

Enrollment Projections Update



Regional School District 13

November 2019



Introduction

- Projection Comparison
- Key Demographic & Housing Trends
- Enrollment Trends
- Enrollment Projections



Projection Comparison

Comparison of Actual and Projected Enrollment: 2017-18 to 2019-20

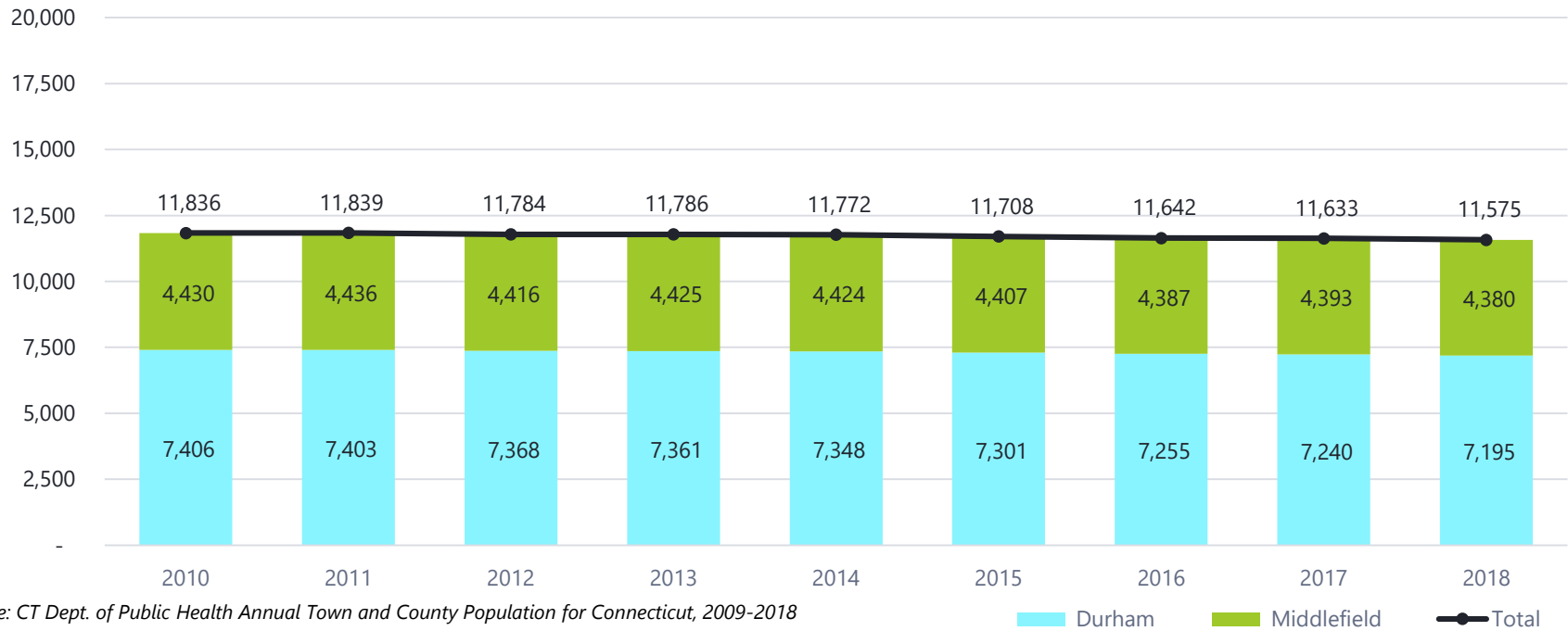
Year	K-12 Actual	K-12 Projected	Difference	% Difference
2017-18	1,643	1,614	29	1.8%
2018-19	1,589	1,594	(5)	-0.3%
2019-20	1,461	1,535	(74)	-4.8%

- Enrollment projections last prepared in 2016.
- 2017-18 and 2018-19 enrollments aligned well with the projections.
- 2019-20 enrollment is about 4.8% lower than projections.
 - K-2 enrollment is within 1 student of projections, although some variability in the individual grades.
 - Greatest deviation in the 3-5 (-10.5%) and 6-8 (-6.9%) cohorts driven by lower-than-projected levels of in-migration.
 - High school enrollments within 2% of projections.



