Rd	Royersford	19468	9-12
11	Upper Providence El Sch	833 South Lewis Rd Bldg 3	Royersford	19468	KG-4

The following data is an average of the period 2018-20 (latest available) from the American Community Survey 3-Year estimates. The data is presented as the survey collates the information which is not as the District organizes the schools.

Identification as Public or Private is by self selection of the survey responder .

Kindergarten: Public School enrollment is higher than in the County and equivalent with the State.

Elementary: Public School enrollment is significantly higher than in the County or the State.

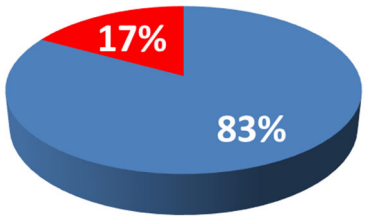
Middle: Public School is significantly higher than in the County and equivalent with the State.

High: Public School enrollment is significantly higher than in the County

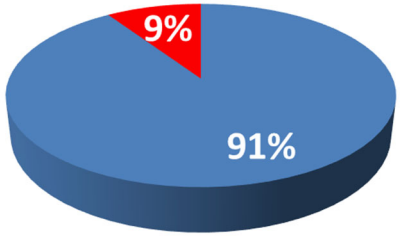
		SFASD	MontCo	Penn
Kindergarten	**Public**	83.0%	78.6%	83.9%
	Private	17.0%	21.4%	16.1%
Elementary Gr 1-4	**Public**	90.6%	84.6%	85.6%
	Private	9.4%	15.4%	14.4%
Middle Gr 5-8	**Public**	86.1%	82.8%	86.0%
	Private	13.9%	17.2%	14.0%
High Sch Gr 9-12	**Public**	87.8%	79.3%	86.7%
	Private	12.2%	20.7%	13.3%

SOURCE: *American Community Survey 2018-20 found at http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?*

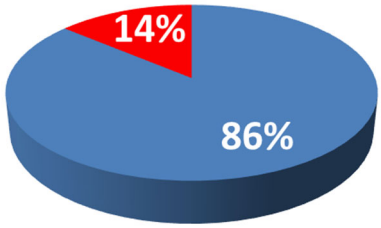
Kindergarten



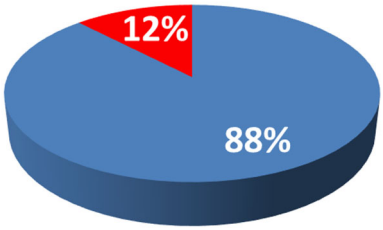
Elementary Gr 1-4



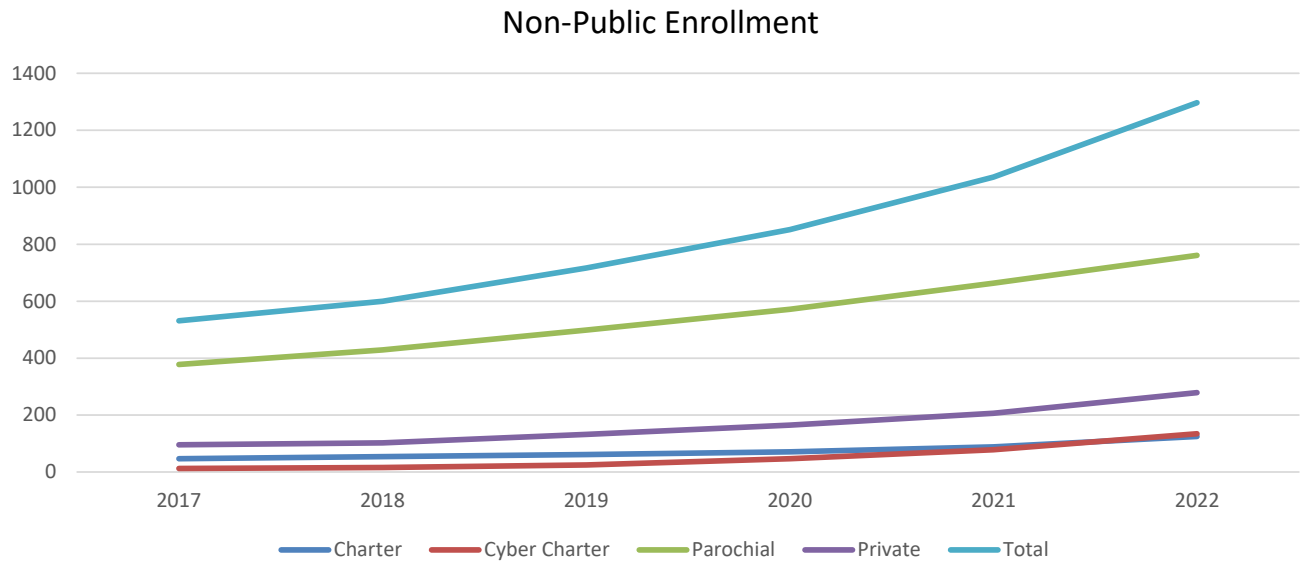
Middle Gr 5-8



High Gr 9-12



	2017	2018	2019	2020	2021	2022	*6-Year Increase*	
Charter	46	54	61	70	88	124	*78*	170%
Cyber Charter	12	15	25	46	78	134	*122*	1017%
Parochial	377	428	498	571	663	760	*383*	102%
Private	95	102	132	164	206	279	*184*	194%
Total	**530**	**599**	**716**	**851**	**1035**	**1297**	*767*	145%



All categories of Non-Public Schools have experienced significant growth since 2017.

Charter schools grew by a 5-year average of 15 students per year.
Cyber Charter schools grew by a 5-year average of 31 students per year.
Parochial schools grew by a 5-year average of 76 students per year.
Private schools grew by a 5-year average of 37 students per year.

Local impacting schools might include;

Pope John Paul II, a regional High School in Royersford that enrolls 825 students, up from 600 in year 2000.

Sacred Heart School, also in Royersford, closed in 2012. Some students were then enrolled in **Holy Cross Regional** (K-8) in Collegeville that enrolls 189 students down from 265 in 2000.

Valley Forge Baptist Academy in Collegeville (PK–12) that enrolls 210 students, is up from 110 in year 2000.

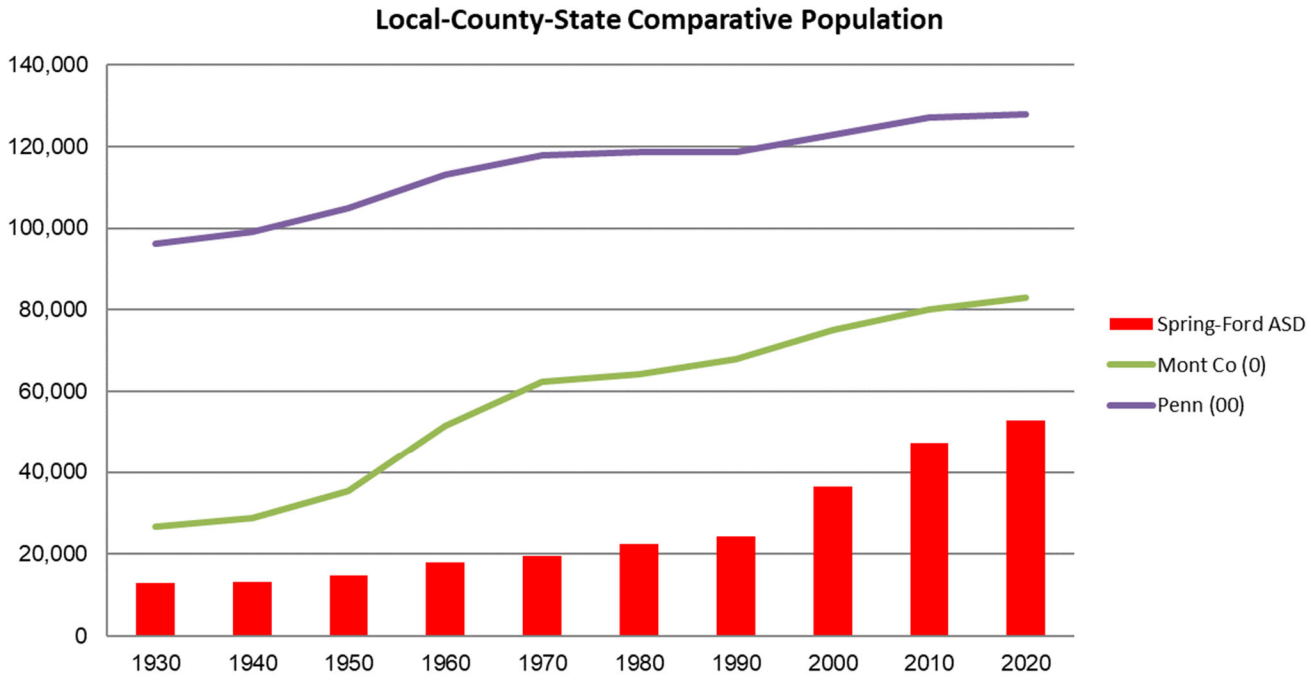
Population Growth

Comparative School District, County and State

The SFASD population was 52,983 persons, as of the US Census 2020, up by 5,615 (11.9%) from 47,368 in 2010.

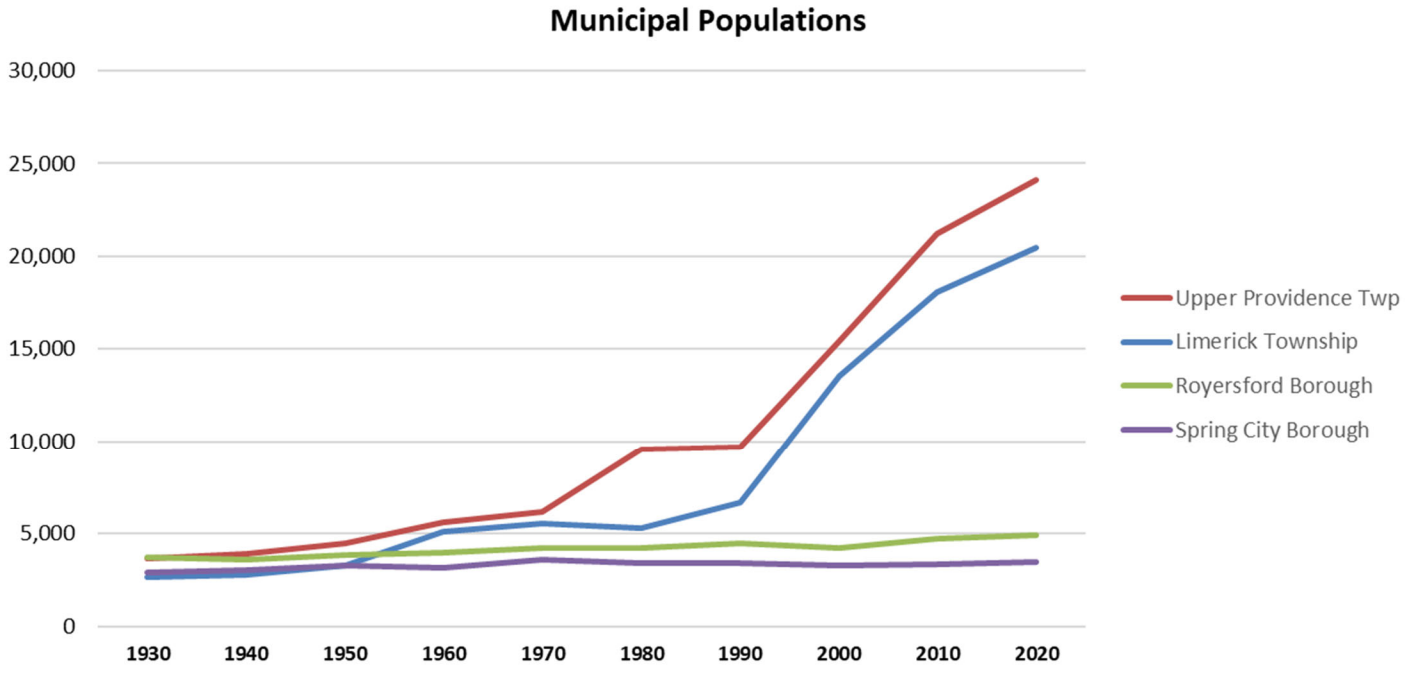
The SFASD population was 52,983 persons as of the US Census 2020.

	1930	1940	1950	1960	1970	1980	1990	2000	2010	2020
Spring-Ford ASD	12,906	13,291	14,896	17,848	19,571	22,481	24,264	36,483	47,368	52,983
Montgomery Co	265,804	289,247	353,068	516,682	623,799	643,621	678,111	750,097	799,884	830,915
Pennsylvania	9,631,350	9,900,180	10,498,012	11,319,366	11,793,909	11,863,895	11,881,643	12,281,054	12,702,379	12,801,989



Population Growth
Municipal Comparation

	1930	1940	1950	1960	1970	1980	1990	2000	2010	2020
Limerick Township	2,656	2,769	3,290	5,110	5,556	5,298	6,691	13,534	18,074	20,458
Upper Providence Twp	3,628	3,895	4,486	5,607	6,202	9,551	9,682	15,398	21,219	24,091
Royersford Borough	3,719	3,605	3,862	3,969	4,235	4,243	4,458	4,246	4,752	4,940
Spring City Borough	2,903	3,022	3,258	3,162	3,578	3,389	3,433	3,305	3,323	3,494
	12,906	13,291	14,896	17,848	19,571	22,481	24,264	36,483	47,368	52,983



Upper Providence Township and Limerick Township populations began their increase in the 1980's and surged dramatically after 1990.

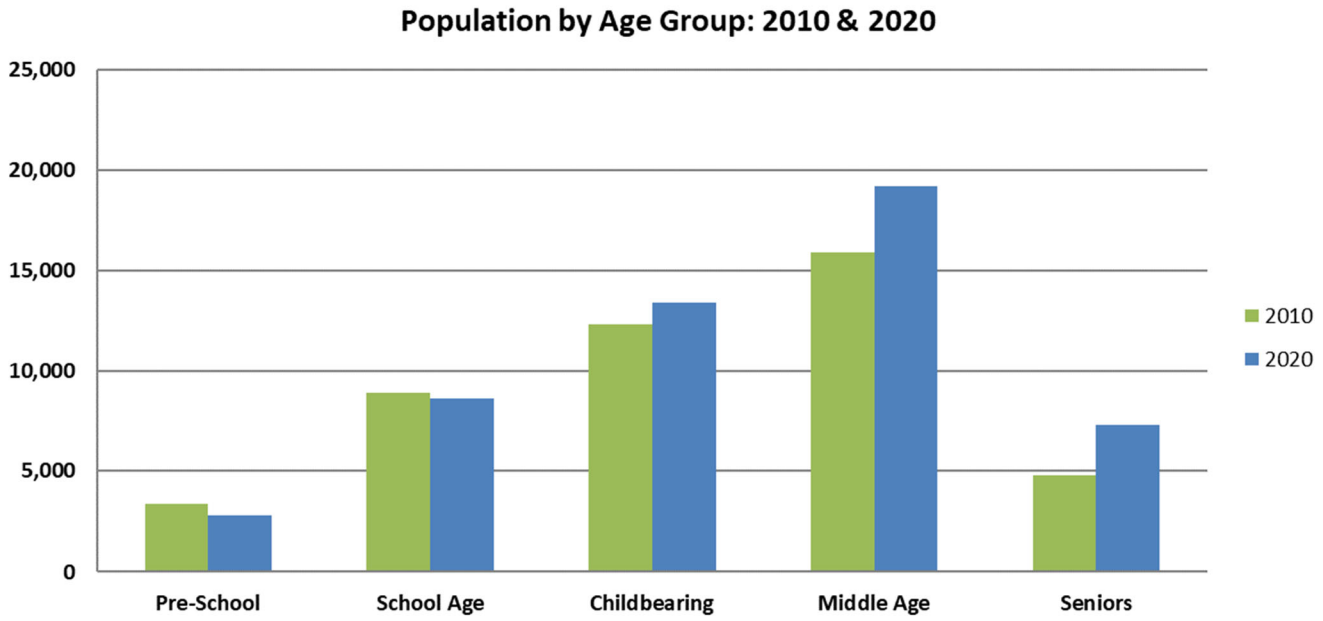
Since 1930 Royersford grew by 1,221 persons, and Spring City grew by 591 persons, not even doubling population over the 90 years.

Comparative Population by Age Groups

School District: 2010-2020

	Age	2010		2020
Pre-School	*0-4*	3,373	***-596***	2,777
School Age	*5-17*	8,949	***-293***	8,656
Childbearing	*18-39*	12,360	*1,057*	13,417
Middle Age	*40-64*	15,918	*3,301*	19,219
Seniors	*65 +*	4,815	*2,487*	7,302
		45,415	*5,956*	**51,371**

Percents	2010	2020
Pre-School	7.4%	5.4%
School Age	19.7%	16.8%
Childbearing	27.2%	26.1%
Middle Age	35.0%	37.4%
Seniors	10.6%	14.2%
	100.0%	100.0%



Pre School Age decreased by an average of 59 per year between 2010 and 2020 in advance of an enrollment decline.

School Age Group decreased by an average of 29 per year from 2010 to the 2020, evidencing an enrollment decrease.

Childbearing Age increased by an average 105 per year from 2010 to the 2020. Nonetheless, Births have been decreasing.

Middle Age increased by an average of 330 per year from 2010 to the 2020.

Seniors, increased by an average of 481 per year from 2010 to the 2020.

District Annual Births

The number of babies born to families who reside in the district is a significant factor effecting enrollments. Birth counts from "5 years earlier" are used for the "Birth to Kindergarten" Survival Ratios in the standard Cohort Survival projection method. Births are the starting point for all cohorts in every year.

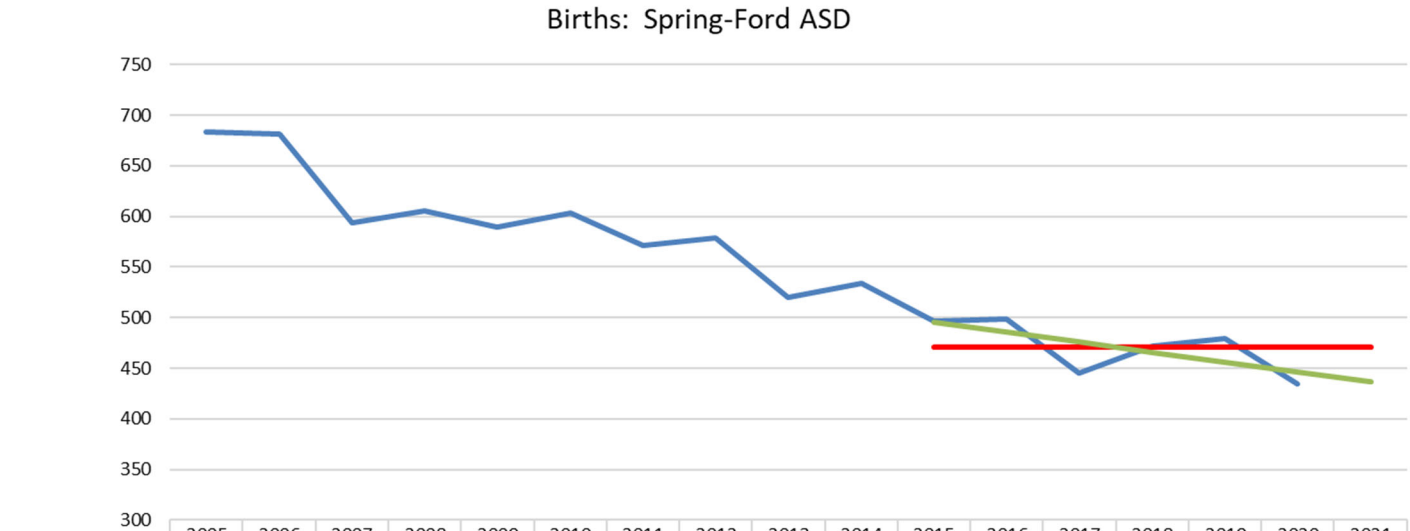
Combined Births in the area municipalities have decreased slightly for the last 3 years of the 6-year projection period. The 6-year trend, is perhaps more indicative of recent levels of birth. The 6-year trend is for about 10 fewer births every year (green line).

