Facility Condition Assessment

Smithfield - Smithfield Senior High School | *June 2017*

90 Pleasant View Avenue, Smithfield, RI 02917

Introduction

Smithfield Senior High School, located at 90 Pleasant View Avenue in Smithfield, Rhode Island, was built in 1964. It comprises 167,860 gross square feet. Each school across the district was visited three times during the Facility Condition Assessments by three teams of specialists in the spring/summer of 2016.

Smithfield Senior High School serves grades 9 - 12, has 65 instructional spaces, and has an enrollment of 742. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Smithfield Senior High School is 1,400 with a resulting utilization of 53%.

For master planning purposes a 5-year need was developed to provide an understanding of the current need as well as the projected needs in the near future. For Smithfield Senior High School the 5-year need is $20,904,788. The findings contained within this report resulted from an assessment of building systems performed by building professionals experienced in disciplines including: architecture, mechanical, plumbing, electrical, acoustics, hazardous materials, and technology infrastructure.

Figure 1: Aerial view of Smithfield Senior High School

Approach and Methodology

A facility condition assessment evaluates each building's overall condition. Two components of the facility condition assessment are combined to total the cost for facility need. The two components of the facility condition assessment are current deficiencies and life cycle forecast.

Current Deficiencies: Deficiencies are items in need of repair or replacement as a result of being broken, obsolete, or beyond useful life. The existing deficiencies that currently require correction are identified and assigned a priority. An example of a current deficiency might include a broken lighting fixture or an inoperable roof top air conditioning unit.

Life Cycle Forecast: Life cycle analysis evaluates ages of a building's systems to forecast system replacement as they reach the end of serviceable life. An example of a life cycle system replacement is a roof with a 20-year life that has been in place for 15 years and may require replacement in five years.

Discipline Specialists

All assessment teams produced current deficiencies associated with each school. The assessment for the school facilities at the Rhode Island Department of Education included several specialties:

Facility Condition Assessment: Architectural, mechanical, and electrical engineering professionals observed conditions via a visual observation that did not include intrusive measures, destructive investigations, or testing. Additionally, the assessment incorporated input provided by district facilities and maintenance staff where applicable. The assessment team recorded existing conditions, identified problems and deficiencies, documented corrective action and quantities, and identified the priority of the repair in accordance with parameters defined during the planning phase. The team took digital photos at each school to better identify significant deficiencies.

Technology: Technology specialists visited RIDE facilities and met with technology directors to observe and assess each facility's technology infrastructure. The assessment included network architecture, major infrastructure components, classroom instructional systems, necessary building space and support for technology. The technology assessment took into account the desired technology outcome and best practices and processes to ensure results can be attained effectively.

Hazardous Materials: Schools constructed prior to 1990 were assessed by specialists to identify the presence of hazardous materials. The team focused on identifying asbestos containing building materials (ACBMs), lead-based painted (LBP) areas, polychlorinated biphenyls (PCBs), and chlorofluorocarbons (CFCs). As part of an indoor air and exterior air quality assessment, the team noted evidence of mold, water intrusion, mercury, and oil and hazardous materials (OHMs) exposure. If sampling and analysis was required, these activities were recommended but not included in the scope of work.

Traffic: A traffic specialist performed an in-office review of aerial imagery of the traffic infrastructure around the facilities in accordance with section 1.05-7 in the Rhode Island School Construction Regulations and reviewed data collected on site during the facility condition assessment. Based on this information, deficiencies and corrective actions were identified. High problem areas were identified for consideration of more detailed site-specific study and analysis in the future.

Acoustics: Specialists assessed each school's acoustics, including architectural acoustics, mechanical system noise and vibration, and environmental noise. The assessment team evaluated room acoustics with particular attention to the intelligibility of speech in learning spaces, interior and exterior sound isolation, and mechanical system noise and vibration control.

Educational Program Space Assessment: Teams evaluated schools to ensure that that all spaces adequately support the districts educational program. Standards are established for each classroom type or instructional space. Each space is evaluated to determine if it meets those standards and a listing of alterations that should be made to make the space a better environment for teaching and learning was created.

System Summaries

The following tables summarize major building systems at the Smithfield Senior High School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Concrete Pedestrian Pavement

Building Envelope

The exterior systems for the building(s) at this campus includes:

01 - Main Building:	Brick Exterior Wall
	CMU Exterior Wall
	Metal Panel Exterior Wall
	Aluminum Exterior Windows
	Storefront / Curtain Wall
	Storefront Entrance Doors
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors
02 - Building 02:	CMU Exterior Wall
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors

The roofing for the building(s) at this campus consists of:

01 - Main Building:	EPDM Roofing
	Aluminum Canopy Roofing
02 - Building 02:	Composition Shingle Roofing

Interior

The interior systems for the building(s) at this campus include:

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Overhead Interior Coiling Doors
	Interior Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Non-Painted Plaster/Gypsum Board Ceiling
	Metal Panel Ceilings
	Ceramic Tile Wall
	Wood Wall Paneling

01 - Main Building:	Vinyl/Fabric Wall Covering
	CMU Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Quarry Tile Flooring
	Wood Flooring
	Rubber Tile Flooring
	Vinyl Composition Tile Flooring
	Terrazzo Flooring
	Carpet
02 - Building 02:	Overhead Interior Coiling Doors
	Wood Ceilings
	CMU Wall
	Concrete Flooring

