



East Providence totals 902,211 square feet and consists of the school type(s) detailed below. School(s) were visited three times during the Statewide Facilities Assessment by teams of specialists from April-July 2016. This report provides LEA summary findings for the statewide assessment program.

School Type by Count



School Type	SqFt
Elementary School	311,777
Middle School	297,353
High School	293,081
Total:	902,211

Demographics

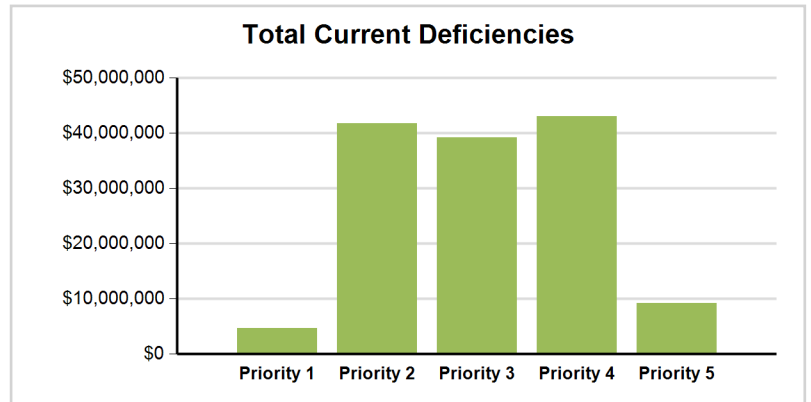
Enrollment is projected to decrease by 7.4% over the next 10 years in East Providence. The total LEA enrollment at 12 school (s) is 5,176 students with a total capacity of 7,930 as reported by the LEA. Utilization is calculated by dividing enrollment by capacity, resulting in 65.3% utilization at East Providence.

65.3 % Utilization



Educational Program Space Analysis

In East Providence there are 416 instructional spaces; of these spaces 28.6% meet or exceed the space size standards. Of the total current deficiencies identified, \$8,164,902 are related to the educational program space assessment. Addressing these identified deficiencies will improve the learning environment and bring the school(s) in the district closer to 21st century learning facilities.



Five Year Need Summary

The current deficiencies total \$137,594,632, with 31.2% categorized as Priority 4 and another 30.3% as Priority 2. The building systems with the highest current deficiency costs are Interior and Mechanical.

School(s) with Greatest Need	Combined 5-Year Need
East Providence High School	\$40,068,058
Edward R. Martin Middle School	\$35,518,531
Riverside Middle School	\$20,041,356

The projected life cycle need in Years 1 through 5 is \$14,512,423. It is anticipated that the majority of the need will occur in Year 5. School(s) with the greatest need are represented in the adjacent table and make up 62.9% of the combined 5-Year need at East Providence.

Five Year Facility Condition Index (FCI)

For master planning purposes, the total current deficiencies, less new construction, and the first 5 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. The 5-Year need is \$152,107,055 with a district replacement value of \$313,632,402. The resulting 5-Year FCI is 48.5%.

5-Year FCI Ranges

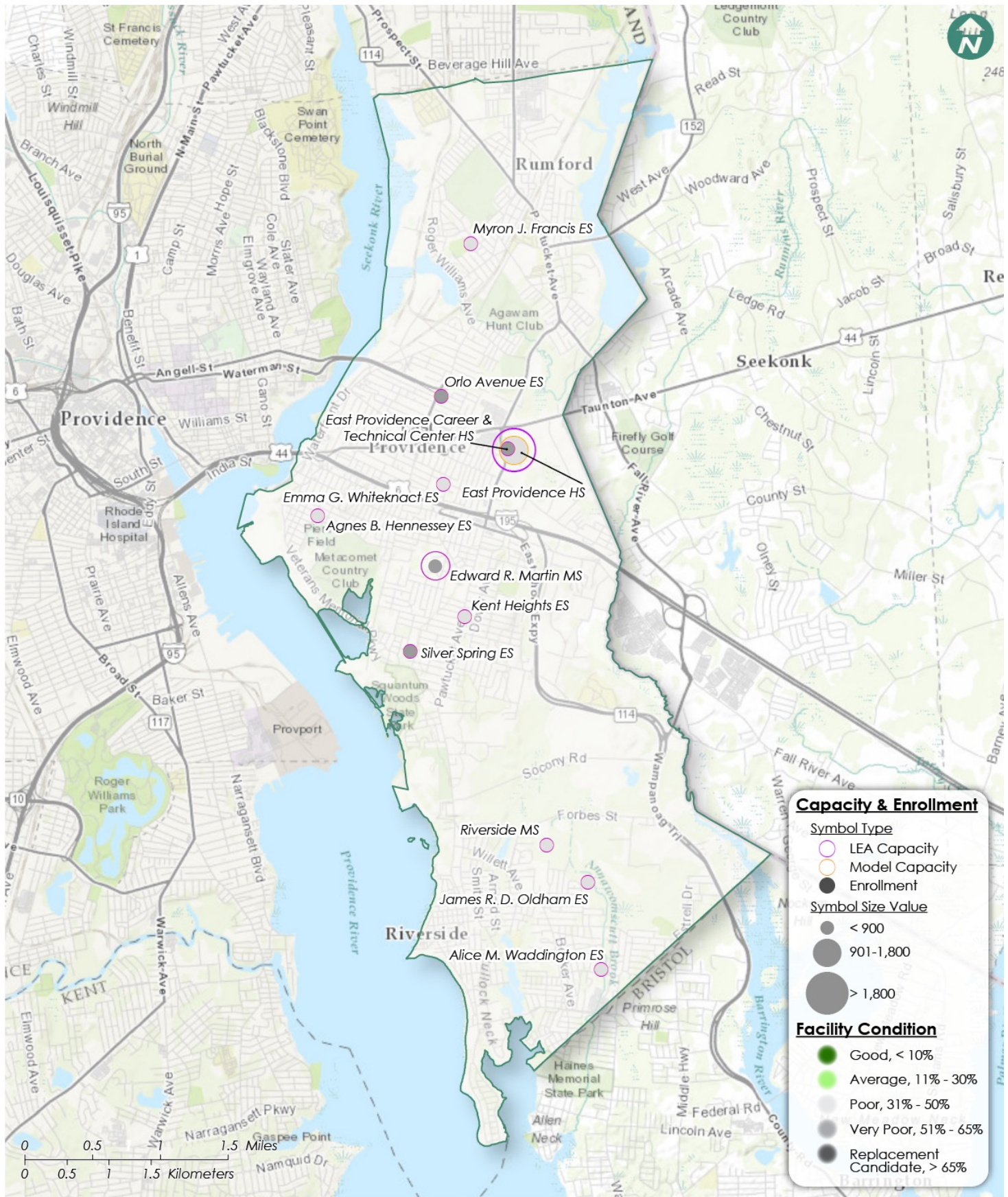


LEA Summary Data

Gross SqFt	Avg Year Built	Current Deficiencies (Less New Construction)	Life Cycle Year 1-5 Total	Total 5-Year Need (Year 1-5 + Current Defs)	5-Year FCI
902,211	1967	\$137,594,632	\$14,512,423	\$152,107,055	48.5%



East Providence





Facility Condition Assessment

East Providence - Agnes B. Hennessey School

June 2017

75 Fort Street, East Providence, RI 02914





Introduction

Agnes B. Hennessey School, located at 75 Fort Street in East Providence, Rhode Island, was built in 1957. It comprises 34,845 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.

Agnes B. Hennessey School serves grades KG - 5, has 20 instructional spaces, and has an enrollment of 295. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Agnes B. Hennessey School is 520 with a resulting utilization of 57%.

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 Agnes B. Hennessey School the 5-year need is \$5,055,375. 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.

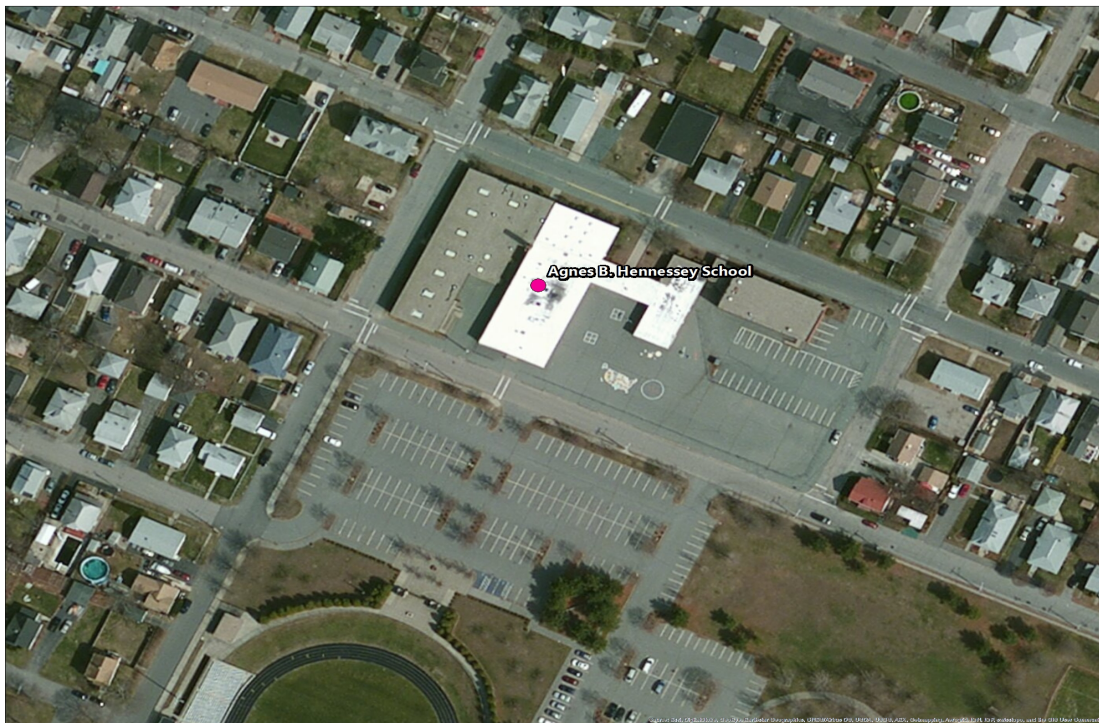


Figure 1: Aerial view of Agnes B. Hennessey School



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 Agnes B. Hennessey School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	Glass Block Exterior Wall
	Metal Panel Exterior Wall
	Steel Exterior Windows
	Storefront Entrance Doors
	Steel Exterior Entrance Doors

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

01 - Main Building:	EPDM Roofing
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Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Ceramic Tile Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring
	Terrazzo Flooring
	Athletic/Sport Flooring

Mechanical

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

01 - Main Building:	3,060 MBH Cast Iron Steam Boiler
	3,264 MBH Cast Iron Water Boiler



01 - Main Building:	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	Pneumatic Heating System Controls
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	10,000 CFM Interior AHU
	Ductwork
	Roof Exhaust Fan

Plumbing

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

01 - Main Building:	Gas Piping System
	200 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (1 hp)

Electrical

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

01 - Main Building:	600 Amp Distribution Panel
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Light Fixtures
	Building Mounted Lighting 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.



Facility Condition Assessment

East Providence - Agnes B. Hennessey School

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

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	-	-	\$88,841	\$446,317	-	\$535,158	11.46 %
Roofing	-	-	-	-	-	\$0	0.00 %
Structural	-	-	-	-	-	\$0	0.00 %
Exterior	-	\$132,001	\$45,047	-	-	\$177,047	3.79 %
Interior	-	-	\$434,632	\$713,722	\$90,753	\$1,239,106	26.52 %
Mechanical	-	\$1,068,585	\$6,379	\$248,162	-	\$1,323,126	28.32 %
Electrical	-	\$277,579	\$30,773	-	\$38,176	\$346,527	7.42 %
Plumbing	-	-	\$295,599	\$167,517	\$12,965	\$476,081	10.19 %
Fire and Life Safety	-	-	-	-	-	\$0	0.00 %
Technology	-	-	\$491,886	-	-	\$491,886	10.53 %
Conveyances	-	-	-	-	-	\$0	0.00 %
Specialties	-	-	-	\$82,572	-	\$82,572	1.77 %
Total	\$0	\$1,478,164	\$1,393,157	\$1,658,289	\$141,894	\$4,671,504	

*Displayed totals may not sum exactly due to mathematical rounding

The building systems with the most need include:

Mechanical	-	\$1,323,126
Interior	-	\$1,239,106
Site	-	\$535,158

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

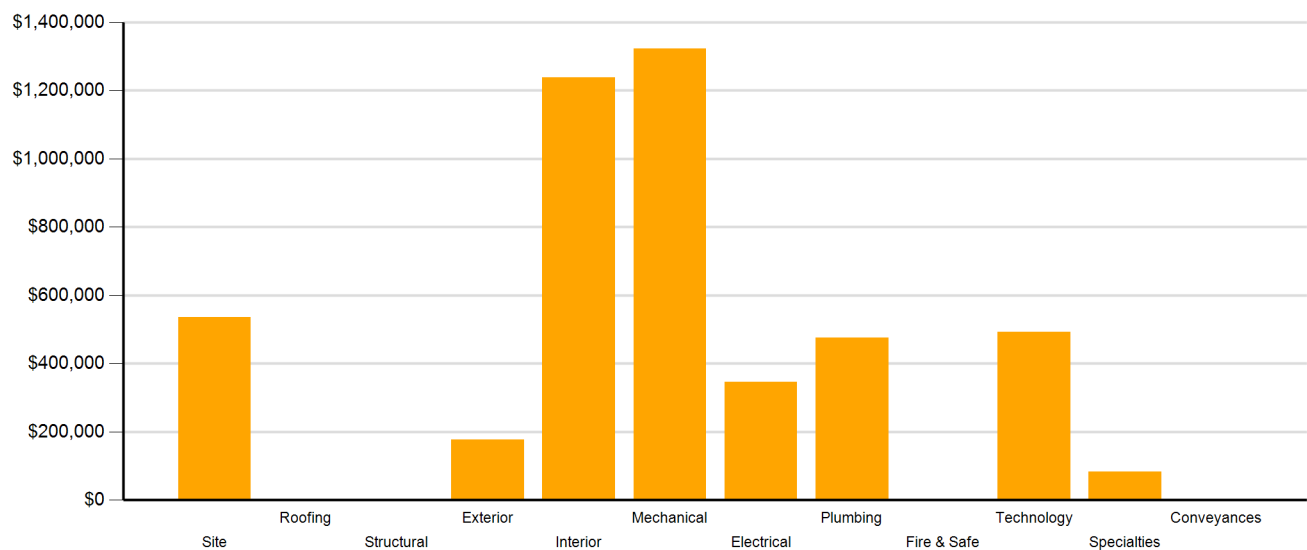


Figure 2: System Deficiencies



Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

- **Acoustics** deficiencies relate to room acoustics, sound insulation, 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

Category	Priority					Total
	1	2	3	4	5	
Acoustics	-	-	-	\$79,501	-	\$79,501
Barrier to Accessibility	-	-	\$88,841	-	-	\$88,841
Capital Renewal	-	\$1,478,164	\$642,295	\$913,995	\$90,753	\$3,125,207
Code Compliance	-	-	-	-	-	\$0
Educational Adequacy	-	-	-	\$162,126	\$51,141	\$213,267
Functional Deficiency	-	-	\$170,134	-	-	\$170,134
Hazardous Material	-	-	-	\$502,667	-	\$502,667
Technology	-	-	\$491,886	-	-	\$491,886
Traffic	-	-	-	-	-	\$0
Total	\$0	\$1,478,164	\$1,393,157	\$1,658,289	\$141,894	\$4,671,504

*Displayed totals may not sum exactly due to mathematical rounding

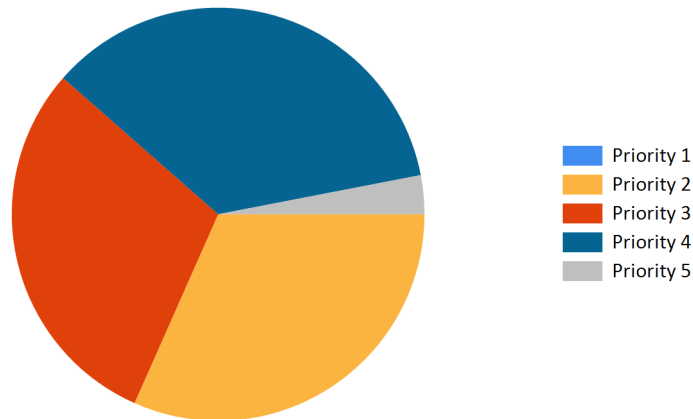


Figure 3: Current deficiencies by priority



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

System	Current Deficiencies	Life Cycle Capital Renewal Projections					LC Yr. 1-5 Total	Total 5-Year Need
		Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021		
Site	\$535,158	\$0	\$0	\$0	\$0	\$0	\$0	\$535,158
Roofing	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Structural	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Exterior	\$177,047	\$0	\$0	\$0	\$0	\$0	\$0	\$177,048
Interior	\$1,239,106	\$0	\$0	\$4,334	\$0	\$379,537	\$383,871	\$1,622,977
Mechanical	\$1,323,126	\$0	\$0	\$0	\$0	\$0	\$0	\$1,323,126
Electrical	\$346,527	\$0	\$0	\$0	\$0	\$0	\$0	\$346,527
Plumbing	\$476,081	\$0	\$0	\$0	\$0	\$0	\$0	\$476,081
Fire and Life Safety	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Technology	\$491,886	\$0	\$0	\$0	\$0	\$0	\$0	\$491,887
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specialties	\$82,572	\$0	\$0	\$0	\$0	\$0	\$0	\$82,572
Total	\$4,671,504	\$0	\$0	\$4,334	\$0	\$379,537	\$383,871	\$5,055,375

*Displayed totals may not sum exactly due to mathematical rounding

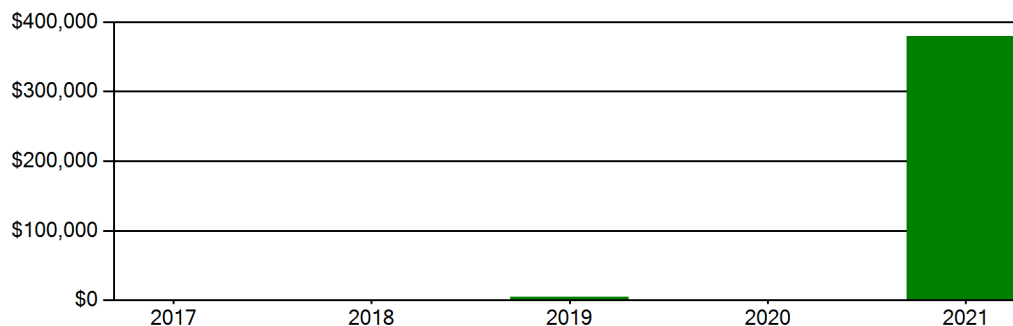
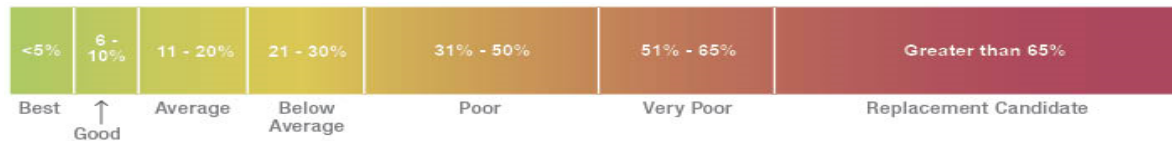


Figure 4: Life Cycle Capital Renewal Forecast



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 \$12,195,750. For planning purposes, the total 5-year need at the Agnes B. Hennessey School is \$5,055,375 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Agnes B. Hennessey School facility has a 5-year FCI of 41.45%.

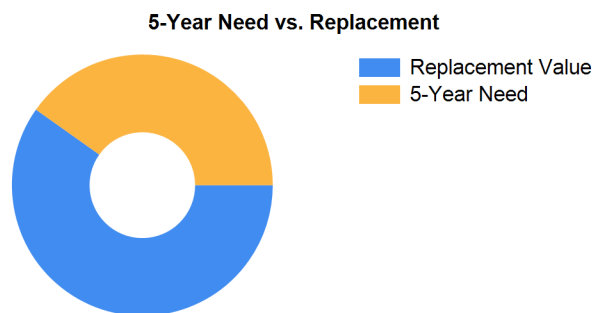


Figure 5: 5-Year FCI

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 194 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 Agnes B. Hennessey School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$306,558.



Summary of Findings

The Agnes B. Hennessey School comprises 34,845 square feet and was constructed in 1957. Current deficiencies at this school total \$4,671,504. Five year capital renewal costs total \$383,871. The total identified need for the Agnes B. Hennessey School (current deficiencies and 5-year capital renewal costs) is \$5,055,375. The 5-year FCI is 41.45%.

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
Agnes B. Hennessey School Totals	34,845	1957	\$4,671,504	\$383,871	\$5,055,375	41.45%

**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.

LEA Feedback

As part of the assessment process, LEAs were given several opportunities to provide feedback on the data. Jacobs performed a thorough review of the comments provided relating to the Facilities Condition Assessment. Based on information provided, some adjustments were made to improve or refine the dataset. In other situations, enough information was not provided, item was out of scope, or evidence provided by assessment team did not align with the feedback and no adjustment was made. Finally, deficiency priorities, costs, and educational space/technology standards are consistent throughout the state.



Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Install New Playground Equipment	Barrier to Accessibility	1	SF	3	\$88,841	54889
Note: Install New Playground Equipment						
Asphalt Paving Requires Replacement	Capital Renewal	35	CAR	4	\$146,511	9838
Note: Asphalt parking is cracked and weathered.						
Asphalt Paving Requires Replacement	Capital Renewal	63	CAR	4	\$263,720	9839
Note: Paved play area						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	\$36,086	28466
Note: Backstops Require Replacement						
	Sub Total for System	4	items		\$535,158	
	Sub Total for School and Site Level	4	items		\$535,158	

Building: 01 - Main Building

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Glass Block Requires Replacement	Capital Renewal	144	SF	2	\$11,836	9881
The Glass Pane In The Steel Exterior Window Requires Replacement	Capital Renewal	240	SF	2	\$120,165	9846
Location: Rooms 10 & 11 and corridor						
The Aluminum Storefront Exterior Door Requires Repair	Capital Renewal	2	Door	3	\$942	9845
Location: 1989 wing						
The Brick Exterior Requires Repointing	Capital Renewal	1,000	SF Wall	3	\$44,105	9860
	Sub Total for System	4	items		\$177,047	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	30	Door	3	\$145,846	9848
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	13,825	SF	3	\$131,649	9847
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	72	SF	3	\$2,039	9851
Location: Nurse's office restroom						
The Vinyl Composition Tile Requires Replacement	Functional Deficiency	12,823	SF	3	\$155,098	9850
Interior Toilet Partition Requires Repair	Capital Renewal	10	Ea.	4	\$5,513	9856
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	15,889	SF	4	\$477,802	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	28	Ea.	4	\$8,420	Rollup
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	219	LF	4	\$5,268	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	1,115	SF	4	\$11,177	Rollup
Room Is Excessively Reverberant	Acoustics	3,375	SF	4	\$79,501	27935
Location: Cafeteria / gym						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	3,268	SF	4	\$126,041	Rollup
Interior Walls Require Repainting (Bldg SF)	Capital Renewal	13,027	SF	5	\$90,753	Rollup
	Sub Total for System	12	items		\$1,239,106	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Ductwork Requires Replacement (SF Basis)	Capital Renewal	34,845	SF	2	\$540,107	9871
Replace Unit Vent	Capital Renewal	9	Ea.	2	\$160,508	9880
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	48	Ea.	2	\$84,777	9870
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	34,845	SF	2	\$283,192	9872
Air Compressor Is Inoperable And Requires Replacement	Capital Renewal	1	Ea.	3	\$6,379	9867
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	34,845	SF	4	\$248,162	9877
	Sub Total for System	6	items		\$1,323,126	



Facility Condition Assessment

East Providence - Agnes B. Hennessey School

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Distribution Panel Requires Replacement	Capital Renewal	1	Ea.	2	\$30,713	9873
The Lighting Fixtures Require Replacement	Capital Renewal	34,845	SF	2	\$218,298	9874
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	\$10,224	9868
The Panelboard Requires Replacement	Capital Renewal	3	Ea.	2	\$18,343	9869
The Electrical Receptacles Are Inadequate And More are Needed	Functional Deficiency	25	Ea.	3	\$15,036	9858
Note: Each classroom needs and additional electrical receptacle.						
The Mounted Building Lighting Requires Replacement	Capital Renewal	10	Ea.	3	\$15,737	9841
Room Has Insufficient Electrical Outlets	Educational Adequacy	76	Ea.	5	\$38,176	Rollup
Sub Total for System		7	items		\$346,527	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Plumbing / Domestic Water Piping System Is Beyond Its Useful Life	Capital Renewal	34,845	SF	3	\$295,599	9865
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	25	Ea.	4	\$71,670	9843
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	2	Ea.	4	\$5,433	9859
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	3	Ea.	4	\$23,335	9864
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	20	Ea.	4	\$67,079	9853
Note: Restroom lavatories are aged and many are non-compliant.						
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	5	Ea.	5	\$5,152	Rollup
Sub Total for System		7	items		\$476,081	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	48	Ea.	3	\$24,057	18618
Technology: Instructional spaces do not have local sound reinforcement.	Technology	19	Ea.	3	\$95,226	18626
Technology: Intermediate Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	\$17,642	18615
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$5,012	18616
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$7,017	18613
Technology: Main Telecommunications Room needs M/E improvements.	Technology	1	Ea.	3	\$30,873	18612
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	48	Ea.	3	\$21,651	18617
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	48	Ea.	3	\$21,651	18622
Technology: Network system inadequate and/or near end of useful life	Technology	1	Ea.	3	\$8,019	18624
Technology: Network system inadequate and/or near end of useful life	Technology	25	Ea.	3	\$125,297	18625
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	34,845	SF	3	\$62,870	18623
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	\$20,048	18619
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	\$8,019	18614
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	23	Ea.	3	\$36,887	18620
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	\$7,618	18621
Sub Total for System		15	items		\$491,886	



Facility Condition Assessment

East Providence - Agnes B. Hennessey School

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Cabinetry In Classes/Labs	Capital Renewal	7	Room	4	\$82,572	9878
Note:	Original casework in classroom is damaged, delaminating, and should be replaced.					
	Sub Total for System	1	items		\$82,572	
	Sub Total for Building 01 - Main Building	52	items		\$4,136,346	
	Total for Campus	56	items		\$4,671,504	



Agnes B. Hennessey School - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Interior Swinging Doors	Steel	1	Door	\$4,334	3
Acoustical Suspended Ceilings	Ceiling Exposed Metal Structure	3,475	SF	\$40,127	5
Acoustical Suspended Ceilings	Ceilings - Acoustical Grid System	13,825	SF	\$165,969	5
Acoustical Suspended Ceilings	Ceiling Exposed Metal Structure	720	SF	\$8,314	5
Interior Door Supplementary Components	Door Hardware	52	Door	\$165,127	5
	Sub Total for System	5	items	\$383,872	
	Sub Total for Building 01 - Main Building	5	items	\$383,872	
	Total for: Agnes B. Hennessey School	5	items	\$383,872	



Supporting Photos



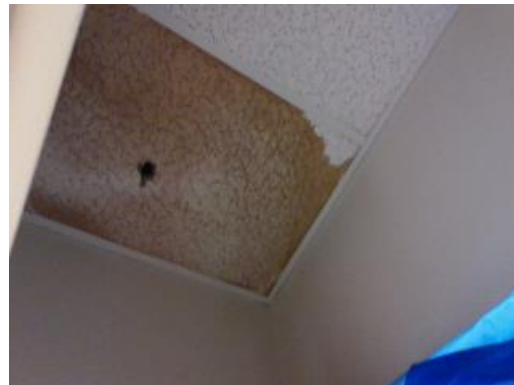
Site Aerial



Entry Doors



Damaged Window Panes



Stained Ceiling Tile



Facility Condition Assessment

East Providence - Agnes B. Hennessey School



Stained And Sagging Ceiling Tiles



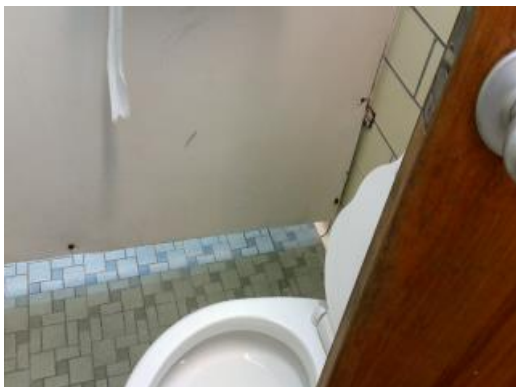
Aged Interior Door With Non-Compliant Hardware



Original 9x9 Tile



Separating VCT Flooring



Toilet Partition Damaged At Wall



Typical Restroom Lavatories



Facility Condition Assessment

East Providence - Agnes B. Hennessey School



Aged Service Sink



Ceramic Tiles Missing From Restroom Wall



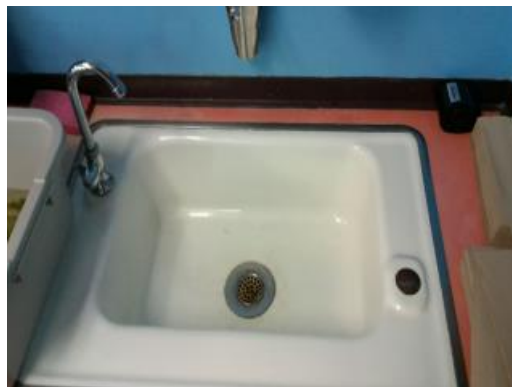
Front Entrance



Exterior Finishes



Roof General Condition



Aged Classroom Lavatory



Facility Condition Assessment

East Providence - Agnes B. Hennessey School



Peeling Paint At Soffit



Exterior Brick



Separating VCT Flooring



Aged Refrigerated Drinking Fountain



Urinals



Aged Panelboard



Facility Condition Assessment

East Providence - Agnes B. Hennessey School



Aged Air Compressor



Aged Distribution Panel



Radiator



Cracked Asphalt Parking Lot



Cracks in Play Area Asphalt



Cracks In Play Area Asphalt



Facility Condition Assessment

East Providence - Agnes B. Hennessey School



Alligatoring Asphalt Walkway



Sidewalk Cracks And Potholes



Building Lights



Library



Hallway Finishes



Building Sign



Facility Condition Assessment

East Providence - Agnes B. Hennessey School



Typical Classroom 1957 Wing



Gym/Cafeteria



Restroom Fixtures And Finishes



Typical Classroom 1989 Wing



Damaged Original Cabinetry



Chipped And Worn Interior Wall Paint



Facility Condition Assessment

East Providence - Agnes B. Hennessey School



Chipped And Worn Interior Wall Paint



Aged Unit Vent



Damaged Glass Block



Main Entrance



Facility Condition Assessment

East Providence - Alice M. Waddington School

June 2017

101 Legion Way, Riverside, RI 02915





Introduction

Alice M. Waddington School, located at 101 Legion Way in Riverside, Rhode Island, was built in 1954. It comprises 59,953 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.

Alice M. Waddington School serves grades PK - 5, has 38 instructional spaces, and has an enrollment of 505. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Alice M. Waddington School is 780 with a resulting utilization of 65%.

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 Alice M. Waddington School the 5-year need is \$6,804,457. 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.

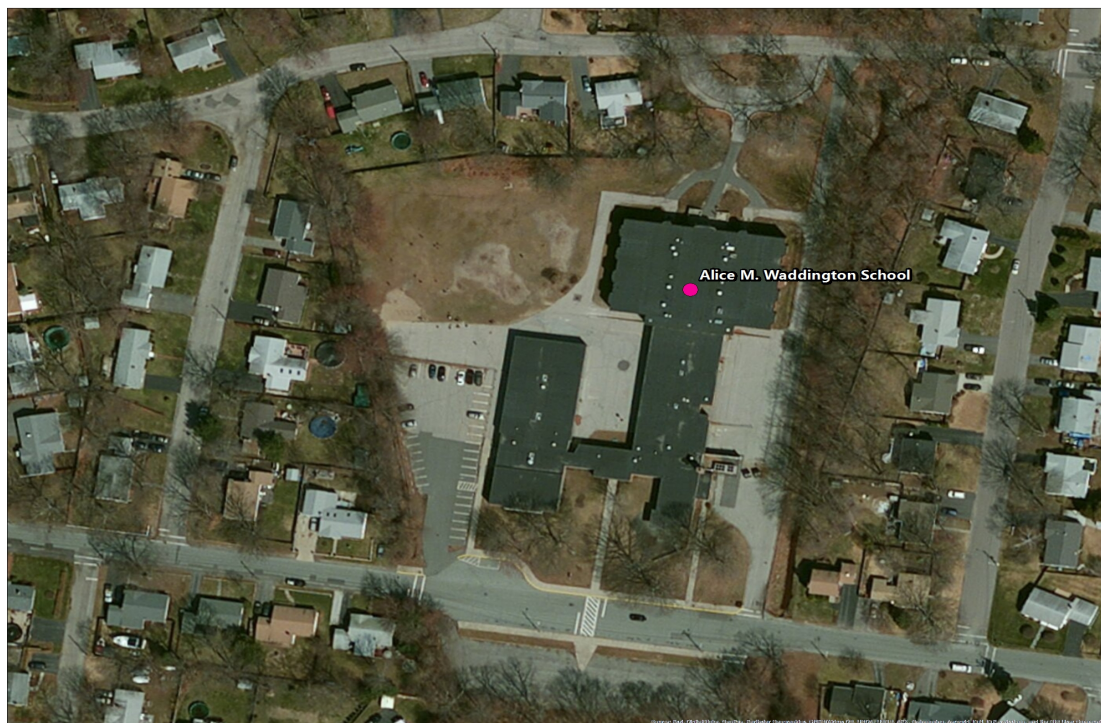


Figure 1: Aerial view of Alice M. Waddington School



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 Alice M. Waddington School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian 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
	Steel Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	EPDM Roofing
----------------------------	--------------

Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Ceramic Tile Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring
	Terrazzo Flooring

Mechanical

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

01 - Main Building:	1,275 MBH Cast Iron Steam Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent



Facility Condition Assessment

East Providence - Alice M. Waddington School

01 - Main Building:	DDC Heating System Controls
	Pneumatic Heating System Controls
	210 Ton Outdoor Air Cooled Chiller
	1 HP or Smaller Pump
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	Ductwork
	Roof Exhaust Fan

Plumbing

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

01 - Main Building:	Gas Piping System
	80 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals

Electrical

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

01 - Main Building:	75 KVA Transformer
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 120/208 400A
	Panelboard - 400+ Amps
	Building Mounted Lighting Fixtures
	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.



Facility Condition Assessment

East Providence - Alice M. Waddington School

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

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	-	-	\$200,166	\$768,256	-	\$968,422	14.83 %
Roofing	-	-	\$13,487	-	-	\$13,487	0.21 %
Structural	-	-	-	-	-	\$0	0.00 %
Exterior	-	\$13,839	\$491,916	\$1,103	\$3,452	\$510,309	7.81 %
Interior	-	-	\$939,302	\$665,924	\$421,516	\$2,026,742	31.03 %
Mechanical	-	\$1,212,466	-	\$64,040	-	\$1,276,506	19.54 %
Electrical	-	\$132,025	\$90,976	-	\$72,333	\$295,333	4.52 %
Plumbing	-	-	\$508,596	\$231,448	\$25,572	\$765,616	11.72 %
Fire and Life Safety	-	-	-	-	-	\$0	0.00 %
Technology	-	-	\$647,885	-	-	\$647,885	9.92 %
Conveyances	-	-	-	-	-	\$0	0.00 %
Specialties	-	-	\$27,714	-	-	\$27,714	0.42 %
Total	\$0	\$1,358,330	\$2,920,041	\$1,730,771	\$522,873	\$6,532,014	

*Displayed totals may not sum exactly due to mathematical rounding

The building systems with the most need include:

Interior	-	\$2,026,742
Mechanical	-	\$1,276,506
Site	-	\$968,422

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

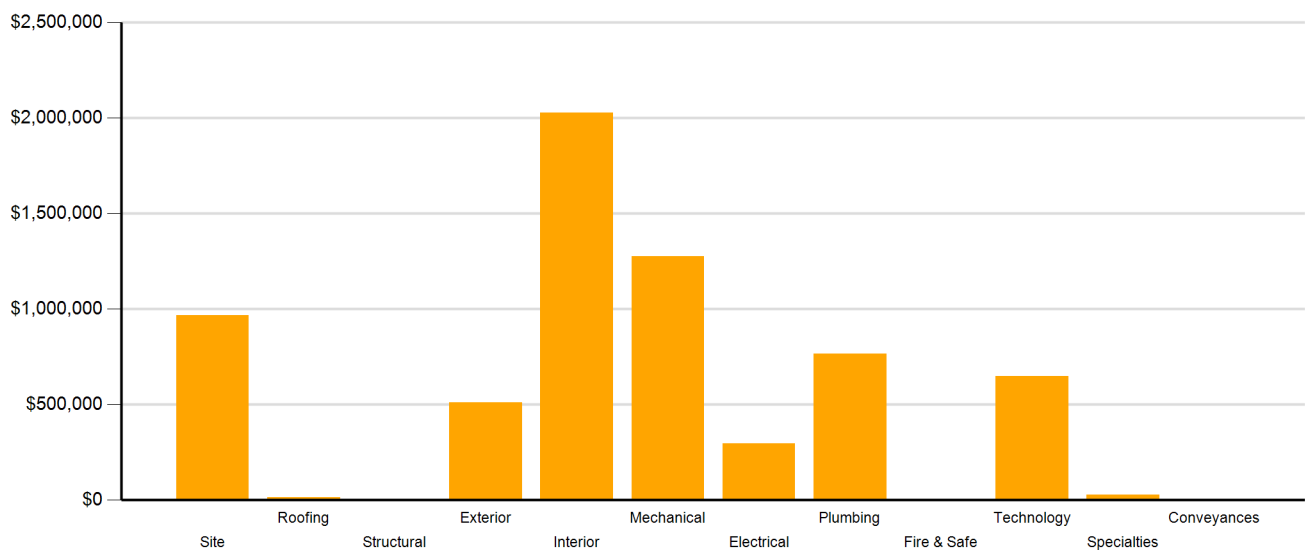


Figure 2: System Deficiencies



Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

- **Acoustics** deficiencies relate to room acoustics, sound insulation, 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

Category	Priority					Total
	1	2	3	4	5	
Acoustics	-	-	\$422,727	\$113,421	-	\$536,148
Barrier to Accessibility	-	-	-	-	-	\$0
Capital Renewal	-	\$1,358,330	\$1,746,477	\$1,497,019	\$419,137	\$5,020,962
Code Compliance	-	-	-	-	-	\$0
Educational Adequacy	-	-	\$56,582	\$93,668	\$103,736	\$253,986
Functional Deficiency	-	-	\$75,238	-	-	\$75,238
Hazardous Material	-	-	-	\$26,663	-	\$26,663
Technology	-	-	\$619,017	-	-	\$619,017
Traffic	-	-	-	-	-	\$0
Total	\$0	\$1,358,330	\$2,920,041	\$1,730,771	\$522,873	\$6,532,014

*Displayed totals may not sum exactly due to mathematical rounding

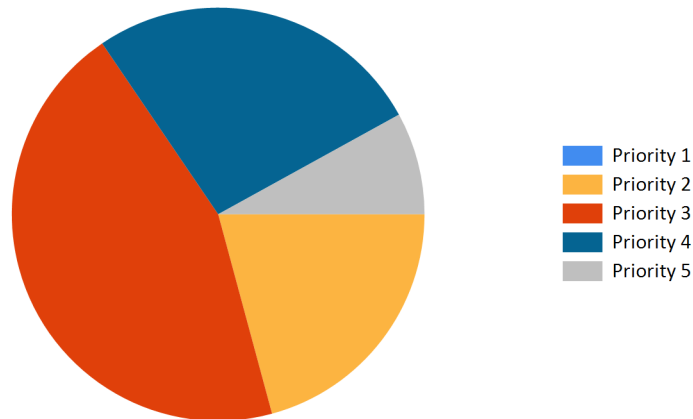


Figure 3: Current deficiencies by priority



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

System	Current Deficiencies	Life Cycle Capital Renewal Projections					LC Yr. 1-5 Total	Total 5-Year Need
		Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021		
Site	\$968,422	\$0	\$0	\$0	\$0	\$0	\$0	\$968,422
Roofing	\$13,487	\$0	\$0	\$0	\$0	\$0	\$0	\$13,487
Structural	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Exterior	\$510,309	\$0	\$0	\$0	\$0	\$0	\$0	\$510,309
Interior	\$2,026,742	\$0	\$0	\$42,783	\$0	\$0	\$42,783	\$2,069,525
Mechanical	\$1,276,506	\$0	\$0	\$0	\$110,618	\$119,042	\$229,660	\$1,506,166
Electrical	\$295,333	\$0	\$0	\$0	\$0	\$0	\$0	\$295,333
Plumbing	\$765,616	\$0	\$0	\$0	\$0	\$0	\$0	\$765,616
Fire and Life Safety	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Technology	\$647,885	\$0	\$0	\$0	\$0	\$0	\$0	\$647,885
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specialties	\$27,714	\$0	\$0	\$0	\$0	\$0	\$0	\$27,714
Total	\$6,532,014	\$0	\$0	\$42,783	\$110,618	\$119,042	\$272,443	\$6,804,457

*Displayed totals may not sum exactly due to mathematical rounding

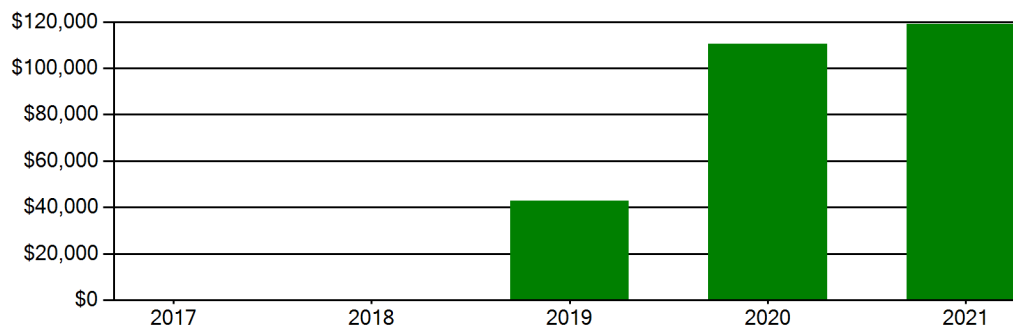
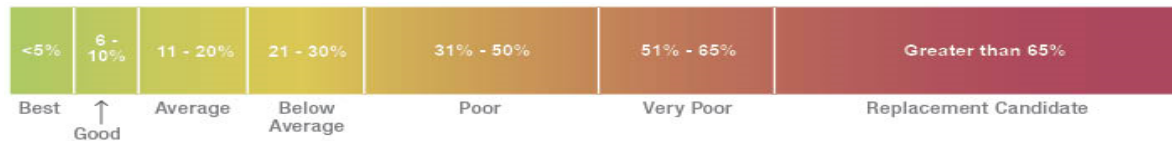


Figure 4: Life Cycle Capital Renewal Forecast



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 \$20,983,550. For planning purposes, the total 5-year need at the Alice M. Waddington School is \$6,804,457 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Alice M. Waddington School facility has a 5-year FCI of 32.43%.

