

West Hartford Public School District

Multi-Year Enrollment Projections

January 14, 2020

Prepared by: Charles E. Ward

Overall Summary:

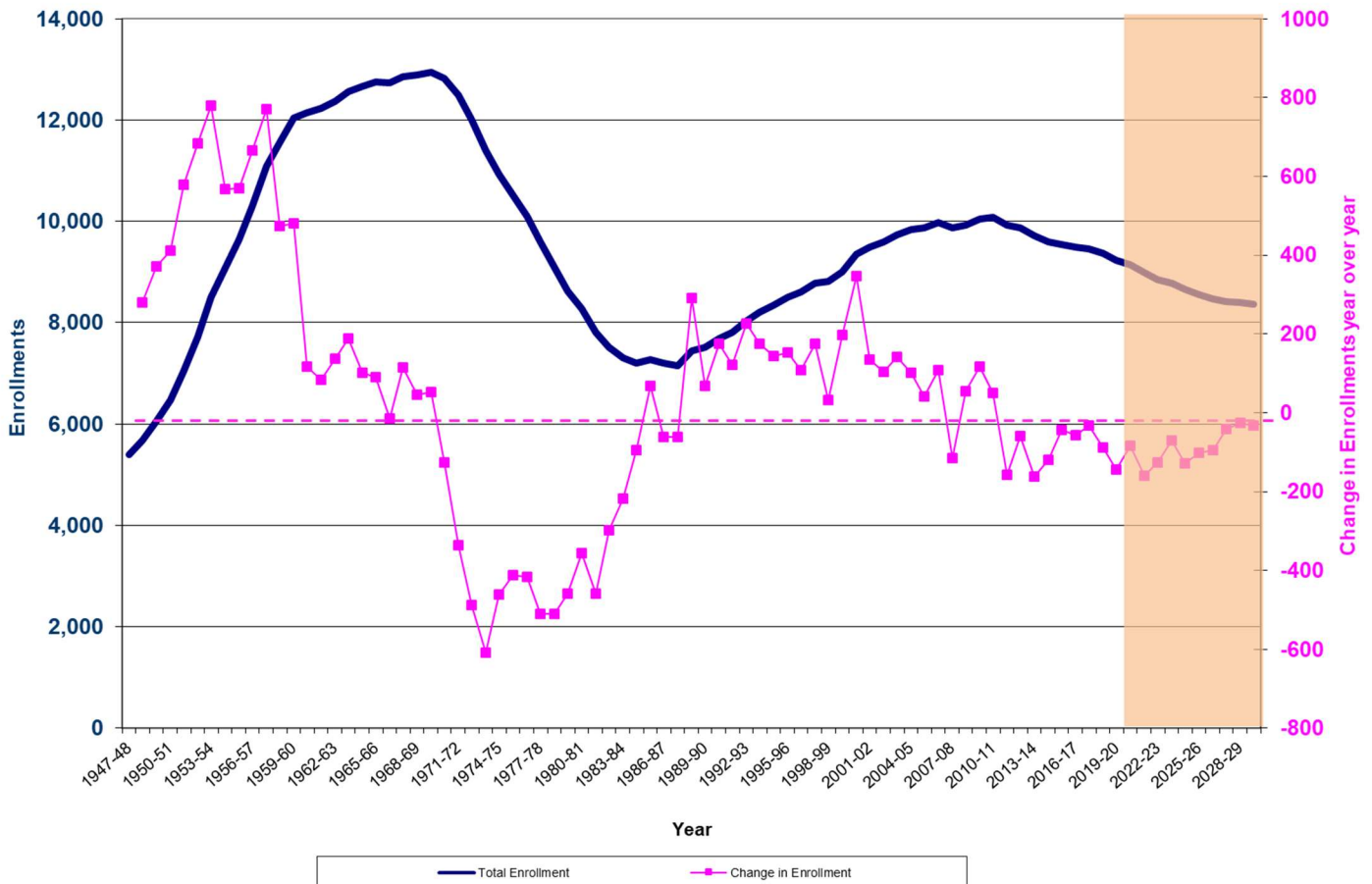
A long term decline in the overall enrollment in West Hartford Public Schools continues to be projected. This year, on October 1, 2019, there were 9,157 K-12 students enrolled in West Hartford Public Schools. Next year, on October 1, 2020, there will be a projected total of 9,079 students – a decline of 78 students. Thereafter, the enrollment is expected to gradually decline to 8,295 students in 10 years' time. The trend comes from a decline in the number births in West Hartford since 2001 and the declining trend statewide in K-12 enrollments. The decline over the next 10 years is projected to be 86 students per year. There is adequate space at all school levels throughout the forecast period.

It is important to review these recent enrollment trends in a larger historical context. The chart at the top of the next page shows the trend in total enrollment in West Hartford Public Schools since the 1947-48 school year. The impact of the Baby Boom is evident in both the steep increases in enrollments in the 1950's and the precipitous decreases in enrollments in the 1970's. From 1947-48 to 1959-60 enrollment climbed from 5,402 to 12,038 – averaging an increase of 575 students per year. From 1970-71 to 1983-84, enrollment declined from 12,826 students to 7,283 – averaging a decrease of 425 students per year. The Baby Boom lasted 25 years from trough to trough.

The Baby Boom Echo is clearly evident in the 40 years from 1988-89 to the end of the projection period in 2029-30. Enrollment grew from 7,439 in 1988-89 to a peak of 10,091 in 2010-11 – averaging an increase of 120 students per year. Enrollment is projected to decline to 8,295 in 2029-30 – representing an average decrease of 91 students per year from the peak. There is the beginning signal of a trough in the out years suggesting that under current trends enrollment will bottom out at around 8300 students around 2030.

**Agenda Item:
VI.B.1.**

WHPS Enrollments and Yearly Changes in Enrollments Over Time



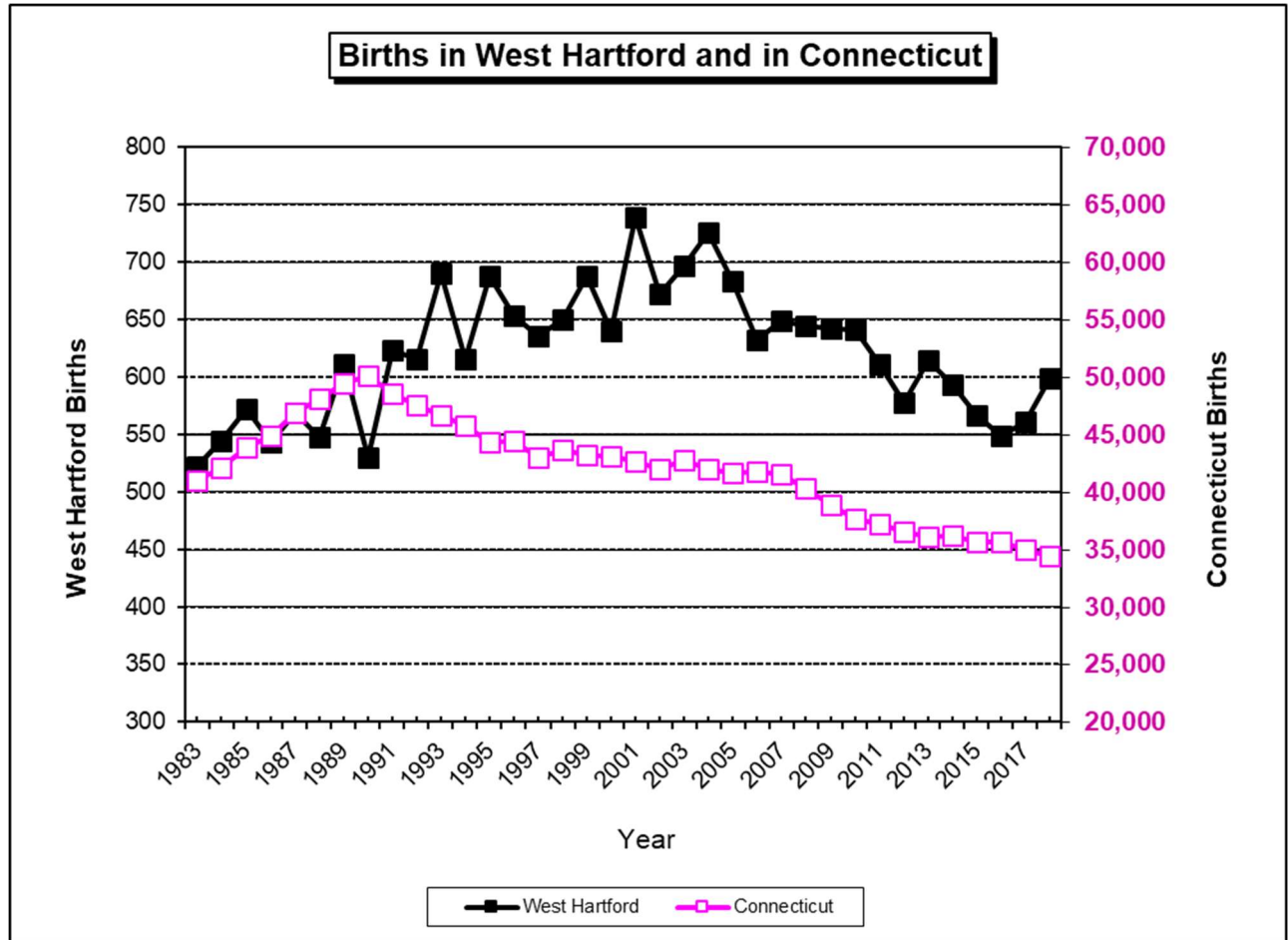
Multi-year Enrollment Projections:

Enrollment projections serve as the guidepost for staffing and capital allocations in the school district. Long-term enrollment projections are made once a year, after the October 1 enrollments have been tallied. This section of the report will discuss the enrollment projections and methodology and highlight the implications of the latest set of enrollment projections for the capital budgets.

The enrollment projections are based on the cohort-survival methodology. In this methodology, a cohort of students is followed as they move through the school system from birth to kindergarten to middle school to high school. The historical data is analyzed to determine the specific cohort-survival ratios. The cohort-survival ratio is the ratio of the number of students at a grade level in one year to the number of students in the previous grade level the prior year. The single ratio encompasses a vast array of social and demographic factors - families moving to West Hartford for the schools, families making the decision to send their students to private school, families leaving West Hartford for economic or career reasons, and the turnover in the real estate market with older residents leaving and younger families moving in. The historical cohort-survival ratios, when

combined with the birth rates and the current enrollment profile, allow the projection enrollments for a number of years into the future.

There are limitations to the reliability and accuracy of the cohort-survival methodology. It is most accurate in the short term and for the calculating the district's enrollment as a whole. As the forecast period becomes greater and the purview of the forecast becomes smaller (e.g. for a school and not the whole district), the accuracy and reliability decrease.



The chart above shows the trends over the last 35 years in the number of births in West Hartford and the number of births in the state of Connecticut. Total births in the state peaked at approximately 50,000 in 1990 and have declined slowly and steadily over the last 27 years to approximately 35,000 in 2018. Over that same period West Hartford has experienced a significantly different trend with an increase in the number of births from 600 in 1990 to 739 in 2001 and 726 in 2004 (this year's 10th grade – the last grade with an elementary enrollment over 800 students). While West Hartford's birth rate has started to decline in recent years, West Hartford continues to maintain a growing share of births in Connecticut. In 1990, West Hartford accounted for 1.06% of the state's births. In 2001 West Hartford's share grew to 1.73%. In 2018, West Hartford's births actually increased to almost 600 and its share of births grew to an estimated 1.74% of the state total.