Population Trends

RSD13 Population Trends: 2010-2018

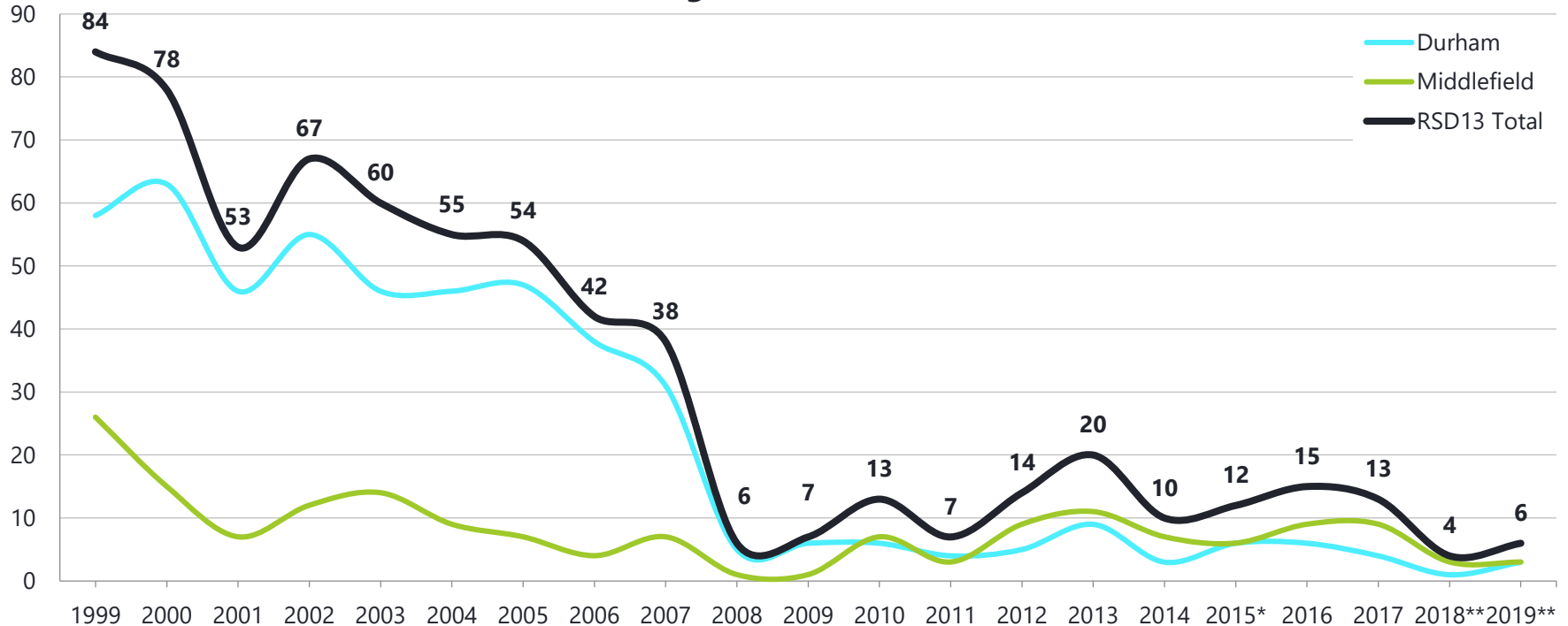


- According to DPH population estimates, the total population in RSD13 has declined slightly since 2010.
- Estimated rate of decline is faster in Durham (-2.8%) than in Middlefield (-1.1%).



Housing Permits

Annual Housing Permits, 1999-2019 (YTD)



Notes: *Reporting monthly permit data beginning in 2015; due to Census revised sampling method.

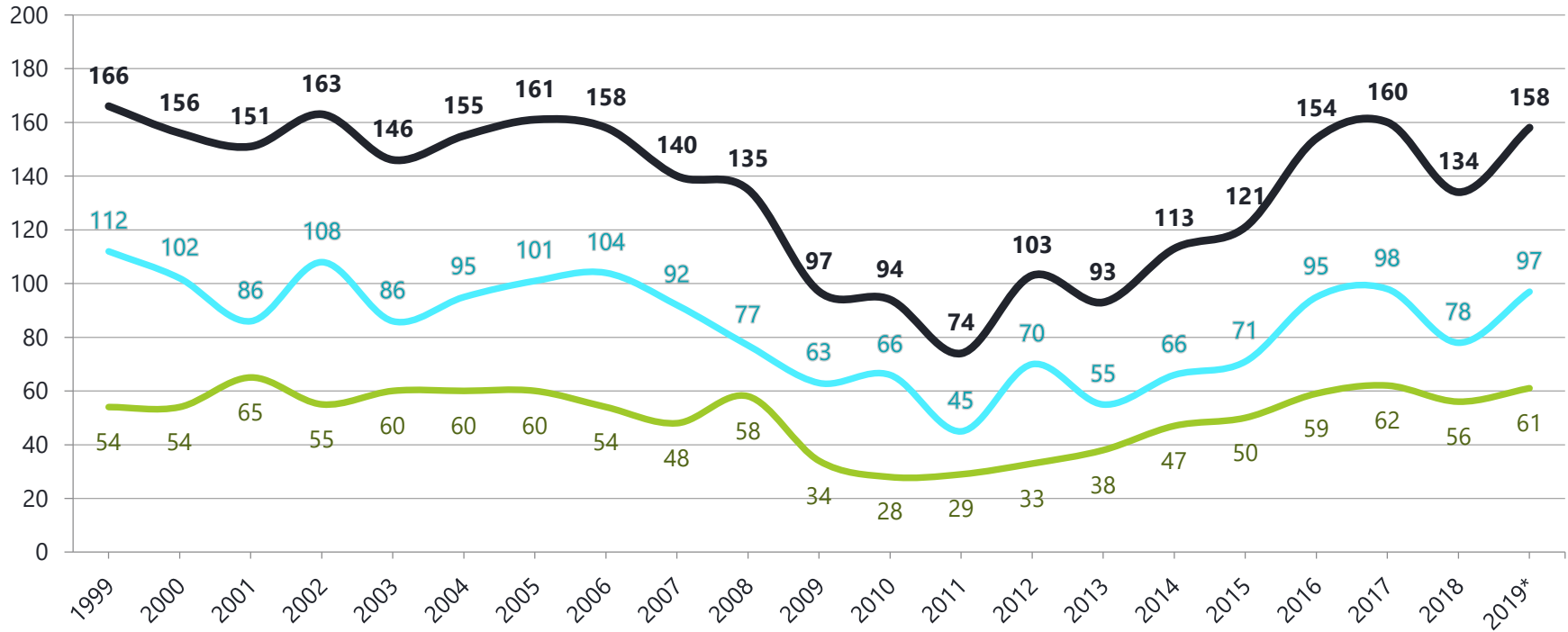
Source: CT DECD Annual Housing Permit Data, 9/2019 **permit counts provided by town 9/2019

- Between 1999 and 2007, RSD13 averaged about 60 housing permits per year.
- Housing starts declined rapidly in 2008 and have yet to recover. RSD13 has averaged just 10 housing permits per year over the last five years.



Housing sales

RSD13 Home Sales: 1999 to 2019



Note: * 2019 data is an estimate, with extrapolation of historic sales data for the last quarter.

Source: The Warren Group.

