CHELMSFORD MASTER PLAN UPDATE

MARCH 1, 2022

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ACKNOWLEDGMENTS

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Executive Summary I

A. INTRODUCTION & BACKGROUND

SUMMARY

In 2015 Dore and Whittier (D+W) began work on a comprehensive master plan and study of the Chelmsford Public School facilities. In 2016 a report was issued that included an in-depth facility study and a ten-year capital improvement plan (CIP) for each building, an enrollment projection analysis, and a facility and district-wide capacity analysis, as well as several master plan options to resolve the facility and educational program needs across the district.

Based on the information provided in the report the district undertook several steps to address both the short-term and long-term goals of the master plan study. First, the district added modular classrooms to each elementary school. This allowed the district to provide full-day kindergarten to all students and reduce some of the overcrowding that was occurring in the elementary schools. The district also completed many of the capital improvements noted in the high priority category of the CIP reports for each facility, funded or completed several of the medium and low priority projects, and continued to address many of the on-going maintence needs identified in the report. Additionally, a master plan option that ultimately results in right sized facilities that meet the enrollment and educational program of district was chosen. This option "J5" proposed a new high school for grades 9-12, re-purposed the existing high school for grades 6-8, and provide five elementary schools serving grades K-5. In an effort to implement this option the district submitted a statement of interest (SOI) to the Massachusetts School Building Authority (MSBA) with the High School as a priority project. To date the High School has not been invited into the MSBA process. As part of this master plan study additional options and priority projects were developed for consideration.

This master plan update began in August 2021 with a Request for Proposal (RFP) to update to the 2016 facilities conditions and districtwide master plan. This updated study includes an analysis of updated enrollment projections and building capacities, a review of the capital improvement plans, and an update to the master plan options.

THE REPORT

This report reflects the work, data, and analysis that led to the development of multiple master plan options to resolve key issues across the district. The report is broken into four sections:

Section I – Executive Summary: This section, provides an overview of the work, findings, and options that are found in greater detail in the subsequent sections of this report.

Section II - Facility Assessments: This section includes an overview of the work completed at each facility since 2016, and the 2016 Capital Improvement Plan (CIP) spreadsheets with updated notes regarding completed projects or on-going maintenance items.

Section III – Analysis & Programing: This section includes capacity and space needs analysis, and the educational program analysis that informed the development of the master plan options. Enrollment projections are included along with the assumptions and methodologies used in developing the capacity and space needs across the district.

Section IV- Master Plan Options: As in the previous study, several master plan options were developed to resolve the needs identified in the analysis and programing section. The options

provide an overview of the process, identify the priority project, and establish a potential timeline for each of the scenarios.

OVERVIEW OF THE DISTRICT

The Chelmsford Public School District currently serves approximately 5,009 students in grades PK thru 12 and is projected to steadily increase in enrollment through the 2030-31 school year. Four elementary schools serve the district's 1,931 K-4 students and a separate school serves the 129 PK students. The elementary schools vary in enrollment as well as in the size, age, and condition of the facility. Two middle schools, grades 5-8, share the 1,557 student population with the larger school absorbing a little over 53% of the middle school students. One high school serves the district's 1392 students in grades 9^{th} -12^{th} .

DOCUMENTATION

This report is based on information gathered by visual observations, conversations with the facility services, review of the available existing building drawings, documents, and reports as well as enrollment projections that were provided by the Town of Chelmsford. The extent and accuracy of the documentation available may vary with each building.

Facilities included in this report:

Building	Address	Year built / Renovated	Total Sq. Ft	Grades & Enrollment
Chelmsford High School	200 Richard Road Chelmsford, MA.	Original Building: 1974 Reno: 2007	285,882 GSF (does not include modular bldg.)	Grades: 9-12 Students: 1392
McCarthy Middle School	250 North Road Chelmsford, MA.	Original Building: 1959 Reno: 2006	147,954 GSF (does not include modular bldg.)	Grade: 5-8 Students: 829
Parker Middle School	75 Granite Road Chelmsford, MA.	Original Building: 1965 Reno: 2006	105,400 GSF (does not include modular bldg.)	Grades: 5-8 Students: 728
Byam Elementary School	25 Maple Road Chelmsford, MA.	Original Building: 1970 Add/Reno: Modular Addition: 2016	60,441 GSF (does not include modular bldg.)	Grades: K-4 Students: 512
Center Elementary School	84 Billerica Road Chelmsford, MA.	Original Building: 1999 Add/Reno: Modular Addition: 2016	55,562 GSF (does not include modular bldg.)	Grades: K-4 Students: 495
Harrington Elementary School	120 Richardson Road. Chelmsford, MA.	Original Building: 1968 Add/Reno: Modular Addition: 2016	60,441 GSF (does not include modular bldg.)	Grades: K-4 Students: 475
South Row Elementary School	250 Boston Road Chelmsford, MA	Original Building: 193- Add/Reno: 1997 Modular Addition: 2016	42,500 GAF (does not include modular bldg.)	Grades: K-4 Students: 449

B. EXECUTIVE SUMMARY

SUMMARY OF FINDINGS: FACILITY ASSESSMENTS

The Chelmsford School facilities continue to be well maintained and proactive measures by the district have addressed many ongoing maintenance items. Improvements have been made to mechanical and electrical equipment, security systems, networks, kitchens, restrooms, roofs, and hardware across the district. Many items noted in the 2016 Facility Assessments and Capital Improvement Plan have been address and / or are scheduled for repair or replacement. Section II of this report includes the 2016 CIP spreadsheets for each facility with updated notes for work completed to date and work that is funded or scheduled for completion in 2022.

SUMMARY OF FINDINGS: EDUCATIONAL PROGRAM AND SPACE CAPACITY / NEEDS

The 2016 report noted that all schools, with the exception of the High School and McCarthy Middle School, were overcrowded based on gross square footage* and classroom count. In 2016 the district undertook a major building project adding modular classrooms to the each of the elementary schools. These additional classrooms allowed the district to provide full-day kindergarten and address some of the educational program space needs at the elementary schools. With the exception of the Center School, the modular classroom buildings are independent of the main school facility. These modular buildings were required to be separate from the main buildings as attaching them directly to the existing facility could trigger code required upgrades, such as the addition of sprinklers, to the existing facilities. Although in general the elementary schools remain overcrowded, as modular classrooms are not considered a permanent solution, the modulars have allowed for each of the elementary schools to meet their projected enrollment needs through 2030/31.

*Overcrowding based on gross square footage is measured against the MSBA recommended square footage for the student population and does not take into account the specific educational programs or special educational needs of the District.

Dore + Whittier updated the capacity analyses of each facility based on current enrollments and overlaid the updated enrollment forecasts in these calculations. In general terms, the findings remain similar to those noted in the 2016 report:

- Chelmsford High School continues to be undercrowded,
- McCarthy Middle School is about right-sized even without the modular classrooms,
- Parker Middle School would experience overcrowding without the modular classrooms, but is about right-sized when including the modular classrooms in the capacity analysis,
- All four elementary schools continue to experience overcrowding when not considering the modular classrooms but are about right-sized when including the modular classrooms in the capacity analysis. Center School is the exception as this school is experiencing overcrowding even when including the modular classrooms in the capacity analysis.

The following diagrams illustrate the outcomes of the capacity analyses.

CAPACITY ANALYSIS DIAGRAMS

	Current Enrollment	Capacity by GSF	Capacity by Classroom Count w/o Modulars	Capacity by Classroom Count w/ Modulars
Westland School	129	206	330	N/A
McCarthy MS	829	928	958	1036
Parker MS	728	**650**	**684**	840
Chelmsford HS	1392	1785	1760	N/A

	Current Enrollment	Capacity by GSF	Capacity by Classroom Count w/o Modulars	Capacity by Classroom Count w/ Modulars
Byam ES	512	**346**	**412**	527
Center ES	495	**310**	**394**	**486**
Harrington ES	475	**346**	**412**	527
South Row ES	449	**310**	**371**	463

SUMMARY OF FINDINGS: ENROLLMENT PROJECTIONS

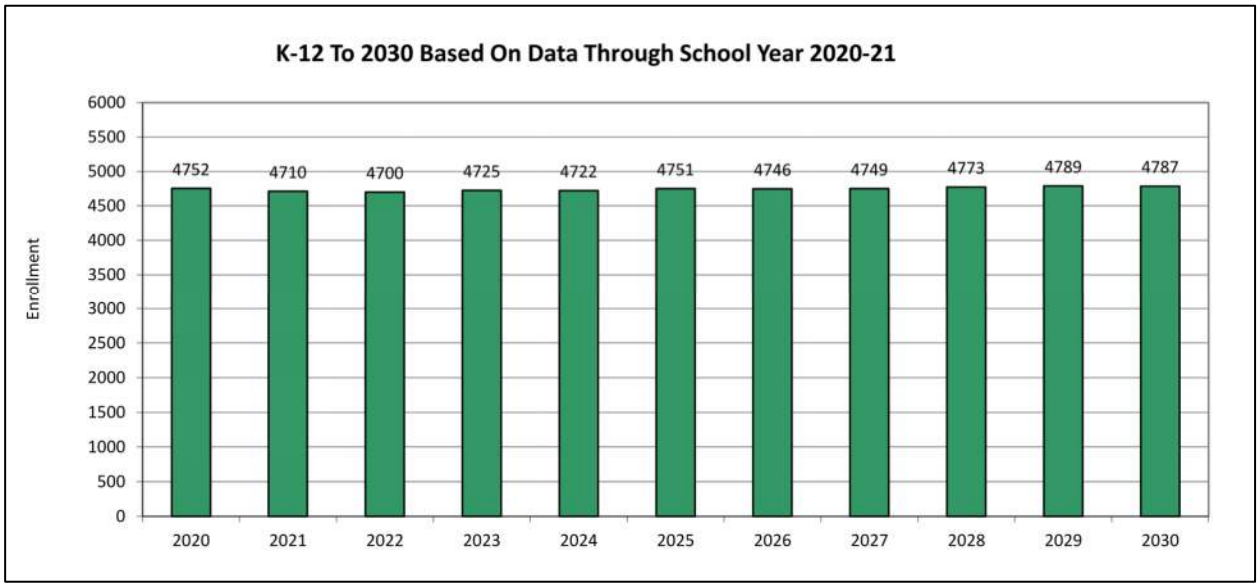
Chelmsford Public Schools provided two enrollment projections to Dore + Whittier over the course of this Master Plan Update study:

- 2020-2021 Enrollment Projection Report (11/18/2020)
- 2021-2022 Enrollment Projection Report (11/18/2021)

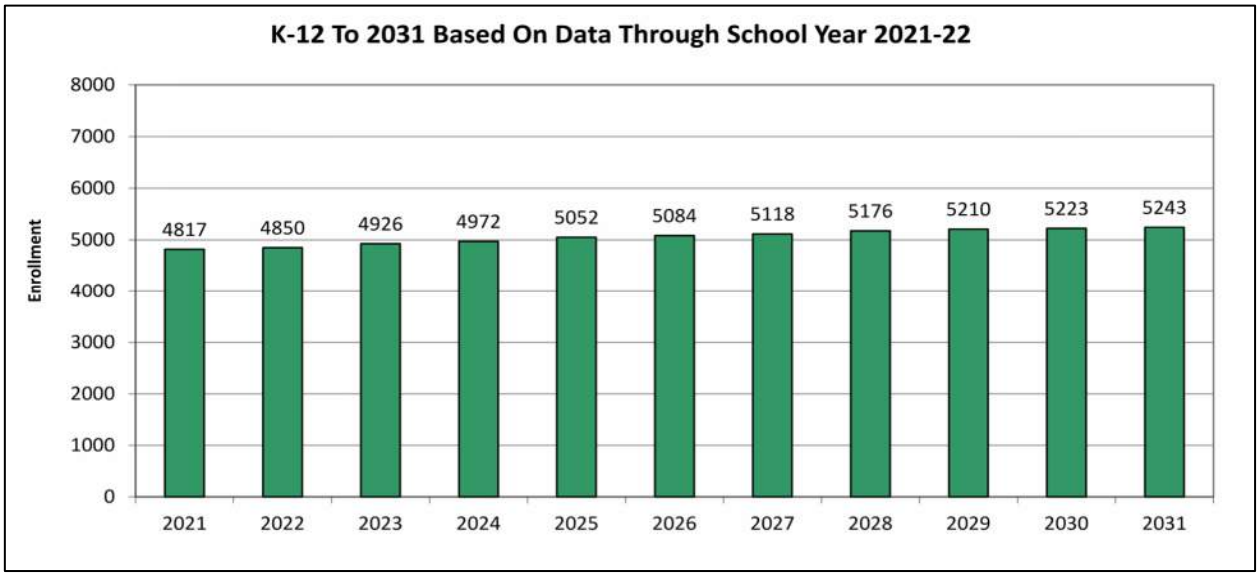
Dore + Whittier used the 2020-21 Enrollment Projection Report to perform a preliminary enrollment and capacity analyses. Due to the impact of COVID on student enrollment in the fall of 2020, Dore + Whittier also reviewed the 2021 Enrollment Projection Report to determine if enrollments had changed as COVID conditions evolved.

In broad terms, the projections based on the 2021-2022 enrollment are higher than those of the 2020-2021 projection because the fall enrollment of 2020 turned out to be an outlier year, particularly for grades K-4th. The following two charts illustrate the differences in the two enrollment projections.

2020-2021 Enrollment Projection Report, NESDEC

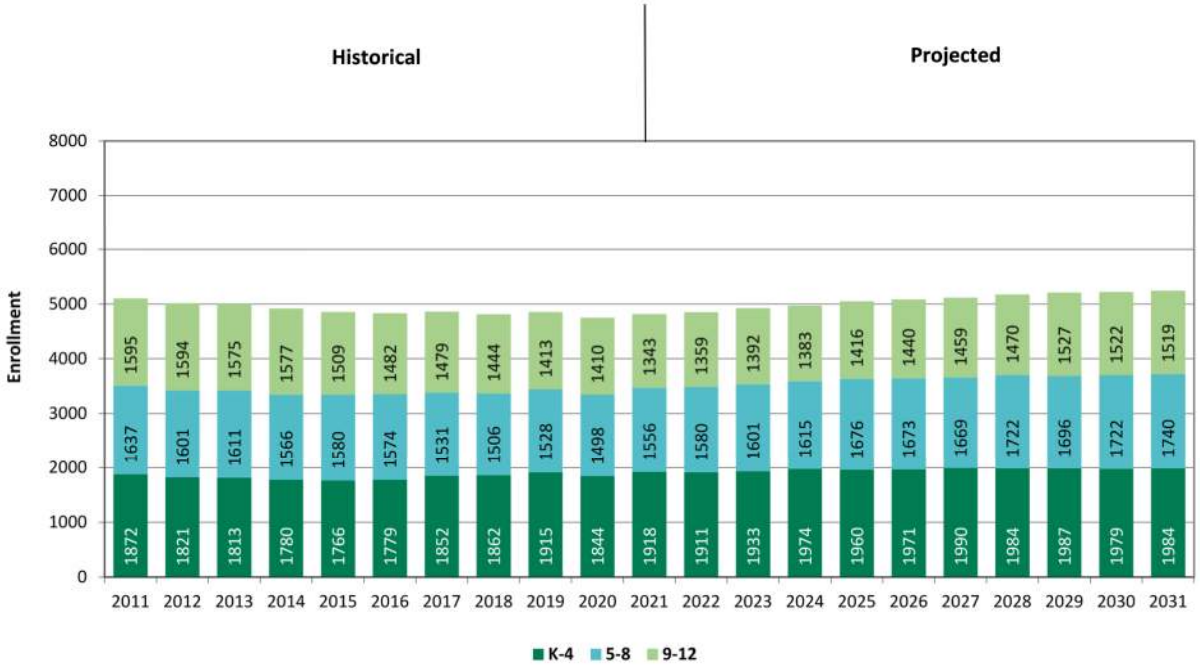


2021-2022 Enrollment Projection Report, NESDEC



Per the NESDEC 2021-22 Enrollment Projection Report Chelmsford is expected to experience enrollment growth of approximately 426 students or just under +9% across the district over the next ten years. Growth numbers by grade grouping are shown below:

2021-2022 Enrollment Projection Report, NESDEC



- K-4th: +66 Students (+3.4%)
- 5th-8th: +184 Students (+11.8%)
- 9th-12th: +176 Students (+13.1%)

SUMMARY OF OPTIONS

The 2016 report outlined several potential options for the district to consider. The district chose to implement two options. Option B proposed temporary additions to each of the elementary schools to serves the immediate space needs of the elementary schools. Option J proposed that the district submit a statement of interest (SOI) to the MSBA with the Chelmsford High School as the priority project. The goal of Option J was to provide a new high school, use the existing high school to resolve the overcrowding at the middle school level, and repurpose one of the middle schools as a fifth elementary school. As noted above, the district has not been invited into the MSBA process with the High School as the priority project, and is considering other options to address the district's needs.

This updated Master Plan study has reviewed five potential options with the middle school grades, specifically the Parker School, as the priority project. In Option P1 and P2 a new Parker School is constructed or the existing is renovated and serves either grades 7 & 8 (Option P1) or grades 5 & 6 (Option P2). In both of these scenarios the McCarthy School would serve the alternate grade grouping. The elementary schools would be renovated over time with the one of the elementary schools absorbing the pre-K students as part of an addition / renovation or new building project.

Option P3 focused on creating a larger middle school that could serve all 5th – 8th grade students together under one roof for shared spaces and resources while allowing for separation where needed. In this option the McCarthy School would become a fifth elementary school and include the PK students.

Options P4 and P5 included grade reconfigurations to help resolve overcrowding at the elementary school level. P4 proposes a new school for grades 4-6 and four elementary schools for grades K-3. P5 proposes the new school for grades 6 – 8 creating five elementary K-5th grade schools.

Each of these options must consider the greatest short-term impact as well as the time to completion of the entire master plan as many of the elementary schools will require increased funding and maintenance to remain operational over the coming decades.

The options noted below and are shown with more detail in Section III of this report.

Option P1: Parker Priority, 7th-8th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 7th-8th	5th-6th	K-4th	K-4th	PK-4th	K-4th

Option P2: Parker Priority, 5th-6th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 5th-6th	7th-8th	K-4th	K-4th	PK-4th	K-4th

Option P3: Parker Priority, 5th-8th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 5th-8th	PK-4th	K-4th	K-4th	K-4th	K-4th

Option P4: Parker Priority, 4th-6th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 4th-6th	7th-8th	K-3rd	K-3rd	PK-3rd	K-3rd

Option P5: Parker Priority, 6th-8th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 6th-8th	PK-5th	K-5th	K-5th	K-5th	K-5th

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Capital Improvements II

INTRODUCTION & BACKGROUND

SUMMARY

Since 2016 the District has worked diligently to address the capital improvements noted in the facility assessments section of the 2016 report. Below is a list of each school and some of the capital improvement projects that have been undertaken since the 2016 report.

A. **CHELMSFORD HIGH SCHOOL**

Site & Civil Projects

a. Re-pavement in areas where cracking and degradation was present,
b. Regrading in areas where ponding of water was occurring,
c. On-going maintenance and cleaning of the catch basins,
d. Re-placement of degraded curbs.

Structural

a. Half-height non-structural non-anchored masonry walls were removed.

Exterior Architectural Elements

a. Exterior door thresholds, hardware and doors have been replaced or repaired as part of on-going maintenance.

Interior Architectural Elements

a. Restrooms have been upgraded and ADA requirements have been addressed,
b. Drinking fountains have been replaced and meet accessibility requirements,
c. Floors in the wrestling room and gym have been repaired and / or replaced,
d. Damaged VCT flooring throughout the school has been repaired and / or replaced and continues as an on-going maintenance project,
e. Kitchen quarry tile flooring has been repaired and / or replaced,
f. Damaged wall base had been repaired and / or replaced,
g. Damaged ceiling tiles continue to be replaced as on-going maintenance,
h. Interior door hardware has been upgraded to meet ADA requirements.

Mechanical

a. On-going maintenance continues with the rooftop units, exhaust fans, stand-by pumps, and piping insulation,
b. Funding (potential) for additional repairs and replacement is scheduled for 2022.

Electrical

a. On-going replacement of non-working lights continues,
b. The paging system and the master clock have been updated,
c. Inspections of the fire alarm system for NFPA 25 requirements have been conducted.

Plumbing

a. High-efficiency, low flow fixtures have been installed,
b. A pressure backflow preventer has been installed in the janitor's closets,
c. Emergency showers and eye-washers have been installed where required.

Haz/ Mat

a. On-going removal of damaged materials occurs regularly.

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Chelmsford High School
Capital Improvement Spreadsheets

		CHELMSFORD HIGH SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
1	**Site & Civil**									
	1.01	Mill and overlay sections of pavement where cracking/ degradation has occurred.	✓							
	1.02	Regrade paved areas to prevent ponding which can lead to ice patches in the cold weather.	✓							
	1.03	Clean out existing catch basin grate(s).							✓	completed every other year
	1.04	Install hoods on existing catch basin.	X							
	1.05	Replace degraded curb.	✓							
	1.06	Review travel distance from HC parking to front entrance - provide spaces with minimal travel distance					X			
	1.07	Provide curb cuts and crosswalks to clearly identify the accessible path					◐	some curbs were replaced during replacement		
2	**Structural Elements**									
	2.01	Half-height masonry walls need to be anchored to the main structure.					✓			removed from restrooms
	2.02	Sand and repaint exterior columns with rust-prohibitive paint.	X						X	maintenance
3	**Exterior Architectural Elements**									
	3.01	Patch and repair cracks around foundation walls							X	
	3.02	Repaint metal panels and soffits that are rusting							X	
	3.03	Repair / maintain exterior control joints							X	

		CHELMSFORD HIGH SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	3.04	Remove debris from weeps to allow for proper ventilation							X	
	3.05	Install privacy glazing or film on windows in toilet rooms							X	
	3.06	Repair door heads and sills on the north and west sides of the Performing Arts wing							X	
	3.07	Review window flashing around the gym - install flashing where missing							X	
	3.08	Address step condition at exit door at gym - install landing and ramp					X			
	3.09	Replace thresholds that are not ADA compliant (exceed 1/2" in height)							◐	on going maintence
	3.10	Repaint metal doors and frames to prevent further deterioration and rusting							◐	on going maintence
	3.11	Where interior ceilings are stained investigate roof for leaking							◐	on going maintence
4	**Interior Architectural Elements**									
	4.01	Renovate ramp to the lower gym floor to provide proper slope and handrails					X			
	4.02	Renovate all restrooms to meet ADA requirements	✓							
	4.03	Renovate showers	X	Showers are not commonly used						
	4.04	Renovate classroom entrances to provide push / pull clearances					X	Requires major renovations		
	4.05	Provide new handrails at stairways to meet accessibility requirements			X					
	4.06	Replace existing display cases with new cases that meet accessibility requirements (cases should extend to floor or provide a shield or cane indicator)								
	4.07	Replace existing drinking fountains with accessibility compliant drinking fountains	✓							

	CHELMSFORD HIGH SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
4.08	Install assessable ramp to areas with tier floors or platforms (music room)					X			
4.09	Repair or replace gym floor							✓	
4.10	Repair or replace floor in wrestling room	✓							
4.11	Replace floor mats in wrestling room			✓					
4.12	Replace VCT flooring where cracked or damaged							✓	on going maintence
4.13	Replace bathrooms tile floors	✓							
4.14	Replace locker room flooring	X							
4.15	Replace shower room flooring	X							
4.16	Install new floor in ice room	X							
4.17	Replace the quarry tile flooring in the kitchen	✓	flooring was patched during renovation						
4.18	Remove folding part ion walls and replace with gyp wall	✓							
4.19	Review areas of cracked cmu wall and repair walls			◐	on going maintence				
4.20	Replace vinyl wall base where damaged and stained					◐	on going maintence		
4.21	Repaint CMU wall base throughout corridors	✓						◐	on going maintence
4.22	Replace damaged ceiling tiles - repair source of staining							◐	on going maintence
4.23	Replace damaged gyp soffits							◐	on going maintence
4.24	Review humidly levels or other sources for cupping ceiling tiles	X						X	

		CHELMSFORD HIGH SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	4.25	Replace rusting kick plates							X	
	4.26	Replace knobs with lever hardware							✓	most have been replaced
	4.27	Renovated to classroom entrances to allow for push / pull clearances					X			
	4.28	Replace non-complanate door hardware	✓	most have been replaced						
	4.29	Replace doors and side lights with wire glass							X	
	4.30	Replace locker room benches	X							
	4.31	Replace damaged lockers							✓	on going maintenance
	4.32	Replace cabinets and counter tops in classrooms			X					
	4.33	Add accessible lockers to general lockers and locker rooms			◐				◐	accommodations are made for students per student services as needed each year
5	**Mechanical - HVAC**									
	5.01	Continue regularly scheduled routine maintenance on all roof top units and split cooling systems.							✓	on going maintenance
	5.02	Consider further investigation to determine the water quality and the necessary chemical treatment/maintenance should be performed.							✓	on going maintenance
	5.03	Provide a second stand-by pump for each set of pumping systems.							✓	completed
	5.04	Replace any and all sections of piping insulation that is missing, damaged or soiled.			◐				✓	on going maintenance
	5.05	Install an air vent on the air separator.							X	

		CHELMSFORD HIGH SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	5.06	Replace the existing functional pump with the non-inverted rated motor with a premium efficiency inverted duty motor. This includes replacing the pump bearings and adding shaft grounding rings to prevent the bearings from pitting.							✓	completed
	5.07	Provide ventilation/ exhaust system within the boiler room due to the high corrosion occurring on the pipe flanges and exposed pipes. Providing tempered air recirculation can provide better air quality.					X	emergency exhaust is used		
	5.08	Provide differential pressure sensors and modulate the heating hot water system based on building demand for energy savings.					✓			
	5.09	Provide VFD for RTU-18	X	possibly funded for 2022						
	5.10	Replace five unit ventilators associated with the Art wing.			X	possibly aper funded for 2022				
	5.11	Provide routine maintenance on all equipment.							✓	on going maintenance
	5.12	Provide different style diffusers on the supply ductwork due to the short circuiting issues. It will force the air down to within the occupied gym area.	X	possibly funded for 2022						x
	5.13	Provide routine maintenance on all exhaust fans such as replacing belts and lubricating their motors and shafts.							✓	on going maintenance
	5.14	Provide routine maintenance on all equipment such as motor and shaft lubrication, filter replacement and coil cleaning.							✓	on going maintenance
6	**Electrical**									
	6.01	Replace the original 1974 switchgear that is in poor condition and generally full. The existing feeders and branch circuits would be re-fed.					X			
	6.02	Replace lighting in kitchen, locker rooms, showers and TV Studio.		complete in the kitchen	X		X			
	6.03	Replace building mounted compact fluorescent sconces with LED fixtures of the cut-off type.			X	funded for 2022				
	6.04	Provide uniformed pole mounted LED fixtures for parking areas.			✓					
	6.05	Install emergency transfer switch and emergency panels in a 2-hour rated enclosure to comply with current codes.			X					

		CHELMSFORD HIGH SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	6.06	Install a lightning protection system.								may exist
	6.07	Install GFI receptacles, and add additional receptacles, in the Kitchen area.	X							
	6.08	Install recessed cable access for teacher desks in science labs.	X							
	6.09	Monitor emergency shower flow switches for inadvertent use.							✓	on going maintenance
	6.10	Install bi-directional antenna for communications with radios by First Responders.					X			
	6.11	Replace paging system due to problematic function.	✓							
	6.12	Update master clock system as it is obsolete.			✓					
	6.13	Continue to inspect/ maintain system per NFPA 25 requirements.							✓	on going maintenance
	6.14	Install 100% sprinkler coverage to entire school.					X			
	6.15	Replace horns with speakers for general voice evacuation under a renovation.					X			
7	**Plumbing**									
	7.01	Install newer high-efficiency, low flow fixtures to reduce water consumption.	✓							
	7.02	Inspect with video to confirm integrity of existing cast iron piping.							X	x
	7.03	Provide reduced pressure backflow preventers at Janitor's closet soap dispenser.							✓	complete
	7.04	Redirect kitchen waste to exterior grease trap.								review
	7.05	Supply emergency showers with tepid water per current code. Install a mixing valve to blend water to emergency showers and eyewashes.	✓	existing condition has back to back and tepid						

		CHELMSFORD HIGH SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
8	**Fire Protection**									
9	**Hazardous Material**									
	9.01	Replace 12" x 12" Vinyl floor tile and mastic that were previously found to contain asbestos. The ACM was found on top of 9" x 9" vinyl floor tiles.							X	
	9.02	Replace Boiler exhaust insulation that was previously found to contain asbestos.							X	
	9.03	Replace pink sink coating that was previously found to contain asbestos.							X	
	9.04	Replace interior door framing caulking that was previously found to contain asbestos.							X	
	9.05	Replace insulation inside boilers that was assumed to contain asbestos.							X	
	9.06	Replace stage fire curtain that was assumed to contain asbestos.							X	
	9.07	Replace glue holding blackboard that was assumed to contain asbestos.							X	
	9.08	Replace rubber flooring that was assumed to contain mercury.							X	
	9.09	Replace underground sewer pipe that was assumed to contain asbestos.							X	
	9.10	Replace damproofing on exterior and foundation walls was assumed to contain asbestos.							X	
	9.11	Replace roofing materials that were assumed to contain asbestos.							X	
	9.12	Remove and repaint surfaces that were assumed to be Lead Based Paint.							X	
	9.13	Replace various equipment such as tubes, thermostats, exit signs and switches that were assumed to contain mercury.							X	

		CHELMSFORD HIGH SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	9.14	Replace caulking materials that were assumed to contain PCB's.							X	
									X	

GENERAL NOTES

1. Refer to each section of the Report for more detailed information. Before moving forward with a specific project, a detailed review of the scope of work and a re-assessment of the cost estimate for that scope should be performed.

2. Some items should be completed in combination with other items. Some of these suggestions may be noted above. We recommend that once a scope of work is desired to be pursued, a mini-study should be done to confirm which work should be done together. See the next general note below for additional information.

3. Due to the conceptual nature of these recommendations and estimates and the complexity of existing conditions, several solutions may be provided to achieve the end result. Existing conditions in some areas may limit the ability to fully implement the proposed scope of work. Part or all of this work may trigger other renovation requirements related to code, seismic, sprinklers or handicap accessibility. Once a determination is made to move forward with a specific improvement line item, a mini study specific to the scope of work should be done to confirm the scope of work, prepare sketches as necessary and prepare a refined cost estimate.

B. **McCARTHY MIDDLE SCHOOL**

The theater has been completely renovated, a kitchen renovation is scheduled for 2022

Site & Civil Projects

a. Partial re-pavement has been done in areas where cracking and degradation was present,
b. Regrading in areas where ponding of water was occurring is part of on-going maintenance.

Exterior Architectural Elements

a. Roof was repaired where leaking was occurring.

Interior Architectural Elements

a. Drinking fountains have been replaced and meet accessibility requirements,
b. Theater control booth has become accessible through theater renovation project,
c. Gym floor has been refinished,
d. Damaged ceiling tiles have been replaced and continue as part of on-going maintenance,
e. Classroom and office doors, hardware, and glazing have been repaired or replaced,
f. Toilet room fixtures and accessory replacement is on-going.

Mechanical

a. On-going maintenance has continued with the boilers,
b. Air purifiers were added to classrooms,
c. Unit ventilators, roof-top units, and heat-pumps continue to receive on-going maintenance.

Electrical

a. The switch gear continues to receive on-going maintenance,
b. Occupancy sensors have been added to classrooms, offices, and hallways,
c. LED light fixtures have been installed in the parking area,
d. The fire alarm control panel has been upgraded,
e. Fire alarm horns and speakers have been upgraded.

Plumbing

a. The gas water heater has been replaced,
b. A pressure backflow preventer has been installed in the janitor's closets,
c. Exposed gas pipes have been painted to prevent rusting.

Haz/ Mat

a. On-going removal of damaged materials occurs regularly.

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McCarthy Middle School
Capital Improvement Spreadsheets

		McCARTHY MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
1	**Site & Civil**									
	1.01	Mill and overlay sections of pavement where cracking/ degradation has occurred.							◐	part. Complete
	1.02	Regrade paved areas to prevent ponding which can lead to ice patches in the cold weather							◐	part. Complete
	1.03	Replace areas of asphalt curb that have been damaged.			X					
	1.04	Reset vertical granite curb as needed.			X					
	1.05	Ensure walkways and courtyard areas are ADA accessible.					X			
2	**Structural Elements**									
3	**Exterior Architectural Elements**									
	3.01	Repair damaged foundation walls							X	
	3.02	Verify proper weeping in brick walls - investigate causes of efflorescence							X	
	3.03	Install proper gutters and downspouts							X	
	3.04	Repair precast window sills and retool mortar				x			X	
	3.05	Remove existing window film in gym - install new film							X	
	3.06	Repair mortar around brick louver sills							X	

		McCARTHY MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	3.07	Replace the curtain wall in the gym: (major renovation)					X			
	3.08	Review roof condition in areas where ceiling tiles have been stained by water	✓							roof was reviewed and repaired
4	**Interior Architectural Elements**									
	4.01	Renovate classroom entryways to meet push / pull clearances					X			
	4.02	Replace handrails that do not meet accessibility requirements	X							
	4.03	Replace non-accessible drinking fountains	✓							
	4.04	Provide lift or ramp to the control booth in the auditorium or relocate controls to provide accessibility					✓	control booth was relocated		
	4.05	Refinish gym floor	✓	main gym was complete - aux gym remains as 9x9 tiles						
	4.06	Replace VCT flooring where patches have made - correct under slab conditions	◐	on-going maintenance						
	4.07	Resolve flooring transitions where wood platform has been installed					X			
	4.08	Repair toilet room flooring			X					
	4.09	Replace library carpet					X			
	4.10	Replace quarry tile in kitchen			X	kitchen is scheduled for a full renovation				
	4.11	Repair cracks in CMU block walls - investigate cause	X							
	4.12	Investigate locations where ceiling tiles are stained - replace tiles - repair leaks	✓	tiles were replaced and active leaks repaired					✓	on-going maintenance

		McCARTHY MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	4.13	Remove doors and sidelights with wire glass - replace	◐	classroom & office doors have been replaced, hallway doors and sidelights remain						
	4.14	Replace non compliant toilet fixtures and accessories	◐	on-going replacement						
	4.15	Replace locker room benches with accessible benches			X	*locker room is not being used				
	4.16	Provide accessible lockers in locker room and corridors			X	*locker room is not being used				
	4.17	Replace non-compliant door hardware	✓	completed in corridor, classrooms and entrance doors						
	4.18	Renovate non accessible single user toilet rooms to be compliant	X							
	4.19	Renovate sinks and cabinets in classrooms - provide accessibility	X							
5	**Mechanical - HVAC**									
	5.01	Consider replacing all cooling equipment that utilizes R-22 refrigerant.							X	
	5.02	Reinsulate exposed rooftop refrigerant piping serving condensing units. Wrap closed cell insulation with a UV light rated jacket.							X	
	5.03	Install motorized isolation valves at each boiler to close when that boiler is idle.							◐	reverse return boilers - review this issue
	5.04	Investigate why pumps are not modulating down at warmer outdoor temperatures.							X	
	5.05	Install ventilation in the electric room.					X			
	5.06	Install a variable speed demand control kitchen hood control system. This system monitors the heat and smoke given off by cooking processes and adjusts hood airflow to compensate. When little cooking is taking place, the hood runs at reduced airflow, saving energy.			X					

		McCARTHY MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	5.07	Continue to provide routine maintenance on all the unit ventilators such as motor and shaft lubrication, filter changes and coil cleaning.							◐	on going maintenance
	5.08	Add unit ventilators to small classrooms with high occupancy loads to improve ventilation levels.	✓	air purifiers were added						
	5.09	Reinstall moisture elimination screen on RTU.							X	
	5.10	Tighten filter access door on RTU.							◐	on going maintenance
	5.11	Provide routine maintenance on all exhaust fans such as replacing belts and lubricating their motors and shafts. Replace fans as necessary.							◐	on going maintenance
	5.12	Provide routine maintenance on all unit heaters, such as motor and shaft lubrication, filter replacement and coil cleaning.							◐	on going maintenance
	5.13	Replace portable classroom units with a permanent, well insulated addition to the building, heated by the buildings efficient gas-fired hot water heating system.					X			
	5.14	Replace rooftop units on portable classrooms with heat pump style rooftop units to minimize electric heating by capturing heat from the surrounding air.					X			
	5.15	Reinstall moisture elimination screen in outside air hood of library RTU.							X	
	5.16	Tighten handle on the access door at the library RTU filter section.							◐	on going maintenance
	5.17	Investigate why the building heating pumps are not modulating down in moderate weather.							◐	on going maintenance
	5.18	Add motorized valves to each boiler to prevent the dilution of supply water temperature due to circulation through idle boilers. The energy savings from the efficiency of higher supply water temperatures will result in short payback.			X					
	5.19	Insulate refrigerant lines on roof that have deteriorated/missing insulation. The energy savings will result in short payback.			X					

		McCARTHY MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
6	Electrical									
	6.01	Provide new pad mounted transformer to replace existing vault transformer.					X			
	6.02	The original FPE switchgear is in poor condition, generally full and should be replaced. The existing feeders and branch circuits would be refed from the new switchgear.					◐	on-going maintence and upgrades		
	6.03	Replace lighting under a renovation program with LED sources with automatic dimming in spaces with daylight contribution.					◐	of have been added to classrooms, office and hallways		
	6.04	Provide an automated lighting control system.					◐	of have been added to classrooms, offices and hallways		
	6.05	Replace building mounted HID and compact fluorescent sconces with LED fixtures of the cut-off type.					X			
	6.06	Provide uniformed pole mounted LED fixtures of the cut-off type for parking areas.	✓							
	6.07	Upgrade existing emergency lighting, panels and feeders to comply with code. Provide dedicated emergency closets with 2-hour rating to house new panels.					X			
	6.08	Replace fire alarm control panel with new FCI E3 which is backwards compatible with the existing devices.	✓							
	6.09	Replace horns with speakers for general voice evacuation under a renovation. This will require new twisted pair speaker wiring.	✓							
	6.10	Install lightning protection system.					X			
	6.11	Install GFI protected receptacles in the kitchen.	✓	Updated with kitchen renovation						

		McCARTHY MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	6.12	Add receptacles to kitchen.	◐	funded for 2022 summer						
	6.13	Install a bi-directional antenna system to enhance communications with portable radios used by First Responders.					X			
7	**Plumbing**									
	7.01	Confirm by video inspection of existing drains to confirm integrity and correct pipe invert.							X	
	7.02	Provide new high-efficiency gas-fired domestic water heater once the existing water heater has expired.							✓	
	7.03	Install new mixing valve.							X	
	7.04	Inspect hot water expansion tank for corroded fitting and leaks.							X	
	7.05	Provide reduced pressure backflow preventers at Janitor's closet soap dispenser.	✓							
	7.06	Paint gas piping exposed to exterior.							✓	
8	**Fire Protection**									
9	**Hazardous Material**									
	9.01	Tan 12” x 12” vinyl floor tile and mastic were previously found to contain asbestos.							X	
	9.02	Remove and replace 9” x 9” Vinyl floor tile and mastic that were found to contain asbestos. The ACM was found mostly under newer 12” x 12” vinyl floor tiles.							X	
	9.03	Remove and replace yellow adhesive at cove base that is assumed or previously found to contain asbestos.							X	

		McCARTHY MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	9.04	Remove and replace interior vent caulking that was previously found to contain asbestos.							X	
	9.05	Remove and replace grey sink coating that was previously found to contain asbestos.							X	
	9.06	Remove and replace pipe and hard joint insulation that was previously found to contain asbestos. The asbestos containing material was found throughout the building, including in crawl spaces.							X	
	9.07	Remove and replace black ceiling mastic that was previously found to contain asbestos. The asbestos containing material was found in the kitchen walk-in cooler.							X	
	9.08	Remove and replace the ceiling plaster at the auditorium that was previously found to contain asbestos.							X	
	9.09	Remove and replace interior glazing caulking in doors that was previously found to contain asbestos.							X	
	9.10	Remove and replace vertical caulking that was previously found to contain asbestos.							X	
	9.11	Remove and replace exterior door caulking that was previously found to contain asbestos.							X	
	9.12	Remove and replace exterior expansion joint caulking that was previously found to contain asbestos.							X	
	9.13	Remove and replace exterior unit vent framing caulking that was previously found to contain asbestos.							X	
	9.14	Remove and replace exterior white window glazing caulking that was previously found to contain asbestos.							X	
	9.15	Remove and replace insulation inside boilers that was assumed to contain asbestos.							X	
	9.16	Remove and replace glue holding blackboard that was assumed to contain asbestos.							X	
	9.17	Remove and replace underground sewer pipe that was assumed to contain asbestos.							X	
	9.18	Remove and replace damproofing on exterior and foundation walls that was assumed to contain asbestos.							X	
	9.19	Remove and replace roofing materials that was assumed to contain asbestos.							X	

		McCARTHY MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	9.20	Remove and repaint surfaces that are assumed to be lead based paint.							X	
	9.21	Replace various equipment such as tubes, thermostats, exit signs and switches that were assumed to contain mercury.							X	
	9.22	Remove and replace caulking materials were assumed to contain PCBs.							X	
									X	

GENERAL NOTES

1. Refer to each section of the Report for more detailed information. Before moving forward with a specific project, a detailed review of the scope of work and a re-assessment of the cost estimate for that scope should be performed.

2. Some items should be completed in combination with other items. Some of these suggestions may be noted above. We recommend that once a scope of work is desired to be pursued, a mini-study should be done to confirm which work should be done together. See the next general note below for additional information.

3. Due to the conceptual nature of these recommendations and estimates and the complexity of existing conditions, several solutions may be provided to achieve the end result. Existing conditions in some areas may limit the ability to fully implement the proposed scope of work. Part or all of this work may trigger other renovation requirements related to code, seismic, sprinklers or handicap accessibility. Once a determination is made to move forward with a specific improvement line item, a mini study specific to the scope of work should be done to confirm the scope of work, prepare sketches as necessary and prepare a refined cost estimate.

C. **PARKER MIDDLE SCHOOL**

The school has received a full kitchen upgrade and several restrooms were upgraded with new fixtures, stalls, and accessories.

Site & Civil Projects

a. Partial re-pavement has occurred in areas where cracking and degradation of pavement was present,
b. Sidewalks have been redone and new granite curbs have been added.

Exterior Architectural Elements

a. Exterior cracking of brick has been reviewed by a structural engineer and no immediate concerns were identified. On-going repairs to both brick and concrete continue.
b. Modular buildings have received repairs to exterior siding and skirtboards,
c. Debris (bird nests) has been removed from vents and louvers around the building.

Interior Architectural Elements

a. Kitchen upgrades included removal of wood counter tops and surfaces, addition of mobile worktables and workstations, replacement of existing ceiling tiles with washable tiles, and the addition of a fire suppression system in the hood.
b. Several of the VCT floor tiles throughout the school have been replaced and continue to be replaced as part of on-going maintenance,
c. Funding for interior stair renovations is being sought for summer 2022,
d. Some cracks in the interior CMU walls have been repaired, others remain part of on-going maintenance,
e. On-going replacement of stained or damaged ceiling tiles around the building continues as part of on-going maintenance,
f. Replacement of the wired glass in doors and sidelights continues as part of on-going maintenance,
g. Bathrooms were upgraded with new fixtures, hardware and ADA compliant stalls.

Mechanical

a. Pneumatic controls are being converted to DDC,
b. The kitchen mechanical system was updated,
c. Unit ventilators receive routine maintence including filter changes as part of routine maintenance,
d. The gym heating and venting systems receive on-going maintenance,
e. Routine maintenance continues on the exhaust fans, motors, and unit heaters throughout the building,
f. On-going maintenance continues on the boilers,
g. Some refrigerant lines on the RTUs have been replaced.

Electrical

a. The original panel board in the kitchen was replaced,
b. Non-operational gym light fixtures were replaced,
c. Occupancy sensors were added to classrooms,
d. Exterior lighting was replaced,

e. The fire alarm system was upgraded,
f. The clock and paging systems were upgraded.

Plumbing

a. A pressure backflow preventer has been installed in the janitor's closets.
b. Plaster traps were installed in the art classrooms,
c. The kitchen waste line was connected to the grease trap.

Haz/ Mat

a. On-going removal of damaged materials occurs regularly

Parker Middle School
Capital Improvement Spreadsheets

		PARKER MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
1	**Site & Civil**									
	1.01	Mill and overlay sections of pavement where cracking/ degradation has occurred.							◐	on-going maintenance - front area has been
	1.02	Regrade paved areas to prevent ponding which can lead to ice patches in the cold weather.							X	
	1.03	Sidewalks and curbs	✔#	Sidewalks have been redone and new granite curbs have been added						
2	**Structural Elements**									
3	**Exterior Architectural Elements**									
	3.01	Review areas where brick walls are cracking - repair walls							◐	Cracks have been reviewed by structural engineer - no concerns were identified. Repair of cracks is on-going maintenance
	3.02	Remove debris in weeps							X	
	3.03	Review causes of moisture infiltration into walls where efflorescence is visible	X						X	
	3.04	Repair or install new control joint	X							
	3.05	Repair spalling pre-cast cantilevers	X		X				X	
	3.06	Repair exterior cladding on modular classroom building or replace classroom pods	✔#	repaired skirting and siding on modular buildings						
	3.07	Review door thresholds - repair thresholds that do not meet ADA requirements			X					

		PARKER MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	3.08	Install pads and ramps at doors where the transition is to great			X					
	3.09	Remove debris from all louvers							✔#	
4	**Interior Architectural Elements**									
	4.01	Eliminate all wood surfaces and add hand-washing sinks in kitchen.	✔#							
	4.02	Add appropriate mobile worktables to provide for additional work surfaces to kitchen.	✔#							
	4.03	Redeploy the dish room or eliminate the equipment from the dish room to provide for additional storage. Build a wall that is constructed of easy to clean materials.	✔#							
	4.04	Install a lay-in washable ceiling and improve the lighting levels in the kitchen.	✔#							
	4.05	Add a fire suppression system for the hood system and two-burner range.	✔#							
	4.06	Completely refit this kitchen. There is little here that can be saved.	✔#							
	4.07	Replace VCT floors that are in poor condition							◐	Several floor tiles have been replaced, others remain and will be replaced as part of on-going maintenance
	4.08	Install non-slip material on stairs				Seeking funding for summer 2022				
	4.09	Replace library carpet						Currently in good condition		
	4.10	Replace non-slip strips in kitchen or install new floor throughout	✔#							
	4.11	Repair CMU cracked wall in locker room	◐	some cracks have been repaired - on-going maintenance						

		PARKER MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	4.12	Repair CMU cracked walls in classrooms	◐	some cracks have been repaired - on-going maintenance						
	4.13	Replace stained ceiling tiles - investigate cause of leaking	✔#							on-going maintenance
	4.14	Replace non-compliant door hardware							◐	hardware is being replaced as on-going maintenance
	4.15	Replace wire glazing in doors and sidelights							◐	replaced with on-going maintenance
	4.16	Re-install toilet accessories that are not located per accessibility requirements	X							
	4.17	Upgrade shower rooms or remove all fixtures and re-purpose space	X							
	4.18	Review all restrooms for accessibility compliance	✔#	new fixtures, hardware & partitions, ADA stalls were added						
5	**Mechanical - HVAC**									
	5.01	Replace all cooling equipment that utilizes R-22 refrigerant.							X	
	5.02	Reinsulate exposed refrigerant piping serving condensing units. Wrap closed cell insulation with a UV light rated jacket.							X	
	5.03	Install motorized isolation valves at each boiler to close when that boiler is idle.			X					
	5.04	Add exhaust fan to boiler room for ventilation.					X			
	5.05	Continue converting pneumatic controls to DDC. Expand on functional control points.	◐							
	5.06	Install a roof mounted energy recovery unit to provide ventilation in main office area.			X					

		PARKER MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	5.07	Install transfer grilles in the common wall between the cafeteria and kitchen so the hood has make-up air when the doors are closed.	✓#							
	5.08	Install an energy-saving variable speed demand control kitchen hood control system.	X							
	5.09	Continue to provide routine maintenance on all the unit ventilators such as motor and shaft lubrication, filter changes and coil cleaning.							◐	
	5.10	Replace heating and ventilating units at gym corners and add general exhaust.							◐	there are three units existing, two are working, one is
	5.11	Provide routine maintenance on all exhaust fans such as replacing belts and lubricating their motors and shafts. Replace fans as necessary.							✓#	
	5.12	Provide routine maintenance on all unit hears such as motor and shaft lubrication, filter replacement and coil cleaning.							✓#	
	5.13	Provide ventilation air to corridors through the use of ceiling mounted hot water fan coil units with ducted outdoor air connections.					X			
	5.14	Provide exhaust in the main copy room.					X			
	5.15	Provide ventilation in the 2nd floor conference room.					X			
	5.16	Replace portable classroom units with a permanent well insulated addition to the building, heated by the building's efficient gas-fired hot water heating system. If the portable classrooms are to remain in use, the rooftop units should be replaced with heat pump style rooftop units to minimize electric heating by capturing heat from the surrounding air.					X			
	5.17	Add motorized valves to each boiler to prevent the dilution of supply water temperature due to circulation through idle boilers. The energy savings from the efficiency of higher supply water temperatures will result in short payback.								
	5.18	Insulate refrigerant lines on roof that have deteriorated/missing insulation. The energy savings will result in short payback.							◐	

		PARKER MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
6	Electrical									
	6.01	Most of the existing electrical systems would need to be replaced under a renovation program in order to meet current codes. This includes generator, fire alarm, panelboards and lighting.					X			
	6.02	Replace original panelboards that are in poor condition.					◐	The kitchen panel board was replaced		
	6.03	Replace light fixture in gym that was not working.	✔#							
	6.04	Upgrade interior lighting.					X			
	6.05	Install occupancy sensors in rooms that don't have them.	✔#	these have been added to classrooms						
	6.06	Update exterior lighting to meet dark sky requirements.	✔#							
	6.07	Update emergency electrical system to meet current codes. Emergency equipment needs to be separated from normal equipment.					X			
	6.08	Upgrade the fire alarm system to be full coverage to meet code.	✔#							
	6.09	Install a fire alarm system with speaker/strobe to meet current codes.					X			
	6.10	Install a lightning protection system.					X			
	6.11	Upgrade the existing clock system; existing system is obsolete.			✔#					
	6.12	Update paging system.			✔#					
	6.13	Install new intrusion system; existing system is in poor condition.			X					

		PARKER MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
7	Plumbing									
	7.01	Provide reduced pressure backflow preventers at Janitor's closet soap dispenser.	✓#							
	7.02	Provide plaster traps at art classroom sinks.	✓#							
	7.03	Provide acid resistant polypropylene piping for all acid waste from Science Classroom fixtures and direct the acid waste to an acid neutralization system.	X	no chemicals are being used for middle school science						
	7.04	Direct kitchen waste to an exterior grease trap (may be required by local sewer).	✓#							
	7.05	Install a high efficiency water heater, including master mixing valve, recirculated hot water and expansion tank on cold water make-up line.			X					
8	Fire Protection									
9	Hazardous Material									
	9.01	White pipe thread caulking was previously found to contain asbestos.							✓#	
	9.02	9"x9" Vinyl floor tile and mastic were either assumed or previously found to contain asbestos. The asbestos containing material was mostly found under newer vinyl floor tile and carpet.							X	
	9.03	Dark yellow caulking on concrete beams and columns was previously found to contain asbestos.							X	
	9.04	Brown glue daub on 1'x1' acoustical ceiling tiles was previously found to contain asbestos.							X	
	9.05	Pipe and hard joint insulation was previously found to contain asbestos.							X	
	9.06	Black foundation damproofing was previously found to contain asbestos.							X	
	9.07	Ceramic floor tile adhesive was previously found to contain asbestos.							X	

		PARKER MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	9.08	Old flange gasket was previously found to contain asbestos.							X	
	9.09	Grey/brown masonry caulking was previously found to contain asbestos.							X	
	9.10	Insulation inside boilers was assumed to contain asbestos.							X	
	9.11	Exterior crème/ red expansion joint was previously found to contain asbestos.							X	
	9.12	Exterior unit vent grille caulking was found to contain asbestos.							X	
	9.13	Glue holding blackboard was assumed to contain asbestos.							X	
	9.14	Rubber flooring was assumed to contain mercury.							X	
	9.15	Underground sewer pipe was assumed to contain asbestos.							X	
	9.16	Damproofing on exterior and foundation walls was assumed to contain asbestos.							X	
	9.17	Roofing materials were assumed to contain asbestos.							X	
	9.18	Painted surfaces were assumed to be lead based paint.							X	
	9.19	Caulking materials were assumed to contain PCB's.							X	
	9.20	Replace various equipment such as tubes, thermostats, exit signs and switches that were assumed to contain mercury.							X	

	PARKER MIDDLE SCHOOL	High Priority (1-3 yrs.) 2017-2020	Medium Priority (4-6 yrs.) 2020-2023	Low Priority (7-10 yrs.) 2023-2033	On Going Maintenance

GENERAL NOTES

1. Refer to each section of the Report for more detailed information. Before moving forward with a specific project, a detailed review of the scope of work and a re-assessment of the cost estimate for that scope should be performed.

2. Some items should be completed in combination with other items. Some of these suggestions may be noted above. We recommend that once a scope of work is desired to be pursued, a mini-study should be done to confirm which work should be done together. See the next general note below for additional information.

3. Due to the conceptual nature of these recommendations and estimates and the complexity of existing conditions, several solutions may be provided to achieve the end result. Existing conditions in some areas may limit the ability to fully implement the proposed scope of work. Part or all of this work may trigger other renovation requirements related to code, seismic, sprinklers or handicap accessibility. Once a determination is made to move forward with a specific improvement line item, a mini study specific to the scope of work should be done to confirm the scope of work, prepare sketches as necessary and prepare a refined cost estimate.

D. **BYAM ELEMENTARY SCHOOL**

A modular building project that included six classrooms and bathroom facilities was added to Byam School site in 2017. This project helped to reduce some of the overcrowding that was occurring and provided space for the full-day kindergarten.

Site & Civil Projects

a. Accessible van parking was added to the site,
b. Accessible playground equipment was added,
c. Accessible curb cuts and ramps to exterior doors were added where re-pavement occurred,
d. Re-pavement was done at the front of the building,
e. Vertical curbs were re-set as part of the paving project.

Exterior Architectural Items

a. On-going maintenance of vegetation on exterior walls continues,
b. Removal of bird's nest and debris from soffits and vents continues,
c. Door repairs and / or replacement has been done and continues as part of on-going maintenance.

