Dataset description

BuildBPS compiles vast amounts of data and allows for ongoing analyses that can be used to guide and inform decisions related to school building investments. An assessment team of architects and educational planners visited all of Boston Public Schools' buildings, collecting and organizing information on the physical condition of each building and their educational suitability to the programs offered within. Beyond the general information about each school building, the data is organized in the following four categories: Facility Assessment– Building, Facility Assessment–Site, Educational Facility Effectiveness: Learning Environments, and Educational Facility Effectiveness: Spaces. This dataset will be updated on a yearly basis to reflect changes as renovations and upgrade occur.

For more information, please see the documentation at http://buildbps.org. Each school has its own profile page and school report with further definitions of each category.

Prefixes

Column prefixes specify the source and category of information for each field.

Prefix	Description
BPS_	Information provided by BPS Facilities Department and website
SMMA_	Information provided/gathered/obtained by SMMA (Symmes Maini & McKee Associates)
MSBA_	Information obtained from MSBA website
Tax_	Information obtained from Property Assessment spreadsheet
DOE_	Information obtained from the Massachusetts Department of Elementary and Secondary Education (DESE/DOE)
BRA_	Information obtained from the Boston Planning and Development Agency (BPDA) formerly known as Boston Redevelopment Authority (BRA)
WSPPB_	Data provided by WSPPB cost model
SMMA_FA_	Information gathered as part of the facility assessment
SMMA_EA_	Information gathered as part of the educational assessment
SMMA_EA_ES_	Information gathered during educational assessment specific to Elementary Schools
SMMA_EA_MS_	Information gathered during educational assessment specific to Middle Schools
SMMA_EA_HS712_	Information gathered during educational assessment specific to High Schools serving grades 6/7-12
SMMA_EA_HS912_	Information gathered during educational assessment specific to High Schools serving grades 9-12
SMMA_EA_K8_	Information gathered during educational assessment specific to K-8 schools

SMMA_FA_Overall_Building_Condition	Values for Overall Building Condition Scores must be: Excellent, Good, Fair, Poor, Deficient
SMMA_FA_Overall_Community_Building	Values for Overall Community Building Scores must be: Excellent, Good, Fair, Poor, Deficient
SMMA_FA_Overall_Site_Condition	Values for Overall Site Condition Scores must be: Excellent, Good, Fair, Poor, Deficient
SMMA_FA_Overall_Community_Site	Values for Overall Community Site Scores must be: Excellent, Good, Fair, Poor, Deficient
SMMA_EA_EFE_S_Overall_all	Values for Overall Scores for EFE: Spaces must be: Excellent, Good, Fair, Poor, Deficient
SMMA_EA_ES_Overall_EFE_spaces	Values for Overall EFE Spaces Scores for Elementary Schools must be: Excellent, Good, Fair, Poor, Deficient
SMMA_EA_MS_Overall_EFE_spaces	Values for Overall EFE Spaces Scores for Middle Schools must be: Excellent, Good, Fair, Poor, Deficient
SMMA_EA_HS912_Overall_EFE_spaces	Values for Overall EFE Spaces Scores for High Schools serving grades 9-12 must be: Excellent, Good, Fair, Poor, Deficient
SMMA_EA_HS712_Overall_EFE_spaces	Values for Overall EFE Spaces Scores for High Schools serving grades 6/7-12 must be: Excellent, Good, Fair, Poor, Deficient
SMMA_EA_K8_Overall_EFE_spaces	Values for Overall EFE Spaces Scores for K-8 Schools must be: Excellent, Good, Fair, Poor, Deficient

Categories

The BuildBPS team assessed the entirety of the BPS building portfolio, rating each facility, on a scale ranging from “deficient” to “excellent,” in four categories. A summary of these categories is below. For full information, please visit http://buildbps.org/about. The following section provides more information about each criterion.