However births could easily turn around and start an increase. It is for that reason that **the Cohort Survival methodology is based on averages.** The 6-year average is from the same years as the 6-years of actual enrollments that is the basis of the Cohort Survival projection used in this study. The 6-year average is 471 births per year (red line).

Actual Births are used for the first 4 years of the projection. Only the 5th thru 10th years use the average.

Births have been averaging 471 per year for the last 6 years paralleling the last 6 years of actual enrollment data on which the projection is based.

The 6-year trend is for about 10 fewer births per year.



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Births	683	681	594	605	589	603	571	579	520	534	497	499	445	472	479	434	
6 Year Avg											471	471	471	471	471	471	471
6 Year Trend											496	486	476	466	456	446	436

SOURCE: Births Data from Pa Department of Health found at http://www.statistics.health.pa.gov/Pages/default.aspx#.VckGXzZRGUk

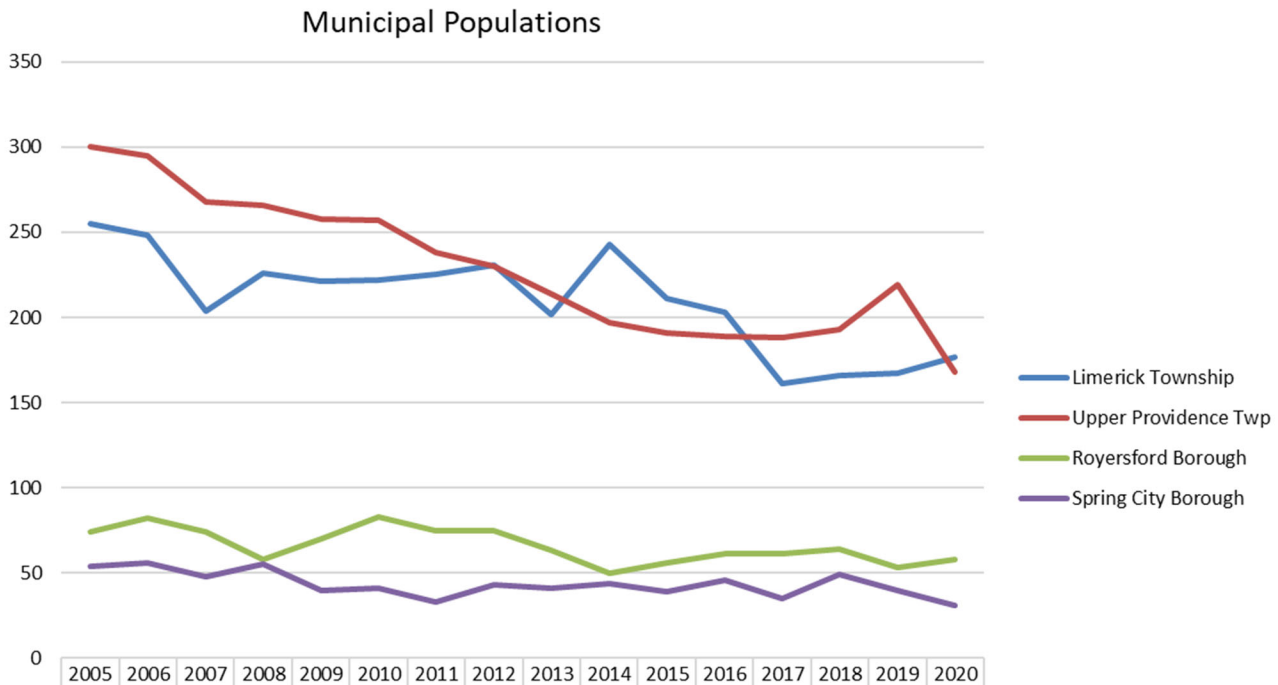
The 6-year **Trend** is for 10 fewer births each year, and if continued for 5 years could cause a decrease of as many as 45 additional students to the Kindergarten class by school year 2030-31 (at a Birth to Kindergarten Survival Rate of 0.916, the current rate by the standard method).

Live Births in each contributing municipality are provided below.

Live Births are generally trending **lower** in Limerick where Births are trending 23.5 fewer per year.

Births are generally trending **higher** in Upper Providence where Births are trending 21.3 more per year, and in Spring City where Births are trending 4.6 more per year.

Births are **stable** in Royersford where Births are trending 0.3 fewer per year.



	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Limerick Township	255	248	204	226	221	222	225	231	202	243	211	203	161	166	167	177
Upper Providence Twp	300	295	268	266	258	257	238	230	214	197	191	189	188	193	219	168
Royersford Borough	74	82	74	58	70	83	75	75	63	50	56	61	61	64	53	58
Spring City Borough	54	56	48	55	40	41	33	43	41	44	39	46	35	49	40	31

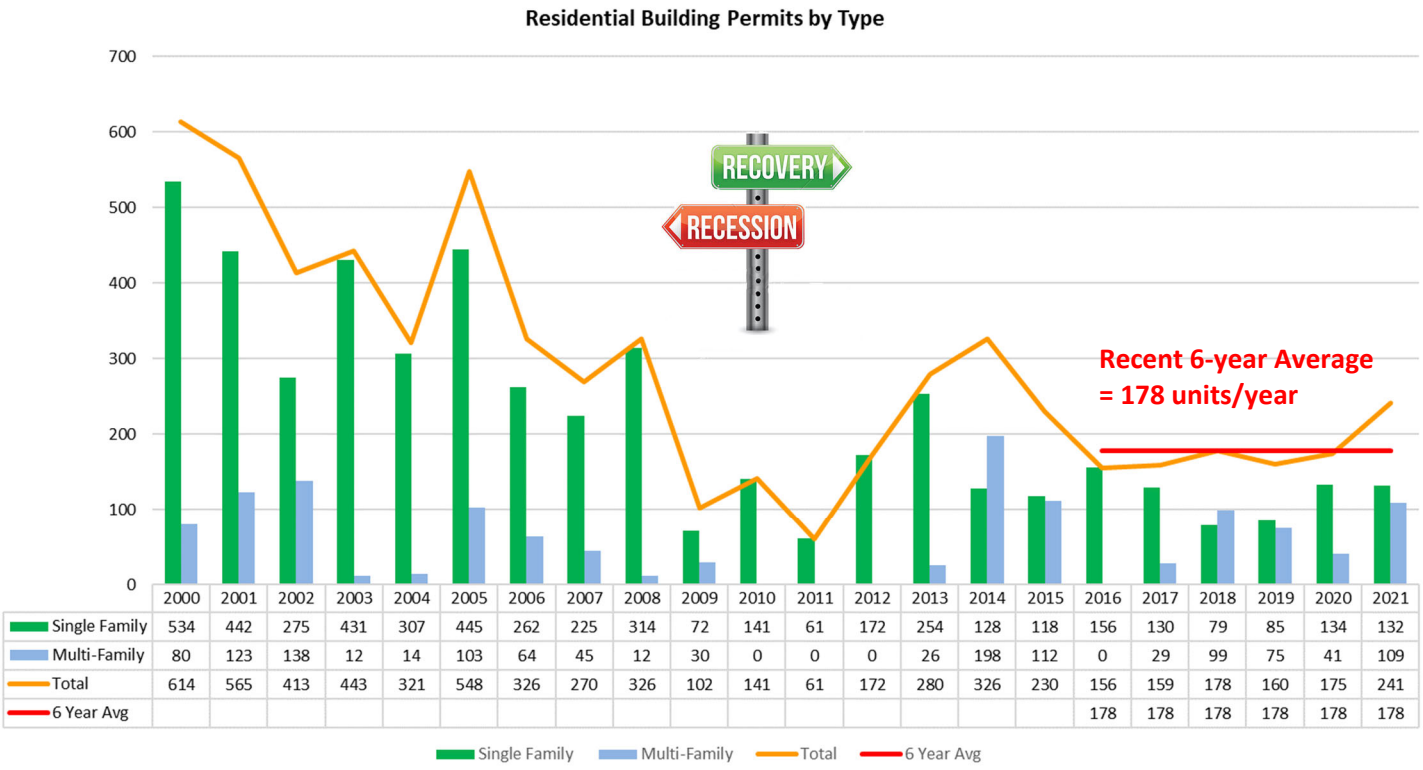
Source: Pa Dept. of Health at http://www.portal.state.pa.us/portal/server.pt/community/health_statistics_and_research/11599

Residential Permitting History for New Construction

A Building Permit is obtained by a developer after approval of a major sub-division, and when construction of a "next phase" of residential units is eminent. Residential Building Permits are often correlated with population growth in a community.

As with the nation, residential development in the District had been depressed for several years prior to 2008. The southeastern PA economy, however, is reported to be in recovery.

Residential permitting for Multi-family units has been a 6-Year Average of 58 units per year.



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Single Family	534	442	275	431	307	445	262	225	314	72	141	61	172	254	128	118	156	130	79	85	134	132
Multi-Family	80	123	138	12	14	103	64	45	12	30	0	0	0	26	198	112	0	29	99	75	41	109
Total	614	565	413	443	321	548	326	270	326	102	141	61	172	280	326	230	156	159	178	160	175	241
6 Year Avg																	178	178	178	178	178	178

SOURCE: http://socds.huduser.org/permits/index.html and Local Planning Officials

The recent 6-year average of all Residential Building Permits is 178 units per year of which 67% or an average of 119 per year are for Single Family units.

Limerick Township accounts for 92.6% of Multi-family housing in the last 6 years, with Upper Providence at 6% and with Royersford Borough at a very distant third with 1%. Spring City contributed no Multi-family housing in the last 6 years.

Residential Permitting History by Municipality

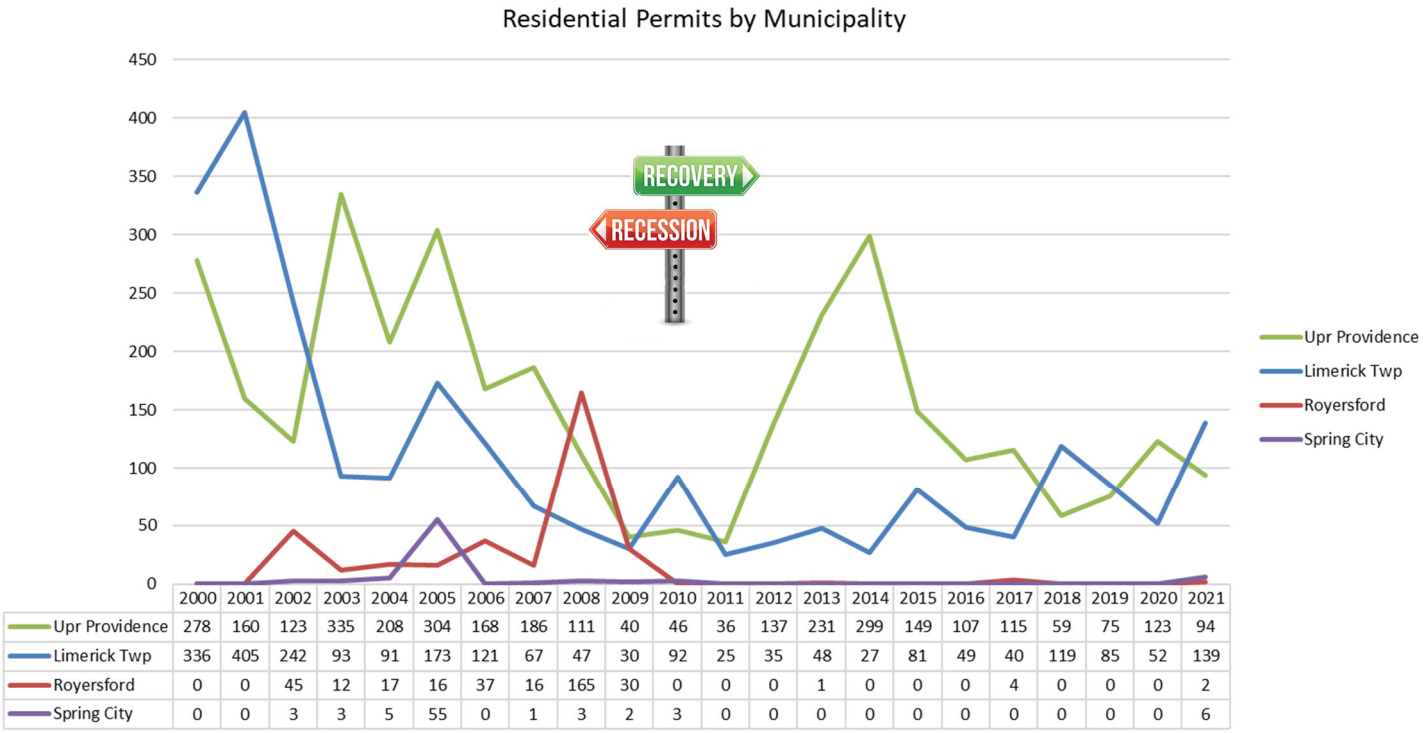
Upper Providence Township averaged 92 Single Family and 4 Multi-family units over the last 6 years. Permitting is increasing in Upper Providence.

Limerick Township averaged 26 Single Family and 55 Multi-family units over the last 6 years.

Royersford Borough averaged less than 1 Single Family and 1 Multi-family units over the last 6 years.

Spring City Borough averaged 1 Single Family and 0 Multi-family units over the last 6 years.

Residential permitting for Multi-family units has been a 6-Year Average of 58 units per year.



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Upr Providence	278	160	123	335	208	304	168	186	111	40	46	36	137	231	299	149	107	115	59	75	123	94
Limerick Twp	336	405	242	93	91	173	121	67	47	30	92	25	35	48	27	81	49	40	119	85	52	139
Royersford	0	0	45	12	17	16	37	16	165	30	0	0	0	1	0	0	0	4	0	0	0	2
Spring City	0	0	3	3	5	55	0	1	3	2	3	0	0	0	0	0	0	0	0	0	0	6

SOURCE: *http://socds.huduser.org/permits/index.html and Local Planning Officials*

Residential Permitting for New Construction

Future Housing Occupancy by Unit Type & Year

	Development/*Status*	Type	Bdrms	Unit Count	Sold	2022	2023	2024	2025	2026	5 Yr Total	Elem Sch
	Limerick Twp											
1	**Sukonik Limerick Homes**	SF	3-4 Bdrms	51		20	20	11			51	Evans
	School Rd											
2	**Approved SF X 5**	SF	3-4 Bdrms	12		6	6				12	
	Misc. Locations											
3	**Limerick Town Ctr**	TH	2 Bdrm	10			10				10	Evans
	Swamp Pike	TH	3 Bdrm	20			20				20	Evans
4	**Gambone**	Apt	2 Bdrm	8			8				8	Limerick
	614 W. Ridge Pike											
5	**Piazza Realty Co. Inc.**	TH	3 Bdrm	19				19			19	Evans
	3373 Ridge Pike											
6	**544 Limerick Center Rd.**	SF	3-4 Bdrms	10				10			10	Limerick
	544 Limerick Center Road											
7	**Ironwood**	TH	2 Bdrm	25				12	13		25	Brooke
	S. Limerick Road	TH	3 Bdrm	70				35	35		70	Brooke
8	**RML Construction**	SF	3-4 Bdrms	4			4				4	Evans
	Game Farm Road											
9	**Neiffer Road Devel., LLC**	TH	2 Bdrm	10					10		10	Evans
	1 & 15 Neiffer Road	TH	3 Bdrm	24					24		24	Evans
10	**Saratoga Springs (Metro Con**	Apts	1 Bdrm	45				15	15	15	45	Brooke
	Evergreen Road	Apts	2 Bdrm	257				85	86	86	257	Brooke
		Apts	3 Bdrm	30				10	10	10	30	Brooke
11	**MacMichael & Celli Tracts**	TH	2 Bdrm	6						6	6	Brooke
	511 & 523 Linfield Road	TH	3 Bdrm	35						35	35	Brooke
										Limerick Township	**636**	
	Royersford Borough											
12	**Riverwalk**	TH	2 Bdrm	48				24	24		48	Spring City
		TH	3 Bdrm	140				70	70		140	Spring City
										Royersford Total	**188**	

Cont'd next page

Residential Permitting for New Construction

Future Housing Occupancy by Unit Type & Year

	Development/*Status*	Type	Bdrms	Unit Count	Sold	2022	2023	2024	2025	2026	5 Yr Total	Elem Sch
	Upper Providence											
13	**Gambone Developers** *615 Egypt Rd.*	TH	3 Bdrm	49	19	15	15				30	Oaks ES
14	**Jim Terra Devel** *188 Bechtel Rd.*	SF	3-4 Bdrms	8	1	3	4				7	Upr Prov ES
15	**Founders Estates (Barker)** *116 Hess Rd.*	SF	3-4 Bdrms	16		4	4	4	4		16	Upr Prov ES
16	**Oxford Lea (Stearly)** *395 Greenwood Ave*	SF	3-4 Bdrms	17		6	6	5			17	Evans ES
17	**Res at Prov Town Ctr** *Arcola Rd & Water Loop Rd.*	Apts Apts Apts	1 Bdrm 2 Bdrm 3 Bdrm	250 250 85			125 125 42	125 125 43			250 250 85	Upr Prov ES
18	**172 Hopwood (Galman)** *Hopwood Rd &Morgan Lane*	TH	3 Bdrm	48					48		48	Upr Prov ES
19	**Yerkes Station** *Hopwood Road and Route 29/Colle*	Apts Apts Apts	1 Bdrm 2 Bdrm 3 Bdrm	103 103 22				52 52 11	51 51 11		103 103 22	Oaks
20	**PRDC Kline Road** *Kline and Linfield Trappe Roads*	SF	3-4 Bdrms	30				15	15		30	Evans
21	**Meadows at Longview (WE** *Greenwood Ave & Knoll Circle*	SF	3-4 Bdrms	25			12	13			25	Evans
22	**Toll Brothers / Foley** *Rittenhouse and Hess Roads*	SF	3-4 Bdrms	54					27	27	54	Upr Prov ES
23	**South Lewis Road Townhou** *Lewis and Vaughn Roads*	TH	3 Bdrm	21					21		21	Royersford
24	**Amelia Street Townhomes** *Amelia Street and Route 29/Collegeville Road*	TH	3 Bdrm	8						8	8	Oaks
25	**Parkhouse Resident Care** *Age-Restricted*	MXD		1,203							0	
										Upper Providence Total	**1,069**	
	Spring City Borough											
26	**Spring Hill Villages-Lennar**	TH CH SF	3 Bdrm 3 Bdrm 3-4 Bdrms	74 62 36	0 8 8	37 18 10	37 18 10	 18 8			74 54 28	Spring City Spring City Spring City
27	**Spring Hill Vill-Ph 2** *(Hunsberger Tract)*	SF	4 Bdrms	30				15	15		30	Spring City
										Spring City Total	**186**	
										Grand Total	**2,079**	

Spring-Ford ASD

Multipliers for New Public School Age Students

Type	# Bdrms	Multiplier Public SAC (School Age Children)
SF/CH	3 Bdrm	0.328
SF/CH	4 Bdrm	0.721
TH-Dplx	2 Bdrm	0.234
TH-Dplx	3 Bdrm	0.501
Apts	1 Bdrm	0.023
Apts	2 Bdrm	0.241
Apts	3 Bdrm	0.873

Source: CDA Planning Ratio Estimation Program (PREP) and 2014-2018 ACS-PUMS

Multipliers for Public School Attendees are a custom analysis of the most recent 4 years of the American Community Survey at a local level including Montgomery County and parts of Berks and Chester County with similar characteristics with the SDASD.

The sampling is for Newly Moved-in Households, not just newly built units.

These Multipliers by Type and Bedrooms are applied to the unit counts to determine student yield for individual Developments and approximate Occupancy dates. This analysis is presented on the following page.