Mechanical

The mechanical systems for the building(s) at this campus include:

01 - Main Building:	200 MBH Copper Tube Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	Radiant Water Heater
	10 kW Electric Unit Heater
	20 MBH Gas Unit Heater
	DDC Heating System Controls
	3 Ton Outside Air Cooled Condenser
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	5 HP Pump
	10 HP Pump
	10,000 CFM Interior AHU
	20,000 CFM Outdoor AHU
	Ductwork
	Kitchen Exhaust Hoods
	Roof Exhaust Fan
	Fire Sprinkler System
02 - Building 02:	3 kW Electric Unit Heater

Plumbing

The plumbing systems for the building(s) at this campus include:

01 - Main Building:	15,000 Gallon Water Storage Tank

01 - Main Building:	Gas Piping System
	40 Gallon Electric Water Heater
	200 Gallon Gas Water Heater
	Domestic Water Piping System
02 - Building 02:	Domestic Water Piping System
01 - Main Building:	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals
02 - Building 02:	Lavatories
01 - Main Building:	Air Compressor (5 hp)
	10,000 Gallon Underground Fuel Oil Storage Tank

Electrical

The electrical systems for the building(s) at this campus include:

01 - Main Building:	1200 kW Emergency Generator
	Automatic Transfer Switch
	4,000 Amp Switchgear
	112.5 KVA Transformer
	15 KVA Transformer
	225 KVA Transformer
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 120/240 400A
	Panelboard - 277/480 100A
	Panelboard - 277/480 225A
	Panelboard - 277/480 400A
	Panelboard - 277/480 600A
	Electrical Disconnect
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting Fixtures
	Light Fixtures
02 - Building 02:	Panelboard - 120/208 125A
	Light Fixtures

Facility Deficiency Priority Levels

Deficiencies were ranked according to five priority levels, with Priority 1 items being the most critical to address:

Priority 1 – Mission Critical Concerns: Deficiencies or conditions that may directly affect the school's ability to remain open or deliver the educational curriculum. These deficiencies typically relate to building safety, code compliance, severely damaged or failing building components, and other items that require near-term correction. An example of a Priority 1 deficiency is a fire alarm system replacement.

Priority 2 – Indirect Impact to Educational Mission: Items that may progress to a Priority 1 item if not addressed in the near term. Examples of Priority 2 deficiencies include inadequate roofing that could cause deterioration of integral building systems, and conditions affecting building envelopes, such as roof and window replacements.

Priority 3 – Short-Term Conditions: Deficiencies that are necessary to the school's mission but may not require immediate attention. These items should be considered necessary improvements required to maximize facility efficiency and usefulness. Examples of Priority 3 items include site improvements and plumbing deficiencies.

Priority 4 – Long-Term Requirements: Items or systems that may be considered improvements to the instructional environment. The improvements may be aesthetic or provide greater functionality. Examples include cabinets, finishes, paving, removal of abandoned equipment, and educational accommodations associated with special programs.

Priority 5 – Enhancements: Deficiencies aesthetic in nature or considered enhancements. Typical deficiencies in this priority include repainting, replacing carpet, improved signage, or other improvements to the facility environment.

The following chart summarizes this site's current deficiencies by building system and priority. The listing details current deficiencies including deferred maintenance, functional deficiencies, code compliance, capital renewal, hazardous materials and technology categories.

Table 1: System by Priority

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$26,714	$1,064,711	$64,800	$1,156,226	7.91 %
Roofing	-	-	-	-	-	$0	0.00 %
Structural	$9,623	-	-	-	-	$9,623	0.07 %
Exterior	-	$494,620	-	-	-	$494,620	3.38 %
Interior	-	-	$3,010,746	$3,186,803	$7,044	$6,204,593	42.45 %
Mechanical	-	$819,443	-	$89,015	$3,168	$911,626	6.24 %
Electrical	$5,718	$657,978	$3,680	-	$32,148	$699,524	4.79 %
Plumbing	-	$14,334	$242,829	$275,310	$33,824	$566,298	3.87 %
Fire and Life Safety	$57,737	-	-	-	-	$57,737	0.39 %
Technology	-	-	$2,988,368	-	-	$2,988,368	20.44 %
Conveyances	-	-	$288,684	-	-	$288,684	1.97 %
Specialties	-	-	$13,857	$1,169,543	$57,159	$1,240,559	8.49 %
Total	$73,077	$1,986,375	$6,574,879	$5,785,382	$198,143	$14,617,857	

**Displayed totals may not sum exactly due to mathematical rounding*

The building systems with the most need include:

Interior	-	$6,204,593
Technology	-	$2,988,368
Specialties	-	$1,240,559

The chart below represents the building systems and associated deficiency costs.