Category	Description	Primary Criteria	Secondary Criteria	Rating Scale
Facilities Assessment – Building (FA-B)	The physical conditions of the buildings, in terms of age, design, construction methods, and materials	• Life Safety: Means of Egress • Life Safety: Fire Alarm • Security: Entry Sequence • MAAB/ADA Accessibility • Heating Distribution Systems • Ventilation Distribution Systems • Plumbing Distribution Systems • Structural Systems	• Electrical Service Boilers • Roof Membrane Toilets and Fixtures Façade • Life Safety: Fire Protection— Sprinklers • Lighting Quantity & Control Windows	• Adequate: System or element is in new or like-new condition and functioning optimally; only routine maintenance and repair required • Minor: System or element functioning reliably; routine maintenance and repair required • Moderate: System or element functioning minimally; repair or replacement of some or all components required • Replace: System or element is non-functioning, not functioning as designed, or unreliable; repair or replacement of some or all components required • Not Present: System or element is non-existent, non-functioning, not functioning as designed, or unreliable; replacement required
Facilities Assessment – Site (FA-S)	The quality, condition, and capacity of the various exterior spaces and components of the facility	• MAAB/ADA Accessibility Walkways/Curbs/Sidewalks Play Areas • Drainage • Parking Quality	• Drop-Off/Pick-Up Routes Walls & Slopes • Site Lighting • Fencing • Neighborhood Streets	• Adequate: Well maintained • Minor: Requires repair to be well maintained • Moderate: Requires substantial repair e ort by specialists • Replace: Non-existent but necessary, or requires replacement • Not Present: Non-existent and unnecessary
Educational Facility Effectiveness – Learning Environments (EFE-LE)	The inherent building characteristics and introduced equipment (e.g., furniture and technology), as well as the physical appearance and condition	• Ventilation • Natural Daylighting Lighting Quality Air Quality Acoustical • Environment (Inviting/ Stimulating/Comfortable)	• Technology: Power Technology: Wireless Technology: Interactive Furniture • Finishes • Adjacencies of Learning Environments • Outdoor Classrooms	• Excellent: Elements meet needs for 21st century teaching and learning • Good: Elements contribute to teaching and learning Fair: Elements somewhat interfere with teaching and • learning • Poor: Elements detract from or interfere with teaching and learning • Deficient: Non-existent or inoperable systems or elements
Educational Facility Effectiveness – Spaces (EFE-S)	An evaluation of what spaces exist and the general adequacy of shapes and sizes relative to MSBA standards	• Classrooms (Depending on Typology, These Include Pre-K and Kindergarten) • Teacher Planning Small Group Science • Art	• Gymnasium (Because This Program Space Is Sometimes Served by Local Community Spaces) • Auditorium • Stage	• Excellent: Exceeds Massachusetts 963 CMR net square footage (NSF) guidelines (+10% or greater) • Good: Appropriate to house current enrollment and educational program; NSF meets Massachusetts 963 CMR guidelines (-10% to +10%) • Fair: Appear to be adequately sized for current

		• Music • Vocations and Technology Media Center • Cafeteria	• Medical • Administration & Guidance • Air-Conditioned Technology Network Room	enrollment and educational program; NSF somewhat less than Massachusetts 963 CMR (-10% to -20%) • Poor: Not adequately sized for current enrollment and educational program; NSF at least 20% less than Massachusetts 963 CMR guidelines • Deficient: Dedicated space does not exist.

Criteria

Facilities Assessment – Building (FA-B)

Criterion	Rank	Description
Accessibility	Primary	Is the facility compliant with the Americans with Disabilities Act of 1990? Are there adequate ramps, lifts, and elevators? Can every space in the facility be accessed by anyone with a disability? Is the door hardware compliant and does it maintain proper distance from a perpendicular wall? Are water fountains and other hallway obstacles compliant? Are toilet facilities compliant?
Heating Distribution Systems	Primary	Condition status noted. Piping condition, type, and apparent corrosion reviewed.
Life Safety: Fire Alarm	Primary	Condition status noted. Type, age, and appearance of systems. Review of available testing records.
Means of Egress	Primary	Condition status noted. Are there proper smoking and / or fire doors? Do the mechanical hold-open devices work? Are there illuminated exit signs and are they in the proper location? Is the path of egress direct and unencumbered? Is there a proper number of exits with regard to the facility population?
Plumbing Distribution Systems	Primary	Condition status noted. Review of piping type, apparent corrosion, and equipment, including presence or absence of water heater & backflow preventer.
Security at Entry	Primary	Most, if not all, schools have a camera / buzzer system at their main entrance. By today's standards, that is not adequate. Proximity of the main entrance to the main office is essential. This allows for direct observation of the entire person, as well as control of their movements.
Ventilation Distribution Systems	Primary	Condition status noted. Location and appearance of exhaust fans. Location and appearance of air-conditioning equipment. Condition of ductwork.
Boilers	Secondary	Condition status noted. Have boilers upgraded fuel type and heating media? Water or steam? Review of any maintenance records or inspections.
Electrical Service	Secondary	Condition status noted. Review of available capacity. Review of location and appearance of electrical service and meter age.
Facade	Secondary	Condition status noted for the exterior wall material(s). What is the façade material? If brick or concrete masonry unit (CMU), is any spalling or disintegrating? What is the condition of the mortar? What percentage of it is failing? Is there any obvious movement or structural cracking? If the façade is made of a prefabricated panel system, what is its surface condition? Is the surface deteriorating or caulking? What is the attachment system and its condition? Is there any movement in the panels?
Fire Protection - Sprinklers	Secondary	Condition status noted. Type and age of system and components. Review of maintenance records and certifications, if available.
Lighting Quantity & Controls	Secondary	Condition status noted. What is the lighting system? How are the lights controlled? Where is the lighting control located? Is the lighting system uniform within the space being reviewed? What is the percentage of units not working?
Roof Membrane	Secondary	Condition status noted for the roofing material and flashings. What is the roofing material? What is its condition? How is it adhered? What is the condition of the substrate? Is there deterioration? What is the percentage of patching?