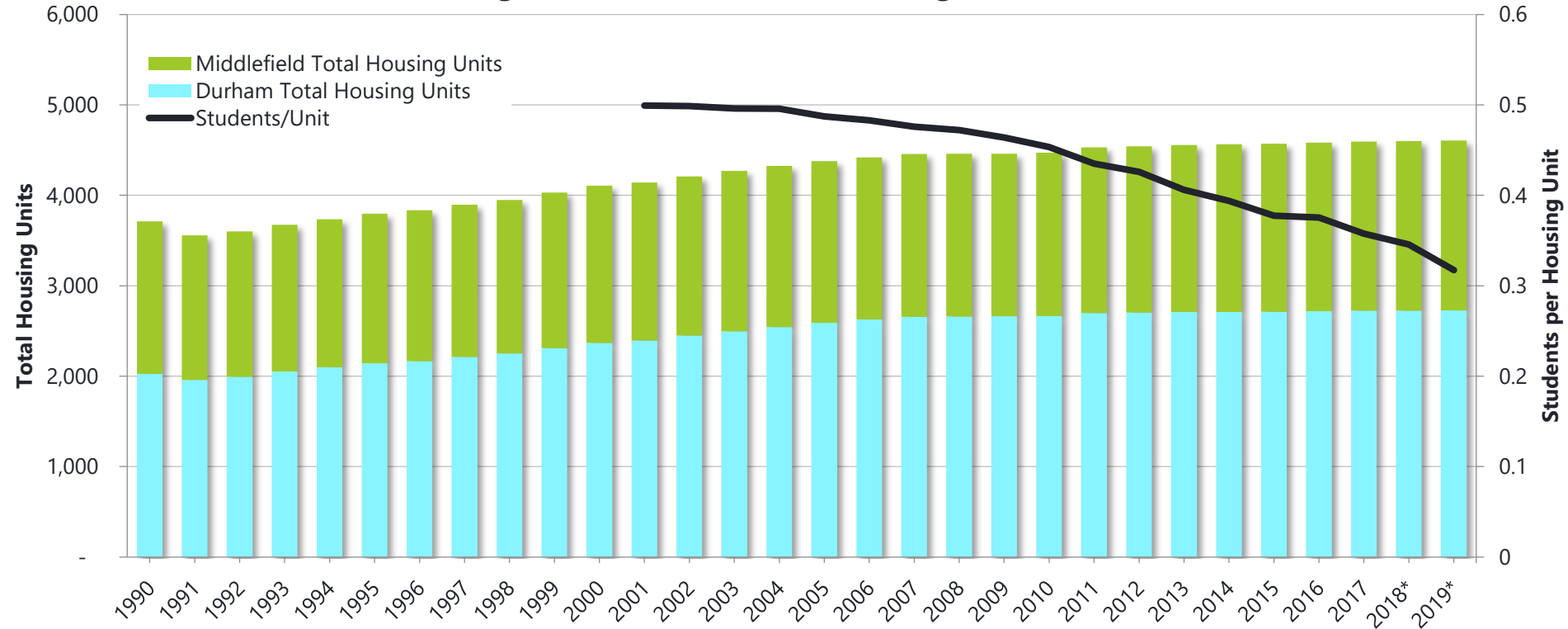
— RSD13 — Durham — Middlefield

- Home sales declined sharply beginning in 2008, averaging less than 100 per year between 2009 and 2013.
- Sales began to rebound beginning in 2014.
- Over the last four years, sales have returned to pre-recession levels.



Students Per Housing Units

Total Housing Units & Students Per Housing Unit, 1990 to 2019



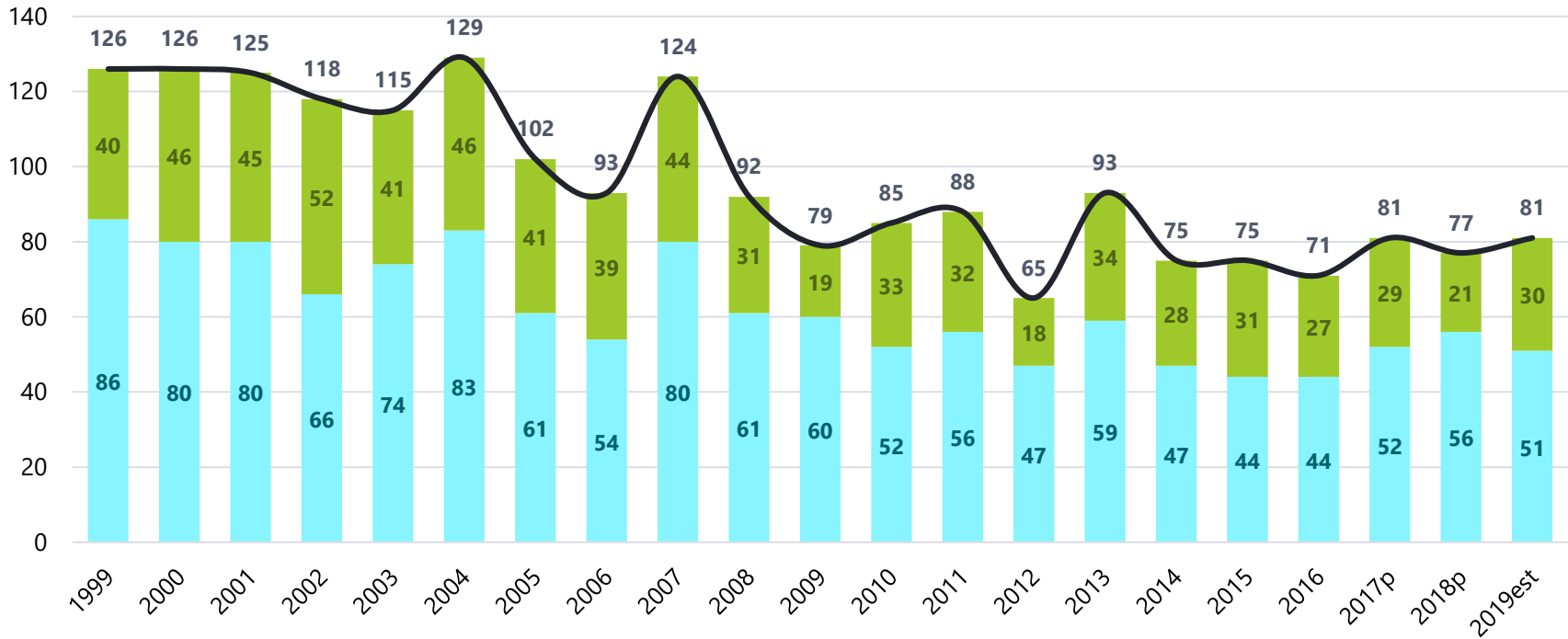
Source: DECD, CEDAR, EdSight 10/2019. *2018 & 2019 units estimated from permit data

- Fewer households with children.
- Student-per-unit ratio has steadily declined from 0.5 in 2001 to 0.32 in 2019.



Birth Trends

Births in RSD13: 1999-2019



2017 and 2018 data is preliminary. 2019 data is estimated based on January to June data with last 6-months extrapolated from historic data. Data may be subject to final adjustment by CT DPH.

