

ONTEORA CENTRAL SCHOOL DISTRICT

ENROLLMENT PROJECTION 2015-2024

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Live Births vs Kindergarten Enrollment - Live Births Base Projection

Enrollment Projection Breakdown - Live Births (K-4, 5-8, 9-12)

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 2010 divided by Grade 4 in 2009). 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.; 2005 live births to 2010 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.; 2010-2014 live births to project 2015-2019 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 2005-13. For 2014 the total of 81 is estimated at the average for 2010 through 2013. The decline in resident live births since 2010 will result in lower kindergarten projections through 2023.

TABLE II RESIDENT LIVE BIRTHS										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014*
District	90	98	113	96	94	84	78	75	85	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 results of discussions with the building inspectors are as follows:

Town of Hurley - They expect the level of new residential construction to remain at historical levels

Town of Olive - They also expect the level of new residential construction to remain at historical levels

Town of Shandaken - There is not a building inspector appointed at this time. It appears that the department is in the process of a major reorganization.

Town of Woodstock -The office had "no comment"

TABLE III RESIDENTIAL HOUSING UNITS						
Town/ Village	2009	2010	2011	2012	2013	Average
Hurley	2	0	6	4	3	5
Olive	3	8	0	0	2	4
Shandaken	5	N/R	0	N/R	N/R	N/R
Woodstock	13	8	63**	7	6	21
TOTAL*	23	16	69	10	11	26*

* Average for 2009-2013 totals

**Eleven single family homes and fifty-two apartments.

NONPUBLIC SCHOOL ENROLLMENT:

Table IV reflects this District's non-public school enrollment for a five-year period and has averaged 164 students per year. Any major change in this pattern may require a recalculation of the projection.

TABLE IV NONPUBLIC SCHOOL ENROLLMENT					
2010	2011	2012	2013	2014	5 Year Average
158	170	170	157	163	164

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	2009	2010	2011	2012	2013	2014
Pre-Kindergarten	29	26	36	22	23	43
Kindergarten	108	77	86	116	98	88
First	120	114	86	81	128	91
Second	103	108	112	85	93	124
Third	105	94	115	106	96	99
Fourth	106	107	91	121	105	94
Total Pre K-4	571	526	526	531	543	539
% Change	-1.04	-7.88	0.00	0.95	2.26	-0.74
Fifth	118	98	109	86	120	111
Sixth	112	111	101	102	100	120
Seventh	118	114	105	105	106	102
Eighth	155	123	110	106	106	101
Total 5-8	503	446	425	399	432	434
% Change	-5.45	-11.33	-4.71	-6.12	8.27	0.46
Ninth	150	154	125	114	118	113
Tenth	148	139	138	114	109	108
Eleventh	158	147	136	132	120	102
Twelfth	143	145	141	129	136	115
Total 9-12	599	585	540	489	483	438
% Change	-11.52	-2.34	-7.69	-9.44	-1.23	-9.32
Total Pre K-12	1,673	1,557	1,491	1,419	1,458	1,411
% Change	-5.27	-6.94	-4.24	-4.83	2.75	-3.22
Ungraded Elem	2	0	0	0	0	0
Ungraded Sec	5	2	0	0	0	0
Grand Total	1,680	1,559	1,491	1,419	1,458	1,411
% Change	-5.94	-7.20	-4.36	-4.83	2.75	-3.22

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	2010	2011	2012	2013	2013	5-Year Average
K-1	1.0556	1.1169	0.9419	1.1034	0.9286	1.0293
1-2	0.9000	0.9825	0.9884	1.1481	0.9688	0.9975
2-3	0.9126	1.0648	0.9464	1.1294	1.0645	1.0236
3-4	1.0190	0.9681	1.0522	0.9906	0.9792	1.0018
4-5	0.9245	1.0187	0.9451	0.9917	1.0571	0.9874
5-6	0.9407	1.0306	0.9358	1.1628	1.0000	1.0140
6-7	1.0179	0.9459	1.0396	1.0392	1.0200	1.0125
7-8	1.0424	0.9649	1.0095	1.0095	0.9528	0.9958
8-9	0.9935	1.0163	1.0364	1.1132	1.0660	1.0451
9-10	0.9267	0.8961	0.9120	0.9561	0.9153	0.9212
10-11	0.9932	0.9784	0.9565	1.0526	0.9358	0.9833
11-12	0.9177	0.9592	0.9485	1.0303	0.9583	0.9628

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.; 2010 actual kindergarten enrollment to 2005 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
2005	90	2010	77	0.8556		
2006	98	2011	86	0.8776		
2007	113	2012	116	1.0265		
2008	96	2013	98	1.0208		
2009	94	2014	88	0.9362		
FIVE-YEAR AVERAGE SURVIVAL				0.9433		
2010	84				2015	79
2011	78				2016	74
2012	75				2017	71
2013	85				2018	80
2014	81*				2019	76
* Estimated					2020	76
					2021	76
					2022	76
					2023	76
					2024	76

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 2014.

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 2011-2014 average of students of thirty-one. Pre-kindergarten are included in the Pre-K - 4 and Pre-K- 12.

