



# Facility Condition Assessment

Cranston - Cranston High School East

June 2017

899 Park Avenue, Cranston, RI 02910





## Introduction

Cranston High School East, located at 899 Park Avenue in Cranston, Rhode Island, was built in 1925. It comprises 238,143 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.

Cranston High School East serves grades 9 - 12, has 86 instructional spaces, and has an enrollment of 1,577. Instructional spaces are defined as rooms in which a student receives education. The LEA reported capacity for Cranston High School East is 1,595 with a resulting utilization of 99%.

For master planning purposes a 5-year need was developed to provide an understanding of the current need as well as the projected needs in the near future. For Cranston High School East the 5-year need is \$21,785,939. 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.

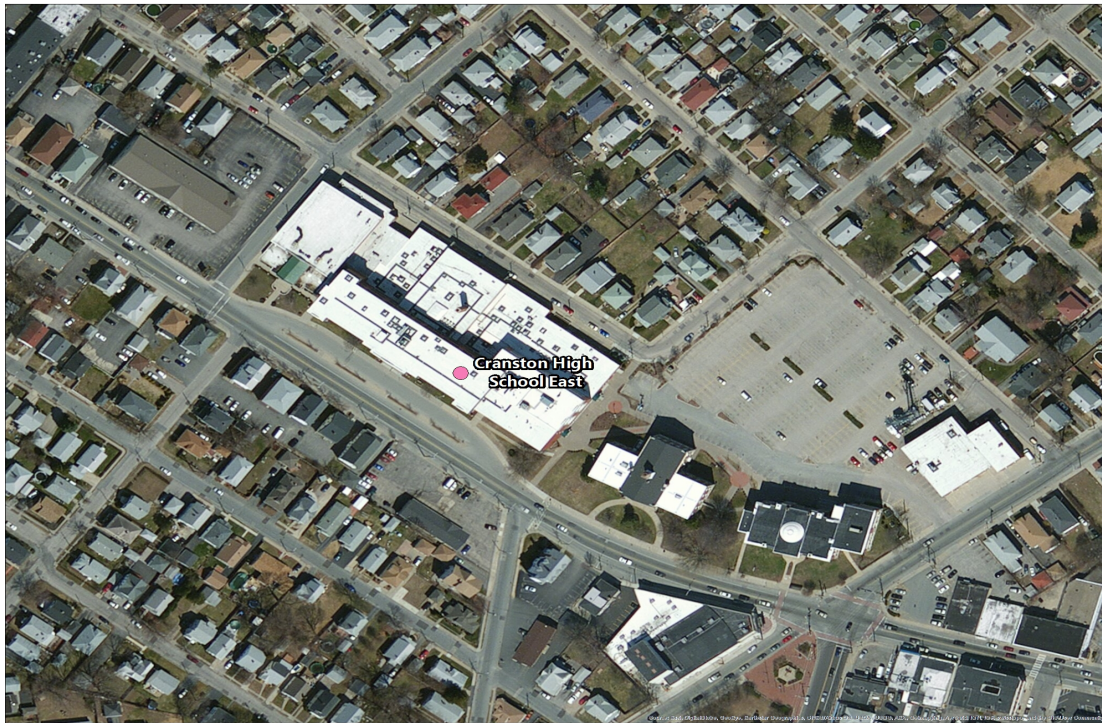


Figure 1: Aerial view of Cranston High School East



## 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 Cranston High School East campus, identified by discipline and building.

### Site

The site level systems for this campus include:

<b>Site</b>	Asphalt Parking Lot Pavement
	Concrete Pedestrian Pavement

### Building Envelope

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

<b>01 - Main Building:</b>	Brick Exterior Wall
	CMU Exterior Wall
	E.I.F.S. Exterior Wall
	Pre-cast Concrete Panel Exterior Wall
	Storefront / Curtain Wall
	Wood Exterior Doors
	Steel Exterior Entrance Doors
	Overhead Exterior Utility Doors

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

<b>01 - Main Building:</b>	Single Ply Roofing
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### Interior

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

<b>01 - Main Building:</b>	Foldable Interior Partition
	Wood Interior Doors
	Overhead Interior Coiling Doors
	Interior Door Hardware
	Suspended Acoustical Grid System
	Suspended Acoustical Ceiling Tile
	Adhered Acoustical Ceiling Tiles
	Painted Ceilings
	Ceramic Tile Wall
	Wood Wall Paneling
	Brick/Stone Veneer
	Interior Wall Painting
	Concrete Flooring
	Ceramic Tile Flooring
	Wood Flooring
	Vinyl Composition Tile Flooring