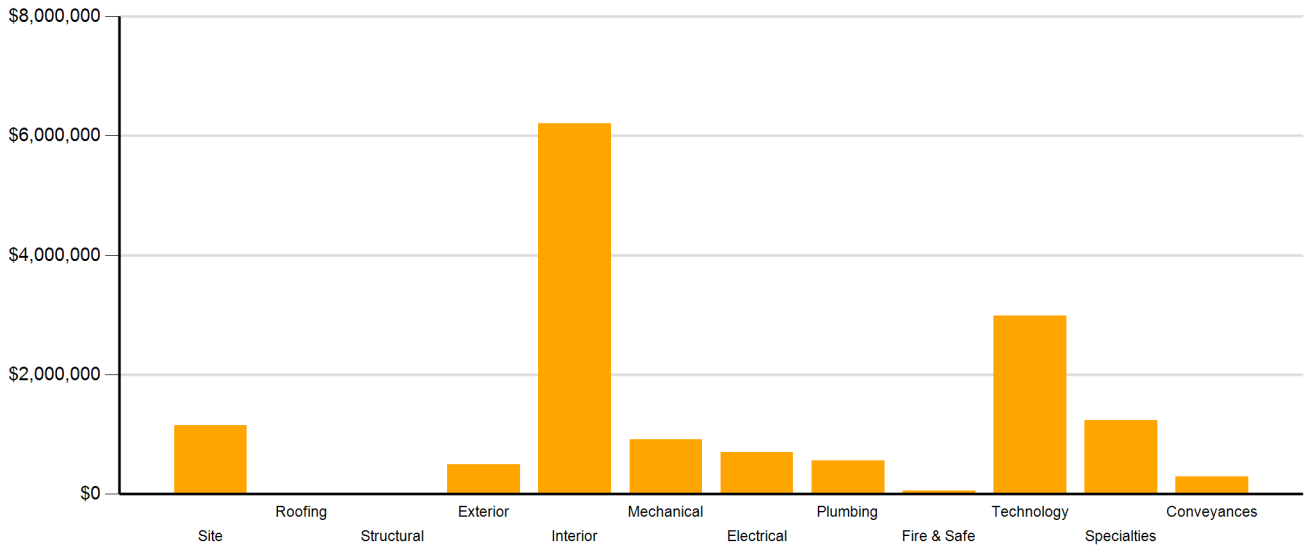

Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

• **Acoustics** deficiencies relate to room acoustics, sound insolation, and mechanical systems and vibration control modeled after ANSI/ASA Standard S12.60-2010 and ASHRAE Handbook, Chapter 47 on Sound and Vibration Control.

• **Barrier to Accessibility** deficiencies relate to the Americans with Disabilities Act and the Rhode Island Governors Commission on Disability. Additional items related to accessibility may be included other categories.

• **Capital Renewal** items have reached or exceeded serviceable life and require replacement. These are current and do not include life cycle capital renewal forecasts. Also included are deficiencies correcting planned work postponed beyond its regular life expectancy.

• **Code Compliance** deficiencies related to current codes. Many may fall under grandfather clauses, which allow buildings to continue operating under codes effective at the time of construction. However, there are instances where the level of renovation requires full compliance which are reflected in the master plan.

• **Educational Adequacy** deficiencies identify where facilities do not align with the Basic Education Program and the RIDE School Construction Regulations.

• **Functional Deficiencies** are deficiencies for components or systems that have failed before the end of expected life or are not the right application, size, or design.

• **Hazardous Materials** include deficiencies for building systems or components containing potentially hazardous material. The team focused on identifying asbestos containing building materials (ACBMs), lead based painted (LBP) areas, polychlorinated biphenyls (PCBs), and chlorofluorocarbons (CFCs). As part of an indoor air and exterior air quality assessment, the team noted evidence of mold, water intrusion, mercury, and oil and hazardous materials (OHMs) exposure. With other scopes of work there may be other costs associated with hazardous materials.

• **Technology** deficiencies relate to network architecture, technology infrastructure, classroom systems, and support. Examples of technology deficiencies include: security cameras, secure electronic access, telephone handsets, and dedicated air conditioning for telecommunication rooms.

• **Traffic** deficiencies relate to vehicle or pedestrian traffic, such as bus loops, crosswalks, and pavement markings.

The following chart and table represent the deficiency category by priority. This listing includes current deficiencies for all building systems.

Table 2: Deficiency Category by Priority

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$747,692	$183,170	-	$930,862
Barrier to Accessibility	-	$25,982	$508,084	-	-	$534,065
Capital Renewal	$9,623	$1,946,059	$2,313,198	$3,884,905	$3,168	$8,156,954
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	$63,455	-	$77,367	$184,303	$194,975	$520,100
Functional Deficiency	-	$14,334	$3,680	$169,084	-	$187,098
Hazardous Material	-	-	-	$1,363,920	-	$1,363,920
Technology	-	-	$2,924,858	-	-	$2,924,858
Traffic	-	-	-	-	-	$0
Total	$73,077	$1,986,375	$6,574,879	$5,785,382	$198,143	$14,617,857

