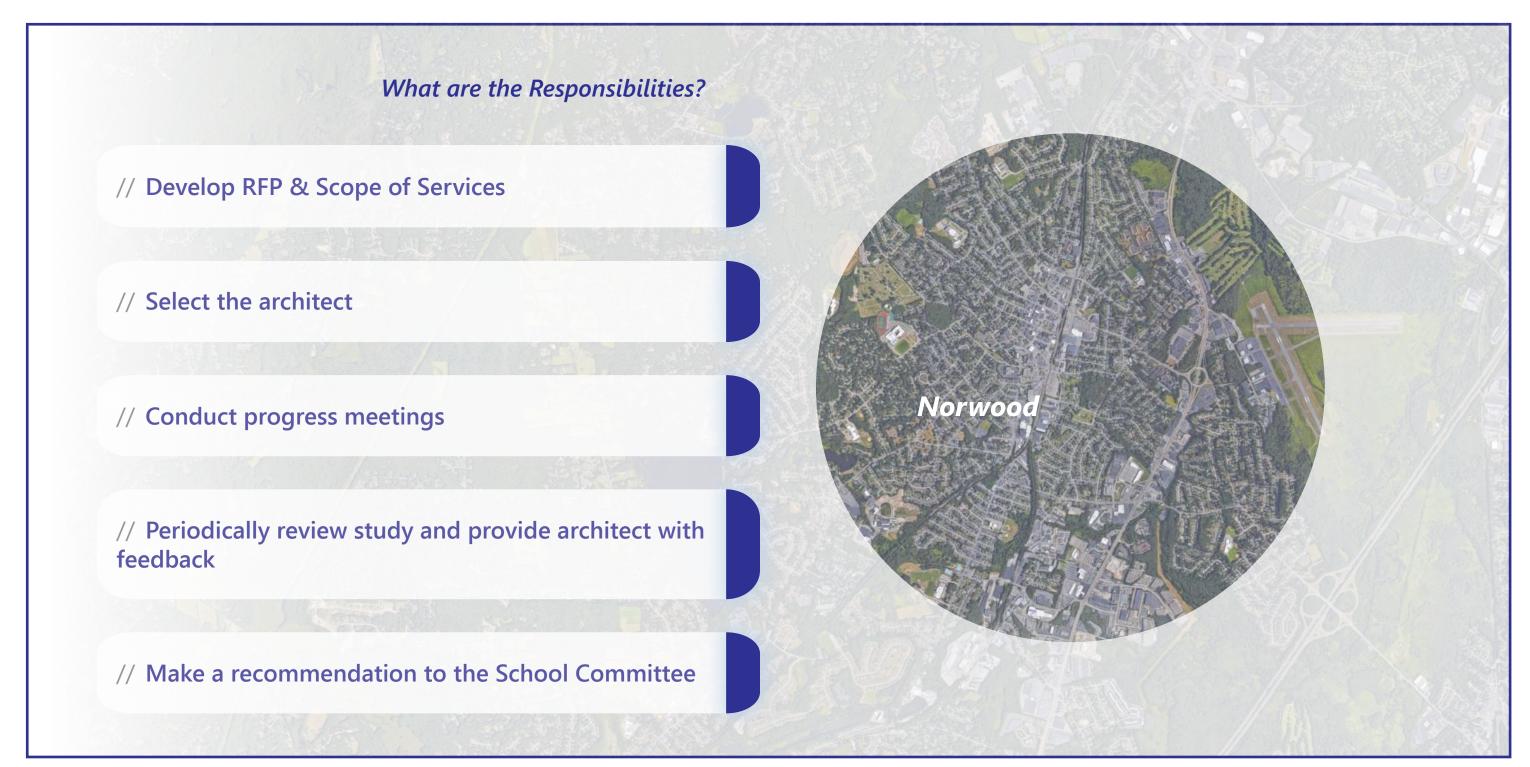


Norwood Public Schools

Long Range Study Committee

Who are the members? **VOTING** // Alan Slater, Chairman - Finance Commission // Myev Bodenhofer - School Committee // Patrick McDonough - School Committee // Thomas Maloney - Board of Selectmen // Sarah Quinn - Town Meeting Member Norwood **NON-VOTING** // John Carroll - Town Manager // **Dr. David Thomson** - Superintendent of Schools (James Hayden) // Paul Riccardi - Director of Buildings & Grounds