It is important to note that trends reflected in the birth rates do not show up until 5 years later when those children enroll in the elementary schools. The big boom in birth rates in 2001 hit the district's kindergartens in 2006 when there were 788 students in K. Ten years ago with 726 births in 2004 there were 787 students in Kindergarten.

For future projections, the average of the three most recent year's Birth to Grade K-CSR's (1.024) is used. This low CSR and actual birth rates mean 580 - 600 entering resident Kindergarten students are projected for future years.

With the birth rates established, the most critical assumptions in the 2019 enrollment projections are the assumed future cohort-survival ratios (CSR). Figure 1 shows the actual average of all the individual grade K to grade 12 cohort-survival ratios from 2009 to 2018 and includes the base projection for the six-year enrollment projections. Figure 1 demonstrates that there has been some variability in the average cohort-survival ratio. After a very high average CSR in 2017, the overall average CSR returned to a more normal level of 1.0030 in 2019. For the base enrollment projections, the most recent 3-year CSR average (1.0068) is used as the key assumption for calculating future enrollments.

Each year there will be roughly 0.68% more students on average in each cohort. But because there are more graduating seniors than entering Kindergarteners, the school population will decline gradually over the next 10 years.

Figure 2 shows the historical and assumed cohort-survival ratios (CSR's) for each of the four key grade groupings: Birth to Grade K, Grade 1 through Grade 5, Grade 6, and Grade 7 through Grade 12.

The birth-to-grade K CSR in the past has been significantly above 1.00 reflecting the fact that West Hartford is a town where historically there are a significant fraction of students whose parents move into town after their children are born to enroll them in school here. After three years in a row (2014 to 2016) with a birth-to-grade K CSR below 1, rates in 2017 through 2019 returned to a more normal range of 1.00 to 1.04. For the enrollment projections the three-year average of 1.0240 is being used meaning there will be 2.40% more Kindergartners than births five years ago. Last year 1.0078 was used as the long term CSR.

The grade 1 to 5 CSR continues to remain consistently above 1.00 indicating that each cohort of students grows as they pass through the elementary years – reflecting the trend of families with elementary aged children moving to West Hartford for the schools. In 2019 the average grade 1 to 5 CSR's was 1.010. The base projected CSR for these grade levels is the simple three-year average of the most recent CSR's (1.013).

The Grade 6 CSR has historically been the lowest CSR for any grade level (typically at or below 0.98) as this is a natural breaking point for more affluent families to send their children to private/parochial school. This is also when many private/parochial schools have additional space and capacity for students. In recent years, the grade 6 CSR has been in the high range of historical values - 0.971 in 2017, 0.970 in 2018, and 0.954 in 2019. This is primarily due to high CSR's in the Sedgwick attendance zone – though in 2019 the CSR at Sedgwick dropped from the high levels seen in 2017 and 2018. The future CSR is

simply the three year average of the most current CSR's (0.965). This implies grade 6 enrollments will be 3.5% below the previous year's grade 5 enrollments.

The average grade 7 to 12 CSR has varied mostly between 0.99 and 1.01 for the last 5 years, and 2019 was a normal year with a CSR of 1.001. This average is really a compilation of many different factors at the different grade levels. The CSR's for grade 7 and 8 dropped slightly to 1.008 in 2019 from 1.012 in 2018. The grade 9 CSR, which partly measures the net return of students to the high schools from private and parochial middle schools, increased to 1.028 in 2018 from 0.997 in 2017. Grade 10 to 12 CSR's were a little below their long term average at 0.988 in 2019. Using a three-year average, the average projected CSR for grade 7 to 12 is 1.006.

Figure 3 presents the 10-year enrollment projection for the elementary, middle and high schools. These projections show the elementary population peaked at approximately 4,680 students in 2009-10 and 2010-11. Right now the elementary population has almost completed its steady decline and is projected to be 3,893 next year and will stabilize at just under 3,800 beginning in 2024-25. The combined middle school enrollments will start dropping next year to 2,119 students and level out at just under 1,900 in the out years. The high school population is projected to fluctuate between 3,000 and 3,100 students through 2022-23 and then is projected to start a slow decline.

Figure 4 presents a comparison of the projected 10-year district enrollments that have been made over the last 6 years. Projections made from November 2014 through November 2016 showed a larger enrollment drop due to the lower birth rates and the unusually low birth to K CSR's experienced. With a return to more normal birth to K CSR's in the last three years projection, while still showing an enrollment decline, shows a smaller enrollment drop in the out years.

While the overall district projections are the most accurate, the most relevant projections for policy makers are the building by building projections.

Elementary School Forecasts:

The tables and charts at the end of this report provide the enrollment and space needs projection for each elementary school. Because of the inherent difficulty in projecting the enrollment for a single elementary building, the projections for years 4 through 6 need to be viewed as more speculative.

The total space needs include the space needs for regular education classrooms, art, vocal music, and any town-wide special education programs housed in the building. The notes at the bottom of the table detail the specific number of classrooms used for art, music and special education.

To calculate the number of regular education classrooms needed, a maximum class size of 23 was used for K-3 and 27 was used for grade 4 and 5. At Charter Oak and Smith, the maximum class sizes were 22 for K-3 and 23 for 4 and 5.

The new larger Charter Oak opened in the 2016-17 school year. For the purposes of the enrollment projection, Charter Oak is modelled as filling the targeted 80 students per grade in grades K-5 next year. Charter Oak is projected to have 480-490 K-5 student population for next year and the years beyond. In addition, though not shown in this projection, 80 PreK students are enrolled at Charter Oak. The magnet students coming to Charter Oak are assumed to come from the other elementary school zones in their current proportions.

Long term, elementary enrollments are projected to stabilize between 3,800 and 3,900. Starting next year, the expansion in enrollment at Charter Oak will be complete. Enrollments at the other elementary schools will remain relatively stable or slightly declining in this projection. Three schools, Morley, Webster Hill and Whiting Lane, are projected to have enrollments under 300 students in the out-years. Space needs at all elementary schools will be adequate with current facilities. Many schools have multiple classrooms projected to be free.

Middle School Forecasts:

The tables for Bristow, King Philip, and Sedgwick are presented in a similar format as for the elementary schools - both population and space needs. The two middle school districts each comprise about one-half of the district's population rather than 1/11 at the elementary level. Bristow's enrollments will be totally controlled by lottery. As a consequence, there is a greater level of certainty in the out-year projections at the middle school level.

The middle school enrollments are projected to be relatively stable/slowly declining over the next couple of years. King Philip's population was 894 students in 2019-20 and will decline gradually to near 750 students by 2023-24. Sedgwick's population is also declining going from 920 in 2019-20 to 817 in 2025-26. Bristow's enrollment is declining to 315 students in 2022-23 and beyond as only 105 students are being admitted each year now.

There is adequate space at all middle schools throughout the forecast period.

High School Forecasts:

Conard's enrollment will stay near 1,450 students for the next six years. Hall's enrollment will stay near 1,500 students for 2020-21 and then gradually decline to 1,300 in the out years. The enrollment projections for both schools are in line with the building capacities throughout the forecast period.

Implications of Building Enrollment Forecasts on the Capital Budget:

Based on this year's enrollment projections which project a long-term decline in the future enrollments, there is adequate space overall at all school levels in the short and long term. No significant capital investment to address space needs is contemplated.

Figure 1:
Average Cohort Survival Ratio
History and Projections

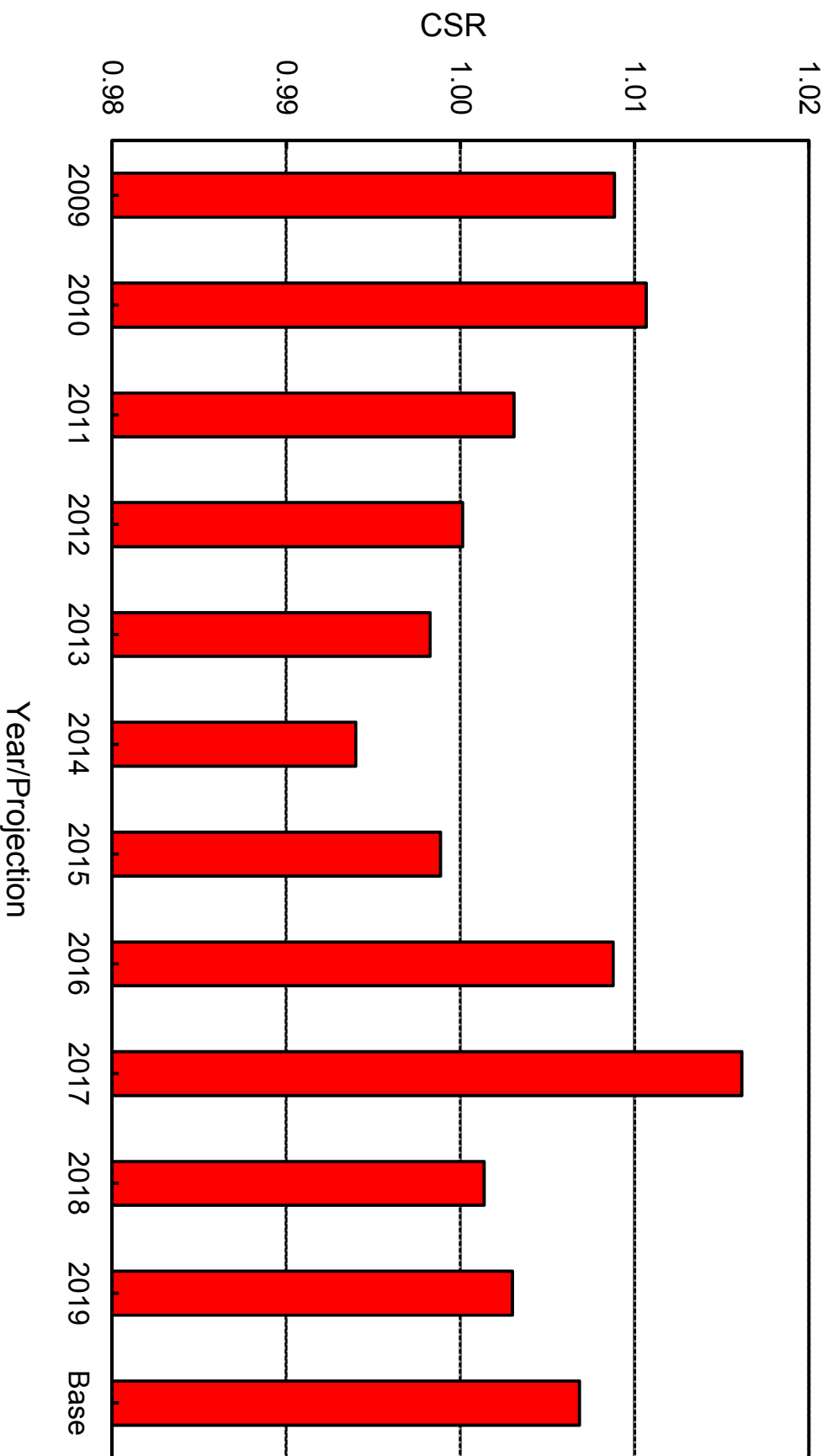


Figure 2:

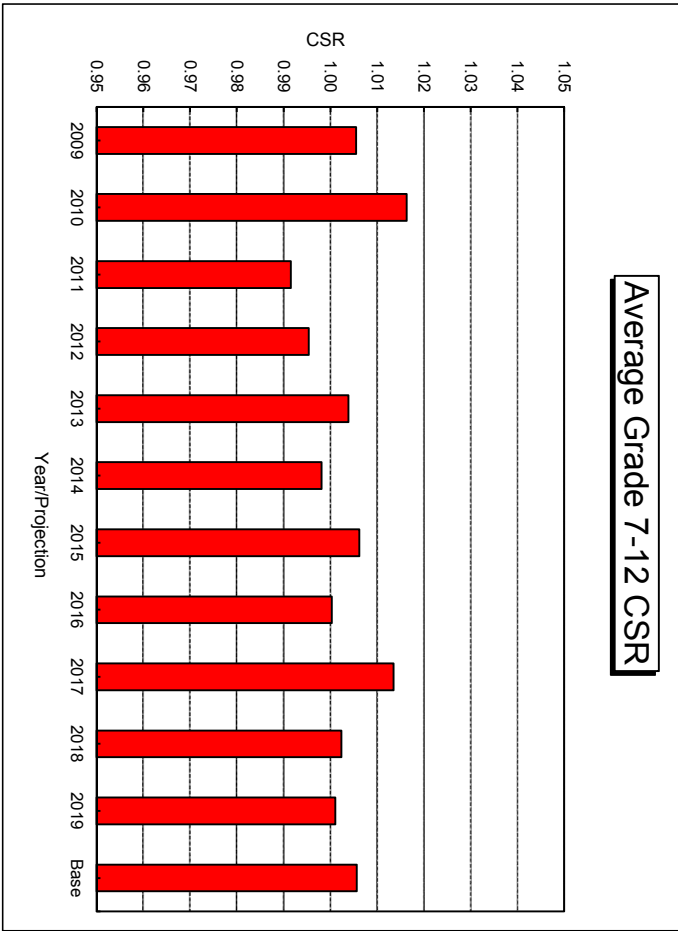
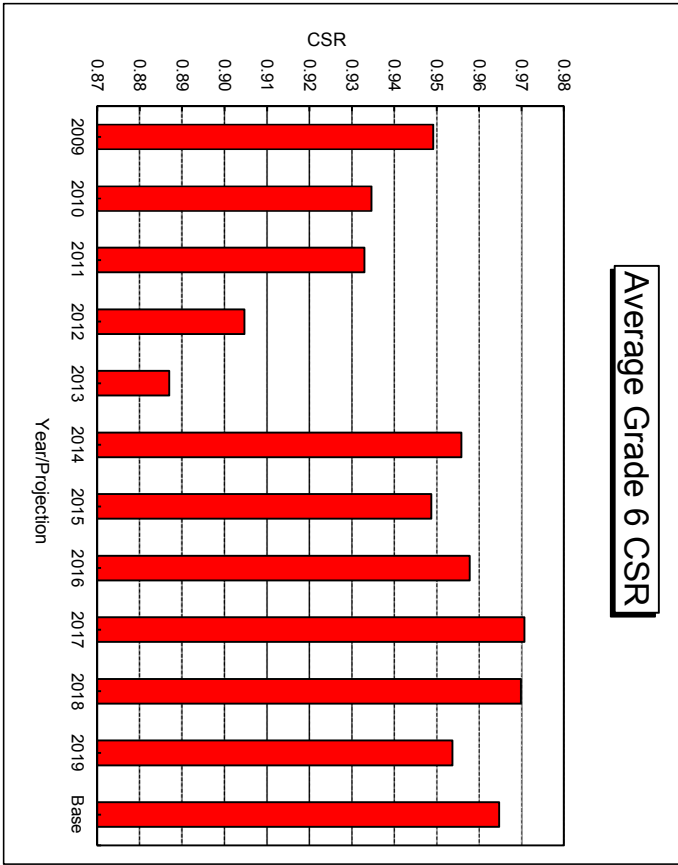
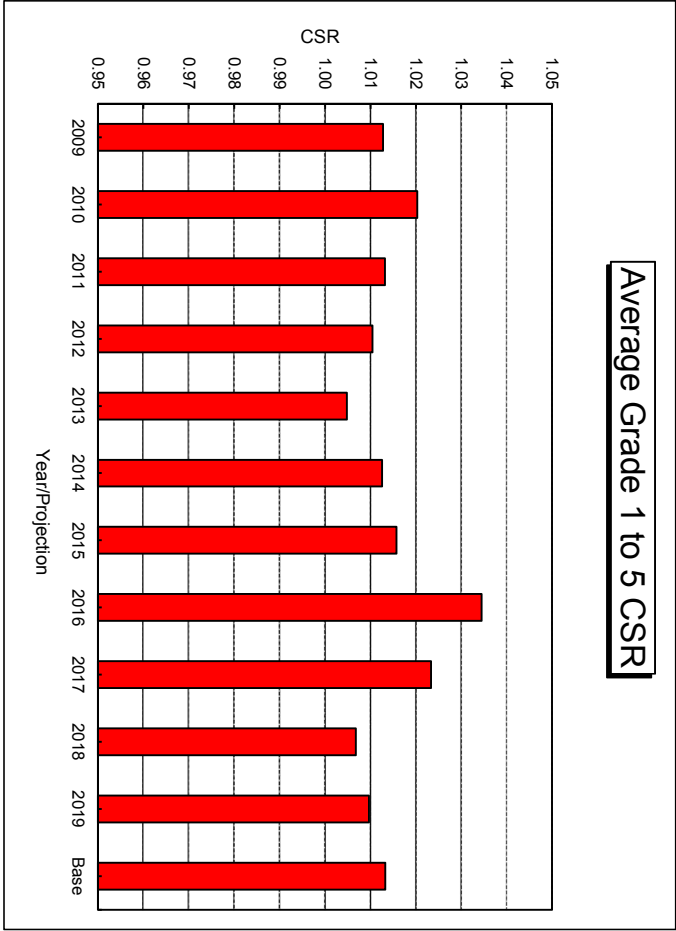
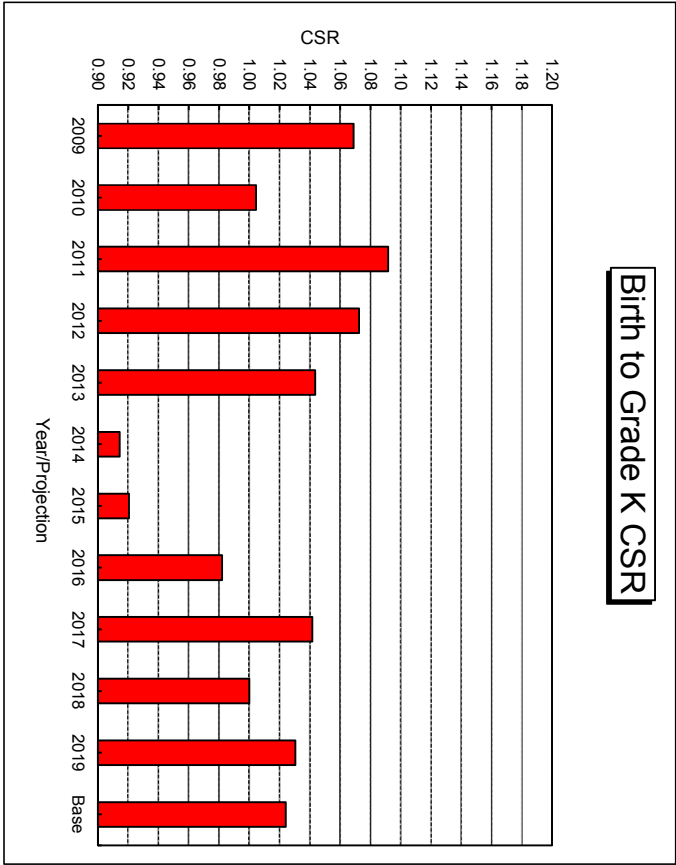