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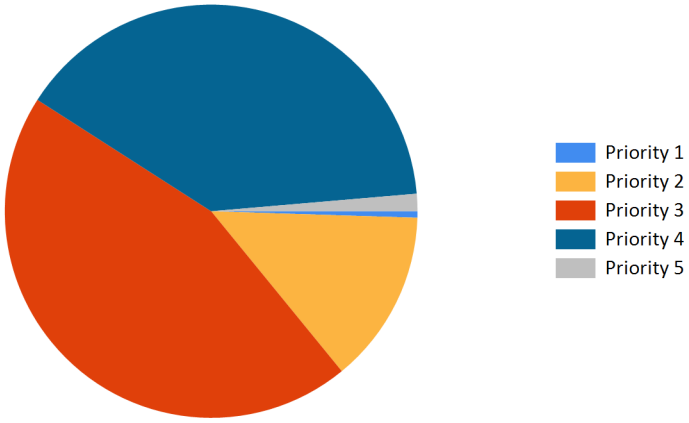

Figure 3: Current deficiencies by priority

Life Cycle Capital Renewal Forecast

During the facility condition assessment, assessors inspected all major building systems. If a need for immediate replacement was identified, a deficiency was created with the estimated repair costs. The identified deficiency contributes to the facility's total current repair costs.

Capital planning scenarios span multiple years, as opposed to being constrained to immediate repairs. Construction projects may begin several years after the initial facility condition assessment. Therefore, in addition to the current year repair costs, it is necessary to forecast the facility's future costs using a 5-year life cycle renewal forecast model.

Life cycle renewal is the projection of future building system costs based upon each individual system's expected serviceable life. Building systems and components age over time, eventually break down, reach the end of their useful lives, and may require replacement. While an item may be in good condition now, it might reach the end of its life before a planned construction project occurs.

The following chart shows all current deficiencies and the subsequent 5-year life cycle capital renewal projections. The projections outline costs for major building systems in which a component is expected to reach the end of its useful life and require capital funding for replacement.

Table 3: Capital Renewal Forecast

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$1,156,226	$0	$0	$0	$558,918	$125,266	$684,184	$1,840,410
Roofing	$0	$0	$0	$0	$0	$0	$0	$0
Structural	$9,623	$0	$0	$0	$0	$0	$0	$9,623
Exterior	$494,620	$0	$0	$0	$0	$0	$0	$494,620
Interior	$6,204,593	$0	$0	$0	$378,733	$139,207	$517,940	$6,722,534
Mechanical	$911,626	$0	$0	$0	$1,299,519	$608,198	$1,907,717	$2,819,343
Electrical	$699,524	$0	$0	$0	$0	$1,132,981	$1,132,981	$1,832,505
Plumbing	$566,298	$0	$0	$0	$1,356,450	$193,524	$1,549,974	$2,116,272
Fire and Life Safety	$57,737	$0	$0	$0	$0	$494,135	$494,135	$551,872
Technology	$2,988,368	$0	$0	$0	$0	$0	$0	$2,988,368
Conveyances	$288,684	$0	$0	$0	$0	$0	$0	$288,684
Specialties	$1,240,559	$0	$0	$0	$0	$0	$0	$1,240,559
Total	**$14,617,857**	**$0**	**$0**	**$0**	**$3,593,620**	**$2,693,311**	**$6,286,931**	**$20,904,788**

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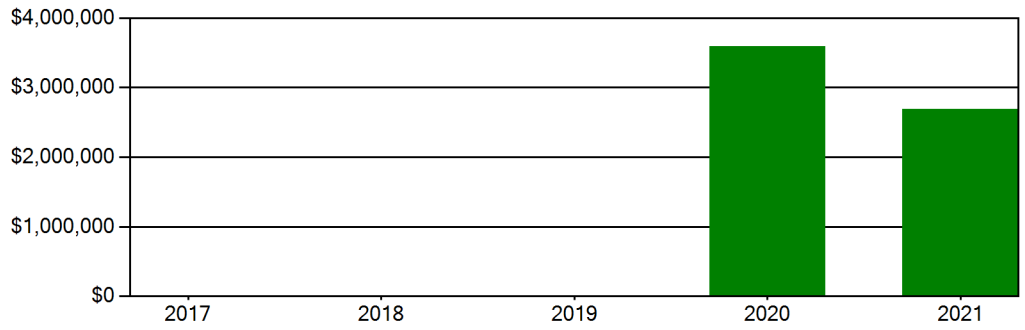
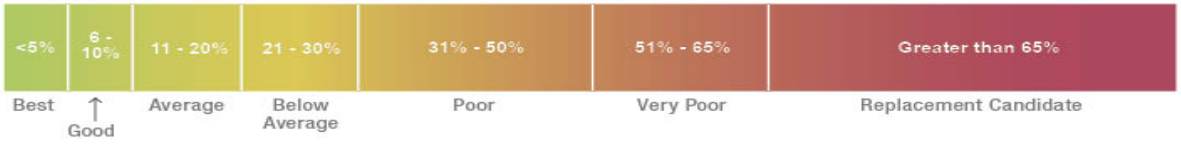


Figure 4: Life Cycle Capital Renewal Forecast

Facility Condition Index (FCI)

The Facility Condition Index (FCI) is used throughout the facility condition assessment industry as a general indicator of a building's health. Since 1991, the facility management industry has used an index called the FCI to benchmark the relative condition of a group of schools. The FCI is derived by dividing the total repair cost, including educational adequacy and site-related repairs, by the total replacement cost. A facility with a higher FCI percentage has more need, or higher priority, than a facility with a lower FCI. It should be noted that costs in the New Construction category are not included in the FCI calculation.



