Highlander Charter

LEA Summary

Highlander Charter totals 103,336 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	36,758
Middle/High	66,578
Total:	**103,336**

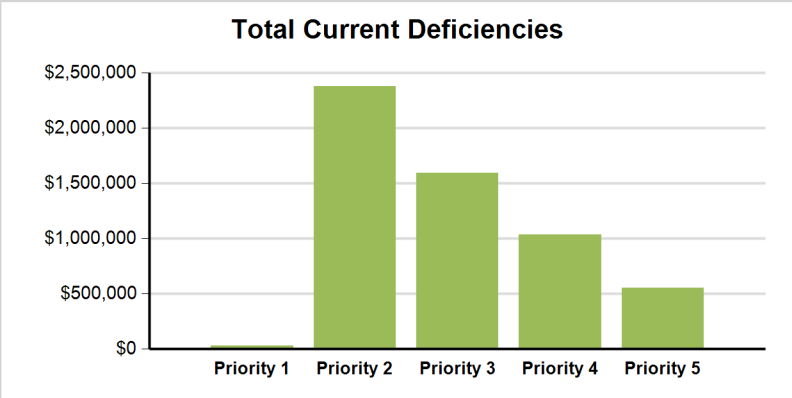
Demographics

Enrollment is projected to increase by 40.2% over the next 10 years in Charter Schools. The total LEA enrollment at 2 school(s) is 458 students with a total capacity of 632 as reported by the LEA. Utilization is calculated by dividing enrollment by capacity, resulting in 72.5% utilization at Highlander Charter.

72.5 % Utilization

Educational Program Space Analysis

In Highlander Charter there are 48 instructional spaces; of these spaces 41.7% meet or exceed the space size standards. Of the total current deficiencies identified, $809,651 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 $5,586,982, with 42.6% categorized as Priority 2 and another 28.5% as Priority 3. The building systems with the highest current deficiency costs are Mechanical and Technology.

The projected life cycle need in Years 1 through 5 is $5,941,150. It is anticipated that the majority of the need will occur in Year 4. School(s) with the greatest need are represented in the adjacent table and make up 100.0% of the combined 5-Year need at Highlander Charter.

School(s) with Greatest Need	Combined 5-Year Need
Highlander Charter School - Upper School (Warren)	$9,870,558
Highlander Charter School - Lower School (Providence)	$1,657,574

Five Year Facility Condition Index (FCI)

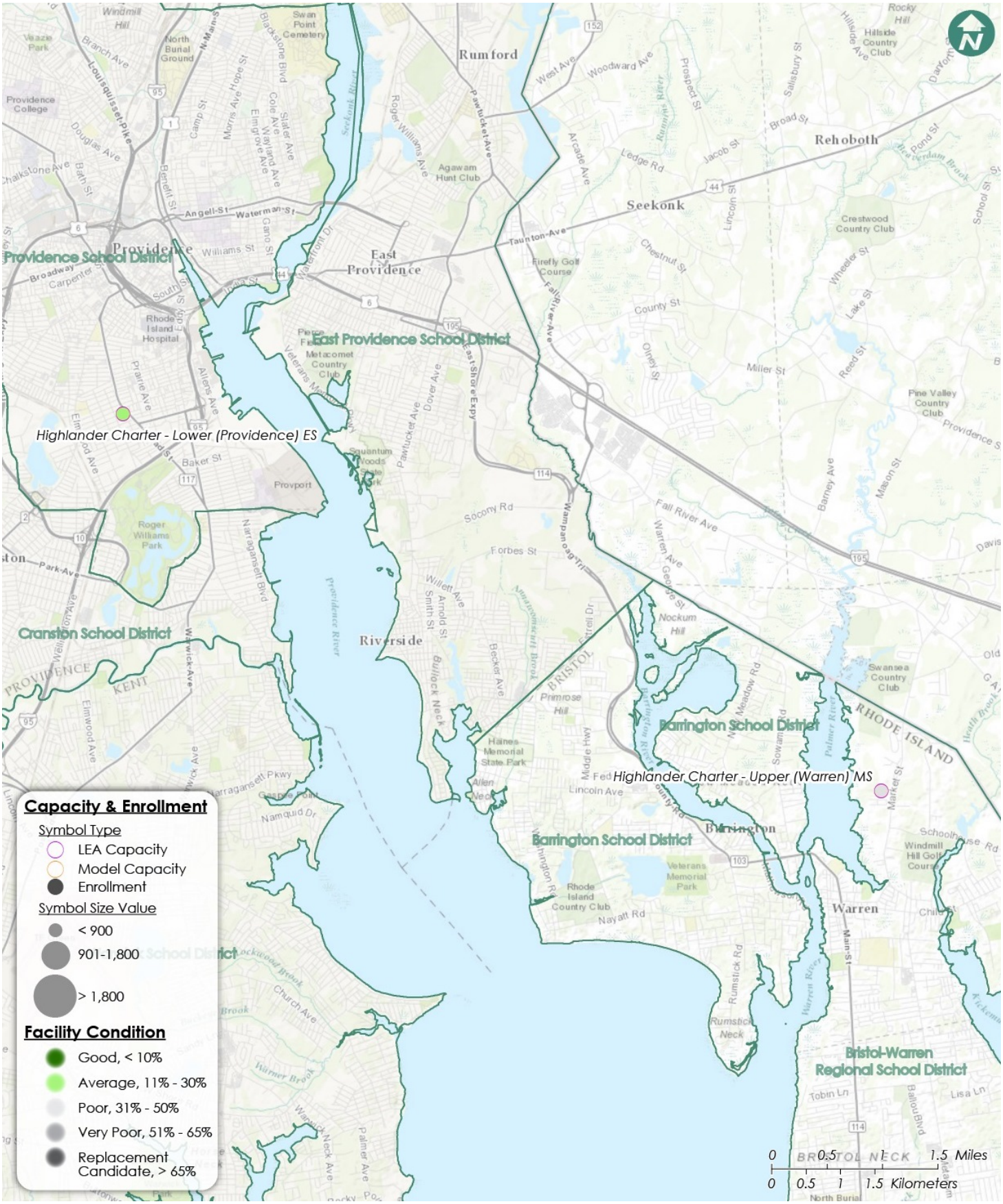
For master planning purposes, the total current deficiencies, less new construction, and the first 5 years of projected life cycle needs were combined. This provides an understanding of the current needs of a facility as well as the projected needs in the near future. A 5-Year FCI was calculated by dividing the 5-Year need by the total replacement cost. The 5-Year need is $11,528,132 with a district replacement value of $36,833,380. The resulting 5-Year FCI is 31.3%.