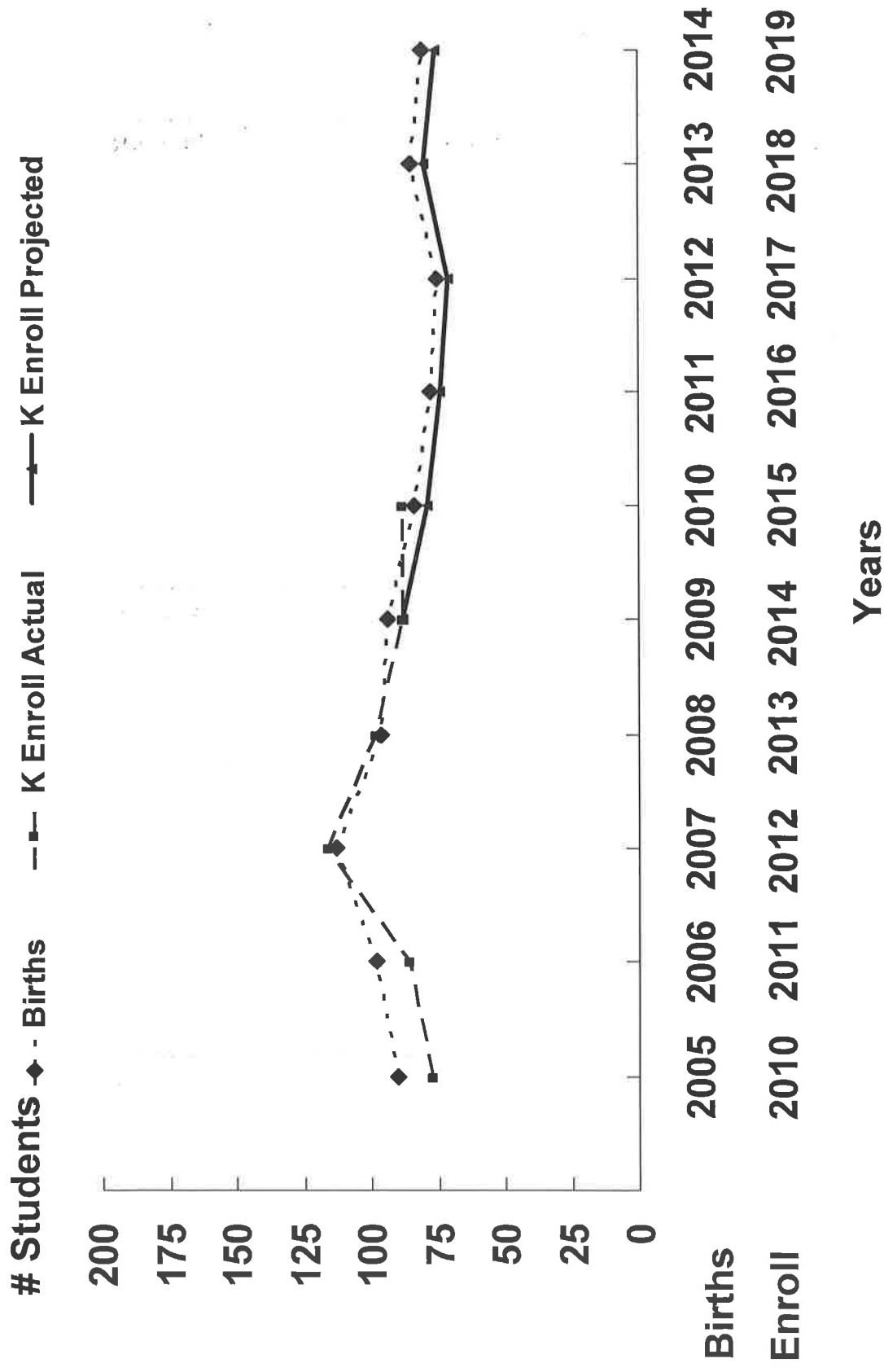
TABLE VIII ENROLLMENT PROJECTION SUMMARY					
	2014	2019	% Change	2024	% Change
Pre-K-4					
Live Birth	539	423	-21.53	423	-21.53
5-8					
Live Birth	434	414	-4.61	318	-26.73
9-12					
Live Birth	438	416	-5.03	383	-12.56
Pre-K-12					
Live Birth	1,411	1,253	-11.20	1,124	-20.34

