



Report on the Status of Air Conditioning in Maryland's School Facilities

October 8, 2021

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Introduction

On September 1, 2021, Governor Larry Hogan wrote a letter to State Superintendent of Schools Mohammed Choudhury and Interagency Commission on School Construction (IAC) Executive Director Robert Gorrell directing them to provide a report on ventilation and air filtration systems in Maryland public schools. On September 24, 2021, the IAC provided to Governor Hogan a report detailing the results of the IAC's recent survey of LEAs regarding the effectiveness of the implementation of ventilation strategies in their facilities and any facility spaces that were unavailable due to ventilation.

This report completes the IAC's response to Governor Hogan's request and provides the following:

- 1) An update on the status of air conditioning (AC) in Maryland's PK-12 public schools;
- 2) The results of the IAC's FY 2021 Maintenance-Effectiveness Assessments with regard to heating, ventilation, and air conditioning (HVAC) systems; and
- 3) A report on LEA funding requests for State Healthy School Facilities Fund grants for HVAC projects during FY 2020.

Statewide Status of Air Conditioning in Public Schools

School systems have been working diligently to address HVAC issues in the state with the completion of replacement schools, major school renovations, and systemic renovation projects. The State has been tracking the progress of school systems in addressing this issue for the last 15 years, and provides capital support for projects through a number of its funding programs.

LEA Annual Air Conditioning Survey Results

According to an annual survey distributed by the IAC and answered by the LEAs, as of October 2020, there are 52 school facilities in the State without existing air conditioning systems. Information provided at the State level is as of October 2020. More recent information on Baltimore City is presented in the next section of this report. In sum, 97% of public schools in Maryland have a means to provide air conditioning in their classroom spaces.

ITEM 1: Statewide Air Conditioning Status (Source: LEA Supplemental Information Survey, October 2020)

School System	Number of Schools Without Air Conditioning (AC) Per School Grade Level					SY				Total # of schools not addressed in 3 years	% Schools without AC Not Addressed in 3 Yrs
	ES or ES/MS	MS or MS/HS	High	Other	TOTAL	In Planning Phase	In Design Phase	In Construction	TOTAL		
Baltimore Co.	4	0	2	0	6	0	0	6	6	0	0%
Garrett	6	0	2	0	8	1	0	0	1	7	58%
Kent	2	1	0	0	3	0	0	3	3	0	0%
Baltimore City ¹	22	2	9	2	35	3	9	15	27	8	5%
Total SY 19-20	34	3	13	2	52	4	9	24	37	15	3%

Classrooms may be cooled either by a central system with ventilation or by window units that may not include a ventilation system.

Beginning in FY 2021, the IAC asked that LEAs report the number of classrooms without air conditioning and their plans to address them. These classrooms are listed in Item 2 below.

ITEM 2: Classrooms Without Air Conditioning as of October 2020 (Source: LEA Supplemental Information Survey, October 2020)

School System	Total # School Facilities per MSDE	Total number of Schools without AC	Number of CLASSROOMS without AC	Number of CLASSROOMS without AC that will be addressed in 3 years.
Baltimore Co.	174	6	13	13
Garrett	12	8	300	20
Kent	5	3	3 ²	3
Baltimore City	167	35	963	715
Total SY 19-20	358	52	1279	751

¹ Baltimore City's total Number of Schools Without Air Conditioning (AC) Per School Grade Level at the time of the survey included buildings having wings without AC in which classrooms will be vacated and surplused.

² Three Kent Co. schools (Garrett ES, Kent Co. MS, and Rock Hall ES) have unairconditioned gyms. Because gyms may contain up to 2-3 teaching stations but generally are much larger in SF terms than 2-3 classrooms are, they do not fit into the average-classroom calculation. In addition, the range of uses of gyms is wider than just teaching. Therefore, we omitted the three gyms from the list of schools triggering Category 1 deficiencies. The IAC estimates that, of the 52 schools identified in the survey, 31 schools have more than 20% of classrooms without air conditioning. The IAC's analysis of schools with more than 20% of their classrooms unairconditioned is based upon the assumption that, if outside temperatures cause unairconditioned indoor spaces to be too hot to use for instruction, the school will be able to use administrative measures such as temporarily moving the affected students into other air conditioned spaces. It is viewed as unlikely that a school would close for the day when 80% of its students are being served within air conditioned spaces.