Figure 3
Enrollment History and Projections

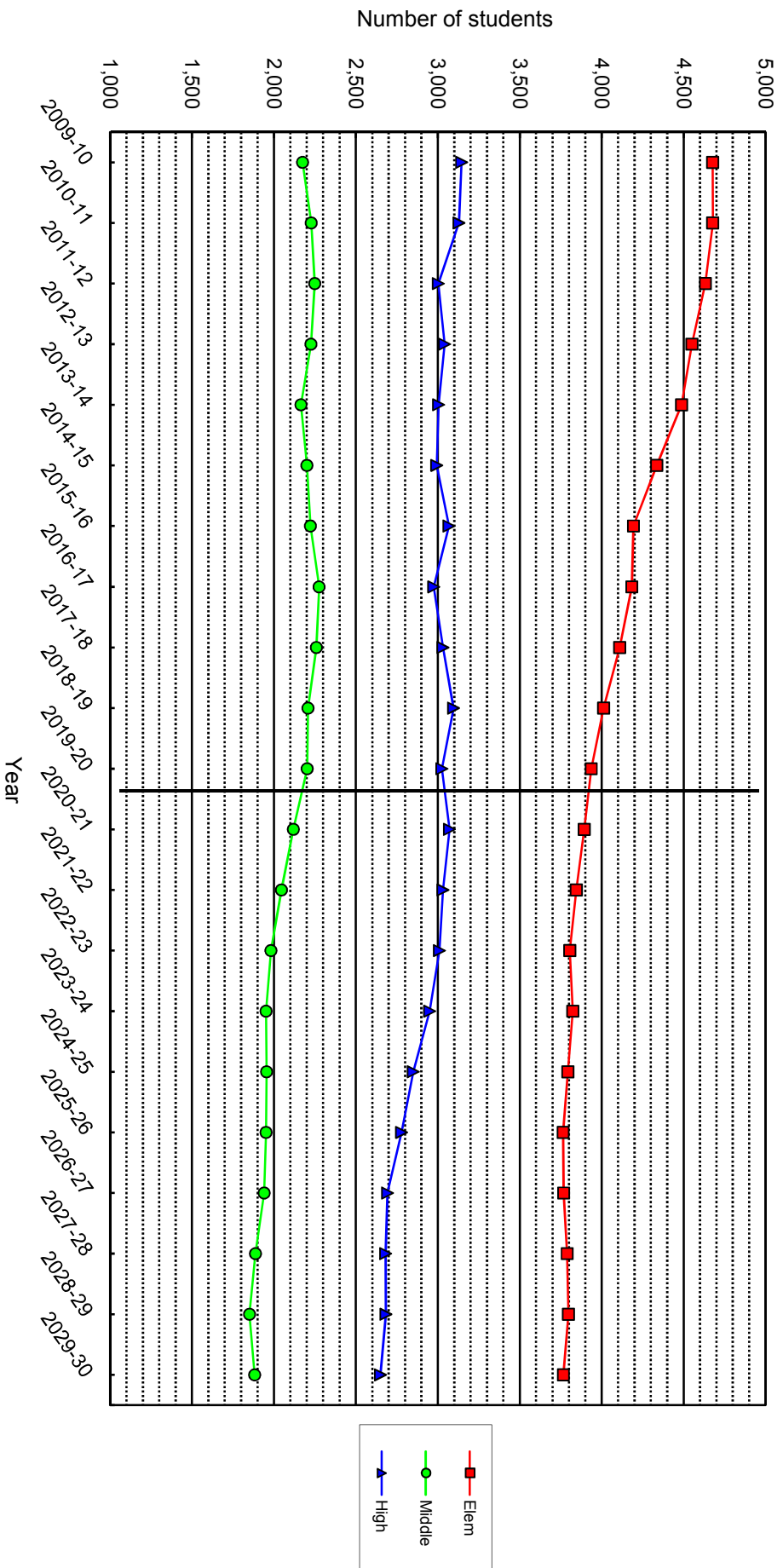
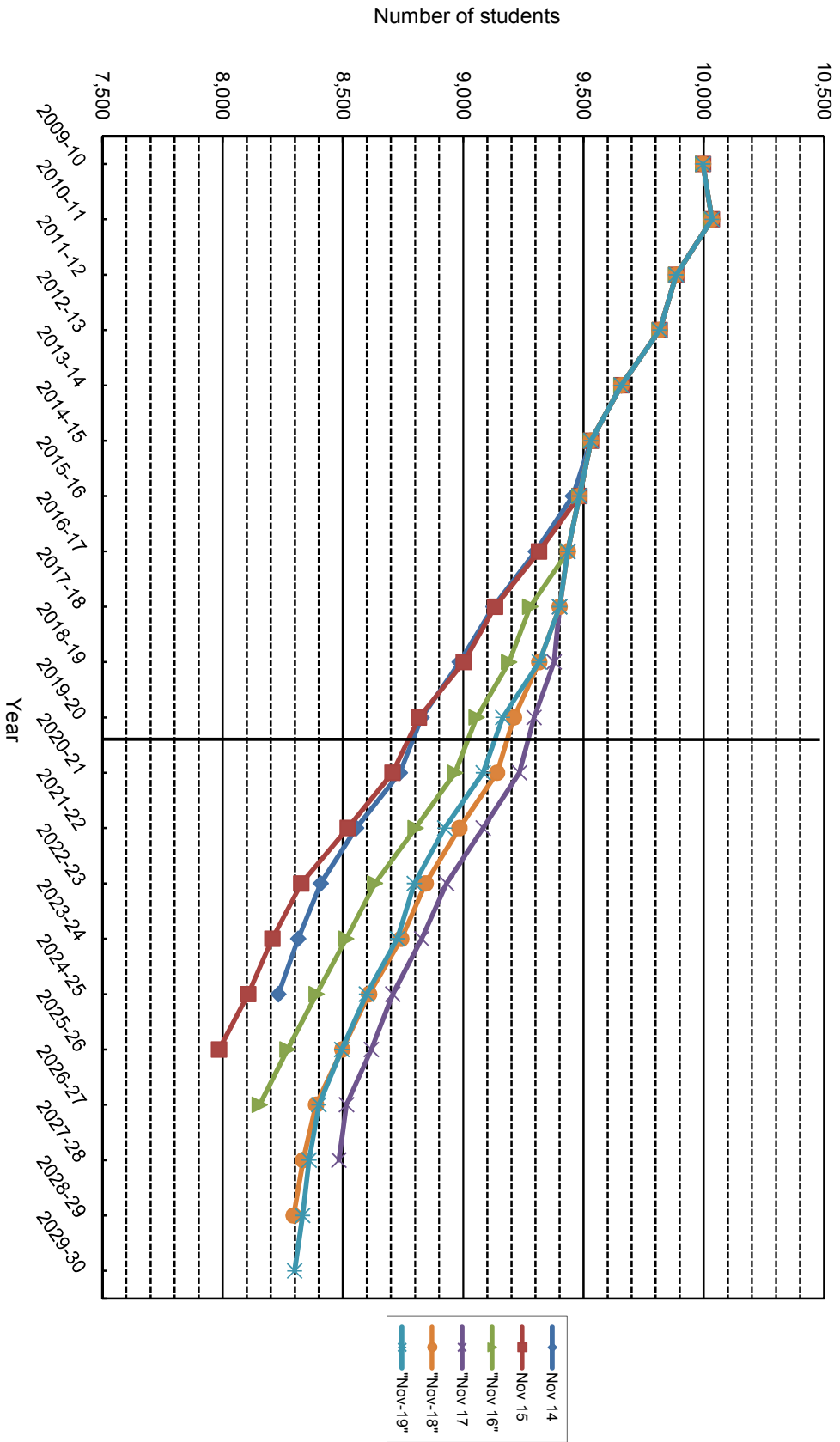


Figure 4
Comparison of K-12 Enrollment Projections



6 Year Enrollment Summary and Capacity Summary - January 2020

Elementary Schools

School	School Year	Projected Enrollment	Standard Classrooms				
			Needed for Reg. Ed.	Other Needs	Total Needs	Total Available	Surplus/(Deficit)
Aiken (23/27)	2019-20	394	19	4	23	26	3
	2020-21	393	19	4	23	26	3
	2021-22	393	19	4	23	26	3
	2022-23	410	19	4	23	26	3
	2023-24	419	19	4	23	26	3
	2024-25	403	18	4	22	26	4
	2025-26	404	19	4	23	26	3
Braeburn (23/27)	2019-20	361	18	3	21	25	4
	2020-21	349	18	3	21	25	4
	2021-22	334	18	3	21	25	4
	2022-23	316	16	3	19	25	6
	2023-24	317	17	3	20	25	5
	2024-25	319	18	3	21	25	4
	2025-26	311	17	3	20	25	5
Bugbee (23/27)	2019-20	377	18	0	18	21	3
	2020-21	374	18	0	18	21	3
	2021-22	374	18	0	18	21	3
	2022-23	374	18	0	18	21	3
	2023-24	372	18	0	18	21	3
	2024-25	366	18	0	18	21	3
	2025-26	361	18	0	18	21	3
Charter Oak (22/23)	2019-20	459	23	9	32	33	1
	2020-21	490	24	9	33	33	0
	2021-22	490	24	9	33	33	0
	2022-23	505	24	9	33	33	0
	2023-24	510	24	9	33	33	0
	2024-25	504	24	9	33	33	0
	2025-26	501	24	9	33	33	0
Duffy (23/27)	2019-20	461	23	3	26	31	5
	2020-21	463	23	3	26	31	5
	2021-22	449	22	3	25	31	6
	2022-23	436	21	3	24	31	7
	2023-24	436	22	3	25	31	6
	2024-25	425	22	3	25	31	6
	2025-26	438	22	3	25	31	6
Morley (23/27)	2019-20	283	15	2	17	21	4
	2020-21	273	13	2	15	21	6
	2021-22	285	14	2	16	21	5
	2022-23	282	14	2	16	21	5
	2023-24	272	13	2	15	21	6
	2024-25	279	14	2	16	21	5
	2025-26	279	14	2	16	21	5

Description of needs for other standard classroom space

Aiken	Art, Vocal Music, ELC (2)
Braeburn	Art, Vocal Music, Special Education (1)
Bugbee	Art, Vocal Music in basement classrooms
Charter Oak	Art, Vocal Music, Family Resource Center, PreK (5) ,
Duffy	Art, Vocal Music, PT Art/Music (1)
Morley	Art, Vocal Music

6 Year Enrollment Summary and Capacity Summary - January 2020

Elementary Schools

School	School Year	Projected Enrollment	Standard Classrooms				
			Needed for Reg. Ed.	Other Needs	Total Needs	Total Available	Surplus/(Deficit)
Norfeldt (23/27)	2019-20	333	17	5	22	27	5
	2020-21	323	17	5	22	27	5
	2021-22	322	18	5	23	27	4
	2022-23	318	17	5	22	27	5
	2023-24	316	17	5	22	27	5
	2024-25	318	17	5	22	27	5
	2025-26	312	16	5	21	27	6
Smith (22/23)	2019-20	325	19	5	24	24	0
	2020-21	322	18	5	23	24	1
	2021-22	306	18	5	23	24	1
	2022-23	311	18	5	23	24	1
	2023-24	327	18	5	23	24	1
	2024-25	333	18	5	23	24	1
	2025-26	332	18	5	23	24	1
Webster Hill (23/27)	2019-20	310	16	2	18	25	7
	2020-21	278	14	2	16	25	9
	2021-22	273	14	2	16	25	9
	2022-23	259	13	2	15	25	10
	2023-24	264	12	2	14	25	11
	2024-25	267	13	2	15	25	10
	2025-26	258	12	2	14	25	11
Whiting Lane (23/27)	2019-20	262	13	11	24	31	7
	2020-21	265	13	11	24	29	5
	2021-22	271	13	11	24	29	5
	2022-23	262	14	11	25	29	4
	2023-24	254	12	11	23	29	6
	2024-25	246	12	11	23	29	6
	2025-26	239	12	11	23	29	6
Wolcott (23/27)	2019-20	371	18	6	24	26	2
	2020-21	364	18	5	23	26	3
	2021-22	347	17	5	22	26	4
	2022-23	334	17	5	22	26	4
	2023-24	338	18	5	23	26	3
	2024-25	332	18	5	23	26	3
	2025-26	329	16	5	21	26	5
Elementary	2019-20	3936	199	50	249	290	41
	2020-21	3894	195	49	244	288	44
	2021-22	3844	195	49	244	288	44
	2022-23	3807	191	49	240	288	48
	2023-24	3825	190	49	239	288	49
	2024-25	3792	192	49	241	288	47
	2025-26	3764	188	49	237	288	51

Description of needs for other standard classroom space

Norfeldt	Art, Vocal Music, Special Education (3)
Smith	Art, Vocal Music, Instrumental Music, Science Lab, Preschool
Webster Hill	Art, Preschool, Vocal Music in smaller space
Whiting Lane	Art, Vocal Music, Special Education (3), Early Learning Center (6)
Wolcott	Art, Vocal Music, Special Education (4)

6 Year Enrollment Summary and Capacity Summary - January 2020

Middle Schools

School	School Year	Projected Enrollment	Needed for Reg. Ed.	Other Needs	Standard Classrooms		Surplus/(Deficit)
					Total Needs	Total Available	
King Philip	2019-20	894	45	19	64	74	10
	2020-21	875	45	19	64	74	10
	2021-22	834	40	19	59	74	15
	2022-23	779	40	19	59	74	15
	2023-24	768	37	19	56	74	18
	2024-25	793	37	19	56	74	18
	2025-26	820	37	19	56	74	18
Sedgwick	2019-20	920	45	21	66	67	1
	2020-21	888	45	21	66	67	1
	2021-22	896	45	21	66	67	1
	2022-23	887	45	21	66	67	1
	2023-24	869	42	21	63	67	4
	2024-25	848	42	21	63	67	4
	2025-26	817	40	21	61	67	6
Bristow	2019-20	387	20	5	25	27	2
	2020-21	354	18	5	23	27	4
	2021-22	316	15	5	20	27	7
	2022-23	315	15	5	20	27	7
	2023-24	315	15	5	20	27	7
	2024-25	315	15	5	20	27	7
	2025-26	315	15	5	20	27	7
Middle Schools	2019-20	2201	110	45	155	168	11
	2020-21	2117	108	45	153	168	11
	2021-22	2046	100	45	145	168	16
	2022-23	1981	100	45	145	168	16
	2023-24	1952	94	45	139	168	22
	2024-25	1956	94	45	139	168	22
	2025-26	1952	92	45	137	168	24