Student Yield from New Construction

Student Yield by Unit Type & Year

	Project	Type	Bdrms	PSAC/Unit Multiplier	2022	2023	2024	2025	2026	5 Yr Total	Elementary School
	Limerick Twp										
1	**Sukonik Limerick Homes**	SF	3-4 Bdrms	0.721	14.42	14.42	7.93			36.8	Evans
	School Rd										
2	**Approved SF X 5**	SF	3-4 Bdrms	0.721	4.33	4.33				3.0	Evans
	Misc. Locations									3.0	Limerick
										3.0	Brooke
3	**Limerick Town Ctr**	TH	2 Bdrm	0.234		2.34				2.3	Evans
	Swamp Pike	TH	3 Bdrm	0.501		10.02				10.0	Evans
4	**Gambone**	Apt	2 Bdrm	0.241		1.93				1.9	Limerick
	614 W. Ridge Pike										
5	**Piazza Realty Co. Inc.**	TH	3 Bdrm	0.501			9.52			9.5	Evans
	3373 Ridge Pike										
6	**544 Limerick Center Rd.**	SF	3-4 Bdrms	0.721			7.21			7.2	Limerick
	544 Limerick Center Road										
7	**Ironwood**	TH	2 Bdrm	0.234			2.81	3.04		5.9	Brooke
	S. Limerick Road	TH	3 Bdrm	0.501			17.54	17.54		35.1	Brooke
8	**RML Construction**	SF	3-4 Bdrms	0.721		2.88				2.9	Evans
	Game Farm Road										
9	**Neiffer Road Devel., LLC**	TH	2 Bdrm	0.234				2.34		2.3	Evans
	1 & 15 Neiffer Road	TH	3 Bdrm	0.501				12.02		12.0	Evans
10	**Saratoga Springs** (Metro Con	Apts	1 Bdrm	0.023			0.35	0.35	0.35	1.0	Brooke
	Evergreen Road	Apts	2 Bdrm	0.241			20.49	20.73	20.73	61.9	Brooke
		Apts	3 Bdrm	0.873			8.73	8.73	8.73	26.2	Brooke
11	**MacMichael & Celli Tracts**	TH	2 Bdrm	0.234					1.40	1.4	Brooke
	511 & 523 Linfield Road	TH	3 Bdrm	0.501					17.54	17.5	Brooke
									Limerick Township	**243**	
	Royersford Borough										
12	**Riverwalk**	TH	2 Bdrm	0.234			5.62	5.62		11.2	Spring City
		TH	3 Bdrm	0.501			35.07	35.07		70.1	Spring City
									Royersford Total	**81**	

Cont'd next page

Future Public School Children by Unit Type & Year

	Project	Type	Bdrms	PSAC/Unit Multiplier		2022	2023	2024	2025	2026	5 Yr Total	Elementary School
	Upper Providence											
13	**Gambone Developers** *615 Egypt Rd.*	TH	3 Bdrm	0.501	19	7.5	7.5				15.0	Oaks ES
14	**Jim Terra Devel** *188 Bechtel Rd.*	SF	3-4 Bdrms	0.721	1	2.2	2.9				5.0	Upr Prov ES
15	**Founders Estates (Barker)** *116 Hess Rd.*	SF	3-4 Bdrms	0.721		2.9	2.9	2.9	2.9		11.5	Upr Prov ES
16	**Oxford Lea (Stearly)** *395 Greenwood Ave*	SF	3-4 Bdrms	0.721		4.3	4.3	3.6			12.3	Evans ES
17	**Res at Prov Town Ctr**	Apts	1 Bdrm	0.023			2.9	2.9			5.8	Upr Prov ES
	Arcola Rd & Water Loop Rd.	Apts	2 Bdrm	0.241			30.1	30.1			60.3	Upr Prov ES
		Apts	3 Bdrm	0.873			36.7	37.5			74.2	Upr Prov ES
18	**172 Hopwood (Galman)** *Hopwood Rd &Morgan Lane*	TH	3 Bdrm	0.501					48.0		48.0	Upr Prov ES
19	**Yerkes Station**	Apts	1 Bdrm	0.023				1.2	1.2		2.4	Oaks
	Hopwood Road and Route 29/Colle	Apts	2 Bdrm	0.241				12.5	12.3		24.8	Oaks
		Apts	3 Bdrm	0.873				9.6	9.6		19.2	Oaks
20	**PRDC Kline Road** *Kline and Linfield Trappe Roads*	SF	3-4 Bdrms	0.721				10.8	10.8		21.6	Evans
21	**Meadows at Longview (WE** *Greenwood Ave & Knoll Circle*	SF	3-4 Bdrms	0.721			8.7	9.4			18.0	Evans
22	**Toll Brothers / Foley** *Rittenhouse and Hess Roads*	SF	3-4 Bdrms	0.721					19.5	19.5	38.9	Upr Prov ES
23	**South Lewis Road Townhou** *Lewis and Vaughn Roads*	TH	3 Bdrm	0.501					10.5		10.5	Royersford
24	**Amelia Street Townhomes** *Amelia Street and Route 29/Collegeville Road*	TH	3 Bdrm	0.501						4.0	4.0	Oaks
25	**Parkhouse Resident Care** *Age-Restricted*	MXD									0.0	
										Upper Providence Total	**372**	
	Spring City Borough											
26	**Spring Hill Villages-Lennar**	TH	3 Bdrm	0.501	0	18.54	18.54				37.1	Spring City
		CH	3 Bdrm	0.721	8	12.98	12.98	12.98			38.9	Spring City
		SF	3-4 Bdrms	0.721	8	7.21	7.21	5.77			20.2	Spring City
27	**Spring Hill Vill-Ph 2**	SF	4 Bdrms	0.721				10.82	10.82		21.6	Spring City
										Spring City Total	**118**	
										Grand Total	**814**	

Cohort Survival Methodology

Mathematical Analysis

Cohort Survival is the name given to the method of projecting enrollments which is recommended by the Pennsylvania Department of Education. The most important terms, concepts and methodology are illustrated herein.

Cohort Survival projections are based on historic enrollment and birth data in the individual school district and incorporate six years of demographic data. They are considered very reliable where trends are expected to continue, without significant change in housing or birth rates.

Enrollment projections have been made using the Cohort Survival method.

Cohort is the name given to the common groups of children originally born in a given year and progressing, together, through the school system, one grade level to the next.

Survival Ratios refer to the number of students from one year and grade level who "survive to" or enter the next grade level the following year.

For example, in the sample partial table in the side bar, historic enrollments show 328 students in 1st Grade in year 2013-14, following a 289 student Kindergarten in year 2012-13. This yields a Kindergarten to First Grade **Survival Ratio** of 1.135 (or 328 ÷ 289). Another expression of the Survival Ratio would be that 113% of the Kindergarten students "survived" to 1st Grade.

Similar calculations are made for "survival" from Births Five Years Earlier to Kindergarten, and for each and every grade level transition in each and every year of historical enrollments which are used. In general, six years of historic data will yield five Survival Ratios for each grade level change, Birth to K, K to 1, 1 to 2, etc.

The **Average Survival Ratio** is then calculated for each grade level change. In the side-bar example 1.165 is the 6-year average Kindergarten to Grade 1 ratio and 1.051 is the 6-year Grade 1 to Grade 2 Survival Ratio.

The sample projections use the past school year 2016-17 enrollments, at the bottom of the Historic chart, as a base year. The Average Cohort Survival Ratios are applied to those base year enrollments and to the actual and estimated births, and projected into the next year, one grade level higher.

In the side-bar example 331 Kindergarten students in 2018-19 survive at a rate of 1.165 as a 2019-20 First Grade of 386 students. This similar projection is made across all grade levels for a 5-year period. Finally, the individual grade level enrollment projections are summed across each year to determine district-wide enrollments in that year.

Historic Enrollments

School Year	Births 5 Sch Yrs. Ago	"s"	K	"s"	1st Gr.	"s"	2nd Gr.	"s"	3rd Gr.
2011-12	169	1.538	260		308		327		404
				1.204		1.097		1.028	
2012-13	175	1.651	289		313		338		336
				1.135		1.019		1.038	
2013-14	132	2.091	276		328		319		351
				1.116		1.037		1.028	
2014-15	131	1.916	251		308		340		328
				1.155		1.062		1.065	
2015-16	143	1.720	246		290		327		362
				1.215		1.041		1.058	
2016-17	187	1.545	289		299		302		346
6 Yr Avg SR		1.744		1.165		1.051		1.043	

Projected Enrollments

5-YR PROJECTIONS									
2017-18	185	1.744	323		337		314		315
				1.165		1.051		1.043	
2018-19	190	1.744	331		376		354		328
				1.165		1.051		1.043	
2019-20	187	1.744	326		386		395		369
				1.165		1.051		1.043	
2020-21	181	1.744	316		380		406		412
5 Yr Average				1.165		1.051		1.043	
2021-22	186	1.744	324		368		399		423

Residential Construction

An adjustment is made for accelerated housing construction. Schedules of new housing units by project were documented on pages 14-15. Schedules of Student Yield from New Housing are found on page 17-18.

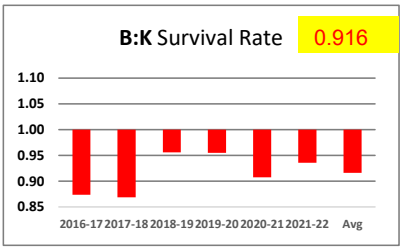
Students are added to the standard projection in an overlay method for each year, equally divided across 13 grade levels and those added students are then "survived" to the next year at the district's grade level Survival Rates. The following years' Student Yield is added and the overlay process repeats.

Modifications were made to the Standard projection for the impact of additional students from Residential Developments.

New Students by Elementary Attendance Area

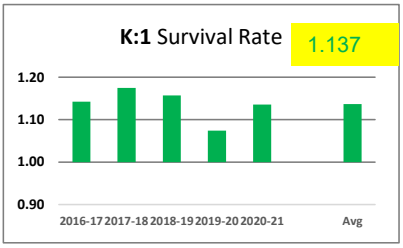
	2022	2023	2024	2025	2026	TOTAL
Brooke	1.0	2.0	49.9	50.4	48.7	152
Evans	20.7	43.6	41.2	25.2	0.0	131
Limerick	1.0	3.9	7.2	0.0	0.0	12
Oaks	7.5	7.5	23.3	23.1	4.0	65
Royersford	0.0	0.0	0.0	10.5	0.0	11
Spring City	38.7	38.7	70.2	51.5	0.0	199
Upr Prov ES	5.0	75.4	73.4	70.4	19.5	244
	74.0	171.2	265.4	231.0	72.2	**814**

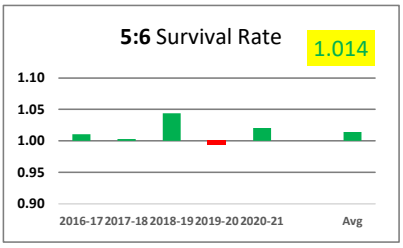
Cohort Survival Rates
Standard Projection

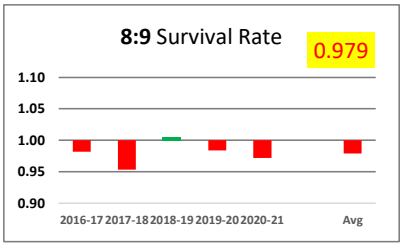


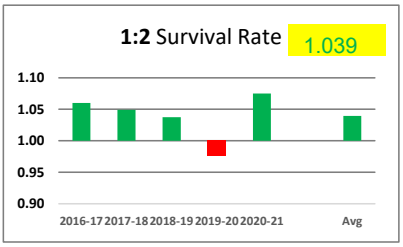
On this page are graphs of each year of each Grade Level Survival Ratio, followed by a five-year average. Red bars are a Survival Rate below 1.0 signifying student loss between grades and green bars are greater than 1.0 indicating growth from one grade to the next.

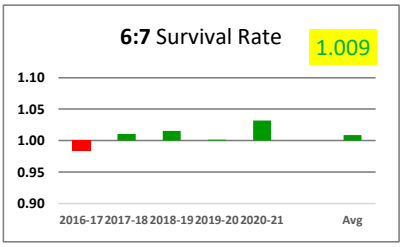
The upper right side highlighted number and far right bar is the 6-year Average. The Pandemic interruption is obvious.

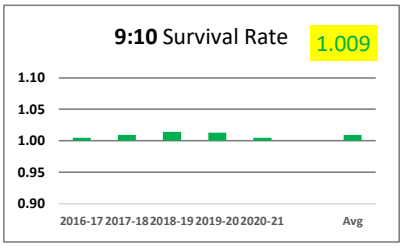


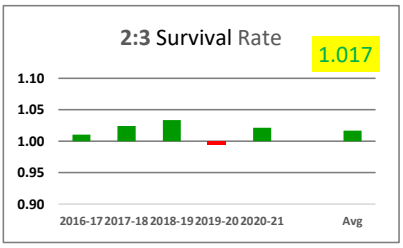


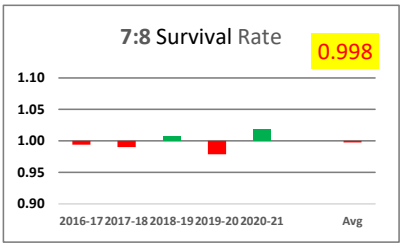


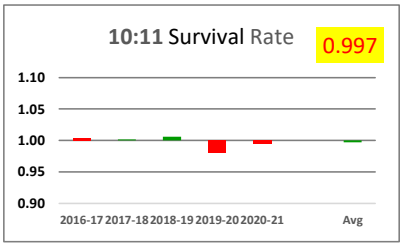


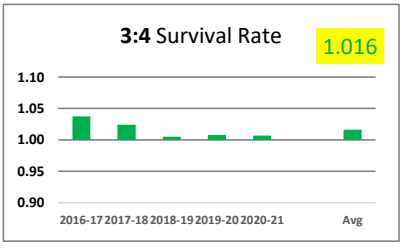




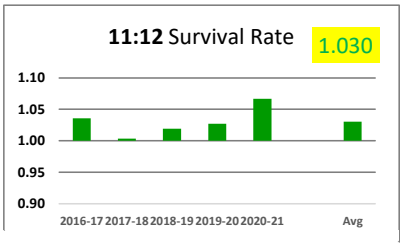


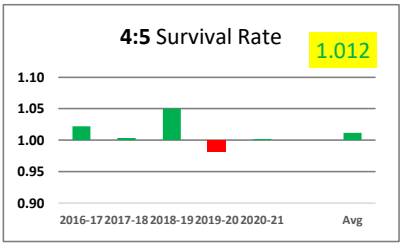




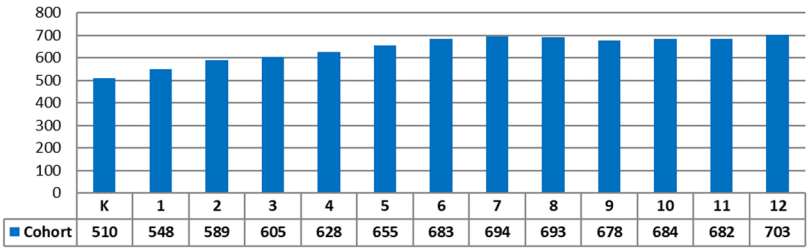


The Cohort Growth graph (below) illustrates the projected growth of the year 2019 Kindergarten as it survives to the 12th Grade graduating class of 2031.

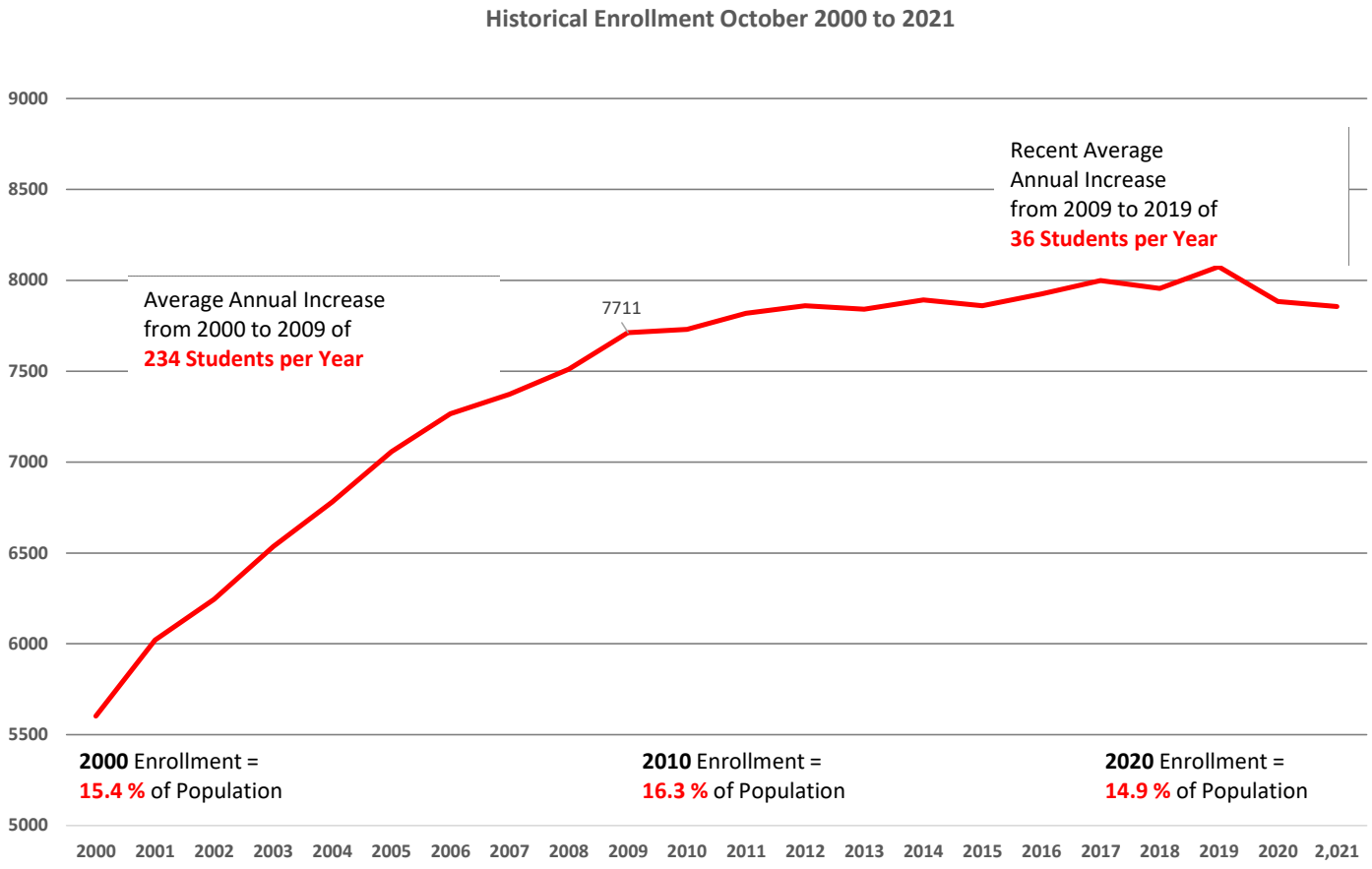




Cohort Growth: 2019 K - 2031 Gr 12



Actual Enrollments History 2000-2021



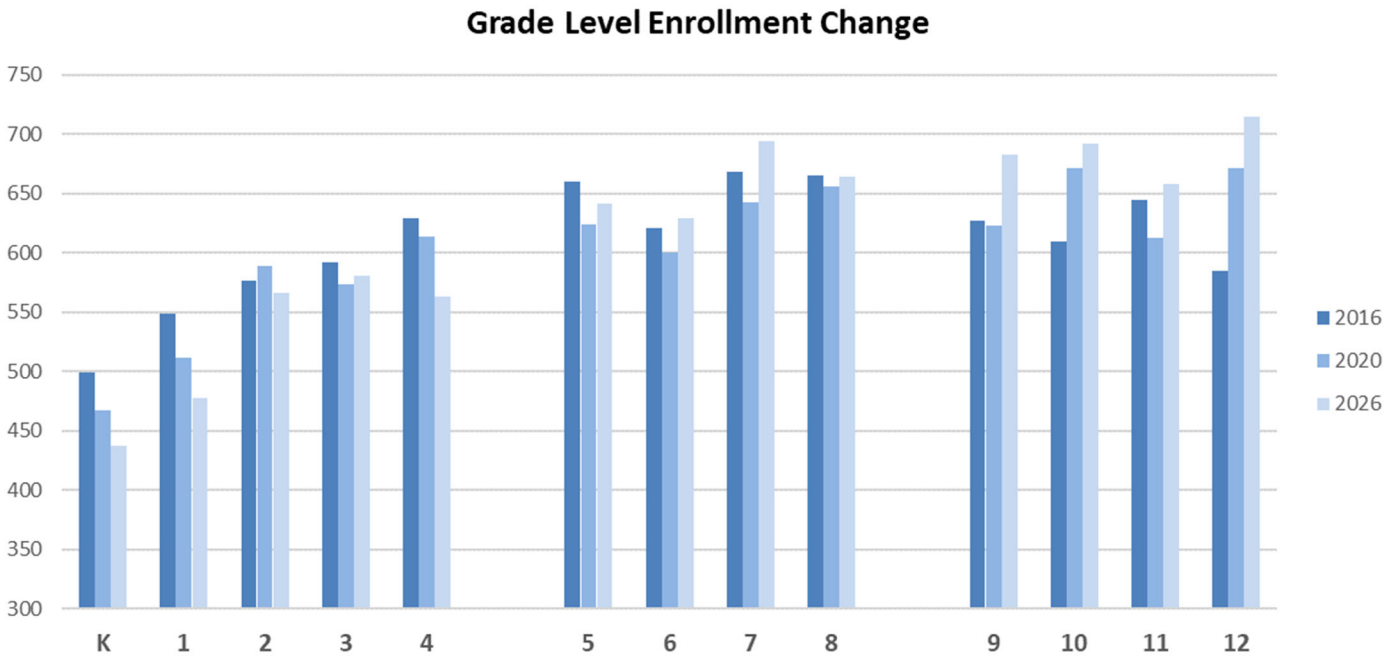
As a Percent of Population, Student Enrollment has increased from 15.4% in year 2000 to 16.3 % in year 2010 and decreased to 14.9% in 2020.

