Barriers To Learning: Age, Accessibility, Space Usage, and Air Conditioning in NYC School Buildings

New York City Independent Budget Office

March 2025

Introduction

School buildings—the physical space in which children are educated—are a critical support for students' learning. Spending on school infrastructure is one of the largest areas of New York City's capital budget. This IBO report presents descriptive analyses of school buildings in New York City in the **2023-2024 school year** to inform the public during school capital budget planning. This **snapshot** is based on a sample of **1,309 school buildings** in the 2023-2024 school year for which IBO had near-complete data; see the Appendix for additional details on the data and sample.

The figures are grouped as I. Funding, II. Age & Accessibility, III. Space Usage & Air Conditioning, and IV. Appendix.

I. Funding

The Five-Year Education Capital Plan Totals $20.5 Billion

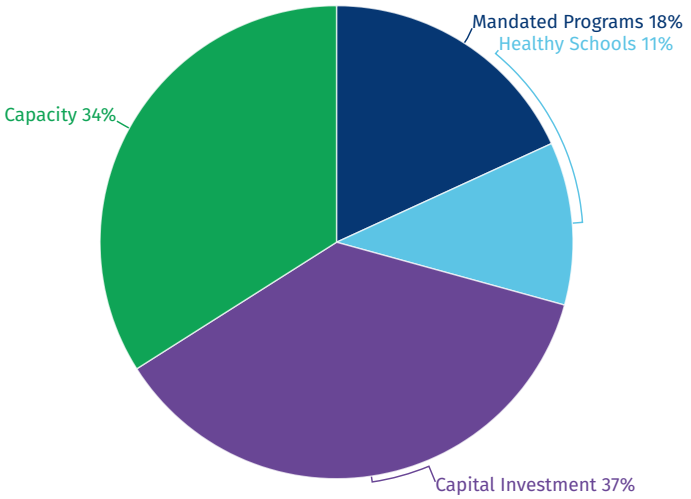
Capacity: New K-12 Capacity, Capacity to remove Transportable Classroom Units (TCUs), Facility Replacement, Early Childhood Education.

Mandated Programs: Projects mandated by local, state, or federal law (e.g. asbestos removal), prior plan completion, insurance.

Healthy Schools: Electrification, Health & Nutrition, Heating Plant Upgrades, Physical Education.

Capital Investment: Investment in existing facilities for state-of-good repair (Capital Improvement Program, or CIP), School Enhancement Projects, Technology, projects funded by elected officials.

Dollars in Millions

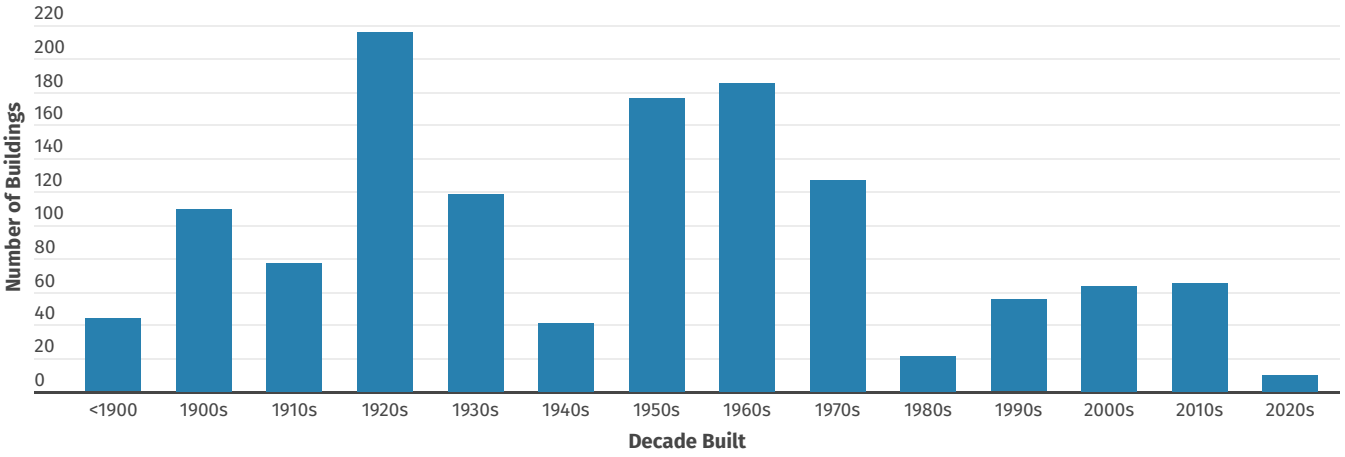


SOURCE: School Construction Authority (SCA) February 2025 Amendment to the Fiscal 2025-2029 Five-Year Capital Plan

- SCA's capital funding represents 18% of total capital spending planned for the City in fiscal years 2025-2029.
- The SCA Fiscal Year 2020-2024 Five-Year Capital Plan closeout report has still not been published.
- As of September 2023, there are still 64 TCUs (commonly referred to as trailers) across 23 school buildings.

II. Age & Accessibility

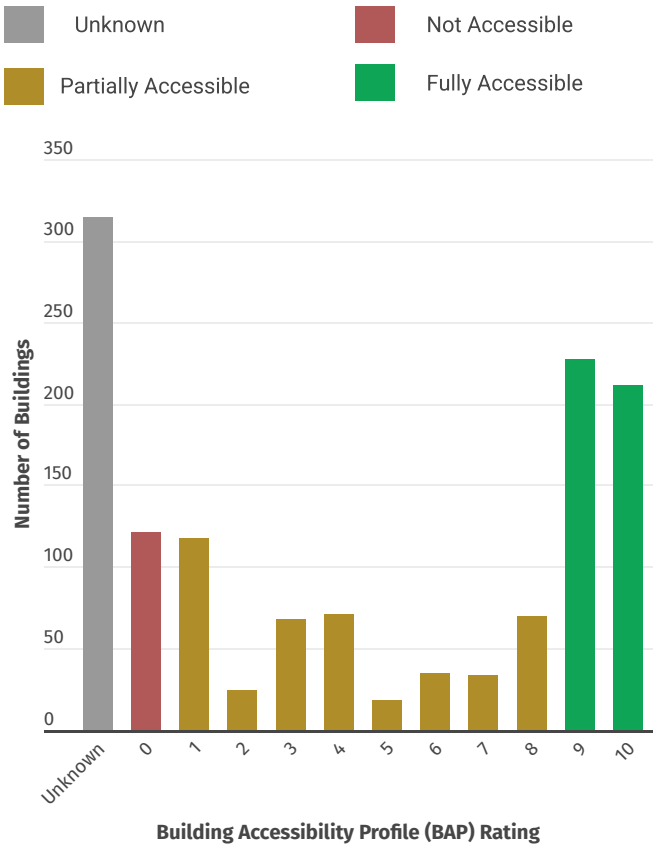
The Average NYC School Building is 75 Years Old; 86% of School Buildings are Over 30 Years Old



