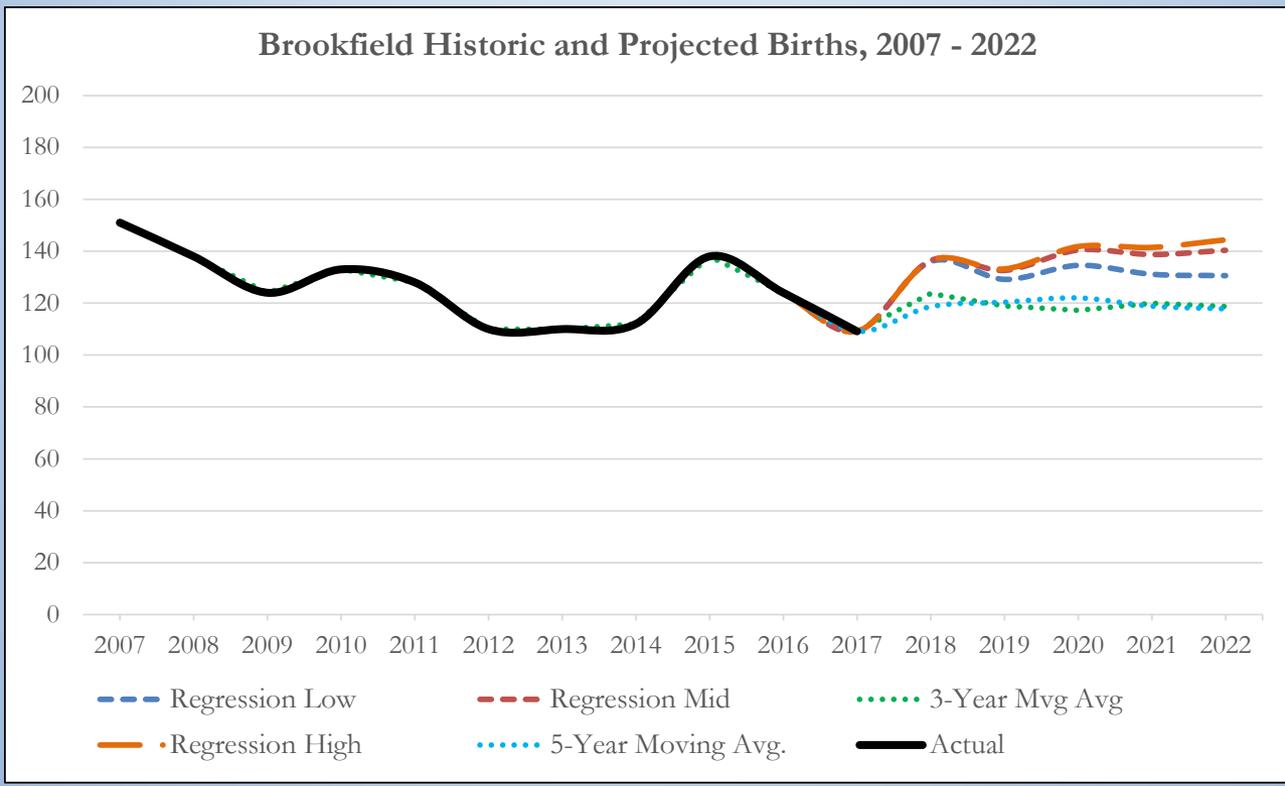


# **Update to Demographic Study and Enrollment Projections**

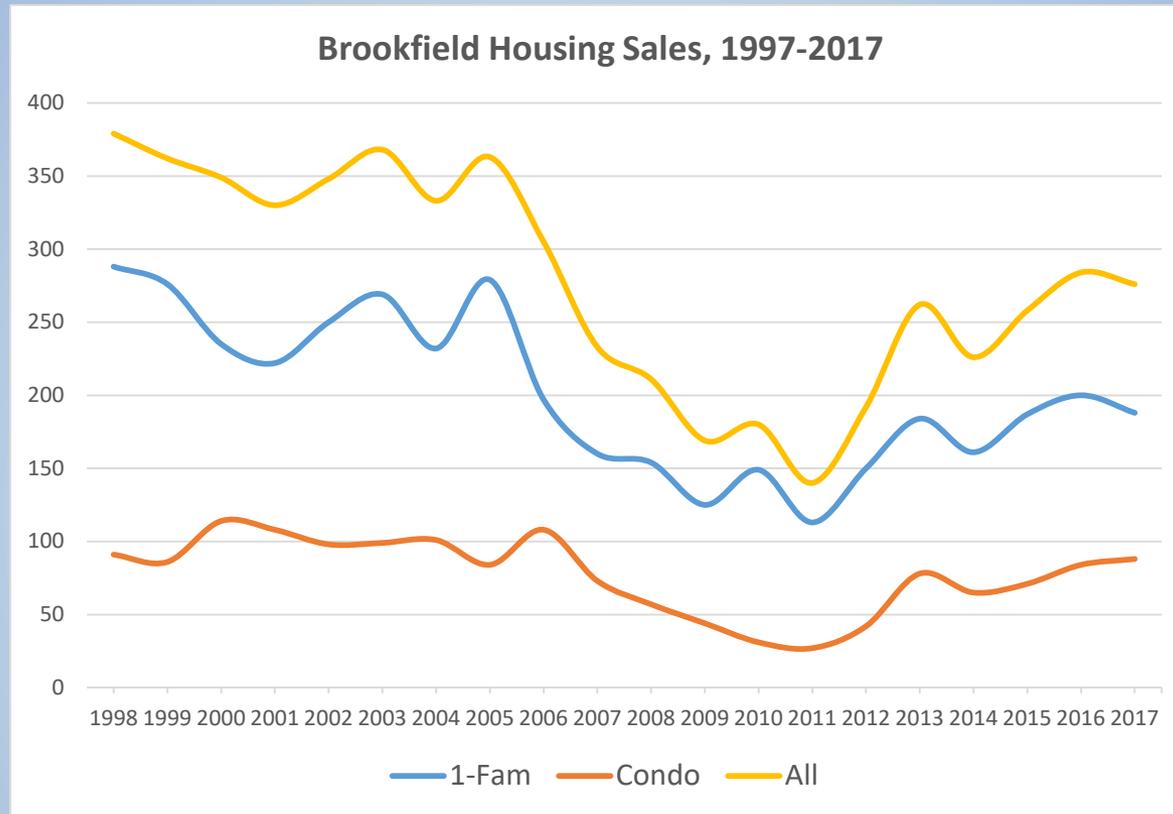
**June 2018**

# Updated Birth Projections

- 2015 spike in births was not sustained
- A regression model based on birth rates, county-level unemployment rates and annual housing sales rates, yielded a good fit, and allowed for low, medium and high birth projections based on varying assumptions on housing sales and unemployment