Description of needs for other standard classroom space

King Philip	Unified Arts (12), Special Ed (2), Computer Lab (2), 10th math teacher (1), Quest (1)
	Strive (1),
Sedgwick	Unified Arts (12), Special Ed (4), ESOL (1), Computer Lab (1), 10th math teacher (1)
	Strive (1), Alternative Middle School (1)
Bristow	Unified Arts (4), Computer Lab (1)

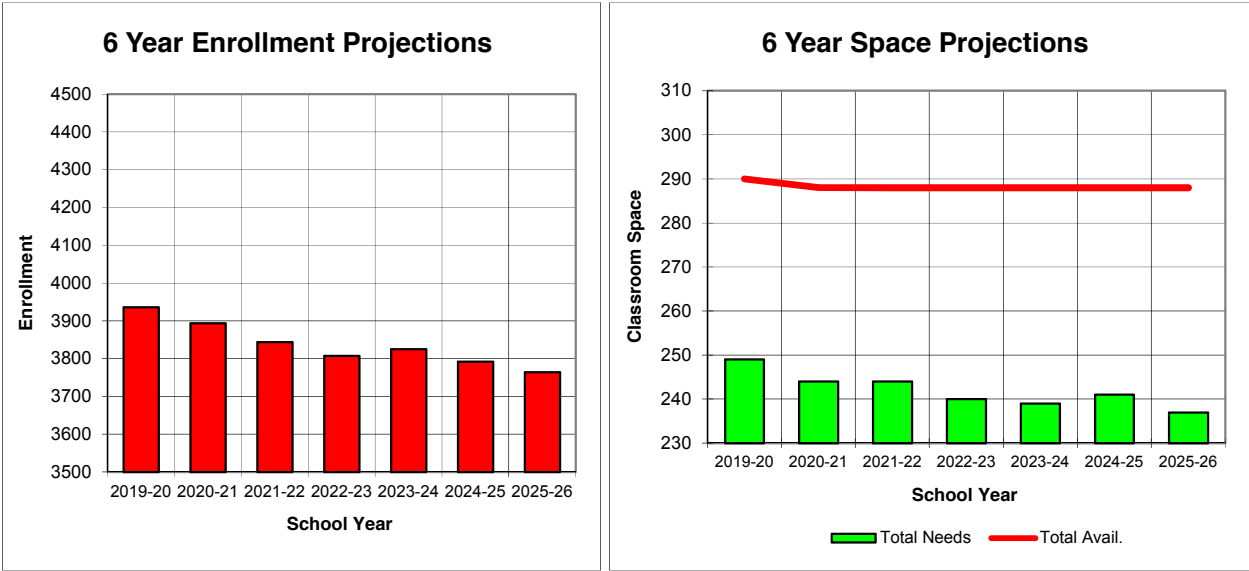
6 Year Enrollment Summary and Capacity Summary - January 2020

High Schools

School	School Year	Projected Enrollment	
Conard	2019-20	1438	
	2020-21	1476	
	2021-22	1480	
	2022-23	1479	
	2023-24	1468	
	2024-25	1439	
	2025-26	1426	
Hall	2019-20	1514	
	2020-21	1516	
	2021-22	1469	
	2022-23	1449	
	2023-24	1400	
	2024-25	1331	
	2025-26	1272	
High Schools	2019-20	2952	
	2020-21	2992	
	2021-22	2949	
	2022-23	2928	
	2023-24	2868	
	2024-25	2770	
	2025-26	2698	

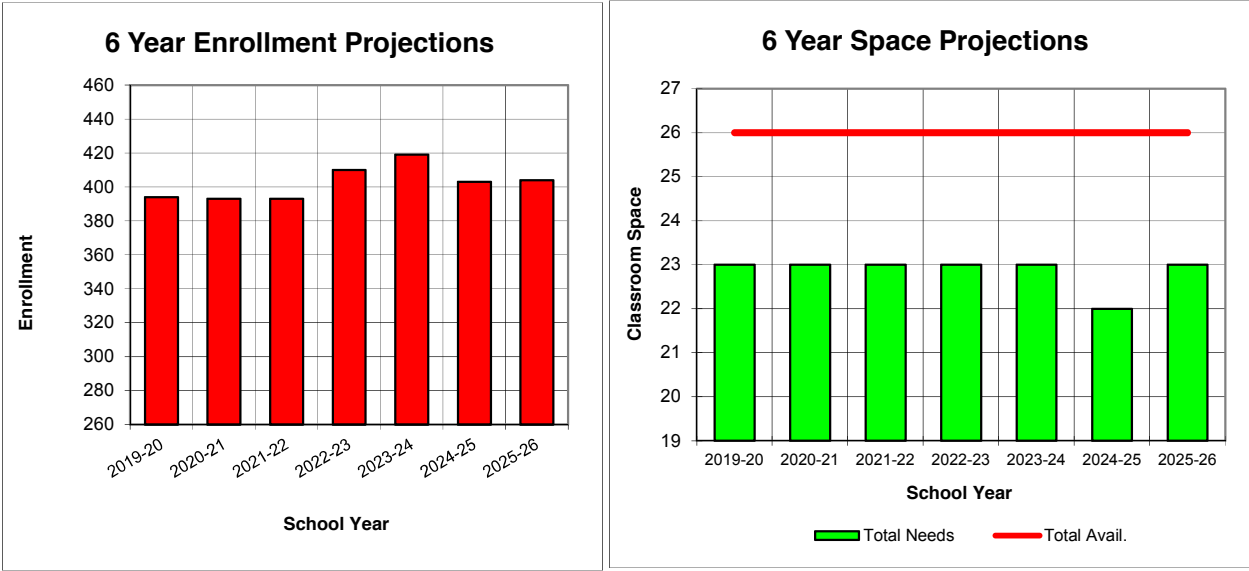
**Space Needs Analysis
January 2020 Projections**

All Elementary Schools



**Space Needs Analysis
January 2020 Projections**

Aiken School



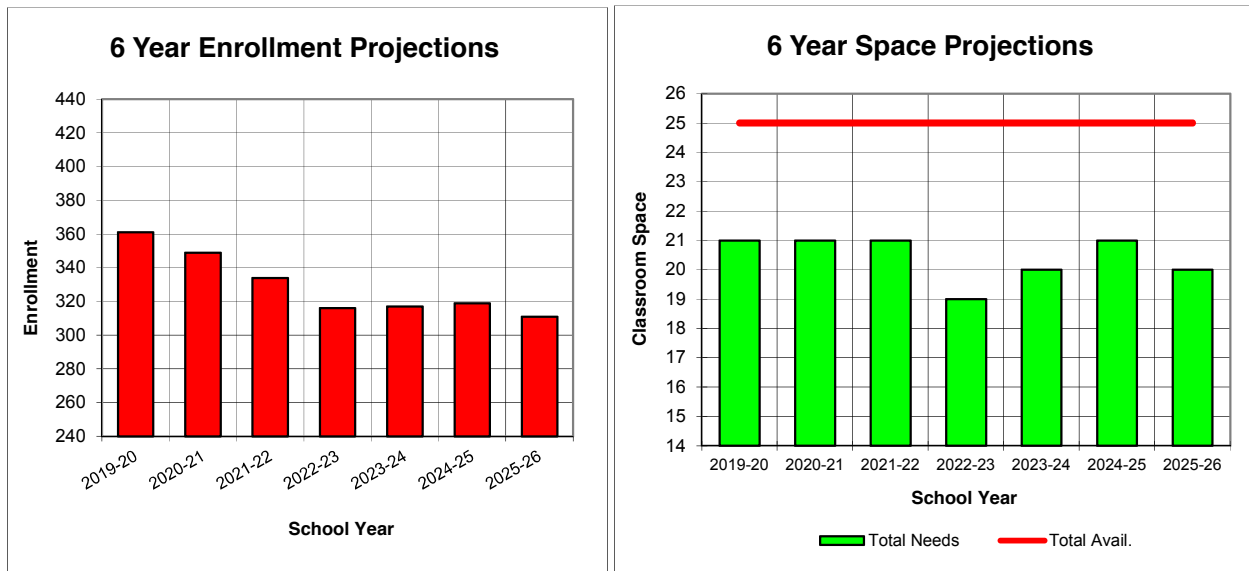
Comments:

Aiken shows a steady population trend.

Aiken has a surplus of space throughout forecast period.

Space Needs Analysis January 2020 Projections

Braeburn School



Comments:

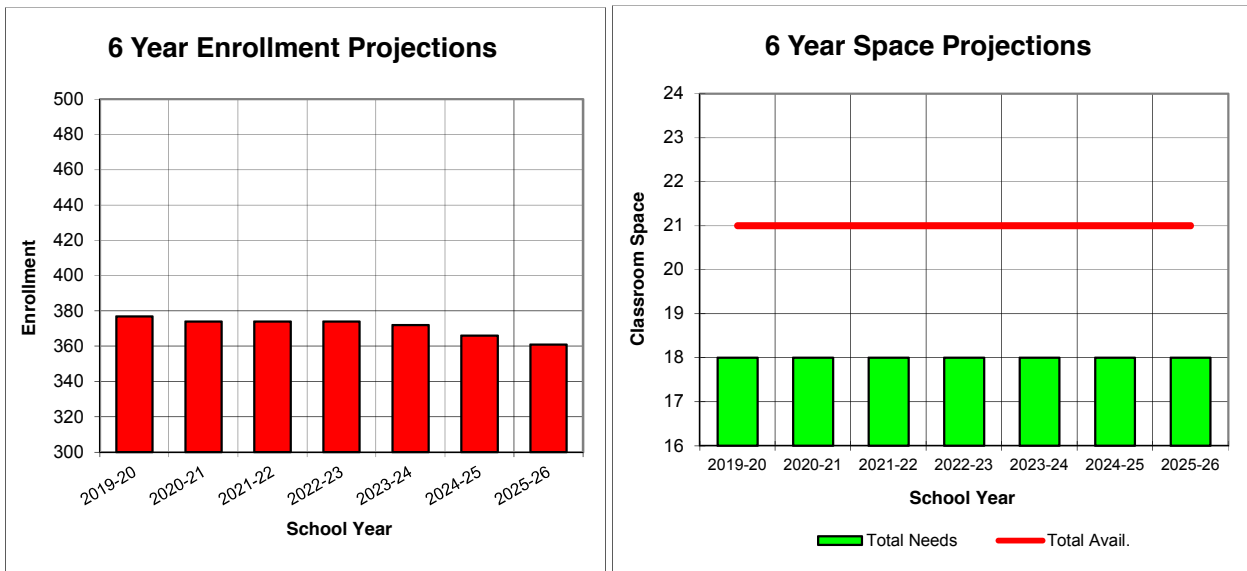
Braeburn shows a declining population trend.

Braeburn has a surplus of space throughout forecast period.

The space available figure includes three modular classrooms.