Financial modeling has shown that over a 30-year period, it is more cost effective to replace than repair schools with a FCI of 65 percent or greater. This is due to efficiency gains with facilities that are more modern and the value of the building at the end of the analysis period. It is important to note that the FCI at which a facility should be considered for replacement is typically debated and adjusted based on property owners and facility managers approach to facility management. Of course, FCI is not the only factor used to identify buildings that need renovation, replacement, or even closure. Historical significance, enrollment trends, community sentiment, and the availability of capital are additional factors that are analyzed when making school facility decisions.

For master planning purposes, the total current deficiencies and the first five years of projected life cycle needs were combined. This provides an understanding of the current needs of a facility as well as the projected needs in the near future. A 5-year FCI was calculated by dividing the 5-year need by the total replacement cost. Costs associated with new construction are not included in the FCI calculation.

The replacement value represents the estimated cost of replacing the current building with another building of like size, based on today's estimated cost of construction in the Providence, Rhode Island area. The estimated replacement cost for this facility is $60,429,600. For planning purposes, the total 5-year need at the Smithfield Senior High School is $20,904,788 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Smithfield Senior High School facility has a 5-year FCI of 34.59%.

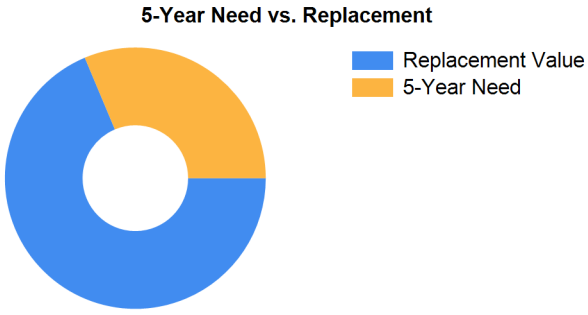


Figure 5: 5-Year FCI

It is important to reiterate that this FCI replacement threshold is not conclusive, but is intended to initiate planning discussion in which other relevant issues with regard to a facility's disposition must be incorporated. This merely suggests where conversations regarding replacement might occur.

Rhode Island Aspirational Capacity

The capacity of a school reflects how many students the school's physical facility can effectively serve. There are various methodologies that exist to calculate capacity. It is not uncommon to review an existing building only to find that the capacity that had once been assigned is greater than what can be reasonably accommodated today. This is primarily because of a change in how programs are delivered.

The Rhode Island Aspirational Capacity is based on the Rhode Island School Construction Regulations (SCRs) and is an aspirational goal of space use. The capacity for each individual public school in the state of Rhode Island was designed to conform to Section 1.06-2 Space Allowance Guidelines of the Rhode Island Department of Education (RIDE) SCRs. These regulations outline the allowed gross square feet (GSF) per student at each school type (ES, MS, HS) by utilizing a sliding scale based on projected enrollment. The resulting capacities reflect how school capacities align to the SCRs for new construction. The existing enrollment was multiplied by the GSF per student for the appropriate bracket. For the purposes of this analysis, Pre-K centers were rolled into the elementary totals, and K-8 facilities were counted as middle schools.

The most consistent and equitable way a state can determine school capacities across a variety of districts and educational program offerings is to use square-foot-per-student standards. In contrast, in the 2013 Public Schoolhouse Assessment Report, LEAs self-reported capacities for their elementary, middle and high schools. Districts typically report "functional capacity," which is defined as the number of students each classroom can accommodate. Functional capacity counts how many students can occupy a space, not how much room students and teachers have within that space. For example, a 650-square-foot classroom and a 950-square-foot classroom can both have a reported capacity of 25 students, but the actual teaching and learning space per student varies greatly.

The variation in square feet per student impacts the kinds of teaching practices possible in each space. The lowest allocation of space per student restricts group and project-based learning strategies and requires teachers to teach in more traditional, lecture-style formats, due to a lack of space. Furthermore, the number of students that can be accommodated in a classroom does not account for access to sufficient common spaces such as libraries, cafeterias, and gymnasiums. When cafeterias are undersized relative to the population, schools must host four or more lunch periods a day, resulting in some students eating lunch mid-morning and some mid-afternoon. Similarly, undersized libraries and gymnasiums create scheduling headaches for schools and restrict student access. Finally, a classroom count-only approach to school capacity does not consider the inherent scheduling challenges schools face.

Applying the Rhode Island Aspirational Capacity, a facility of this size could ideally support an enrollment of approximately 874 students.

Facility New Construction

As part of the Educational Program Space Assessment, select core spaces were compared to the RI School Construction Regulations. If it was determined that a facility was in need of square footage related to a cafeteria or library/media center, a cost for additional space was estimated. This cost is not included in the total 5-year need or the 5-year FCI calculation.

The New Construction cost to bring the Smithfield Senior High School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The Smithfield Senior High School comprises 167,860 square feet and was constructed in 1964. Current deficiencies at this school total $14,617,857. Five year capital renewal costs total $6,286,931. The total identified need for the Smithfield Senior High School (current deficiencies and 5-year capital renewal costs) is $20,904,788. The 5-year FCI is 34.59%.