Interior Architectural Items

a. Multi-user student restrooms have been upgraded and include accessibility upgrades to sinks, faucets, toilets, flush-o-meters, partitions, doors, and signage,
b. Exit signs have been upgrades,
c. Interior door hardware upgrades are scheduled for 2023,
d. The replacement of damaged flooring and walk-off matts continues as part of on-going facility maintenance,
e. Stair treads are scheduled to receive repairs and raised rubber treads in summer 2022,
f. Areas of peeling paint around the building have been re-painted,
g. Toilet rooms have been re-painted,
h. Damaged, broken, and stained ceiling tiles have been replaced and continue to be part of on-going maintenance,
i. The source of staining on ceiling tiles has been investigated and repaired,
j. All kitchen ceiling tiles have been replaced with washable ceiling tiles,
f. Wood and hollow metal doors have been repaired, refinished, or replaced as part of on-going maintenance.

Mechanical

a. The cost of new hot water pumps is being estimated for replacement,
b. The cafeteria heating and ventilation unit has received on-going maintenance and repairs,
c. The kitchen make-up indoor air handling unit was replaced,
d. Existing ductwork and distribution units in the kitchen were cleaned,
e. On-going maintenance has occurred for the hot water piping system,
f. Piping insulation has been repaired where damaged, installation of missing insulation is part of on-going maintenance,

g. The PTAC units in the administration area have been upgraded,
h. Remaining pneumatic controls have been converted to DDC controls.

Electrical

a. Lighting upgrades occurred in the toilet rooms,
b. Occupancy sensors have been added throughout the facility,
c. Upgrades to some of the exterior lights have been completed,
d. The clock system has been upgraded.

Plumbing

a. The pot washing sink was connected to the grease interceptor as part of the kitchen upgrades,
b. Backflow preventors were installed in the janitor's closets,
c. Toilet fixtures were replaced with low flow fixtures during restroom upgrades.

Haz/ Mat

a. On-going removal of damaged materials occurs regularly.

Byam Elementary School
Capital Improvement Spreadsheets

		BYAM SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2021-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		GSF 60,442								
1	Site & Civil									
	1.01	Provide additional parking spaces including HC Van space & signage			◐	Currently two van spots are located at the front of the building				
	1.02	Provide Accessible access to the front entrance from HC designated parking			◐	Improved with spot by front entrance				
	1.03	Provide accessible route to the playground and accessible playground equipment			◐	Upgrades and improved - new equipment added				
	1.04	Provide accessible curb cuts and ramps at all exterior doors			◐	Some new curbs cuts were added				
	1.05	Mill & overlay sections of pavement where degradation/ cracking has occurred					◐	Completed in the front of the building		
	1.06	Regrade paved areas to prevent ponding and ice patches					◐	Completed in front but remains in back		
	1.07	Clean out sediment in culvert							X	
	1.08	Replace vitrified clay pipes					X			
	1.09	Reset vertical granite curb as needed			◐	Some curbs replaced at the front in areas of new pavement				
2	Structural Elements									
3	Exterior Architectural Elements									
	3.01	Repair exterior brickwork to prevent additional damage to walls and moisture	X							
	3.02	Patch & repair spalling concrete cantilevers	X							

		BYAM SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2021-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		GSF 60,442								
	3.03	Patch & repair concrete window sills			X					
	3.04	Repair/ reconstruct soffits at locations of water damage	X							
	3.05	Remove vegetation from walls at interior courtyard							✓#	On-going maintenance
	3.06	Remove rust from support angles above 2nd floor windows and paint with rust inhibitive paint to prevent additional damage							X	
	3.07	Remove old paint from underside of soffits and repaint with exterior grade enamel paint							X	
	3.08	Remove debris from exterior lighting. Install protection or deterrent for birds.							✓#	On-going maintenance
	3.09	Remove surface rust from surface of window frames and repaint							X	
	3.10	Replace screws at exterior door kickplates with exterior grade zinc coated screws							✓#	On-going maintenance
	3.11	Install insect screening at louvers for unit heaters	X							
	3.12	Replace damaged louvers	X							
	3.13	Replace covered louver vent with permanent solution	X							
4	**Interior Architectural Elements**									
	4.01	Provide accessible access to front office			X					
	4.02	Renovate front office counter to meet accessibility needs			X					
	4.03	Provide proper clearance around all plumbing fixtures to meet ADA	✓#							
	4.04	Adjust mounting heights of fixtures and toilet accessories to meet ADA for elementary school age students	✓#							
	4.05	Provide flush controls on toilet fixtures to meet accessibility requirements	✓#							

		BYAM SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2021-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		GSF 60,442								
	4.06	Provide grab bars and other toilet accessories as required and at correct mounting heights	✓#							
	4.07	Provide accessible faucet controls	✓#							
	4.08	Provide protection at sink piping for accessibility	✓#							
	4.09	Adjust room layout to avoid door swinging into required clear floor space	✓#							
	4.10	Provide required signage for all spaces including electrical, janitorial closets and storage rooms	X							
	4.11	Provide elevator controls to meet accessibility including providing Braille signage, audible and visible signals			X					
	4.12	Replace existing handrails on stairs					X			
	4.13	Provide accessible lift or ramp to the performance stage					X			
	4.14	Replace door hardware with levers or other accessible hardware; confirm closers, locking devices	X	Scheduled for 2023						
	4.15	Provide accessible ramp and paths in courtyard to meet ADA			X					
	4.16	Remove damaged flooring and replace with new at recessed walk off mat							✓#	On going
	4.17	Replace damaged VCT throughout the facility							✓#	On going
	4.18	Install raised rubber treads at stairs or refinish concrete			X	Summer 22				
	4.19	Repair or replace damaged toilet room thresholds	✓#							
	4.20	Strip peeling and/or epoxy paint and repaint.							✓#	
	4.21	Replace stage flooring					X			
	4.22	Repair cracking at interior partitions - investigate causes			X					
	4.23	Repaint with epoxy paint in toilet rooms where paint is peeling	✓#							

		BYAM SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2021-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		GSF 60,442								
	4.24	Repair or replace cracked CMU block and mortar			X					
	4.25	Remove adhered acoustical tiles and replace with acoustical ceiling tile or dropped ceiling							✓#	On going
	4.26	Review source of staining at ceilings; repair source and replace or repaint at ceilings							✓#	On going
	4.27	Replace all ceilings at kitchen and support spaces with scrubbable ceilings	✓#							
	4.28	Install additional light fixtures in corridors to achieve proper lighting levels			X					
	4.29	Refinish wood doors							✓#	On going
	4.30	Repaint hollow metal doors and frames							✓#	On going
	4.31	Replace wired glazing in rated doors with tempered glass					X			
	4.32	Replace existing classroom shelving and casework. Provide additional storage areas	X							
	4.33	Replace classroom countertops, sinks and cabinet storage with accessible countertops and sinks	◐							
	4.34	Replace all damaged bathroom partitions	✓#							
	4.35	Provide additional teaching spaces (modular classrooms, building addition, renovation) to prevent the use of corridors, and storage rooms as teaching spaces	✓#							
	4.36	Provide additional storage areas (modular classrooms, building addition, renovations) and remove storage from corridors	✓#							
	4.37	Provide proper push / pull clearance at all door locations	X							
	4.38	Update elevator to meet current codes for a full-size gurney and location of controls					X			
5	**Mechanical - HVAC**									

		BYAM SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2021-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		GSF 60,442								
	5.01	Install new hot water pumps							X	Being priced in 2022
	5.02	Replace cafeteria heating and venting unit	◐	On going maintenance						
	5.03	Replace kitchen make-up indoor ai handling units in mezzanine area	✓#	Replaced						
	5.04	Clean existing ductwork and air distribution devices	◐	Completed in kitchen						
	5.05	Replace hot water distribution piping and insulation					X			
	5.06	Replace fin tube radiation units and grilles, provide hot water branch piping and valves with insulation					X			
	5.07	Replace existing cabinet unit heaters,			X					
	5.08	Replace existing hot water supply and return piping outside of boiler room with new insulated piping			X					
	5.09	Drain and pressure test existing hot water piping system; faulty valves and pipe sections should be replace and insulated. Damaged piping insulation should be replaced.							✓#	On going maintenance
	5.10	Provide ventilation air systems for corridors					X			
	5.11	Provide exhaust to the outside at the copy rooms					X			
	5.12	Replace administration area PTAC units with a high efficiency AC system					✓#			
	5.13	Upgrade the ATC system to convert all remaining pneumatic controls with DDC controls	✓#							
	5.14	Provide mechanical ventilation for administration interior offices, library interior office and teacher's SPED workroom			X					
6	Electrical									
	6.01	Replace existing wiring, raceways, and boxes that are original to the building			X					

		BYAM SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2021-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		GSF 60,442								
	6.02	Install ground at building main water service as required by code	X							
	6.03	Install additional lighting at toilet rooms to meet lighting requirements	✔#							
	6.04	Install occupancy sensors at all rooms that have not been upgraded	✔#							
	6.05	Upgrade exterior lighting to meet dark sky requirements.					◐	Some new lights have been added		
	6.06	Separate emergency electrical system from normal equipment to meet current electrical code					X			
	6.07	Install lightning protection system	X							
	6.08	Upgrade clock system as existing system is obsolete	✔#							
	6.09	Upgrade problematic Valcom paging system	X							
	6.10	Upgrade intrusion system, it is in poor condition	X							
	6.11	Replace branch circuit panelboards that are original to the building (20%)			X					
	6.12	Provide additional lighting in corridor			X					
	6.13	Replace lighting that is in generally fair condition					X			
	6.14	replace fire alarm system detector to meet NFPA 72 and provide speakers and strobes	X							
	6.15	Provide sound system in cafeteria that is tied in to the fire alarm system	X							
7	Plumbing									
	7.01	Connect pot washing sink to grease interceptor	✔#							
	7.02	Replace original gate valves on domestic water service					X			

		BYAM SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2021-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		GSF 60,442								
	7.03	Replace cast iron piping					X			
	7.04	Replace roof drains					X			
	7.05	Provide reduced pressure backflow preventers at janitor's closet soap dispenser	✔#							
	7.06	install high efficiency water heater including master mixing valve, recirculated hot water and expansion tank on cold water make-up line					X			
	7.07	video tape sanitary waste, vent and storm drainage piping								x
	7.08	replace existing toilet fixtures with low flow fixtures	✔#							
8	**Fire Protection**									
	8.01	Replace smoke detectors with beams with equipment that meets current code.								
	8.02	Upgrade fire alarm system to include full coverage and speaker/strobes as required by current code	X							
	8.03	Upgrade cafetorium portable sound system to be tied to fire alarm system as required by code	X							
	8.04	Install fire suppression system (sprinklers) throughout the facility					X			
9	**Hazardous Material**									
	9.01	HazMat costs - Pricing from UEC report dated March 11, 2016							X	
	9.01	Remove asbestos containing material							X	
	9.02	Brown glue at adhered ceiling tiles are assumed or previously found to contain asbestos							X	
	9.03	Vinyl floor tile and mastic are assumed or previously found to contain asbestos							X	

		BYAM SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2021-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		GSF 60,442								
	9.04	Grey pipe packing cement is assumed or previously found to contain asbestos							X	
	9.05	Black sink coating was previously found to contain asbestos							X	
	9.06	Hard joint insulation was previously found to contain asbestos							X	
	9.07	Caulking at interior door glazing was found to contain asbestos							X	
	9.08	Glue holding blackboard is assumed to contain asbestos							X	
	9.09	Rubber flooring is assumed to contain mercury							X	
	9.10	Underground sewer pipe was assumed to contain asbestos							X	
	9.11	Damproofing on exterior and foundation walls is assumed to contain asbestos.							X	
	9.12	Roofing materials are assumed to contain asbestos							X	
	9.13	Painted surfaces are assumed to be lead based paint							X	
	9.14	Light tubes, thermostats, exit signs, and switches are assumed to contain mercury							X	
	9.15	Caulking materials are assumed to contain PCBs							X	
	GENERAL NOTES									

1. Refer to each section of the Report for more detailed information. Before moving forward with a specific project, a detailed review of the scope of work and a re-assessment of the cost estimate for that scope should be performed.

2. Some items should be completed in combination with other items. Some of these suggestions may be noted above. We recommend that once a scope of work is desired to be pursued, a mini-study should be done to confirm which work should be done together. See the next general note below for additional information.

	BYAM SCHOOL	High Priority (1-3 yrs.) 2017-2020	Medium Priority (4-6 yrs.) 2021-2023	Low Priority (7-10 yrs.) 2023-2033	On Going Maintenance
	GSF 60,442				
3. Due to the conceptual nature of these recommendations and estimates and the complexity of existing conditions, several solutions may be provided to achieve the end result. Existing conditions in some areas may limit the ability to fully implement the proposed scope of work. Part or all of this work may trigger other renovation requirements related to code, seismic, sprinklers or handicap accessibility. Once a determination is made to move forward with a specific improvement line item, a mini study specific to the scope of work should be done to confirm the scope of work, prepare sketches as necessary and prepare a refined cost estimate.					

E. **CENTER ELEMENTARY SCHOOL**

A modular building project that included four classrooms was added to Center School in 2017. This project was directly attached to the existing building and helped to reduce some of the overcrowding that was occurring at the Center School and provided space for the full-day kindergarten.

Site & Civil Projects

a. Rain leaders and drainpipes have been repaired,
b. Re-pavement has been done at the front of the school,
c. Funding is being sought for the regrading of the playfield.

Exterior Architectural Items

a. Exterior canopy posts have received on-going maintenance and painting,
b. Damaged at grade bricks have been repaired,
c. Vegetation around the building foundation has been removed,
d. Repairs have been made to the concrete loading dock,

Interior Architectural Items

a. Insulation and pipe covers have been added to the pipes at sinks,
b. Stained ceiling tiles have been replaced and continue to be an on-going maintenance item, the source of staining has been investigated and where required has been repaired,
c. Damaged VCT flooring continues to be replaced, VCT in classrooms was replaced,
d. Carpets were deep cleaned and worn carpets replaced,
e. Some cracking at wall joints has been repaired,
f. Some multi-user student restrooms have received new toilet partitions, more restroom renovations are being funded in 2022,
g. Additional teaching space was added in the library, which also resolved some of the mezzanine and soffit cracking,
h. Door hold-opens were replaced and tied into the fire alarm system,
i. Damaged shelving and laminate on cubbies were repaired,
j. Additional storage was added to classrooms,
k. Damaged window shades were replaced.

Mechanical

a. Two pumps were replaced,
b. Damaged piping insulation has been replaced and continues as on-going maintenance,
c. 90% of the building controls have been converted to DDC and the building has been added to the town-wide BMS system,
d. Air distribution louvers have been replaced,
e. Ductwork cleaning has been done and continues as on-going maintenance item.

Electrical

a. Occupancy sensors have been added throughout the school,
b. Exterior HID light fixtures were replaced,
c. The Clock / Speaker system was replaced,

d. The fire alarm system continues to be inspected regularly.

Plumbing

a. Backflow preventors were installed in the janitor's closets.

Haz/ Mat

a. On-going removal of damaged materials occurs regularly.

Center Elementary School
Capital Improvement Spreadsheets

		CENTER SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		52,300 GSF								
1	**Site & Civil**									
	1.01	Repair broken downspout observed in February 2016							✓	
	1.02	Mill and overlay areas of degradation in asphalt pavement			◐	Front of school was done - not back				
	1.03	Regrade walkways that need to be accessible per code at ada curb cuts							◐	Some work is complete
	1.04	Regrade walkways and paving that have ponding to prevent icing in winter							X	
	1.05	Revise drainage at curb cut areas							X	
	1.06	Provide textured surface at curb cuts							X	
	1.07	Provide crosswalks from all curb cuts to create a safe path of travel							X	
	1.08	Add additional width at sidewalks where curb cuts are located to allow for ADA turning requirements							X	
	1.09	Install bollards at locations where vehicles drive adjacent to the walls (no sidewalks to separate)							X	
	1.10	Regrade and reseed play field.					◐	Possible funding is underway		
2	**Structural Elements**									
	2.01	Repair deterioration at support posts at exterior canopies							◐	
	2.02	Repair and repaint exposed steel lintels with exterior rated rust inhibiting paint							X	

		CENTER SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		52,300 GSF								
3	**Exterior Architectural Elements**									
	3.01	Replace brick at grade with a non-porous stone material	✓							
	3.02	Remove vegetation at foundation to discourage roots from affecting the foundation structure							✓	
	3.03	Clean brick weeps clear of debris							X	
	3.04	Replace existing half-circle window at gym with double-glazed insulating window					X			
	3.05	Install prefinished metal flashing at window sills with rowlock brick and repair caulking			X					
	3.06	Repair the termination joint above the office and storage room on the south side of the gym							X	
	3.07	Repair or replace deteriorated concrete at loading dock	✓							
	3.08	Repair or replace older louvers							X	
4	**Interior Architectural Elements**									
	4.01	Add handrail extensions at ramp in front lobby to meet current accessibility requirements			X					
	4.02	Revise height of sinks in countertops to be the proper accessible height based on the age group of the users					X			
	4.03	Insulate piping at accessible sinks							✓	
	4.04	Revise door swings where they don't meet the requirements for accessibility					X			
	4.05	Provide additional handrails at restrooms where missing and verify height of all fixtures for accessibility requirements					X			
	4.06	Replace stained ceiling tiles and verify all stains on ceilings are from old leaks	✓						✓	
	4.07	Repair or replace damaged VCT flooring at building joints							◐	On-going

		CENTER SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		52,300 GSF								
	4.08	Deep clean carpets in offices and classrooms							✓	
	4.09	Replace worn carpets in offices and classrooms (assume 20%)	✓							
	4.10	Repair walls and joints where cracking has occurred	◐	Some cracking has been repaired						
	4.11	Install protection shrouds at the sinks in toilet rooms							✓	
	4.12	Review locations of all toilet room accessories and reinstall fixtures that are not properly located or missing (several locations)	X							
	4.13	Verify heights of sink in gang toilet rooms and adjust if required to meet ADA / MAAB	X							
	4.14	Replace all toilet partitions in gang toiler rooms		Some have been replaced. Funding for the remining is in 2022						
	4.15	Install vestibule at main entrance to increase energy efficiency and security			X					
	4.16	Repair gym flooring			X					
	4.17	Repair or replace stage flooring			X					
	4.18	Review conditions of cracking and movement at the interior side of exterior walls - add insulation and reinforcement to prevent further cracking			X					
	4.19	Repair soffit structure in library with permeant solution	✓	Wall was built with structural support						
	4.20	Repair cracking in soffit in library	✓							
	4.21	Install hold-opens at doors (several are being held open with door wedges)	✓							
	4.22	Repair damaged cubbies in hallway (5%)	✓							

		CENTER SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		52,300 GSF								
	4.23	Provide additional storage space for classrooms and office spaces (cabinets or shelving)	✓							
	4.24	Replace existing window shades							✓	
	4.25	Provide additional storage for gym equipment (shed) and remove storage from hallways and stairwells								
	4.26	Provide general storage area and remove all equipment and storage from electrical rooms							✓	
	4.27	Replace guardrail at mezzanine (janitors area)	X							
	4.28	Determine cause of rusting of metal fixtures in nurse's office	✓	Assumed to be used equipment						
5	**Mechanical - HVAC**									
	5.01	Remove rain caps from breeching			X	more info needed for the district				
	5.02	Install new return inline pump (existing is leaking and near end of life)	✓	two pumps were replaced						
	5.03	Repair and replace insulation where damaged							◐	on going maintenance
	5.04	Replace existing hot water supply and return piping outside of the boiler room with insulated piping					X			
	5.05	Replace propeller type unit heaters					X			
	5.06	Install chilled water pump with VFD					✓	VFD was upgraded and there are 2 new pumps		
	5.07	Install new DDC control valves, controls and thermostats with CO2 controls for each unit ventilator for temperature, CO2 and face & bypass control at administration offices	✓	CO2 are in classrooms, DDC controls are in 90% of the building						

		CENTER SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		52,300 GSF								
	5.08	Clean or replace existing louvers and air distribution devices at administration offices							✓	office and classrooms
	5.09	Install new DDC control valves, controls and thermostats with CO2 controls for each unit ventilator for temperature, CO2 and face & bypass control at classrooms	✓							
	5.10	Clean or replace existing louvers and air distribution devices at classrooms							✓	
	5.11	Clean or replace existing louvers and air distribution devices at kitchen and cafeteria							✓	
	5.12	Repair or replace damaged and missing duct and piping insulation at gym							X	
	5.13	Clean existing indoor air handling unit, louvers, ductwork and air distribution devices at gym							X	
	5.14	Clean or replace existing louvers and air distribution devices at exhaust systems in kitchen							X	
	5.15	Replace hot water convector units in restrooms					X			
	5.16	Clean or replace dirty exhaust grilles in restrooms							◐	on going maintenance
	5.17	Clean existing ductwork and air distribution devices at restrooms							◐	on going maintenance
	5.18	Replace existing entryway and corridor cabinet unit heaters, hot water fin tube radiation and convectors in the entryways and corridors. Install new hot water branch piping and valves with insulation			X					
	5.19	Install a complete DDC control system for optimal control and comfort and tie it into the town-wide building management system	✓	on BMS - 90% of DDC updated						
6	**Electrical**									
	6.01	Complete upgrade to occupancy sensor switches throughout the school	✓							
	6.02	Replace exterior HID light fixtures	✓							
	6.03	Install lightning protection system							X	Confirm

		CENTER SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		52,300 GSF								
	6.04	Replace clock/speaker system, current system is obsolete	✓							
	6.05	Upgrade or replace problematic paging system	✓							
	6.06	Install sound system in cafetorium that is tied to the fire alarm system per code	X							
	6.07	Upgrade or replace intrusion system	X							
	6.08	Continue to inspect and maintain system per NFPA 25 requirements							✓	inspected on a regular basis
	6.09	Replace system with a voice evacuation type per current code requirements	X							
	6.10	Upgrade alarm system to speaker/strobe system to comply with current code	X							
7	**Plumbing**									
	7.01	Install new high-efficiency low flow fixtures to reduce water consumption					X			
	7.02	Video inspect existing drains to confirm the integrity of the piping and the correct pipe invert for low flow fixtures							X	
	7.03	Install new high-efficiency gas-fired domestic water heater when the existing water heater expires					X			
	7.04	Install reduced pressure backflow preventers at janitor's closet soap dispenser	✓							
	7.05	Paint gas piping exposed to the exterior								
8	**Fire Protection**									

		CENTER SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		52,300 GSF								
9	**Hazardous Material**									
	9.01	HazMat Removals per UEC Report Dated March 11, 2016							**X**	
	9.01	Remove and replace grey flue cement previously found to contain asbestos								
	9.02	Remove and replace inaccessible exterior residual window framing caulking that was previously found to contain asbestos								
	9.03	Remove and replace glue holding blackboard that is assumed to contain asbestos								
	9.04	Remove and replace rubber flooring that is assumed to contain mercury								
	9.05	Remove and replace underground sewer pipe that was assumed to contain asbestos								
	9.06	Remove and replace damproofing on exterior and foundation walls that is assumed to contain asbestos								
	9.07	Remove and replace roofing materials that are assumed to contain asbestos								
	9.08	Remove and replace painted surfaces that are assumed to be lead based paint								
	9.09	Remove and replace light tubes, thermostats, exit signs and switches that are assumed to contain mercury								
	9.10	Remove and replace caulking materials that are assumed to contain PCBs								

GENERAL NOTES

1. Refer to each section of the Report for more detailed information. Before moving forward with a specific project, a detailed review of the scope of work and a re-assessment of the cost estimate for that scope should be performed.

2. Some items should be completed in combination with other items. Some of these suggestions may be noted above. We recommend that once a scope of work is desired to be pursued, a mini-study should be done to confirm which work should be done together. See the next general note below for additional information.

	CENTER SCHOOL	High Priority (1-3 yrs.) 2017-2020	Medium Priority (4-6 yrs.) 2020-2023	Low Priority (7-10 yrs.) 2023-2033	On Going Maintenance
	52,300 GSF				
	3. Due to the conceptual nature of these recommendations and estimates and the complexity of existing conditions, several solutions may be provided to achieve the end result. Existing conditions in some areas may limit the ability to fully implement the proposed scope of work. Part or all of this work may trigger other renovation requirements related to code, seismic, sprinklers or handicap accessibility. Once a determination is made to move forward with a specific improvement line item, a mini study specific to the scope of work should be done to confirm the scope of work, prepare sketches as necessary and prepare a refined cost estimate.				

F. HARRINGTON ELEMENTARY SCHOOL

A modular building project that included six classrooms and bathroom facilities was added to Harrington School site in 2017. This project helped to reduce some of the overcrowding that was occurring and provided space for the full-day kindergarten. As part of this project the playground was relocated and updated with accessible paths and equipment. Additional parking was added to the site including accessible parking spaces.

Site & Civil Projects

a. Parking area has been expanded to provide additional parking including ADA accessible spaces,
b. Curb cuts and ramps were added where new pavement and sidewalks were added,
c. Playground was relocated and made accessible,
d. Stormwater management was upgraded.

Structural

a. Non-structural ½ height CMU walls were removed in the renovated restrooms.

Exterior Architectural Items

a. The overhead door at the loading dock was replaced,
b. Screens were added to unit heaters where they had been missing,
c. Debris was removed from exterior vents and louvers and continues as an on-going maintenance item,
d. Damaged vents and louvers were repaired or replaced,
e. Concrete steps were patched and repaired – a full replacement will occur in summer of 2022,
f. Some of the existing sidewalks received repairs, on-going maintenance is occurring on the remaining sidewalks,
g. Exterior ramps and concrete pads will be repaired or replaced in summer of 2022.

Interior Architectural Items

a. Restroom renovations included accessibility upgrades, replacement of fixtures and controls, replacement of flooring, and partitions,
b. Door hardware replacement is scheduled for summer 2022,
c. VCT flooring throughout the school has been replaced as part of on-going maintenance,
d. Replacement of stair treads is scheduled for summer of 2022,
e. Painting of CMU walls has been done and is part of on-going maintenance,
f. Moveable partitions between classrooms were removed and replaced with more sound absorbing permanent walls,
g. Acoustical ceiling tiles are being installed as part of on-going capital projects,
h. Kitchen ceiling tiles have been replaced with washable tiles,
i. Repair and / or replacement of wood and metal doors and frames are part of on-going maintenance projects

Mechanical

a. The existing hot water plant continues to be maintained,
b. Unit ventilators in classrooms have received on-going maintenance,

c. Kitchen HVAC unit has been replaced,
d. Existing ductwork is scheduled to be cleaned in summer 2022,
e. New split systems were added to the administration offices,
f. Conversion to DDC controls from pneumatic continues.

Electrical

a. Toilet room lighting has been upgraded,
b. Non-functioning lights in the gym have been repaired or replaced,
c. Occupancy sensors have been installed in classrooms,
d. The clock system has been replaced.

Plumbing

a. Backflow preventors were installed in the janitor's closets.

Haz/ Mat

b. On-going removal of damaged materials occurs regularly.

Harrington Elementary School
Capital Improvement Spreadsheets

		HARRINGTON SCHOOL GSF 60,442	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
1	**Site & Civil**									
	1.01	Provide additional parking and accessible spaces, near front entrance			✓					
	1.02	Access to the playground, accessibility of playground equipment			✓					
	1.03	Accessible route, curb cuts, ramps			✓					
	1.04	Stormwater discharge needs to be changed so that it doesn't discharge directly to a wetland.			✓					
	1.05	Mill and overlay sections of pavement where cracking/ degradation has occurred			✓					
2	**Structural Elements**									
	2.01	Anchor partial height masonry walls at toilet rooms to structure, or remove and replace with toilet partitions	◐	removed in the renovated restrooms						
3	**Exterior Architectural Elements**									
	2.01	Replace metal handrail post bases at exterior due to degradation	X							
	2.02	Repair spalling at exterior concrete columns	X							
	2.03	Repair spalling at exterior concrete façade	X							
	3.01	Replace handrails at ramp at side entrance with railings at appropriate height for accessibility	X							
	3.02	Repair foundation walls to prevent further spalling and additional damage			X					

	HARRINGTON SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	GSF 60,442								
3.03	Regrade around foundation walls to prevent pooling of water and to establish positive drainage			X					
3.04	Repair damaged brick and mortar, replace cracked bricks and clean weeps							X	
3.05	Patch and repair precast cantilevers where they are spalling or damaged	X							
3.06	Repair cracking in concrete frames			X					
3.07	Replace caulking at control joints							X	
3.08	Repair and repaint damaged surfaces of supporting steel angles							X	
3.09	Scrape and repaint soffits with exterior grade enamel paint							X	
3.10	Install backer rod and caulking at windows where it is missing							X	
3.11	Repair concrete window sills			X					
3.12	Scrape and repaint loading dock doors							✓	doors were replaced
3.13	Install insect screens at unit heaters	◐	some UH have new screens; on-going maintenance						
3.14	Clean debris from birds and rodents out of louvers							◐	on-going maintenance
3.15	Replace damaged vents and screens to ensure operational condition of vents and louvers	◐	on-going maintenance						
3.16	Patch and repair concrete entrance steps	◐	on-going maintenance with complete replacement scheduled for summer 2022						

		HARRINGTON SCHOOL GSF 60,442	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	3.17	Repair sidewalks and drains to ensure proper drainage and avoid damage to sidewalks	◐	sidewalks updated in area of new parking						
	3.18	Repair or replace stair and ramp railings			X	scheduled for summer 2022				
	3.19	Replace concrete pads where rebar is exposed			X	scheduled for summer 2022				
	3.20	Repair loading dock where rebar is exposed and concrete is spalling			X					
4	**Interior Architectural Elements**									
	4.01	Update elevator to meet current codes for a full-size gurney and location of controls					X			
	4.02	Provide proper clearance around all toilet fixtures for accessibility	✓	completed as part of the restroom renovations						
	4.03	Provide fixtures and accessories at proper heights for accessibility for elementary students	✓							
	4.04	Provide grab bars and mount at correct heights	✓							
	4.05	Provide appropriate faucet controls for accessibility	✓							
	4.06	Provide insulation at plumbing at sinks for accessibility	✓							
	4.07	Replace handrails at incorrect heights for accessibility and ensure they are rounded and extend the proper distance at the top and bottom treads of the stairs					X			
	4.08	Provide access to the performance area via a lift or ramp without leaving the room to conform to accessibility codes					X			
	4.09	Install signage for permanent rooms that meets current accessibility codes.	◐	new signage has been installed at the renovated restroom locations						

	HARRINGTON SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	GSF 60,442								
4.10	Provide accessible doors and walkways to the interior courtyard					X			
4.11	Provide audible and visual signals for elevator to meet current codes					X			
4.12	Replace door hardware with levers or other accessible hardware	X	summer 2022						
4.13	Review all locking devises and closer hardware to meet code	X	summer 2022						
4.14	Revised door swing clearances for accessible push/pull requirements					X			
4.15	Remove and replace damaged VCT							◐	on-going maintenance
4.16	Repair topping on concrete stair treads			X	summer 2022				
4.17	Install rubber treads on stair treads			X	summer 2022				
4.18	Deep clean tile floors and grout joints in kitchen and toilet rooms							✓	completed with restroom upgrade and on-going maintenance
4.19	Repair or replace damaged floor tiles in toilet rooms	✓	epoxy floors installed						
4.20	Replace damaged floor drain covers	✓							
4.21	Replace non-slip flooring strips in kitchen with non-slip mats	✓							
4.22	Replace worn quarry tile with tile with greater slip resistance	✓							
4.23	Repair or replace lifting VCT in cafetorium							X	under review for replacement in summer 2022
4.24	Replace stair treads leading to the platform area					X			
4.25	Replace stage flooring system with resilient wood flooring system					X			

		HARRINGTON SCHOOL GSF 60,442	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	4.26	Repair patching at floor where walls have been removed; install flooring to match existing in toilet rooms					✓			
	4.27	Repair or repaint epoxy and painted floors in back of house areas					X		X	
	4.28	Repair cracks in CMU walls to prevent further damage			X					
	4.29	Remove remnants of removed walls by grinding smooth and patching finish to match adjacent walls in toilet rooms	X							
	4.30	Seal holes in fire rated walls with fire rated products	◐	some holes have been sealed						
	4.31	Clean and repaint CMU walls							◐	on-going maintenance
	4.32	Remove moveable partitions and replace with permanent, sound-rated walls			✓					
	4.33	Install acoustical ceiling where possible			◐					
	4.34	Repair source of water staining in kitchen area and repair ceiling	✓							
	4.35	Replace kitchen ceiling with scrubbable ceiling tiles	✓							
	4.36	Refinish wood doors							◐	on-going maintenance
	4.37	Repaint metal doors							◐	on-going maintenance
	4.38	Replace wired glass in doors and windows with tempered glass					X			
	4.39	Repair and refinish hollow metal frames to prevent further rusting							◐	on-going maintenance
	4.40	Replace toilet partitions	✓							
	4.41	Refinish woodwork for shelving and wardrobes	X							
	4.42	Replace counters and cabinets	X							

		HARRINGTON SCHOOL GSF 60,442	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	4.43	Provide additional classrooms or teaching spaces to meet educational program needs	X							
5	**Mechanical - HVAC**									
	5.01	Continue to maintain the existing hot water plant (including hot water boilers, accessories and controls) in accordance with manufacturers recommendations							◐	on-going maintenance
	5.02	Install new hot water pumps							X	
	5.03	Continue to maintain the existing classroom unit ventilators in accordance to manufacturer recommendations							◐	on-going maintenance
	5.04	Replace the cafeteria H&V Unit and kitchen make-up indoor air-handling unit located in the mezzanine area above the kitchen.	✓							
	5.05	Maintain rooftop exhaust air fans.							◐	on-going maintenance
	5.06	Clean existing ductwork and air distribution devices	X	summer 2022						
	5.07	Replace existing cabinet unit heaters, hot water fin tube radiation and convectors. New hot water branch piping and valves with insulation should be provided.					X			
	5.08	Replace existing hot water supply and return piping outside of the boiler room with insulated piping			X					
	5.09	Drain and pressure test existing hot water piping system. Faulty valves and pipe sections should be replaced and insulated. Damaged piping insulation should be replaced.			X					
	5.10	Provide ventilation air systems for the corridors					X			

		HARRINGTON SCHOOL GSF 60,442	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	5.11	Exhaust to the outdoors from copy room areas					X			
	5.12	Install a high efficiency AC system to replace the administration PTAC units					✓	new split systems were added in 2021		
	5.13	Install mechanical ventilation for the administration interior offices, library interior offices and teachers' SPED workroom			◐	administration is complete				
	5.14	Upgrade the ATC system with new DDC controls instead of pneumatic controls	◐							
6	**Electrical**									
	6.01	Replacement of all electrical systems for this facility under a renovation program			X					
	6.02	Install electrical ground per code requirements	X							
	6.03	Upgrade lighting in toilet rooms	✓							
	6.04	Repair non functioning lighting fixture(s) located in the gymnasium	✓							
	6.05	Install occupancy switch upgrades in remaining rooms	✓							
	6.06	Upgrade exterior lighting to meet dark sky requirements					X			
	6.07	Upgrade emergency standby system so that emergency equipment is separated from normal equipment to meet electrical code					X			
	6.08	Install lightning protection system	X							
	6.09	Upgrade clock system because existing system is obsolete	✓							
	6.10	Upgrade sound system in cafetorium to a system tied to fire alarm per code requirements	X							

		HARRINGTON SCHOOL GSF 60,442	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	6.11	Install communications cables in protected raceways.	✓							
	6.12	Upgrade intrusion system, existing system is in poor condition.	X							
7	**Plumbing**									
	7.01	Upgrade to newer high-efficiency low flow fixtures throughout to reduce water consumption	X							
	7.02	Provide reduced pressure backflow preventers at janitor's closet soap dispenser	✓							
	7.03	Redirect kitchen waste to exterior grease trap	X							
	7.04	Install a high efficiency water heater including master mixing valve, recirculated hot water and expansion tank on cold water make-up line.					X			
	7.05	Video-tape sanitary, waste, vent and storm drainage piping to verify condition							X	
	7.06	Replace original domestic water piping with labeled, insulated and isolated piping with brass ball valves. Chart valve tags for ease of maintenance.					X			
8	**Fire Protection**									
	8.01	Upgrade fire protection system so that spacing in rooms with beams meets current code. Speakers and strobes are required for this use group.					X			

		HARRINGTON SCHOOL GSF 60,442	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
9	Hazardous Material									
	9.01	HazMat pricing - UEC report dated March 7th 2016							X	
	9.01	Remove and replace 9"x9" vinyl floor tile and mastic that contain asbestos							X	
	9.02	Remove and replace white expansion joint previously found to contain asbestos							X	
	9.03	Remove and replace black sink coating previously found to contain asbestos							X	
	9.04	Remove and replace pink sink coating previously found to contain asbestos							X	
	9.05	Remove and replace tan cement caulking previously found to contain asbestos							X	
	9.06	Remove and replace interior door caulking previously found to contain asbestos							X	
	9.07	Remove and replace roof drain pipe insulation previously found to contain asbestos							X	
	9.08	Remove and replace insulation inside boilers that is assumed to contain asbestos							X	
	9.09	Remove and replace interior vertical caulking found to contain asbestos							X	
	9.10	Remove and replace exterior expansion joint caulking found to contain asbestos							X	
	9.11	Remove and replace glue holding blackboards that is assumed to contain asbestos							X	
	9.12	Remove and replace underground sewer pipe that is assumed to contain asbestos							X	
	9.13	Remove and replace damproofing on exterior and foundation walls that is assumed to contain asbestos							X	
	9.14	Remove and replace roofing materials that are assumed to contain asbestos							X	

		HARRINGTON SCHOOL GSF 60,442	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	9.15	Remove and replace all painted surfaces that are assumed to contain LBP							X	
	9.16	Remove and replace tube lights, thermostats, exit signs and switches that are assumed to contain mercury							X	
	9.17	Remove and replace caulking materials that are assumed to contain PCBs							X	
									X	

GENERAL NOTES

1. Refer to each section of the Report for more detailed information. Before moving forward with a specific project, a detailed review of the scope of work and a re-assessment of the cost estimate for that scope should be performed.

2. Some items should be completed in combination with other items. Some of these suggestions may be noted above. We recommend that once a scope of work is desired to be pursued, a mini-study should be done to confirm which work should be done together. See the next general note below for additional information.

3. Due to the conceptual nature of these recommendations and estimates and the complexity of existing conditions, several solutions may be provided to achieve the end result. Existing conditions in some areas may limit the ability to fully implement the proposed scope of work. Part or all of this work may trigger other renovation requirements related to code, seismic, sprinklers or handicap accessibility. Once a determination is made to move forward with a specific improvement line item, a mini study specific to the scope of work should be done to confirm the scope of work, prepare sketches as necessary and prepare a refined cost estimate.

G. **SOUTH ROW ELEMENTARY SCHOOL**

Kitchen renovations were completed and included a new freezer and coolers.

A modular building project that included six classrooms and bathroom facilities was added to South Row School site in 2017. This project helped to reduce some of the overcrowding that was occurring and provided space for the full-day kindergarten.

Site & Civil Projects

a. Crosswalks to the accessible parking spaces and to the main sidewalk were upgraded,
b. ADA curb cuts were added to provide accessibility to the main entrance.

Exterior Architectural Elements

a. Some vertical control joints were repaired – remains an on-going maintenance item,
b. The columns at the front entrance canopy have been repainted with rust inhibitor paint.

Interior Architectural Elements

a. Kitchen upgrades included addition of sneeze guards, replacement of wood surfaces, replacement of ceiling tiles with washable tiles, and the installation of proper sinks,
b. Repairs were made to the gym floor,
c. On-going maintenance and replacement of VCT tile continues,
d. Upgrades to the front office counter area were completed,
e. Upgrades to accessibility in restrooms were completed,
f. Drinking fountains were replaced,
g. Repairs were done to the roof where moisture infiltration was apparent,
h. Ceiling tiles that were stained or damaged were replaced and continue as an on-going maintenance item,
i. Repairs and replacement of gym, cafeteria and classroom door hardware were done,
j. Repairs were made to the damaged hollow metal door frames.

Mechanical

a. On-going maintenance has continued with the boilers,
b. Steam traps were replaced,
c. The condensate pump was replaced,
d. Leaking near boiler was repaired,
e. Funding to replace steam condensate piping has been requested,
f. Funding to install a new kitchen hood and exhaust system has been requested,
g. Routine maintenance of the unit ventilators continues,
h. Some of the roof top fans have been replaced,
i. Almost all of the pneumatic thermostats have been replaced.

Plumbing

a. New low-flow fixtures have been installed in restrooms.

Haz/ Mat

a. On-going removal of damaged materials occurs regularly.

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South Row Elementary School
Capital Improvement Spreadsheets

		SOUTH ROW SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		GSF 42,000								
1	Site & Civil									
	1.01	Mill and overlay sections of pavement where cracking/degradation has occurred.			X					
	1.02	Regrade paved areas to prevent ponding which can lead to ice patches in the cold weather.			X					
	1.03	Install drains or curbing to prevent erosion along edge of pavement.	X							
	1.04	Install drains or regrade to avoid erosion underneath the modular building.	X							
	1.05	Provide crosswalks to connect to from the street sidewalk to the main sidewalk in front of the school	X				X			
	1.06	Provide crosswalks from handicap parking spaces to the main sidewalk in front of the school	◐	completed at main side entrance			X			
	1.07	Install accessible curb cut at main side walk	✓#							
	1.08	Provide accessible paths to play fields			✓#					
2	Structural Elements									
	2.01	Replace joint material at vertical control joints.			◐	(non structural) Some have been replaced - continue as on-going maintenance				
	2.02	Repair or replace deteriorated masonry façade and concrete foundations.			X	(non-structural issue)				
	2.03	Sand and repaint lintels with exterior grade rust inhibitive paint.					X	(non-structural issue)		
	2.04	Sand and repaint steel canopy posts with exterior grade rust inhibitive paint.			✓#					

		SOUTH ROW SCHOOL GSF 42,000	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
3	**Exterior Architectural Elements**									
	3.01	Clean brick surfaces							X	
	3.02	Repair sealants at windows as required							X	
	3.03	Install flashing around vents	X							
	3.04	Install screens at vents where missing	X							
	3.05	Repair canopy over side entrance door	X							
	3.06	Replace soffit under canopy	X							
4	**Interior Architectural Elements**									
	4.01	Install a second hand-washing sink in the kitchen to meet code.	X							
	4.02	Install sneeze shields at serving counter to meet code.	✔#							
	4.03	Replace all wood surfaces and non-compliant tables in the kitchen with appropriate stainless steel tables.	✔#							
	4.04	Install a dedicated food preparation sink.	X							
	4.05	Replace the exhaust hood.	X	tested and is currently compliant - no replacement required at this time						
	4.06	Install a pot sink with three continuous bowls and two drain boards to meet code.	✔#							
	4.07	Replace cracked VCT tile	◐	on-going maintenance						
	4.08	Replace rubber flooring on handicap ramp	X							

		SOUTH ROW SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		GSF 42,000								
	4.09	Replace VCT flooring on ramp in modular classrooms	X							
	4.10	Repair gym floor where missing seams and buckling has occurred	✓#							
	4.11	Replace carpet tile that are mismatched in the computer room and library	X							
	4.12	Replace wood flooring at stage and risers			X					
	4.13	Install proper handrail at stage			X					
	4.14	Install handicap lift or ramp to stage			X					
	4.15	Replace handrail at main ramp in corridor			X					
	4.16	Replace handrails at steps in corridor			X					
	4.17	Renovate front office counter to provide accessibility			✓#					
	4.18	Renovate restrooms to provide clear floor area at doors and proper clearances around fixtures			X					
	4.19	Install protection at all sink pipes per ADA requirements	X							
	4.20	Relocate restrooms accessories to meet ADA requirements	✓#							
	4.21	Install new drinking fountains throughout to meet ADA requirements	✓#							
	4.22	Repair gym walls and add protection pads	X	scheduled for summer 2022						
	4.23	Repair interior brick walls cracks	X							
	4.24	Repair source of moisture infiltration causing efflorescence on brick	X							
	4.25	Replace ceilings throughout the building (with the exception of restrooms where ceilings have been replaced)			X					
	4.26	Review causes for moisture damage on ceiling tiles	◐	roof repairs were done						

		SOUTH ROW SCHOOL GSF 42,000	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
	4.27	Replace kitchen ceiling tiles with 'scrubbable ceiling tiles'	✓#							
	4.28	Replace all wood doors with wire glazing - install new wood doors with proper glazing and hardware			X					
	4.29	Replace damaged hollow metal frames, (assumed 50% replacement)			✓#					
	4.30	Repair solid wood doors and replace existing hardware with ADA compliant hardware	◐	gym, café, and classrooms completed						
	4.31	Replace wire glazing sidelights and interior glass			X					
	4.32	Refinish existing cubbies	X							
	4.33	Replace damaged metal shelving and doors in classrooms	X							
5	**Mechanical - HVAC**									
	5.01	Boilers should be regularly blown down to remove sediment and discharged through a blowdown cooler so as to not adversely affect the plumbing system.							✓#	regular on-going maintenance occurs on boilers
	5.02	Replace steam traps under preventive maintenance schedule, especially the older F&T traps.					✓#	replaced		
	5.03	Replace all sections of piping insulation that is missing.					X			
	5.04	Evaluate the steam condensate piping system and replace the sections that have deteriorated due to corrosion and age.					X	funding to replace some of this piping is in process		
	5.05	Replace condensate pump with cracked casing.	✓#							
	5.06	Find and repair source of water emanating from under Boiler B.	✓#							

		SOUTH ROW SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		GSF 42,000								
	5.07	Extend condensate receiver vent piping to exterior of building.	X							
	5.08	Add ventilation to electric room.	X							
	5.09	Restore piping to blowdown cooler.	X							
	5.10	Replace blowdown cooler.	X							
	5.11	The pneumatic control system has been problematic requiring excessive maintenance. The remainder of this system should be replaced with DDC controls.			X					
	5.12	Replace garden hose supplying air to exhaust fan control panel with suitable piping.	X				X			
	5.13	Add air conditioning to network head end room/ coach's office.	X							
	5.14	Install transfer grilles on the common wall between the kitchen and cafeteria so make-up air can be pulled in from the cafeteria.	X							
	5.15	Install a new kitchen hood, ductwork, rooftop exhaust fan and variable speed demand control kitchen hood control system.	X	funding is in place for this work						
	5.16	Seal around unit ventilator louvers/ connecting ductwork.			X					
	5.17	Continue to provide routine maintenance on all the unit ventilators, such as motor and shaft lubrication, filter changes and coil cleaning.			✓#					
	5.18	Replace roof fans.			◐	some have been replaced				
	5.19	Replace the missing pneumatic thermostat and install a vandal proof cage.	◐	almost all have been replaced						
	5.20	Provide routine maintenance on all the unit heaters, such as motor and shaft lubrication, filter replacement and coil cleaning.			✓#					
	5.21	Replace the wall mounted units in the portable classrooms with heat pump style units, if portable classrooms remain in use.			X					

		SOUTH ROW SCHOOL	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
		GSF 42,000								
6	Electrical									
	6.01	Replace original panelboard that is in poor condition.			X					
	6.02	Install panic hardware at electric room doors as required by code.	X							
	6.03	Replace multiple electrical services with one new service.			X					
	6.04	Replace vault transformers with an exterior pad mounted transformer.			X					
	6.05	Install panelboards in dedicated electric rooms. Newer panelboards may be reconnected to new switchboard and reused.			X					
	6.06	Install light switches at stage/platform per ADA mounting standard.			X					
	6.07	Replace original emergency system equipment under a renovation program.			X					
	6.08	Install wire guards at exit signs in the gym.	X				X			
	6.09	Install emergency lights at the exterior doors.	X							
	6.10	Replace older ceiling mounted light fixtures			X					

		SOUTH ROW SCHOOL GSF 42,000	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
7	**Plumbing**									
	7.01	Install new high-efficiency low flow fixtures (faucets & flush valves) to reduce water consumption. (If pitch of drains will allow.)	✔#							
	7.02	Inspect with video to confirm integrity and correct pitch of drains.					X			
	7.03	Install new high-efficiency gas-fired domestic water heater when the existing water heater expires.					X			
	7.04	Install expansion tank and mixing valve at water heater.					X			
	7.05	Remove air admittance valve at waste ejector pump and vent per MA plumbing code.					X			
8	**Fire Protection**									
	8.01	Install sprinklers throughout the building			X					
9	**Hazardous Material**									
	9.01	HazMat pricing - UEC report dated March 7th 2016							X	
	9.01	Remove and replace 9" x 9" Vinyl floor tile and mastic that were either assumed or previously found to contain asbestos. The ACM was mostly found under newer vinyl floor tiles and carpet.							X	
	9.02	Remove and replace hard joint insulation that was previously found to contain asbestos.							X	
	9.03	Remove and replace debris in crawl space that was assumed to contain asbestos.							X	
	9.04	Remove and replace old flange gasket on boiler that was assumed to contain asbestos.							X	
	9.05	Remove and replace insulation inside boilers that was assumed to contain asbestos.							X	

		SOUTH ROW SCHOOL GSF 42,000	High Priority (1-3 yrs.) 2017-2020		Medium Priority (4-6 yrs.) 2020-2023		Low Priority (7-10 yrs.) 2023-2033		On Going Maintenance	
assumed complete in 2018	9.06	Remove and replace exterior unit vent grille caulking that was previously found to contain asbestos.							X	
	9.07	Remove and replace exterior door framing caulking that was previously found to contain asbestos.							X	
	9.08	Remove and replace glue holding blackboard that was previously found to contain asbestos.							X	
	9.09	Remove and replace underground sewer pipe that was assumed to contain asbestos.							X	
	9.10	Remove and replace damproofing on exterior and foundation walls that was assumed to contain asbestos.							X	
	9.11	Remove and replace roofing materials that was assumed to contain asbestos.							X	
	9.12	Remove and replace painted surfaces that were assumed to be lead based paint.							X	
	9.13	Remove and replace caulking materials that are assumed to contain PCBs.							X	
	9.14	Replace various equipment such as tubes, thermostats, exit signs and switches that were assumed to contain mercury.							X	
	GENERAL NOTES									
	1. Refer to each section of the Report for more detailed information. Before moving forward with a specific project, a detailed review of the scope of work and a re-assessment of the cost estimate for that scope should be performed. 2. Some items should be completed in combination with other items. Some of these suggestions may be noted above. We recommend that once a scope of work is desired to be pursued, a mini-study should be done to confirm which work should be done together. See the next general note below for additional information. 3. Due to the conceptual nature of these recommendations and estimates and the complexity of existing conditions, several solutions may be provided to achieve the end result. Existing conditions in some areas may limit the ability to fully implement the proposed scope of work. Part or all of this work may trigger other renovation requirements related to code, seismic, sprinklers or handicap accessibility. Once a determination is made to move forward with a specific improvement line item, a mini study specific to the scope of work should be done to confirm the scope of work, prepare sketches as necessary and prepare a refined cost estimate.								

Analysis & Programming III

A. CAPACITY ANALYSIS OVERVIEW

The capacity analyses and their underlying algorithms can be complicated but are typically based on daily school schedules, the district's class size guidelines, and how individual spaces are used. In 2016 D+W performed two types of capacity analysis: one based on the gross square footage of the facility as it compares to the MSBA (Massachusetts School Building Authority) guidelines for a grade level school of the given enrollment and the other based on the number of classrooms, daily school schedules, Chelmsford's class size guidelines, and how individual spaces are used within each school. The first method gives us a broad look at a facilities' maximum capacity where the second method does an accounting of the number of general classrooms in a particular facility to determine the facilities' capacity.

CAPACITY ANALYSIS BY GROSS SQUARE FEET

In this section, the capacity analysis is determined by plugging the overall gross square footage of the facility into the MSBA Space Summary Guidelines. The current enrollment reflects the enrollment of each school as reported in the fall of 2021. D+W did not update the space use or space needs analysis for individual schools since the 2016 Master Plan Study. However, we did verify with the school administration that the installation of modular classrooms has allowed the district to implement a full-day kindergarten program at each elementary school and remedy some of the special education and other spatial deficiencies identified in the 2016 Master Plan Study. In Section III-B of this report graphs were developed to show the impact of the modular classroom additions on the capacity of each facility.

A special note about Westlands School

The Westlands School facility continues to house the district's Pre-Kindergarten program. In the fall of 2021 the Pre-K enrollment was 129 students. The Master Plan Options in Section IV of this report include options and opportunities to relocate the Pre-K program to one of the elementary schools as well as options that leave the program in its current location.

The Westlands School continues to house some community programs. Relocation of these programs was not considered in the Master Plan Options. In 2016 D+W performed a capacity analysis of the Westlands facility in consideration of the facility becoming an additional K-4 elementary school. The analysis at that time indicated that the facility and site were too small to be a practical or feasible solution for a K-4 elementary school program therefore, the Westlands School facility was not included in the capacity analysis for the district. Please refer to the 2016 Master Plan study for additional information regarding the Westlands School facility.

CAPACITY BY GROSS SQUARE FEET OVERVIEW

An educational building's gross square footage is one method for determining the capacity of the facility. This is done by comparing the size of the overall building and its population to the MSBA space guidelines for a similar size population. This gross square footage analysis looks at the building as one container and counts all permanently constructed space. It does not consider interior partitions, missing

spaces, or the appropriate use of space. This method also does not exclude additional spaces that would not otherwise appear in the MSBA Space Summary Guidelines such as auditoriums, secondary gyms, or community TV studios. These spaces may artificially inflate the available capacity for students. Temporary or modular construction has been excluded from this gross square footage analysis as these are excluded from the MSBA guidelines regardless of their age, use, or construction type.

The graphic below represents each building's capacity as measured by gross square footage. Buildings whose populations are ten percent over capacity are shown in red, those that are within ten percent capacity are yellow, and those that are more than ten percent under capacity are green. The gross square footage of each facility is noted below the box while the MSBA suggested gross square footage for the current enrollment (based on the 2022 MSBA Space Summary Guidelines) is noted within the box. The current enrollments noted are based on the actual reported enrollment of October 2021. The capacity noted is based on the gross square footage of the building when using the MSBA 2016 Space Summary Guidelines. The larger "District-Wide" box is a holistic look at all of the space available in the district.