<b>01 - Main Building:</b>	Terrazzo Flooring
	Carpet

## Mechanical

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

<b>01 - Main Building:</b>	3,060 MBH Cast Iron Steam Boiler
	200 MBH Copper Tube Boiler
	400 MBH Copper Tube Boiler
	750 MBH Copper Tube Boiler
	240 GPM Steam to Water Heat Exchanger
	Steam Condensate Receiver, Tank and Pump
	36 MBH Steam Unit Heater
	Steam/Hot Water Heating Unit Vent
	Finned Wall Radiator
	Electronic Heating System Controls
	Pneumatic Heating System Controls
	70 Ton Outdoor Air Cooled Chiller
	10 Ton Condensing Unit
	7.5 Ton Condensing Unit
	1 Ton Fan Coil - Water Cool/Water Heat
	Window Units
	10,000 CFM Energy Recovery Unit
	5 HP VFD
	1 HP or Smaller Pump
	5 HP Pump
	10 HP Pump
	2-Pipe Hot Water Hydronic Distribution System
	2,000 CFM Interior AHU
	5,000 CFM Outdoor AHU
	Ductwork
	Kitchen Exhaust Hoods
	Laboratory Fume Hood
	Large Roof Exhaust Fan
	Small Roof Exhaust Fan
	4'x6' Ventilator/Relief Vent
	Fire Sprinkler System

## Plumbing

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

<b>01 - Main Building:</b>	100 Gallon Water Storage Tank
	250 Gallon Water Storage Tank



<b>01 - Main Building:</b>	2" Backflow Preventers
	4" Backflow Preventers
	Gas Piping System
	75 Gallon Gas Water Heater
	Domestic Water Piping System
	Classroom Lavatories
	Mop/Service Sinks
	Refrigerated Drinking Fountain
	Restroom Lavatories
	Showers
	Toilets
	Urinals
	Air Compressor (1 hp)

## Electrical

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

<b>01 - Main Building:</b>	80 KVA UPS
	1,200 Amp Switchgear
	Panelboard - 120/208 125A
	Panelboard - 120/208 225A
	Panelboard - 277/480 100A
	400 Amp Distribution Panel
	600 Amp Distribution Panel
	Electrical Disconnect
	Light Fixtures
	Building Mounted Lighting Fixtures



## Facility Deficiency Priority Levels

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

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

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

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

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

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



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

Table 1: System by Priority

System	Priority					Total	% of Total
	1	2	3	4	5		
Site	-	-	-	\$83,526	\$1,301,692	\$1,385,218	7.00 %
Roofing	-	\$914,767	\$87	-	-	\$914,854	4.62 %
Structural	-	-	-	-	-	\$0	0.00 %
Exterior	-	\$2,106,518	\$5,464	\$229	-	\$2,112,212	10.67 %
Interior	-	-	\$2,443,949	\$653,724	\$1,045,583	\$4,143,257	20.93 %
Mechanical	-	\$3,330,034	-	\$1,037,705	-	\$4,367,738	22.06 %
Electrical	\$1,429	\$395,413	-	-	\$122,564	\$519,406	2.62 %
Plumbing	-	-	\$425,387	\$77,174	\$59,835	\$562,396	2.84 %
Fire and Life Safety	\$115,474	-	-	-	-	\$115,474	0.58 %
Technology	-	-	\$4,440,782	-	-	\$4,440,782	22.43 %
Conveyances	-	-	\$24,055	-	-	\$24,055	0.12 %
Specialties	-	-	\$27,714	\$1,084,441	\$100,462	\$1,212,617	6.12 %
<b>Total</b>	\$116,903	\$6,746,732	\$7,367,438	\$2,936,800	\$2,630,135	\$19,798,009	

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

The building systems with the most need include:

Technology	-	\$4,440,782
Mechanical	-	\$4,367,738
Interior	-	\$4,143,257

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

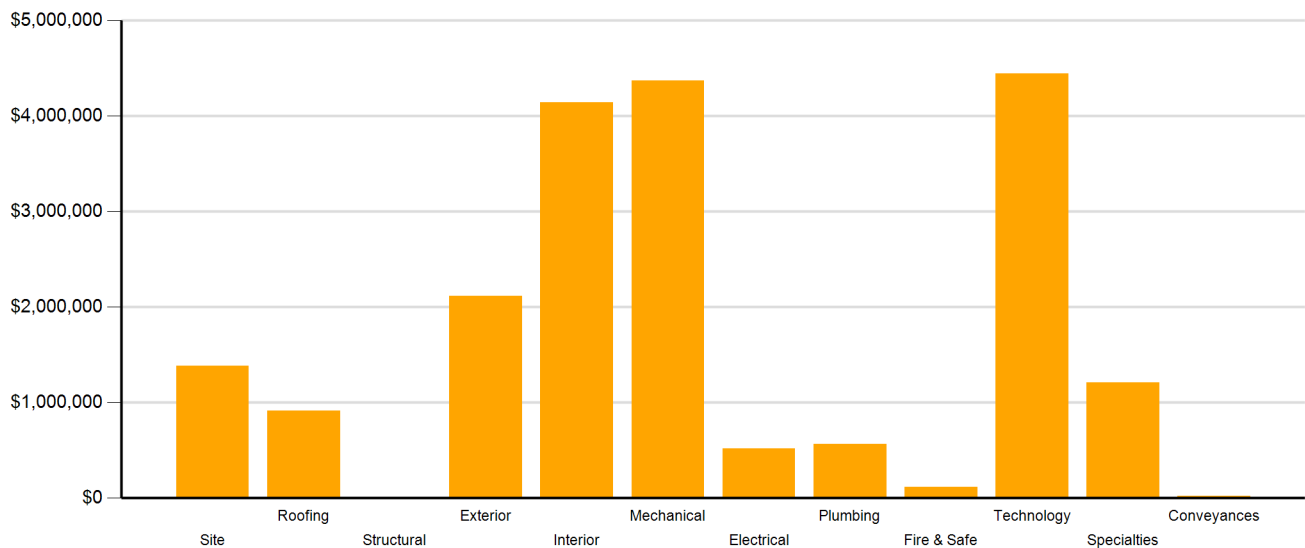


Figure 2: System Deficiencies



## Current Deficiencies by Category

Deficiencies have been further grouped according to the observed category.

- **Acoustics** deficiencies relate to room acoustics, sound insulation, and mechanical systems and vibration control modeled after ANSI/ASA Standard S12.60-2010 and ASHRAE Handbook, Chapter 47 on Sound and Vibration Control.
- **Barrier to Accessibility** deficiencies relate to the Americans with Disabilities Act and the Rhode Island Governors Commission on Disability. Additional items related to accessibility may be included other categories.
- **Capital Renewal** items have reached or exceeded serviceable life and require replacement. These are current and do not include life cycle capital renewal forecasts. Also included are deficiencies correcting planned work postponed beyond its regular life expectancy.
- **Code Compliance** deficiencies related to current codes. Many may fall under grandfather clauses, which allow buildings to continue operating under codes effective at the time of construction. However, there are instances where the level of renovation requires full compliance which are reflected in the master plan.
- **Educational Adequacy** deficiencies identify where facilities do not align with the Basic Education Program and the RIDE School Construction Regulations.
- **Functional Deficiencies** are deficiencies for components or systems that have failed before the end of expected life or are not the right application, size, or design.
- **Hazardous Materials** include deficiencies for building systems or components containing potentially hazardous material. The team focused on identifying asbestos containing building materials (ACBMs), lead based painted (LBP) areas, polychlorinated biphenyls (PCBs), and chlorofluorocarbons (CFCs). As part of an indoor air and exterior air quality assessment, the team noted evidence of mold, water intrusion, mercury, and oil and hazardous materials (OHMs) exposure. With other scopes of work there may be other costs associated with hazardous materials.
- **Technology** deficiencies relate to network architecture, technology infrastructure, classroom systems, and support. Examples of technology deficiencies include: security cameras, secure electronic access, telephone handsets, and dedicated air conditioning for telecommunication rooms.
- **Traffic** deficiencies relate to vehicle or pedestrian traffic, such as bus loops, crosswalks, and pavement markings.



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

Table 2: Deficiency Category by Priority

Category	Priority					Total
	1	2	3	4	5	
Acoustics	-	-	-	\$292,309	-	\$292,309
Barrier to Accessibility	-	-	-	-	-	\$0
Capital Renewal	-	\$6,746,732	\$2,898,943	\$2,143,980	\$1,045,583	\$12,835,238
Code Compliance	-	-	-	-	-	\$0
Educational Adequacy	\$116,903	-	\$224,019	\$217,293	\$1,584,552	\$2,142,767
Functional Deficiency	-	-	-	-	-	\$0
Hazardous Material	-	-	-	\$283,218	-	\$283,218
Technology	-	-	\$4,244,476	-	-	\$4,244,476
Traffic	-	-	-	-	-	\$0
<b>Total</b>	\$116,903	\$6,746,732	\$7,367,438	\$2,936,800	\$2,630,135	\$19,798,009

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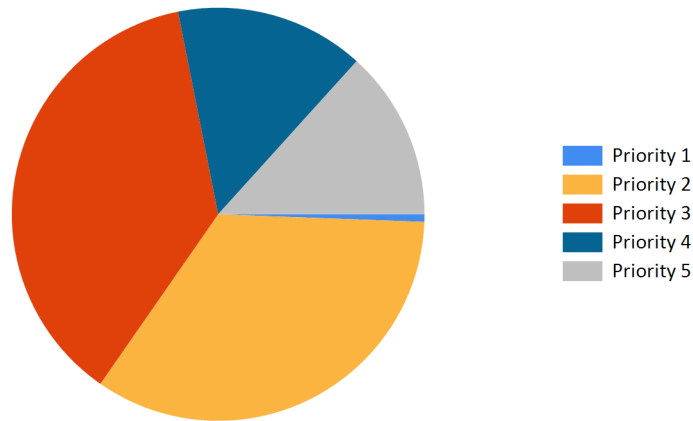