SOURCE: IBO analysis of Building Condition Assessment Survey (BCAS) data.
NOTE: Includes 1,308 public school buildings for which IBO has complete data. IBO uses the year built from BCAS, except for 20 buildings in the sample that are missing these data from BCAS—all but one of these are filled in using public data from the Department of City Planning (DCP). See Appendix for more details on the sample. Year built does not account for major renovations. In addition, these data reflect the current stock of NYC school buildings, not how many NYC school buildings were constructed over time, as some school buildings may have left the system after they were built or leased.

Only One-Third of School Buildings Are Fully Accessible and 24% Have Unknown Ratings

- The SCA Fiscal Years (FY) 2015-2019 Five-Year Capital Plan committed $121 million toward accessibility projects.
- The SCA FY 2020-2024 Five-Year Capital Plan allocated $750 million for accessibility projects. In the first three years of the plan (FY 2020-2022), only $143.66 million was committed. Final figures for fiscal years 2023 and 2024 are not available because the SCA FY 2020-2024 Five-Year Capital Plan closeout report has still not been published.
- The SCA FY 2025-2029 Five-Year Capital Plan allocates $800 million for accessibility.
- The federal Americans with Disabilities Act (ADA) was enacted in 1990, with various provisions going into effect from 1990-1994. ADA mandates physical accessibility in newly constructed spaces such as schools. Buildings must include features like ramps, elevators, accessible bathrooms, and clear pathways so individuals with disabilities can access and use them. Building Accessibility Profiles (BAPs) reference 1992 in the definition of full accessibility. That is, buildings constructed after 1992 are required to be fully accessible by the ADA. Additions or remediations can be made to pre-1992 construction to provide full accessibility.

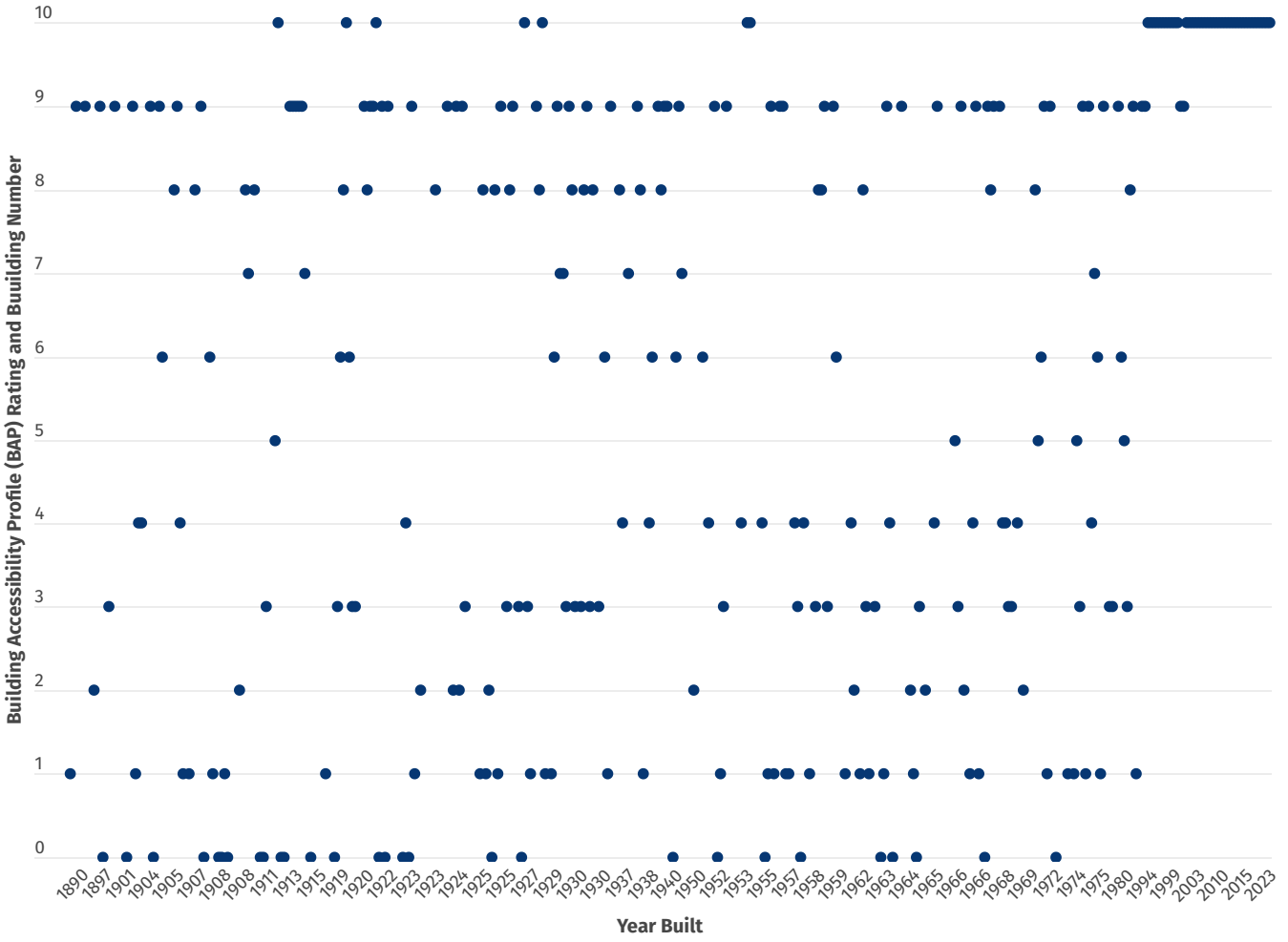


SOURCE: IBO analysis of Building Accessibility Profile (BAP) data.
NOTE: Includes 1,309 public school buildings in sample. Of the 314 buildings with an "unknown" BAP rating, 237 have not yet been rated by NYCPS and 77 were missing from the BAP data provided by NYCPS. See Appendix for more details on the data and sample.