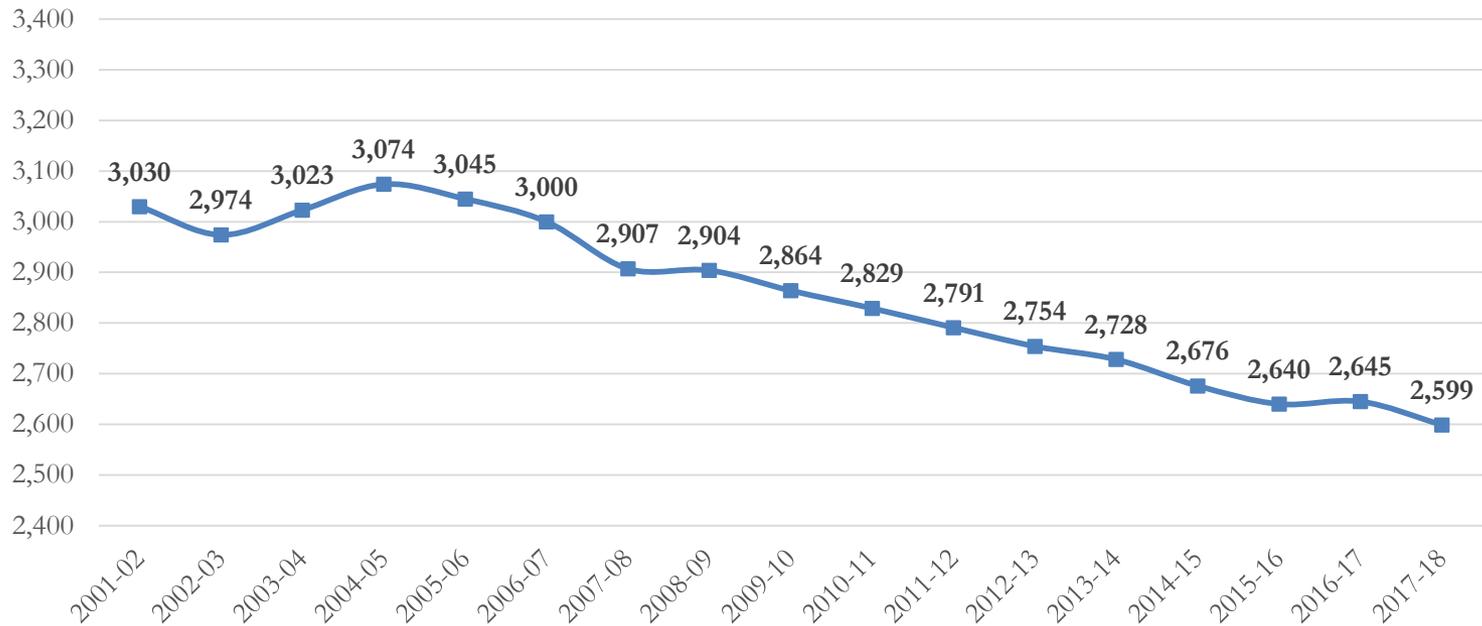
# Housing Sales



- **Housing Sales Rebound Continued, although there was a slight drop-off in single-family sales in 2017**

# Enrollment Trends

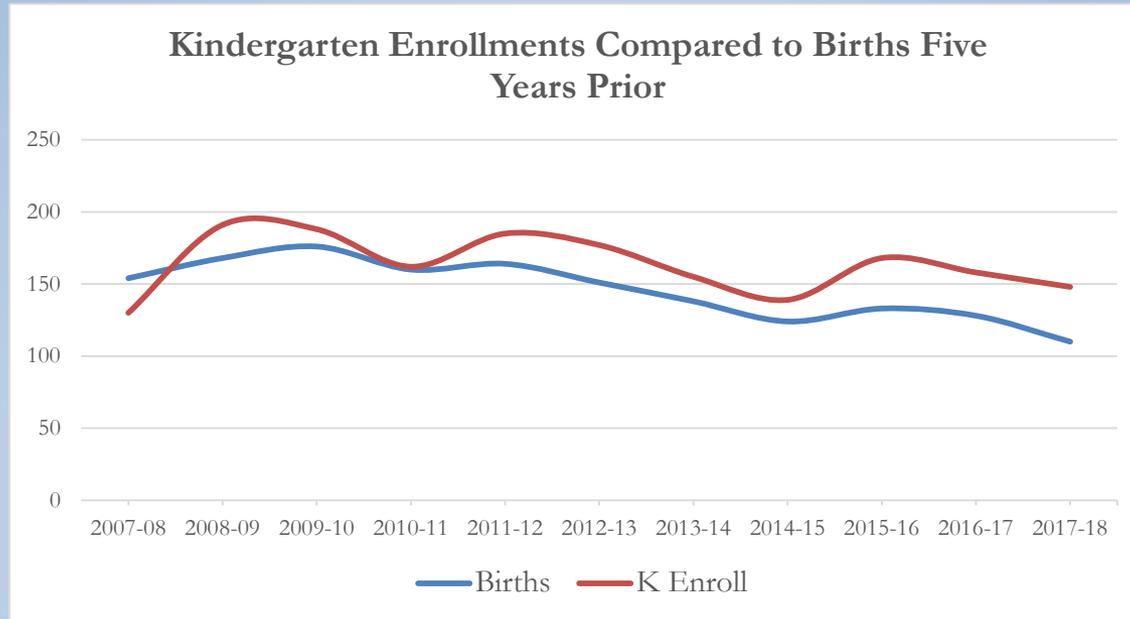
Total (K-12) Historic Enrollments  
Brookfield Public Schools