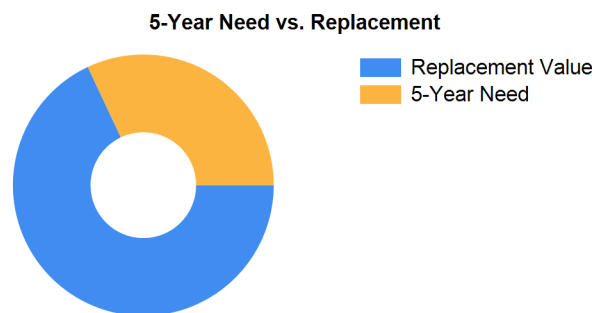


Figure 5: 5-Year FCI

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 345 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 Alice M. Waddington School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$252,126.



Summary of Findings

The Alice M. Waddington School comprises 59,953 square feet and was constructed in 1954. Current deficiencies at this school total \$6,532,014. Five year capital renewal costs total \$272,443. The total identified need for the Alice M. Waddington School (current deficiencies and 5-year capital renewal costs) is \$6,804,457. The 5-year FCI is 32.43%.

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
Alice M. Waddington School Totals	59,953	1954	\$6,532,014	\$272,443	\$6,804,457	32.43%

*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.

LEA Feedback

As part of the assessment process, LEAs were given several opportunities to provide feedback on the data. Jacobs performed a thorough review of the comments provided relating to the Facilities Condition Assessment. Based on information provided, some adjustments were made to improve or refine the dataset. In other situations, enough information was not provided, item was out of scope, or evidence provided by assessment team did not align with the feedback and no adjustment was made. Finally, deficiency priorities, costs, and educational space/technology standards are consistent throughout the state.



Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Asphalt Walks Require Replacement Note: Several cracks in asphalt walks	Capital Renewal	8,372	SF	3	\$90,516	9026
Concrete Walks Require Replacement Note: Over life cycle. Several cracks in concrete causing trip hazard. Teacher fell in December.	Capital Renewal	4,240	SF	3	\$109,650	9027
Asphalt Paving Requires Replacement Note: Asphalt is aged with several large cracks, pot holes, and alligatoring.	Capital Renewal	96	CAR	4	\$401,860	9024
Asphalt Paving Requires Replacement Note: Asphalt is over life cycle. Roadway where bus travels has large pot holes, cracks, and alligatoring.	Capital Renewal	70	CAR	4	\$293,023	9025
Asphalt Paving Requires Replacement Note: Kindergarten play area asphalt has several large holes creating a hazard.	Capital Renewal	10	CAR	4	\$37,288	9031
Backstops Require Replacement Note: Backstops Require Replacement	Educational Adequacy	1	Ea.	4	\$36,086	28465
Sub Total for System		6	items		\$968,422	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed Note: Need more pole lights, minimal illumination.	Functional Deficiency	3	Ea.	3	\$75,238	9028
Sub Total for System		1	items		\$75,238	
Sub Total for School and Site Level		7	items		\$1,043,660	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Built Up Roofing (Bur) Covering Has Blisters That Should Be Repaired Note: Several blisters on the roof	Capital Renewal	100	Ea.	3	\$13,487	9029
Sub Total for System		1	items		\$13,487	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Glass Pane In The Storefront Window Requires Replacement Note: Glass pane in 3'x3' window is damaged and needs replaced. Metal window.	Capital Renewal	9	SF	2	\$307	9032
The Metal Exterior Door Requires Replacement Note: East entry	Capital Renewal	2	Door	2	\$13,532	9036
The Brick Exterior Requires Repointing	Capital Renewal	11,000	SF Wall	3	\$485,150	9047
The Metal Exterior Door Requires Repair Note: Weather stripping on exterior entry doors in missing or damaged and needs to be replaced.	Capital Renewal	10	Door	3	\$6,766	9035
Handrail Requires Repainting	Capital Renewal	100	LF	4	\$1,103	9052
The Exterior Soffit Requires Repair Note: Above west entry door	Capital Renewal	150	SF	5	\$3,452	9034
Sub Total for System		6	items		\$510,309	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation Note: All classrooms	Acoustics	45	Ea.	3	\$394,911	19673
Classroom Interior Doors Provide Insufficient Sound Isolation Note: All classrooms	Acoustics	3	Ea.	3	\$27,816	19674
The Acoustical Ceiling Tiles Require Replacement Note: Old, several stained and broken tiles as well.	Capital Renewal	36,447	SF	3	\$347,069	9037
The Terrazzo Flooring Requires Replacement Note: East corridor 1st floor	Capital Renewal	300	SF	3	\$23,456	9048
The Vinyl Composition Tile Requires Replacement Note: Vinyl flooring in gym, kitchen and 2nd floor lobby installed in 1969	Capital Renewal	12,075	SF	3	\$146,051	9038



Facility Condition Assessment

East Providence - Alice M. Waddington School

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Ceiling Grid Requires Replacement	Capital Renewal	36,447	SF	4	\$455,778	9065
Interior Ceramic Walls Require Repair Or Replacement	Capital Renewal	250	SF	4	\$5,864	9067
Note: 1st floor girls, boys.						
Interior Toilet Partition Requires Repair	Capital Renewal	8	Ea.	4	\$4,410	9044
Note: Several toilet partitions are rusted.						
Paint (probable pre-1978 in base (layers(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - each)	Hazardous Material	40	Ea.	4	\$12,029	Rollup
Paint (probable pre-1978 in base layer(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - linear feet)	Hazardous Material	600	LF	4	\$14,434	Rollup
Room Is Excessively Reverberant	Acoustics	3,375	SF	4	\$79,501	19675
Note: Gym						
Room Is Excessively Reverberant	Acoustics	1,440	SF	4	\$33,920	19676
Note: Cafeteria						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	1,493	SF	4	\$57,582	Rollup
Stair Treads Require Replacement	Capital Renewal	50	LF	4	\$2,205	9068
Wall/ceiling materials - area < 9 sq. ft. AND in children-accessible area	Hazardous Material	20	SF	4	\$200	Rollup
Classroom Door Requires Vision Panel	Educational Adequacy	1	Ea.	5	\$2,309	Rollup
Interior Walls Require Repainting (Bldg SF)	Capital Renewal	47,953	SF	5	\$334,065	Rollup
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	\$3,522	Rollup
The Gypsum Board Ceilings Require Repainting	Capital Renewal	18,506	SF	5	\$81,620	Rollup
	Sub Total for System	19	items		\$2,026,742	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	37	Ea.	2	\$659,867	9066
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	37	Ea.	2	\$65,349	9059
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	59,953	SF	2	\$487,250	9060
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	8,992	SF	4	\$64,040	9062
	Sub Total for System	4	items		\$1,276,506	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Electrical Transformer Requires Replacement	Capital Renewal	2	Ea.	2	\$22,185	9054
The Panelboard Requires Replacement	Capital Renewal	7	Ea.	2	\$35,785	9055
The Panelboard Requires Replacement	Capital Renewal	3	Ea.	2	\$18,343	9056
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	\$6,616	9057
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	\$49,096	9058
The Mounted Building Lighting Requires Replacement	Capital Renewal	10	Ea.	3	\$15,737	10963
Room Has Insufficient Electrical Outlets	Educational Adequacy	144	Ea.	5	\$72,333	Rollup
	Sub Total for System	7	items		\$220,095	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Plumbing / Domestic Water Piping System Is Beyond Its Useful Life	Capital Renewal	59,953	SF	3	\$508,596	9051
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	4	Ea.	4	\$43,102	9041
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	29	Ea.	4	\$83,137	9033
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	5	Ea.	4	\$13,582	9046
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	1	Ea.	4	\$7,778	9050
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	25	Ea.	4	\$83,849	9039
Room lacks a drinking fountain.	Educational Adequacy	16	Ea.	5	\$17,860	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	7	Ea.	5	\$7,712	Rollup
	Sub Total for System	8	items		\$765,616	



Facility Condition Assessment

East Providence - Alice M. Waddington School

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	5	Ea.	3	\$28,868	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	120	Ea.	3	\$60,143	18541
Technology: Instructional spaces do not have local sound reinforcement.	Technology	23	Ea.	3	\$115,273	18548
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	\$5,613	18538
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	\$47,713	18536
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$5,012	18537
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$7,017	18534
Technology: Main Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	\$22,854	18533
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	135	Ea.	3	\$60,894	18540
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	96	Ea.	3	\$43,303	18545
Technology: Network system inadequate and/or near end of useful life	Technology	1	Ea.	3	\$8,019	18546
Technology: Network system inadequate and/or near end of useful life	Technology	25	Ea.	3	\$125,297	18547
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	\$57,135	18542
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	\$8,019	18535
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	\$5,012	18539
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	25	Ea.	3	\$40,095	18543
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	\$7,618	18544
Sub Total for System		17	items		\$647,885	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	6	Ea.	3	\$27,714	Rollup
Sub Total for System		1	items		\$27,714	
Sub Total for Building 01 - Main Building		63	items		\$5,488,353	
Total for Campus		70	items		\$6,532,014	



Alice M. Waddington School - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Tile Flooring	Ceramic Tile	1,574	SF	\$42,783	3
Sub Total for System		1	items	\$42,783	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Exhaust Air	Roof Exhaust Fan	21	Ea.	\$110,618	4
HVAC Air Distribution	Ductwork (Bldg.SF)	8,000	SF	\$119,042	5
Sub Total for System		2	items	\$229,660	
Sub Total for Building 01 - Main Building		3	items	\$272,443	
Total for: Alice M. Waddington School		3	items	\$272,443	



Supporting Photos



Rusted Entry Doors



Damaged Ceiling Tiles



Pavement Cracking



Repair Weatherstripping



Facility Condition Assessment

East Providence - Alice M. Waddington School



Pavement Cracking



Pavement Cracking



Pavement Cracking



Pavement Cracking



Pavement Cracking



Pavement Cracking



Facility Condition Assessment

East Providence - Alice M. Waddington School



Pavement Cracking



Pavement Cracking



Roof Blisters



Pavement Cracking



Roof Blisters



Pavement Cracking



Facility Condition Assessment

East Providence - Alice M. Waddington School



Ponding



Roof Blisters



Site Aerial



Roof Ponding



Music



Kindergarten Play Area



Facility Condition Assessment

East Providence - Alice M. Waddington School



Play Area



Art



Gym/Cafeteria



School Plaque



Corridor



Classroom



Facility Condition Assessment

East Providence - Alice M. Waddington School



Library



Marquee



Kitchen



Restroom



West Entry Soffit



Window



Facility Condition Assessment

East Providence - Alice M. Waddington School



Tiles



Old Vinyl Flooring



Damaged VCT



Old VCT



Restroom Sinks



Non-Refrigerated Fountain



Facility Condition Assessment

East Providence - Alice M. Waddington School



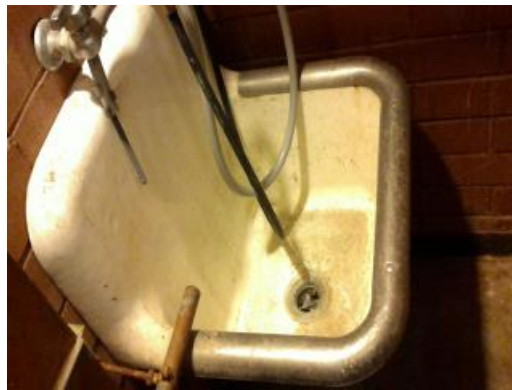
Toilet Partition Damage



Toilet Partition Damage



Toilet Partition Damage



Service Sink



Brick Repointing Required



Brick Repointing Required



Facility Condition Assessment

East Providence - Alice M. Waddington School



Brick Repointing Required



Damaged Terrazo



Damaged Terrazo



Damaged Terrazo



Damaged Terrazo



Urinal



Facility Condition Assessment

East Providence - Alice M. Waddington School



Water Fountain



Piping



Stair Handrail



Chiller



75 KVA Transformer



100 Amp Panel



Facility Condition Assessment

East Providence - Alice M. Waddington School



225 Amp Panel



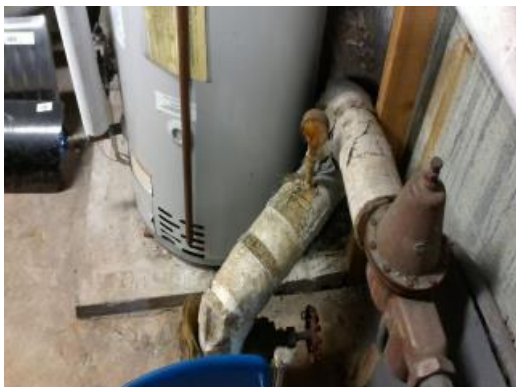
400 Amp Panel



600 Amp Panel



Fin Tube Radiator



Piping



Cabinet Unit Heater



Facility Condition Assessment

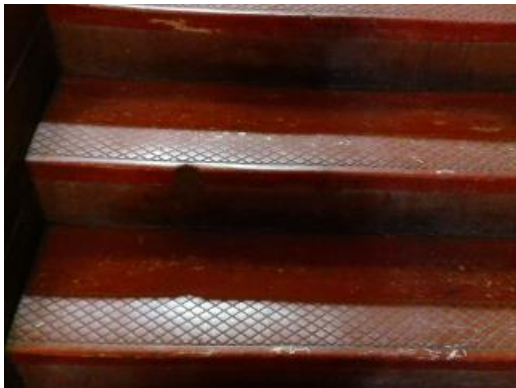
East Providence - Alice M. Waddington School



Ceramic Tile Wall Crack



Missing Drinking Fountain



Stair Treads



Exterior Finishes



Facility Condition Assessment

East Providence - East Providence Career & Technical Center

June 2017

1998 Pawtucket Ave, East Providence, RI 02914





Introduction

East Providence Career & Technical Center, located at 1998 Pawtucket Ave in East Providence, Rhode Island, was built in 1970. It comprises 43,081 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.

East Providence Career & Technical Center serves grades 9 - 12, has 17 instructional spaces, and enrollment was not provided. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for East Providence Career & Technical Center was not provided consequently no utilization could be calculated.

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 East Providence Career & Technical Center the 5-year need is \$9,194,433. 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.

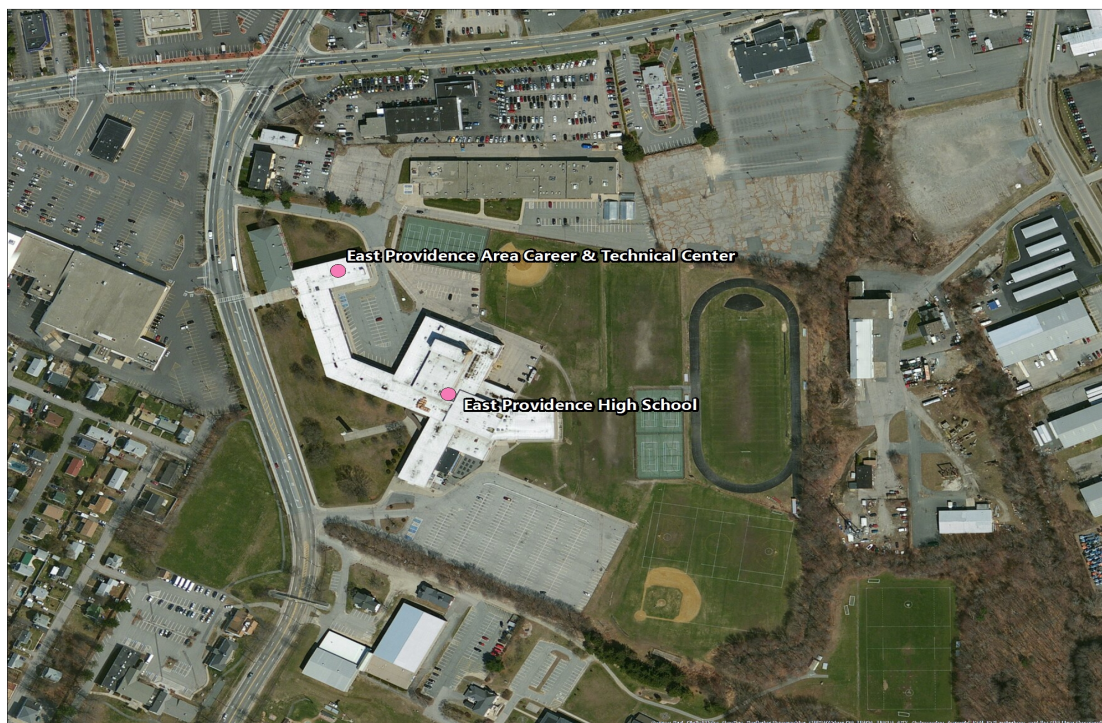


Figure 1: Aerial view of East Providence Career & Technical Center



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 East Providence Career & Technical Center 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:	Pre-cast Concrete Panel Exterior Wall
	Brick Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors
	Storefront Entrance Doors
	Overhead Exterior Utility Doors
02 - Greenhouse #2:	Clear Polycarbonate Exterior Wall
	Wood Siding Exterior Wall
	Wood Exterior Doors
03 - Greenhouse #3:	Clear Polycarbonate Exterior Wall
	Wood Exterior Doors
04 - Greenhouse #4:	Clear Polycarbonate Exterior Wall
	Wood Exterior Doors

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

01 - Main Building:	Single Ply Membrane Ballasted Roofing
----------------------------	---------------------------------------

Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Ceramic Tile Wall
	Interior Wall Painting
	Concrete Flooring



01 - Main Building:	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring
	Epoxy Coated Flooring
	Carpet

Mechanical

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

01 - Main Building:	1,200 MBH Copper Tube Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	3 kW Electric Unit Heater
	DDC Heating System Controls
	1,785 CFM Evaporative Cooler
	1 Ton Ductless Split System
	3 Ton Outside Air Cooled Condenser
	5 Ton Outside Air Cooled Condenser
	10 Ton Package DX Unit
	15 Ton Package DX Unit
	5 HP VFD
	1 HP or Smaller Pump
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	2,000 CFM Outdoor AHU
	20,000 CFM Interior AHU
	Ductwork
	Roof Exhaust Fan
	Fire Sprinkler System
02 - Greenhouse #2:	3 kW Electric Unit Heater
03 - Greenhouse #3:	3 kW Electric Unit Heater
	Wall Exhaust Fan
04 - Greenhouse #4:	3 kW Electric Unit Heater

Plumbing

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

01 - Main Building:	2" Backflow Preventers
	Gas Piping System
	80 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Refrigerated Drinking Fountain



Facility Condition Assessment

East Providence - East Providence Career & Technical Center

01 - Main Building:	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (2 hp)

Electrical

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

01 - Main Building:	1200 kW Emergency Generator
	208/120v Switch
	2,000 Amp Switchgear
	600 Amp Distribution Panel
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 120/208 400A
	Electrical Disconnect
	Building Mounted Lighting Fixtures
	Light Fixtures
02 - Greenhouse #2:	Building Mounted Lighting Fixtures
	Light Fixtures
03 - Greenhouse #3:	Building Mounted Lighting Fixtures
	Light Fixtures
04 - Greenhouse #4:	Building Mounted Lighting Fixtures
	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.



Facility Condition Assessment

East Providence - East Providence Career & Technical Center

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

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	-	-	\$177,224	\$933,487	\$64,800	\$1,175,511	15.62 %
Roofing	-	\$1,724,085	-	-	-	\$1,724,085	22.91 %
Structural	-	-	-	-	-	\$0	0.00 %
Exterior	-	\$1,039,209	\$220,523	-	-	\$1,259,732	16.74 %
Interior	-	-	\$469,390	\$36,980	\$110,103	\$616,472	8.19 %
Mechanical	-	\$293,258	-	\$779,531	-	\$1,072,789	14.26 %
Electrical	-	\$512,382	\$69,230	-	\$21,953	\$603,565	8.02 %
Plumbing	-	\$4,134	\$8,408	\$159,956	\$21,276	\$193,773	2.58 %
Fire and Life Safety	\$155,823	-	-	-	-	\$155,823	2.07 %
Technology	-	-	\$376,176	-	-	\$376,176	5.00 %
Conveyances	-	-	-	-	-	\$0	0.00 %
Specialties	-	-	\$22,939	\$292,954	\$30,968	\$346,861	4.61 %
Total	\$155,823	\$3,573,068	\$1,343,890	\$2,202,907	\$249,100	\$7,524,787	

*Displayed totals may not sum exactly due to mathematical rounding

The building systems with the most need include:

Roofing	-	\$1,724,085
Exterior	-	\$1,259,732
Site	-	\$1,175,511

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

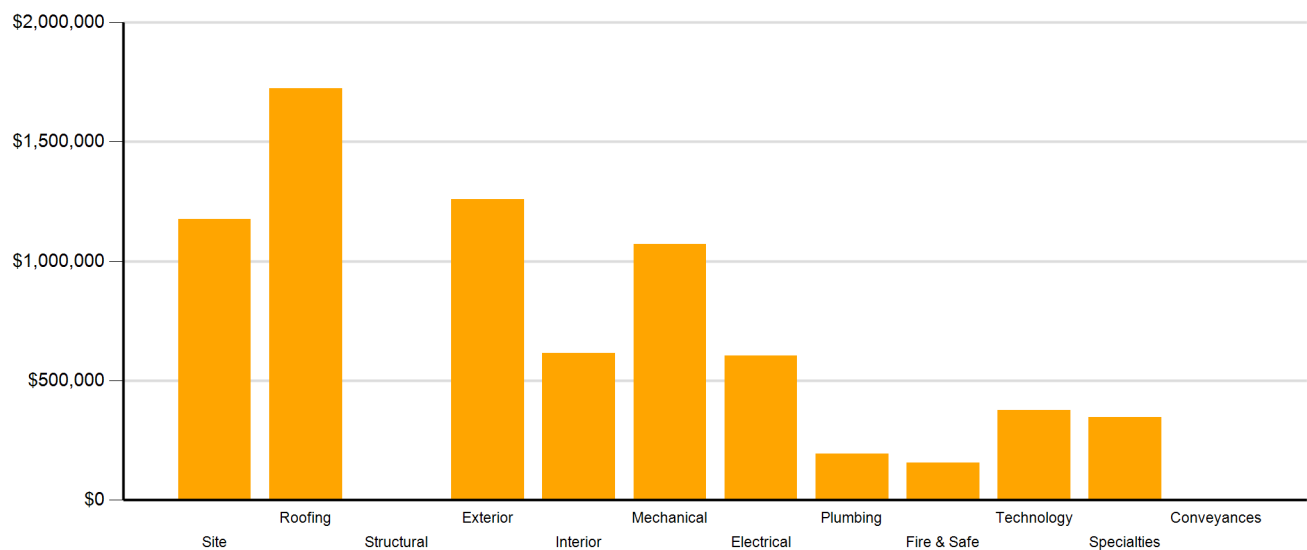


Figure 2: System Deficiencies



Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

- **Acoustics** deficiencies relate to room acoustics, sound insulation, 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

Category	Priority					Total
	1	2	3	4	5	
Acoustics	-	-	-	-	-	\$0
Barrier to Accessibility	-	-	-	-	-	\$0
Capital Renewal	-	\$3,435,351	\$929,739	\$946,205	\$44,457	\$5,355,753
Code Compliance	\$132,884	-	-	-	-	\$132,884
Educational Adequacy	\$22,939	-	\$81,964	\$162,883	\$142,495	\$410,281
Functional Deficiency	-	\$137,716	\$15,036	\$1,086,512	\$62,147	\$1,301,411
Hazardous Material	-	-	-	\$7,307	-	\$7,307
Technology	-	-	\$317,151	-	-	\$317,151
Traffic	-	-	-	-	-	\$0
Total	\$155,823	\$3,573,068	\$1,343,890	\$2,202,907	\$249,100	\$7,524,787

*Displayed totals may not sum exactly due to mathematical rounding

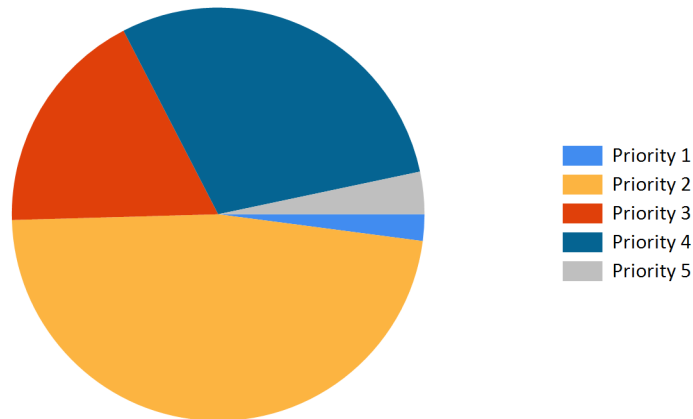


Figure 3: Current deficiencies by priority



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

System	Current Deficiencies	Life Cycle Capital Renewal Projections					LC Yr. 1-5 Total	Total 5-Year Need
		Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021		
Site	\$1,175,511	\$0	\$0	\$0	\$0	\$0	\$0	\$1,175,511
Roofing	\$1,724,085	\$0	\$0	\$0	\$0	\$0	\$0	\$1,724,085
Structural	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Exterior	\$1,259,732	\$0	\$0	\$0	\$309,856	\$8,425	\$318,281	\$1,578,013
Interior	\$616,472	\$0	\$0	\$0	\$0	\$428,465	\$428,465	\$1,044,937
Mechanical	\$1,072,789	\$0	\$0	\$0	\$0	\$486,982	\$486,982	\$1,559,771
Electrical	\$603,565	\$0	\$0	\$0	\$0	\$0	\$0	\$603,565
Plumbing	\$193,773	\$0	\$0	\$6,461	\$0	\$350,188	\$356,649	\$550,422
Fire and Life Safety	\$155,823	\$0	\$0	\$0	\$0	\$0	\$0	\$155,823
Technology	\$376,176	\$0	\$0	\$0	\$0	\$0	\$0	\$376,176
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specialties	\$346,861	\$0	\$0	\$0	\$0	\$79,269	\$79,269	\$426,130
Total	\$7,524,787	\$0	\$0	\$6,461	\$309,856	\$1,353,329	\$1,669,646	\$9,194,433

*Displayed totals may not sum exactly due to mathematical rounding

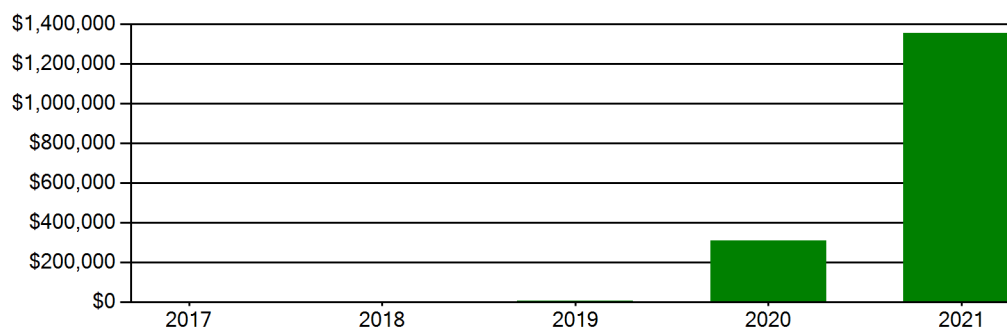
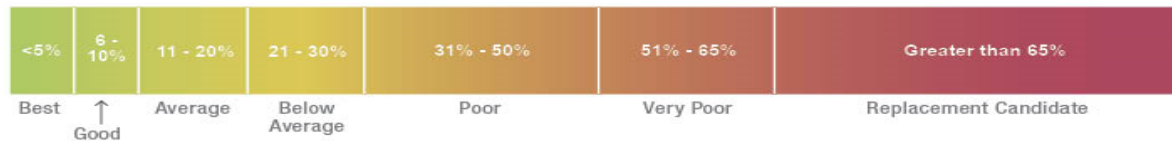


Figure 4: Life Cycle Capital Renewal Forecast



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 \$16,383,960. For planning purposes, the total 5-year need at the East Providence Career & Technical Center is \$9,194,433 (Life Cycle Years 1-5 plus the FCI deficiency cost). The East Providence Career & Technical Center facility has a 5-year FCI of 56.12%.

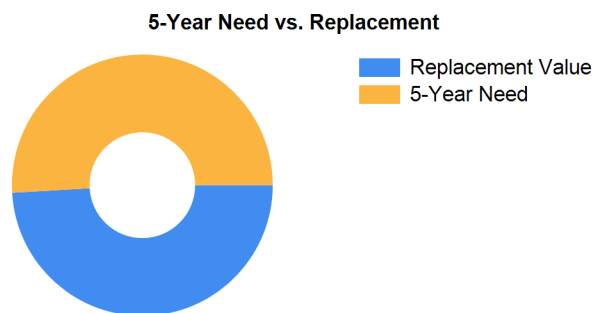


Figure 5: 5-Year FCI

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 222 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 East Providence Career & Technical Center cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$0.



Summary of Findings

The East Providence Career & Technical Center comprises 43,081 square feet and was constructed in 1970. Current deficiencies at this school total \$7,524,787. Five year capital renewal costs total \$1,669,646. The total identified need for the East Providence Career & Technical Center (current deficiencies and 5-year capital renewal costs) is \$9,194,433. The 5-year FCI is 56.12%.

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
East Providence Career & Technical Center Totals	43,081	1970	\$7,524,787	\$1,669,646	\$9,194,433	56.12%

**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.

LEA Feedback

As part of the assessment process, LEAs were given several opportunities to provide feedback on the data. Jacobs performed a thorough review of the comments provided relating to the Facilities Condition Assessment. Based on information provided, some adjustments were made to improve or refine the dataset. In other situations, enough information was not provided, item was out of scope, or evidence provided by assessment team did not align with the feedback and no adjustment was made. Finally, deficiency priorities, costs, and educational space/technology standards are consistent throughout the state.



Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Concrete Walks Require Replacement Note: Concrete walkways are weathered with large cracks.	Capital Renewal	6,853	SF	3	\$177,224	11039
Asphalt Paving Requires Replacement Note: Asphalt parking area has large cracks, potholes, and significant alligating.	Functional Deficiency	123	CAR	4	\$514,883	11037
Asphalt Paving Requires Replacement Note: There are large cracks, potholes, and significant alligating in the asphalt roadway.	Functional Deficiency	100	CAR	4	\$418,604	11038
PE / Recess Playfield is Missing and is Needed Note: PE / Recess Playfield is Missing and is Needed	Educational Adequacy	1	Ea.	5	\$64,800	54994
Sub Total for System		4	items		\$1,175,511	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Requires Replacement	Capital Renewal	2	Ea.	3	\$19,573	11040
Sub Total for System		1	items		\$19,573	
Sub Total for School and Site Level		5	items		\$1,195,083	

Building: 01 - Main Bldg

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Single-Ply Membrane Roof Covering Requires Replacement Note: There are multiple leaks, areas of ponding, and tears in the roof membrane.	Capital Renewal	43,000	SF	2	\$1,724,085	11045
Sub Total for System		1	items		\$1,724,085	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement Note: 9 @ 3'x3'; 1 @ 3'x8'	Functional Deficiency	105	SF	2	\$18,734	11044
The Concrete Pre-Cast Panel Requires Replacement (Bldg SF) Note: Concrete panels are missing or are damaged.	Capital Renewal	5,000	SF	2	\$852,019	11073
The Overhead Door Requires Replacement Note: Original door in wood shop should be replaced.	Capital Renewal	1	Door	2	\$38,792	11043
The Brick Exterior Requires Repointing	Capital Renewal	5,000	SF Wall	3	\$220,523	11057
Sub Total for System		4	items		\$1,130,068	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior CMU Walls Require Repair Location: Room 307 and electrical room	Capital Renewal	1,000	SF	3	\$38,291	11062
Interior Doors Require Replacement Note: Original wood doors should be replaced.	Capital Renewal	58	Door	3	\$281,968	11048
The Acoustical Ceiling Tiles Require Replacement Location: Rooms 302, 314, 313, restrooms, auditorium	Capital Renewal	500	SF	3	\$4,761	11046
The Vinyl Composition Tile Requires Replacement Note: Original VCT flooring is cracked and worn.	Capital Renewal	11,936	SF	3	\$144,370	11049
Interior Ceramic Walls Require Repair Or Replacement Note: Ceramic tile walls are chipped with missing tiles. Location: At drinking fountains	Capital Renewal	200	SF	4	\$4,691	11076
Interior Gypsum Board Walls Require Repair Location: Room 302 and auto shop	Capital Renewal	250	SF Wall	4	\$1,926	11041
Interior Toilet Partition Requires Replacement Note: Per LEA review feedback updated deficiency from repair to replace, and increased quantity to align with suggested \$22,000 replacement cost. Location: Boy's restroom	Capital Renewal	5	Ea.	4	\$23,055	11053



Facility Condition Assessment

East Providence - East Providence Career & Technical Center

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 - each)	Hazardous Material	2	Ea.	4	\$601	Rollup
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	60	LF	4	\$1,443	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	525	SF	4	\$5,262	Rollup
Interior Walls Require Repainting	Functional Deficiency	10,000	SF Wall	5	\$62,147	11047
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	\$3,498	Rollup
The Concrete Flooring Requires Repair Or Repainting Location: Auto shop floor	Capital Renewal	5,544	SF	5	\$44,457	11056
Sub Total for System		13	items		\$616,472	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Electric Unit Heater Requires Replacement	Capital Renewal	2	Ea.	2	\$2,664	11066
Replace Unit Vent	Capital Renewal	13	Ea.	2	\$231,845	11075
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	31	Ea.	2	\$54,752	11068
1200 KW Emergency Generator	Capital Renewal	1	Ea.	4	\$751,781	11077
Lab lacks an appropriate fume hood.	Educational Adequacy	1	Ea.	4	\$22,104	Rollup
Sub Total for System		5	items		\$1,063,146	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	\$76,271	11069
The Distribution Panel Requires Replacement	Capital Renewal	1	Ea.	2	\$30,713	11070
The Lighting Fixtures Require Replacement	Capital Renewal	43,000	SF	2	\$269,388	11071
The Panelboard Requires Replacement	Capital Renewal	4	Ea.	2	\$20,448	11063
The Panelboard Requires Replacement	Capital Renewal	11	Ea.	2	\$67,259	11064
The Panelboard Requires Replacement	Capital Renewal	5	Ea.	2	\$33,078	11065
The Electrical Receptacles Are Inadequate And More are Needed Note: More receptacles are needed per classroom.	Functional Deficiency	25	Ea.	3	\$15,036	11054
The Mounted Building Lighting Requires Replacement	Capital Renewal	16	Ea.	3	\$25,180	11050
Room Has Insufficient Electrical Outlets	Educational Adequacy	44	Ea.	5	\$21,953	Rollup
Sub Total for System		9	items		\$559,326	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Backflow Preventer Requires Replacement Note: Backflow preventer is rusted and showing signs of leaks.	Capital Renewal	1	Ea.	2	\$4,134	11067
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	6	Ea.	3	\$8,408	11060
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	\$851	Rollup
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	13	Ea.	4	\$37,268	11042
The Custodial Mop Or Service Sink Requires Replacement Note: Mop sinks are rusted and damaged.	Capital Renewal	5	Ea.	4	\$13,582	11055
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	4	Ea.	4	\$31,114	11061
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	23	Ea.	4	\$77,141	11051
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	14	Ea.	5	\$21,276	Rollup
Sub Total for System		8	items		\$193,773	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Fire Alarm Is Missing Or Inadequate (NFPA 72 and NFPA 101, Section 9.6)	Code Compliance	43,000	SF	1	\$132,884	11058
Room lacks shut-off valves for utilities. (International Fuel Gas Code, Section 409.6)	Educational Adequacy	2	Ea.	1	\$22,939	Rollup
Sub Total for System		2	items		\$155,823	



Facility Condition Assessment

East Providence - East Providence Career & Technical Center

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	4	Ea.	3	\$22,939	Rollup
Room lacks Interactive White Board	Educational Adequacy	6	Ea.	3	\$36,086	53548
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	120	Ea.	3	\$60,143	18679
Technology: Intermediate Telecommunications Room needs M/E improvements.	Technology	1	Ea.	3	\$25,661	18677
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$5,012	18678
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$7,017	18675
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	\$52,925	18674
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	48	Ea.	3	\$21,651	18682
Technology: Network system inadequate and/or near end of useful life	Technology	20	Ea.	3	\$100,238	18683
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	\$8,019	18676
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	18	Ea.	3	\$28,868	18680
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	\$7,618	18681
Sub Total for System		12	items		\$376,176	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	5	Ea.	3	\$22,939	Rollup
Pedicure Spa Chairs and Manicure Tables Are Required	Educational Adequacy	1	Ea.	4	\$7,264	Rollup
Separate Student Kitchen Stations Are Required	Educational Adequacy	1	Ea.	4	\$3,747	Rollup
The Metal Student Lockers Require Replacement Note: Combination locks do not work and multiple lockers have missing doors.	Functional Deficiency	295	Ea.	4	\$153,025	11074
Walk In Cooler/Freezer Is Required	Educational Adequacy	1	Ea.	4	\$90,801	Rollup
Welding Bays Are Required	Educational Adequacy	3	Ea.	4	\$16,344	Rollup
Work Tables Are Required	Educational Adequacy	6	Ea.	4	\$21,773	Rollup
Room lacks an appropriate refrigerator.	Educational Adequacy	2	Ea.	5	\$17,204	Rollup
The room lacks a washer and/or dryer.	Educational Adequacy	1	Ea.	5	\$13,764	Rollup
Sub Total for System		9	items		\$346,861	
Sub Total for Building 01 - Main Bldg		63	items		\$6,165,731	

Building: 02 - Greenhouse #2

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Greenhouse (polycarbonate) Walls Require Replacement (Bldg SF) Note: Missing polycarbonate walls.	Functional Deficiency	1,012	SF	2	\$40,576	11082
The Exterior Wood Requires Replacement (Bldg SF)	Capital Renewal	338	SF	2	\$10,682	12520
Sub Total for System		2	items		\$51,259	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Electric Unit Heater Requires Replacement	Capital Renewal	1	Ea.	2	\$1,332	11080
Sub Total for System		1	items		\$1,332	



Facility Condition Assessment

East Providence - East Providence Career & Technical Center

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Lighting Fixtures Require Replacement	Capital Renewal	1,350	SF	2	\$8,458	11081
The Mounted Building Lighting Requires Replacement	Capital Renewal	2	Ea.	3	\$3,147	11079
	Sub Total for System	2	items		\$11,605	
	Sub Total for Building 02 - Greenhouse #2	5	items		\$64,196	

Building: 03 - Greenhouse #3

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Greenhouse (polycarbonate) Walls Require Replacement (Bldg SF) Note: Polycarbonate walls are missing.	Functional Deficiency	540	SF	2	\$21,651	11088
The Wood Exterior Door Requires Replacement Note: Missing doors.	Functional Deficiency	2	Door	2	\$17,552	11083
	Sub Total for System	2	items		\$39,203	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Electric Unit Heater Requires Replacement	Capital Renewal	1	Ea.	2	\$1,332	11086
Exhaust Fan Ventilation Requires Replacement	Capital Renewal	2	Ea.	4	\$5,646	11085
	Sub Total for System	2	items		\$6,979	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Lighting Fixtures Require Replacement	Capital Renewal	540	SF	2	\$3,383	11087
The Mounted Building Lighting Requires Replacement	Capital Renewal	2	Ea.	3	\$3,147	11084
	Sub Total for System	2	items		\$6,530	
	Sub Total for Building 03 - Greenhouse #3	6	items		\$52,712	

Building: 04 - Greenhouse #4

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Greenhouse (polycarbonate) Walls Require Replacement (Bldg SF) Note: Missing polycarbonate walls.	Functional Deficiency	540	SF	2	\$21,651	11093
The Wood Exterior Door Requires Replacement Note: Missing doors.	Functional Deficiency	2	Door	2	\$17,552	11089
	Sub Total for System	2	items		\$39,203	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Electric Unit Heater Requires Replacement	Capital Renewal	1	Ea.	2	\$1,332	11091
	Sub Total for System	1	items		\$1,332	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Lighting Fixtures Require Replacement	Capital Renewal	540	SF	2	\$3,383	11092
The Mounted Building Lighting Requires Replacement	Capital Renewal	2	Ea.	3	\$3,147	11090
	Sub Total for System	2	items		\$6,530	
	Sub Total for Building 04 - Greenhouse #4	5	items		\$47,066	
	Total for Campus	84	items		\$7,524,787	

Buildings with no reported deficiencies

05 - Storage



East Providence Career & Technical Center - Life Cycle Summary Yrs 1-5

Building: 01 - Main Bldg

Exterior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Exterior Operating Windows	Aluminum - Windows per SF	1,809	SF	\$309,856	4
Note: 165 @ 3x3; 18 @ 3x6					
		Sub Total for System		1 items	\$309,856

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Suspended Plaster and	Painted ceilings	324	SF	\$1,372	5
Wall Painting and Coating	Painting/Staining (Bldg SF)	31,782	SF	\$212,553	5
Tile Flooring	Ceramic Tile	6,600	SF	\$179,394	5
Carpeting	Carpet	1,596	SF	\$35,146	5
		Sub Total for System		4 items	\$428,465

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Evaporative Air-Cooling	Evaporative Cooler (1,785 CFM)	2	Ea.	\$4,734	5
HVAC Air Distribution	AHU 20,000 CFM Interior	1	Ea.	\$188,235	5
HVAC Air Distribution	Ductwork (Bldg.SF)	8,000	SF	\$119,042	5
HVAC Air Distribution	AHU 2,000 CFM Outdoor	3	Ea.	\$174,971	5
		Sub Total for System		4 items	\$486,983

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Compressed-Air Systems	Air Compressor (2 hp)	1	Ea.	\$6,461	3
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)	43,000	SF	\$350,188	5
		Sub Total for System		2 items	\$356,649

Specialties

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Casework	Fixed Cabinetry	7	Room	\$79,269	5
		Sub Total for System		1 items	\$79,269
		Sub Total for Building 01 - Main Bldg		12 items	\$1,661,222

Building: 02 - Greenhouse #2

Exterior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Exterior Entrance Doors	Wood	1	Door	\$8,425	5
		Sub Total for System		1 items	\$8,425
		Sub Total for Building 02 - Greenhouse #2		1 items	\$8,425
		Total for: East Providence Career & Technical Center		13 items	\$1,669,646



Supporting Photos



Site Aerial



Health Care



Auto Shop



Typical Classroom



Facility Condition Assessment

East Providence - East Providence Career & Technical Center



School Sign



Science Lab



Elevation



Crack In CMU



Exterior Finishes



Damaged Restroom Partition



Facility Condition Assessment

East Providence - East Providence Career & Technical Center



Chipped Concrete Paint



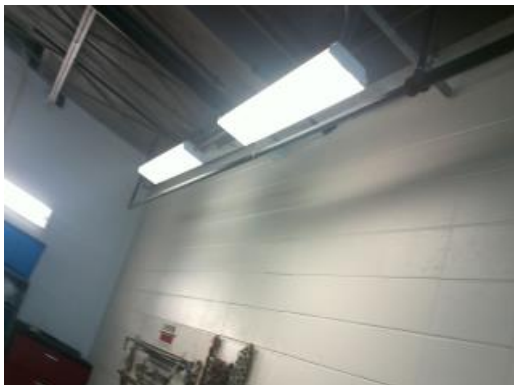
Missing And Damaged Concrete Panels



Building Mounted Light



2000 Amp Switchgear



Lighting Fixtures



Alligatored Asphalt Roadway



Facility Condition Assessment

East Providence - East Providence Career & Technical Center



Aged Panelboard



Large Potholes In Asphalt Parking



Cracked Concrete Walkway



Main Entry



Parking Lot Asphalt Alligating



Typical Restroom



Facility Condition Assessment

East Providence - East Providence Career & Technical Center



Culinary



Damaged Pole Lights



Cosmetology



Original VCT



Elevation



Worn Wall Painting



Facility Condition Assessment

East Providence - East Providence Career & Technical Center



Wood Shop



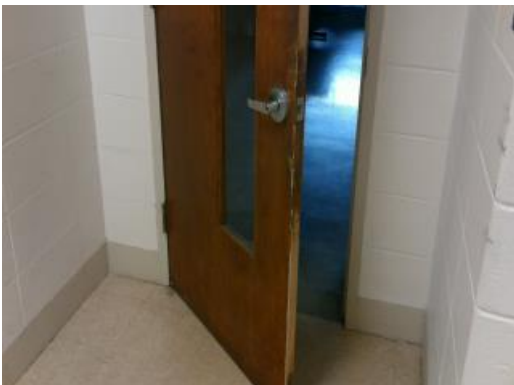
Lobby



Building #4



Computer Lab



Original Wood Door



Lighting Fixture



Facility Condition Assessment

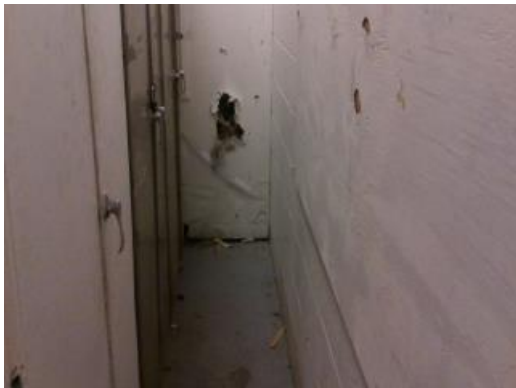
East Providence - East Providence Career & Technical Center



Torn Membrane Roof



Building Mounted Light



Damaged Gypsum Board Wall



Lighting Fixture



Unit Heater



Wall Exhaust Fan



Facility Condition Assessment

East Providence - East Providence Career & Technical Center



Greenhouse #3



Greenhouse Exterior



Unit Heater



Building Mounted Lights



Building Mounted Lights



Damaged Ceramic Wall



Facility Condition Assessment

East Providence - East Providence Career & Technical Center



Lighting Fixtures



Broken Window



Generator



Ponding On Roof



Typical Lockers



Typical Corridor



Facility Condition Assessment

East Providence - East Providence Career & Technical Center



Stained Ceiling Tiles



Auditorium



Facility Condition Assessment

East Providence - East Providence High School

June 2017

2000 Pawtucket Avenue, East Providence, RI 02914





Introduction

East Providence High School, located at 2000 Pawtucket Avenue in East Providence, Rhode Island, was built in 1952. It comprises 250,000 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.