Table 4: Facility Condition by Building

	Gross Sq Ft	Year Built	Current Deficiencies	LC Yr. 1-5 Total	Total 5 Yr Need (Yr 1-5 + Current Defs)	5-Year FCI
Smithfield Senior High School Totals	167,860	1964	$14,617,857	$6,286,931	$20,904,788	34.59%

**Displayed totals may not sum exactly due to mathematical rounding*

The following pages provide a listing of all current deficiencies and 5-year life cycle need and the associated costs, followed by photos taken during the assessment.

Cost Estimating

Cost estimates are derived from local cost estimating expertise and enhanced by industry best practices, historical cost data, and relevance to the Rhode Island region. Costs have been developed from current market rates as of the 2nd quarter in 2016. All costs are based on a replace-in-kind approach, unless the item was not in compliance with national or state regulations or standards.

For planning and budgeting purposes, facility assessments customarily add a soft cost multiplier onto deficiency repair cost estimates. This soft cost multiplier accounts for costs that are typically incurred when contracting for renovation and construction services. Soft costs typically include construction cost factors, such as contractor overhead and profit, as well as labor and material inflation, professional fees, and administrative costs. Based on the Rhode Island School Construction Regulations, a soft cost multiplier of 20% is included on all cost estimates. Other project allowances are included in the cost estimates based on school attributes such as age, location, and historic designation. All stated costs in the assessment report will include soft costs for planning and budgeting purposes. These are estimates, and costs will vary at the time of construction.

Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Concrete Walks Require Replacement	Capital Renewal	1,300	SF	3	$26,714	11889
Note: Pedestrian walkways are cracked and weathered.						
Asphalt Paving Requires Replacement	Capital Renewal	307	CAR	4	$1,021,168	11888
Note: Pavement is weathered and alligatored and should be replaced.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$28,674	28586
Note: Backstops Require Replacement						
Fencing Requires Replacement (8' Chain Link Fence)	Capital Renewal	220	LF	4	$14,870	11887
Note: 16' fence						
PE / Recess Playfield is Missing and is Needed	Educational Adequacy	1	Ea.	5	$64,800	54952
Note: PE / Recess Playfield is Missing and is Needed						
	Sub Total for System	**5**	**items**		**$1,156,226**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Requires Repair	Functional Deficiency	1	Ea.	3	$3,680	11890
Note: Pole is missing lighting fixture.						
	Sub Total for System	**1**	**items**		**$3,680**	
	Sub Total for School and Site Level	**6**	**items**		**$1,159,905**	

Building: 01 - Main Building

Structural

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Foundation Study Recommended	Capital Renewal	1	Job	1	$9,623	16882
Note: There are cracks in the ceiling and floor that follow the frame line of the storefront window around the interior portion of the courtyard.						
Location: Rooms 144 -146						
	Sub Total for System	**1**	**items**		**$9,623**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement	Capital Renewal	2,736	SF	2	$468,638	11893
Note: Original single pane windows should be replaced.						
The Metal Exterior Door Requires Replacement	Barrier to Accessibility	4	Door	2	$25,982	11892
Note: Non-compliant doors.						
	Sub Total for System	**2**	**items**		**$494,620**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	60	Ea.	3	$534,065	19867
Note: All classrooms						
Classroom Interior Doors Provide Insufficient Sound Isolation	Acoustics	24	Ea.	3	$213,626	19868
Note: All classrooms						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	101,602	SF	3	$928,811	11894
The Carpet Flooring Requires Replacement	Capital Renewal	8,328	SF	3	$183,393	11895
Note: Carpet is aged, stained, and worn and should be replaced.						
The Interior Door Hardware Requires Replacement	Barrier to Accessibility	160	Door	3	$508,084	11903
Note: Non-compliant door hardware should be replaced.						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	55,356	SF	3	$642,767	11896
Note: VCT is cracked, chipped, and worn.						
Ceiling Grid Requires Replacement	Capital Renewal	101,602	SF	4	$1,219,733	11915
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	46,246	SF	4	$1,335,048	Rollup
Paint (probable pre-1978 in base layer(s)) - damaged area < 9 sq. ft. OR overall worn AND in children-accessible area (measurement unit - each)	Hazardous Material	34	Ea.	4	$9,815	Rollup

