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TO:	Dr. William S. McKersie, Ph.D. Superintendent, Weston Public Schools
FROM:	Pat Gallagher, AICP
RE:	Weston Enrollment Projections Update: Key Takeaways
DATE:	November 14, 2018
MMI #:	6115-02

In the fall of 2018, Milone & MacBroom, Inc. (MMI) completed its annual enrollment projections update for Weston Public Schools. The key takeaways from this year's update are summarized below.

- Comparison of Weston's actual October 2018 enrollment figures to MMI's recommended enrollment model shows a close overall correspondence between projected and realized enrollment, with K-12 enrollment running approximately 0.8% above the projections. In-migration at the elementary, intermediate, and middle grade levels exceeded projections by a small margin. Despite elevated in-migration across all grades, this year's incoming kindergarten class was ten students smaller than projected.

- As part of last year's enrollment projection report, MMI evaluated two methods for projecting kindergarten enrollment. The first method is a regression-based model based on births from 5-years prior, home sales lagged one-year, and median home sale price. This model produced an R-squared value of 0.92. The second method utilizes a variable Birth-to-Kindergarten (Birth-K) ratio. The Birth-K ratio compares a Kindergarten class with the number of births 5-years prior. Weston's Birth-K ratio fluctuates from year to year based on the size of the birth cohort. Larger birth cohorts typically produce a lower Birth-K ratio while smaller birth cohorts tend to produce a higher Birth-K ratio. The variable Birth-K method adjusts each year's Birth-K ratio (and thus kindergarten enrollments) based on a historic best-fit line. This method would have more accurately projected this year's kindergarten enrollment compared to the regression-based model. Therefore, this year's medium projections use a blend of the regression-based and variable Birth-K models for projecting future kindergarten enrollments. This year's medium projections model estimates slightly smaller kindergarten classes ranging from 120 to 128 students over the next ten years.

- Weston has a stable housing market, with home sales returning to pre-recession levels over the last six years. If current housing market trends continue, the town should continue to see elevated levels of in-migration, particularly in elementary, intermediate, and middle school grades.

- Greater in-migration of students entering grades 2 through 9 experienced in the 2018-19 school year will have lasting impacts on the size of the cohorts progressing through the middle and high school grade levels through the projection horizon.

- Updated projections through 2028-29 show a similar trajectory to the previously prepared medium scenario for Weston's overall K-12 enrollments. At the elementary grade levels, enrollments are projected to run slightly lower than previously projected as a result of

downwards adjustments in the size of future kindergarten classes. At the intermediate, middle, and high school grade levels, increased rates of student in-migration yield slightly higher enrollments beginning at the intermediate grade levels and then matriculating into the middle- and high-school grades later in the projections horizon. The net effect of these trends is positive, with net differences between the previous and current projection scenarios amounting to 19 additional students next school year, and 105 additional students for the 2027-28 school year.

- As with all enrollment projections, the updated projections presented in this memo are sensitive to changes in underlying conditions, including birth rates, housing sales, and student migration trends.

Projected Enrollments and Percent Change by Grade Groupings, 2018-19 to 2028-29

Medium Projections Model Enrollment by Grade Grouping

Year	PK-12	K-12	PK-2	3-5	6-8	9-12
2018-19	2,309	2,282	418	507	582	802
2019-20	2,290	2,263	413	510	581	786
2020-21	2,288	2,261	423	504	560	801
2021-22	2,264	2,237	437	481	558	788
2022-23	2,249	2,222	429	477	562	781
2023-24	2,241	2,214	431	488	555	767
2024-25	2,226	2,199	436	504	528	758
2025-26	2,220	2,193	440	494	525	761
2026-27	2,216	2,189	442	496	537	741
2027-28	2,225	2,198	443	503	554	725
2028-29	2,225	2,198	447	507	543	728

|						
First 5-year Change	-2.9%	-3.0%	3.1%	-3.7%	-4.6%	-4.4%
Second 5-year Change	-0.7%	-0.7%	3.7%	3.9%	-2.2%	-5.1%

Projected Enrollments by Grade (Medium Model), 2018-19 to 2028-29

District Projections: Blended - Medium B-K and Medium Kindergarten Regression

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK
2018-19	2013	55	109	128	154	163	164	180	188	200	194	203	207	185	207	27
2019-20	2014	71	128	123	135	166	175	169	187	192	202	198	199	205	184	27
2020-21	2015	62	121	145	130	146	178	180	176	191	193	206	194	197	204	27
2021-22	2016	60	120	137	153	141	156	184	187	179	192	197	202	193	196	27
2022-23	2017	60	121	136	145	165	151	161	191	191	180	196	193	200	192	27
2023-24	2018	61	123	137	144	156	177	155	168	195	192	184	192	192	199	27
2024-25	2019	63	125	139	145	155	167	182	161	171	196	196	180	191	191	27
2025-26	2020	61	124	142	147	156	166	172	189	164	172	200	192	179	190	27
2026-27	2021	61	125	140	150	158	167	171	179	193	165	176	196	191	178	27
2027-28	2022	61	126	142	148	162	169	172	178	182	194	169	172	194	190	27
2028-29	2023	61	127	143	150	160	173	174	179	181	183	198	166	171	193	27

Weston Public Schools Comprehensive Enrollment Study

October 2018

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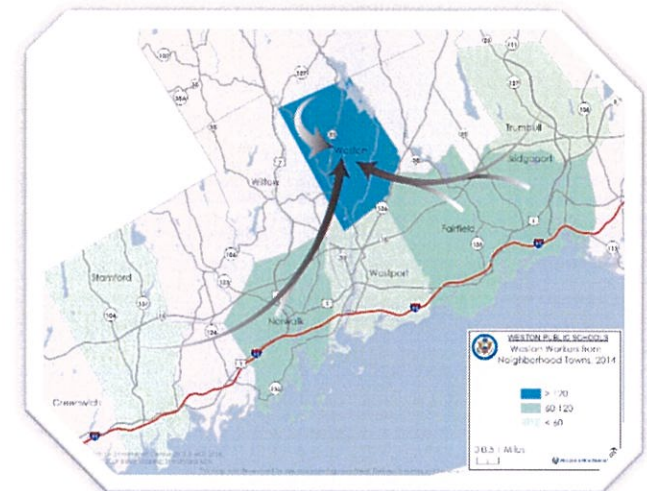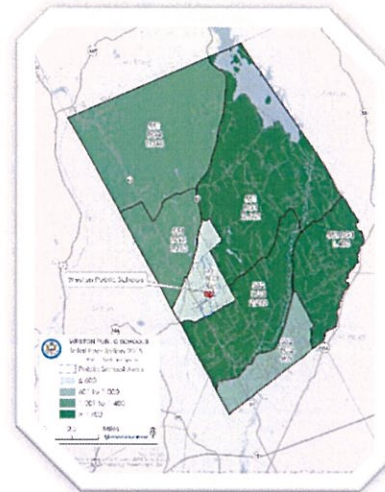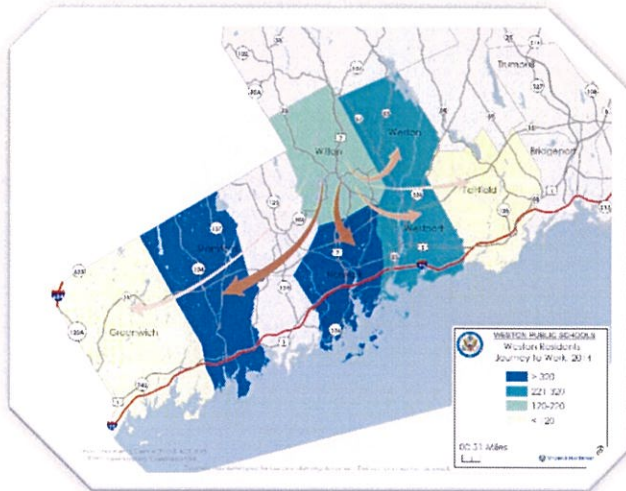
Introduction

- Demographic, Housing and Economic Indicators & Trends Update
- Enrollment Patterns and Trends
- Enrollment Projections

Total Population Change

- Total population increased 1.4% from 2000 to 2010, and is estimated to have increased another 1.7% during 2010-2016 according to the ACS

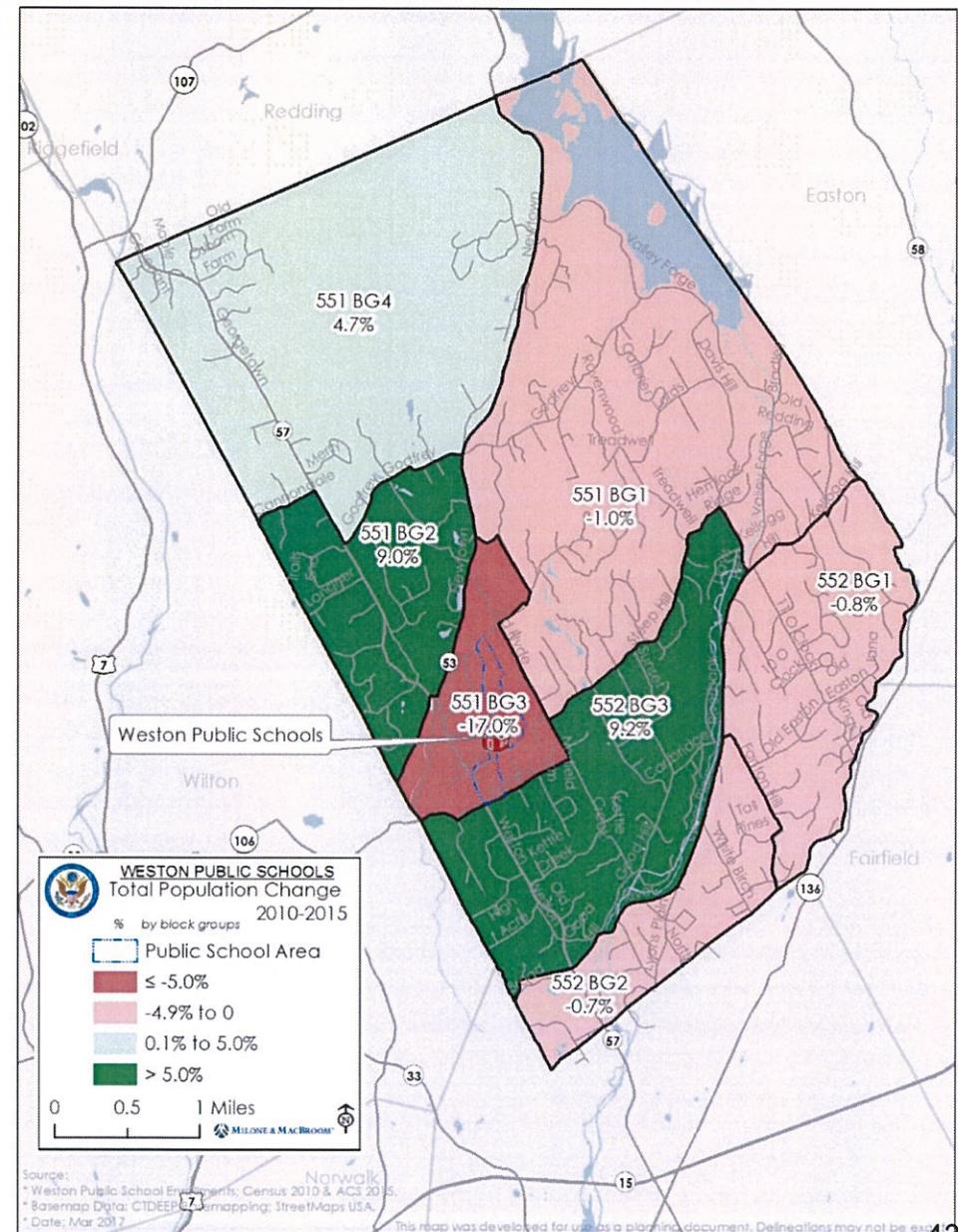- CT DOT projects steady growth through 2040