Lack of Accessibility is Related to School Building Age, Though Many Older Buildings Are Fully Accessible

Click on the borough name to see the breakdown by school district in that borough.

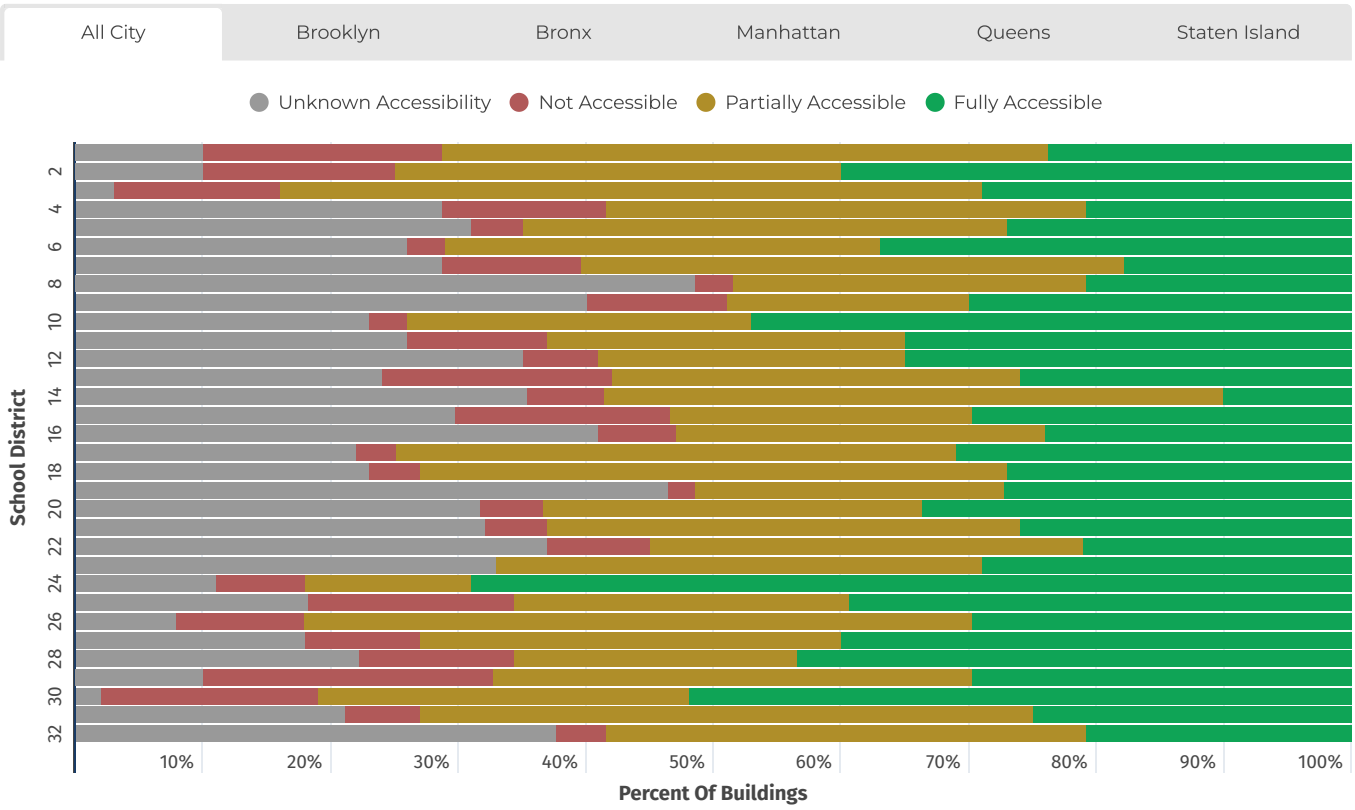
Brooklyn | Bronx | Manhattan | Queens | Staten Island



SOURCE: IBO analysis of Building Accessibility Profile (BAP) and Building Condition Assessment Survey (BCAS) data.
NOTE: Includes 1,309 public school buildings in sample. Of the 314 buildings with an “unknown” BAP rating, 237 have not yet been rated by NYCPS and 77 were missing from the BAP data provided by NYCPS. See Appendix for more details on the data and sample.

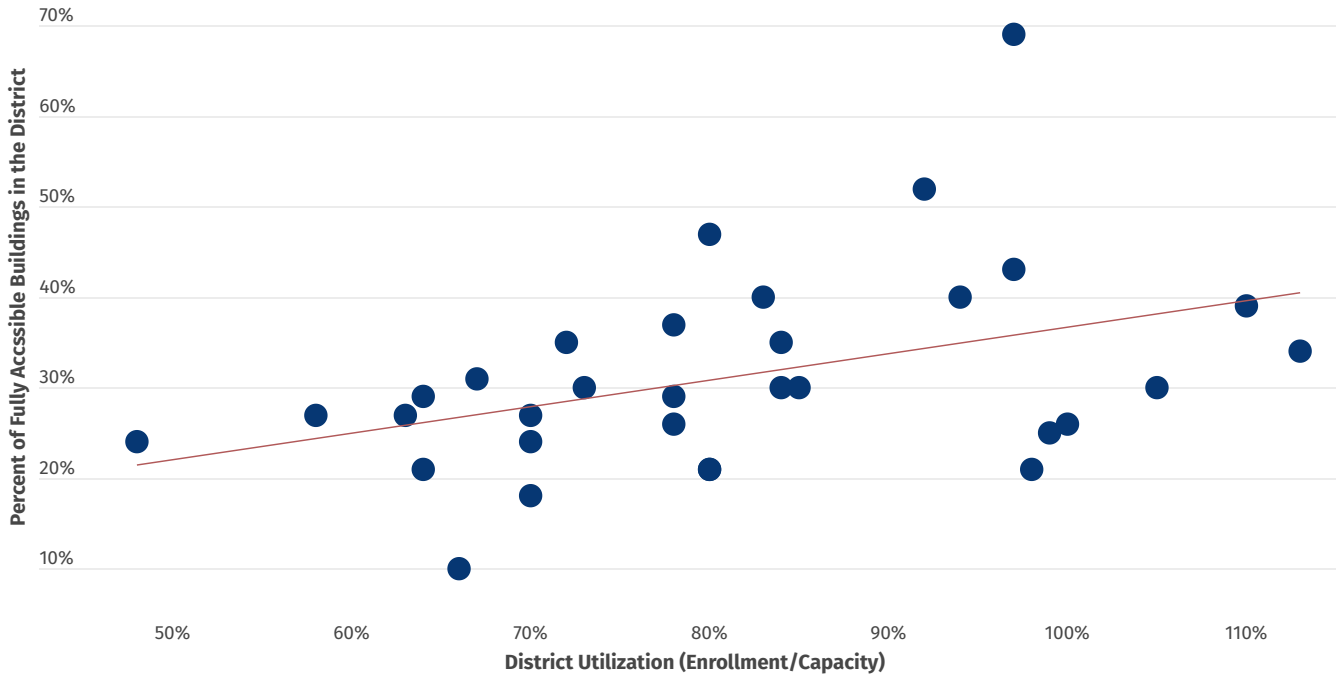
In All But Two Districts (Districts 24 and 30), The Majority of School Buildings Are Not Fully Accessible

Click on the borough name to see the breakdown by school district in that borough.