Annual enrollment increase from 2000 to 2009 was 234 students per year. The recent annual increase from 2009 to 2019 was a significantly reduced 36 students per year.

However, enrollments peaked in 2019 and have declined for two years.

Change in Grade Level Enrollments

Actual through Projected



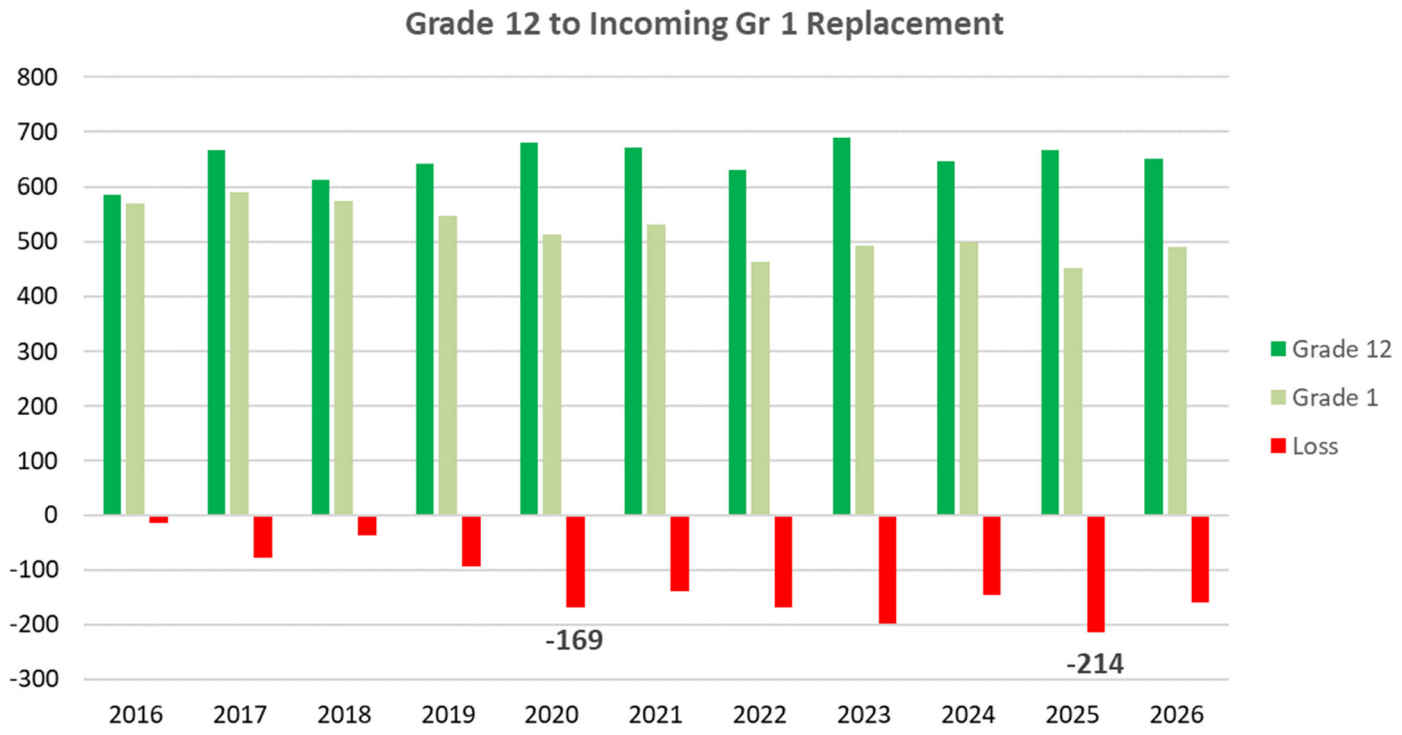
In all Elementary Grades, K-Grade 4, enrollments decreased from year 2016 to 2021 except for Grade 2. This trend generally continues into the projection period that ends in 2026, except for Grade 3 which is stable.

Enrollments in the middle school grades 5-8 also decreased from the beginning to the end of the Actual period. However enrollments are anticipated to increase in the 5-year projection period through 2026.

High School enrollments decreased in the 9th and 11th grades and increased in the 10th and 12th period during the Actual enrollment period. All High School grade sizes increase significantly in the projection period.

Grade 12 to Grade 1 Replacement

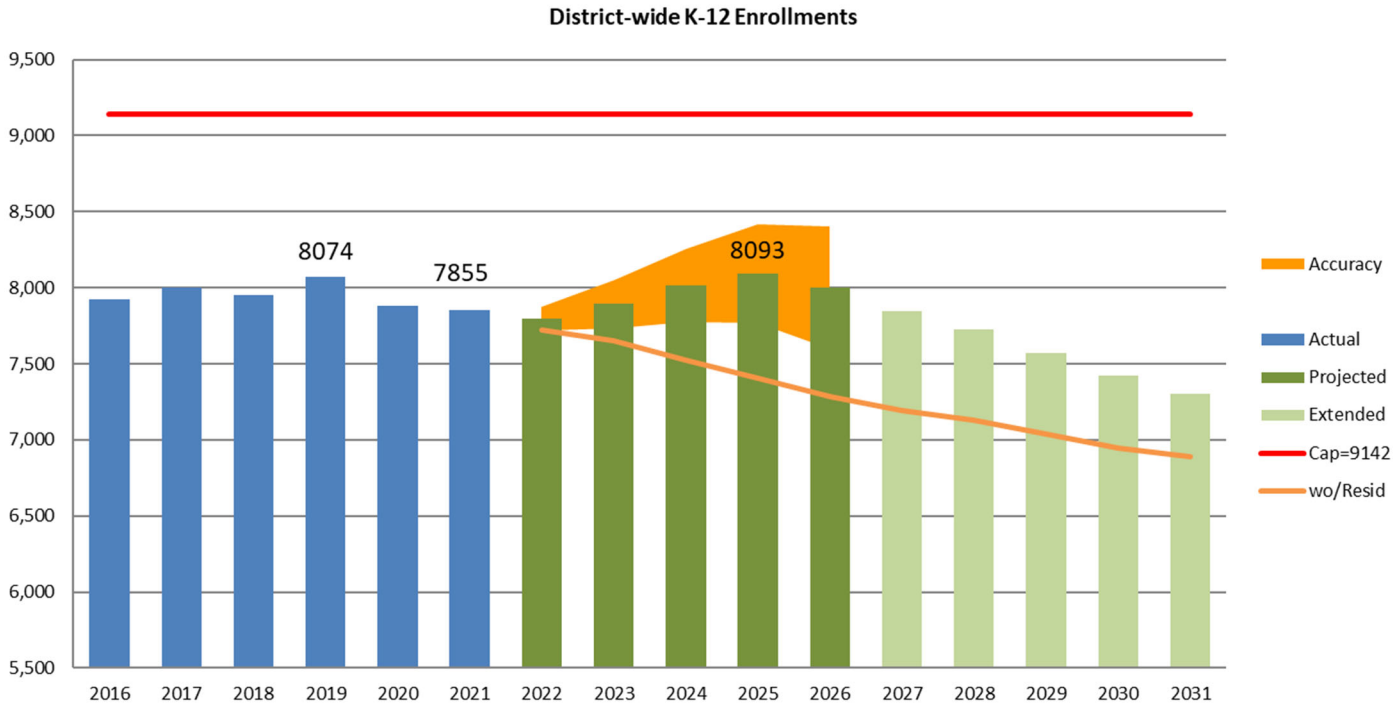
	Actual						Projected					Average	
	2016	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**		
Gr 12 Prior	585	668	613	643	681	671	632	689	646	666	650		
Gr 1	570	591	575	548	512	531	463	492	499	452	491		
Loss	-15	-77	-38	-95	-169	-140	-168	-198	-147	-214	-160	-89	**-177**



The difference between the prior year 12th Grade graduating class and the incoming Grade 1 is increasing, leading to decreasing enrollment.

In the 6 years of actual enrollment the difference grew from 15 students to 169 students. In the Projected period the difference is anticipated to grow to an average of 177 students each year.

Reading the Enrollment Charts



The blue bars are the 6 years of actual enrollments from Fall 2016 to Fall 2021.

The dark green bars are the resulting 1-5 year projected enrollments in the Standard Method plus Students from New Housing projection.

The 6 to 10 year projections shown in light green are <u>not</u> considered accurate for facilities planning. Long-range projection counts range as high as ±10% in accuracy in the 10th year.

The orange colored shape is the ±1% per year "Cone of Accuracy" in the first 5 years of the standard projection.

The yellow line is the projected enrollment without Students from New Housing

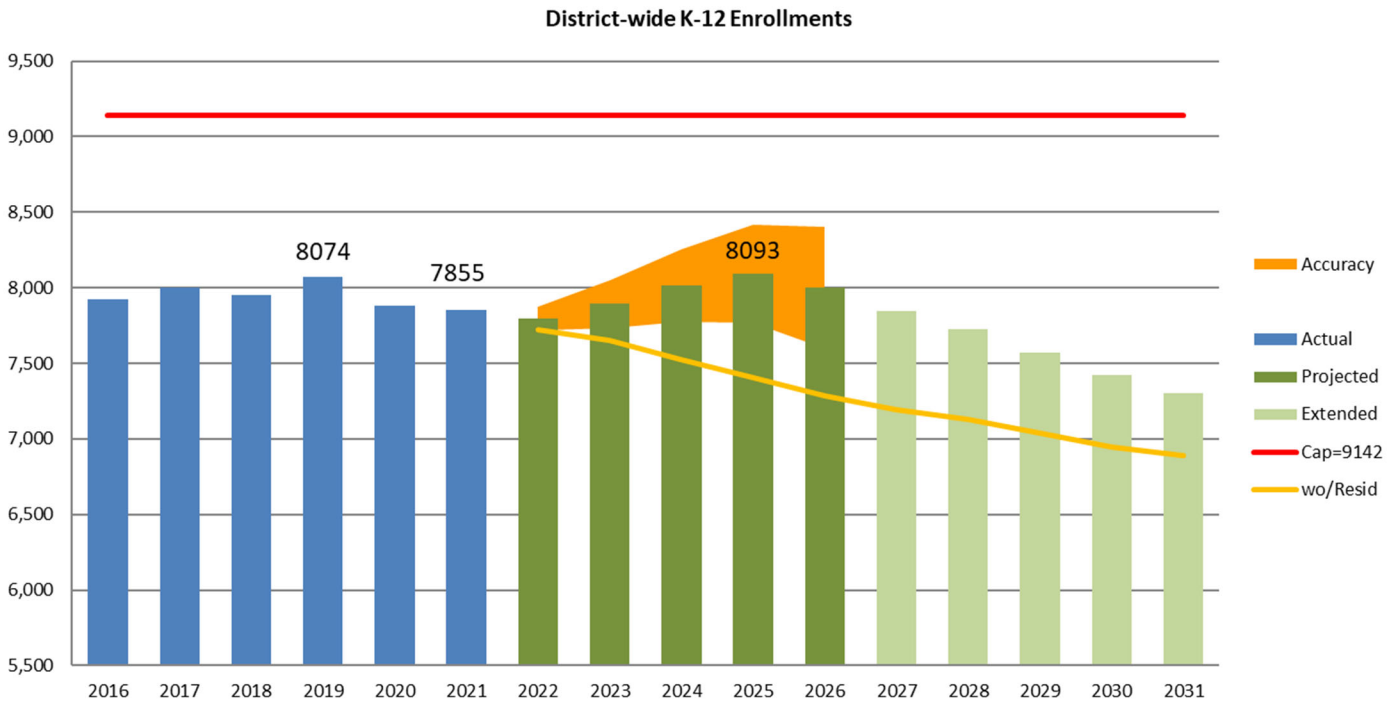
The red line is the grade-level (building) capacity as determined by the District and/or the Pennsylvania Department of Education (PDE).

ACCURACY: *Cohort Survival Enrollment Projections have an accuracy of ±1% per year as represented by the golden cone on the chart and establishes a 5th year range for enrollments between 7,601 and 8,401 students.*

Though not shown on every chart, this is also true of the Grade Level and School based projections.

The 2021 enrollment is 70 students (0.9%) fewer than the 2016 enrollments at the beginning of the actual period having decreased to 7,855 students. That is the equivalent of 5 students per grade.

The District averaged 7,948 students in the actual period, and will average 7,960 in the projection period.



Enrollments are projected to grow by 146 students past the peak year of 2025-26 (8,093) where enrollments will have increased by the end of the period to 8,001 students (1.8% over the end of the historic period).

***814** students are added from new housing. Across the District*

Spring-Ford Area School District

814 Public School Students from new housing

		TOTAL	Average Change	Change	%Chg
Actual	2016	7,925			
	2017	7,998			
	2018	7,954			
	2019	8,074	7,948		
	2020	7,882			
	2021	7,855		-70	-0.9%
Projected	2022	7,798			
	2023	7,892			
	2024	8,017	7,960		
	2025	8,093			
	2026	8,001		146	1.9%
Extended	2027	7,845			
	2028	7,726			
	2029	7,573	7,574		
	2030	7,421			
	2031	7,303		-698	-8.9%

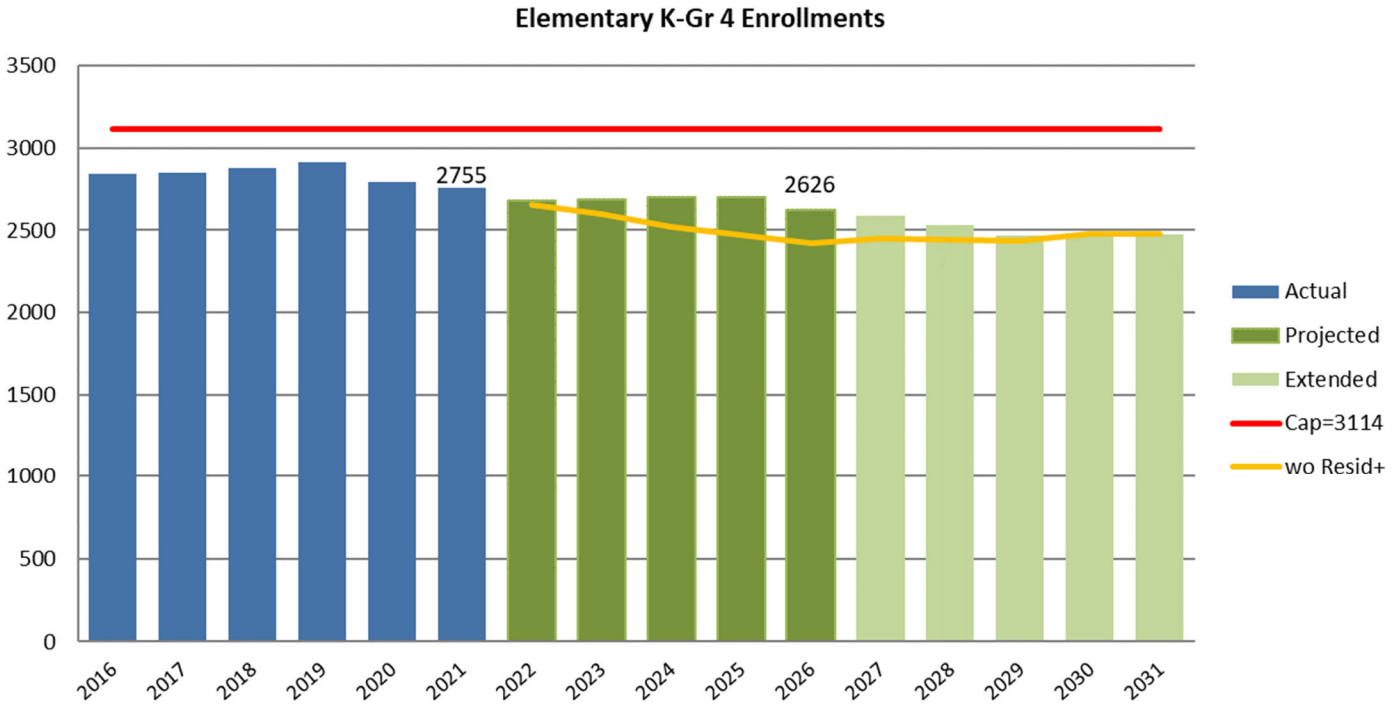
In the historic period enrollments decreased 90 students to a total of 2,755 students.

In the projection period enrollments will continue to decrease by 129 students to 2,626 students at the end of the projection period in year 2026-27.

Elementary enrollments are under capacity now and in all projection years.

Elementary School enrollments do not exceed capacity in any years of the projection.

313 students are added from new housing at the K-Gr 4 level.



Spring-Ford Area School District

Elementary K-Grade 4 Enrollments

313 Students from new housing to Public School at the elementary level

									K-4	Period to Period		
		PK	K	1	2	3	4	UG	TOTAL	Average	Change	
Actual	**2016**		499	549	576	592	629	0	**2,845**			
	2017		503	570	582	582	614	0	**2,851**			
	2018		497	591	598	596	596	0	**2,878**			
	2019		510	575	613	618	599	0	**2,915**	2,840		
	2020		451	548	561	610	623	0	**2,793**			
	2021		467	512	589	573	614	0	**2,755**		-90	-3.2%
Projected	**2022**		413	537	538	605	588	0	**2,680**			
	2023		446	483	571	560	628	0	**2,687**			
	2024		459	527	523	601	590	0	**2,699**	2,678		
	2025		415	540	565	549	628	0	**2,698**			
	2026		437	478	567	581	564	0	**2,626**		-129	-4.8%
Extended	**2027**		431	497	497	576	590	0	**2,591**			
	2028		431	491	516	505	586	0	**2,529**			
	2029		431	491	510	525	513	0	**2,470**	2,510		
	2030		431	491	510	518	534	0	**2,484**			
	2031		431	491	510	518	527	0	**2,477**		-148	-5.7%

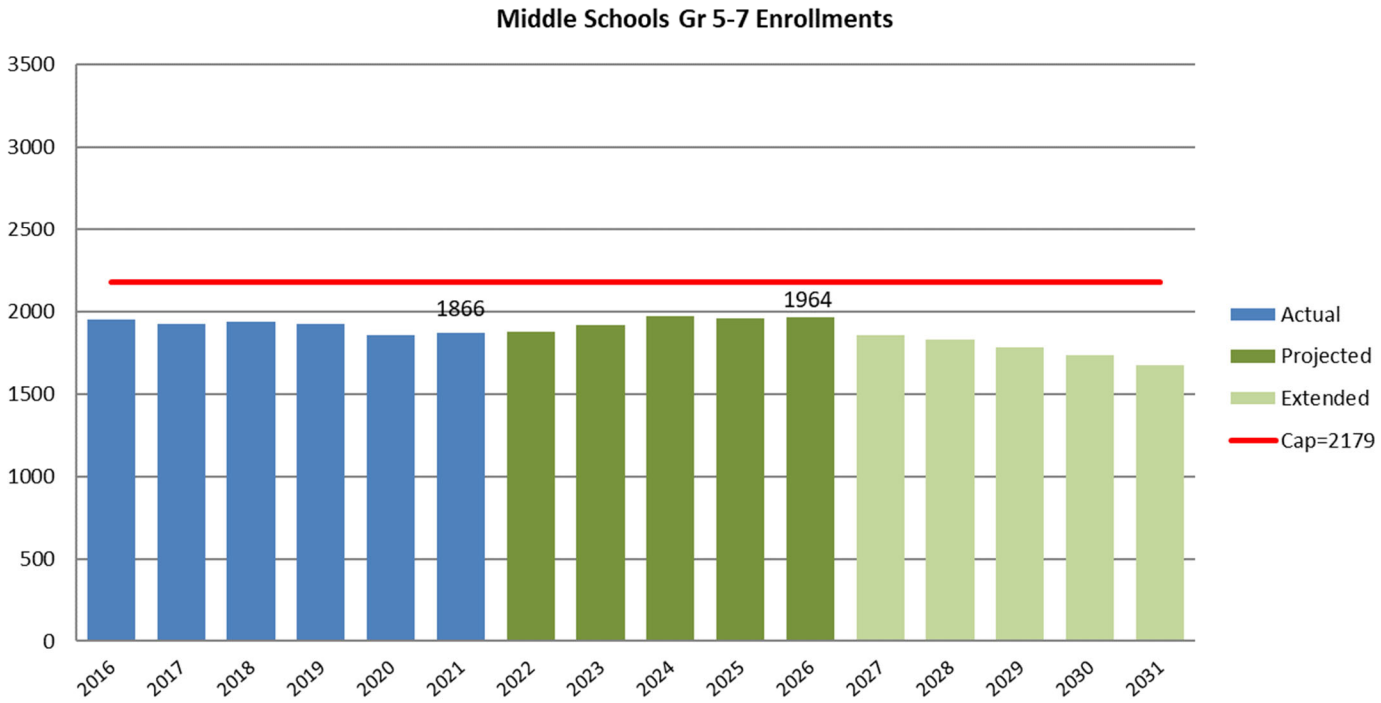
In the historic period enrollments decreased 83 students to a total of 1,866 students by Fall 2021.

