

ONTEORA CENTRAL SCHOOL DISTRICT

ENROLLMENT PROJECTION *2017-2026*

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Grand Total Enrollment Projection - Live Births

INTRODUCTION

The following enrollment projection has been prepared by FACTS at the request of the Onteora Central School District.

Data and information from the following sources were utilized in compiling this report:

- School District
- United States Census Bureau
- New York State Department of Health
- Local Building Inspector(s)

FACTS has utilized diligent research and generally accepted formulas and procedures in preparing these projections. It must be recognized, however, that given the many variables comprising such projections, that caution must be exercised in the interpretation and application of these projections. A thorough review for accuracy of the data contained in this report should be conducted by the school district and prompt notification of any discrepancies provided to FACTS for correction.

PROJECTION METHODOLOGY

The Cohort Survival Method has been used in preparing these projections. This formula has proven to be highly reliable and is used extensively for enrollment projections for school districts in New York State.

The calculation of enrollment projections is based on the following data and procedures:

- Six years of actual district enrollment by grade
- Calculation of the survival ratios by grade level
- Projection of kindergarten enrollment based on resident live births

The survival ratio expresses a quantitative relationship between the numerical size of a grade in a given year in comparison to the size of the next lower grade in the previous year. The number of students in a grade in a given year is divided by the number of students in the next lower grade in the previous year (i.e.; Grade 5 in 2013 divided by Grade 4 in 2012). If the quotient is greater than 1.0, the number of students has increased; conversely, if the quotient is less than 1.0, the number of students has decreased. Five years of actual survival ratios are calculated for each grade 1-12 and the five-year average is determined. This average is then applied by grade to determine the ten-year projected enrollment for each grade 1-12.

The calculation of projected kindergarten enrollment is based on the analysis of resident live birth data. A ten-year history of live birth data is collected. Each of the first five years of live birth data is compared to the actual kindergarten enrollment five years hence and the survival ratio is calculated (i.e.; 2007 live births to 2012 kindergarten enrollment, etc.). The five annual survival ratios are averaged and that average is applied to the next five years of live birth data to obtain the first five years of annual projected kindergarten enrollment (i.e.; 2012-2016 live births to project 2017-2021 kindergarten enrollments). For purposes of providing a ten-year enrollment projection, the kindergarten enrollment is projected for the last five years of the projection at the same number appearing in the fifth year.

In addition, the following factors which could potentially impact these projections are also researched and analyzed:

- Significant changes in residential construction
- Major changes in the local employment base
- Shifts in the non-public school population

The reliability of any enrollment projection must clearly be understood. Projections based on current and historical actual enrollments are the most reliable. Those based on historical live birth data are somewhat less reliable. In addition, the time frame and subset of the projections also play an important part in the reliability. Projections for the immediate future will be more reliable than those in later years, for example. Projections for the total K-12 district enrollment will also be more reliable than those for any particular grade in any given year. Therefore, these projections should be updated annually to reflect the latest live birth and actual enrollment data.

For the purposes of this study, data for the Towns of Hurley, Olive, Shandaken and Woodstock have been researched.

Annual Updates: Annual updates of original projections prepared by FACTS are limited to the collection and research of the following information:

- Live births
- District enrollment
- District non-public school enrollment

The collection of information regarding future residential construction programs are not included in the annual update pricing fee.

DEMOGRAPHIC DATA

POPULATION TRENDS:

Table I reflects the population data from the 1990, 2000 and 2010 census as provided by the U.S. Census Bureau. The Towns of Hurley and Woodstock experienced a minimal decline in population between 1990 and 2000 and continued to lose population between 2000 and 2010. The Towns of Olive and Shandaken experienced moderate increases in population between 1990 and 2000 and both lost population between 2000 and 2010. Ulster County experienced moderate growth between 1990 and 2000 and a minimal gain between 2000 and 2010. Since these trends are already reflected in the District's historical enrollments, no adjustments to the projection formulas are necessary.

TABLE I POPULATION TRENDS						
Town/Village	1990	2000	1990-00 % Change	2010	2000-10 % Change	1990-10 % Change
Hurley	6,741	6,564	-2.63	6,314	-3.81	-6.34
Olive	4,086	4,579	12.07	4,419	-3.50	8.15
Shandaken	3,013	3,235	7.37	3,085	-4.64	2.39
Woodstock	6,290	6,241	-0.78	5,884	-5.72	-6.46
Ulster County	165,304	177,749	7.53	182,493	2.67	10.40

Source: U.S. Census Bureau

RESIDENT LIVE BIRTHS:

Table II shows the actual number of resident live births for the nine-year period 2007-15. For 2016 the total of 81 is estimated at the average for 2013 through 2015.