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
103,336	1948	$5,586,982	$5,941,150	$11,528,132	31.3%

Highlander Charter



Facility Condition Assessment

Charter - Highlander Charter School - Lower School (Providence) | *June 2017*

42 Lexington Ave, Providence, RI 02907

Introduction

Highlander Charter School - Lower School (Providence), located at 42 Lexington Ave in Providence, Rhode Island, was built in 1930. It comprises 36,758 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.

Highlander Charter School - Lower School (Providence) serves grades PK - 6, has 27 instructional spaces, and has an enrollment of 271. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Highlander Charter School - Lower School (Providence) is 632 with a resulting utilization of 43%.

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 Highlander Charter School - Lower School (Providence) the 5-year need is $1,657,574. 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.

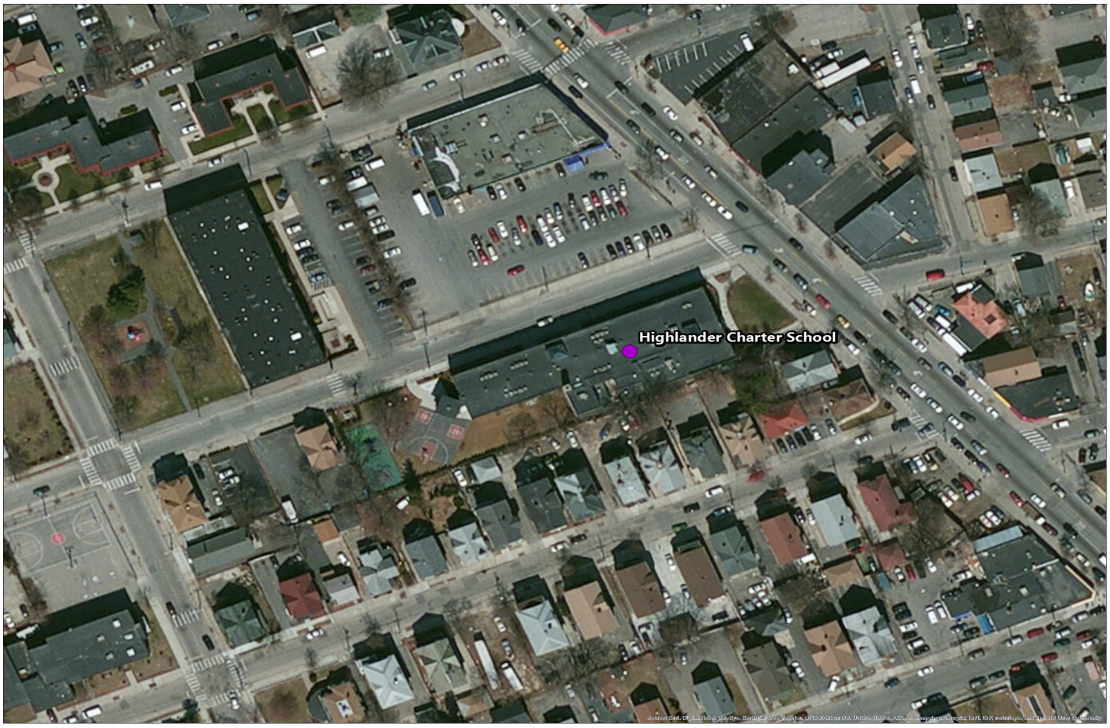


Figure 1: Aerial view of Highlander Charter School - Lower School (Providence)

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 Highlander Charter School - Lower School (Providence) campus, identified by discipline and building.

Site

The site level systems for this campus include:

Site	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
	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:	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
	Rubber 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
	DDC Heating System Controls
	2 Ton Ductless Split System

01 - Main Building:	4,000 CFM Energy Recovery Unit
	Make-up Air Unit
	5 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	Ductwork
	15 Ton DX Gas Roof Top Unit
	5 Ton DX Gas Roof Top Unit
	Kitchen Exhaust Hoods
	Large Roof Exhaust Fan
	Small Roof Exhaust Fan
	Fire Sprinkler System

Plumbing

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

01 - Main Building:	2" Backflow Preventers
	3/4" Backflow Preventers
	4" Backflow Preventers
	Gas Piping System
	60 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Toilets
	Urinals

Electrical

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

01 - Main Building:	1,200 Amp Switchgear
	Panelboard - 120/208 125A
	Panelboard - 120/208 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.

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	-	-	$9,176	$28,674	$70,678	$108,528	11.77 %
Roofing	-	-	-	-	-	$0	0.00 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	-	$137,606	-	-	$137,606	14.92 %
Interior	-	-	-	$56,205	$3,522	$59,727	6.48 %
Mechanical	-	-	-	-	-	$0	0.00 %
Electrical	-	-	-	-	$44,203	$44,203	4.79 %
Plumbing	-	-	-	-	$25,166	$25,166	2.73 %
Fire and Life Safety	-	-	-	-	-	$0	0.00 %
Technology	-	-	$524,021	-	-	$524,021	56.81 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$23,095	-	-	$23,095	2.50 %
Total	$0	$0	$693,897	$84,879	$143,570	$922,346	

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

The building systems with the most need include:

Technology	-	$524,021
Exterior	-	$137,606
Site	-	$108,528

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

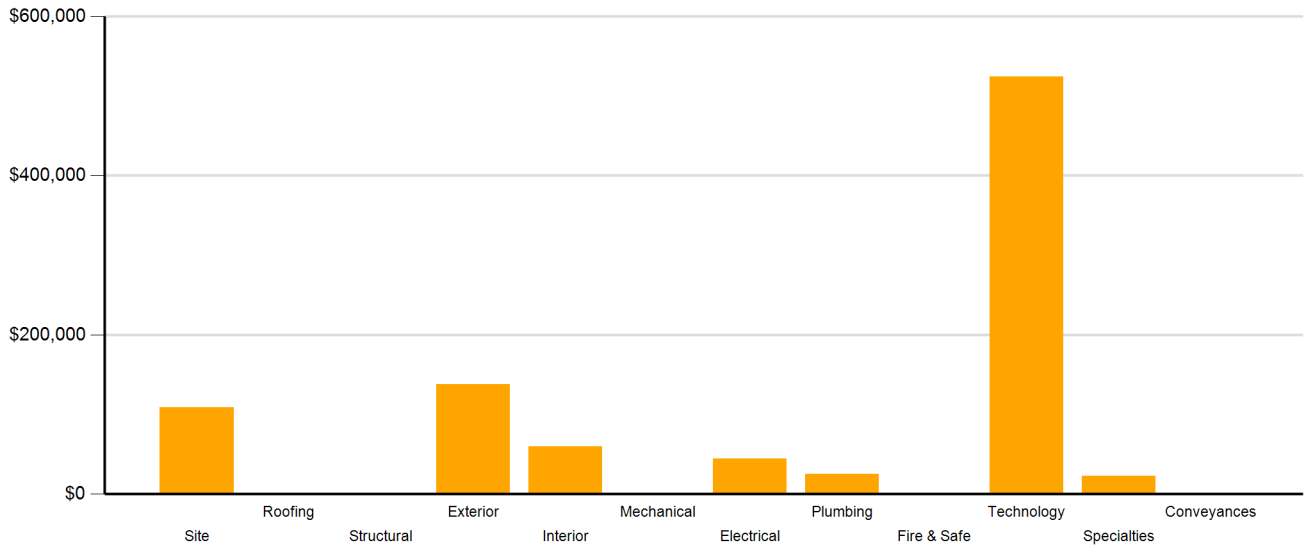


Figure 2: System Deficiencies

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	-	-	-	$17,149	-	$17,149
Barrier to Accessibility	-	-	-	-	-	$0
Capital Renewal	-	-	$137,606	-	-	$137,606
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	-	-	$69,284	$60,840	$143,570	$273,694
Functional Deficiency	-	-	-	-	-	$0
Hazardous Material	-	-	-	$6,891	-	$6,891
Technology	-	-	$477,831	-	-	$477,831
Traffic	-	-	$9,176	-	-	$9,176
Total	$0	$0	$693,897	$84,879	$143,570	$922,346

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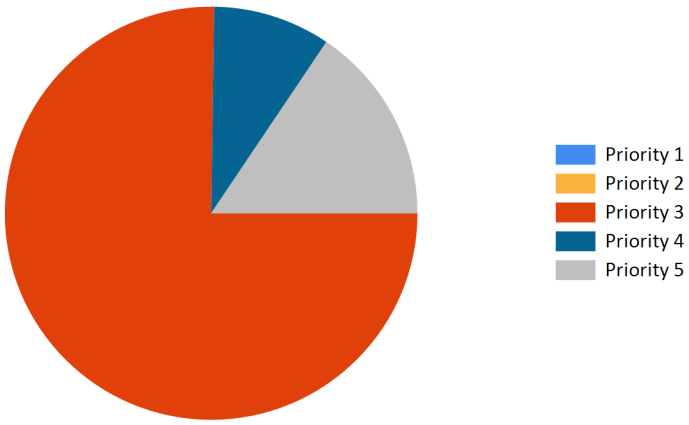

Figure 3: Current deficiencies by priority

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	$108,528	$0	$0	$0	$0	$68,081	$68,081	$176,609
Roofing	$0	$0	$0	$0	$0	$0	$0	$0
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$137,606	$0	$0	$0	$0	$0	$0	$137,606
Interior	$59,727	$0	$0	$0	$256,859	$410,288	$667,147	$726,874
Mechanical	$0	$0	$0	$0	$0	$0	$0	$0
Electrical	$44,203	$0	$0	$0	$0	$0	$0	$44,203
Plumbing	$25,166	$0	$0	$0	$0	$0	$0	$25,166
Fire and Life Safety	$0	$0	$0	$0	$0	$0	$0	$0
Technology	$524,021	$0	$0	$0	$0	$0	$0	$524,021
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$23,095	$0	$0	$0	$0	$0	$0	$23,095
Total	**$922,346**	**$0**	**$0**	**$0**	**$256,859**	**$478,369**	**$735,228**	**$1,657,574**

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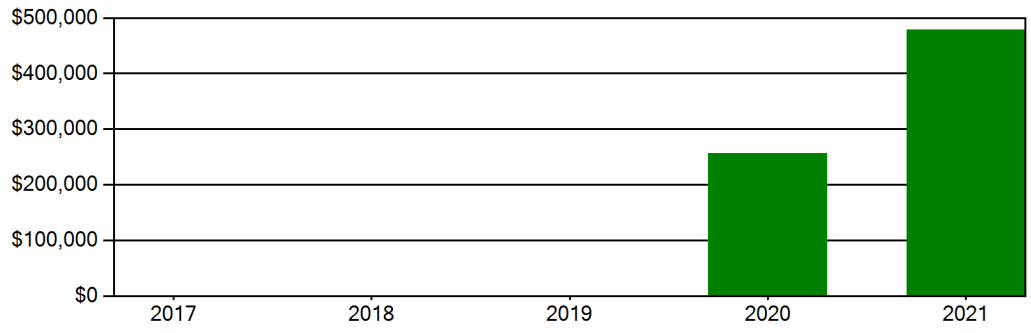
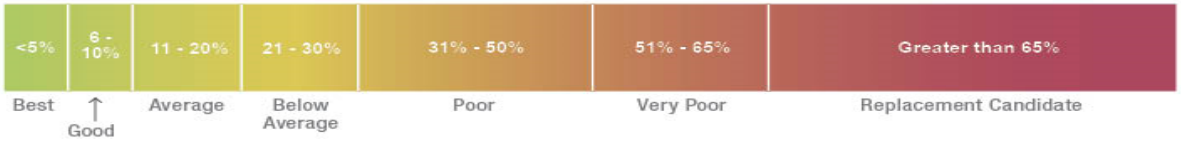


Figure 4: Life Cycle Capital Renewal Forecast

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 $12,865,300. For planning purposes, the total 5-year need at the Highlander Charter School - Lower School (Providence) is $1,657,574 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Highlander Charter School - Lower School (Providence) facility has a 5-year FCI of 12.88%.

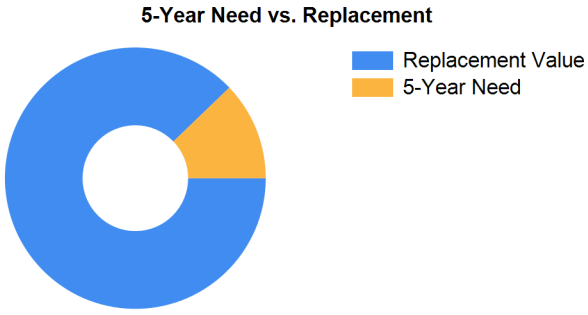


Figure 5: 5-Year FCI

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 204 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 Highlander Charter School - Lower School (Providence) cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $580,986.

Summary of Findings

The Highlander Charter School - Lower School (Providence) comprises 36,758 square feet and was constructed in 1930. Current deficiencies at this school total $922,346. Five year capital renewal costs total $735,228. The total identified need for the Highlander Charter School - Lower School (Providence) (current deficiencies and 5-year capital renewal costs) is $1,657,574. The 5-year FCI is 12.88%.