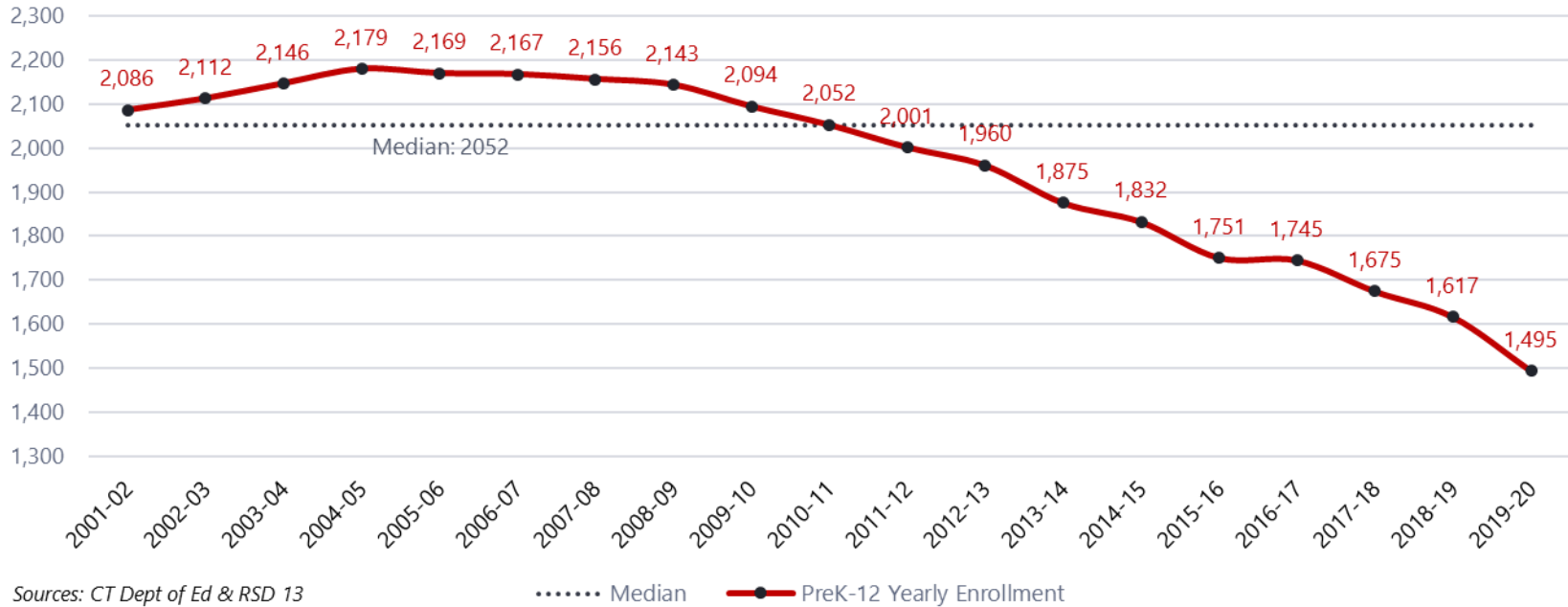
Durham Middlefield RSD 13

- Between 1999-2008 births averaged 117 per year.
- Since 2008, births have declined to between 70 and 90 per year, with the exception of 2013.
- Births have stabilized over the last five years at ~77 per year.



Enrollment Trends

Historic RSD PK-12 Enrollment: 2001-02 to 2019-20

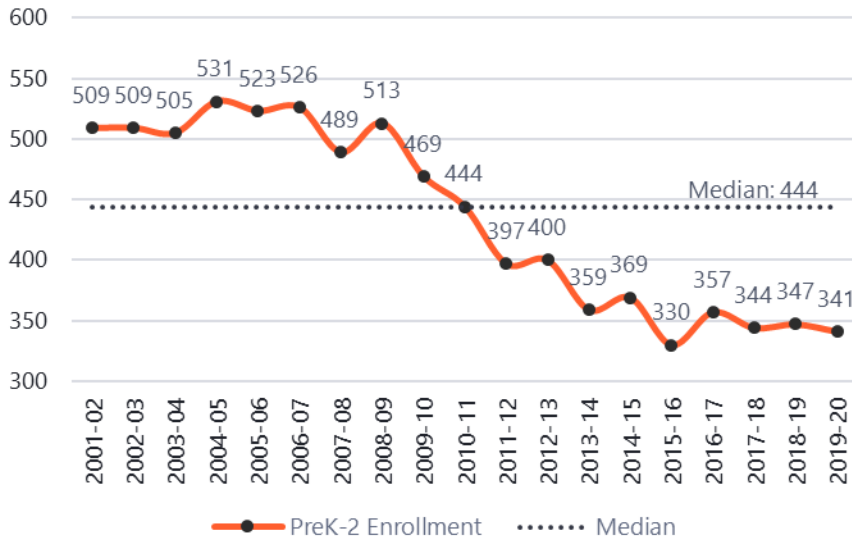


- Districtwide enrollment peaked in 2004-05 at 2,179 students.
- Enrollments have declined by 31% through 2019-20. Rate of decline has been relatively consistent from year to year, with the exception of 2016-17.

