

Enrollment Projections for ORCSD, 2013-2023

Long Range Planning Committee

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Enrollment Projections Report 2013-2023

- Describe LRPC Purpose and Methodology
- Present the ten year enrollment projections
- Provide Elementary Enrollment projections by School
- Provide High School projections to 2025.
- Questions and Discussion

Summary of LRPC Goals

- Provide the School Board with enrollment projections for each of the next 10 years.
- Make every effort to provide projections for the following school year in the fall when they can be used in the budgeting process.
- Continually improve and refine the model used to make enrollment projections.

Enrollment Up this Year, But Decline Will Resume

- Peak enrollment was 2,393 in 2000
- 2013-14 (excluding tuition) is 1,988
 - *Decline over 13 years was 405*
- Projected 2023-24 (excluding tuition) 1,649
 - *Decline over 10 years projected to be 339*
- Projected 2023-24 with current Barrington tuition arrangement 1,732

Suddenly, Last Summer...

- Many more students moved in than out.
- Most of the new students were in Elementary and Middle School grades.
- Moharimet saw a greater number of net move-ins than Mast Way.
- This put more students into the grades below HS and it raised grade progression ratios.
- Births rose from a low of 69 in year ending 10/31/2012 to 81 in year ending 10/1/ 2013.

How This Changes the Projections

- Projected total enrollment to stay around 2,000 students for five years.
- Declines resume in 2018-2019, driven by lower birth rates.
- Overall rate of decline is slower because grade progression ratios are higher.
- Increase at HS in next five years as Middle Schoolers move up.

Methodology

- Kindergarten and Grade 1

Historical and projected births and enrollment trends are used to project the number of students (using linear regression).

- Grades 2 – 12

Grade Progression Ratios (GPRs) are used to forecast the number of students.

Projections for Grades 2-12

- Calculate GPR's for each grade and year.
- Find the 5-year average GPR for each grade.
- Apply average GPRs to actual and predicted enrollments to predict enrollments into the future.
- Takes into account the net migration (in-migration and out-migration) over time and by grade.

What is a “Grade Progression Ratio?”

Number of students in grade J and year t

+

Add students who move to ORSD in grade J+1 and year t+1

-

Subtract students who leave ORSD before grade J+1 and year t+1

=

Number of students in grade J+1 and year t+1

A numerical example:

200 students in 5th grade in 2012

+ 10 new students join ORSD at the 6th grade for 2013

-5 students leave ORSD before 6th grade in 2013

= 205 students in 6th grade in 2014

GPR (5th to 6th = $205/200 = 1.025$)

GPRs Account for Net New Students

- More families with children moving in than moving out. (5 year average used)
- All GPRs are in the range of 1.01 – 1.05 except High School, which is impacted by tuition students coming in and native students going to private schools.

Elementary School Split

- Historical ratios used to estimate K and grade 1 split between the schools.
- GPR for each elementary school is used to project grades 2-4 based on projections for grades 1-3 at that school.
- Change in methodology – Different GPRs used for Moharimet and Mast Way.
- Future housing changes and redistricting are not reflected in the projected elementary split.

Projection Range (Plus and Minus)

- Historical LRPC Projections 1994 – 2012 (19 years of forecasts, each predicting 10 future years)
- Subtract Actual Enrollment for each predicted year
- Take the absolute value of the difference and divide by the actual enrollment figure to get a percentage.
- Find the average percentage difference for each forecast horizon (1 to 10 years out).

The Projections



**Enrollment Projections Summary
For Oyster River School District
Preliminary October 1, 2013-14 Actual to 2023-24 Projected**

Average Absolute Error of Estimate

Percent Error

Year	K	1-4	5-8	9-12	Total	To Total	
2013-14	99	601	682	676	2058	Actual Year	
2014-15	108	601	680	696	2085	One Year Out	1.7%
2015-16	107	582	689	688	2067	Two Years Out	2.5%
2016-17	89	573	665	740	2067	Three Years Out	3.3%
2017-18	83	518	665	753	2019	Four Years Out	4.7%
2018-19	89	471	664	750	1974	Five Years Out	6.1%
2019-20	91	441	644	759	1935	Six Years Out	7.6%
2020-21	94	414	634	733	1875	Seven Years Out	9.0%
2021-22	92	415	573	734	1813	Eight Years Out	10.5%
2022-23	92	428	521	733	1774	Nine Years Out	13.0%
2023-24	96	439	488	710	1732	Ten Years Out	15.8%