TABLE II RESIDENT LIVE BIRTHS										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016*
District	113	96	94	84	78	75	85	83	74	81

* Estimated
Source: New York State Department of Health

RESIDENTIAL HOUSING UNITS:

Table III reflects the number of building permits issued for new single family home residential construction by town for the past five years. The number of permits issued as shown in the table are the most recent available.

The results of discussions with the building inspectors are as follows:

Town of Hurley - Glenn Hoffstatter projects new residential construction to continue at the level of the past.

Town of Olive - Domenick Covello expects new residential construction at 2014-2015 level for the next twelve to twenty four months.

Town of Shandaken - There is no building inspector for the town.

Town of Woodstock -.Ellen Casciaro also predicts new residential construction to continue at current rate for the next twelve to twenty four months.

Based on these findings, there is no reason to adjust the formulas.

TABLE III RESIDENTIAL HOUSING UNITS						
Town/ Village	2011	2012	2013	2014	2015	Average
Hurley	6	4	3	2	6	4
Olive	0	0	2	10	9	4
Shandaken	0	0	2	10	8	4
Woodstock	11/52*	7	6	9	3	7
TOTAL*	17*	10	11	21	26	19*

*Excludes the fifty-two apartments

NONPUBLIC SCHOOL ENROLLMENT:

Table IV reflects this District's non-public school enrollment for a five-year period and has averaged 161 students per year plus the home schooled.. Any major change in this pattern may require a recalculation of the projection.

TABLE IV NONPUBLIC SCHOOL ENROLLMENT					
2012-13	2013-14	2014-15	2015-16	2016-17	5 Year Average
170	157	163	160	157/30*	161

* Home schooled

ENROLLMENT PROJECTIONS

HISTORICAL ENROLLMENT:

Table V depicts the district's actual enrollment by grade level for a six-year period. The grade by grade survival ratios shown in Table VI were calculated from this information.

TABLE V HISTORICAL ENROLLMENT						
Grade	2011-12	2012-13	2013-14	2014-5	2015-16	2016-17
Pre-Kindergarten	36	22	23	43	34	43
Kindergarten	86	116	98	88	80	79
First	86	81	128	91	91	90
Second	112	85	93	124	94	88
Third	115	106	96	99	130	93
Fourth	91	121	105	94	94	129
Total Pre K-4	526	531	543	539	523	522
% Change	0.00	0.95	2.26	-0.74	-2.97	-0.19
Fifth	109	86	120	111	90	94
Sixth	101	102	100	120	105	90
Seventh	105	105	106	102	129	107
Eighth	110	106	106	101	107	127
Total 5-8	425	399	432	434	431	418
% Change	-4.71	-6.12	8.27	0.46	-0.69	-3.02
Ninth	125	114	118	113	106	109
Tenth	138	114	109	108	106	105
Eleventh	136	132	120	102	106	103
Twelfth	141	129	136	115	99	103
Total 9-12	540	489	483	438	417	420
% Change	-7.69	-9.44	-1.23	-9.32	-4.79	0.72
Total Pre K-12	1,491	1,419	1,458	1,411	1,371	1,360
% Change	-4.24	-4.83	2.75	-3.22	-2.83	-0.81
Ungraded Elem	0	0	0	0	0	10
Ungraded Sec	0	0	0	0	0	30
Grand Total	1,491	1,419	1,458	1,411	1,371	1,400
% Change	-4.36	-4.83	2.75	-3.22	-2.83	2.12

SURVIVAL RATIOS:

The district's historical loss or gain of students from one grade level to the next grade level is reflected in Table VI. These ratios reflect the number of students in a particular grade in one year as compared to the number of students in the next higher grade in the following year. A ratio higher than 1.0 indicates a gain in students and conversely a ratio of less than 1.0 reflects a loss of students. These ratios, by grade level, were calculated individually for a five-year period and the five-year average for each grade level determined. The five-year average was then used to project future enrollments for each grade level.