Sources: CT Dept. of Education and Brookfield Public Schools

- In August 2016, Projected 3.0% Decline by 2017-18
- Actual Decline Was Only 1.6%
- Biggest Discrepancy Between Actual and Projected in K-1 Cohort

# Cohort Trends



- Uptick in Birth to Kindergarten Ratio Begun in 2015-16 Has Persisted and Even Increased

# Updated Persistency Ratios

Kindergarten through 12th Grade Persistency Ratios by School Year 2002-03 to 2015-16														
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	Migration Estimate
2002-03	1.0732	1.0170	0.9779	0.9874	0.9914	1.0036	0.9922	1.0000	0.9748	0.9333	0.9544	0.9833	0.9713	-0.80%
2003-04	1.1170	1.2102	0.9121	1.0000	0.9915	0.9957	1.0249	0.9647	1.0081	1.0259	1.0759	1.0304	0.9322	-0.20%
2004-05	1.1739	1.0524	0.9671	1.1101	1.0588	1.0687	1.0393	1.0278	1.0244	0.9960	1.0630	0.8880	0.9536	5.30%
2005-06	1.0357	1.1389	0.9701	1.0146	0.9959	1.0427	0.9960	1.0420	0.9797	1.0198	1.0040	0.9368	0.9720	1.02%
2006-07	0.9788	1.1264	0.9431	0.9744	0.9713	0.9751	1.0000	1.0161	1.0000	0.9655	1.0078	0.9798	0.9831	-0.94%
2007-08	0.8442	1.1027	0.9133	0.9871	1.0316	1.0345	1.0170	1.0000	1.0238	1.0444	0.9714	0.9537	0.9877	1.47%
2008-09	1.1369	1.3385	0.9412	1.0615	0.9913	1.0459	1.0381	1.0293	1.0082	0.9574	1.0077	0.9816	0.9717	2.70%
2009-10	1.0682	1.0314	0.8908	1.0417	1.0053	1.0176	1.0341	1.0505	0.9959	0.9715	0.9960	0.9885	1.0225	2.35%
2010-11	1.0125	1.0426	1.0508	1.0774	1.0450	1.0471	1.0390	1.0094	1.0306	0.9918	1.0209	1.0366	0.9922	3.94%
2011-12	1.1280	1.0988	1.0612	1.0048	1.0479	1.0191	1.0400	0.9917	0.9907	0.9746	0.9835	1.0000	0.9922	1.37%
2012-13	1.1722	1.0973	1.0225	1.0048	1.0288	1.0000	1.0423	1.0192	1.0168	0.9858	1.0043	0.9707	1.0082	1.92%
2013-14	1.1232	1.0678	1.0591	1.0440	1.0478	1.0561	1.1086	1.0180	1.0047	0.9298	1.0239	1.0043	0.9914	4.45%
2014-15	1.1210	1.0387	1.0000	1.0279	0.9947	1.0183	1.0575	1.0103	0.9912	1.0282	1.0133	1.0047	1.0043	1.73%
2015-16	1.2632	1.1511	1.0311	0.9841	1.0181	1.0106	1.0090	1.0000	1.0204	0.9509	0.9909	1.0132	1.0186	0.72%
2016-17	1.2344	1.0298	1.0500	1.0783	1.0161	1.0578	1.0995	1.0133	1.0084	1.0200	1.0047	0.9862	0.9913	4.30%
2017-18	1.3455	1.0823	1.0000	1.0179	1.0000	1.0899	1.0336	0.9857	1.0132	0.9253	1.0490	1.0047	1.0047	2.31%
Long Term Avg.	1.1142	1.1016	0.9869	1.0260	1.0147	1.0302	1.0357	1.0111	1.0057	0.9825	1.0107	0.9852	0.9873	
5-Year Avg.	1.2174	1.0739	1.0280	1.0304	1.0154	1.0465	1.0616	1.0055	1.0076	0.9708	1.0164	1.0026	1.0021	
3-Year Avg.	1.2810	1.0877	1.0270	1.0268	1.0114	1.0528	1.0474	0.9997	1.0140	0.9654	1.0149	1.0013	1.0049	
3-yr wgt	1.2947	1.0762	1.0218	1.0324	1.0084	1.0660	1.0515	0.9973	1.0128	0.9611	1.0246	0.9999	1.0026	
2-Yr Wgt Avg.	1.3084	1.0648	1.0167	1.0380	1.0054	1.0792	1.0556	0.9949	1.0116	0.9569	1.0342	0.9985	1.0002	