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
Highlander Charter School - Lower School (Providence) Totals	36,758	1930	$922,346	$735,228	$1,657,574	12.88%

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

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

Cost Estimating

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

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

Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Traffic Signage Is Required	Traffic	4	Ea.	3	$9,176	9355
Note: Add school zone warning signs on all approaches.						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$28,674	28662
Note: Backstops Require Replacement						
Exterior Basketball Goals are Required	Educational Adequacy	1	Ea.	5	$5,878	28850
Note: Exterior Basketball Goals are Required						
PE / Recess Playfield is Missing and is Needed	Educational Adequacy	1	Ea.	5	$64,800	54991
Note: PE / Recess Playfield is Missing and is Needed						
	Sub Total for System	**4**	**items**		**$108,528**	
	Sub Total for School and Site Level	**4**	**items**		**$108,528**	

Building: 01 - Main Building

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Brick Exterior Requires Repointing	Capital Renewal	3,000	SF Wall	3	$137,606	9217
Note: Brick mortar repointing is needed.						
	Sub Total for System	**1**	**items**		**$137,606**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Paint (probable pre-1978 in base layer(s)) - damaged area < 9 sq. ft. OR overall worn AND in children-accessible area (measurement unit - linear feet)	Hazardous Material	90	LF	4	$2,252	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	445	SF	4	$4,639	Rollup
Room Is Excessively Reverberant	Acoustics	700	SF	4	$17,149	19701
Note: Music Space						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	834	SF	4	$32,166	Rollup
Room lacks appropriate sound control.	Educational Adequacy	100	SF	5	$3,522	Rollup
	Sub Total for System	**5**	**items**		**$59,727**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room Has Insufficient Electrical Outlets	Educational Adequacy	88	Ea.	5	$44,203	Rollup
	Sub Total for System	**1**	**items**		**$44,203**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks a drinking fountain.	Educational Adequacy	12	Ea.	5	$13,395	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	9	Ea.	5	$11,771	Rollup
	Sub Total for System	**2**	**items**		**$25,166**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	8	Ea.	3	$46,189	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	95	Ea.	3	$49,517	24501
Technology: Campus wireless infrastructure inadequate.	Technology	25	Ea.	3	$36,486	24503
Technology: Instructional spaces do not have local sound reinforcement.	Technology	18	Ea.	3	$93,822	24508

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	1	Ea.	3	$5,838	24498
Technology: Intermediate Telecommunications Room needs M/E improvements.	Technology	1	Ea.	3	$26,687	24497
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$7,297	24494
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$46,703	24493
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$9,903	24496
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	96	Ea.	3	$45,035	24500
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	48	Ea.	3	$22,517	24506
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	36,758	SF	3	$68,974	24507
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$8,340	24495
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$5,212	24499
Technology: Telecommunications Room fiber connectivity infrastructure is outdated and/or inadequate.	Technology	1	Ea.	3	$6,880	24502
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	22	Ea.	3	$36,695	24504
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,923	24505
	Sub Total for System	**17**	**items**		**$524,021**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	5	Ea.	3	$23,095	Rollup
	Sub Total for System	**1**	**items**		**$23,095**	
	Sub Total for Building 01 - Main Building	**27**	**items**		**$813,818**	
	Total for Campus	**31**	**items**		**$922,346**	

Highlander Charter School - Lower School (Providence) - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

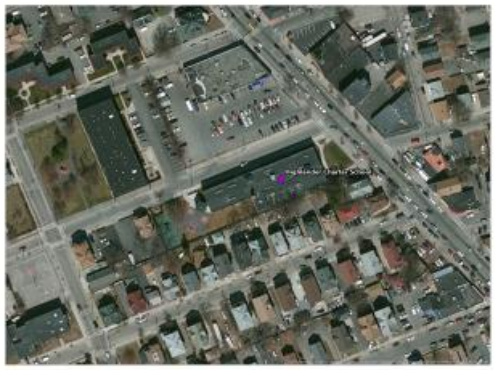
Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Pedestrian Pavement	Sidewalks - Concrete	2,500	SF	$51,722	5
Fences and Gates	Fencing - Chain Link (4 Ft)	250	LF	$16,359	5
	Sub Total for System	**2**	**items**	**$68,080**	
	Sub Total for Building -	**2**	**items**	**$68,080**	

Building: 01 - Main Building

Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Wall Painting and Coating	Painting/Staining (Bldg SF)	36,023	SF	$240,916	4
Carpeting	Carpet	724	SF	$15,943	4
Suspended Plaster and	Painted ceilings	1,730	SF	$7,325	5
Resilient Flooring	Vinyl Composition Tile Flooring	33,230	SF	$385,851	5
Resilient Flooring	Rubber Tile Flooring	905	SF	$17,112	5
	Sub Total for System	**5**	**items**	**$667,148**	
	Sub Total for Building 01 - Main Building	**5**	**items**	**$667,148**	
	Total for: Highlander Charter School - Lower School (Providence)	**7**	**items**	**$735,228**	

Supporting Photos



Site Aerial

Repointing Needed

Exterior Brick Walls Require Repointing

Playground


Ductless Split


Cubbies


Typical Hall Finishes


Water Heater


Condensing Unit Group


Typical Restroom Stall


Typical Roof Condition


Kitchen Hood


Building Exterior

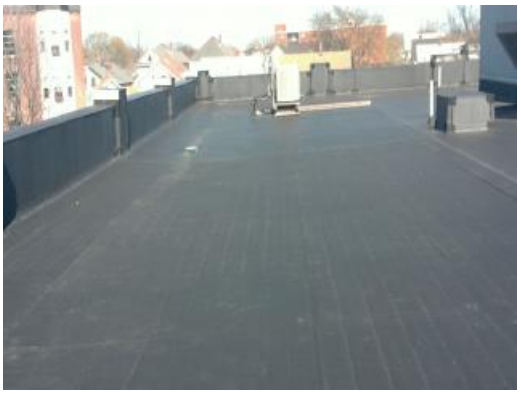

Typical Restroom Sink


Main Entrance


Electrical Panels


Front Elevation


Typical Lighting


Roof

Elevator Equipment


Typical Classroom


Boilers


Fin Tube Radiators


Library


Typical Window


Typical Toilet


Cafeteria


Rear of Building


Boiler Make-Up Backflow Preventer


Ornamental Fence


Cafeteria


Classroom


Playground

Facility Condition Assessment

Charter - Highlander Charter School - Upper School (Warren) | *June 2017*

360 Market St, Warren, RI 02885

Introduction

Highlander Charter School - Upper School (Warren), located at 360 Market St in Warren, Rhode Island, was built in 1965. It comprises 66,578 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.