Space Needs Analysis January 2020 Projections

Bugbee School



Comments:

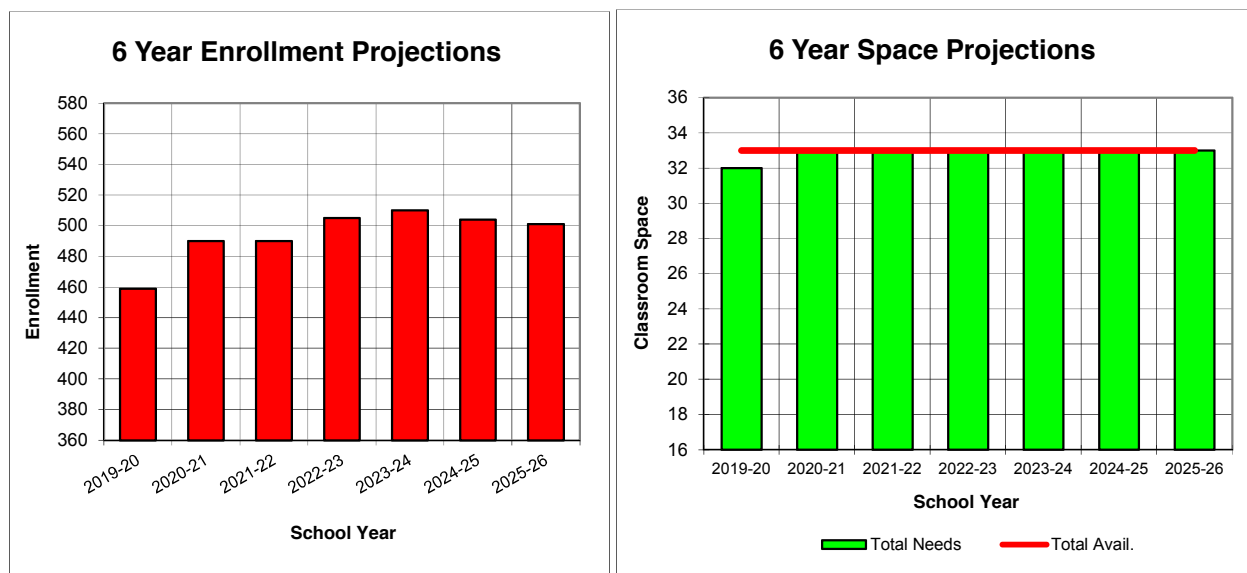
Bugbee shows a stable population trend.

Bugbee has a surplus of space throughout forecast period.

Bugbee has five modular classrooms in use.

Space Needs Analysis January 2020 Projections

Charter Oak School



Comments:

Charter Oak's enrollment grows as it expands to a 4 section per grade school throughout forecast period. This model assumes a gradual growth until 4 sections in each grade in 2020-21.

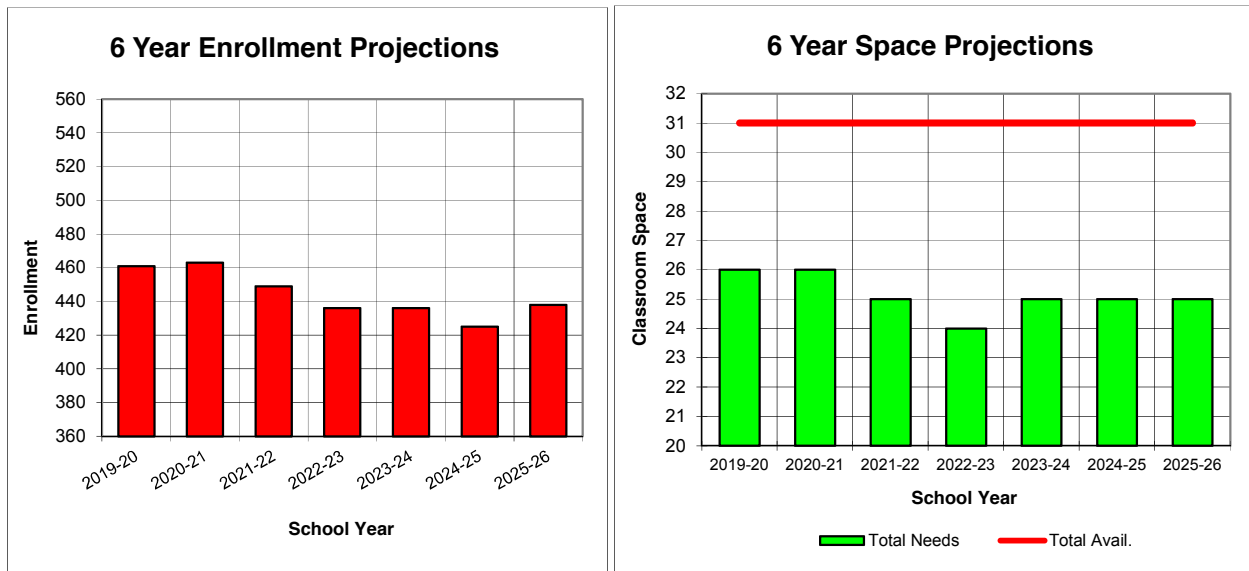
Charter Oak has 5 PreK classrooms with 80 PreK students.

Charter Oak has adequate space with the new building.

Magnet Enrollments average approximately 30-40 magnet students in grade K over the forecast period.

Space Needs Analysis January 2020 Projections

Duffy School



Comments:

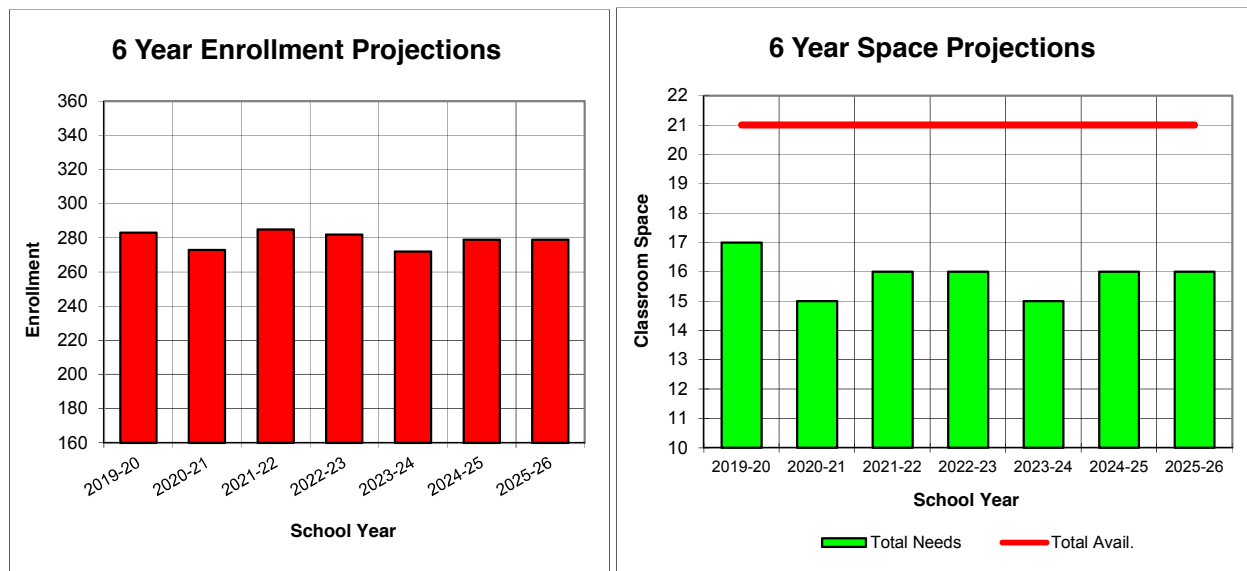
Duffy shows a declining trend in enrollment.

Duffy has a surplus of space throughout the forecast period.

Duffy has 3 modular classrooms in use.

Space Needs Analysis January 2020 Projections

Morley School



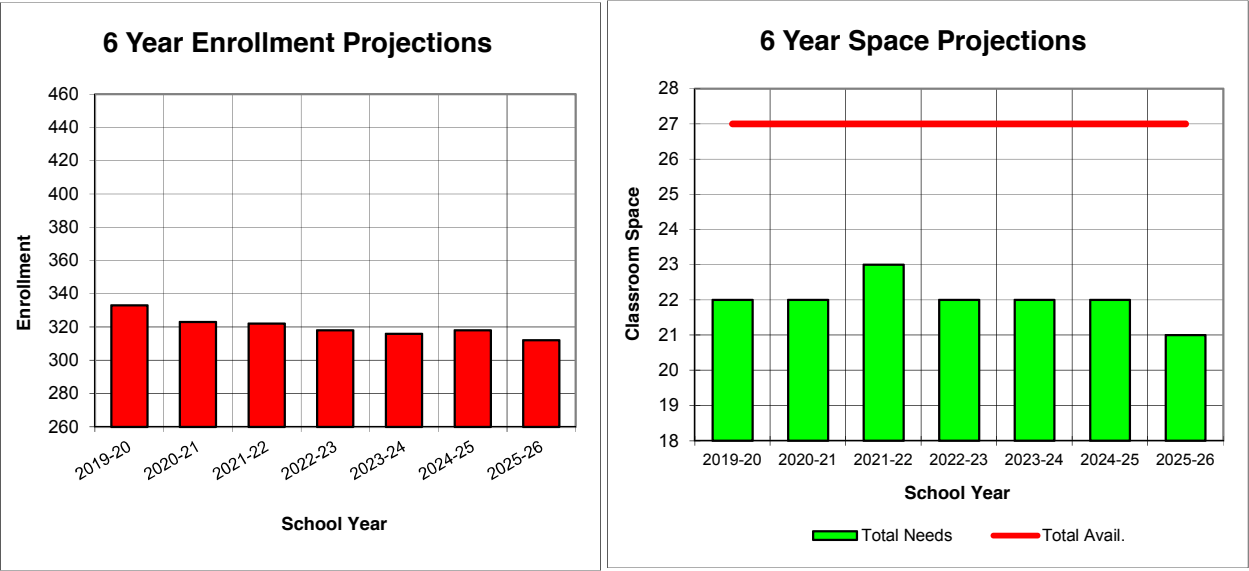
Comments:

Morley's enrollment is steady over the forecast period.

Morley has a surplus of space throughout the forecast period.