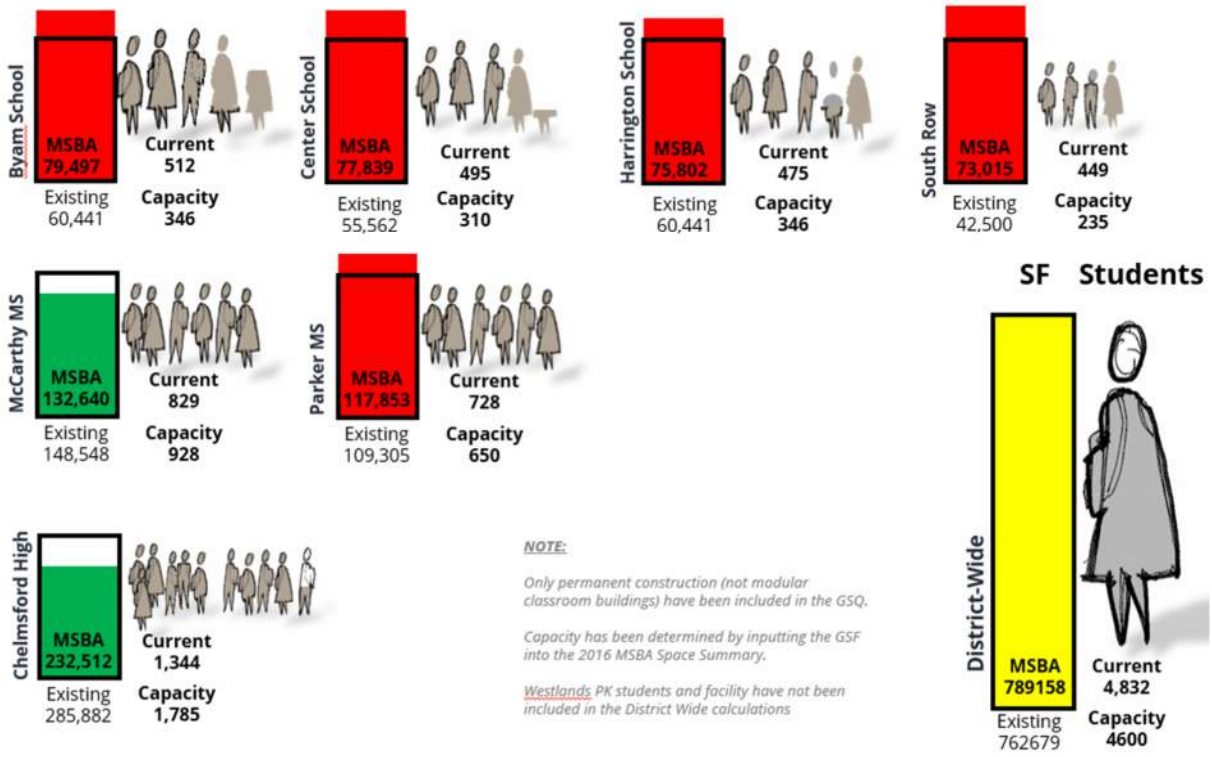


Figure 1 – Capacity Analysis Summary by Total Gross Square Footage

District-Wide Capacity

The total sum of gross square feet across Chelmsford's school building inventory indicates that there is slightly less space available than the MSBA guidelines would suggest is needed to serve the District's current K-12 population. However, this space is not located at the elementary school level where it is most needed. Chelmsford's school facilities have a total of 762,679 gross square feet of permanent construction. Based on MSBA guidelines for gross square feet, the District could support 4,600 students.

However, it is important to note that the gross square footage calculations in the MSBA Space Summary Guidelines does not specifically address Chelmsford's educational programs or any specific special education space needs.

In 2021, the total student enrollment in Chelmsford was 4,832 students, which is within 5% of the District's overall capacity. Based on the 2021 NESDEC enrollment forecast, the K-12 enrollment is expected to be 5,243 students in the fall of 2031 which is approximately 14% over the district's capacity. Below is an analysis and enrollment projection for each school by gross square footage (GSF),

Byam Elementary School Capacity by GSF

The Byam Elementary School is 60,441 GSF. MSBA guidelines would suggest that the capacity of a building of this size could serve 346 elementary school students. The current enrollment at the Byam School is 512 students. MSBA guidelines suggest that the building should be roughly 24% larger to support the current population. In 2017 modular classrooms were added to the Byam Elementary School to address some of these space needs.

Center Elementary School Capacity by GSF

The Center Elementary School is 55,562 GSF. MSBA guidelines would suggest that the capacity of a building of this size could serve 310 elementary school students. The current enrollment at the Center School is 430 students. MSBA guidelines suggest that the building should be roughly 29% larger to support the current population. In 2017 modular classrooms were added to the Center Elementary School to address some of these space needs.

Harrington Elementary School Capacity by GSF

The Harrington Elementary School is 60,441 GSF. MSBA guidelines would suggest that the capacity of a building of this size could serve 346 elementary school students. The current enrollment at the Harrington School is 475 students. MSBA guidelines suggest that the building should be roughly 20% larger to support the current population. In 2017 modular classrooms were added to the Harrington Elementary School to address some of these space needs.

South Row Elementary School Capacity by GSF

The South Row Elementary School is 42,500 GSF. MSBA guidelines would suggest that the capacity of a building of this size could serve 235 elementary school students. The current enrollment of South Row School is 449 students. MSBA guidelines suggest that the building should be roughly 42% larger to support the current population. In 2017 modular classrooms were added to the South Row Elementary School to address some of these space needs.

McCarthy Middle School Capacity by GSF

The McCarthy Middle School is 148,548 GSF. MSBA guidelines would suggest that the capacity of a building of that size could serve 928 middle school students. The current enrollment of the McCarthy Middle School is 829 students. MSBA guidelines suggest that the building could be roughly 12% smaller to support the current population. The gross square footage analysis for this building does not excluded the auditorium or auxiliary gym which would not be part of the MSBA guidelines.

Parker Middle School Capacity by GSF

The Parker Middle School is 109,305 GSF. MSBA guidelines would suggest that the capacity of a building of this size can serve 650 middle school students. The current enrollment of the Parker Middle School is 728 students. The MSBA guidelines suggest that the building should be roughly 7% larger to support the current population. The gross square footage analysis for this building does not excluded the area dedicated to CCTV.

Chelmsford High School Capacity by GSF

Chelmsford High School is 285,882 GSF. MSBA guidelines would suggest that the capacity of a building of that size is 1785 students. The current enrollment of the high school is 1344 students. MSBA guidelines suggest that the building should be roughly 23% smaller to support the current population.

CAPACITY ANALYSIS BY CLASSROOM COUNT

The number of classrooms within a school facility will determine how many classes the facility can support. When determining capacity by classroom count, the design team counted all classrooms currently being used for general education. Any classrooms currently being used to serve special education are assumed to remain dedicated to special education. Modular/ temporary construction was excluded from this analysis. The design team assumed the following class sizes:

- Pre-kindergarten – kindergarten = 18 students
- 1st – 12th grade = 23 students

Capacity at the elementary level is determined by multiplying the number of grade level classrooms by the number of students per class. At the middle and high school level, capacity is calculated by multiplying the number of students per classroom by the number of spaces used for instruction (excluding Special Education Spaces), which is then multiplied by a utilization factor. The utilization factor corresponds to how many periods per day those instructional spaces are in use based on the school's daily schedule. D+W's capacity calculations in this study are based on MSBA guidelines for utilization rate (85%). Currently, Chelmsford's two middle schools and Chelmsford High School operate on schedules that achieve lower utilization rates. Capacities for those facilities would be reduced if they had they been calculated using their actual utilization rates.

Specialty classrooms for art, music, gym, technology instruction, or any other dedicated special are not counted as general classrooms for this analysis. Special education classrooms are also excluded from the classroom count capacity analysis. Students enrolled in special education programs are included in the calculation as part of the student count of general education classrooms.

The chart on the following page summarizes the capacity of the school facilities by the classroom count method. Under current operating practices only the McCarthy Middle School and the Chelmsford High School are under capacity. The addition of the modular classrooms has provided capacity at each of the elementary schools. However Center Elementary School remains over-crowded despite the additional classrooms.

In addition to the capacity by classroom count the chart below also gives an overview of the facility's condition based on the 2016 Master Plan Study. The darker the green color the better the overall condition of the facility. Yellow to orange is fair to poor condition. The column to the far right is helpful in understanding the actual size of classrooms. D+W has counted 23 students per classroom for grades 1-12. However, classrooms that are greatly undersized (based on the MSBA Space Summary guidelines) may feel over-crowded. In both the McCarthy Middle School and Chelmsford High School the District has the ability to reduce the number of students assigned to each classroom. South Row Elementary School has the greatest number of undersized classrooms at 89% of all of the classrooms are more than 10% undersized.

	Current Enrollment (fall 2021)	Capacity by GSF	Capacity by Classroom Count w/o Modulars	Capacity by Classroom Count w/ Modulars	Facility Condition	MSBA Instructional Space Comparative Analysis – Room by Room
Byam ES	512	346	412	527		34% are under by 10% or more
Center ES	495	310	394	486		35% are under by 10% or more
Harrington ES	475	346	412	527		37% are under by 10% or more
South Row ES	449	235	371	463		89% are under by 10% or more

Figure 2a – Capacity Analysis Summary by Classroom Count

	Current Enrollment (fall 2021)	Capacity by GSF	Capacity by Classroom Count w/o Modulars	Capacity by Classroom Count w/ Modulars	Facility Condition	MSBA Instructional Space Comparative Analysis – Room by Room
McCarthy MS	829	928	958	1036		67% are under by 10% or more
Parker MS	728	650	684	840		53% are under by 10% or more
Chelmsford HS	1344	1785	1760	N/A		84% are under by 10% or more

Figure 2a – Capacity Analysis Summary by Classroom Count

Byam Elementary School Capacity by Classroom Count

Byam Elementary School has two kindergarten classrooms and 17 general education classrooms that are serving first through fourth grade. Under the current model, the capacity at Byam School is 412 students in permanent facilities and 527 when including the modular classrooms. The current enrollment is 512 students, making Byam overcrowded (when not including the modular classrooms) by one hundred students. With the enrollment forecast projected to be between 500 – 525 students for the next ten years, Byam will be at capacity including the modular classrooms. Byam School will require the following to address the student enrollment projection:

- 5-6 Kindergarten Classrooms
- 17-18 Classrooms for grades 1st-4th
- 22-24 Total Classrooms

Center Elementary School Capacity by Classroom Count

Center Elementary School has two kindergarten classrooms and 16 general education classrooms that are serving first through fourth grade. The capacity at Center School is 394 students in permanent facilities and 486 when including the modular classrooms. The current enrollment is 495 students, making Center School overcrowded by 101 students (when not including the modular classrooms). With the enrollment forecast hovering around 480- 500 students for the next ten years, Center School

will be at capacity including the modular classrooms. Center School will require the following to address the student enrollment projection:

- 5-6 Kindergarten Classrooms
- 16-17 Classrooms for grades 1st-4th
- 21-23 Total Classrooms

Harrington Elementary School Capacity by Classroom Count

Harrington Elementary School has two kindergarten classrooms and 17 general education classrooms that are serving first through fourth grade. The capacity at Harrington School is 412 students in permanent facilities and 527 when including the modular classrooms. The current enrollment is 475 students, making Harrington overcrowded by 63 students (when not including the modular classrooms). With the enrollment forecast hovering around 460 – 485 students for the next ten years, Harrington School will have some additional capacity with the modular classrooms. Harrington School will require the following to address the student enrollment projection:

- 5 Kindergarten Classrooms
- 16 Classrooms for grades 1st-4th
- 21 Total Classrooms

South Row Elementary School Capacity by Classroom Count

South Row Elementary School has two kindergarten classrooms and 14 general education classrooms that are serving first through fourth grade. The capacity at South Row is 371 students in permanent facilities and 463 when including the modular classrooms. Current enrollment is 449 students, making South Row overcrowded by 78 students (when not including the modular classrooms). With the enrollment forecast hovering around 440 -465 students for the next ten years, South Row School will be near or at capacity including the modular classrooms. South Row School will require the following to address the student enrollment projection:

- 5 Kindergarten Classrooms
- 15-16 Classrooms for grades 1st-4th
- 20-21 Total Classrooms

McCarthy Middle School Capacity by Classroom Count

The McCarthy Middle School uses 49 teaching stations to serve grades five through eight. At an 85% utilization factor, the capacity at McCarthy is 958 students in permanent facilities and 1036 students when including modular classrooms. The current enrollment is 829 students making the McCarthy School under capacity by 99 students (when not including the modular classrooms). With the enrollment forecast of 830 – 924 students over the next ten years the McCarthy School will be just below the capacity level.

Parker Middle School by Classroom Count

The Parker Middle School uses 35 teaching stations to serve grades five through eight. At a 85% utilization factor, the capacity at Parker is 684 students in permanent facilities and 840 students when considering modular classrooms. The current enrollment is 728 students making Parker School over capacity by 44 students (when not including the modular classrooms). With the enrollment forecast of 792 – 898 students over the next ten years the Parker School will continue to exceed capacity and be over-crowded.

Chelmsford High School by Classroom Count

Chelmsford High School uses 90 teaching stations to serve grades nine through twelve. At a 85% utilization factor, the capacity at the high school is 1,760 students. The current enrollment is 1,344 students making CHS undercrowded by 365 students. With the enrollment forecast 1334 – 1519 students over the next ten years the High School will continue to have capacity for the foreseeable future.

CAPACITY SUMMARY

NESDEC did not prepare enrollment forecasts by individual school. However, D+W prepared a prorated school-by-school forecast based on the current percentage of each grade-level grouping attending each school as described in the Enrollment Analysis section. However, D+W calculated total classroom needs by grade groupings based on NESDECs total enrollment for each grade level as follows:

Grade Level Grouping	Peak Enrollment	Existing Classrooms	Kindergarten Classrooms Required	General Classrooms Required	Total Classrooms Required
K-4th	1,990	72	22	69	91
5th-8th	1,740	84		89	89
9th-12th	1,519	90		78	78

B. ENROLLMENT PROJECTIONS ANALYSIS OVERVIEW

NESDEC enrollment projections were analyzed as part of this updated study. The District provided two sets of projections. The first set was published by NESDEC in November of 2020 and was used to perform a capacity analysis across the district for this report. It is important to note that this forecast may have been impacted by COVID and may have predicted lower-than-anticipated future enrollments. The second enrollment provided by the District was published by NESDEC in November of 2021 and appears to confirm this hypothesis. While the updated 2021 enrollment forecast came too late to inform the capacity analysis, this latest forecast magnifies the capacity challenges that exist across the district, especially at the middle school and elementary school levels.

Per the November 2021 forecast (Figure 2), the K-12 enrollment in Chelmsford is expected to increase steadily over the next ten years. From the fall of 2021 projected enrollment of 4,817 (actual was 4,832) students to the fall of 2031 projected enrollment of 5,243 students, there is an increase of just under 9%. Figure 1 illustrates the impact of COVID on the 2020 enrollment forecast compared to the 2021 enrollment and the updated forecast shown in Figure 2.

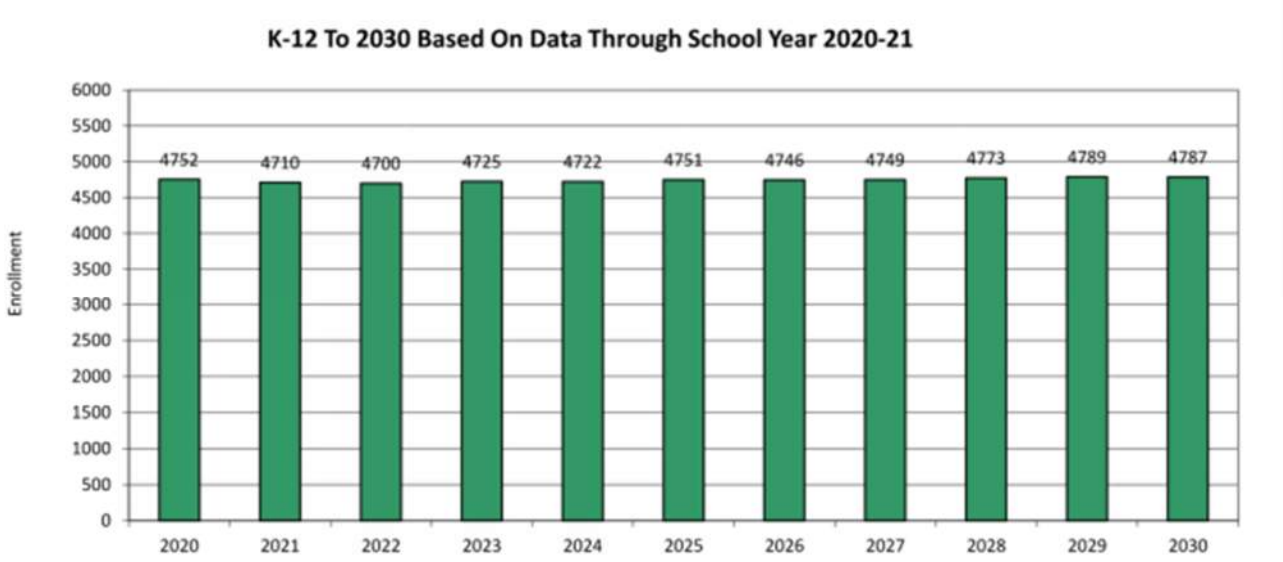


Figure 1 – NESDEC K-12 Enrollment Forecast Published November 2020

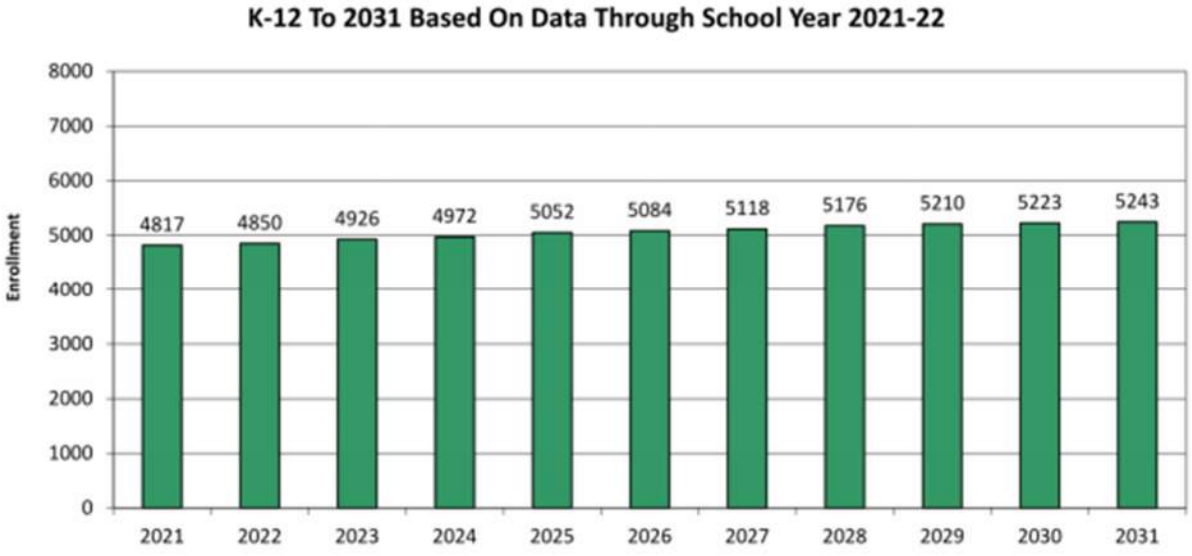
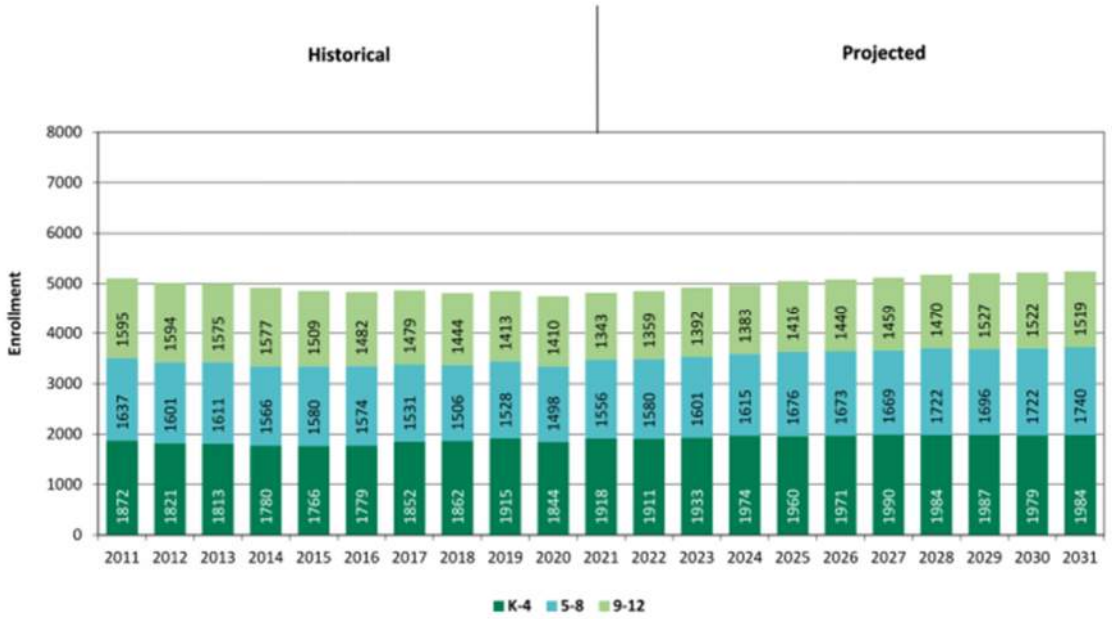


Figure 2 – NESDEC K-12 Enrollment Forecast Published November 2021

GRADE GROUPING PROJECTIONS

The following chart shows the breakdown of enrollment projections by grade groupings. The projection shows each grade level grouping steadily increasing over the next 10 years.



K-4 Enrollment Change: (2021) 1,931 Students to (2031) 1,984 Students - + 3%
5th -8th Enrollment Change: (2021) 1,557 Students to (2031) 1,740 Students - +11%
9th-12th Enrollment Change: (2021) 1,344 Students to (2031) 1,519 Students - +12%

PROJECTIONS BY SCHOOL

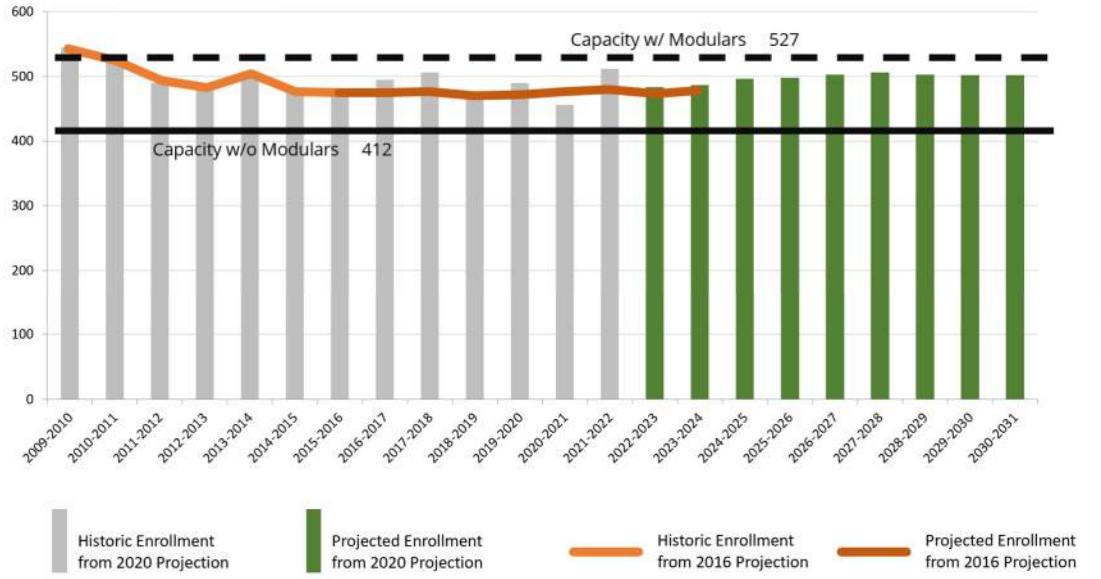
NESDEC did not perform enrollment forecasts by school. The projections by school were calculated by the Design Team and were done by performing a prorated forecast. This is similar to the work performed in the original 2016 Master Plan study. D+W calculated the percentage of students in each grade level grouping that were attending each school. Based on that percentage, D+W multiplied that percentage by the enrollment forecast for the grade grouping to determine a projected enrollment for each individual school. This is not a perfect methodology but, allows the District to make a projection of enrollment and comparison to each building's capacity.

All of the buildings in this study, with the exception of Chelmsford High School, have modular classrooms. Typically, modular classrooms are not included in capacity calculations as they are not considered permanent facilities by the MSBA. However, D+W has calculated capacities both with and without the modular classrooms to demonstrate the impact of these classrooms, particularly at the elementary school level. It is important to note that these capacity calculations are compared the 2020 NESDEC forecast. The 2021 NEDEC enrollment forecasts are higher across all grade level groupings. This difference will reduce the capacities the board.

Byam Elementary School

The Byam School's population is expected to increase then remain relatively level. The 2020 enrollment was 456 students while the fall 2021 enrollment was 512 students. The 2020 projections indicated that the school could expect 502 students in the year 2030. Based on the number of classrooms (excluding the modular classrooms), the capacity of the Byam School is 412 students meaning that the Byam School is currently overcrowded and will continue to be overcrowded over the next 10 years. The capacity of the school with modular classrooms is 527 students.

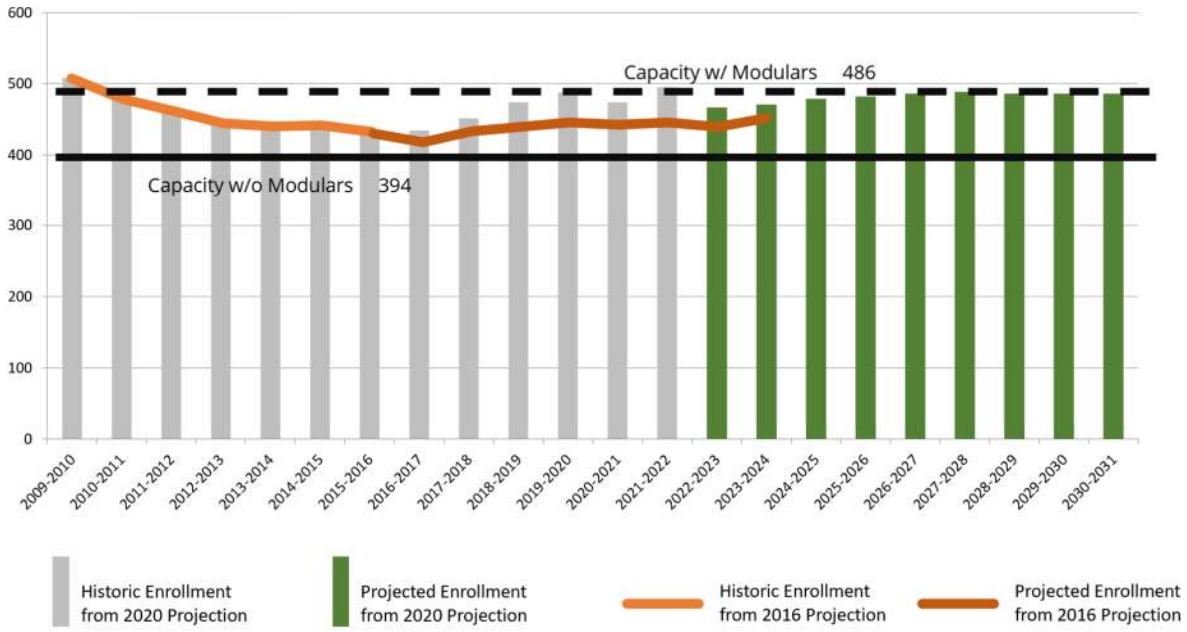
The updated 2021 forecast is approximately 100 students higher district wide at the elementary school grade level than the 2020 forecast. This uptick in the K-4 enrollment will result in the Byam School being at maximum capacity, if not over maximum capacity, even with the modular classrooms for the foreseeable future.



Center Elementary School

The Center School's population is expected to remain relatively steady over the next ten years. The 2020 enrollment was 474 students while the fall 2021 enrollment was 495 students. The 2020 projections indicated that the school could expect 486 students in 2030. The capacity of the Center School based on classroom count is 394 students (excluding the modular classrooms), meaning that the school is currently overcrowded and will continue to be overcrowded over the next 10 years. The capacity of the school with the modular classrooms is 486 students.

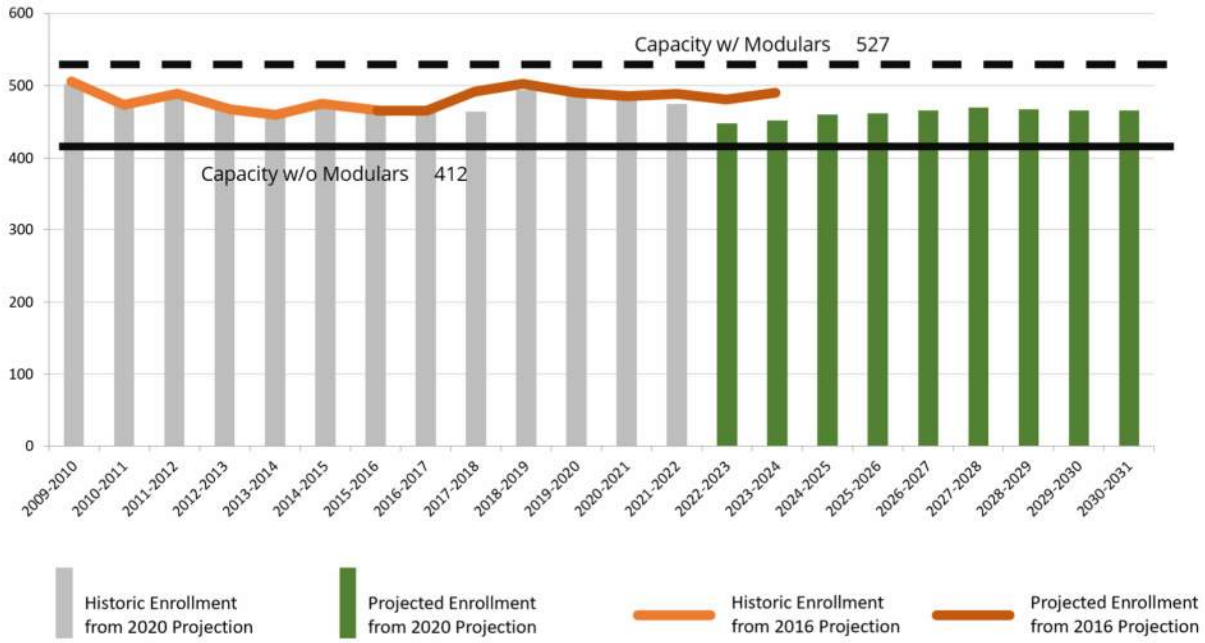
The updated 2021 forecast is approximately 100 students higher district wide at the elementary school grade level than the 2020 forecast. This uptick in the K-4 enrollment will result in the Center School being at maximum capacity, if not over maximum capacity, even with the modular classrooms for the foreseeable future.



Harrington Elementary School

The Harrington School's population was expected to remain relatively flat over the next ten years. The 2020 enrollment for the Harrington School was 492 students while the fall 2021 enrollment was 475 students. The 2020 projections indicated that the school could expect 466 students in 2030. The capacity of the Harrington School based on classroom count is 412 students, meaning that the Harrington School is currently over capacity when not including the modular classrooms and will continue to be over capacity over the next 10 years. The capacity of the school with the modular classrooms is 527 students.

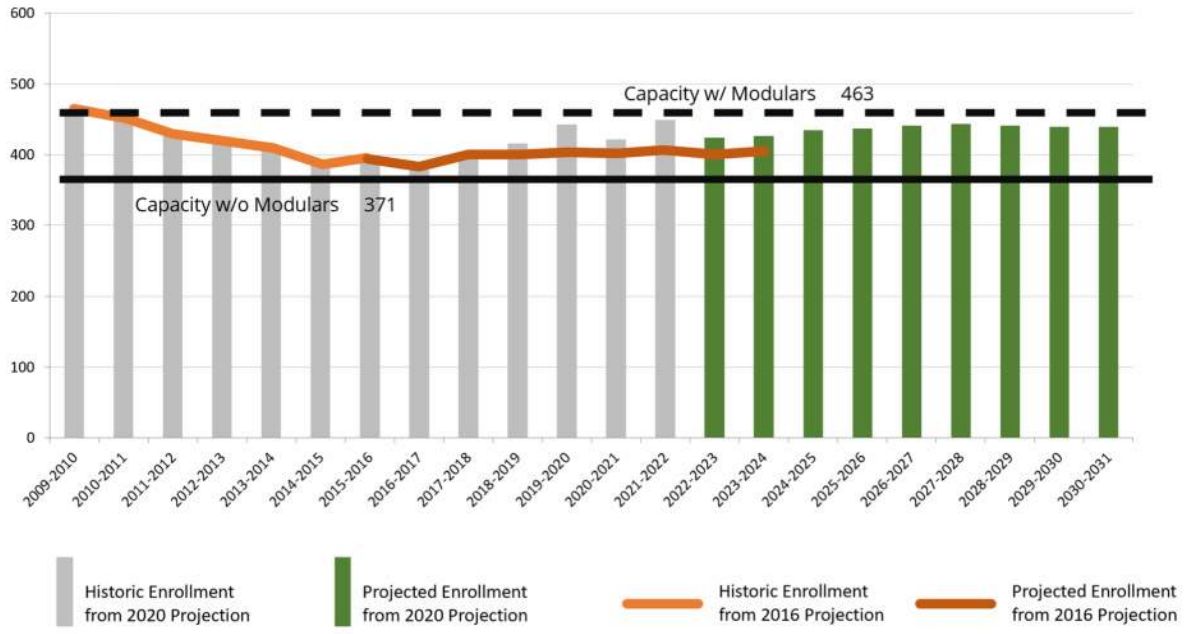
The updated 2021 forecast is approximately 100 students higher district wide at the elementary school grade level than the 2020 forecast. This uptick in the K-4 enrollment will result in the Harrington School being at maximum capacity, if not over maximum capacity, even with the modular classrooms for the foreseeable future.



South Row Elementary School

The South Row School's population is expected increase over the next ten years. The 2020 enrollment was 422 students while the 2021 enrollment was 449 students. The 2020 projections indicated that the school could expect 440 students in the year 2030. The capacity of South Row School based on classroom count is 371 students (excluding modular classrooms), meaning that the school is currently overcrowded and will continue to be overcrowded over the next 10 years. The capacity of the school with the modular classrooms is 463 students.

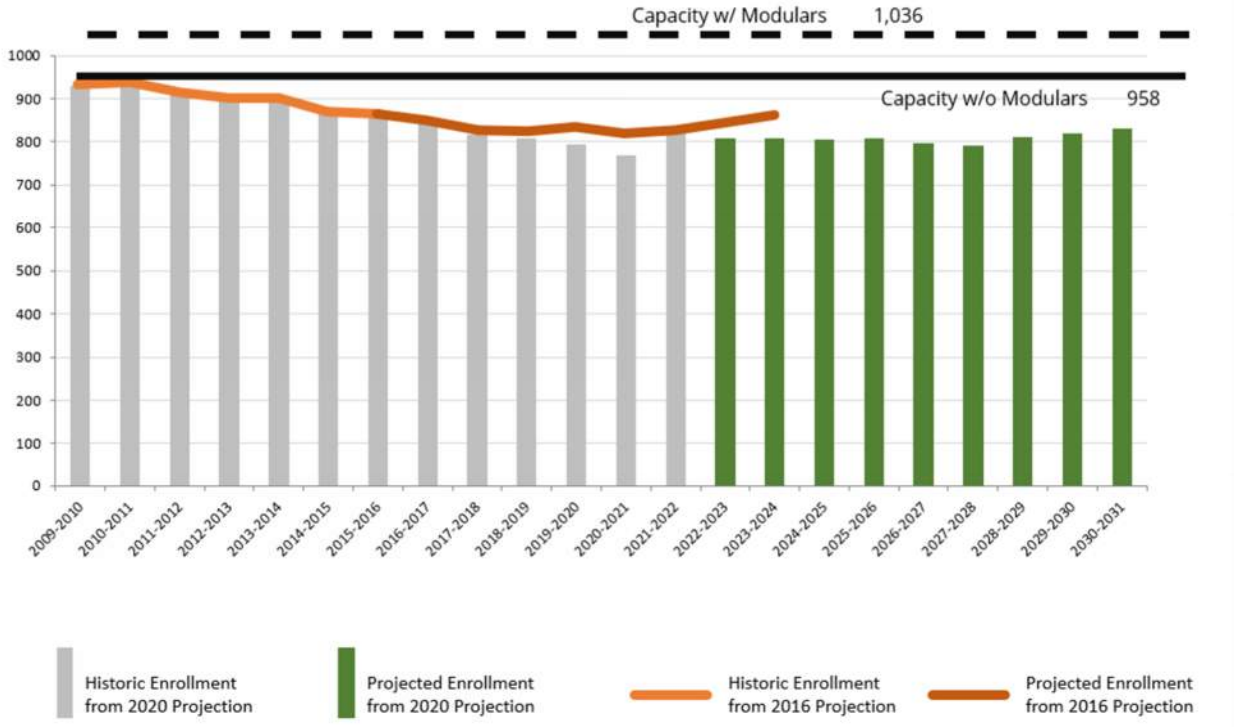
The updated 2021 forecast is approximately 100 students higher district wide at the elementary school grade level than the 2020 forecast. This uptick in the K-4 enrollment will result in the South Row School being at maximum capacity, if not over maximum capacity, even with the modular classrooms for the foreseeable future.



McCarthy Middle School

The McCarthy Middle School's population is expected to remain relatively flat and then increase slightly over the next ten years. The 2020 enrollment was 770 students while the fall 2021 enrollment was 829 students. The 2020 projections indicate that the school could expect 830 students in 2030. The capacity of the McCarthy School based on classroom count (excluding modular classrooms) and using the 85% utilization rate is 958 students, meaning that the school will be under capacity for the next 10 years.

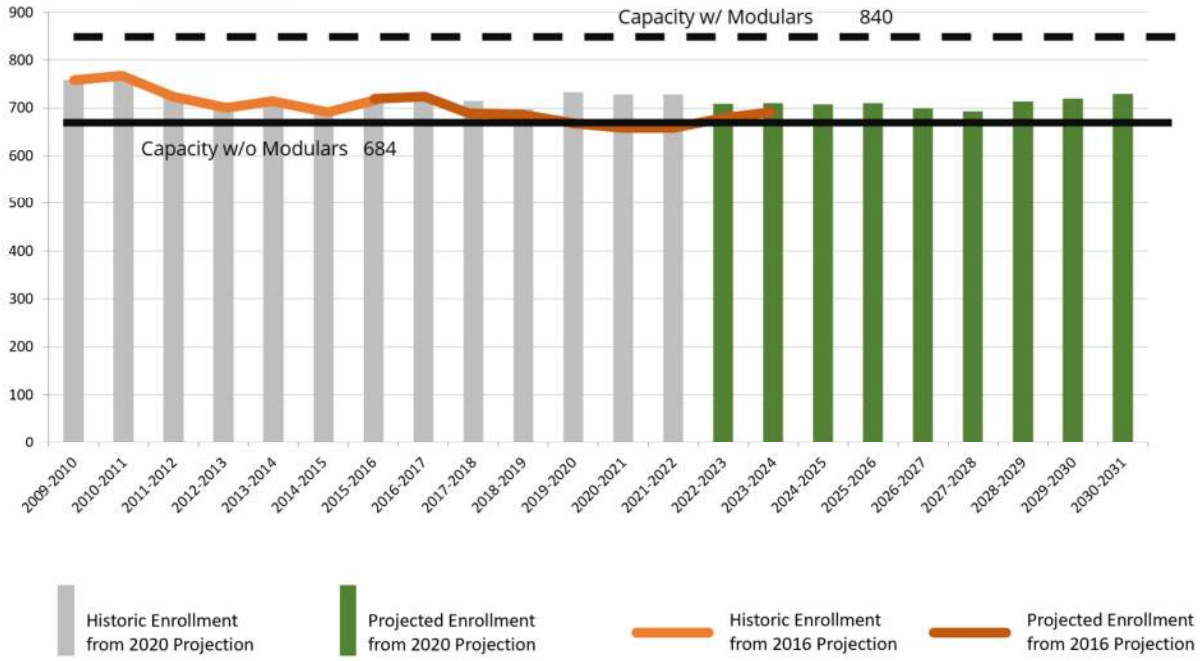
The updated 2021 NESDEC forecast is approximately 200 students higher for grades 5th-8th district wide. This translates into McCarthy School being just under capacity for the next ten years even when only considering permanent classrooms.



Parker Middle School

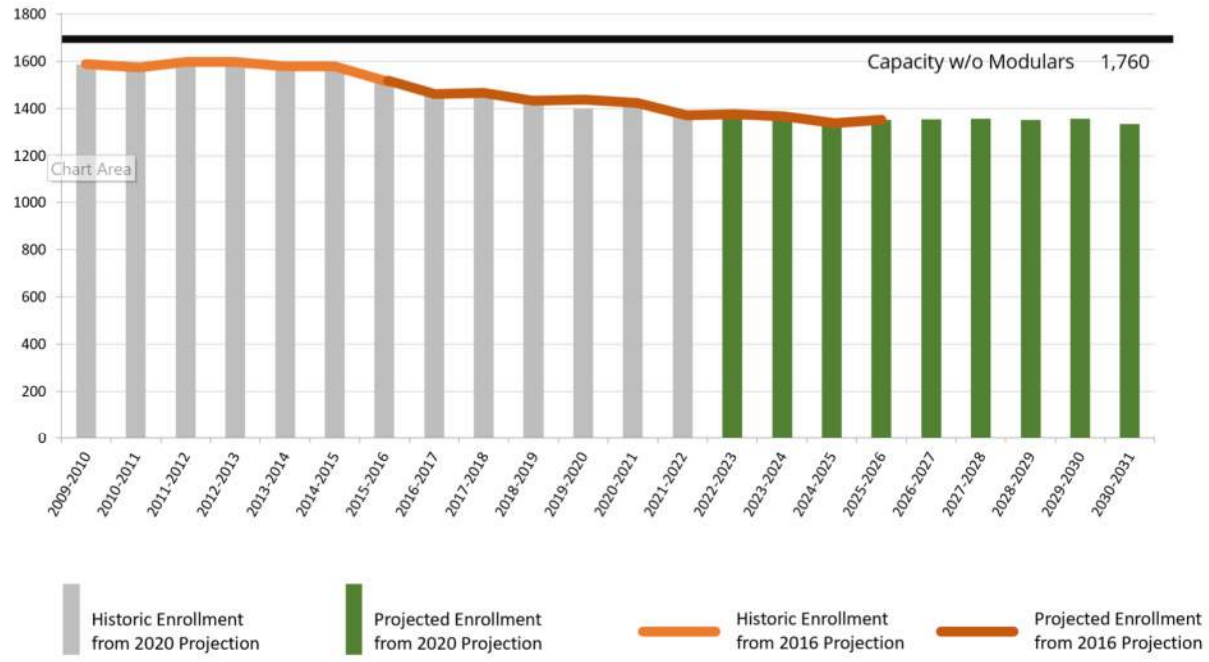
The Parker Middle School's population is expected drop slightly and then rise again over the next ten years. The 2020 and fall 2021 student enrollment was 728. Based on the 2020 projections the school can expect 792 students in 2030. The capacity of the Parker School based on classroom count (excluding the modular classrooms) and an 85% utilization rate is 684 students, meaning the school is currently at capacity and will remain so for the next 10 years.

The updated 2021 NESDEC forecast is approximately 200 students higher for grades 5th-8th district wide. This means that the Parker School will be overcapacity for the next ten years even when considering the modular classrooms.



Chelmsford High School

Chelmsford High School's population has been decreasing over the last several years but is expected to increase over the next ten years. The 2020 enrollment was 1,408 students while the 2021 enrollment was 1344 students. The 2020 projections indicate that the school could expected 1,334 students in 2030. The capacity of the high school based on classroom count and the current schedule is 1,760 students, meaning the school will have additional capacity in the next 10 years. Although the updated enrollment forecast includes a change in trajectory, the updated forecast is still under the building's capacity for the next ten years. The 2021 NESDEC forecast estimates the 9th-12th enrollment to be 1,519 students.



CONCLUSION

Based on the 2020 NESDEC forecast, enrollment across the district is expected to decline slightly before increasing minimally for the next 10 years. That forecast may have been artificially low due to COVID. The 2021 NESDEC forecast confirmed that 2020 was an anomaly. The updated forecast suggests a slightly increasing enrollment for all grade level groupings for the next ten years.

SUMMARY OF FINDINGS

- Chelmsford High School's enrollment is expected to increase over the next ten years but remain below the capacity of the existing facility.
- McCarthy Middle School enrollment is expected to increase over the next ten years but remain at or just below the capacity of the existing facility.
- Parker Middle School enrollment is expected to increase over the next ten years. The school is and will continue to be overcrowded even with the modular classrooms.
- Byam School enrollment is expected to increase over the next ten years. The school is and will continue to be overcrowded even with the modular classrooms.
- Center School enrollment is expected to increase over the next ten years. The school is and will continue to be overcrowded even with the modular classrooms.
- Harrington School enrollment is expected to increase over the next ten years. The school will be below maximum capacity with the modular classrooms.
- South Row enrollment is expected to increase over the next ten years. The school is and will continue to be overcrowded even with the modular classrooms.

Master Plan Options IV

A. NARRATIVE

OVERVIEW

During the 2015/16 Master Plan Dore + Whittier and the Chelmsford Master Plan Working Group worked together to develop a list of key goals for the district's master plan. These goals were:

- Accommodates full-day kindergarten
- Co-locate pre-k with another school
- Relieves overcrowding across the district
- Address missing or inadequate space at each of the schools
- Eliminate temporary construction (modular classrooms)
- Address physical conditions at each of the buildings

A total of 16 long-term master plan options were developed along with a scoring matrix to evaluate and reduce the number of options for consideration. Through this process the district reduced the options to five potential options for further consideration and ultimately chose Option "J5" as the preferred option for a long-term solution to the district's needs. The goal of Option J5 was to provide the district with a new high school that would serve grades 9-12 and house the Pre-K through Kindergarten programs. In the J5 option the existing high school would then be converted into a 6-8 middle school to resolve the current overcrowding at the middle school level, and one of the middle schools would be reused as a fifth elementary school serving grades 1^{st} – 5^{th}. This fifth elementary school would reduce the overcrowding at the elementary school level across the district. The plan (J5) assumed an aggressive schedule of elementary school renovations or new building projects to complete the master plan in the year 2044.

In 2017, the district submitted a statement of interest (SOI) to the MSBA with the high school as the priority project per the J5 master plan. After several unsuccessful attempts, the district is reconsidering the priority project and master plan while continuing to focus on the master plan goals outlined above.

VISIONING FOR NEW OPTIONS

As part of this updated study, the D+W team held several public meetings including presentations to the school committee, a meeting with middle school students from both Parker and McCarthy Middle Schools, and a meeting with middle school faculty from both schools in order to gain a full understanding of the needs and vision of the district and of the two middle schools. In these meetings students discussed the impact that a lack of space has on the school schedule and the types of specials that can be offered. The faculty discussed equity of program offerings between the two schools, the difficulty of shared staff, and a desire to have improved collaboration among grade level teachers and special education providers located in the two schools.

The school committee also developed a list of priorities to help determine the best option for the district: The top priorities are noted below:

1) Alleviate overcrowding at schools throughout the district, especially at the elementary school level

2) Benefit all students in the town and have a high likelihood of the priority project being accepted into the MSBA process,
3) Allow for educationally appropriate school / grade configurations.

SUMMARY OF OPTIONS

This updated Master Plan study included a review of the capital improvements that have occurred since the 2017 study and an analysis of updated enrollment projections. Based on the information gathered, the team developed five potential options with the middle school, specifically the Parker School, as the priority project.

In Option P1 and P2 a new Parker School is constructed or the existing school is renovated and serves grades 7 and 8 (Option P1) or grades 5 and 6 (Option P2). In both of these scenarios the McCarthy School would serve the alternate grade grouping. The elementary schools would be renovated over time with one of the elementary schools absorbing the pre-K students as part of an addition / renovation or new building project.

Option P3 focused on creating a larger middle school that could serve all 5th – 8th grade students under one roof allowing for shared spaces and resources while creating separation where needed. In this option the McCarthy School would become a fifth elementary school serving grades PK-4.

Options P4 and P5 propose grade reconfigurations to help resolve overcrowding at the elementary school level. Option P4 proposes a new school for grades 4th – 6th and four elementary schools for grades K-3. Option P5 proposes a new school for grades 6th – 8th, creating five elementary K-5th grade schools.

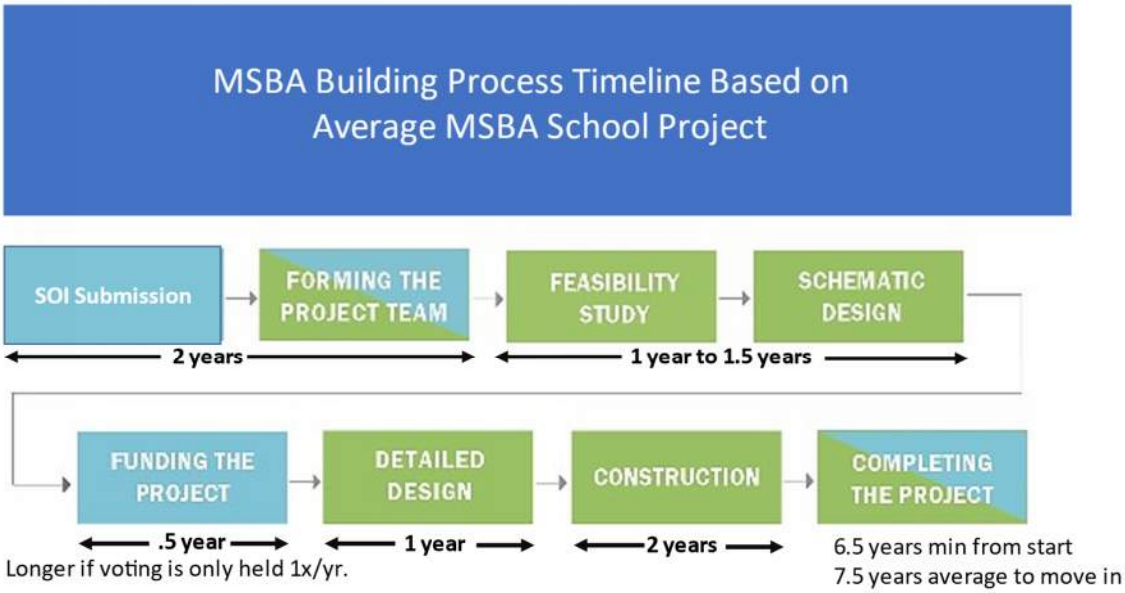
In evaluating each option one must consider both the shortest timeline to resolving the overcrowding across the district and the time to completion of the entire master plan as many of the elementary schools will require increased funding and maintenance to remain operational over the coming decades.

DETAILED REVIEW OF OPTIONS AND MASTER PLAN TIMELINES

In developing the master plan timelines several assumptions were made as there are many unknown factors. These assumptions are as follows:

1) The MSBA will allow the submission of a statement of interest (SOI) between February and April of each year and continue participating in the funding of schools through the year 2070.
2) The district will submit a statement of interest (SOI) by the month of April for each project and be invited into the MSBA process in the year of submission. In the event that the district is not invited into the MSBA process in the year following the SOI submission the district will provide funding for the project.
3) Timelines assume all projects will submit an SOI to the MSBA although it is unlikely that the MSBA will participate in multiple projects in a sequence. Should the district determine that project funding will be by the district the project duration shown in the timelines could be reduced.
4) The following timelines do not assume special town meetings for project funding votes. If the district chooses to hold special town meeting votes the project timelines could be reduced. The timelines assume all votes to move projects from Schematic Design into Design Development would to take place in November.
5) In general, a timeline of 7.5 years has been used from the submission of the SOI to the year of occupancy. In practice, the time to completion can vary based on many factors.
6) The master plan timelines have considered a two-year construction duration for each project and have not taken into account a reduced or extended schedule for renovation only projects, occupied construction, the time to establish swing space, or the need to acquire additional property.

Assumptions for Master Plan Timelines



OPTION P1 & P2

The P1 & P2 options provide similar timelines and results. The options differ as to which grade levels (7 & 8 or 5 &6) would be located in the new or renovated Parker School. The alternate grades would be housed in the existing McCarthy School.

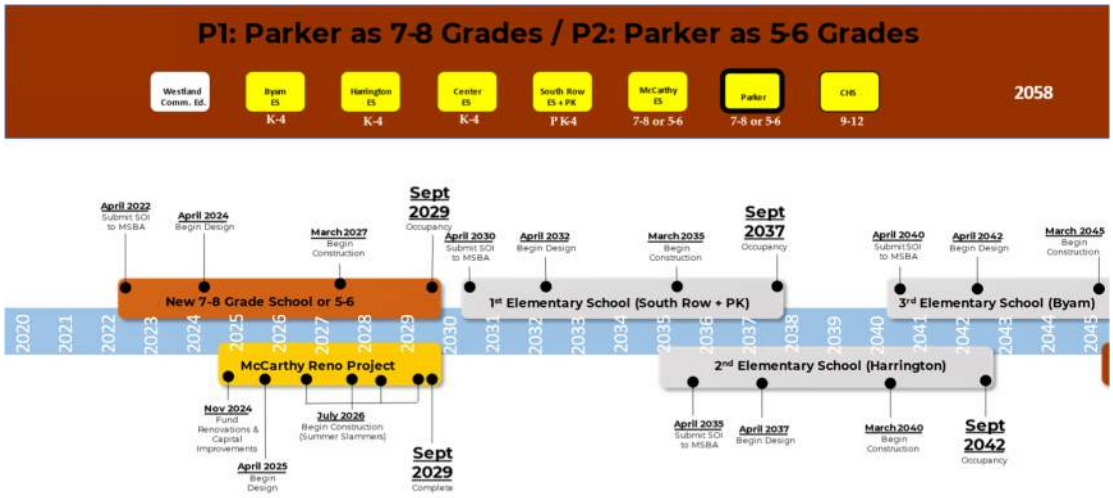
Depending on the results of the feasibility study, one or both middle schools may require renovations to occur while the school is occupied. The P1 and P2 timelines assume the Parker School would be a new school built on or near the current Parker School site. The McCarthy School would receive a series of smaller capital projects for improvements to existing spaces and facility needs as well as to provide equity between the two middle schools. Both school projects would be completed by September 2029.

