Facility Condition Assessment

Warwick - Norwood School | *June 2017*

266 Norwood Avenue, Warwick, RI 02888

Introduction

Norwood School, located at 266 Norwood Avenue in Warwick, Rhode Island, was built in 1968. It comprises 34,492 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.

Norwood School serves grades KG - 6, has 19 instructional spaces, and has an enrollment of 260. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Norwood School is 325 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 Norwood School the 5-year need is $8,392,752. 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.

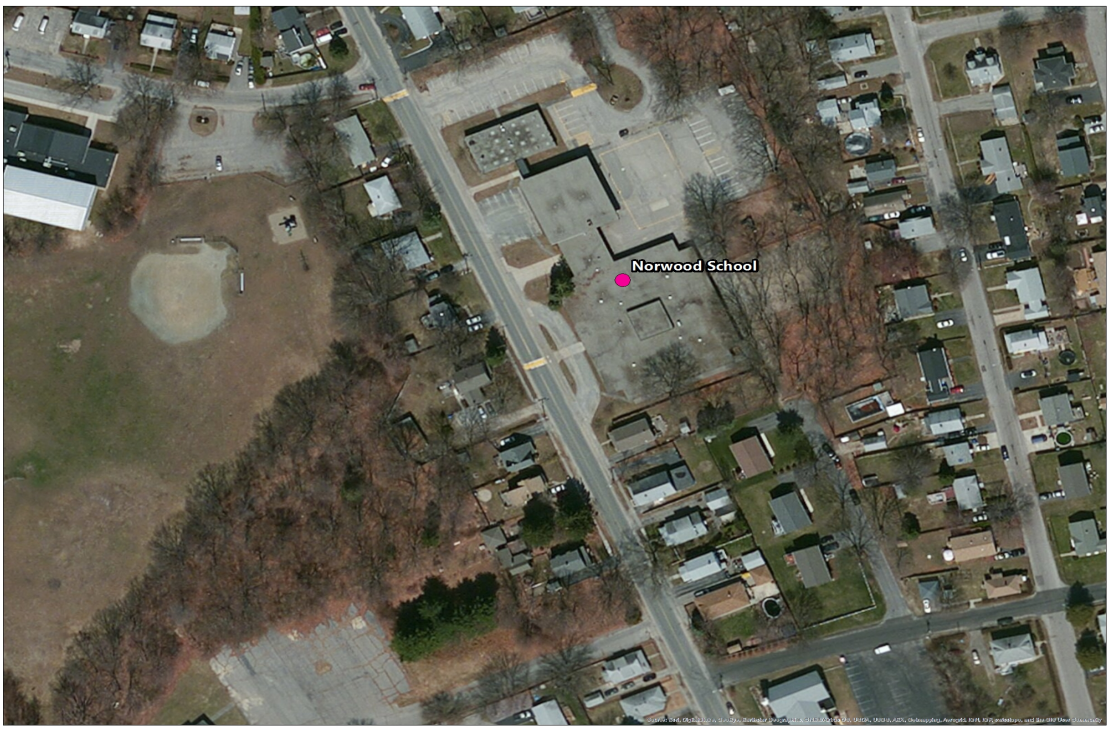

Figure 1: Aerial view of Norwood School

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 Norwood 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
	Painted Gypsum Soffit
	Aluminum Exterior Windows
	Steel Exterior Entrance Doors

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

01 - Main Building:	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
	Interior Door Hardware
	Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Painted Ceilings
	Metal Panel Ceilings
	Wood Ceilings
	CMU Wall
	Interior Wall Painting
	Ceramic Tile Flooring
	Vinyl Composition Tile Flooring

Mechanical

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

01 - Main Building:	200 MBH Copper Tube Boiler

01 - Main Building:	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	20 MBH Gas Unit Heater
	Pneumatic Heating System Controls
	1 Ton Ductless Split System
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	5 HP Pump
	Ductwork
	5,000 CFM Interior AHU
	Wall Exhaust Fan
	Large Roof Exhaust Fan
	Small Roof Exhaust Fan

Plumbing

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

01 - Main Building:	Gas Piping System
	50 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Lavatories
	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals
	Air Compressor (5 hp)

Electrical

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

01 - Main Building:	1,500 KVA Transformer
	Panelboard - 120/208 225A
	Panelboard - 120/240 100A
	Panelboard - 120/240 400A
	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.