In the projection period enrollments will increase by 98 students to a new high of 1,964 students at the end of the projection period.

Enrollments do not exceed capacity in any years of the 5-year projection.

Middle School enrollments do not exceed capacity in any year of the projections.

188 students are added from new housing at the Gr 5-7 level.



Spring-Ford Area School District

Middle School Grade 5-7 Enrollments

188 Students from new housing to Public Schools at the Middle School level.

		5	6	7	UG	Gr 5-7 TOTAL	Period Average	Period Change	
Actual	**2016**	660	621	668		**1,949**			
	2017	643	667	611		**1,921**			
	2018	616	645	674		**1,935**			
	2019	626	643	655		**1,924**	1908		
	2020	588	622	644		**1,854**			
	2021	624	600	642		**1,866**		-83	-4.3%
Projected	**2022**	627	639	611		**1,877**			
	2023	608	649	657		**1,915**			
	2024	655	637	675		**1,968**	1936		
	2025	614	683	661		**1,957**			
	2026	641	629	694		**1,964**		98	5.2%
Extended	**2027**	570	651	634		**1,855**			
	2028	597	578	656		**1,832**			
	2029	592	605	583		**1,781**	1774		
	2030	519	601	611		**1,731**			
	2031	540	527	606		**1,673**		-291	-15.7%

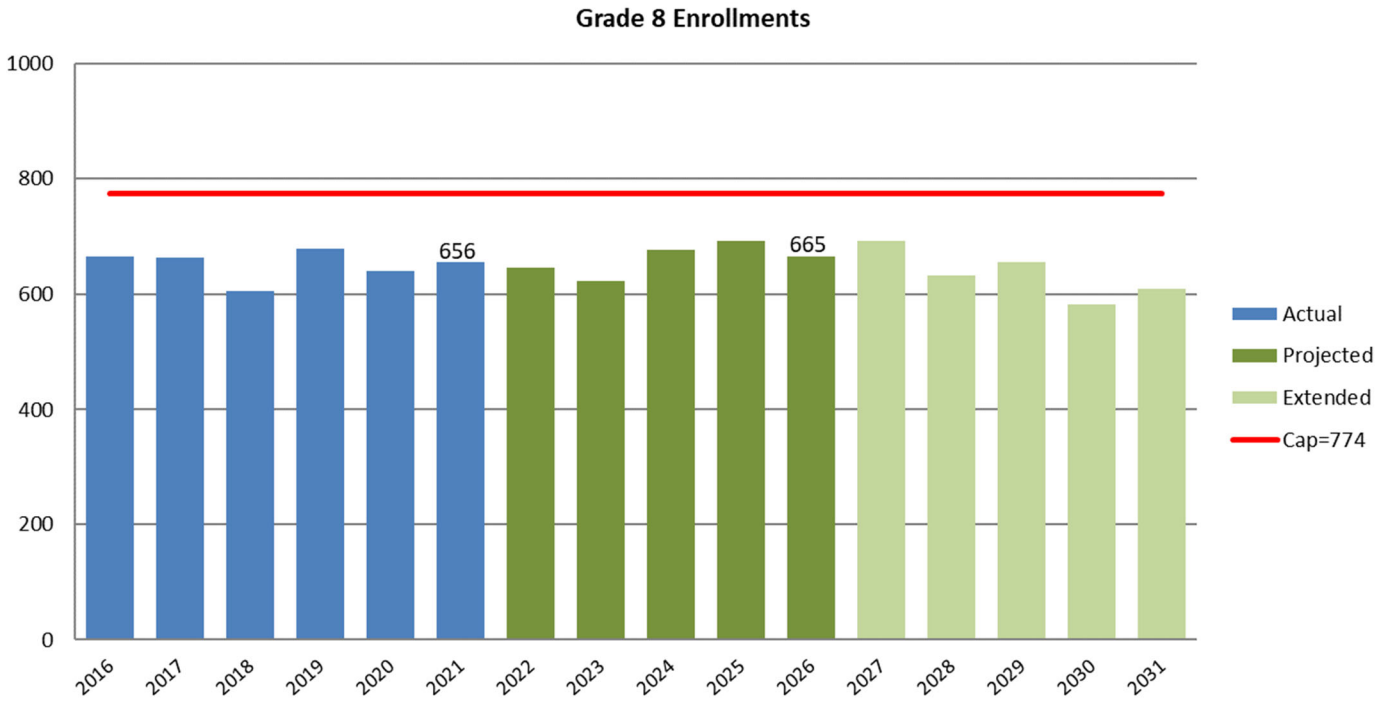
In the historic period enrollments decreased 9 students to a total of 656 students by Fall 2021.

In the projection period enrollments will increase by 9 students to 665 students at the end of the projection period.

Enrollments do not exceed capacity in any years of the 5-year projection.

Grade 8 Enrollments do not exceed capacity in any years of the 5-year projection.

63 students are added from new housing at the Gr 8 level.



Grade 8 Enrollments

63 Students from new housing to Public Schools at the Middle School level.

		8	UG	Gr 8 TOTAL	Period Average	Period Change	
Actual	**2016**	665		**665**			
	2017	664		**664**			
	2018	605		**605**			
	2019	679		**679**	652		
	2020	641		**641**			
	2021	656		**656**		-9	-1.4%
Projected	**2022**	646		**646**			
	2023	623		**623**			
	2024	676		**676**	660		
	2025	691		**691**			
	2026	665		**665**		9	1.3%
Extended	**2027**	693		**693**			
	2028	633		**633**			
	2029	655		**655**	634		
	2030	582		**582**			
	2031	609		**609**		-55	-8.0%

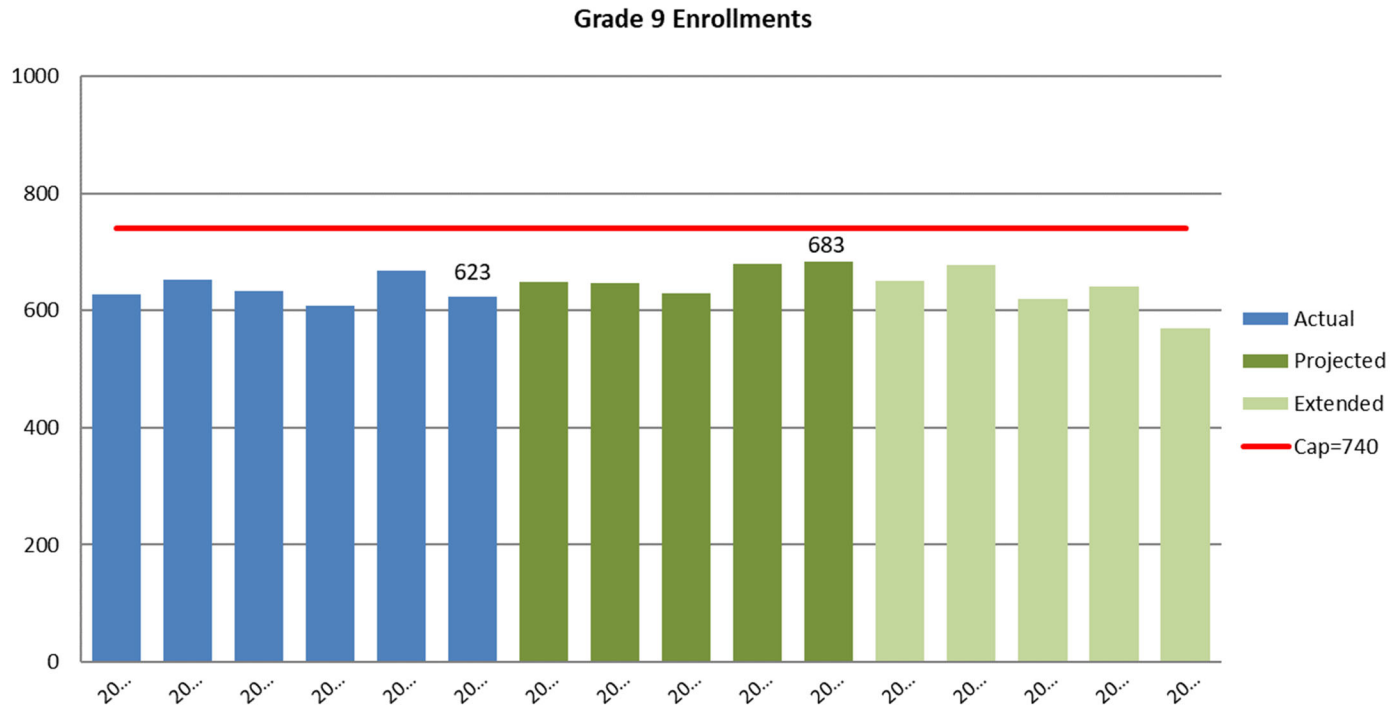
In the historic period enrollments decreased 4 students to a total of 623 students by Fall 2021.

In the projection period enrollments will increase by 60 students to a new high of 683 students at the end of the projection period.

Enrollments do not exceed capacity in any years of the 5-year projection.

Grade 9 Enrollments do not exceed capacity in any years of the 5-year projection.

63 students are added from new housing at the Gr 9 level.



Spring-Ford Area School District

Grade 9 Enrollments

63 Students from new housing to Public Schools at the Middle School level.

		9	UG	Gr 9 TOTAL	Period Average	Period Change	
Actual	**2016**	627		**627**			
	2017	653		**653**			
	2018	633		**633**			
	2019	608		**608**	635		
	2020	668		**668**			
	2021	623		**623**		-4	-0.6%
Projected	**2022**	648		**648**			
	2023	646		**646**			
	2024	630		**630**	657		
	2025	680		**680**			
	2026	683		**683**		60	9.2%
Extended	**2027**	651		**651**			
	2028	678		**678**			
	2029	620		**620**	632		
	2030	641		**641**			
	2031	570		**570**		-113	-17.3%

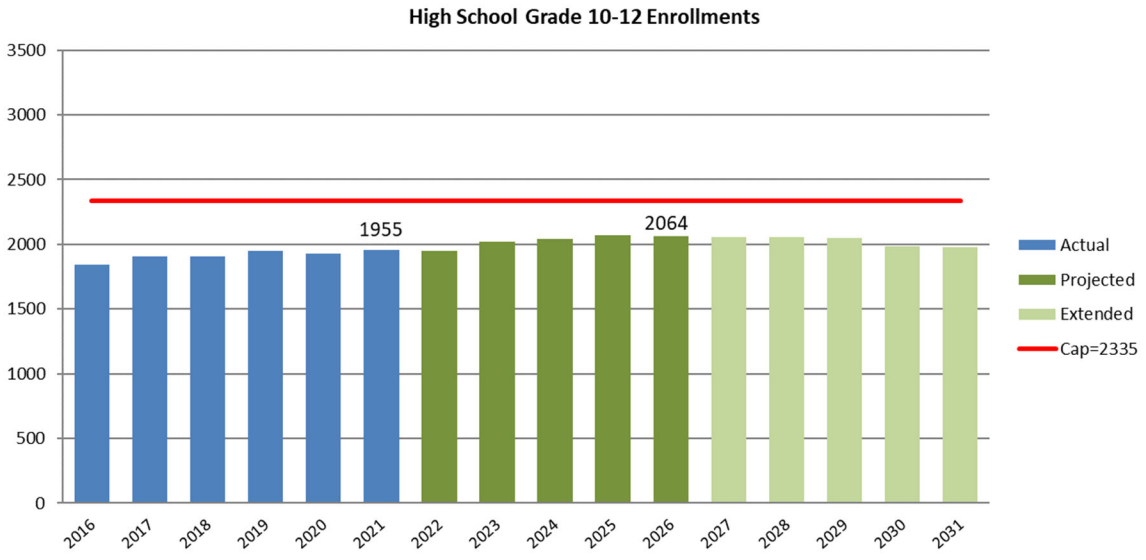
In the historic period enrollments increased 116 students to a total of 1,995 students.

In the projection period enrollments will continue to increase by 109 students to 2,064 students at the end of the projection period.

Enrollments do not exceed capacity in any years of the 5-year projection.

High School enrollments which averaged 1,913 students in the Actual period, will average 2,026 students in the projection period.

250 students are added from new housing at the Gr 10-12 level.



High School Enrollments do not exceed capacity in any years of the 5-year projection.

Spring-Ford Area School District

High School Grade 10-12 Enrollments

250 Students from new housing at the High School level

		10	11	12	UG	Gr 10-12 TOTAL	Period Average	Period Change	
Actual	**2016**	609	645	585	0	**1,839**			
	2017	630	611	668	0	**1,909**			
	2018	659	631	613	0	**1,903**			
	2019	642	663	643	0	**1,948**	1913		
	2020	616	629	681	0	**1,926**			
	2021	671	613	671	0	**1,955**		116	6.3%
Projected	**2022**	634	675	637	0	**1,947**			
	2023	667	646	708	0	**2,021**			
	2024	672	686	686	0	**2,044**	2028		
	2025	654	688	724	0	**2,066**			
	2026	692	657	715	0	**2,064**		109	5.6%
Extended	**2027**	689	690	677	0	**2,056**			
	2028	657	687	711	0	**2,054**			
	2029	684	655	708	0	**2,047**	2023		
	2030	625	682	675	0	**1,982**			
	2031	647	623	703	0	**1,974**		-90	-4.4%

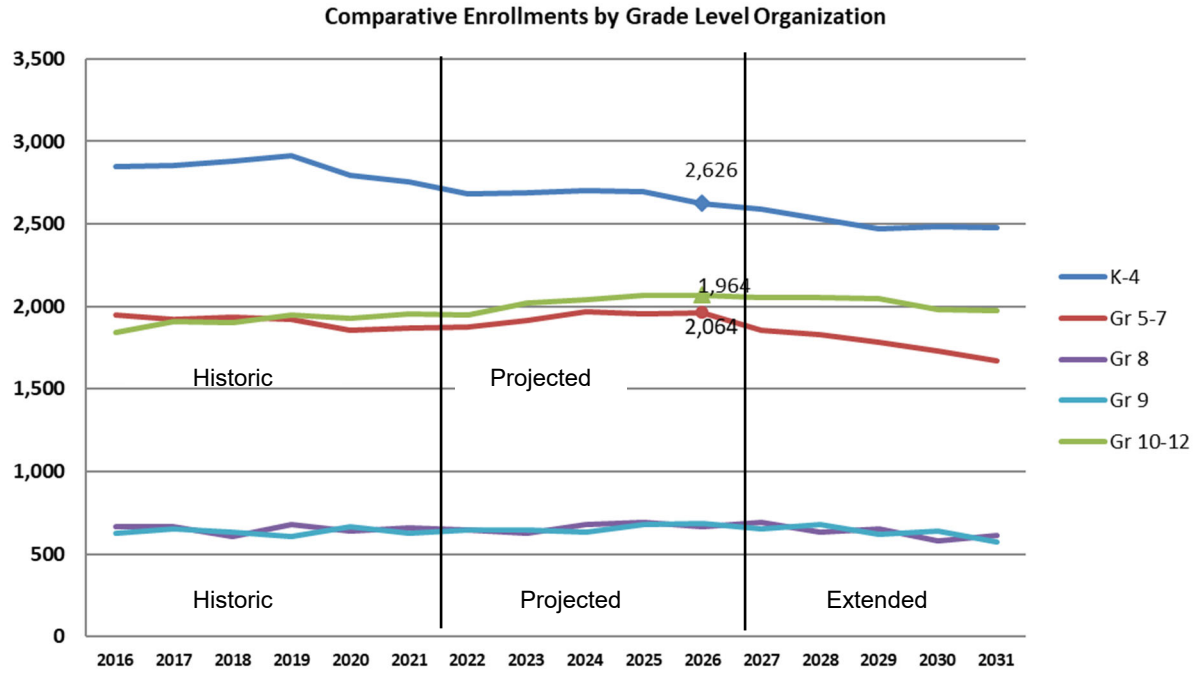
Comparative Enrollments by Grade Level Organization

		K-4	Gr 5-7	Gr 8	Gr 9	Gr 10-12	TOTAL
Actual	2016	2,845	1,949	665	627	1,839	**7,925**
	2017	2,851	1,921	664	653	1,909	**7,998**
	2018	2,878	1,935	605	633	1,903	**7,954**
	2019	2,915	1,924	679	608	1,948	**8,074**
	2020	2,793	1,854	641	668	1,926	**7,882**
	2021	2,755	1,866	656	623	1,955	**7,855**
Projected	2022	2,680	1,877	646	648	1,947	**7,798**
	2023	2,687	1,915	623	646	2,021	**7,892**
	2024	2,699	1,968	676	630	2,044	**8,017**
	2025	2,698	1,957	691	680	2,066	**8,093**
	2026	2,626	1,964	665	683	2,064	**8,001**
Extended	2027	2,591	1,855	693	651	2,056	**7,845**
	2028	2,529	1,832	633	678	2,054	**7,726**
	2029	2,470	1,781	655	620	2,047	**7,573**
	2030	2,484	1,731	582	641	1,982	**7,421**
	2031	2,477	1,673	609	570	1,974	**7,303**

Projection Period

HIGH

LOW

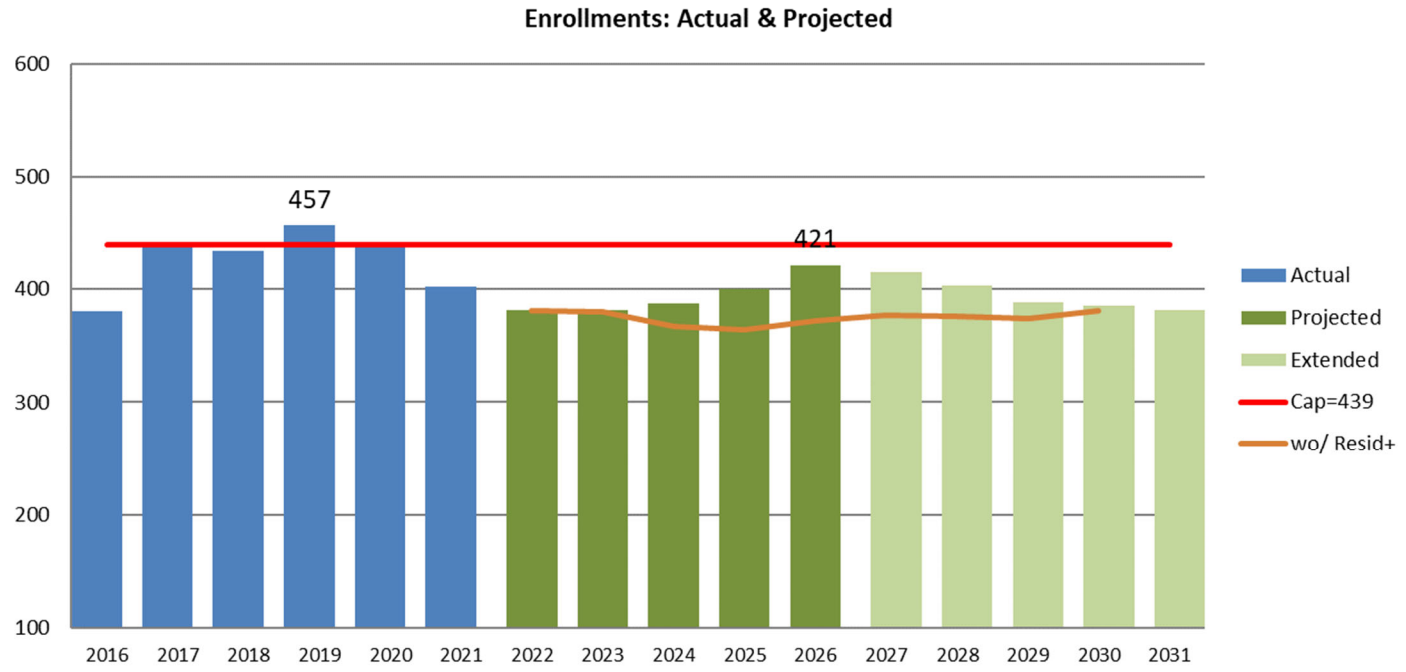


Enrollments which increased 21 in the actual period, will increase by 19 in the projection period to a high of 421 students at the end of the projection period. That high is less than the 457 student high in the Actual period.