Historic and Projected Total Population 1960-2040
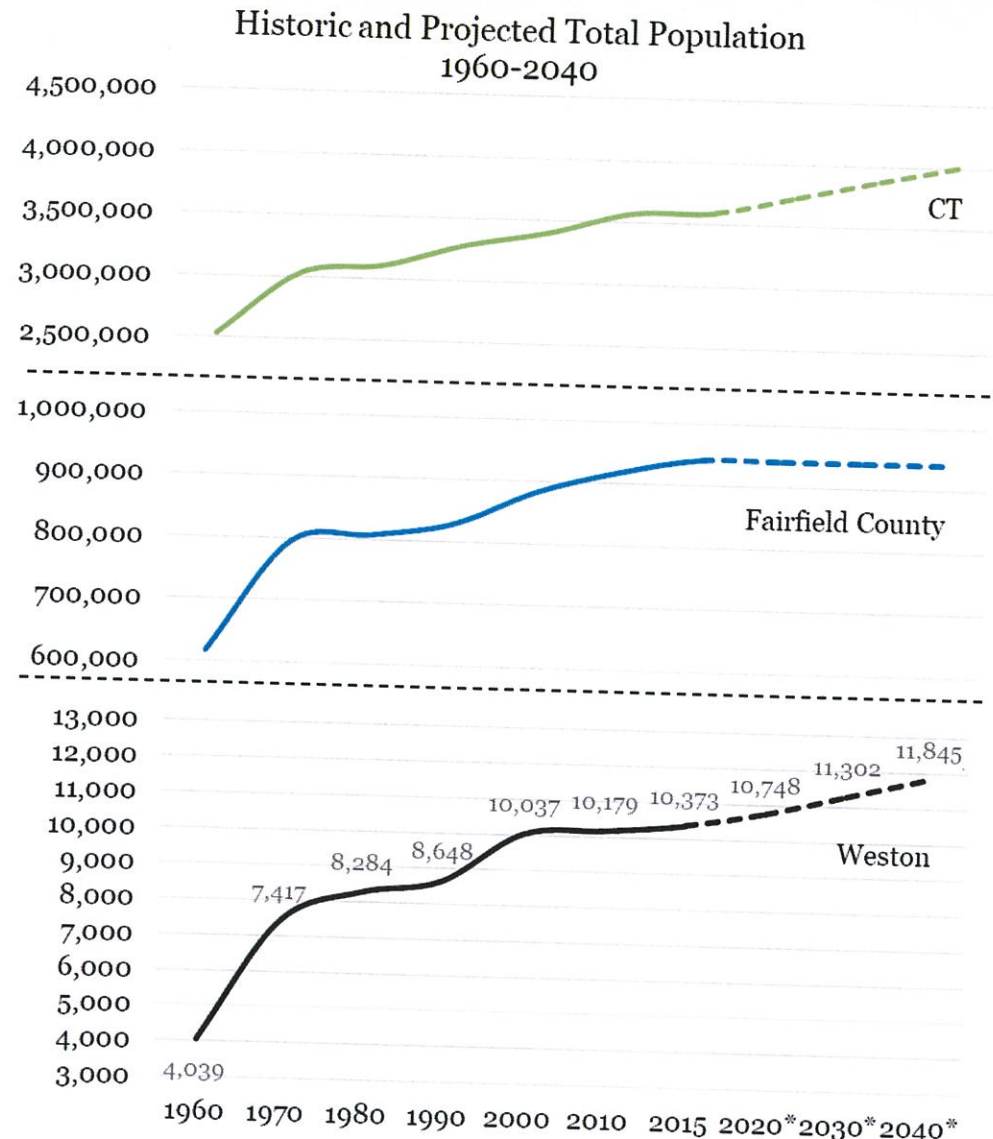
Source: US Census 2000 & 2010, ACS 2010-2015; * indicates CT DOT projections.

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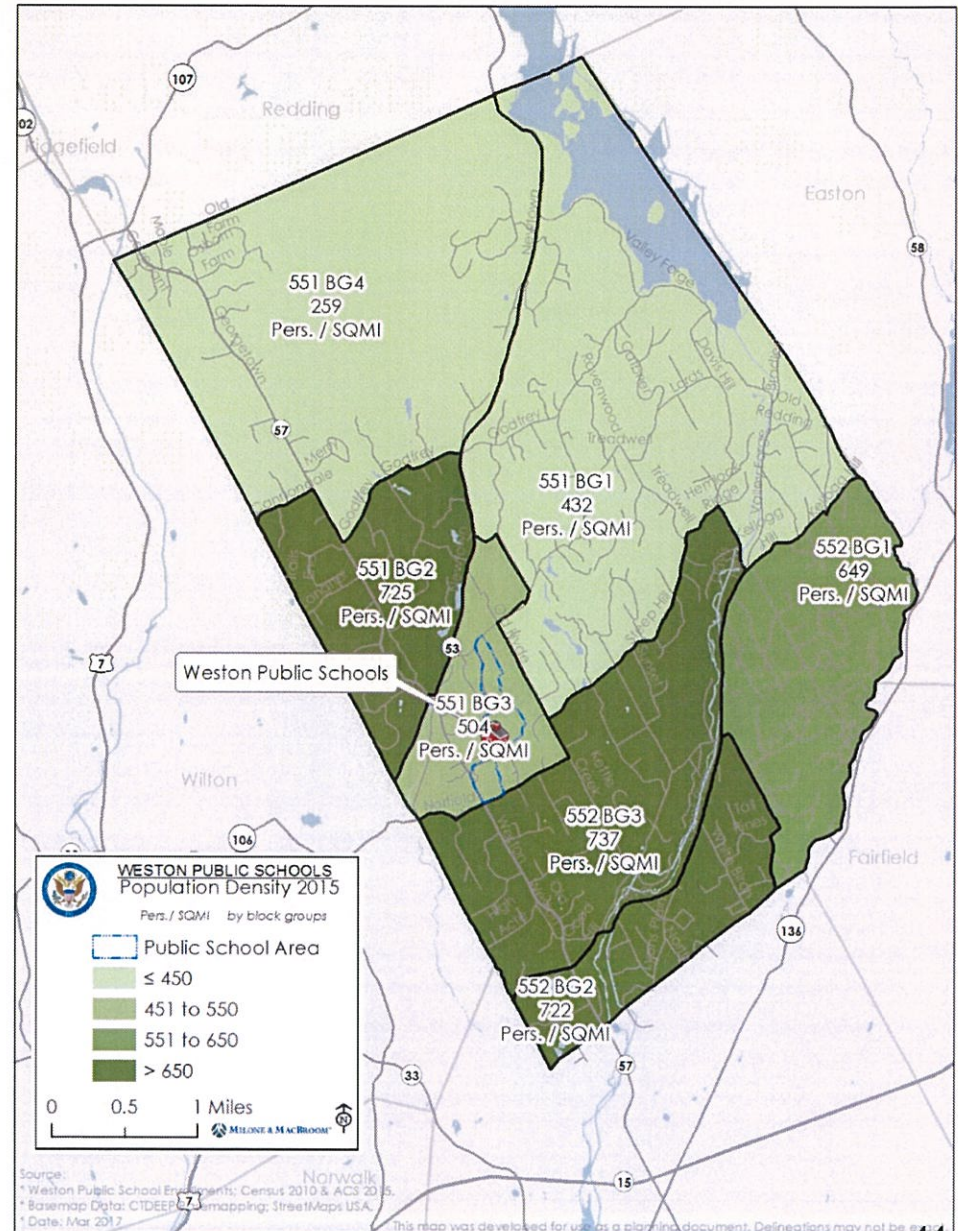
42

Total Population Change

- Growth in the first half of 2010s unevenly distributed throughout the town

- Greatest percentage gains in western neighborhoods closer to the Town Center

WESTON PUBLIC SCHOOLS
Total Population Change
2010-2015
% by block groups

- Public School Area
- ≤ -5.0%
- -4.9% to 0
- 0.1% to 5.0%
- > 5.0%

0   0.5   1 Miles

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Population Density

- Suburban to rural densities
- Average Fairfield County population density: 1,410 persons/sq. mile
- Average CT population density: 742 persons/sq. mile

WESTON PUBLIC SCHOOLS
Population Density 2015

Pers./SQMI   by block groups

- Public School Area
- ≤ 450
- 451 to 550
- 551 to 650
- > 650

0   0.5   1 Miles

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551 BG4
259
Pers. / SQMI

551 BG1
432
Pers. / SQMI

552 BG1
649
Pers. / SQMI

551 BG2
725
Pers. / SQMI

Weston Public Schools

551 BG3
504
Pers. / SQMI

552 BG3
737
Pers. / SQMI

552 BG2
722
Pers. / SQMI

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44

Population by Age and Sex

- Growth in the 10 to 24 and 45 to 64 year old cohorts; decline in 0 to 9 and 30 to 44 cohorts through the 2000s

- More recent estimates show growth in younger population (22 to 24), as well as decreases in the working age (25-49) cohorts (though this data is less precise than Decennial Census counts)