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

Table 1: System by Priority

	Priority						
System	1	2	3	4	5	Total	% of Total
Site	-	-	$90,669	$397,306	-	$487,975	6.37 %
Roofing	-	$1,899,413	-	-	-	$1,899,413	24.80 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$384,769	-	$1,110,127	-	$1,494,896	19.52 %
Interior	-	-	$1,052,646	$341,580	-	$1,394,226	18.20 %
Mechanical	-	$504,235	-	$245,480	-	$749,715	9.79 %
Electrical	-	$56,109	$47,323	$7,180	$37,462	$148,074	1.93 %
Plumbing	-	-	-	$156,571	$15,148	$171,719	2.24 %
Fire and Life Safety	$105,308	-	-	-	-	$105,308	1.37 %
Technology	-	-	$929,751	-	-	$929,751	12.14 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$13,598	$256,387	$8,499	$278,484	3.64 %
Total	$105,308	$2,844,526	$2,133,987	$2,514,631	$61,109	$7,659,561	

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

The building systems with the most need include:

Roofing	-	$1,899,413
Exterior	-	$1,494,896
Interior	-	$1,394,226

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

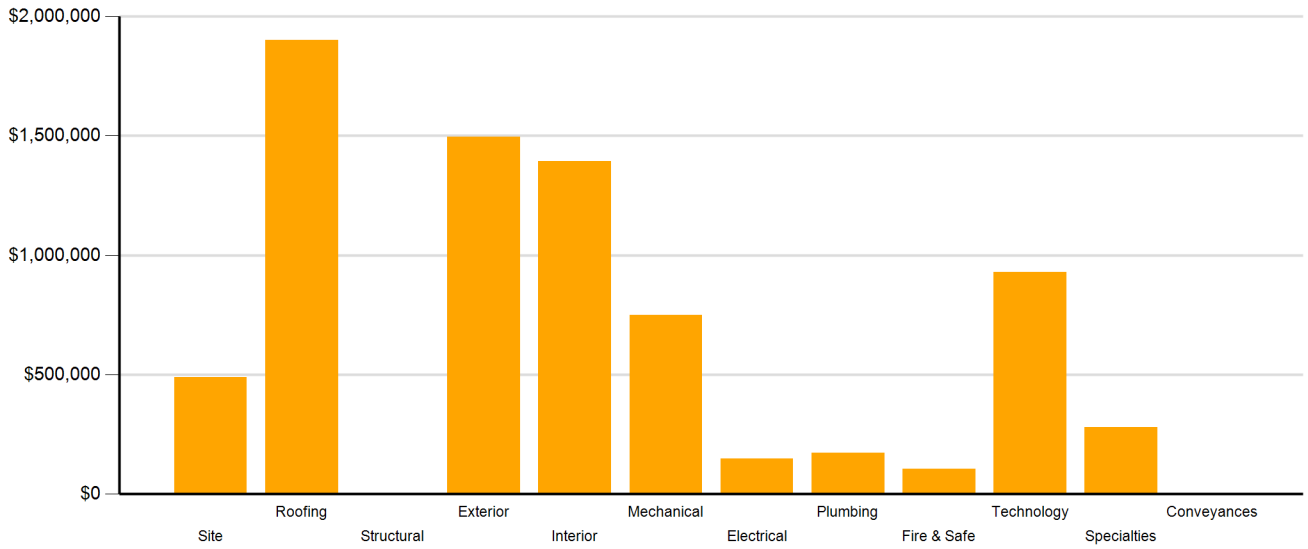

Figure 2: System Deficiencies

Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

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

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

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

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

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

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

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

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

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

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

Table 2: Deficiency Category by Priority

	Priority					
Category	**1**	**2**	**3**	**4**	**5**	**Total**
Acoustics	-	-	$146,566	-	-	$146,566
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	$105,308	$2,844,526	$956,608	$2,409,800	-	$6,316,242
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$30,595	$36,221	$61,109	$127,925
Functional Deficiency	-	-	-	$12,547	-	$12,547
Hazardous Material	-	-	-	$56,063	-	$56,063
Technology	-	-	$912,754	-	-	$912,754
Traffic	-	-	$87,464	-	-	$87,464
Total	$105,308	$2,844,526	$2,133,987	$2,514,631	$61,109	$7,659,561