The 31 schools in Maryland with 20% or more of classrooms unairconditioned are as follows:

ITEM 3: Maryland Schools with 20% or More of Classrooms Unairconditioned		
LEA	School Name	Updated Status as of Sept. 2021
Baltimore City	City Springs Elementary/Middle School	Built to Learn (BTL), Anticipated
Baltimore City	Eutaw-Marshburn Elementary School	TBD
Baltimore City	Johnston Square Elementary School	Under construction
Baltimore City	Harlem Park Elementary/Middle School	FY 2021 CIP Approved; indesign
Baltimore City	Edgecombe Circle Elementary School	Complete
Baltimore City	Mount Royal Elementary/Middle School	Complete
Baltimore City	Edgewood Elementary School	Complete
Baltimore City	Harlem Park Building (Augusta Fells Savage #430 / Bluford Drew Jemison #364)	Complete
Baltimore City	Windsor Hills Elementary/Middle School	Under construction
Baltimore City	Franklin Square Elementary/Middle School	FY 2021 CIP approved; indesign
Baltimore City	Collington Square Elementary/Middle School	Under construction
Baltimore City	Historic Samuel Coleridge-Taylor Elementary School (The)	Complete
Baltimore City	Booker T. Washington Building (Booker T Washington Middle #130 / Renaissance Academy #433)	Complete
Baltimore City	Diggs Johnson Building (Southwest Baltimore Charter School #328)	Under construction
Baltimore City	Thurgood Marshall Building (Vanguard Collegiate Middle #374 / Furley Elementary School #206)	Scheduled to be surplusd
Baltimore City	Southside Building (New Era Academy #422)	TBD
Baltimore City	Dickey Hill Elementary/Middle School	Complete
Baltimore City	Curtis Bay Elementary/Middle School	FY 2021 CIP approved; in design
Baltimore City	Belmont Elementary School	Complete
Baltimore City	Yorkwood Elementary School	Under construction
Baltimore City	National Academy Foundation (Hayes Building)	Local funding approved; in design
Baltimore City	National Academy Foundation (Dunbar Building)	FY 2022 CIP approved; in design
Baltimore City	Baltimore City College	BTL project anticipated
Garrett	Northern HS	FY 2023 HSFF requested
Garrett	Southern HS	TBD
Garrett	Yough Glade ES	FY 2023 HSFF requested
Garrett	Swan Meadow PK-8	TBD
Garrett	Route 40 ES	TBD

LEA	School Name	Updated Status as of Sept. 2021
Garrett	Grantsville ES	FY 2022 CIP approved; in design
Garrett	Accident ES	TBD
Garrett	Crellin ES	TBD

Status of Baltimore City Public Schools Without Air Conditioning

In 2017, there were 75 Baltimore City Public School System (BCPSS) buildings without air conditioning. As of September 16, 2021, 21 schools remained without air conditioning. State allocations through the Extra \$15 Million for BCPSS HVAC program that was established by the General Assembly in 2018 have been made for projects at 12 of these schools. Additional State allocations are expected at 4 more schools through the Capital Improvement Program (CIP) and the Built to Learn program. A further four schools do not have current or anticipated allocations due to uncertainties of their continued use. One final school is in a building not owned by City Schools.

BCPSS [website provides a list of schools](#) without air conditioning which will close or have early dismissal on extremely hot days. As of September 16, 2021, BCPSS's website stated that the schools listed below lacked air conditioning. Indicated below with each school is the funding program and year of anticipated or allocated funding. Where funding spans multiple years, the first year of funding is listed.