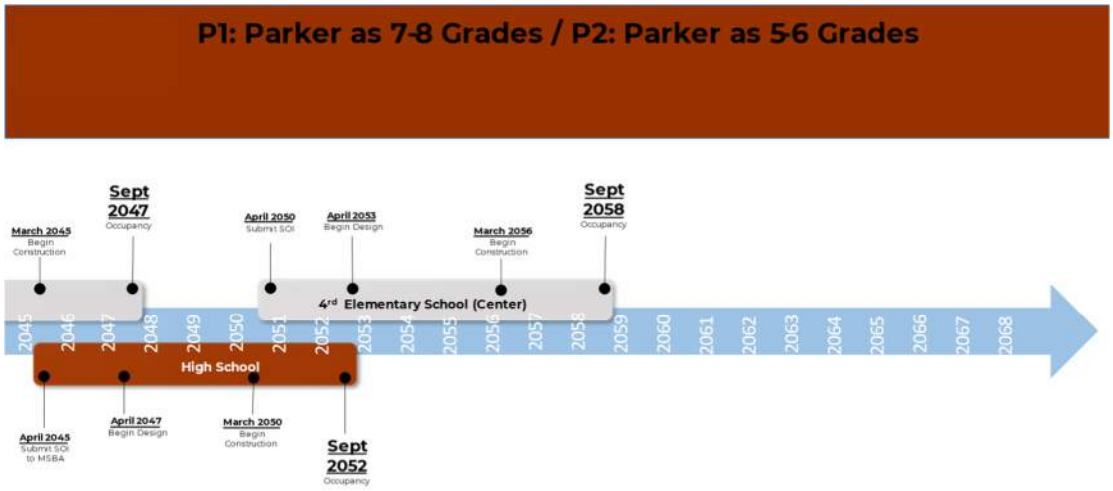
The P1 /P2 timeline is aggressive in the notion that each of the elementary school projects follow one another in submitting an SOI or establishing project funding at the start of construction of the previous project. By aligning projects in this manner the district will achieve a shortened time to completion of the master plan and reduce the escalation cost of the overall master plan.

The P1 / P2 options propose that the first elementary school project (South Row) is designed to accommodate the Pre-K age group as well as a larger population of students (approx. 812) to reduce overcrowding at the other elementary schools in the shortest amount of time. This timeline assumes three elementary schools projects would occur prior to the submission of an SOI for a new or renovated high school project. Center School is listed last in the timeline as it is still the newest school of the elementary school inventory. Center School would be reaching its 50th year since the proposed

renovations around the time of the completion of the high school project. The full master plan timeline would be completed in 2058.

The benefits of this option is that both overcrowding and equity issues are resolved at the middle school level by 2029. With a larger, new South Row School the district could reduce overcrowding at the elementary schools through redistricting and bring the Pre-K students into the elementary school environment by 2037. However, it is important to note that this timeline is one of the longest timelines to completion (36 years) and requires several back-to-back projects that will likely need to be funded by the district. Additionally, this option does not account for swing space during construction of either the middle schools or the elementary schools.





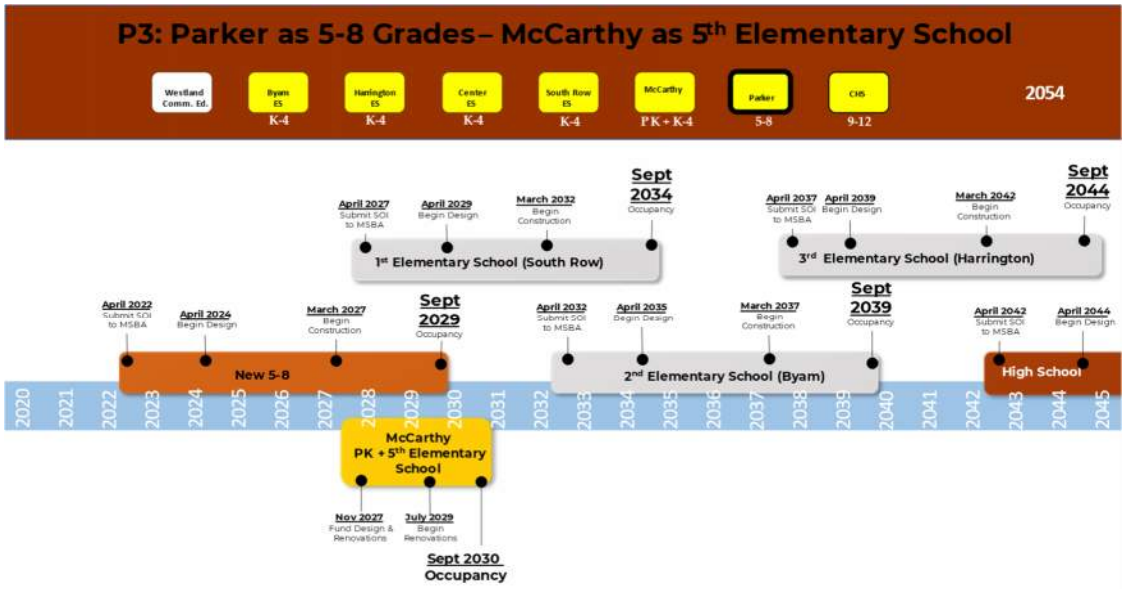
OPTION P3

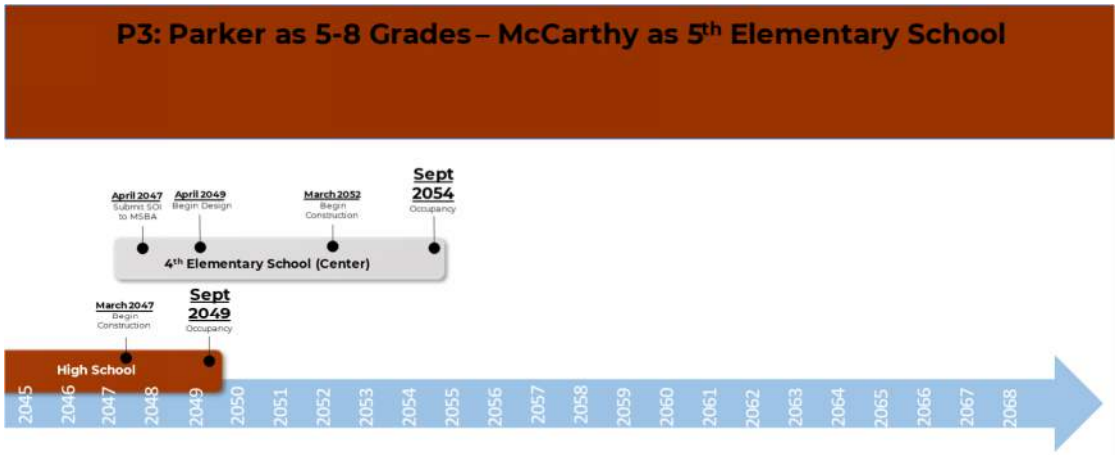
Option P3 seeks to resolve the middle school overcrowding, elementary school overcrowding, and isolated location of the PK students as quickly as possible. The timeline below indicates that this could be accomplished byas early as 2030, seven years earlier than the P1 or P2 options.

The first step in this option is to construct a new 5th -8th grade middle school. With the relocation of all middle school students to a new middle school the McCarthy School (with some renovations) can become the permanent location for the PK school. Through redistricting the facility can also absorb the overflow of students (about 311) to eliminate the overcrowding at each of the elementary schools.

The first elementary school project can begin construction as soon as funding can be established. The timeline below indicates the three schools follow in sequence and assume that the new or renovated schools would be on the existing sites. Renovated schools may increase the timeline if the schools remain occupied during the construction phases. However, the McCarthy School has a capacity of 985 students (not including the modular classrooms) and could accommodate the PK school, the overflow students, and an additional 440 students (another elementary school) which could then serve as swing space for a construction project.

The benefits of Option P3 is the shorter timeline to resolution of both the overcrowding of the middle and elementary schools, shorter timeline to completion of the overall master plan completion, and the flexibility of swing space for the elementary school projects.

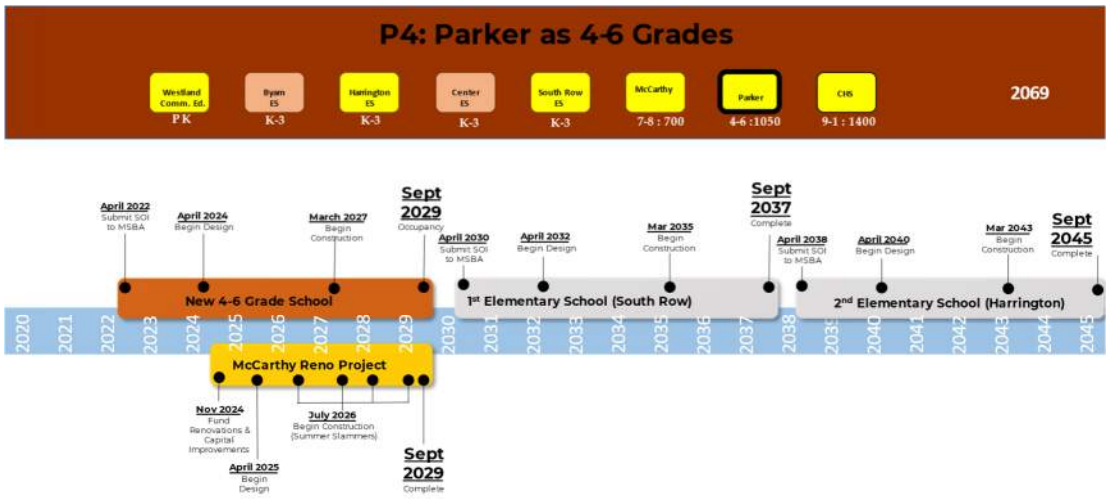


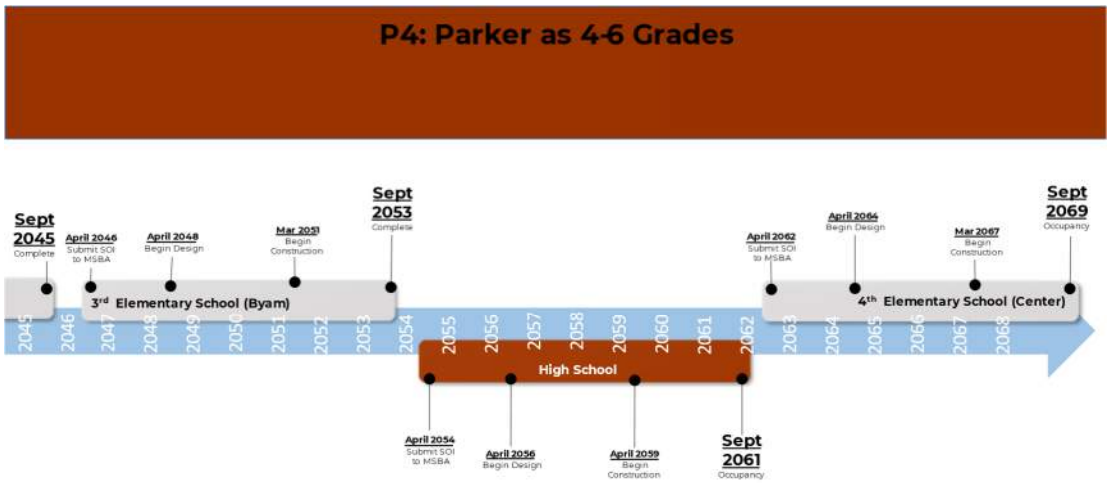


OPTION P4

Option P4 also strives to address both the middle school and elementary school overcrowding issues as quickly as possible, though P4 approaches this solution through a grade reconfiguration.
In Option P4 the new Parker School will house grades 4th – 6th, while grades 7th and 8th will remain at the McCarthy School. Once the new school is completed (2029) each of the elementary schools would convert to K-3rd grade schools. The Westland School would continue to serve the PK population until a new larger elementary school can be built that could accommodate the additional PK students. The first opportunity for this would be with the South Row School project, which could be completed in 2037.

The benefit of this option is that it resolves middle school and elementary school overcrowding quickly but, unfortunately, the Pk school remains unresolved until 2037. If the district continues to address one school at a time, the timeline is extends out to the year 2069. Overlapping district funded projects with projects that are partnered with the MSBA is one way to reduce the timeline to completion.

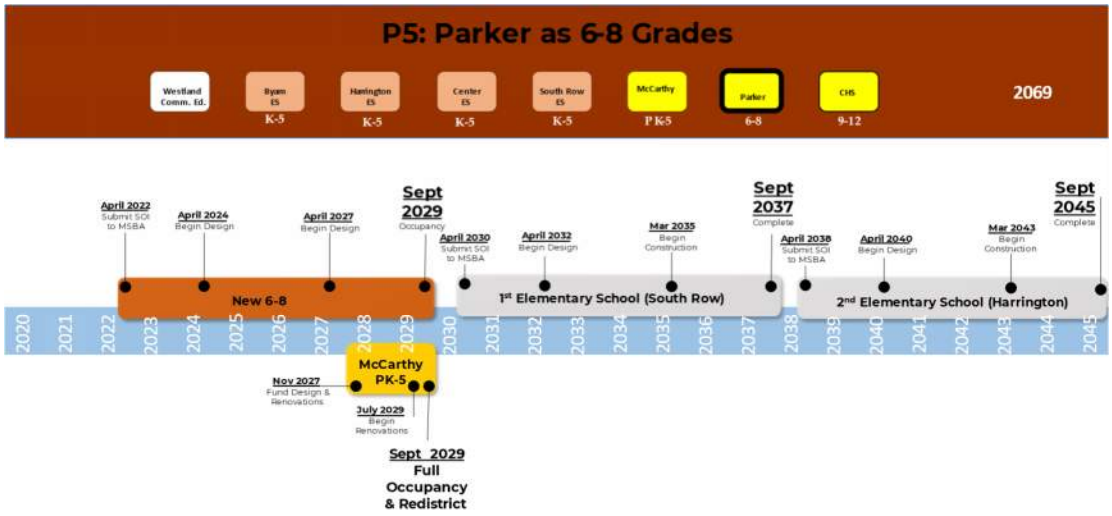


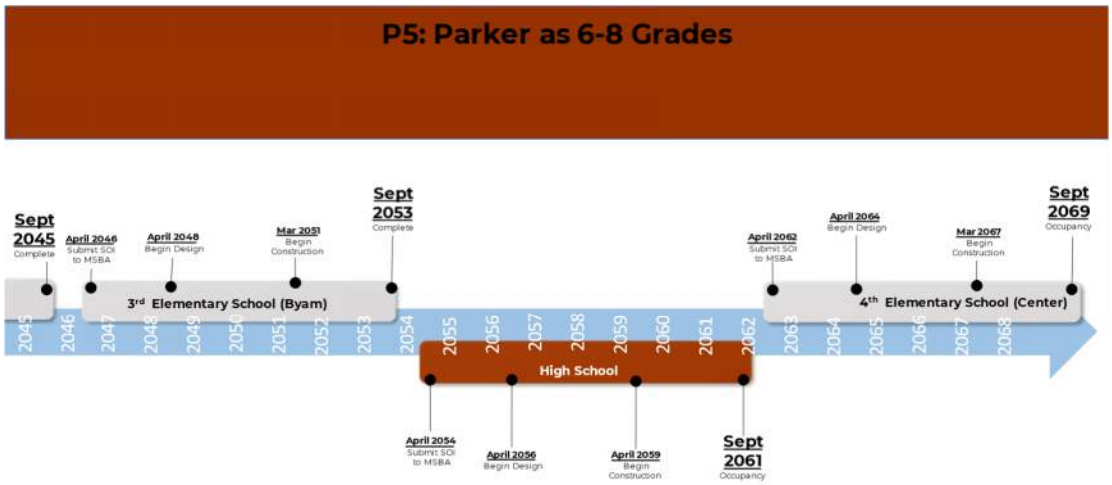


OPTION P5

Option 5 also proposes a grade reconfiguration but in this option grade 5 is moved into the elementary schools and a fifth elementary school, the McCarthy School, is added. The first project, the Parker School, would be designed to house grades 6th – 8th and open in 2029 when a redistricting of K-5th grade students would also occur. The McCarthy School would serve the PK population, approximately 130 students, as well as approximately 380 K-5 students; a total of 510 students.

The benefit of this option is that both the middle school and elementary school overcrowding and the relocation of the PK school is completed in 2029. However, the timeline to completion could be as long as 2069.


P5: Parker as 6-8 Grades
Westland Comm. Ed.
Byam ES K-5
Harrington ES K-5
Center ES K-5
South Row ES K-5
McCarthy P K5
Parker 6-8
CHS 9-12
2069
April 2022 Submit SOI to MSBA
April 2024 Begin Design
April 2027 Begin Design
Sept 2029 Occupancy
April 2030 Submit SOI to MSBA
April 2032 Begin Design
Mar 2035 Begin Construction
Sept 2037 Complete
April 2038 Submit SOI to MSBA
April 2040 Begin Design
Mar 2043 Begin Construction
Sept 2045 Complete
New 6-8
1st Elementary School (South Row)
2nd Elementary School (Harrington)
2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045
McCarthy PK-5
Nov 2027 Fund Design & Renovations
July 2029 Begin Renovations
Sept 2029 Full Occupancy & Redistrict


P5: Parker as 6-8 Grades
Sept 2045 Complete
April 2046 Submit SOI to MSBA
April 2048 Begin Design
Mar 2051 Begin Construction
Sept 2053 Complete
3rd Elementary School (Byam)
April 2062 Submit SOI to MSBA
April 2064 Begin Design
Mar 2067 Begin Construction
Sept 2069 Occupancy
4th Elementary School (Center)
2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068
High School
April 2054 Submit SOI to MSBA
April 2056 Begin Design
April 2059 Begin Construction
Sept 2061 Occupancy

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Appendix X

2020 NESDEC Enrollment Projections X.1

New England School Development Council

Chelmsford Public Schools
Chelmsford, MA

2020 - 2021 Enrollment Projection Report

Chelmsford, MA Historical Enrollment

School District: Chelmsford, MA **11/18/2020**

Historical Enrollment By Grade

Birth Year	Births	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2005	363	**2010-11**	100	335	388	392	412	403	411	398	449	446	398	389	405	381	0	5207	5307
2006	361	**2011-12**	106	316	369	387	396	404	373	407	407	450	439	380	370	406	1	5105	5211
2007	328	**2012-13**	122	294	367	364	394	402	397	381	418	405	419	419	373	383	0	5016	5138
2008	329	**2013-14**	125	322	342	378	376	395	401	401	387	422	360	421	417	377	0	4999	5124
2009	328	**2014-15**	133	301	367	347	386	379	375	404	396	391	379	362	423	413	0	4923	5056
2010	320	**2015-16**	132	300	352	373	350	391	371	386	412	411	337	381	371	420	0	4855	4987
2011	318	**2016-17**	136	333	345	358	382	361	387	384	389	414	372	347	391	372	1	4836	4972
2012	370	**2017-18**	132	368	369	349	379	387	359	400	380	392	372	367	351	389	0	4862	4994
2013	342	**2018-19**	151	376	382	376	349	379	369	359	397	381	356	368	369	351	0	4812	4963
2014	316	**2019-20**	166	365	393	405	385	367	387	381	360	400	329	348	371	365	18	4874	5040
2015	345	**2020-21**	76	350	349	381	391	373	363	383	393	359	360	335	342	373	0	4752	4828

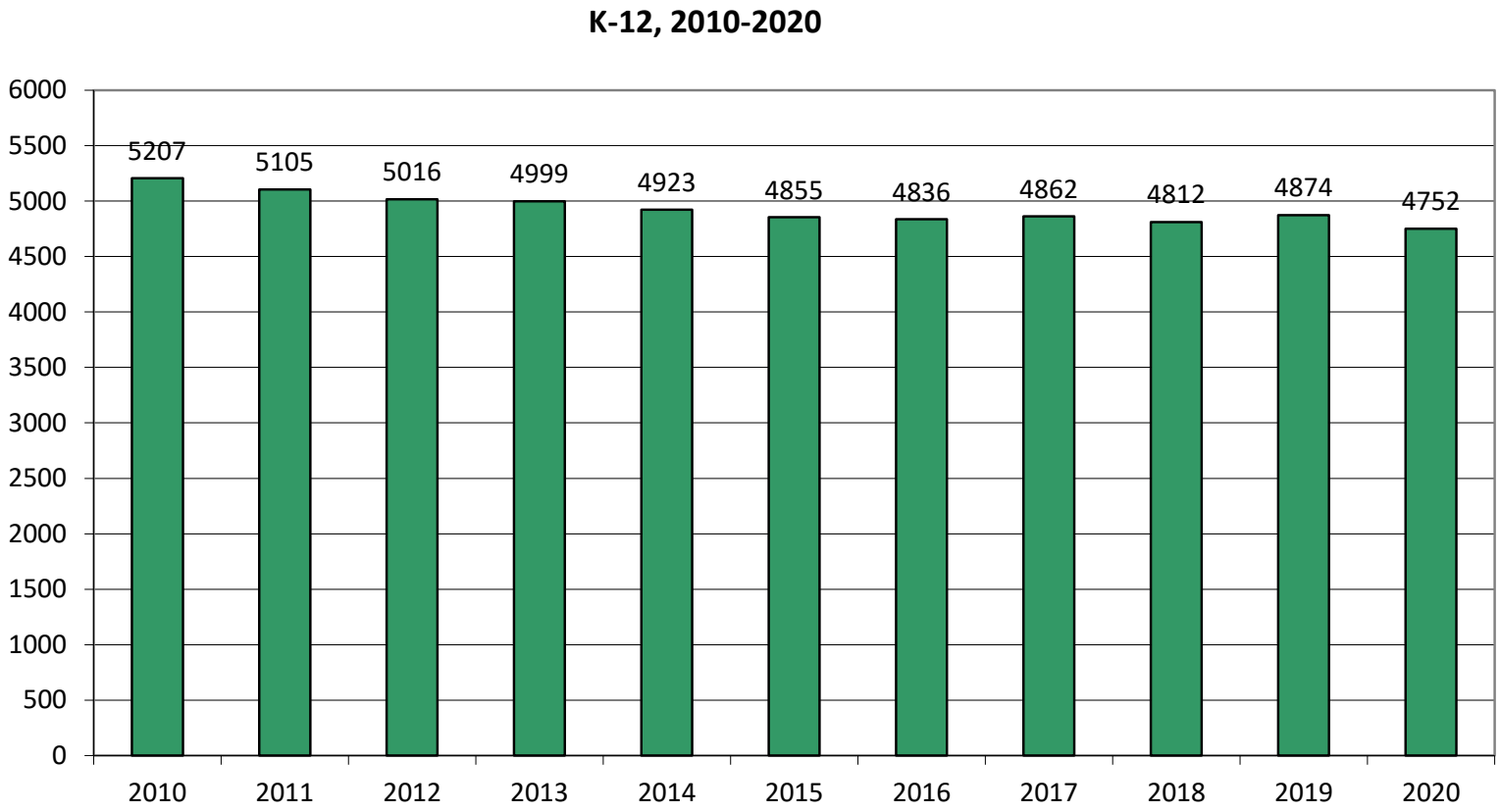
Historical Enrollment in Grade Combinations

Year	PK-4	K-4	K-6	K-8	5-8	6-8	7-8	7-12	9-12
2010-11	2030	1930	2739	3634	1704	1293	895	2468	1573
2011-12	1978	1872	2652	3509	1637	1264	857	2452	1595
2012-13	1943	1821	2599	3422	1601	1204	823	2417	1594
2013-14	1938	1813	2615	3424	1611	1210	809	2384	1575
2014-15	1913	1780	2559	3346	1566	1191	787	2364	1577
2015-16	1898	1766	2523	3346	1580	1209	823	2332	1509
2016-17	1915	1779	2550	3353	1574	1187	803	2285	1482
2017-18	1984	1852	2611	3383	1531	1172	772	2251	1479
2018-19	2013	1862	2590	3368	1506	1137	778	2222	1444
2019-20	2081	1915	2683	3443	1528	1141	760	2173	1413
2020-21	1920	1844	2590	3342	1498	1135	752	2162	1410

Historical Percentage Changes

Year	K-12	Diff.	%
2010-11	5207	0	0.0%
2011-12	5105	-102	-2.0%
2012-13	5016	-89	-1.7%
2013-14	4999	-17	-0.3%
2014-15	4923	-76	-1.5%
2015-16	4855	-68	-1.4%
2016-17	4836	-19	-0.4%
2017-18	4862	26	0.5%
2018-19	4812	-50	-1.0%
2019-20	4874	62	1.3%
2020-21	4752	-122	-2.5%
Change		**-455**	**-8.7%**

Chelmsford, MA Historical Enrollment



Projected Enrollment

School District: Chelmsford, MA **11/18/2020**

Enrollment Projections By Grade*

Birth Year	Births		School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2015	345		**2020-21**	76	**350**	**349**	**381**	**391**	**373**	**363**	**383**	**393**	**359**	**360**	**335**	**342**	**373**	**0**	**4752**	**4828**
2016	314		**2021-22**	150	**342**	**366**	**355**	**385**	**394**	**368**	**366**	**386**	**394**	**320**	**358**	**335**	**341**	**0**	**4710**	**4860**
2017	318		**2022-23**	151	**347**	**357**	**372**	**359**	**388**	**389**	**371**	**369**	**387**	**351**	**318**	**358**	**334**	**0**	**4700**	**4851**
2018	343	(prov.)	**2023-24**	152	**374**	**363**	**363**	**376**	**361**	**383**	**392**	**374**	**370**	**345**	**349**	**318**	**357**	**0**	**4725**	**4877**
2019	334	(prov.)	**2024-25**	153	**364**	**391**	**369**	**367**	**379**	**357**	**386**	**395**	**375**	**330**	**343**	**349**	**317**	**0**	**4722**	**4875**
2020	331	(est.)	**2025-26**	154	**360**	**380**	**397**	**373**	**369**	**374**	**360**	**389**	**396**	**334**	**328**	**343**	**348**	**0**	**4751**	**4905**
2021	328	(est.)	**2026-27**	155	**357**	**376**	**386**	**401**	**376**	**365**	**377**	**363**	**390**	**353**	**332**	**328**	**342**	**0**	**4746**	**4901**
2022	331	(est.)	**2027-28**	156	**360**	**373**	**382**	**390**	**404**	**371**	**368**	**380**	**364**	**347**	**351**	**332**	**327**	**0**	**4749**	**4905**
2023	333	(est.)	**2028-29**	157	**363**	**376**	**379**	**386**	**393**	**399**	**374**	**371**	**381**	**324**	**345**	**351**	**331**	**0**	**4773**	**4930**
2024	331	(est.)	**2029-30**	158	**361**	**379**	**382**	**383**	**389**	**388**	**402**	**377**	**372**	**339**	**322**	**345**	**350**	**0**	**4789**	**4947**
2025	331	(est.)	**2030-31**	159	**360**	**377**	**385**	**386**	**386**	**384**	**391**	**406**	**378**	**331**	**337**	**322**	**344**	**0**	**4787**	**4946**

Note: Ungraded students (UNGR) often are high school students whose anticipated years of graduation are unknown, or students with special needs - UNGR not included in Grade Combinations for 7-12, 9-12, etc.

Based on an estimate of births | Based on children already born | Based on students already enrolled

Projected Enrollment in Grade Combinations*

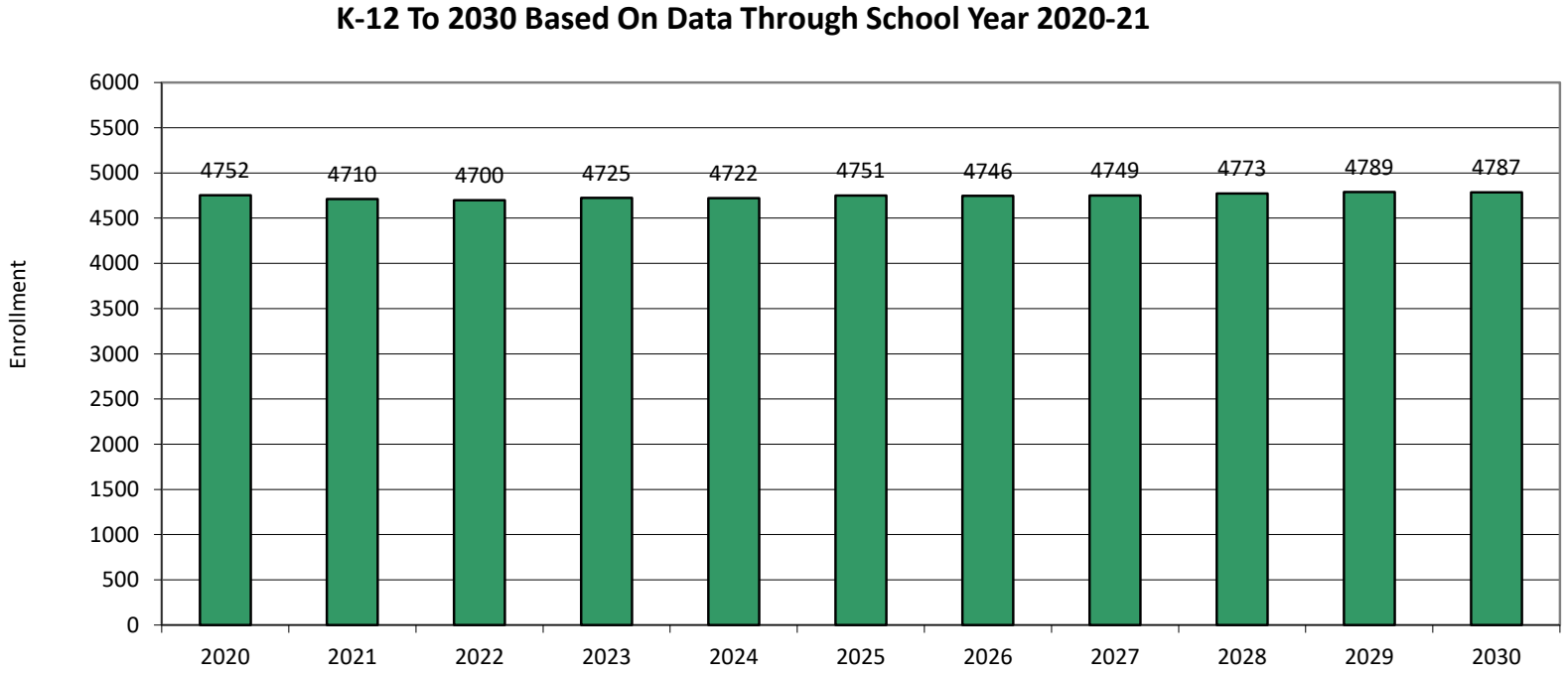
Year	PK-4	K-4	K-6	K-8	5-8	6-8	7-8	7-12	9-12
2020-21	1920	1844	2590	3342	1498	1135	752	2162	1410
2021-22	1992	1842	2576	3356	1514	1146	780	2134	1354
2022-23	1974	1823	2583	3339	1516	1127	756	2117	1361
2023-24	1989	1837	2612	3356	1519	1136	744	2113	1369
2024-25	2023	1870	2613	3383	1513	1156	770	2109	1339
2025-26	2033	1879	2613	3398	1519	1145	785	2138	1353
2026-27	2051	1896	2638	3391	1495	1130	753	2108	1355
2027-28	2065	1909	2648	3392	1483	1112	744	2101	1357
2028-29	2054	1897	2670	3422	1525	1126	752	2103	1351
2029-30	2052	1894	2684	3433	1539	1151	749	2105	1356
2030-31	2053	1894	2669	3453	1559	1175	784	2118	1334

Projected Percentage Changes

Year	K-12	Diff.	%
2020-21	4752	0	0.0%
2021-22	4710	-42	-0.9%
2022-23	4700	-10	-0.2%
2023-24	4725	25	0.5%
2024-25	4722	-3	-0.1%
2025-26	4751	29	0.6%
2026-27	4746	-5	-0.1%
2027-28	4749	3	0.1%
2028-29	4773	24	0.5%
2029-30	4789	16	0.3%
2030-31	4787	-2	0.0%
Change		**35**	**0.7%**

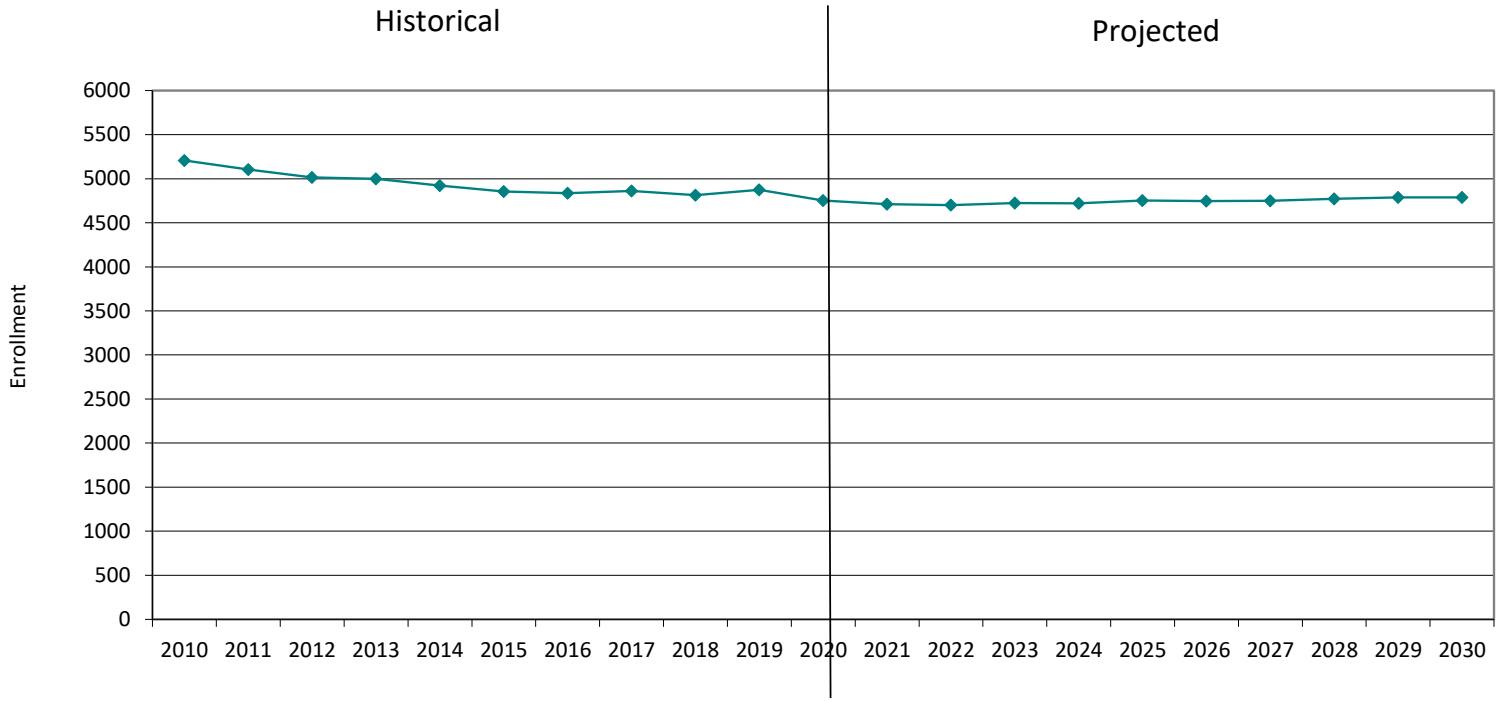
*Projections should be updated annually to reflect changes in in/out-migration of families, real estate sales, residential construction, births, and similar factors.

Chelmsford, MA Projected Enrollment

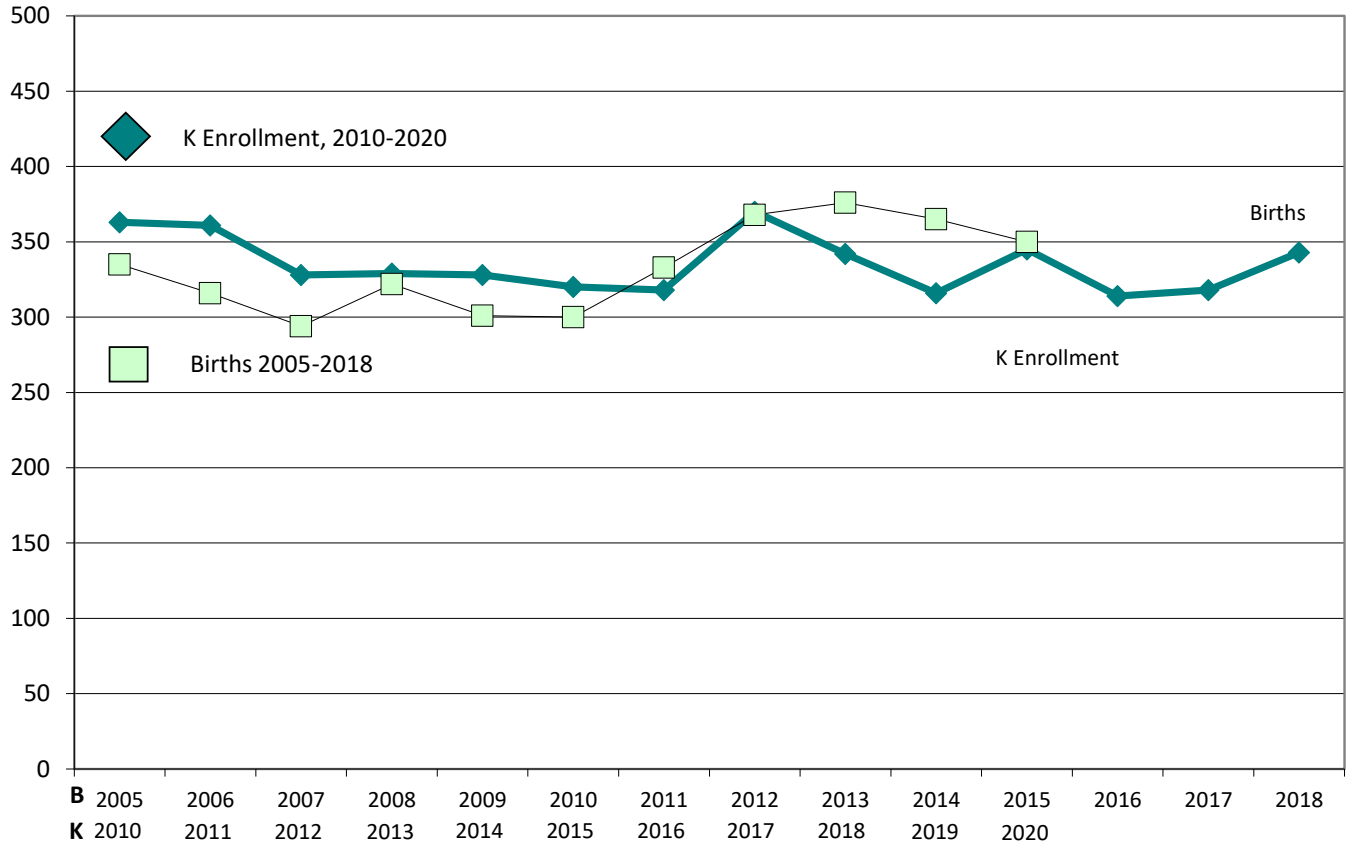


Chelmsford, MA Historical & Projected Enrollment

K-12, 2010-2030



Chelmsford, MA Birth-to-Kindergarten Relationship



Chelmsford, MA Additional Data

Building Permits Issued		
Year	Single-Family	Multi-Units
2005	64	0
2016	23	0
2017	18	114
2018	17	128
2019	14	181
2020	8 to date	43 to date

Source: HUD and Building Department

Enrollment History		
Year	Career-Tech 9-12 Total	Non-Public K-12 Total
2005-06	n/a	n/a
2016-17	186	180
2017-18	189	167
2018-19	177	207
2019-20	n/a	n/a
2020-21	197	138

Residents in Non-Public Independent and Parochial Schools (General Education)														
Enrollments as of Oct. 1	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12 TOTAL
	9	8	11	4	9	6	9	11	8	17	15	10	21	138

K-12 Home-Schooled Students	
2020	96

K-12 Residents in Charter or Magnet Schools, or "Choiced-out"	
2020	147

K-12 Special Education Outplaced Students	
2020	70

K-12 Tuitioned-In, Choiced-In, & Other Non-Residents	
2020	46

The above data were used to assist in the preparation of the enrollment projections. If additional demographic work is needed, please contact our office.

New England's PK-12 Enrollments
The "Big Picture"

From 2016 to 2028, the US Department of Education anticipates changes in PK-12 enrollment of +5.4% in the South; +2.1% in the West, -2.1% in the Midwest; and -3.7% in the Northeast.

State	Fall 2016 PK - 12	Fall 2028 Projected	PK-12 Decline	% Change, 2016-2028
CT	535,118	471,100	-64,018	-12.0%
ME	180,512	171,600	-8,912	-5.0%
MA	964,514	939,400	-25,114	-2.6%
NH	180,888	161,000	-19,888	-11.0%
RI	142,150	135,700	-6,450	-4.5%
VT	88,428	80,400	-8,028	-9.0%

Source: USDE, National Center for Education Statistics, *Projections of Education Statistics to 2028* , Table 3, Pages 35-36; Published May 28, 2020.

Although most New England Districts are seeing a decline in the number of births, NESDEC's experience indicates that the impact on enrollment varies from District to District. Almost half of New England Districts have been growing in PK-12 enrollment, and a similar number are declining (often in rural areas) with the other Districts remaining stable.

2021 NESDEC Enrollment Projections X.2

Chelmsford Public Schools
Chelmsford, MA

2021-22 Enrollment Projection Report

Enrollment Summary

The global pandemic continues to influence our nation's public health and economic stability in unpredictable ways. As such, it is still too early to identify many of the factors that could impact school enrollments. Over the past school year, we have seen fluctuations in the real estate market and job trends, which have impacted student attendance patterns. Moreover, during the past school year, we have seen how school enrollment patterns can differ substantially from one district to another, with some districts losing students while others experience an influx of students.

We are pleased to send you the past, present, and projected enrollments for your District. New this year, we have added graphs that highlight Historical and Projected Enrollments in Grade Combinations. We have received the figures given to us by the District and we assume that the method of collecting the enrollment data has been consistent from year to year.

Of note, projections are generally more reliable when they are closest in time to the current year. Projections four to ten years out may serve as a guide to future enrollments.

In light of this, NESDEC has added a "Second Semester refresher" enrollment projection at no cost to affiliates.

The NESDEC enrollment projection fell within 107 students of the K-12 total: 4,710 students projected vs. 4,817 enrolled. One variance of +48 students occurred at Grade 1, where 336 students were projected vs. 414 enrolled. This variance could be attributed to family indecision regarding the pandemic. Ratios have been adjusted.

Births decreased by -4, from a previous ten-year average of 335 to a projected average of 331, which could have an impact on enrollment of future Kindergarteners. Enrollment in Grades 1-8 is usually pretty consistent and a good predictor of enrollment stability. For the past eight years, Grades 1-8 were adding an average of +27 net "move-ins" of students in the following year.

Over the next three years, K-4 enrollments are projected to increase by +56 students, Grades 5-8 enrollments are projected to increase by +59 students, and Grades 9-12 enrollments are projected to increase by +40 students, as students move through the grades.

Historical Enrollment

School District: **Chelmsford, MA** **11/18/2021**

Historical Enrollment By Grade																			
Birth Year	Births*	School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2006	361	**2011-12**	106	316	369	387	396	404	373	407	407	450	439	380	370	406	1	5105	5211
2007	328	**2012-13**	122	294	367	364	394	402	397	381	418	405	419	419	373	383	0	5016	5138
2008	329	**2013-14**	125	322	342	378	376	395	401	401	387	422	360	421	417	377	0	4999	5124
2009	328	**2014-15**	133	301	367	347	386	379	375	404	396	391	379	362	423	413	0	4923	5056
2010	320	**2015-16**	132	300	352	373	350	391	371	386	412	411	337	381	371	420	0	4855	4987
2011	318	**2016-17**	136	333	345	358	382	361	387	384	389	414	372	347	391	372	1	4836	4972
2012	370	**2017-18**	132	368	369	349	379	387	359	400	380	392	372	367	351	389	0	4862	4994
2013	342	**2018-19**	151	376	382	376	349	379	369	359	397	381	356	368	369	351	0	4812	4963
2014	316	**2019-20**	166	365	393	405	385	367	387	381	360	400	329	348	371	365	18	4874	5040
2015	345	**2020-21**	76	350	349	381	391	373	363	383	393	359	360	335	342	373	0	4752	4828
2016	314	**2021-22**	127	355	414	360	388	401	380	373	399	404	328	349	324	342	0	4817	4944

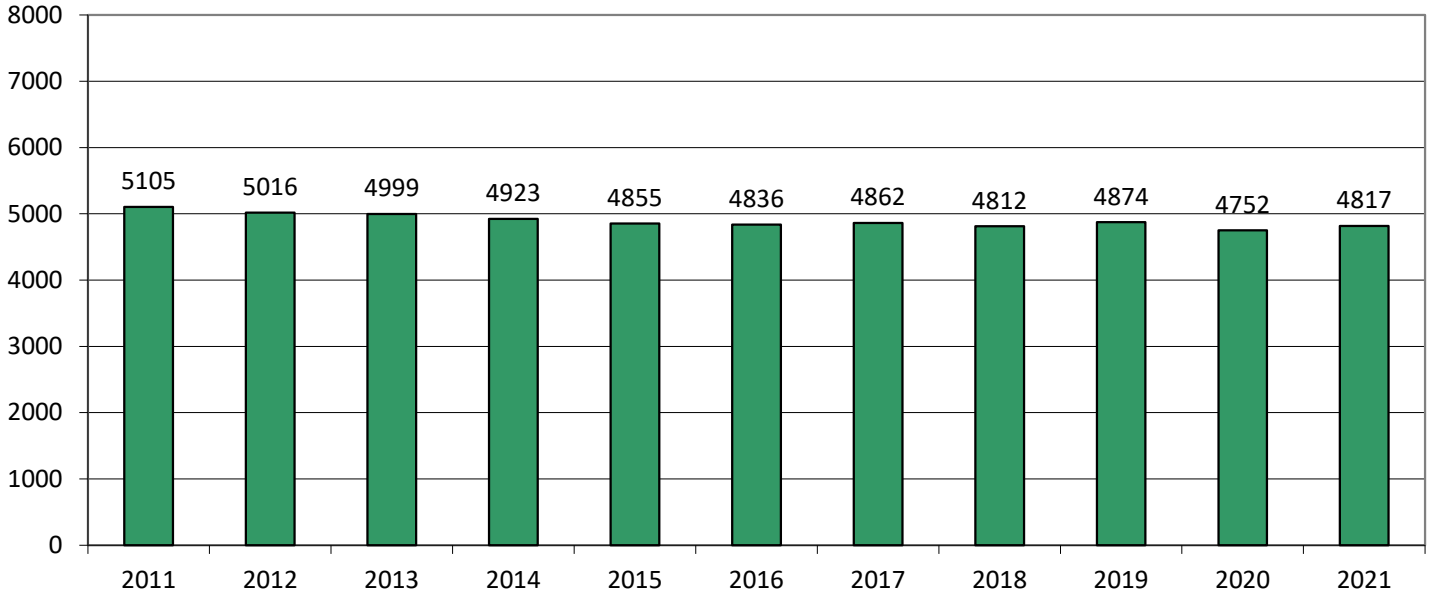
*Birth data provided by Public Health Vital Records Departments in each state.

Historical Enrollment in Grade Combinations									
Year	K-4	PK-4	K-5	PK-5	K-8	PK-8	5-8	5-12	9-12
2011-12	1872	1978	2245	2351	3509	3615	1637	3232	1595
2012-13	1821	1943	2218	2340	3422	3544	1601	3195	1594
2013-14	1813	1938	2214	2339	3424	3549	1611	3186	1575
2014-15	1780	1913	2155	2288	3346	3479	1566	3143	1577
2015-16	1766	1898	2137	2269	3346	3478	1580	3089	1509
2016-17	1779	1915	2166	2302	3353	3489	1574	3056	1482
2017-18	1852	1984	2211	2343	3383	3515	1531	3010	1479
2018-19	1862	2013	2231	2382	3368	3519	1506	2950	1444
2019-20	1915	2081	2302	2468	3443	3609	1528	2941	1413
2020-21	1844	1920	2207	2283	3342	3418	1498	2908	1410
2021-22	1918	2045	2298	2425	3474	3601	1556	2899	1343

Historical Percentage Changes			
Year	K-12	Diff.	%
2011-12	5105	0	0.0%
2012-13	5016	-89	-1.7%
2013-14	4999	-17	-0.3%
2014-15	4923	-76	-1.5%
2015-16	4855	-68	-1.4%
2016-17	4836	-19	-0.4%
2017-18	4862	26	0.5%
2018-19	4812	-50	-1.0%
2019-20	4874	62	1.3%
2020-21	4752	-122	-2.5%
2021-22	4817	65	1.4%
Change		**-288**	**-5.6%**

Historical Enrollment

K-12, 2011-2021



Projected Enrollment

School District: **Chelmsford, MA** **11/18/2021**

Enrollment Projections By Grade*

Birth Year	Births*		School Year	PK	K	1	2	3	4	5	6	7	8	9	10	11	12	UNGR	K-12	PK-12
2016	314		**2021-22**	127	**355**	**414**	**360**	**388**	**401**	**380**	**373**	**399**	**404**	**328**	**349**	**324**	**342**	**0**	**4817**	**4944**
2017	318		**2022-23**	128	**350**	**377**	**424**	**364**	**396**	**405**	**390**	**382**	**403**	**361**	**324**	**350**	**324**	**0**	**4850**	**4978**
2018	343	(prov.)	**2023-24**	129	**377**	**371**	**386**	**428**	**371**	**400**	**415**	**400**	**386**	**360**	**357**	**325**	**350**	**0**	**4926**	**5055**
2019	334	(prov.)	**2024-25**	130	**367**	**400**	**380**	**390**	**437**	**375**	**410**	**426**	**404**	**344**	**356**	**358**	**325**	**0**	**4972**	**5102**
2020	344	(prov.)	**2025-26**	131	**378**	**390**	**410**	**384**	**398**	**441**	**384**	**420**	**431**	**361**	**340**	**357**	**358**	**0**	**5052**	**5183**
2021	331	(est.)	**2026-27**	132	**364**	**401**	**400**	**414**	**392**	**402**	**452**	**394**	**425**	**385**	**357**	**341**	**357**	**0**	**5084**	**5216**
2022	334	(est.)	**2027-28**	133	**367**	**386**	**411**	**404**	**422**	**396**	**412**	**463**	**398**	**379**	**381**	**358**	**341**	**0**	**5118**	**5251**
2023	337	(est.)	**2028-29**	134	**371**	**390**	**396**	**415**	**412**	**426**	**406**	**422**	**468**	**355**	**375**	**382**	**358**	**0**	**5176**	**5310**
2024	336	(est.)	**2029-30**	135	**370**	**394**	**400**	**400**	**423**	**416**	**437**	**416**	**427**	**418**	**351**	**376**	**382**	**0**	**5210**	**5345**
2025	336	(est.)	**2030-31**	136	**370**	**393**	**404**	**404**	**408**	**427**	**426**	**448**	**421**	**381**	**413**	**352**	**376**	**0**	**5223**	**5359**
2026	335	(est.)	**2031-32**	137	**368**	**393**	**403**	**408**	**412**	**412**	**438**	**437**	**453**	**376**	**377**	**414**	**352**	**0**	**5243**	**5380**

Note: Ungraded students (UNGR) often are high school students whose anticipated years of graduation are unknown, or students with special needs - UNGR not included in Grade Combinations for 7-12, 9-12, etc.

Based on an estimate of births Based on children already born Based on students already enrolled

*Birth data provided by Public Health Vital Records Departments in each state.