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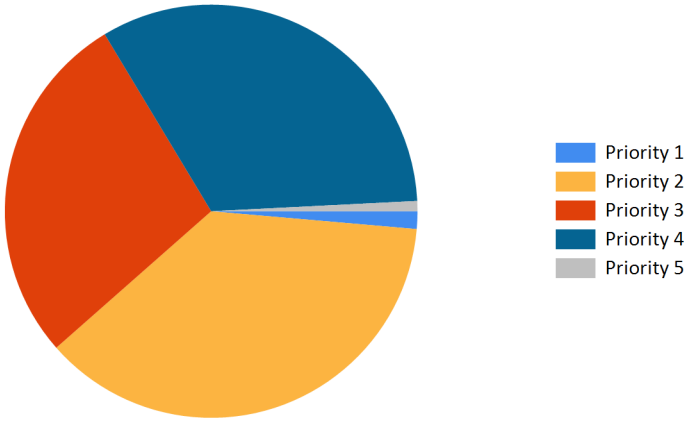

Figure 3: Current deficiencies by priority

Life Cycle Capital Renewal Forecast

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

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

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

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

Table 3: Capital Renewal Forecast

		Life Cycle Capital Renewal Projections						
System	Current Deficiencies	Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021	LC Yr. 1-5 Total	Total 5-Year Need
Site	$487,975	$0	$0	$0	$65,275	$0	$65,275	$553,250
Roofing	$1,899,413	$0	$0	$0	$0	$0	$0	$1,899,413
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$1,494,896	$0	$0	$0	$0	$0	$0	$1,494,896
Interior	$1,394,226	$0	$0	$27,348	$0	$77,969	$105,317	$1,499,543
Mechanical	$749,715	$0	$0	$0	$0	$268,576	$268,576	$1,018,291
Electrical	$148,074	$0	$0	$0	$0	$0	$0	$148,074
Plumbing	$171,719	$0	$0	$0	$0	$292,464	$292,464	$464,184
Fire and Life Safety	$105,308	$0	$0	$0	$0	$0	$0	$105,308
Technology	$929,751	$0	$0	$0	$0	$0	$0	$929,751
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$278,484	$0	$0	$0	$0	$0	$0	$278,484
Total	**$7,659,561**	**$0**	**$0**	**$27,348**	**$65,275**	**$639,009**	**$731,632**	**$8,391,193**

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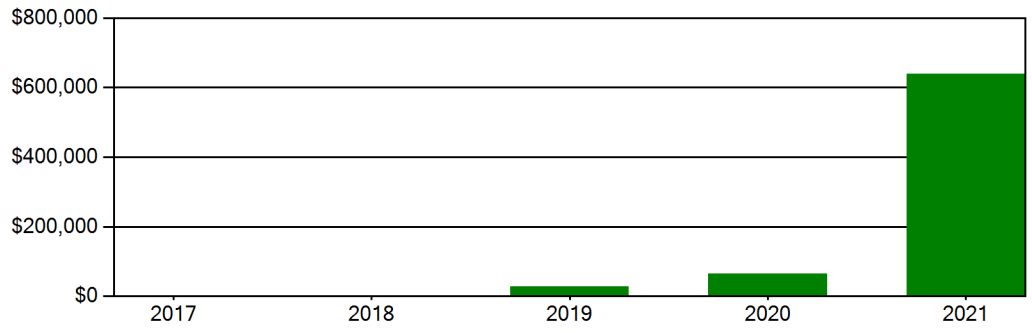
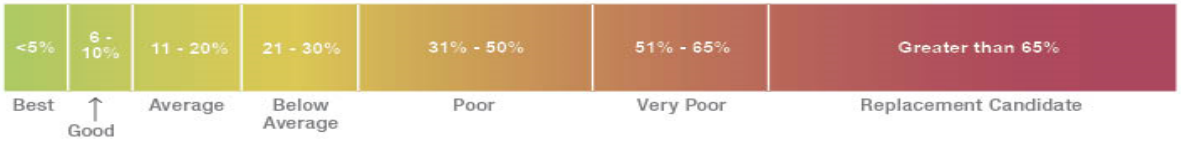


Figure 4: Life Cycle Capital Renewal Forecast

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 $12,072,200. For planning purposes, the total 5-year need at the Norwood School is $8,392,752 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Norwood School facility has a 5-year FCI of 69.51%.

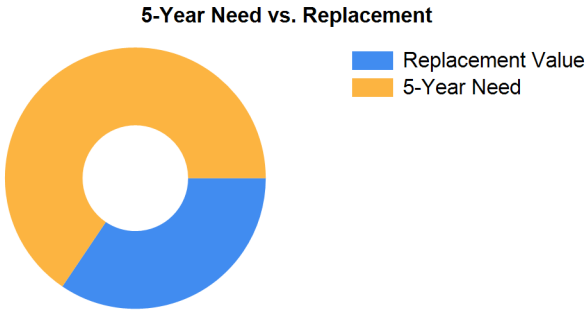


Figure 5: 5-Year FCI

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 192 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 Norwood School cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $0.