// Ted Callahan - PBCC

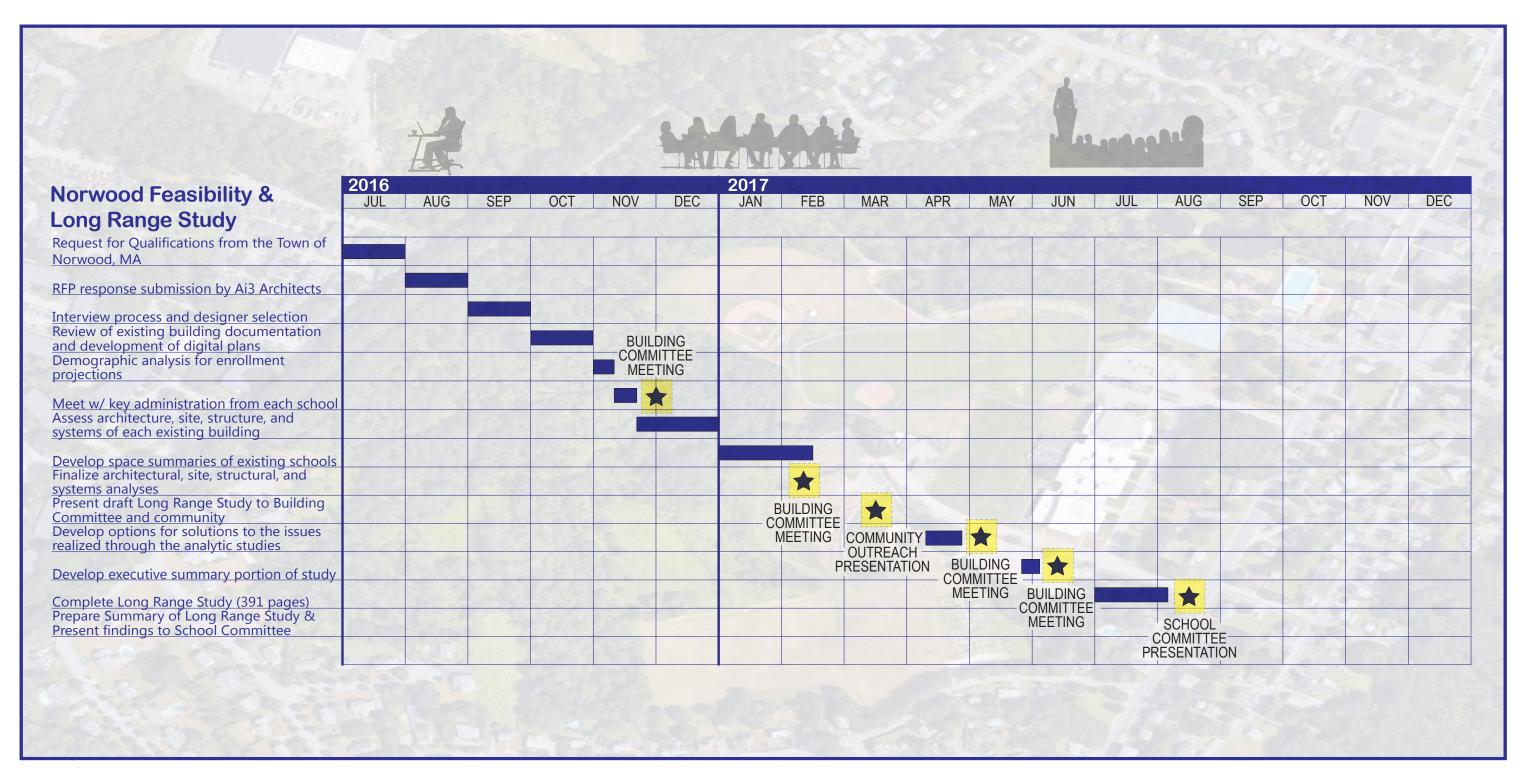


Norwood Public Schools

Long Range Study Committee

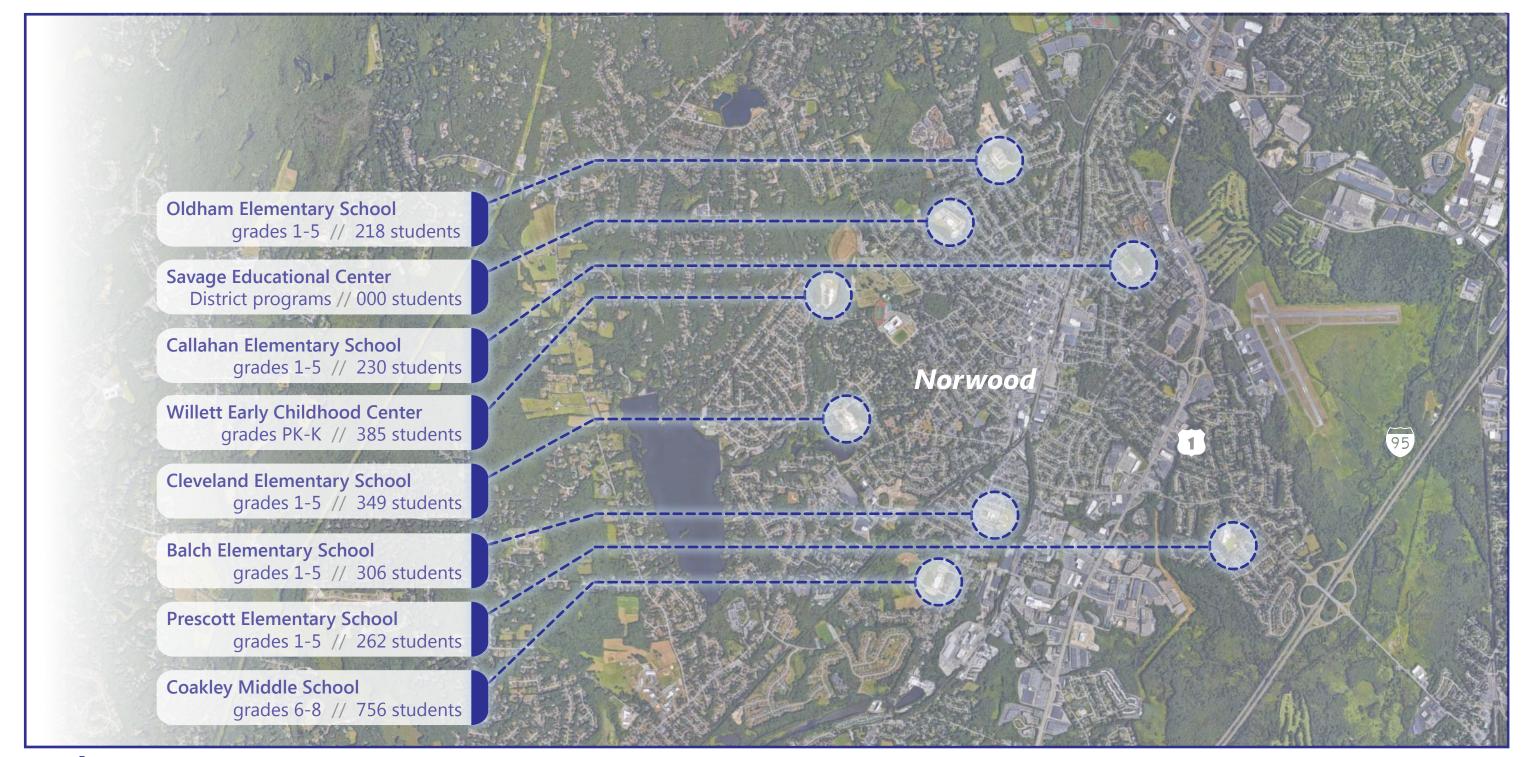














What are the factors affecting **Building Performance?**

Capital Repairs & Improvements

- // Scheduled replacement of building systems and components
- // Technology and security improvements
- // Review and redistribution of space needs
- // Site and landscape improvements
- // Phased renovations of portions of a school

School	Exist. Square ft	Capital Repair Cost
Balch ES	51,800	\$6,073,550
Callahan ES	33,500	\$3,927,875
Cleveland ES	49,000	\$5,745,250
Oldham ES	39,500	\$4,631,375
Prescott ES	36,000	\$4,221,000
Willett	38,500	\$4,514,125
Coakley MS	128,000	\$15,008,000
Savage Center	122,000	\$14,304,500
	Total	\$58,425,675

What are the factors affecting Functional Performance?

Physical Size vs. Population

// When the total square footage is divided by the student population, and each student isn't receiving a comfortable amount of square feet

// Norwood schools currently over-crowded are:

Cleveland Elementary School Willett Early Childhood Center **Coakley Middle School**

Á	School	2017	Square ft/	Over-
	3011001	Population	Student	crowded by
	Cleveland	349	140	40 students
	Willett	385	100	50 students
	Coakley	756	169	60 students

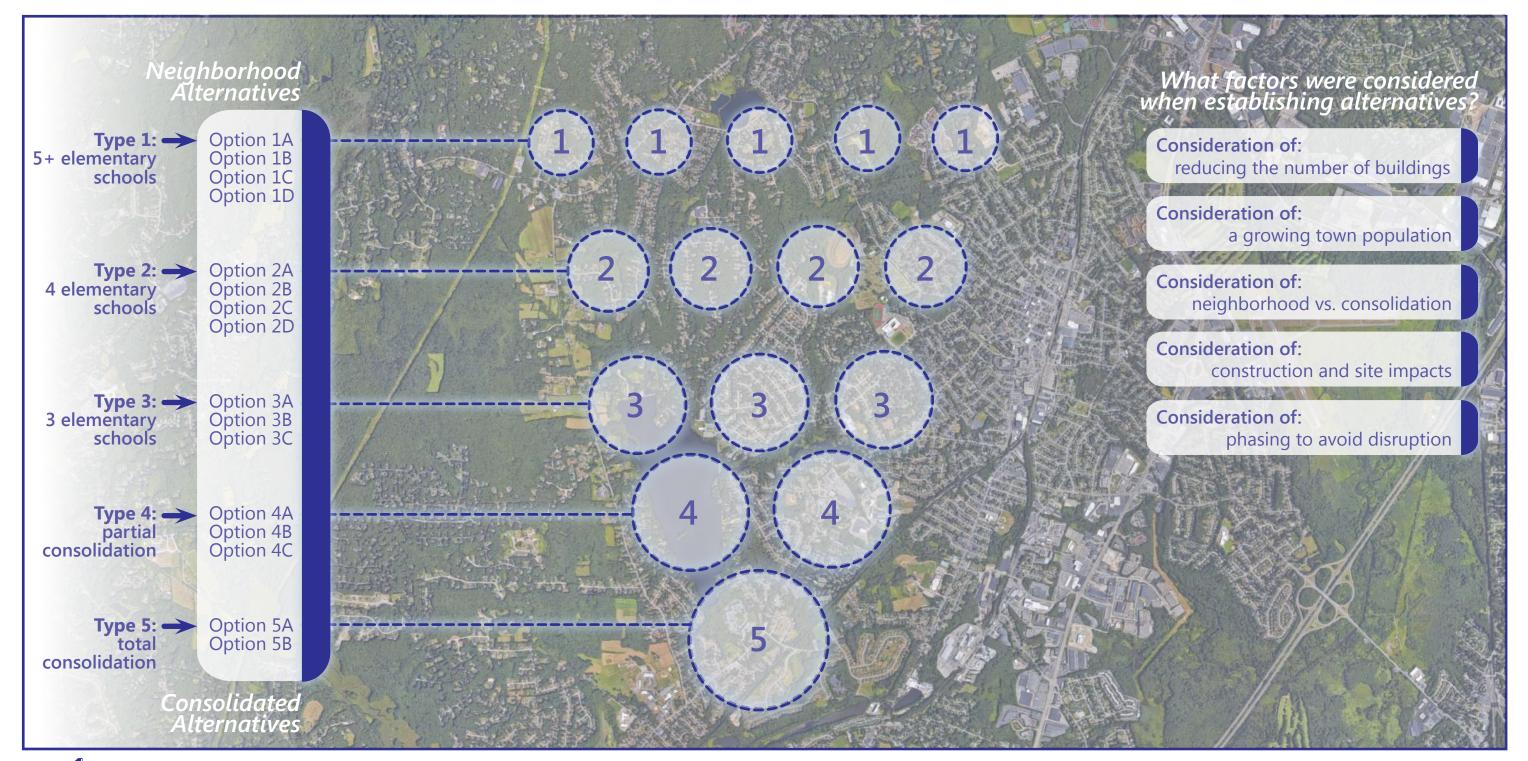
What are the factors affecting **Education Performance**

21st Century Learning Environment

- // Sense of school community
- // Indoor/outdoor educational connections
- // An inclusive academic environment for all students
- // Academic learning neighborhoods
- // Collaborative environment for students/staff
- // S.T.E.A.M. integration and flexible space