SOURCE: IBO analysis of Building Accessibility Profile (BAP) data.
NOTE: Includes 1,309 public school buildings in sample; 314 buildings with an "unknown" BAP rating have either not yet been rated by NYCPS or are missing from the BAP data provided by NYCPS. See Appendix for more details on the sample.

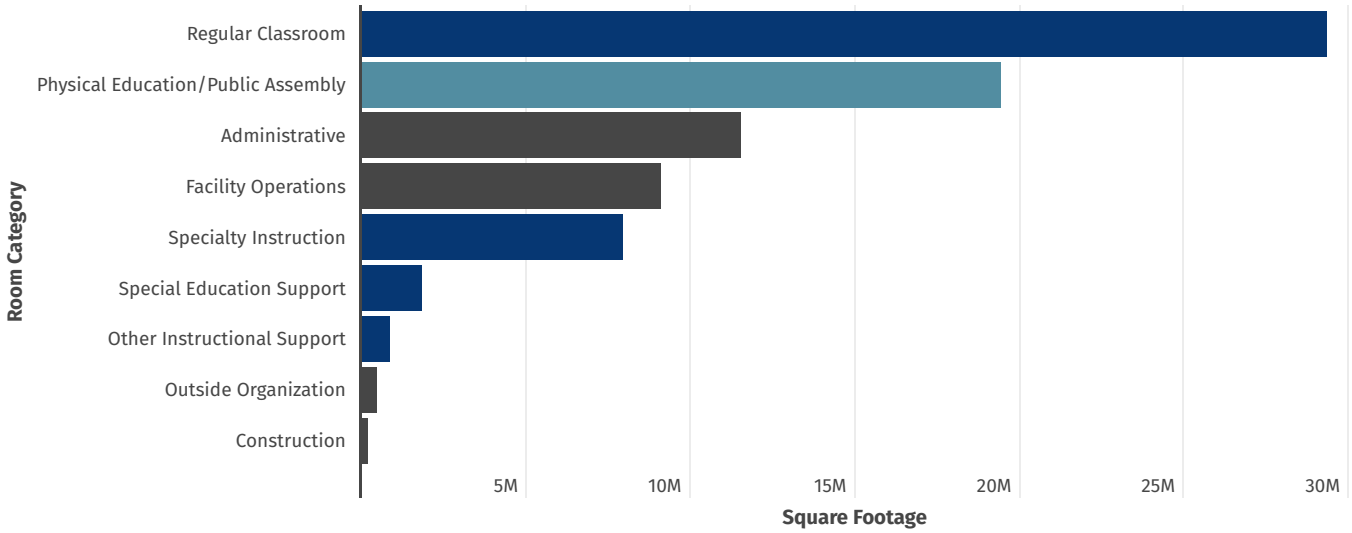
Accessibility Is Correlated With Utilization, Partly Due to New Construction in Over-utilized Districts



SOURCE: IBO analysis of Enrollment, Capacity, and Utilization ("Blue Book) data and Building Accessibility Profile (BAP) data.
NOTE: District level data is aggregated from 1,309 public school buildings for which IBO has complete data. See Appendix for more details on the sample. The red line is a best fit line, reflecting a positive correlation coefficient of 0.42 between the percent of fully accessible buildings and district utilization rate.

III. Space Usage & Air Conditioning

Half of School Buildings are Used for Instruction



SOURCE: IBO analysis of Principal Annual Space Survey (PASS) data.
NOTE: Includes 1,309 public school buildings for which IBO has complete data. See Appendix for more details on the sample.

