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Appendix

State Support for New York City's Education Infrastructure: Understanding School Building Aid

This appendix provides additional data and details on the measures and building aid formula discussed in the IBO report "[State Support for New York City's Education Infrastructure: Understanding School Building Aid](#)." As detailed in this report, from fiscal years 2020 through 2024, over 99% of New York City spending on school building projects was financed by the City itself, meaning the City issued the bonds (all years refer to fiscal years unless otherwise specified). However, financing does not account for a crucial source of funding for school infrastructure from New York State: building aid revenue.¹ Based on a different measure that compares building aid revenue to spending on education debt service (payments to bond holders), New York State funds approximately half of New York City's total spending on school infrastructure. This Appendix provides additional technical details on these measures and the building aid formula discussed in the IBO report. This Appendix follows the outline of the report and is best read as supplementary material.

Education Infrastructure Financing

New York City can issue various bonds to finance education infrastructure projects. Each is summarized below. There are differences in whether the bonds are considered city- or state-financed, and what funds are used to guarantee the debt will be paid. In addition, the credit rating of each bond can differ. The credit rating of a bond affects its interest rate, which in turn affects the cost of its debt service.

- **General Obligation (GO) bonds.** GO bonds are city-financed debt and are backed by the "full faith and credit" of New York City. The New York State Constitution sets the City's overall debt limit, which applies to GO bonds. The current Standard & Poor's (S&P) rating for GO bonds is AA (very strong capacity to meet financial commitments).²
- **Transitional Finance Authority (TFA) tax-backed bonds.** TFA issues bonds backed by New York City tax revenue. These are city-financed debt because they are secured by city revenue. State legislation limits debt issued through these bonds separately from the City's overall debt limit. The Fiscal 2025 Enacted State Budget increased the debt limit that applies to these TFA bonds by \$8 billion in 2024 and \$6 billion in 2025. In this section of the law, the State also stipulated that the City "shall increase planned spending on classroom construction by \$2.0 billion."³ The current S&P rating for TFA tax-backed bonds is AAA (extremely strong capacity to meet financial commitments).⁴
- **Building Aid Revenue Bonds (BARBs).** BARBs are issued by the TFA and are considered state-financed debt in city financial documents because they are secured by a state revenue. State law

Figure 1

Education Capital Commitments Reflect an Increasing Share of Education Infrastructure Spending is Financed by the City

Nominal Dollars in Millions

Fiscal Year	Education Capital Commitments				Total
	City	Percentage	Non-city	Percentage	
2005	\$2,216	100%	\$0	0%	\$2,216
2006	1,410	71%	579	29%	\$1,989
2007	1,143	36%	2,074	64%	\$3,216
2008	1,127	35%	2,079	65%	\$3,205
2009	773	32%	1,666	68%	\$2,439
2010	1,123	50%	1,142	50%	\$2,265
2011	953	53%	834	47%	\$1,787
2012	1,263	51%	1,218	49%	\$2,481
2013	1,282	55%	1,063	45%	\$2,345
2014	1,040	50%	1,020	50%	\$2,060
2015	1,535	53%	1,339	47%	\$2,874
2016	2,749	110%	(245)	-10%	\$2,504
2017	3,073	98%	63	2%	\$3,136
2018	3,029	85%	516	15%	\$3,546
2019	3,620	91%	373	9%	\$3,993
2020	2,658	97%	93	3%	\$2,751
2021	2,641	98%	61	2%	\$2,702
2022	4,134	104%	(151)	(4%)	\$3,983
2023	4,519	100%	13	0%	\$4,532
2024	4,636	98%	109	2%	\$4,745

SOURCE: IBO analysis of Financial Management System data

NOTE: All figures reflect actual capital commitments except for fiscal year 2024, which reflects projections as of the Fiscal 2025 Executive Financial Plan. Non-city commitments are mostly state commitments (commitments financed through BARBs). Capital commitments are negative when contracts are deregistered.

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created BARBs in 2006, and caps total BARB debt outstanding at \$9.4 billion.⁵ The current S&P rating for BARBs is AA (very strong capacity to meet financial commitments).⁶

Capital commitments are the dollar value of registered contracts for infrastructure projects. The source of funding for capital commitments is defined by the bonds issued to pay the contracts: funds from GO bonds are considered city-financed capital commitments, and funds from BARBs are considered state-financed capital commitments. Considering capital commitments over time seems to reflect a decline in state support for education infrastructure spending (see Figure 1). Years with a high portion of non-City funding for capital commitments reflect years where a significant portion of projects were financed through BARBs. However, this measure of capital spending only reflects the legal burden of financing; it does not account for state support for school infrastructure provided through building aid revenue.

Building Aid Formula

The building aid formula is the building aid ratio multiplied by aidable building expenditures. These two components are discussed in further detail below. Projects are eligible for building aid reimbursement regardless of how they are financed, and therefore all aspects of the building aid formula apply to projects funded by both BARBs and city-funded debt.