Space Needs Analysis January 2020 Projections

Norfeldt School

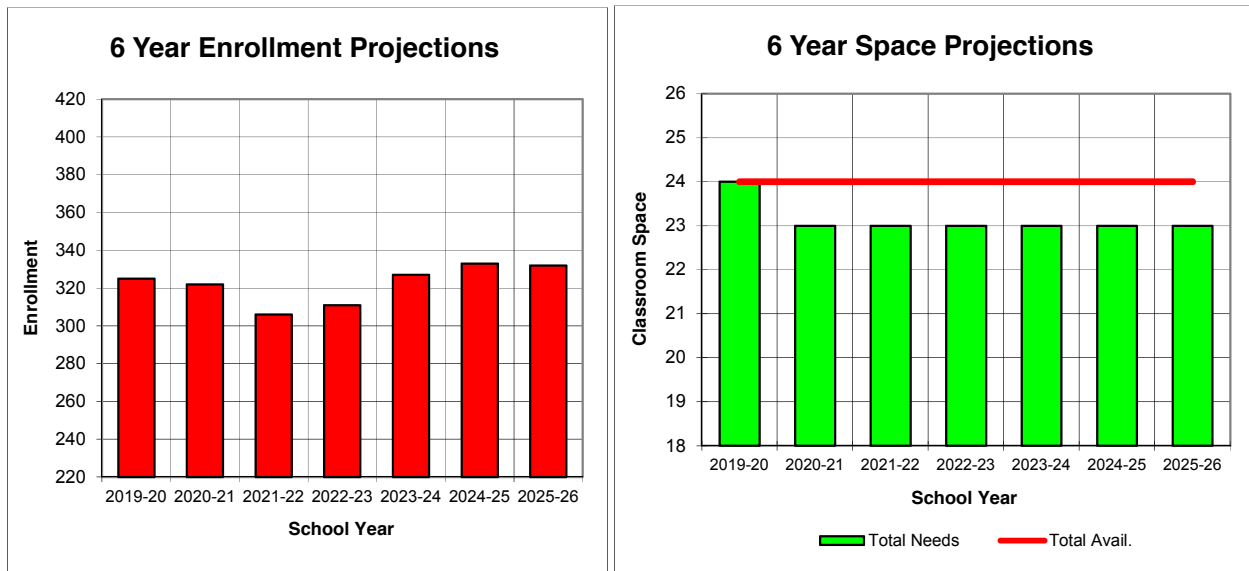


Comments:

- Norfeldt shows a stable enrollment trend.
- Norfeldt has a surplus of space throughout the forecast period.
- Norfeldt has 2 modular classrooms.

Space Needs Analysis January 2020 Projections

Smith School



Comments:

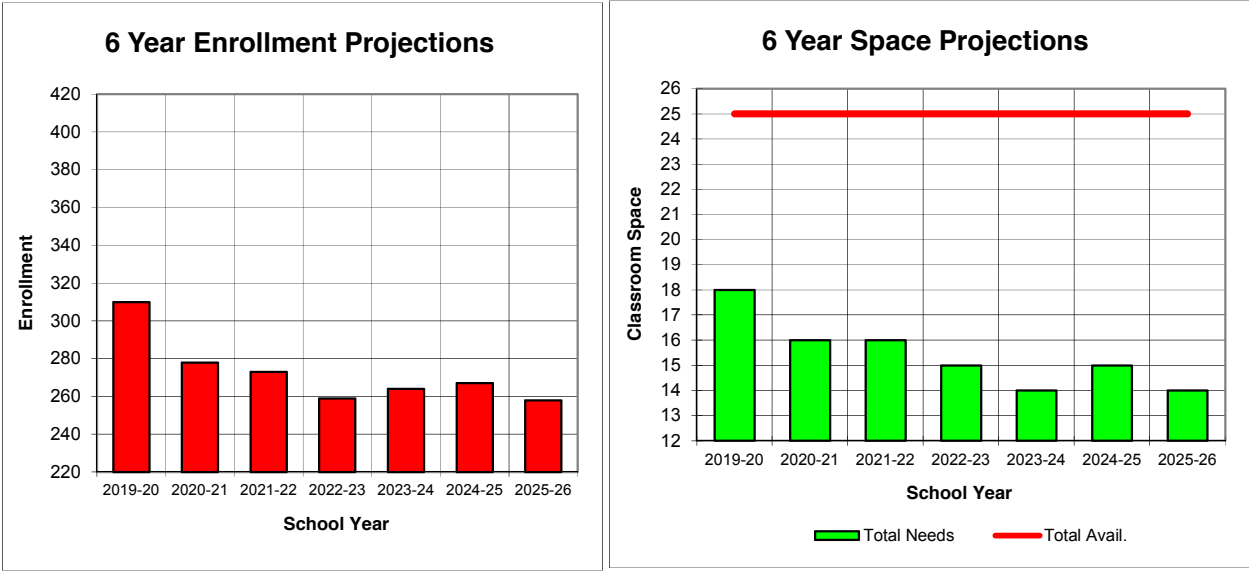
Smith's enrollments are stable as a magnet school.

Smith has adequate space.

Magnet Enrollments average approximately 25-30 magnet students in grade K over the forecast period.

Space Needs Analysis January 2020 Projections

Webster Hill School



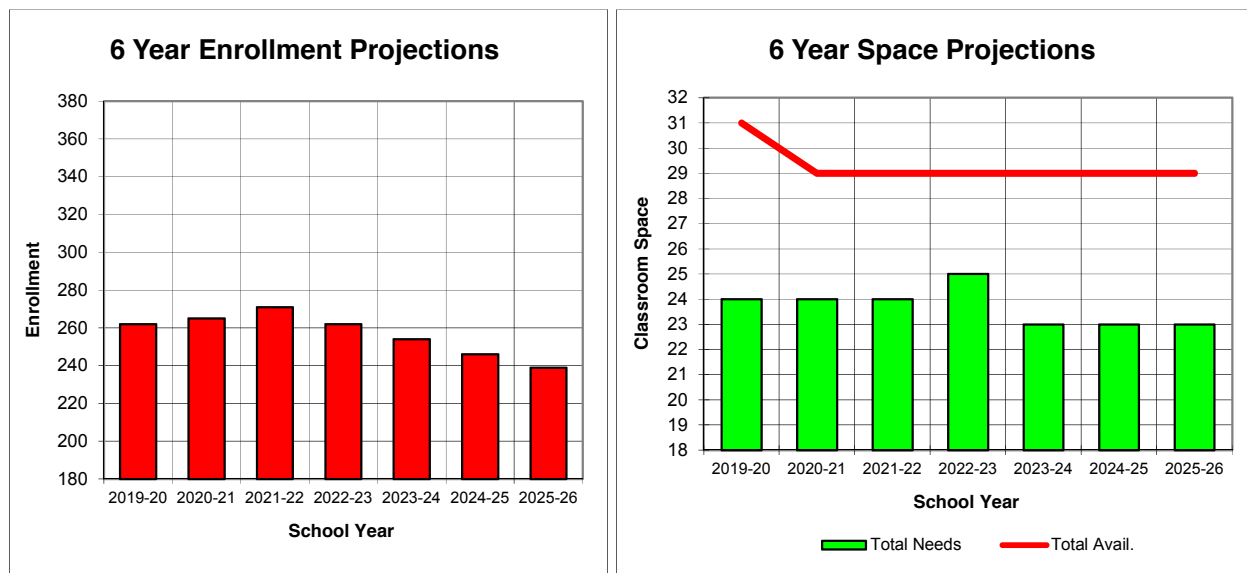
Comments:

Webster Hill shows a decreasing population trend.

Webster Hill has a surplus of space throughout the forecast period.

Space Needs Analysis January 2020 Projections

Whiting Lane School



Comments:

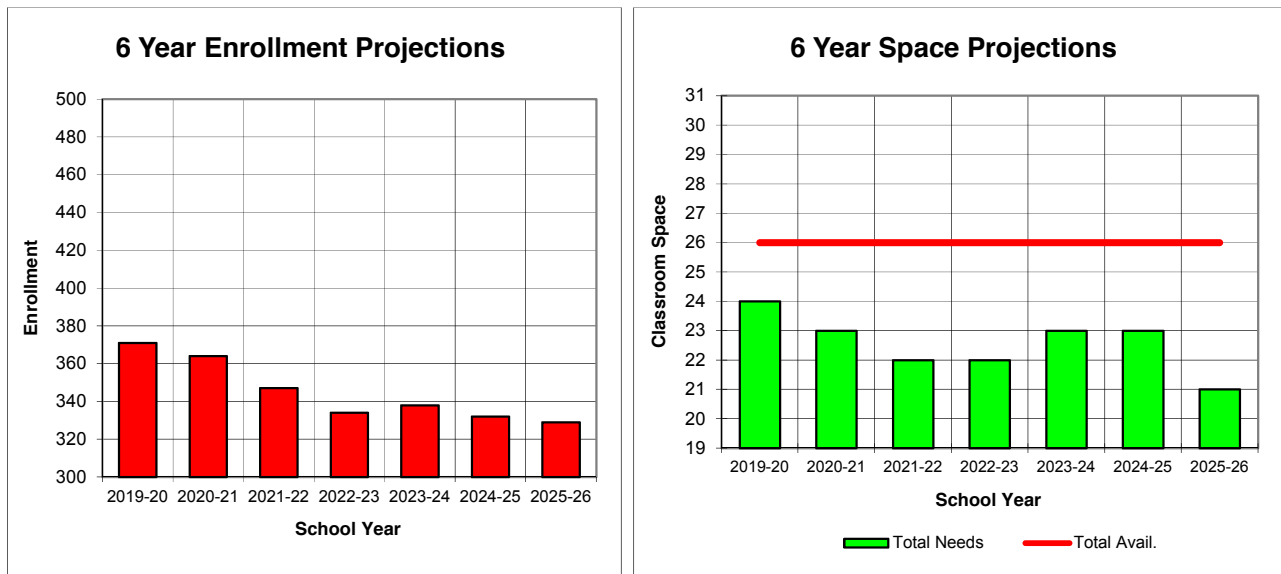
Whiting Lane shows a stable and then declining population trend.

Whiting Lane has a surplus of space over the forecast period.

Whiting Lane has 2 modular classrooms that will be removed in the summer of 2020

Space Needs Analysis January 2020 Projections

Wolcott School



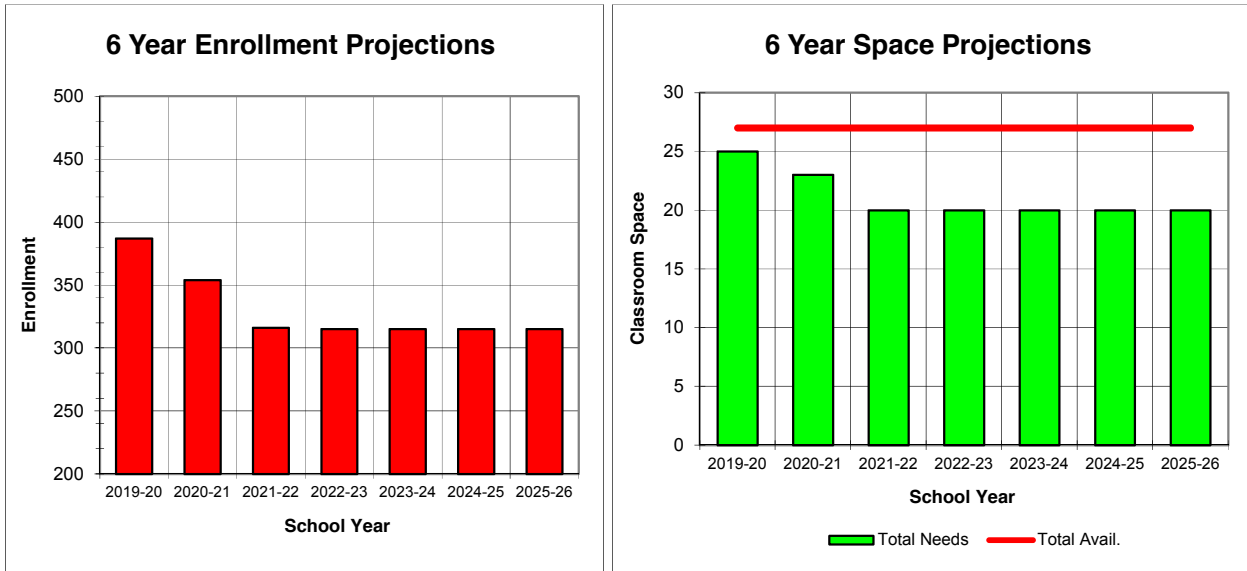
Comments:

Wolcott shows a declining population over the forecast period.