49.6%

Of space is for instruction

25.6%

Of space is for administration/operations

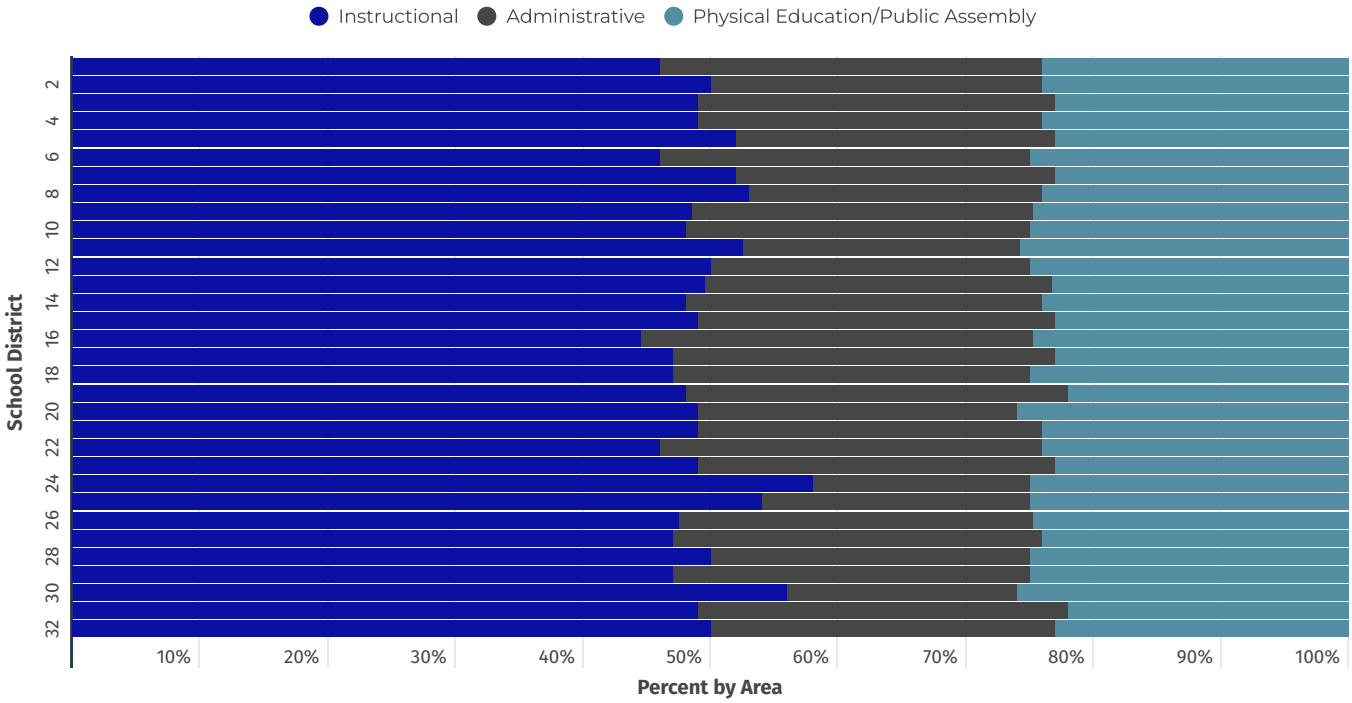
24.1%

of space is for physical education/public assembly

The Use of School Building Space Across Districts is Very Consistent

Click on the borough name to see the breakdown by school district in that borough.

All City | Brooklyn | Bronx | Manhattan | Queens | Staten Island



SOURCE: IBO analysis of Principal Annual Space Survey (PASS) data.
NOTE: Includes 1,309 public school buildings for which IBO has complete data. See Appendix for more details on the sample.

Physical Education Space, Art Space, and Science Labs Are Only 15% of Total School Building Space

Science Labs

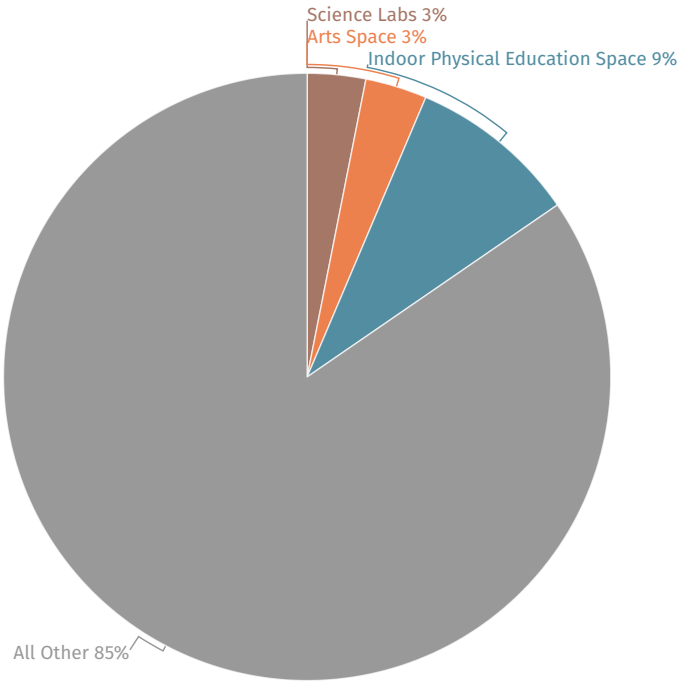
Science Classroom for PS, Science Demo Room, Science åΩ, and Science Prep Room.

Art Space

Art Room, Dance Room, Dark Room, Media Center, Music Room, and Theatre Arts/Drama

Indoor Physical Education Space

Gym/Aud/Cafeteria, Gym/Auditorium, Gym/Cafeteria, Gymnasium, Multi-purpose non classroom, Multi-purpose room, Swimming Pool, Weight Room, and Locker Room



SOURCE: IBO analysis of Principal Annual Space Survey (PASS) data.
NOTE: Includes 1,309 public school buildings for which IBO has complete data. See Appendix for more details on the sample. Categories are all IBO-defined based on PASS room categories .

- Most space in school buildings—and therefore, a significant portion of costs related to maintaining a state of good repair—is not specialized instructional space.

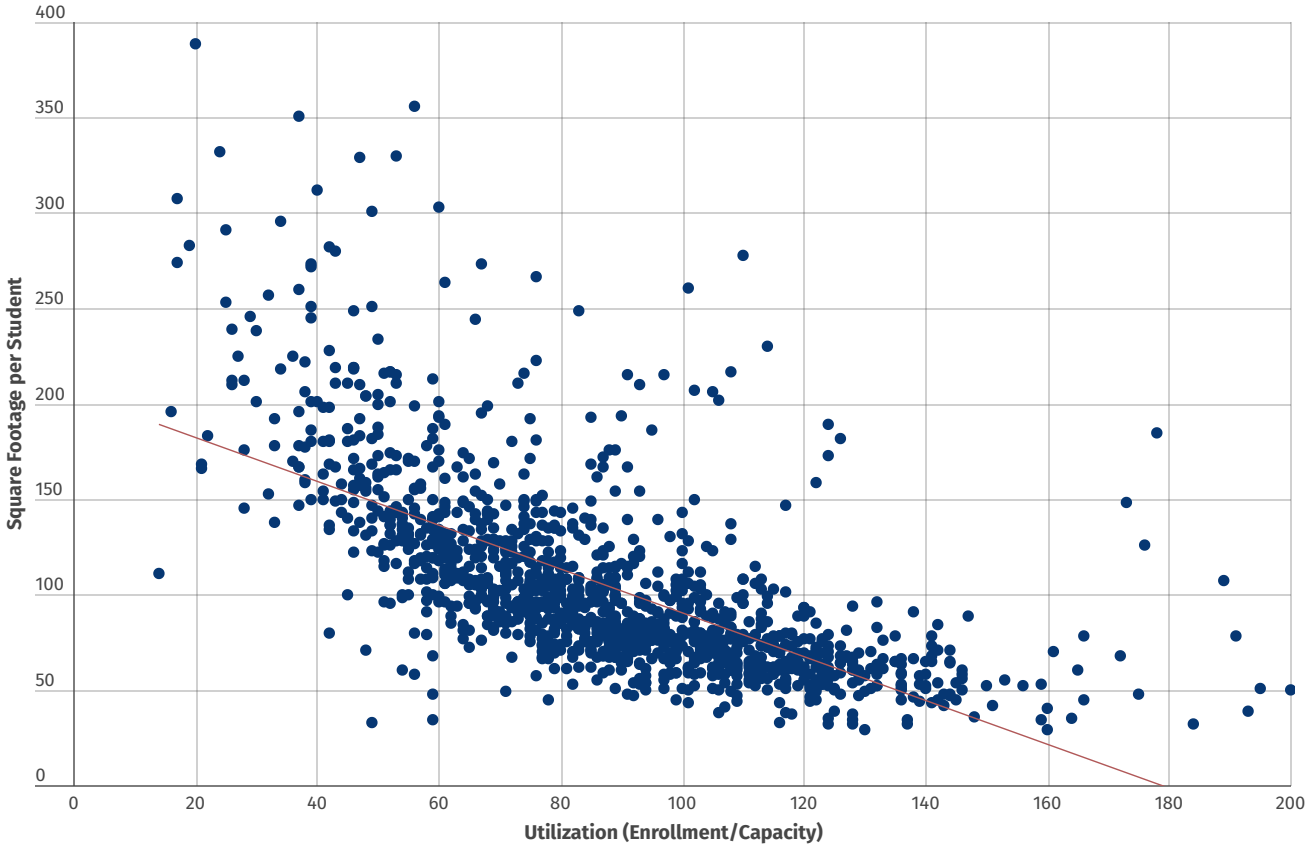
- The New York State Department of Education "Manual of Planning Standards" for school buildings, last revised in 2023, sets forth requirements and recommendations related to school construction. These standards include health and safety regulations; direction on heating, cooling, and ventilation; guidance on accessibility, etc. These planning standards do not mandate specific sets of specialized instructional space (e.g., art, science, physical education) for school buildings. NYSED's 2004 State Building Aid guidance does include "a room schedule of minimum spaces necessary to house a district's educational program for a given number of pupils" and "size standards" for educational spaces. For example, it requires a 36-foot by 52-foot gymnasium in an elementary school with 2-14 classrooms.