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Paint (probable pre-1978 in base layer(s)) - damaged area < 9 sq. ft. OR overall worn AND in children-accessible area (measurement unit - linear feet)	Hazardous Material	106	LF	4	$2,448	Rollup
Paint (probable pre-1978 in base layer(s)) - damaged area < 9 sq. ft. OR overall worn AND in children-accessible area (measurement unit - square feet)	Hazardous Material	1,726	SF	4	$16,609	Rollup
Room Is Excessively Reverberant	Acoustics	8,100	SF	4	$183,170	19869
Note: Gym						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	1,539	SF	4	$59,356	Rollup
Vinyl/Fabric Wall Covering Requires Replacement	Capital Renewal	49,968	SF	4	$360,624	11914
Room lacks appropriate sound control.	Educational Adequacy	200	SF	5	$7,044	Rollup
	Sub Total for System	**15**	**items**		**$6,204,593**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Gas Unit Heater Requires Replacement	Capital Renewal	5	Ea.	2	$14,761	11911
Replace Unit Vent	Capital Renewal	47	Ea.	2	$804,682	11916
Lab lacks an appropriate fume hood.	Educational Adequacy	4	Ea.	4	$89,015	Rollup
Remove Abandoned Equipment	Capital Renewal	1	Ea.	5	$3,168	11912
Note: Abandoned air compressor is leaking oil and needs to be removed.						
	Sub Total for System	**4**	**items**		**$911,626**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room last power shut-off valves for utilities	Educational Adequacy	4	Ea.	1	$5,718	Rollup
Switchgear Is Needed Or Requires Replacement	Capital Renewal	3	Ea.	2	$350,722	11917
Note: Switchgears aged and rusted.						
The Panelboard Requires Replacement	Capital Renewal	3	Ea.	2	$23,383	11906
The Panelboard Requires Replacement	Capital Renewal	21	Ea.	2	$103,060	11907
The Panelboard Requires Replacement	Capital Renewal	14	Ea.	2	$82,179	11908
The Panelboard Requires Replacement	Capital Renewal	6	Ea.	2	$38,106	11909
The Panelboard Requires Replacement	Capital Renewal	5	Ea.	2	$60,527	11910
Room Has Insufficient Electrical Outlets	Educational Adequacy	64	Ea.	5	$32,148	Rollup
	Sub Total for System	**8**	**items**		**$695,844**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Electric Water Heater Requires Replacement	Functional Deficiency	4	Ea.	2	$14,334	11905
Note: Water heaters are rusted and show signs of leaks.						
The Showers Plumbing Fixtures Require Replacement	Capital Renewal	27	Ea.	3	$207,852	11900
Note: Shower fixtures leak and are missing controls. Shower heads are rusted.						
Location: Locker room and gym office						
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	26	Ea.	3	$34,977	11904
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	8	Ea.	4	$82,756	11901
The Classroom Lavatories Plumbing Fixtures Require Replacement	Functional Deficiency	24	Ea.	4	$66,051	11891
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	9	Ea.	4	$23,470	11902
Note: Mop sinks are rusted with poor drainage.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Functional Deficiency	32	Ea.	4	$103,033	11898
Note: Restroom lavatories are aged and stained with some cracking.						
Room lacks a drinking fountain.	Educational Adequacy	7	Ea.	5	$7,814	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	17	Ea.	5	$26,010	Rollup
	Sub Total for System	**9**	**items**		**$566,298**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks shut-off valves for utilities. (International Fuel Gas Code, Section 409.6)	Educational Adequacy	5	Ea.	1	$57,737	Rollup
	Sub Total for System	**1**	**items**		**$57,737**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	11	Ea.	3	$63,510	Rollup
Technology: Auditorium AV/Multimedia system is in need of minor improvements.	Technology	1	Room	3	$96,228	10948
Technology: Campus wireless infrastructure meets standards but does not cover all areas of campus.	Technology	60	Ea.	3	$80,832	24965
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	1	Ea.	3	$9,623	10941
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	56	Ea.	3	$1,131,641	10944
Technology: Instructional spaces do not have local sound reinforcement.	Technology	56	Ea.	3	$269,438	10942
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,389	10923
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,389	10929
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$4,811	10935
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$45,805	10922
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$45,805	10928
Technology: Intermediate Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	$16,936	10920
Technology: Intermediate Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	$5,389	10934
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,811	10925
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,811	10931
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,736	10917
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$50,808	10916
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	62	Ea.	3	$26,848	10921
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	156	Ea.	3	$67,552	10927
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	144	Ea.	3	$62,356	10933
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	132	Ea.	3	$57,159	10950
Technology: Network system inadequate and/or near end of useful life	Technology	12	Ea.	3	$92,379	10946
Technology: Network system inadequate and/or near end of useful life	Technology	66	Ea.	3	$317,552	10947
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	166,560	SF	3	$288,499	10949
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$54,850	10943
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	2	Room	3	$38,491	10945
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$7,698	10918

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$4,811	10924
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$4,811	10930
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$4,811	10936
Technology: Telecommunications Room fiber connectivity infrastructure is outdated and/or inadequate.	Technology	1	Ea.	3	$6,351	10919
Technology: Telecommunications Room fiber connectivity infrastructure is outdated and/or inadequate.	Technology	1	Ea.	3	$6,351	10926
Technology: Telecommunications Room fiber connectivity infrastructure is outdated and/or inadequate.	Technology	1	Ea.	3	$6,351	10932
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	56	Ea.	3	$86,220	10940
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,313	10939
	Sub Total for System	**35**	**items**		**$2,988,368**	

Conveyances

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Elevator Cab Requires Replacement	Capital Renewal	1	Ea.	3	$288,684	11897
	Sub Total for System	**1**	**items**		**$288,684**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	3	Ea.	3	$13,857	Rollup
The Metal Student Lockers Require Replacement	Capital Renewal	2,334	Ea.	4	$1,162,285	11913
Location: Hallways and locker rooms						
Work Tables Are Required	Educational Adequacy	2	Ea.	4	$7,258	Rollup
Room lacks an appropriate refrigerator.	Educational Adequacy	5	Ea.	5	$43,303	Rollup
The room lacks a washer and/or dryer.	Educational Adequacy	1	Ea.	5	$13,857	Rollup
	Sub Total for System	**5**	**items**		**$1,240,559**	
	Sub Total for Building 01 - Main Building	**81**	**items**		**$13,457,951**	
	Total for Campus	**87**	**items**		**$14,617,857**	