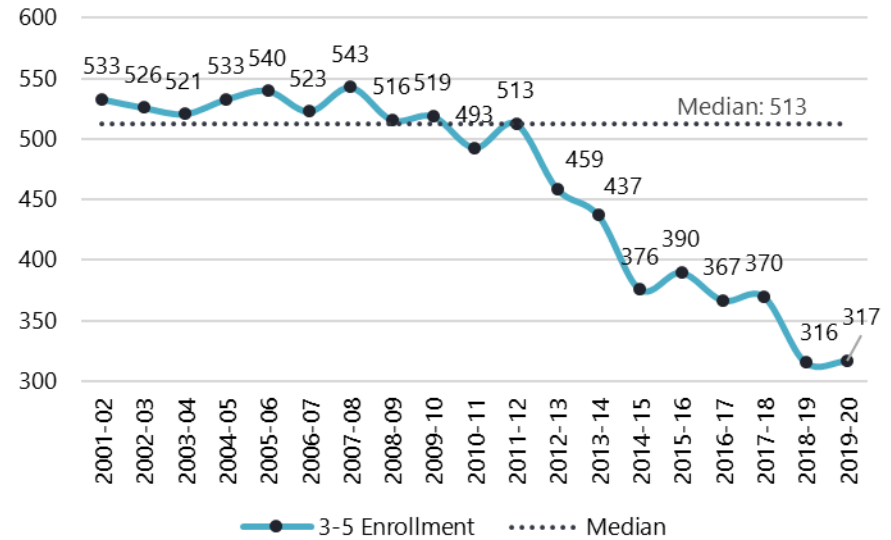


Enrollment Trends

Historic RSD13 PK-2 Enrollment: 2001-02 to 2019-20



Historic RSD13 3-5 Enrollment: 2001-02 to 2019-20

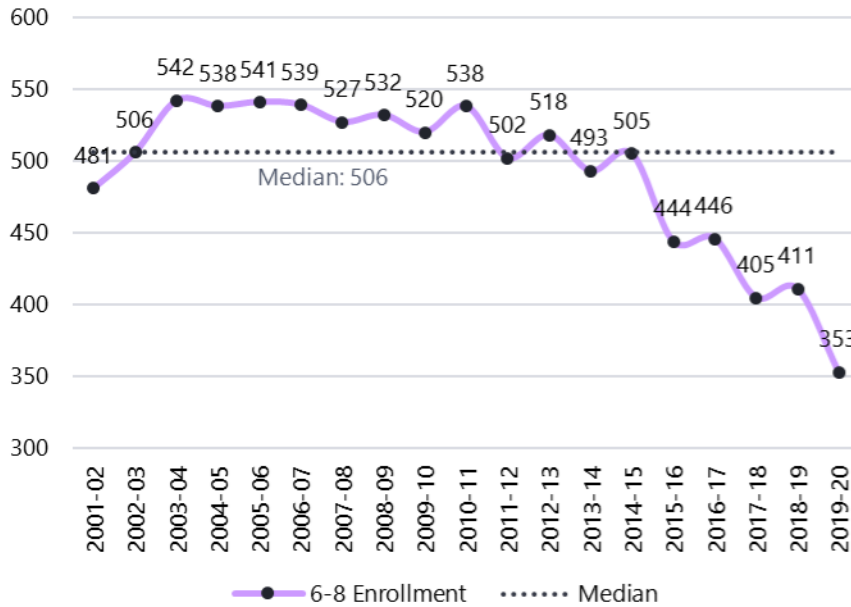


- PK-2 enrollment peaked in 2004-05 at 531 students before beginning a sharp decline between 2008-09 and 2012-13.
- PK-2 enrollment has stabilized since 2013-14.
- 3-5 enrollment peaked in 2007-08 and began declining sharply in 2011-12.
- Leveling off of 3-5 enrollment observed in 2019-20.

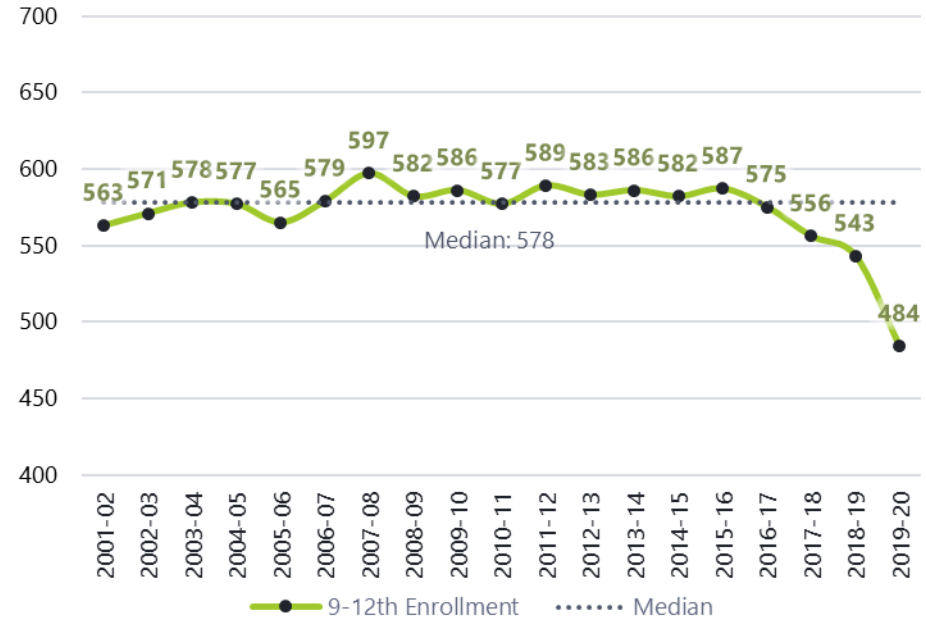


Enrollment Trends

Historic RSD13 6-8 Enrollment: 2001-02 to 2019-20



Historic RSD13 9-12 Enrollment: 2001-02 to 2019-20



- Middle school (6-8) enrollments have declined sharply over the last five school years.
- High school (9-12) enrollment was generally stable between 2001-02 and 2014-15. Sharp decline over the last 5 school years as smaller 9th grade classes begin replacing the larger graduating classes.



Reconfiguration Assumptions

- The current district configuration is slated to change at the start of the 2021-22 school year with the closing of Lyman Elementary, this follows the closing of Korn Elementary at the end of the 2015-16 school year.
- Schools will be consolidated by grade groupings:
 - Brewster Elementary PreK-2
 - Memorial Elementary 3-5
 - Strong Middle 6-8
 - Coginchaug Regional High 9-12
- 10 year projections are provided district-wide, for current grade groupings, as well as for the grade groupings per the planned consolidation.

Proposed 2020-21 School Year Configuration



Brewster
PreK-2



Memorial
3-5



Strong
6-8



Coginchaug
9-12



Projection Methodology

- **Cohort survival methodology** - relies on observed data from the recent past in order to project the near future.
- **Persistency Ratios** calculated from historic enrollment data.
 - Determines growth or loss in a class as it progresses through school system
 - accounts for factors affecting enrollments:
 - housing characteristics
 - residential development
 - economic conditions
 - student transfers in and out of system
 - student mobility
- Changes in population, housing stock and tenure, and economic conditions help explain persistency ratios.
- Economic conditions adds variability to enrollments, births, and residential mobility.