Weston Population Distribution 2016

Male: 2016   Female: 2016

Total Population Change 2010-2016
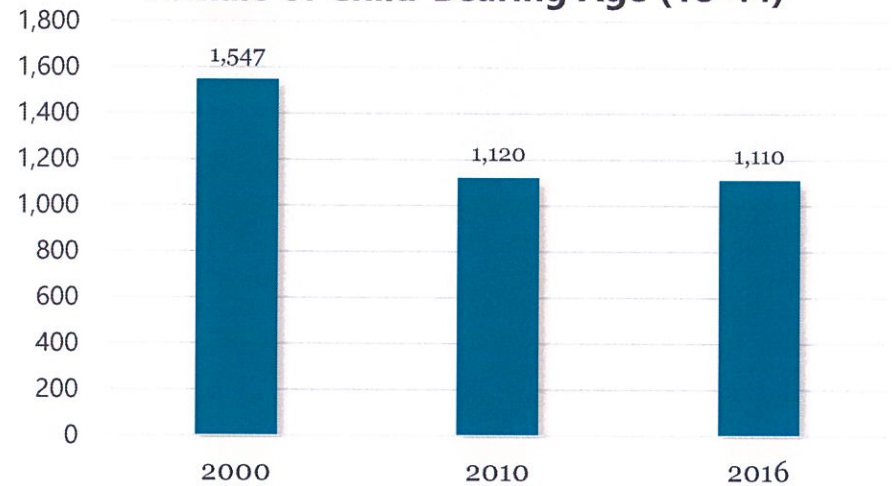

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45
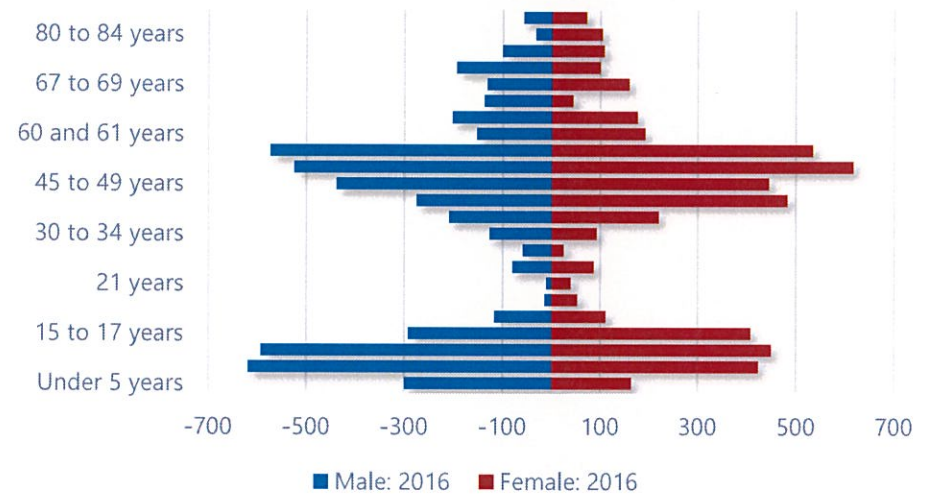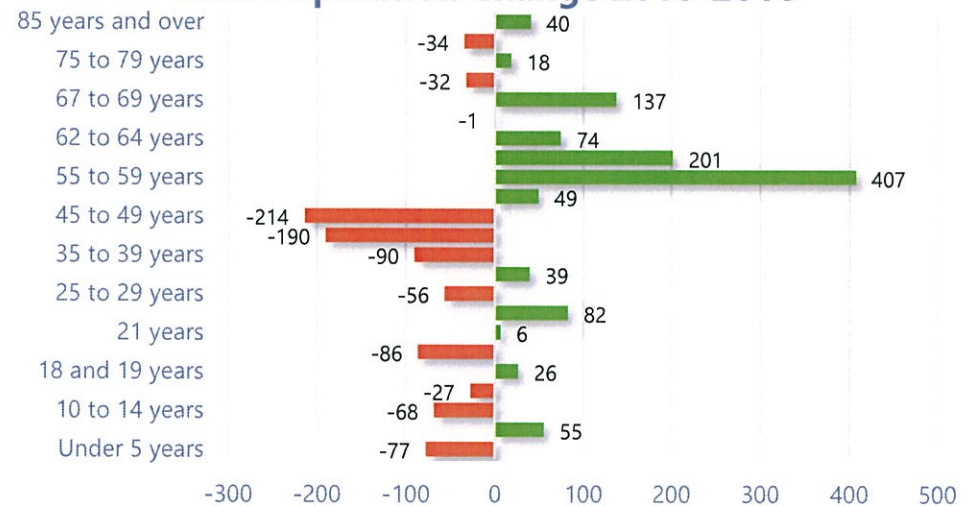
Females of Child-Bearing Age (18-44)

- Population of potential mothers stabilized from 2010-2016, following a large decrease from 2000-2010

- Highest birth rates for women in their 30s.

Female of Child-Bearing Age (18-44)

Year	Value
2000	1,547
2010	1,120
2016	1,110

Source: U.S. Census 2000 and 2010; ACS 2016.

Age Specific Fertility Rates for Weston: 2009-2013
(Births Per Thousand Women in Age Group)

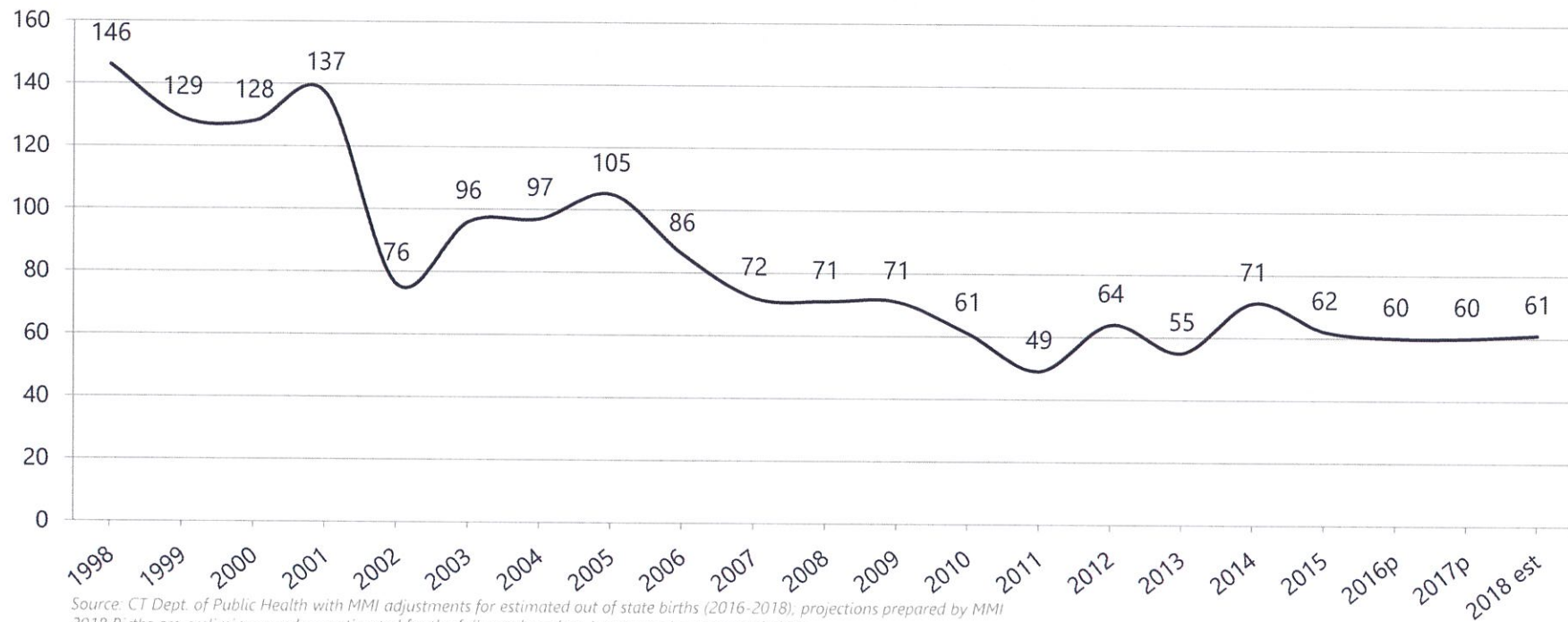| <14	15 to 19	20 to 24	24 to 29	30 to 34	35 to 39	40 to 44	45 to 50	Total
0.0	1.1	6.8	92.6	166.0	129.0	16.3	1.1	22.2

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Births

Weston Historic Births 1998-2018

Source: CT Dept. of Public Health with MMI adjustments for estimated out of state births (2016-2018), projections prepared by MMI
2018 Births are preliminary and are estimated for the full year based on January to June reported births

- The small size of the community and low absolute number of births exaggerates small year-to-year changes

- Annual births declined 14% from 2008 to 2018 (based on most recent estimates). However, births have been flat for last 4 years.

- Moderate increases in births in 2012 and 2014 are tied to 2017-18 and 2019-20 entering kindergarten classes

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Weston and CT Unemployment Rates, 2005 - 2018 YTD
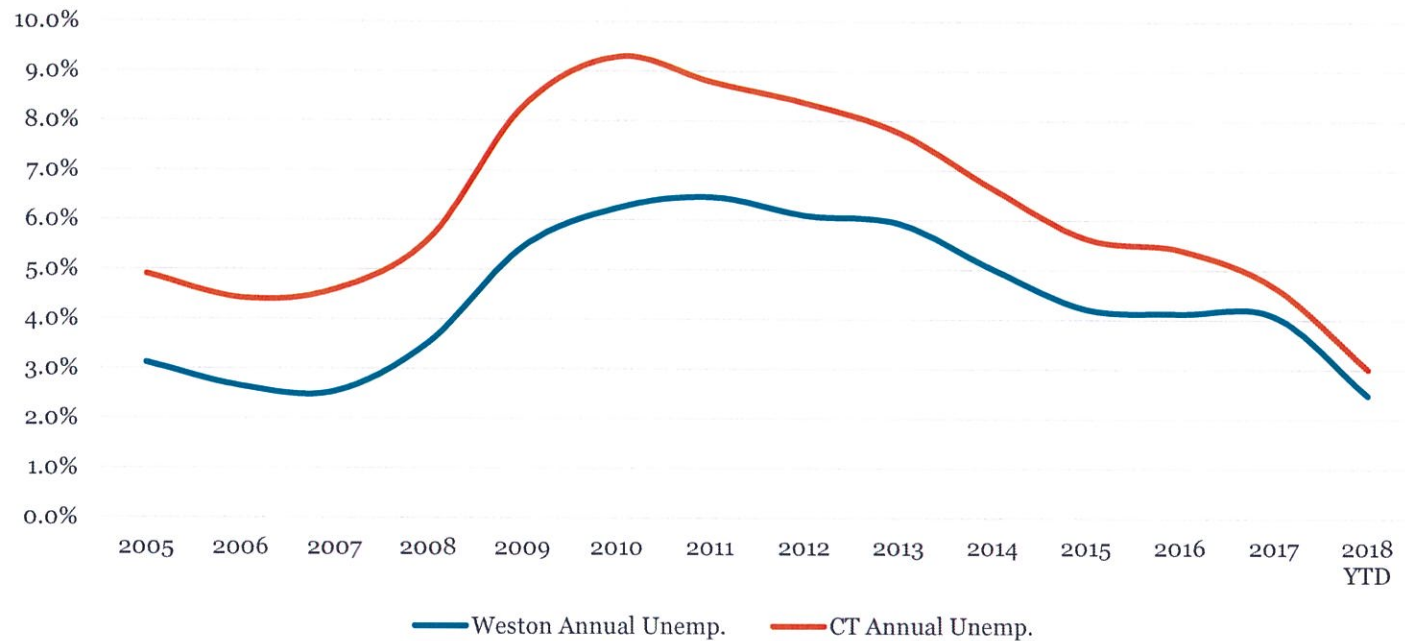
- Local unemployment rate has consistently trended approximately 1.5-3.0 percentage points below statewide levels

- Local and regional economic conditions are improving

Demographics Summary

➢ Population growth has been slow through the last 15 years

➢ Birth rates decreased through the late 2000s, and has fluctuated at a low level from 2010 to the present

➢ For the last four years, births have averaged approximately 61 annually

Housing

Owner Occupied Housing Units and Households, 2000-2016

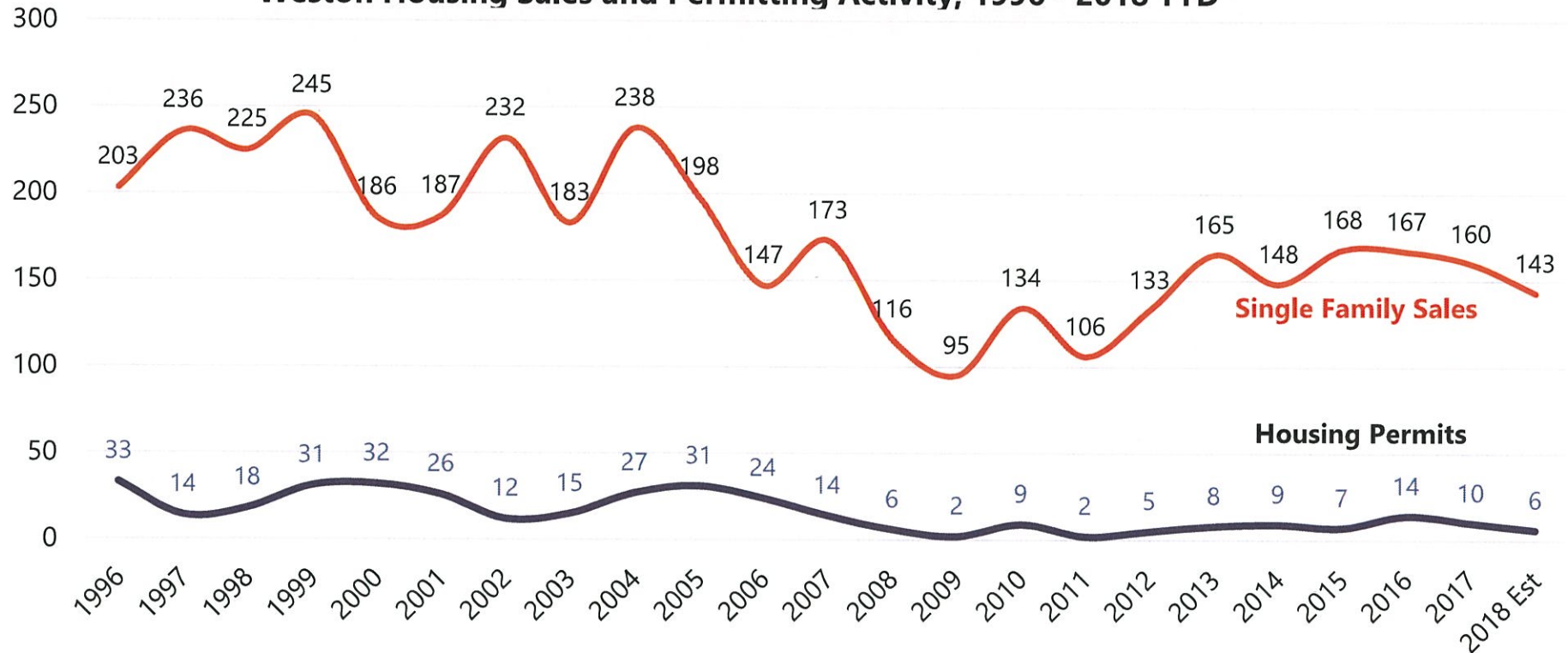|	Weston			Change 2010-2016	
	2000	**2010**	**2016**	**Number**	**%**
Total Population	10,037	10,179	10,347	168	1.7%
Total Housing Units	3,532	3,674	3,859	185	5.0%
Total Occupied Housing Units	3,312	3,379	3,440	61	1.8%
Owner Over 65 Occupied Housing Units	577	652	747	95	14.6%
Total Households	3,312	3,379	3,249	-130	-3.8%
Family Households	2,811	2,854	2,780	-74	-2.6%
With Own Children Under 18	1,649	1,647	1,632	-15	-0.9%
Married Couple Family	2,597	2,557	2,564	7	0.3%
With Own Children Under 18	1,511	1,482	1,556	74	5.0%
Female Householder, No husband Present	166	222	170	-52	-23.4%
With Own Children Under 18	109	125	114	-11	-8.8%
Non-Family Households	501	525	469	-56	-10.7%
Householder Living Alone	372	421	406	-15	-3.6%
Householder 65 Years and Over	161	196	194	-2	-1.0%
Average Household Size	3	3.0	3.0	0.04	1.3%
Average Family Size	3.3	3.3	3.3	0.01	0.3%