Projected Enrollment in Grade Combinations*

Year	K-4	PK-4	K-5	PK-5	K-8	PK-8	5-8	5-12	9-12
2021-22	1918	2045	2298	2425	3474	3601	1556	2899	1343
2022-23	1911	2039	2316	2444	3491	3619	1580	2939	1359
2023-24	1933	2062	2333	2462	3534	3663	1601	2993	1392
2024-25	1974	2104	2349	2479	3589	3719	1615	2998	1383
2025-26	1960	2091	2401	2532	3636	3767	1676	3092	1416
2026-27	1971	2103	2373	2505	3644	3776	1673	3113	1440
2027-28	1990	2123	2386	2519	3659	3792	1669	3128	1459
2028-29	1984	2118	2410	2544	3706	3840	1722	3192	1470
2029-30	1987	2122	2403	2538	3683	3818	1696	3223	1527
2030-31	1979	2115	2406	2542	3701	3837	1722	3244	1522
2031-32	1984	2121	2396	2533	3724	3861	1740	3259	1519

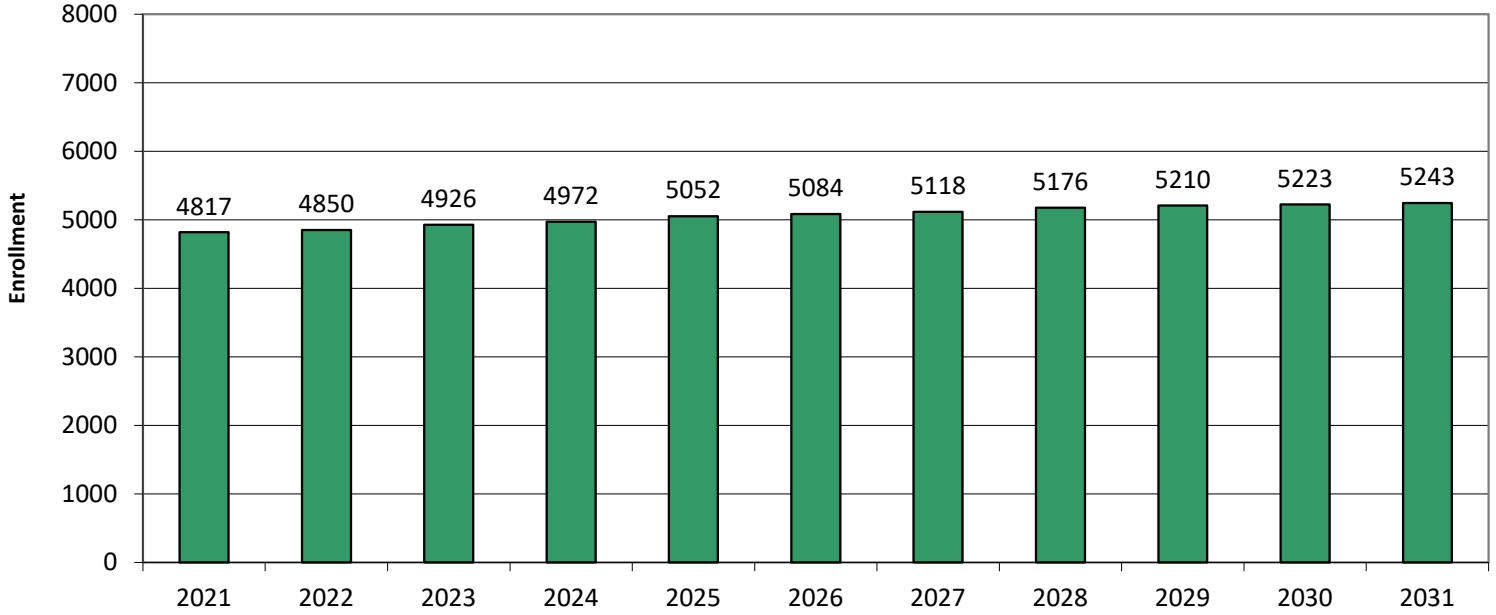
Projected Percentage Changes

Year	K-12	Diff.	%
2021-22	4817	0	0.0%
2022-23	4850	33	0.7%
2023-24	4926	76	1.6%
2024-25	4972	46	0.9%
2025-26	5052	80	1.6%
2026-27	5084	32	0.6%
2027-28	5118	34	0.7%
2028-29	5176	58	1.1%
2029-30	5210	34	0.7%
2030-31	5223	13	0.2%
2031-32	5243	20	0.4%
Change		**426**	**8.8%**

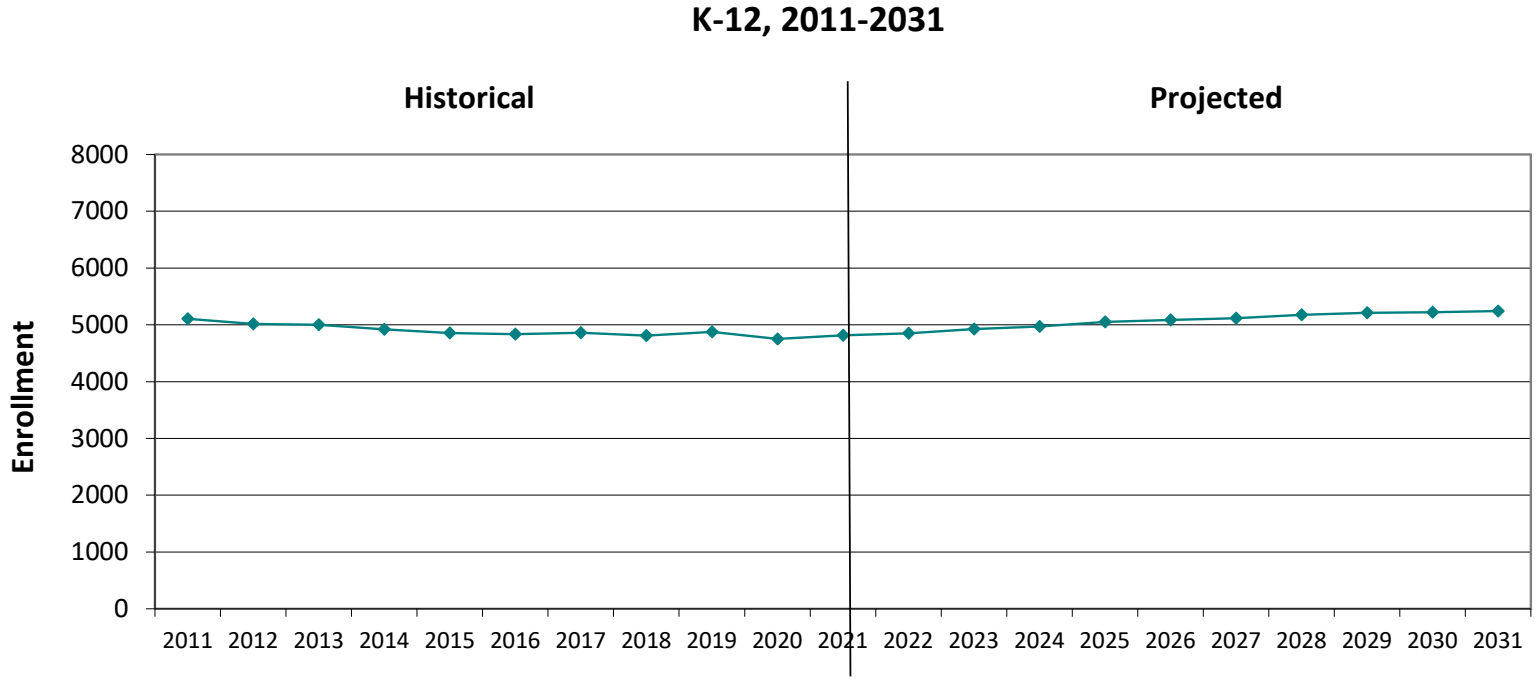
*Projections should be updated annually to reflect changes in in/out-migration of families, real estate sales, residential construction, births, and similar factors.

Projected Enrollment

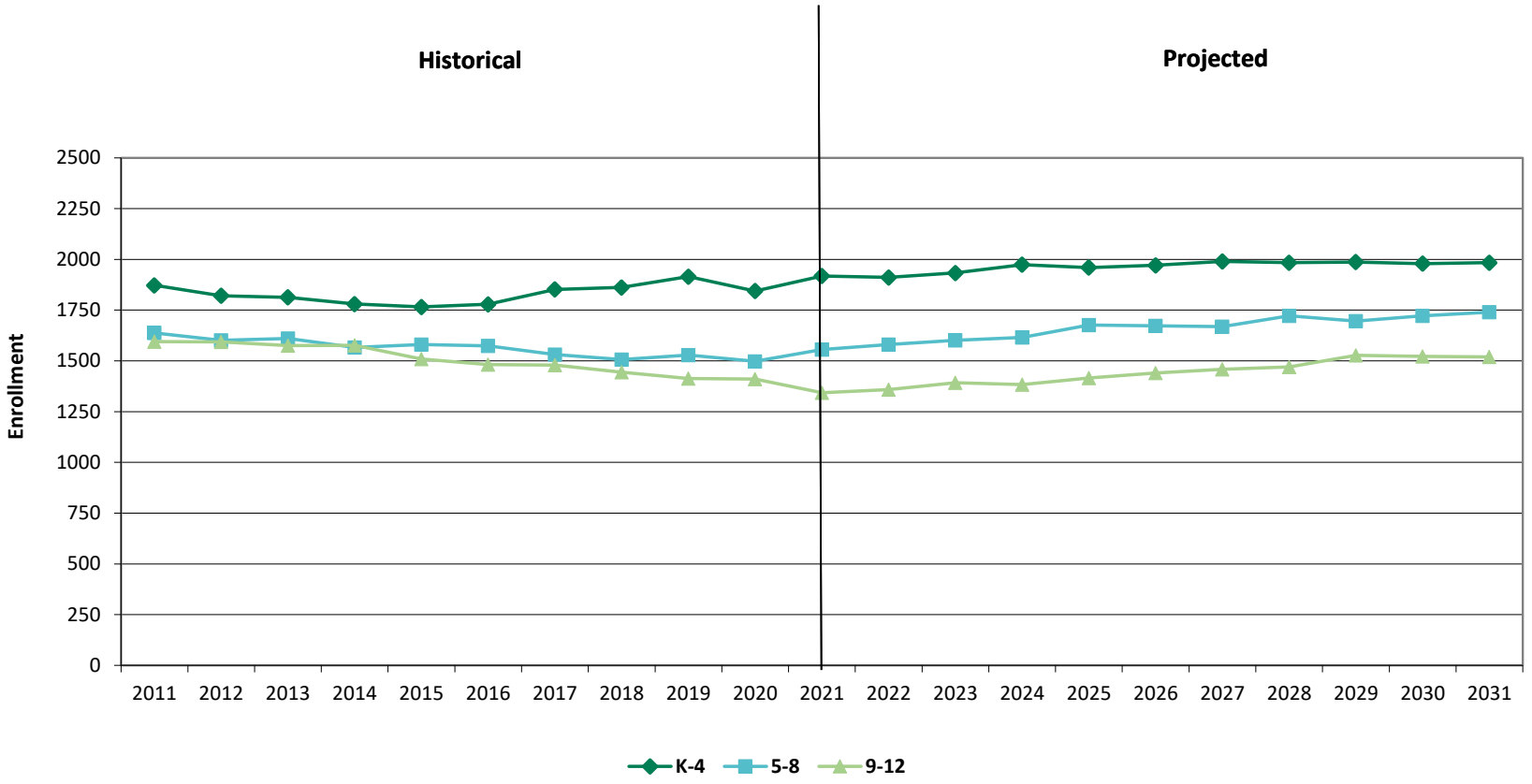
K-12 To 2031 Based On Data Through School Year 2021-22



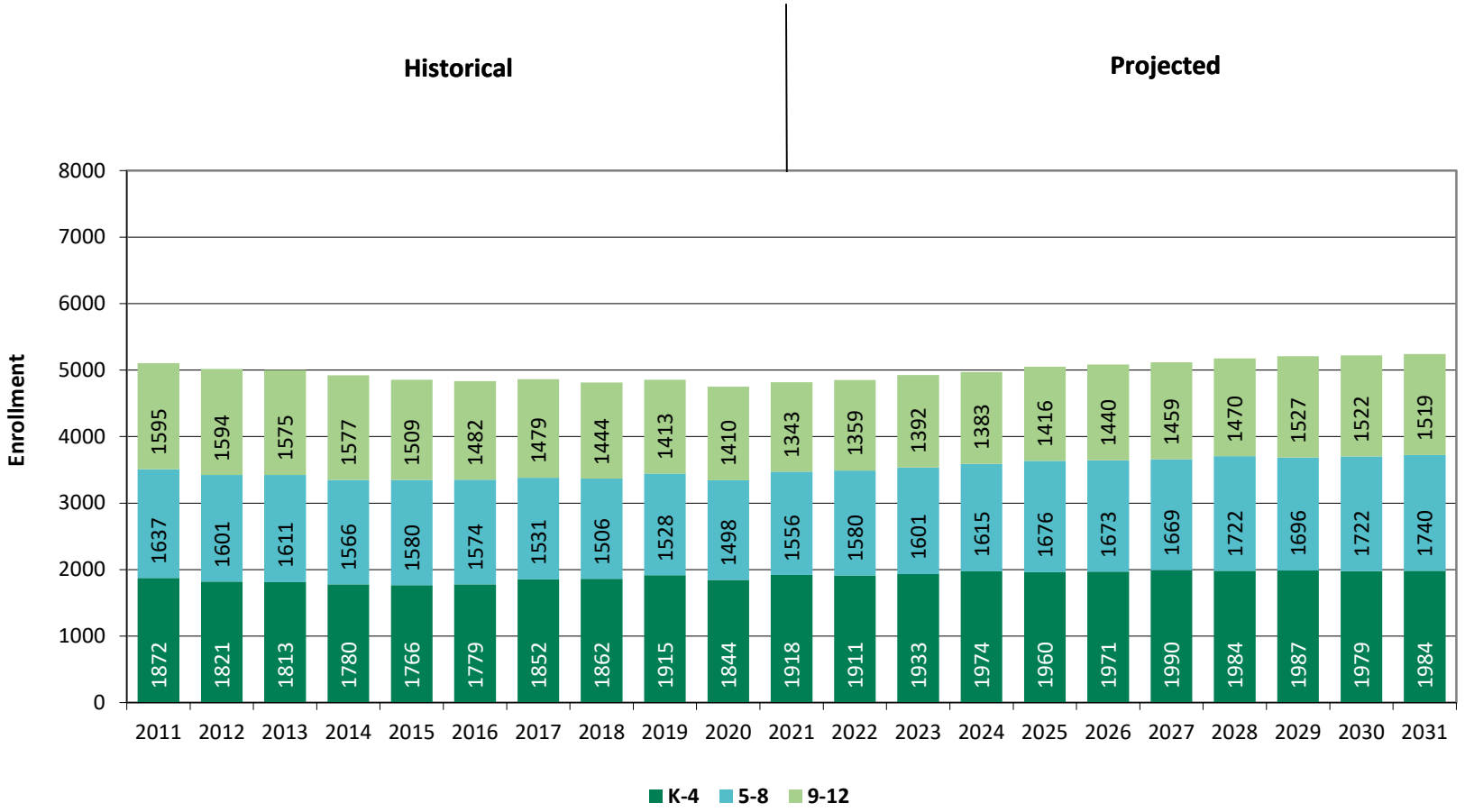
Historical & Projected Enrollment



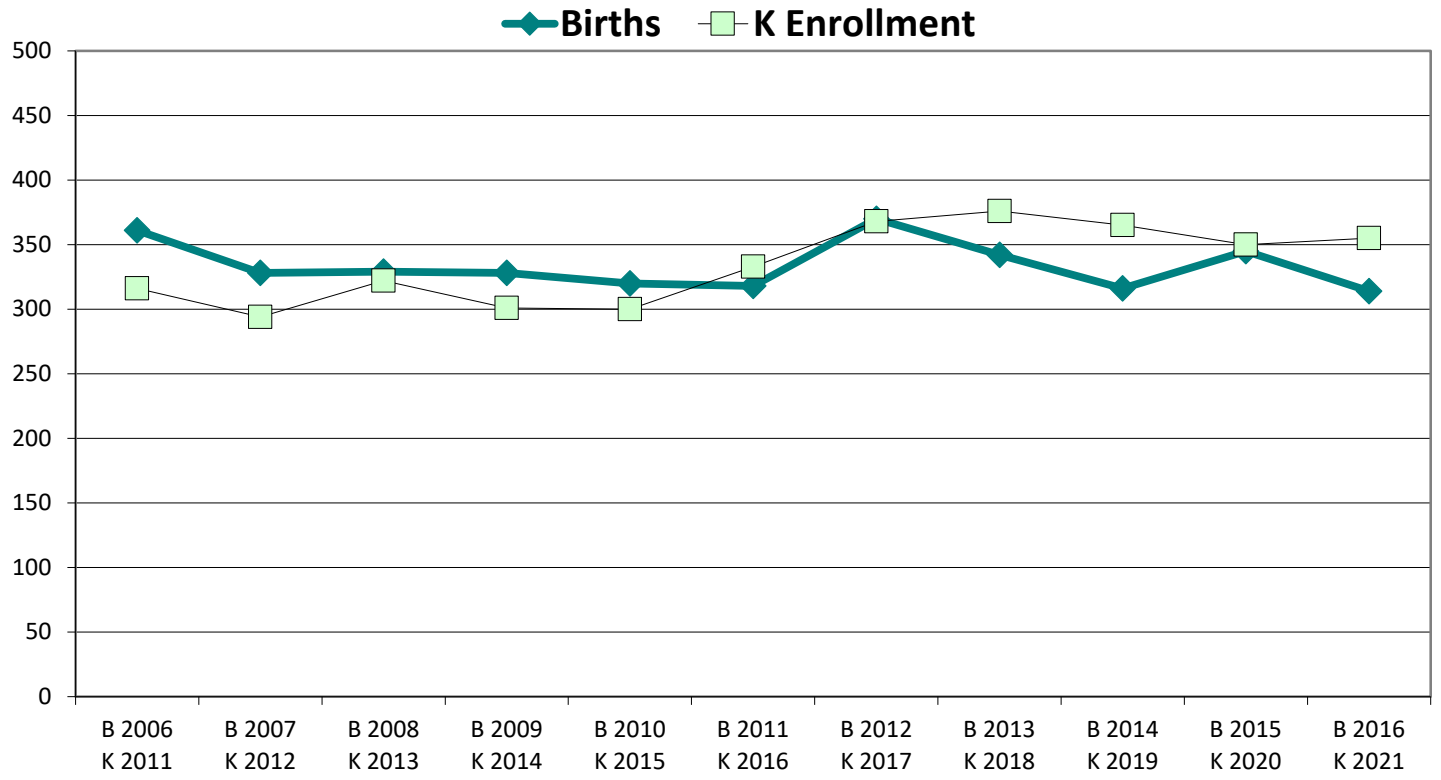
Historical & Projected Enrollments in Grade Combinations



Historical & Projected Enrollments in Grade Combinations



Birth-to-Kindergarten Relationship



Additional Data

Building Permits Issued (Source: HUD)		
Year	Single-Family	Multi-Units
2011	22	3
2017	18	114
2018	17	128
2019	14	181
2020	8	32
2021	7 to date	43 to date

Enrollment History*		
Year	Career-Tech 9-12 Total	Non-Public K-12 Total
2011-12	0	0
2017-18	189	167
2018-19	177	207
2019-20	n/a	n/a
2020-21	197	138
2021-22	212	204

Residents in Non-Public Independent and Parochial Schools (General Education)*														
Enrollments as of Oct. 1	K	1	2	3	4	5	6	7	8	9	10	11	12	K-12 TOTAL
	55	11	10	14	16	12	11	10	12	13	11	20	9	204

K-12 Home-Schooled Students*	
2021	57

K-12 Residents in Charter or Magnet Schools, or Choiced-out*	
2021	150

K-12 Special Education Outplaced Students*	
2021	64

K-12 Tuitioned-In, Choiced-In, & Other Non-Residents*	
2021	42

*The above data were provided by the district, with the exception of building permit data (provided by HUD).
"n/a" signifies that information was not provided by District.

New England's PK-12 Enrollments
The "Big Picture"

From 2018 to 2029, the U.S. Department of Education anticipates changes in PK-12 enrollment of +3.3% in the South; +0.9% in the West, -1.8% in the Midwest; and -2.6% in the Northeast.

State	Fall 2018 PK - 12	Fall 2029 Projected	PK-12 Decline	% Change, 2018-2029
CT	526,634	478,000	-48,634	-9.2%
ME	180,461	174,500	-5,961	-3.3%
MA	962,297	945,400	-16,897	-1.8%
NH	178,515	166,100	-12,415	-6.9%
RI	143,436	139,900	-3,536	-2.5%
VT	87,074	82,000	-5,074	-5.8%

SOURCE: U.S. Department of Education, National Center for Education Statistics, Table 203.20, August 2020
Note: Data collected prior to 2020 Coronavirus pandemic.

Although most New England districts are seeing a decline in the number of births, NESDEC's experience indicates that the impact on enrollment varies from one district to the next. Almost half of New England Districts have been growing in PK-12 enrollment, and a similar number are declining (often in rural areas), with the other districts remaining stable.

Reliablity and Use of this Document

PROJECTION METHODOLOGY

Cohort component (survival) technique is a frequently used method of preparing enrollment forecasts. NESDEC uses this method, but modifies it in order to move away from forecasts that are wholly computer- or formula-driven. Such modification permits the incorporation of important, current district-specific information into the generation of enrollment forecasts (such as in/out-migration of students, resident births, HUD-reported building permits, etc.). Percentages are calculated from the historical enrollment data to determine a reliable percentage of increase or decrease in enrollment between any two grades. For example, if 100 students enrolled in Grade 1 in 2018-19 increased to 104 students in Grade 2 in 2019-20, the percentage of survival would be 104%, or a ratio of 1.04. Ratios are calculated between each pair of grades or years in school over several recent years.

After study and analysis of the historical ratios, and based upon a reasonable set of assumptions regarding births, migration rates, retention rates, etc., ratios most indicative of future growth patterns are determined for each pair of grades. The ratios thus selected are applied to the present enrollment stastics to project into future years. The ratios are the key factors in the reliability of the projections, assuming validity of the data at the starting point.

RELIABILITY OF ENROLLMENT PROJECTIONS

Projections can serve as useful guides to school administrators for educational planning. Projections are generally most reliable when they are closest in time to the current year, and the more stable the variables noted above, the easier and more reliable the projections. Projections six to ten years out may serve as a guide to future enrollments and are useful for facility planning purposes, but they should be viewed as subject to change, given the likelihood of changes in the underlying assumptions/trends.

Projections that are based upon **the children who already are in the district** (the current K-12 population only) will be the most reliable; the second level of reliability will be for those children already **born into the community but not yet old enough to be in school.** The least reliable category is the group for which an estimate must be made **to predict the number of births**, thereby adding additional uncertainty. See these three multi-colored groupings on the "Projected Enrollment" slide/page.

Annual updates allow for early identification of recent changes in historical trends. When the actual enrollment in a grade is significantly different (higher or lower) from the projected number, it is important (yet difficult) to determine whether this is a one-year aberration or whether a new trend may have begun. **In light of this possibility, NESDEC urges all school districts to have updated enrollment forecasts developed by NESDEC each October.** This service is available at no cost to affiliated school districts.

USING THIS INFORMATION ELECTRONICALLY

If you would like to extract the information contained in this report for your own documents or presentations, you can use screenshots, which can be inserted into PowerPoint slides, Word documents, etc. Because screenshots create graphics, the image is not editable. Please feel free to contact us if you need assistance in this matter, by phone (508-481-9444) or by email (ep@nesdec.org).

Presentations to School Committee X.3

CHELMSFORD MASTER PLAN

SEPTEMBER 21, 2021

DORE + WHITTIER

CHELMSFORD PUBLIC SCHOOLS

Comprehensive Facilities Assessment

Dec. 20, 2016

D&W
DORE & WHITTIER ARCHITECTS, INC.

LEGEND

- Excellent
- Good Condition
- Fair / Maintenance
- Repair / Replace
- Poor

		BYAM	CENTER	HARRINGTON	SOUTH ROW	McCARTHY	PARKER	C.H.S.	WESTLAND	101 MILL RD
1	**Site & Civil**									
2	**Site Accessibility / Play Areas**									
3	**Exterior Building Elements**									
4	**Interior Architectural Elements**									
5	**Accessibility**									
6	**Structural Elements**									
7	**Mechanical Systems**									
8	**Electrical Systems**									
9	**Plumbing Systems**									
10	**Fire Protection Systems**									
11	**Hazardous Mat. Abatement**									
12	**Functional Use of Space**									

facility assessment

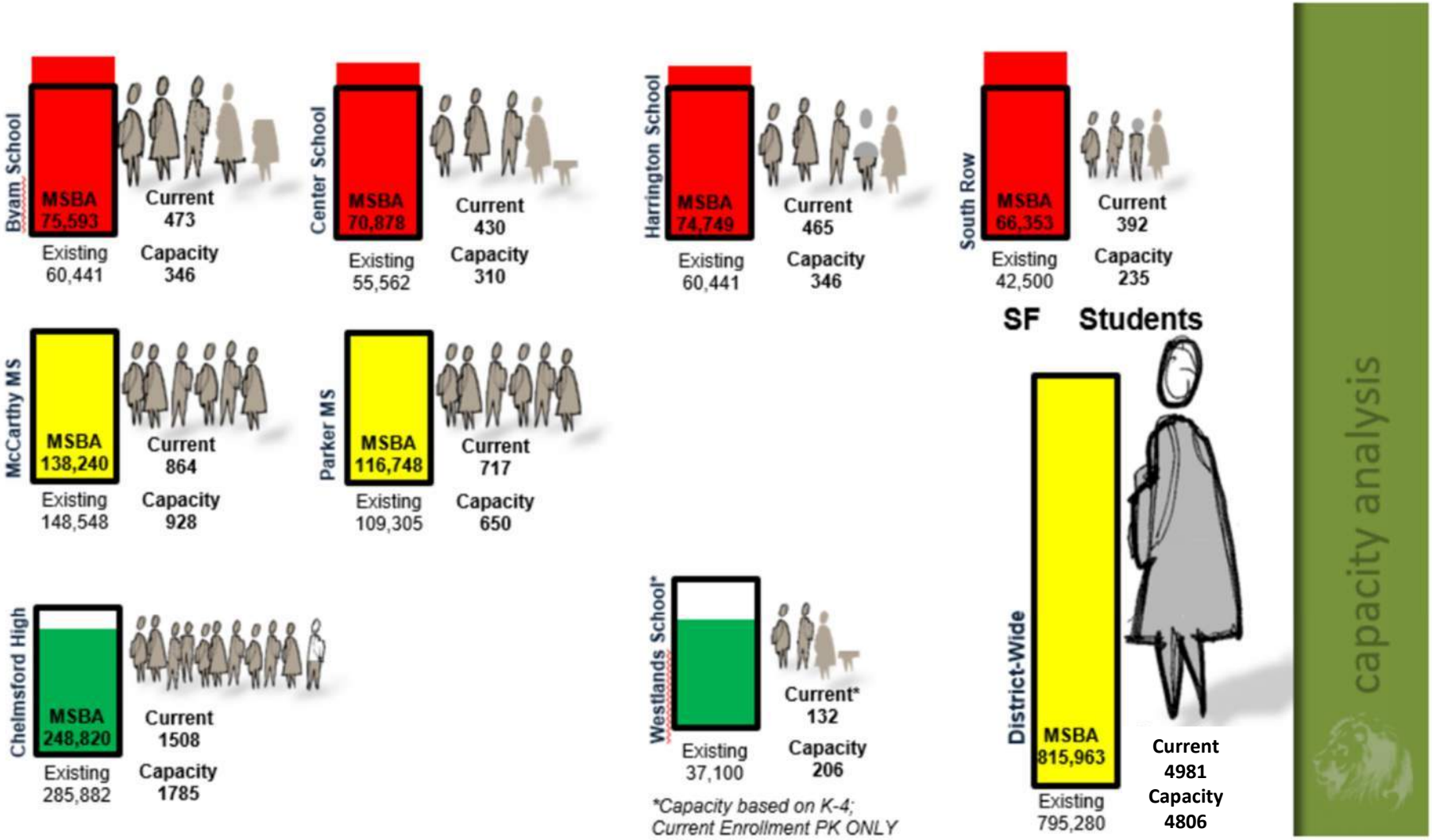
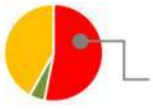
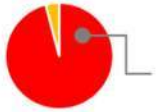
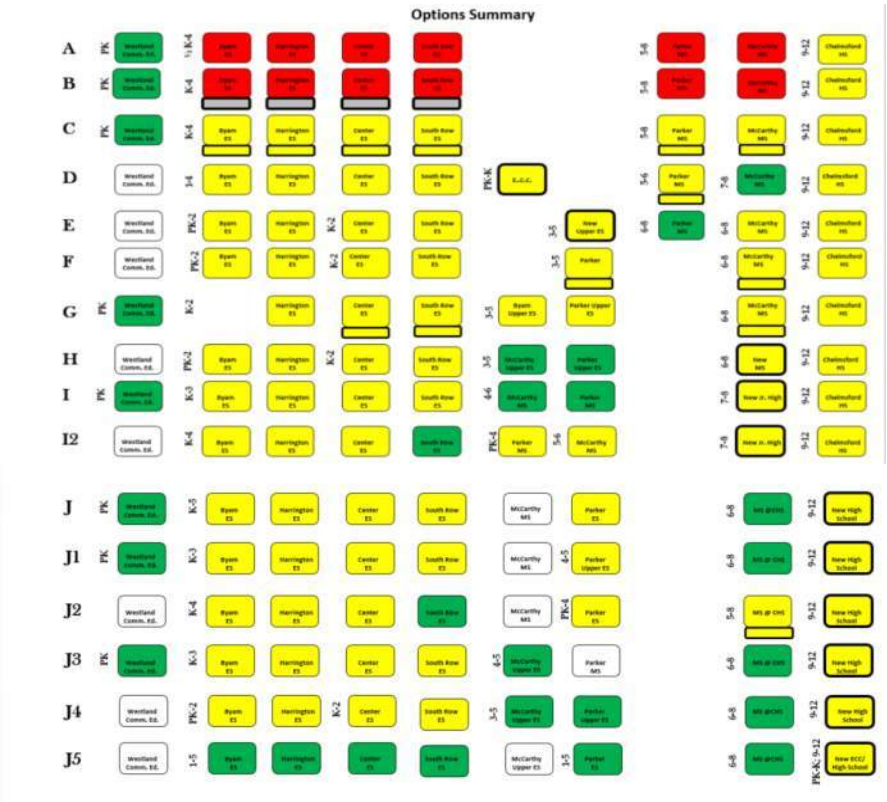


Image 4: Summary of Building Capacity and MSBA Guidelines

	Existing Enrollment	Capacity by GSF	Capacity by Classroom Count	MSBA Instructional Space Comparative Analysis – Room by Room
Byam ES	473	346	463	 34% are under by 10% or more
Center ES	430	310	440	 35% are under by 10% or more
Harrington ES	465	346	486	 37% are under by 10% or more
South Row ES	392	310	394	 89% are under by 10% or more
McCarthy MS	864	928	800	 67% are under by 10% or more
Parker MS	717	650	572	 53% are under by 10% or more
Chelmsford High School	1508	1785	1470	 84% are under by 10% or more
Westlands School	132* *Pre-K only	206** **Assumes K-4	330** **Assumes K-4	 95% are under by 10% or more

The space needs analyses show that there are educational space needs at all grade level groupings that should be addressed. Because enrollment is expected to increase at the elementary grades, needs will increase at Byam, Center, Harrington, and South Row over the next 10 years. **The District should consider adding space or rearranging programs to increase the capacity of elementary school buildings and provide adequate space for special education. The District should also consider addressing programmatic needs for the middle school science labs.** As the District looks to improve its building inventory, it should consider enrollment capacity, missing and inadequate spaces, and improving instructional space sizes.

Visioning & Options Development

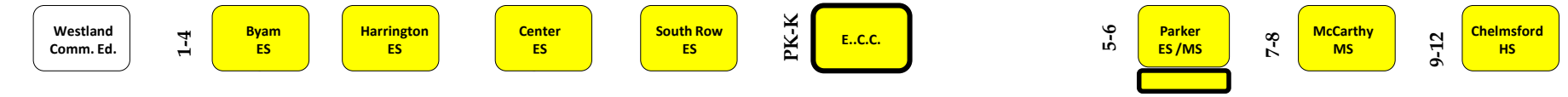


options

Options Summary

A STATUS QUO

D NEW EARLY CHILDHOOD CENTER

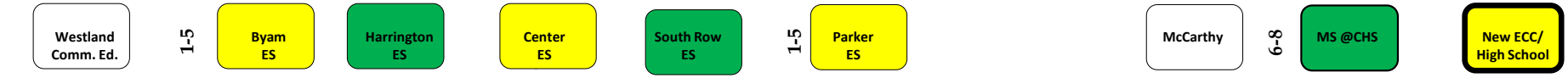


E NEW 3-5 UPPER ELEMENARY SCHOOL

H NEW 6-8 MIDDLE SCHOOL

I2 NEW 7-8 MIDDLE SCHOOL

J5 NEW PK/ HIGH SCHOOL



Master Plan Options Timeline

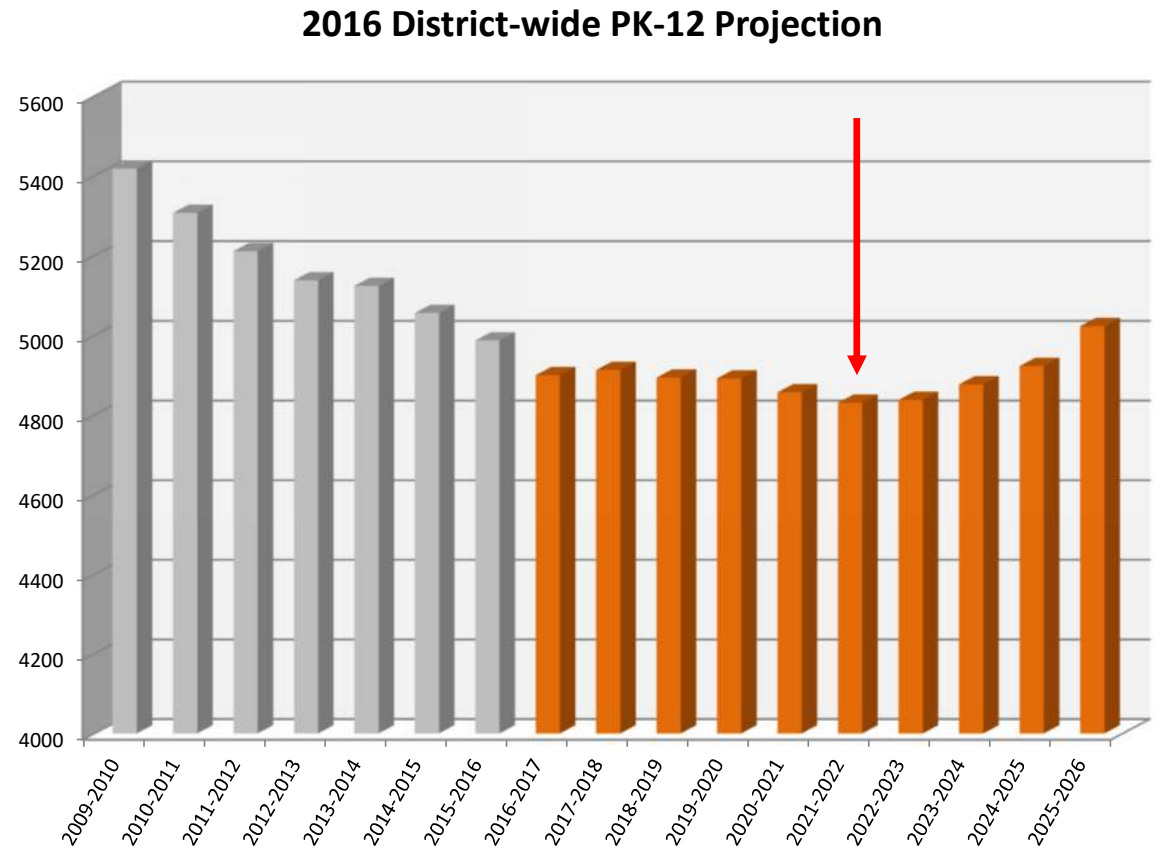
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
D	Fall: approve funds for full-day K	Spring: submit SOI for ECC Fall: Occupy mods for full-day K	Fall: Begin feasibility for ECC	Fall: Town vote for ECC project	Detailed Design and Construct. Docs	Revisit Master Plan Construct. Start for ECC	Spring: Submit SOI for Parker grades 5-6 renovation Project	Occupy ECC Start feasibility for Parker 5-6	Town vote for Parker 5-6	Detailed Design and Construct. Docs	Revisit Master Plan Start construct. at Parker	Submit SOI for priority #3: Elementary School	Occupy Parker as Grades 5-6
E	Fall: approve funds for full-day K	Spring: submit SOI for 3-5 ES Fall: Occupy mods for full-day K	Fall: Begin feasibility for 3-5 ES	Fall: Town vote for 3-5 ES project	Detailed Design and Construct. Docs	Revisit Master Plan Construct. start for 3-5 ES	Spring: Submit SOI for Priority #2: Elem school project	Occupy 3-5 ES			Revisit Master Plan	Submit SOI for priority #3	
H	Fall: approve funds for full-day K	Spring: submit SOI for Middle School Fall: Occupy mods for full-day K	Fall: Begin feasibility for Middle School	Fall: Town vote for MS project	Detailed Design and Construct. Docs	Revisit Master Plan Construct. start for MS	Spring: Submit SOI for Priority #2: Elem school project	Occupy MS			Revisit Master Plan	Submit SOI for priority #3:	
I2	Fall: approve funds for full-day K	Spring: submit SOI for Jr. High Fall: Occupy mods for full-day K	Fall: Begin feasibility for Jr. High	Fall: Town vote for Jr. High project	Detailed Design and Construct. Docs	Revisit Master Plan Start Construct. for Jr. High	Spring: Submit SOI for Parker ES renovation Project	Occupy Jr. High Start feasibility for Parker ES	Town vote for Parker ES	Detailed Design and Construct. Docs	Revisit Master Plan Start constructio n at Parker	Submit SOI for priority #3: Elementary School	Occupy Parker as ES
J5	Fall: approve funds for full-day K	Spring: submit SOI for HS ECC Fall: Occupy mods for full-day K	Fall: Begin feasibility for HS/ ECC	Fall: Town vote for HS/ECC project	Detailed Design and Construct. Docs	Revisit Master Plan Construct. start for HS/ ECC	Spring: Submit SOI for Priority #2: Elem school project	Occupy HS & ECC Recon-figure District			Revisit Master Plan	Submit SOI for priority #3	

CHELMSFORD MASTER PLAN

SEPTEMBER 21, 2021

DORE + WHITTIER

SCOPE OF WORK & SCHEDULE

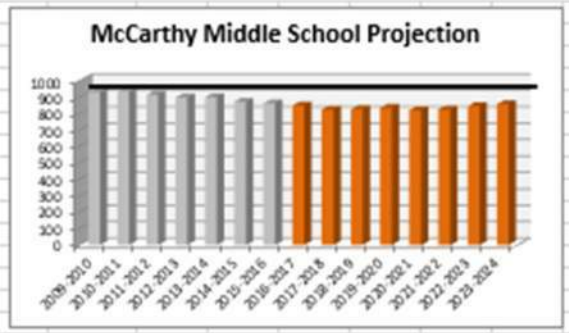


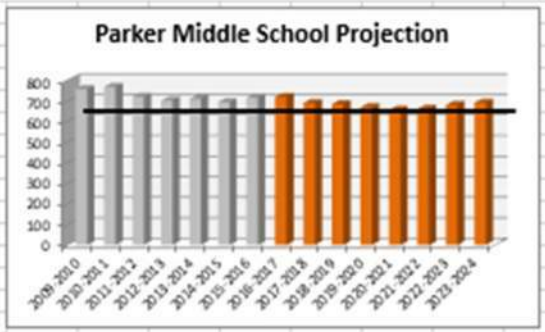
SCOPE OF WORK

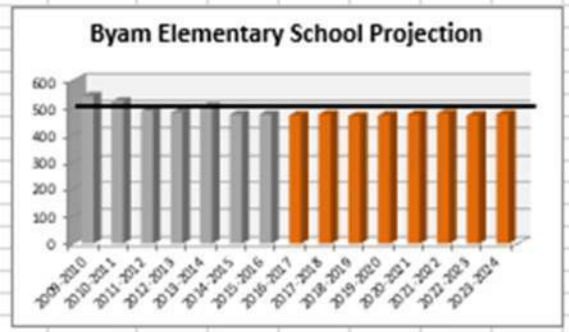
1. Updated Enrollment Projections

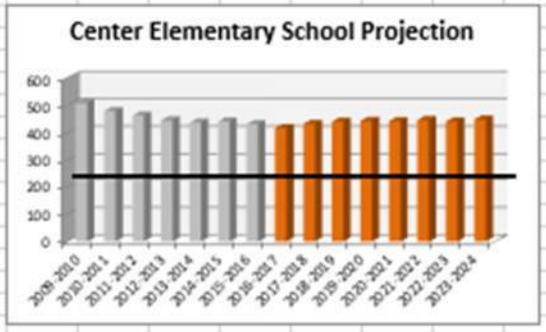
   Are we where we thought we would be?

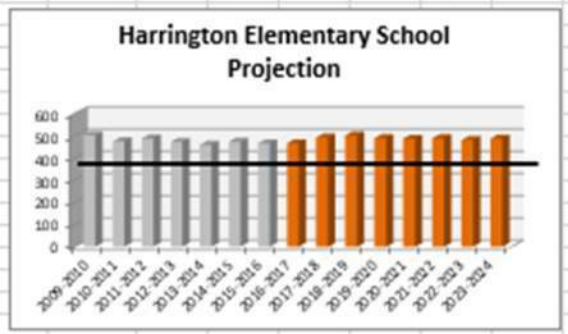
   Are the projections the same going forward?

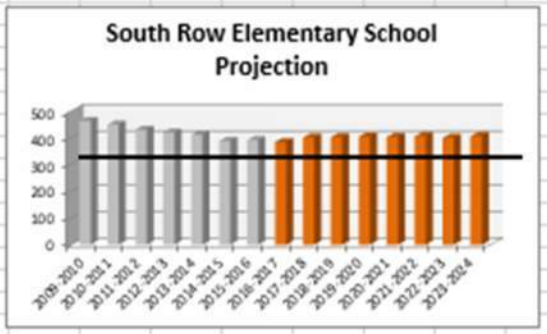












2. Updated Enrollment Projection & Capacity Analysis For Each School

Are we where we thought we would be?

Are the projections the same going forward?

Has there been any shifts in enrollment or catchment areas?

3. Identify / Define Problem Areas
4. Develop Potential Solutions
5. Evaluate Potential Solutions
6. Develop Timeline
7. Review Capital Improvement Priorities
8. Develop Comprehensive Report

MEETING AGENDA

9/21/21: Presentation of Previous Work and Scope of Work for Updated Master Plan

10/07/21: Open Session with General Public to discuss Grade Configuration / Enrollment Projections & Findings to Date / Priority Project Discussion (approximately 2 hour session)

10/20/21: Programing / Visioning / Grade Configuration for Grades 5-8 with Teachers / Staff / Students (approximately 4 hour session)

11/09/21: Presentation of Potential Options Meeting open to all

11/16/21: Presentation of Work to Date including Findings and Options

12/07 & 12/21: Further review of the Work to Date & Discussion

SCHEDULE

Presentation to SC:
9/21/21; 11/16/21; 12/07/21; 12/21/21

Open Session
10/07/21 @ 6:00

Programing:
10/20/21 @ 12:30 – 4:30

Options
11/09/21 @ 6:00

Draft Report: 1/14/22

Completed Report : 2/18/22

QUESTIONS?

DORE + WHITTIER

Chelmsford Public Schools

Facility Master Plan Update

School Committee

11.16.2021

DORE + WHITTIER

Master Plan Update Scope

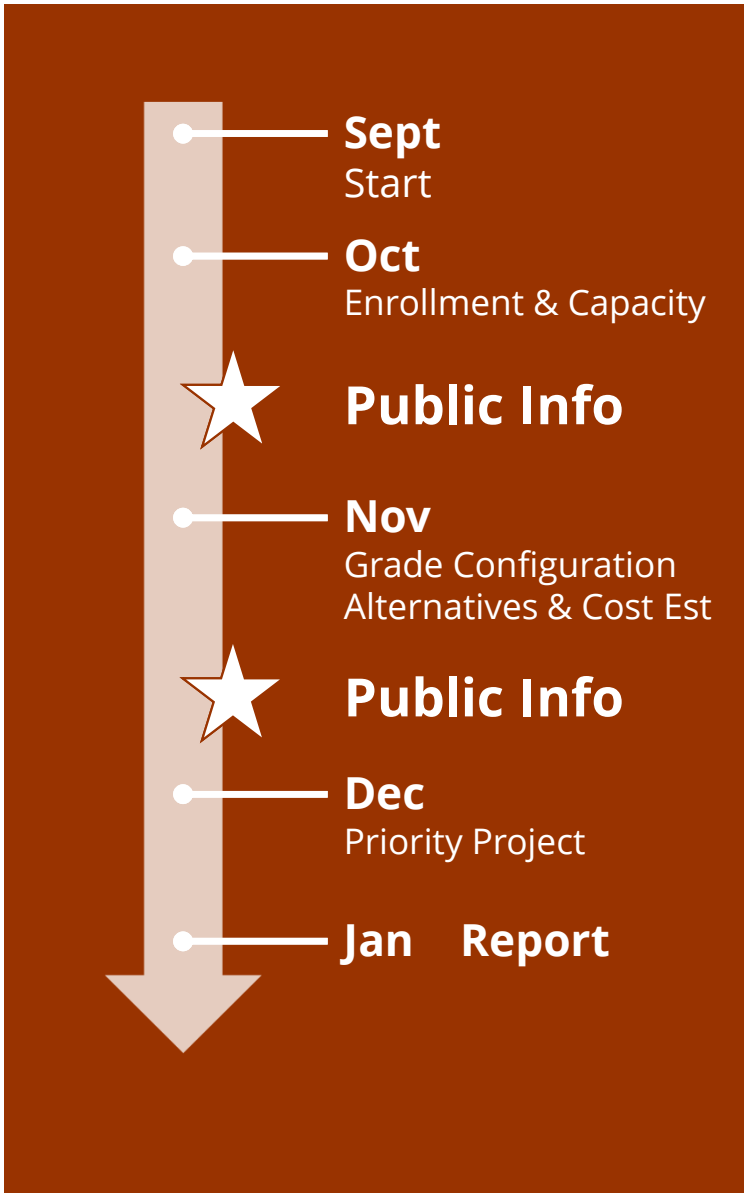
- Update Timing & Sequence of Capital Improvements
- Updated Enrollment Analysis
- Updated Capacity Analysis
- Exploration of Grade Configurations
- Exploration Of Alternatives and Cost Estimates
- Identification of MSBA Priority Project

Master Plan Update Scope

• Update Timing & Sequence of Capital Improvements	**In Progress**
• Updated Enrollment Analysis	**Complete**
• Updated Capacity Analysis	**Complete**
• Exploration of Grade Configurations	**In Progress**
• Exploration Of Alternatives and Cost Estimates	**In Progress**
• Identification of MSBA Priority Project	**In Progress**

Master Plan Update Scope

- Update Timing & Sequence of Capital Improvements
- Updated Enrollment Analysis
- Updated Capacity Analysis
- Exploration of Grade Configurations
- Exploration Of Alternatives and Cost Estimates
- Identification of MSBA Priority Project



Agenda

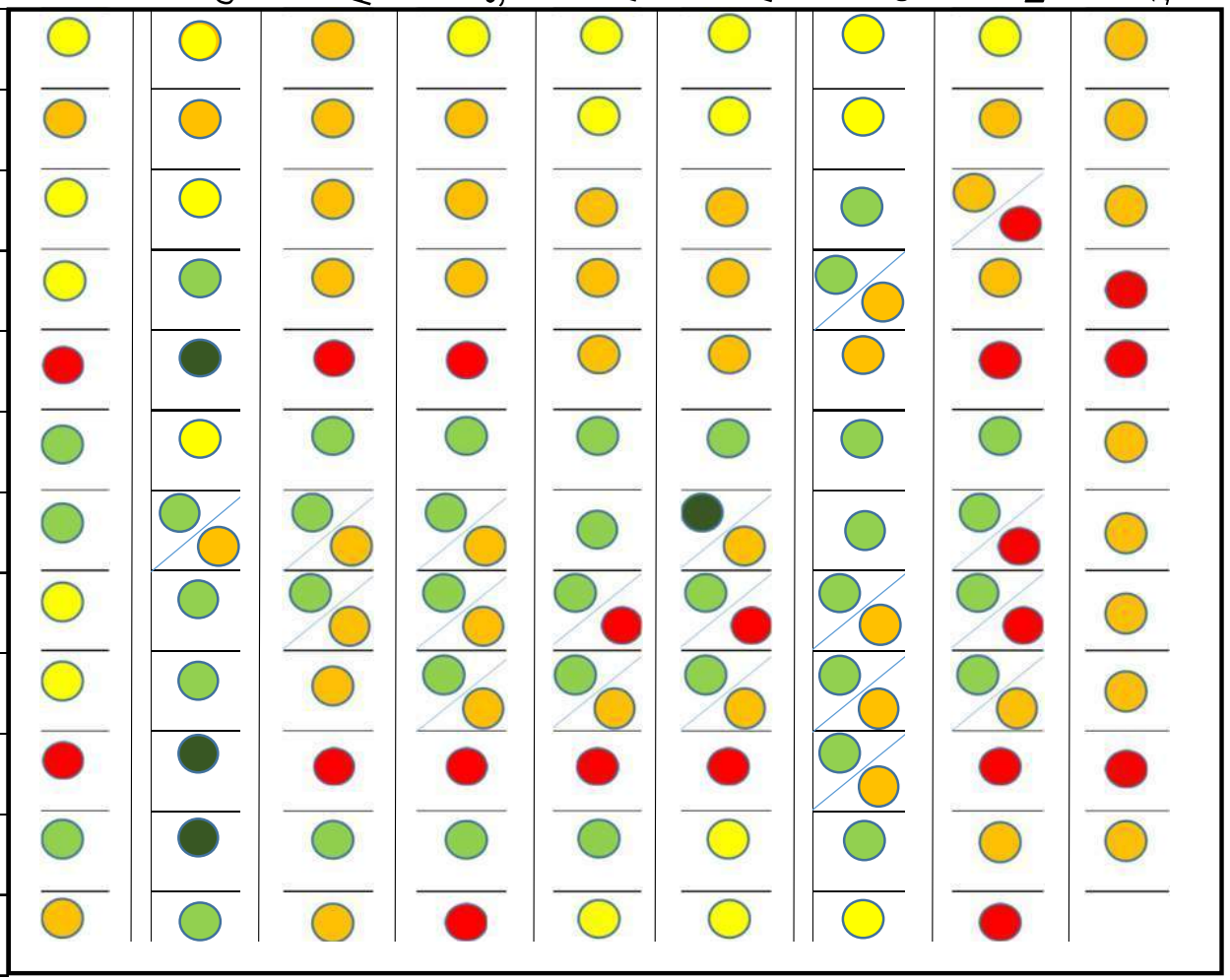
- 2016 Master Plan Refresher
- Study Progress Update
- Questions
- Next Steps

2016 Master Plan Refresher

Facility Assessments

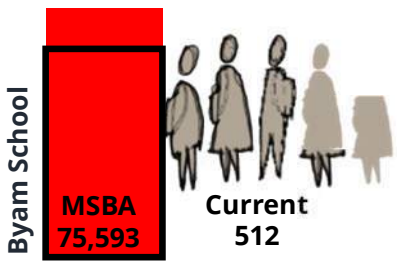
LEGEND

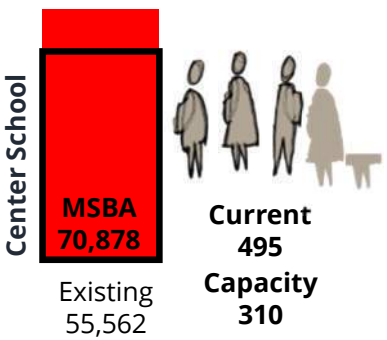
- Excellent
- Good Condition
- Fair / Maintenance
- Repair / Replace
- Poor

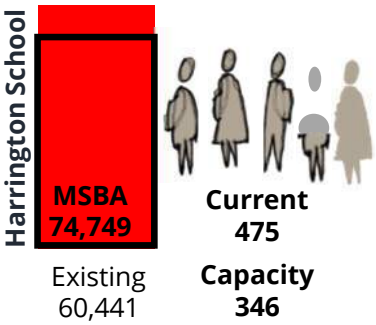


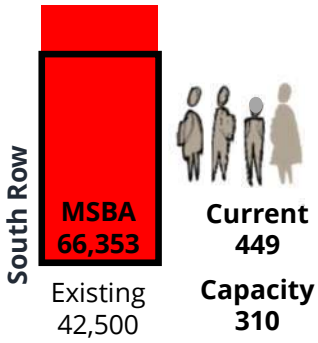
1	**Site & Civil**
2	**Site Accessibility / Play Areas**
3	**Exterior Building Elements**
4	**Interior Architectural Elements**
5	**Accessibility**
6	**Structural Elements**
7	**Mechanical Systems**
8	**Electrical Systems**
9	**Plumbing Systems**
10	**Fire Protection Systems**
11	**Hazardous Mat. Abatement**
12	**Functional Use of Space**

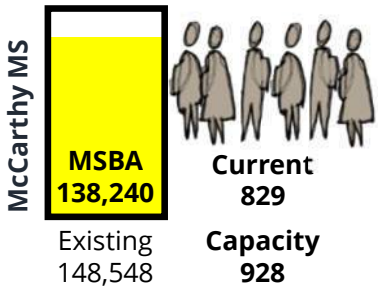
Capacity Analysis (K-12)

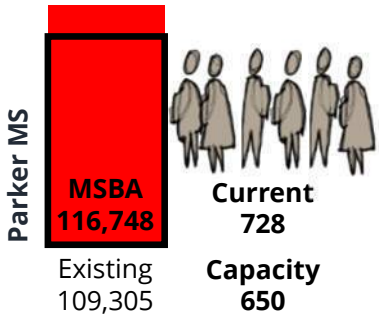


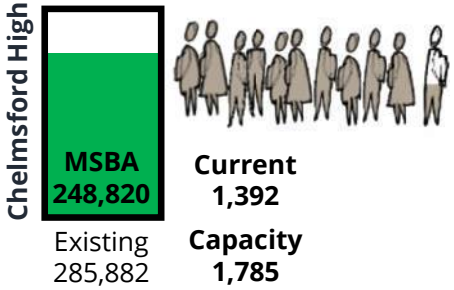




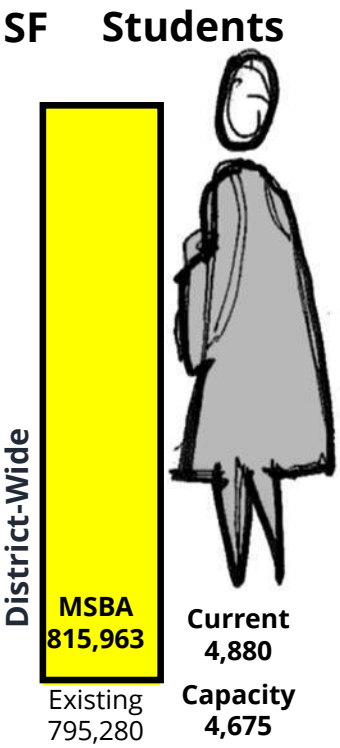








Permanent Construction Only. Calculated based on Gross Square Footages of buildings and MSBA guidelines for gross square feet per student.