Historic Persistency Ratios

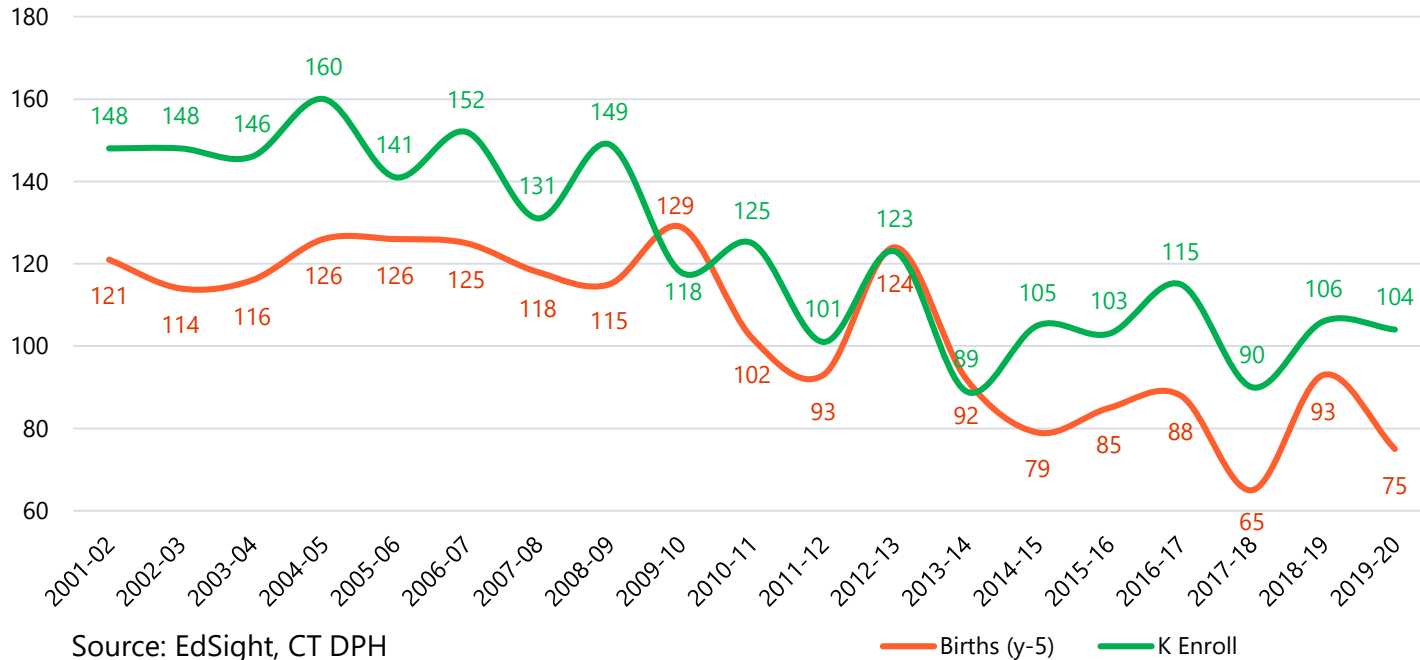
Kindergarten through 12th Grade Persistency Ratios by School Year 2002-03 through 2019-20														
Year	Birth-K	K-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	Estimated Migration
2002-03	1.298	1.115	1.034	0.988	1.000	1.000	0.971	1.056	1.000	0.954	0.942	0.962	1.016	0.29%
2003-04	1.259	1.135	0.982	0.995	1.037	0.994	0.958	1.024	1.005	0.935	0.958	0.986	1.000	0.09%
2004-05	1.270	1.068	1.065	1.012	1.055	1.041	1.041	1.027	1.018	0.862	0.937	0.971	1.021	3.28%
2005-06	1.119	1.144	1.038	0.994	1.037	1.000	0.977	1.006	1.011	0.838	1.000	0.948	0.978	0.37%
2006-07	1.216	1.078	1.027	1.043	1.017	1.018	0.974	1.017	0.994	0.859	0.924	0.988	0.953	0.95%
2007-08	1.110	1.118	1.000	0.989	1.030	1.011	0.960	0.979	1.011	0.841	0.976	1.007	0.963	-0.37%
2008-09	1.296	1.168	1.018	1.013	1.011	1.000	0.978	1.006	1.016	0.803	1.000	1.000	0.970	0.38%
2009-10	0.915	1.128	1.033	1.029	0.994	1.000	0.994	1.006	1.000	0.812	0.965	0.966	0.963	0.39%
2010-11	1.225	1.110	0.964	1.019	1.028	0.974	0.989	1.000	0.994	0.844	1.026	1.036	0.965	0.10%
2011-12	1.086	1.072	1.000	1.056	0.994	0.995	0.960	0.995	1.006	0.838	0.965	1.013	1.021	0.10%
2012-13	0.992	1.139	1.015	0.977	1.000	1.000	1.005	1.028	1.016	0.828	0.993	0.985	0.994	0.51%
2013-14	0.967	1.098	0.965	1.029	0.984	1.000	0.994	0.989	1.041	0.824	0.986	0.993	1.052	0.54%
2014-15	1.329	1.067	0.993	1.009	0.979	1.008	0.971	1.013	0.983	0.830	0.974	1.007	1.088	-0.79%
2015-16	1.212	1.000	1.011	1.007	1.009	1.036	0.984	0.982	0.969	0.803	1.000	0.974	1.189	-0.36%
2016-17	1.307	1.049	1.038	1.063	1.096	1.035	1.042	1.064	1.012	0.865	1.028	0.984	1.143	5.04%
2017-18	1.385	1.009	0.981	1.037	1.049	1.014	1.000	1.034	1.015	0.800	0.963	1.020	1.152	2.38%
2018-19	1.140	1.100	0.983	0.953	0.956	1.000	0.967	1.000	0.974	0.852	1.038	0.985	1.087	-2.55%
2019-20	1.387	1.000	0.980	0.930	1.010	1.009	0.925	0.979	0.957	0.738	0.983	0.985	0.984	-3.18%

- Estimates of migration shifted from +3.71% for 2016 & 2017 to -2.85% for 2018 & 2019.