Highlander Charter School - Upper School (Warren) serves grades 7 - 12, has 21 instructional spaces, and has an enrollment of 187. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Highlander Charter School - Upper School (Warren) 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 Highlander Charter School - Upper School (Warren) the 5-year need is $9,870,558. 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 Highlander Charter School - Upper School (Warren)

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 Highlander Charter School - Upper School (Warren) 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
	Painted Exterior Wall
	Metal Panel Exterior Wall
	Pre-cast Concrete Panel Exterior Wall
	Painted Gypsum Soffit
	Stucco Exterior Wall
	Vinyl on Wood Frame Exterior Windows
	Steel Exterior Windows
	Aluminum Exterior Windows
	Storefront Entrance Doors
	Wood Exterior Doors
	Steel Exterior Entrance Doors

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

01 - Main Building:	Composition Shingle Roofing
	Metal Steep Slope Roofing
	Single Ply Roofing
	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
	Exposed Metal Structure Ceiling
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings

01 - Main Building:	Wood Ceilings
	Metal Panel Ceilings
	Ceramic Tile Wall
	Acoustical Wall Paneling
	Wood Wall Paneling
	Vinyl/Fabric Wall Covering
	Brick/Stone Veneer
	CMU Wall
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Rubber Tile Flooring
	Vinyl Composition Tile Flooring
	Carpet

Mechanical

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

01 - Main Building:	400 MBH Cast Iron Water Boiler
	Finned Wall Radiator
	Steam/Hot Water Heating Unit Vent
	Pneumatic Heating System Controls
	Window Units
	2-Pipe Hot Water Hydronic Distribution System
	1 HP or Smaller Pump
	5 HP Pump
	10,000 CFM Interior AHU
	Ductwork
	Large Roof Exhaust Fan
	Small Roof Exhaust Fan
	Wall Exhaust Fan

Plumbing

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

01 - Main Building:	1,000 Gallon Water Storage Tank
	Gas Piping System
	66 Gallon Electric Water Heater
	60 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Lavatories

01 - Main Building:	Mop/Service Sinks
	Non-Refrigerated Drinking Fountain
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals
	Air Compressor (1 hp)
	1,000 Gallon Above Ground Fuel Oil Storage Tank

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 - 277/480 400A
	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	-	-	-	$28,329	$330,645	$358,974	7.71 %
Roofing	-	$912,669	$25,683	-	-	$938,352	20.14 %
Structural	-	-	-	-	-	$0	0.00 %
Exterior	-	$30,091	$665	$89,124	$2,752	$122,633	2.63 %
Interior	-	-	$238,333	$204,375	$5,799	$448,508	9.63 %
Mechanical	-	$1,370,922	$12,100	$471,700	-	$1,854,723	39.82 %
Electrical	$1,412	$64,704	$17,911	$16,542	$35,731	$136,301	2.93 %
Plumbing	-	-	$3,797	$139,365	$18,425	$161,586	3.47 %
Fire and Life Safety	$30,882	-	-	-	-	$30,882	0.66 %
Technology	-	-	$593,106	-	-	$593,106	12.73 %
Conveyances	-	-	-	-	-	$0	0.00 %
Specialties	-	-	$4,563	-	$8,556	$13,120	0.28 %
Total	$32,295	$2,378,387	$896,160	$949,435	$401,908	$4,658,185	

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

The building systems with the most need include:

Mechanical	-	$1,854,723
Roofing	-	$938,352
Technology	-	$593,106

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

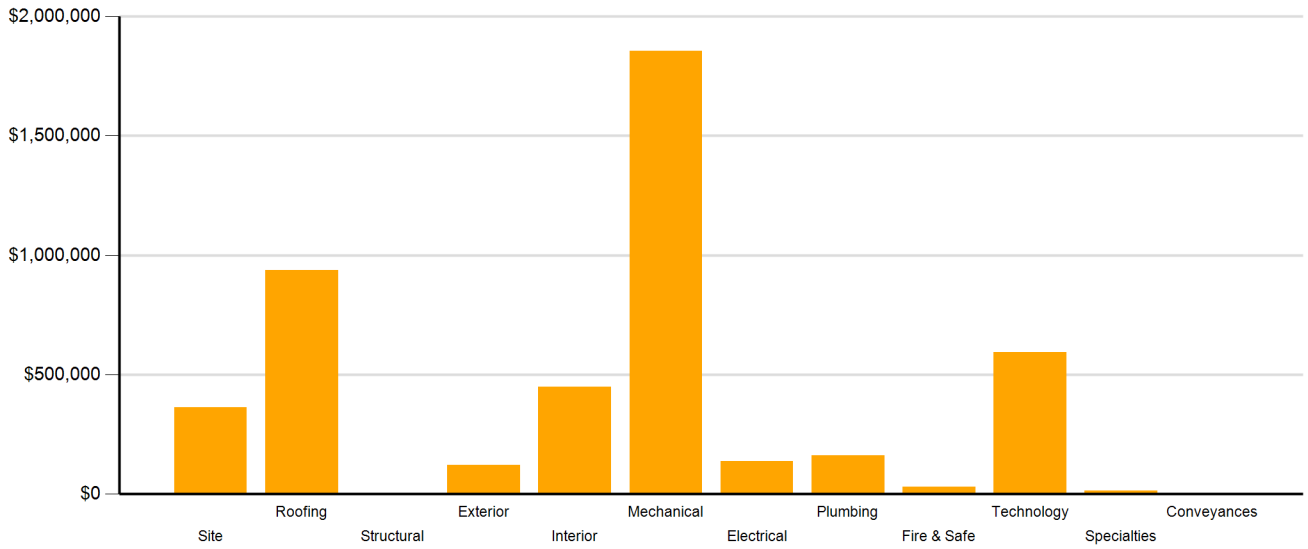


Figure 2: System Deficiencies

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	-	-	$83,234	$201,072	-	$284,306
Barrier to Accessibility	-	-	$6,275	-	-	$6,275
Capital Renewal	$19,474	$2,378,387	$208,982	$694,818	$8,552	$3,310,214
Code Compliance	-	-	-	-	-	$0
Educational Adequacy	$12,821	-	$73,014	$50,315	$393,357	$529,506
Functional Deficiency	-	-	-	-	-	$0
Hazardous Material	-	-	-	$3,229	-	$3,229
Technology	-	-	$524,656	-	-	$524,656
Traffic	-	-	-	-	-	$0
Total	$32,295	$2,378,387	$896,160	$949,435	$401,908	$4,658,185