msba comparative analysis

level 1

level 2

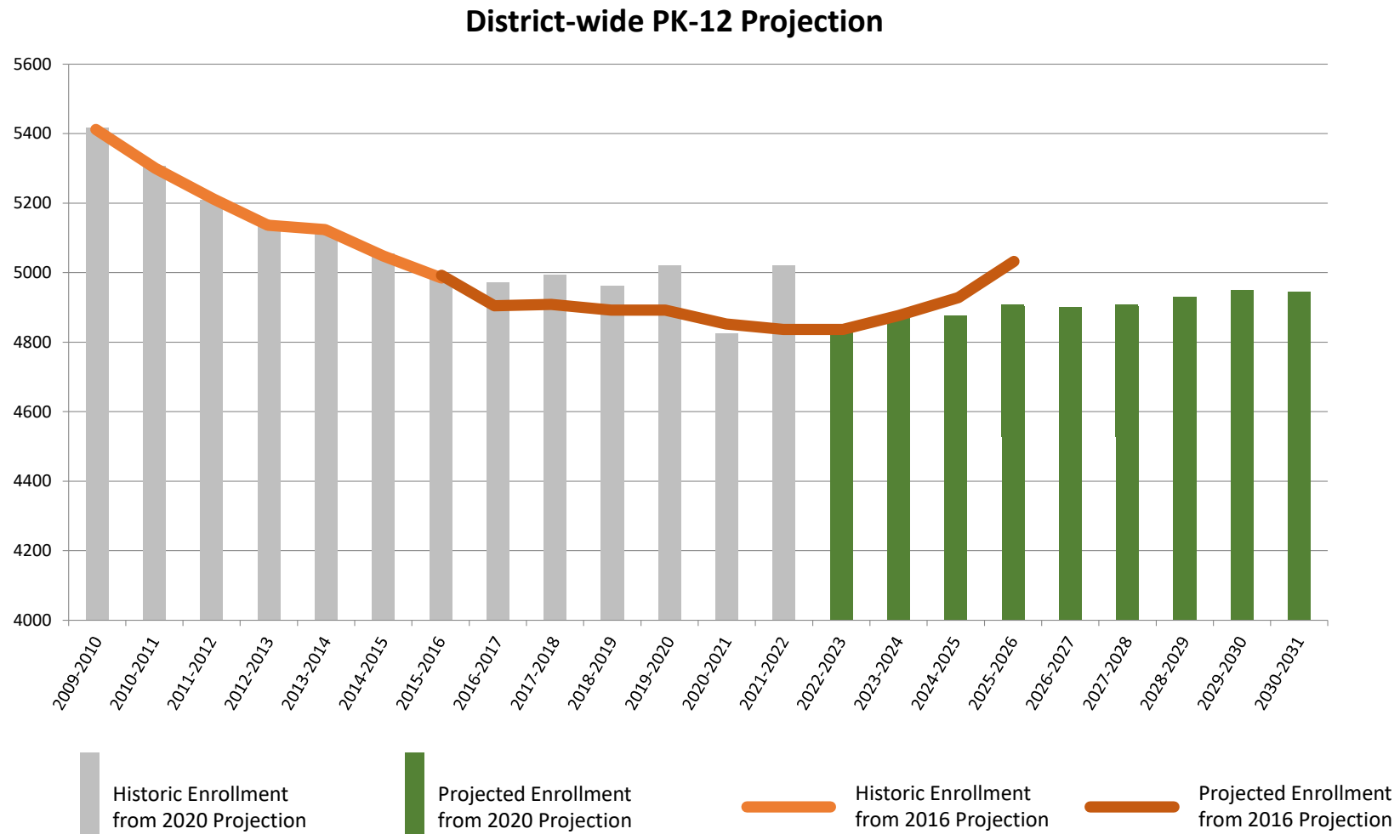
Undersized (<90%)

Aligned (90%-110%)

Oversized (>110%)

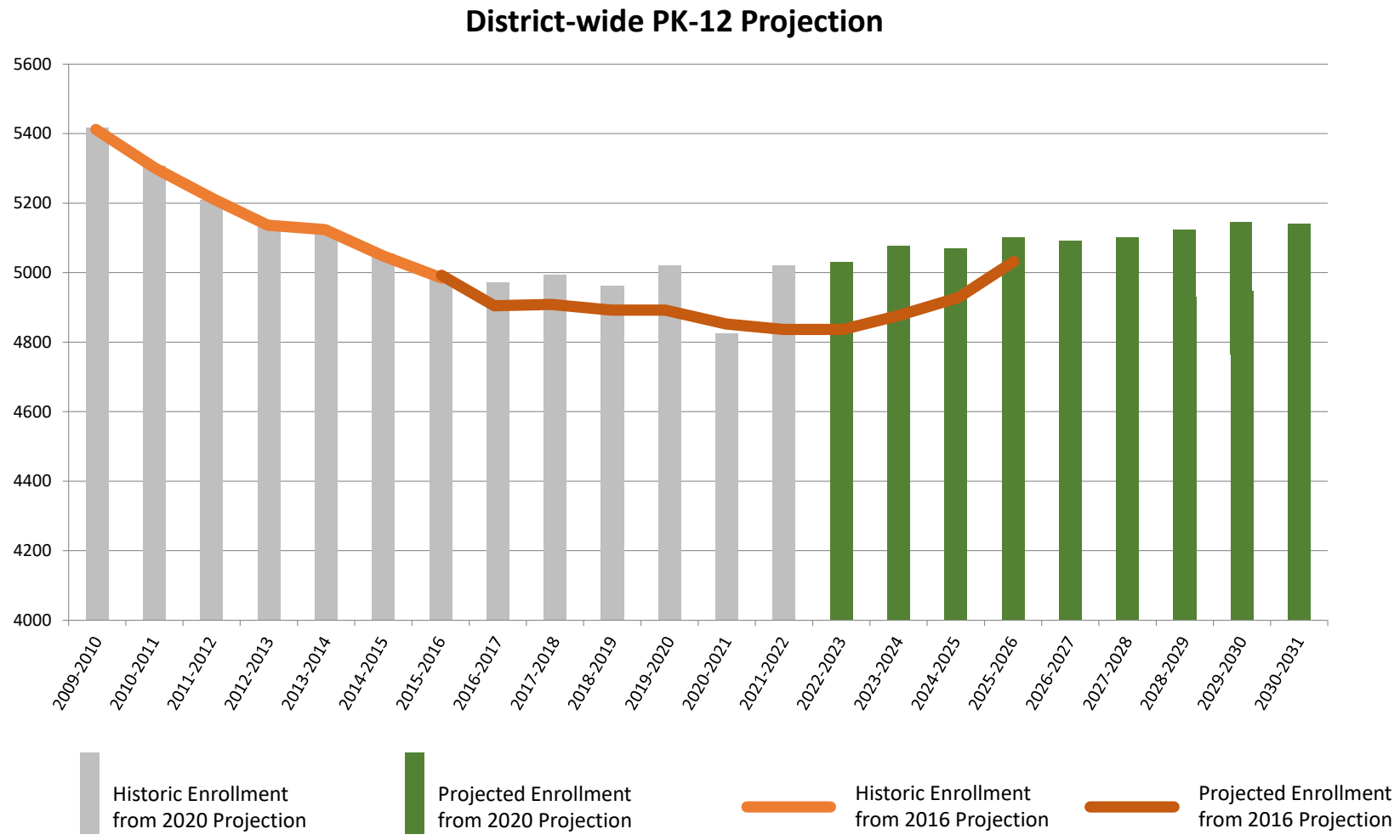
Byam School

Enrollment & Capacity Analysis



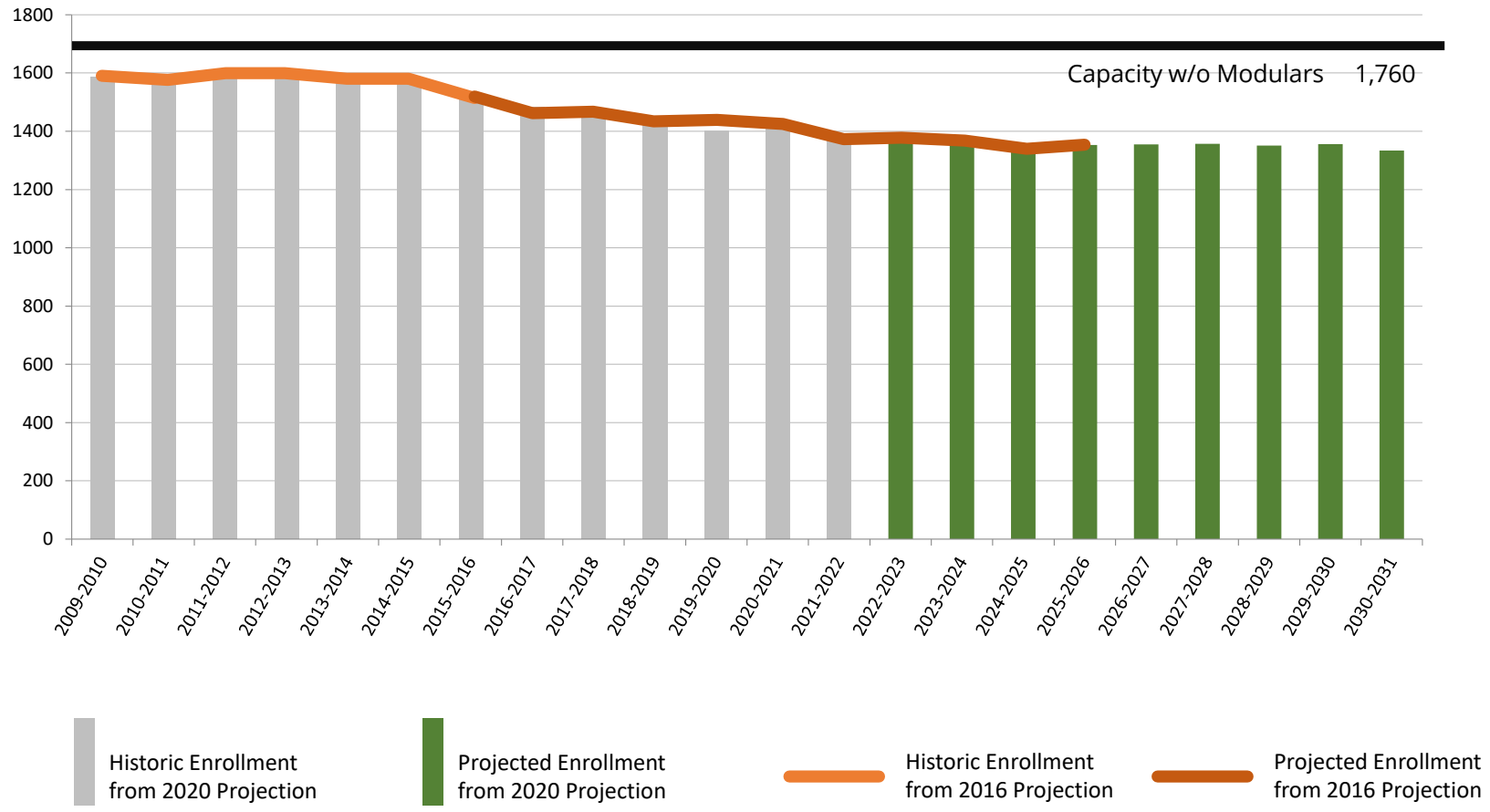
PK-12 Projection

Enrollment & Capacity Analysis



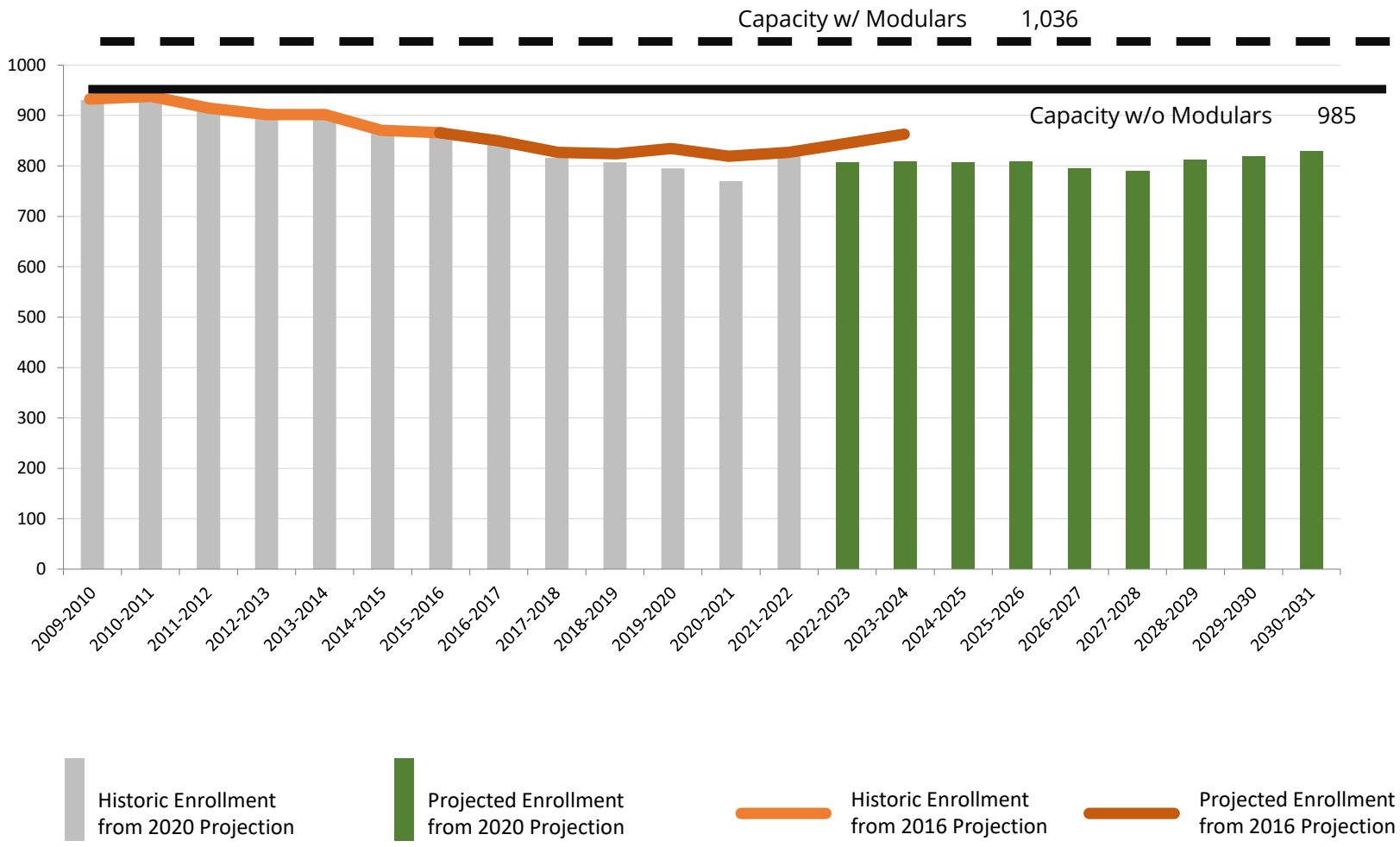
PK-12 Projection

Enrollment & Capacity Analysis



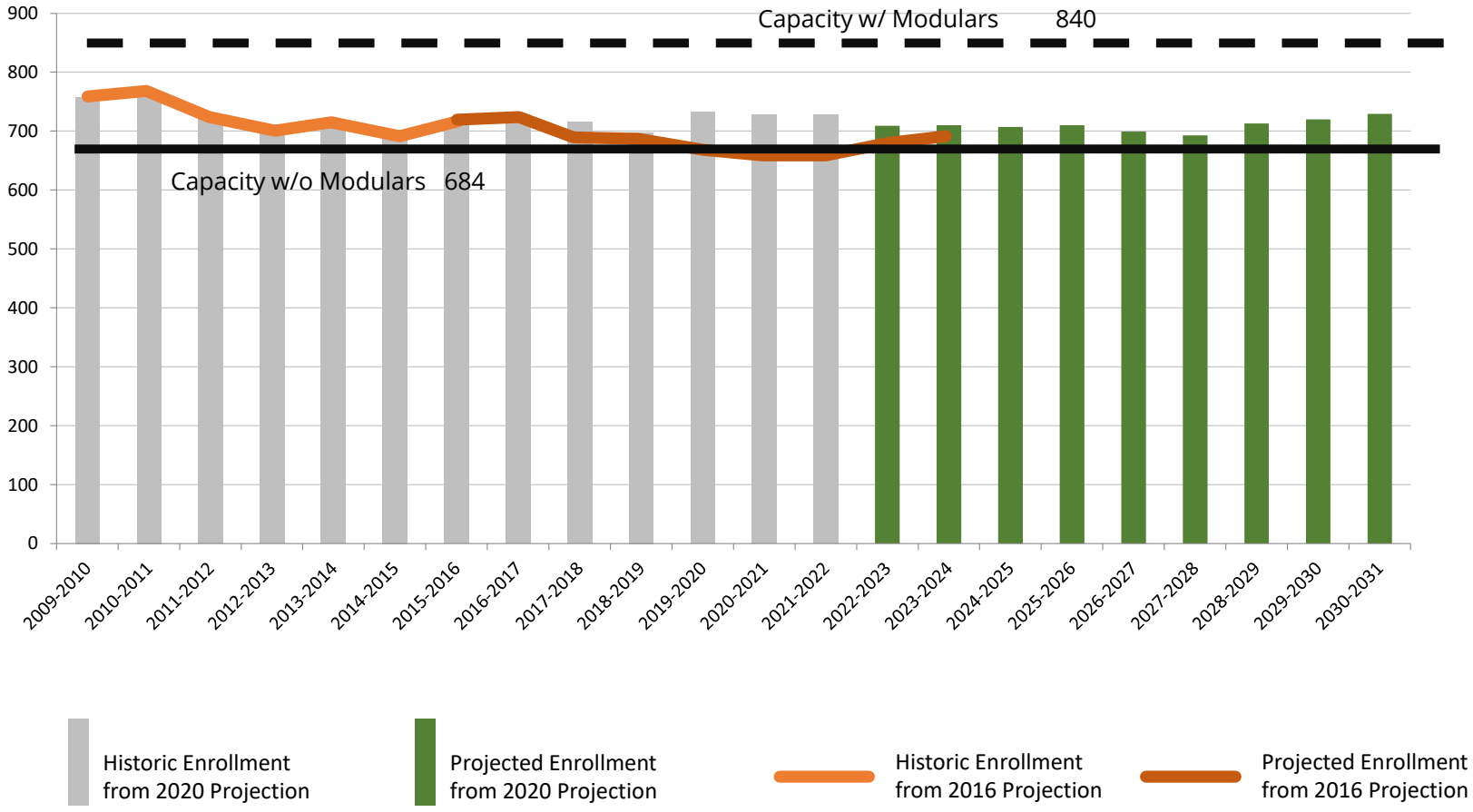
Chelmsford High School

Enrollment & Capacity Analysis



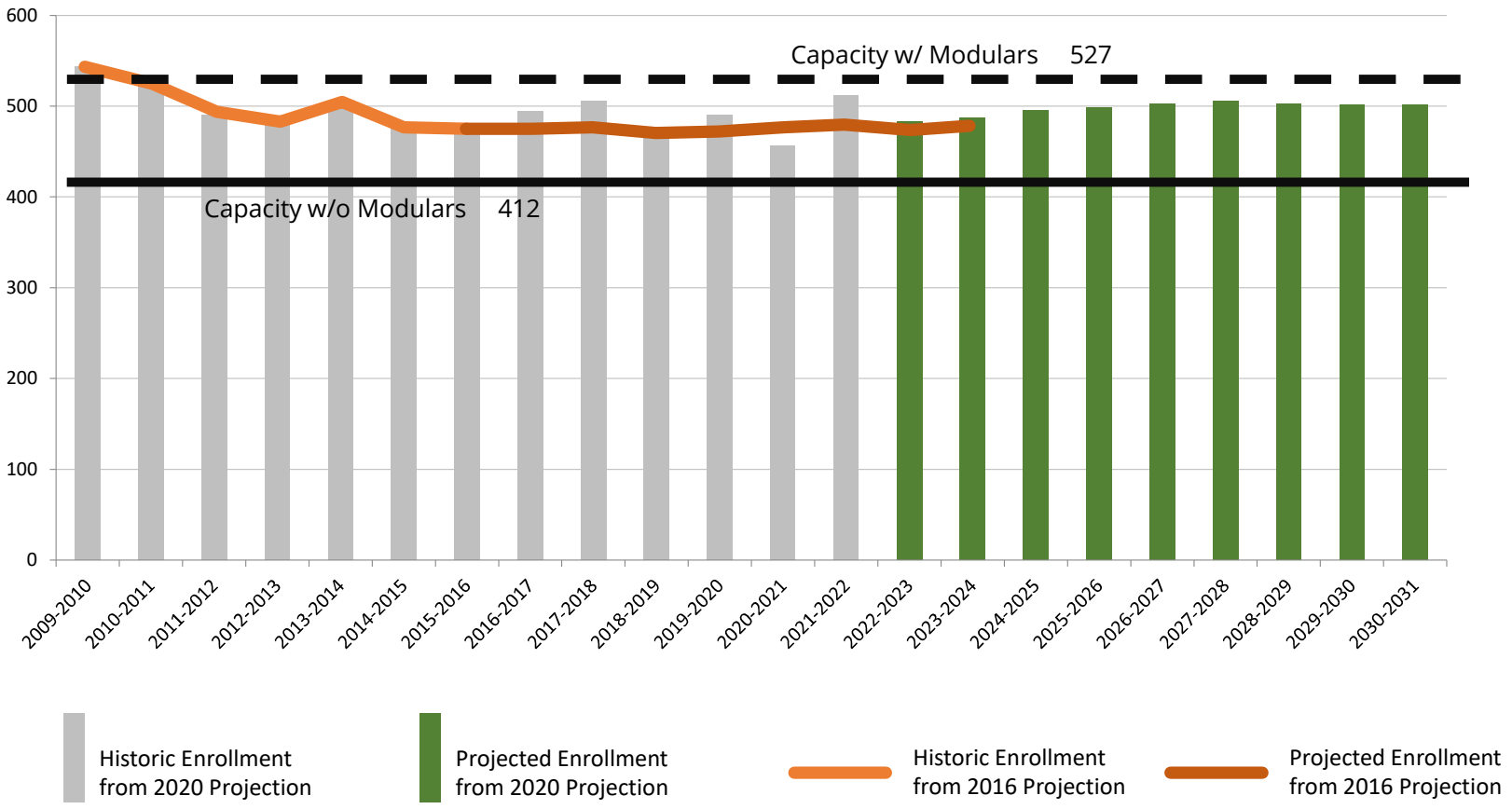
McCarthy Middle School

Enrollment & Capacity Analysis



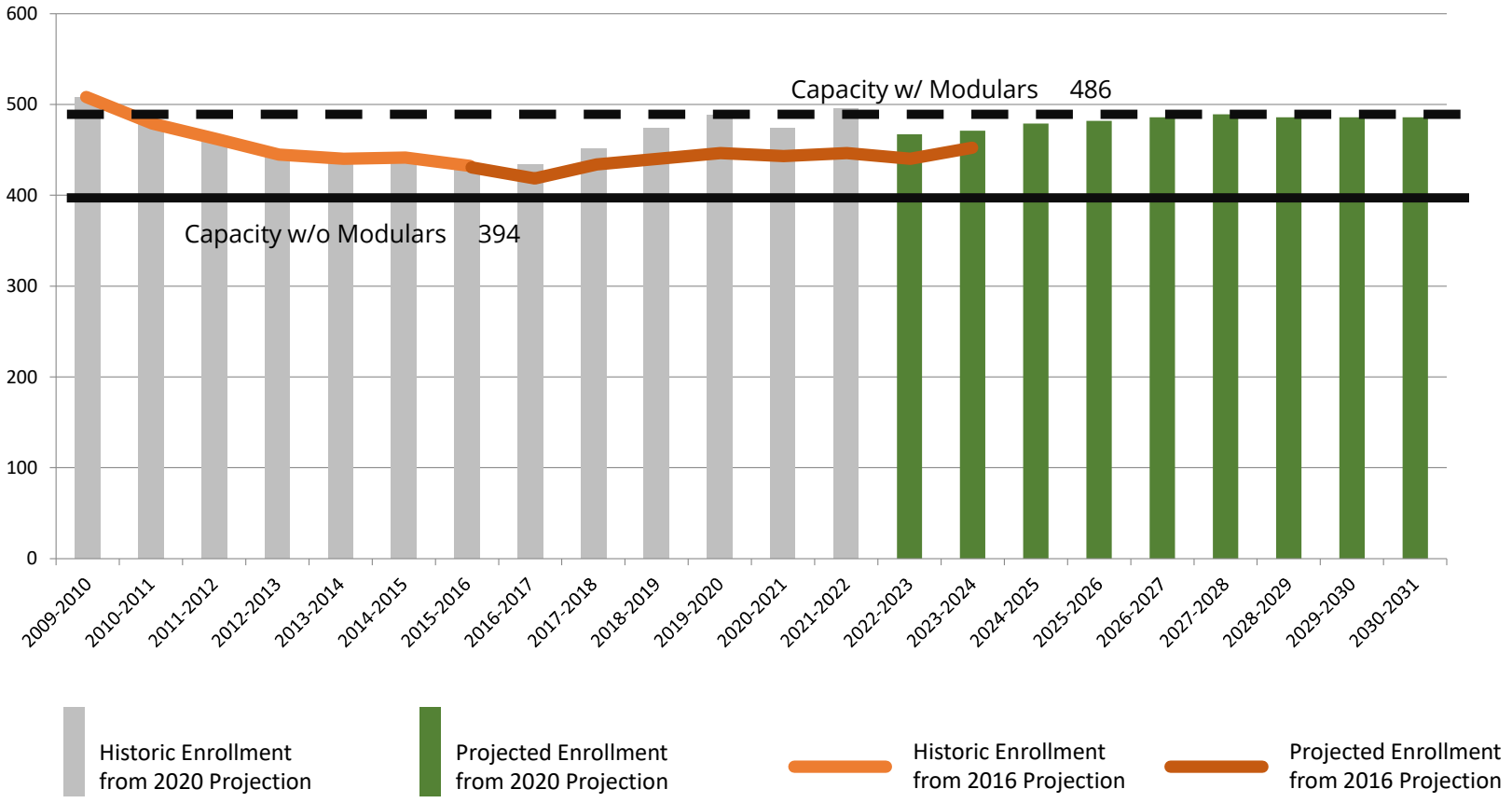
Parker Middle School

Enrollment & Capacity Analysis



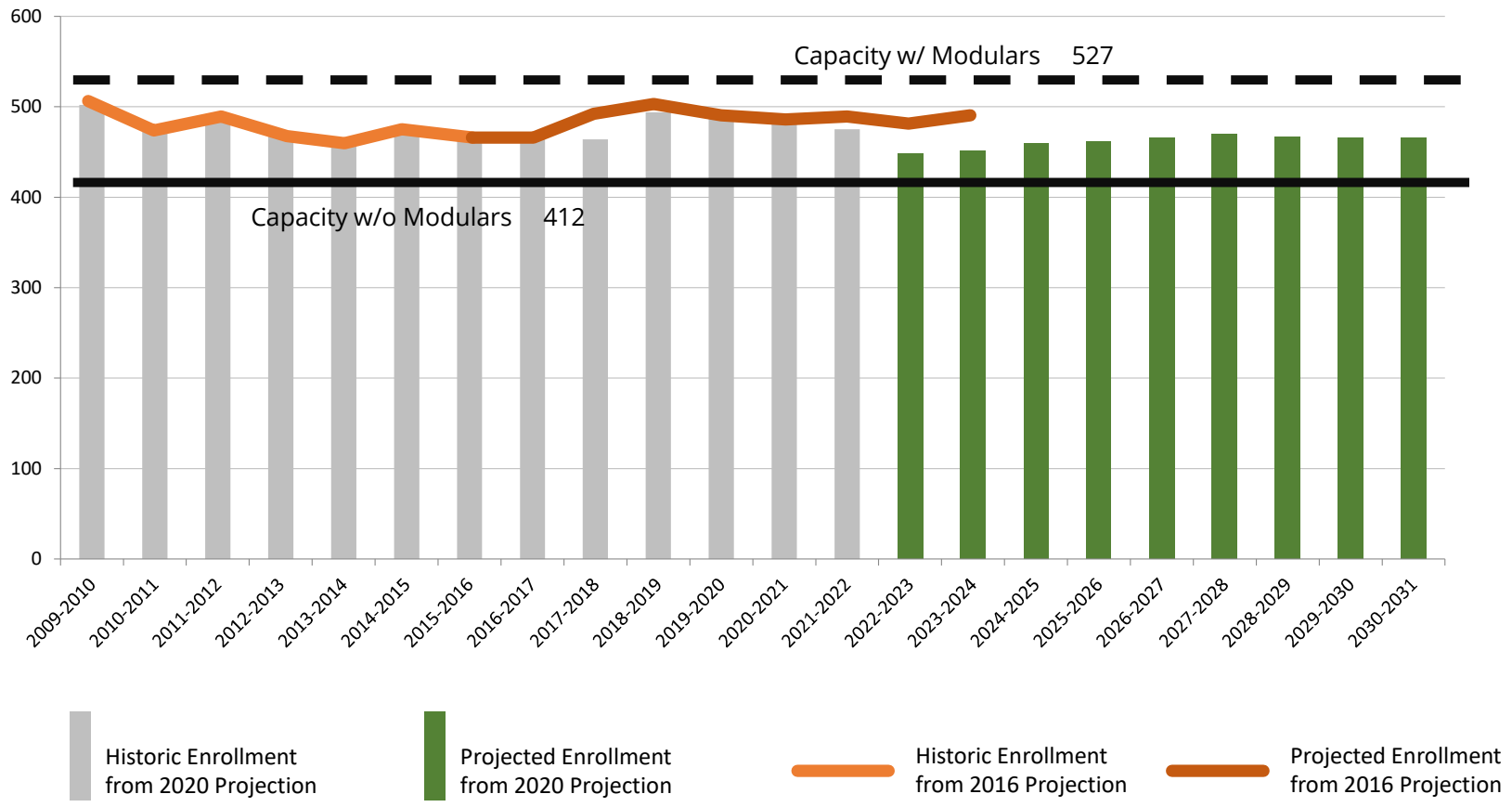
Byam School

Enrollment & Capacity Analysis



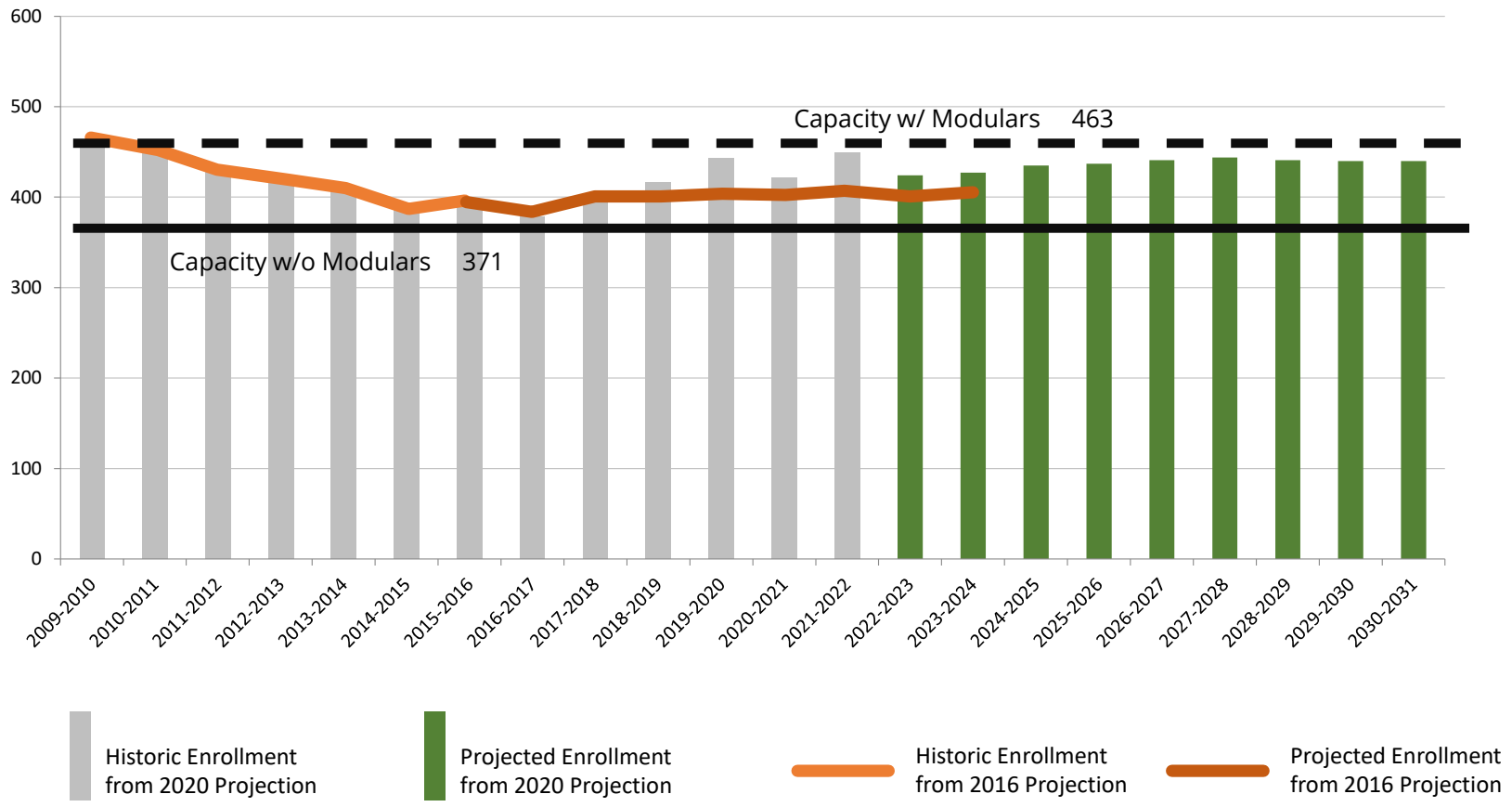
Center School

Enrollment & Capacity Analysis



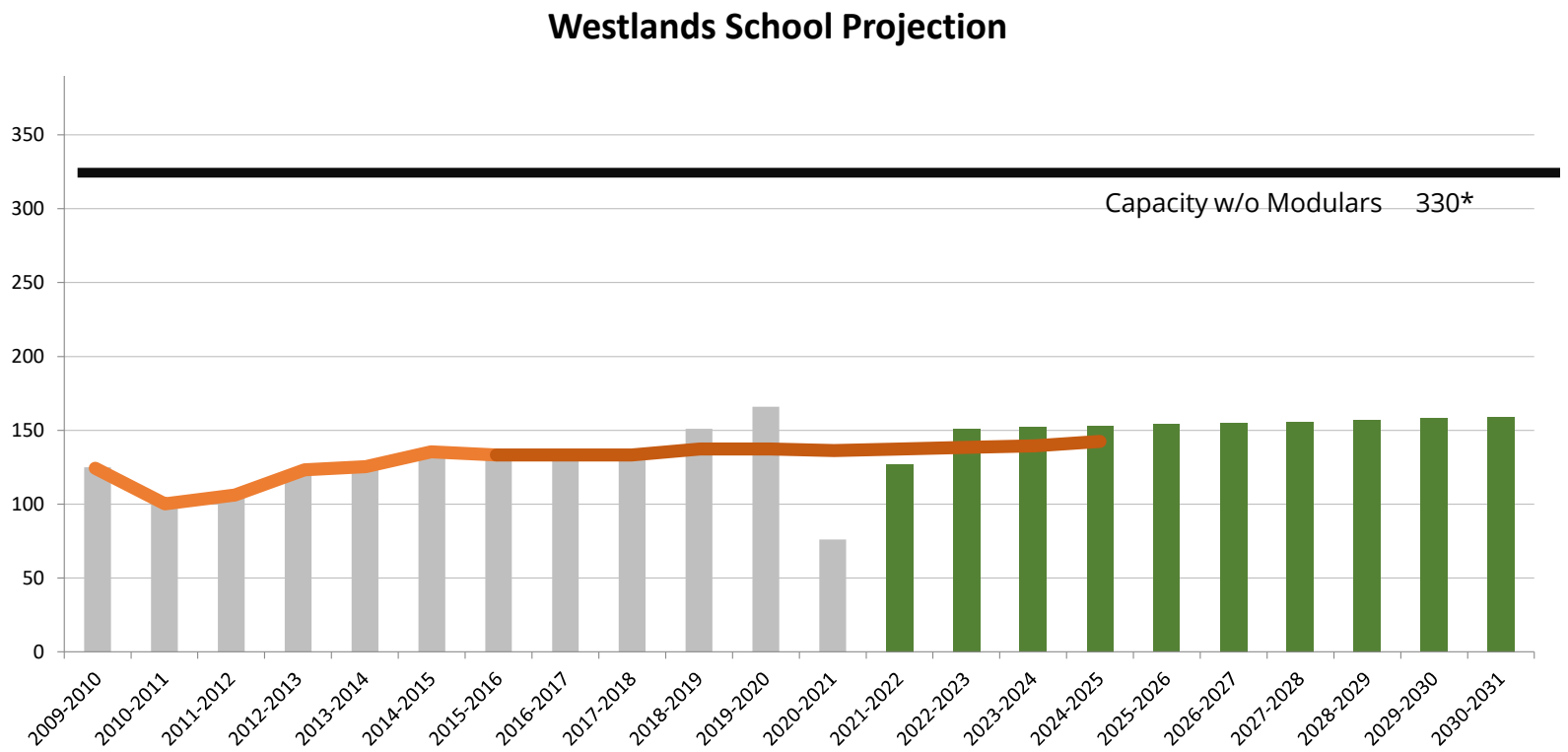
Harrington School

Enrollment & Capacity Analysis



South Row School

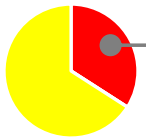
Enrollment & Capacity Analysis



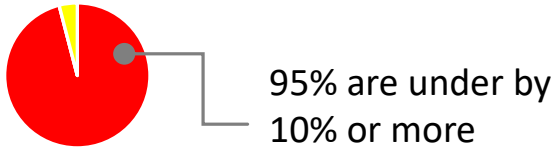
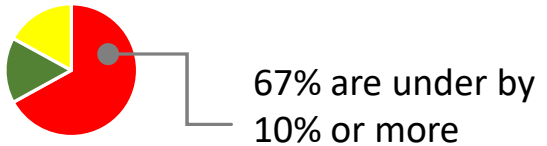
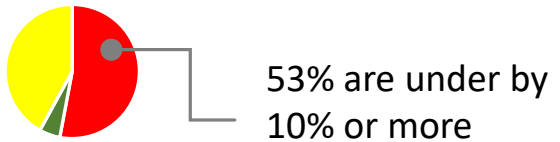
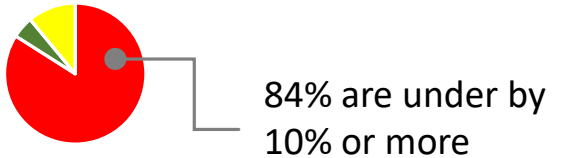
* Capacity calculated as if it were a K-4 elementary school and if Community Education Programs were relocated.

Westlands School

Summary of Identified Needs

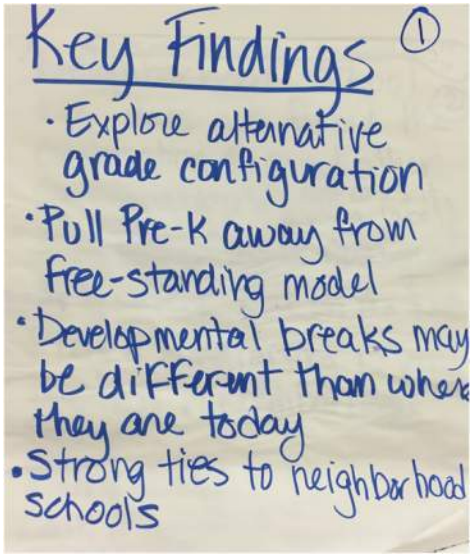
	Current Enrollment	Capacity by GSF	Capacity by Classroom Count w/o Modulars	Capacity by Classroom Count w/ Modulars	Facility Condition	MSBA Instructional Space Comparative Analysis – Room by Room
Byam ES	512	**346**	**412**	527		 34% are under by 10% or more
Center ES	495	**310**	**394**	**486**		 35% are under by 10% or more
Harrington ES	475	**346**	**412**	527		 37% are under by 10% or more
South Row ES	449	**310**	**371**	463		 89% are under by 10% or more

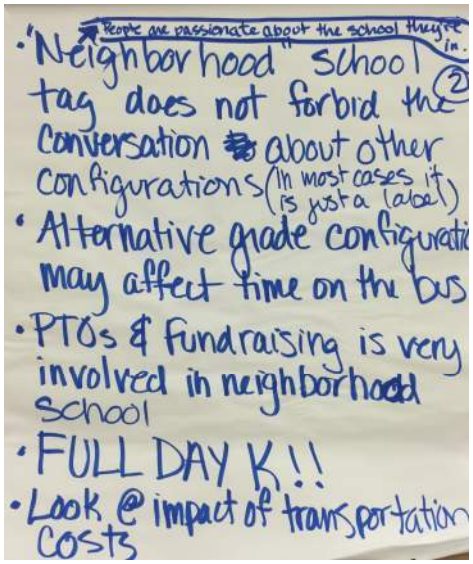
Summary of Identified Needs

	Current Enrollment	Capacity by GSF	Capacity by Classroom Count w/o Modulars	Capacity by Classroom Count w/ Modulars	Facility Condition	MSBA Instructional Space Comparative Analysis – Room by Room
Westland School	129	206	330	N/A		 95% are under by 10% or more
McCarthy MS	829	928	958	1036		 67% are under by 10% or more
Parker MS	728	**650**	**684**	840		 53% are under by 10% or more
Chelmsford HS	1392	1785	1760	N/A		 84% are under by 10% or more

Key Issues

- School Size
- School Count
- Grade Configuration
- Location of Pre-K
- Full-Day Kindergarten

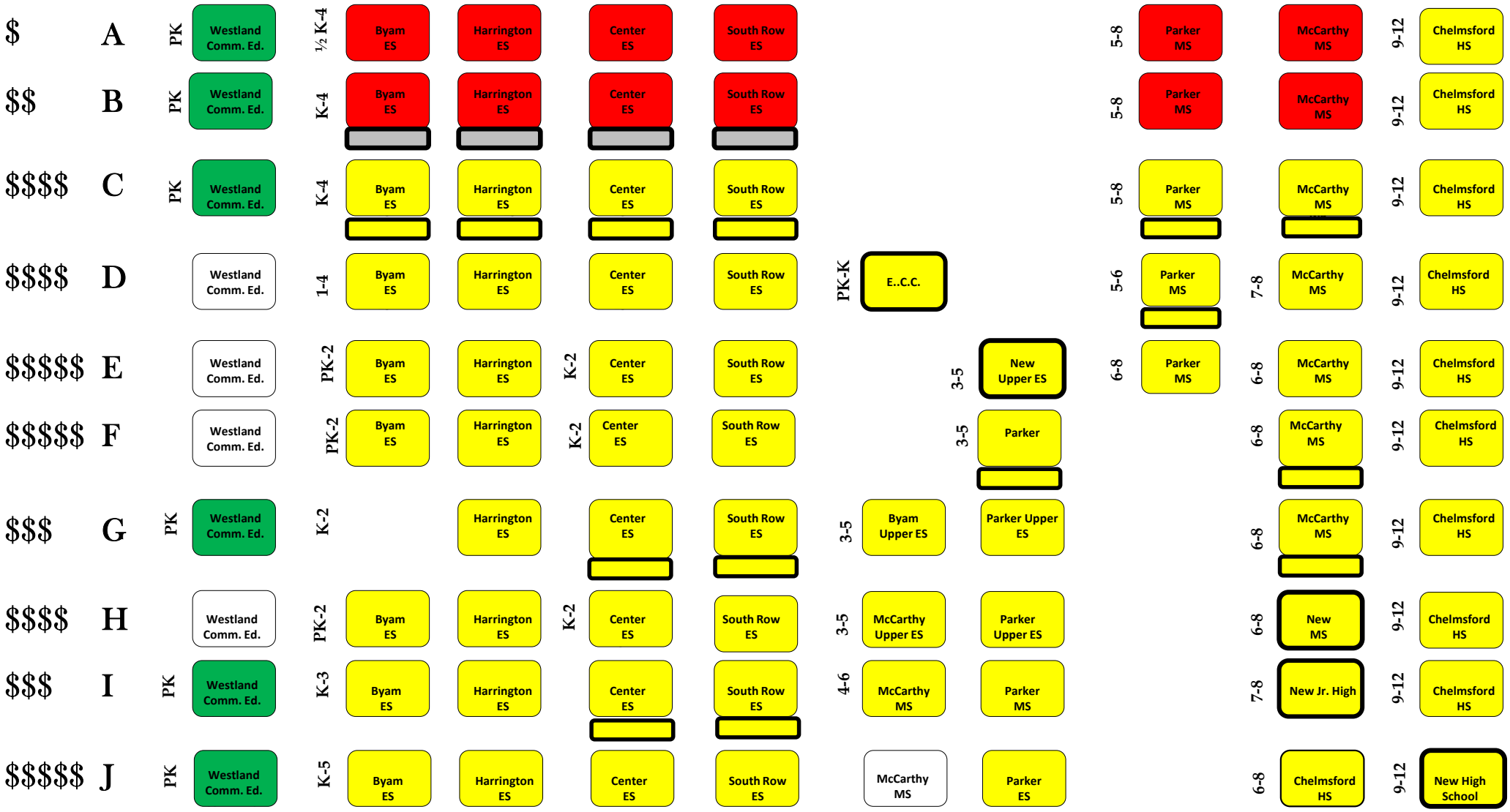


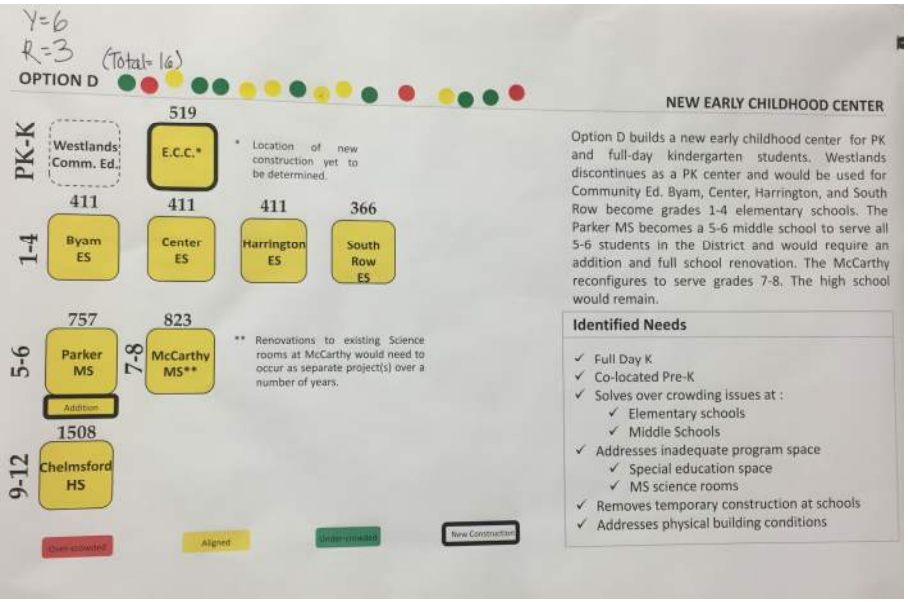


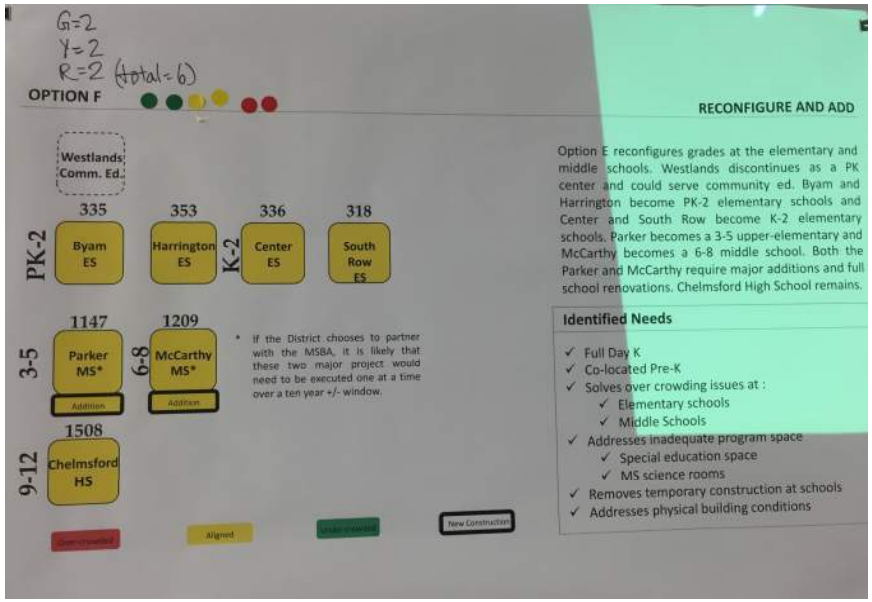
Exploration of Key Issues

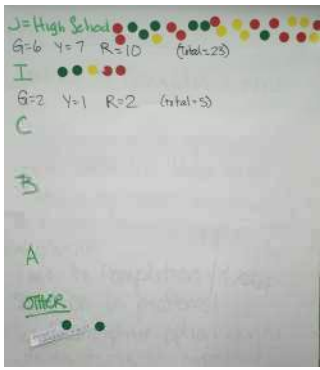
Exploration of Key Issues

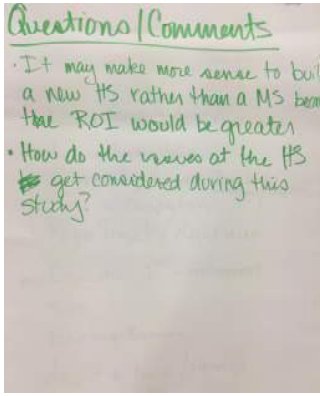
Options Summary

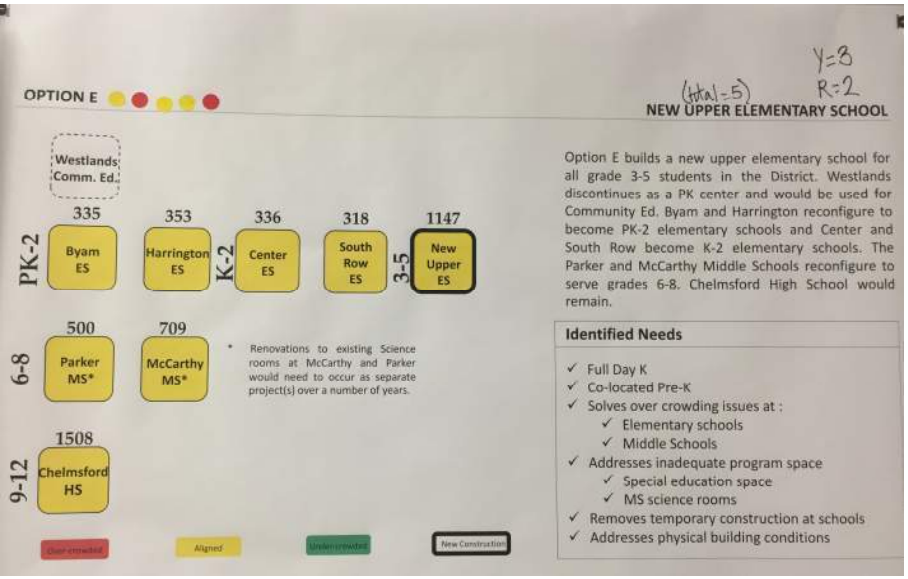


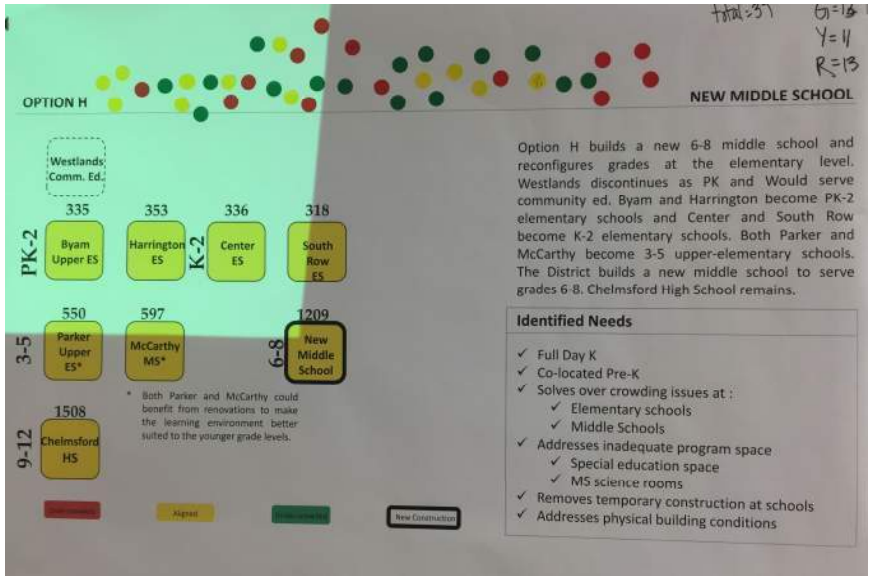

Y=6
R=3
(Total=16)
OPTION D
NEW EARLY CHILDHOOD CENTER
PK-K
Westlands Comm. Ed.
519
E.C.C.*
* Location of new construction yet to be determined.
1-4
411
Byam ES
411
Center ES
411
Harrington ES
366
South Row ES
5-6
757
Parker MS
Addition
7-8
823
McCarthy MS**
** Renovations to existing Science rooms at McCarthy would need to occur as separate project(s) over a number of years.
9-12
1508
Chelmsford HS
Over-crowded
Aligned
Under-crowded
New Construction
Option D builds a new early childhood center for PK and full-day kindergarten students. Westlands discontinues as a PK center and would be used for Community Ed. Byam, Center, Harrington, and South Row become grades 1-4 elementary schools. The Parker MS becomes a 5-6 middle school to serve all 5-6 students in the District and would require an addition and full school renovation. The McCarthy reconfigures to serve grades 7-8. The high school would remain.
Identified Needs
✓ Full Day K
✓ Co-located Pre-K
✓ Solves over crowding issues at :
✓ Elementary schools
✓ Middle Schools
✓ Addresses inadequate program space
✓ Special education space
✓ MS science rooms
✓ Removes temporary construction at schools
✓ Addresses physical building conditions

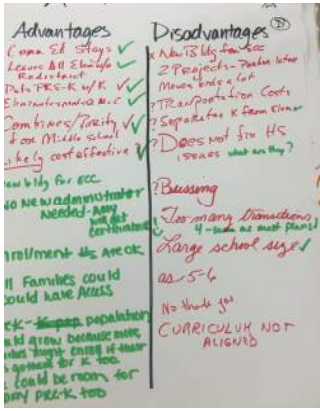

G=2
Y=2
R=2
(total=6)
OPTION F
RECONFIGURE AND ADD
Westlands Comm. Ed.
PK-2
335
Byam ES
353
Harrington ES
K-2
336
Center ES
318
South Row ES
3-5
1147
Parker MS*
Addition
6-8
1209
McCarthy MS*
Addition
* If the District chooses to partner with the MSBA, it is likely that these two major project would need to be executed one at a time over a ten year +/- window.
9-12
1508
Chelmsford HS
Over-crowded
Aligned
Under-crowded
New Construction
Option E reconfigures grades at the elementary and middle schools. Westlands discontinues as a PK center and could serve community ed. Byam and Harrington become PK-2 elementary schools and Center and South Row become K-2 elementary schools. Parker becomes a 3-5 upper-elementary and McCarthy becomes a 6-8 middle school. Both the Parker and McCarthy require major additions and full school renovations. Chelmsford High School remains.
Identified Needs
✓ Full Day K
✓ Co-located Pre-K
✓ Solves over crowding issues at :
✓ Elementary schools
✓ Middle Schools
✓ Addresses inadequate program space
✓ Special education space
✓ MS science rooms
✓ Removes temporary construction at schools
✓ Addresses physical building conditions


J=High School
G=6 Y=7 R=10 (total=23)
I
G=2 Y=1 R=2 (total=5)
C
B
A
OTHER

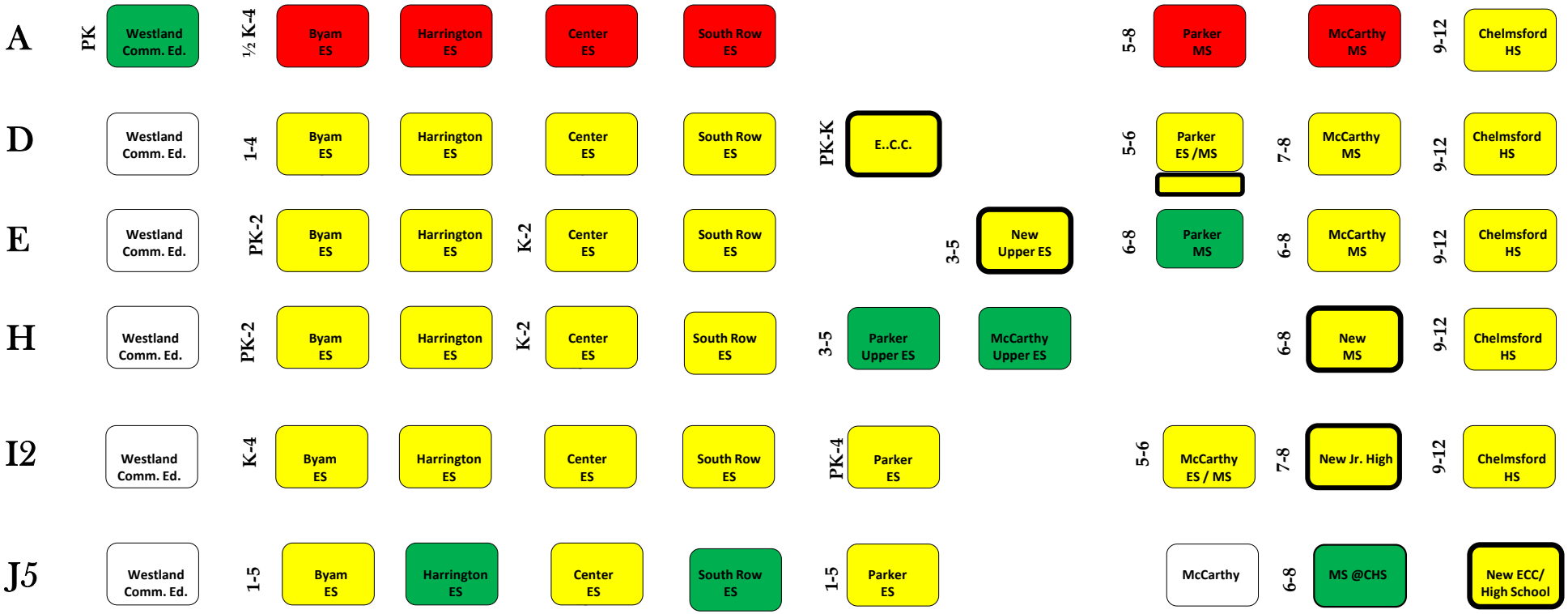

Questions/Comments
• It may make more sense to build a new HS rather than a MS because ROI would be greater
• How do the issues at the HS get considered during this study?