Anticipated/Requested Funding:

Baltimore City College - Built to Learn Act, Anticipated
 Benjamin Franklin High School at Masonville Cove - CIP 2023, Requested
 City Springs Elementary/Middle School - Built to Learn Act, Anticipated

Allocated Funding:

Collington Square Elementary/Middle School - CIP FY 2020
 Cross Country Elementary/Middle School - 21st Century Schools
 Curtis Bay Elementary/Middle School - CIP FY 2021
 Franklin Square Elementary/Middle School - CIP FY 2021
 Furley Elementary School (in Thurgood Marshall Facility) - CIP FY 2022
 Harlem Park Elementary/Middle School - CIP FY 2021
 Johnston Square Elementary School - CIP FY 2020
 Montebello Elementary/Middle School @ PDC - 21st Century Schools
 National Academy Foundation - CIP FY 2022
 Northwood Elementary School - 21st Century Schools
 Vanguard Collegiate Middle School (in Thurgood Marshall Facility) - CIP FY 2022 (LP)
 Windsor Hills Elementary/Middle School - E15M FY2019
 Yorkwood Elementary School - CIP FY 2022

Schools with air conditioning under repair as of 9/16/2021:

Excel Academy
Rosemont Elementary/Middle School
Westport Academy- E15M FY 2019

Project nearing completion; undergoing balancing.

Portfolio uncertainties:

Elementary Middle Alternative Program at Professional Development Center
Charter program temporarily housed in underutilized swing facility.

Eutaw-Marshburn Elementary School

Design of VPU project (CIP FY 2020) revealed structural issues.

New Era Academy

Housed within the Southside building. See HSFF section below.

The Mount Washington School (lower building) - Portfolio Uncertainties

Lower building not owned by City. Alternatives evaluation in progress.

Building not owned by City Schools - Air Conditioning not planned:

Empowerment Academy

HVAC-Related Project Requests Through the Healthy School Facilities Fund (HSFF) Program, FY 2020

The HSFF is used to address health and safety needs in public school facilities, including projects to address air conditioning and air quality concerns. Listed below in Item 4 are all air conditioning and ventilation related project requests by LEA through the HSFF, including allocations (original and adjusted) for FY 2020. Additional funds for FY 2021 and 2022 are anticipated to be approved at the November 18, 2021 meeting of the IAC.

ITEM 4: FY 2020 HSFF HVAC-Related Project Requests					
LEA	TOTAL PROJECTS REQUESTED	TOTAL PROJECTS APPROVED	TOTAL PROJECT ALLOCATIONS	HVAC PROJECTS APPROVED	HVAC PROJECT ALLOCATIONS
Baltimore City	12	6	\$9,917,682	6	\$9,917,682
Baltimore County	8	8	\$14,220,686	8	\$14,220,686
Calvert	2	1	\$62,010	1	\$62,010
Cecil	20	18	\$174,908	2	\$128,700
Harford	9	6	\$11,340	0	\$0
Montgomery	11	5	\$367,850	4	\$299,500
Prince George's	1	1	\$4,974,538	1	\$4,974,538
Washington	21	7	\$15,400	0	\$0
Wicomico	3	1	\$255,595	1	\$255,595
GRAND TOTAL	93	53	\$30,000,009	23	\$29,858,711

With the exception of Baltimore City,³ LEAs' applications for the available FY 2021 and FY 2022 HSFF funds were due to the IAC on September 10, 2021. The IAC is currently beginning review and evaluation of these applications in preparation for recommending allocations to the IAC for approval at the November 18, 2021 IAC Meeting.

ESSER Grants to LEAs for HVAC Improvements

The Elementary and Secondary School Emergency Relief Fund (ESSER) is a federal funding program established as part of the Education Stabilization Fund in the Coronavirus Aid, Relief, and Economic Security Act (CARES) of March 2020. LEAs in Maryland had the option to submit funding requests to the Maryland State Department of Education (MSDE), which would apply for funds to the Federal Department of Education. 90% of funds received by MSDE were required to be used for subgrants to the LEAs. Initial awards were made in Spring 2020 and the last date awards could be made was September 30, 2021. More information about ESSER grants administered by MSDE can be found on the [MSDE website](#).

Schools with Failed Ratings for HVAC in FY 2021 Maintenance-Effectiveness Assessments

It is well known that building systems -- particularly complex systems such as HVAC systems -- require appropriate and regular preventive and routine maintenance to ensure that they function effectively, and capital maintenance to replace components that cannot be maintained. For HVAC systems, such maintenance includes changing air filters on a regular basis per manufacturers' guidelines, or as necessary for local conditions, and generally as frequently as every three to six months. The essential nature of effective maintenance is part of the motivation for the IAC having conducted maintenance assessments of LEA facilities every year since 2007.