Sections increase from a current 21 classrooms to a high of 21 classrooms as in the Actual period..

The school is under capacity in all years of the projection period.

***58** students from New Housing are added to this school*



Brook Elementary School Enrollments

		K	1	2	3	4	K-5 TOTAL	Average	Change	% Chg
Actual	2016	66	60	76	92	87	381			
	2017	94	73	83	87	101	438			
	2018	69	103	84	87	91	434			
	2019	79	83	108	93	94	457	426		
	2020	77	85	82	106	91	441			
	2021	60	67	90	83	102	402		21	5.5%
Projected	2022	62	64	75	95	86	382			
	2023	66	66	72	80	98	381			
	2024	70	74	78	80	86	388	394		
	2025	64	78	86	86	86	400			
	2026	69	72	92	95	93	421		19	4.9%
Extended	2027	65	74	81	97	98	415			
	2028	65	70	83	85	100	403			
	2029	65	70	78	87	88	388	395		
	2030	65	70	78	83	90	386			
	2031	65	70	78	83	85	381		-40	-9.6%

Sections

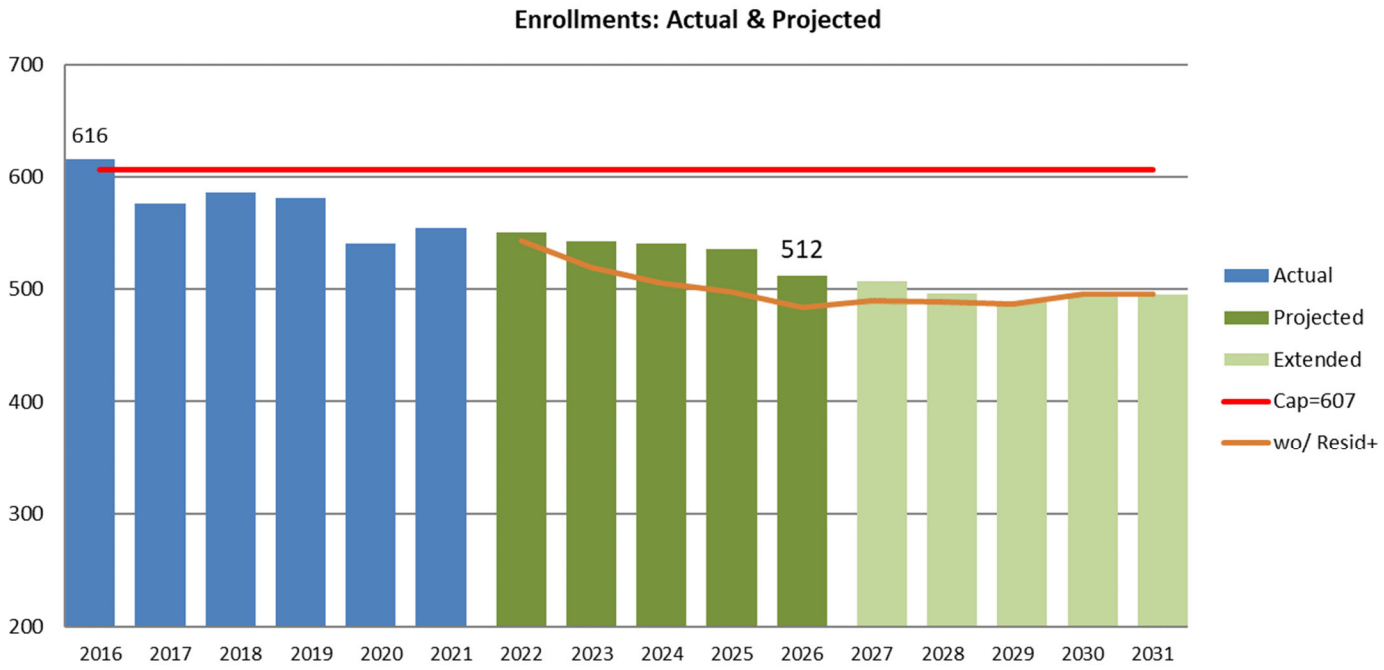
	K	1	2	3	4	Total
	22	22	22	24	24	
2016	3	3	4	4	4	18
2017	5	4	4	4	5	22
2018	4	5	4	4	4	21
2019	4	4	5	4	4	21
2020	4	4	4	5	4	21
2021	3	4	5	4	5	21
2022	3	3	4	4	4	18
2023	3	4	4	4	5	20
2024	4	4	4	4	4	20
2025	3	4	4	4	4	19
2026	4	4	5	4	4	21
2027	3	4	4	5	5	21
2028	3	4	4	4	5	20
2029	3	4	4	4	4	19
2030	3	4	4	4	4	19
2031	3	4	4	4	4	19

Enrollments which decreased 61 in the historic period, will decrease by 43 in the projection period to a low of 512 students in year 2026-27.

Sections decrease from a current 27 to a low of 24 classrooms.

The school is under capacity in all years of the projection period.

***50** students from New Housing are added to this school*



Evans Elementary School

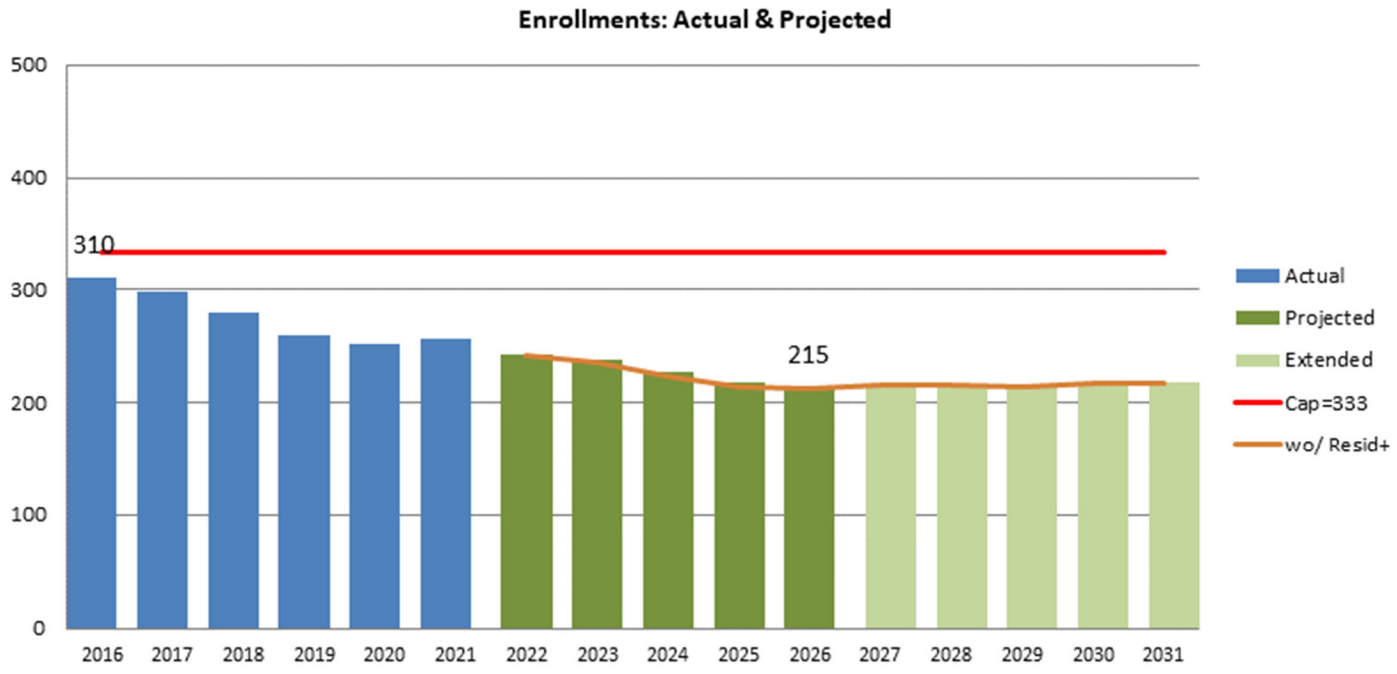
Enrollments		K-5								Sections					
		K	1	2	3	4	TOTAL	Average	Change	% Chg	22	22	22	24	24	
		K	1	2	3	4	TOTAL	Average	Change	% Chg	K	1	2	3	4	Total
Actual	2016	121	114	126	123	132	616				6	6	6	6	6	30
	2017	83	122	119	124	128	576				4	6	6	6	6	28
	2018	101	102	131	127	125	586				5	5	6	6	6	28
	2019	96	115	104	137	129	581	576			5	6	5	6	6	28
	2020	74	101	115	112	139	541				4	5	6	5	6	26
	2021	96	95	115	130	117	555		-61	-9.9%	5	5	6	6	5	27
Projected	2022	81	110	102	123	135	551				4	6	5	6	6	27
	2023	88	95	119	111	129	543				4	5	6	5	6	26
	2024	89	103	103	130	116	541	537			5	5	5	6	5	26
	2025	79	102	109	111	134	536				4	5	5	5	6	25
	2026	84	90	108	116	114	512		-43	-7.8%	4	5	5	5	5	24
Extended	2027	84	96	95	114	119	507				4	5	5	5	5	24
	2028	84	96	100	100	117	497				4	5	5	5	5	24
	2029	84	96	100	106	102	489	497			4	5	5	5	5	24
	2030	84	96	100	106	109	495				4	5	5	5	5	24
	2031	84	96	100	106	109	495		-17	-3.3%	4	5	5	5	5	24

Enrollments which decreased 54 students in the actual period, will decrease by 41 in the projection period to a new low of 215 students in year 2026-27.

Sections decrease from a current 15 classrooms to a low of 11 classrooms.

The school is under capacity in all projected years.

***5** students from New Housing are added to this school*



Limerick Elementary School
Enrollments

		K-4								
		K	1	2	3	4	TOTAL	Average	Change	% Chg
Actual	2016	45	62	76	65	62	310			
	2017	51	46	64	77	60	298			
	2018	47	53	45	60	75	280			
	2019	52	49	55	44	60	260	276		
	2020	48	54	46	57	47	252			
	2021	45	48	57	51	55	256		-54	-17.4%
Projected	2022	40	46	48	58	50	243			
	2023	43	41	46	49	57	237			
	2024	44	44	42	48	49	227	228		
	2025	39	45	44	43	47	217			
	2026	43	40	45	45	42	215		-41	-17.1%
Extended	2027	43	43	40	46	44	216			
	2028	43	43	44	41	45	215			
	2029	43	43	44	44	40	214	216		
	2030	43	43	44	44	43	217			
	2031	43	43	44	44	44	218		3	1.4%

Sections

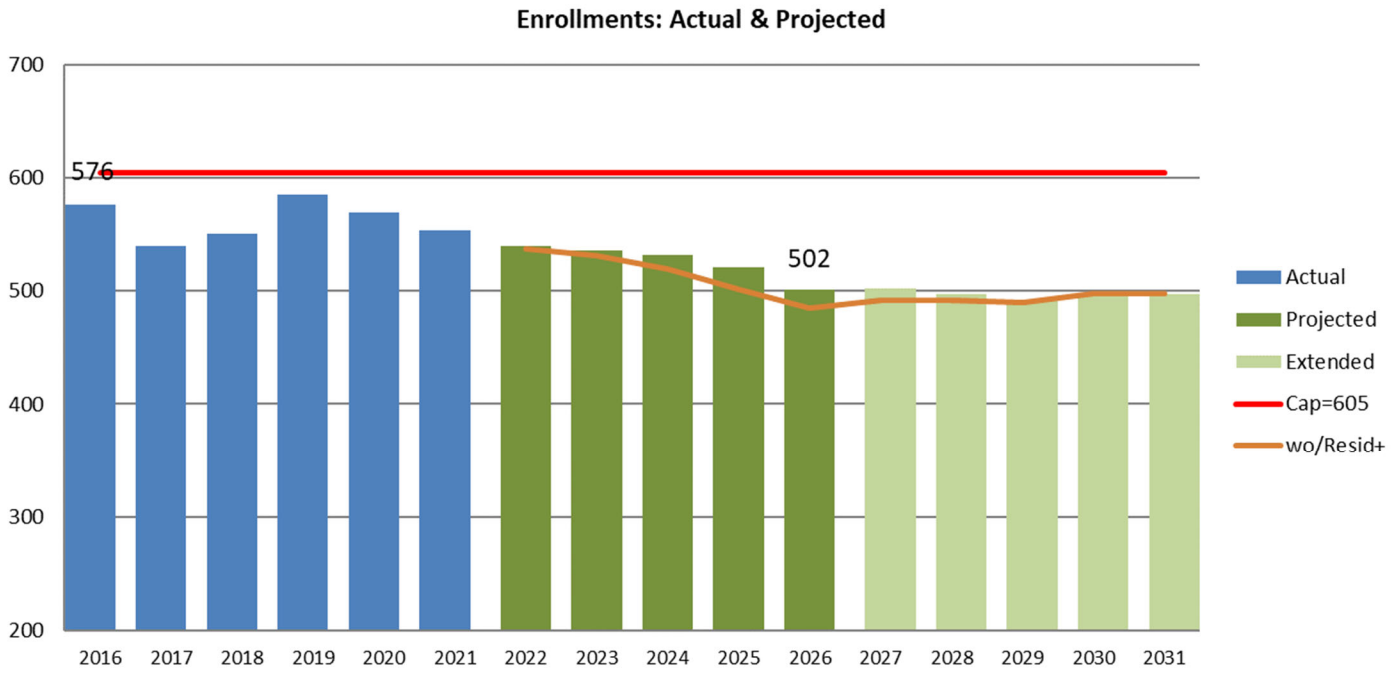
22	22	22	24	24	
K	1	2	3	4	Total
3	3	4	3	3	16
3	3	3	4	3	16
3	3	3	3	4	16
3	3	3	2	3	14
3	3	3	3	2	14
3	3	3	3	3	15
2	3	3	3	3	14
2	2	3	3	3	13
2	3	2	2	3	12
2	3	3	2	2	12
2	2	3	2	2	11
2	2	2	2	2	10
2	2	2	2	2	10
2	2	2	2	2	10
2	2	2	2	2	10
2	2	2	2	2	10

Enrollments which decreased 22 students in the historic period, will decrease by 52 in the projection period to a new low of 502 students in year 2026-27.

***25** students from New Housing are added to this school*

Sections decrease to 24.

The school is under capacity in all projected years.



Oaks Elementary School

Enrollments		K	1	2	3	4	K-5 TOTAL	Average	Change	% Chg
Actual	2016	105	117	118	117	119	576			
	2017	77	124	113	111	115	540			
	2018	92	108	127	115	109	551			
	2019	106	115	118	129	117	585	563		
	2020	98	119	108	113	131	569			
	2021	100	113	117	107	117	554		-22	-3.8%
Projected	2022	81	122	113	116	108	540			
	2023	86	100	122	112	117	536			
	2024	89	107	101	122	114	532	526		
	2025	80	109	108	101	124	521			
	2026	86	98	110	106	102	502		-52	-9.7%
Extended	2027	86	104	98	108	107	502			
	2028	86	104	104	96	108	498			
	2029	86	104	104	102	96	492	497		
	2030	86	104	104	102	103	498			
	2031	86	104	104	102	102	498		-4	-0.8%

Sections

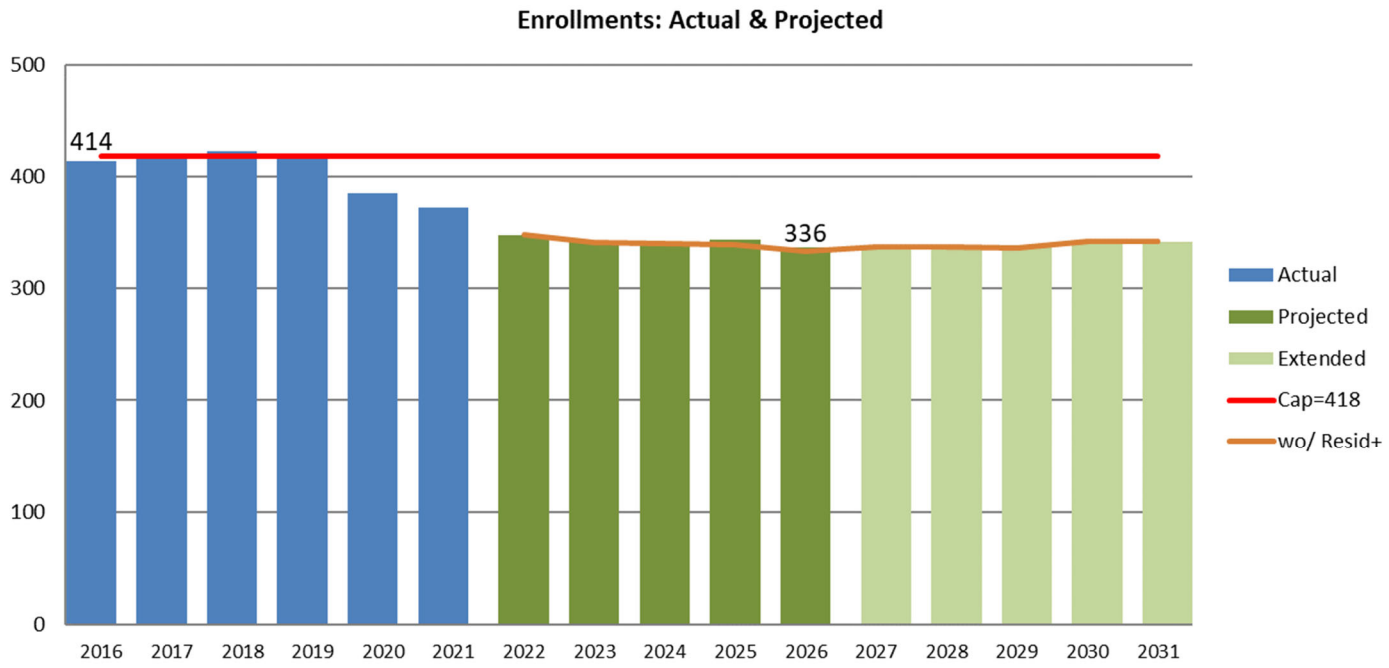
	22	22	22	24	24	
	K	1	2	3	4	Total
	5	6	6	5	5	27
	4	6	6	5	5	26
	5	5	6	5	5	26
	5	6	6	6	5	28
	5	6	5	5	6	27
	5	6	6	5	5	27
	4	6	6	5	5	26
	4	5	6	5	5	25
	5	5	5	6	5	26
	4	5	5	5	6	25
	4	5	5	5	5	24
	4	5	5	5	5	24
	4	5	5	5	5	24
	4	5	5	5	5	24
	4	5	5	5	5	24

Enrollments which decreased 42 students in the historic period, will decrease by 36 in the projection period to 336 students in year 2026-27.