East Providence High School serves grades 9 - 12, has 95 instructional spaces, and has an enrollment of 1,478. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for East Providence High School is 2,000 with a resulting utilization of 74%.

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 East Providence High School the 5-year need is \$40,068,058. 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.

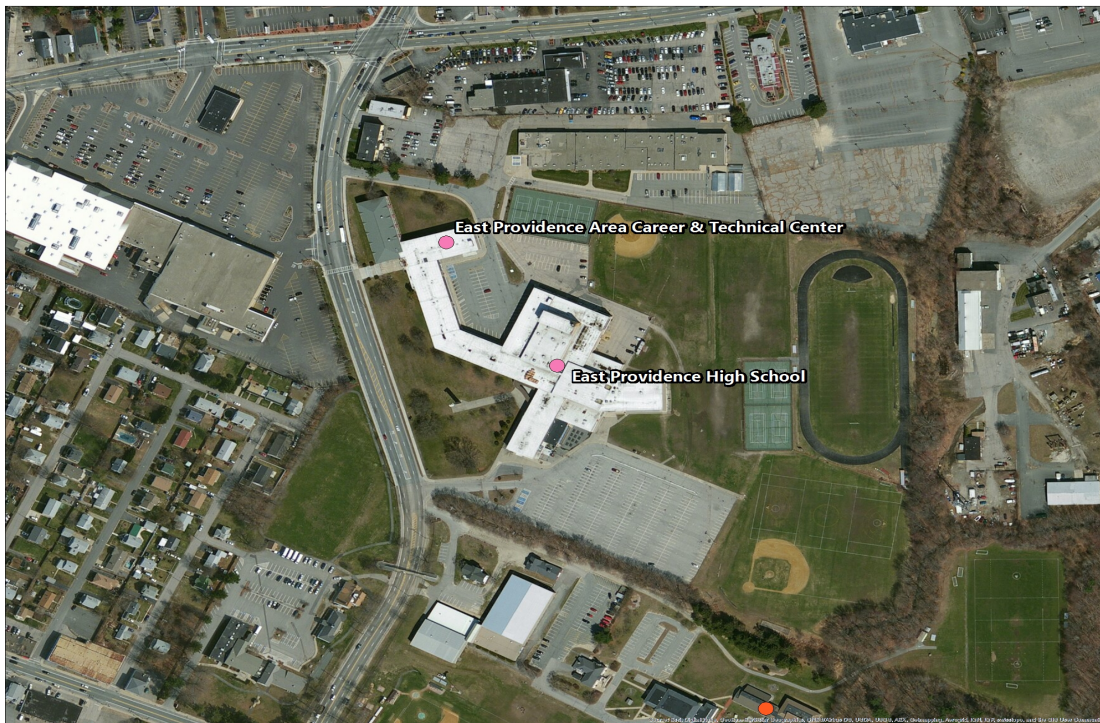


Figure 1: Aerial view of East Providence High School



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 East Providence 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
	Glass Block Exterior Wall
	Metal Panel Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Windows
	Storefront Entrance Doors
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors

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

01 - Main Building:	Composition Shingle Roofing
	EPDM Roofing
	Built-Up Roofing With Ballast

Interior

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

01 - Main Building:	Foldable Interior Partition
	Steel Interior Doors
	Wood Interior Doors
	Overhead Interior Coiling Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Ceramic Tile Wall
	Acoustical Wall Paneling
	Vinyl/Fabric Wall Covering



01 - Main Building:	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Rubber Tile Flooring
	Vinyl Composition Tile Flooring
	Terrazzo Flooring
	Carpet
	Athletic/Sport Flooring

Mechanical

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

01 - Main Building:	8,500 MBH Cast Iron Boiler
	40 GPM Steam to Water Heat Exchanger
	Steam Condensate Receiver, Tank and Pump
	3 kW Electric Unit Heater
	5 kW Electric Unit Heater
	Steam/Hot Water Heating Unit Vent
	Radiant Steam Heater
	Finned Wall Radiator
	DDC Heating System Controls
	1 Ton Ductless Split System
	50,000 CFM Interior AHU
	Window Units
	Make-up Air Unit
	15 HP VFD
	1 HP or Smaller Pump
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	30,000 CFM Interior AHU
	Ductwork
	Dehumidifier
	Roof Exhaust Fan
	Kitchen Exhaust Hoods
	Laboratory Fume Hood
	Wall Exhaust Fan
	Fire Sprinkler System

Plumbing

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

01 - Main Building:	2" Backflow Preventers
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01 - Main Building:	Gas Piping System
	200 Gallon Electric Water Heater
	400 Gallon Electric Water Heater
	80 Gallon Electric Water Heater
	9.4 GPM Instant Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals
	Sump Pump
	Air Compressor (2 hp)
	25,000 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
	2,000 Amp Switchgear
	112.5 KVA Transformer
	225 KVA Transformer
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 120/208 400A
	Electrical Disconnect
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting Fixtures
	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.



Facility Condition Assessment

East Providence - East Providence High School

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

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	-	-	\$612,596	\$3,986,443	\$120,285	\$4,719,324	12.19 %
Roofing	-	\$1,354,201	\$30,071	-	-	\$1,384,272	3.58 %
Structural	\$332,789	-	-	-	-	\$332,789	0.86 %
Exterior	-	\$1,779,873	\$1,207,862	-	-	\$2,987,735	7.72 %
Interior	-	-	\$2,075,477	\$5,220,851	\$226,184	\$7,522,512	19.43 %
Mechanical	-	\$7,277,489	\$57,021	\$1,953,745	-	\$9,288,255	23.99 %
Electrical	\$2,859	\$357,114	\$133,139	\$1,403	\$189,512	\$684,027	1.77 %
Plumbing	-	\$115,632	\$3,219,980	\$469,853	\$356,309	\$4,161,774	10.75 %
Fire and Life Safety	\$39,927	-	-	-	-	\$39,927	0.10 %
Technology	-	-	\$3,072,229	-	-	\$3,072,229	7.94 %
Conveyances	-	\$217,295	\$46,260	-	-	\$263,554	0.68 %
Specialties	-	-	\$1,503,996	\$2,739,879	\$13,857	\$4,257,732	11.00 %
Total	\$375,574	\$11,101,604	\$11,958,630	\$14,372,175	\$906,147	\$38,714,130	

*Displayed totals may not sum exactly due to mathematical rounding

The building systems with the most need include:

Mechanical	-	\$9,288,255
Interior	-	\$7,522,512
Site	-	\$4,719,324

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

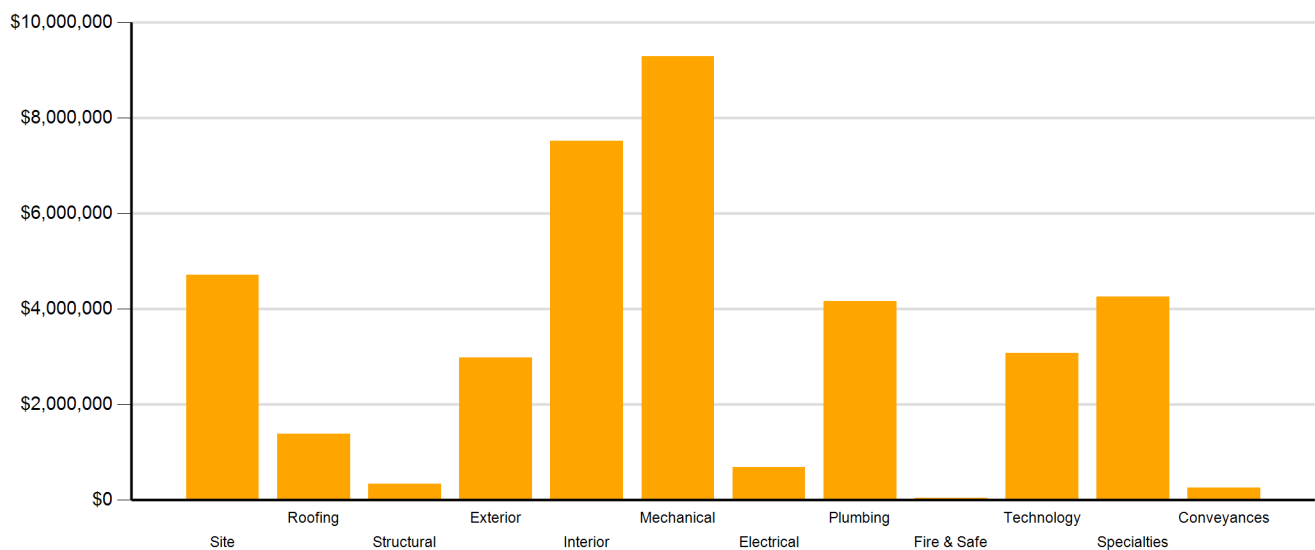


Figure 2: System Deficiencies



Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

- **Acoustics** deficiencies relate to room acoustics, sound insulation, 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

Category	Priority					Total
	1	2	3	4	5	
Acoustics	-	-	-	\$42,400	-	\$42,400
Barrier to Accessibility	-	-	\$137,661	\$40,897	-	\$178,557
Capital Renewal	\$349,620	\$9,862,914	\$7,832,359	\$8,033,323	\$305,375	\$26,383,591
Code Compliance	-	-	-	-	-	\$0
Educational Adequacy	\$25,954	\$1,352	\$435,865	\$1,355,748	\$395,651	\$2,214,570
Functional Deficiency	-	\$1,237,338	\$897,905	\$4,556,335	\$205,121	\$6,896,699
Hazardous Material	-	-	-	\$343,472	-	\$343,472
Technology	-	-	\$2,654,840	-	-	\$2,654,840
Traffic	-	-	-	-	-	\$0
Total	\$375,574	\$11,101,604	\$11,958,630	\$14,372,175	\$906,147	\$38,714,130

*Displayed totals may not sum exactly due to mathematical rounding

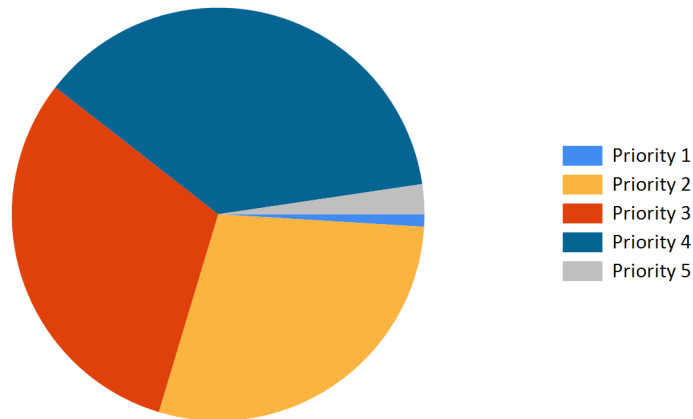


Figure 3: Current deficiencies by priority



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

System	Current Deficiencies	Life Cycle Capital Renewal Projections					LC Yr. 1-5 Total	Total 5-Year Need
		Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021		
Site	\$4,719,324	\$0	\$0	\$0	\$0	\$120,851	\$120,851	\$4,840,175
Roofing	\$1,384,272	\$0	\$0	\$0	\$0	\$0	\$0	\$1,384,272
Structural	\$332,789	\$0	\$0	\$0	\$0	\$0	\$0	\$332,789
Exterior	\$2,987,735	\$0	\$0	\$0	\$0	\$0	\$0	\$2,987,735
Interior	\$7,522,512	\$0	\$0	\$339,650	\$101,322	\$175,656	\$616,628	\$8,139,140
Mechanical	\$9,288,255	\$0	\$0	\$0	\$335,834	\$0	\$335,834	\$9,624,089
Electrical	\$684,027	\$0	\$0	\$15,685	\$0	\$12,987	\$28,672	\$712,699
Plumbing	\$4,161,774	\$0	\$0	\$5,724	\$0	\$0	\$5,724	\$4,167,498
Fire and Life Safety	\$39,927	\$0	\$0	\$0	\$0	\$0	\$0	\$39,927
Technology	\$3,072,229	\$0	\$0	\$0	\$0	\$0	\$0	\$3,072,229
Conveyances	\$263,554	\$0	\$0	\$0	\$0	\$246,219	\$246,219	\$509,774
Specialties	\$4,257,732	\$0	\$0	\$0	\$0	\$0	\$0	\$4,257,732
Total	\$38,714,130	\$0	\$0	\$361,059	\$437,156	\$555,713	\$1,353,928	\$40,068,058

*Displayed totals may not sum exactly due to mathematical rounding

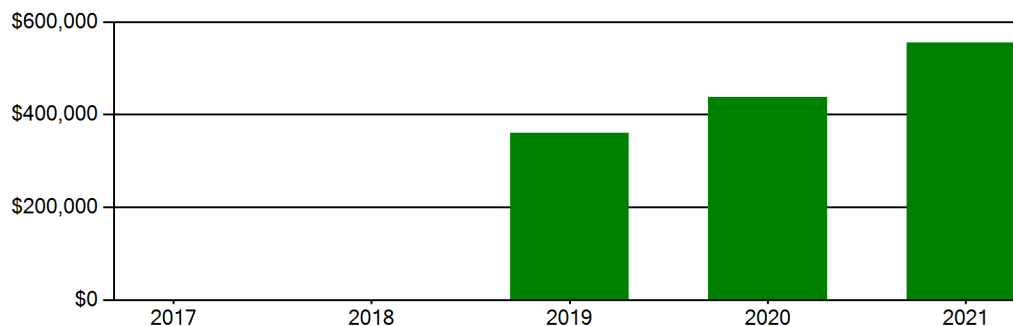
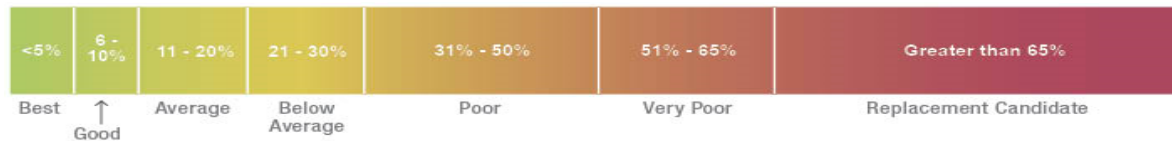


Figure 4: Life Cycle Capital Renewal Forecast



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 \$90,000,000. For planning purposes, the total 5-year need at the East Providence High School is \$40,068,058 (Life Cycle Years 1-5 plus the FCI deficiency cost). The East Providence High School facility has a 5-year FCI of 44.52%.

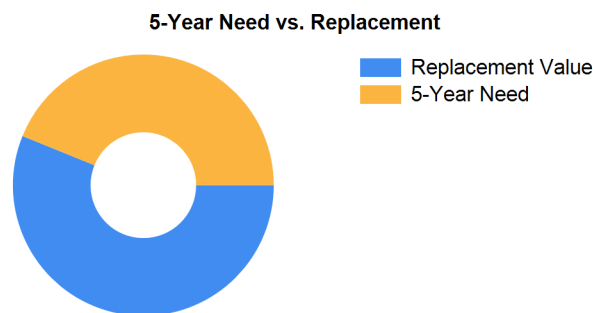


Figure 5: 5-Year FCI

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 1,351 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 East Providence High School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$496,886.



Summary of Findings

The East Providence High School comprises 250,000 square feet and was constructed in 1952. Current deficiencies at this school total \$38,714,130. Five year capital renewal costs total \$1,353,928. The total identified need for the East Providence High School (current deficiencies and 5-year capital renewal costs) is \$40,068,058. The 5-year FCI is 44.52%.

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
East Providence High School Totals	250,000	1952	\$38,714,130	\$1,353,928	\$40,068,058	44.52%

**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.

LEA Feedback

As part of the assessment process, LEAs were given several opportunities to provide feedback on the data. Jacobs performed a thorough review of the comments provided relating to the Facilities Condition Assessment. Based on information provided, some adjustments were made to improve or refine the dataset. In other situations, enough information was not provided, item was out of scope, or evidence provided by assessment team did not align with the feedback and no adjustment was made. Finally, deficiency priorities, costs, and educational space/technology standards are consistent throughout the state.



Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Concrete Walks Require Replacement Note: Concrete walkways have large cracks and are uneven.	Functional Deficiency	22,913	SF	3	\$592,548	11097
Asphalt Paving Requires Replacement Note: Many areas are cracked and alligatored with potholes throughout.	Functional Deficiency	102	CAR	4	\$426,976	11095
Asphalt Paving Requires Replacement Note: Parking lot has large cracks, alligatored, and pot holes.	Functional Deficiency	448	CAR	4	\$1,875,345	11096
Backstops Require Replacement Note: Backstops Require Replacement	Educational Adequacy	1	Ea.	4	\$36,086	28464
Replace Natural Turf (Grass) Playfield Note: Per LEA review feedback football field requires replacement.	Capital Renewal	1	Ea.	4	\$11,583	53556
Site Drainage Requires Regrading Location: Front entry	Functional Deficiency	1,200	SF	4	\$23,095	11131
Site Marquee Requires Replacement Note: Per LEA review feedback digital sign requires replacement.	Capital Renewal	1	Ea.	4	\$36,086	53557
Tennis Courts, Nets, And Equipment Require Replacement Note: Per LEA review feedback tennis courts require replacement.	Capital Renewal	4	Ea.	4	\$962,280	53554
Track Requires Replacement Note: Per LEA review feedback track requires replacement.	Educational Adequacy	1	Ea.	4	\$581,313	53555
School has insufficient football/soccer fields. Note: School has insufficient football/soccer fields.	Educational Adequacy	1	Ea.	5	\$120,285	28188
Sub Total for System		10	items		\$4,665,597	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed Note: There is currently only one pole light at the entrance to the main parking lot. Additional pole lighting should be added.	Functional Deficiency	3	Ea.	3	\$75,238	11099
The Pole Lighting Requires Replacement	Capital Renewal	1	Ea.	3	\$9,786	11098
The Ground Mounted Lighting Requires Replacement Note: Per LEA review feedback replacement of lights on the clock tower is needed.	Capital Renewal	2	Ea.	5	\$4,662	53561
Sub Total for System		3	items		\$89,687	
Sub Total for School and Site Level		13	items		\$4,755,284	

Building: 01 - Main Building

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Exterior Ramp Is Not ADA Compliant Note: Per LEA review feedback the ramp at door 21 is not compliant.	Barrier to Accessibility	1	Ea.	3	\$20,048	53566
Concrete Paving Requires Replacement Note: Per LEA review feedback the kitchen loading dock must be revamped or replaced.	Capital Renewal	6	CAR	4	\$33,680	53577
Sub Total for System		2	items		\$53,727	

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Built-up Roofing With Aggregate Ballast Requires Replacement	Capital Renewal	918	SF	2	\$36,807	11130
EPDM Roofing Requires Replacement (Bldg SF) Note: Per LEA review feedback current roof is leaking.	Capital Renewal	98,431	SF	2	\$1,312,241	53552
Skylight Requires Replacement Note: Per LEA review feedback. Replace skylight above elevator.	Capital Renewal	2	Ea.	2	\$5,152	53551
Tapered Insulation Is Required To Eliminate Ponding When Re-Roofing	Capital Renewal	2,500	SF	3	\$30,071	11129
Sub Total for System		4	items		\$1,384,272	



Facility Condition Assessment

East Providence - East Providence High School

Structural

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Major Structural Condition Exists	Capital Renewal	1	Job	1	\$232,551	24671
Note: Water infiltration at window openings resulting in rusting of lintels and other steel members which expanded the steel causing the exterior brick and interior ceramic brick to crack and displace. Excessive moisture and lack of proper ventilation in basement area under the swimming pool is most likely the cause for the deterioration of the concrete. It is recommended that the following general remedial actions be taken: Remove existing steel lintels that exhibit excessive rusting or deterioration and replace with new galvanized steel lintels; Replace deteriorated relieving angles and repoint exterior brick; Review existing plans and evaluate the necessity to provide vertical control joints in the exterior brick veneer at corner locations; Remove cracked ceramic masonry, repair any deteriorated steel and replace ceramic masonry; Remove all deteriorated concrete and reinforcing steel from pool basement beams and overhead slab and replace with new epoxy coated reinforcing of comparable size as original design and form with new concrete.						
Moderate Structural Condition Exists	Capital Renewal	1	Job	1	\$100,238	11139
Note: Corridor under pool, walls and deck are shifting.						
Sub Total for System		2	items		\$332,789	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Glass Block Requires Replacement	Functional Deficiency	14,279	SF	2	\$1,173,659	11174
Note: Glass block is aged and leaking.						
The Aluminum Storefront Exterior Door Requires Replacement	Functional Deficiency	1	Door	2	\$7,518	11105
Location: Door F						
The Aluminum Window Requires Replacement	Functional Deficiency	201	SF	2	\$35,863	11108
Note: Original windows in basement.						
The Aluminum Window Requires Replacement	Capital Renewal	500	SF	2	\$89,211	53562
Note: Per LEA review feedback the cafeteria atrium windows must be replaced.						
The Metal Exterior Door Requires Replacement	Functional Deficiency	3	Door	2	\$20,298	11104
Location: Doors 5, 12, 21						
The Overhead Door Requires Replacement	Capital Renewal	1	Door	2	\$38,792	11106
Location: Boiler room						
The Steel Window Requires Replacement	Capital Renewal	1,838	SF	2	\$414,532	11109
The Brick Exterior Requires Repair	Capital Renewal	12,500	SF Wall	3	\$877,078	11103
Note: Exterior brick is cracked and should be repaired.						
The Brick Exterior Requires Repointing	Capital Renewal	7,500	SF Wall	3	\$330,784	11132
Sub Total for System		9	items		\$2,987,735	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior CMU Walls Require Repair	Capital Renewal	10,000	SF	3	\$382,907	11144
Location: Cafe, Room 149R, nurse's office, 3rd floor storage, teacher's lounge, 2nd floor storage						
Interior Doors Require Replacement	Capital Renewal	197	Door	3	\$957,719	11113
Note: Original 1952 interior wood doors.						
The Acoustical Ceiling Tiles Require Replacement	Functional Deficiency	19,113	SF	3	\$182,005	11110
Note: Original ceiling tiles should be replaced.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	500	SF	3	\$4,761	11111
Location: 3rd floor corridor						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	5,395	SF	3	\$51,374	53564
Note: Per LEA review feedback cafeteria ceiling must be replaced (transition old to new).						
The Carpet Flooring Requires Replacement	Capital Renewal	5,205	SF	3	\$119,397	11114
Location: Library and auditorium						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	10,808	SF	3	\$306,012	11116
Note: Original ceramic flooring should be replaced.						
Location: 1952 wing						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	500	SF	3	\$6,048	11115
Location: 1999 corridors, 3rd floor band area offices						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	5,395	SF	3	\$65,254	53563
Note: Per LEA review feedback cafeteria floor (transition old to new) must be replaced.						
Acoustical Wall Panels Require Replacement	Capital Renewal	250,000	SF	4	\$2,420,736	11164
Note: Tiles are broken and falling from walls.						
Asbestos 9x9 Tile is Present. Limited Areas of Lifting or Broken Tiles Exist	Hazardous Material	100	SF	4	\$3,007	Rollup



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East Providence - East Providence High School

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Ceiling Grid Requires Replacement Note: Original grid system should be replaced.	Functional Deficiency	19,113	SF	4	\$239,012	11166
Ceiling Grid Requires Replacement Note: Per LEA review feedback cafeteria ceiling must be replaced (transition old to new).	Capital Renewal	5,395	SF	4	\$67,466	53565
Interior Ceramic Walls Require Repair Or Replacement Location: Cafe and gym	Capital Renewal	2,500	SF Wall	4	\$70,166	11126
Interior Ceramic Walls Require Repair Or Replacement Note: Large cracks in ceramic wall. Steel lintels are rusted.	Capital Renewal	7,351	SF	4	\$172,422	11170
Interior Storefront Doors Require Replacement Note: Per LEA review feedback the interior glass door at the end of the art wing corridor is not to code.	Capital Renewal	1	Door	4	\$5,012	53558
Interior Toilet Partition Requires Repair Location: Locker rooms	Functional Deficiency	48	Ea.	4	\$26,463	11125
Moveable Partitions Require Replacement Note: Original partition in gym should be replaced.	Capital Renewal	2,000	SF Wall	4	\$243,577	11100
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	381	Ea.	4	\$114,571	Rollup
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	4,572	LF	4	\$109,989	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	11,563	SF	4	\$115,905	Rollup
Room Is Excessively Reverberant Location: Music room	Acoustics	1,800	SF	4	\$42,400	27939
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	17,990	SF	4	\$693,842	Rollup
Room Lighting Is Inadequate Or In Poor Condition. Note: Per LEA review feedback the lighting in the gym is inadequate for the size.	Capital Renewal	9,600	SF	4	\$385,682	53559
The Gypsum Board Ceilings Require Replacement	Functional Deficiency	500	SF	4	\$6,014	11112
The Handrails In The Stair Area Are Not ADA Compliant Note: Per LEA review feedback all stairwell handrailing not to building code.	Barrier to Accessibility	300	LF	4	\$40,897	53569
The Terrazzo Flooring Requires Repair	Capital Renewal	8,000	SF	4	\$449,100	11133
The Terrazzo Flooring Requires Repair Note: Per LEA review feedback entrance floor granite block to auditorium must be regouted. Allowance for repair.	Capital Renewal	250	SF	4	\$14,034	53568
Vinyl/Fabric Wall Covering Requires Replacement Note: Original wall covering in main office should be replaced.	Capital Renewal	74	SF	4	\$556	11165
Classroom Door Requires Vision Panel	Educational Adequacy	4	Ea.	5	\$6,975	Rollup
Room lacks appropriate sound control.	Educational Adequacy	400	SF	5	\$14,088	Rollup
The Gypsum Board Ceilings Require Repainting	Functional Deficiency	46,508	SF	5	\$205,121	Rollup
Sub Total for System		32	items		\$7,522,512	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Ductless Split System AC Requires Replacement	Capital Renewal	1	Ea.	2	\$14,883	11160
Ductwork Requires Replacement (SF Basis)	Capital Renewal	73,511	SF	2	\$1,139,442	11156
Electric Unit Heater Requires Replacement	Capital Renewal	2	Ea.	2	\$2,664	11150
Electric Unit Heater Requires Replacement	Capital Renewal	2	Ea.	2	\$2,865	11151
Kiln lacks appropriate ventilation. Note: Per LEA review feedback kiln room has inadequate ventilation.	Educational Adequacy	1	Ea.	2	\$1,352	53567
Replace Unit Vent	Capital Renewal	79	Ea.	2	\$1,408,906	11169
Steam Heat Exchanger Requires Replacement	Capital Renewal	2	Ea.	2	\$48,114	11179
The Air Handler HVAC Component Requires Replacement	Capital Renewal	4	Ea.	2	\$1,032,647	11147
The Air Handler HVAC Component Requires Replacement	Capital Renewal	3	Ea.	2	\$912,290	11175
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	25	Ea.	2	\$44,155	11155
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	250,000	SF	2	\$2,031,798	11571



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Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Steam Condensate Receiver Requires Replacement	Capital Renewal	1	Ea.	2	\$370,879	11180
The Steam/Hot Water Radiant Heater Requires Replacement	Capital Renewal	42	Ea.	2	\$228,770	11154
The Window AC Unit Component Requires Replacement	Capital Renewal	11	Ea.	2	\$38,724	11142
Air Compressor Is Inoperable And Requires Replacement	Capital Renewal	1	Ea.	3	\$6,730	11145
The Make Up Air Equipment Requires Replacement	Capital Renewal	3	Ea.	3	\$50,291	11136
Exhaust Fan Ventilation Requires Replacement	Capital Renewal	1	Ea.	4	\$2,823	11118
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	250,000	SF	4	\$1,587,136	11117
Lab lacks an appropriate fume hood.	Educational Adequacy	2	Ea.	4	\$44,507	Rollup
Small HVAC Circulating Pump Requires Replacement	Capital Renewal	4	Ea.	4	\$40,191	11141
Small HVAC Circulating Pump Requires Replacement	Capital Renewal	4	Ea.	4	\$32,172	11173
The Exhaust Hood Requires Replacement	Capital Renewal	45	Ea.	4	\$246,915	11167
Sub Total for System		22	items		\$9,288,255	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room last power shut-off valves for utilities	Educational Adequacy	2	Ea.	1	\$2,859	Rollup
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	\$76,271	11157
The Electrical Transformer Requires Replacement	Capital Renewal	3	Ea.	2	\$40,073	11146
The Electrical Transformer Requires Replacement	Capital Renewal	2	Ea.	2	\$44,706	11168
The Panelboard Requires Replacement	Capital Renewal	24	Ea.	2	\$122,691	11148
The Panelboard Requires Replacement	Capital Renewal	12	Ea.	2	\$73,374	11149
The Electrical Receptacles Are Inadequate And More are Needed	Functional Deficiency	80	Ea.	3	\$48,114	11127
Note: More receptacles are needed in each classroom.						
The Electrical Circuit Capacity Is Inadequate	Functional Deficiency	2	EACH	4	\$1,403	53570
Note: Per LEA review feedback there is inadequate power in the library.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	368	Ea.	5	\$184,850	Rollup
Sub Total for System		9	items		\$594,340	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Backflow Preventer Requires Replacement	Capital Renewal	1	Ea.	2	\$4,134	11153
The Electric Water Heater Requires Replacement	Capital Renewal	1	Ea.	2	\$47,058	11171
The Electric Water Heater Requires Replacement	Capital Renewal	1	Ea.	2	\$64,441	11176
Note: 300 gallon water heater						
Sump Pump Requires Replacement	Capital Renewal	4	Ea.	3	\$6,110	11143
The Instant Water Heater Requires Replacement	Capital Renewal	1	Ea.	3	\$7,017	53575
Note: Per LEA review feedback instant hot water system requires replacement.						
The Plumbing / Domestic Water Piping System Is Beyond Its Useful Life	Capital Renewal	250,000	SF	3	\$2,120,811	11140
The Restroom Is Not ADA Compliant	Barrier to Accessibility	100	SF	3	\$29,403	53571
Note: Per LEA review feedback the boys varsity locker room, shower, and bathroom are not ADA compliant.						
The Restroom Is Not ADA Compliant	Barrier to Accessibility	100	SF	3	\$29,403	53572
Note: Per LEA review feedback the boys junior varsity locker room, shower, and bathroom are not ADA compliant.						
The Restroom Is Not ADA Compliant	Barrier to Accessibility	100	SF	3	\$29,403	53573
Note: Per LEA review feedback the boys gym locker room, shower, and bathroom are not ADA compliant.						
The Restroom Is Not ADA Compliant	Barrier to Accessibility	100	SF	3	\$29,403	53574
Note: Per LEA review feedback the girls locker room, shower, and bathroom are not ADA compliant.						
The Showers Plumbing Fixtures Require Replacement	Capital Renewal	113	Ea.	3	\$906,147	11121
The Showers Plumbing Fixtures Require Replacement	Capital Renewal	2	Ea.	3	\$16,038	53560
Note: Per LEA review feedback the boys and girls stage dressing shower is not ADA compliant and must be replaced.						
The Urinal Plumbing Fixtures Require Replacement	Capital Renewal	33	Ea.	3	\$46,244	11137



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Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	12	Ea.	4	\$129,306	11122
Note: Past life expectancy, needs to be replaced. Also a big issue is that the only way to fix one of these is to break down the way around it. Most of these units are enclosed in a way that you cannot fix them without making a hole.						
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	25	Ea.	4	\$71,670	11101
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	13	Ea.	4	\$35,314	11128
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	2	Ea.	4	\$15,557	11138
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	65	Ea.	4	\$218,007	11119
Room lacks a drinking fountain.	Educational Adequacy	9	Ea.	5	\$10,046	Rollup
Room lacks a private shower area.	Educational Adequacy	1	Ea.	5	\$10,360	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	23	Ea.	5	\$35,191	Rollup
Underground Fuel/Oil Storage Tank Requires Replacement	Capital Renewal	1	Ea.	5	\$300,713	11159
Sub Total for System		22	items		\$4,161,774	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Kitchen Exhaust Hood	Capital Renewal	1	Ea.	1	\$16,832	11152
Note: Original kitchen hood should be replaced.						
Room lacks shut-off valves for utilities. (International Fuel Gas Code, Section 409.6)	Educational Adequacy	2	Ea.	1	\$23,095	Rollup
Sub Total for System		2	items		\$39,927	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	15	Ea.	3	\$86,605	Rollup
Room lacks Interactive White Board	Educational Adequacy	55	Ea.	3	\$330,784	53549
Technology: Auditorium AV/Multimedia system is inadequate.	Technology	1	Room	3	\$350,831	18672
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	832	Ea.	3	\$416,988	18665
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	1	Ea.	3	\$21,050	18669
Technology: Instructional spaces do not have local sound reinforcement.	Technology	112	Ea.	3	\$561,330	18673
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	4	Ea.	3	\$22,453	18662
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	\$47,713	18659
Technology: Intermediate Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	\$39,694	18657
Technology: Intermediate Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	\$39,694	18658
Technology: Intermediate Telecommunications Room needs M/E improvements.	Technology	1	Ea.	3	\$25,661	18660
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$5,012	18661
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$7,017	18656
Technology: Main Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	\$22,854	18655
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	467	Ea.	3	\$210,649	18664
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	336	Ea.	3	\$151,559	18668
Technology: Network system inadequate and/or near end of useful life	Technology	6	Ea.	3	\$48,114	18670



Facility Condition Assessment

East Providence - East Providence High School

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Network system inadequate and/or near end of useful life	Technology	80	Ea.	3	\$400,950	18671
Technology: Number of current, up to date, network switch ports are insufficient to support campus technology.	Technology	120	Ea.	3	\$60,143	53550
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	3	Ea.	3	\$15,036	18663
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	125	Ea.	3	\$200,475	18666
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	\$7,618	18667
Sub Total for System		22	items		\$3,072,229	

Conveyances

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Elevator Cab Requires Replacement Note: Per LEA review feedback freight elevator requires replacement.	Capital Renewal	1	Ea.	2	\$217,295	53553
The Dumbwaiter Requires Replacement Note: Dumbwaiters are not operational.	Capital Renewal	2	Ea.	3	\$46,260	11161
Sub Total for System		2	items		\$263,554	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Auditorium Seating Requires Replacement Note: Original theater seating should be replaced.	Capital Renewal	1,140	Ea.	3	\$1,485,520	11178
Room has insufficient writing area.	Educational Adequacy	4	Ea.	3	\$18,476	Rollup
Countertops Require Replacement Note: Countertops and ledges are delaminating.	Functional Deficiency	8	Ea.	4	\$4,491	11172
Replace Cabinetry In Classes/Labs	Functional Deficiency	50	Room	4	\$589,797	11163
The Metal Student Lockers Require Replacement	Functional Deficiency	2,629	Ea.	4	\$1,363,739	11162
The Retractable Bleachers Require Replacement	Capital Renewal	650	Seat	4	\$781,853	11134
The room lacks a washer and/or dryer.	Educational Adequacy	1	Ea.	5	\$13,857	Rollup
Sub Total for System		7	items		\$4,257,732	
Sub Total for Building 01 - Main Building		135	items		\$33,958,846	
Total for Campus		148	items		\$38,714,130	



East Providence 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
Fences and Gates	Fencing - Chain Link (8 Ft)	640	LF	\$43,550	5
	Note: 12' chain link at tennis courts				
Fences and Gates	Fencing - Chain Link (8 Ft)	1,136	LF	\$77,301	5
	Sub Total for System	2	items	\$120,851	
	Sub Total for Building -	2	items	\$120,851	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Resilient Flooring	Vinyl Composition Tile Flooring	16,949	SF	\$196,804	3
Wall Painting and Coating	Painting/Staining (Bldg SF)	21,359	SF	\$142,846	3
Wood Flooring	Wood Flooring - All Types	3,017	SF	\$101,322	4
Resilient Flooring	Rubber Tile Flooring	735	SF	\$13,898	5
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles	17,419	SF	\$159,239	5
Suspended Plaster and	Painted ceilings	595	SF	\$2,519	5
	Sub Total for System	6	items	\$616,627	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Other HVAC Distribution Systems	VFD (15 HP)	1	Ea.	\$10,537	4
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water	19	Ea.	\$325,297	4
	Sub Total for System	2	items	\$335,834	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Power Distribution	Panelboard - 120/208 100A	2	Ea.	\$9,815	3
Power Distribution	Panelboard - 120/208 225A	1	Ea.	\$5,870	3
Wiring Devices	Electrical Disconnect	7	Ea.	\$12,987	5
	Sub Total for System	3	items	\$28,672	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Equipment	Water Heater - Electric - 80 gallon	1	Ea.	\$5,724	3
	Sub Total for System	1	items	\$5,724	