Elementary School Projections

LRPC Projections based on October 1, 2013 Enrollment

Mast Way Projections							Moharimet Projections							Total
						MW						MOH	Total	
	<u>K</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>Total</u>	<u>K</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>Total</u>	<u>Both</u>	
2013-14	42	66	50	74	61	293	57	91	89	78	92	407	700	
2014-15	47	61	68	50	75	301	60	81	94	93	80	408	709	
2015-16	47	54	63	67	50	281	58	72	84	99	96	409	690	
2016-17	39	54	56	62	68	279	49	71	74	88	101	383	662	
2017-18	36	45	55	55	63	254	46	59	74	78	90	347	601	
2018-19	39	42	46	55	56	238	49	55	61	77	80	322	560	
2019-20	40	42	43	46	55	226	51	55	57	64	79	306	532	
2020-21	41	43	43	43	46	216	52	57	57	60	66	292	508	
2021-22	41	45	44	43	43	216	51	60	59	60	61	291	507	
2022-23	40	47	46	44	43	220	51	63	62	62	62	300	520	
2023-24	42	46	48	46	44	226	53	62	65	65	64	309	535	

HS Tuition Students in Projection

HS Tuition Students

	<u>Year</u>	<u>Grade 9</u>	<u>Grade 10</u>	<u>Grade 11</u>	<u>Grade 12</u>	<u>Tuition Total</u>	<u>HS Total Without Tuition</u>
Actual							
	2013	23	18	17	12	70	606
	2014	23	24	17	17	82	614
	2015	22	25	23	18	88	600
	2016	25	23	25	24	97	643
	2017	26	27	22	25	99	654
	2018	23	26	26	23	99	651
	2019	24	24	26	26	101	658
	2020	22	24	23	26	96	637
	2021	26	22	24	24	97	637
	2022	23	26	22	24	96	637
	2023	21	24	26	13	84	626
	2024	21	21	23	26	91	606
	2025	17	21	21	25	83	547