Coakley Middle School

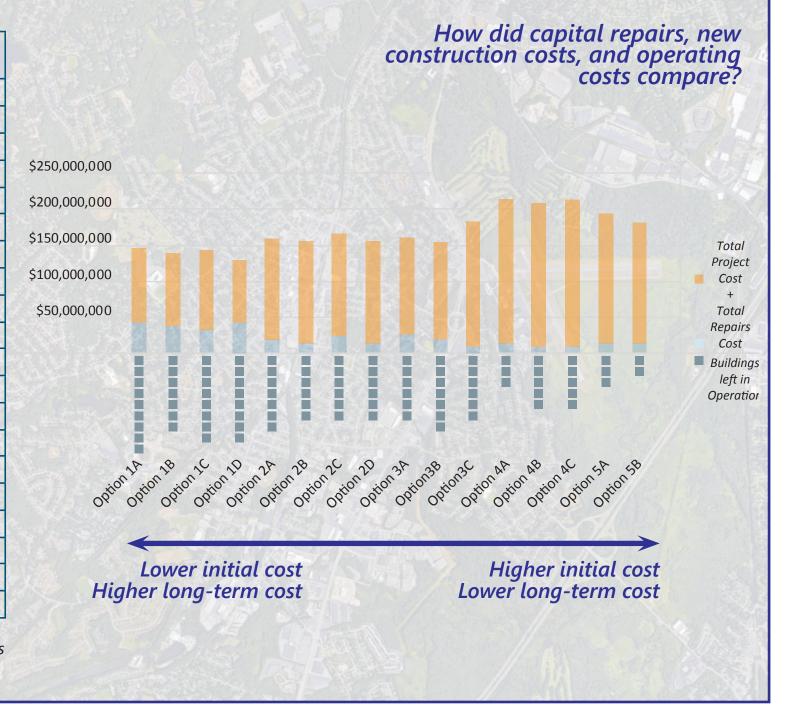




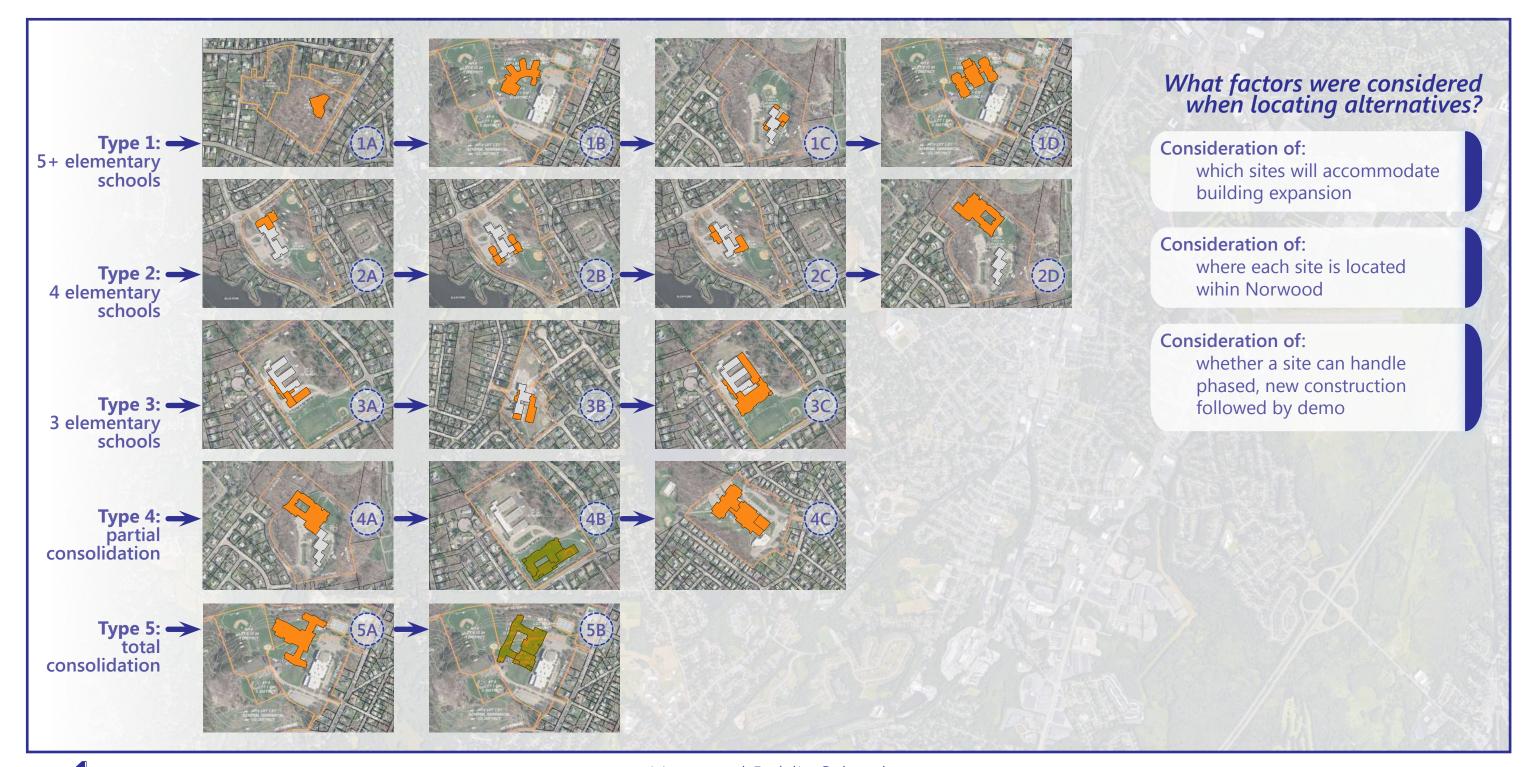


	Option at # of building		Total Capital Repairs (\$)	Total Project Cost (\$)	Total Sum (\$)*
Type 1:	Option 1A	9	43,417,675	102,435,697	145,853,372
5+ elementary schools	Option 1B	7	38,903,550	100,678,354	139,581,904
30110013	Option 1C	8	33,158,300	115,083,220	148,241,520
	Option 1D	8	43,417,675	86,783,760	130,201,435
Type 2:	Option 2A	7	18,853,800	141,323,770	160,177,570
4 elementary schools	Option 2B	6	14,925,925	141,323,770	156,249,695
	Option 2C	6	24,599,050	142,191,420	166,790,470
	Option 2D	6	30,344,300	128,224,600	158,568,900
Type 3: 3 elementary	Option 3A	6	26,123,300	136,919,860	163,043,160
schools	Option 3B	7	20,260,800	136,919,860	157,180,660
	Option 3C	6	12,663,000	173,966,170	186,629,170
Type 4:	Option 4A	3	14,304,500	199,453,037	213,757,537
partial consolidation	Option 4B	5	10,001,425	198,283,820	208,285,245
	Option 4C	5	10,001,425	201,102,510	211,103,935
Type 5:	Option 5A	3	14,304,500	179,125,639	193,430,139
total consolidation	Option 5B	2	14,304,500	166,518,450	180,822,950
Consolidation		GC 500, P. 1990		STATE OF THE PARTY	

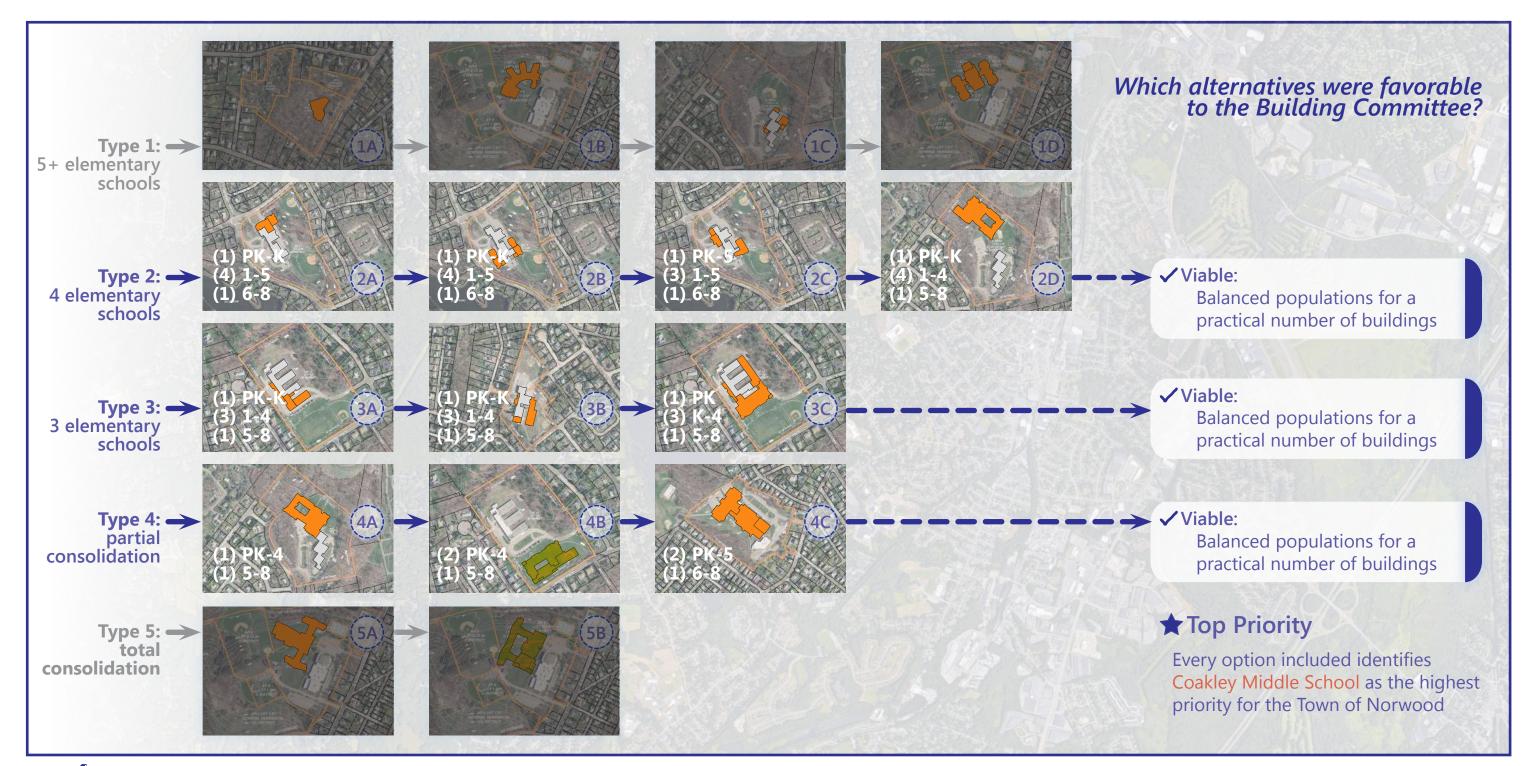
^{*(\$)} amounts represent the magnitude of cost per option based on 2017 values and have been included to provide a datum of comparison between options.



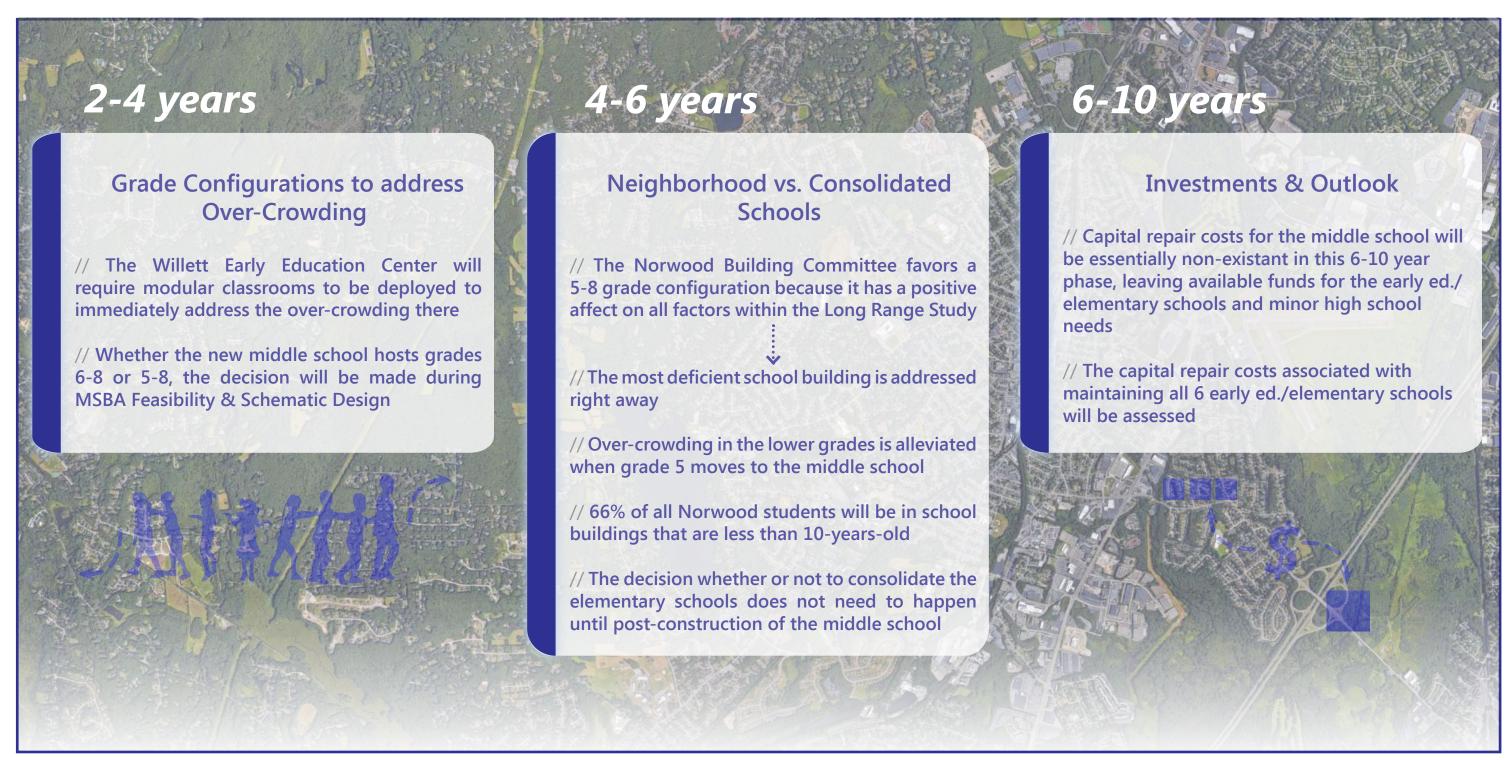
















What are the factors affecting Building Performance?