- There is no national data for making comparisons about space usage in NYC schools because national data on public school buildings is limited and outdated. The last comprehensive national survey of public school facilities was conducted in the 2012-2013 school year. The National Center for Education Statistics (NCES) collected some basic information on school facilities in December 2023 from a small national sample, but these survey data were incomplete for many facilities.

- The SCA FY 2020-2025 Five-Year Capital Plan allocated $41.3 million to science lab upgrades. In the first three years of the plan (FY 2020-2022), only $9.9 million was committed. Final figures for fiscal years 2023 and 2024 are not available because the SCA FY 2020-2024 Five-Year Capital Plan closeout report has still not been published.

- The SCA FY 2025-2029 Five-Year Capital Plan includes $40 million for science lab upgrades.

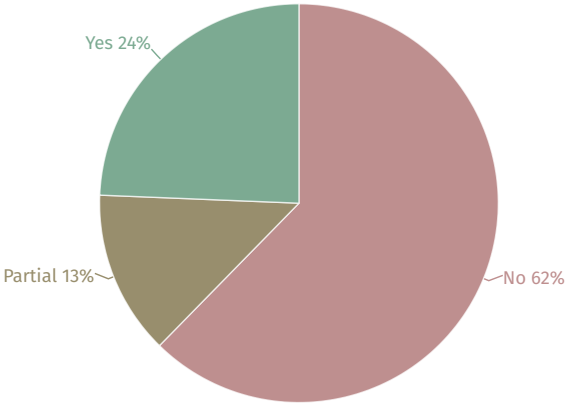
School Buildings with Higher Utilization (Crowding) Have Less Space Per Student



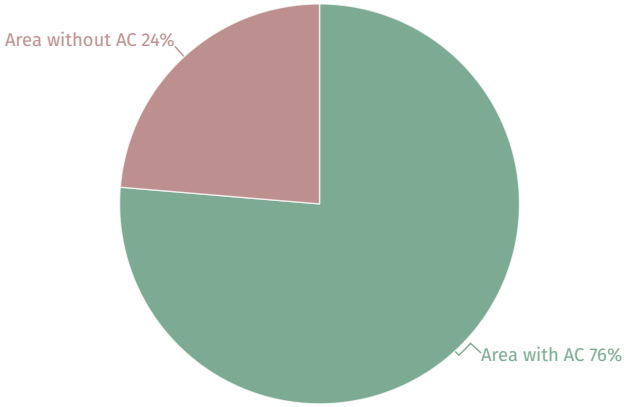
SOURCE: IBO analysis of Enrollment, Capacity, and Utilization ("Blue Book") data and Principal Annual Space Survey (PASS) data.
NOTE: Includes 1,309 public school buildings for which IBO has complete data. See Appendix for more details on the sample. The graph excludes 10 buildings with extreme outlier values in either utilization (greater than 200% utilization) or square footage per student (greater than 400 square footage per student), for readability. The red line is a best fit line from a bivariate regression of the square footage per student on the natural log of the utilization rate.

Though Most Buildings Lack Central AC, The Majority of Space in School Buildings Has AC