HS Enrollment from District

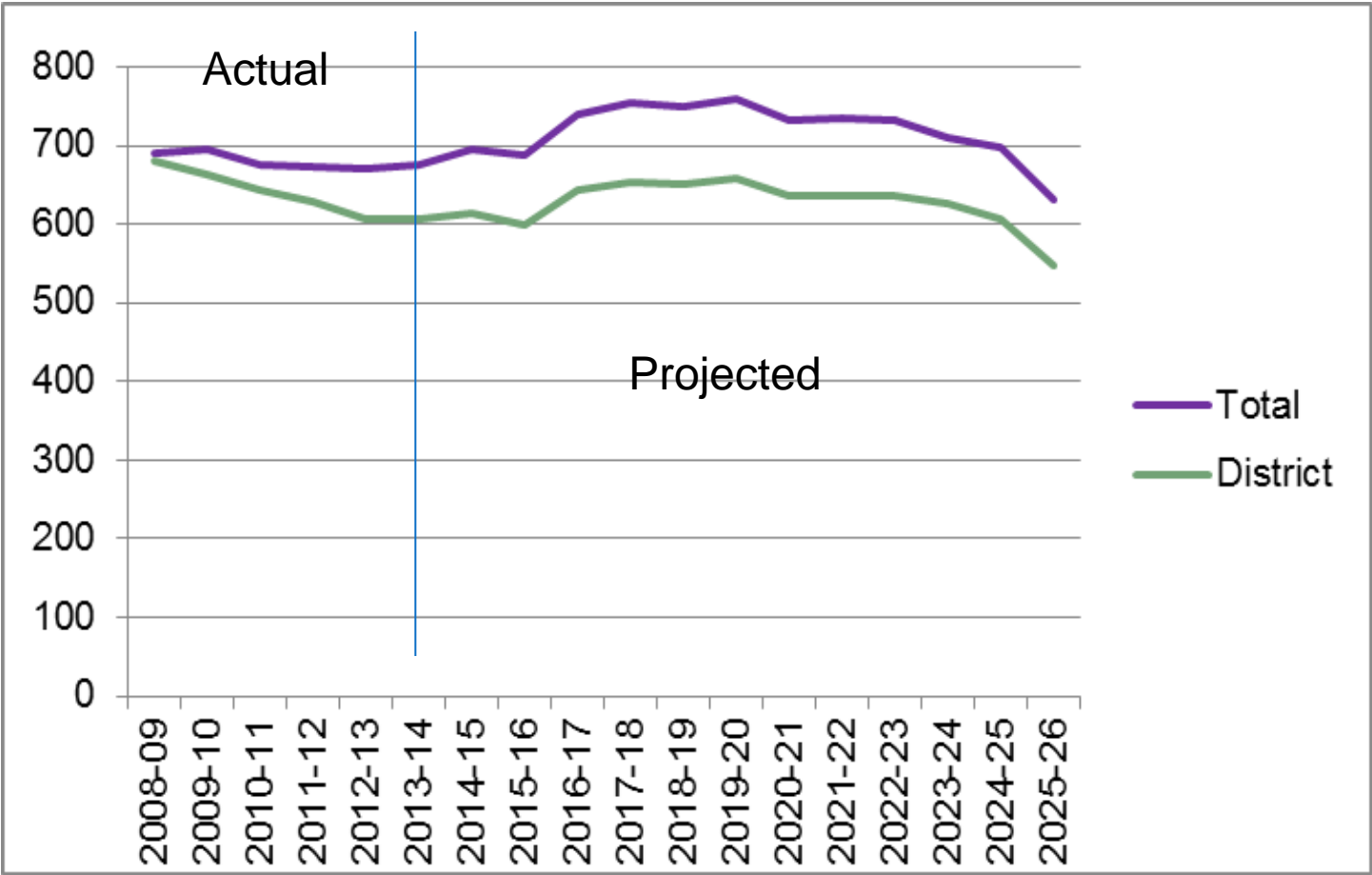
Oyster Rive HS Enrollment

Actual Years

Actual and Projections Without Tuition

Grade	9	10	11	12	Total
2008	149	169	182	180	680
2009	165	150	165	182	662
2010	160	165	148	170	643
2011	154	160	165	150	629
2012	129	161	154	162	606
2013	161	128	164	153	606
2014	160	162	127	165	614
2015	151	161	161	127	600
2016	171	152	159	161	643
2017	171	172	151	160	654
2018	157	173	170	151	651
2019	158	158	171	171	658
2020	148	160	157	172	637
2021	172	150	158	157	637
2022	156	174	148	159	637
2023	138	158	172	158	626
2024	137	140	156	173	606
2025	114	139	138	156	547