Figure 3: Current deficiencies by priority



### 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

System	Current Deficiencies	Life Cycle Capital Renewal Projections					LC Yr. 1-5 Total	Total 5-Year Need
		Year 1 2017	Year 2 2018	Year 3 2019	Year 4 2020	Year 5 2021		
Site	\$1,385,218	\$0	\$0	\$0	\$0	\$550,732	\$550,732	\$1,935,950
Roofing	\$914,854	\$0	\$0	\$0	\$0	\$0	\$0	\$914,854
Structural	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Exterior	\$2,112,212	\$0	\$0	\$0	\$0	\$285,876	\$285,876	\$2,398,088
Interior	\$4,143,257	\$0	\$0	\$0	\$121,117	\$311,824	\$432,941	\$4,576,198
Mechanical	\$4,367,738	\$0	\$0	\$0	\$289,939	\$73,896	\$363,835	\$4,731,574
Electrical	\$519,406	\$0	\$0	\$0	\$0	\$0	\$0	\$519,406
Plumbing	\$562,396	\$0	\$0	\$0	\$65,862	\$0	\$65,862	\$628,258
Fire and Life Safety	\$115,474	\$0	\$0	\$0	\$0	\$0	\$0	\$115,474
Technology	\$4,440,782	\$0	\$0	\$0	\$0	\$0	\$0	\$4,440,782
Conveyances	\$24,055	\$0	\$0	\$288,684	\$0	\$0	\$288,684	\$312,739
Specialties	\$1,212,617	\$0	\$0	\$0	\$0	\$0	\$0	\$1,212,617
<b>Total</b>	<b>\$19,798,009</b>	<b>\$0</b>	<b>\$0</b>	<b>\$288,684</b>	<b>\$476,918</b>	<b>\$1,222,328</b>	<b>\$1,987,930</b>	<b>\$21,785,939</b>

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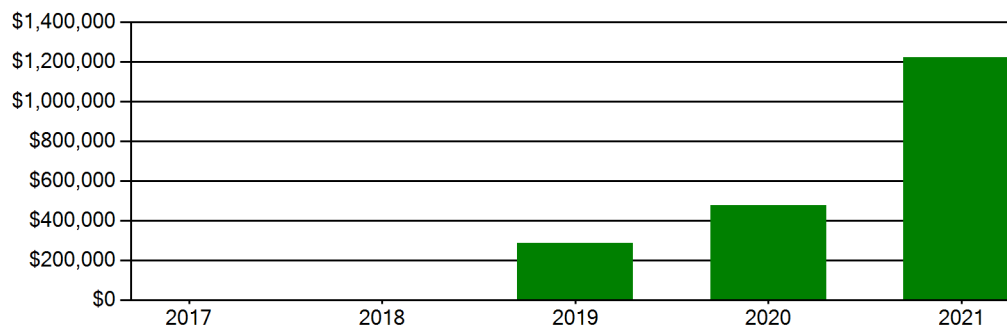
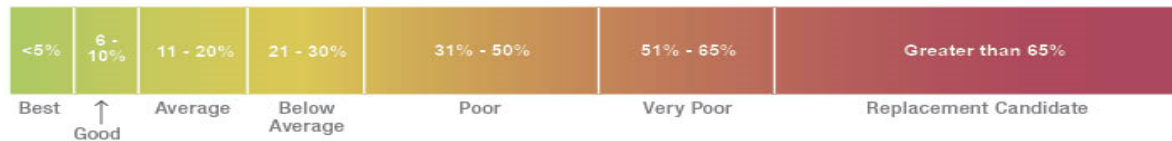


Figure 4: Life Cycle Capital Renewal Forecast



## Facility Condition Index (FCI)

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



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

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

The replacement value represents the estimated cost of replacing the current building with another building of like size, based on today’s estimated cost of construction in the Providence, Rhode Island area. The estimated replacement cost for this facility is \$85,731,480. For planning purposes, the total 5-year need at the Cranston High School East is \$21,785,939 (Life Cycle Years 1-5 plus the FCI deficiency cost). The Cranston High School East facility has a 5-year FCI of 25.41%.

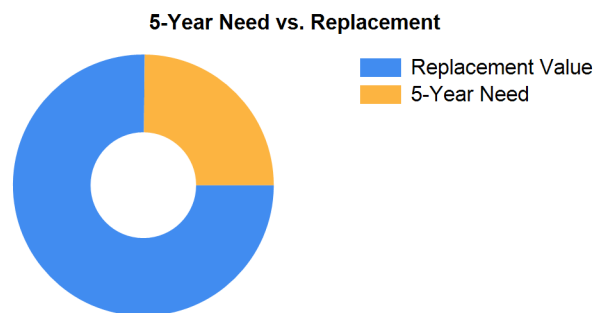


Figure 5: 5-Year FCI

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



## Rhode Island Aspirational Capacity

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

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

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

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

Applying the Rhode Island Aspirational Capacity, a facility of this size could ideally support an enrollment of approximately 1,287 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 Cranston High School East cafeteria and/or library/media center to the size prescribed by the SCRs is estimated to be \$741,830.



### Summary of Findings

The Cranston High School East comprises 238,143 square feet and was constructed in 1925. Current deficiencies at this school total \$19,798,009. Five year capital renewal costs total \$1,987,930. The total identified need for the Cranston High School East (current deficiencies and 5-year capital renewal costs) is \$21,785,939. The 5-year FCI is 25.41%.