Capital Repairs & Improvements

Capital Repair Required	Cost
Foundation Repairs	\$150,080
Exterior Envelope Repairs	\$2,551,360
Roof Replacement	\$1,200,640
Interior Finishes/Construction	\$3,752,000
Plumbing/Fire Prot. Replacement	\$1,500,800
HVAC Systems Replacement	\$1,800,960
Electrical/lighting Replacement	\$1,800,960
Technology Replacement	\$750,400
Hazmat Remediation (Asbestos)	\$600,320
Code Upgrades	\$600,320
Site Improvements	\$300,160
Total	\$15,008,000

What are the factors affecting Functional Performance?

Physical Size vs. Population

2017	Existing	Grades	Over-
Population	Building GSF		crowded by
756	128,000 sf	6-8	60 students

2027 Population	Required Building GSF	Grades
779	151,000 sf	6-8
1,044	180,000 sf	5-8

// Deficient Classroom Size & Building Organization

Shared spaces, such as the Cafeteria and Library are also under-sized as a result

What are the factors affecting Education Performance?

21st Century Learning Environment

- // Deficient Transparency & Personalization
- // Deficient Indoor/Outdoor Connections
- // Deficient Collaborative Work Spaces for Students/Staff
- // Deficient S.T.E.A.M. Facilities & Project Labs
- // Deficient Media Center & School Resources
- // Deficient Performance & Language Arts Facilities



526 Boston Post Road Wayland, MA 01778

- No major capital investments to improve the building envelope since its construction 42 years ago
- No insulation has been added to the roof, which will need to be replaced in the next 5-10 years
- No cavity between the brick/masonry back-up exists; potential moisture infiltration issue, plus only 1" insulation when 3"+ is best



existing gsf

180k sf

recommend. gsf





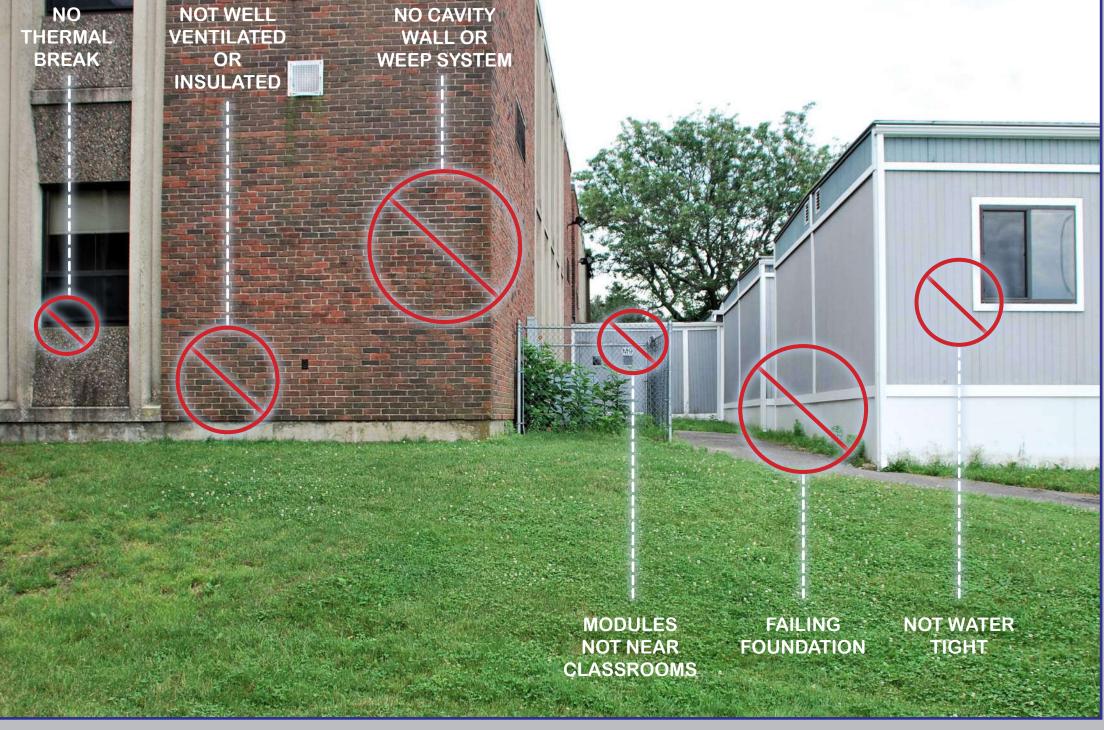


Coakley Middle School - Building Deficiency **Building Performance**

- **No** major capital investments to improve the building envelope since its construction 42 years ago
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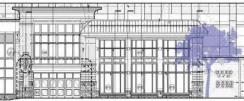


Coakley Middle School - Building Deficiency
Building Performance

21st Century Education Design:

- ✓ A 21st century school that is a leader in energy and environmental design
- ✓ Design of a weather-tight envelope that is more energy and cost efficient; tempered air remains inside, despite a constantly changing outdoor climate
- ✓ Use of glazing that allows for natural lighting while also providing views and pure ventilation

✓ A conscious awareness of the site it inhabits

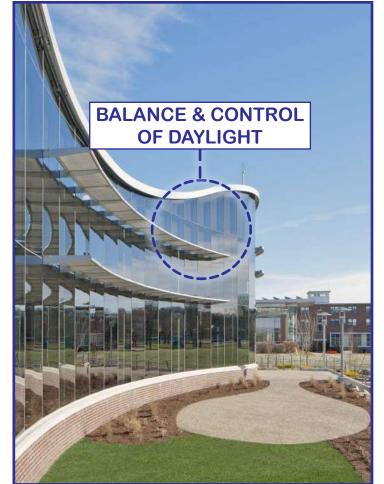




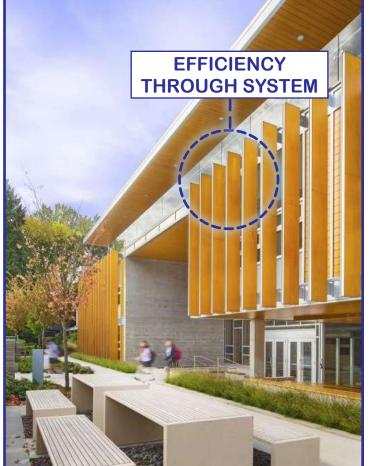




Coakley Middle School - Resolution Building Performance



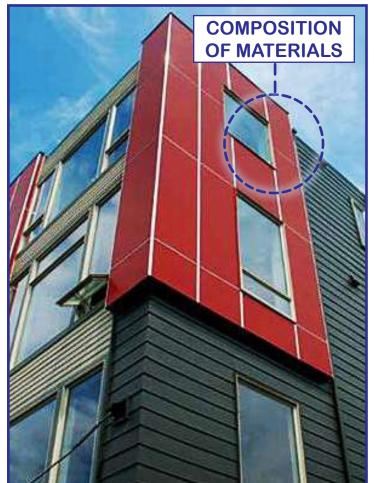
















Coakley Middle School - Resolution

FAIL

Existing Education Design:

- No ability to logically organize classes into academic neighborhoods
- No sufficient storage space per classroom
- No interaction with the outdoors and little space available for arts/language
- No appropriately sized core classrooms

785 sf existing avg

950 sf

recommend. avg







Coakley Middle School - Functional Deficiency Classroom Size & Organization

- **No** ability to logically organize classes into academic neighborhoods
- **No** sufficient storage space per classroom
- **No** interaction with the outdoors and little space available for arts/language
- No appropriately sized core classrooms

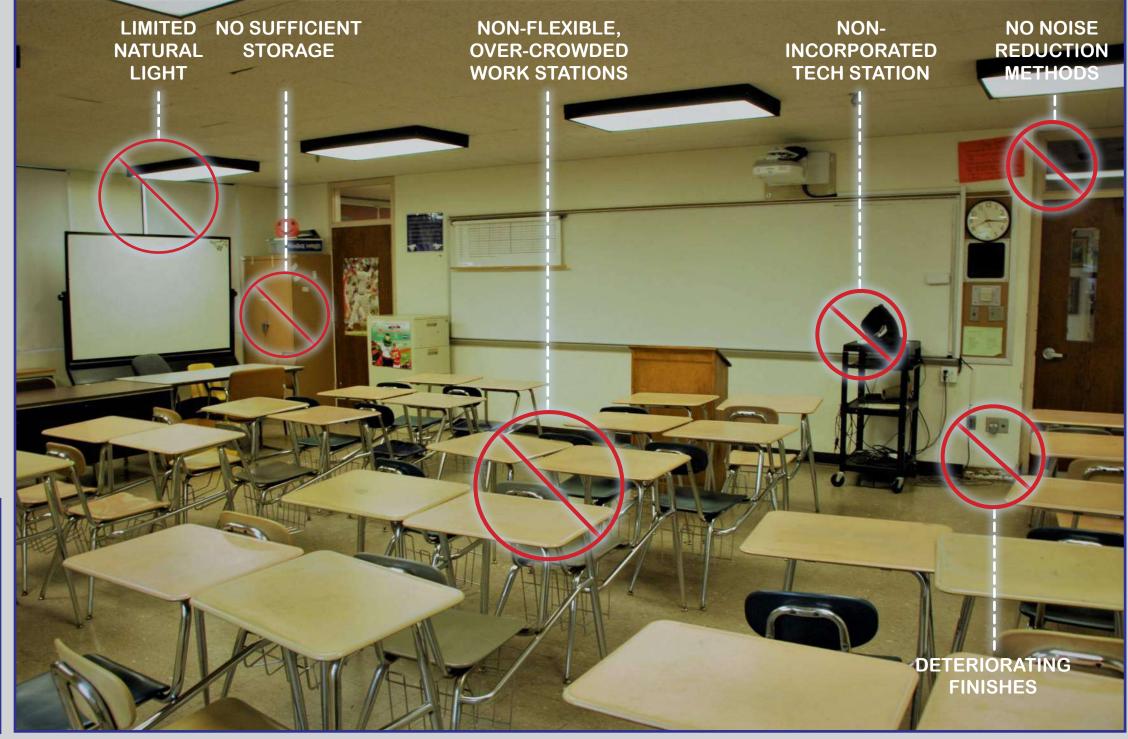
785 sf
existing avg

950 sf

recommend. avg







Coakley Middle School - Functional Deficiency

21st Century Education Design:

- ✓ Academic neighborhoods facilitate team teaching, way-finding, and provide a sense of community or team within the larger school setting
- ✓ Layouts are structured to include sufficient storage and furniture that is flexible for varied lesson plans

✓ Core classrooms are bright, spacious and equipped with the proper technology, including 1:1 device capabilities



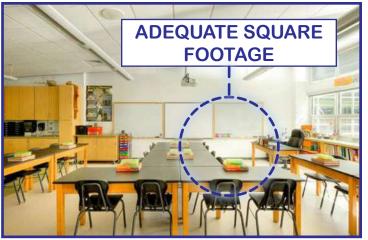


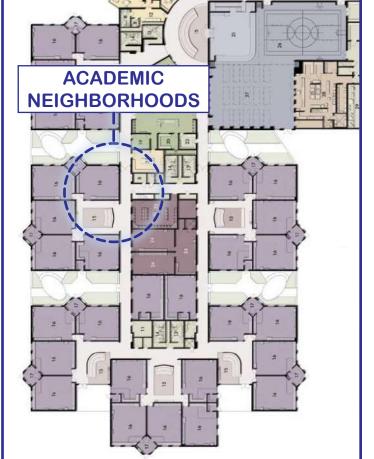


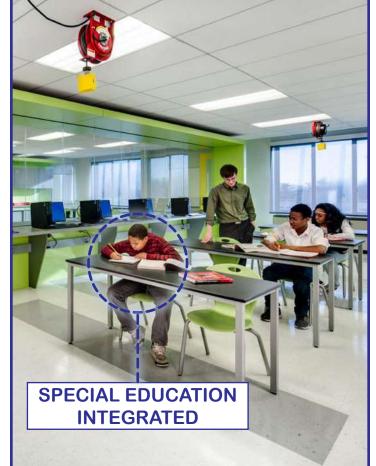


Coakley Middle School - Resolution



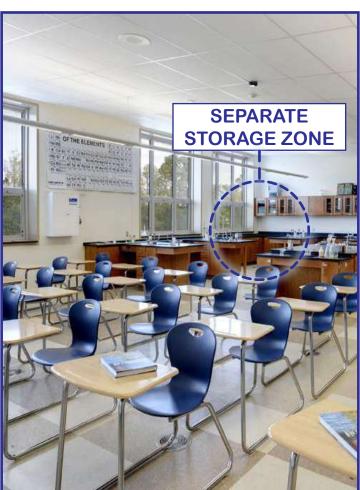


















- No sign of connectivity or transparency; materials show signs of degradation and suggest that classrooms are prohibited
- No opportunity for display or flexible space because student storage consumes the corridors
- No sense of identity or life within the corridors









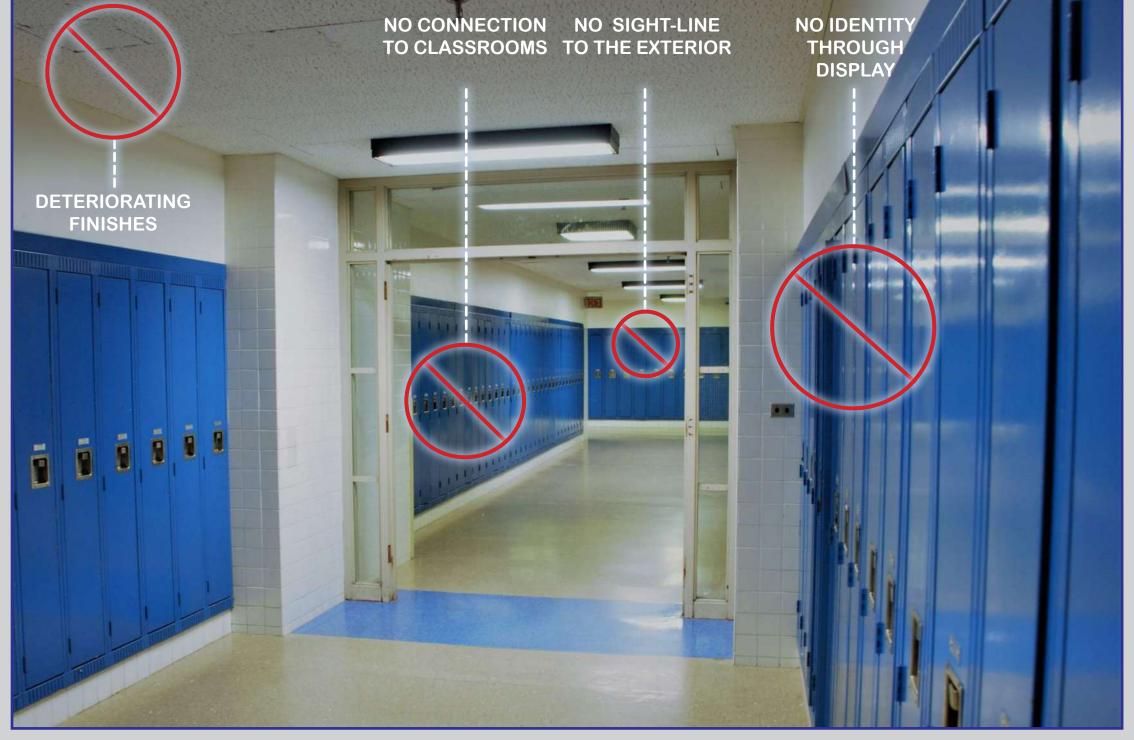
Coakley Middle School - Educational Deficiency Transparency & Personalization

- No sign of connectivity or transparency; materials show signs of degradation and suggest that classrooms are prohibited
- No opportunity for display or flexible space because student storage consumes the corridors
- No sense of identity or life within the corridors



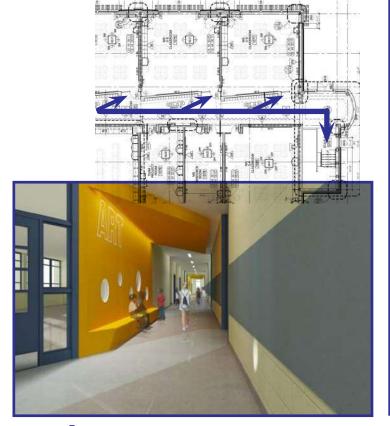






21st Century Education Design:

- ✓ Modern, welcoming classroom entries that serve to showcase the learning and activity within
- ✓ Student storage is integrated in a fun and functional manner
- ✓ Corridors and classrooms are bright and contain elements that personalize the school





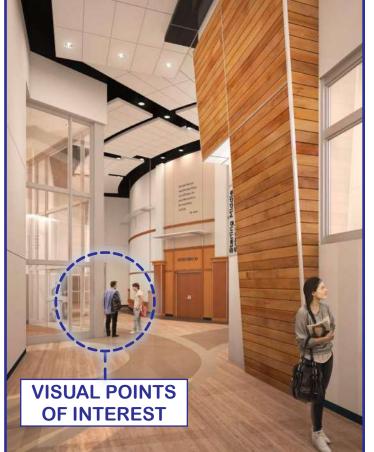


Coakley Middle School - Resolution

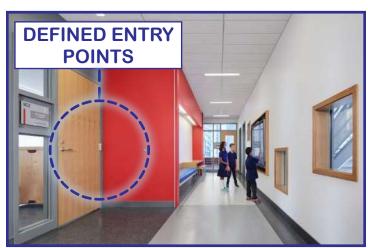
Transparency & Personalization







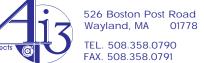










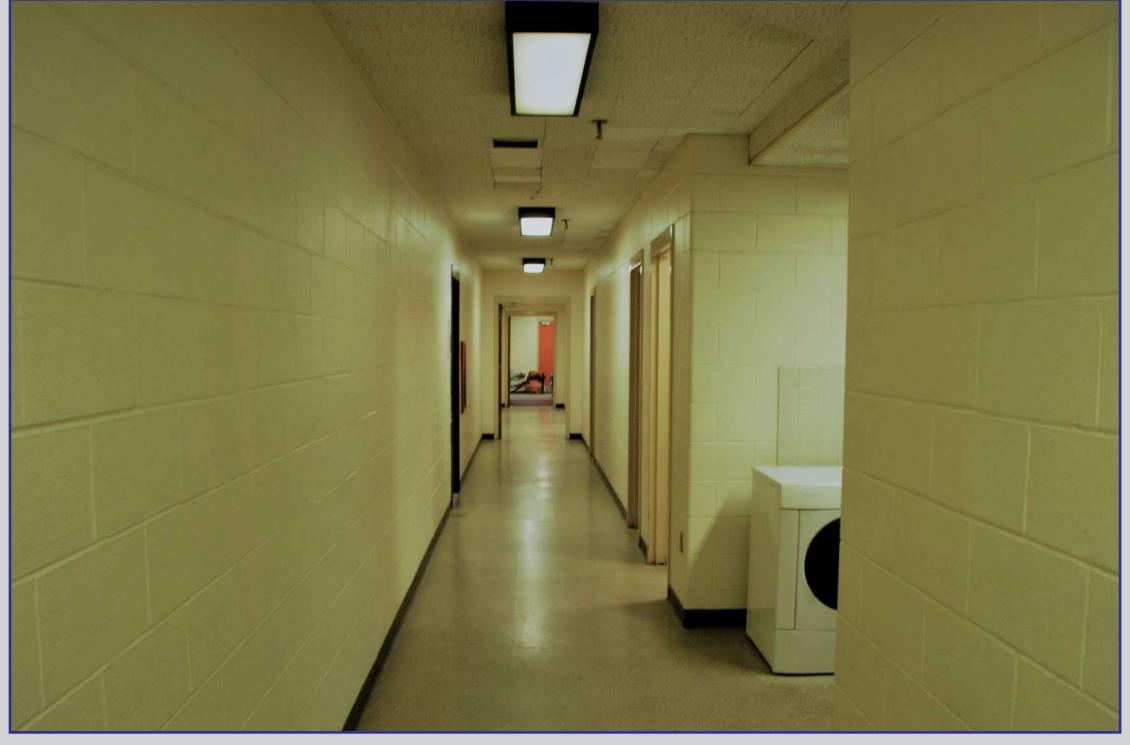


Coakley Middle School - Resolution

- **No** visibility to the outside of the building is disorienting
- **No** operable windows in classrooms that could provide fresh ventilation
- **No** spaces that engage indoor/ outdoor learning connections
- **No** naturally lit classrooms; many rooms in general are land-locked without windows to the outside