A school's HVAC system would receive a "not adequate" rating if it met one or more of the following criteria:

- System is not functioning as intended;
- Evidence of significant signs of corrosion, collapsed or missing filters, leaking, or activated alarm indicators;
- Evidence of issues requiring significant repairs or replacement; or
- Evidence of inconsistent custodial or maintenance practices.

A "poor" rating indicates:

- System is nonfunctional or unsafe to operate;
- Evidence of extensive signs of corrosion, collapsed or missing filters, leaking, or activated alarm indicators;
- Evidence of issues requiring extensive repairs or replacement; or
- Evidence of consistently sub-standard custodial or maintenance practices.

³ The Built to Learn Act of 2020 provided for a separate HSFF submission process for Baltimore City. Applications for projects are due by April 12, 2022.

Separate from the overall category rating, a system may also be tagged in the MEA as having a Minor Deficiency, which occurs when a building system or component poses a **potential** threat to the life, safety, or health of occupants, the delivery of educational programs or services, or the expected lifespan of the facility. A Deficiency is often applied when an assessor finds an issue that is consequential and needs quick remediation and/or is localized and is not sufficiently widespread in a facility to support a lower rating for the entire building system. Full information regarding the 2021 MEA ratings can be found in the September 9, 2021 IAC Meeting [agenda](#) and [minutes](#).

As reported in the IAC's FY 2021 [report](#) on its Maintenance-Effectiveness Assessments (MEAs), 97 schools received failing ratings (Not Adequate, Poor, or a Minor Deficiency) for HVAC systems. These schools are listed in Item 5 below. Where a school has both a Deficiency and a Poor or Not Adequate rating, it is counted only once towards the total of 97. None of the 97 schools were rated to have a Major Deficiency. This indicates that no HVAC systems posed an *immediate* threat to life, safety, or health of occupants, delivery of educational programs or services, or the expected life span of the facility. 72 facilities received Minor Deficiencies, indicating an issue that posed a *potential* threat in these areas.

Please note that the MEA looks specifically at maintenance practices, not overall condition. Even if a school received a Not Adequate or Poor rating, or a Minor Deficiency in the HVAC category, it may still have fully functioning air conditioning. Poor maintenance indicates a likelihood of functional unreliability, premature system failure, or reduced system life, but not necessarily a decline in present-day performance.

ITEM 5: Schools with Failing HVAC Ratings in FY 2021 MEA						
LEA	Number of Schools Assessed	HVAC Ratings			Deficiencies	
		Not Adequate	Poor	% of Schools Assessed Receiving a Rating of Not Adequate or Poor	Minor Deficiencies Assessed	% of Schools Assessed Receiving a Minor Deficiency
Allegany	4	0	0	0%	2	50%
Anne Arundel	4	0	0	0%	0	0%
Baltimore City	43	14	1	35%	14	33%
Baltimore County	5	2	0	40%	0	0%
Calvert	7	0	0	0%	1	14%
Caroline	2	0	0	0%	0	0%
Carroll	12	0	0	0%	6	50%
Cecil	12	0	0	0%	2	17%
Charles	13	0	0	0%	3	23%
Dorchester	3	0	0	0%	0	0%
Frederick	40	0	0	0%	0	0%

ITEM 5: Schools with Failing HVAC Ratings in FY 2021 MEA						
LEA	Number of Schools Assessed	HVAC Ratings			Deficiencies	
		Not Adequate	Poor	% of Schools Assessed Receiving a Rating of Not Adequate or Poor	Minor Deficiencies Assessed	% of Schools Assessed Receiving a Minor Deficiency
Garrett	3	0	0	0%	0	0%
Harford	12	1	0	8%	0	0%
Montgomery	7	0	0	0%	4	57%
Prince George's	42	16	1	40%	25	60%
Queen Anne's	5	0	0	0%	3	60%
Somerset	3	0	0	0%	2	67%
St. Mary's	4	1	0	25%	0	0%
Talbot	2	0	0	0%	1	50%
Washington	16	1	0	6%	1	6%
Wicomico	9	0	0	0%	2	22%
Worcester	3	0	0	0%	2	67%
Total	268	37	2	15%	72	27%