Toilets & Fixtures	Secondary	Condition status noted. Fixture locations and appearance. Maintenance and cleanliness of fixtures and flow of fixtures.
Windows	Secondary	Condition status noted. Are the windows transparent? What percentage of the windows are translucent in the school? Do they comprise a single or double pane of glass? Have their seals failed? Are their mechanical systems working? Does their hardware work? Are there any obvious alignment failures? Do they have closing-limiter devices?

Facilities Assessment – Site (FA-S)

Criterion	Rank	Description
ADA Accessibility	Primary	Availability, location, and condition of accessible routes considered.
Drainage	Primary	Surface ponding, water quality structures, and condition of visible infrastructure considered.
Parking Quality	Primary	Quality of vehicle paving and quantity of parking spaces considered.
Site Lighting	Primary	Condition and location of lighting considered.
Walkways, Curbs & Sidewalks	Primary	Quality of all pedestrian spaces considered.
Drop Off & Pickup	Secondary	Segregation of buses, private vehicles, parking, and neighborhood traffic considered. Both on-site and on-street routes considered.
Fencing	Secondary	Condition of fencing and gates of various types considered.
Neighborhood Streets	Secondary	Condition of roadway, sidewalks, and accessible elements considered.
Play Areas	Secondary	Play structures, surfacing, courts, athletic fields, and outdoor classrooms considered.
Walls/Slopes	Secondary	Condition of retaining walls and stabilized slopes considered.

Educational Facility Effectiveness – Learning Environments (EFE-LE)

Criterion	Rank	Description
Acoustical	Primary	The proper balance between voice reinforcement and sound absorption impacts “speech intelligibility.” This includes both internal space performance and outside noise. Does the space appear to have appropriate acoustical properties for teaching and learning?
Air Quality	Primary	Different ventilation systems provide varying levels of outdoor air percentages and filtration (e.g., unit ventilators vs. central air ventilation vs. no mechanical ventilation provided). What appears to be the quality being provided by the mechanical system? Scientific measurements were not taken.
Building Ventilation	Primary	Fresh air is an important component for good brain activity and overall student performance. An even distribution of ventilated air is also important. Is mechanical ventilation provided? What appears to be the quality of the system?
Environment (inviting, stimulating, comfortable)	Primary	Is this a building that is aesthetically pleasing? One in which students and teachers feel comfortable and want to spend time, day after day?
Lighting Quality	Primary	Observed light level at the working surface (not measured) combined with the type of light fixture for an even dispersion of light for general academic tasks as well as for use of technology.
Natural Daylighting	Primary	This is viewed as a better quality of light than electrical lighting. What appears to be the quantity/quality of the natural light?
Adjacencies of Learning Environments	Secondary	Do classrooms and other learning environments have a relationship to each other that promotes collaboration, communication, and other aspects of 21st century teaching and learning? Do the spaces promote interdisciplinary learning?
Finishes	Secondary	What is the condition of the wall/floor and ceiling finishes? Both physical and aesthetic conditions were considered.
Furniture	Secondary	Different educational-delivery models can be reinforced by furniture type and flexibility. Is the furniture light enough in weight to be flexibly arranged? Is it ergonomic, comfortable, and in good condition?
Outdoor Classrooms	Secondary	Outdoor classrooms afford students the opportunity to learn in different ways, sometimes involving nature and hands-on activities. Is one or more present?
Technology Interactive	Secondary	Do the classrooms and other teaching spaces have working interactive technology, such as interactive marker boards and document cameras?
Technology: Power	Secondary	Are there sufficient electrical outlets to support a future technology-rich classroom/ school? Are they properly distributed throughout the space?
Technology: Wireless	Secondary	Are there sufficient access points throughout the school to support a 1:1 technology environment? Is the building served by fiber optic wiring? Is the main distribution room (i.e., server room) air-conditioned, to help ensure system reliability?

Educational Facility Effectiveness – Spaces (EFE-S)

This metric compares the sizes of educational spaces to the Massachusetts 963 CMR guidelines for 21st Century teaching and learning. It also indicates whether a facility is deficient/missing dedicated educational spaces normally found in buildings of its grade level and typology.

Criterion	**Rank**
Classroom (General Education)	Primary
Teacher Planning	Primary
Small Group	Primary
Science	Primary
Special Education: Self-Contained	Primary
Special Education: Resource of Small Group	Primary
Art Classroom	Primary
Music Classroom	Primary
Vocations and Technology	Primary
Media Center	Primary
Cafeteria	Primary
Gymnasium	Secondary
PE Alternatives	Secondary
Auditorium	Secondary
Stage	Secondary
Medical	Secondary
Administration & Guidance	Secondary
Custodial/Maintenance	Secondary
AC Tech Network Room	Secondary