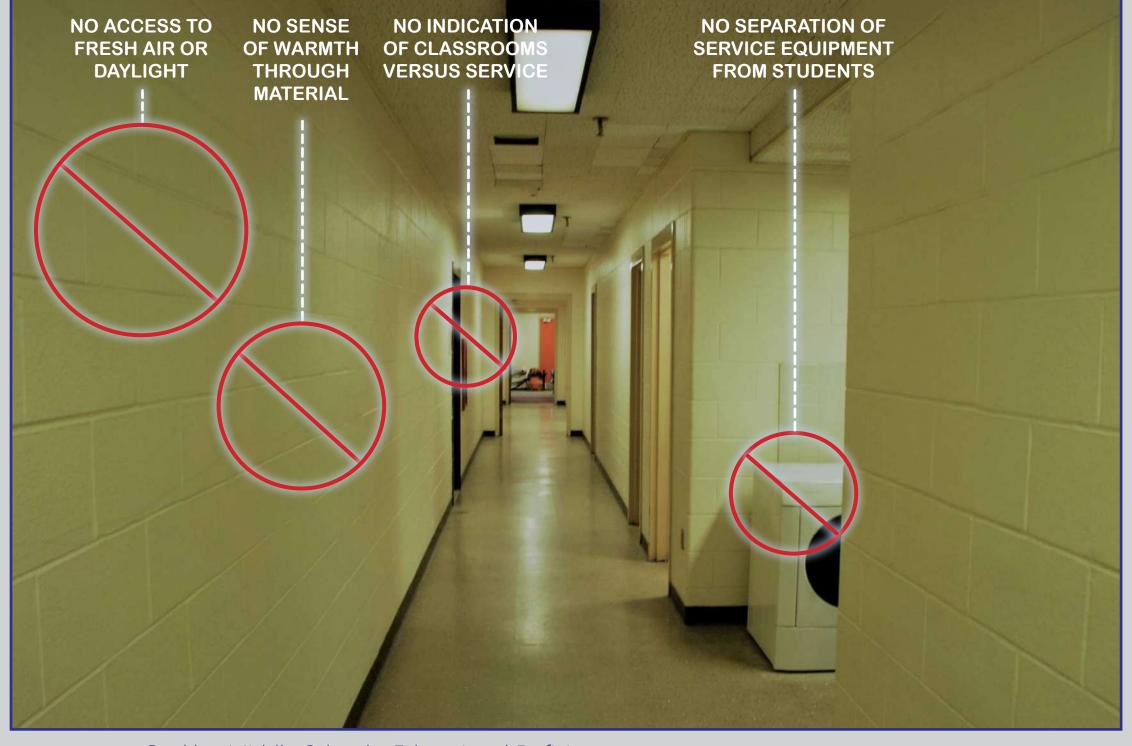


Coakley Middle School - Educational Deficiency
Indoor/Outdoor Connections

- **No** visibility to the outside of the building is disorienting
- **No** operable windows in classrooms that could provide fresh ventilation
- No spaces that engage indoor/ outdoor learning connections
- **No** naturally lit classrooms; many rooms in general are land-locked without windows to the outside







21st Century Education Design:

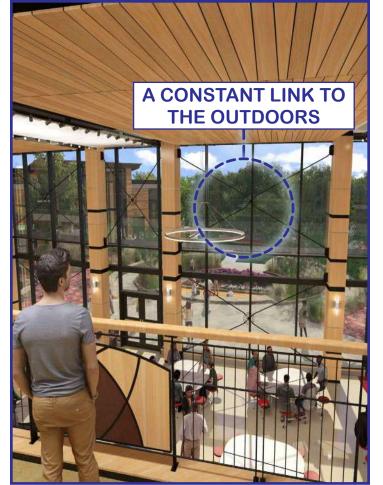
- ✓ Provides the natural daylight critical to students and staff who spend most of their days in a single classroom
- ✓ Operable windows and natural light to increase the performance of mechanical and electrical systems
- ✓ Classrooms that give students and staff members the sense of being outdoors, through creative strategies



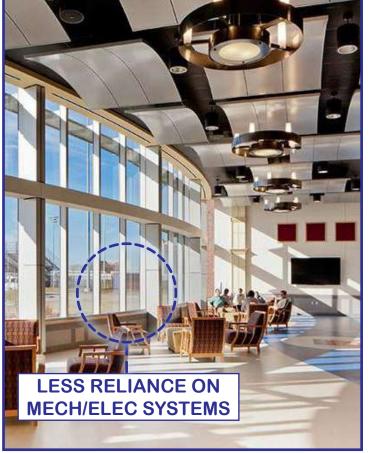




Coakley Middle School - Resolution
Indoor/Outdoor Connections



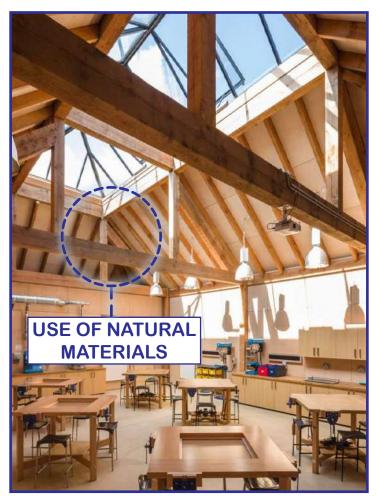
















Coakley Middle School - Resolution

- **No** appropriately sized collaborative work spaces for either students or staff
- **No** visual relationship between the core classrooms and collaborative work spaces
- **No** furniture to accommodate flexible group settings or varied layouts
- **No** small group rooms, resource rooms, tiered lecture spaces, or learning labs

488 sf

existing avg

recommend. avg

1,200 sf







Coakley Middle School - Educational Deficiency
Collaborative Work Spaces

• **No** appropriately sized collaborative work spaces for either students or staff

NO AVAILABLE

- **No** visual relationship between the core classrooms and collaborative work spaces
- **No** furniture to accommodate flexible group settings or varied layouts
- **No** small group rooms, resource rooms, tiered lecture spaces, or learning labs

488 sf

existing avg

recommend. avg

1,200 sf





NO APPROPRIATELY

DISTANT FROM

NO STORAGE



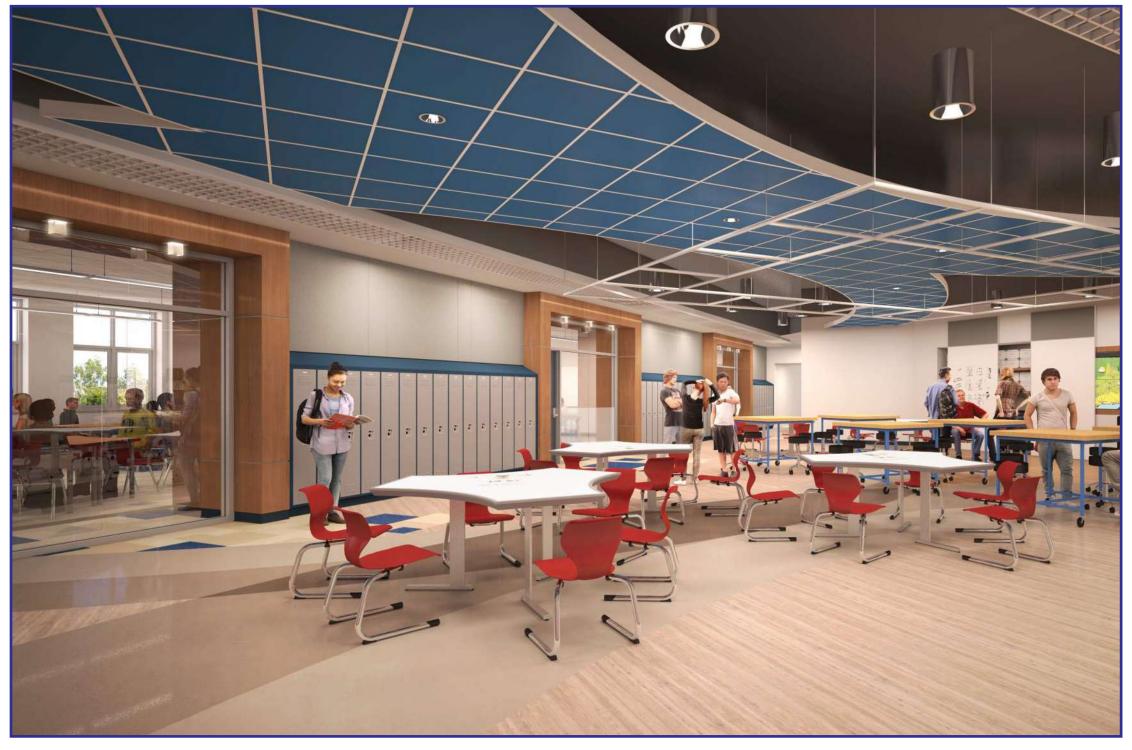
NO RELATIONSHIP

21st Century Education Design:

- ✓ Spacious, available collaboration space that creates a positive link between teacher and student
- ✓ Collaboration spaces that are easily accessed and visible from classrooms
- ✓ Varied work settings that better assist a multitude of learning types
- ✓ Opportunities for solo or group work







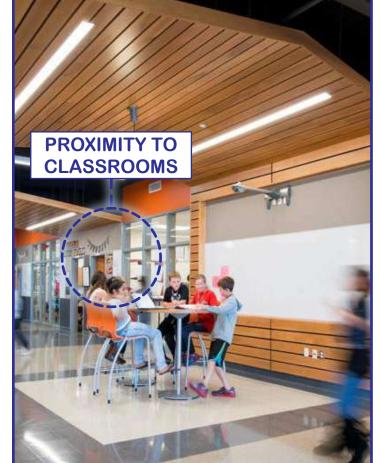


Coakley Middle School - Resolution
Collaborative Work Spaces



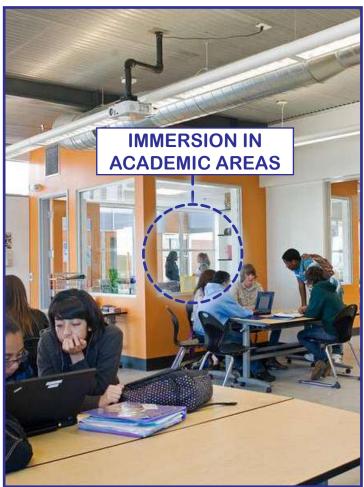
















526 Boston Post Road Wayland, MA 01778

FAIL Existing Education Design:

- No modern project labs for students to gain diverse workshop experiences
- No spaces that accommodate handson experimentation in engineering or design
- No hydroponics lab, no planetarium, no graphic design or visual arts studios, no media production, no engineering technologies, no general project labs, etc...