Birth – Kindergarten Ratios

Kindergarten Enrollments Compared to Births Five Years Prior

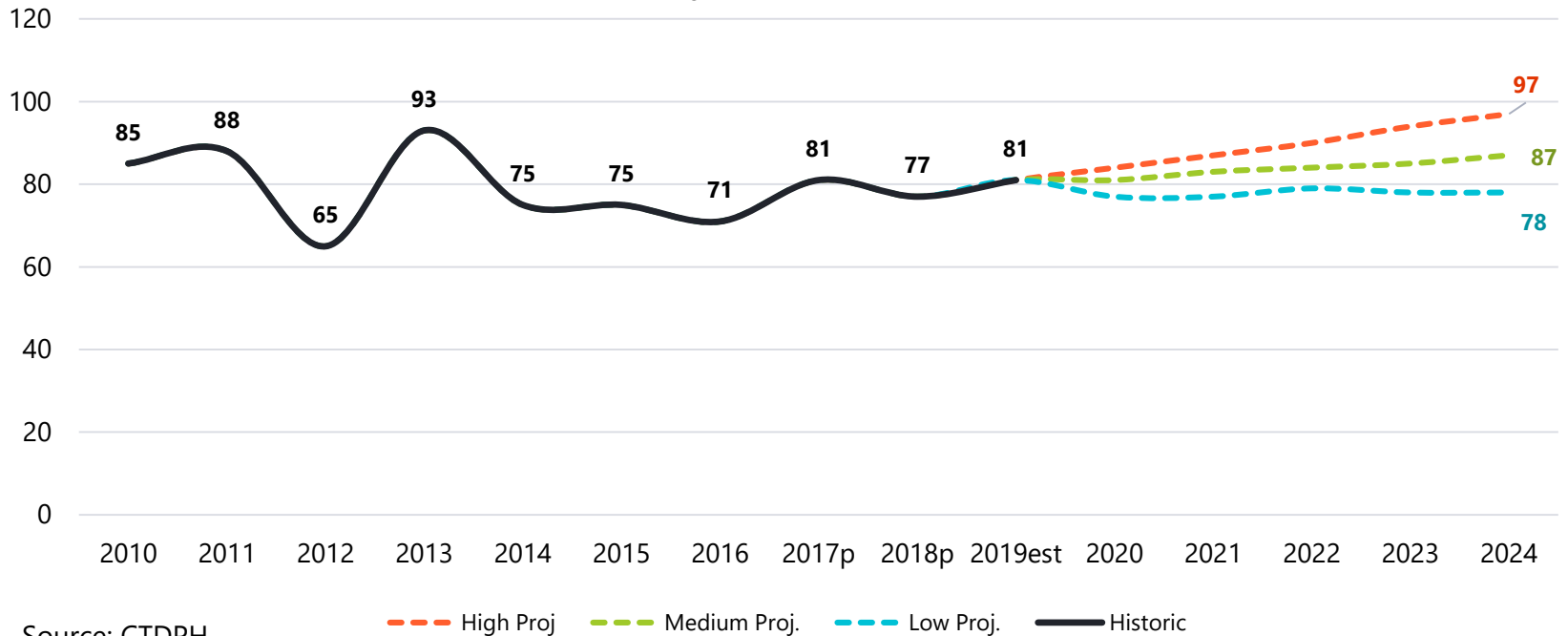


- The Birth to Kindergarten (BK) ratio compares the size of a kindergarten class to the corresponding birth cohort from five years prior.
- District has a BK average ratio of 1.2 since 2001-02, indicating that the incoming kindergarten class is, on average, 20% larger than the corresponding birth cohort.
- BK ratio has averaged 1.3 over the last four school years, indicating elevated migration of families with young children from 0-4 years old.



Birth Projections

Historic and Projected Births: 2010 to 2024

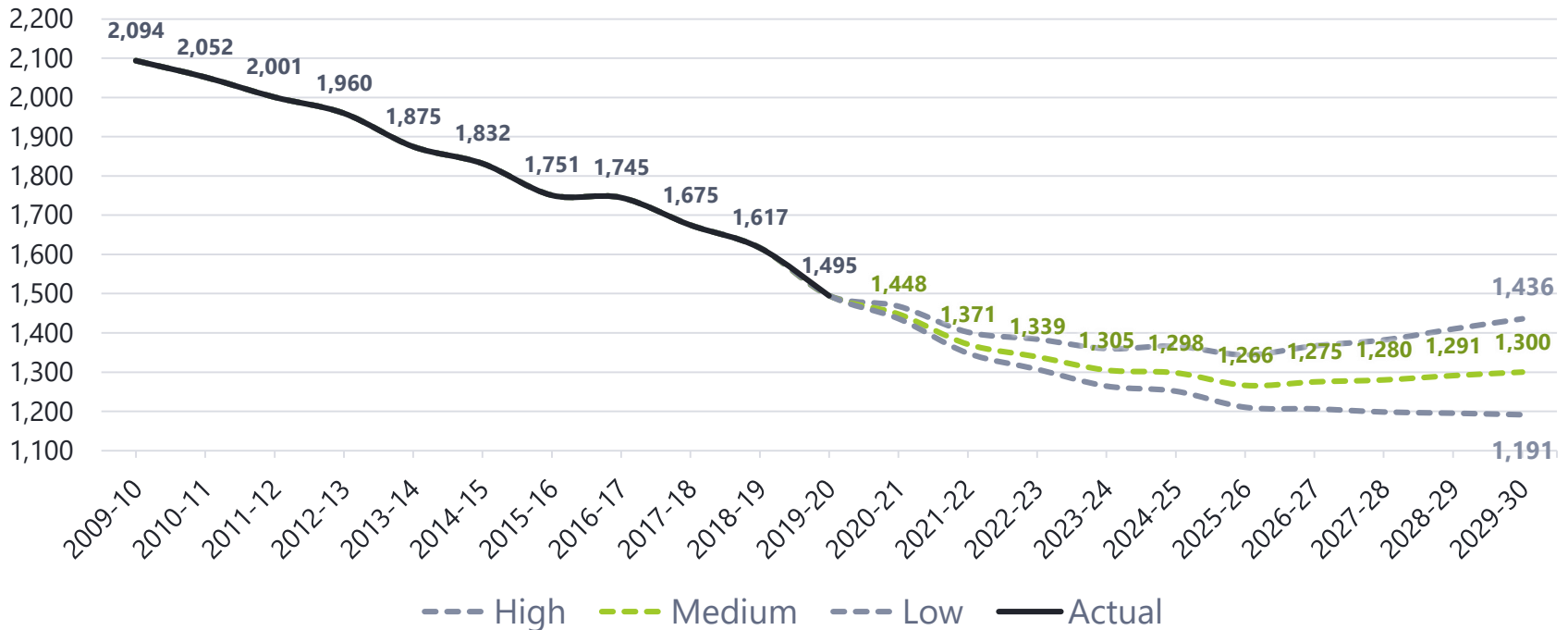


- Five years of birth projections needed in order to project kindergarten classes for 2025-26 through 2029-30.
- Three models developed, corresponding to the low, medium, and high projections.
- Medium model estimates modest growth to 87 births per year by 2024.



Enrollment Projections

PreK-12 Enrollment Projections



- High, medium, and low projections models developed based on different assumptions. **Medium model best aligns with demographic and housing trends.**
- All three models show lower PK-12 enrollment in 2029-30, with different rates of decline between the low (-20%), medium (-13%), high (-4%).
- High and medium models show enrollment beginning to rebound in 2025-26 while low model shows continued slow decline throughout ten year horizon.