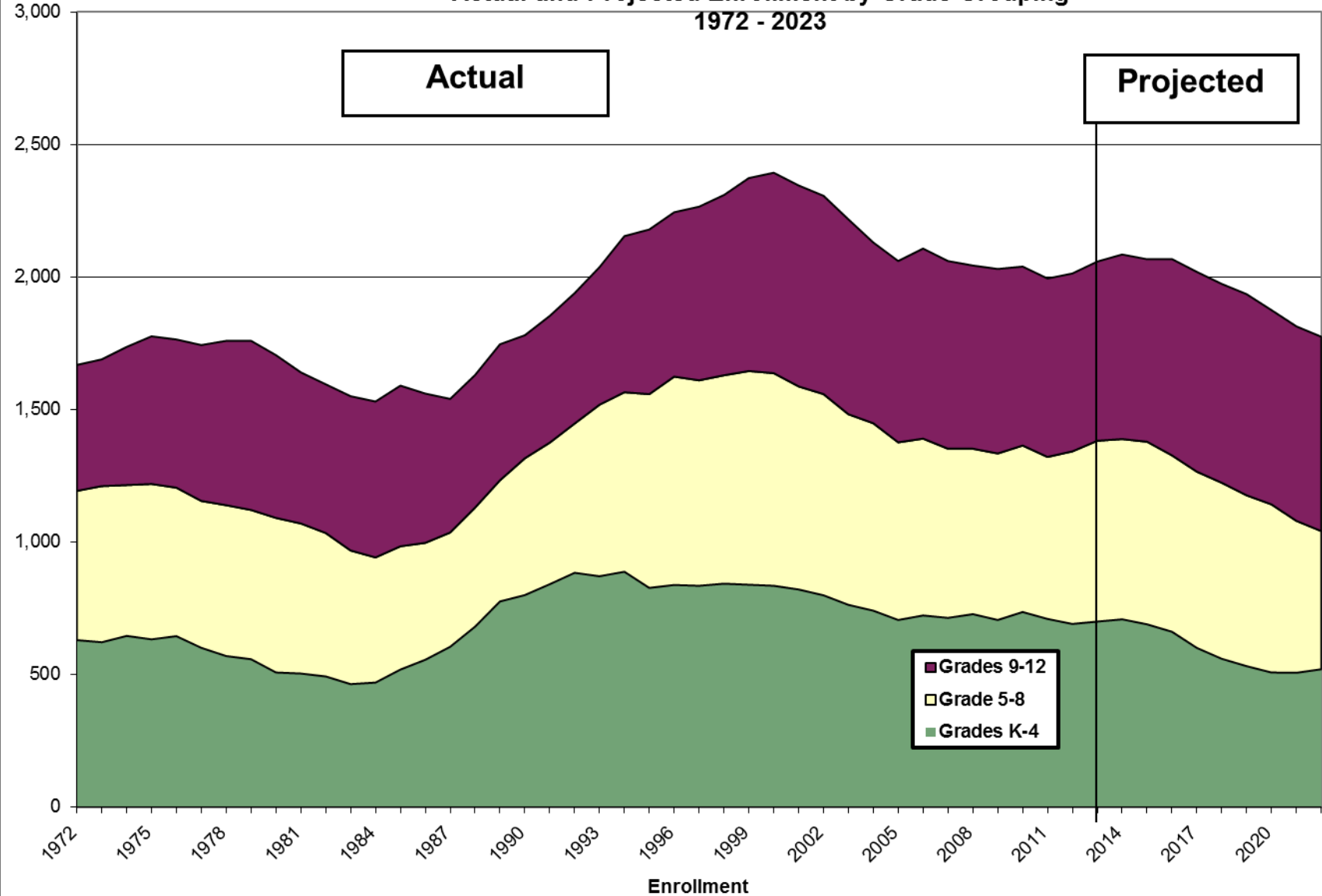
HS Enrollment Projection with Current Barrington Tuition Arrangement