Summary of Findings

The Norwood School comprises 34,492 square feet and was constructed in 1968. Current deficiencies at this school total $7,661,120. Five year capital renewal costs total $731,632. The total identified need for the Norwood School (current deficiencies and 5-year capital renewal costs) is $8,392,752. The 5-year FCI is 69.51%.

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
Norwood School Totals	34,492	1968	$7,661,120	$731,632	$8,392,752	69.51%

**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	300	SF	3	$3,204	12304
Note: There are several large cracks and pot holes in sidewalk.						
Crosswalk Requires Repainting	Traffic	2	Ea.	3	$1,901	16920
Note: Repaint crosswalks on Norwood Avenue.						
Sidewalk Requires Replacement	Traffic	3,000	SF	3	$85,563	16921
Note: Replace sidewalk on edge of school property on Norwood Ave (500' long x 6' wide)						
Asphalt Paving Requires Replacement	Capital Renewal	71	CAR	4	$293,631	12302
Note: Asphalt parking is weathered and should be replaced.						
Asphalt Paving Requires Replacement	Capital Renewal	10	CAR	4	$41,357	12303
Note: Roadway asphalt has cracks, alligatoring, and pot holes.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$35,651	28613
Note: Backstops Require Replacement						
Fencing Requires Replacement (4' Chain Link Fence)	Capital Renewal	330	LF	4	$26,667	12301
	Sub Total for System	**7**	**items**		**$487,975**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Pole Lighting Requires Replacement	Capital Renewal	2	Ea.	3	$19,337	12305
Note: Pole lights are rusted.						
	Sub Total for System	**1**	**items**		**$19,337**	
	Sub Total for School and Site Level	**8**	**items**		**$507,312**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Built-up Roofing With Aggregate Ballast Requires Replacement	Capital Renewal	34,492	SF	2	$1,366,310	12521
Note: Assessment team did not have access to the roof at the time of the site visit. However, evidence of roof leaks and water infiltration were present throughout the interior of the school.						
The Tectum Decking Requires Replacement	Capital Renewal	6,898	SF	2	$533,103	12325
Note: Tectum ceiling is damaged and stained.						
	Sub Total for System	**2**	**items**		**$1,899,413**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Aluminum Window Requires Replacement	Capital Renewal	1,440	SF	2	$253,836	12309
Note: Leaking single pane windows should be replaced.						
The Aluminum Window Requires Replacement	Capital Renewal	64	SF	2	$11,282	12310
Note: Leaking single pane windows should be replaced.						
The Aluminum Window Requires Replacement	Capital Renewal	144	SF	2	$25,384	12311
Note: Leaking single pane windows should be replaced.						
The Metal Exterior Door Requires Replacement	Capital Renewal	5	Door	2	$33,423	12308
Note: Exterior doors are rusted and do not properly secure.						
The Metal Panel Exterior Requires Replacement (Bldg SF)	Capital Renewal	288	SF	2	$45,633	12334
Note: Metal panels are rusted and damaged. 3x3 @ 32						
The Metal Panel Exterior Requires Replacement (Bldg SF)	Capital Renewal	96	SF	2	$15,211	12335
Note: Metal panels are rusted and damaged. 1x3 @ 32						
The Exterior Soffit Requires Replacement	Capital Renewal	8,623	SF	4	$1,110,127	12307
Note: Soffits are water damaged.						
	Sub Total for System	**7**	**items**		**$1,494,896**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	16	Ea.	3	$146,566	19856
Note: All classrooms						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	61	Door	3	$292,983	12312
Note: Interior wood doors are damaged and do not close and secure.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	23,110	SF	3	$217,417	12522
Note: Ceiling tiles are aged and stained.						
The Vinyl Composition Tile Requires Replacement	Capital Renewal	33,112	SF	3	$395,680	12313
Note: VCT is worn with cracks and chips.						
Ceiling Grid Requires Replacement	Capital Renewal	23,110	SF	4	$285,517	12337
Note: Ceiling grid damaged and rusted.						
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	7	Ea.	4	$2,080	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	113	LF	4	$2,686	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	5,180	SF	4	$51,298	Rollup
	Sub Total for System	**8**	**items**		**$1,394,226**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Gas Unit Heater Requires Replacement	Capital Renewal	2	Ea.	2	$6,077	12331
Note: Aged unit heaters should be replaced.						
Replace Unit Vent	Capital Renewal	18	Ea.	2	$317,153	12338
Note: Unit vents are aged and leaking with dirty coils.						
The Air Handler HVAC Component Requires Replacement	Capital Renewal	1	Ea.	2	$105,477	12327
Note: AHU is corroded and leaking.						
The Boiler HVAC Component Requires Replacement	Capital Renewal	2	Ea.	2	$47,634	12339
Note: Boilers are aged and showing signs of leaks.						
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	12	Ea.	2	$20,939	12332
Note: Fin tube heaters are aged and rusted.						
The Window AC Unit Component Requires Replacement	Capital Renewal	2	Ea.	2	$6,956	12326
Note: Window units are aged with damaged coils.						
Exhaust Fan Ventilation Requires Replacement	Capital Renewal	1	Ea.	4	$2,789	12317
Note: Wall mounted exhaust fan does not work.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	34,492	SF	4	$242,691	12333
Note: System is aged with leaks in the air lines.						
	Sub Total for System	**8**	**items**		**$749,715**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Electrical Disconnect Requires Replacement	Capital Renewal	1	Ea.	2	$1,909	12316
Note: Disconnect is aged and rusted.						
The Panelboard Requires Replacement	Capital Renewal	3	Ea.	2	$18,123	12328
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	$11,913	12329
The Panelboard Requires Replacement	Capital Renewal	4	Ea.	2	$24,164	12330
Note: Panelboards are rusted and corroded.						
The Mounted Building Lighting Requires Replacement	Capital Renewal	18	Ea.	3	$27,986	12315
Note: Building mounted lights are broken or missing.						
The Canopy Lighting Requires Replacement	Functional Deficiency	5	Ea.	4	$7,180	12314
Note: Canopy lights are not functioning.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	76	Ea.	5	$37,462	Rollup
	Sub Total for System	**7**	**items**		**$128,737**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Floor Drains Are Required	Educational Adequacy	1	Ea.	4	$570	Rollup
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	3	Ea.	4	$31,937	12321
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	15	Ea.	4	$42,484	12306
Note: Classroom lavatories are aged with rust and corrosion.						