Wolcott has a surplus of space over the forecast period.

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Bristow Middle School



Comments:

As a controlled enrollment school, Bristow has adequate space for its 420 6-8 students.

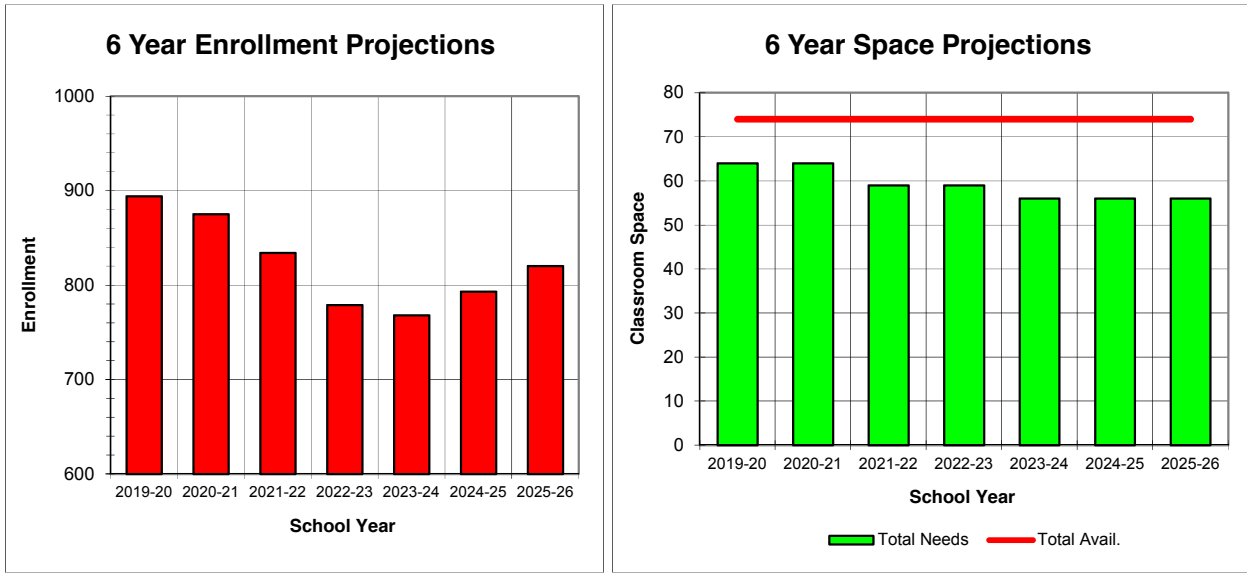
Over the next two years, Bristow will shrink to a 315 student school as middle school enrollment drops, Space availability will increase over the forecast period

Enrollment by Grade Level

	6	7	8	Total
2019-20	106	143	138	387
2020-21	105	106	143	354
2021-22	105	105	106	316
2022-23	105	105	105	315
2023-24	105	105	105	315
2024-25	105	105	105	315
2025-26	105	105	105	315

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King Philip Middle School



Comments:

KP's population declines steadily throughout forecast period.

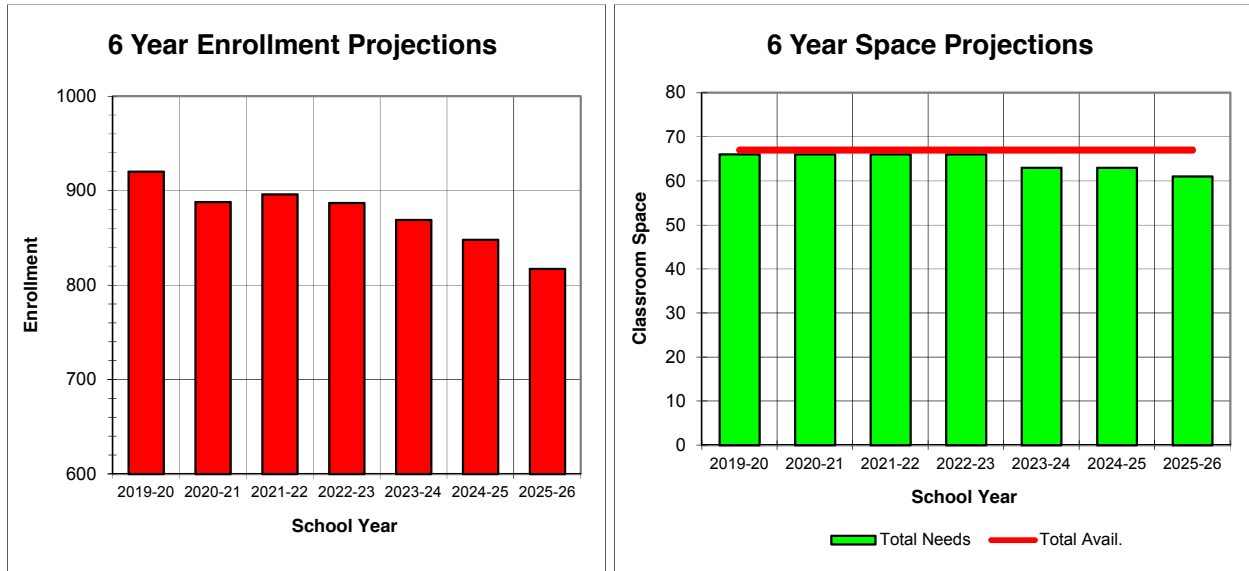
KP has a surplus of space across the forecast period.

KP has 5 modular classrooms.

Enrollment by grade level				
	Grade 6	Grade 7	Grade 8	Total
2019-20	303	291	300	894
2020-21	279	307	289	875
2021-22	245	284	305	834
2022-23	248	249	282	779
2023-24	269	252	247	768
2024-25	270	273	250	793
2025-26	275	274	271	820

Space Needs Analysis January 2020 Projections

Sedgwick Middle School



Comments:

Sedgwick's enrollment remains steady with a slight declining trend.

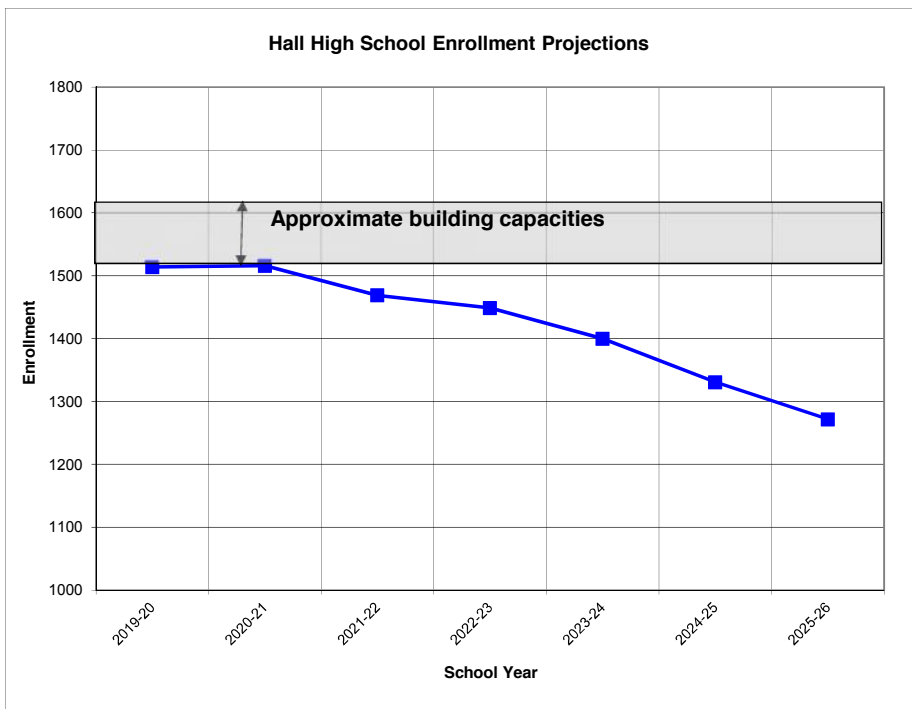
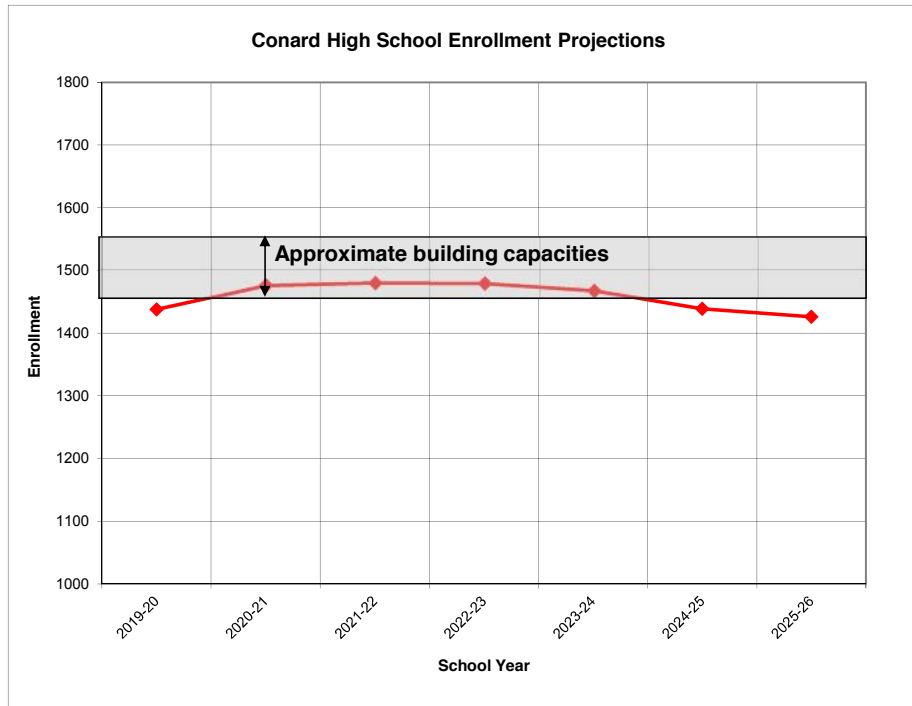
Sedgwick has adequate space throughout the forecast period.

Enrollment by grade level

	Grade 6	Grade 7	Grade 8	Total
2019-20	304	295	321	920
2020-21	276	310	302	888
2021-22	297	282	317	896
2022-23	297	302	288	887
2023-24	257	303	309	869
2024-25	276	262	310	848
2025-26	268	281	268	817

**Space Needs Analysis
January 2020 Projections**

Conard & Hall High Schools



Comments:

Conard's enrollment is projected to remain steady between 1450 and 1500 students through the forecast period. Conard has adequate space.

Hall's enrollment is projected to stay near 1,550 for next year and then decline in the later years of the forecast period. Hall has adequate space.