OPTION E
(total=5)
Y=3
R=2
NEW UPPER ELEMENTARY SCHOOL
Westlands Comm. Ed.
PK-2
335
Byam ES
353
Harrington ES
K-2
336
Center ES
318
South Row ES
3-5
1147
New Upper ES
6-8
500
Parker MS*
709
McCarthy MS*
* Renovations to existing Science rooms at McCarthy and Parker would need to occur as separate project(s) over a number of years.
9-12
1508
Chelmsford HS
Over-crowded
Aligned
Under-crowded
New Construction
Option E builds a new upper elementary school for all grade 3-5 students in the District. Westlands discontinues as a PK center and would be used for Community Ed. Byam and Harrington reconfigure to become PK-2 elementary schools and Center and South Row become K-2 elementary schools. The Parker and McCarthy Middle Schools reconfigure to serve grades 6-8. Chelmsford High School would remain.
Identified Needs
✓ Full Day K
✓ Co-located Pre-K
✓ Solves over crowding issues at :
✓ Elementary schools
✓ Middle Schools
✓ Addresses inadequate program space
✓ Special education space
✓ MS science rooms
✓ Removes temporary construction at schools
✓ Addresses physical building conditions


total=37
G=18
Y=11
R=13
OPTION H
NEW MIDDLE SCHOOL
Westlands Comm. Ed.
PK-2
335
Byam Upper ES
353
Harrington ES
K-2
336
Center ES
318
South Row ES
3-5
550
Parker Upper ES*
597
McCarthy MS*
6-8
1209
New Middle School
* Both Parker and McCarthy could benefit from renovations to make the learning environment better suited to the younger grade levels.
9-12
1508
Chelmsford HS
Over-crowded
Aligned
Under-crowded
New Construction
Option H builds a new 6-8 middle school and reconfigures grades at the elementary level. Westlands discontinues as PK and Would serve community ed. Byam and Harrington become PK-2 elementary schools and Center and South Row become K-2 elementary schools. Both Parker and McCarthy become 3-5 upper-elementary schools. The District builds a new middle school to serve grades 6-8. Chelmsford High School remains.
Identified Needs
✓ Full Day K
✓ Co-located Pre-K
✓ Solves over crowding issues at :
✓ Elementary schools
✓ Middle Schools
✓ Addresses inadequate program space
✓ Special education space
✓ MS science rooms
✓ Removes temporary construction at schools
✓ Addresses physical building conditions


Advantages
Disadvantages
Blessing
Large school sizes
CURRICULUM NOT ALIGNED

Options Summary



New ECC/ High School

- State of the Art High School that benefits every student
- Combined 5th-8th at Existing High School Improves Facilities and creates parity for middle grades
- Repurposing of Parker as elementary school alleviates overcrowding at elementary schools

New ECC/ High School

- State of the Art High School that benefits every student
- Combined 5th-8th at Existing High School Improves Facilities and creates parity for middle grades
- Repurposing of Parker as elementary school alleviates overcrowding at elementary schools

Priority MSBA Project

- Submitted Statement Of Interest 2018
  - Not Accepted
- Submitted Statement Of Interest 2019
  - Not Accepted
- Submitted Statement Of Interest 2020
  - Not Accepted

New ECC/ High School

- State of the Art High School that benefits every student
- Combined 5th-8th at Existing High School Improves Facilities and creates parity for middle grades
- Repurposing of Parker as elementary school alleviates overcrowding at elementary schools

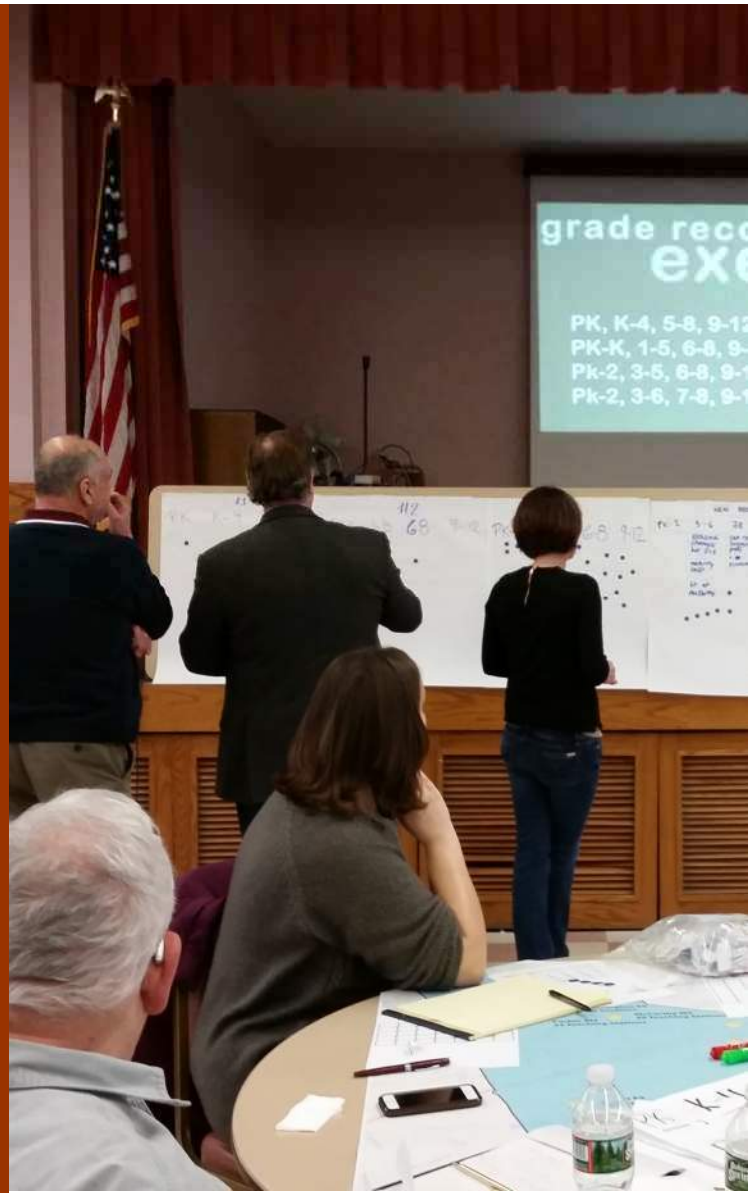
Priority MSBA Project

- Submitted Statement Of Interest 2018
  - Not Accepted
- Submitted Statement Of Interest 2019
  - Not Accepted
- Submitted Statement Of Interest 2020
  - Not Accepted

Possible Reasons

- Other facilities in other towns in more need
- Other facilities in Chelmsford in more need

Public Input Session #1

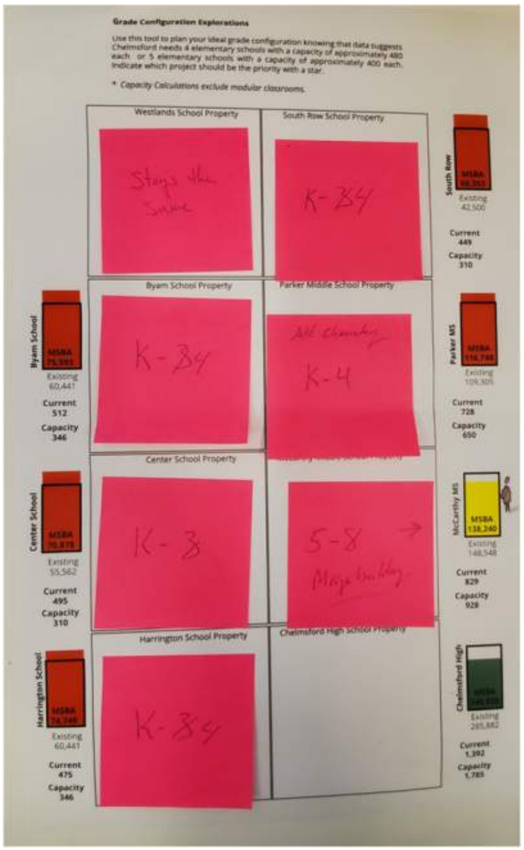
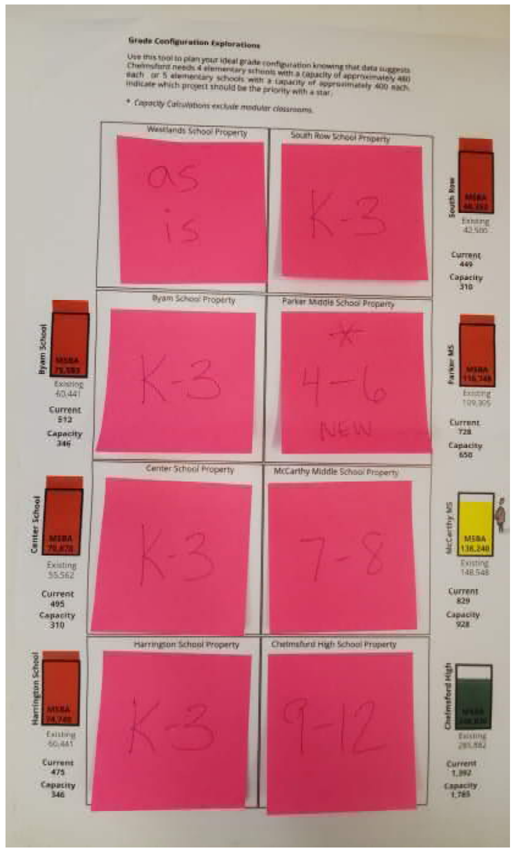
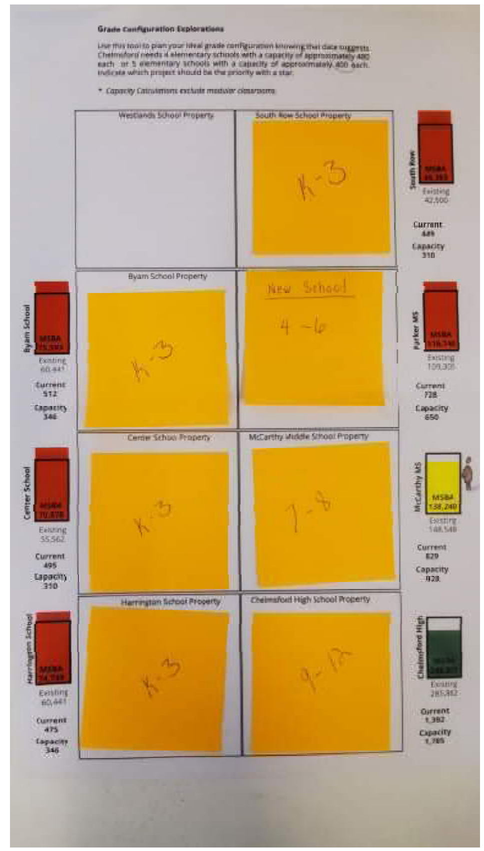
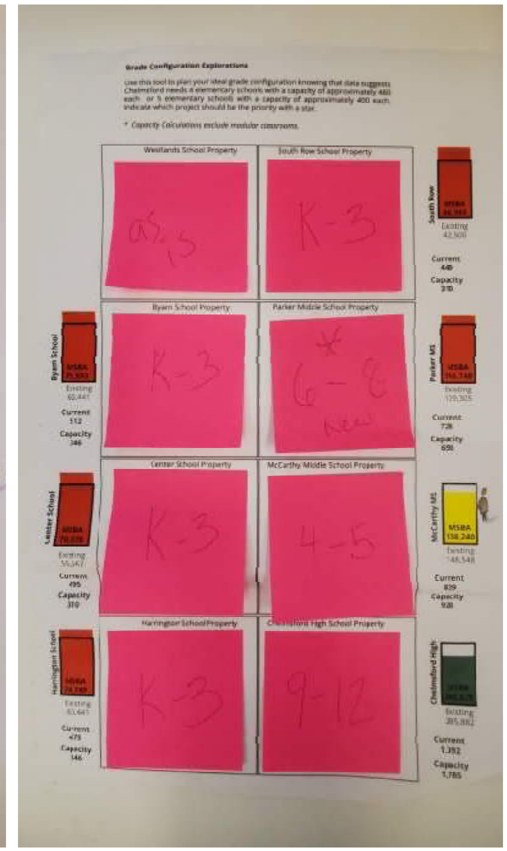


Grade Configuration Exercise

- PK, K-4th, 5th-8th, 9th-12th
- PK-4th, 5th-6th, 7th-8th, 9th-12th
- PK-2nd, 3rd-5th, 6th-8th, 9th-12th
- K-4th, 5th-6th,7th-8th, PK + 9th-12th
- 1st-5th, 6th-8th, PK & K + 9th-12th

1. **Place a sticker in the gap between grade levels where natural developmental breaks occur.**
2. **What are the advantages & disadvantages?**
3. **Report Out**

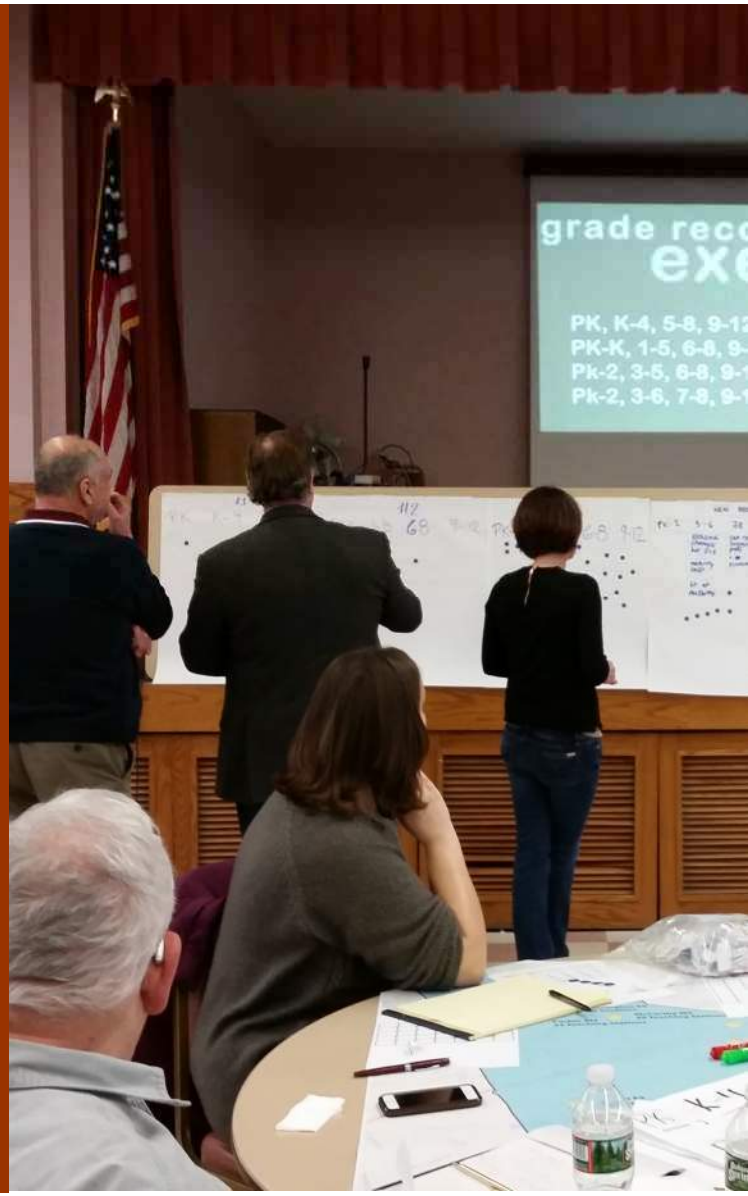
Middle School Faculty & Staff Input Session


Grade Configuration Explorations
Use this tool to plan your ideal grade configuration knowing that data suggests Chelmsford needs 4 elementary schools with a capacity of approximately 480 each or 5 elementary schools with a capacity of approximately 400 each. Indicate which project should be the priority with a star.
* Capacity Calculations exclude modular classrooms.
Westlands School Property
Stays the Same
South Row School Property
K-3/4
Byam School Property
K-3/4
Parker Middle School Property
All Change
K-4
Center School Property
K-3
5-8
Harrington School Property
K-3/4
Chelmsford High School Property
South Row
Byam School
Parker MS
Center School
McCarthy MS
Harrington School
Chelmsford High

Grade Configuration Explorations
Westlands School Property
as is
South Row School Property
K-3
Byam School Property
K-3
Parker Middle School Property
*
4-6
NEW
Center School Property
K-3
McCarthy Middle School Property
7-8
Harrington School Property
K-3
Chelmsford High School Property
9-12

Grade Configuration Explorations
Westlands School Property
South Row School Property
K-3
Byam School Property
K-3
New School
4-6
Center School Property
K-3
McCarthy Middle School Property
7-8
Harrington School Property
K-3
Chelmsford High School Property
9-12

Grade Configuration Explorations
Westlands School Property
as is
South Row School Property
K-3
Byam School Property
K-3
Parker Middle School Property
*
6-8
New
Center School Property
K-3
McCarthy Middle School Property
4-5
Harrington School Property
K-3
Chelmsford High School Property
9-12

Middle School Student Input Session


Connor

Public Input Session #2



Option: Parker Priority, 7th-8th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 7th-8th	5th-6th	K-4th	K-4th	K-4th	K-4th

Option: Parker Priority, 5th-6th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 5th-6th	7th-8th	K-4th	K-4th	K-4th	K-4th

Option: Parker Priority, 5th-8th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 5th-8th	PK-4th	K-4th	K-4th	K-4th	K-4th

Option: Parker Priority, 4th-6th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 4th-6th	7th-8th	K-3rd	K-3rd	K-3rd	K-3rd

Option: Parker Priority, 6th-8th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 6th-8th	PK-5th	K-5th	K-5th	K-5th	K-5th

Options' Considerations & Objectives

- Chelmsford high school as priority project less likely to get invited into MSBA process.
- Elementary schools in greatest physical need, most deficient on permanent space, and more likely to get invited into MSBA process, but also less likely to get public support one at a time.
- Middle grades most likely best balance to get invited into MSBA process and to gain public support.

- Resolve as many identified issues as possible in the priority project as cost effectively as possible.
- Impact every student directly with project.
- Position the District to resolve the remaining issues over a longer time horizon.
- Relocate PreK to be part of one or more elementary schools
- Consider alternative grade groupings at both elementary and middle grades

Emerging Master Plan Options

Next Steps

November	**Master Plan Timelines & Cost Estimates**
Dec 12th	**School Committee Update**
December	**Priority Project Discussions**
Dec 21st	**School Committee Update**
January	**Draft and Final Reports**
Early Spring	**Statement of Interest for Priority Project**

Chelmsford Public Schools

Facility Master Plan Update

School Committee

12.21.2021

DORE + WHITTIER

Agenda

- Study Progress
- Key Decisions that Inform the Master Plan
- Timelines & Grade Configurations
- Questions / Discussion
- Implementation Plans for Cost Estimating
- Next Steps

Study Progress

Master Plan Update Scope

- Update Timing & Sequence of Capital Improvements
- Updated Enrollment Analysis
- Updated Capacity Analysis
- Exploration of Grade Configurations
- Exploration Of Alternatives and Cost Estimates
- Identification of MSBA Priority Project

Master Plan Update Scope

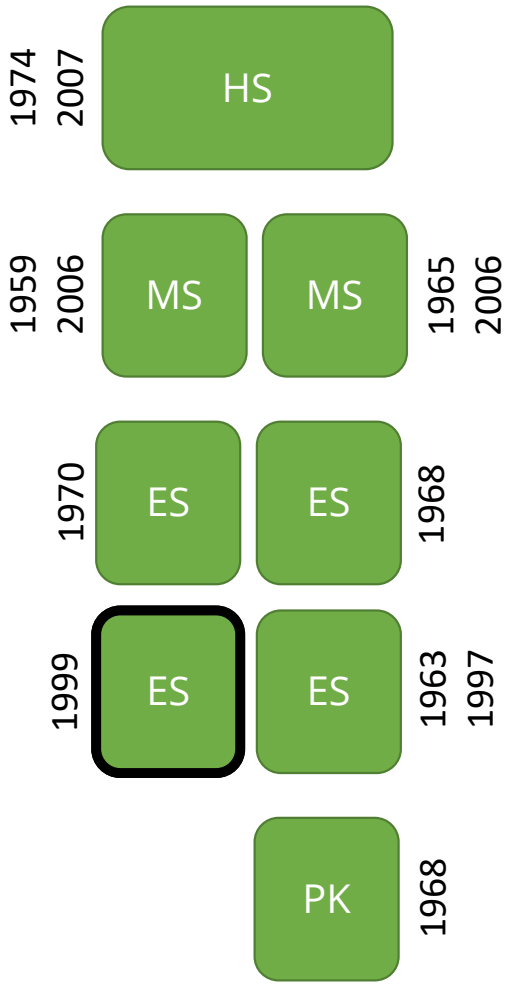
• Update Timing & Sequence of Capital Improvements	**In Progress**
• Updated Enrollment Analysis	**Complete**
• Updated Capacity Analysis	**Complete**
• Exploration of Grade Configurations	**Complete**
• Exploration Of Alternatives and Cost Estimates	**In Progress**
• Identification of MSBA Priority Project	**In Progress**

Master Plan Update Scope

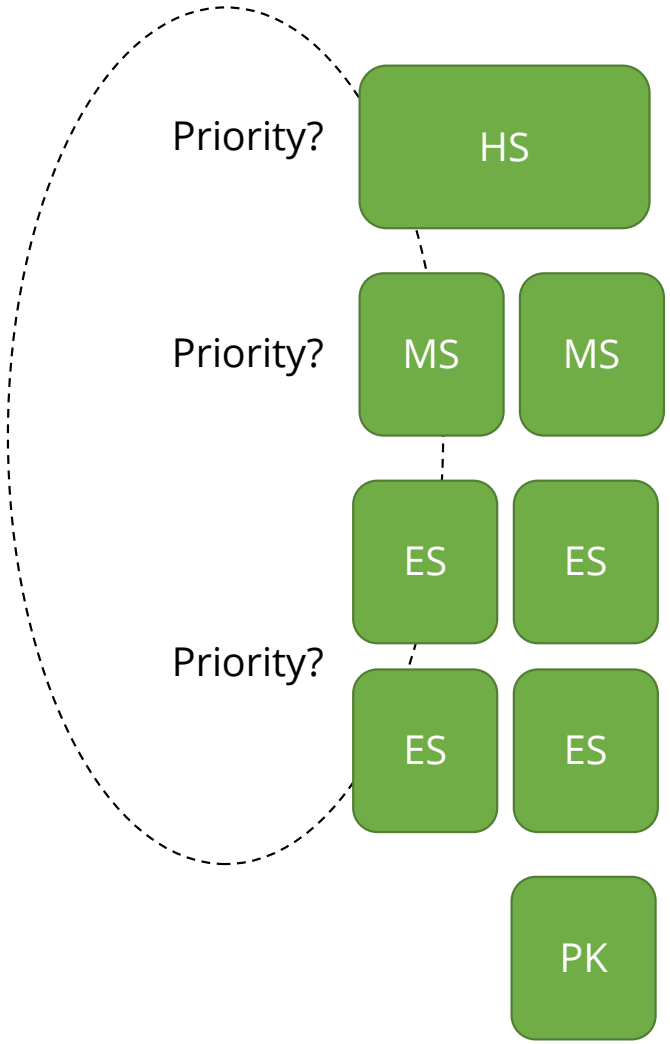
- Update Timing & Sequence of Capital Improvements
- Updated Enrollment Analysis
- Updated Capacity Analysis
- Exploration of Grade Configurations
- Exploration Of Alternatives and Cost Estimates
- Identification of MSBA Priority Project

Key Decisions that Inform Master Plan


HS
MS
MS
ES
(600)
ES
(600)
ES
(600)
ES
(600)
PK
(140)

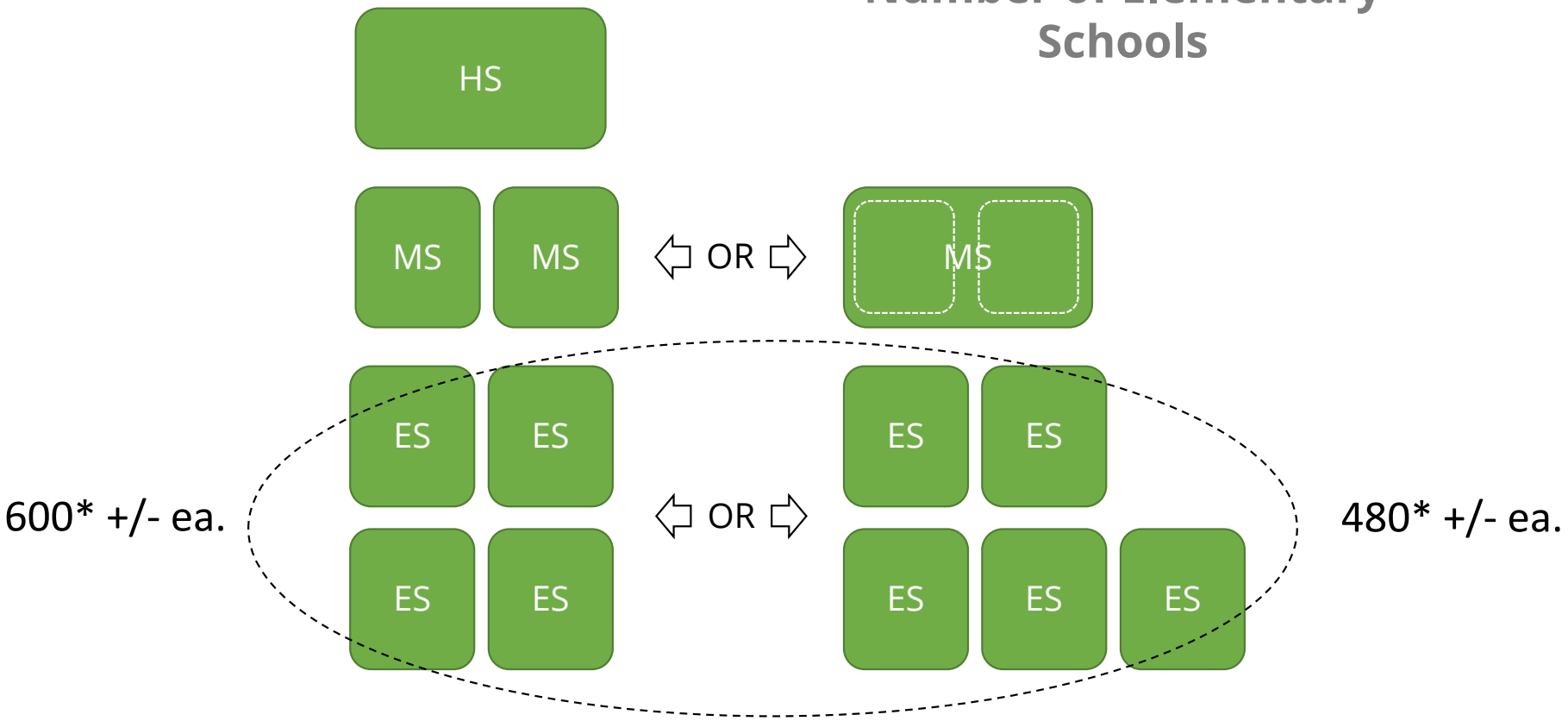


Prepare a long-term plan to renovate or replace most or all buildings



Priority for Statement of Interest

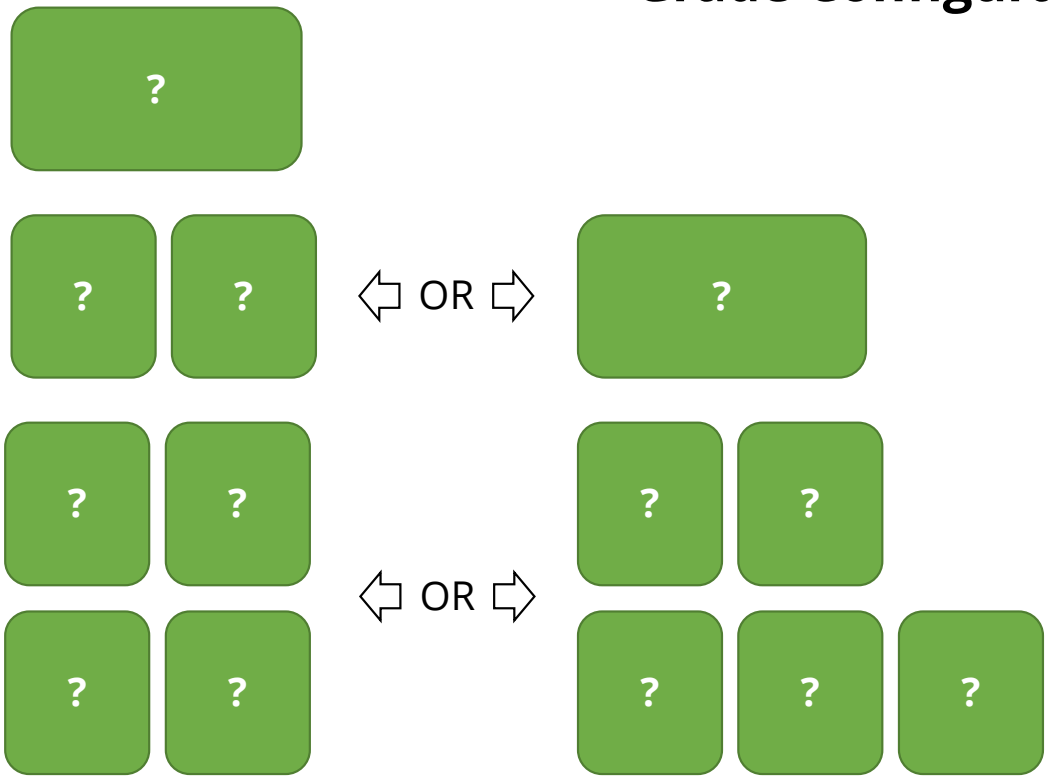
Number of Elementary Schools



Assumes 150 PreK population incorporated into one of these projects.

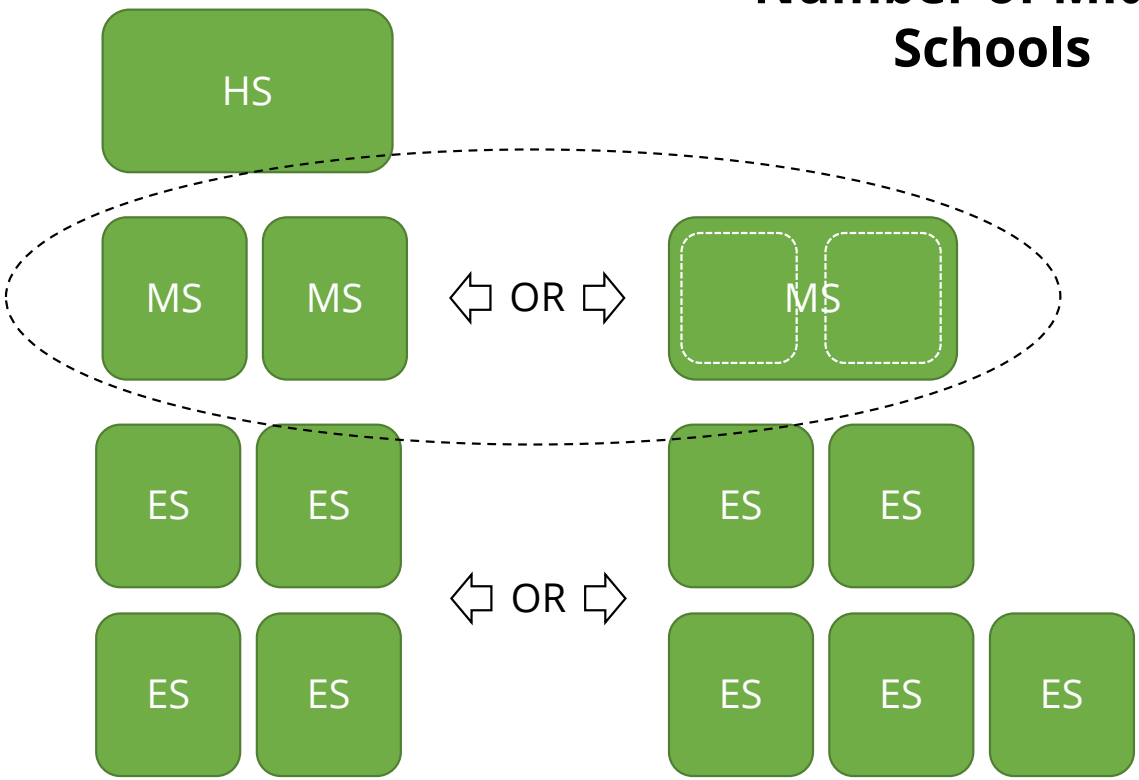
* Depending on grade configuration.

Grade Configuration

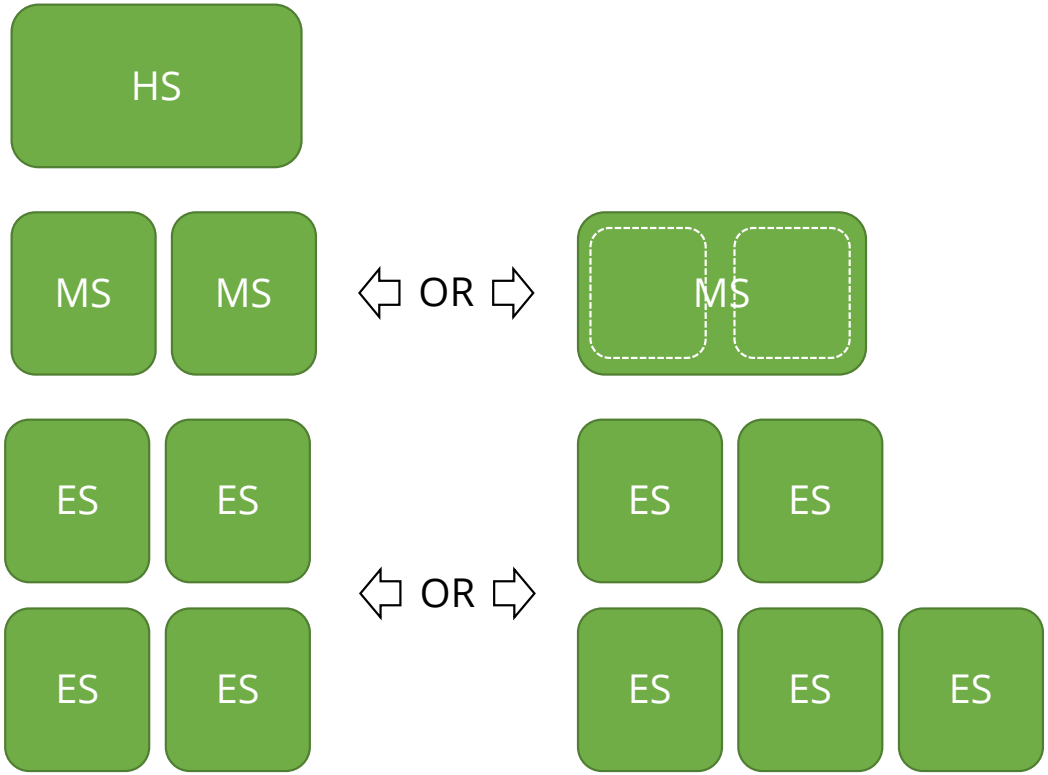


Assumes 150 PreK population incorporated into one of these projects.

Number of Middle Schools



Assumes 150 PreK population incorporated into one of these projects.



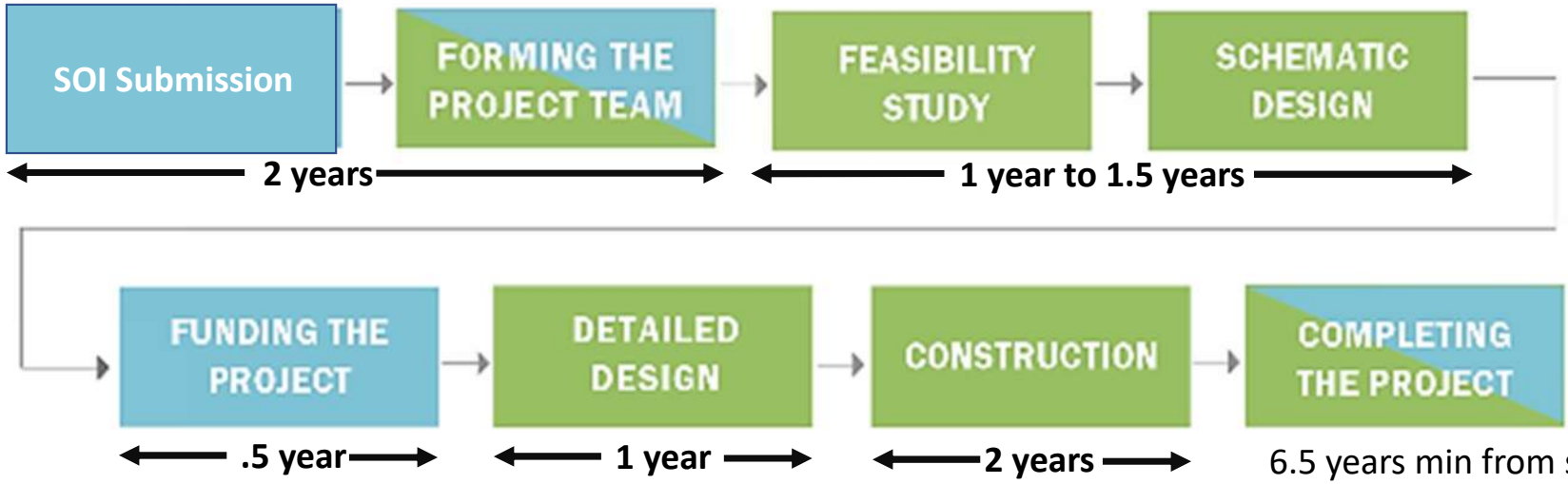
6 Projects, Minimum Over the Master Plan

Assumes 150 PreK population incorporated into one of these projects.

Timelines & Grade Configurations

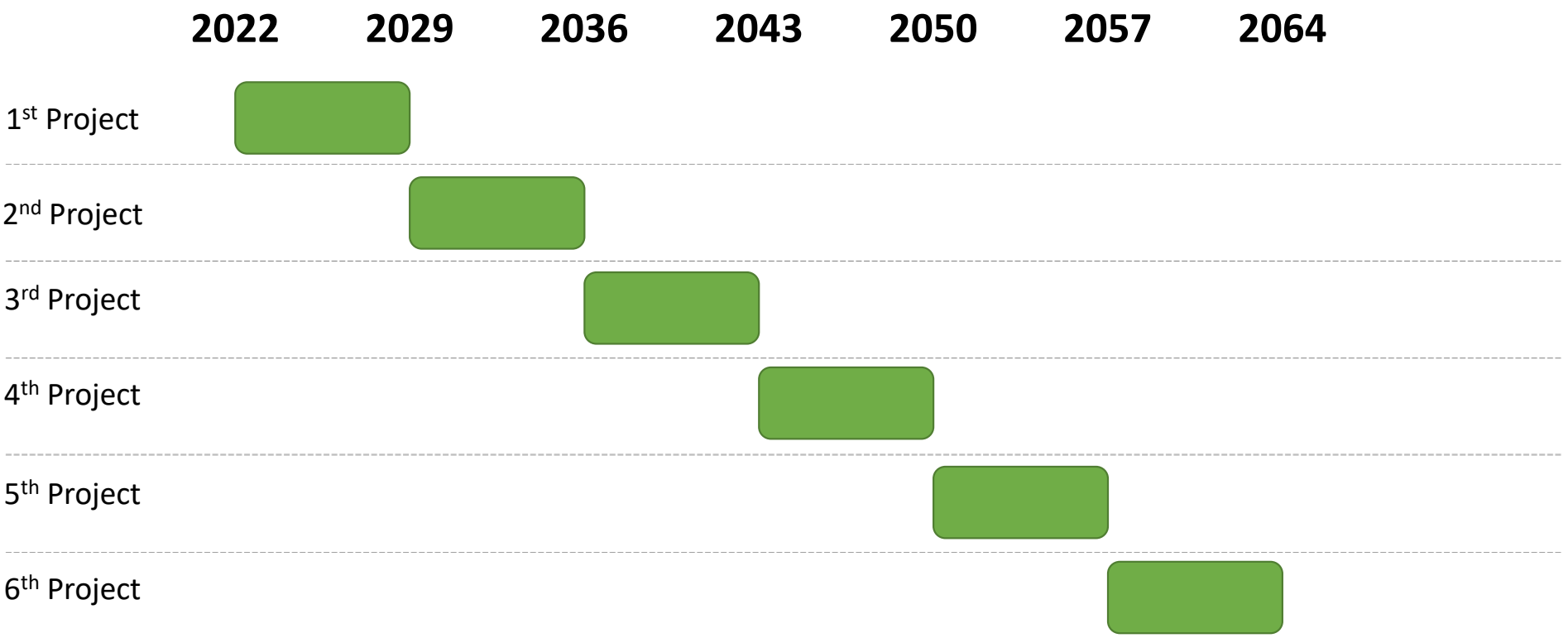
Assumptions for Master Plan Timelines

MSBA Building Process Timeline Based on
Average MSBA School Project

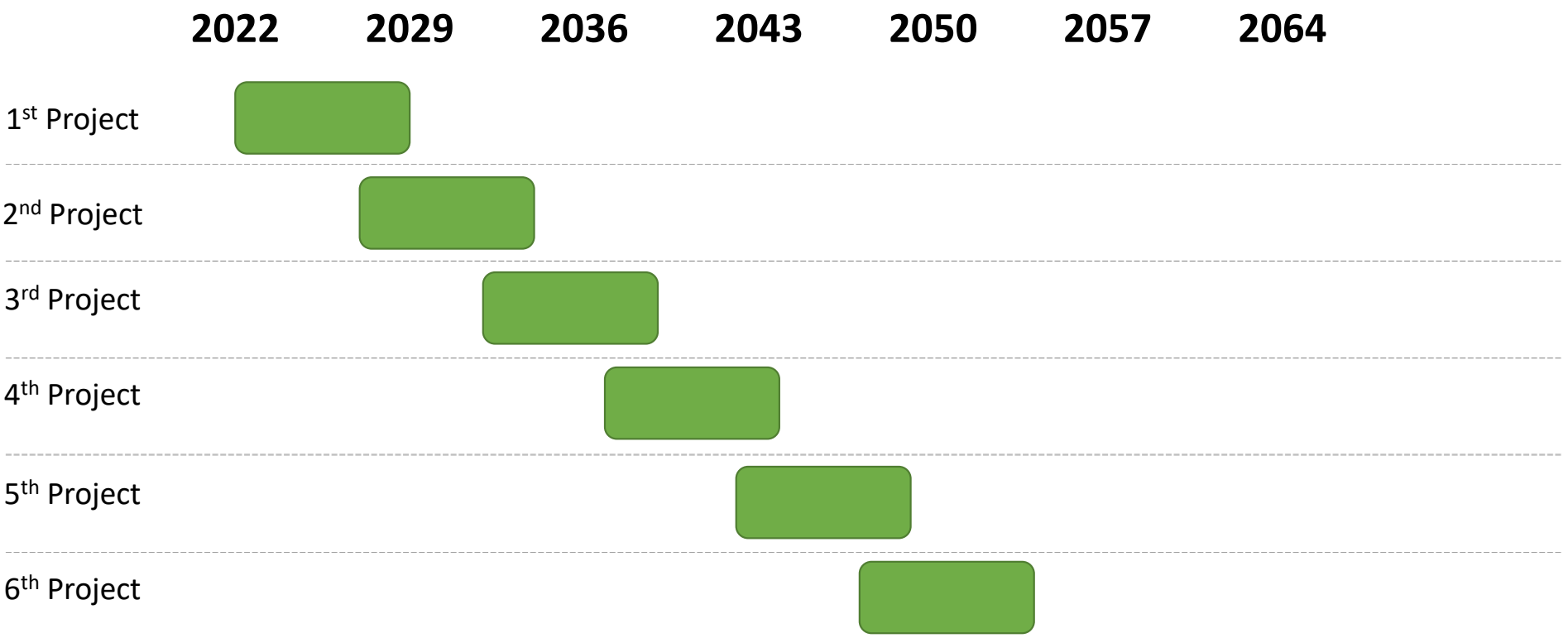


6.5 years min from start
7.5 years average to move in

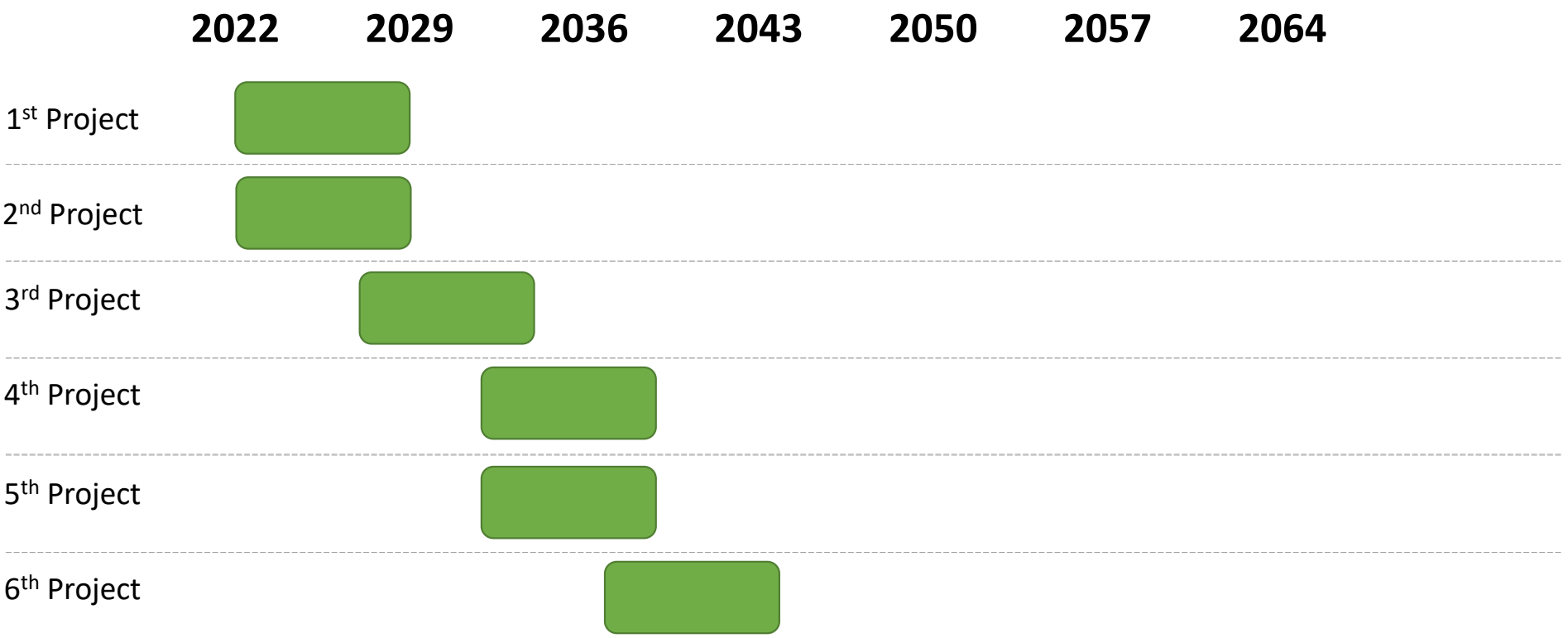
Sequential Timeline



Overlapping Timeline



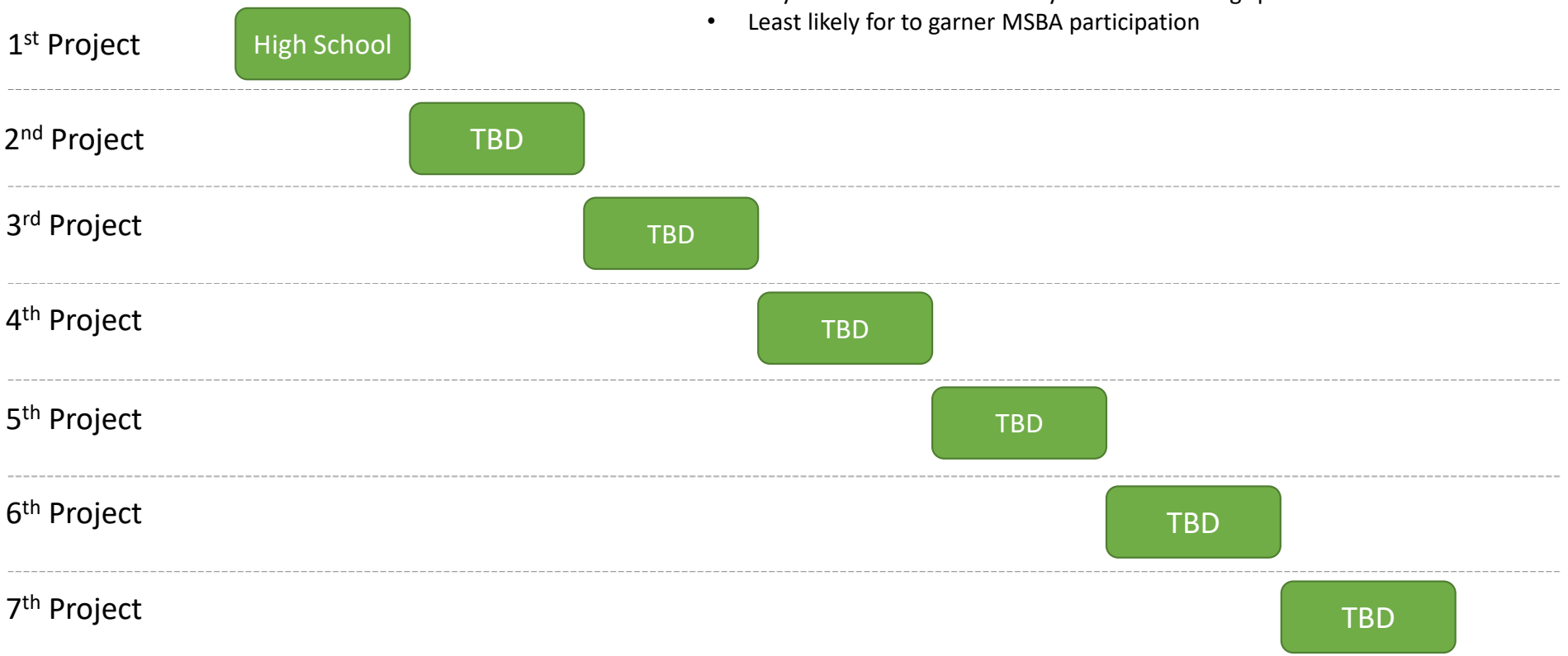
Concurrent Timeline



Option: High School Priority

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
TBD	TBD	TBD	TBD	TBD	TBD

- May allow existing high school to be converted to 5th – 8th
- May allow existing Parker and/or McCarthy to covert to ES
- May allow Parker or McCarthy to serve as swing space for ES
- Least likely for to garner MSBA participation