Conveyances

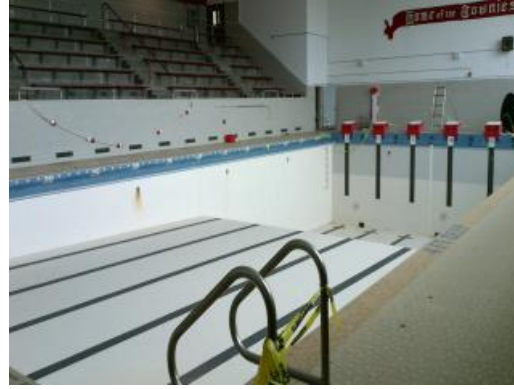
Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Elevators	Traction (Passenger Elev)	1	Ea.	\$246,219	5
	Sub Total for System	1	items	\$246,219	
	Sub Total for Building 01 - Main Building	13	items	\$1,233,075	
	Total for: East Providence High School	15	items	\$1,353,926	



Supporting Photos



Failing Ceiling Tiles



Abandoned Pool



Damaged Concrete Walkways



Aged Pole Lighting



Facility Condition Assessment

East Providence - East Providence High School



Pot Holes And Alligatoring



Stained Ceiling Tile



Corroded Steel Windows



Cracked Concrete Walkway



Site Aerial



Alligatoring Roadway Pavement



Facility Condition Assessment

East Providence - East Providence High School



General Roof Condition



Exterior Finishes



Kitchen



Stage



Band Room



Music Room



Facility Condition Assessment

East Providence - East Providence High School



Small Gymnasium



Cafeteria



1952 Plaque



Computer Lab



Elevation



Elevation



Facility Condition Assessment

East Providence - East Providence High School



1999 Plaque



Auditorium



Typical 1999 Classroom



Corridor Finishes



Typical Restroom Fixtures And Finishes



Weight Room



Facility Condition Assessment

East Providence - East Providence High School



School Sign



Main Gymnasium



Library



Art Room



Science Lab



Cracked Exterior Brick



Facility Condition Assessment

East Providence - East Providence High School



Cracked Exterior Brick



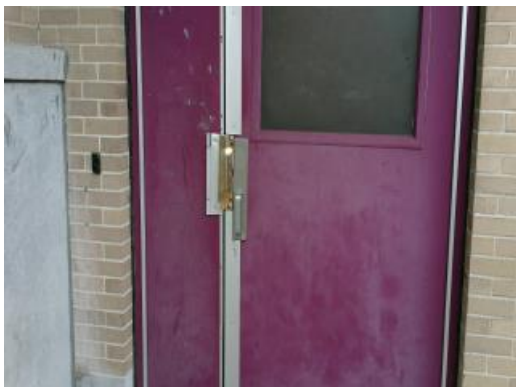
Cracked Exterior Brick



Cracked Exterior Brick



Cracked Exterior Brick



Worn Exterior Door



Damaged Storefront Door



Facility Condition Assessment

East Providence - East Providence High School



Original Basement Windows



Broken Basement Windows



Damaged Window



Broken Window



Hole in Ceiling



Aged Door And Hardware



Facility Condition Assessment

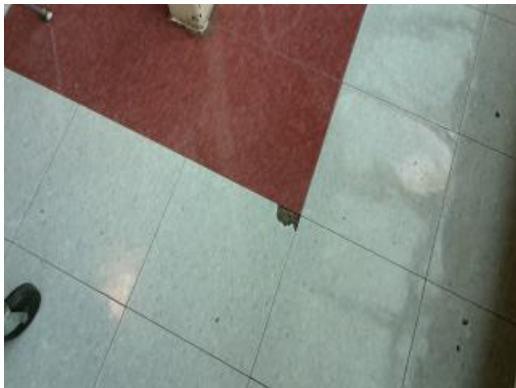
East Providence - East Providence High School



Stained And Worn Carpet



Chipped VCT



Chipped VCT



Cracked Ceramic Floor



Aged And Stained Restroom Lavatories



Drinking Fountain



Facility Condition Assessment

East Providence - East Providence High School



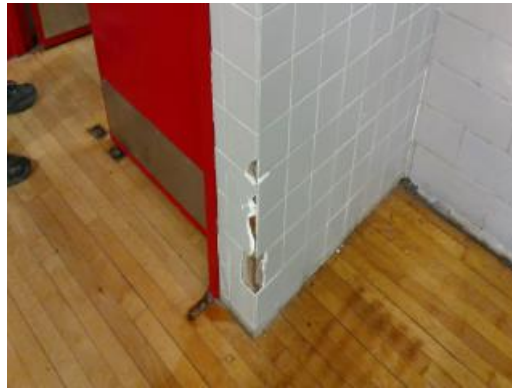
Peeling Ceiling Paint



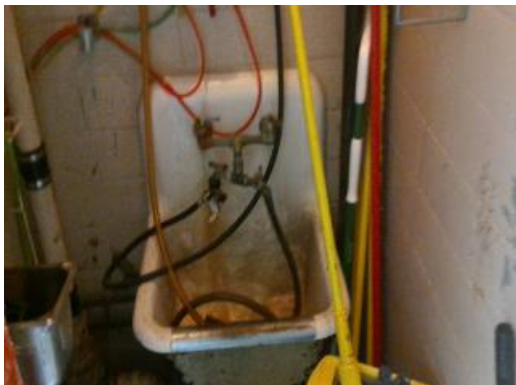
Stained Ceiling



Damaged Toilet Partitions



Chipped Tile Wall



Corroded Service Sink



Ponding On Roof



Facility Condition Assessment

East Providence - East Providence High School



Front Entry Drainage



Repointing Needed



Cracked Terrazzo



Make Up Air Unit



Urinals



Refrigerated Water Fountain



Facility Condition Assessment

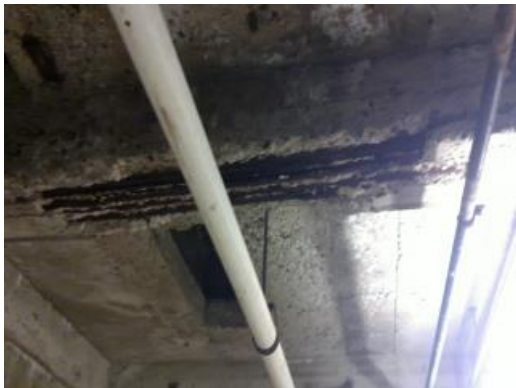
East Providence - East Providence High School



Damaged Concrete Deck



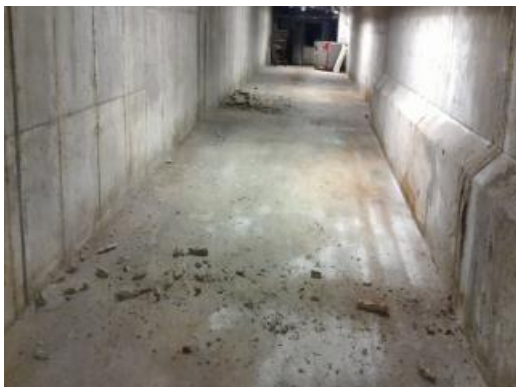
Moving Walls



Rusted Rebar Exposed



Shifting Walls



Debris On Floor Falling From Deck



Piping



Facility Condition Assessment

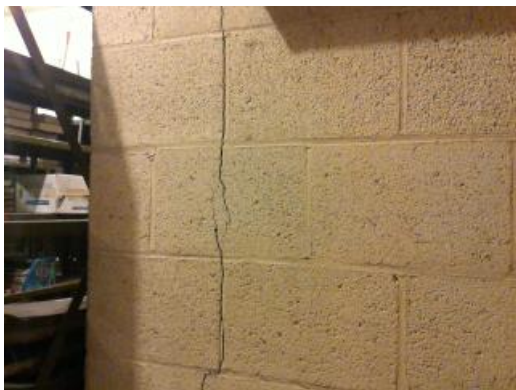
East Providence - East Providence High School



Aged Window Unit



Aged Sump Pump



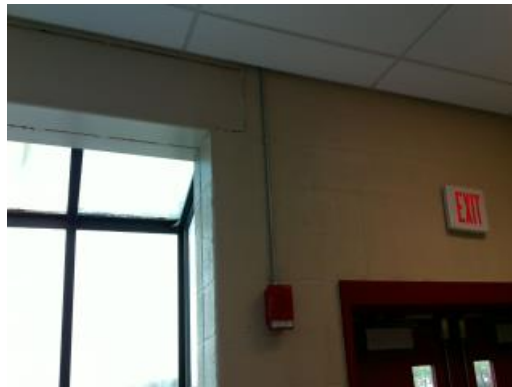
Cracked CMU



Cracked CMU



Cracked CMU



Cracked CMU



Facility Condition Assessment

East Providence - East Providence High School



Cracked CMU



Air Compressor



Aged Panelboard



Aged Unit Heater



Kitchen Hood



Steam Radiator



Facility Condition Assessment

East Providence - East Providence High School



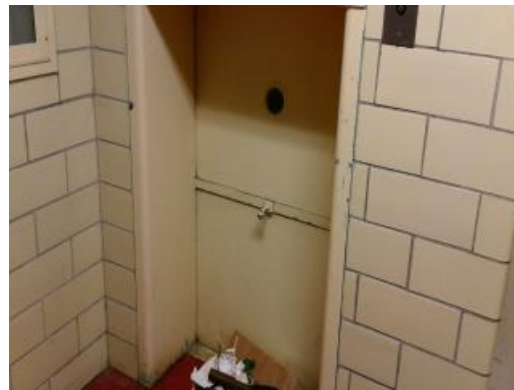
Rusted Finned Tube Radiator



Switchgear



Ductless Split System



Dumbwaiter



Aged And Rusted Lockers



Typical Aged Cabinetry



Facility Condition Assessment

East Providence - East Providence High School



Broken Acoustic Wall Panel



Wall Covering



Failing Grid System



Exhaust Fans



Aged Unit Vent



Cracked Tile Wall



Facility Condition Assessment

East Providence - East Providence High School



Cracked Tile Wall



Cracked Tile Wall



Rusted Steel Lintel



Rusted Steel Lintel



Damaged Countertop



Delaminating Window Ledge



Facility Condition Assessment

East Providence - East Providence High School



Delaminating Countertop



Pumps



Leaking Glass Block Wall



Failing Belt At AHU



Failing AHU Insulation



Aged Water Heater



Facility Condition Assessment

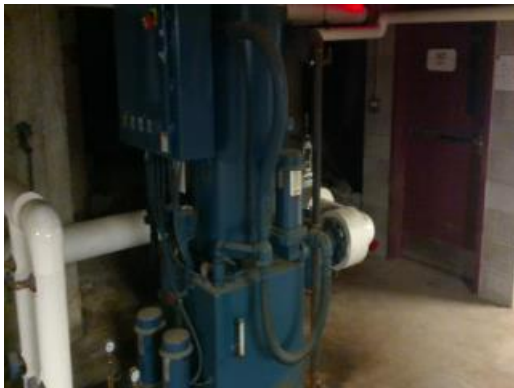
East Providence - East Providence High School



Typical Theater Seats



Heat Exchanger



Steam Condensate Receiver



Main Entrance



Facility Condition Assessment

East Providence - Edward R. Martin Middle School

June 2017

111 Brown Street, East Providence, RI 02914





Introduction

Edward R. Martin Middle School, located at 111 Brown Street in East Providence, Rhode Island, was built in 1977. It comprises 166,671 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.

Edward R. Martin Middle School serves grades 6 - 8, has 72 instructional spaces, and has an enrollment of 712. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Edward R. Martin Middle School is 1,200 with a resulting utilization of 59%.

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 Edward R. Martin Middle School the 5-year need is \$35,518,531. 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 Edward R. Martin Middle 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 Edward R. Martin Middle School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian 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
	Pre-cast Concrete Panel Exterior Wall
	Painted Gypsum Soffit
	Aluminum Exterior Windows
	Steel Exterior Windows
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors

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

01 - Main Building:	Modified Bitumen Roofing
----------------------------	--------------------------

Interior

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

01 - Main Building:	Interior Demountable Partitions
	Steel Interior Doors
	Interior Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Metal Panel Ceilings
	Ceramic Tile Wall
	Brick/Stone Veneer
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Quarry Tile Flooring



01 - Main Building:	Wood Flooring
	Vinyl Composition Tile Flooring
	Rubber Tile Flooring
	Carpet

Mechanical

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

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

Plumbing

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

01 - Main Building:	2" Backflow Preventers
	Gas Piping System
	80 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals
	Sump Pump

Electrical

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

01 - Main Building:	1200 kW Emergency Generator
	Automatic Transfer Switch



Facility Condition Assessment

East Providence - Edward R. Martin Middle School

01 - Main Building:	1,600 Amp Switchgear
	225 KVA Transformer
	30 KVA Transformer
	45 KVA Transformer
	75 KVA Transformer
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 120/208 400A
	Panelboard - 277/480 225A
	Panelboard - 277/480 400A
	Panelboard - 400+ Amps
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting Fixtures
	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.



Facility Condition Assessment

East Providence - Edward R. Martin Middle School

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

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	-	-	\$388,349	\$1,382,880	\$413,780	\$2,185,009	6.39 %
Roofing	-	\$4,009,500	\$53,326	-	-	\$4,062,826	11.89 %
Structural	-	-	-	\$1,323	-	\$1,323	0.00 %
Exterior	-	\$1,165,898	-	-	-	\$1,165,898	3.41 %
Interior	-	-	\$2,994,372	\$7,265,028	\$5,166,501	\$15,425,901	45.13 %
Mechanical	-	\$4,178,966	-	\$307,954	-	\$4,486,920	13.13 %
Electrical	-	\$1,549,826	\$125,397	\$52,324	\$139,700	\$1,867,247	5.46 %
Plumbing	-	-	\$473,121	\$395,906	\$7,063	\$876,090	2.56 %
Fire and Life Safety	-	-	-	-	-	\$0	0.00 %
Technology	-	-	\$1,286,298	-	-	\$1,286,298	3.76 %
Conveyances	-	-	\$300,713	-	-	\$300,713	0.88 %
Specialties	-	-	\$1,083,761	\$1,441,556	-	\$2,525,316	7.39 %
Total	\$0	\$10,904,191	\$6,705,337	\$10,846,970	\$5,727,044	\$34,183,542	

*Displayed totals may not sum exactly due to mathematical rounding

The building systems with the most need include:

Interior	-	\$15,425,901
Mechanical	-	\$4,486,920
Roofing	-	\$4,062,826

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

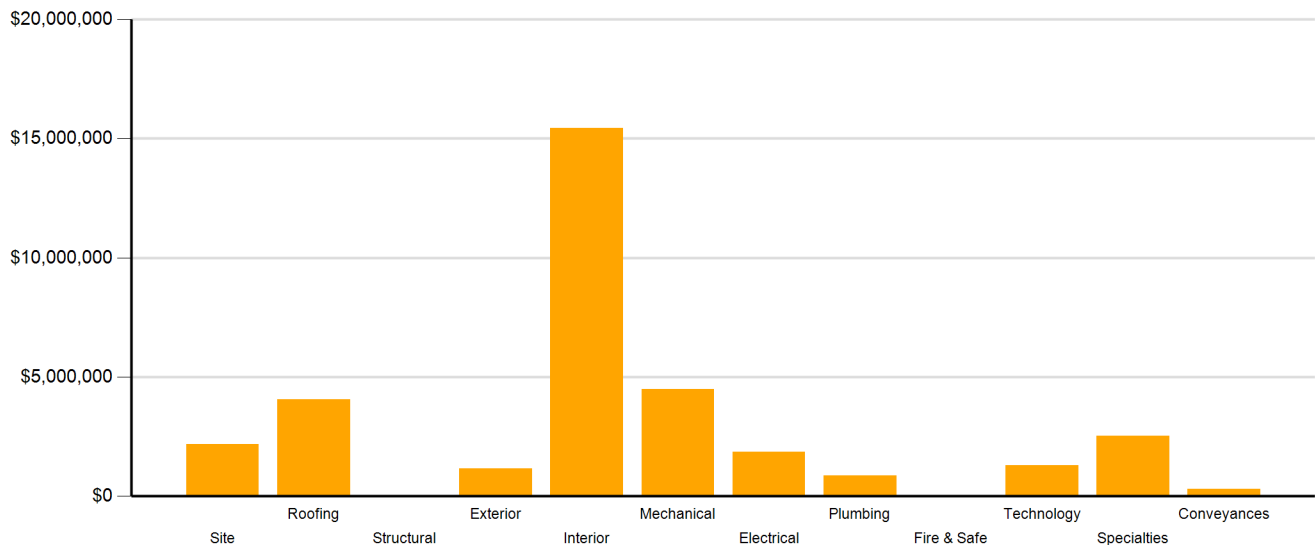


Figure 2: System Deficiencies



Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

- **Acoustics** deficiencies relate to room acoustics, sound insulation, 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

Category	Priority					Total
	1	2	3	4	5	
Acoustics	-	-	\$491,444	\$306,226	-	\$797,670
Barrier to Accessibility	-	-	-	-	-	\$0
Capital Renewal	-	\$10,904,191	\$4,760,907	\$7,829,455	\$5,041,425	\$28,535,978
Code Compliance	-	-	-	-	-	\$0
Educational Adequacy	-	-	\$41,291	\$2,191,770	\$685,619	\$2,918,680
Functional Deficiency	-	-	\$125,397	\$120,285	-	\$245,682
Hazardous Material	-	-	-	\$399,234	-	\$399,234
Technology	-	-	\$1,286,298	-	-	\$1,286,298
Traffic	-	-	-	-	-	\$0
Total	\$0	\$10,904,191	\$6,705,337	\$10,846,970	\$5,727,044	\$34,183,542

*Displayed totals may not sum exactly due to mathematical rounding

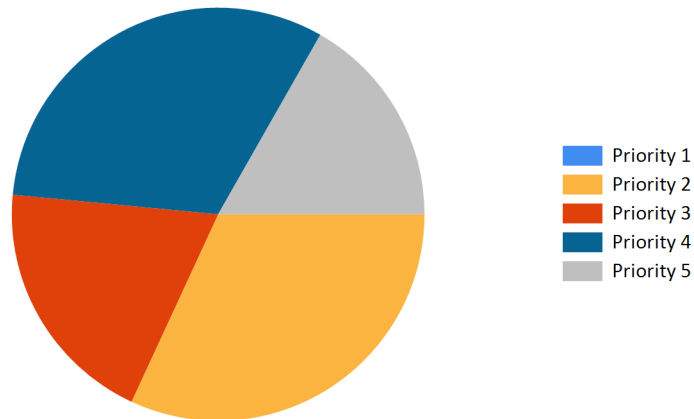


Figure 3: Current deficiencies by priority



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

System	Current Deficiencies	Life Cycle Capital Renewal Projections					LC Yr. 1-5 Total	Total 5-Year Need
		Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021		
Site	\$2,185,009	\$0	\$0	\$0	\$343,840	\$0	\$343,840	\$2,528,850
Roofing	\$4,062,826	\$0	\$0	\$0	\$0	\$0	\$0	\$4,062,826
Structural	\$1,323	\$0	\$0	\$0	\$0	\$0	\$0	\$1,323
Exterior	\$1,165,898	\$0	\$0	\$4,378	\$0	\$0	\$4,378	\$1,170,277
Interior	\$15,425,901	\$0	\$189,493	\$42,340	\$152,666	\$0	\$384,499	\$15,810,400
Mechanical	\$4,486,920	\$0	\$0	\$0	\$30,171	\$0	\$30,171	\$4,517,091
Electrical	\$1,867,247	\$0	\$0	\$0	\$0	\$0	\$0	\$1,867,247
Plumbing	\$876,090	\$0	\$0	\$67,206	\$0	\$10,431	\$77,637	\$953,727
Fire and Life Safety	\$0	\$0	\$0	\$494,464	\$0	\$0	\$494,464	\$494,464
Technology	\$1,286,298	\$0	\$0	\$0	\$0	\$0	\$0	\$1,286,298
Conveyances	\$300,713	\$0	\$0	\$0	\$0	\$0	\$0	\$300,713
Specialties	\$2,525,316	\$0	\$0	\$0	\$0	\$0	\$0	\$2,525,316
Total	\$34,183,542	\$0	\$189,493	\$608,388	\$526,677	\$10,431	\$1,334,989	\$35,518,531

*Displayed totals may not sum exactly due to mathematical rounding

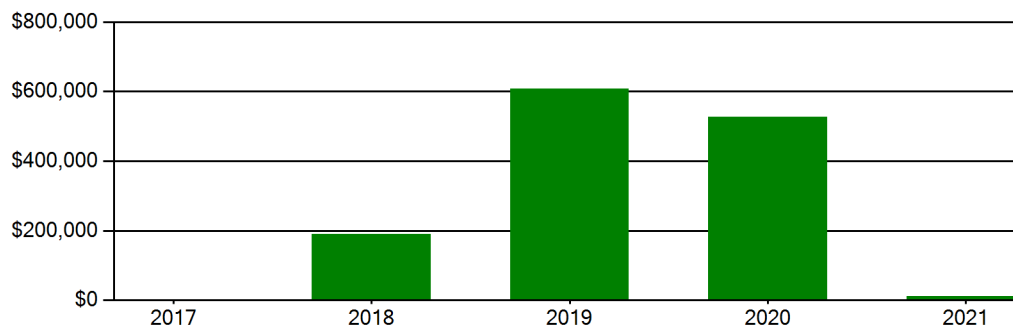
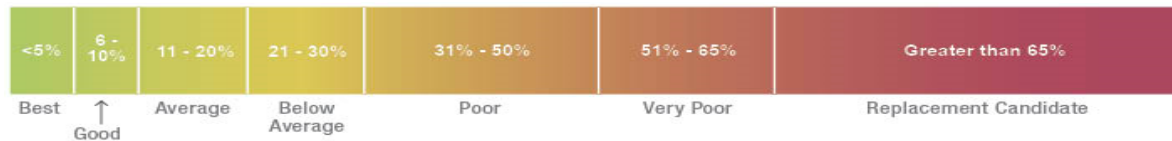


Figure 4: Life Cycle Capital Renewal Forecast



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 \$55,001,432. For planning purposes, the total 5-year need at the Edward R. Martin Middle School is \$35,518,531 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Edward R. Martin Middle School facility has a 5-year FCI of 64.58%.

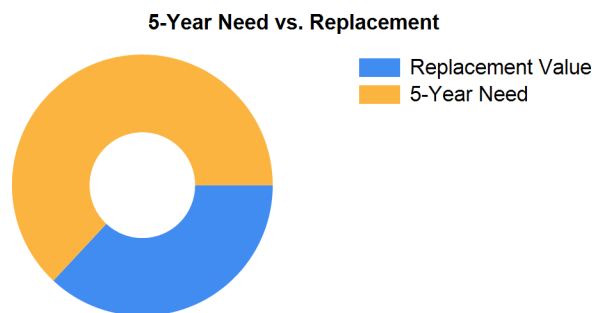


Figure 5: 5-Year FCI

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 916 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 Edward R. Martin Middle School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$0.



Summary of Findings

The Edward R. Martin Middle School comprises 166,671 square feet and was constructed in 1977. Current deficiencies at this school total \$34,183,542. Five year capital renewal costs total \$1,334,989. The total identified need for the Edward R. Martin Middle School (current deficiencies and 5-year capital renewal costs) is \$35,518,531. The 5-year FCI is 64.58%.

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
Edward R. Martin Middle School Totals	166,671	1977	\$34,183,542	\$1,334,989	\$35,518,531	64.58%

**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.

LEA Feedback

As part of the assessment process, LEAs were given several opportunities to provide feedback on the data. Jacobs performed a thorough review of the comments provided relating to the Facilities Condition Assessment. Based on information provided, some adjustments were made to improve or refine the dataset. In other situations, enough information was not provided, item was out of scope, or evidence provided by assessment team did not align with the feedback and no adjustment was made. Finally, deficiency priorities, costs, and educational space/technology standards are consistent throughout the state.



Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Asphalt Walks Require Replacement	Capital Renewal	12,000	SF	3	\$129,741	11743
Concrete Walks Require Replacement	Capital Renewal	10,000	SF	3	\$258,608	11744
Asphalt Paving Requires Replacement	Capital Renewal	150	CAR	4	\$627,906	11741
Asphalt Paving Requires Replacement	Capital Renewal	143	CAR	4	\$598,603	11742
Backstops Require Replacement	Capital Renewal	1	Ea.	4	\$36,086	11747
Note: Chain link backstop is aged and beginning to fail.						
Site Requires Regrading And Gravel Fill	Functional Deficiency	5,000	SF	4	\$120,285	11746
Note: The site at the NW corner of the building and part of the north side parking lot retains water and is in need of regrading.						
School lacks a competition track.	Educational Adequacy	1	Ea.	5	\$413,780	28240
Note: School lacks a competition track.						
Sub Total for System		7	items		\$2,185,009	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed	Functional Deficiency	5	Ea.	3	\$125,397	11745
Note: There are currently no pole lights. Add two to the parking lot to the front entrance and three to the back parking lot.						
Sub Total for System		1	items		\$125,397	
Sub Total for School and Site Level		8	items		\$2,310,406	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Modified Roof Covering Requires Replacement	Capital Renewal	100,000	SF	2	\$4,009,500	11754
Note: The roof is reported to be an ongoing source of leaks.						
Roof Access Ladder Requires Replacement	Capital Renewal	14	LF	3	\$53,326	11775
Note: The main mechanical room roof ladder stops too far short of the roof hatch and is in need of replacement with one that has a retractable safety extension bar.						
Sub Total for System		2	items		\$4,062,826	

Structural

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Steel Beam Requires Repainting	Capital Renewal	110	SF	4	\$1,323	11774
Note: Painted steel lintels at the main entry and east side entry soffits are corroded and need repainting.						
Sub Total for System		1	items		\$1,323	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement	Capital Renewal	3,162	SF	2	\$564,173	11752
Note: The 275 aluminum windows are deteriorated and leaking.						
The Metal Exterior Door Requires Replacement	Capital Renewal	14	Door	2	\$94,724	11750
Note: Steel doors are aged and weathered.						
Location: East side exits, visitor locker room exits, and courtyard doors						
The Overhead Door Requires Replacement	Capital Renewal	2	Door	2	\$77,584	11751
Note: The 20x14 steel overhead doors are damaged and worn.						
The Steel Window Requires Replacement	Capital Renewal	1,904	SF	2	\$429,417	11753
Note: The 114 steel windows are deteriorated and leaking.						
Sub Total for System		4	items		\$1,165,898	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	56	Ea.	3	\$491,444	19839
Note: All classrooms in main building						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	78,450	SF	3	\$747,045	11755
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	8,330	SF	3	\$235,851	11760
Note: The ceramic tile flooring at the toilet rooms and locker rooms is deteriorated and in need of replacement.						



Facility Condition Assessment

East Providence - Edward R. Martin Middle School

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Vinyl Composition Tile Requires Replacement Note: VCT flooring is stained, chipped, and separating at the seams.	Capital Renewal	40,000	SF	3	\$483,813	11757
The Vinyl Composition Tile Requires Replacement Note: VCT flooring is worn and in need of replacement.	Capital Renewal	85,671	SF	3	\$1,036,219	11758
Caulking - significant areas of broken pieces &/or deteriorating caulk	Hazardous Material	400	LF	4	\$8,019	Rollup
Ceiling Grid Requires Replacement	Capital Renewal	78,450	SF	4	\$981,034	11795
Demountable Partition Note: The metal partition walls at many of the east side classrooms are damaged and worn and in need of replacement.	Capital Renewal	30,000	SF	4	\$793,881	11801
Interior Ceramic Walls Require Repair Or Replacement	Capital Renewal	33,334	SF	4	\$781,868	11799
Interior Toilet Partition Requires Replacement Note: The metal partitions in the toilet rooms and locker rooms are damaged and worn and in need of replacement.	Capital Renewal	138	Ea.	4	\$636,308	11770
Metal Interior Doors Require Replacement Note: The steel doors are worn with obsolete hardware that is lacking locks.	Capital Renewal	261	Door	4	\$1,178,336	11793
Paint (probable pre-1978 in base (layers(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - each)	Hazardous Material	572	Ea.	4	\$172,008	Rollup
Paint (probable pre-1978 in base layer(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - linear feet)	Hazardous Material	7,869	LF	4	\$189,305	Rollup
Paint (probable pre-1978 in base layer(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - square feet)	Hazardous Material	1,000	SF	4	\$10,024	Rollup
Paint (probable pre-1978 in base layer(s)) - damaged area < 9 sq. ft. AND NOT in children-accessible area (measurement unit - linear feet)	Hazardous Material	123	LF	4	\$2,959	Rollup
Paint (probable pre-1978 in base layer(s)) -large areas (> 10 sq. ft.)of peeling/damage & area in active use-adults only (measurement unit - square feet)	Hazardous Material	1,580	SF	4	\$15,838	Rollup
Paint (probable pre-1978 in base layer(s)) -large areas(> 10 sq. ft.)of peeling/damage & area in active use-adults only (measurement unit - linear feet)	Hazardous Material	30	LF	4	\$722	Rollup
Room Is Excessively Reverberant Note: Gym	Acoustics	13,000	SF	4	\$306,226	19842
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	57,119	SF	4	\$2,188,141	Rollup
Wall/ceiling materials - area < 9 sq. ft. AND in children-accessible area	Hazardous Material	12	SF	4	\$120	Rollup
Wall/ceiling materials -large areas (> 10 sq. ft.) of damage & area in active use-adults only	Hazardous Material	24	SF	4	\$241	Rollup
Classroom Door Requires Vision Panel	Educational Adequacy	53	Ea.	5	\$121,578	Rollup
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	\$3,498	Rollup
The Gypsum Board Ceilings Require Repainting	Capital Renewal	6,700	SF	5	\$29,550	Rollup
The Metal Ceiling Tiles Require Replacement Note: The metal ceiling panels are deteriorated and rusting.	Capital Renewal	50,000	SF	5	\$5,011,875	11800
Sub Total for System		25	items		\$15,425,901	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Ductwork Requires Replacement (SF Basis)	Capital Renewal	166,671	SF	2	\$2,583,448	11789
Electric Unit Heater Requires Replacement	Capital Renewal	8	Ea.	2	\$10,657	11787
Replace Unit Vent Note: Unit vents are aged and corroded with casing deteriorating.	Capital Renewal	4	Ea.	2	\$71,337	11798
The Fin Tube Water Radiant Heater Requires Replacement Note: Finned tube radiators are aged and should be replaced.	Capital Renewal	90	Ea.	2	\$158,957	11788
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life Note: HVAC piping is aged and corroded.	Capital Renewal	166,671	SF	2	\$1,354,567	11790
Small HVAC Circulating Pump Requires Replacement Note: Pumps are old and very noisy.	Capital Renewal	11	Ea.	4	\$88,474	11802
The Exhaust Hood Requires Replacement	Capital Renewal	40	Ea.	4	\$219,480	11796
Sub Total for System		7	items		\$4,486,920	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	\$86,565	11776
The Electrical Transformer Requires Replacement	Capital Renewal	3	Ea.	2	\$22,241	11778
The Electrical Transformer Requires Replacement	Capital Renewal	1	Ea.	2	\$8,476	11779



Facility Condition Assessment

East Providence - Edward R. Martin Middle School

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Electrical Transformer Requires Replacement	Capital Renewal	1	Ea.	2	\$11,092	11780
The Electrical Transformer Requires Replacement	Capital Renewal	1	Ea.	2	\$22,353	11797
The Lighting Fixtures Require Replacement	Capital Renewal	166,671	SF	2	\$1,044,168	11791
Note: Light fixtures are aged and do not illuminate the space clearly.						
The Panelboard Requires Replacement	Capital Renewal	7	Ea.	2	\$35,785	11782
The Panelboard Requires Replacement	Capital Renewal	9	Ea.	2	\$55,030	11783
The Panelboard Requires Replacement	Capital Renewal	4	Ea.	2	\$75,018	11784
The Panelboard Requires Replacement	Capital Renewal	12	Ea.	2	\$151,319	11785
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	\$24,548	11786
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	\$13,231	11804
Note: 300 amp panelboards.						
The Canopy Lighting Requires Replacement	Capital Renewal	36	Ea.	4	\$52,324	11761
Room Has Insufficient Electrical Outlets	Educational Adequacy	280	Ea.	5	\$139,700	Rollup
Sub Total for System		14	items		\$1,741,850	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Showers Plumbing Fixtures Require Replacement	Capital Renewal	59	Ea.	3	\$473,121	11767
Note: Shower fixtures are old and functioning poorly.						
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	8	Ea.	4	\$86,204	11768
Note: Drinking fountains are aged. Some are corroded and others are cracked and broken.						
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	19	Ea.	4	\$54,469	11749
Note: Classroom lavatories are aged, with many rusted and corroded.						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	10	Ea.	4	\$27,164	11771
Note: Service sinks are aged, stained, and corroded.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	68	Ea.	4	\$228,068	11765
Note: Aged low flow fixtures should be replaced.						
Room lacks a drinking fountain.	Educational Adequacy	5	Ea.	5	\$5,544	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	1	Ea.	5	\$1,520	Rollup
Sub Total for System		7	items		\$876,090	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	384	Ea.	3	\$192,456	18711
Technology: Gymnasium sound system is nonexistent, inadequate, or near end of useful life.	Technology	1	Ea.	3	\$9,623	18713
Technology: Instructional spaces do not have local sound reinforcement.	Technology	61	Ea.	3	\$305,724	18718
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	4	Ea.	3	\$22,453	18708
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	\$47,713	18706
Technology: Intermediate Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	\$39,694	18703
Technology: Intermediate Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	\$39,694	18704
Technology: Intermediate Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	\$39,694	18705
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	2	Ea.	3	\$10,024	18707
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$7,017	18701



Facility Condition Assessment

East Providence - Edward R. Martin Middle School

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Main Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	\$22,854	18700
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	265	Ea.	3	\$119,533	18710
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	144	Ea.	3	\$64,954	18715
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	\$24,057	18716
Technology: Network system inadequate and/or near end of useful life	Technology	40	Ea.	3	\$200,475	18717
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	\$8,019	18702
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	4	Ea.	3	\$20,048	18709
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	70	Ea.	3	\$112,266	18714
Sub Total for System		18	items		\$1,286,298	

Conveyances

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Elevator Cab Requires Replacement Note: The elevator is old and not operational.	Capital Renewal	1	Ea.	3	\$300,713	11763
Sub Total for System		1	items		\$300,713	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Auditorium Seating Requires Replacement	Capital Renewal	800	Ea.	3	\$1,042,470	11803
Room has insufficient writing area.	Educational Adequacy	9	Ea.	3	\$41,291	Rollup
Bleachers Require Replacement Location: Main gym	Capital Renewal	400	Seat	4	\$260,618	11748
Replace Cabinetry In Classes/Labs Note: The fixed cabinets are worn and deteriorated. 550 LF base, 300 LF upper, 100 LF wardrobe.	Capital Renewal	40	Room	4	\$471,838	11794
The Metal Student Lockers Require Replacement Note: Lockers are damaged and rusted in hallways and locker rooms.	Capital Renewal	1,360	Ea.	4	\$705,472	11792
Work Tables Are Required	Educational Adequacy	1	Ea.	4	\$3,629	Rollup
Sub Total for System		6	items		\$2,525,316	
Sub Total for Building 01 - Main Building		85	items		\$31,873,135	
Total for Campus		93	items		\$34,183,542	



Edward R. Martin Middle School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Playfield Areas	MS Athletic Components	1	Ea.	\$343,840	4
Note: North ball field					
		Sub Total for System		1 items	\$343,840
		Sub Total for Building -		1 items	\$343,840

Building: 01 - Main Building

Exterior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Exterior Wall Veneer	Soffits, Painted Gypsum in SF	1,300	SF	\$4,378	3
		Sub Total for System		1 items	\$4,378

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	28,334	SF	\$189,493	2
Suspended Plaster and	Painted ceilings	10,000	SF	\$42,340	3
Note: Main gym ceiling					
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles	16,700	SF	\$152,666	4
		Sub Total for System		3 items	\$384,499

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
HVAC Air Distribution	Roof Top Unit - DX Gas (10 Ton)	1	Ea.	\$30,171	4
		Sub Total for System		1 items	\$30,171

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Refrigerated Drinking Fountain	9	Ea.	\$67,206	3
Plumbing Fixtures	Mop/Service Sinks	4	Ea.	\$10,431	5
Note: Kitchen sinks					
		Sub Total for System		2 items	\$77,637

Fire and Life Safety

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Fire Detection and Alarm	Fire Alarm	166,671	SF	\$494,464	3
		Sub Total for System		1 items	\$494,464
		Sub Total for Building 01 - Main Building		8 items	\$991,150
		Total for: Edward R. Martin Middle School		9 items	\$1,334,990



Supporting Photos



Auditorium



Damaged Fencing



Cracked Parking Lot Pavement



Weathered Roadway Asphalt



Facility Condition Assessment

East Providence - Edward R. Martin Middle School



Alligatoring Asphalt Walkway



Baseball Backstop



Site Aerial



Elevation



Marquee



Main Entrance



Facility Condition Assessment

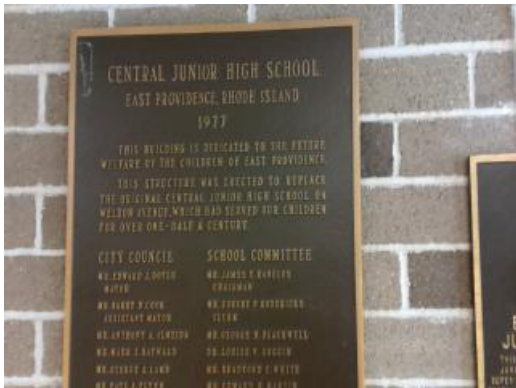
East Providence - Edward R. Martin Middle School



Basketball Courts



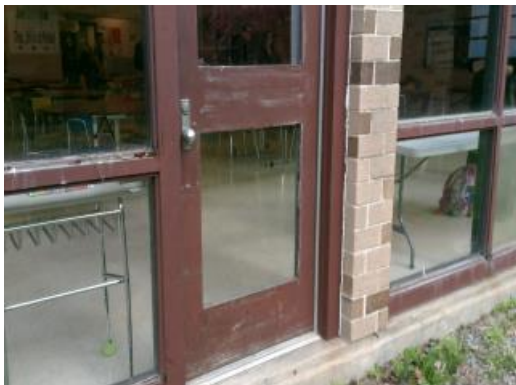
Worn Wood Bleachers



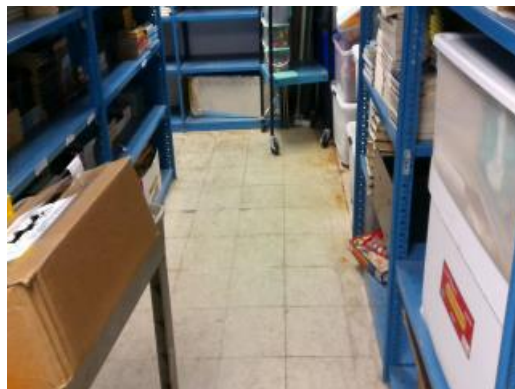
Plaque



Aged Overhead Door



Weathered Steel Door



Stained And Separated VCT

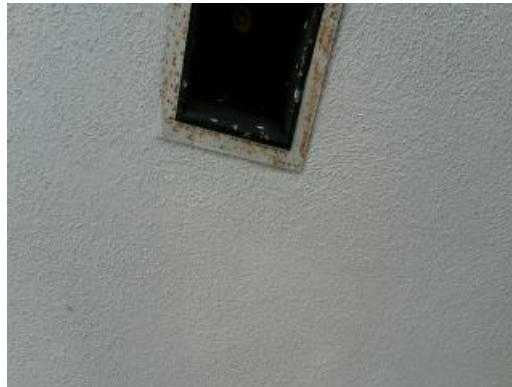


Facility Condition Assessment

East Providence - Edward R. Martin Middle School



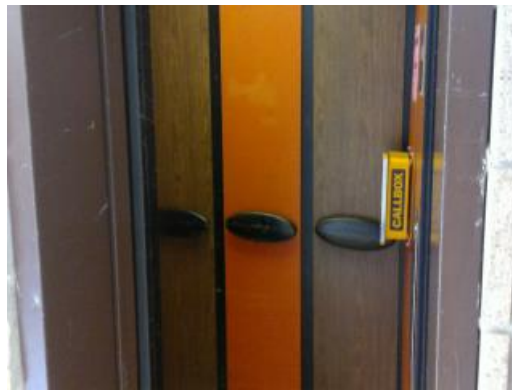
Leaking Steel Windows



Canopy Lights



Worn Stage Floor



Aged Elevator



Aged Building Mounted Lights



Showers



Facility Condition Assessment

East Providence - Edward R. Martin Middle School



Restroom Lavatories



Damaged Toilet Partition



Damaged Drinking Fountain



Corroded Soffit Lintel



Aged Custodial Sink



Switchgear



Facility Condition Assessment

East Providence - Edward R. Martin Middle School



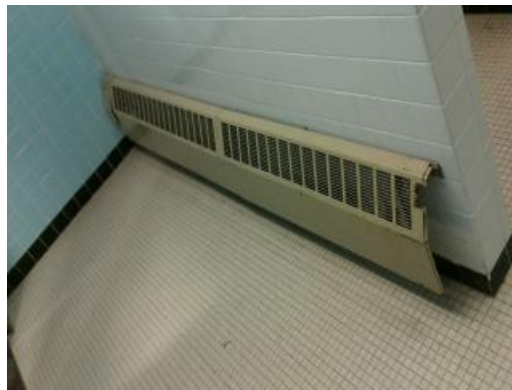
Roof Ladder



600 Amp Panel



Aged Air Handling Unit



Aged Finned Tube Radiator



Aged Unit Heater



Damaged And Rusted Lockers



Facility Condition Assessment

East Providence - Edward R. Martin Middle School



Lighting Fixtures



Exhaust Fan



Typical Aged Cabinetry



Metal Ceiling Panel



Cabinet Unit Ventilator



Locker Room Finishes



Facility Condition Assessment

East Providence - Edward R. Martin Middle School



Pumps



Cafeteria



Main Gym



Auxiliary Gym



Chorus Classroom



Courtyard



Facility Condition Assessment

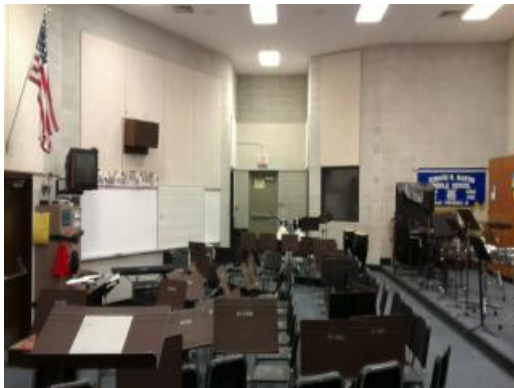
East Providence - Edward R. Martin Middle School



Hallway Finishes



Art Classroom



Music Classroom



Library



Typical Classroom



Facility Condition Assessment

East Providence - Emma G. Whiteknact School

June 2017

261 Grosvenor Avenue, East Providence, RI 02914





Introduction

Emma G. Whiteknact School, located at 261 Grosvenor Avenue in East Providence, Rhode Island, was built in 1958. It comprises 38,071 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.

