



# Facility Condition Assessment

Warwick - E. G. Robertson School

June 2017

70 Nausauket Road, Warwick, RI 02886





## Introduction

E. G. Robertson School, located at 70 Nausauket Road in Warwick, Rhode Island, was built in 1947. It comprises 38,674 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.

E. G. Robertson School serves grades KG - 6, has 23 instructional spaces, and has an enrollment of 298. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for E. G. Robertson School is 300 with a resulting utilization of 99%.

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 E. G. Robertson School the 5-year need is \$6,800,086. 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.

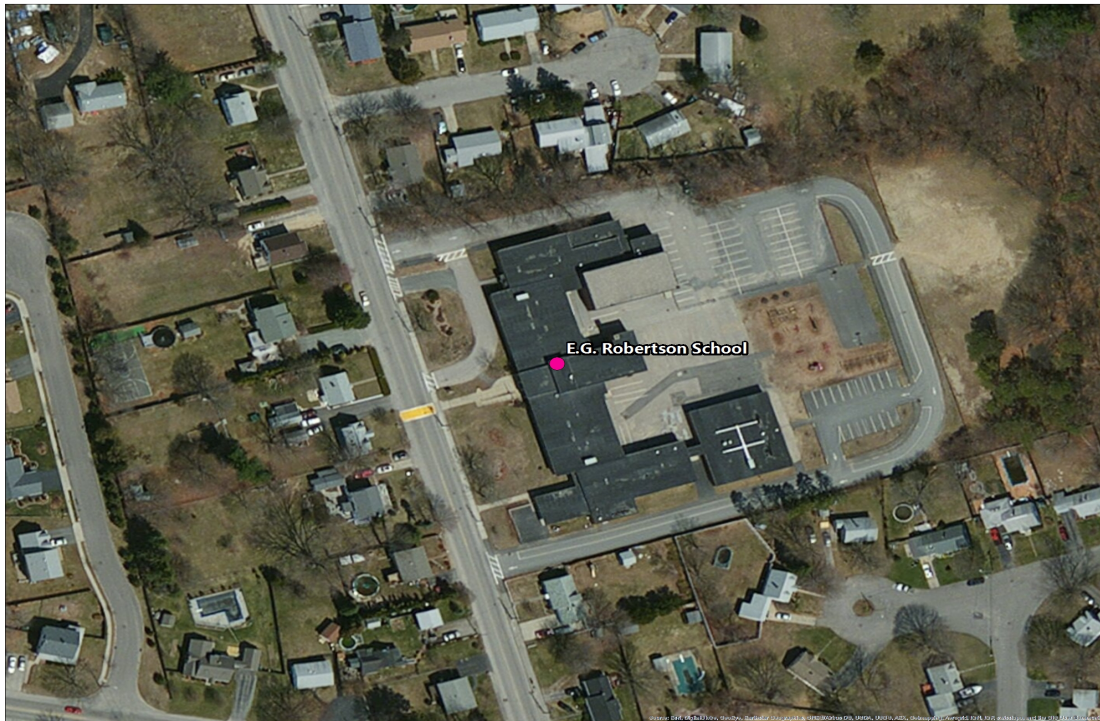


Figure 1: Aerial view of E. G. Robertson School



## 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 E. G. Robertson School campus, identified by discipline and building.

### Site

The site level systems for this campus include:

<b>Site</b>	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:

<b>01 - Main Building:</b>	Brick Exterior Wall
	Painted Exterior Wall
	Painted Gypsum Soffit
	Aluminum Exterior Windows
	Wood Exterior Windows
	Steel Exterior Entrance Doors
	Wood Exterior Doors

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

<b>01 - Main Building:</b>	EPDM Roofing
	Single Ply Membrane Ballasted Roofing

### Interior

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

<b>01 - Main Building:</b>	Steel Interior Doors
	Wood Interior Doors
	Overhead Interior Coiling Doors
	Interior Door Hardware
	Door Hardware
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings
	CMU Wall
	Brick/Stone Veneer
	Interior Wall Painting
	Concrete Flooring





<b>01 - Main Building:</b>	Ceramic Tile Flooring
	Quarry Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring

## Mechanical

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

<b>01 - Main Building:</b>	3,264 MBH Cast Iron Water Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	12 MBH Steam Unit Heater
	Pneumatic Heating System Controls
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	5 HP Pump
	10,000 CFM Interior AHU
	Ductwork
	15 Ton DX Gas Roof Top Unit
	Roof Exhaust Fan
	Fire Sprinkler System

## Plumbing

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

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

## Electrical

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

<b>01 - Main Building:</b>	Panelboard - 120/240 100A
	Panelboard - 120/240 225A
	Panelboard - 120/240 400A
	Electrical Disconnect
	Light Fixtures



# Facility Condition Assessment

Warwick - E. G. Robertson School

<b>01 - Main Building:</b>	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.



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	-	-	\$515,819	\$373,660	\$4,396	\$893,875	16.21 %
Roofing	-	\$619,951	-	-	-	\$619,951	11.24 %
Structural	-	-	-	-	-	\$0	0.00 %
Exterior	-	\$201,571	\$2,682	-	\$10,756	\$215,009	3.90 %
Interior	-	-	\$483,346	\$530,427	\$23,435	\$1,037,208	18.81 %
Mechanical	-	\$519,294	-	\$283,001	-	\$802,295	14.55 %
Electrical	-	\$321,820	\$24,255	-	\$43,671	\$389,746	7.07 %
Plumbing	-	-	\$18,718	\$50,282	\$15,223	\$84,223	1.53 %
Fire and Life Safety	-	-	-	-	-	\$0	0.00 %
Technology	-	-	\$1,193,527	-	-	\$1,193,527	21.64 %
Conveyances	-	-	-	-	-	\$0	0.00 %
Specialties	-	-	\$4,563	\$266,643	\$8,556	\$279,762	5.07 %
<b>Total</b>	\$0	\$1,662,637	\$2,242,910	\$1,504,012	\$106,038	\$5,515,596	

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

The building systems with the most need include:

Technology	-	\$1,193,527
Interior	-	\$1,037,208
Site	-	\$893,875

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

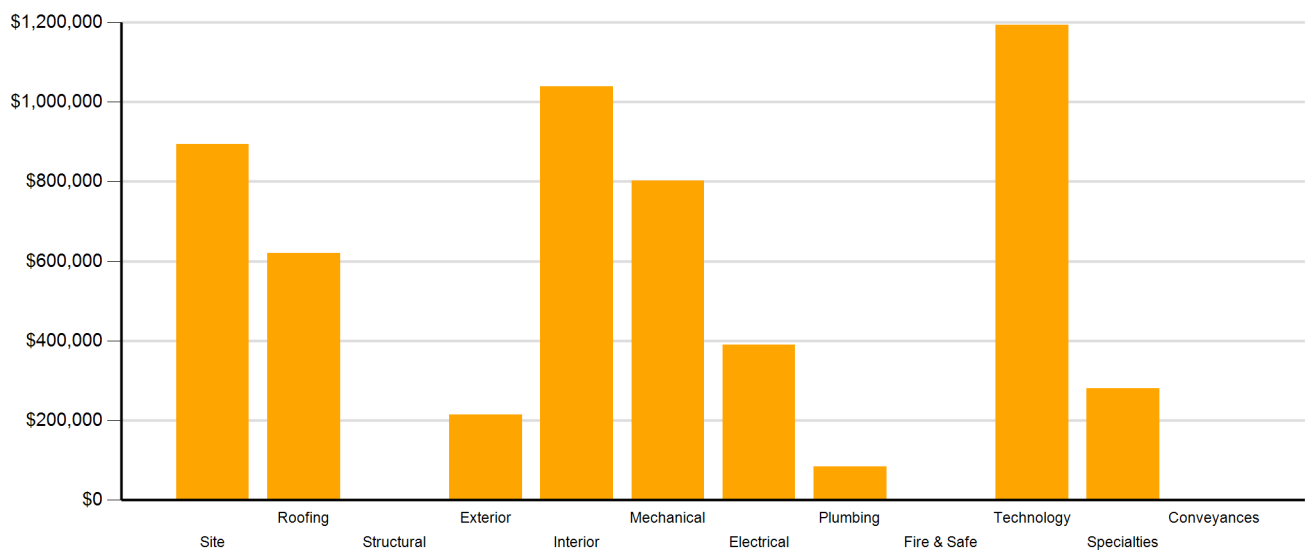


Figure 2: System Deficiencies





## 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	-	-	\$108,204	\$50,827	-	\$159,030
Barrier to Accessibility	-	-	\$294,716	-	-	\$294,716
Capital Renewal	-	\$1,662,637	\$637,479	\$1,276,137	\$32,826	\$3,609,079
Code Compliance	-	-	-	-	-	\$0
Educational Adequacy	-	-	\$10,268	\$124,172	\$73,212	\$207,652
Functional Deficiency	-	-	-	-	-	\$0
Hazardous Material	-	-	-	\$52,876	-	\$52,876
Technology	-	-	\$1,187,822	-	-	\$1,187,822
Traffic	-	-	\$4,421	-	-	\$4,421
<b>Total</b>	\$0	\$1,662,637	\$2,242,910	\$1,504,012	\$106,038	\$5,515,596

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

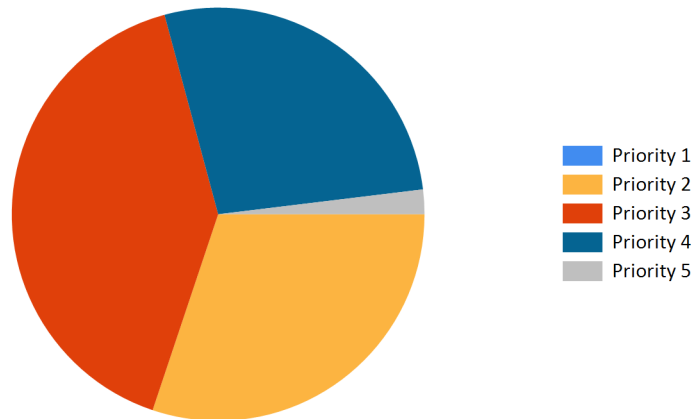


Figure 3: Current deficiencies by priority



## 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	\$893,875	\$0	\$0	\$0	\$0	\$0	\$0	\$893,875
Roofing	\$619,951	\$0	\$0	\$0	\$0	\$0	\$0	\$619,951
Structural	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Exterior	\$215,009	\$0	\$0	\$0	\$0	\$0	\$0	\$215,009
Interior	\$1,037,208	\$0	\$0	\$0	\$561,868	\$0	\$561,868	\$1,599,076
Mechanical	\$802,295	\$0	\$0	\$0	\$19,060	\$362,030	\$381,090	\$1,183,385
Electrical	\$389,746	\$0	\$0	\$0	\$13,092	\$0	\$13,092	\$402,838
Plumbing	\$84,223	\$0	\$0	\$0	\$14,743	\$311,167	\$325,910	\$410,133
Fire and Life Safety	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Technology	\$1,193,527	\$0	\$0	\$0	\$0	\$0	\$0	\$1,193,527
Conveyances	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Specialties	\$279,762	\$0	\$0	\$0	\$0	\$0	\$0	\$279,762
<b>Total</b>	<b>\$5,515,596</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$608,763</b>	<b>\$673,197</b>	<b>\$1,281,960</b>	<b>\$6,797,556</b>

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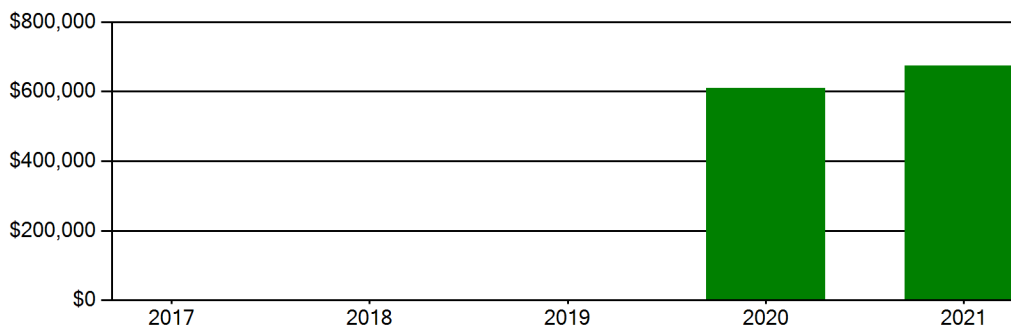
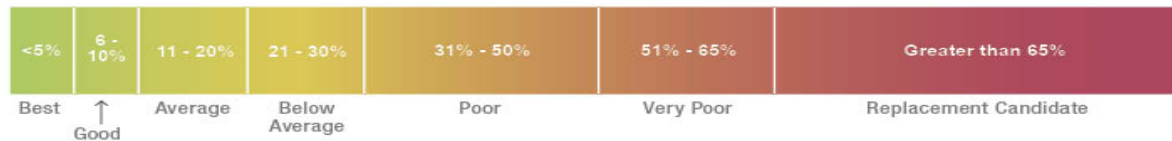