Source: U.S Census 2000 and 2010, ACS 2016

- Total number of housing units increased 5% from 2010 to 2016
- Owner-occupied housing units with homeowners age 65 or older increased 14.6%, indicating stock with greater potential for future turnover

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50

Housing Permits (New Construction)

Weston Housing Sales and Permitting Activity, 1996 - 2018 YTD

Single Family Sales values (red line): 203, 236, 225, 245, 186, 187, 232, 183, 238, 198, 147, 173, 116, 95, 134, 106, 133, 165, 148, 168, 167, 160, 143

Housing Permits values (dark line): 33, 14, 18, 31, 32, 26, 12, 15, 27, 31, 24, 14, 6, 2, 9, 2, 5, 8, 9, 7, 14, 10, 6

Years: 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018 Est

Source: CT DECD and The Warren Group, 2017

➢ Permits for new housing construction have seen limited and slow recovery since Great Recession-era dropoff – limited vacant land left

➢ Existing inventory inhibiting new development

➢ Currently 23 open home permits (in all stages of development) not yet built

Median Housing Price

Comparison of Median Single-Family Home Sale Prices: 2008 and 2017

	Weston	Redding	Ridgefield	Easton	New Canaan	Norwalk	Westport	Fairfield	Wilton
2008	$900,000	$625,000	$705,000	$770,000	$1,555,000	$500,000	$1,210,000	$590,000	$866,250
2017	$792,500	$490,000	$641,500	$575,000	$1,472,500	$450,000	$1,200,000	$580,000	$702,500
2018 YTD	$699,500	$550,000	$651,750	$621,132	$1,350,000	$497,500	$1,185,000	$600,000	$755,000
Ratio	88.1%	78.4%	91.0%	74.7%	94.7%	90.0%	99.2%	98.3%	81.1%

- 2017 median single family sale price: $792,000
- Median prices in Weston have remained more affordable than Westport/New Canaan, on par with Wilton, and well above other central Fairfield County towns

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52

Age 65+ Ownership Units

Age 65+ Occupied Housing Units 2016

Total Population of Age 65+	10,347
Total Occupied Housing Units	3,440
Total Owner Occupied Housing Units	3,249
Owner Over 65 Occupied Housing Units	747
% of Owner Occupied Housing Units, Aged 65+	23%
Housing Units With a Mortgage, Aged 65+	382
Housing Units Without a Mortgage, Aged 65+	369
Total Renter Occupied Housing Units	191
Renter Over 65 Occupied Housing Units	18
% of Renter Occupied Housing Units, Aged 65+	9.4%

Source: U.S Census 2000 and 2010, ACS 2016

- Overall 23% of owner-occupied units are headed by a householder age 65 years old and over

- About half of the Aged 65+ population own their home "free and clear"

- These units will likely have greater potential for turnover in the next ten years

Housing Summary

- Stable real estate market driven by high quality of local schools

- Almost exclusively owner-occupied housing stock with low rental vacancy rates, creating a stable long-term residential base

- Largely built-out community with limited opportunities for significant expansion of housing stock under current zoning

- Increasing number of owner-occupants over age 65 a leading indicator of future housing turnover

- Town is undertaking their 10-Yr Plan of Conservation and Development Update

Historic Enrollment

Total (PK-12) Historic Enrollments
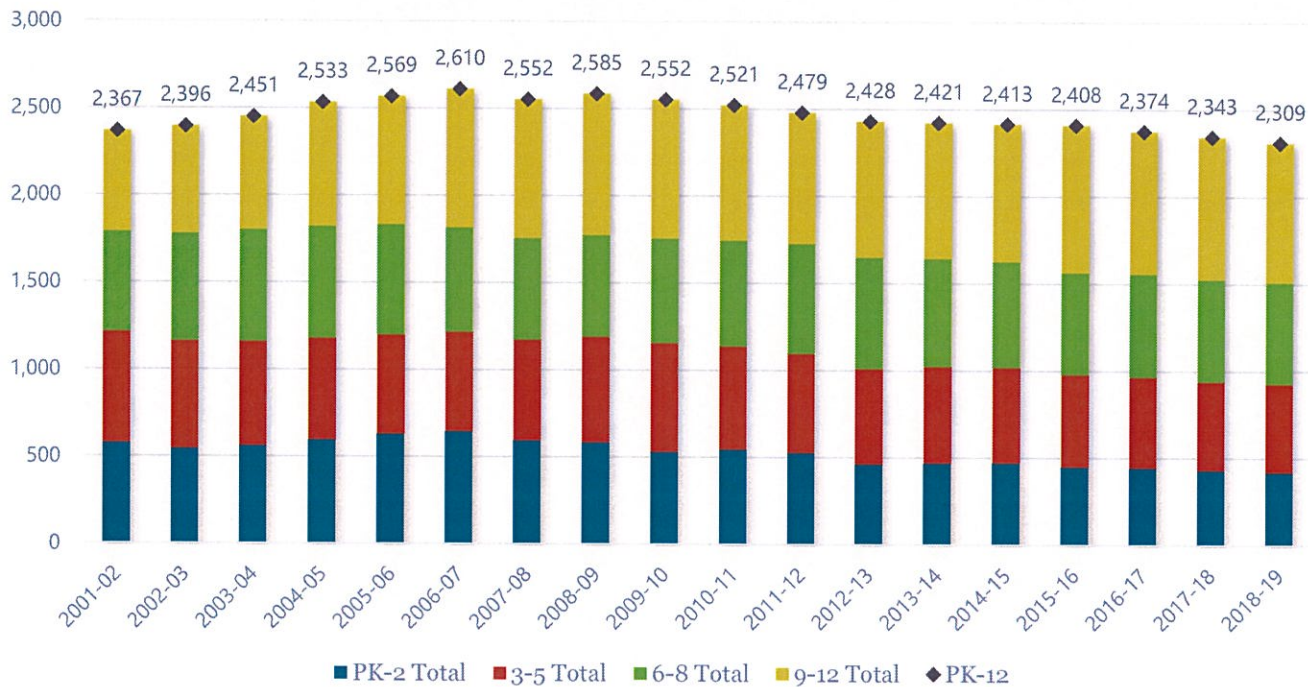### Weston Public Schools
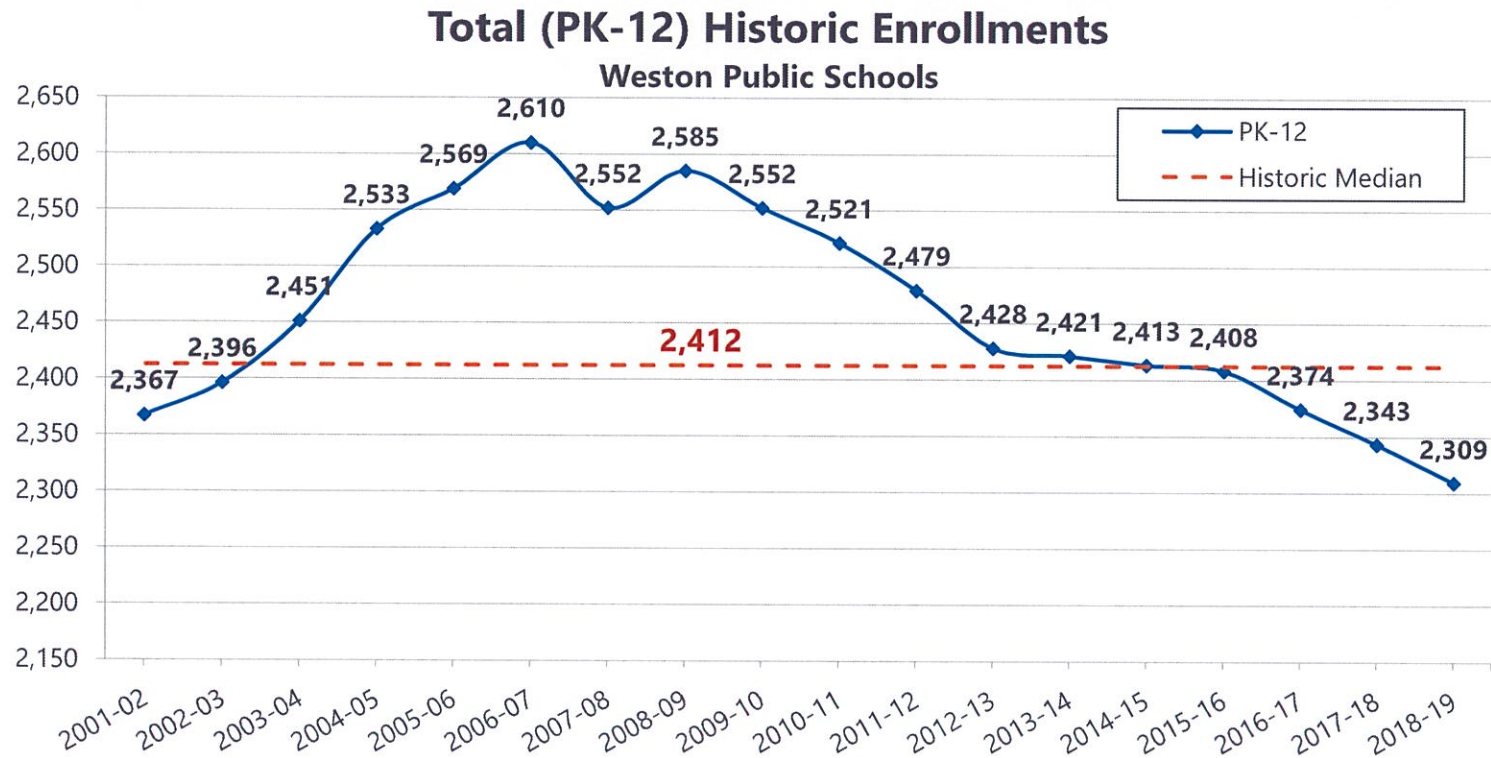
Sources: CT Dept. of Education EdSight, and Weston Public Schools