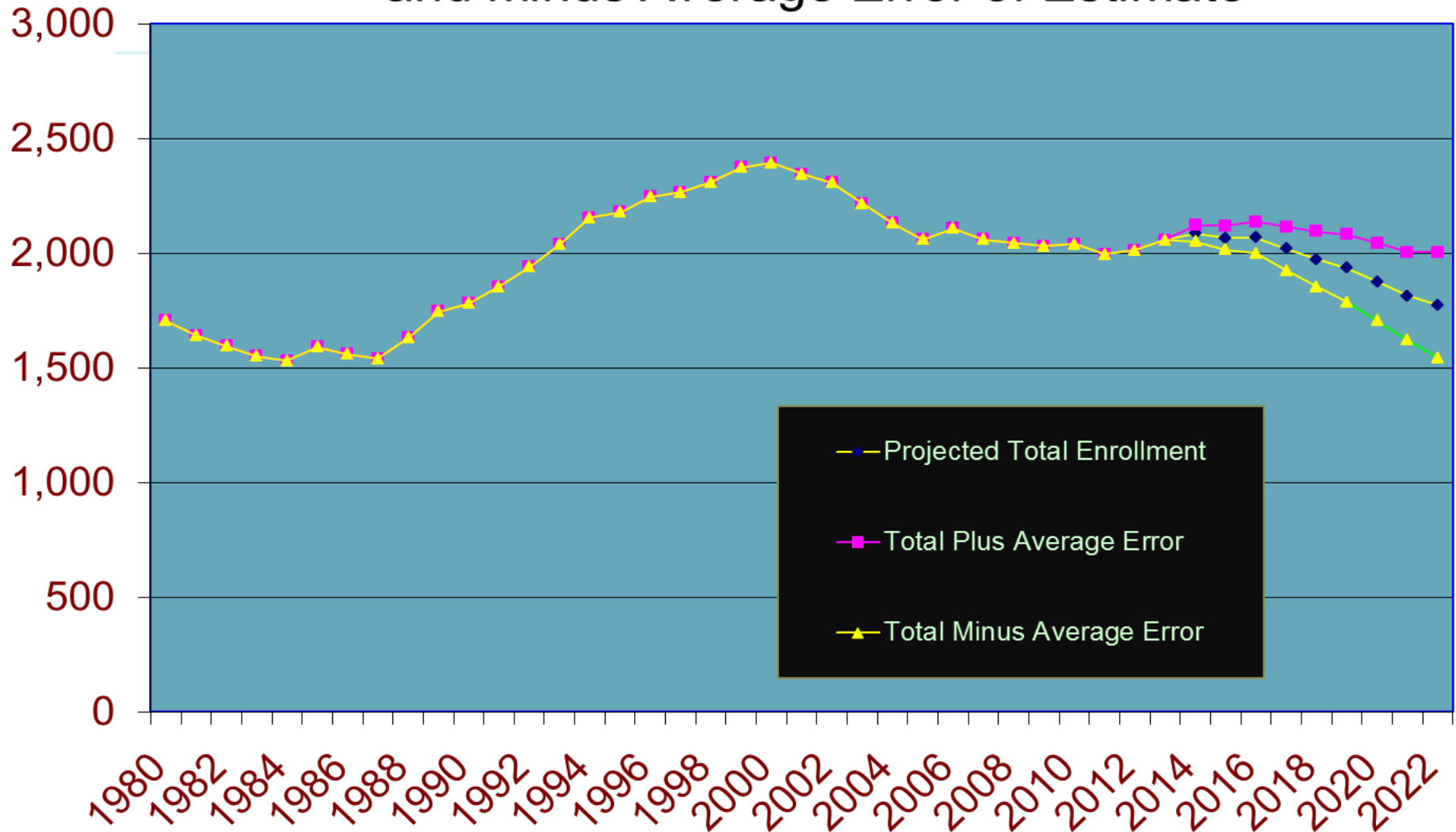
Accuracy of High School Projections

	<u>Grade 9</u>	<u>Grade 10</u>	<u>Grade 11</u>	<u>Grade 12</u>	<u>Total</u>	<u>% + or -</u>
2013 Actual	161	128	164	153	606	
<i>Predictions Made for 2013 in prior years:</i>						
2006					566	-6.6%
2007					561	-7.4%
2008					617	1.8%
2009	159	135	151	153	598	-1.3%
2010	164	139	155	158	616	1.7%
2011	166	150	155	159	630	4.0%
2012	158	131	157	156	602	-0.7%

**Oyster River School District
Actual and Projected Enrollment by Grade Grouping
1972 - 2023**



Actual and Projected Enrollment plus and minus Average Error of Estimate



Why Do We Project Enrollment Will Decline Longer Term?

- Dramatic Decline in Adults of Childbearing Age, taking account of net move-ins.
- Lowest birth rate in the nation in New Hampshire.
- New England the lowest region.
- Confirmed by Actual Dramatic decline in Births over the past 10 years:

***130 in 2002 cohort, 69 in 2012 cohort,
81 in 2013 cohort***

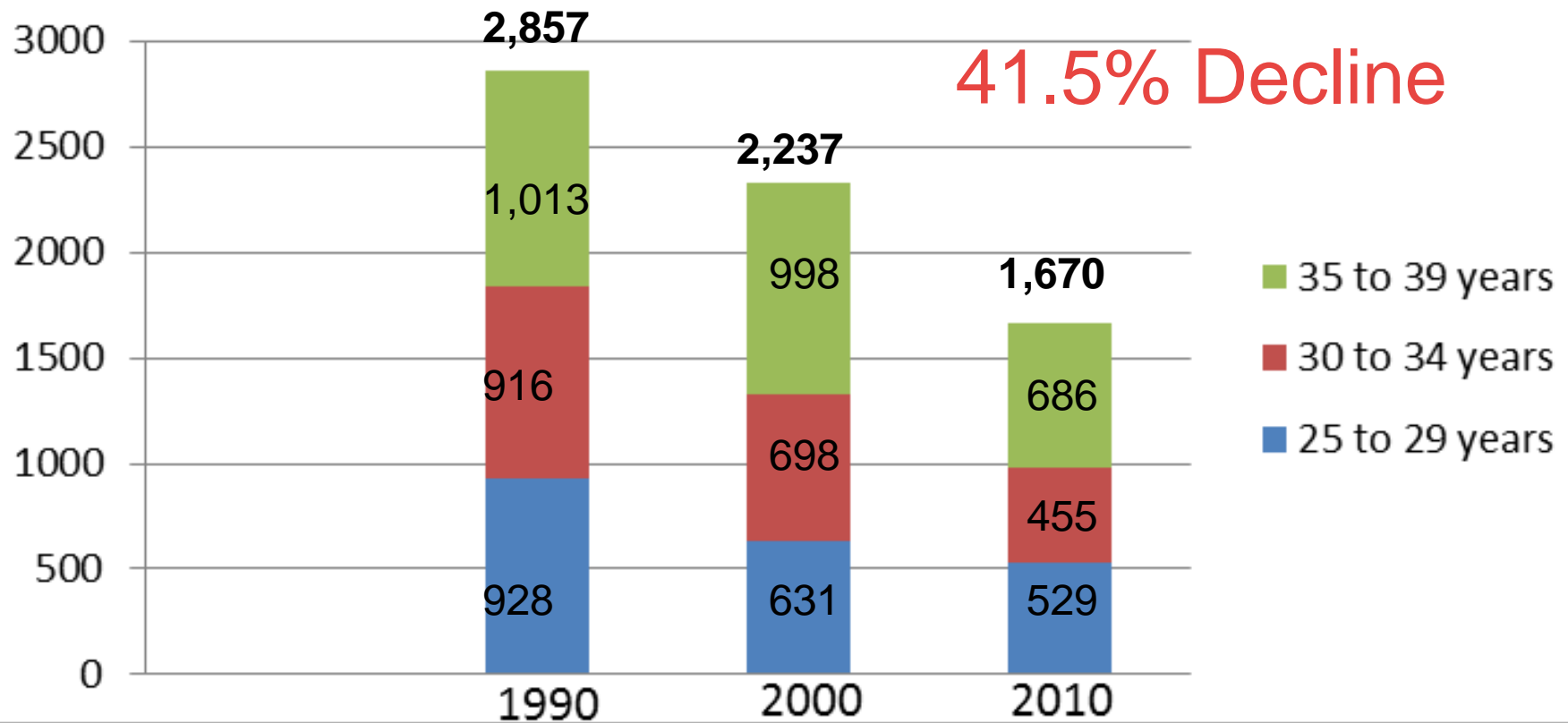
Summary

- **Total ORCSD enrollment is projected to remain over 2,000 for four more years, then decline to 1,732 in 2023-24, reflecting a decline of about 300 students in the last 6 projection years.**
- **The number of elementary school students will decrease, with elementary enrollment dropping by about 165 students over 10 years.**
- **Middle school enrollment, now 682, is projected to rise to 690 in 2015-16, then drop to under 500 by 2023.**
- **High School enrollment (including Barrington), now 676, rises to 760 in 2019-20, then declines to 630 in 2025-26.**
- **Without tuition students, High School enrollment, now 606, rises slightly as current Middle Schoolers move through, then declines to current level in 2024-25 and 550 in 2025-26.**

Any Questions?

ORCSD Adults in Prime Childbearing Years

Source: *Us Census Bureau*



Births Drive Enrollment

Births By Cohort Year (Oct 1 – Sept 30)

Births to Mothers Residing in ORCSD						Current	Year they will	
Year	12 Mos Ending 9/30					Enrollment	enter grade	
						2013	9	12
2001	124							
2002	130	This cohort is currently in sixth grade				175	2016	2019
2003	119							
2004	118							
2005	110							
2006	92	This cohort is currently in second grade				139	2020	2023
2007	101						2021	2024
2008	101						2022	2025
2009	90	This cohort is in Kindergarten Sept 2014					2023	2026
2010	93						2024	2027
2011	74						2025	2028
2012	69						2026	2029
2013	81						2027	2030
Source:	New Hampshire Department of State Division of Vital Records Administration							