2,704 sf

existing avg

6,400 sf

recommend. avg









FAIL Existing Education Design:

- No modern project labs for students to gain diverse workshop experiences
- No spaces that accommodate handson experimentation in engineering or design
- No hydroponics lab, no planetarium, no graphic design or visual arts studios, no media production, no engineering technologies, no robotics, etc...

2,704 sf

existing avg

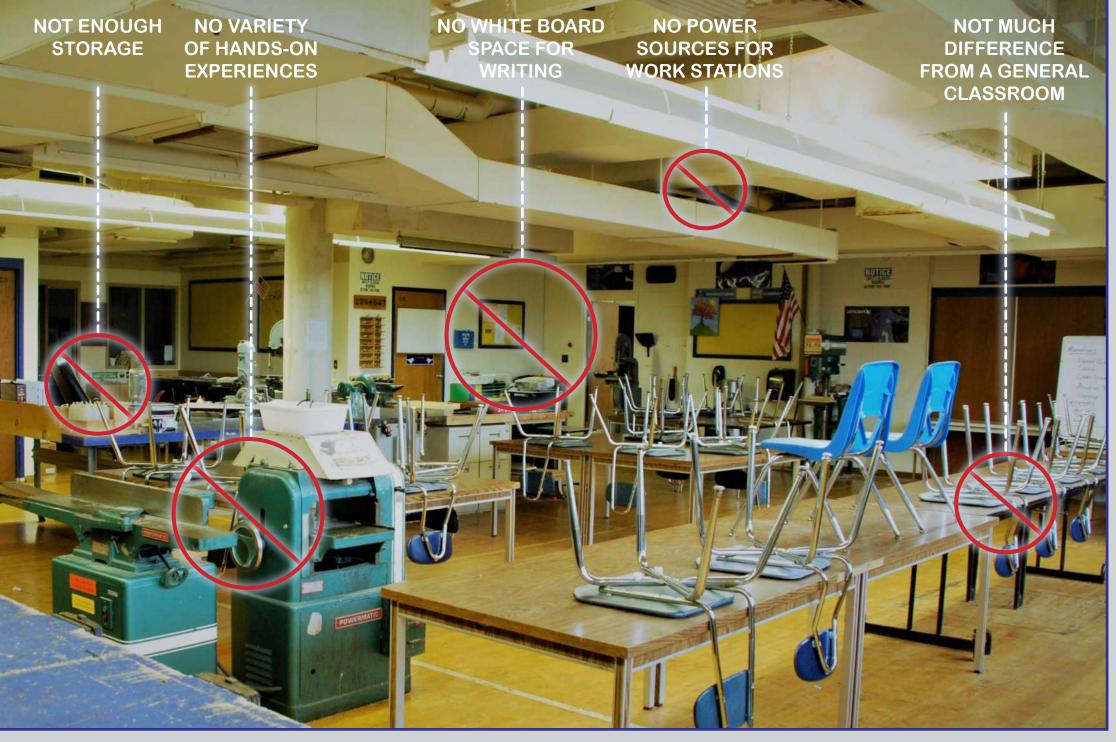
6,400 sf

recommend. avg









Coakley Middle School - Educational Deficiency

PASS

21st Century Education Design:

- ✓ Space available for Science, Technology, Engineering, Art, and Math (S.T.E.A.M.) curricula
- ✓ Dedicated S.T.E.A.M. spaces integrated within academic classroom areas to provide interdisciplinary instruction

✓ Project labs that promote handson learning, a sense of discovery, and

independent investigation

grade 8 lab

grade 7 lab

grade 6 lab



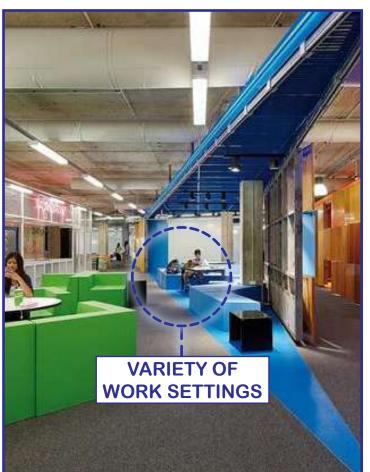




Coakley Middle School - Resolution
S.T.E.A.M. Facilities & Project Labs



















Coakley Middle School - Resolution

FAIL Existing Education Design:

- No integration of digital media, broadcasting, video/web production, digital publishing, or modern resources
- No 1:1 technology program, which would operate via wi-fi and eliminate obsolete computer labs
- No variation in research methods or work stations for either students or staff











Coakley Middle School - Educational Deficiency Media Center & School Resources

FAIL Existing Education Design:

- **No** integration of digital media, broadcasting, video/web production, digital publishing, or modern resources
- No 1:1 technology program, which would operate via wi-fi and eliminate obsolete computer labs
- **No** variation in research methods or work stations for either students or staff

3,210 sf

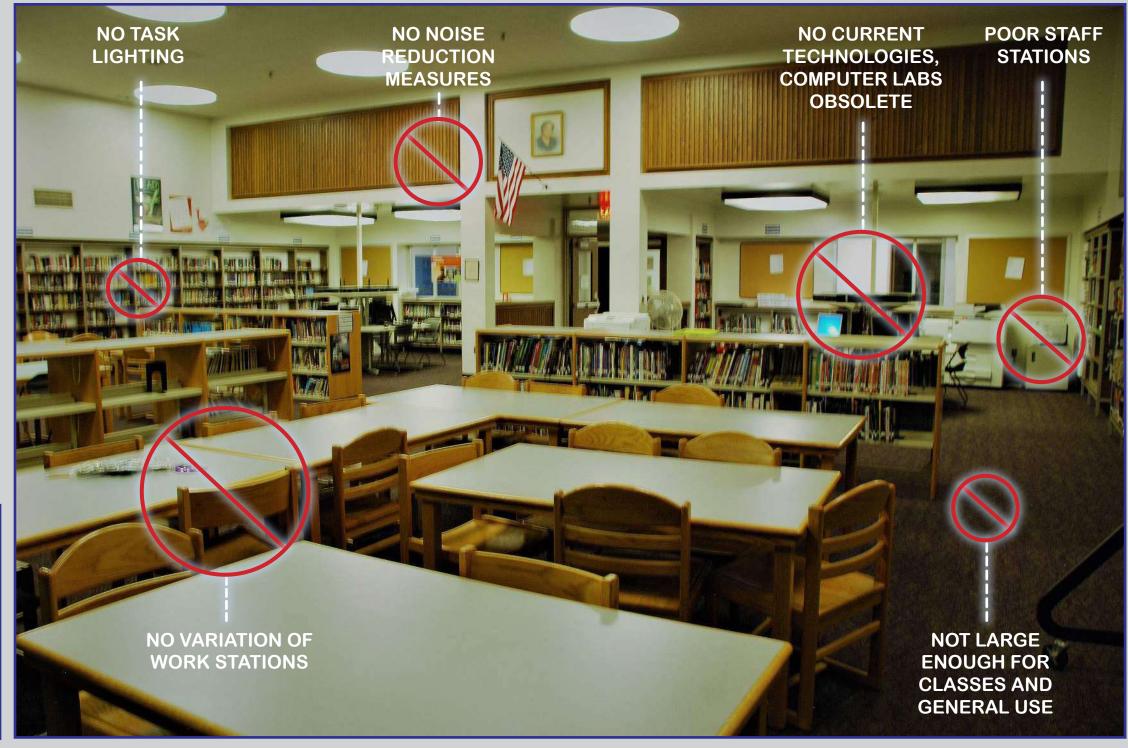
existing avg recon

4,727 sf

recommend. avg







Coakley Middle School - Educational Deficiency

PASS

21st Century Education Design:

- ✓ Library/media center that operates as a highly advanced media retrieval center
- ✓ Located in close proximity to all academic functions to allow for key sharing of valuable resources
- ✓ Advanced technologies provided for in areas such as media production, digital arts, graphic design, and digital communication

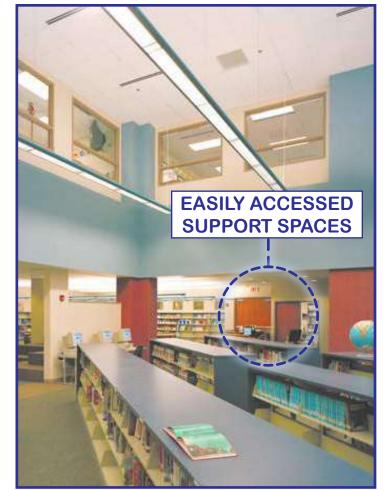
✓ Serves a multitude of functions and is composed of a multitude of spaces media center