Option P1: Parker Priority, 7th-8th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 7th-8th	5th-6th	K-4th	K-4th	PK-4th	K-4th

Option P2: Parker Priority, 5th-6th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 5th-6th	7th-8th	K-4th	K-4th	PK-4th	K-4th

Option P3: Parker Priority, 5th-8th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 5th-8th	PK-4th	K-4th	K-4th	K-4th	K-4th

Option P4: Parker Priority, 4th-6th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 4th-6th	7th-8th	K-3rd	K-3rd	PK-3rd	K-3rd

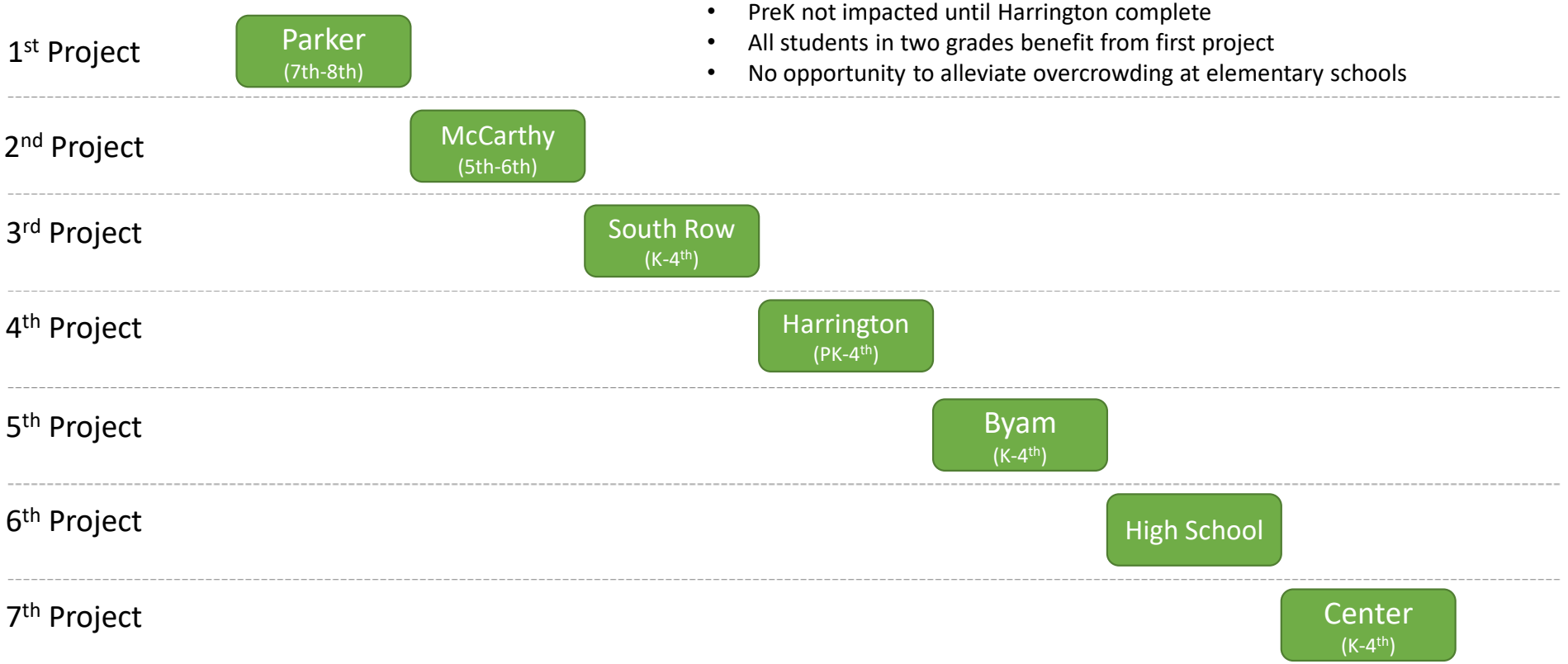
Option P5: Parker Priority, 6th-8th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 6th-8th	PK-5th	K-5th	K-5th	K-5th	K-5th

Option: Parker Priority, 7th-8th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 7th-8th	5th-6th	K-4th	K-4th	PK-4th	K-4th

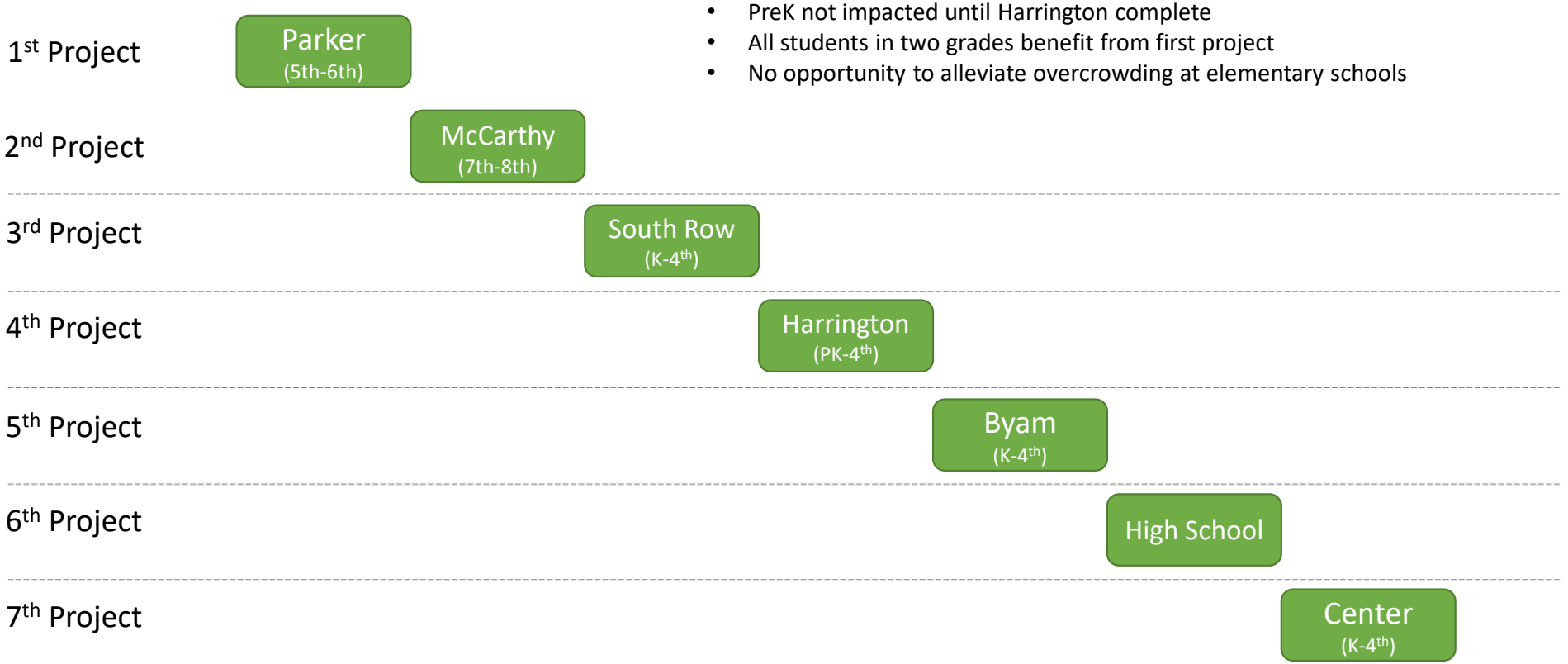
- May force four Elementary Schools @ 600 Students
- Does not allow McCarthy to serve as swing space for elementary school projects
- Requires seven projects
- PreK not impacted until Harrington complete
- All students in two grades benefit from first project
- No opportunity to alleviate overcrowding at elementary schools



Option: Parker Priority, 5th-6th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 5th-6th	7th-8th	K-4th	K-4th	PK-4th	K-4th

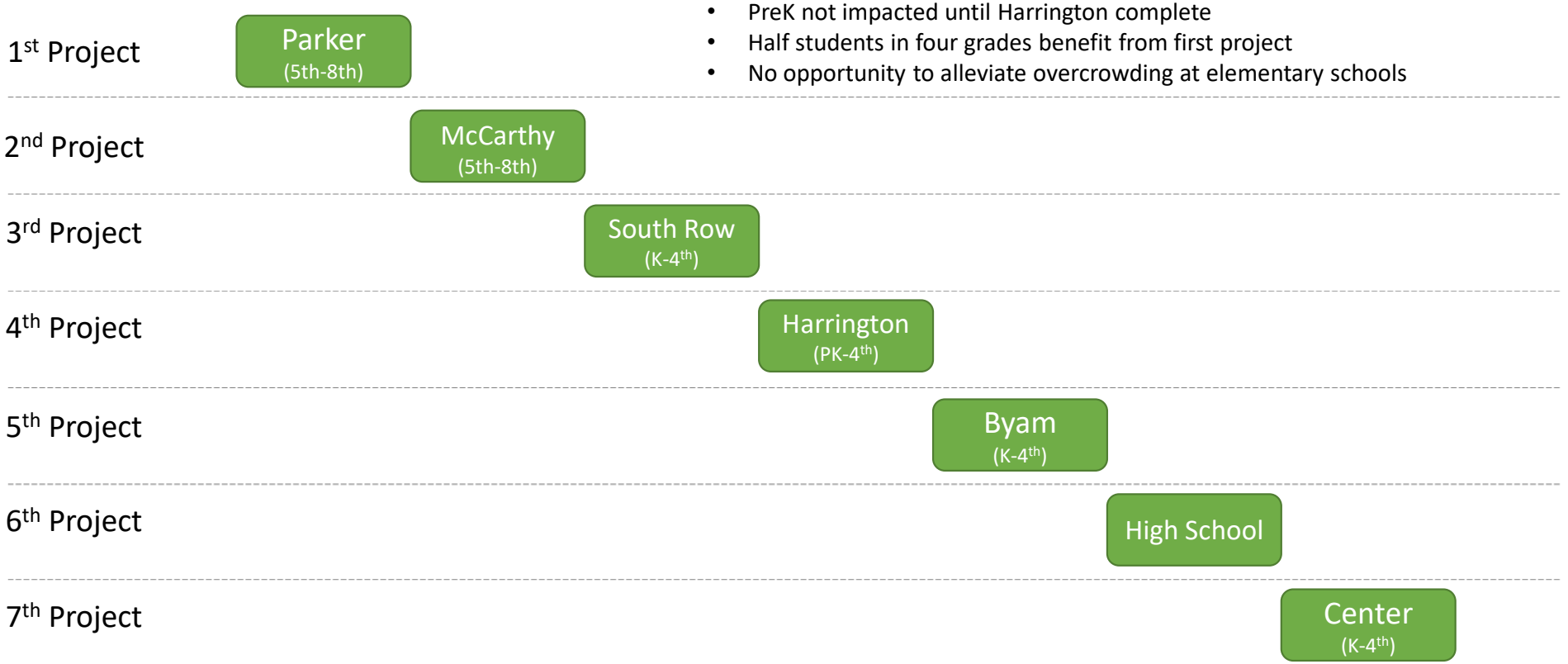
- May force four Elementary Schools @ 600 Students
- Does not allow McCarthy to serve as swing space for elementary school projects
- Requires seven projects
- PreK not impacted until Harrington complete
- All students in two grades benefit from first project
- No opportunity to alleviate overcrowding at elementary schools



Option: Parker Priority, 5th-8th Focus (Two Middle Schools & Four ES Variation)

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 5th-8th	5th-8th	K-4th	K-4th	PK-4th	K-4th

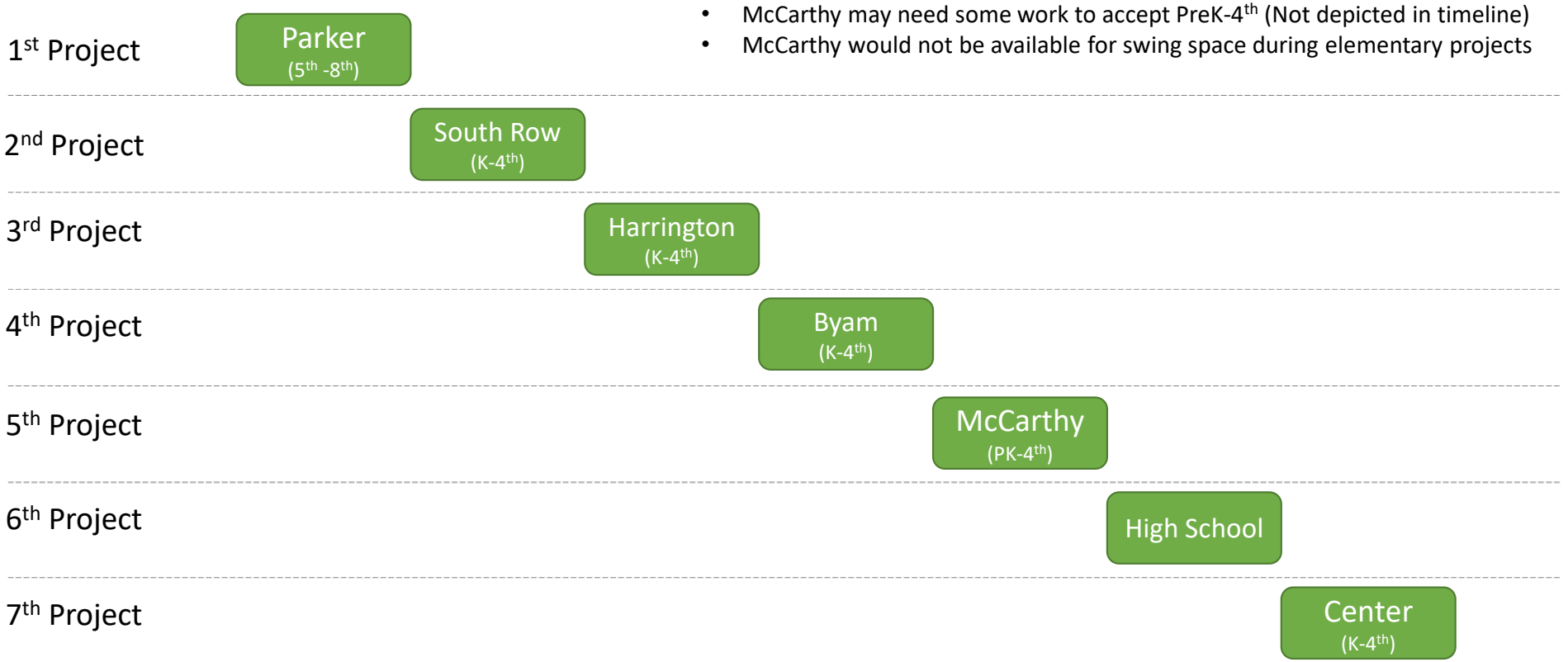
- May force four Elementary Schools @ 600 Students
- Does not allow McCarthy to serve as swing space for elementary school projects
- Requires seven projects
- PreK not impacted until Harrington complete
- Half students in four grades benefit from first project
- No opportunity to alleviate overcrowding at elementary schools



Option: Parker Priority, 5th-8th Focus (One Middle School & Five ES Variation)

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 5th-8th	PK-4th	K-4th	K-4th	K-4th	K-4th

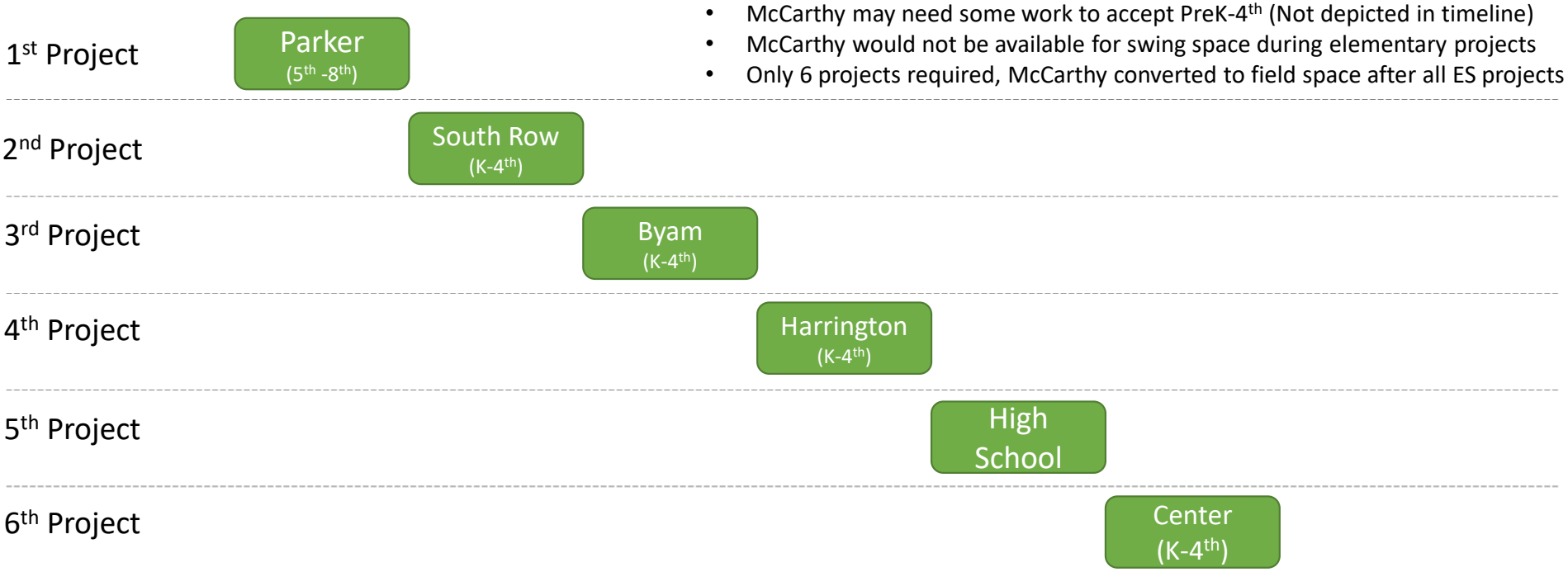
- Five Elementary Schools @ 480 Students
- PreK impacted after first project
- Opportunity to alleviate overcrowding at Elementary Schools after first project
- McCarthy may need some work to accept PreK-4th (Not depicted in timeline)
- McCarthy would not be available for swing space during elementary projects



Option: Parker Priority, 5th-8th Focus (One Middle School & Five then Four ES Variation)

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 5th-8th	PK-4th	K-4th	K-4th	K-4th	K-4th

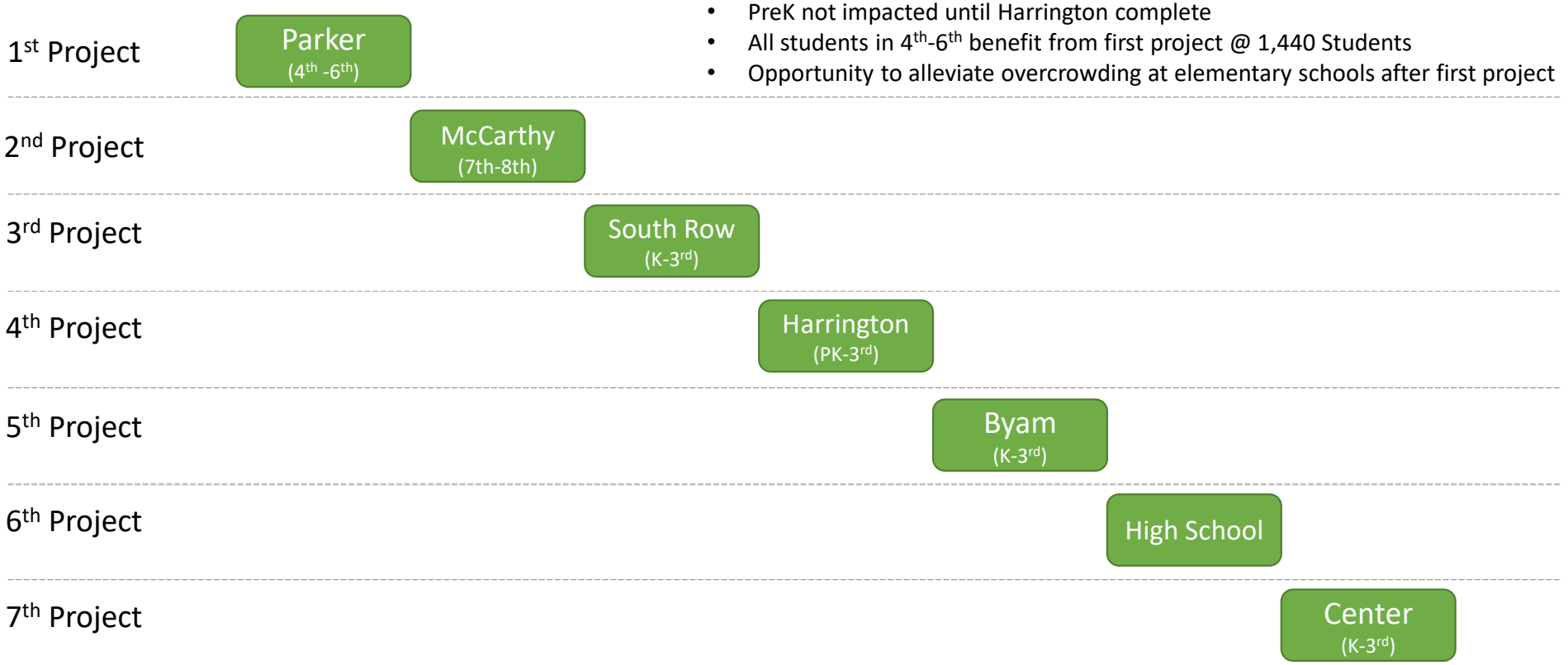
- Four Elementary Schools @ 600 Students
- PreK impacted after first project
- Opportunity to alleviate overcrowding at Elementary Schools after first project
- McCarthy may need some work to accept PreK-4th (Not depicted in timeline)
- McCarthy would not be available for swing space during elementary projects
- Only 6 projects required, McCarthy converted to field space after all ES projects



Option: Parker Priority, 4th-6th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 4th-6th	7th-8th	K-3rd	K-3rd	PK-3rd	K-3rd

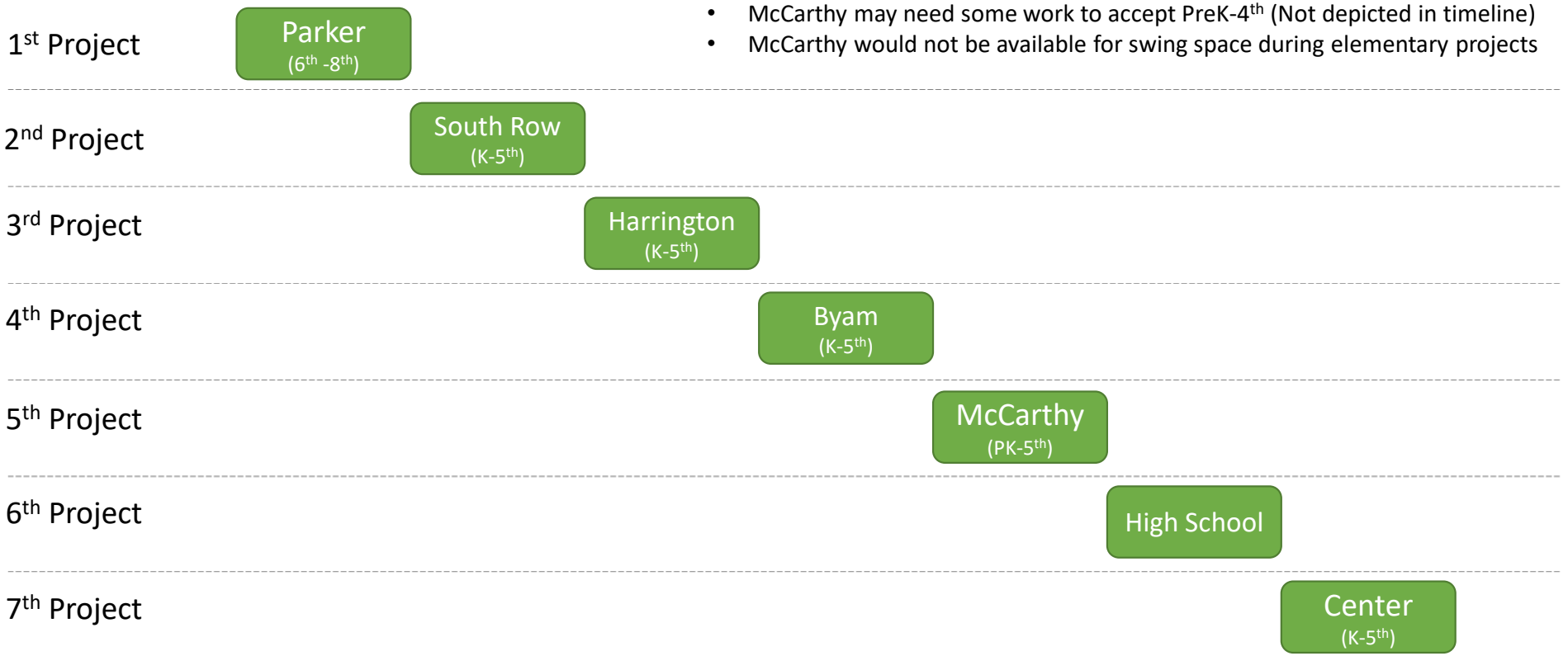
- Four Lower Elementary Schools @ 480 Students
- Does not allow McCarthy to serve as swing space for elementary school projects
- Requires seven projects
- PreK not impacted until Harrington complete
- All students in 4th-6th benefit from first project @ 1,440 Students
- Opportunity to alleviate overcrowding at elementary schools after first project



Option: Parker Priority, 6th-8th Focus

Parker Site	McCarthy Site	Byam Site	Center Site	Harrington Site	South Row Site
New 6th-8th	PK-5th	K-5th	K-5th	K-5th	K-5th

- Five Elementary Schools (K-5th) @ 576 Students
- PreK impacted after first project, then again after McCarthy project
- Opportunity to alleviate overcrowding at Elementary Schools after first project
- McCarthy may need some work to accept PreK-4th (Not depicted in timeline)
- McCarthy would not be available for swing space during elementary projects



Questions / Discussion

Thank you

Chelmsford Public Schools

Facility Master Plan Update

School Committee

1.4.22

DORE + WHITTIER

Agenda

- Master Plan Goals
- Study Progress Discussion
- Key Decisions that Inform the Master Plan
- Key Decisions Discussion

Master Plan Goals

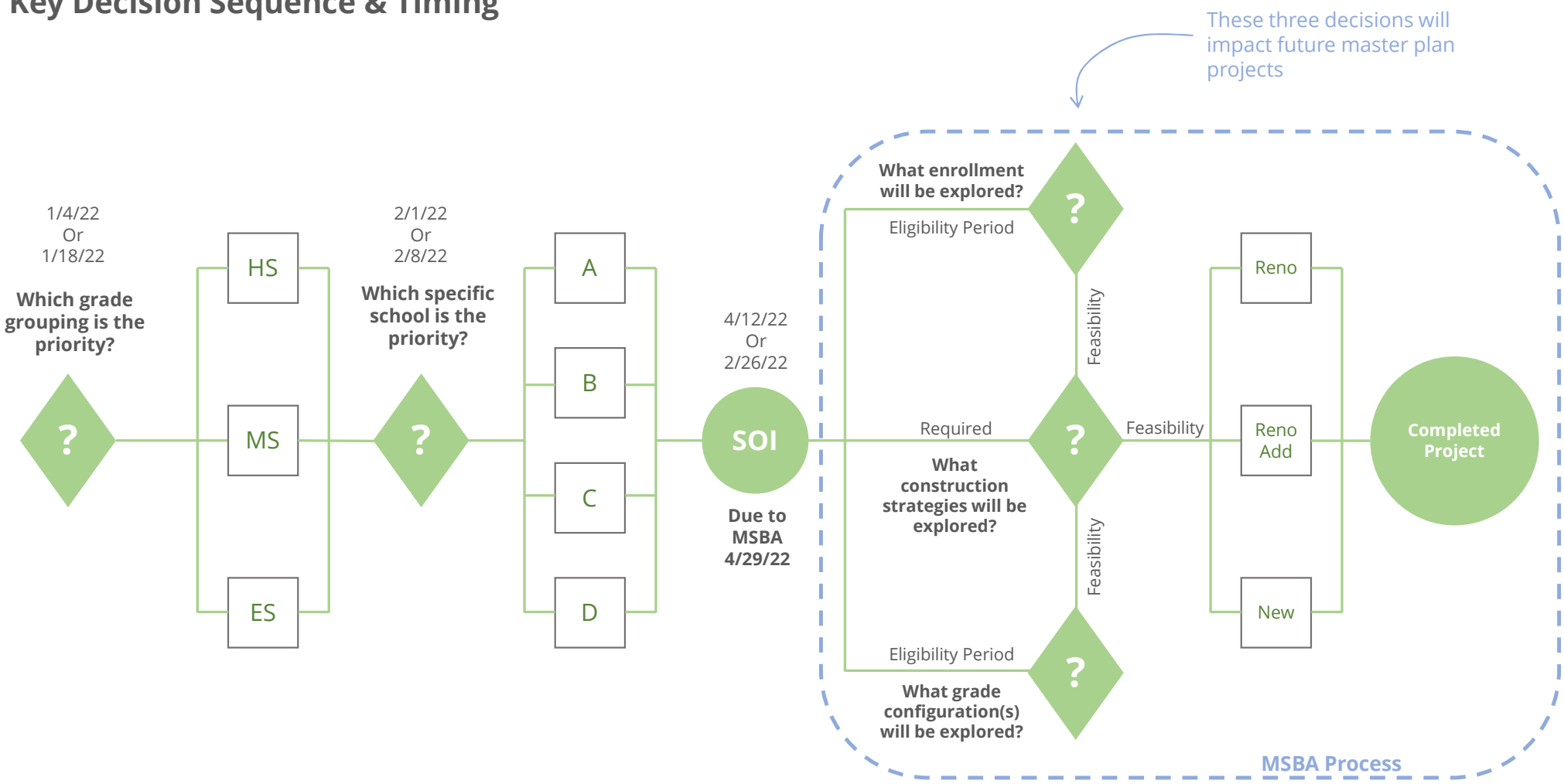
Master Plan Goals

- Modernize entire building inventory to resolve enrollment, educational, and facility deficiencies
- Alleviate overcrowding and anticipate growth
- Size elementary schools with enrollments of approximately 500 students
- Position Pre-K to be co-located with an elementary school
- Prioritize projects to benefit the greatest number of students as quickly as possible
- Execute projects to maximize the educational impact of any financial investment

Study Progress Discussion

Key Decisions

Key Decision Sequence & Timing



Key Decisions Discussion

Thank You

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Chelmsford Public Schools

Facility Master Plan

School Committee

2.1.2022

DORE + WHITTIER

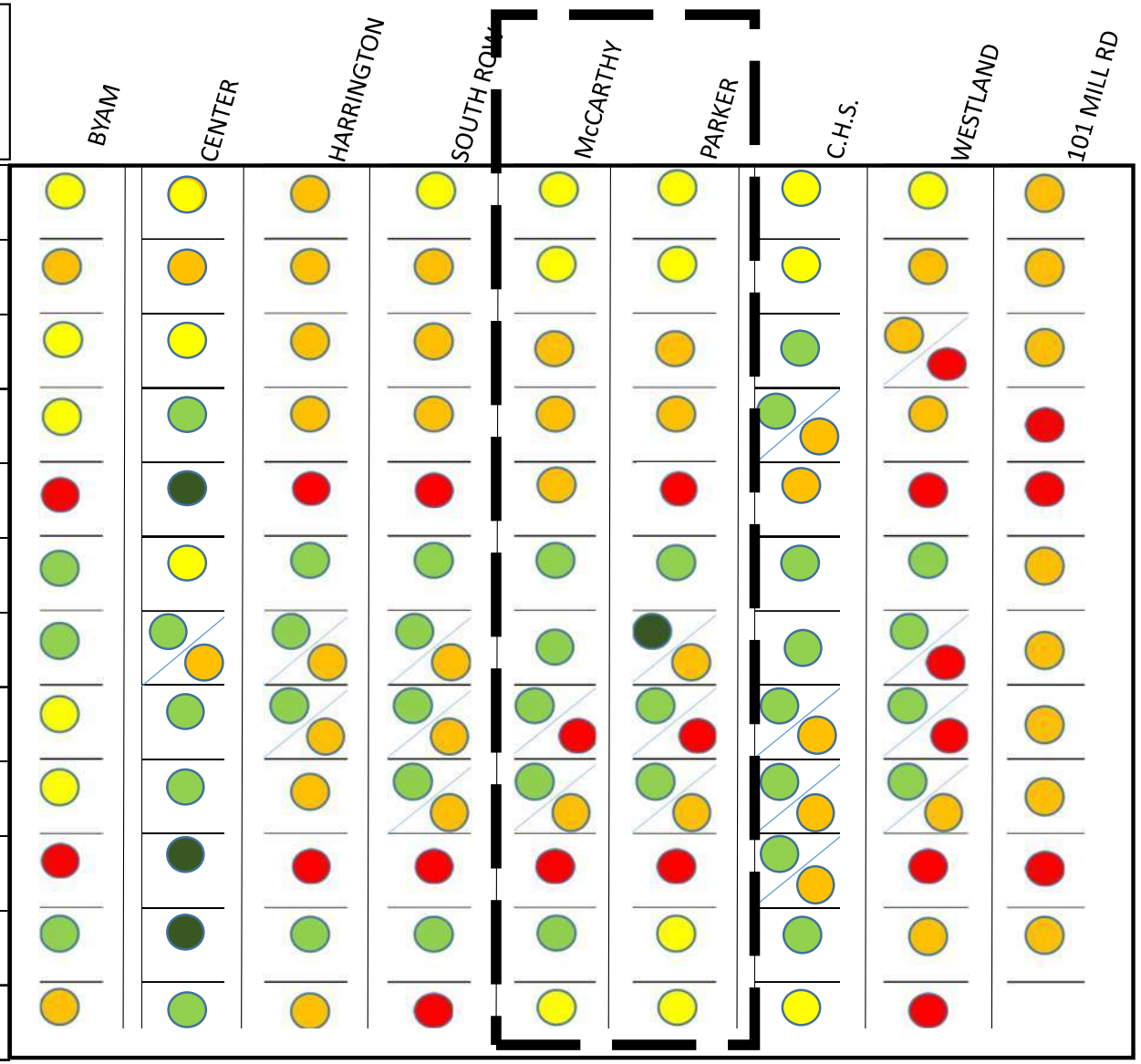
Agenda

- Compare Parker Middle School Needs to McCarthy Middle School Needs

LEGEND

- Excellent
- Good Condition
- Fair / Maintenance
- Repair / Replace
- Poor

1	**Site & Civil**
2	**Site Accessibility / Play Areas**
3	**Exterior Building Elements**
4	**Interior Architectural Elements**
5	**Accessibility**
6	**Structural Elements**
7	**Mechanical Systems**
8	**Electrical Systems**
9	**Plumbing Systems**
10	**Fire Protection Systems**
11	**Hazardous Mat. Abatement**
12	**Functional Use of Space**



facility assessment

Facility Assessment Needs

Parker School: Concrete framed with load bearing interior and exterior walls. Constructed in 1965 with a renovation in 2006

TOTAL 2016 estimated cost of repairs based on 10 yr repair timeline including on-going maintenance = $17,069,830

Greater cost in mechanical, electrical, plumbing, ADA & HazMat improvements

McCarthy School: Concrete framed with load bearing interior and exterior walls. Constructed in 1959 with a renovation in 2006

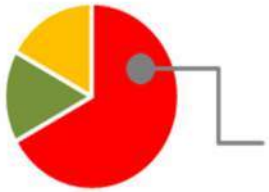
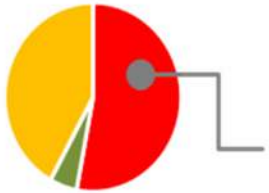
TOTAL 2016 estimated cost of repairs based on 10 yr repair timeline including on-going maintenance = $10,788,610

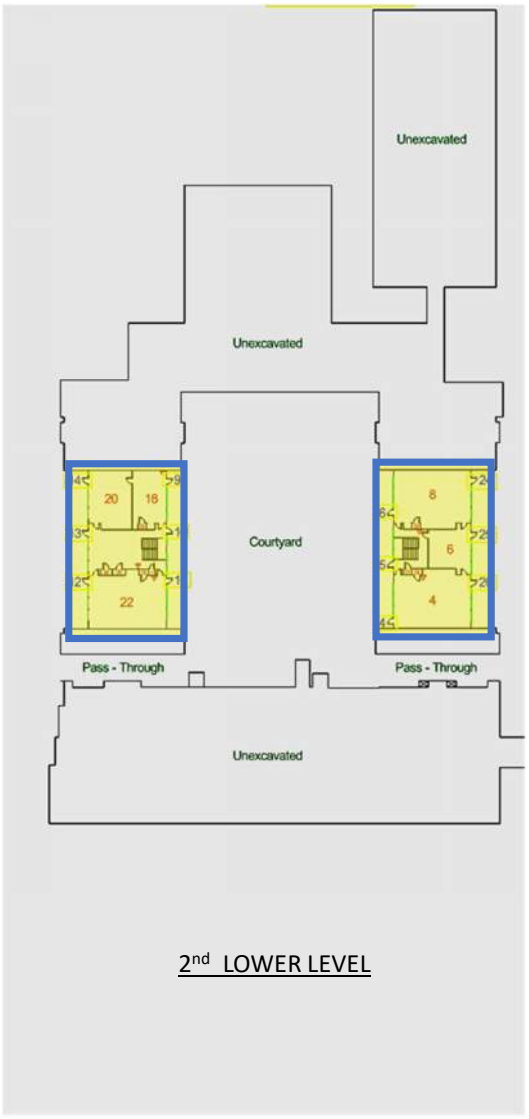
PARKER MIDDLE SCHOOL UPGRADES SINCE PREVIOUS REPORT

1. Full kitchen upgrade
2. Several restrooms have been upgraded
3. Sidewalks have been redone and new granite curbs have been added.
4. Modular classrooms have had repairs to the siding and skirting
5. Funding for repairs to the stairs has been requested for summer of 2022
6. Some cracks to the interior CMU walls have been done
7. Bathrooms have been upgraded with new fixtures
8. Unit ventilators receive routine maintence , the gym heating and venting systems receive on-going maintence
9. On-going maintenance continues on the boilers
10. The fire alarm system was upgraded
11. On-going removal of the haz/mat materials

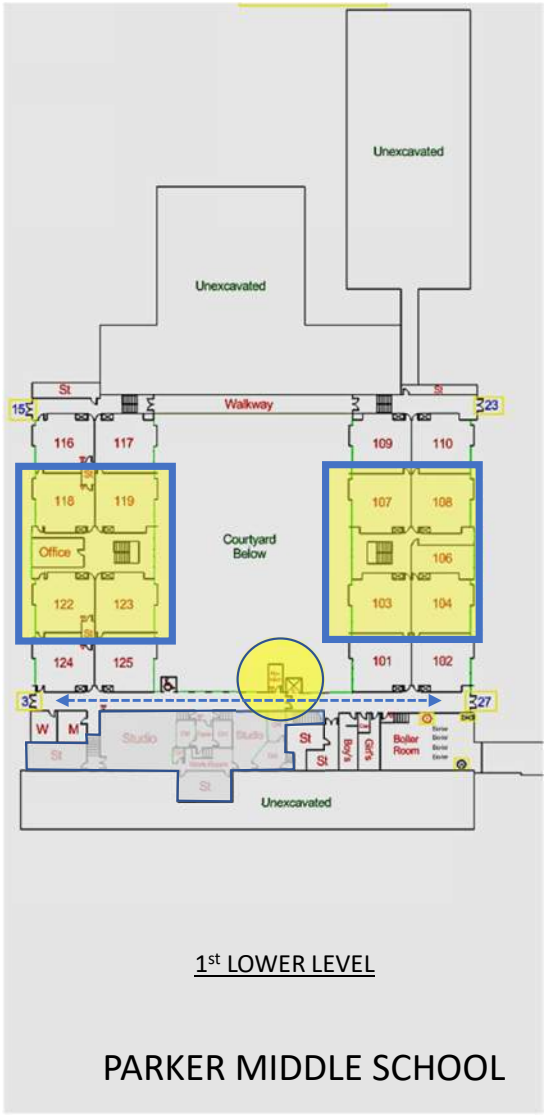
McCARTHY MIDDLE SCHOOL UPGRADES SINCE PREVIOUS REPORT

1. The theater has been completely renovated,
2. A kitchen renovation is scheduled for 2022
3. Roof repairs
4. Restroom upgrades including plumbing fixtures and drinking fountains
5. Doors and hardware upgrades
6. On-going maintenance to unit ventilators, roof top units, heat pumps
7. Upgrades to fire alarm panels
8. Replacement to the gas water heaters
9. On-going removal of the haz/mat materials

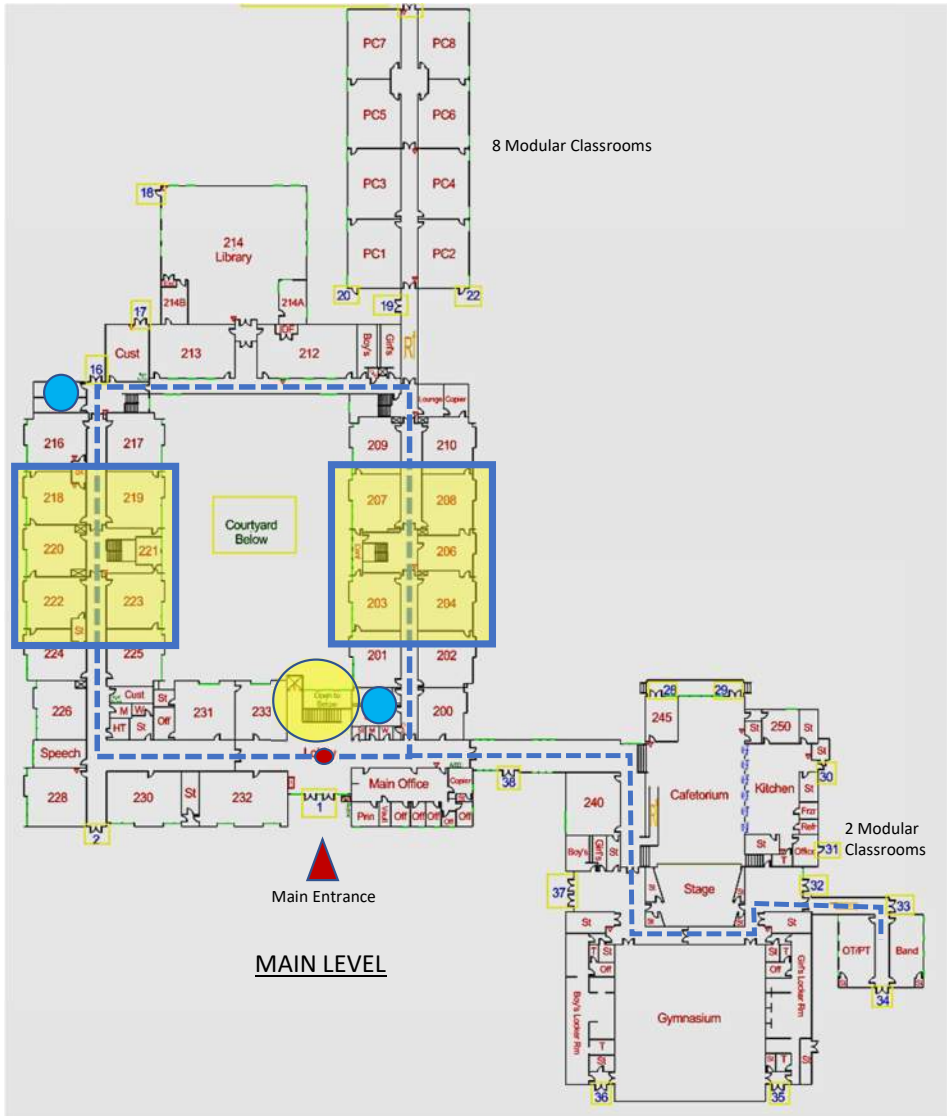
	Existing Enrollment	Capacity by GSF	Capacity by Classroom Count	MSBA Instructional Space Comparative Analysis – Room by Room
McCarthy MS	864	928	**800**	 67% are under by 10% or more
Parker MS	717	**650**	**572**	 53% are under by 10% or more



2nd LOWER LEVEL

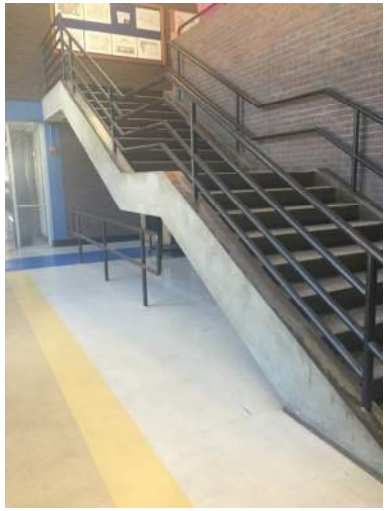
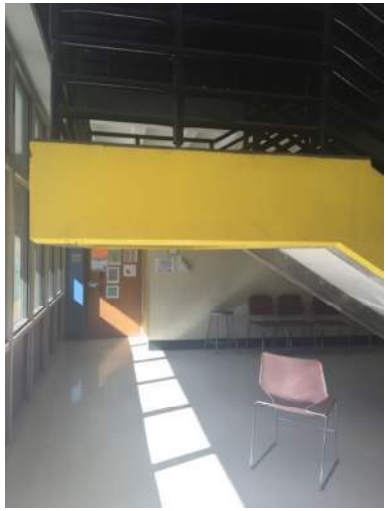


1st LOWER LEVEL

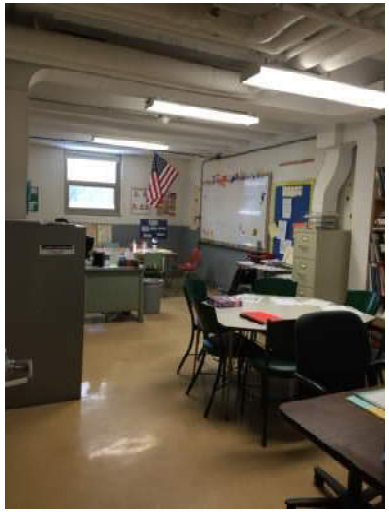
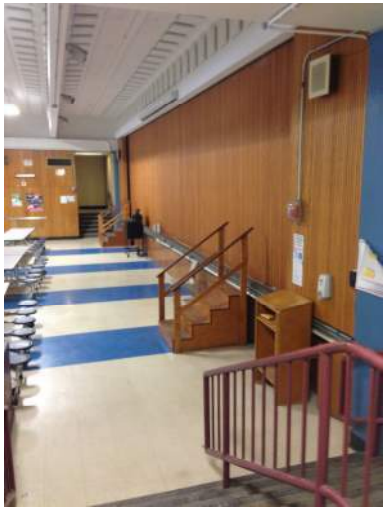


MAIN LEVEL

PARKER MIDDLE SCHOOL

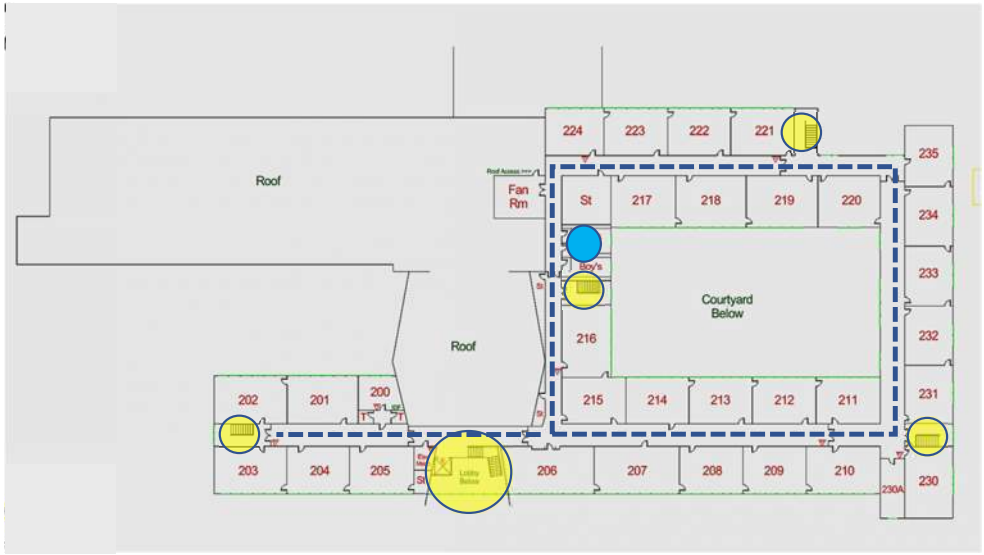





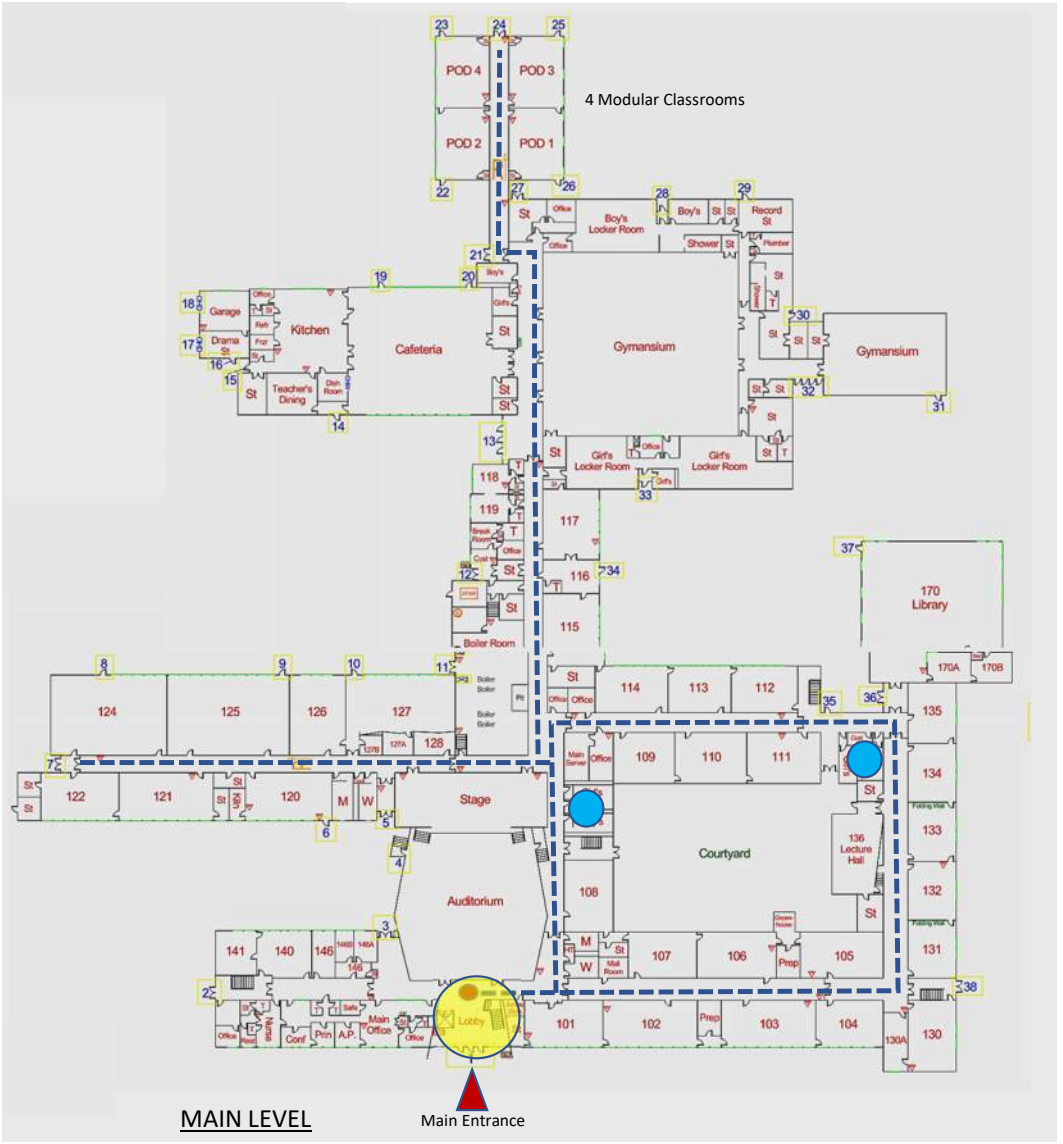




PARKER MIDDLE SCHOOL

PARKER MIDDLE SCHOOL



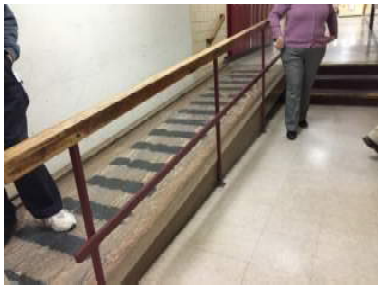
SECOND LEVEL

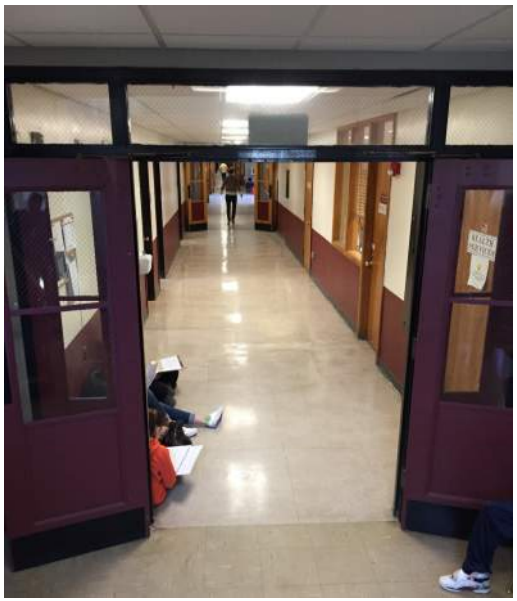


MAIN LEVEL

McCARTHY MIDDLE SCHOOL


McCarthy Middle School






QUESTIONS
DORE + WHITTIER