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
Cranston High School East Totals	238,143	1925	\$19,798,009	\$1,987,930	\$21,785,939	25.41%

*\*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
Asphalt Paving Requires Replacement	Capital Renewal	12	CAR	4	\$46,238	11605
<b>Note:</b> Install visitor and handicap parking (exact number depends on available area for visitor/handicap parking. 7 Visitor, 5 Handicap)						
Backstops Require Replacement	Educational Adequacy	1	Ea.	4	\$37,288	28434
<b>Note:</b> Backstops Require Replacement						
PE / Recess Playfield is Missing and is Needed	Educational Adequacy	1	Ea.	5	\$64,800	54873
<b>Note:</b> PE / Recess Playfield is Missing and is Needed						
School has insufficient # of tennis courts.	Educational Adequacy	1	Ea.	5	\$212,705	29002
<b>Note:</b> School has insufficient # of tennis courts.						
School has insufficient baseball fields.	Educational Adequacy	1	Ea.	5	\$273,448	28317
<b>Note:</b> School has insufficient baseball fields.						
School has insufficient football/soccer fields.	Educational Adequacy	1	Ea.	5	\$124,295	28187
<b>Note:</b> School has insufficient football/soccer fields.						
School has insufficient softball fields.	Educational Adequacy	1	Ea.	5	\$198,871	28359
<b>Note:</b> School has insufficient softball fields.						
School lacks a competition track.	Educational Adequacy	1	Ea.	5	\$427,573	28233
<b>Note:</b> School lacks a competition track.						
<b>Sub Total for System</b>		<b>8</b>	<b>items</b>		<b>\$1,385,218</b>	
<b>Sub Total for School and Site Level</b>		<b>8</b>	<b>items</b>		<b>\$1,385,218</b>	

## Building: 01 - Main Building

### Roofing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Single-Ply Membrane Roof Covering Requires Replacement	Capital Renewal	65,000	SF	2	\$914,767	9701
<b>Note:</b> Ponding, staining, buckling of membrane and insulation feels loose when you walk on it.						
<b>Location:</b> Original building and gym addition						
The Roof Drains Require Cleaning	Capital Renewal	2	Ea.	3	\$87	9671
<b>Note:</b> At the front of the building between the gym addition and original building and on the low roof near the access ladder to the gym roof. Deep standing water in both areas.						
<b>Sub Total for System</b>		<b>2</b>	<b>items</b>		<b>\$914,854</b>	

### Exterior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Storefront/Curtain Wall Requires Replacement (Bldg SF)	Capital Renewal	7,000	SF	2	\$618,810	9695
<b>Note:</b> Storefront windows in 3rd and 4th floor classrooms at rear of building are being kept shut with duct tape.						
The Storefront/Curtain Wall Requires Replacement (Bldg SF)	Capital Renewal	16,829	SF	2	\$1,487,708	9696
<b>Note:</b> Original single pane glass. Do not operate properly and let air in.						
Exterior Metal Door Requires Repainting	Capital Renewal	24	Door	3	\$5,464	9670
<b>Note:</b> All exterior doors need scraping, priming and painting.						
Handrail Requires Repainting	Capital Renewal	20	LF	4	\$229	9680
<b>Note:</b> Paint is peeling at exterior handrail.						
<b>Sub Total for System</b>		<b>4</b>	<b>items</b>		<b>\$2,112,212</b>	

### Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Interior Doors Require Replacement	Capital Renewal	157	Door	3	\$793,789	9673
<b>Note:</b> Doors and hardware are worn and damaged.						
The Acoustical Ceiling Tiles Require Replacement	Capital Renewal	16,000	SF	3	\$158,455	9672
<b>Location:</b> 4th floor corridor, Nurses' Office, and miscellaneous older classrooms						
The Interior Door Hardware Requires Replacement	Capital Renewal	303	Door	3	\$1,042,366	9681
<b>Note:</b> No master key. Custodian has ring with 20+ keys for all doors in building.						



# Facility Condition Assessment

Cranston - Cranston High School East

## Interior

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Vinyl Composition Tile Requires Replacement	Capital Renewal	35,721	SF	3	\$449,339	9674
<b>Note:</b> VCT in classrooms needs replacement, it's damaged and seams are lifting.						
Adhered Acoustical Ceiling Tile Requires Replacement	Capital Renewal	5,000	SF	4	\$59,453	9703
<b>Note:</b> Adhesive is failing and the tiles are falling in cafe.						
Light Deterioration or Damage of 9x9 Asbestos Floor Tile is Present	Hazardous Material	130	SF	4	\$4,066	Rollup
Paint (probable pre-1978 in base layer(s)) - damaged area < 9 sq. ft. OR overall worn AND in children-accessible area (measurement unit - each)	Hazardous Material	76	Ea.	4	\$23,768	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	320	LF	4	\$8,006	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	23,730	SF	4	\$247,378	Rollup
Partitions Provide Insufficient Sound Isolation	Acoustics	1,200	SF	4	\$37,529	19754
<b>Note:</b> Classrooms adjacent to auditorium						
Room Is Excessively Reverberant	Acoustics	10,400	SF	4	\$254,780	19757
<b>Note:</b> Gym						
Room Lighting Is Inadequate Or In Poor Condition.	Educational Adequacy	486	SF	4	\$18,744	Rollup
Interior Walls Require Repainting (Bldg SF)	Capital Renewal	105,542	SF	5	\$764,669	Rollup
The Gypsum Board Ceilings Require Repainting	Capital Renewal	61,243	SF	5	\$280,914	Rollup
	<b>Sub Total for System</b>	<b>14</b>	<b>items</b>		<b>\$4,143,257</b>	