Sections decrease from a current 20 classrooms to between 16 and 19 classrooms.

The school is under capacity in all projected years.

***4** students from New Housing are added to this school*



Royersford Elementary School

Enrollments		K	1	2	3	4	K-5 TOTAL	Average	Change	% Chg
Actual	2016	76	90	72	79	97	414			
	2017	92	92	86	72	79	421			
	2018	83	100	91	78	71	423			
	2019	69	91	95	92	74	421	406		
	2020	61	69	82	87	86	385			
	2021	74	67	73	73	85	372		-42	-10.1%
Projected	2022	63	80	65	69	71	348			
	2023	67	69	78	61	67	342			
	2024	68	73	67	74	59	341	342		
	2025	62	75	71	64	72	343			
	2026	67	68	73	67	62	336		-36	-10.2%
Extended	2027	67	73	66	68	65	339			
	2028	67	73	71	62	66	339			
	2029	67	73	71	67	60	337	340		
	2030	67	73	71	67	64	342			
	2031	67	73	71	67	65	342		5	1.6%

Sections

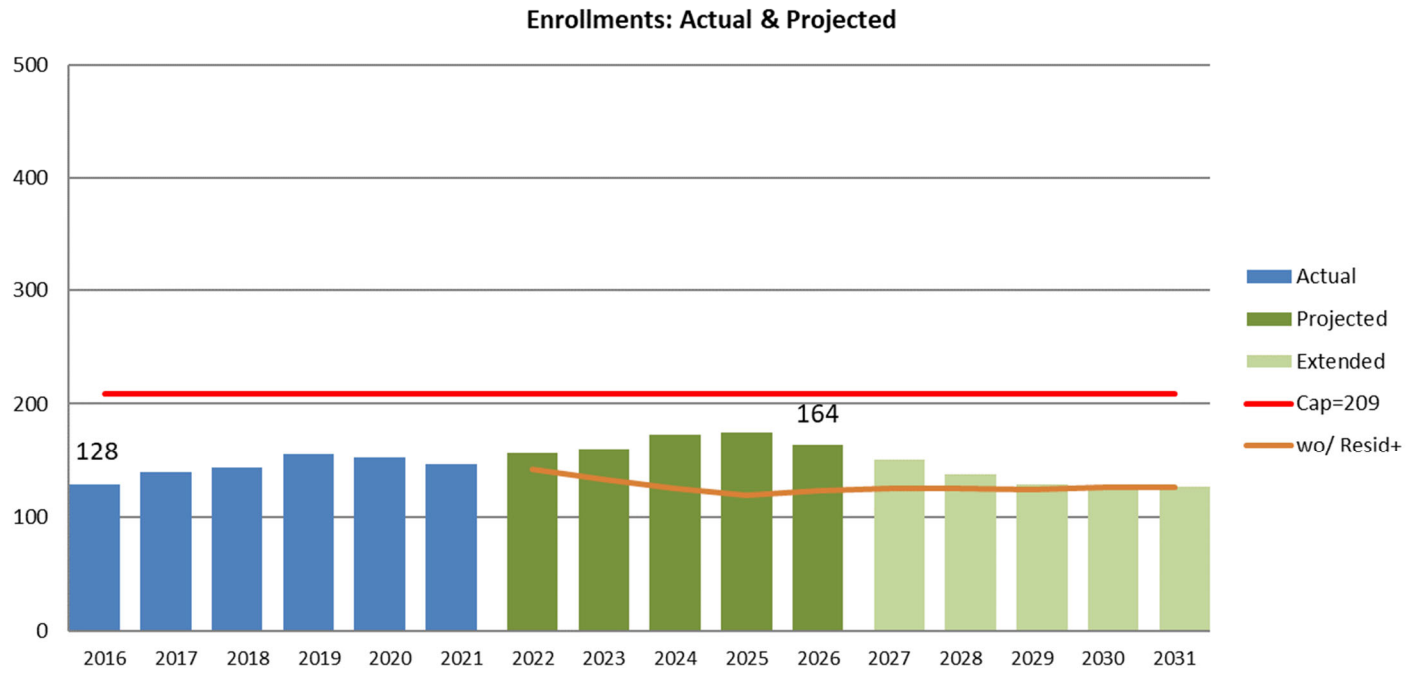
	K	1	2	3	4	Total
	22	22	22	24	24	
2016	4	5	4	4	5	22
2017	5	5	4	3	4	21
2018	4	5	5	4	3	21
2019	4	5	5	4	4	22
2020	3	4	4	4	4	19
2021	4	4	4	4	4	20
2022	3	4	3	3	3	16
2023	4	4	4	3	3	18
2024	4	4	4	4	3	19
2025	3	4	4	3	3	17
2026	4	4	4	3	3	18
2027	4	4	3	3	3	17
2028	4	4	4	3	3	18
2029	4	4	4	3	3	18
2030	4	4	4	3	3	18
2031	4	4	4	3	3	18

Enrollments which increased 18 students in the historic period, will also increase by 18 in the projection period, and peak at 164 students in 2023 -24.

Sections increase from a current 9 classrooms to a high of 10 class-rooms.

The school is under capacity in all projected years.

***77** students from New Housing are added to this school*



Spring City Elementary School

Enrollments

		K-5								
		K	1	2	3	4	TOTAL	Average	Change	% Chg
Actual	2016	24	35	24	21	24	128			
	2017	31	24	36	24	24	139			
	2018	33	30	22	35	23	143			
	2019	30	37	32	22	34	155	144		
	2020	29	32	37	31	23	152			
	2021	21	29	35	33	28	146		18	14.1%
Projected	2022	26	24	33	37	36	156			
	2023	28	30	28	34	40	160			
	2024	31	34	36	32	40	173	165		
	2025	27	35	38	39	36	175			
	2026	25	27	36	37	39	164		18	11.5%
Extended	2027	25	25	28	35	37	150			
	2028	25	25	26	27	35	138			
	2029	25	25	26	25	27	128	133		
	2030	25	25	26	25	25	126			
	2031	25	25	26	25	25	126		-38	-25.3%

Sections

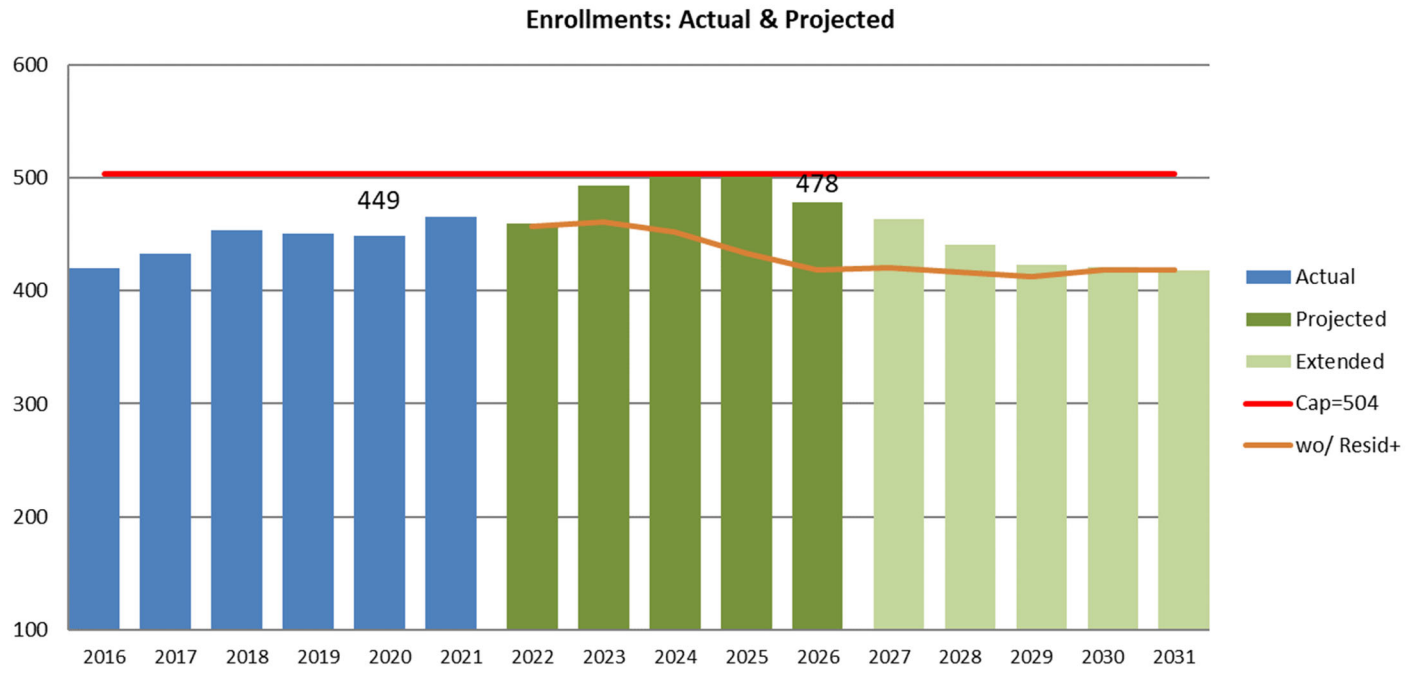
22	22	22	24	24	
K	1	2	3	4	Total
2	2	2	1	1	8
2	2	2	1	1	8
2	2	1	2	1	8
2	2	2	1	2	9
2	2	2	2	1	9
1	2	2	2	2	9
2	2	2	2	2	10
2	2	2	2	2	10
2	2	2	2	2	10
2	2	2	2	2	10
2	2	2	2	2	10
2	2	2	2	2	10
2	2	2	2	2	10
2	2	2	2	2	10
2	2	2	2	2	10
2	2	2	2	2	10

Enrollments which increased 46 students in the actual period, will increase by 12 in the projection period to a period high of 478 students in year 2026-27.

Sections increase from a current 23 classrooms to a high of 25 classrooms in Fall 2024.

The school is under capacity in all projected years.

***112** students from New Housing are added to this school*



Upper Providence Elementary School

Enrollments		K	1	2	3	4	K-4 TOTAL	Average	Change	% Chg
Actual	2016	62	71	84	95	108	420			
	2017	75	88	80	85	105	433			
	2018	72	94	97	91	100	454			
	2019	78	85	100	100	88	451	446		
	2020	64	88	91	102	104	449			
	2021	71	92	102	94	107	466		46	11.0%
Projected	2022	59	91	102	107	101	459			
	2023	68	81	106	112	120	493			
	2024	69	93	95	116	125	504	487		
	2025	63	93	107	105	129	501			
	2026	64	82	104	114	113	478		12	2.6%
Extended	2027	62	82	90	109	121	463			
	2028	62	80	90	94	116	441			
	2029	62	80	87	94	100	423	433		
	2030	62	80	87	92	100	421			
	2031	62	80	87	92	98	418		-59	-12.8%

Sections

22	22	22	24	24	
K	1	2	3	4	Total
3	4	4	4	5	**20**
4	4	4	4	5	**21**
4	5	5	4	5	**23**
4	4	5	5	4	**22**
3	4	5	5	5	**22**
4	5	5	4	5	**23**
3	5	5	5	5	**23**
4	4	5	5	5	**23**
4	5	5	5	6	**25**
3	5	5	5	6	**24**
3	4	5	5	5	**22**
3	4	5	5	6	**23**
3	4	5	4	5	**21**
3	4	4	4	5	**20**
3	4	4	4	5	**20**
3	4	4	4	5	**20**

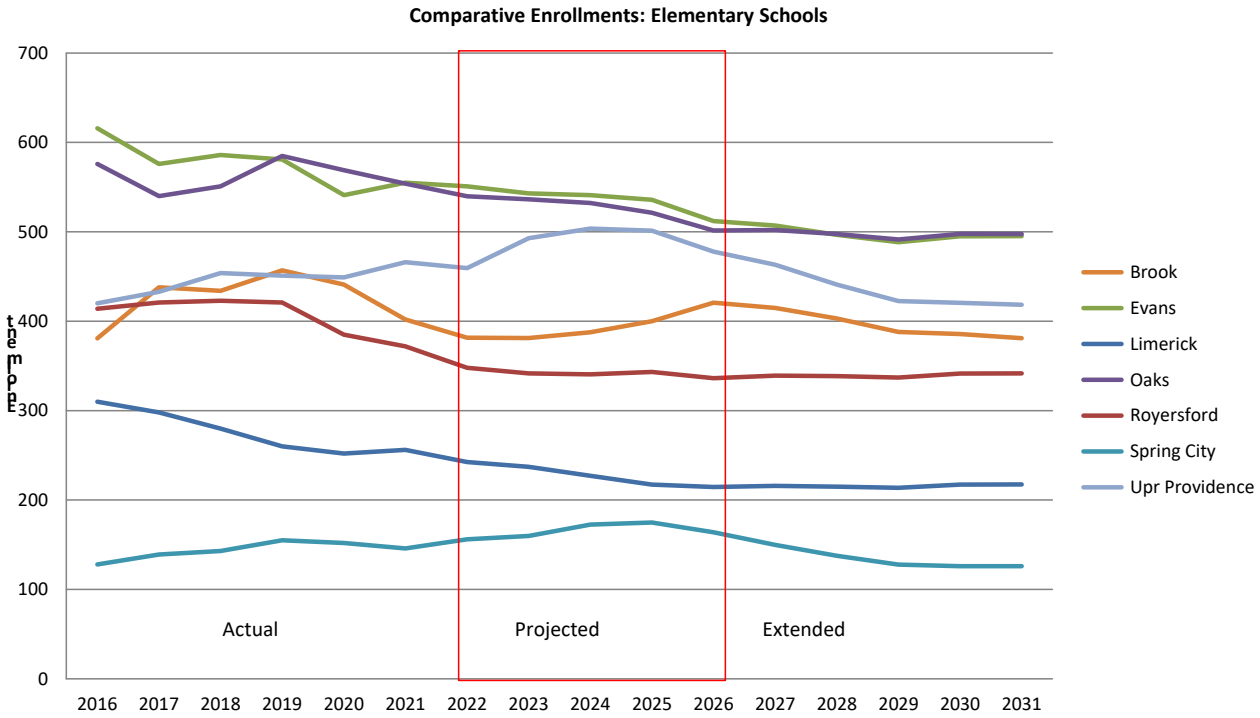
Comparative Elementary Enrollments

		Brook	Evans	Limerick	Oaks	Royersford	Spring City	Upr Providence
Actual	**2016**	381	616	310	576	414	128	420
	2017	438	576	298	540	421	139	433
	2018	434	586	280	551	423	143	454
	2019	457	581	260	585	421	155	451
	2020	441	541	252	569	385	152	449
	2021	402	555	256	554	372	146	466
Projected	**2022**	382	551	243	540	348	156	459
	2023	381	543	237	536	342	160	493
	2024	388	541	227	532	341	173	504
	2025	400	536	217	521	343	175	501
	2026	421	512	215	502	336	164	478
Extended	**2027**	415	507	216	502	339	150	463
	2028	403	497	215	498	339	138	441
	2029	388	489	214	492	337	128	423
	2030	386	495	217	498	342	126	421
	2031	381	495	218	498	342	126	418

Projection Period

Low

High



Appendix

A. Cohort Survival Worksheets

1. Standard Projection
2. Adjusted for New Housing Projection

B. ESI Student Multipliers Report

Standard Cohort-Survival Enrollment Projection Worksheet

DISTRICT NAME: **Spring-Ford Area School District**

COUNTY: Montgomery County & Chester County

DATA ISSUES: Enrollments are from the PDE Enrollment website

"s" = survival rate

School Year	Births 5 Sch Yrs. Ago	"s"	K	"s"	1st Gr.	"s"	2nd Gr.	"s"	3rd Gr.	"s"	4th Gr.	"s"	5th Gr.	K-5 Subt.	K-5 SCSE	K-5 Total (excl. PK)	PK SCSE	PK 3 yrs.	PK 4yrs.	PK-5 Total
Actual DATA																				
2016-17	571	0.874	499	1.142	549	1.060	576	1.010	592	1.037	629	1.022	660	3505	0	3505	0	0	0	3505
2017-18	579	0.869	503	1.175	570	1.049	582	1.024	582	1.024	614	1.003	643	3494	0	3494	0	0	0	3494
2018-19	520	0.956	497	1.157	591	1.037	598	1.033	596	1.005	596	1.050	616	3494	0	3494	0	0	0	3494
2019-20	534	0.955	510	1.075	575	0.976	613	0.995	618	1.008	599	0.982	626	3541	0	3541	0	0	0	3541
2020-21	497	0.907	451	1.135	548	1.075	561	1.021	610	1.007	623	1.002	588	3381	0	3381	0	0	0	3381
2021-22	499	0.936	467		512		589		573		614		624	3379	0	3379	0	0	0	3379
6 Yr Average		0.916												% Pop						
Survival Rate		**0.916**		**1.137**		**1.039**		**1.017**		**1.016**		**1.012**		5 Yr	0.00%					
Change # Students														-126		-126				-126
Change % Students														-4%		-4%				-4%
5-YR PROJECTIONS				1.137		1.039		1.017		1.016		1.012								
2022-23	445	0.916	408	1.137	531	1.039	532	1.017	599	1.016	582	1.012	621	3273	0	3273	0	0	0	3273
2023-24	472	0.916	432	1.137	463	1.039	552	1.017	541	1.016	609	1.012	589	3187	0	3187	0	0	0	3187
2024-25	479	0.916	439	1.137	492	1.039	482	1.017	561	1.016	550	1.012	616	3139	0	3139	0	0	0	3139
2025-26	434	0.916	398	1.137	499	1.039	511	1.017	490	1.016	570	1.012	556	3024	0	3024	0	0	0	3024
6 Yr Avg																				
2026-27	471	0.916	431		452		519		520		498		577	2996	0	2996	0	0	0	2996
Change # Students														-383		-383				-383
Change % Students														-11%		-11%				-11%
6-10 YR PROJECTIONS			NOT CONSIDERED RELIABLE																	
2027-28	471	0.916	431	1.137	491	1.039	470	1.017	527	1.016	528	1.012	504	2951	0	2951	0	0	0	2951
6 Yr Avg																				
2028-29	471	0.916	431	1.137	491	1.039	510	1.017	478	1.016	536	1.012	534	2980	0	2980	0	0	0	2980
Continued																				
2029-30	471	0.916	431	1.137	491	1.039	510	1.017	518	1.016	485	1.012	542	2978	0	2978	0	0	0	2978
2030-31	471	0.916	431	1.137	491	1.039	510	1.017	518	1.016	527	1.012	491	2968	0	2968	0	0	0	2968
2031-32	471	0.916	431		491		510		518		527		533	3010	0	3010	0	0	0	3010
Change # Students														14		14				14
Change % Students														0%		0%				0%

School Year	6th Gr.	"s"	7th Gr.	"s"	8th Gr.	"s"	6-8 Subt.	6-8 SCSE	6-8 Total
2016-17	621	1.011	668	0.984	665	0.994	1954	0	1954
2017-18	667	1.003	611	1.010	664	0.990	1942	0	1942
2018-19	645	1.044	674	1.016	605	1.007	1924	0	1924
2019-20	643	0.994	655	1.002	679	0.979	1977	0	1977
2020-21	622	1.020	644	1.032	641	1.019	1907	0	1907
2021-22	600		642		656		1898	0	1898
% Pop									
5 Yr	**1.014**		**1.009**		**0.998**			0.00%	
Change # Students							-56		-56
Change % Students							-3%		-3%
	633	1.014	605	1.009	641	0.998	1879	0	1879
	630	1.014	638	1.009	604	0.998	1872	0	1872
	598	1.014	636	1.009	637	0.998	1870	0	1870
	625	1.014	603	1.009	634	0.998	1862	0	1862
	564		630		601		1796	0	1796
Change # Students							-102		-102
Change % Students							-5%		-5%
	585	1.014	569	1.009	629	0.998	1783	0	1783
	511	1.014	590	1.009	568	0.998	1669	0	1669
	542	1.014	515	1.009	589	0.998	1646	0	1646
	550	1.014	547	1.009	514	0.998	1611	0	1611
	498		555		545		1598	0	1598
Change # Students							-198		-198
Change % Students							-12%		-12%

School Year	9th Gr.	"s"	10th Gr.	"s"	11th Gr.	"s"	12th Gr.	"s"	9–12 Subt.	9–12 SCSE	9-12 Total
2016-17	627	0.982	609	1.005	645	1.003	585	1.036	2466	0	2466
2017-18	653	0.953	630	1.009	611	1.002	668	1.003	2562	0	2562
2018-19	633	1.005	659	1.014	631	1.006	613	1.019	2536	0	2536
2019-20	608	0.984	642	1.013	663	0.980	643	1.027	2556	0	2556
2020-21	668	0.972	616	1.004	629	0.995	681	1.067	2594	0	2594
2021-22	623		671		613		671		2578	0	2578
% Pop											
5 Yr	**0.979**		**1.009**		**0.997**		**1.030**			0.00%	
Change # Students									112		112
Change % Students									5%		5%
	642	0.979	629	1.009	669	0.997	632	1.030	2572	0	2572
	627	0.979	648	1.009	627	0.997	689	1.030	2592	0	2592
	591	0.979	633	1.009	646	0.997	646	1.030	2517	0	2517
	624	0.979	597	1.009	631	0.997	666	1.030	2518	0	2518
	621		629		595		650		2496	0	2496
Change # Students									-82		-82
Change % Students									-3%		-3%
	589	0.979	627	1.009	628	0.997	613	1.030	2456	0	2456
	616	0.979	594	1.009	625	0.997	647	1.030	2482	0	2482
	556	0.979	621	1.009	593	0.997	644	1.030	2414	0	2414
	577	0.979	561	1.009	619	0.997	611	1.030	2368	0	2368
	503		582		560		638		2283	0	2283
Change # Students									-212		-212
Change % Students									-9%		-9%

School Year	PK Subt.	K-12 Subt. (excl. SCSE)	K-12 Total (w/ SCSE)	PK-12 Total
2016-17	0	7925	7925	7925
2017-18	0	7998	7998	7998
2018-19	0	7954	7954	7954
2019-20	0	8074	8074	8074
2020-21	0	7882	7882	7882
2021-22	0	7855	7855	7855
Change # Students				-70
Change % Students				-1%
	0	7724	7724	7724
	0	7651	7651	7651
	0	7526	7526	7526
	0	7403	7403	7403
	0	7288	7288	7288
Change # Students				-567
Change % Students				-7.2%
	0	7190	7190	7190
	0	7130	7130	7130
	0	7038	7038	7038
	0	6947	6947	6947
	0	6892	6892	6892
Change # Students				-396
Change % Students				-6%

KEY to Number Colors

99 Standard number with no modifications to methodology

99 Provisional, but uncertified births from the NJ Department of Health

99 Births projected as an average of the prior 6 years, including provisional data…and projected students resulting from this "less accurate" average

99 Students per Grade Level added for residential development

The above information is prepared and certified by a qualified demographer.