- Increase in Birth-K Ratio
- Increase in In-Migration Estimate (2<sup>nd</sup> -7<sup>th</sup> Grade Cohorts Compared to 3<sup>rd</sup>-8<sup>th</sup> Grade Cohort One Year Later)

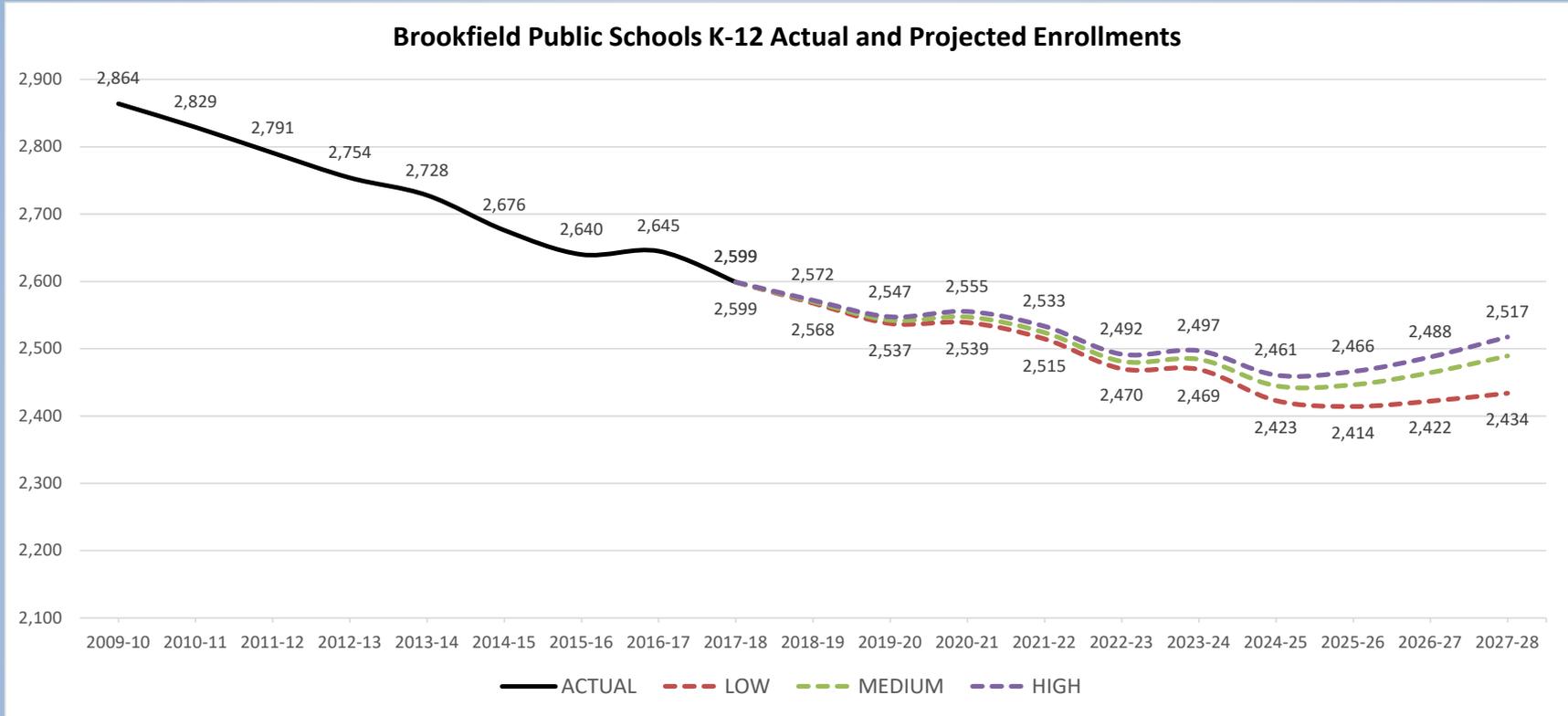
# Projection Methodology

- The 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 to determine growth or loss in a class as it progresses through school system
- Persistency Ratios account for the various external factors affecting enrollments: housing characteristics, residential development, economic conditions, student transfers in and out of system, and student mobility
- Changes in population, housing stock and tenure, and economic conditions help explain persistency ratios
- Recent instability in economic climate adds variability to enrollments, births, and residential mobility

# Projection Assumptions

- Three sets of projections were prepared for planning purposes:
  - High – Assumes housing sales between 275-280 per year and a decreasing county unemployment rate to 4.3
  - Medium – Assumes no change in current housing sales and county unemployment rate
  - Low – Assumes housing sales between 220 and 250 per year and an increasing county unemployment rate to 6.5
- Greatest confidence in first five years because based on known data

# District Projections



- All models project a slow decline out to 2024-25/ 2025-26
- Given current housing activity in Brookfield, recent upticks in in-migration and birth-K ratios, the high projection model is the best fit to current data

# High Projections

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK	PK-12 Total	K-12 Total	K-1 Total	2-4 Total	5-8 Total	9-12 Total