## Mechanical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Ductwork Requires Replacement (SF Basis)	Capital Renewal	26,000	SF	2	\$419,128	9688
<b>Note:</b> Ductwork was installed around the 1950's.						
Replace Unit Vent	Capital Renewal	8	Ea.	2	\$148,381	9700
<b>Note:</b> Cabinet unit heaters are falling apart.						
The Air Handler HVAC Component Requires Replacement	Capital Renewal	4	Ea.	2	\$189,204	9682
<b>Note:</b> Air handling units are outdated and their components are no longer available.						
<b>Location:</b> Boiler room, cafeteria, kitchen, and shop area						
The Boiler HVAC Component Requires Replacement	Capital Renewal	3	Ea.	2	\$560,357	9683
<b>Note:</b> Boilers installed in the early 1970's are inefficient and their components are no longer available.						
The Fin Tube Water Radiant Heater Requires Replacement	Capital Renewal	128	Ea.	2	\$235,115	9687
<b>Note:</b> Fin tube radiator in oldest part of building is in disrepair. Casings show signs of rust and deterioration.						
The Mechanical / HVAC Piping / System Is Beyond Its Useful Life	Capital Renewal	119,071	SF	2	\$1,006,422	9689
<b>Note:</b> HVAC piping in majority of building is original to 1930's install						
The Steam Condensate Receiver Requires Replacement	Capital Renewal	2	Ea.	2	\$771,428	18006
Existing Controls Are Inadequate And Should Be Replaced With DDC Controls	Capital Renewal	119,071	SF	4	\$881,929	9692
<b>Note:</b> Controls are very unreliable, many leaks throughout building per HVAC mechanics.						
Lab lacks an appropriate fume hood.	Educational Adequacy	7	Ea.	4	\$155,776	Rollup
	<b>Sub Total for System</b>	<b>9</b>	<b>items</b>		<b>\$4,367,738</b>	

## Electrical

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room last power shut-off valves for utilities	Educational Adequacy	1	Ea.	1	\$1,429	Rollup
Switchgear Is Needed Or Requires Replacement	Capital Renewal	1	Ea.	2	\$75,725	9690
The Distribution Panel Requires Replacement	Capital Renewal	2	Ea.	2	\$63,883	9691
The Electrical Disconnect Requires Replacement	Capital Renewal	28	Ea.	2	\$56,277	9675
The Panelboard Requires Replacement	Capital Renewal	22	Ea.	2	\$185,768	9684
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	\$8,444	9685
<b>Note:</b> Panelboard in Shop is missing blanks over bus bar.						
The Panelboard Requires Replacement	Capital Renewal	1	Ea.	2	\$5,317	9686
<b>Note:</b> Panelboard is being used as a junction box, is not secured, and poses a hazard.						
Room Has Insufficient Electrical Outlets	Educational Adequacy	244	Ea.	5	\$122,564	Rollup
	<b>Sub Total for System</b>	<b>8</b>	<b>items</b>		<b>\$519,406</b>	



# Facility Condition Assessment

Cranston - Cranston High School East

## Plumbing

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Gas Water Heater Requires Replacement	Capital Renewal	2	Ea.	3	\$12,818	9699
The Plumbing / Domestic Water Piping System Is Beyond Its Useful Life	Capital Renewal	23,814	SF	3	\$210,101	9679
<b>Note:</b> Domestic water piping in original part of building is deteriorating and scaling.						
The Sanitary Sewer Piping Requires Replacement	Capital Renewal	750	LF	3	\$128,036	9694
<b>Note:</b> Sanitary sewer piping is well beyond its anticipated life cycle. District plumber reported backups, etc.						
Water Storage Tank Requires Replacement	Capital Renewal	3	Ea.	3	\$74,432	9702
<b>Note:</b> Storage tanks were installed in 1970's						
The Custodial Mop Or Service Sink Requires Replacement	Capital Renewal	13	Ea.	4	\$36,726	9677
<b>Note:</b> Mop sinks are deteriorating and outdated.						
The Refrigerated Water Cooler Requires Replacement	Capital Renewal	5	Ea.	4	\$40,448	9678
<b>Note:</b> Water fountains outside Room 413, in the gym and adjacent areas are no longer operable.						
Room lacks a drinking fountain.	Educational Adequacy	7	Ea.	5	\$7,814	Rollup
The Class Room Lavatories Plumbing Fixtures Are Missing And Should Be Installed	Educational Adequacy	34	Ea.	5	\$52,021	Rollup
	<b>Sub Total for System</b>	<b>8</b>	<b>items</b>		<b>\$562,396</b>	