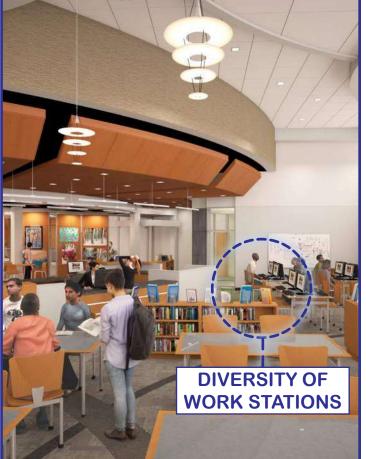


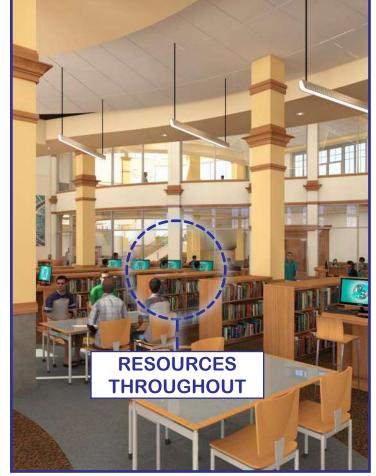


Coakley Middle School - Resolution



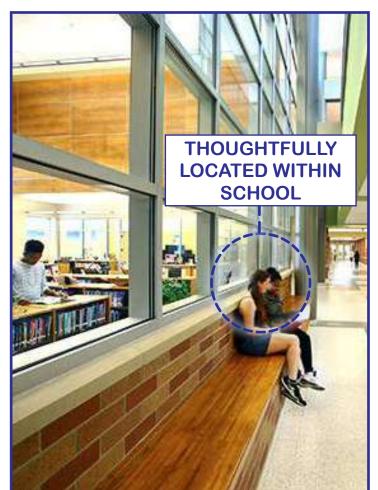
















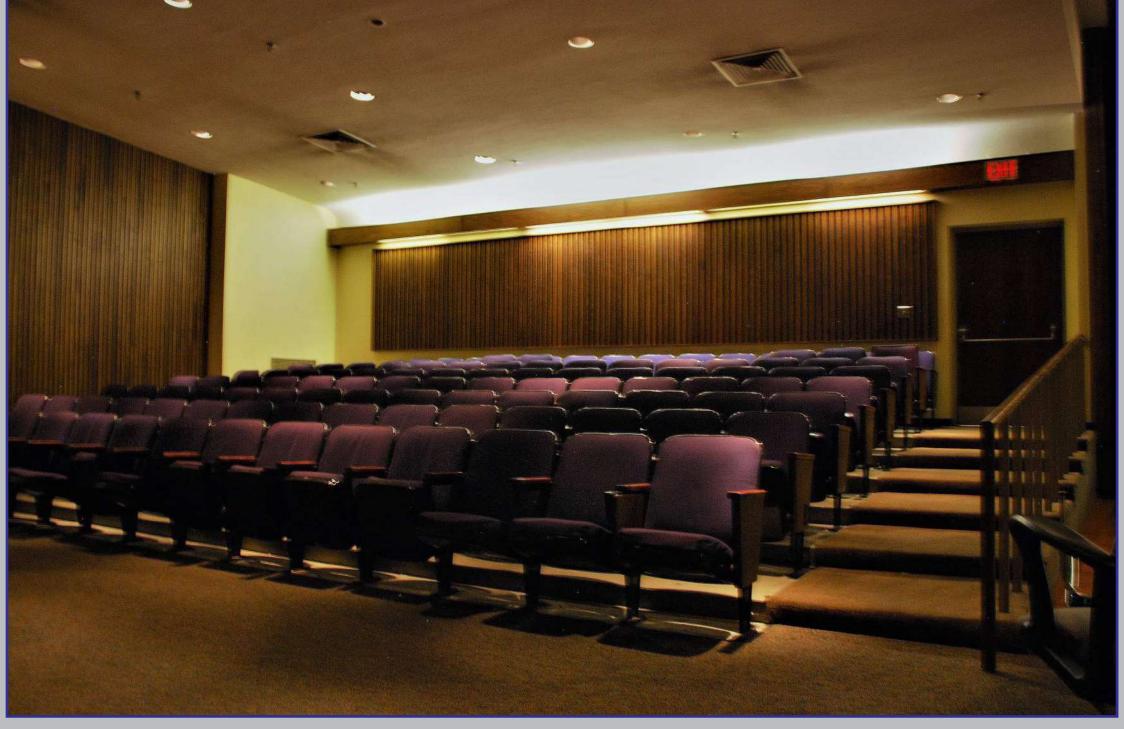
Coakley Middle School - Resolution

FAIL Existing Education Design:

- **No** acoustical materials of an appropriate sound transmission class
- No work surfaces for class use
- Not a welcoming place of assembly
- **Not** used for community performance events or seminars









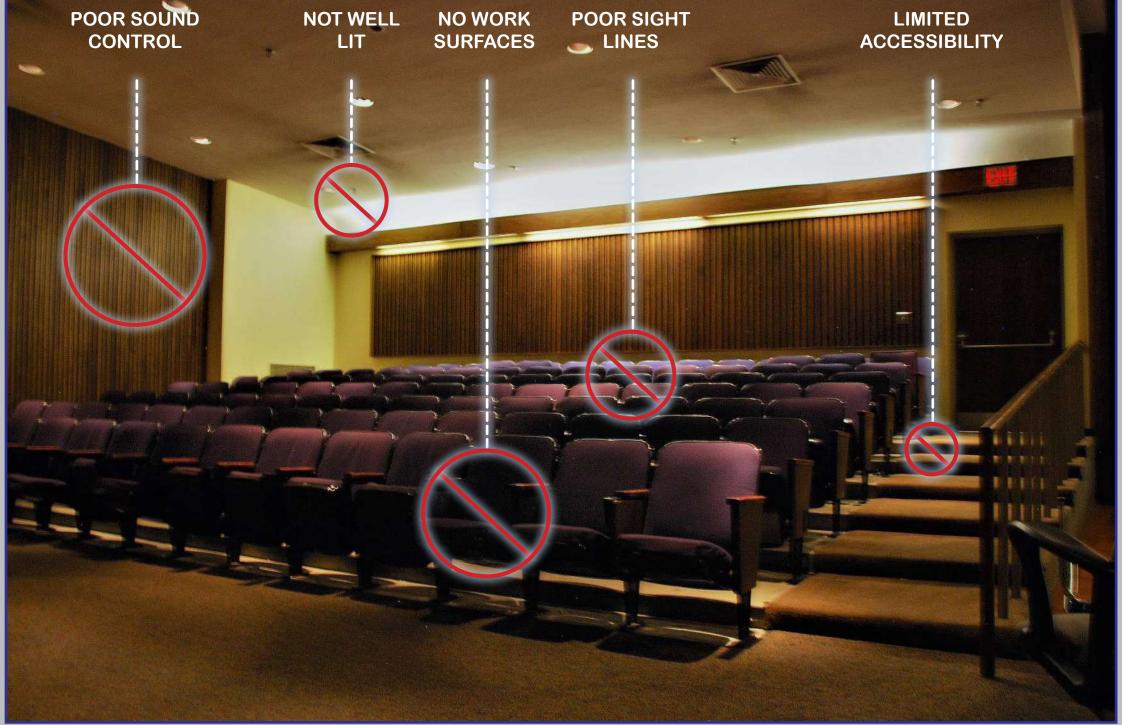
Coakley Middle School - Educational Deficiency
Performance & Language Arts

FAIL Existing Education Design:

- **No** acoustical materials of an appropriate sound transmission class
- No work surfaces for class use
- Not a welcoming place of assembly
- **Not** used for community performance events or seminars









PASS

experience

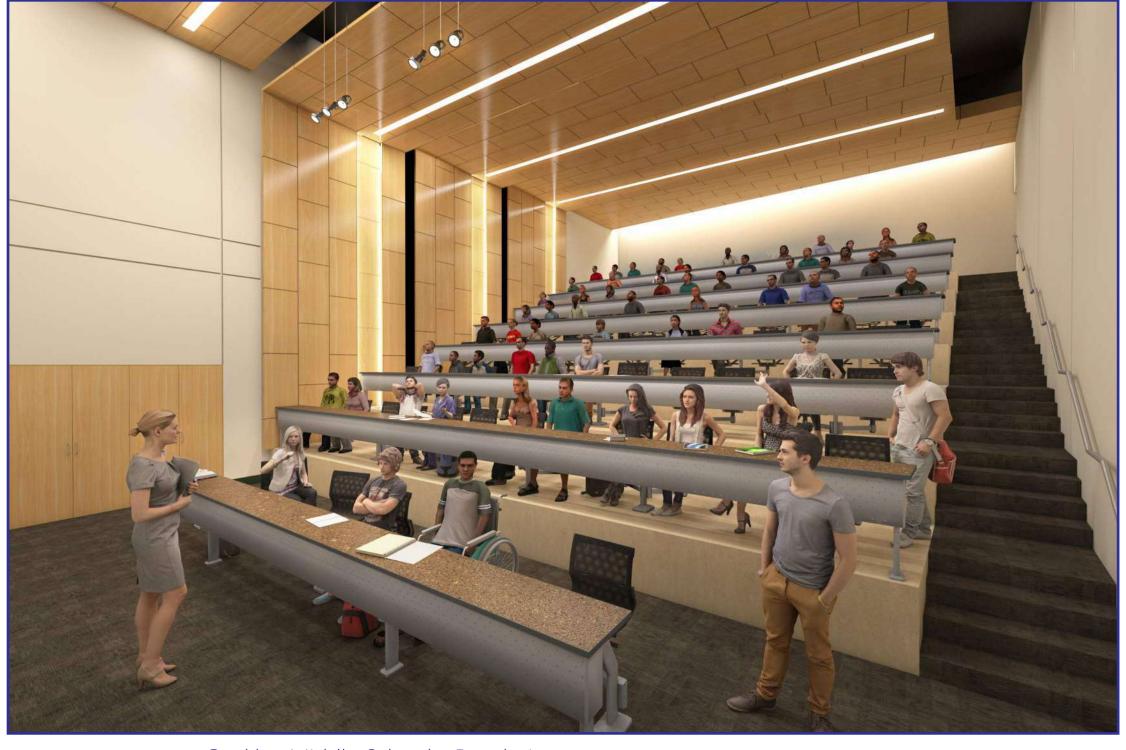
21st Century Education Design:

- ✓ Provides an enhanced environment for learning arts and language
- ✓ Makes parent and community involvement, outreach events, and showcases for student work possible

✓ Acts as an auditory and oratory learning lab, which is as important as a hands-on learning labs when it comes to gaining practical

seminar



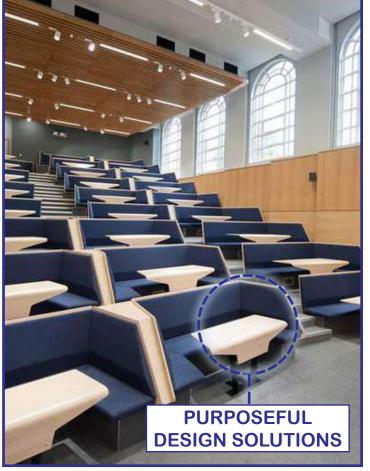


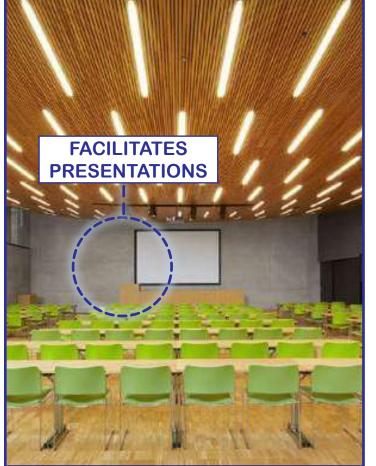


Coakley Middle School - Resolution
Performance & Language Arts







































Coakley Middle School
Existing Conditions

















Coakley Middle School Existing Conditions





Coakley Middle School Existing Conditions





Coakley Middle School Existing Conditions

