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Custodial Mop Or Service Sink Requires Replacement	Functional Deficiency	2	Ea.	4	$5,367	12322
Note: Service sinks are rusted and leaking.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	2	Ea.	4	$6,627	12318
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	21	Ea.	4	$69,585	12319
Note: Restroom lavatories are aged with some rust and corrosion present.						
Room lacks a drinking fountain.	Educational Adequacy	6	Ea.	5	$6,572	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	7	Ea.	5	$8,576	Rollup
	Sub Total for System	**8**	**items**		**$171,719**	

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)	Capital Renewal	34,492	SF	1	$105,308	12324
	Sub Total for System	**1**	**items**		**$105,308**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	3	Ea.	3	$16,997	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	166	Ea.	3	$82,196	22913
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	22	Ea.	3	$217,868	22916
Technology: Instructional spaces do not have local sound reinforcement.	Technology	25	Ea.	3	$123,789	22921
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,546	22911
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$47,139	22910
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$4,952	22912
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,932	22909
Technology: Main Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	$52,288	22907
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$9,408	22908
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	90	Ea.	3	$40,108	22915
Technology: Network system inadequate and/or near end of useful life	Technology	3	Ea.	3	$23,767	22919
Technology: Network system inadequate and/or near end of useful life	Technology	20	Ea.	3	$99,031	22920
Technology: Number of current, up to date, network switch ports are insufficient to support campus technology.	Technology	144	Ea.	3	$71,302	22914
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	34,492	SF	3	$61,484	22918
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	$19,806	22917
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	25	Ea.	3	$39,612	22922
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,526	22923
	Sub Total for System	**18**	**items**		**$929,751**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	3	Ea.	3	$13,598	Rollup
Replace Cabinetry In Classes/Labs	Capital Renewal	22	Room	4	$256,387	12336

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,499	Rollup
	Sub Total for System	**3**	**items**		**$278,484**	
	Sub Total for Building 01 - Main Building	**62**	**items**		**$7,152,250**	
	Total for Campus	**70**	**items**		**$7,659,561**	