Buildings by Central AC Status



Square Footage by AC Status

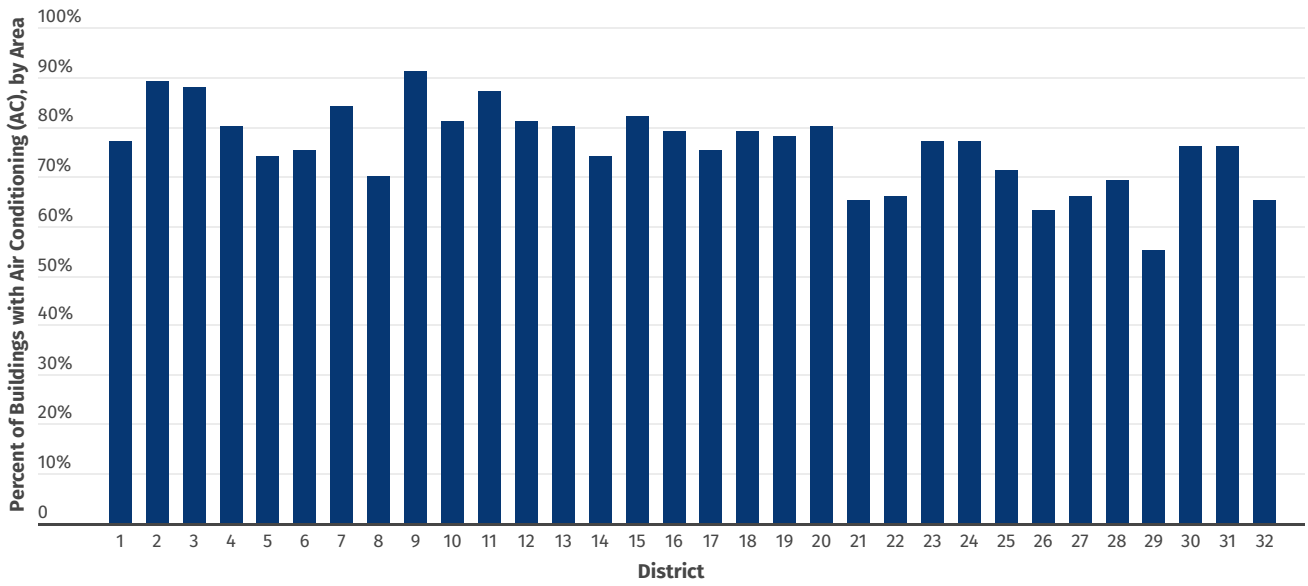


SOURCE: IBO analysis of a New York City Council Term & Condition on AC in school buildings and Principal Annual Space Survey (PASS) data.
NOTE: "Buildings by Central AC Status" is based on data from a New York City Council Term & Condition on AC in school buildings that includes 1,277 public school buildings. "Square Footage by AC Status" is based on Principal Annual Space Survey (PASS) data and includes 1,309 buildings. See Appendix for more details on the sample.

All Districts Have AC in at Least 55% of Their School Building Space

Click on the borough name to see the breakdown by school district in that borough.

All City | Brooklyn | Bronx | Manhattan | Queens | Staten Island

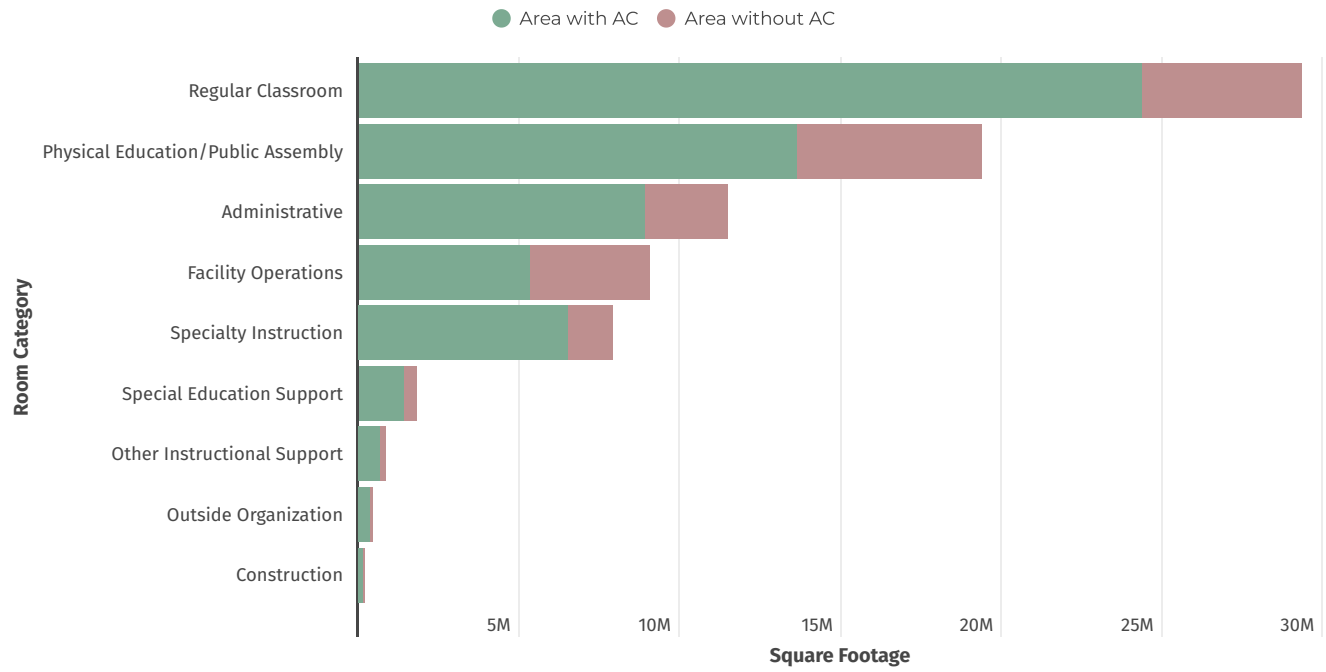


SOURCE: IBO analysis of Principal Annual Space Survey (PASS) data.
NOTE: Includes 1,309 public school buildings for which IBO has complete data. See Appendix for more details on the sample.

- In 2017, then-Mayor Bill de Blasio announced an initiative called "AC for All" that intended to put air conditioning in all classrooms by 2022. This initiative was supported by both expense and capital investments.

- The SCA FY 2015-2019 Five-Year Capital Plan committed $75.7 million to the AC for All initiative. The SCA FY 2020-2025 Five-Year Capital Plan allocated $150.7 million to the AC for All initiative. There is no comparable "Air Conditioning Initiative" category in the SCA FY 2025-2029 Five-Year Capital Plan.

AC is Available in All Types of Spaces, But Less So in Physical Education/Public Assembly and Facility Operations Spaces



SOURCE: IBO analysis of Principal Annual Space Survey (PASS) data.
NOTE: Includes 1,309 public school buildings for which IBO has complete data. See Appendix for more details on the sample.