Districtwide Projections (Medium)

Districtwide Enrollment Projections (Medium Model)

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK	PK-12 Total	PK-2 Total	3-5 Total	6-8 Total	9-12 Total
2019-20	2014	75	104	106	97	106	102	109	99	142	112	110	113	135	126	34	1,495	341	317	353	484
2020-21	2015	75	98	107	106	94	107	103	105	99	139	89	109	113	145	34	1,448	345	304	343	456
2021-22	2016	71	93	101	107	103	94	108	99	105	97	111	89	109	121	34	1,371	335	305	301	430
2022-23	2017p	81	106	96	101	104	104	95	104	99	103	77	110	89	117	34	1,339	337	303	306	393
2023-24	2018p	77	100	109	96	98	105	105	92	104	97	82	77	110	96	34	1,305	339	308	293	365
2024-25	2019est	81	106	103	109	93	98	106	101	92	102	77	82	77	118	34	1,298	352	297	295	354
2025-26	2020	81	106	109	103	106	93	99	102	101	90	81	77	82	83	34	1,266	352	298	293	323
2026-27	2021	83	108	109	109	100	107	94	95	102	99	72	81	77	88	34	1,275	360	301	296	318
2027-28	2022	84	110	111	109	106	101	108	91	95	100	79	72	81	83	34	1,280	364	315	286	315
2028-29	2023	85	111	114	111	106	107	102	104	91	93	80	79	72	87	34	1,291	370	315	288	318
2029-30	2024	87	113	115	114	108	107	108	98	104	89	74	80	79	77	34	1,300	376	323	291	310

Based on Known Birth Data
 Based on Preliminary Birth Data
 Based on Projected Birth Data

PK enrollment held constant at 34 students based on 2019-20 enrollment

- PK-2 enrollment projected to grow by 10.3%, with growth beginning in 2024-25.
- 3-5 enrolment projected to grow by 2%, growth beginning in 2026-27.
- Middle school (6-8) enrollment projected to decline by 17.6% with the most substantial declines over the next three school years.
- High school enrollment projected to decline by 36% over the next ten years.



Individual School Projections (Medium)

Projections Based on Existing Configuration

Brewster Elementary School Projections					
Year	K	1	2	3	K-3 Total
2019-20	69	66	58	56	249
2020-21	57	70	66	57	250
2021-22	54	58	70	66	248
2022-23	62	55	58	70	245
2023-24	58	62	55	58	233
2024-25	62	59	62	55	238
2025-26	62	62	59	62	245
2026-27	63	62	62	59	246
2027-28	64	64	62	62	252
2028-29	65	65	64	62	256
2029-30	66	66	65	64	261

Lyman Elementary School Projections						
Year	K	1	2	3	4	K-4 Total
2019-20	35	40	39	50	50	214
2020-21	41	37	40	37	51	206
2021-22	39	43	37	37	37	193
2022-23	44	41	43	34	38	200
2023-24	42	47	41	40	35	205
2024-25	44	44	47	38	40	213
2025-26	44	47	44	44	39	218
2026-27	45	47	47	41	45	225
2027-28	46	47	47	44	42	226
2028-29	46	49	47	44	45	231
2029-30	47	49	49	44	45	234



Individual School Projections (Medium)

Projections Based on Existing Configuration

Memorial Middle School Projections				
Year	4	5	6	4-6 Total
2019-20	52	109	99	260
2020-21	56	103	105	264
2021-22	57	108	99	264
2022-23	66	95	104	265
2023-24	70	105	92	267
2024-25	58	106	101	265
2025-26	54	99	102	255
2026-27	62	94	95	251
2027-28	59	108	91	258
2028-29	62	102	104	268
2029-30	62	108	98	268

Strong Middle School Projections			
Year	7	8	7-8 Total
2019-20	142	112	254
2020-21	99	139	238
2021-22	105	97	202
2022-23	99	103	202
2023-24	104	97	201
2024-25	92	102	194
2025-26	101	90	191
2026-27	102	99	201
2027-28	95	100	195
2028-29	91	93	184
2029-30	104	89	193



Individual School Projections (Medium)

Projections Based on Existing Configuration

Coginchaug Regional High School Projections					
Year	9	10	11	12	9-12 Total
2019-20	110	113	135	126	484
2020-21	89	109	113	145	456
2021-22	111	89	109	121	430
2022-23	77	110	89	117	393
2023-24	82	77	110	96	365
2024-25	77	82	77	118	354
2025-26	81	77	82	83	323
2026-27	72	81	77	88	318
2027-28	79	72	81	83	315
2028-29	80	79	72	87	318
2029-30	74	80	79	77	310



Individual School Projections (Medium)

Projections Based on Proposed Reconfiguration

Brewster Elementary School Projections				
Year	K	1	2	K-2 Total
2019-20	104	106	97	307
2020-21	98	107	106	311
2021-22	93	101	107	301
2022-23	106	96	101	303
2023-24	100	109	96	305
2024-25	106	103	109	318
2025-26	106	109	103	318
2026-27	108	109	109	326
2027-28	110	111	109	330
2028-29	111	114	111	336
2029-30	113	115	114	342

Memorial School Projections				
Year	3	4	5	3-5 Total
2019-20	106	102	109	317
2020-21	94	107	103	304
2021-22	103	94	108	305
2022-23	104	104	95	303
2023-24	98	105	105	308
2024-25	93	98	106	297
2025-26	106	93	99	298
2026-27	100	107	94	301
2027-28	106	101	108	315
2028-29	106	107	102	315
2029-30	108	107	108	323



Individual School Projections (Medium)

Projections Based on Proposed Reconfiguration

Strong Middle School Projections				
Year	6	7	8	6-8 Total
2019-20	99	142	112	353
2020-21	105	99	139	343
2021-22	99	105	97	301
2022-23	104	99	103	306
2023-24	92	104	97	293
2024-25	101	92	102	295
2025-26	102	101	90	293
2026-27	95	102	99	296
2027-28	91	95	100	286
2028-29	104	91	93	288
2029-30	98	104	89	291

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2026-27	72	81	77	88	318
2027-28	79	72	81	83	315
2028-29	80	79	72	87	318
2029-30	74	80	79	77	310



Takeaways

- **Overall enrollment will continue to decline over the next seven years with slow growth occurring over the final three years of the projection horizon.**
- **Lower grades will be the first to rebound while the upper grades will see continued decline based on the matriculation of smaller cohorts already in the system.**
 - K-2 enrollment is projected to bottom out in 2023-24 before growing over the final seven years of the projections.
 - 3-5 enrollment is projected to bottom out in 2024-25 before growing slowly over the final six years of the projections.
 - Middle school (6-8) enrollment is projected to drop sharply over the next three school years before stabilizing at about 290 students over the final seven years of the projections.
 - Enrollment declines at the high school level will persist over the next ten years as smaller classes matriculate into 9th grade.