TABLE VI SURVIVAL RATIOS						
Grade	2012-13	2013-14	2014-15	2015-16	2016-17	5-Year Average
K-1	0.9419	1.1034	0.9286	1.0341	1.1250	1.0266
1-2	0.9884	1.1481	0.9688	1.0330	0.9670	1.0211
2-3	0.9464	1.1294	1.0645	1.0484	0.9894	1.0356
3-4	1.0522	0.9906	0.9792	0.9495	0.9923	0.9927
4-5	0.9451	0.9917	1.0571	0.9574	1.0000	0.9903
5-6	0.9358	1.1628	1.0000	0.9459	1.0000	1.0089
6-7	1.0396	1.0392	1.0200	1.0750	1.0190	1.0386
7-8	1.0095	1.0095	0.9528	1.0490	0.9845	1.0011
8-9	1.0364	1.1132	1.0660	1.0495	1.0187	1.0568
9-10	0.9120	0.9561	0.9153	0.9381	0.9906	0.9424
10-11	0.9565	1.0526	0.9358	0.9815	0.9717	0.9796
11-12	0.9485	1.0303	0.9583	0.9706	0.9717	0.9759

PROJECTED KINDERGARTEN ENROLLMENT:

The annual ratios were calculated for a five-year period reflecting the ratio between the actual kindergarten enrollment in each year and the number of live births in each of the preceding five years (i.e.; 2012 actual kindergarten enrollment to 2007 live births, etc.). The five-year average was calculated and applied to the most recent five years of live births to project the subsequent five years of kindergarten enrollment for each projection. Years six through ten of kindergarten enrollment were projected at the same number as the fifth projected year.

TABLE VII PROJECTED KINDERGARTEN ENROLLMENT - LIVE BIRTHS						
Year	Live Births	Year	K-Enroll	Birth/K Ratio	Year	Projected K-En
2007	113	2012	116	1.0265		
2008	96	2013	98	1.0208		
2009	94	2014	88	0.9362		
2010	84	2015	80	0.9524		
2011	78	2016	79	1.0128		
FIVE-YEAR AVERAGE SURVIVAL RATIO				0.9898		
2012	75				2017	74
2013	85				2018	84
2014	83				2019	82
2015	74				2020	73
2016	81*				2021	80
					2022	80
					2023	80
					2024	80
					2025	80
					2026	80

* Estimated

TEN-YEAR ENROLLMENT PROJECTION:

Table VIII provides a summary by grade groupings of the projections shown in Table IX comparing the projected fifth and tenth years to the base year of 2016-17.

Since there is no methodology for projecting pre-kindergarten and attendance is not mandatory and is often dictated by staff, space and /or financial resources, we have projected a constant at the 2013 through 2015 average of 33. Pre-kindergarten are included in the Pre-K - 4 and Pre-K- 12.

There is also no methodology for projecting ungraded students so we have projected them at the 2016-17 actual of 10 elementary and 30 secondary students. They are included in the Grand Total only.