Firm Name: Sundance Associates 117 Greenvale Ct. Cherry Hill NJ 08034

Name: George B. Sundell Tel 856-755-0174 Email: GSundell@sundanceassoc.com

Signature: George B Sundell Date:July 2, 2022

SUNDANCE

Adjusted for Impact of New Housing Cohort-Survival Enrollment Projection Worksheet - District

DISTRICT NAME: **Spring-Ford Area School District**

COUNTY: **Montgomery County & Chester County**

FALL REPORT AND: Enrollments are from the PDE Enrollment website

"s" = survival rate

V to 2 decimal places

School Year	Births 5 Yrs. Ago	"s"	K	"s"	1st Gr.	"s"	2nd Gr.	"s"	3rd Gr.	"s"	4th Gr.	"s"	5th Gr.	K-5 Subt.	SCSE	K-5 Total (excl. PK)	PK SCSE	PK 3 yrs.	PK 4yrs.	PK-5 Total	6th Gr.	"s"	7th Gr.	"s"	8th Gr.	"s"	6-8 Subt.	SCSE	6-8 Total	9th Gr.	"s"	10th Gr.	"s"	11th Gr.	"s"	12th Gr.	9–12 Subt.	SCSE	9-12 Total	PK Subt.	K-12 Subt. excl. SCSE	K-12 Total w/ SCSE	PK-12 Total	New Children Cum	New Children Yr Add
5-YR PROJECTIONS PLUS NEW HOUSING																																											
+ Resid			6		5.69		6		6		6		6	34							6		6		6		17			6		6		6		6	23								74	74
2022-23	445	0.916	413		537		538		605		588		627	3307	0	3307	0	0	0	3307	639		611		646		1896	0	1896	648		634		675		637	2595	0	2595	0	7798	7798	7798		
				1.137		1.039		1.017		1.016		1.012										1.014		1.009		0.998						0.979		1.009		0.997		1.030							
+ Resid			13		13.17		13		13		13		13	79							13		13		13		40			13		13		13		13	53								245	171
2023-24	472	0.916	446		483		571		560		628		608	3295	0	3295	0	0	0	3295	649		657		623		1929	0	1929	646		667		646		708	2667	0	2667	0	7892	7892	7892		
				1.137		1.039		1.017		1.016		1.012										1.014		1.009		0.998						0.979		1.009		0.997		1.030							
+ Resid			20		20.41		20		20		20		20	122							20		20		20		61			20		20		20		20	82								511	265
2024-25	479	0.916	459		527		523		601		590		655	3355	0	3355	0	0	0	3355	637		675		676		1989	0	1989	630		672		686		686	2674	0	2674	0	8017	8017	8017		
				1.137		1.039		1.017		1.016		1.012										1.014		1.009		0.998						0.979		1.009		0.997		1.030							
+ Resid			18		17.77		18		18		18		18	107							18		18		18		53			18		18		18		18	71								742	231
2025-26	434	0.916	415		540		565		549		628		614	3313	0	3313	0	0	0	3313	683		661		691		2035	0	2035	680		654		688		724	2746	0	2746	0	8093	8093	8093		
	6 Yr Avg			1.137		1.039		1.017		1.016		1.012										1.014		1.009		0.998						0.979		1.009		0.997		1.030							
+ Resid			6		5.56		6		6		6		6	33							6		6		6		17			6		6		6		6	22								814	72
2026-27	471	0.916	437		478		567		581		564		641	3267	0	3267	0	0	0	3267	629		694		665		1987	0	1987	683		692		657		715	2746	0	2746	0	8001	8001	8001		
										K-4=	313			376												188										250							814	
Change # Students														-112		-112				-112					250	89		89								168		168				146		
Change % Students														-3%		-3%				-3%						5%		5%								7%		7%				2%		

6-10-YR PROJECTIONS PLUS NEW HOUSING NOT CONSIDERED RELIABLE																																												
+ Resid			0		0		0		0		0		0	0							0		0		0		0			0		0		0		0	0								0	0
2027-28	471	0.916	431		497		497		576		590		570	3161	0	3161	0	0	0	3161	651		634		693		1977	0	1977	651		689		690		677	2707	0	2707	0	7845	7845	7845		
				1.137		1.039		1.017		1.016		1.012										1.014		1.009		0.998						0.979		1.009		0.997		1.030							
+ Resid			0		0		0		0		0		0	0							0		0		0		0			0		0		0		0	0								0	0
2028-29	471	0.916	431		491		516		505		586		597	3126	0	3126	0	0	0	3126	578		656		633		1867	0	1867	678		657		687		711	2733	0	2733	0	7726	7726	7726		
				1.137		1.039		1.017		1.016		1.012										1.014		1.009		0.998						0.979		1.009		0.997		1.030							
+ Resid			0		0		0		0		0		0	0							0		0		0		0			0		0		0		0	0								0	0
2029-30	471	0.916	431		491		510		525		513		592	3063	0	3063	0	0	0	3063	605		583		655		1844	0	1844	620		684		655		708	2667	0	2667	0	7573	7573	7573		
				1.137		1.039		1.017		1.016		1.012										1.014		1.009		0.998						0.979		1.009		0.997		1.030							
+ Resid			0		0		0		0		0		0	0							0		0		0		0			0		0		0		0	0								0	0
2030-31	471	0.916	431		491		510		518		534		519	3003	0	3003	0	0	0	3003	601		611		582		1794	0	1794	641		625		682		675	2624	0	2624	0	7421	7421	7421		
				1.137		1.039		1.017		1.016		1.012										1.014		1.009		0.998						0.979		1.009		0.997		1.030							
+ Resid			0		0		0		0		0		0	0							0		0		0		0			0		0		0		0	0								0	0
2031-32	471	0.916	431		491		510		518		527		540	3017	0	3017	0	0	0	3017	527		606		609		1742	0	1742	570		647		623		703	2544	0	2544	0	7303	7303	7303		
Change # Students														-278		-250				-250						-245		-245								-203		-203				-698		
Change % Students														-8%		-8%				-8%						-12%		-12%								-7%		-7%				-9%		

KEY to Number Colors

- **99** Standard number with no modifications to methodology
- **99** Provisional, but uncertified births from the PA Department of Health
- **99** Births projected as an average of the prior 6 years, including provisional data…and projected students resulting from this "less accurat" average
- **99** Students per Grade Level added for residential development
- **99** Cumulative number of special education students to be brought back in-district, included in the count below it

The above information is prepared and certified by a qualified demographer.

Firm Name: Sundance Associates 117 Greenvale Ct. Cherry Hill NJ 08034

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Signature: George B Sundell Date:July 2, 2022

SUNDANCE

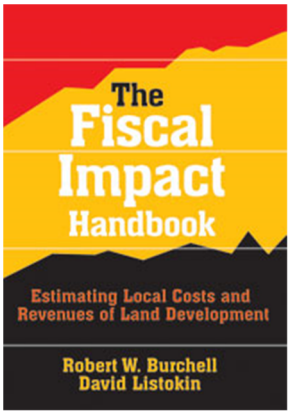
ESI ECONSULT SOLUTIONS INC.

2018 - Demographic Multipliers
Technical Appendix

June 2022

The purpose of this appendix is to provide technical information and reference to supplement the 2018 Custom Demographic School Multipliers for the region containing nine Pennsylvania PUMAs containing and surrounding Spring-Ford School District.

Traditional Residential Demographic Multipliers



In 1978, Professors Robert Burchell and David Listokin first formalized a method to develop demographic multipliers, using the Census Bureau raw records for the long form questionnaire (SF3), as well as American Housing Survey data. In 2006, funded by the Fannie Mae Foundation, Burchell and Listokin released a series of residential multipliers for each state. In the same year, Listokin et al. published several editions of "Who Lives in New Jersey Housing? (WLNJH)" which produced demographic multipliers at a regional, sub-state level. Both the Fannie Mae series and WLNJH utilize the 2000 census Public Use Microdata Sample (PUMS) records. Also, they both report three multipliers: AVHH (average size of household), SAC (school age children) and PSAC (public school age children). As noted, while the Fannie Mae series provides statewide multipliers, the WLNJH provides demographic multipliers for New Jersey, both statewide multipliers and three sub-state regions. It also contains sections of age-restricted communities, affordable housing, and non-residential multipliers.

Community Data Analytics Demographic Multipliers

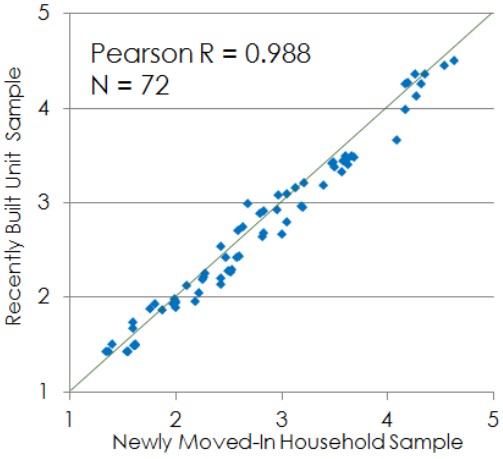
Community Data Analytics (CDA) has developed demographic multipliers using the 5-Year American Community Survey Public Use Microdata Sample (ACS-PUMS). The ACS-PUMS records are released every year, enabling CDA to update multipliers each year. Since the current CDA multipliers use the 2014-2018 ACS release, they reflect recent demographic changes. In contrast, both the Fannie Mae series and WLNJH base multiplier characteristics of households and housing units on data from the 1990s.

The PUMS records are reported at a level of geography called Public Use Microdata Area (PUMA) which is a geographical unit of at least 100,000 people. The usual population size ranges from 120,000 to 190,000. These records contain detailed responses by householders on each person in the household and the housing units in the ACS survey. CDA is able to apply variables for the time the householder moved in the unit, the year the unit was built, the age of each person, the grade level of students, and other attributes to develop samples and prepare a variety of demographic multipliers and planning ratios.

CDA also advances the methods of developing demographic multipliers at the local level. WLNJH attempted to provide locally specific multipliers by reporting three sets of multipliers by Northern, Central and Southern Jersey. However, because WLNJH samples recently built units, called the Recently Built Units Sample, its ability to provide statistically valid multipliers for smaller geographic units is limited by sample

size issues. The sample size is particularly insufficient during the period of the housing recession. Since the late 2000s, housing starts have dropped significantly and only recovered slowly in recent years.

To overcome the sampling problem, CDA developed a more significant sample based on household movement, called the Newly Moved-In Household Sample. This sample relies on the fact that relocating households can move into newly built units or older units, but in either case, these households are looking for similar housing services. These CDA multipliers are based on the Newly Moved-In Household Sample. That is, households that moved into their current housing unit less than four years ago for the 2014-2018 PUMS, the earliest moving year is 2010, i.e., four years before 2014. This newly moved-in household sample also includes housing units recently built. Since this sample is several times bigger than the recently built units, it makes the development of multipliers at the PUMA or PUMA aggregate level possible for most popular housing configurations.



2014 New Jersey State Level Scatterplot
Sources: Community Data Analytics (2018), based on 2000 Census and 2010-2014 5-Year ACS-PUMS

Also, the Newly Moved-In Household Sample has other advantages. Because it is less affected by housing market fluctuation than the Recently Built Unit Sample, the statistical validity of the multipliers is better. Second, multipliers from the Newly Moved-In Household sample show a more stable, long-term effect than those from the Recently Built Unit sample. Over time, units "recently" built will age and will be occupied by incoming households when the first occupying household moves out. The Newly Moved-In Household Samples better reflect the characteristics of the successive, replacement households.

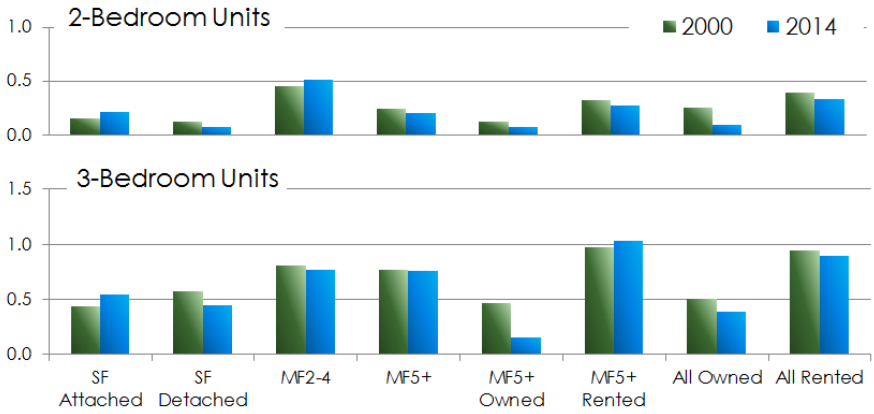
The empirical test to examine the difference or similarity between the estimated multipliers from these two samples indicates that they are almost identical. The Pearson R of 72 pairs of multipliers for 2014 New Jersey data is 0.988.

Demographic Shifts

Over the last two decades, America has experienced a real estate bubble and a deep recession that have transformed the homebuilding industry and home buying preferences. America is also aging as baby-boomers are retiring and moving away from big suburban homes. Concurrently, echo-boomers have all been entering the labor market and in their prime time of family formation.

At the national level, between 2000 and 2010, the average size of households (AVHH) for all occupied units declined in 40 states and DC but grew in Nevada, California, Florida, Delaware, and Texas. It remained unchanged in New Jersey, Maryland, Virginia, Oklahoma, and Tennessee.

For example, in New Jersey, the estimated AVHH for all occupied units as reported in the 2015 1-Year ACS is 2.75, in comparison with 2.68 reported in the 2010 Census. The average SAC for all occupied units is almost identical between 2010 and 2015. In other words, New Jersey did not follow most states, which experienced a declining trend in AVHH and SAC. We also note that at the state level; the absolute number of SAC has been slightly declining. The constant ratio of SAC per all occupied units indicates that the number of households is growing more slowly than the majority of other states.



School-Age Children per Unit, Recently Built Unit Sample
Sources: Community Data Analytics (2018), based on 2000 Census and 2010-2014 5-Year ACS-PUMS

The chart on the right illustrates the changes in New Jersey SAC overtime. The chart shows that even if the overall SAC may not change, there is significant reconfiguration among housing types. SAC ratio for either 2 or 3 bedroom townhomes is growing, in contrast to the decline in single-family detached units. There are increases in 2-bedroom multi-family (2-4 units) structures as well as 3-bedroom rented multi-family (5+ units) structures.

Public School-Age Children, Public School Children, or Public School Attendees?

The terms Public School-Age Children (PSAC) and Public School Children (PSC) deserve a technical discussion. The WLNJH and the Fannie Mae series report PSAC or PSC with grade cohort differentiation at the state level. However, the public school participation rate is specific to local school districts. Many factors affect the local rate, including the quality of the public school service, the religious and faith preference, and the income of the residents. Thus, a statewide PSAC or PSC ratio has one fundamental assumption that public school participation rate is uniform throughout the state. Impact analysts should avoid using the statewide PSAC or PSC to minimize estimation biases. While not ideal, a better method is to apply the local public school participation rate to the statewide SAC ratio for the relevant housing configuration.

Estimation bias can be reduced if the PSAC or PSC ratio is computed only for a small geography. As a result, CDA factors the local – not the statewide – public school participation rate into the multipliers. So far, only CDA can provide demographic multipliers at the very local level.

The technical documentation of the WLNJH and the Fannie Mae series does not provide a detailed specification of the PUMS variables used in deriving PSAC and PSC. Because WLNJH and the Fannie Mae multipliers are grade cohort differentiated, public school attendance and grade level variables were likely used. However, it is unclear if the WLNJH and the Fannie Mae series restrict estimates of public school attendees just to SAC, defined as age 5 to 17. Because a school age child can be home-schooled, attending

private or parochial school, public school, or for other reasons, not in the school systems, a public school attendee can be outside the age range of 5 to 17. For example, in rare cases, a public school system may serve students over 18 years old.

To accurately estimate the full school impact, CDA uses local Public School Attendees (PSA) instead of PSAC or SAC. Consequently, CDA captures the full impact on the public school system.

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Variables in Analysis

Public School Attendees (PA 9-PUMA region)

- Public school age children
  - Kindergarten – Grade 5
  - Grade 6 – Grade 8
  - Grade 9 – Grade 12
- Housing Configurations
  - Single Family Owner-Occpied
    - 2 bedrooms
    - 3 bedrooms
    - 4 bedrooms
  - Single Family Detatched
    - 3 bedrooms
    - 4 bedrooms
  - Single Family Attached
    - 2 bedrooms
    - 3 bedrooms
  - Multi Family Owner-Occupied
    - 1 bedroom
    - 2 bedrooms
    - 3 bedrooms
  - Multi Family Renter-Occupied
    - 1 bedroom
    - 2 bedrooms
    - 3 bedrooms

PUMAs in Analysis

PUMA ID	PUMA Name
3101	Montgomery County (Northwest)--Pottstown Borough
3102	Montgomery County (Northeast)--Lansdale Borough
3104	Montgomery County (Central)--Norristown Borough
3001	Bucks County (North)
3105	Montgomery County (Southeast)--Willow Grove, Horsham & Montgomeryville
2703	Berks County (East)
3402	Chester County (East Central)--West Chester Borough
3401	Chester County (North)--Phoenixville Borough
3103	Montgomery County (Southwest)--King of Prussia & Ardmore (East

*Spring-Ford School District is located within PA PUMA 3101.