- Historic enrollment followed an increasing trend through the early 2000s to a peak in 2006-07, followed by a steady decline since 2008-09

Weston Historic Enrollments, 2001-02 to 2018-19

Legend: ■ PK-2 Total ■ 3-5 Total ■ 6-8 Total ■ 9-12 Total ◆ PK-12

Enrollment totals (PK-12): 2,367 (2001-02), 2,396 (2002-03), 2,451 (2003-04), 2,533 (2004-05), 2,569 (2005-06), 2,610 (2006-07), 2,552 (2007-08), 2,585 (2008-09), 2,552 (2009-10), 2,521 (2010-11), 2,479 (2011-12), 2,428 (2012-13), 2,421 (2013-14), 2,413 (2014-15), 2,408 (2015-16), 2,374 (2016-17), 2,343 (2017-18), 2,309 (2018-19)
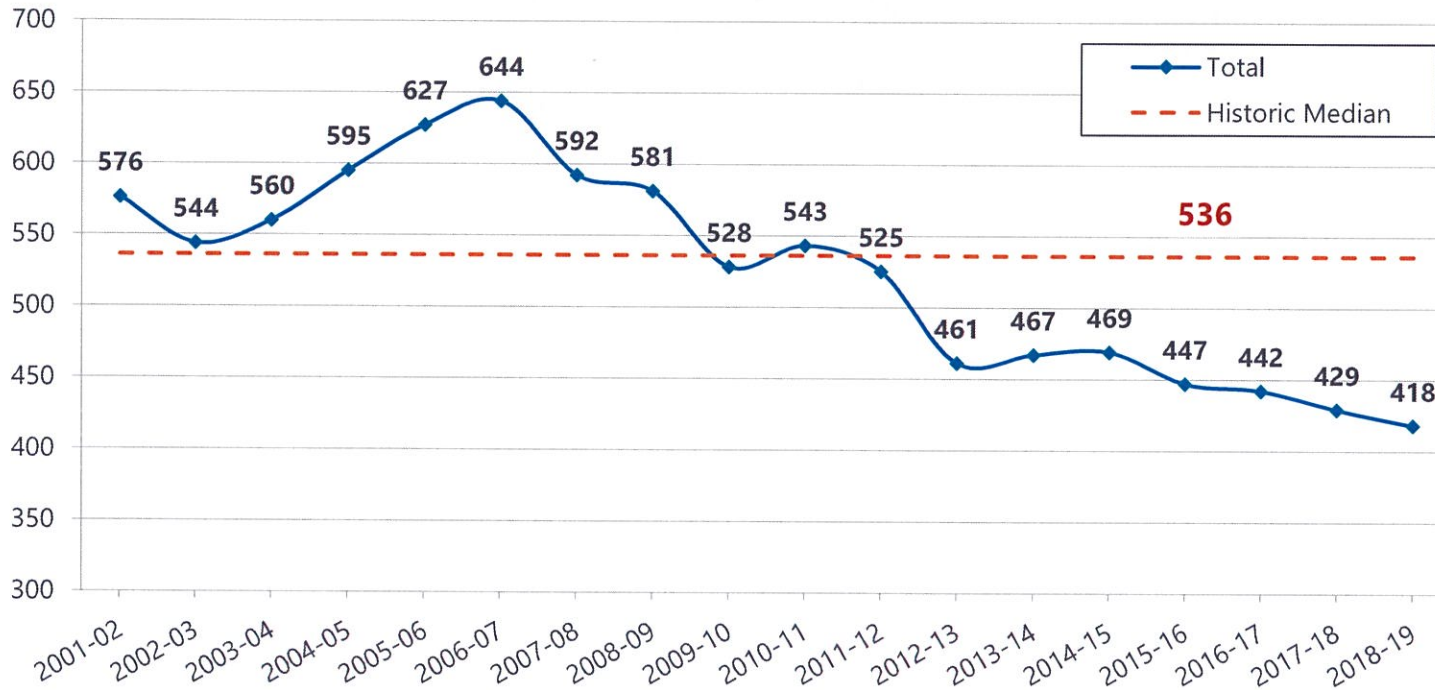
- Examining historic enrollment at the unit of each grade level illustrates changing dynamics that sum to the total system-wide change in enrollment

Elementary (PK-2nd) Enrollments
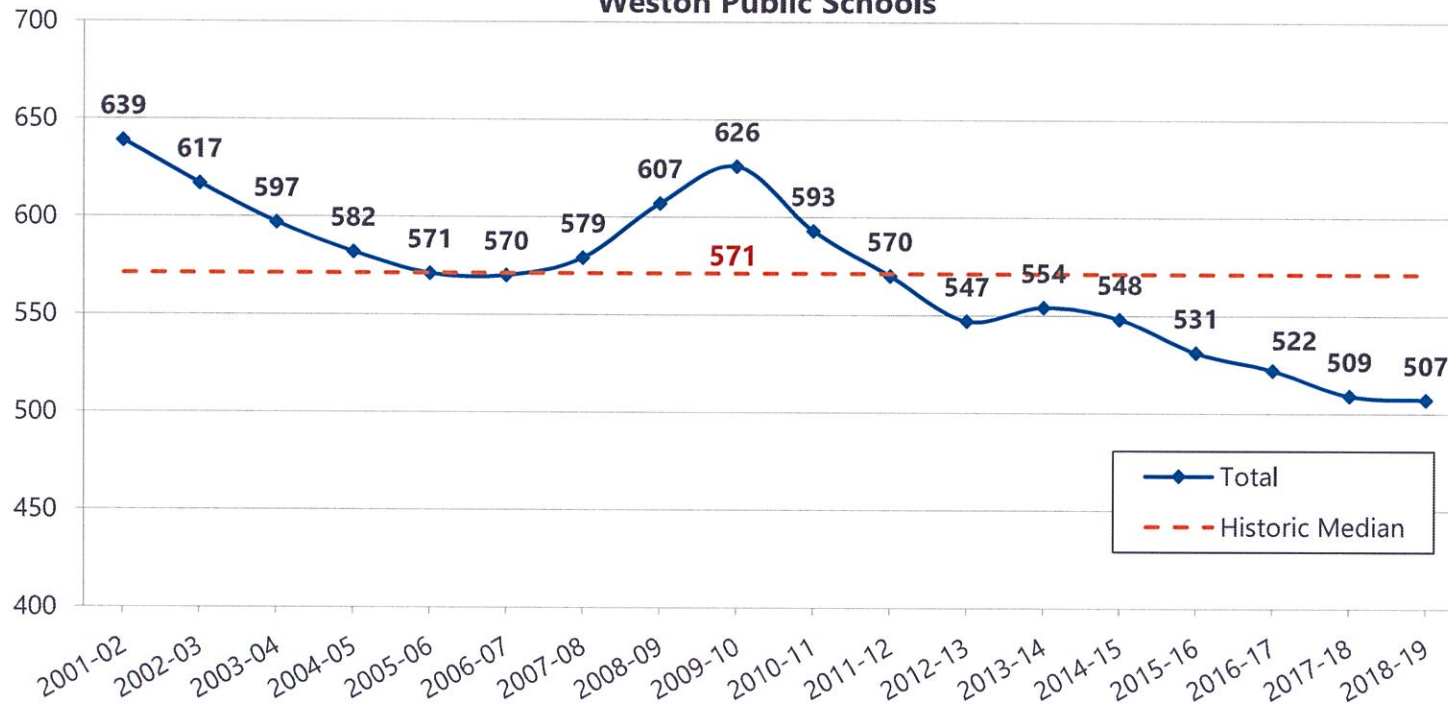### Weston Public Schools

- Elementary enrollment has been on a downward trend since 2006-07; this grade level is most responsive to changes in births, migration, and housing conditions
- Rate of decline has slowed over the last five years

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Historic Enrollment

Intermediate (3rd - 5th) Enrollments
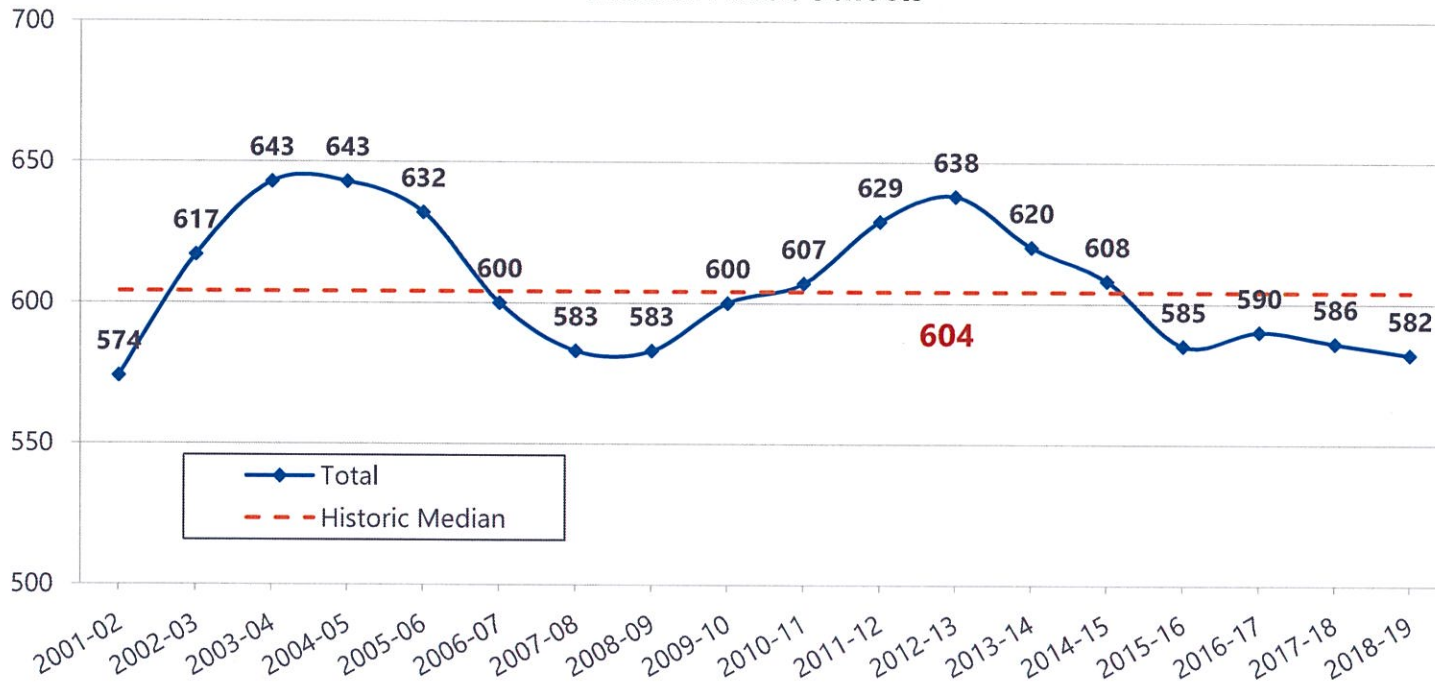### Weston Public Schools

Sources: CT Dept. of Education CeDar, and Weston Public Schools

- Intermediate enrollments fall in 2010-11 and continue downward, a few years after elementary enrollments began declining
- 2018-19 shows "leveling off" of enrollments

Middle (6th-8th) Enrollments
Weston Public Schools

Sources: CT Dept. of Education CeDar, and Weston Public Schools

- Middle school enrollments peaked in early 2000s (on large cohorts that entered in the mid-90s) and again in 2012-13 (on cohorts entering in mid-2000s); now in declining phase as larger cohorts matriculate to high school levels