## 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	10	Ea.	1	\$115,474	Rollup
	<b>Sub Total for System</b>	<b>1</b>	<b>items</b>		<b>\$115,474</b>	

## Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room lacks Interactive White Board	Educational Adequacy	34	Ea.	3	\$196,305	Rollup
Technology: Auditorium AV/Multimedia system is inadequate.	Technology	1	Room	3	\$364,865	24608
Technology: Campus network switching electronics are antiquated and/or do not meet standards.	Technology	816	Ea.	3	\$425,328	24607
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	75	Ea.	3	\$781,853	24610
Technology: Classroom AV/Multimedia systems are in need of improvements.	Technology	75	Ea.	3	\$781,853	24618
Technology: Gymnasium sound system is nonexistent, inadequate, or near end of useful life.	Technology	1	Ea.	3	\$10,008	24609
Technology: Instructional spaces do not have local sound reinforcement.	Technology	75	Ea.	3	\$390,926	24615
Technology: Intermediate Telecommunications Room grounding system is inadequate or non-existent.	Technology	6	Ea.	3	\$35,027	24602
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	\$49,622	24599
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	\$49,622	24600
Technology: Intermediate Telecommunications Room is not dedicated and/or inadequate.	Technology	1	Ea.	3	\$49,622	24601
Technology: Intermediate Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	\$41,282	24596
Technology: Intermediate Telecommunications Room needs M/E improvements.	Technology	1	Ea.	3	\$26,687	24597
Technology: Intermediate Telecommunications Room needs minor improvements.	Technology	1	Ea.	3	\$18,347	24598
Technology: Intermediate Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	3	Ea.	3	\$15,637	24603
Technology: Main Telecommunications Room ground system is inadequate or non-existent.	Technology	1	Ea.	3	\$7,297	24594
Technology: Main Telecommunications Room is not dedicated. Room requires partial walls and/or major improvements.	Technology	1	Ea.	3	\$46,703	24593



# Facility Condition Assessment

Cranston - Cranston High School East

## Technology

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Technology: Main Telecommunications Room UPS does not meet standards, is inadequate, or non-existent.	Technology	1	Ea.	3	\$9,903	24595
Technology: Network cabling infrastructure is outdated (Cat 5 or less) and/or does not meet standards.	Technology	400	Ea.	3	\$187,645	24605
Technology: Network system inadequate and/or near end of useful life	Technology	13	Ea.	3	\$108,417	24613
Technology: Network system inadequate and/or near end of useful life	Technology	38	Ea.	3	\$198,069	24614
Technology: PA/Bell/Clock system is inadequate and/or near end of useful life.	Technology	238,143	SF	3	\$446,862	24612
Technology: Special Space AV/Multimedia systems are in need of minor improvements.	Technology	1	Room	3	\$20,849	24611
Technology: Telecommunications Room (small size room) needs dedicated cooling system improvements.	Technology	6	Ea.	3	\$31,274	24604
Technology: Telecommunications Room fiber connectivity infrastructure is outdated and/or inadequate.	Technology	2	Ea.	3	\$13,761	24606
Technology: Telephone handsets are inadequate and sparsely deployed throughout the campus.	Technology	75	Ea.	3	\$125,096	24616
Technology: Telephone system is inadequate and/or non-existent.	Technology	1	Ea.	3	\$7,923	24617
<b>Sub Total for System</b>		<b>27</b>	<b>items</b>		<b>\$4,440,782</b>	

## Conveyances

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
The Dumbwaiter Requires Replacement	Capital Renewal	1	Ea.	3	\$24,055	9693
<b>Sub Total for System</b>		<b>1</b>	<b>items</b>		<b>\$24,055</b>	

## Specialties

Deficiency	Category	Qty	UoM	Priority	Repair Cost	ID
Room has insufficient writing area.	Educational Adequacy	6	Ea.	3	\$27,714	Rollup
The Metal Student Lockers Require Replacement <b>Note:</b> Many lockers are broken and the locks do not function well.	Capital Renewal	2,000	Ea.	4	\$1,078,956	9697
Welding Bays Are Required	Educational Adequacy	1	Ea.	4	\$5,485	Rollup
Room lacks an appropriate refrigerator.	Educational Adequacy	10	Ea.	5	\$86,605	Rollup
The room lacks a washer and/or dryer.	Educational Adequacy	1	Ea.	5	\$13,857	Rollup
<b>Sub Total for System</b>		<b>5</b>	<b>items</b>		<b>\$1,212,617</b>	
<b>Sub Total for Building 01 - Main Building</b>		<b>79</b>	<b>items</b>		<b>\$18,412,791</b>	
<b>Total for Campus</b>		<b>87</b>	<b>items</b>		<b>\$19,798,009</b>	



## Cranston High School East - Life Cycle Summary Yrs 1-5

### Site Level Life Cycle Items

#### Site

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Landscape Lighting	Ground Mounted Fixtures (Ea.)	8	Ea.	\$14,919	5
	<b>Note:</b> In stone walkway, gym entrance				
Parking Lot Pavement	Asphalt	160	CAR	\$535,813	5
	<b>Note:</b> Shared with fire department and city hall				
	<b>Sub Total for System</b>	<b>2</b>	<b>items</b>	<b>\$550,732</b>	
	<b>Sub Total for Building -</b>	<b>2</b>	<b>items</b>	<b>\$550,732</b>	