Emma G. Whiteknact School serves grades KG - 5, has 23 instructional spaces, and has an enrollment of 290. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Emma G. Whiteknact School is 364 with a resulting utilization of 80%.

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 Emma G. Whiteknact School the 5-year need is \$6,052,129. 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 Emma G. Whiteknact 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 Emma G. Whiteknact School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	Metal Panel Exterior Wall
	Steel Exterior Windows
	Storefront Entrance Doors
	Steel Exterior Entrance Doors

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

01 - Main Building:	EPDM Roofing
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Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Ceramic Tile Wall
	Wood Wall Paneling
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring
	Terrazzo Flooring
	Carpet
	Athletic/Sport Flooring



Mechanical

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

01 - Main Building:	4,488 MBH Cast Iron Water Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	Pneumatic Heating System Controls
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	10,000 CFM Interior AHU
	Ductwork
	Roof Exhaust Fan

Plumbing

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

01 - Main Building:	Gas Piping System
	80 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals

Electrical

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

01 - Main Building:	600 Amp Distribution Panel
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 120/208 400A
	Light Fixtures
	Building Mounted Lighting 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.



Facility Condition Assessment

East Providence - Emma G. Whiteknact School

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

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	-	-	\$121,665	\$474,174	\$7,398	\$603,237	12.36 %
Roofing	-	-	\$457,287	-	-	\$457,287	9.37 %
Structural	-	-	-	-	-	\$0	0.00 %
Exterior	-	\$61,749	\$110,261	-	\$17,542	\$189,552	3.88 %
Interior	-	-	\$429,665	\$227,112	-	\$656,777	13.45 %
Mechanical	-	\$1,305,242	-	\$271,137	-	\$1,576,379	32.29 %
Electrical	-	\$297,288	\$110,873	-	\$44,203	\$452,364	9.27 %
Plumbing	-	-	-	\$175,478	\$15,612	\$191,089	3.91 %
Fire and Life Safety	\$117,652	-	-	-	-	\$117,652	2.41 %
Technology	-	-	\$528,199	-	-	\$528,199	10.82 %
Conveyances	-	-	-	-	-	\$0	0.00 %
Specialties	-	-	\$13,857	\$95,490	-	\$109,347	2.24 %
Total	\$117,652	\$1,664,279	\$1,771,808	\$1,243,391	\$84,754	\$4,881,883	

*Displayed totals may not sum exactly due to mathematical rounding

The building systems with the most need include:

Mechanical	-	\$1,576,379
Interior	-	\$656,777
Site	-	\$603,237

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

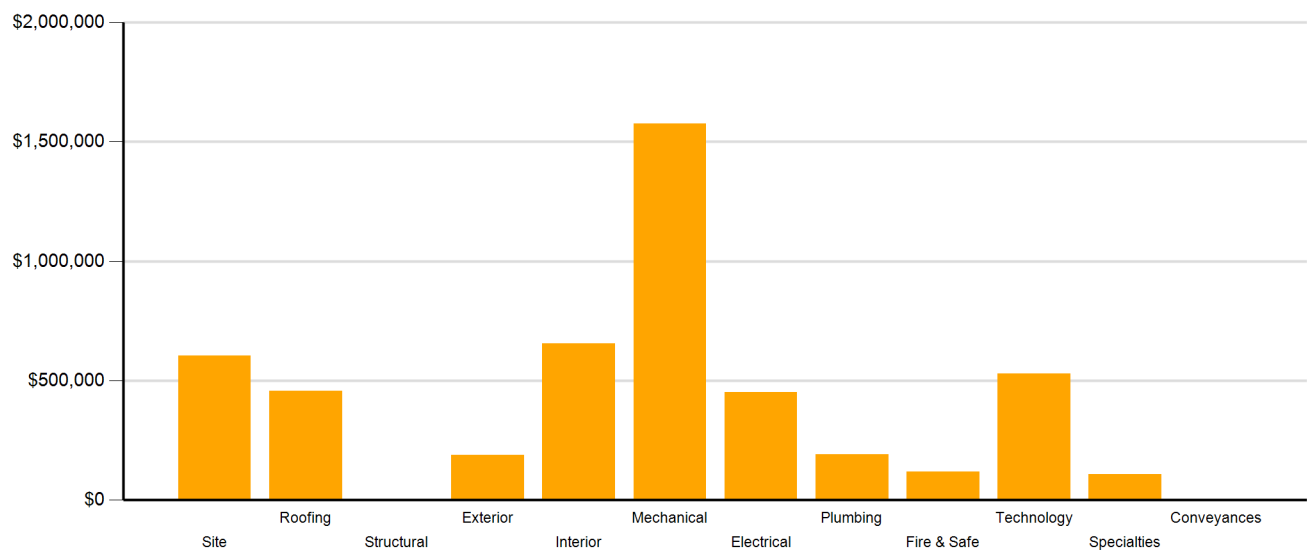


Figure 2: System Deficiencies



Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

- **Acoustics** deficiencies relate to room acoustics, sound insulation, 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

Category	Priority					Total
	1	2	3	4	5	
Acoustics	-	-	-	\$129,557	-	\$129,557
Barrier to Accessibility	-	-	\$88,841	-	-	\$88,841
Capital Renewal	-	\$1,664,279	\$831,368	\$914,264	-	\$3,409,910
Code Compliance	\$117,652	-	-	-	-	\$117,652
Educational Adequacy	-	-	\$25,404	\$39,094	\$67,212	\$131,710
Functional Deficiency	-	-	\$309,543	\$155,713	\$17,542	\$482,798
Hazardous Material	-	-	-	\$4,763	-	\$4,763
Technology	-	-	\$516,652	-	-	\$516,652
Traffic	-	-	-	-	-	\$0
Total	\$117,652	\$1,664,279	\$1,771,808	\$1,243,391	\$84,754	\$4,881,883

*Displayed totals may not sum exactly due to mathematical rounding

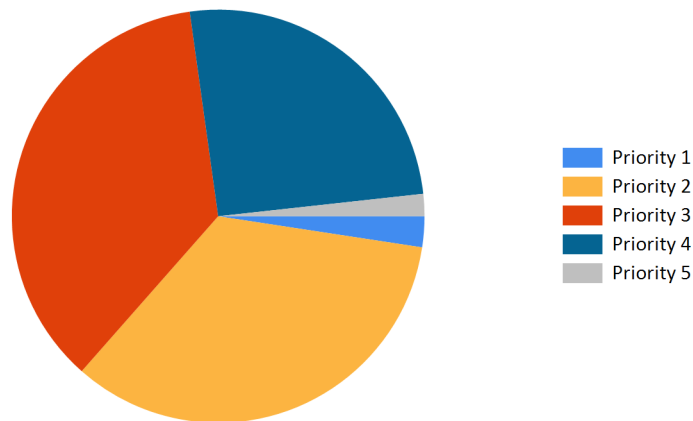


Figure 3: Current deficiencies by priority



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

System	Current Deficiencies	Life Cycle Capital Renewal Projections					LC Yr. 1-5 Total	Total 5-Year Need
		Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021		
Site	\$603,237	\$0	\$0	\$0	\$0	\$0	\$0	\$603,237
Roofing	\$457,287	\$0	\$0	\$0	\$0	\$0	\$0	\$457,288
Structural	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Exterior	\$189,552	\$0	\$0	\$0	\$0	\$0	\$0	\$189,552
Interior	\$656,777	\$0	\$0	\$133,672	\$0	\$372,872	\$506,544	\$1,163,321
Mechanical	\$1,576,379	\$0	\$0	\$0	\$297,034	\$0	\$297,034	\$1,873,413
Electrical	\$452,364	\$0	\$0	\$0	\$0	\$0	\$0	\$452,364
Plumbing	\$191,089	\$0	\$0	\$310,047	\$0	\$0	\$310,047	\$501,136
Fire and Life Safety	\$117,652	\$0	\$0	\$0	\$0	\$0	\$0	\$117,652
Technology	\$528,199	\$0	\$0	\$0	\$0	\$0	\$0	\$528,199
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specialties	\$109,347	\$0	\$0	\$0	\$0	\$56,621	\$56,621	\$165,968
Total	\$4,881,883	\$0	\$0	\$443,719	\$297,034	\$429,493	\$1,170,246	\$6,052,129

*Displayed totals may not sum exactly due to mathematical rounding

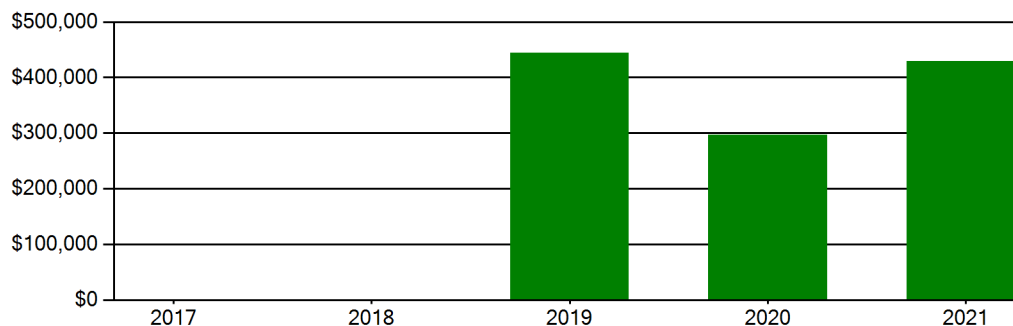
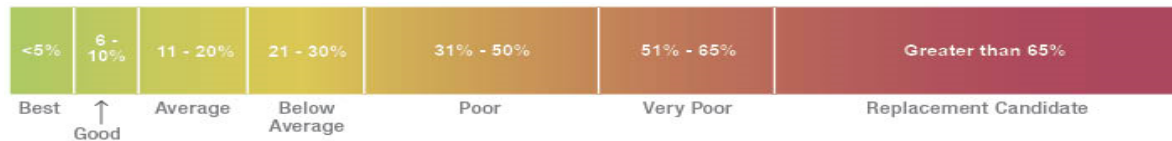


Figure 4: Life Cycle Capital Renewal Forecast



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 \$13,324,850. For planning purposes, the total 5-year need at the Emma G. Whiteknact School is \$6,052,129 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Emma G. Whiteknact School facility has a 5-year FCI of 45.42%.

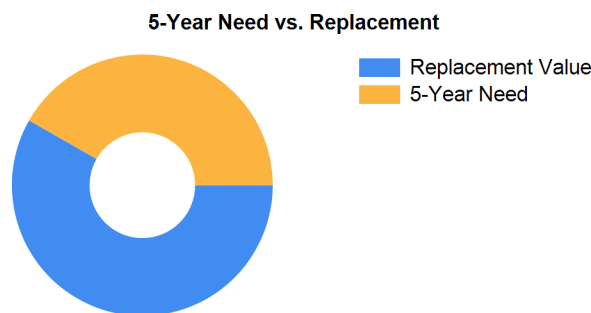


Figure 5: 5-Year FCI

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 212 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 Emma G. Whiteknact School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$159,138.



Summary of Findings

The Emma G. Whiteknact School comprises 38,071 square feet and was constructed in 1958. Current deficiencies at this school total \$4,881,883. Five year capital renewal costs total \$1,170,246. The total identified need for the Emma G. Whiteknact School (current deficiencies and 5-year capital renewal costs) is \$6,052,129. The 5-year FCI is 45.42%.

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
Emma G. Whiteknact School Totals	38,071	1958	\$4,881,883	\$1,170,246	\$6,052,129	45.42%

**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.

LEA Feedback

As part of the assessment process, LEAs were given several opportunities to provide feedback on the data. Jacobs performed a thorough review of the comments provided relating to the Facilities Condition Assessment. Based on information provided, some adjustments were made to improve or refine the dataset. In other situations, enough information was not provided, item was out of scope, or evidence provided by assessment team did not align with the feedback and no adjustment was made. Finally, deficiency priorities, costs, and educational space/technology standards are consistent throughout the state.



Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Asphalt Walks Require Replacement	Capital Renewal	3,036	SF	3	\$32,825	9885
Install New Playground Equipment	Barrier to Accessibility	1	SF	3	\$88,841	54890
Note: Install New Playground Equipment						
Asphalt Paving Requires Replacement	Capital Renewal	25	CAR	4	\$104,651	9883
Asphalt Paving Requires Replacement	Capital Renewal	65	CAR	4	\$272,092	9884
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	\$36,086	28467
Note: Backstops Require Replacement						
Fencing Requires Replacement (4' Chain Link Fence)	Functional Deficiency	750	LF	4	\$61,345	9882
Note: Fence is rusting and weathered.						
Exterior Basketball Goals are Required	Educational Adequacy	1	Ea.	5	\$7,398	28735
Note: Exterior Basketball Goals are Required						
Sub Total for System		7	items		\$603,237	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed	Functional Deficiency	3	Ea.	3	\$75,238	9887
Note: Add poles around the school to provide more illumination.						
Sub Total for System		1	items		\$75,238	
Sub Total for School and Site Level		8	items		\$678,475	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Tapered Insulation Is Required To Eliminate Ponding When Re-Roofing	Capital Renewal	38,017	SF	3	\$457,287	9903
Sub Total for System		1	items		\$457,287	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Glass Pane In The Exterior Window Requires Replacement	Capital Renewal	120	SF	2	\$11,069	9898
The Metal Panel Exterior Requires Replacement (Bldg SF)	Capital Renewal	316	SF	2	\$50,680	9921
The Brick Exterior Requires Repointing	Capital Renewal	2,500	SF Wall	3	\$110,261	9905
Location: North side of building						
The Exterior Soffit Requires Repainting	Functional Deficiency	5,000	SF	5	\$17,542	9889
Note: Soffit is weathered and stained and should be repainted.						
Sub Total for System		4	items		\$189,552	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	38	Door	3	\$184,738	9892
The Acoustical Ceiling Tiles Require Replacement	Functional Deficiency	2,500	SF	3	\$23,806	9891
The Athletic Sport Flooring Requires Replacement	Functional Deficiency	5,500	SF	3	\$198,470	9904
Note: Gym/cafeteria floor is torn and buckled.						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	800	SF	3	\$22,651	9893
Interior Ceramic Walls Require Repair Or Replacement	Capital Renewal	2,000	SF Wall	4	\$56,133	9900
Location: Corridors						
Interior Wood Walls Require Replacement	Capital Renewal	580	SF	4	\$5,581	9926
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	12	Ea.	4	\$3,609	Rollup
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	48	LF	4	\$1,155	Rollup
Room Is Excessively Reverberant	Acoustics	5,500	SF	4	\$129,557	19765
Note: Gym						



Facility Condition Assessment

East Providence - Emma G. Whiteknact School

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	78	SF	4	\$3,008	Rollup
The Terrazzo Flooring Requires Repair	Capital Renewal	500	SF	4	\$28,069	9906
Sub Total for System		11	items		\$656,777	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Ductwork Requires Replacement (SF Basis)	Capital Renewal	38,071	SF	2	\$590,111	9916
Replace Unit Vent	Capital Renewal	23	Ea.	2	\$410,188	9925
The Air Handler HVAC Component Requires Replacement	Capital Renewal	2	Ea.	2	\$251,957	9911
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	30	Ea.	2	\$52,986	9915
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	38,071	SF	4	\$271,137	9920
Sub Total for System		5	items		\$1,576,379	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Distribution Panel Requires Replacement	Capital Renewal	1	Ea.	2	\$30,713	9917
The Lighting Fixtures Require Replacement	Capital Renewal	38,071	SF	2	\$238,509	9918
The Panelboard Requires Replacement	Capital Renewal	3	Ea.	2	\$15,336	9912
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	\$6,114	9913
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	\$6,616	9914
The Electrical Receptacles Are Inadequate And More are Needed	Functional Deficiency	20	Ea.	3	\$12,029	9901
Note: Each classroom needs an additional receptacle.						
The Mounted Building Lighting Requires Replacement	Capital Renewal	15	Ea.	3	\$23,606	9886
Room Has Insufficient Electrical Outlets	Educational Adequacy	88	Ea.	5	\$44,203	Rollup
Sub Total for System		8	items		\$377,126	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	1	Ea.	4	\$10,776	9896
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	29	Ea.	4	\$83,137	9888
Note: Classroom lavatories are aged and stained.						
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	1	Ea.	4	\$7,778	9910
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	22	Ea.	4	\$73,787	9894
Room lacks a drinking fountain.	Educational Adequacy	8	Ea.	5	\$8,930	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	6	Ea.	5	\$6,682	Rollup
Sub Total for System		6	items		\$191,089	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Fire Alarm Is Missing Or Inadequate (NFPA 72 and NFPA 101, Section 9.6)	Code Compliance	38,071	SF	1	\$117,652	9907
Sub Total for System		1	items		\$117,652	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	2	Ea.	3	\$11,547	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	48	Ea.	3	\$24,057	18632
Technology: Instructional spaces do not have local sound reinforcement.	Technology	19	Ea.	3	\$95,226	18640
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$7,017	18629
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	\$44,906	18627
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$9,523	18628



Facility Condition Assessment

East Providence - Emma G. Whiteknact School

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	40	Ea.	3	\$18,043	18631
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	96	Ea.	3	\$43,303	18636
Technology: Network system inadequate and/or near end of useful life	Technology	1	Ea.	3	\$8,019	18638
Technology: Network system inadequate and/or near end of useful life	Technology	25	Ea.	3	\$125,297	18639
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	38,071	SF	3	\$68,691	18637
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	\$20,048	18633
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	\$8,019	18630
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	23	Ea.	3	\$36,887	18634
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	\$7,618	18635
Sub Total for System		15	items		\$528,199	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	3	Ea.	3	\$13,857	Rollup
Countertops Require Replacement Location: Restrooms	Capital Renewal	2	Ea.	4	\$1,123	9927
Replace Cabinetry In Classes/Labs Location: 1958 wing	Functional Deficiency	8	Room	4	\$94,368	9922
Sub Total for System		3	items		\$109,347	
Sub Total for Building 01 - Main Building		54	items		\$4,203,408	
Total for Campus		62	items		\$4,881,883	



Emma G. Whiteknact School - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Interior Swinging Doors	Steel	3	Door	\$13,002	3
Interior Door Supplementary Components	Door Hardware	38	Door	\$120,670	3
Carpeting	Carpet	1,716	SF	\$37,788	5
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles	12,378	SF	\$113,155	5
Acoustical Suspended Ceilings	Ceiling Exposed Metal Structure	744	SF	\$8,591	5
Resilient Flooring	Vinyl Composition Tile Flooring	18,373	SF	\$213,338	5
Sub Total for System		6	items	\$506,546	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	2-Pipe Water System (Hot)	38,071	SF	\$297,034	4
Sub Total for System		1	items	\$297,034	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Piping	Domestic Water Piping System (Bldg,SF)	38,071	SF	\$310,047	3
Sub Total for System		1	items	\$310,047	

Specialties

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Casework	Fixed Cabinetry	5	Room	\$56,621	5
Sub Total for System		1	items	\$56,621	
Sub Total for Building 01 - Main Building		9	items	\$1,170,247	
Total for: Emma G. Whiteknact School		9	items	\$1,170,247	



Supporting Photos



Damaged Toilet Partition



Typical Fence



Cracked Asphalt Parking



Deteriorated Roadway Asphalt



Facility Condition Assessment

East Providence - Emma G. Whiteknact School



Damaged Asphalt Paving



Building Mounted Light



Site Aerial



Library



Art Room



Roof



Facility Condition Assessment

East Providence - Emma G. Whiteknact School



School Signage



Typical Classroom



Gym/Cafeteria



Restroom Fixtures And Finishse



Corridor Finishes



Marquee



Facility Condition Assessment

East Providence - Emma G. Whiteknact School



Exterior Finishes



Stained Soffit



Stained Classroom Sink



Stained Ceiling Tile



Damaged Storefront Doors



Typical Restroom Lavatories



Facility Condition Assessment

East Providence - Emma G. Whiteknact School



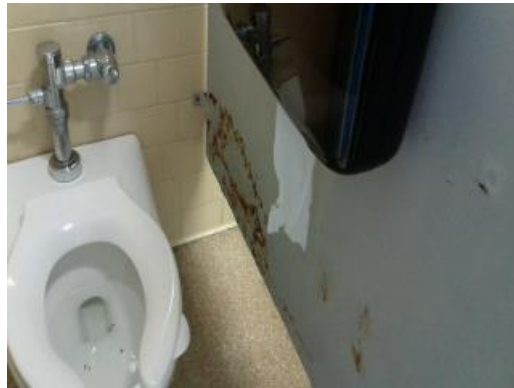
Worn Interior Door



Damaged Window Pane



Separated VCT



Rusted Toilet Partition



Non-Refrigerated Drinking Fountain



Chipped And Missing Ceramic Tiles



Facility Condition Assessment

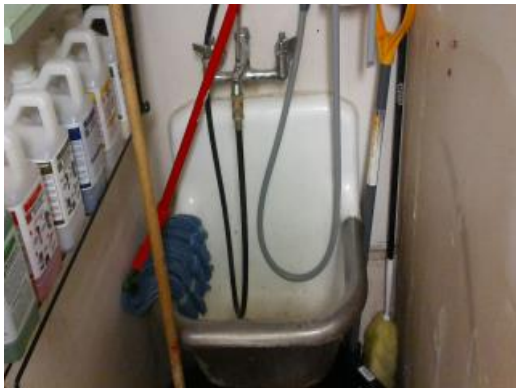
East Providence - Emma G. Whiteknact School



Cracked Ceramic Tile Wall



Roof Ponding



Service Sink



Chipped Mortar



Bubbled Sport Flooring



Urinals



Facility Condition Assessment

East Providence - Emma G. Whiteknact School



Cracked And Worn Terazzo



Air Handling Unit



Refrigerated Water Cooler



Aged Radiator



Aged Panelboards



Damaged Metal Panels



Facility Condition Assessment

East Providence - Emma G. Whiteknact School



Aged Rusted Ductwork



Chipped Wall Paint



Typical Casework



Countertop Delaminating



Aged Heating Unit



Facility Condition Assessment

East Providence - Emma G. Whiteknact School



Front Elevation



Facility Condition Assessment

East Providence - James R. D. Oldham School

June 2017

60 Bart Drive, East Providence, RI 02915





Introduction

James R. D. Oldham School, located at 60 Bart Drive in East Providence, Rhode Island, was built in 1964. It comprises 30,000 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.

James R. D. Oldham School serves grades KG - 5, has 12 instructional spaces, and has an enrollment of 174. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for James R. D. Oldham School is 416 with a resulting utilization of 42%.

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 James R. D. Oldham School the 5-year need is \$4,001,078. 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.

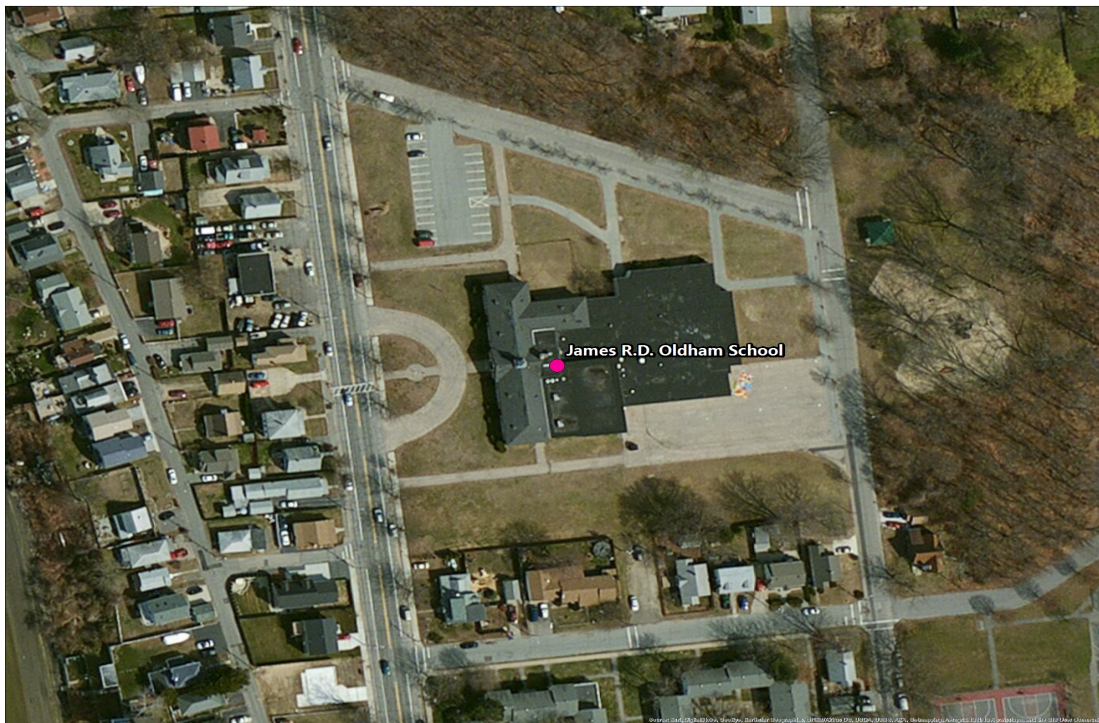


Figure 1: Aerial view of James R. D. Oldham School



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 James R. D. Oldham School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement

Building Envelope

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

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

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

01 - Main Building:	EPDM Roofing
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Interior

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

01 - Main Building:	Wood Interior Doors
	Interior Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Non-Painted Plaster/Gypsum Board Ceiling
	Painted Ceilings
	Ceramic Tile Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring
	Carpet

Mechanical

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

01 - Main Building:	3,264 MBH Cast Iron Water Boiler
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Facility Condition Assessment

East Providence - James R. D. Oldham School

01 - Main Building:	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	DDC Heating System Controls
	Pneumatic Heating System Controls
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	5 HP Pump

Plumbing

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

01 - Main Building:	Gas Piping System
	52 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals

Electrical

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

01 - Main Building:	400 Amp Distribution Panel
	Panelboard - 120/208 100A
	Electrical Disconnect
	Light Fixtures
	Building Mounted Lighting 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.



Facility Condition Assessment

East Providence - James R. D. Oldham School

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

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	-	-	\$14,596	\$257,946	\$7,398	\$279,939	8.33 %
Roofing	-	-	\$5,012	-	-	\$5,012	0.15 %
Structural	-	-	-	-	-	\$0	0.00 %
Exterior	-	\$469,160	-	\$235	-	\$469,395	13.97 %
Interior	-	-	\$409,888	\$766,406	\$139,330	\$1,315,624	39.15 %
Mechanical	-	\$289,813	-	\$72,066	-	\$361,879	10.77 %
Electrical	-	\$190,320	\$102,593	-	\$22,102	\$315,014	9.37 %
Plumbing	-	-	\$12,630	\$88,682	\$7,642	\$108,954	3.24 %
Fire and Life Safety	-	-	-	-	-	\$0	0.00 %
Technology	-	-	\$495,388	-	-	\$495,388	14.74 %
Conveyances	-	-	-	-	-	\$0	0.00 %
Specialties	-	-	\$9,238	-	-	\$9,238	0.27 %
Total	\$0	\$949,292	\$1,049,344	\$1,185,335	\$176,471	\$3,360,442	

*Displayed totals may not sum exactly due to mathematical rounding

The building systems with the most need include:

Interior	-	\$1,315,624
Technology	-	\$495,388
Exterior	-	\$469,395

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

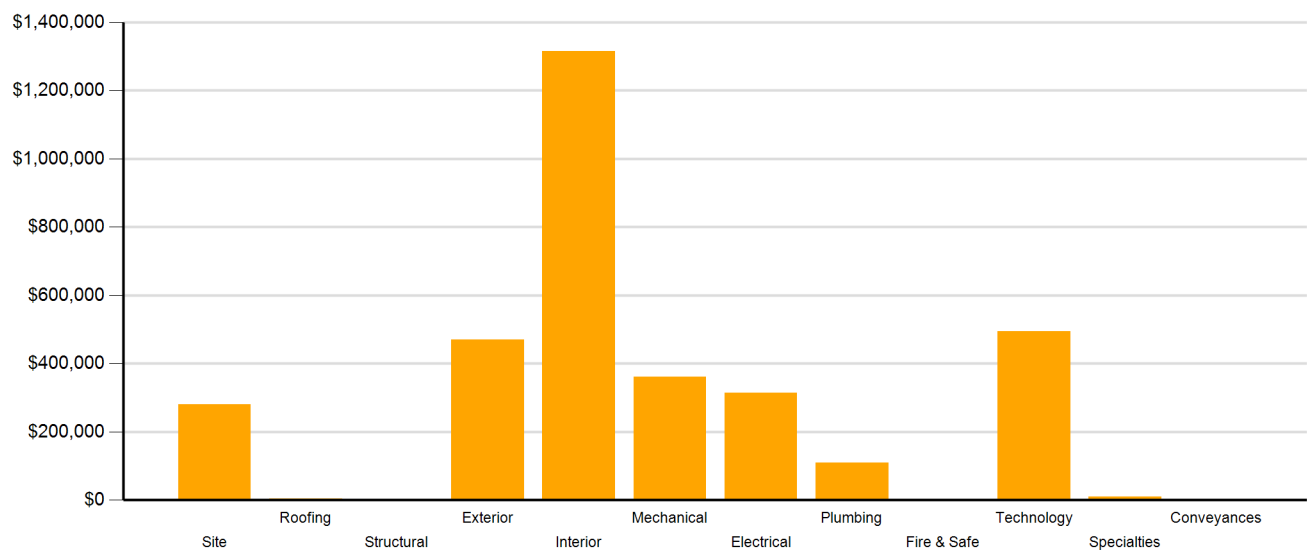


Figure 2: System Deficiencies



Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

- **Acoustics** deficiencies relate to room acoustics, sound insulation, 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

Category	Priority					Total
	1	2	3	4	5	
Acoustics	-	-	-	\$36,086	-	\$36,086
Barrier to Accessibility	-	-	\$18,845	-	-	\$18,845
Capital Renewal	-	\$949,292	\$450,034	\$701,037	\$139,330	\$2,239,694
Code Compliance	-	-	-	-	-	\$0
Educational Adequacy	-	-	\$9,238	\$36,086	\$37,141	\$82,464
Functional Deficiency	-	-	\$75,840	-	-	\$75,840
Hazardous Material	-	-	-	\$412,126	-	\$412,126
Technology	-	-	\$495,388	-	-	\$495,388
Traffic	-	-	-	-	-	\$0
Total	\$0	\$949,292	\$1,049,344	\$1,185,335	\$176,471	\$3,360,442

*Displayed totals may not sum exactly due to mathematical rounding

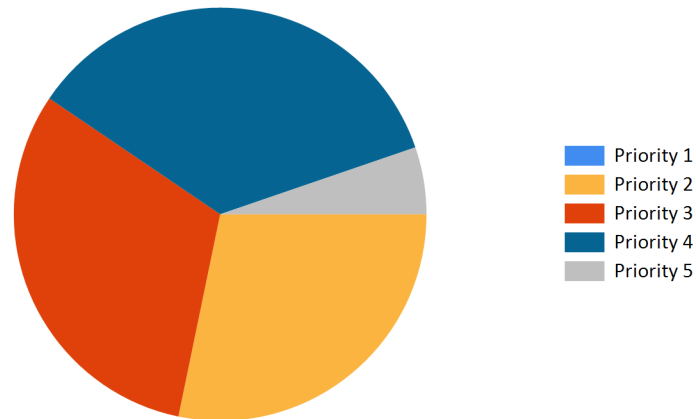


Figure 3: Current deficiencies by priority



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

System	Current Deficiencies	Life Cycle Capital Renewal Projections					LC Yr. 1-5 Total	Total 5-Year Need
		Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021		
Site	\$279,939	\$0	\$0	\$0	\$0	\$0	\$0	\$279,939
Roofing	\$5,012	\$0	\$0	\$0	\$0	\$0	\$0	\$5,012
Structural	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Exterior	\$469,395	\$0	\$0	\$0	\$0	\$0	\$0	\$469,395
Interior	\$1,315,624	\$0	\$0	\$0	\$0	\$35,939	\$35,939	\$1,351,563
Mechanical	\$361,879	\$0	\$0	\$0	\$0	\$355,230	\$355,230	\$717,109
Electrical	\$315,014	\$0	\$0	\$0	\$0	\$1,855	\$1,855	\$316,869
Plumbing	\$108,954	\$0	\$0	\$0	\$0	\$247,612	\$247,612	\$356,566
Fire and Life Safety	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Technology	\$495,388	\$0	\$0	\$0	\$0	\$0	\$0	\$495,388
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specialties	\$9,238	\$0	\$0	\$0	\$0	\$0	\$0	\$9,238
Total	\$3,360,442	\$0	\$0	\$0	\$0	\$640,636	\$640,636	\$4,001,078

*Displayed totals may not sum exactly due to mathematical rounding

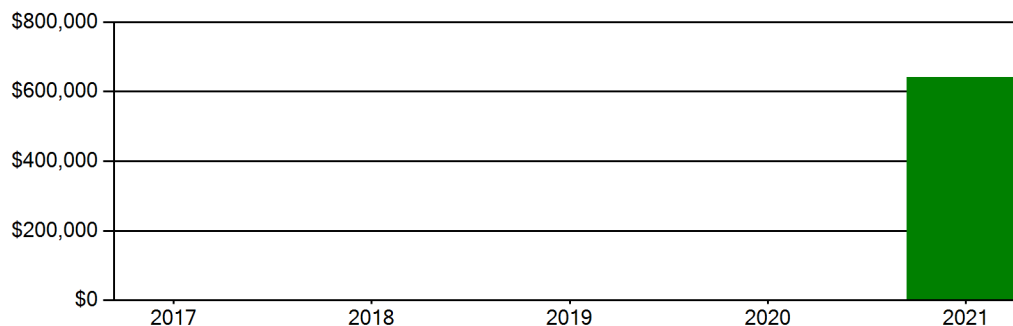
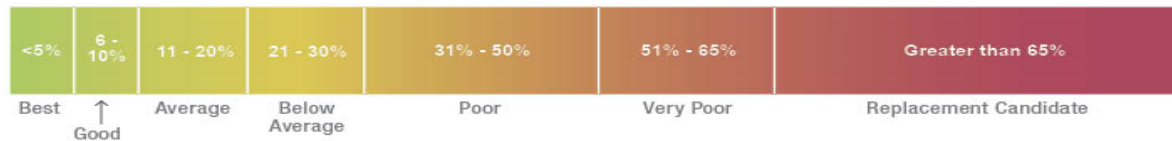


Figure 4: Life Cycle Capital Renewal Forecast



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 \$10,500,000. For planning purposes, the total 5-year need at the James R. D. Oldham School is \$4,001,078 (Life Cycle Years 1-5 plus the FCI deficiency cost). The James R. D. Oldham School facility has a 5-year FCI of 38.11%.

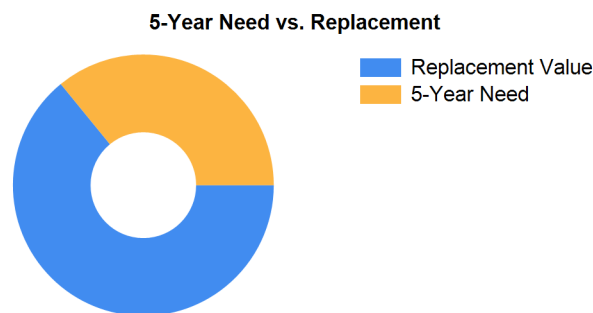


Figure 5: 5-Year FCI

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 167 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 James R. D. Oldham School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$234,360.



Summary of Findings

The James R. D. Oldham School comprises 30,000 square feet and was constructed in 1964. Current deficiencies at this school total \$3,360,442. Five year capital renewal costs total \$640,636. The total identified need for the James R. D. Oldham School (current deficiencies and 5-year capital renewal costs) is \$4,001,078. The 5-year FCI is 38.11%.

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
James R. D. Oldham School Totals	30,000	1964	\$3,360,442	\$640,636	\$4,001,078	38.11%

**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.

LEA Feedback

As part of the assessment process, LEAs were given several opportunities to provide feedback on the data. Jacobs performed a thorough review of the comments provided relating to the Facilities Condition Assessment. Based on information provided, some adjustments were made to improve or refine the dataset. In other situations, enough information was not provided, item was out of scope, or evidence provided by assessment team did not align with the feedback and no adjustment was made. Finally, deficiency priorities, costs, and educational space/technology standards are consistent throughout the state.



Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Asphalt Walks Require Replacement Note: Sidewalks are damaged and pose a trip hazard.	Capital Renewal	1,350	SF	3	\$14,596	9183
Asphalt Paving Requires Replacement Note: Asphalt paving has large cracks, potholes, and alligating. Sealcoating required.	Capital Renewal	18	CAR	4	\$75,349	9181
Asphalt Paving Requires Replacement Note: Asphalt paving is damaged.	Capital Renewal	35	CAR	4	\$146,511	9182
Backstops Require Replacement Note: Backstops Require Replacement	Educational Adequacy	1	Ea.	4	\$36,086	28463
Exterior Basketball Goals are Required Note: Exterior Basketball Goals are Required	Educational Adequacy	1	Ea.	5	\$7,398	28732
Sub Total for System		5	items		\$279,939	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed Note: Need to install poles to provide adequate illumination.	Functional Deficiency	3	Ea.	3	\$75,238	9184
Sub Total for System		1	items		\$75,238	
Sub Total for School and Site Level		6	items		\$355,177	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Skylight Requires Repair Note: Skylights area covered with plexiglass to prevent heat loss and rain.	Capital Renewal	10	Ea.	3	\$5,012	9200
Sub Total for System		1	items		\$5,012	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement Note: Single pane. Non-insulated.	Capital Renewal	1,896	SF	2	\$338,290	9186
The Metal Panel Exterior Requires Replacement (Bldg SF) Note: Non-insulated.	Capital Renewal	320	SF	2	\$51,322	9211
The Metal Panel Exterior Requires Replacement (Bldg SF) Note: Non-insulated.	Capital Renewal	496	SF	2	\$79,548	9212
Exterior Door Requires Repair Note: Missing weather stripping at boiler room.	Capital Renewal	2	Ea.	4	\$235	9216
Sub Total for System		4	items		\$469,395	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior CMU Walls Require Repair Note: Cracks in CMU in boy's restroom.	Capital Renewal	450	SF	3	\$17,231	9204
The Acoustical Ceiling Tiles Require Replacement Note: Ceiling tiles are stained and broken.	Capital Renewal	25,000	SF	3	\$238,064	9187
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	808	SF	3	\$22,877	9189
The Existing Toilet Stall Does Not Meet Minimum ADA Requirements	Barrier to Accessibility	2	Ea.	3	\$6,215	9194
The Vinyl Composition Tile Requires Replacement Note: Damaged VCT.	Capital Renewal	10,376	SF	3	\$125,501	9188
Ceiling Grid Requires Replacement	Capital Renewal	25,000	SF	4	\$312,630	9214
Interior Ceramic Walls Require Repair Or Replacement Note: Cracks in ceramic tile in boys and girls restrooms.	Capital Renewal	100	SF Wall	4	\$2,807	9197



Facility Condition Assessment

East Providence - James R. D. Oldham School

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Toilet Partition Requires Repair Note: Rusted toilet partitions.	Capital Renewal	5	Ea.	4	\$2,757	9196
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	13,020	SF	4	\$391,528	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	57	Ea.	4	\$17,141	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	345	SF	4	\$3,458	Rollup
Room Is Excessively Reverberant (Install Fiberglass Wall Panel) Note: Gym	Acoustics	600	SF	4	\$36,086	19707
Interior Walls Require Repainting (Bldg SF)	Capital Renewal	20,000	SF	5	\$139,330	Rollup
	Sub Total for System	13	items		\$1,315,624	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	12	Ea.	2	\$214,011	9215
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	19	Ea.	2	\$33,558	9206
The Window AC Unit Component Requires Replacement	Capital Renewal	12	Ea.	2	\$42,244	9203
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls Note: .	Capital Renewal	10,119	SF	4	\$72,066	9210
	Sub Total for System	4	items		\$361,879	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Distribution Panel Requires Replacement	Capital Renewal	1	Ea.	2	\$27,064	9207
The Lighting Fixtures Require Replacement	Capital Renewal	23,611	SF	2	\$147,919	9208
The Panelboard Requires Replacement	Capital Renewal	3	Ea.	2	\$15,336	9205
The Electrical Receptacles Are Inadequate And More are Needed Note: Inadequate amount of receptacles for each classroom.	Functional Deficiency	1	Ea.	3	\$601	9198
The Mounted Building Lighting Requires Replacement	Capital Renewal	17	Ea.	3	\$26,753	9190
Room Has Insufficient Electrical Outlets	Educational Adequacy	44	Ea.	5	\$22,102	Rollup
	Sub Total for System	6	items		\$239,776	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Existing Lavatory/Sink Faucet Is not ADA Compliant Note: Faucets are not ADA compliant.	Barrier to Accessibility	7	Ea.	3	\$12,630	9195
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	15	Ea.	4	\$43,002	9185
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	2	Ea.	4	\$5,433	9199
The Restroom Lavatories Plumbing Fixtures Require Replacement Note: Faucets are leaking and hard to close.	Capital Renewal	12	Ea.	4	\$40,247	9191
Room lacks a drinking fountain.	Educational Adequacy	5	Ea.	5	\$5,581	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	2	Ea.	5	\$2,061	Rollup
	Sub Total for System	6	items		\$108,954	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	48	Ea.	3	\$24,057	18554
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	1	Ea.	3	\$21,050	18562
Technology: Instructional spaces do not have local sound reinforcement.	Technology	11	Ea.	3	\$55,131	18561
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$7,017	18550
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	\$52,925	18549



Facility Condition Assessment

East Providence - James R. D. Oldham School

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$9,523	18551
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	36	Ea.	3	\$16,238	18553
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	48	Ea.	3	\$21,651	18558
Technology: Network system inadequate and/or near end of useful life	Technology	1	Ea.	3	\$8,019	18559
Technology: Network system inadequate and/or near end of useful life	Technology	25	Ea.	3	\$125,297	18560
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	33,730	SF	3	\$60,858	18563
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	\$57,135	18555
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	\$8,019	18552
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	13	Ea.	3	\$20,849	18556
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	\$7,618	18557
Sub Total for System		15	items		\$495,388	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	2	Ea.	3	\$9,238	Rollup
Sub Total for System		1	items		\$9,238	
Sub Total for Building 01 - Main Building		50	items		\$3,005,265	
Total for Campus		56	items		\$3,360,442	



James R. D. Oldham School - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Carpeting	Carpet	1,632	SF	\$35,939	5
Sub Total for System		1	items	\$35,939	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Heating System Supplementary Components	Controls - DDC (Bldg,SF)	19,881	SF	\$121,167	5
Facility Hydronic Distribution	2-Pipe Water System (Hot)	30,000	SF	\$234,063	5
Sub Total for System		2	items	\$355,230	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wiring Devices	Electrical Disconnect	1	Ea.	\$1,855	5
Note: 400A disconnect					
Sub Total for System		1	items	\$1,855	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Equipment	Water Heater - Electric - 52 gallon	1	Ea.	\$3,295	5
Note: 50 gallon					
Domestic Water Piping	Domestic Water Piping System (Bldg,SF)	30,000	SF	\$244,317	5
Sub Total for System		2	items	\$247,612	
Sub Total for Building 01 - Main Building		6	items	\$640,636	
Total for: James R. D. Oldham School		6	items	\$640,636	



Supporting Photos



Classroom Sink



Damaged Fence



Damaged Fence



Rusted Fence



Facility Condition Assessment

East Providence - James R. D. Oldham School



Cracks And Alligating



Pothole



Cracking Asphalt



Damaged Sidewalk



Cracking At Sidewalk



Roof Hatch 20 Feet



Facility Condition Assessment

East Providence - James R. D. Oldham School



Site Aerial



Playground



Entry



Kitchen



Classroom



Library



Facility Condition Assessment

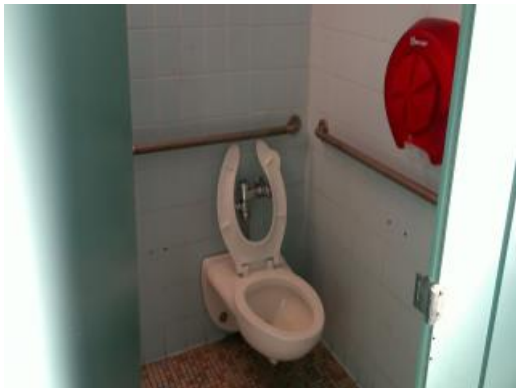
East Providence - James R. D. Oldham School



Corridor



Urinals And Toilet



Toilet



Marquee



Gym/Cafeteria



Front Elevation



Facility Condition Assessment

East Providence - James R. D. Oldham School



Restroom



Aluminum Window



Damaged Aluminum Window



Broken Ceiling Tile



Stained Ceiling Tile



Cracking In VCT



Facility Condition Assessment

East Providence - James R. D. Oldham School



VCT



Damaged VCT



Damaged Ceramic Tile



Mounted Building Light



Restroom Lavatories Plumbing Fixtures



Non-Refrigerated Water Fountain



Facility Condition Assessment

East Providence - James R. D. Oldham School



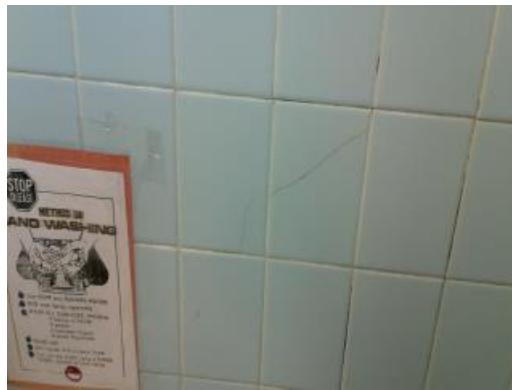
Non-ADA Toilet Stall



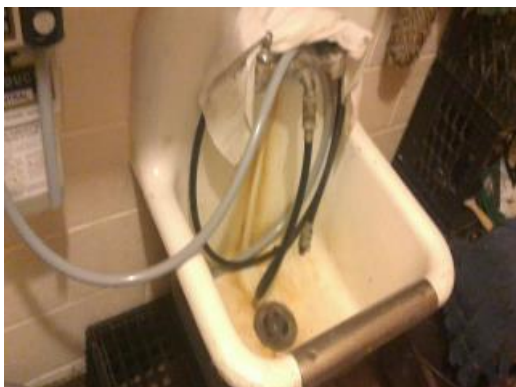
Non-ADA Restroom Plumbing Fixtures



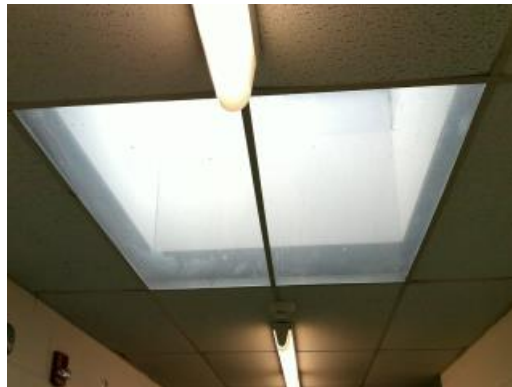
Rusted Toilet Partition



Cracked Restroom Ceramic Wall Tile



Damaged Service Sink



Damaged Skylight



Facility Condition Assessment

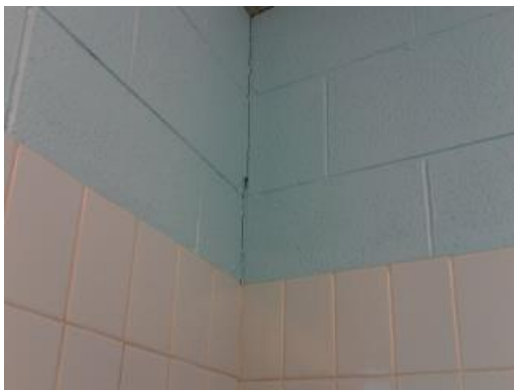
East Providence - James R. D. Oldham School



Urinals



Window Unit



CMU Cracking



Panelboard



Finned Tube Radiator



Main Distribution Panel



Facility Condition Assessment

East Providence - James R. D. Oldham School



Lighting



Cabinet Unit Ventilator



Missing Weather Stripping At Boiler Room Doors



Facility Condition Assessment

East Providence - Kent Heights School

June 2017

2680 Pawtucket Avenue, East Providence, RI 02914





Introduction

Kent Heights School, located at 2680 Pawtucket Avenue in East Providence, Rhode Island, was built in 1989. It comprises 32,262 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.

Kent Heights School serves grades KG - 5, has 21 instructional spaces, and has an enrollment of 291. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Kent Heights School is 468 with a resulting utilization of 62%.

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 Kent Heights School the 5-year need is \$4,302,245. 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 Kent Heights 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 Kent Heights School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	Steel Exterior Windows
	Storefront / Curtain Wall
	Storefront Entrance Doors
	Steel Exterior Entrance Doors

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

01 - Main Building:	Composition Shingle Roofing
	Built-Up Roofing With Ballast

Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Ceramic Tile Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring
	Athletic/Sport Flooring

Mechanical

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

01 - Main Building:	1,275 MBH Cast Iron Water Boiler
	Finned Wall Radiator



01 - Main Building:	Steam/Hot Water Heating Unit Vent
	DDC Heating System Controls
	Pneumatic Heating System Controls
	5 HP VFD
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	Roof Exhaust Fan

Plumbing

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

01 - Main Building:	Gas Piping System
	200 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (1 hp)

Electrical

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

01 - Main Building:	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 400+ Amps
	Building Mounted Lighting Fixtures
	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.



Facility Condition Assessment

East Providence - Kent Heights School

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

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	-	-	\$57,489	\$216,085	-	\$273,574	9.97 %
Roofing	-	\$655,192	-	-	-	\$655,192	23.87 %
Structural	-	-	-	-	-	\$0	0.00 %
Exterior	-	\$92,018	\$121,287	-	-	\$213,305	7.77 %
Interior	-	-	\$141,397	\$328,237	\$98,611	\$568,245	20.70 %
Mechanical	-	\$142,674	\$6,379	\$84,880	-	\$233,933	8.52 %
Electrical	-	\$94,988	\$30,913	-	\$39,914	\$165,815	6.04 %
Plumbing	-	-	\$200	\$67,400	\$1,109	\$68,709	2.50 %
Fire and Life Safety	\$99,700	-	-	-	-	\$99,700	3.63 %
Technology	-	-	\$466,276	-	-	\$466,276	16.98 %
Conveyances	-	-	-	-	-	\$0	0.00 %
Specialties	-	-	-	\$561	-	\$561	0.02 %
Total	\$99,700	\$984,872	\$823,942	\$697,163	\$139,634	\$2,745,311	

*Displayed totals may not sum exactly due to mathematical rounding

The building systems with the most need include:

Roofing	-	\$655,192
Interior	-	\$568,245
Technology	-	\$466,276

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

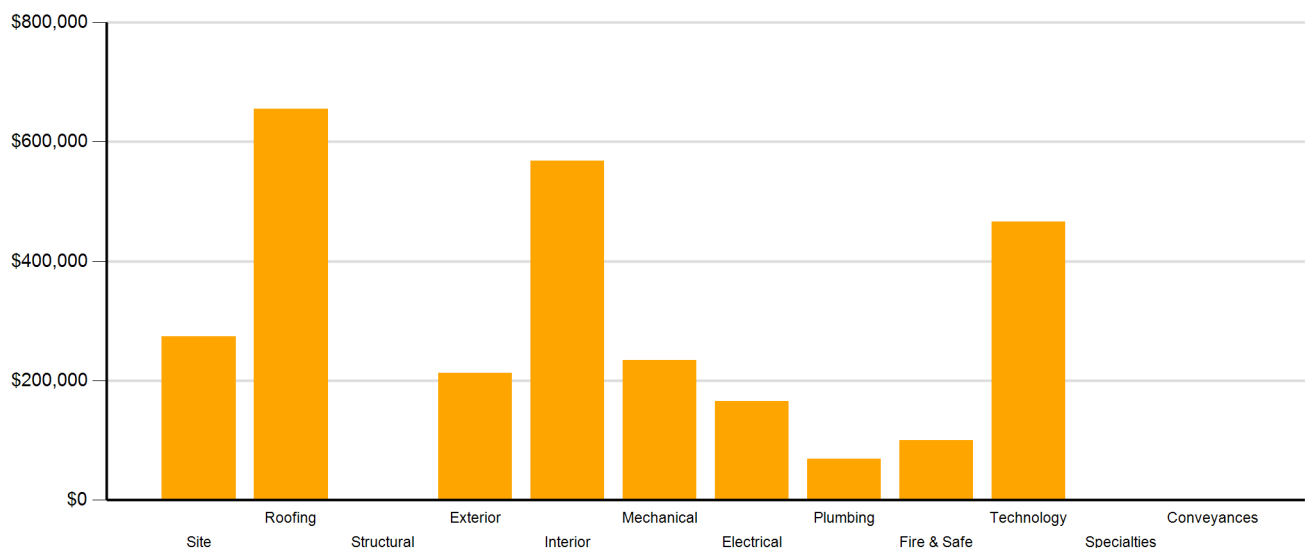


Figure 2: System Deficiencies



Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

- **Acoustics** deficiencies relate to room acoustics, sound insulation, 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

Category	Priority					Total
	1	2	3	4	5	
Acoustics	-	-	-	\$95,401	-	\$95,401
Barrier to Accessibility	-	-	\$200	-	-	\$200
Capital Renewal	-	\$329,680	\$344,587	\$352,105	\$98,611	\$1,124,983
Code Compliance	\$99,700	-	-	-	-	\$99,700
Educational Adequacy	-	-	-	\$245,748	\$41,023	\$286,771
Functional Deficiency	-	\$655,192	\$12,878	-	-	\$668,070
Hazardous Material	-	-	-	\$3,909	-	\$3,909
Technology	-	-	\$466,276	-	-	\$466,276
Traffic	-	-	-	-	-	\$0
Total	\$99,700	\$984,872	\$823,942	\$697,163	\$139,634	\$2,745,311

*Displayed totals may not sum exactly due to mathematical rounding

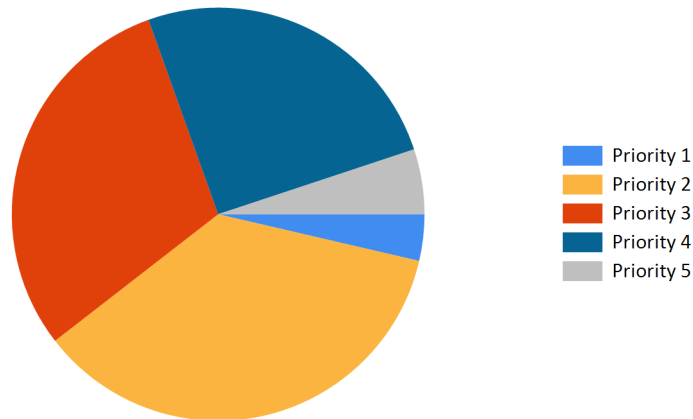


Figure 3: Current deficiencies by priority



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

System	Current Deficiencies	Life Cycle Capital Renewal Projections					LC Yr. 1-5 Total	Total 5-Year Need
		Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021		
Site	\$273,574	\$0	\$0	\$70,325	\$0	\$69,916	\$140,241	\$413,815
Roofing	\$655,192	\$0	\$0	\$0	\$0	\$0	\$0	\$655,192
Structural	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Exterior	\$213,305	\$0	\$0	\$0	\$0	\$0	\$0	\$213,305
Interior	\$568,245	\$0	\$0	\$132,795	\$0	\$505,048	\$637,843	\$1,206,088
Mechanical	\$233,933	\$0	\$0	\$27,614	\$223,686	\$428,022	\$679,322	\$913,255
Electrical	\$165,815	\$0	\$0	\$16,648	\$0	\$0	\$16,648	\$182,463
Plumbing	\$68,709	\$0	\$0	\$14,935	\$0	\$0	\$14,935	\$83,644
Fire and Life Safety	\$99,700	\$0	\$0	\$0	\$0	\$0	\$0	\$99,700
Technology	\$466,276	\$0	\$0	\$0	\$0	\$0	\$0	\$466,276
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specialties	\$561	\$0	\$0	\$0	\$0	\$67,945	\$67,945	\$68,506
Total	\$2,745,311	\$0	\$0	\$262,317	\$223,686	\$1,070,931	\$1,556,934	\$4,302,245

*Displayed totals may not sum exactly due to mathematical rounding

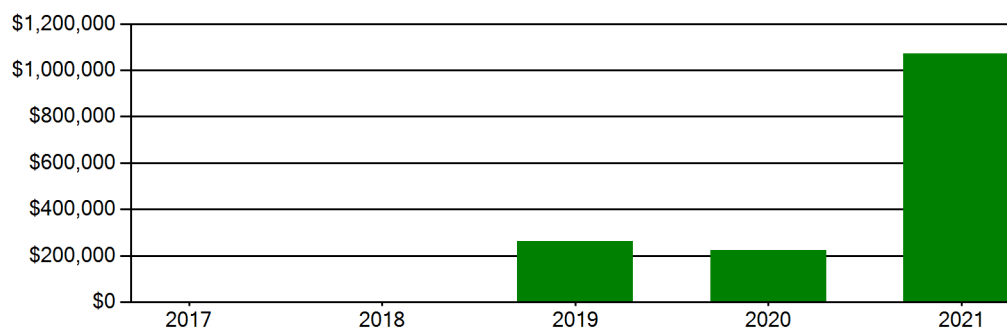
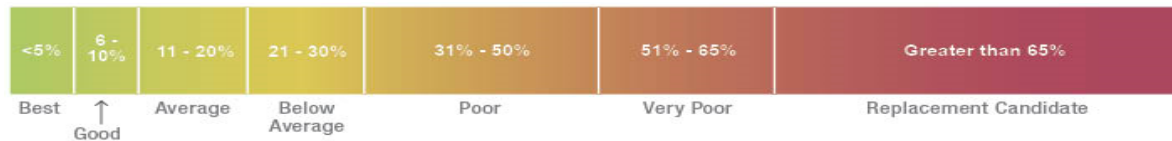


Figure 4: Life Cycle Capital Renewal Forecast



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 \$11,291,700. For planning purposes, the total 5-year need at the Kent Heights School is \$4,302,245 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Kent Heights School facility has a 5-year FCI of 38.10%.

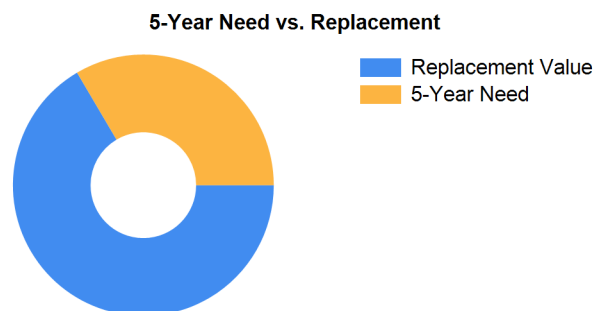


Figure 5: 5-Year FCI

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 179 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 Kent Heights School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$162,540.



Summary of Findings

The Kent Heights School comprises 32,262 square feet and was constructed in 1989. Current deficiencies at this school total \$2,745,311. Five year capital renewal costs total \$1,556,934. The total identified need for the Kent Heights School (current deficiencies and 5-year capital renewal costs) is \$4,302,245. The 5-year FCI is 38.10%.

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
Kent Heights School Totals	32,262	1989	\$2,745,311	\$1,556,934	\$4,302,245	38.10%

**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.

LEA Feedback

As part of the assessment process, LEAs were given several opportunities to provide feedback on the data. Jacobs performed a thorough review of the comments provided relating to the Facilities Condition Assessment. Based on information provided, some adjustments were made to improve or refine the dataset. In other situations, enough information was not provided, item was out of scope, or evidence provided by assessment team did not align with the feedback and no adjustment was made. Finally, deficiency priorities, costs, and educational space/technology standards are consistent throughout the state.



Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Concrete Walks Require Replacement	Capital Renewal	2,223	SF	3	\$57,489	9779
Asphalt Paving Requires Replacement	Capital Renewal	43	CAR	4	\$180,000	9778
Note: Play area asphalt has large cracks throughout.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	\$36,086	28462
Note: Backstops Require Replacement						
Sub Total for System		3	items		\$273,574	
Sub Total for School and Site Level		3	items		\$273,574	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Built-up Roofing With Aggregate Ballast Requires Replacement	Functional Deficiency	16,341	SF	2	\$655,192	9764
Note: Roof has several leaks, open seams, holes, weathered membrane, and missing ballast.						
Sub Total for System		1	items		\$655,192	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Steel Window Requires Replacement	Capital Renewal	408	SF	2	\$92,018	10965
Location: Library, rooms 8, 3, 6, 5, 2						
The Brick Exterior Requires Repointing	Capital Renewal	2,750	SF Wall	3	\$121,287	9765
Sub Total for System		2	items		\$213,305	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Ceramic Tile Flooring Requires Replacement	Functional Deficiency	30	SF	3	\$849	9756
Note: Ceramic tile is cracked in teacher's lounge.						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	11,620	SF	3	\$140,548	9755
Interior Gypsum Board Walls Require Repair	Capital Renewal	2,500	SF Wall	4	\$19,264	9753
Note: Water damaged gypsum board walls should be repaired.						
Location: Rooms 8, 3, 6, 5, 2, 1, and Library						
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	390	SF	4	\$3,909	Rollup
Room Is Excessively Reverberant	Acoustics	4,050	SF	4	\$95,401	27948
Location: Gym						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	5,473	SF	4	\$209,662	Rollup
Interior Walls Require Repainting (Bldg SF)	Capital Renewal	14,155	SF	5	\$98,611	Rollup
Sub Total for System		7	items		\$568,245	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	8	Ea.	2	\$142,674	9776
Air Compressor Is Inoperable And Requires Replacement	Capital Renewal	1	Ea.	3	\$6,379	9770
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	8,066	SF	4	\$57,445	9773
The Exhaust Hood Requires Replacement	Capital Renewal	5	Ea.	4	\$27,435	9775
Sub Total for System		4	items		\$233,933	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Lighting Fixtures Require Replacement	Capital Renewal	15,162	SF	2	\$94,988	9771
The Electrical Receptacles Are Inadequate And More are Needed	Functional Deficiency	20	Ea.	3	\$12,029	9762
Note: Classrooms need additional receptacles.						
The Mounted Building Lighting Requires Replacement	Capital Renewal	12	Ea.	3	\$18,885	10964



Facility Condition Assessment

East Providence - Kent Heights School

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room Has Insufficient Electrical Outlets	Educational Adequacy	80	Ea.	5	\$39,914	Rollup
Sub Total for System		4	items		\$165,815	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Existing Lavatory/Sink Pipes Are Not Insulated Correctly	Barrier to Accessibility	4	LF	3	\$200	9759
Location: 1989 building restroom						
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	14	Ea.	4	\$40,135	9754
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	1	Ea.	4	\$2,716	9763
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	1	Ea.	4	\$7,778	9769
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	5	Ea.	4	\$16,770	9757
Room lacks a drinking fountain.	Educational Adequacy	1	Ea.	5	\$1,109	Rollup
Sub Total for System		6	items		\$68,709	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Fire Alarm Is Missing Or Inadequate (NFPA 72 and NFPA 101, Section 9.6)	Code Compliance	32,262	SF	1	\$99,700	9766
Sub Total for System		1	items		\$99,700	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	48	Ea.	3	\$24,057	18603
Technology: Instructional spaces do not have local sound reinforcement.	Technology	1	Ea.	3	\$5,012	18611
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$7,017	18600
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	\$52,925	18598
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$9,523	18599
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	96	Ea.	3	\$43,303	18602
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	48	Ea.	3	\$21,651	18607
Technology: Network system inadequate and/or near end of useful life	Technology	1	Ea.	3	\$8,019	18609
Technology: Network system inadequate and/or near end of useful life	Technology	25	Ea.	3	\$125,297	18610
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	32,262	SF	3	\$58,210	18608
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	\$57,135	18604
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	\$8,019	18601
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	24	Ea.	3	\$38,491	18605
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	\$7,618	18606
Sub Total for System		14	items		\$466,276	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Countertops Require Replacement	Capital Renewal	1	Ea.	4	\$561	9777
Note: Boys restroom countertop is delaminating.						
Sub Total for System		1	items		\$561	



Facility Condition Assessment

East Providence - Kent Heights School

Sub Total for Building 01 - Main Building	40 items	\$2,471,738
Total for Campus	43 items	\$2,745,311



Kent Heights School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Parking Lot Pavement	Asphalt	21	CAR	\$70,325	3
Playfield Areas	ES Playgrounds	1	Ea.	\$45,131	5
Fences and Gates	Fencing - Chain Link (4 Ft)	150	LF	\$9,815	5
Fences and Gates	Fencing - Chain Link (8 Ft)	220	LF	\$14,970	5
		Sub Total for System	4 items	\$140,242	
		Sub Total for Building -	4 items	\$140,242	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Acoustical Suspended Ceilings	Ceiling Exposed Metal Structure	4,350	SF	\$50,231	3
Interior Door Supplementary Components	Door Hardware	26	Door	\$82,564	3
Wall Painting and Coating	Painting/Staining (Bldg SF)	12,658	SF	\$84,655	5
Resilient Flooring	Vinyl Composition Tile Flooring	14,367	SF	\$166,823	5
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles	11,991	SF	\$109,618	5
Acoustical Suspended Ceilings	Ceilings - Acoustical Grid System	11,991	SF	\$143,952	5
		Sub Total for System	6 items	\$637,842	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)	2	Ea.	\$15,443	3
Note: 1.5 hp					
Other HVAC Distribution Systems	VFD (5 HP)	2	Ea.	\$12,171	3
Heat Generation	Boiler - Cast Iron - Water (1275 MBH)	1	Ea.	\$76,221	4
Heating System Supplementary Components	Controls - DDC (Bldg,SF)	24,196	SF	\$147,465	4
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water	25	Ea.	\$428,022	5
		Sub Total for System	5 items	\$679,322	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Power Distribution	Panelboard - 120/208 225A	2	Ea.	\$11,740	3
Power Distribution	Panelboard - 120/208 100A	1	Ea.	\$4,908	3
		Sub Total for System	2 items	\$16,647	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Refrigerated Drinking Fountain	2	Ea.	\$14,935	3
		Sub Total for System	1 items	\$14,935	

Specialties

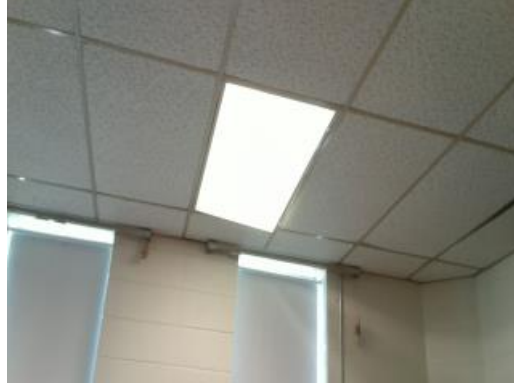
Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Casework	Fixed Cabinetry	6	Room	\$67,945	5
		Sub Total for System	1 items	\$67,945	
		Sub Total for Building 01 - Main Building	15 items	\$1,416,690	
		Total for: Kent Heights School	19 items	\$1,556,932	



Supporting Photos



Cracked Paved Play Area



Aged Light Fixture



Hallway Finishes



Aged Exterior Window



Facility Condition Assessment

East Providence - Kent Heights School



2003 Building Roof



Gym/Cafeteria



Scuffed Wall Paint



Play Area



Sidewalk Edge Spalling



Patched Sidewalk Crack



Facility Condition Assessment

East Providence - Kent Heights School



Playground Equipment



Service Sink



Building Signage



Weathered Membrane



Music Room



Cracked Asphalt Paving



Missing Ballast



Plaque



Buckled VCT



Library



Uninsulated Drain Pipe



Cracked And Separated Vinyl Tiles



Facility Condition Assessment

East Providence - Kent Heights School



Aged Air Compressor



Water Damaged Gypsum Board



Cracked Ceramic Tile



Aged Drinking Fountain



Hole In Membrane



Cracked Paved Play Area



Facility Condition Assessment

East Providence - Kent Heights School



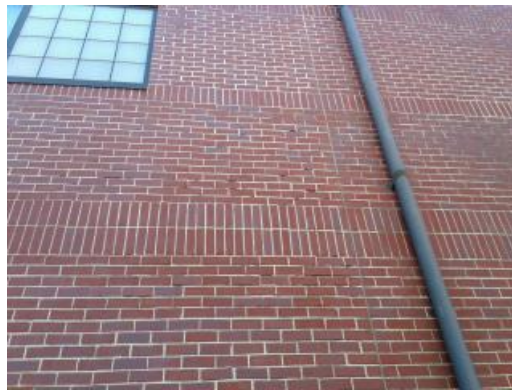
Restroom Fixtures And Finishes



Typical Classroom



Failing Seam



Brick Repointing



Site Aerial



Chipped And Stained Wall Paint



Facility Condition Assessment

East Providence - Kent Heights School



Exhaust Fan



Main Entrance



Urinals



Aged Restroom Lavatory



Facility Condition Assessment

East Providence - Myron J. Francis Elementary School

June 2017

64 Bourne Avenue, Rumford, RI 02916





Introduction

Myron J. Francis Elementary School, located at 64 Bourne Avenue in Rumford, Rhode Island, was built in 1989. It comprises 50,440 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.

Myron J. Francis Elementary School serves grades KG - 5, has 27 instructional spaces, and has an enrollment of 412. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Myron J. Francis Elementary School is 624 with a resulting utilization of 66%.

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 Myron J. Francis Elementary School the 5-year need is \$7,629,519. 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 Myron J. Francis Elementary 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 Myron J. Francis Elementary School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian 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
	Stucco Exterior Wall
	Steel Exterior Windows
	Storefront Entrance Doors
	Steel Exterior Entrance Doors

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

01 - Main Building:	Composition Shingle Roofing
	EPDM Roofing

Interior

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

01 - Main Building:	Foldable Interior Partition
	Wood Interior Doors
	Interior Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Ceramic Tile Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring
	Carpet
	Athletic/Sport Flooring



Mechanical

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

01 - Main Building:	4,488 MBH Cast Iron Water Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	Pneumatic Heating System Controls
	5 HP VFD
	2-Pipe Hot Water Hydronic Distribution System
	5 HP Pump
	Roof Exhaust Fan

Plumbing

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

01 - Main Building:	Gas Piping System
	80 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals
	Air Compressor (1 hp)

Electrical

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

01 - Main Building:	600 Amp Distribution Panel
	Panelboard - 120/208 225A
	Light Fixtures
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting 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.



Facility Condition Assessment

East Providence - Myron J. Francis Elementary School

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

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	-	-	\$153,971	\$574,014	\$7,398	\$735,382	11.90 %
Roofing	-	\$1,242,833	-	-	-	\$1,242,833	20.12 %
Structural	-	-	-	-	-	\$0	0.00 %
Exterior	-	\$10,826	-	-	-	\$10,826	0.18 %
Interior	-	-	\$699,948	\$275,636	\$326,781	\$1,302,366	21.08 %
Mechanical	-	\$535,028	\$6,379	\$359,227	-	\$900,634	14.58 %
Electrical	-	\$315,999	\$18,323	\$61,045	\$51,888	\$447,255	7.24 %
Plumbing	-	-	-	\$44,325	\$5,257	\$49,582	0.80 %
Fire and Life Safety	\$852,477	-	-	-	-	\$852,477	13.80 %
Technology	-	-	\$626,899	-	-	\$626,899	10.15 %
Conveyances	-	-	-	-	-	\$0	0.00 %
Specialties	-	-	\$9,176	-	-	\$9,176	0.15 %
Total	\$852,477	\$2,104,685	\$1,514,696	\$1,314,247	\$391,324	\$6,177,429	

*Displayed totals may not sum exactly due to mathematical rounding

The building systems with the most need include:

Interior	-	\$1,302,366
Roofing	-	\$1,242,833
Mechanical	-	\$900,634

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

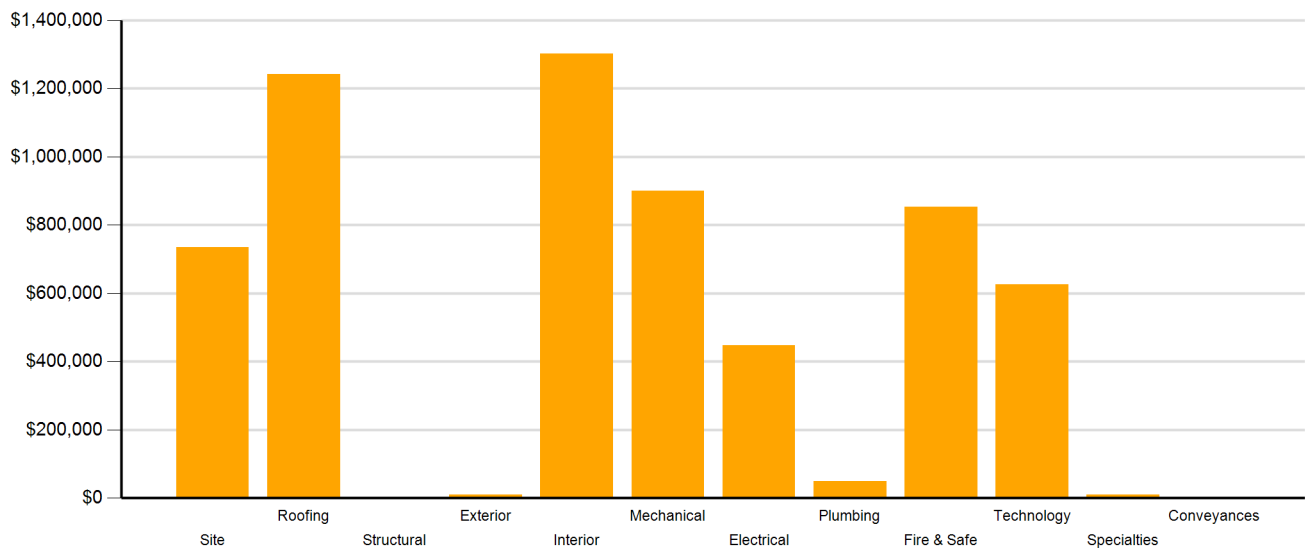


Figure 2: System Deficiencies



Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

- **Acoustics** deficiencies relate to room acoustics, sound insulation, 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

Category	Priority					Total
	1	2	3	4	5	
Acoustics	-	-	-	\$120,285	-	\$120,285
Barrier to Accessibility	-	-	\$88,841	-	-	\$88,841
Capital Renewal	-	\$2,104,685	\$112,962	\$464,597	-	\$2,682,243
Code Compliance	\$852,477	-	-	-	-	\$852,477
Educational Adequacy	-	-	\$14,910	\$117,261	\$70,335	\$202,507
Functional Deficiency	-	-	\$676,820	\$551,962	\$320,989	\$1,549,770
Hazardous Material	-	-	-	\$60,143	-	\$60,143
Technology	-	-	\$621,164	-	-	\$621,164
Traffic	-	-	-	-	-	\$0
Total	\$852,477	\$2,104,685	\$1,514,696	\$1,314,247	\$391,324	\$6,177,429

*Displayed totals may not sum exactly due to mathematical rounding

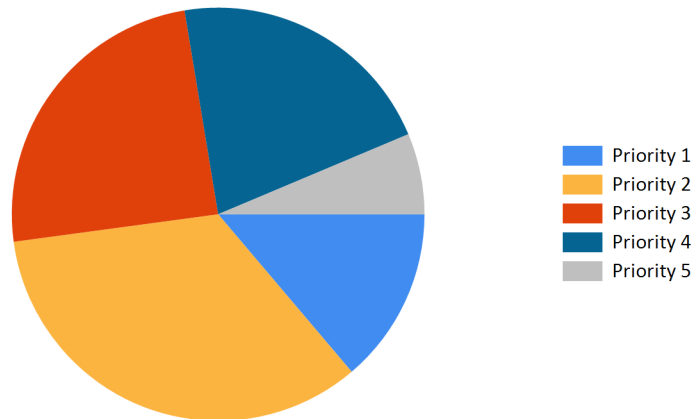


Figure 3: Current deficiencies by priority



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

System	Current Deficiencies	Life Cycle Capital Renewal Projections					LC Yr. 1-5 Total	Total 5-Year Need
		Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021		
Site	\$735,382	\$0	\$0	\$0	\$0	\$74,355	\$74,355	\$809,738
Roofing	\$1,242,833	\$0	\$0	\$0	\$0	\$0	\$0	\$1,242,833
Structural	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Exterior	\$10,826	\$0	\$0	\$0	\$0	\$0	\$0	\$10,826
Interior	\$1,302,366	\$0	\$0	\$551,270	\$389,427	\$368,959	\$1,309,656	\$2,612,022
Mechanical	\$900,634	\$0	\$0	\$0	\$0	\$0	\$0	\$900,634
Electrical	\$447,255	\$0	\$0	\$0	\$46,959	\$0	\$46,959	\$494,214
Plumbing	\$49,582	\$0	\$0	\$0	\$0	\$21,120	\$21,120	\$70,702
Fire and Life Safety	\$852,477	\$0	\$0	\$0	\$0	\$0	\$0	\$852,478
Technology	\$626,899	\$0	\$0	\$0	\$0	\$0	\$0	\$626,899
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specialties	\$9,176	\$0	\$0	\$0	\$0	\$0	\$0	\$9,176
Total	\$6,177,429	\$0	\$0	\$551,270	\$436,386	\$464,434	\$1,452,090	\$7,629,519

*Displayed totals may not sum exactly due to mathematical rounding

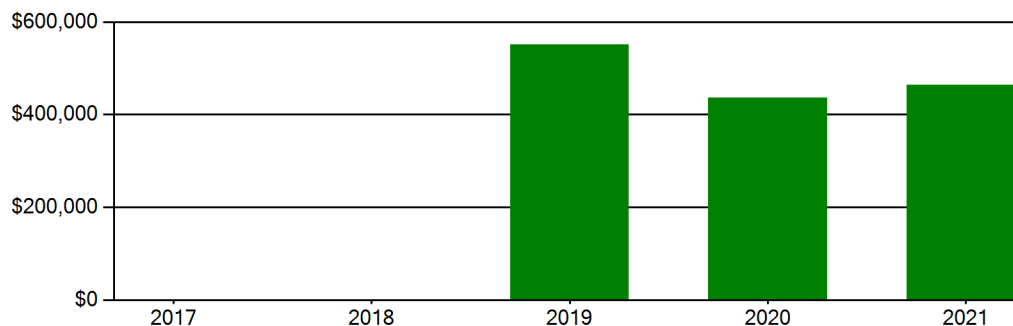
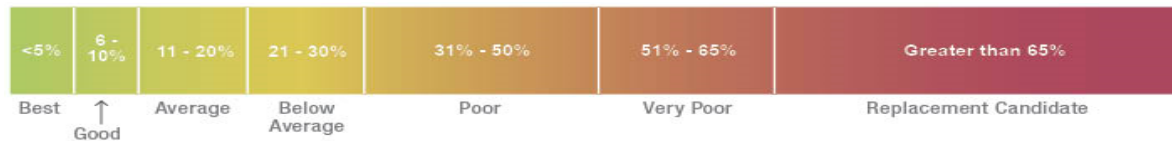


Figure 4: Life Cycle Capital Renewal Forecast



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 \$17,654,000. For planning purposes, the total 5-year need at the Myron J. Francis Elementary School is \$7,629,519 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Myron J. Francis Elementary School facility has a 5-year FCI of 43.22%.

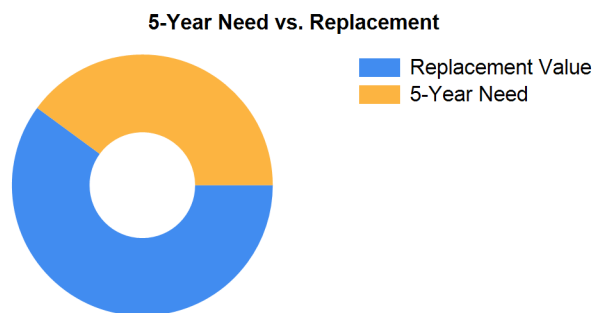


Figure 5: 5-Year FCI

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 280 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 Myron J. Francis Elementary School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$0.



Summary of Findings

The Myron J. Francis Elementary School comprises 50,440 square feet and was constructed in 1989. Current deficiencies at this school total \$6,177,429. Five year capital renewal costs total \$1,452,090. The total identified need for the Myron J. Francis Elementary School (current deficiencies and 5-year capital renewal costs) is \$7,629,519. The 5-year FCI is 43.22%.

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
Myron J. Francis Elementary School Totals	50,440	1989	\$6,177,429	\$1,452,090	\$7,629,519	43.22%

**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.

LEA Feedback

As part of the assessment process, LEAs were given several opportunities to provide feedback on the data. Jacobs performed a thorough review of the comments provided relating to the Facilities Condition Assessment. Based on information provided, some adjustments were made to improve or refine the dataset. In other situations, enough information was not provided, item was out of scope, or evidence provided by assessment team did not align with the feedback and no adjustment was made. Finally, deficiency priorities, costs, and educational space/technology standards are consistent throughout the state.



Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Asphalt Walks Require Replacement Note: Asphalt walkways are cracked and not level.	Functional Deficiency	6,024	SF	3	\$65,130	10047
Install New Playground Equipment Note: Install New Playground Equipment	Barrier to Accessibility	1	SF	3	\$88,841	54891
Asphalt Paving Requires Replacement Note: There are large cracks in asphalt drives and paved play area.	Functional Deficiency	60	CAR	4	\$251,162	10045
Asphalt Paving Requires Replacement Note: Asphalt parking has large pot holes and cracks.	Functional Deficiency	56	CAR	4	\$234,418	10046
Backstops Require Replacement Note: Backstops Require Replacement	Educational Adequacy	1	Ea.	4	\$36,086	28472
Fencing Requires Replacement (4' Chain Link Fence) Note: Original fence is aged and should be replaced.	Functional Deficiency	640	LF	4	\$52,348	10044
Exterior Basketball Goals are Required Note: Exterior Basketball Goals are Required	Educational Adequacy	1	Ea.	5	\$7,398	28738
Sub Total for System		7	items		\$735,382	
Sub Total for School and Site Level		7	items		\$735,382	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF) Note: There are several failing seams, blisters, and ponding on the roof.	Capital Renewal	16,366	SF	2	\$218,185	10073
Shingle Roof Requires Replacement Note: There are roof leaks throughout school and missing shingles.	Capital Renewal	34,074	SF	2	\$1,024,648	10051
Sub Total for System		2	items		\$1,242,833	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Steel Window Requires Replacement Location: Rooms 12 and 23	Capital Renewal	48	SF	2	\$10,826	10053
Sub Total for System		1	items		\$10,826	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior CMU Walls Require Repair Location: Corridor outside Room 7	Capital Renewal	250	SF	3	\$9,573	10065
The Acoustical Ceiling Tiles Require Replacement Note: Ceiling tiles are stained and some are breaking. Location: Classrooms, gym, library, corridors, restrooms	Functional Deficiency	45,920	SF	3	\$437,276	10054
The Athletic Sport Flooring Requires Replacement Note: Flooring is scratched, worn, and chipped in places.	Functional Deficiency	4,500	SF	3	\$162,385	10064
The Vinyl Composition Tile Requires Replacement Note: VCT is chipped and separating in various areas. Location: Corridors and Room 22	Capital Renewal	7,500	SF	3	\$90,715	10055
Interior Ceramic Walls Require Repair Or Replacement	Functional Deficiency	500	SF Wall	4	\$14,033	10061
Paint (probable pre-1978 in base (layers(s)) - large areas (> 10 sq. ft.) of peeling/damage & area in active use - children (measurement unit - each)	Hazardous Material	200	Ea.	4	\$60,143	Rollup
Room Is Excessively Reverberant (Install Fiberglass Wall Panel) Note: Gym	Acoustics	2,000	SF	4	\$120,285	19786
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	2,119	SF	4	\$81,176	Rollup
Classroom Door Requires Vision Panel	Educational Adequacy	1	Ea.	5	\$2,294	Rollup



Facility Condition Assessment

East Providence - Myron J. Francis Elementary School

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Walls Require Repainting (Bldg SF)	Functional Deficiency	43,417	SF	5	\$302,465	Rollup
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	\$3,498	Rollup
The Gypsum Board Ceilings Require Repainting	Functional Deficiency	4,200	SF	5	\$18,524	Rollup
Sub Total for System		12 items			\$1,302,366	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	30	Ea.	2	\$535,028	10075
Air Compressor Is Inoperable And Requires Replacement	Capital Renewal	1	Ea.	3	\$6,379	10069
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	50,440	SF	4	\$359,227	10072
Sub Total for System		3 items			\$900,634	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Lighting Fixtures Require Replacement	Capital Renewal	50,440	SF	2	\$315,999	10070
The Electrical Receptacles Are Inadequate And More are Needed	Functional Deficiency	20	Ea.	3	\$12,029	10062
Note: More receptacles are needed in classrooms.						
The Mounted Building Lighting Requires Replacement	Capital Renewal	4	Ea.	3	\$6,295	10057
The Canopy Lighting Requires Replacement	Capital Renewal	42	Ea.	4	\$61,045	10056
Room Has Insufficient Electrical Outlets	Educational Adequacy	104	Ea.	5	\$51,888	Rollup
Sub Total for System		5 items			\$447,255	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	2	Ea.	4	\$5,433	10063
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	5	Ea.	4	\$38,892	10068
Room lacks a drinking fountain.	Educational Adequacy	2	Ea.	5	\$2,217	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	2	Ea.	5	\$3,039	Rollup
Sub Total for System		4 items			\$49,582	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Fire Alarm Is Missing Or Inadequate (NFPA 72 and NFPA 101, Section 9.6)	Code Compliance	50,440	SF	1	\$155,876	10066
Install Fire Sprinklers (NFPA 13)	Code Compliance	50,440	SF	1	\$696,602	10052
Sub Total for System		2 items			\$852,477	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	1	Ea.	3	\$5,735	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	96	Ea.	3	\$48,114	18646
Technology: Instructional spaces do not have local sound reinforcement.	Technology	24	Ea.	3	\$120,285	18654
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$7,017	18643
Technology: Main Telecommunications Room needs M/E improvements.	Technology	1	Ea.	3	\$30,873	18641
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$9,523	18642
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	48	Ea.	3	\$21,651	18645
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	96	Ea.	3	\$43,303	18650
Technology: Network system inadequate and/or near end of useful life	Technology	1	Ea.	3	\$8,019	18652
Technology: Network system inadequate and/or near end of useful life	Technology	25	Ea.	3	\$125,297	18653



Facility Condition Assessment

East Providence - Myron J. Francis Elementary School

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	50,440	SF	3	\$91,008	18651
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	\$57,135	18647
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	\$8,019	18644
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	27	Ea.	3	\$43,303	18648
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	\$7,618	18649
Sub Total for System		15	items		\$626,899	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	2	Ea.	3	\$9,176	Rollup
Sub Total for System		1	items		\$9,176	
Sub Total for Building 01 - Main Building		45	items		\$5,442,047	
Total for Campus		52	items		\$6,177,429	



Myron J. Francis Elementary School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Pedestrian Pavement	Sidewalks - Concrete	3,594	SF	\$74,355	5
Sub Total for System		1	items	\$74,355	
Sub Total for Building -		1	items	\$74,355	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Acoustical Suspended Ceilings	Ceilings - Acoustical Grid System	45,920	SF	\$551,270	3
Resilient Flooring	Vinyl Composition Tile Flooring	33,538	SF	\$389,427	4
Interior Operable Partitions	Foldable partition (Bldg SF)	420	SF Wall	\$49,105	5
Interior Door Supplementary Components	Door Hardware	83	Door	\$263,568	5
Carpeting	Carpet	2,556	SF	\$56,286	5
Sub Total for System		5	items	\$1,309,657	

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Power Distribution	Panelboard - 120/208 225A	8	Ea.	\$46,959	4
Sub Total for System		1	items	\$46,959	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Equipment	Water Heater - Electric - 80 gallon	1	Ea.	\$5,724	5
	Note: 72 gallon				
Plumbing Fixtures	Showers	2	Ea.	\$15,396	5
Sub Total for System		2	items	\$21,120	
Sub Total for Building 01 - Main Building		8	items	\$1,377,736	
Total for: Myron J. Francis Elementary School		9	items	\$1,452,091	



Supporting Photos



Entrance



Cracked Asphalt Parking Lot



Refrigerated Water Fountain



Cracked Asphalt Walkway



Facility Condition Assessment

East Providence - Myron J. Francis Elementary School



Site Aerial



Crack In CMU Wall



Gym/Cafeteria



Hallway Finishes



Exterior Finishes



Art Room



Facility Condition Assessment

East Providence - Myron J. Francis Elementary School



Typical Classroom



Lobby



Typical Casework



Restroom Fixtures And Finishes



Library



Plaque



Facility Condition Assessment

East Providence - Myron J. Francis Elementary School



Main Entry



Classroom Lavatory



Missing Shingles



Failed Roof Repairs



Damaged Window

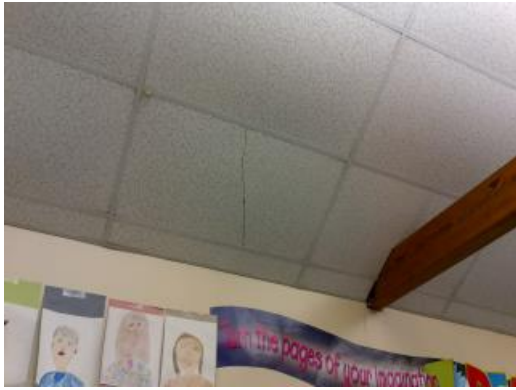


Stained Ceiling Tiles



Facility Condition Assessment

East Providence - Myron J. Francis Elementary School



Broken Ceiling Tile



Chipped And Separating VCT



Canopy Light



Aged Building Lights



Restroom Lavatories



Chipped And Peeling Paint



Facility Condition Assessment

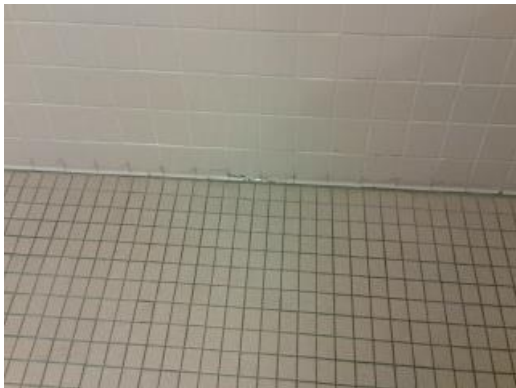
East Providence - Myron J. Francis Elementary School



Broken Partition



Rusted Partitions



Cracked Ceramic Tile At Wall Base



Typical Holes In EPDM



Failed Seam



Holes In Sport Flooring



Facility Condition Assessment

East Providence - Myron J. Francis Elementary School



Worn Athletic Flooring



Failed Seams



Unit Vent



Facility Condition Assessment

East Providence - Orlo Avenue School

June 2017

25 Orlo Avenue, East Providence, RI 02914





Introduction

Orlo Avenue School, located at 25 Orlo Avenue in East Providence, Rhode Island, was built in 1957. It comprises 32,515 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.

Orlo Avenue School serves grades KG - 5, has 21 instructional spaces, and has an enrollment of 300. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Orlo Avenue School is 290 with a resulting utilization of 103%.

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 Orlo Avenue School the 5-year need is \$6,786,407. 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 Orlo Avenue 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 Orlo Avenue School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
-------------	------------------------------

Building Envelope

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

01 - Main Building:	Brick Exterior Wall
	Metal Panel Exterior Wall
	Pre-cast Concrete Panel Exterior Wall
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors
	Storefront Entrance Doors

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

01 - Main Building:	EPDM Roofing
----------------------------	--------------

Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Ceramic Tile Wall
	Wood Wall Paneling
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring
	Carpet

Mechanical

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

01 - Main Building:	1,200 MBH Copper Tube Boiler
	Finned Wall Radiator



01 - Main Building:	Steam/Hot Water Heating Unit Vent
	Pneumatic Heating System Controls
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	10,000 CFM Interior AHU
	Ductwork
	Roof Exhaust Fan

Plumbing

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

01 - Main Building:	2" Backflow Preventers
	Gas Piping System
	80 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (1 hp)

Electrical

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

01 - Main Building:	600 Amp Distribution Panel
	Panelboard - 120/208 100A
	Panelboard - 277/480 225A
	Electrical Disconnect
	Light Fixtures
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting 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.



Facility Condition Assessment

East Providence - Orlo Avenue School

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

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	-	-	\$12,029	\$120,335	-	\$132,364	2.17 %
Roofing	-	-	-	-	-	\$0	0.00 %
Structural	-	-	-	-	-	\$0	0.00 %
Exterior	-	\$525,702	\$882,090	-	-	\$1,407,792	23.11 %
Interior	-	-	\$941,802	\$642,565	\$70,166	\$1,654,533	27.16 %
Mechanical	-	\$890,043	\$6,379	\$277,645	-	\$1,174,067	19.27 %
Electrical	-	\$269,858	\$88,941	\$8,721	\$40,185	\$407,704	6.69 %
Plumbing	-	\$4,134	-	\$147,373	\$2,232	\$153,739	2.52 %
Fire and Life Safety	\$449,048	-	-	-	-	\$449,048	7.37 %
Technology	-	-	\$512,642	-	-	\$512,642	8.42 %
Conveyances	-	-	-	-	-	\$0	0.00 %
Specialties	-	-	\$23,095	\$176,939	-	\$200,034	3.28 %
Total	\$449,048	\$1,689,736	\$2,466,977	\$1,373,579	\$112,584	\$6,091,923	

*Displayed totals may not sum exactly due to mathematical rounding

The building systems with the most need include:

Interior	-	\$1,654,533
Exterior	-	\$1,407,792
Mechanical	-	\$1,174,067

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

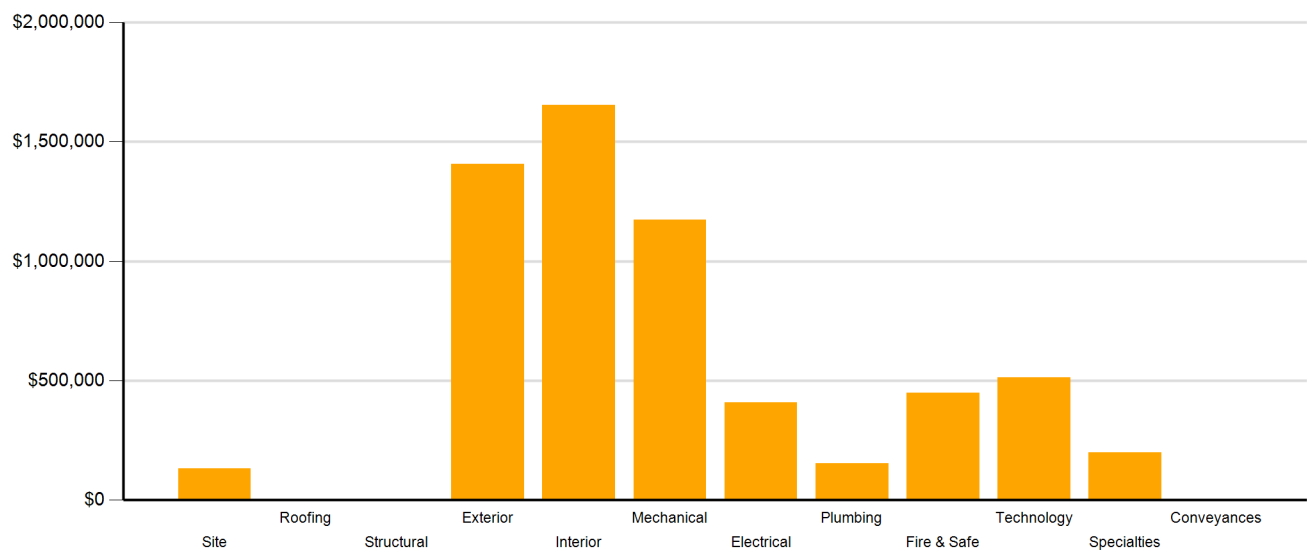


Figure 2: System Deficiencies



Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

- **Acoustics** deficiencies relate to room acoustics, sound insulation, 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

Category	Priority					Total
	1	2	3	4	5	
Acoustics	-	-	-	\$72,171	-	\$72,171
Barrier to Accessibility	-	-	\$62,348	-	-	\$62,348
Capital Renewal	-	\$1,266,517	\$1,806,705	\$965,684	\$70,166	\$4,109,073
Code Compliance	\$449,048	-	-	-	-	\$449,048
Educational Adequacy	-	-	\$23,095	\$76,018	\$42,417	\$141,530
Functional Deficiency	-	\$423,219	\$62,187	\$124,746	-	\$610,152
Hazardous Material	-	-	-	\$134,960	-	\$134,960
Technology	-	-	\$512,642	-	-	\$512,642
Traffic	-	-	-	-	-	\$0
Total	\$449,048	\$1,689,736	\$2,466,977	\$1,373,579	\$112,584	\$6,091,923

*Displayed totals may not sum exactly due to mathematical rounding

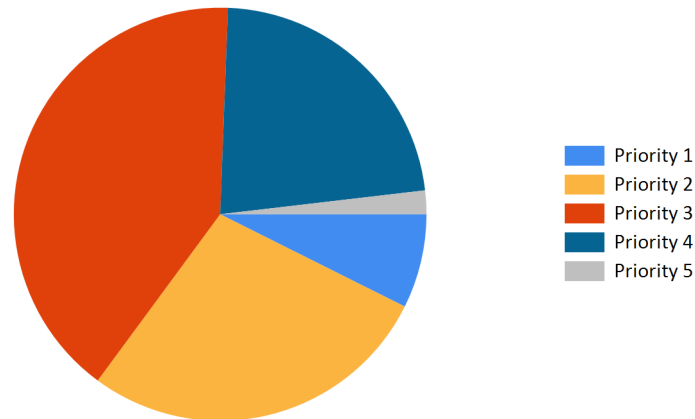


Figure 3: Current deficiencies by priority



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

System	Current Deficiencies	Life Cycle Capital Renewal Projections					LC Yr. 1-5 Total	Total 5-Year Need
		Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021		
Site	\$132,364	\$0	\$0	\$0	\$0	\$0	\$0	\$132,364
Roofing	\$0	\$0	\$0	\$0	\$0	\$416,138	\$416,138	\$416,138
Structural	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Exterior	\$1,407,792	\$0	\$0	\$0	\$0	\$0	\$0	\$1,407,792
Interior	\$1,654,533	\$0	\$0	\$0	\$0	\$0	\$0	\$1,654,533
Mechanical	\$1,174,067	\$0	\$0	\$0	\$0	\$0	\$0	\$1,174,067
Electrical	\$407,704	\$0	\$0	\$0	\$0	\$0	\$0	\$407,704
Plumbing	\$153,739	\$0	\$0	\$13,547	\$0	\$264,799	\$278,346	\$432,086
Fire and Life Safety	\$449,048	\$0	\$0	\$0	\$0	\$0	\$0	\$449,048
Technology	\$512,642	\$0	\$0	\$0	\$0	\$0	\$0	\$512,642
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specialties	\$200,034	\$0	\$0	\$0	\$0	\$0	\$0	\$200,034
Total	\$6,091,923	\$0	\$0	\$13,547	\$0	\$680,937	\$694,484	\$6,786,407

*Displayed totals may not sum exactly due to mathematical rounding

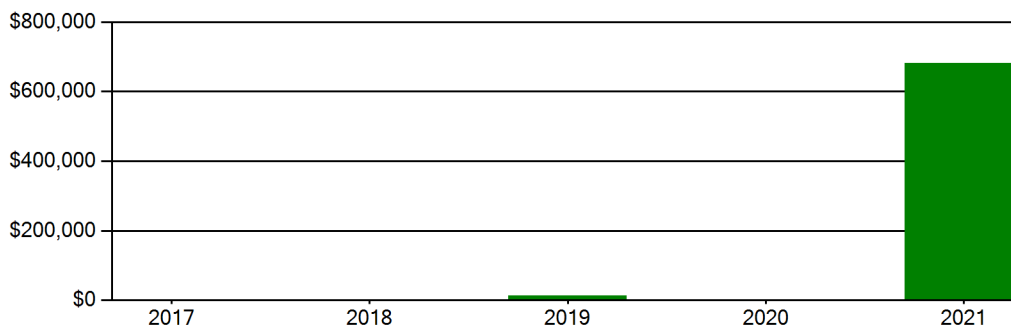
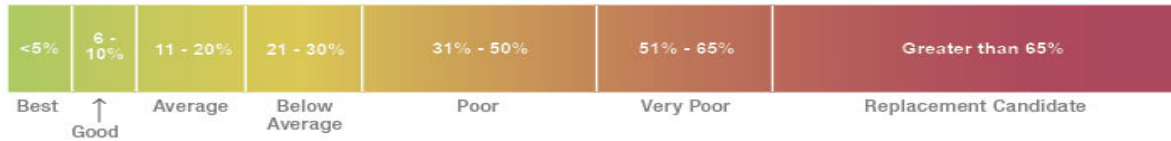


Figure 4: Life Cycle Capital Renewal Forecast



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 \$11,380,250. For planning purposes, the total 5-year need at the Orlo Avenue School is \$6,786,407 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Orlo Avenue School facility has a 5-year FCI of 59.63%.

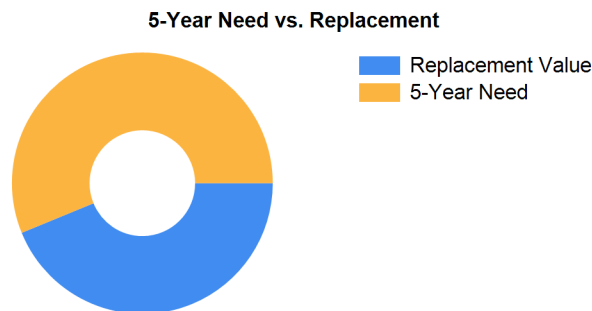


Figure 5: 5-Year FCI

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 181 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 Orlo Avenue School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$178,416.



Summary of Findings

The Orlo Avenue School comprises 32,515 square feet and was constructed in 1957. Current deficiencies at this school total \$6,091,923. Five year capital renewal costs total \$694,484. The total identified need for the Orlo Avenue School (current deficiencies and 5-year capital renewal costs) is \$6,786,407. The 5-year FCI is 59.63%.

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
Orlo Avenue School Totals	32,515	1957	\$6,091,923	\$694,484	\$6,786,407	59.63%

**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.

LEA Feedback

As part of the assessment process, LEAs were given several opportunities to provide feedback on the data. Jacobs performed a thorough review of the comments provided relating to the Facilities Condition Assessment. Based on information provided, some adjustments were made to improve or refine the dataset. In other situations, enough information was not provided, item was out of scope, or evidence provided by assessment team did not align with the feedback and no adjustment was made. Finally, deficiency priorities, costs, and educational space/technology standards are consistent throughout the state.



Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Asphalt Paving Requires Replacement	Functional Deficiency	18	CAR	4	\$75,349	11305
Note: Parking lot across the street has large cracks, potholes, and alligating. Updated quantity per LEA review.						
Fencing Requires Replacement (4' Chain Link Fence)	Functional Deficiency	550	LF	4	\$44,987	11304
Note: Fence is rusting with several areas damaged and falling.						
Sub Total for System		2	items		\$120,335	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed	Functional Deficiency	2	Ea.	3	\$50,159	11308
Note: There are currently no parking lot lights.						
Sub Total for System		1	items		\$50,159	
Sub Total for School and Site Level		3	items		\$170,494	

Building: 01 - Main Building

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Access Is Not ADA Compliant And Requires An ADA Compliant Ramp	Barrier to Accessibility	1	Ea.	3	\$12,029	11324
Note: Main entry is not ADA compliant.						
Sub Total for System		1	items		\$12,029	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement	Functional Deficiency	2,372	SF	2	\$423,219	11312
Note: Windows are aged and weathered with cracking seals. 24 @ 2x3; 3 @ 2x4; 9 @ 2x6; 88 @ 3x6; 32 @ 4x4						
The Metal Panel Exterior Requires Replacement (Bldg SF)	Capital Renewal	639	SF	2	\$102,483	11350
Location: Above windows						
The Brick Exterior Requires Repointing	Capital Renewal	20,000	SF Wall	3	\$882,090	11332
Sub Total for System		3	items		\$1,407,792	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	62	Door	3	\$301,414	11314
Note: Original wood doors should be replaced.						
The Access Is Not ADA Compliant And Requires A Doorway Access Power Assist Mechanism	Barrier to Accessibility	2	Door	3	\$44,105	11325
Note: There is no ADA access to the gym/cafe area.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	28,087	SF	3	\$267,460	11313
Note: Ceiling tiles are aged and stained with some cracked and broken.						
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	860	SF	3	\$24,350	11318
Note: Original ceramic tile is aged with pieces missing.						
The Existing Toilet Stall Does Not Meet Minimum ADA Requirements	Barrier to Accessibility	2	Ea.	3	\$6,215	11326
Note: Restrooms do not have ADA compliant stalls.						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	24,659	SF	3	\$298,259	11317
Note: VCT is separating at seams and has alligator cracking.						
Ceiling Grid Requires Replacement	Capital Renewal	28,087	SF	4	\$351,234	11352
Note: Ceiling grid is aged and stained with various pieces missing.						
Interior Toilet Partition Requires Repair	Functional Deficiency	8	Ea.	4	\$4,410	11328
Interior Wood Walls Require Replacement	Capital Renewal	392	SF	4	\$3,772	11355
Note: Original wood wall panel should be replaced.						
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	4,488	SF	4	\$134,960	Rollup
Room Is Excessively Reverberant (Install Fiberglass Wall Panel)	Acoustics	1,200	SF	4	\$72,171	19794
Note: Gym						



Facility Condition Assessment

East Providence - Orlo Avenue School

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	1,971	SF	4	\$76,018	Rollup
Interior Gypsum Board Walls Require Repainting	Capital Renewal	10,000	SF Wall	5	\$70,166	11333
Sub Total for System		13	items		\$1,654,533	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Ductwork Requires Replacement (SF Basis)	Capital Renewal	4,000	SF	2	\$62,001	11344
Replace Unit Vent	Capital Renewal	16	Ea.	2	\$285,348	11354
The Air Handler HVAC Component Requires Replacement Location: Room 16A and one that serves the gym	Capital Renewal	2	Ea.	2	\$251,957	11338
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	13	Ea.	2	\$22,960	11343
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	32,515	SF	2	\$264,256	11345
The Window AC Unit Component Requires Replacement	Capital Renewal	1	Ea.	2	\$3,520	11337
Air Compressor Is Inoperable And Requires Replacement	Capital Renewal	1	Ea.	3	\$6,379	11339
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls Note: System is out of date and needs to be upgraded to DDC.	Capital Renewal	32,515	SF	4	\$231,568	11349
Small HVAC Circulating Pump Requires Replacement Note: 3 @ 1.5 hp each	Capital Renewal	3	Ea.	4	\$24,129	11356
The Exhaust Hood Requires Replacement	Capital Renewal	4	Ea.	4	\$21,948	11353
Sub Total for System		10	items		\$1,174,067	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Distribution Panel Requires Replacement	Capital Renewal	1	Ea.	2	\$30,713	11346
The Lighting Fixtures Require Replacement	Capital Renewal	32,515	SF	2	\$203,701	11347
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	\$10,224	11340
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	\$25,220	11341
The Electrical Receptacles Are Inadequate And More are Needed Note: There are only two receptacles in each classroom. Circuits trip because the load is near capacity.	Functional Deficiency	20	Ea.	3	\$12,029	11330
The Mounted Building Lighting Requires Replacement	Capital Renewal	17	Ea.	3	\$26,753	11320
The Canopy Lighting Requires Replacement	Capital Renewal	6	Ea.	4	\$8,721	11319
Room Has Insufficient Electrical Outlets	Educational Adequacy	80	Ea.	5	\$40,185	Rollup
Sub Total for System		8	items		\$357,546	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Backflow Preventer Requires Replacement	Capital Renewal	1	Ea.	2	\$4,134	11342
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	2	Ea.	4	\$21,551	11323
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	18	Ea.	4	\$51,602	11309
The Custodial Mop Or Service Sink Requires Replacement Note: Custodial sink is aged and stained.	Capital Renewal	1	Ea.	4	\$2,716	11331
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	1	Ea.	4	\$7,778	11336
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	19	Ea.	4	\$63,725	11321
Room lacks a drinking fountain.	Educational Adequacy	2	Ea.	5	\$2,232	Rollup
Sub Total for System		7	items		\$153,739	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Install Fire Sprinklers (NFPA 13) Location: Throughout the school	Code Compliance	32,515	SF	1	\$449,048	11311
Sub Total for System		1	items		\$449,048	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	48	Ea.	3	\$24,057	18691



Facility Condition Assessment

East Providence - Orlo Avenue School

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Instructional spaces do not have local sound reinforcement.	Technology	15	Ea.	3	\$75,178	18699
Technology: Intermediate Telecommunications Room needs M/E improvements.	Technology	1	Ea.	3	\$25,661	18688
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$5,012	18689
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$7,017	18686
Technology: Main Telecommunications Room needs M/E improvements.	Technology	1	Ea.	3	\$30,873	18684
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$9,523	18685
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	48	Ea.	3	\$21,651	18690
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	48	Ea.	3	\$21,651	18695
Technology: Network system inadequate and/or near end of useful life	Technology	1	Ea.	3	\$8,019	18697
Technology: Network system inadequate and/or near end of useful life	Technology	25	Ea.	3	\$125,297	18698
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	32,515	SF	3	\$58,666	18696
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	\$57,135	18692
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	\$8,019	18687
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	17	Ea.	3	\$27,265	18693
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	\$7,618	18694
Sub Total for System		16	items		\$512,642	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	5	Ea.	3	\$23,095	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	15	Room	4	\$176,939	11351
Sub Total for System		2	items		\$200,034	
Sub Total for Building 01 - Main Building		61	items		\$5,921,429	
Total for Campus		64	items		\$6,091,923	



Orlo Avenue School - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Roofing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Low-Slope Roofing	EPDM - Rubber Roofing Material	32,515	SF	\$416,138	5
Note: Updated system year and remaining life per LEA feedback					
		Sub Total for System		1 items	\$416,138

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Equipment	Water Heater - Electric - 80 gallon	1	Ea.	\$5,724	3
Plumbing Fixtures	Mop/Service Sinks	3	Ea.	\$7,823	3
Note: Kitchen sinks					
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)	32,515	SF	\$264,799	5
		Sub Total for System		3 items	\$278,346
		Sub Total for Building 01 - Main Building		4 items	\$694,484
		Total for: Orlo Avenue School		4 items	\$694,484



Supporting Photos



Damaged Brick



Falling Fence



Alligatoring Parking Lot Pavement



Cracked Play Area

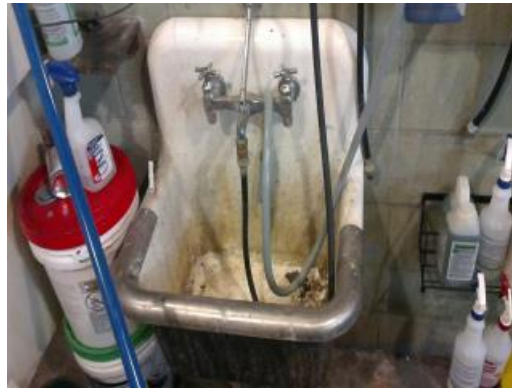


Facility Condition Assessment

East Providence - Orlo Avenue School



Site Aerial



Stained Custodial Sink



Play Area



Chipped Mortar



Typical Classroom



Library



Facility Condition Assessment

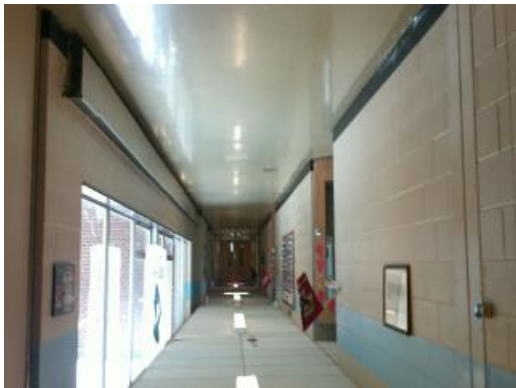
East Providence - Orlo Avenue School



Main Entry



Restroom Fixtures And Finishes



Hallway Finishes



Play Area



Exterior Finishes



Paved Play Area



Facility Condition Assessment

East Providence - Orlo Avenue School



Typical Classroom Lavatory



Gym/Cafe



Aged Windows



Aged Window With Weathered Seals



Stained And Broken Tiles



Cracked Ceiling Tile



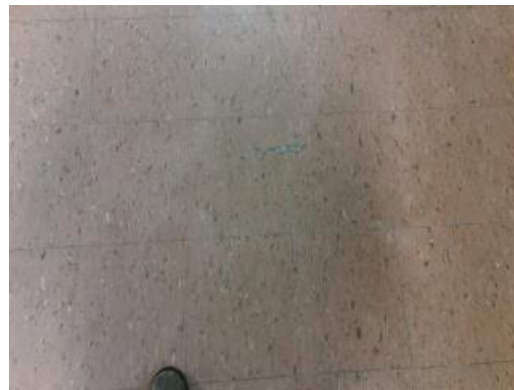
Worn And Frayed Carpet



Worn Original Wood Door



VCT Separating



9x9 VCT



Typical Building Mounted Light



Cracked And Worn VCT



Facility Condition Assessment

East Providence - Orlo Avenue School



Non-Refrigerated Water Fountain



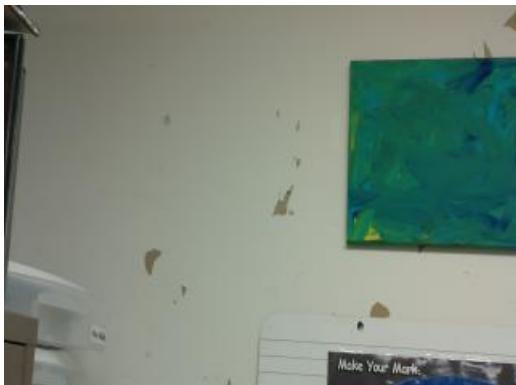
Typical Restroom Lavatories



Damaged Toilet Partition



Non-Compliant Front Entrance



Chipped And Peeling Paint



Refrigerated Water Fountain



Old Window Unit



Aged Air Compressor



Aged Panelboard



Backflow Preventer



Aged Finned Tube Radiator



Aged Piping



Facility Condition Assessment

East Providence - Orlo Avenue School



600 Amp Distribution Panel



Typical Interior Lights



Weathered Metal Panel



Aged Cabinetry Missing Doors



Missing Grid Piece



Exhaust Fan



Facility Condition Assessment

East Providence - Orlo Avenue School



Cabinet Unit Ventilator



Original Wood Wall Panel



Aged Pump



Cracked Asphalt Walkway



Deteriorated Asphalt Walkway



Facility Condition Assessment

East Providence - Orlo Avenue School



Exterior Finishes



Facility Condition Assessment

East Providence - Riverside Middle School

June 2017

179 Forbes Street, Riverside, RI 02915





Introduction

Riverside Middle School, located at 179 Forbes Street in Riverside, Rhode Island, was built in 1966. It comprises 130,682 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.

Riverside Middle School serves grades 6 - 8, has 50 instructional spaces, and has an enrollment of 434. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Riverside Middle School is 800 with a resulting utilization of 54%.

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 Riverside Middle School the 5-year need is \$20,041,356. 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 Riverside Middle 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 Riverside Middle School campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	Asphalt Parking Lot Pavement
	Asphalt Roadway Pavement
	Asphalt Pedestrian Pavement
	Concrete Pedestrian Pavement

Building Envelope

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

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

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

01 - Main Building:	EPDM Roofing
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Interior

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

01 - Main Building:	Moveable Interior Partition
	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Metal Panel Ceilings
	Ceramic Tile Wall
	Wood Wall Paneling
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring



01 - Main Building:	Terrazzo Flooring
	Carpet
	Athletic/Sport Flooring

Mechanical

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

01 - Main Building:	4,200 MBH Cast Iron Steam Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	DDC Heating System Controls
	2-Pipe Hot Water Hydronic Distribution System
	5 HP Pump
	10,000 CFM Interior AHU
	Ductwork
	Roof Exhaust Fan
	Fire Sprinkler System

Plumbing

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

01 - Main Building:	Gas Piping System
	200 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals
	Sump Pump
	Air Compressor (2 hp)

Electrical

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

01 - Main Building:	75 kW Emergency Generator
	Automatic Transfer Switch
	1,600 Amp Switchgear
	Panelboard - 120/208 100A
	Panelboard - 120/208 225A
	Panelboard - 120/208 400A



Facility Condition Assessment

East Providence - Riverside Middle School

01 - Main Building:	Electrical Disconnect
	Building Mounted Lighting Fixtures
	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.



Facility Condition Assessment

East Providence - Riverside Middle School

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

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	-	-	\$19,299	\$1,623,200	\$421,178	\$2,063,677	12.06 %
Roofing	-	\$894,439	-	-	-	\$894,439	5.23 %
Structural	-	-	-	-	-	\$0	0.00 %
Exterior	-	\$1,503,735	\$32,076	\$5,844	\$4,582	\$1,546,237	9.04 %
Interior	-	-	\$3,089,052	\$1,656,059	\$103,360	\$4,848,472	28.34 %
Mechanical	-	\$984,976	\$6,730	\$677,395	-	\$1,669,101	9.75 %
Electrical	\$5,718	\$980,746	\$97,822	-	\$94,434	\$1,178,720	6.89 %
Plumbing	-	-	\$561,330	\$147,179	\$41,474	\$749,983	4.38 %
Fire and Life Safety	\$2,047,665	-	-	-	-	\$2,047,665	11.97 %
Technology	-	-	\$1,678,765	-	-	\$1,678,765	9.81 %
Conveyances	-	-	-	-	-	\$0	0.00 %
Specialties	-	-	\$13,857	\$371,488	\$48,499	\$433,844	2.54 %
Total	\$2,053,383	\$4,363,896	\$5,498,931	\$4,481,166	\$713,527	\$17,110,903	

*Displayed totals may not sum exactly due to mathematical rounding

The building systems with the most need include:

Interior	-	\$4,848,472
Site	-	\$2,063,677
Fire and Life Safety	-	\$2,047,665

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

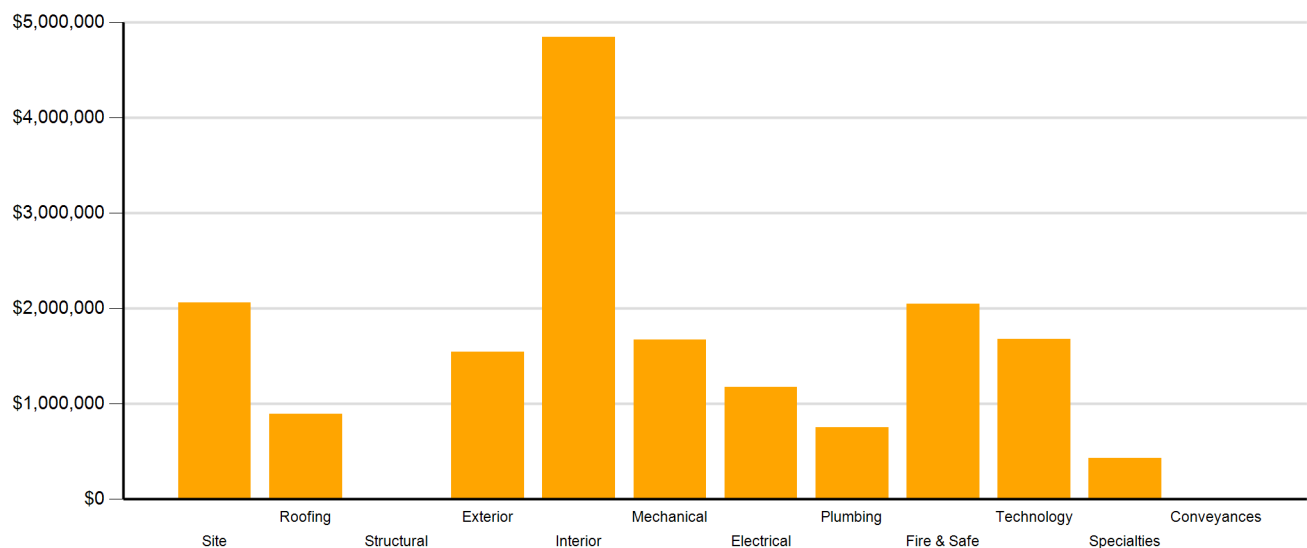


Figure 2: System Deficiencies



Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

- **Acoustics** deficiencies relate to room acoustics, sound insulation, 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

Category	Priority					Total
	1	2	3	4	5	
Acoustics	-	-	-	\$96,228	-	\$96,228
Barrier to Accessibility	-	-	-	-	-	\$0
Capital Renewal	-	\$3,510,675	\$3,572,317	\$2,836,060	\$89,351	\$10,008,402
Code Compliance	\$2,001,476	-	-	-	-	\$2,001,476
Educational Adequacy	\$51,907	-	\$106,236	\$386,169	\$624,177	\$1,168,489
Functional Deficiency	-	\$853,222	\$233,992	\$1,137,920	-	\$2,225,134
Hazardous Material	-	-	-	\$24,789	-	\$24,789
Technology	-	-	\$1,586,386	-	-	\$1,586,386
Traffic	-	-	-	-	-	\$0
Total	\$2,053,383	\$4,363,896	\$5,498,931	\$4,481,166	\$713,527	\$17,110,903

*Displayed totals may not sum exactly due to mathematical rounding

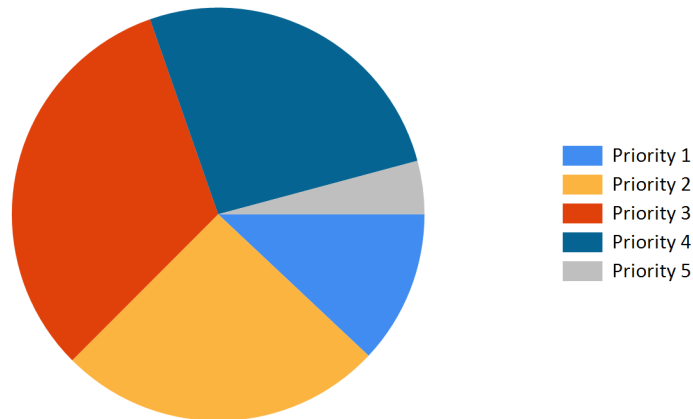


Figure 3: Current deficiencies by priority



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

System	Current Deficiencies	Life Cycle Capital Renewal Projections					LC Yr. 1-5 Total	Total 5-Year Need
		Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021		
Site	\$2,063,677	\$0	\$0	\$0	\$0	\$0	\$0	\$2,063,677
Roofing	\$894,439	\$0	\$0	\$0	\$0	\$0	\$0	\$894,439
Structural	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Exterior	\$1,546,237	\$0	\$0	\$0	\$0	\$0	\$0	\$1,546,237
Interior	\$4,848,472	\$0	\$0	\$0	\$85,739	\$0	\$85,739	\$4,934,211
Mechanical	\$1,669,101	\$0	\$0	\$19,292	\$1,019,595	\$0	\$1,038,887	\$2,707,988
Electrical	\$1,178,720	\$0	\$0	\$0	\$9,086	\$96,228	\$105,314	\$1,284,034
Plumbing	\$749,983	\$0	\$0	\$1,467	\$1,064,263	\$45,175	\$1,110,905	\$1,860,888
Fire and Life Safety	\$2,047,665	\$0	\$0	\$0	\$0	\$0	\$0	\$2,047,665
Technology	\$1,678,765	\$0	\$0	\$0	\$0	\$0	\$0	\$1,678,765
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specialties	\$433,844	\$0	\$0	\$0	\$0	\$589,608	\$589,608	\$1,023,452
Total	\$17,110,903	\$0	\$0	\$20,759	\$2,178,683	\$731,011	\$2,930,453	\$20,041,356

*Displayed totals may not sum exactly due to mathematical rounding

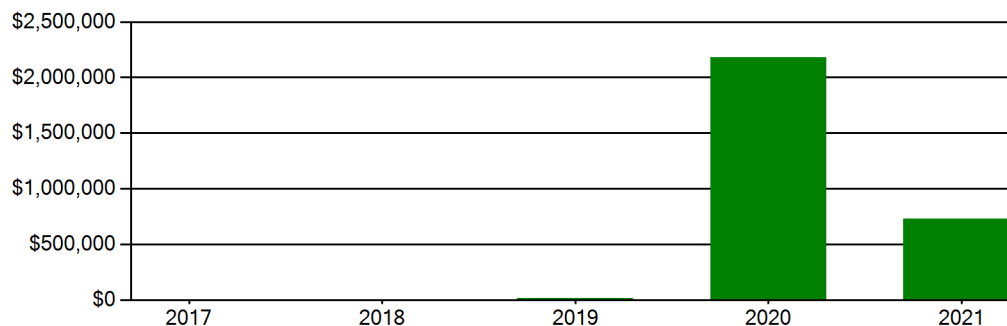


Figure 4: Life Cycle Capital Renewal Forecast



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 \$43,125,060. For planning purposes, the total 5-year need at the Riverside Middle School is \$20,041,356 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Riverside Middle School facility has a 5-year FCI of 46.47%.