Historic Enrollment

High (9th-12th) Enrollments
Weston Public Schools

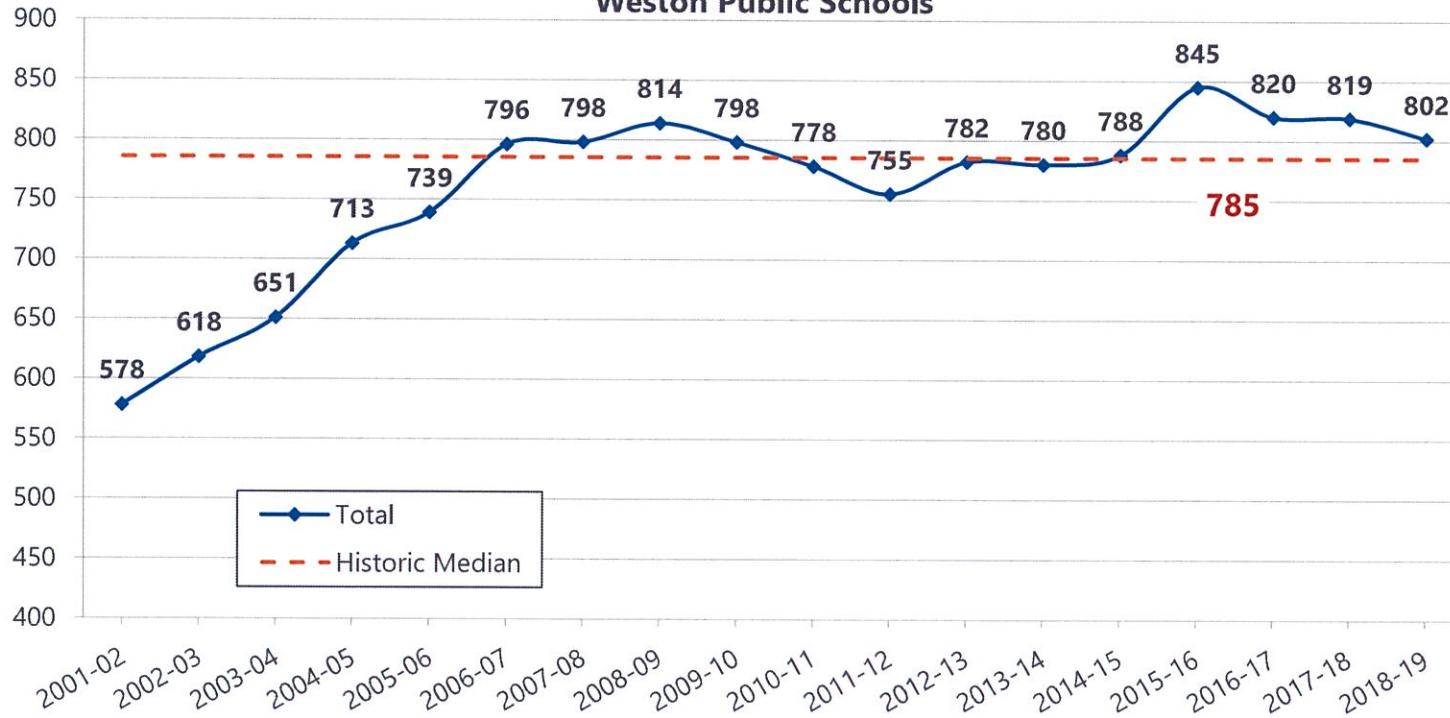Sources: CT Dept. of Education CeDar, and Weston Public Schools

- High school enrollments peaked in 2015-16.
- Has declined slowly since peak as smaller incoming 9th grade classes replace larger graduating classes

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Historic Enrollment

Weston Public School Enrollment History
Kindergarten through 12th Grade

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK
2001-02	1996	114	158	210	193	201	226	212	217	181	176	176	135	129	138	15
2002-03	1997	114	159	170	194	193	201	223	221	209	187	173	175	137	133	21
2003-04	1998	146	187	163	181	194	195	208	218	215	210	180	167	173	131	29
2004-05	1999	129	184	204	176	184	201	197	211	226	206	206	169	167	171	31
2005-06	2000	128	182	194	213	174	191	206	199	201	232	212	201	163	163	38
2006-07	2001	137	210	194	200	210	174	186	208	191	201	225	207	197	167	40
2007-08	2002	76	146	220	191	196	213	170	188	203	192	197	219	197	185	35
2008-09	2003	96	166	159	220	202	194	211	183	190	210	196	206	214	198	36
2009-10	2004	97	158	171	160	214	203	209	217	181	202	208	191	193	206	39
2010-11	2005	105	159	166	178	170	216	207	211	215	181	195	205	186	192	40
2011-12	2006	86	162	156	177	180	173	217	211	207	211	170	193	203	189	30
2012-13	2007	72	115	157	163	180	188	179	221	210	207	210	175	188	209	26
2013-14	2008	71	136	135	175	174	183	197	190	215	215	214	209	171	186	21
2014-15	2009	71	140	150	146	185	177	186	206	188	214	202	208	206	172	33
2015-16	2010	61	124	141	157	161	186	184	190	209	186	218	208	206	213	25
2016-17	2011	49	128	143	146	164	173	185	188	194	208	189	216	207	208	25
2017-18	2012	64	113	142	147	154	175	180	196	192	198	212	185	214	208	27
2018-19	2013	55	109	128	154	163	164	180	188	200	194	203	207	185	207	27

State Department of Education - Public School Information System, Summary Report for 2001-02 to 2011-12; CT CeDar 2012-13 to 2015-16; CT EdSight 2016-17

➤ Peak enrollment conditions occurred when several large cohorts were simultaneously in the system (highlighted in green)

➤ As smaller kindergarten cohorts began entering the system in 2007-08 and particularly since 2012-13, elementary & intermediate grade levels have shrunk while high school has grown

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Historic Enrollment

Weston Public School Enrollment History
Kindergarten through 12th Grade

School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK
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2002-03	1997	114	159	170	194	193	201	223	221	209	187	173	175	137	133	21
2003-04	1998	146	187	163	181	194	195	208	218	215	210	180	167	173	131	29
2004-05	1999	129	184	204	176	184	201	197	211	226	206	206	169	167	171	31
2005-06	2000	128	182	194	213	174	191	206	199	201	232	212	201	163	163	38
2006-07	2001	137	210	194	200	210	174	186	208	191	201	225	207	197	167	40
2007-08	2002	76	146	220	191	196	213	170	188	203	192	197	219	197	185	35
2008-09	2003	96	166	159	220	202	194	211	183	190	210	196	206	214	198	36
2009-10	2004	97	158	171	160	214	203	209	217	181	202	208	191	193	206	39
2010-11	2005	105	159	166	178	170	216	207	211	215	181	195	205	186	192	40
2011-12	2006	86	162	156	177	180	173	217	211	207	211	170	193	203	189	30
2012-13	2007	72	115	157	163	180	188	179	221	210	207	210	175	188	209	26
2013-14	2008	71	136	135	175	174	183	197	190	215	215	214	209	171	186	21
2014-15	2009	71	140	150	146	185	177	186	206	188	214	202	208	206	172	33
2015-16	2010	61	124	141	157	161	186	184	190	209	186	218	208	206	213	25
2016-17	2011	49	128	143	146	164	173	185	188	194	208	189	216	207	208	25
2017-18	2012	64	113	142	147	154	175	180	196	192	198	212	185	214	208	27
2018-19	2013	55	109	128	154	163	164	180	188	200	194	203	207	185	207	27

State Department of Education - Public School Information System, Summary Report for 2001-02 to 2011-12; CT CeDar 2012-13 to 2015-16; CT EdSight 2016-17

➢ As existing mid-size cohorts matriculate to high school level, moderate declines are likely at upper grade levels

➢ Current cohorts at grades K-4 are much smaller than historic levels and will continue to impact the system for the next 8-12 years

Historic Enrollment

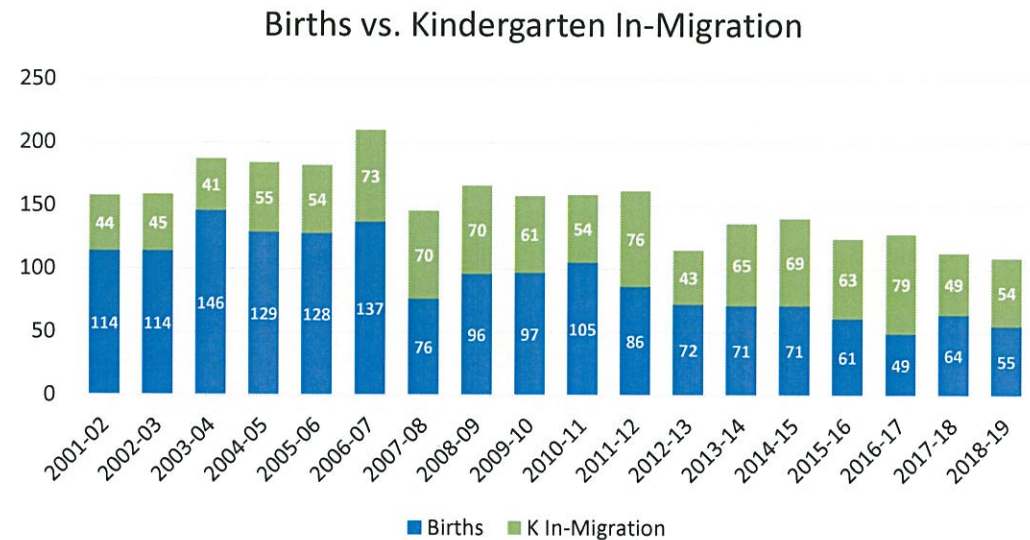**Kindergarten through 12th Grade Persistency Ratios by School Year**
2002-03 to 2016-17

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 (2-7 to 3-8)
2002-03	1.3947	1.0759	0.9238	1.0000	1.0000	0.9867	1.0425	0.9631	1.0331	0.9830	0.9943	1.0148	1.0310	0.33%
2003-04	1.2808	1.0252	1.0647	1.0000	1.0104	1.0348	0.9776	0.9729	1.0048	0.9626	0.9653	0.9886	0.9562	-0.08%
2004-05	1.4264	1.0909	1.0798	1.0166	1.0361	1.0103	1.0144	1.0367	0.9581	0.9810	0.9389	1.0000	0.9884	1.16%
2005-06	1.4219	1.0543	1.0441	0.9886	1.0380	1.0249	1.0102	0.9526	1.0265	1.0291	0.9757	0.9645	0.9760	0.67%
2006-07	1.5328	1.0659	1.0309	0.9859	1.0000	0.9738	1.0097	0.9598	1.0000	0.9698	0.9764	0.9801	1.0245	-1.18%
2007-08	1.9211	1.0476	0.9845	0.9800	1.0143	0.9770	1.0108	0.9760	1.0052	0.9801	0.9733	0.9517	0.9391	-0.60%
2008-09	1.7292	1.0890	1.0000	1.0576	0.9898	0.9906	1.0765	1.0106	1.0345	1.0208	1.0457	0.9772	1.0051	2.50%
2009-10	1.6289	1.0301	1.0063	0.9727	1.0050	1.0773	1.0284	0.9891	1.0632	0.9905	0.9745	0.9369	0.9626	2.17%
2010-11	1.5143	1.0506	1.0409	1.0625	1.0093	1.0197	1.0096	0.9908	1.0000	0.9653	0.9856	0.9738	0.9948	1.35%
2011-12	1.8837	0.9811	1.0663	1.0112	1.0176	1.0046	1.0193	0.9810	0.9814	0.9392	0.9897	0.9902	1.0161	0.17%
2012-13	1.5972	0.9691	1.0449	1.0169	1.0333	1.0347	1.0184	0.9858	1.0000	0.9953	1.0176	0.9741	1.0099	1.37%
2013-14	1.9155	1.1739	1.1146	1.0675	1.0167	1.0430	1.0615	0.9683	1.0288	1.0338	0.9952	0.9827	0.9574	2.81%
2014-15	1.9718	1.1029	1.0815	1.0571	1.0172	1.0164	1.0464	0.9895	0.9907	0.9393	0.9673	0.9856	0.9824	1.86%
2015-16	2.0328	1.0071	1.0467	1.1027	1.0054	1.0395	1.0215	1.0296	0.9894	1.0283	1.0348	0.9952	1.0340	2.86%
2016-17	2.6122	1.1532	1.0284	1.0382	1.0745	0.9946	1.0163	1.0211	0.9809	1.0161	0.9771	0.9904	1.0000	1.84%
2017-18	1.7656	1.1094	1.0280	1.0552	1.0675	1.0405	1.0595	1.0160	1.0206	1.0244	0.9735	0.9812	0.9951	4.20%
2018-19	1.9818	1.1327	1.0845	1.1088	1.0719	1.0345	1.0444	1.0204	1.0211	1.0253	0.9857	1.0054	0.9904	4.71%
Long Term Avg.	1.7242	1.0611	1.0372	1.0238	1.0178	1.0152	1.0242	0.9885	1.0064	0.9889	0.9874	0.9804	0.9918	
5-Year Avg.	2.0728	1.1011	1.0538	1.0724	1.0473	1.0251	1.0376	1.0153	1.0005	1.0067	0.9877	0.9916	1.0004	
3-Year Avg.	2.1199	1.1318	1.0470	1.0674	1.0713	1.0232	1.0401	1.0192	1.0075	1.0219	0.9788	0.9923	0.9952	

- Substantial increases in cohort size through elementary and intermediate school years: In-migration has averaged over 4% the last two years.