Figure 4: Life Cycle Capital Renewal Forecast



## Facility Condition Index (FCI)

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



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

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

The replacement value represents the estimated cost of replacing the current building with another building of like size, based on today's estimated cost of construction in the Providence, Rhode Island area. The estimated replacement cost for this facility is \$13,535,900. For planning purposes, the total 5-year need at the E. G. Robertson School is \$6,800,086 (Life Cycle Years 1-5 plus the FCI deficiency cost). The E. G. Robertson School facility has a 5-year FCI of 50.22%.

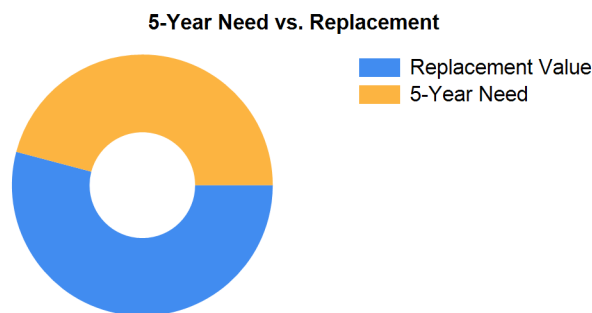


Figure 5: 5-Year FCI

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 215 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 E. G. Robertson School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$482,328.



### Summary of Findings

The E. G. Robertson School comprises 38,674 square feet and was constructed in 1947. Current deficiencies at this school total \$5,518,126. Five year capital renewal costs total \$1,281,960. The total identified need for the E. G. Robertson School (current deficiencies and 5-year capital renewal costs) is \$6,800,086. The 5-year FCI is 50.22%.

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
E. G. Robertson School Totals	38,674	1947	\$5,518,126	\$1,281,960	\$6,800,086	50.22%

*\*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 <b>Note:</b> The paved play area is deteriorated.	Capital Renewal	17,000	SF	3	\$187,641	17817
Concrete Walks Require Replacement <b>Note:</b> The concrete sidewalks are rough and deteriorating.	Capital Renewal	1,100	SF	3	\$29,041	17818
Crosswalk Requires Repainting <b>Note:</b> Repaint crosswalks on campus	Traffic	3	Ea.	3	\$2,947	22040
Pavement Markings: Words/Symbols Are Required <b>Note:</b> Repaint arrow symbols on campus	Traffic	3	Ea.	3	\$1,474	22041
The Playground Impact Surface Does Not Meet ADA Guidelines For Accessible Play Surfaces	Barrier to Accessibility	6,000	SQFT	3	\$294,716	17820
Asphalt Paving Requires Replacement <b>Note:</b> The front and side roadway pavement is in poor condition.	Capital Renewal	28	CAR	4	\$119,658	17815
Asphalt Paving Requires Replacement <b>Note:</b> The parking lot pavement adjacent to the multipurpose addition is in poor condition.	Capital Renewal	43	CAR	4	\$183,761	17816
Backstops Require Replacement <b>Note:</b> Backstops Require Replacement	Educational Adequacy	1	Ea.	4	\$36,840	28604
Fencing Requires Replacement (4' Chain Link Fence) <b>Note:</b> The fencing is rusted.	Capital Renewal	400	LF	4	\$33,401	17814
Site Marquee Requires Repair	Capital Renewal	1	Ea.	5	\$4,396	17819
<b>Sub Total for System</b>		<b>10</b>	<b>items</b>		<b>\$893,875</b>	

### Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Handrail Requires Replacement <b>Note:</b> The exit stair railing at the east classroom wing exit is damaged.	Capital Renewal	12	LF	3	\$2,682	17821
<b>Sub Total for System</b>		<b>1</b>	<b>items</b>		<b>\$2,682</b>	
<b>Sub Total for School and Site Level</b>		<b>11</b>	<b>items</b>		<b>\$896,557</b>	

## Building: 01 - Main Building

### Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
EPDM Roofing Requires Replacement (Bldg SF) <b>Note:</b> The roofing is in poor condition.	Capital Renewal	35,394	SF	2	\$484,826	17847
The Single-Ply Membrane Roof Covering Requires Replacement <b>Note:</b> The ballasted single ply roof at the multipurpose addition is in poor condition.	Capital Renewal	3,280	SF	2	\$135,126	17826
<b>Sub Total for System</b>		<b>2</b>	<b>items</b>		<b>\$619,951</b>	

### Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Overhead Door Requires Replacement <b>Note:</b> Rolling gates at main corridor to close off the two classroom wings when the auditorium is in use after school hours. 2 gates at 9 ft x 9 ft.	Capital Renewal	2	Door	2	\$79,716	17851
The Wood Exterior Door Requires Replacement <b>Note:</b> The original exterior wood doors are deteriorated.	Capital Renewal	12	Door	2	\$108,204	17824
The Wood Window Requires Replacement <b>Note:</b> The original wood windows are in poor condition.	Capital Renewal	66	SF	2	\$13,652	17825
The Exterior Requires Painting <b>Note:</b> The exterior painted wood trim is in poor condition. <b>Location:</b> Main building wood trim below roof line	Capital Renewal	1,320	SF Wall	5	\$7,872	17823
The Exterior Soffit Requires Repainting <b>Note:</b> The exterior soffits are in poor condition.	Capital Renewal	800	SF	5	\$2,884	17822
<b>Sub Total for System</b>		<b>5</b>	<b>items</b>		<b>\$212,327</b>	



# Facility Condition Assessment

Warwick - E. G. Robertson School

## Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation <b>Note:</b> Older Classroom Doors	Acoustics	12	Ea.	3	\$108,204	27803
Interior Doors Require Replacement <b>Note:</b> The interior wood doors are aged and worn.	Capital Renewal	58	Door	3	\$289,717	17828
The Acoustical Ceiling Tiles Require Replacement <b>Note:</b> Ceiling tiles are in poor condition.	Capital Renewal	4,900	SF	3	\$47,943	17827
The Ceramic Tile Flooring Requires Replacement <b>Note:</b> The ceramic tile flooring is in poor condition.	Capital Renewal	300	SF	3	\$8,727	17830
The Wood Flooring Requires Replacement <b>Note:</b> The wood flooring at the stage is in poor condition.	Capital Renewal	800	SF	3	\$28,755	17829
Adhered Acoustical Ceiling Tile Requires Replacement <b>Note:</b> The adhered tile ceilings are in poor condition.	Capital Renewal	16,484	SF	4	\$193,647	17850
Ceiling Grid Requires Replacement	Capital Renewal	4,900	SF	4	\$62,959	17849
Interior Toilet Partition Requires Repair <b>Note:</b> The toilet partitions are in poor condition.	Capital Renewal	20	Ea.	4	\$11,329	17838
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	15	Ea.	4	\$4,635	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	1,910	LF	4	\$47,212	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	100	SF	4	\$1,030	Rollup
Room Is Excessively Reverberant <b>Note:</b> Gym	Acoustics	1,500	SF	4	\$36,305	27804
Room Is Excessively Reverberant <b>Note:</b> Music Space	Acoustics	600	SF	4	\$14,522	27805
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	2,277	SF	4	\$86,763	Rollup
The Stone/Quarry Flooring Requires Replacement <b>Note:</b> The quarry tile flooring is in poor condition.	Capital Renewal	1,460	SF	4	\$72,027	17831
Classroom Door Requires Vision Panel	Educational Adequacy	1	Ea.	5	\$2,282	Rollup
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	\$3,480	Rollup
The Gypsum Board Ceilings Require Repainting	Capital Renewal	3,900	SF	5	\$17,673	Rollup
<b>Sub Total for System</b>		<b>18</b>	<b>items</b>		<b>\$1,037,208</b>	

## Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent <b>Note:</b> Per LEA review feedback the district believes the heating system needs to be replaced.	Capital Renewal	8	Ea.	2	\$140,957	53609
Steam/HW Unit Heater Requires Replacement <b>Note:</b> Unit heater in the electrical room is old and in poor condition.	Capital Renewal	1	Ea.	2	\$2,587	17843
The Cast Iron Water Boiler Requires Replacement <b>Note:</b> Boiler is old, rusted, and corroded.	Capital Renewal	1	Ea.	2	\$196,093	17844
The Fin Tube Water Radiant Heater Requires Replacement <b>Note:</b> Per LEA review feedback the district believes the heating system needs to be replaced.	Capital Renewal	99	Ea.	2	\$179,657	53608
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls <b>Note:</b> Control system needs to be upgraded to DDC. Current system results in uneven heating throughout the building.	Capital Renewal	38,674	SF	4	\$283,001	17846
<b>Sub Total for System</b>		<b>5</b>	<b>items</b>		<b>\$802,295</b>	

## Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Electrical Disconnect Requires Replacement <b>Note:</b> The Federal Pacific disconnect is old, in poor condition, and needs to be replaced.	Capital Renewal	1	Ea.	2	\$1,986	17833
The Lighting Fixtures Require Replacement <b>Note:</b> Lights are old and inefficient.	Capital Renewal	38,674	SF	2	\$248,945	17845
The Panelboard Requires Replacement <b>Note:</b> Panels are old and in poor condition. They should be replaced to reduce the risk of breakers failing.	Capital Renewal	2	Ea.	2	\$20,804	17840



## Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Panelboard Requires Replacement <b>Note:</b> Main distribution panel is old and in poor condition.	Capital Renewal	1	Ea.	2	\$12,390	17841
The Panelboard Requires Replacement <b>Note:</b> Panels are old and in poor condition. They should be replaced to reduce the risk of breakers failing.	Capital Renewal	6	Ea.	2	\$37,695	17842
The Mounted Building Lighting Requires Replacement <b>Note:</b> Lights are old and do not illuminate well.	Capital Renewal	15	Ea.	3	\$24,255	17832
Room Has Insufficient Electrical Outlets	Educational Adequacy	88	Ea.	5	\$43,671	Rollup
<b>Sub Total for System</b>		<b>7</b>	<b>items</b>		<b>\$389,746</b>	

## Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Urinal Plumbing Fixtures Require Replacement <b>Note:</b> Urinals are old, corroded, and in poor condition.	Capital Renewal	13	Ea.	3	\$18,718	17839
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	\$570	Rollup
Non-Refrigerated Drinking Fountain Requires Replacement <b>Note:</b> Bubbler is old, corroding, and should be replaced.	Capital Renewal	2	Ea.	4	\$22,143	17836
The Restroom Lavatories Plumbing Fixtures Require Replacement <b>Note:</b> Restroom lavatories are old and in poor condition.	Capital Renewal	8	Ea.	4	\$27,569	17834
Room lacks a drinking fountain.	Educational Adequacy	6	Ea.	5	\$6,617	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	7	Ea.	5	\$8,607	Rollup
<b>Sub Total for System</b>		<b>6</b>	<b>items</b>		<b>\$84,223</b>	

## Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	1	Ea.	3	\$5,704	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	168	Ea.	3	\$86,513	22949
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	23	Ea.	3	\$497,452	22954
Technology: Instructional spaces do not have local sound reinforcement.	Technology	23	Ea.	3	\$118,441	22956
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	\$5,768	22946
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	\$49,024	22945
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$5,150	22944
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$5,150	22947
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$7,209	22942
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	\$46,140	22941
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	114	Ea.	3	\$52,835	22948
Technology: Network system inadequate and/or near end of useful life	Technology	2	Ea.	3	\$16,479	22957
Technology: Network system inadequate and/or near end of useful life	Technology	18	Ea.	3	\$92,693	22958
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	38,674	SF	3	\$71,696	22953
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	\$58,706	22950
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	\$20,598	22955