Buildings with no reported deficiencies

02 - Building 02

Smithfield Senior High School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Roadway Pavement	Asphalt		30	CAR	$100,465	4
Playfield Areas	HS Athletic Components		1	Ea.	$458,453	4
Parking Lot Lighting	Pole Lighting		16	Ea.	$125,266	5
		Sub Total for System	**3**	**items**	**$684,184**	
		Sub Total for Building -	**3**	**items**	**$684,184**	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)		56,630	SF	$378,733	4
	Note: Painted gypsum board walls					
Wall Paneling	Wood Panel wall		11,659	SF	$107,705	5
Resilient Flooring	Rubber Tile Flooring		1,666	SF	$31,502	5
		Sub Total for System	**3**	**items**	**$517,939**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	2-Pipe Water System (Hot)		166,560	SF	$1,299,519	4
Decentralized Heating Equipment	Unit Heater Electric (10 KW)		1	Ea.	$2,506	5
HVAC Air Distribution	AHU 10,000 CFM Interior		2	Ea.	$241,879	5
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)		8	Ea.	$61,771	5
Facility Hydronic Distribution	Pump - 5HP		8	Ea.	$77,167	5
Facility Hydronic Distribution	Pump- 10HP (Ea.)		1	Ea.	$15,296	5
Heat Generation	Boiler - Copper Tube (200 MBH)		2	Ea.	$46,286	5
Exhaust Air	Roof Exhaust Fan		31	Ea.	$163,293	5
		Sub Total for System	**8**	**items**	**$1,907,716**	

Electrical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Electrical Service	Transformer (15 KVA)		3	Ea.	$20,612	5
Electrical Service	Transformer (225 KVA)		2	Ea.	$42,918	5
Lighting Fixtures	Building Mounted Fixtures (Ea.)		26	Ea.	$39,280	5
Lighting Fixtures	Canopy Mounted Fixtures (Ea.)		2	Ea.	$2,791	5
Electrical Service	Transformer (112.5 KVA)		2	Ea.	$25,647	5
Lighting Fixtures	Light Fixtures (Bldg SF)		166,560	SF	$1,001,733	5
	Note: T8 Lamps					
		Sub Total for System	**6**	**items**	**$1,132,981**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)		166,560	SF	$1,356,450	4
Plumbing Fixtures	Lavatories		3	Ea.	$9,659	5
Plumbing Fixtures	Refrigerated Drinking Fountain		2	Ea.	$14,935	5
Plumbing Fixtures	Refrigerated Drinking Fountain		6	Ea.	$44,804	5
Domestic Water Equipment	Water Heater - Gas - 200 Gallon		1	Ea.	$13,083	5
Facility Potable-Water Storage Tanks	Water Storage Tank - 15,000 Gallons		1	Ea.	$99,115	5
Compressed-Air Systems	Air Compressor (5 hp)		1	Ea.	$11,928	5
		Sub Total for System	**7**	**items**	**$1,549,974**	

Fire and Life Safety

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Fire Detection and Alarm	Fire Alarm		166,560	SF	$494,135	5
		Sub Total for System	**1**	**items**	**$494,135**	
		Sub Total for Building 01 - Main Building	**25**	**items**	**$5,602,746**	
		Total for: Smithfield Senior High School	**28**	**items**	**$6,286,930**	

Supporting Photos

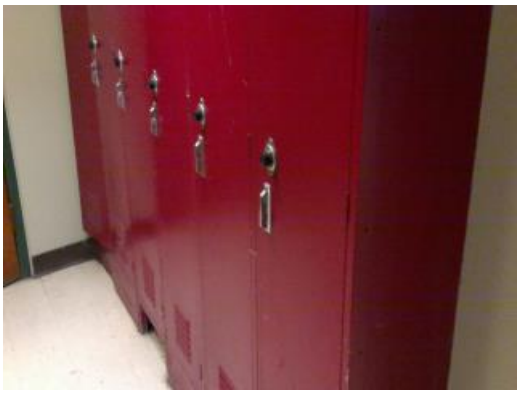

Stained And Worn Carpet


Exterior


Exterior Finishes


Stained Ceiling Tiles And Grid


Science Classroom


Hallway Lockers


Aged And Stained Ceiling Grid And Tiles


Media Center


Switchgear


Cracked And Worn VCT


Building 02 Exterior


Typical Aged Heating Unit


Cracked Restroom Lavatory


Building 02 Exterior


Hallway Finishes


Building 02 Exterior


Missing Pole Light Fixture


Stained Restroom Lavatory


Typical Shower


Typical Classroom


Art Classroom


Locker Room Showers


Stained Classroom Lavatory


Restroom Fixtures And Finishes


Locker Room Lockers


Gymnasium


Site Aerial


Rusted Fencing


Alligatored Asphalt Pavement


Cracked Sidewalks


Cafeteria


Typical Rusted Water Heater


Corroded Mop Sink


Aged Panelboard


Typical Panelboard


Music Classroom


Aged Unit Heater


Abandoned Air Compressor


Elevation