2017-18	2012	110	148	171	173	171	179	206	246	207	231	223	214	215	215	40	2,639	2,599	319	523	890	867
2018-19	2013	110	144	158	174	180	172	193	217	245	209	221	231	214	215	36	2,608	2,572	302	525	865	880
2019-20	2014	112	147	153	160	180	181	186	204	216	248	200	229	230	214	36	2,583	2,547	300	521	853	873
2020-21	2015	138	181	156	156	166	181	195	196	203	219	237	207	228	230	36	2,591	2,555	337	504	812	903
2021-22	2016	124	162	192	159	162	167	196	206	195	205	209	245	207	228	36	2,569	2,533	355	488	802	890
2022-23	2017	109	143	173	195	165	163	180	207	205	197	196	217	245	207	36	2,528	2,492	316	523	789	865
2023-24	2018	136	170	152	176	203	166	175	190	206	207	189	203	216	245	36	2,533	2,497	322	544	779	853
2024-25	2019	133	166	181	155	182	204	179	185	190	208	198	195	203	216	36	2,497	2,461	346	541	761	812
2025-26	2020	142	176	176	184	160	183	220	189	184	192	199	205	195	203	36	2,502	2,466	353	527	785	802
2026-27	2021	141	176	188	179	191	161	198	232	188	186	183	206	205	195	36	2,524	2,488	364	531	804	789
2027-28	2022	144	180	187	191	186	192	174	209	231	190	178	190	206	205	36	2,553	2,517	367	568	804	778

- K-1 cohort is projected to decline almost 6% over the next two years before rebounding due to the known spike in births in 2015
- 2-4 cohort is projected to remain stable out five years, despite a loss and rebound during the time period
- 5-8 cohort is projected to decrease 11% over the next five years, as known smaller cohorts enter those grade levels
- 9-12 cohort is projected to remain stable out 5 years, despite an increase to 900 students during the time period