MILONE & MACBROOM

Birth-K Analysis

- Predicting future kindergarten cohorts has been historically challenging in Weston due to low local birthrates and high levels of in-migration of families with children age 0 to 5

- This challenge has been magnified in recent years as Birth-K ratio has risen from ~1.5 (or 50% increase in the size of incoming classes relative to local births) to 2.61 in 2016-17

- Since peak in 2016-17, Birth to K has returned to recent historic levels

Births vs. Kindergarten In-Migration

Year	Births	K In-Migration
2001-02	114	44
2002-03	114	45
2003-04	146	41
2004-05	129	55
2005-06	128	54
2006-07	137	73
2007-08	76	70
2008-09	96	70
2009-10	97	61
2010-11	105	54
2011-12	86	76
2012-13	72	43
2013-14	71	65
2014-15	71	69
2015-16	61	63
2016-17	49	79
2017-18	64	49
2018-19	55	54

■ Births ■ K In-Migration

Projections Primer

- 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

- **In scenarios where external factors drive enrollment in a fashion without linear relationships to existing births and/or enrollments, adjustments to the cohort-survival methodology may improve projections**

Kindergarten Projections

- Two methodological options for projecting K—each carries different assumptions

- Traditional cohort-survival method based on historic Birth-K ratios
  - Standard methodology based on recent years' births and K enrollments
  - Assumes stable and linear relationship between future births and total kindergarten enrollment from all sources (e.g. home purchases, rentals, etc.)
  - Potential to over-respond to year-to-year variations in births
  - **Variable Birth-K ratio each year to stabilize total number of kindergarten students generated by in-migration; minimal differences from stable Birth-K method**

- Regression-based estimate based on historic births, home sales, and K data
  - Adjustment to standard methodology
  - Assumes linear relationships between kindergarten enrollment and two variables (home sales and births) based on multiple regression analysis of all available years of data
  - Places greater weight on housing sales trends projected under each scenario compared to the traditional approach (especially in years 1-5)

Kindergarten Projections

➢ Regression analysis of kindergarten enrollment vs. home sales and births yields good model fit and significance metrics ($R^2 = 0.92$):

$$K_{Yr} = (Births_{Yr-5} * 0.821) + (\text{Average } Five\ Year\ Sales_{Yr} * 0.03886) + (\text{Median SF Home Sale Price}_{Yr} * 0.00009) - 7.459$$

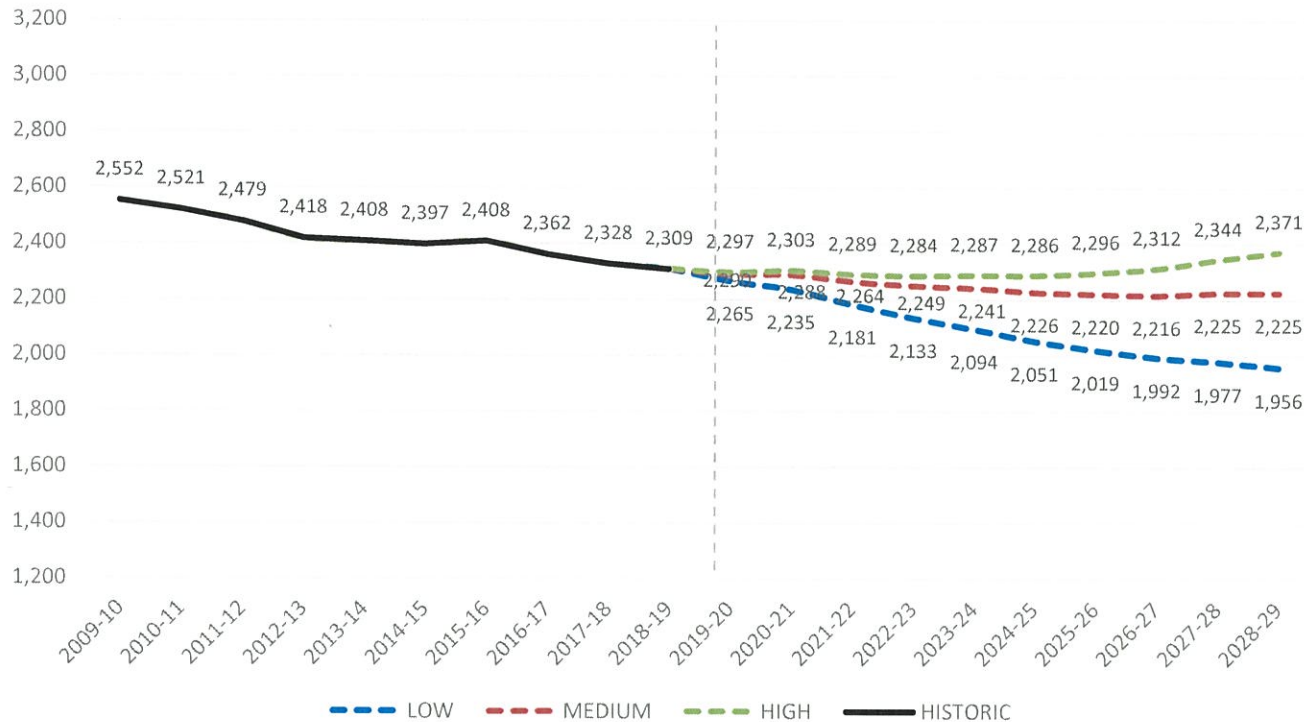➢ **K Projections are based a blend of the Cohort Survival and Regression based K projection.**

	Scenario Parameters		
	Low	*Medium*	*High*
Annual Births	52 - 53	56 - 65	60 - 85
Annual Home Sales	145 - 150	147 - 180	150 - 210
Medial Sale Price (2018 $)	~$700k	$720k - $800k	$730k - $975k

Districtwide Projections

Projection Model Comparison (PK-12)
Weston Public Schools

> ➤ Developed projections under three scenarios (Low, Med & High)
> ➤ **Medium projections model most closely aligns with underlying demographic, housing, and economic trends**

10-Yr Projections (Medium)

District Projections: Blended - Medium B-K and Medium Kindergarten Regression

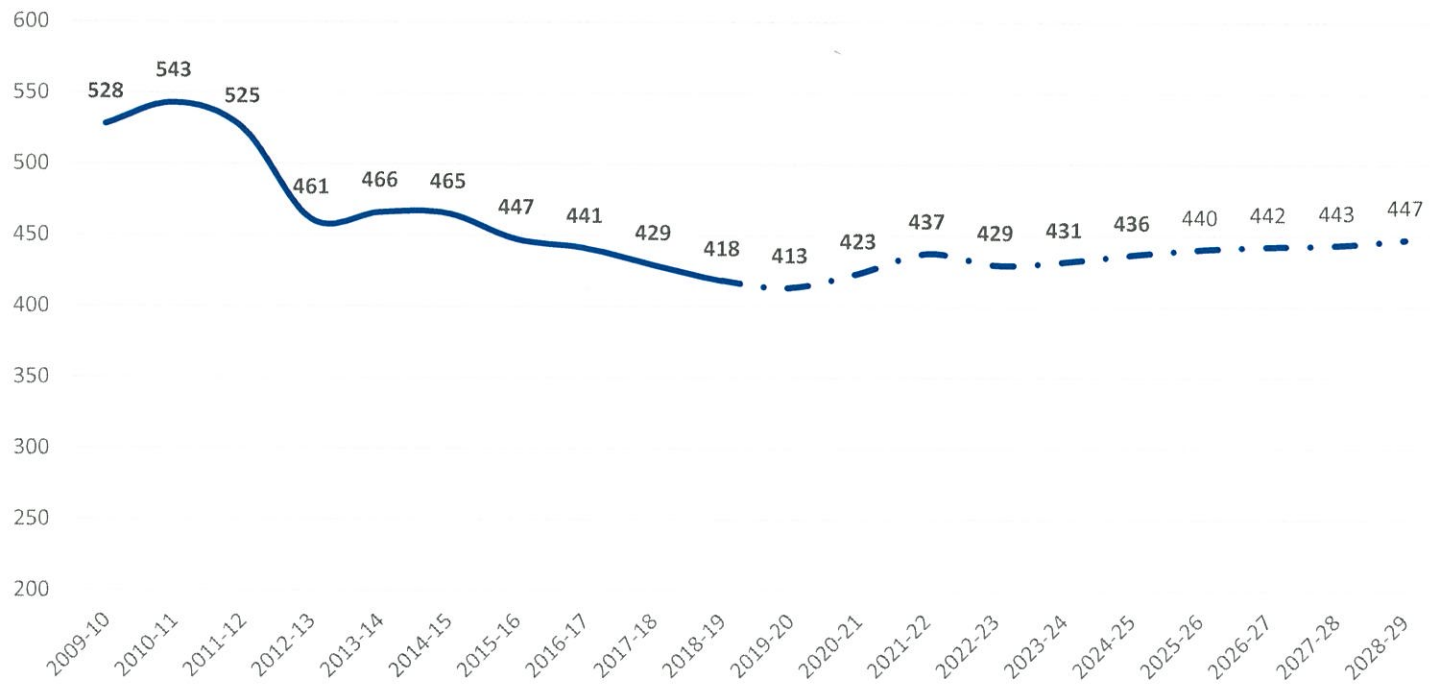| School Year	Birth Year	Births	K	1	2	3	4	5	6	7	8	9	10	11	12	PK
2018-19	2013	55	109	128	154	163	164	180	188	200	194	203	207	185	207	27
2019-20	2014	71	128	123	135	166	175	169	187	192	202	198	199	205	184	27
2020-21	2015	62	121	145	130	146	178	180	176	191	193	206	194	197	204	27
2021-22	2016	60	120	137	153	141	156	184	187	179	192	197	202	193	196	27
2022-23	2017	60	121	136	145	165	151	161	191	191	180	196	193	200	192	27
2023-24	2018	61	123	137	144	156	177	155	168	195	192	184	192	192	199	27
2024-25	2019	63	125	139	145	155	167	182	161	171	196	196	180	191	191	27
2025-26	2020	61	124	142	147	156	166	172	189	164	172	200	192	179	190	27
2026-27	2021	61	125	140	150	158	167	171	179	193	165	176	196	191	178	27
2027-28	2022	61	126	142	148	162	169	172	178	182	194	169	172	194	190	27
2028-29	2023	61	127	143	150	160	173	174	179	181	183	198	166	171	193	27

Individual School Projections

> Hurlbutt projected to dip slightly then increase slowly to nearly 450 at the end of the projection horizon