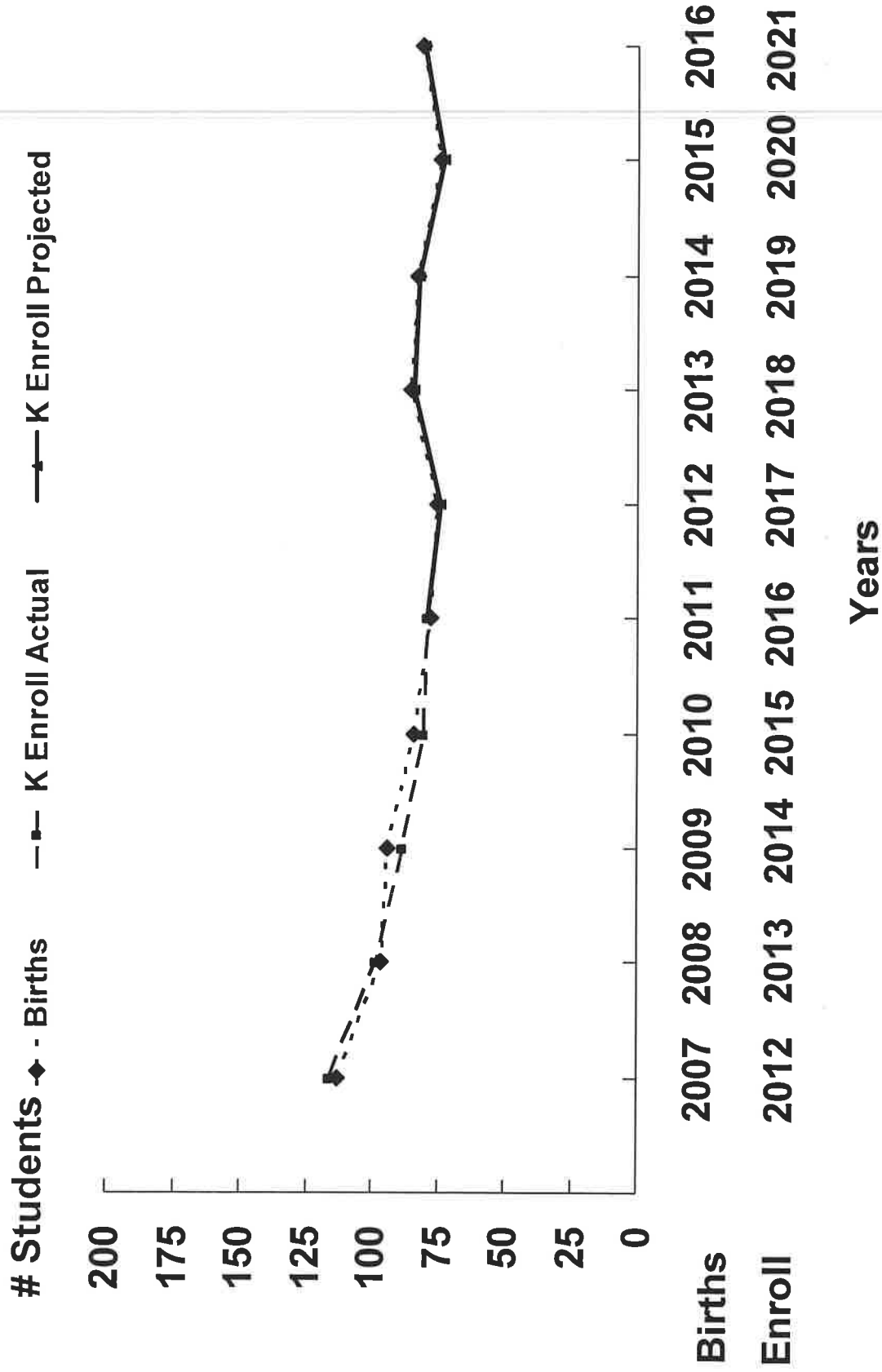
TABLE VIII ENROLLMENT PROJECTION SUMMARY					
	2016-17	2021-22	% Change	2026-27	% Change
Pre-K-4					
Live Births	522	445	-14.75	452	-13.41
5-8					
Live Births	418	367	-12.20	348	-16.75
9-12					
Live Births	420	432	2.86	360	-14.29
Pre-K-12					
Live Birth	1,360	1,244	-8.53	1,160	-14.71
Grand Total					
Live Births	1,400	1,284	-8.29	1,200	-14.29