Norwood 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	ES Playgrounds	1	Ea.	$44,588	4
Fences and Gates	Fencing - Chain Link (4 Ft)	320	LF	$20,687	4
Note:	6' chain link fence				
	Sub Total for System	**2**	**items**	**$65,275**	
	Sub Total for Building -	**2**	**items**	**$65,275**	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	4,139	SF	$27,348	3
Interior Operable Partitions	Foldable partition (Bldg SF)	675	SF Wall	$77,969	5
	Sub Total for System	**2**	**items**	**$105,317**	

Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Facility Hydronic Distribution	Pump - 1HP or Less (Ea.)	2	Ea.	$15,257	5
Exhaust Air	Roof Exhaust Fan - Small	6	Ea.	$15,823	5
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water	11	Ea.	$186,063	5
Decentralized Cooling	Ductless Split System (1 Ton)	1	Ea.	$14,116	5
Exhaust Air	Roof Exhaust Fan - Large	2	Ea.	$27,787	5
Facility Hydronic Distribution	Pump - 5HP	1	Ea.	$9,530	5
Note:	3 HP				
	Sub Total for System	**6**	**items**	**$268,576**	

Plumbing

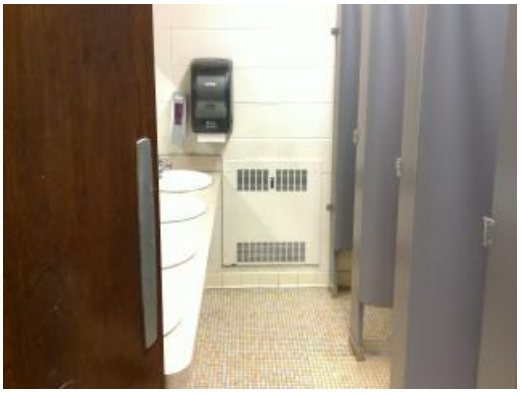
Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Domestic Water Equipment	Water Heater - Gas - 50 gallon	1	Ea.	$3,160	5
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)	34,492	SF	$277,519	5
Compressed-Air Systems	Air Compressor (5 hp)	1	Ea.	$11,785	5
	Sub Total for System	**3**	**items**	**$292,464**	
	Sub Total for Building 01 - Main Building	**11**	**items**	**$666,356**	
	Total for: Norwood School	**13**	**items**	**$731,631**	

Supporting Photos

Site Aerial

Art Room

Corridor Finishes



Restroom Finishes


Elevation


Marquee


Playground

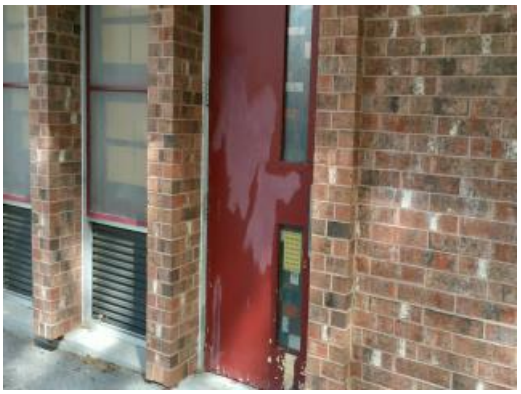
School Signage


Media Center


Classroom Lavatory


Damaged Soffit


Water Damaged Soffit


Weathered And Rusted Exterior Door


Worn VCT


Canopy Light

Building Mounted Light

Electrical Disconnect


Wall Exhaust


Weathered Asphalt Parking Lot


Damaged Fencing


Damaged Asphalt Sidewalk


Roadway Paving


Elevation


Pole Lights


Exterior Brick

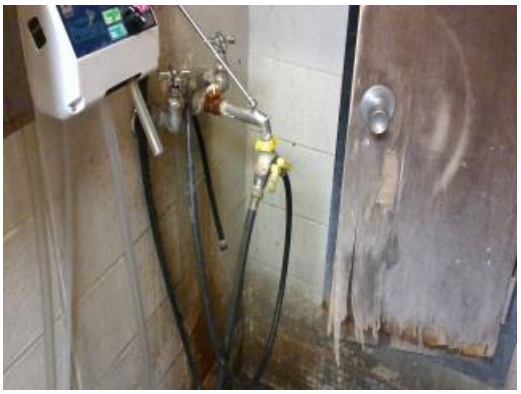

Typical Classroom


Gymnasium/Cafeteria


Entrance Doors


Aged Restroom Lavatory


Drinking Fountain


Leaking Service Sink Faucet

Fire Alarm


Stained Tectum


Window AC Unit


Aged Panelboard


Unit Heater


Aged Finned Wall Radiator


Controls


Classroom Cabinetry


Stained Ceiling Grid

Unit Vent