### Building: 01 - Main Building

#### Exterior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Exterior Wall Veneer	E.I.F.S. - Bldg SF basis	11,907	SF	\$248,636	5
Exterior Utility Doors	Overhead	1	Door	\$37,240	5
	<b>Sub Total for System</b>	<b>2</b>	<b>items</b>	<b>\$285,876</b>	

#### Interior

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Carpeting	Carpet	5,500	SF	\$121,117	4
Interior Operable Partitions	Foldable partition (Bldg SF)	1,200	SF Wall	\$140,300	5
	<b>Note:</b> Rooms 220, 314, 302 & 304.				
Wall Paneling	Wood Panel wall	2,381	SF	\$21,995	5
Resilient Flooring	Vinyl Composition Tile Flooring	11,908	SF	\$138,270	5
Terrazzo Flooring	Terrazzo	150	SF	\$11,259	5
	<b>Sub Total for System</b>	<b>5</b>	<b>items</b>	<b>\$432,941</b>	

#### Mechanical

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Decentralized Heating Equipment	Heating Unit Vent - Steam/Hot water	12	Ea.	\$205,451	4
Decentralized Cooling	Window Units	25	Ea.	\$84,488	4
Exhaust Air	Kitchen Exhaust Hoods	1	Ea.	\$16,159	5
Exhaust Air	Laboratory Fume Hood	2	Ea.	\$57,737	5
	<b>Sub Total for System</b>	<b>4</b>	<b>items</b>	<b>\$363,834</b>	

#### Plumbing

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Compressed-Air Systems	Air Compressor (1 hp)	1	Ea.	\$6,124	4
Plumbing Fixtures	Refrigerated Drinking Fountain	8	Ea.	\$59,738	4
	<b>Sub Total for System</b>	<b>2</b>	<b>items</b>	<b>\$65,862</b>	

#### Conveyances

Uniformat Description	LC Type Description	Qty	UoM	Repair Cost	Remaining Life
Elevators	Hydraulic (Passenger Elev)	1	Ea.	\$288,684	3
	<b>Sub Total for System</b>	<b>1</b>	<b>items</b>	<b>\$288,684</b>	
	<b>Sub Total for Building 01 - Main Building</b>	<b>14</b>	<b>items</b>	<b>\$1,437,198</b>	
	<b>Total for: Cranston High School East</b>	<b>16</b>	<b>items</b>	<b>\$1,987,930</b>	



## Supporting Photos



Ponding On Roof



Ponding On Roof



Ponding And Debris On Roof



Weathered Roof Membrane



# Facility Condition Assessment

Cranston - Cranston High School East



Site Aerial



Computer Lab



Front



Cafeteria



Rear Of Building



Child Development



# Facility Condition Assessment

Cranston - Cranston High School East



Side Of Building



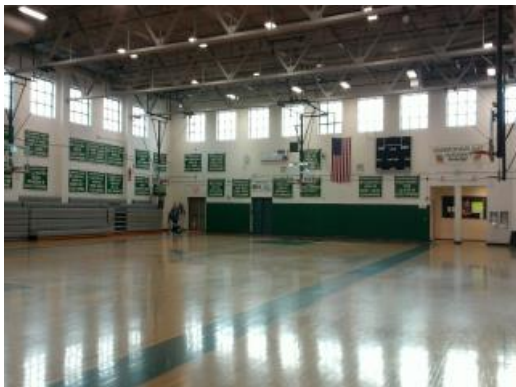
Front



Life Skills



Cafeteria Ceiling



Gymnasium



Interior Entry



# Facility Condition Assessment

Cranston - Cranston High School East



Music Room



Music Room



Side Of Building



Auditorium



Band Room



Classroom



# Facility Condition Assessment

Cranston - Cranston High School East



Rear Of Building



Front



Front



Wrestling Room



Child Development



Cafeteria



# Facility Condition Assessment

Cranston - Cranston High School East



Life Skills



Art Room



Typical Classroom



Gymnasium



Science Lab



Library



# Facility Condition Assessment

Cranston - Cranston High School East



Toilet Room Upper Floors



New Wing Typical Classroom



Toilet Room Lower Floor



Art Room



Cabinet Unit Heater



Toilet Room Gym Addition



# Facility Condition Assessment

Cranston - Cranston High School East



Weight Room



Cafeteria



Auto Shop



Typical Exterior Metal Door



Art Director's Office Ceiling Tiles



4th Floor Corridor Acoustical Ceiling Tiles



# Facility Condition Assessment

Cranston - Cranston High School East



Damaged Interior Wood Door



Damaged VCT In Classrooms



Original Disconnects



Peeling Handrail



Fin Tube Radiant Heater



Single Pane Windows



# Facility Condition Assessment

Cranston - Cranston High School East



Storefront Windows



Classroom



Damaged Lockers