**TABLE IX
TEN-YEAR ENROLLMENT PROJECTION - LIVE BIRTHS**

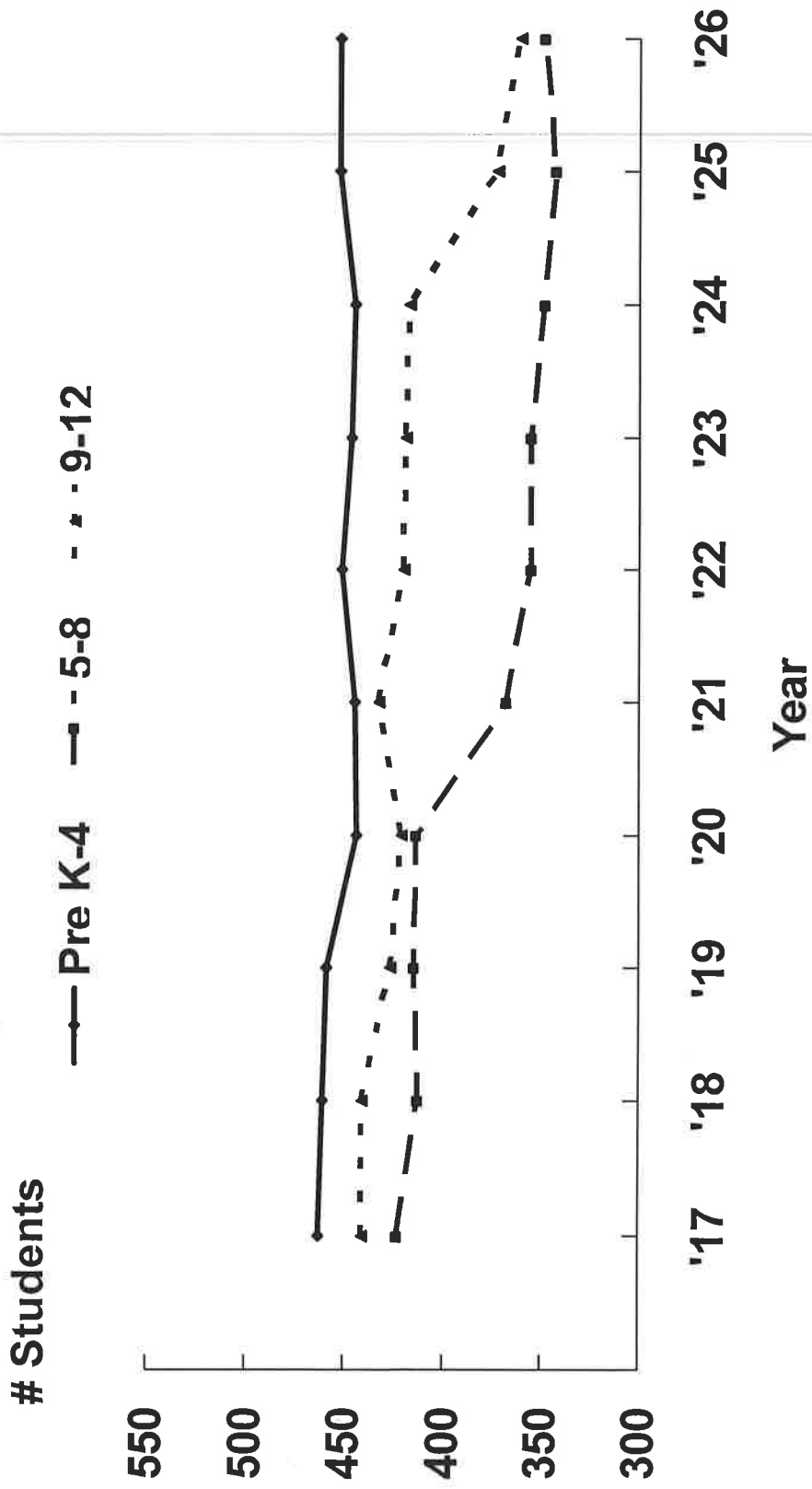
Grade	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Pre- Kindergarten	33	33	33	33	33	33	33	33	33	33
Kindergarten	74	84	82	73	80	80	80	80	80	80
First	81	76	86	84	75	82	82	82	82	82
Second	92	83	78	88	86	77	84	84	84	84
Third	91	95	86	81	91	89	80	87	87	87
Fourth	92	90	94	85	80	90	88	79	86	86
Total Pre K-4	463	461	459	444	445	451	447	445	452	452
% Change	-16.13	-0.43	-0.43	-3.27	0.23	1.35	-0.89	-0.45	1.57	0.00
Fifth	128	91	89	93	84	79	89	87	78	85
Sixth	95	129	92	90	94	85	80	90	88	79
Seventh	93	99	134	96	93	98	88	83	93	91
Eighth	107	93	99	134	96	93	98	88	83	93
Total 5-8	423	412	414	413	367	355	355	348	342	348
% Change	1.20	-2.60	0.49	-0.24	-11.14	-3.27	0.00	-1.97	-1.72	1.75
Ninth	134	113	98	105	142	101	98	104	93	88
Tenth	103	126	106	92	99	134	95	92	98	88
Eleventh	103	101	123	104	90	97	131	93	90	96
Twelfth	101	101	99	120	101	88	95	128	91	88
Total 9-12	441	441	426	421	432	420	419	417	372	360
% Change	5.00	0.00	-3.40	-1.17	2.61	-2.78	-0.24	-0.48	-10.80	-3.23
Total Pre K-12	1,327	1,314	1,299	1,278	1,244	1,226	1,221	1,210	1,166	1,160
% Change	-2.43	-0.98	-1.14	-1.62	-2.66	-1.45	-0.41	0.90	-3.64	-0.51
Ungraded Elem	10	10	10	10	10	10	10	10	10	10
Ungraded Sec	30	30	30	30	30	30	30	30	30	30
Grand Total	1367	1354	1339	1318	1284	1266	1261	1250	1206	1200
% Change	-2.36	-0.95	-1.11	-1.57	-2.58	-1.40	-0.39	-0.87	-3.52	-0.50

Live Births vs Kindergarten Enrollment Comparison

Baseline Projection



Enrollment Projection Breakdown Based on Live Births



Pre K-12 Enrollment Projection Based on Live Births