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

Grade	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Pre- Kindergarten	31	31	31	31	31	31	31	31	31	31
Kindergarten	79	74	71	80	76	76	76	76	76	76
First	91	81	76	73	82	78	78	78	78	78
Second	91	91	81	76	73	82	78	78	78	78
Third	127	93	93	83	78	75	84	80	80	80
Fourth	99	127	93	93	83	78	75	84	80	80
Total Pre K-4	518	497	445	436	423	420	422	427	423	423
% Change	-3.90	-4.05	-10.47	-2.02	-2.98	-0.71	0.48	1.18	-0.94	0.00
Fifth	93	98	125	92	92	82	77	74	83	79
Sixth	113	94	99	127	93	93	83	78	75	84
Seventh	122	114	95	100	129	94	94	84	79	76
Eighth	102	121	114	95	100	128	94	94	84	79
Total 5-8	430	427	433	414	414	397	348	330	321	318
% Change	-0.92	-0.70	1.41	-4.39	0.00	-4.11	-12.35	-5.17	-2.73	-0.93
Ninth	106	107	126	119	99	105	134	98	98	88
Tenth	104	98	99	116	110	91	97	123	90	90
Eleventh	106	102	96	97	114	108	89	95	121	88
Twelfth	98	102	98	92	93	110	104	86	91	117
Total 9-12	414	409	419	424	416	414	424	402	400	383
% Change	-5.48	-1.21	2.44	1.19	-1.89	-0.48	2.42	-5.19	-0.50	-4.25
Total Pre K-12	1,362	1,333	1,297	1,274	1,253	1,231	1,194	1,159	1,144	1,124
% Change	-3.47	-2.13	-2.70	-1.77	-1.65	-1.76	-3.01	-2.93	-1.29	-1.75

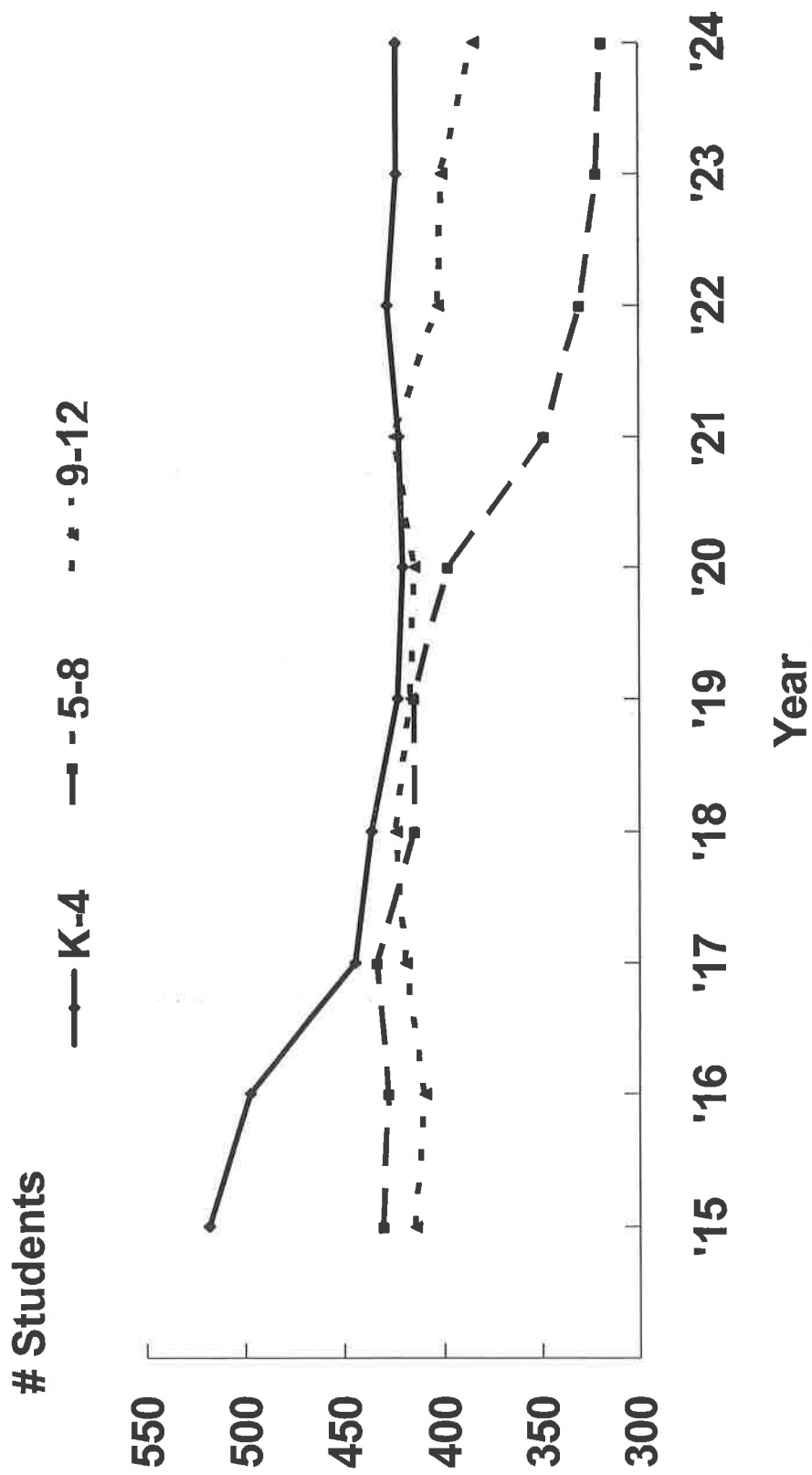
Live Births vs Kindergarten Enrollment Comparison

Baseline Projection



Enrollment Projection Breakdown

Based on Live Births



K-12 Enrollment Projection

Based on Live Births