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

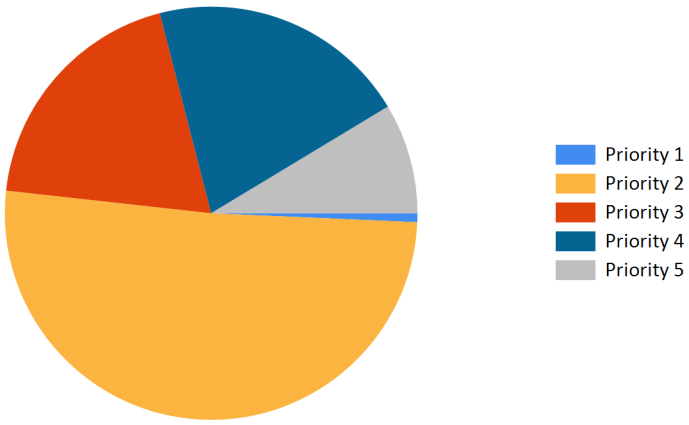


Figure 3: Current deficiencies by priority

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

		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	$358,974	$0	$0	$0	$559,140	$174,016	$733,156	$1,092,130
Roofing	$938,352	$0	$0	$0	$439,187	$0	$439,187	$1,377,539
Structural	$0	$0	$0	$0	$0	$0	$0	$0
Exterior	$122,633	$0	$0	$333	$1,112,315	$28,521	$1,141,169	$1,263,802
Interior	$448,508	$0	$0	$0	$1,125,824	$905,836	$2,031,660	$2,480,168
Mechanical	$1,854,723	$0	$0	$0	$0	$96,628	$96,628	$1,951,351
Electrical	$136,301	$0	$0	$0	$0	$0	$0	$136,301
Plumbing	$161,586	$0	$0	$0	$57,042	$707,080	$764,122	$925,708
Fire and Life Safety	$30,882	$0	$0	$0	$0	$0	$0	$30,882
Technology	$593,106	$0	$0	$0	$0	$0	$0	$593,106
Conveyances	$0	$0	$0	$0	$0	$0	$0	$0
Specialties	$13,120	$0	$0	$0	$0	$0	$0	$13,120
Total	**$4,658,185**	**$0**	**$0**	**$333**	**$3,293,508**	**$1,912,081**	**$5,205,922**	**$9,864,107**

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

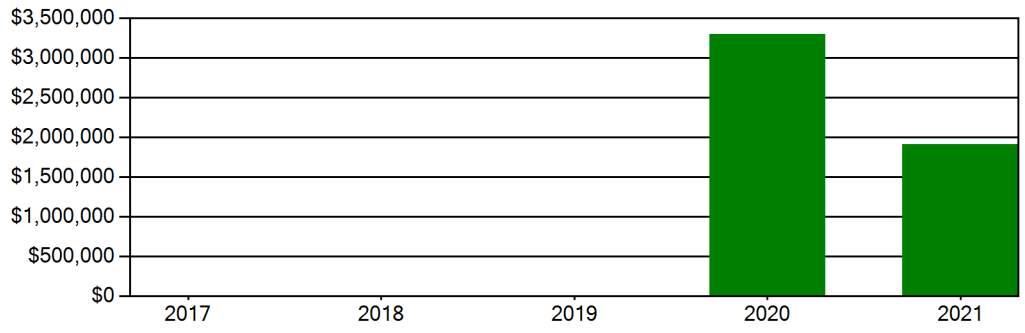
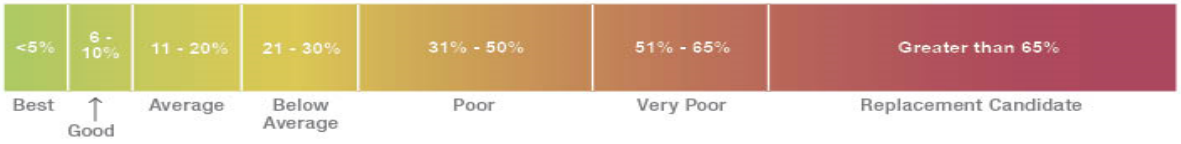


Figure 4: Life Cycle Capital Renewal Forecast

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 $23,968,080. For planning purposes, the total 5-year need at the Highlander Charter School - Upper School (Warren) is $9,870,558 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Highlander Charter School - Upper School (Warren) facility has a 5-year FCI of 41.16%.

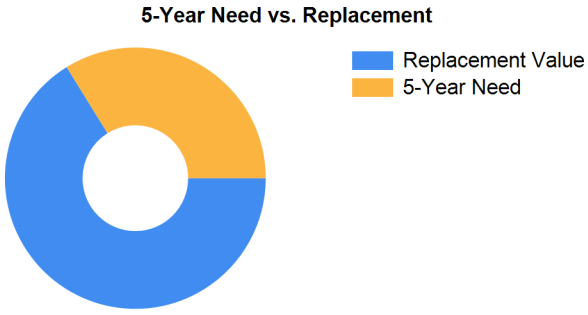


Figure 5: 5-Year FCI

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 350 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 Highlander Charter School - Upper School (Warren) cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be $513,216.

Summary of Findings

The Highlander Charter School - Upper School (Warren) comprises 66,578 square feet and was constructed in 1965. Current deficiencies at this school total $4,664,636. Five year capital renewal costs total $5,205,922. The total identified need for the Highlander Charter School - Upper School (Warren) (current deficiencies and 5-year capital renewal costs) is $9,870,558. The 5-year FCI is 41.16%.

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
Highlander Charter School - Upper School (Warren) Totals	66,578	1965	$4,664,636	$5,205,922	$9,870,558	41.16%

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

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

Cost Estimating

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

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

Site Level Deficiencies

Site

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	$28,329	28645
Note: Backstops Require Replacement						
Exterior Basketball Goals are Required	Educational Adequacy	1	Ea.	5	$5,807	28840
Note: Exterior Basketball Goals are Required						
School lacks a competition track.	Educational Adequacy	1	Ea.	5	$324,837	28288
Note: School lacks a competition track.						
	Sub Total for System	**3**	**items**		**$358,974**	
	Sub Total for School and Site Level	**3**	**items**		**$358,974**	

Building: 01 - Main Building

Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Single-Ply Membrane Roof Covering Requires Replacement	Capital Renewal	24,000	SF	2	$912,669	19382
Note: The flat roof has severe deterioration and large blisters.						
Gutters Require Replacement	Capital Renewal	320	LF	3	$15,211	19397
Note: The gutters at the gym appear to have moderate deterioration and are obviously older than the downspouts. Replacement is recommended.						
Single-Ply Covering Has Blisters That Should Be Repaired	Capital Renewal	5	Ea.	3	$775	19394
Note: Staff reported a roof leak over the kitchen area. There is evidence of a leak observed in damaged acoustic ceiling tiles.						
Single-Ply Lap Seams Are Open Or Deteriorated	Capital Renewal	5	LF	3	$4,753	19395
Note: The flat roof has an open, loose seam. Repair is recommended.						
Strainers Are Missing And Needed	Capital Renewal	2	Ea.	3	$4,944	19396
Note: Two roof drain strainers are missing on the flat roof.						
	Sub Total for System	**5**	**items**		**$938,352**	

Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Glass Pane In The Exterior Window Requires Replacement	Capital Renewal	75	SF	2	$6,561	19391
Note: There are three broken windows - one on the east side at the principal's office and two on the west side at the mechanical room.						
The Steel Window Requires Replacement	Capital Renewal	110	SF	2	$23,530	19381
Note: The steel windows on the east and west sides of the cafeteria show signs of deterioration.						
The Brick Exterior Requires Repair	Capital Renewal	10	SF Wall	3	$665	19380
Note: The exterior brick on the east side of the gym has moderate damage that should be repaired.						
Exterior Wall Flashing Requires Replacement	Capital Renewal	40	LF	4	$6,084	19410
Note: The flashing on the southwest corner of the gym has severe damage and should be replaced.						
The Exterior Requires Painting (Bldg SF)	Capital Renewal	6,239	SF	4	$83,040	19378
Note: Stucco walls should be repainted.						
The Exterior Requires Painting	Capital Renewal	500	SF Wall	5	$2,752	19379
Note: The exterior trim above the windows has moderate deterioration and should be repainted.						
	Sub Total for System	**6**	**items**		**$122,633**	

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Classroom Entry Doors Provide Insufficient Sound Isolation	Acoustics	10	Ea.	3	$83,234	27852
Note: All Classrooms						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	700	SF	3	$6,322	19383
Note: The acoustic ceiling panels are missing or damaged in several areas - Rooms 116, 128, 130, the men's restroom near the gym, the admin area hallway, the kitchen, and men's locker room. Replacement is recommended.						
The Carpet Flooring Requires Replacement	Capital Renewal	6,550	SF	3	$142,503	19385
Note: The carpet is worn and bubbled and should be replaced.						
The Interior Door Hardware Requires Replacement	Barrier to Accessibility	2	Door	3	$6,275	19398
Note: Non-compliant door hardware in Room 117 and the administration area should be replaced.						

Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Gypsum Board Walls Require Repair	Capital Renewal	10	SF Wall	4	$73	19376
Note: The gypsum board wall above the second floor women's restroom has a minor crack.						
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	80	LF	4	$1,813	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	150	SF	4	$1,416	Rollup
Room Is Excessively Reverberant	Acoustics	8,600	SF	4	$192,136	27853
Note: Gym						
Room Is Excessively Reverberant	Acoustics	400	SF	4	$8,937	27854
Note: Music Space						
Interior Walls Require Repainting	Capital Renewal	500	SF Wall	5	$2,947	19384
Note: Painting is required in several locations - outside Rooms 208, 213, the 1st floor boiler hallway, office storage room, and corners of the office area at the hallway.						
The Plaster Ceilings Require Repainting	Capital Renewal	500	SF	5	$2,852	19392
Note: The plaster ceiling in the men's locker room has minor damage and paint peeling.						
	Sub Total for System	**11**	**items**		**$448,508**	

Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Replace Unit Vent	Capital Renewal	28	Ea.	2	$473,614	19409
Note: Original unit vents are aged and rusted. Multiple units are not functioning.						
The Air Handler HVAC Component Requires Replacement	Capital Renewal	1	Ea.	2	$119,484	19399
Note: Original air handler should be replaced.						
The Cast Iron Water Boiler Requires Replacement	Capital Renewal	3	Ea.	2	$93,765	19404
Note: Old boilers are rusted and showing signs of leaks.						
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	102	Ea.	2	$170,863	19405
Note: Fin tube heaters are aged with rust and corrosion present.						
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	66,578	SF	2	$513,196	19406
Note: Piping is showing areas of rust and corrosion.						
Air Compressor Is Inoperable And Requires Replacement	Capital Renewal	2	Ea.	3	$12,100	19400
Note: Air compressors are old and leaking oil.						
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	66,578	SF	4	$449,715	19408
Note: Controls system is old and leaking.						
Lab lacks an appropriate fume hood.	Educational Adequacy	1	Ea.	4	$21,986	Rollup
	Sub Total for System	**8**	**items**		**$1,854,723**	

Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room last power shut-off valves for utilities	Educational Adequacy	1	Ea.	1	$1,412	Rollup
The Distribution Panel Requires Replacement	Capital Renewal	1	Ea.	2	$29,129	19407
Note: Original distribution panel is aged with rusted casing.						
The Panelboard Requires Replacement	Capital Renewal	2	Ea.	2	$35,575	19401
Note: Panelboards are aged and rusted.						
The Mounted Building Lighting Requires Replacement	Capital Renewal	12	Ea.	3	$17,911	19387
The Canopy Lighting Requires Replacement	Capital Renewal	12	Ea.	4	$16,542	19386
Room Has Insufficient Electrical Outlets	Educational Adequacy	72	Ea.	5	$35,731	Rollup
	Sub Total for System	**6**	**items**		**$136,301**	

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Gas Water Heater Requires Replacement	Capital Renewal	1	Ea.	3	$3,797	19402
Note: Water heater is aged and rusted.						
Non-Refrigerated Drinking Fountain Requires Replacement	Capital Renewal	2	Ea.	4	$20,440	19390
Note: Drinking fountains are old and rusted.						

Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Classroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	18	Ea.	4	$48,942	19377
Note: Original lavatories are aged, stained, and corroded, and should be replaced.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	16	Ea.	4	$50,897	19388
Note: Restroom lavatories are aged and rusted.						
The Restroom Lavatories Plumbing Fixtures Require Replacement	Capital Renewal	6	Ea.	4	$19,086	19389
Note: Lavatories are rusted and corroded.						
Room lacks a drinking fountain.	Educational Adequacy	3	Ea.	5	$3,308	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	10	Ea.	5	$15,116	Rollup
	Sub Total for System	**7**	**items**		**$161,586**	

Fire and Life Safety

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks shut-off valves for utilities. (International Fuel Gas Code, Section 409.6)	Educational Adequacy	1	Ea.	1	$11,408	Rollup
Wall Pack Lighting Requires Replacement	Capital Renewal	18	Ea.	1	$19,474	19393
Note: Original emergency lighting should be replaced.						
	Sub Total for System	**2**	**items**		**$30,882**	

Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	12	Ea.	3	$68,450	Rollup
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	96	Ea.	3	$45,633	24514
Technology: Campus wireless infrastructure inadequate.	Technology	23	Ea.	3	$30,612	24515
Technology: Classroom AV/Multimedia systems are inadequate and/or near end of useful life.	Technology	1	Ea.	3	$19,965	24522
Technology: Instructional spaces do not have local sound reinforcement.	Technology	19	Ea.	3	$90,316	24520
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	$6,655	24510
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	$42,591	24509
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	$9,032	24512
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	96	Ea.	3	$41,070	24513
Technology: Network cabling infrastructure is partially outdated and/or needs expansion.	Technology	48	Ea.	3	$20,535	24518
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	66,758	SF	3	$114,240	24519
Technology: Special Space AV/Multimedia system is inadequate.	Technology	1	Ea.	3	$54,190	24521
Technology: Telecommunications Room (large size room) needs dedicated cooling system improvements.	Technology	1	Ea.	3	$7,606	24511
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	23	Ea.	3	$34,986	24516
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	$7,225	24517
	Sub Total for System	**15**	**items**		**$593,106**	

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	1	Ea.	3	$4,563	Rollup

Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks an appropriate refrigerator.	Educational Adequacy	1	Ea.	5	$8,556	Rollup
	Sub Total for System	**2**	**items**		**$13,120**	
	Sub Total for Building 01 - Main Building	**62**	**items**		**$4,299,211**	
	Total for Campus	**65**	**items**		**$4,658,185**	

Highlander Charter School - Upper School (Warren) - Life Cycle Summary Yrs 1-5

Site Level Life Cycle Items

Site

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Roadway Pavement	Asphalt		107	CAR	$354,012	4
Parking Lot Pavement	Asphalt		62	CAR	$205,128	4
Parking Lot Lighting	Pole Lighting		4	Ea.	$30,939	5
Pedestrian Pavement	Sidewalks - Concrete		7,000	SF	$143,077	5
		Sub Total for System	**4**	**items**	**$733,157**	
		Sub Total for Building -	**4**	**items**	**$733,157**	

Building: 01 - Main Building

Roofing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Steep Slope Roofing	Composition Shingle		12,800	SF	$365,068	4
Low-Slope Roofing	Single Ply		5,775	SF	$74,119	4
		Sub Total for System	**2**	**items**	**$439,186**	

Exterior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Exterior Wall Veneer	Soffits, Painted Gypsum in SF		100	SF	$333	3
Exterior Entrance Doors	Steel - Insulated and Painted		9	Door	$57,755	4
Exterior Entrance Doors	Wood		4	Door	$33,293	4
Exterior Operating Windows	Aluminum - Windows per SF		6,035	SF	$1,021,267	4
Exterior Entrance Doors	Storefront Doors - Glass/Aluminum		4	Door	$28,521	5
		Sub Total for System	**5**	**items**	**$1,141,169**	

Interior

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Resilient Flooring	Vinyl Composition Tile Flooring		44,653	SF	$512,248	4
Resilient Flooring	Rubber Tile Flooring		900	SF	$16,813	4
Wall Coverings	Vinyl/Fabric Wall Covering		50	SF	$357	4
Wall Paneling	Wood Panel wall		5,200	SF	$47,459	4
Wall Paneling	Acoustical Panel Wall		800	SF	$7,347	4
Acoustical Suspended Ceilings	Ceilings - Adhered acoustical tiles		2,600	SF	$28,194	4
Specialty Suspended Ceilings	Ceiling - Wood		11,600	SF	$77,197	4
Acoustical Suspended Ceilings	Ceilings - Acoustical Tiles		48,298	SF	$436,209	4
Wall Painting and Coating	Painting/Staining (Bldg SF)		50,398	SF	$332,997	5
Acoustical Suspended Ceilings	Ceilings - Acoustical Grid System		48,298	SF	$572,839	5
		Sub Total for System	**10**	**items**	**$2,031,659**	

Mechanical

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Exhaust Air	Wall Exhaust Fan		2	Ea.	$5,355	5
Exhaust Air	Roof Exhaust Fan - Small		3	Ea.	$7,912	5
Exhaust Air	Roof Exhaust Fan - Large		6	Ea.	$83,361	5
		Sub Total for System	**3**	**items**	**$96,628**	

Plumbing

Uniformat Description	LC Type Description		Qty	UoM	Repair Cost	Remaining Life
Plumbing Fixtures	Toilets		20	Ea.	$57,042	4
Plumbing Fixtures	Showers		15	Ea.	$114,084	5
Note:	Repaired in 2012					
Plumbing Fixtures	Urinal (Ea.)		5	Ea.	$6,645	5
Plumbing Fixtures	Mop/Service Sinks		2	Ea.	$5,153	5
Facility Potable-Water Storage Tanks	Water Storage Tank - 1000 Gallon		1	Ea.	$45,519	5
Domestic Water Piping	Domestic Water Piping System (Bldg.SF)		66,578	SF	$535,679	5
		Sub Total for System	**6**	**items**	**$764,122**	
		Sub Total for Building 01 - Main Building	**26**	**items**	**$4,472,764**	
		Total for: Highlander Charter School - Upper School (Warren)	**30**	**items**	**$5,205,921**	

Supporting Photos

Leaking Boiler

Fin Tube Heater

Site Aerial

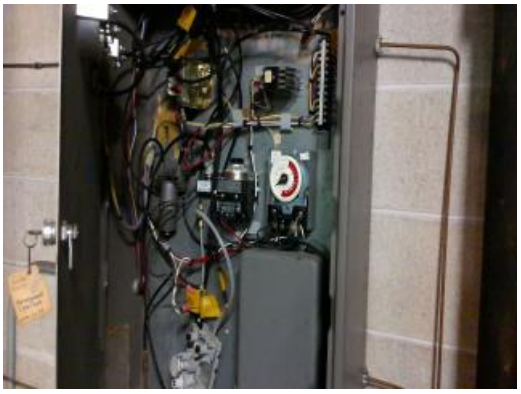
Distribution Panel


1965 Boiler


Rusted Unit Vent


Rusted Piping


Chipped Wall Paint


Controls


Canopy Light


Damaged Flashing


Rusted Lavatory


Missing Ceiling Tile


Broken Glass Pane


Worn Bubbled Carpet


Original Wall Pack Light


Building Mounted Light


Weathered Gutters


Aged Drinking Fountain


Leaking Air Compressor


Peeling Plaster Ceiling


Corroded Classroom Lavatory


Open Roof Seam


Weathered Trim


Original AHU


Aged Steel Windows


Chipped Stucco Paint


Exterior Brick


Damaged Brick


Elevation


Classroom


Library


Elevation


Exterior Windows


Science Room


Cafeteria


Roof

Building Plaque

Marquee


Flat Roof

Gymnasium

Entry

Music Room

Exterior Finishes

Elevation