PK-2 Historic & Projected Enrollment (Medium Scenario)
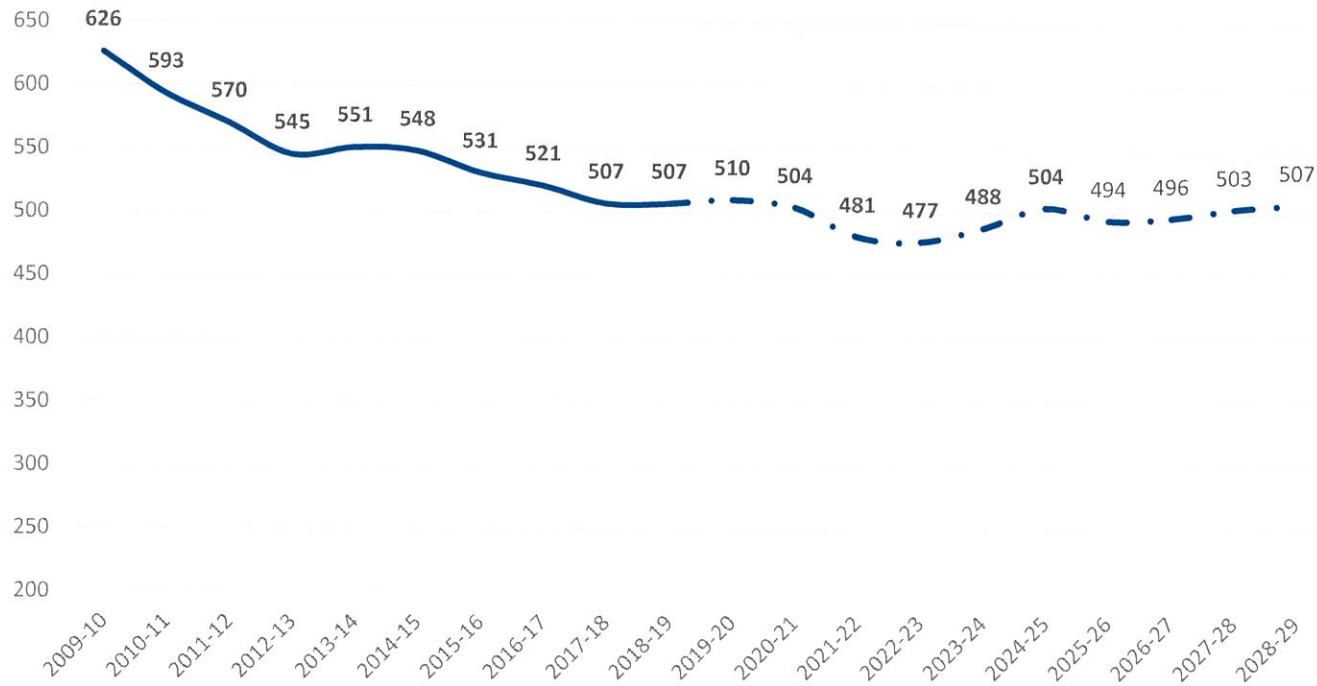Weston Public Schools

➤ WIS projected to experience drop in 2021-22 and rebound to ~500 students by 2024-25

3-5 Historic & Projected Enrollment (Medium Scenario)
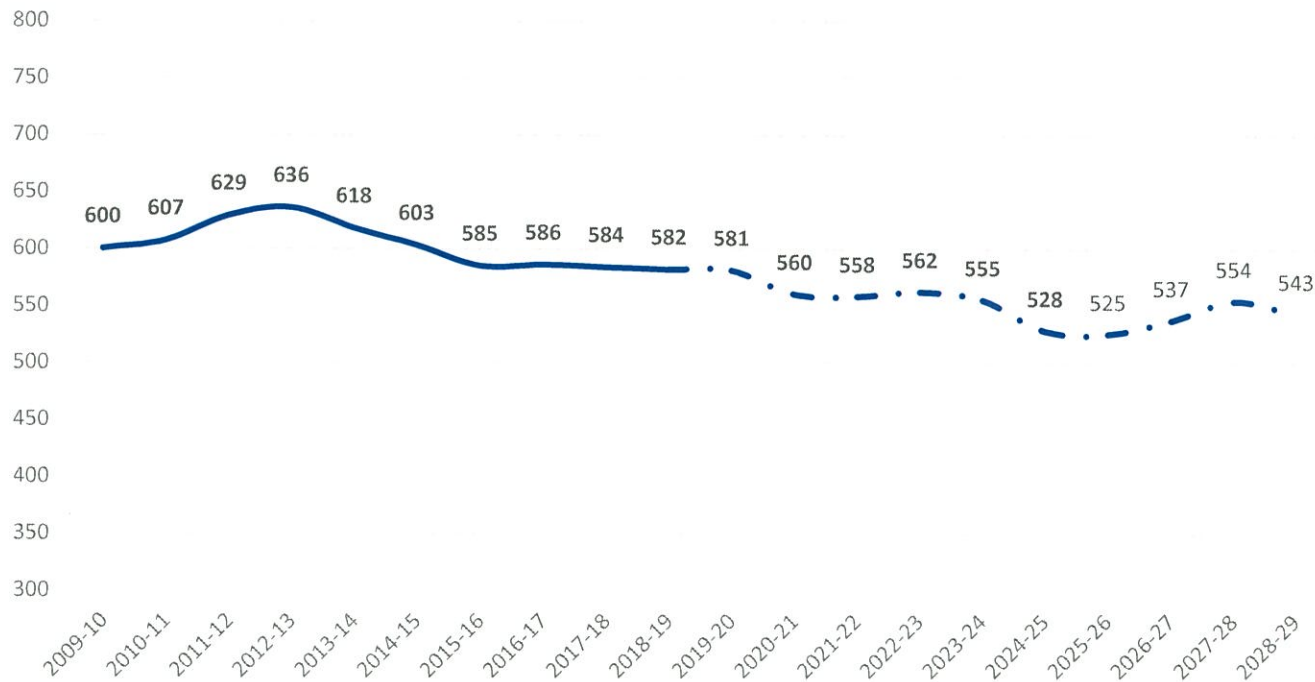Weston Public Schools

➢ WMS projected to see the steepest near term decline; projected to continue over the majority of the projection horizon to just below 530 in 2024-25 before rebounding to 550

6-8 Historic & Projected Enrollment (Medium Scenario)
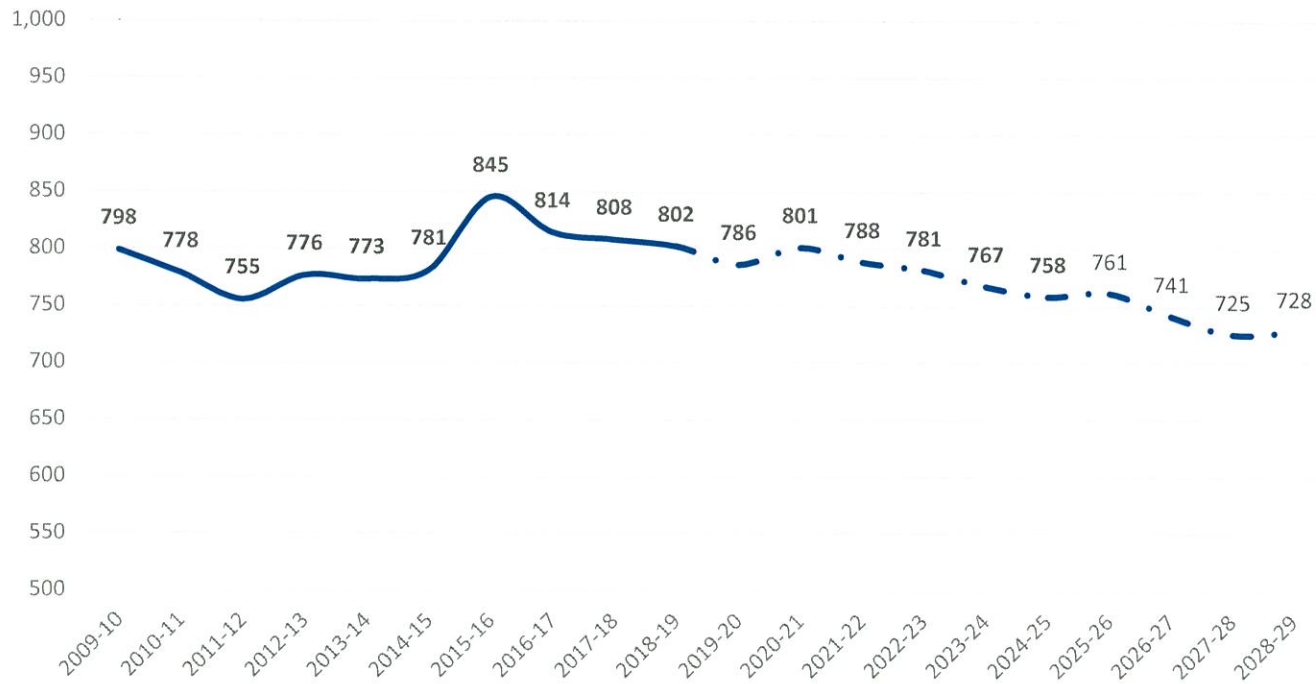Weston Public Schools

Individual School Projections

➢ WHS projected to see more gradual decline in next six years before a sharper dip in 2025-26 as successive smaller cohorts currently in the system matriculate

9-12 Historic & Projected Enrollment (Medium Scenario)
Weston Public Schools

Takeaways

➢ Weston Public Schools is likely to continue to experience declining enrollments through at least the early 2020s, largely due to changes in the size of grade-level cohorts that have already taken place

  ➢ This result occurs across a range of methods and assumptions

➢ Declines at the K-2 grade level are projected to be of a smaller magnitude than upper grade levels and are likely to stabilize or slightly increase after 2019-20

➢ Intermediate and middle grade levels are projected to see sharpest near-term declines as current cohorts are replaced by successive smaller cohorts

➢ High school grade level enrollment is projected to begin declining from peak, with accelerated declines in second half of the projection horizon

Discussion

Any Questions?

WESTON PUBLIC SCHOOLS OPERATING BUDGET

Weston Public Schools, Weston, CT

| | Budgeted Class Sizes Based on Milone & MacBroom Enrollment Projections | | | Impact of Further Reductions | |
Grade	Projected Enrollment 19/20	Proposed Number of Sections	Average Number of Students Per Section	Result of Reducing a Section Per Grade	Notes
K	128	7	18.29	21.33	Exceeds BOE Guidelines
1st	123	7	17.57	20.50	Exceeds BOE Guidelines
2nd	135	6	22.50	27.00	Exceeds BOE Guidelines
3rd	166	7	23.71	27.67	Exceeds BOE Guidelines
4th	175	8	21.88	25.00	Exceeds BOE Guidelines
5th	169	8	21.13	24.14	Exceeds BOE Guidelines

Board of Education Class Size Guidelines:

Kindergarten and 1st Grade: 18-20 Students
2nd Grade through 12 range: 20-24 Students

WESTON PUBLIC SCHOOLS OPERATING BUDGET
Enrollment Projections

Grade	Actual Enrollment October 1, 2018	Milone & MacBroom Projected Enrollment 2019-2020	Change
K	109	128	19
1	128	123	-5
2	154	135	-19
Hurlbutt Elementary School Total	391	386	-5
3	163	166	3
4	164	175	11
5	180	169	-11
Intermediate School Total	507	510	3
6	188	187	-1
7	200	192	-8
8	194	202	8
Middle School Total	582	581	-1
9	203	198	-5
10	207	199	-8
11	185	205	20
12	207	184	-23
High School Total	802	786	-16
In-District Total (K-12)	2,282	2,263	-19
Pre-School	27	27	0
Total Enrollment	2,309	2,290	-19

The proposed staffing for FY 2020 will yield the following class sizes K-5:

Budgeted Class Sizes Based on Milone and MacBroom Projections				Impact of Further Reductions	
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