# Facility Condition Assessment

Warwick - E. G. Robertson 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	\$8,239	22943
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	23	Ea.	3	\$37,901	22952
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	\$7,827	22951
<b>Sub Total for System</b>		<b>19</b>	<b>items</b>		<b>\$1,193,527</b>	

## Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	1	Ea.	3	\$4,563	Rollup
Replace Cabinetry In Classes/Labs <b>Note:</b> The cabinets are in poor condition.	Capital Renewal	22	Room	4	\$266,643	17848
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	\$8,556	Rollup
<b>Sub Total for System</b>		<b>3</b>	<b>items</b>		<b>\$279,762</b>	
<b>Sub Total for Building 01 - Main Building</b>		<b>65</b>	<b>items</b>		<b>\$4,619,040</b>	
<b>Total for Campus</b>		<b>76</b>	<b>items</b>		<b>\$5,515,596</b>	



## E. G. Robertson School - Life Cycle Summary Yrs 1-5

### Building: 01 - Main Building

#### Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Resilient Flooring	Vinyl Composition Tile Flooring	30,574	SF	\$350,737	4
Wall Painting and Coating	Painting/Staining (Bldg SF)	31,954	SF	\$211,131	4
<b>Sub Total for System</b>		<b>2</b>	<b>items</b>	<b>\$561,868</b>	

#### Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	Pump - 5HP	2	Ea.	\$19,060	4
Exhaust Air	Roof Exhaust Fan	11	Ea.	\$57,245	5
Facility Hydronic Distribution	2-Pipe Water System (Hot)	38,674	SF	\$298,107	5
Decentralized Cooling	Window Units	2	Ea.	\$6,678	5
<b>Sub Total for System</b>		<b>4</b>	<b>items</b>	<b>\$381,089</b>	

#### Electrical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Lighting Fixtures	Canopy Mounted Fixtures (Ea.)	3	Ea.	\$4,136	4
Lighting Fixtures	Building Mounted Fixtures (Ea.)	6	Ea.	\$8,956	4
<b>Sub Total for System</b>		<b>2</b>	<b>items</b>	<b>\$13,091</b>	

#### Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Equipment	Water Heater - Electric - 40 gallon	1	Ea.	\$3,540	4
Plumbing Fixtures	Mop/Service Sinks	2	Ea.	\$5,153	4
Compressed-Air Systems	Air Compressor (1 hp)	1	Ea.	\$6,050	4
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)	38,674	SF	\$311,167	5
<b>Sub Total for System</b>		<b>4</b>	<b>items</b>	<b>\$325,910</b>	
<b>Sub Total for Building 01 - Main Building</b>		<b>12</b>	<b>items</b>	<b>\$1,281,958</b>	
<b>Total for: E. G. Robertson School</b>		<b>12</b>	<b>items</b>	<b>\$1,281,958</b>	



## Supporting Photos



Site Aerial



Rusted Fencing



Paved Play Area



Spalled Sidewalks





# Facility Condition Assessment

Warwick - E. G. Robertson School



Marquee



Playground Impact Surface



Damaged Exterior Stair Railing



Worn Soffit Paint



Soffit Paint



Painted Wood Trim



# Facility Condition Assessment

Warwick - E. G. Robertson School



Original Exterior Wood Doors



Worn Interior Wood Door



Worn Wood Stage Floor



Aged Building Mounted Light



Federal Pacific Disconnect



Aged Water Fountain



Damaged Toilet Partitions



Aged Panelboard



100 Amp Panelboard



Unit Heater



Main Building Roof



Aged Cabinetry





# Facility Condition Assessment

Warwick - E. G. Robertson School



Adhered Tile Ceiling



Main Entry



Art Classroom



Multipurpose Room



Science Classroom



Auditorium



# Facility Condition Assessment

Warwick - E. G. Robertson School



Typical Classroom



Hallway Finishes



Front Elevation



Multipurpose Addition Exterior



Music Space



Library



# Facility Condition Assessment

Warwick - E. G. Robertson School



Side Elevation



East Classroom Wing Exterior