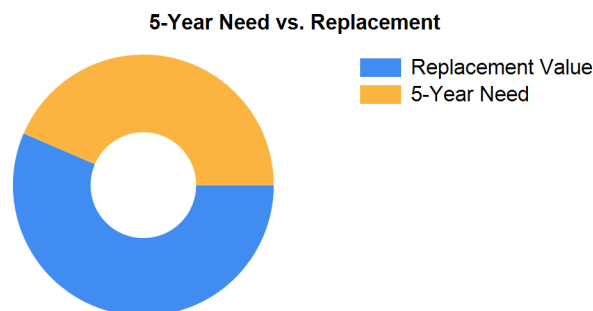


Figure 5: 5-Year FCI

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 722 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 Riverside Middle School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$1,145,826.



Summary of Findings

The Riverside Middle School comprises 130,682 square feet and was constructed in 1966. Current deficiencies at this school total \$17,110,903. Five year capital renewal costs total \$2,930,453. The total identified need for the Riverside Middle School (current deficiencies and 5-year capital renewal costs) is \$20,041,356. The 5-year FCI is 46.47%.

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
Riverside Middle School Totals	130,682	1966	\$17,110,903	\$2,930,453	\$20,041,356	46.47%

**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.

LEA Feedback

As part of the assessment process, LEAs were given several opportunities to provide feedback on the data. Jacobs performed a thorough review of the comments provided relating to the Facilities Condition Assessment. Based on information provided, some adjustments were made to improve or refine the dataset. In other situations, enough information was not provided, item was out of scope, or evidence provided by assessment team did not align with the feedback and no adjustment was made. Finally, deficiency priorities, costs, and educational space/technology standards are consistent throughout the state.



Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Asphalt Walks Require Replacement Note: Sidewalks have pot holes and cracks.	Functional Deficiency	1,785	SF	3	\$19,299	9500
Asphalt Paving Requires Replacement Note: Parking lot has areas of alligatoring with large cracks and pot holes.	Capital Renewal	98	CAR	4	\$410,232	9498
Asphalt Paving Requires Replacement Note: Asphalt is alligatorated with potholes and cracks throughout.	Functional Deficiency	200	CAR	4	\$837,208	9499
Backstops Require Replacement Note: Backstops Require Replacement	Educational Adequacy	1	Ea.	4	\$36,086	28468
Fencing Requires Replacement (4' Chain Link Fence) Note: Rusted fence.	Capital Renewal	54	LF	4	\$4,417	9497
Fencing Requires Replacement (Wood Fence) Note: Wood has dry rotted and panels are missing.	Capital Renewal	1,072	LF	4	\$335,258	9502
Exterior Basketball Goals are Required Note: Exterior Basketball Goals are Required	Educational Adequacy	1	Ea.	5	\$7,398	28736
School lacks a competition track. Note: School lacks a competition track.	Educational Adequacy	1	Ea.	5	\$413,780	28239
Sub Total for System		8	items		\$2,063,677	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed Note: Additional lighting is needed to illuminate the exterior.	Functional Deficiency	2	Ea.	3	\$50,159	11572
Sub Total for System		1	items		\$50,159	
Sub Total for School and Site Level		9	items		\$2,113,836	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF) Note: Team could not access roof. Principal informed team that roof is in poor condition and leaks.	Functional Deficiency	64,000	SF	2	\$853,222	9534
Skylight Requires Replacement Location: Gym	Capital Renewal	16	Ea.	2	\$41,218	9521
Sub Total for System		2	items		\$894,439	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement Note: Single pane aluminum windows should be replaced.	Capital Renewal	7,254	SF	2	\$1,294,279	9506
The Metal Panel Exterior Requires Replacement (Bldg SF)	Capital Renewal	1,306	SF	2	\$209,456	9533
Caulking Requires Replacement Note: Expansion joint caulking	Capital Renewal	2,000	LF	3	\$32,076	9541
Handrail Requires Repainting	Capital Renewal	530	LF	4	\$5,844	9522
The Exterior Soffit Requires Repainting	Capital Renewal	1,306	SF	5	\$4,582	9504
Sub Total for System		5	items		\$1,546,237	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement Note: All interior wood doors and hardware original with non-compliant hardware.	Capital Renewal	152	Door	3	\$738,951	9508
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	91,987	SF	3	\$875,952	9507
The Carpet Flooring Requires Replacement Location: Library and auditorium	Functional Deficiency	6,124	SF	3	\$140,477	9509



Facility Condition Assessment

East Providence - Riverside Middle School

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Ceramic Tile Flooring Requires Replacement Location: Kitchen, restrooms, locker rooms	Capital Renewal	9,046	SF	3	\$256,124	9511
The Vinyl Composition Tile Requires Replacement Note: VCT is chipped and cracked in corridors and classrooms.	Capital Renewal	89,088	SF	3	\$1,077,548	9510
Ceiling Grid Requires Replacement	Capital Renewal	91,987	SF	4	\$1,150,317	9537
Interior Wood Walls Require Replacement Location: Library	Capital Renewal	3,600	SF	4	\$34,642	9540
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	16	Ea.	4	\$4,811	Rollup
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	420	LF	4	\$10,104	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	985	SF	4	\$9,873	Rollup
Room Is Excessively Reverberant (Install Fiberglass Wall Panel) Note: Gym	Acoustics	1,600	SF	4	\$96,228	19798
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	9,077	SF	4	\$350,083	Rollup
Classroom Door Requires Vision Panel	Educational Adequacy	5	Ea.	5	\$11,547	Rollup
Interior Toilet Partition Requires Repainting Note: Toilet partitions are rusting and worn. Location: 1st floor restrooms	Capital Renewal	385	SF Wall	5	\$7,718	9514
Room lacks appropriate sound control.	Educational Adequacy	200	SF	5	\$7,044	Rollup
The Gypsum Board Ceilings Require Repainting	Capital Renewal	17,470	SF	5	\$77,051	Rollup
Sub Total for System		16	items		\$4,848,472	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent Note: Cabinet heating unit is aged and should be replaced.	Capital Renewal	48	Ea.	2	\$856,044	9539
The Fin Tube Water Radiant Heater Requires Replacement Note: Radiant heaters are aged and should be replaced.	Capital Renewal	73	Ea.	2	\$128,931	9530
Air Compressor Is Inoperable And Requires Replacement Note: Air compressor is aged and should be replaced.	Capital Renewal	1	Ea.	3	\$6,730	9526
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	130,682	SF	4	\$567,655	11577
The Exhaust Hood Requires Replacement Note: Team did not have access to the roof but was informed that there were approximately 20 fans on the roof. Based off the bottom of the exhaust fan the team believed that the exhaust fans should be replaced.	Capital Renewal	20	Ea.	4	\$109,740	9538
Sub Total for System		5	items		\$1,669,101	

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	1	Ea.	2	\$86,565	9523
The Lighting Fixtures Require Replacement	Capital Renewal	130,682	SF	2	\$818,702	9531
The Panelboard Requires Replacement	Capital Renewal	5	Ea.	2	\$25,561	9527
The Panelboard Requires Replacement	Capital Renewal	6	Ea.	2	\$36,687	9528
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	\$13,231	9529
The Electrical Receptacles Are Inadequate And More are Needed Note: Classrooms need additional receptacles.	Functional Deficiency	40	Ea.	3	\$24,057	9516
The Mounted Building Lighting Requires Replacement	Capital Renewal	15	Ea.	3	\$23,606	9512
Room Has Insufficient Electrical Outlets	Educational Adequacy	188	Ea.	5	\$94,434	Rollup
Sub Total for System		9	items		\$1,128,561	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Showers Plumbing Fixtures Require Replacement	Capital Renewal	70	Ea.	3	\$561,330	11576



Facility Condition Assessment

East Providence - Riverside Middle School

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	4	Ea.	4	\$43,102	11574
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	18	Ea.	4	\$51,602	11573
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	5	Ea.	4	\$13,582	9517
Note: Service sinks are aged and should be replaced.						
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	5	Ea.	4	\$38,892	11575
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	22	Ea.	5	\$33,661	Rollup
Sub Total for System		7	items		\$749,983	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Fire Alarm Is Missing Or Inadequate (NFPA 72 and NFPA 101, Section 9.6)	Code Compliance	130,682	SF	1	\$403,849	9520
Install Fire Sprinklers (NFPA 13)	Code Compliance	115,682	SF	1	\$1,597,626	9505
Note: Sprinkler system only covers part of the building.						
Room lacks shut-off valves for utilities. (International Fuel Gas Code, Section 409.6)	Educational Adequacy	4	Ea.	1	\$46,189	Rollup
Sub Total for System		3	items		\$2,047,665	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	16	Ea.	3	\$92,379	Rollup
Technology: Auditorium AV/Multimedia system is inadequate.	Technology	1	Room	3	\$350,831	18574
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	240	Ea.	3	\$120,285	18573
Technology: Campus wireless infrastructure meets standards but does not cover all areas of campus.	Technology	18	Ea.	3	\$25,260	18576
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	1	Ea.	3	\$21,050	18580
Technology: Gymnasium sound system is nonexistent, inadequate, or near end of useful life.	Technology	1	Ea.	3	\$9,623	18575
Technology: Instructional spaces do not have local sound reinforcement.	Technology	38	Ea.	3	\$190,451	18584
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	2	Ea.	3	\$11,227	18570
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	\$47,713	18567
Technology: Intermediate Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	\$39,694	18568
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$5,012	18569
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$7,017	18565
Technology: Main Telecommunications Room needs M/E improvements.	Technology	1	Ea.	3	\$30,873	18564
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	120	Ea.	3	\$54,128	18572
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	144	Ea.	3	\$64,954	18579
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	\$24,057	18582
Technology: Network system inadequate and/or near end of useful life	Technology	50	Ea.	3	\$250,594	18583
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	130,682	SF	3	\$235,786	18581



Facility Condition Assessment

East Providence - Riverside Middle School

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	\$8,019	18566
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	2	Ea.	3	\$10,024	18571
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	45	Ea.	3	\$72,171	18577
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	\$7,618	18578
Sub Total for System		22	items		\$1,678,765	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	3	Ea.	3	\$13,857	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	6	Room	4	\$70,776	9536
The Retractable Bleachers Require Replacement Note: Bleachers no longer retract and have several sharp edges.	Functional Deficiency	250	Seat	4	\$300,713	9519
Room lacks an appropriate refrigerator.	Educational Adequacy	4	Ea.	5	\$34,642	Rollup
The room lacks a washer and/or dryer.	Educational Adequacy	1	Ea.	5	\$13,857	Rollup
Sub Total for System		5	items		\$433,844	
Sub Total for Building 01 - Main Building		74	items		\$14,997,067	
Total for Campus		83	items		\$17,110,903	



Riverside Middle School - Life Cycle Summary Yrs 1-5

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Interior Door Supplementary Components	Door Hardware	27	Door	\$85,739	4
		Sub Total for System		\$85,739	
		1	items		

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	Pump - 5HP	2	Ea.	\$19,292	3
Facility Hydronic Distribution	2-Pipe Water System (Hot)	130,682	SF	\$1,019,595	4
		Sub Total for System		\$1,038,887	
		2	items		

Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Transfer Switches	Automatic Transfer Switch (Amps)	200	Amps	\$7,231	4
Wiring Devices	Electrical Disconnect	1	Ea.	\$1,855	4
Packaged Generator Assemblies	Emergency Generator (75 KW)	1	Ea.	\$96,228	5
Note: 64kw					
		Sub Total for System		\$105,314	
		3	items		

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Building Support Plumbing System Supplementary Components	Sump Pump	1	Ea.	\$1,467	3
Domestic Water Piping	Domestic Water Piping System (Bldg,SF)	130,682	SF	\$1,064,263	4
Domestic Water Equipment	Water Heater - Electric - 200 Gallon	1	Ea.	\$45,175	5
		Sub Total for System		\$1,110,905	
		3	items		

Specialties

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Casework	Lockers	1,184	Ea.	\$589,608	5
Note: Lockers refurbished 2016 per LEA feedback					
		Sub Total for System		\$589,608	
		1	items		
		Sub Total for Building 01 - Main Building		\$2,930,452	
		10	items		
		Total for: Riverside Middle School		\$2,930,452	
		10	items		



Supporting Photos



Alligatoring Asphalt And Potholes



Aged Panelboard



Wood Fence



Alligatoring Asphalt



Facility Condition Assessment

East Providence - Riverside Middle School



Aged Radiator



Typical Asphalt Sidewalk Condition



Typical Damaged Lockers



Rusted Metal Panels



Aged And Stained Grid System



Typical Casework



Facility Condition Assessment

East Providence - Riverside Middle School



Cabinet Heating Unit



Exhaust Fan



Site Aerial



Weathered Expansion Joint Caulking



Auditorium



Kitchen



Facility Condition Assessment

East Providence - Riverside Middle School



Typical Art Room



Typical Corridor



Entrance



Exterior Finishes



Cafeteria



Wood Shop



Facility Condition Assessment

East Providence - Riverside Middle School



Music Room



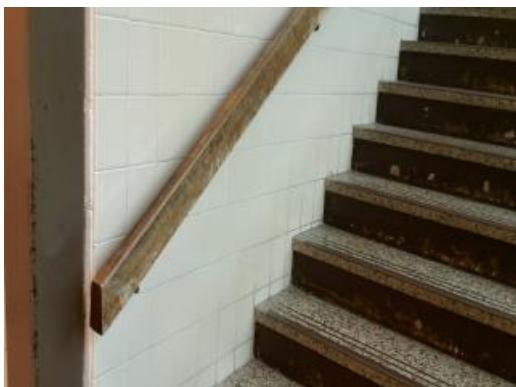
Library



Weight Room



Choir Room



Worn Finish On Handrail



Typical Restroom Fixtures And Finishes



Facility Condition Assessment

East Providence - Riverside Middle School



Marquee



Gymnasium



Typical Locker Room



Typical Classroom



Science Room



Damaged Soffit



Facility Condition Assessment

East Providence - Riverside Middle School



Aged Single Pane Window



Typical Window



Broken Ceiling Tile



Stained Ceiling Tile



Typical Interior Door And Hardware



Torn Carpet



Facility Condition Assessment

East Providence - Riverside Middle School



Frayed Carpet



Chipped VCT



Cracked VCT



Chipped And Missing Ceramic Tiles



Paint Peeling On Ceiling



Rusted Toilet Partition



Facility Condition Assessment

East Providence - Riverside Middle School



Hole In Ceramic Wall



Chipped And Cracked Ceramic Tile Wall



Aged Service Sink



Cracked Terrazzo



Retractable Bleachers



Typical Damaged Skylight



Facility Condition Assessment

East Providence - Riverside Middle School



Air Handler



1600A Switchgear



Aged Air Compressor



Cracks In CMU



Alligatoring Parking Lot Pavement



Rusted Fence



Facility Condition Assessment

East Providence - Riverside Middle School



Building Entrance



Facility Condition Assessment

East Providence - Silver Spring School

June 2017

120 Silver Spring Avenue, East Providence, RI 02914





Introduction

Silver Spring School, located at 120 Silver Spring Avenue in East Providence, Rhode Island, was built in 1969. It comprises 33,691 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.

Silver Spring School serves grades KG - 5, has 20 instructional spaces, and has an enrollment of 285. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Silver Spring School is 468 with a resulting utilization of 61%.

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 Silver Spring School the 5-year need is \$6,653,466. 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.

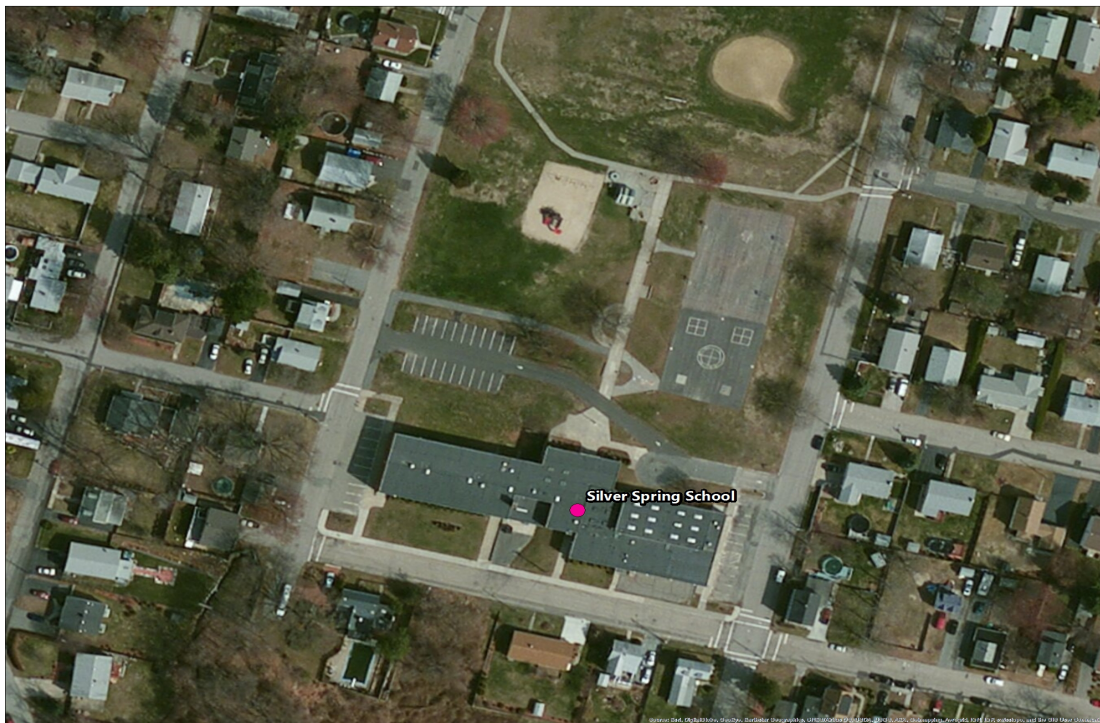


Figure 1: Aerial view of Silver Spring School



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 Silver Spring 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
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	EPDM Roofing
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Interior

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

01 - Main Building:	Steel Interior Doors
	Wood Interior Doors
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Ceramic Tile Wall
	Brick/Stone Veneer
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring
	Epoxy Coated Flooring

Mechanical

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

01 - Main Building:	3,264 MBH Cast Iron Water Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent



01 - Main Building:	Pneumatic Heating System Controls
	Make-up Air Unit
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	Roof Exhaust Fan

Plumbing

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

01 - Main Building:	Gas Piping System
	52 Gallon Electric Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (2 hp)

Electrical

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

01 - Main Building:	Panelboard - 120/208 225A
	Panelboard - 400+ Amps
	Building Mounted Lighting Fixtures
	Canopy Mounted Lighting Fixtures
	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

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	-	-	\$116,374	\$269,435	-	\$385,809	6.89 %
Roofing	-	\$322,829	\$16,422	-	-	\$339,251	6.06 %
Structural	\$86,204	-	-	-	-	\$86,204	1.54 %
Exterior	-	\$515,999	\$70,166	\$2,205	\$702	\$589,072	10.52 %
Interior	-	-	\$736,096	\$883,012	\$783	\$1,619,891	28.92 %
Mechanical	-	\$406,311	\$40,257	\$342,344	-	\$788,912	14.09 %
Electrical	-	\$247,846	\$150,015	\$4,360	\$37,918	\$440,140	7.86 %
Plumbing	-	-	\$752	\$151,681	\$3,326	\$155,759	2.78 %
Fire and Life Safety	\$465,290	-	-	-	-	\$465,290	8.31 %
Technology	-	-	\$506,965	-	-	\$506,965	9.05 %
Conveyances	-	-	-	-	-	\$0	0.00 %
Specialties	-	-	\$22,939	\$200,531	-	\$223,470	3.99 %
Total	\$551,494	\$1,492,984	\$1,659,987	\$1,853,569	\$42,729	\$5,600,763	

*Displayed totals may not sum exactly due to mathematical rounding

The building systems with the most need include:

Interior	-	\$1,619,891
Mechanical	-	\$788,912
Exterior	-	\$589,072

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

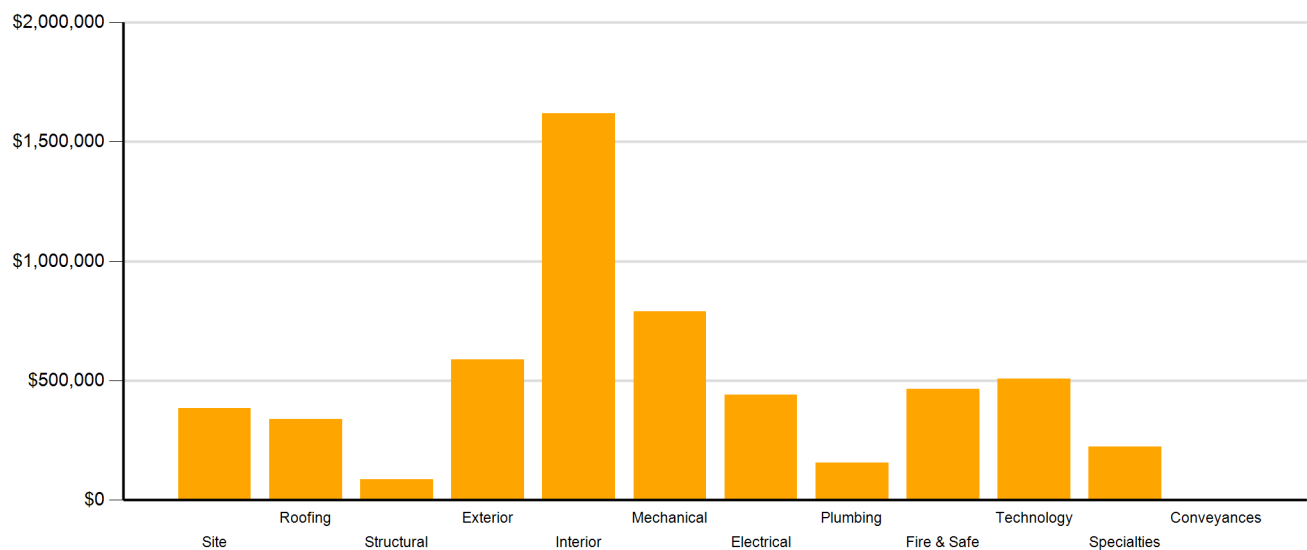


Figure 2: System Deficiencies



Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

- **Acoustics** deficiencies relate to room acoustics, sound insulation, 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

Category	Priority					Total
	1	2	3	4	5	
Acoustics	-	-	-	\$60,143	-	\$60,143
Barrier to Accessibility	-	-	\$13,454	-	-	\$13,454
Capital Renewal	\$86,204	\$976,986	\$722,889	\$1,304,465	\$1,485	\$3,092,028
Code Compliance	\$465,290	-	-	-	-	\$465,290
Educational Adequacy	-	-	\$22,939	\$76,463	\$41,245	\$140,647
Functional Deficiency	-	\$515,999	\$393,739	\$111,787	-	\$1,021,525
Hazardous Material	-	-	-	\$300,713	-	\$300,713
Technology	-	-	\$506,965	-	-	\$506,965
Traffic	-	-	-	-	-	\$0
Total	\$551,494	\$1,492,984	\$1,659,987	\$1,853,569	\$42,729	\$5,600,763

*Displayed totals may not sum exactly due to mathematical rounding

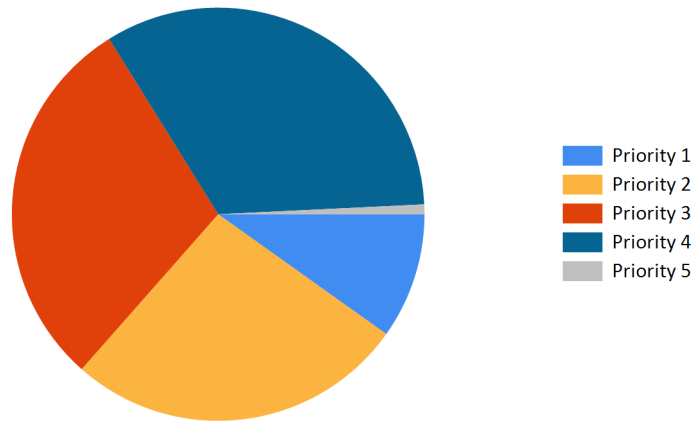


Figure 3: Current deficiencies by priority



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

System	Current Deficiencies	Life Cycle Capital Renewal Projections					LC Yr. 1-5 Total	Total 5-Year Need
		Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021		
Site	\$385,809	\$0	\$0	\$0	\$0	\$122,360	\$122,360	\$508,169
Roofing	\$339,251	\$0	\$0	\$0	\$0	\$0	\$0	\$339,251
Structural	\$86,204	\$0	\$0	\$0	\$0	\$0	\$0	\$86,204
Exterior	\$589,072	\$0	\$0	\$0	\$0	\$0	\$0	\$589,072
Interior	\$1,619,891	\$0	\$0	\$17,776	\$34,931	\$340,398	\$393,105	\$2,012,996
Mechanical	\$788,912	\$0	\$0	\$0	\$0	\$262,861	\$262,861	\$1,051,773
Electrical	\$440,140	\$0	\$0	\$0	\$0	\$0	\$0	\$440,140
Plumbing	\$155,759	\$0	\$0	\$0	\$0	\$274,377	\$274,377	\$430,136
Fire and Life Safety	\$465,290	\$0	\$0	\$0	\$0	\$0	\$0	\$465,290
Technology	\$506,965	\$0	\$0	\$0	\$0	\$0	\$0	\$506,965
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specialties	\$223,470	\$0	\$0	\$0	\$0	\$0	\$0	\$223,470
Total	\$5,600,763	\$0	\$0	\$17,776	\$34,931	\$999,996	\$1,052,703	\$6,653,466

*Displayed totals may not sum exactly due to mathematical rounding

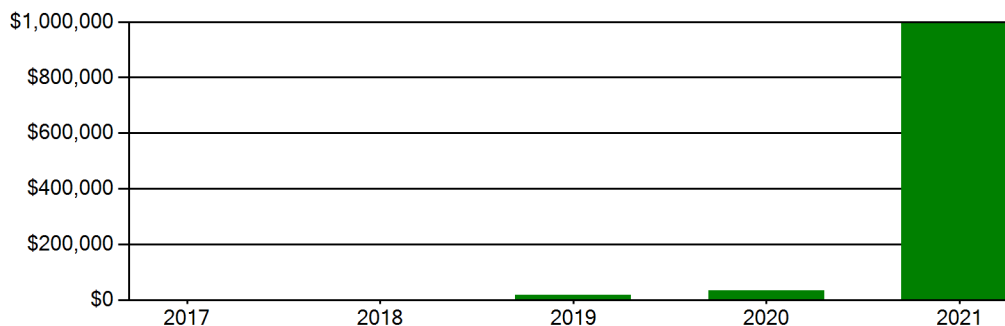
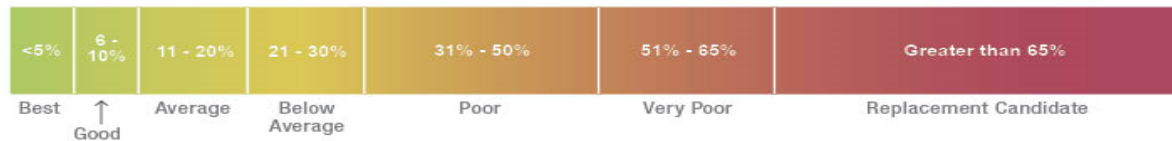


Figure 4: Life Cycle Capital Renewal Forecast



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 \$11,791,850. For planning purposes, the total 5-year need at the Silver Spring School is \$6,653,466 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Silver Spring School facility has a 5-year FCI of 56.42%.

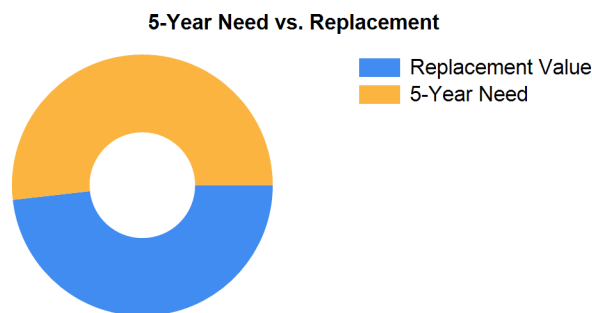


Figure 5: 5-Year FCI

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 187 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 Silver Spring School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$253,260.



Summary of Findings

The Silver Spring School comprises 33,691 square feet and was constructed in 1969. Current deficiencies at this school total \$5,600,763. Five year capital renewal costs total \$1,052,703. The total identified need for the Silver Spring School (current deficiencies and 5-year capital renewal costs) is \$6,653,466. The 5-year FCI is 56.42%.

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
Silver Spring School Totals	33,691	1969	\$5,600,763	\$1,052,703	\$6,653,466	56.42%

*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.

LEA Feedback

As part of the assessment process, LEAs were given several opportunities to provide feedback on the data. Jacobs performed a thorough review of the comments provided relating to the Facilities Condition Assessment. Based on information provided, some adjustments were made to improve or refine the dataset. In other situations, enough information was not provided, item was out of scope, or evidence provided by assessment team did not align with the feedback and no adjustment was made. Finally, deficiency priorities, costs, and educational space/technology standards are consistent throughout the state.



Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Concrete Walks Require Replacement	Functional Deficiency	4,500	SF	3	\$116,374	9707
Asphalt Paving Requires Replacement	Functional Deficiency	20	CAR	4	\$83,721	9705
Note: Parking lot has several large pot holes, alligating, and areas where asphalt surface has completely deteriorated.						
Asphalt Paving Requires Replacement	Capital Renewal	35	CAR	4	\$146,511	9706
Note: Asphalt roadway has several areas with cracks, alligating, and pot holes.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	\$36,086	28469
Note: Backstops Require Replacement						
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	162	LF	4	\$3,118	9704
Note: Fence is rusted and chain link is pulling apart in places. Updated costs to reflect demo only per LEA review feedback. Removing. Fence area no longer used.						
Sub Total for System		5	items		\$385,809	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Is Missing And Needed	Functional Deficiency	5	Ea.	3	\$125,397	9708
Note: Pole lights are needed around the school. There is currently minimal illumination.						
Sub Total for System		1	items		\$125,397	
Sub Total for School and Site Level		6	items		\$511,206	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Skylight Requires Replacement	Capital Renewal	16	Ea.	2	\$41,218	9734
The Tectum Decking Requires Replacement	Capital Renewal	3,600	SF	2	\$281,611	9733
Drains And Piping Are Needed To Eliminate Ponding	Functional Deficiency	2	Ea.	3	\$12,029	9729
Single-Ply Covering Has Blisters That Should Be Repaired	Capital Renewal	25	Ea.	3	\$4,085	9728
The Roof Operable Hatch Requires Repair	Functional Deficiency	1	Ea.	3	\$309	9713
Sub Total for System		5	items		\$339,251	

Structural

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Structural Condition Exists	Capital Renewal	1	Job	1	\$86,204	10968
Note: Repairs to the south and east walls were made in 1999. Evidence of continued issues seen in exterior brick as well as interior CMU in the gym and interior ceramic tile cracking. If concrete walls are not currently reinforced, recommended action is to saw cut at each joist bearing location, add reinforcing, grout and finish walls. Replace existing steel lintels that exhibit excessive rusting or deterioration and replace with new galvanized steel lintels.						
Sub Total for System		1	items		\$86,204	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement	Functional Deficiency	2,892	SF	2	\$515,999	9712
Note: Windows are aged single pane assemblies with caulking dry rotted or missing.						
The Brick Exterior Requires Repair	Functional Deficiency	1,000	SF Wall	3	\$70,166	9711
Note: Cracks in wall should be repaired.						
Handrail Requires Repainting	Capital Renewal	200	LF	4	\$2,205	9736
The Exterior Soffit Requires Repainting	Capital Renewal	200	SF	5	\$702	9710
Sub Total for System		4	items		\$589,072	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior CMU Walls Require Repair	Functional Deficiency	1,500	SF	3	\$57,436	9738
Note: Cracks in CMU wall in the Gym/Cafe and in corridor outside of the Gym.						
Interior Doors Require Replacement	Capital Renewal	78	Door	3	\$379,198	9716
Note: All doors original, and damaged.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	28,627	SF	3	\$272,602	9714
The Ceramic Tile Flooring Requires Replacement	Capital Renewal	500	SF	3	\$14,157	9718



Facility Condition Assessment

East Providence - Silver Spring School

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Toilet Stall Not Compliant	Barrier to Accessibility	3	Ea.	3	\$12,702	9730
Ceiling Grid Requires Replacement	Capital Renewal	28,627	SF	4	\$357,987	9747
Interior Ceramic Walls Require Repair Or Replacement	Functional Deficiency	1,000	SF Wall	4	\$28,067	9725
Note: Ceramic tile walls are cracking in the gym restrooms.						
Interior CMU Walls Require Repainting	Capital Renewal	15,000	SF	4	\$90,214	9737
Interior Toilet Partition Requires Repair	Capital Renewal	10	Ea.	4	\$5,513	9724
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	10,000	SF	4	\$300,713	Rollup
Room Is Excessively Reverberant (Install Fiberglass Wall Panel)	Acoustics	1,000	SF	4	\$60,143	19799
Note: Gym						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	1,054	SF	4	\$40,377	Rollup
Interior Doors Require Repainting	Capital Renewal	11	Door	5	\$783	9715
Note: Metal door frames have paint chipping.						
Sub Total for System		13 items			\$1,619,891	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	21	Ea.	2	\$374,519	9749
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	18	Ea.	2	\$31,791	9742
Air Compressor Is Inoperable And Requires Replacement	Capital Renewal	1	Ea.	3	\$6,730	9739
The Make Up Air Equipment Requires Replacement	Capital Renewal	2	Ea.	3	\$33,527	9732
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	33,691	SF	4	\$239,943	9745
Small HVAC Circulating Pump Requires Replacement	Capital Renewal	2	Ea.	4	\$20,096	9735
The Exhaust Hood Requires Replacement	Capital Renewal	15	Ea.	4	\$82,305	9748
Sub Total for System		7 items			\$788,912	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Lighting Fixtures Require Replacement	Capital Renewal	33,691	SF	2	\$211,069	9743
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	\$12,229	9740
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	\$24,548	9741
The Electrical Receptacles Are Inadequate And More are Needed	Functional Deficiency	20	Ea.	3	\$12,029	9726
The Mounted Building Lighting Requires Replacement	Capital Renewal	8	Ea.	3	\$12,590	9720
The Canopy Lighting Requires Replacement	Capital Renewal	3	Ea.	4	\$4,360	9719
Room Has Insufficient Electrical Outlets	Educational Adequacy	76	Ea.	5	\$37,918	Rollup
Sub Total for System		7 items			\$314,743	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Existing Lavatory/Sink Pipes Are Not Insulated Correctly	Barrier to Accessibility	15	LF	3	\$752	9722
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	3	Ea.	4	\$32,327	9721
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	14	Ea.	4	\$40,135	9709
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	2	Ea.	4	\$5,433	9727
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	22	Ea.	4	\$73,787	10967
Room lacks a drinking fountain.	Educational Adequacy	3	Ea.	5	\$3,326	Rollup
Sub Total for System		6 items			\$155,759	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Install Fire Sprinklers (NFPA 13)	Code Compliance	33,691	SF	1	\$465,290	11436
Sub Total for System		1 items			\$465,290	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	48	Ea.	3	\$24,057	18589



Facility Condition Assessment

East Providence - Silver Spring School

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Instructional spaces do not have local sound reinforcement.	Technology	18	Ea.	3	\$90,214	18597
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$7,017	18586
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	\$44,906	18585
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	45	Ea.	3	\$20,298	18588
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	48	Ea.	3	\$21,651	18593
Technology: Network system inadequate and/or near end of useful life	Technology	1	Ea.	3	\$8,019	18595
Technology: Network system inadequate and/or near end of useful life	Technology	25	Ea.	3	\$125,297	18596
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	33,619	SF	3	\$60,658	18594
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	\$57,135	18590
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	\$8,019	18587
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	20	Ea.	3	\$32,076	18591
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	\$7,618	18592
Sub Total for System		13	items		\$506,965	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	5	Ea.	3	\$22,939	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	17	Room	4	\$200,531	9746
Note: Original casework should be replaced.						
Sub Total for System		2	items		\$223,470	
Sub Total for Building 01 - Main Building		59	items		\$5,089,557	
Total for Campus		65	items		\$5,600,763	



Silver Spring School - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Parking Lot Pavement	Asphalt	20	CAR	\$66,977	5
Pedestrian Pavement	Sidewalks - Concrete	2,677	SF	\$55,383	5
Sub Total for System		2	items	\$122,360	
Sub Total for Building -		2	items	\$122,360	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Tile Flooring	Ceramic Tile	654	SF	\$17,776	3
Interior Door Supplementary Components	Door Hardware	11	Door	\$34,931	4
Suspended Plaster and	Painted ceilings	1,464	SF	\$6,199	5
Wall Painting and Coating	Painting/Staining (Bldg SF)	12,488	SF	\$83,518	5
Resilient Flooring	Vinyl Composition Tile Flooring	21,589	SF	\$250,681	5
Sub Total for System		5	items	\$393,104	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	2-Pipe Water System (Hot)	33,691	SF	\$262,861	5
Sub Total for System		1	items	\$262,861	

Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Piping	Domestic Water Piping System (Bldg,SF)	33,691	SF	\$274,377	5
Sub Total for System		1	items	\$274,377	
Sub Total for Building 01 - Main Building		7	items	\$930,342	
Total for: Silver Spring School		9	items	\$1,052,702	



Supporting Photos



Non-Refrigerated Drinking Fountain



Radiator



Aged Panelboards



Aged Grid System



Facility Condition Assessment

East Providence - Silver Spring School



Typical Worn Casework



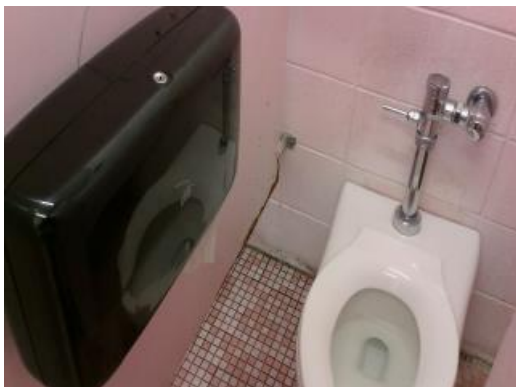
Cabinet Unit Heater



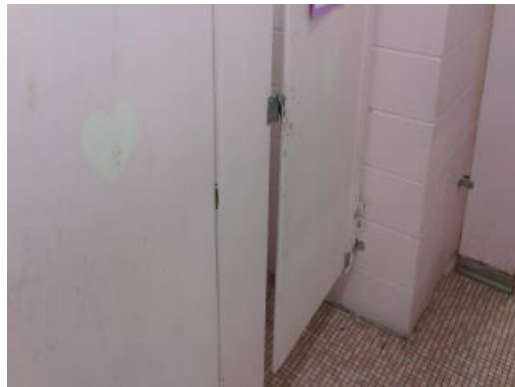
Exhaust Fan



Pipe Insulation Missing



Rusted Partition



Damaged Toilet Partition



Facility Condition Assessment

East Providence - Silver Spring School



Cracked Ceramic Tile Wall



Cracked Ceramic Tile Wall



Service Sink



Damaged Chain Link



Rusted Fence



Alligatored Parking



Fully Deteriorated Asphalt



Alligatored Roadway Asphalt



Pot Holes In Asphalt Drive



Cracked Sidewalks



Severely Cracked Sidewalks



Roof Blisters



Facility Condition Assessment

East Providence - Silver Spring School



Roof Blisters



Building Mounted Lights



Damaged Canopy Light



Ponding On Roof



Cracked CMU Wall



Aged Air Compressor



Facility Condition Assessment

East Providence - Silver Spring School



Stall Not Accessible



Roof Condition



Site Aerial



Hallway Finishes



Site Signage



Gym/Cafeteria



Facility Condition Assessment

East Providence - Silver Spring School



Typical Classroom



Restroom Fixtures And Finishes



Main Entry



Typical Classroom Lavatory



Library



Cracked Brick



Facility Condition Assessment

East Providence - Silver Spring School



Exterior Soffit Paint



Typical Single Pane Windows



Damaged Brick At Concrete Wall



Aged Make Up Air Unit



Single Pane Window With Deteriorated Sealant



Typical Damaged Skylight



Cracked Tectum Ceiling



Worn Paint On Handrail



Pumps



Broken Roof Hatch



Aged And Stained Ceiling Tiles



Stained Ceiling Tiles



Worn Door Frame Painting



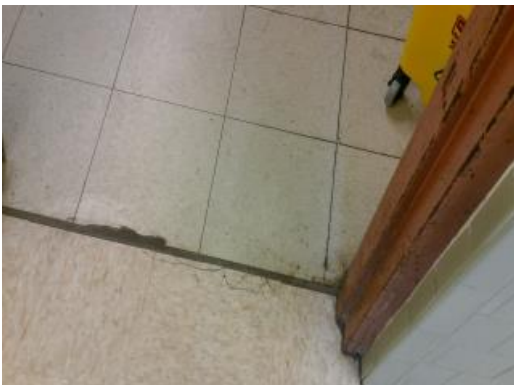
Typical Interior Wood Door.



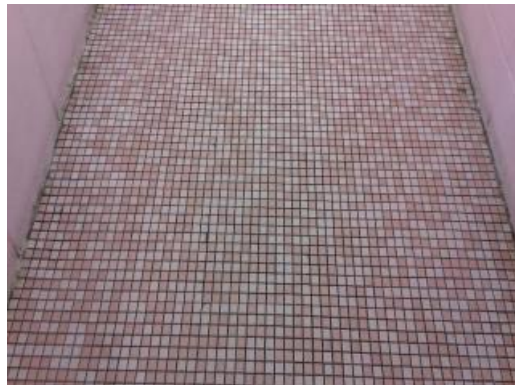
Typical Wood Door And Hardware



9x9 Tile In Gym/Cafeteria



Typical Worn VCT



Typical Ceramic Floor Tile