IV. Appendix

Building Accessibility Profile (BAP) Ratings Created by New York City Public Schools (NYCPS)

Accessibility Category	Rating	Accessibility Description
Fully Accessible	10	All educational primary function areas within the building are accessible. The building either has a construction date of 1992 or after, or represents a building where major alterations, additions or remediations have been made to pre-1992 construction to provide full accessibility.
Fully Accessible	9	All educational primary function areas within the building are accessible, although minor barriers may be present throughout the building where there is pre-1992 construction.
Partially Accessible	8	At least one elevator provides service to all floors in the building and all public assembly areas in the school are accessible. Access is provided to most classrooms on multiple floors. Additional accessible bathrooms exist on other floors in addition to the ground floor accessible bathroom(s). There may be limited areas within the building that are not accessible due to changes in elevation or other barriers.
Partially Accessible	7	At least one elevator provides service to all floors in the building, including most classrooms on each floor. Accessible bathrooms exist on at least one other floor in addition to the ground floor accessible bathroom(s). Certain public assembly areas or classrooms may not be accessible due to changes in elevation or other barriers.
Partially Accessible	6	At least one elevator or lift provides access to several floors other than the ground floor, including the main corridors and most spaces connected to them. Access to additional floors may not necessarily include additional accessible bathrooms or public assembly spaces due to changes in elevation or other barriers.
Partially Accessible	5	The ground floor is fully accessible (including at least one bathroom and one classroom), and the building includes at least one elevator or lift providing access to an additional floor other than the ground floor. Access to additional floors may not include access to all floors in the building, and they may not include additional accessible bathrooms or classrooms other than on the ground floor.
Partially Accessible	4	The ground floor is fully accessible, including all public assembly spaces present on the ground floor. At least one accessible bathroom and one accessible general education classroom exist on the ground floor.
Partially Accessible	3	There is general ground floor access, and at least one accessible bathroom and one accessible classroom exist on the ground floor. Certain classrooms or public assembly spaces on the ground floor may still not be accessible due to changes in elevation.
Partially Accessible	2	There is general access to most of the ground floor and at least one accessible bathroom on that floor. There are no accessible classrooms on the ground floor.
Partially Accessible	1	There is general access to at least some of the ground floor through an accessible entrance, although not all spaces contained within the ground floor may be accessible. There are no accessible bathrooms or classrooms.
Not Accessible	0	No accessibility.

SOURCE: New York City Public Schools
NOTE: All buildings with a BAP rating of 5 or higher have elevators. Advocates for Children considers buildings with a BAP rating of 1 or 2 "functionally inaccessible."

Data

This IBO report used data on school buildings from four different sources provided by New York City Public Schools (NYCPS) to IBO for the 2023-2024 school year.

1. Active Building Table

This is a dataset with the building code, name, and address of all active school buildings, as well as indicators for various attached structure types (e.g., transportable classroom unit, or TCU).

2. Enrollment, Capacity, & Utilization Report ("Blue Book").

This includes each building's total enrollment, total capacity (as defined by NYCPS), and utilization—a measure of crowding (enrollment divided by capacity). It is available on New York City Open Data and on the School Construction Authority (SCA) website.

- IBO's annual Education Indicators include information from the Blue Book and details on IBO's measures of over-utilized, within capacity, and under-utilized.

3. Building Condition Assessment Survey (BCAS)

BCAS is a detailed annual survey of building conditions conducted by professionals. Each building's BCAS reports are publicly available on SCA's website, for the most recent year only, as PDFs.

4. Principal Annual Space Survey (PASS)

PASS includes school-reported space utilization, including a list of all rooms in each school with their dimensions, area, an indicator for whether they have AC, NYCPS-defined room categories, and NYCPS-defined room functions (subsets of room categories). PASS is updated yearly by schools and periodic site surveys by the SCA to verify accuracy. Each building's PASS is publicly available on their NYCPS school page under "Reports" -> "Facilities" as a PDF.

This IBO report also used two publicly available datasets that may not exactly correspond to conditions in the 2023-2024 school year (see descriptions below for more details).

1. Building Accessibility Profiles (BAP)

Building Accessibility Profiles provide detailed assessments of a school building's accessibility and an overall building accessibility rating from 1-10 (buildings without any accessibility are assumed to be 0, not accessible, and not included in BAP data). IBO used publicly available BAP data from NYCPS's website; the data was downloaded on October 25, 2024.

- These data do not include buildings that are rated a 0, or that have not yet been rated. In February 2025, NYCPS provided a list of school buildings to IBO that are rated 0 or not yet rated. However, there were still some buildings in the sample for which IBO was missing a BAP rating. IBO categorized both 77 buildings missing a BAP rating in the data and 237 buildings that have not yet been rated by NYCPS as "unknown."

2. AC Term and Condition (T&C) Data

In fiscal years 2017-2022 the New York City Council required a semi-annual building-level T&C report on the installation of AC in schools. Mayor de Blasio's "AC for All" initiative was supposed to put ACs in all classrooms, and this was one tracking mechanism. IBO used the last publicly available AC T&C report on the NYC Council website from January 2021.

Sample 1,309

Sample 1,309

IBO identified 1,309 school buildings for which we had near-complete data and that are traditional public schoolbuildings (e.g., not an administrative office or transportable classroom unit, TCU). However, our sample inclusion criteria mean some public schoolbuildings may not be included in these analyses. Buildings included in this IBO analysis had to meet the following criteria:

- Appear in the Active Buildings Table, Blue Book, and PASS datasets.
- Not be identified as an athletic field or transportable classroom unit in the Active Buildings Table.
- Have both capacity and enrollment according to the Blue Book.
- Not have "pre-K," "3-K," "UPK," "AF" (athletic field), "TCU" (transportable classroom unit) or "Transportable" in the name.
- Not have an alphabetic building code (traditional school building codes are alphanumeric: one letter representing the borough followed by three numbers).

Unique Buildings by Dataset and in Sample

Dataset	All Buildings	Buildings in Sample
Active Buildings Table	1,882	1,309
Bluebook	1,385	1,309
PASS	1,466	1,309
BCAS*	1,591	1,290
BAP**	906	874
AC T&C Data***	1,432	1,277
Total Unique "Buildings"	1,994	1,309

SOURCE: IBO analysis of the above-named data.
NOTE: *IBO filled in missing data on the year built for 19 out of 20 buildings missing this in the BCAS data using public data from the Department of City Planning (DCP). Some buildings are missing BCAS data because buildings are not inspected via BCAS until five years after they are constructed. **BAP data excludes buildings with an accessibility rating of 0 (no accessibility); IBO received additional data from NYCPS in February 2025 on an additional 358 buildings that are rated 0 or not yet rated. In addition, because the BAP dataset is from October 2024, it may include buildings open in 2024-2025 that are not in other datasets from 2023-2024. ***AC T&C data is from January 2021, so it may not include school buildings newly opened since then and/or it may include school buildings that have since been taken offline.

This report was prepared by Kaitlyn O'Hagan, with assistance from Emma Gossett and Jordan Paige, and supervised by Julia Konrad and Sarita Subramanian. Report production was done by Tara V. Swanson.