Building Aid Ratio. The formula for the building aid ratio is set so that a district of average fiscal capacity will be 0.49; that is, 49% of the district’s aidable expenditures would be reimbursed by the State (and the local share is 51%). The full building aid ratio formula is listed below.

$$\text{Building Aid Ratio} = 1 - 0.51 \times \frac{(\text{District AV/RWADA})}{(\text{Statewide Average AV/RWADA})}$$

State law defines the measure of fiscal capacity as the actual value (AV), a value of taxable property in the district, divided by resident weighted average daily attendance (RWADA), a pupil count. In other words, district AV/RWADA

is a measure of district per-pupil property wealth. For the calculation of New York City’s 2023-2024 current year building aid ratio, the City’s AV was \$1.26 trillion and RWADA was 953,873 students. The City’s AV/RWADA was \$1,316,205. This is divided by the statewide average (\$1,057,200) to determine the city’s 2023-2024 current year building aid ratio: 0.366 (36.6%).⁷

The State uses a district’s highest ratio since 1982 (the “selected” ratio), with some adjustments, to calculate building aid revenue. The City’s building aid ratio for each tier of projects is listed below (Figure 2). Tiers refer to time periods in which the project was approved and determine what building aid ratio is applied to the project, because the rules regarding the building aid ratio have changed over time.

For Tier 4 projects, the building aid ratio applied is the maximum of the “selected” building aid ratio (the highest of any ratio since 1982) minus 0.1 or the current year aid ratio. Depending on the project type, the building aid ratio is also capped at 0.95 or 0.98. Since the City’s selected building aid ratio is 0.547 and the current year ratio is 0.366, for New York City the highest of these is the selected ratio minus 0.1, which is 0.447. However, an “incentive” increase of 0.1 is then added for most projects, which is why IBO refers to the building aid ratio as the highest of any aid ratio since 1982 for simplicity (that is, the 0.1 incentive addition cancels out the 0.1 subtraction off the selected building aid ratio).

In addition, for Tier 4 projects, districts that NYSED identified as “high need” in 2005, including New York City, receive a 5% enhancement to their building aid ratio.⁸ This 5% increase is provided before the 0.1 incentive addition, so for New York City it is 0.022 (5% of 0.447). Therefore, for most projects, the City’s building aid ratio is 0.567 (0.447 + 0.022 + 0.1). For project types that are not eligible for the 0.1 incentive addition—certain leases, water testing, and building condition surveys—the City’s building aid ratio is 0.467 (0.447 + 0.022).

Aidable Building Expenditures. Aidable building expenditures represent the amount of spending the State will consider for building aid revenue. That amount is the smaller of either the project’s actual costs or the maximum cost allowance (MCA), which is determined by NYSED. The MCA is a product of three measures: a measure of capacity called building aid units (BAUs), a statewide construction cost index that is meant to account for the cost of labor and materials, and a regional cost adjustment.⁹

Building aid units (BAUs) are determined by NYSED. BAUs are assigned based on classroom sizes (e.g., a 770 square foot room serving grades 1-6 is assigned a BAU of 27), with additional adjustments for specialty instruction spaces. The calculation of BAUs is outlined in detail in a July 2004 NYSED memorandum, which notes that BAUs have “little or nothing to do with the actual number of students served in each instructional space within the building” (p. 1). This memorandum also notes “where

Figure 2
Building Aid Ratios Vary Depending on Project Approval Date

Tier	Date Project Approved	2023-2024 NYC Building Aid Ratio
1	June 1998 and earlier	0.547
2	July 1998-June 2000	0.647
3	July 2000-June 2005	0.547
4	July 2005 and later	0.569

SOURCE: 2023-24 Building Aid Output Report (BLD-SBA) for NYC Chancellor’s Office
NOTE: New York City’s Tier 4 building aid ratio for some leases and building condition surveys is 0.469, because these are not eligible for the 0.1 incentive that applies to other Tier 4 projects.
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formal board policy or union contract limit the number of students in a classroom to less than 27 for Pre-K through 6th grade, we will use the lesser number when determining operating capacity to justify additional classrooms” (p. 11).¹⁰

The other two components of the MCA are specified in state law and updated periodically. The statewide construction cost index is updated monthly and differs by the grade of the population served by the building. The regional cost adjustment is updated annually. As an example, for a New York City elementary school construction project with a contract signed in September 2023, the construction cost index allows a cost of \$18,689 per BAU.¹¹ For fiscal year 2024 (which includes September 2023), New York City’s regional cost adjustment was 1.7256.¹² Therefore, the maximum cost allowance would be \$32,250 per BAU. This MCA applies to both renovations to existing buildings and new school construction. For context, the average budgeted cost per seat for new school construction in the School Construction Authority’s fiscal year 2025 through 2029 Five-Year Capital Plan is \$180,000.¹³

The MCA is also divided into two portions: construction costs and incidental costs. Construction costs include general construction, heating and ventilation, plumbing, and electrical, while incidental costs include site purchase and development, equipment, furnishings, machinery, and professional fees. The example cost allowance of \$32,250 per BAU previously discussed is the total MCA that includes both construction and incidental costs.

Building Aid Timing. The State pays school building aid based on assumed debt service expenditures over a period of 15-30 years. Because the State provides building aid revenue for a given project over a long period, the City is still receiving building aid revenue for projects completed in the 1990s (see Figure 3). The State separates revenue into Tiers, which refers to time periods in which projects were approved. Tiers determine what building aid ratio applies to projects, since the rules regarding the building aid ratio have changed over time.

To calculate assumed debt service, the State uses the average interest rate on all bonds issued to finance education infrastructure over the fiscal year in which the project contract was signed.¹⁴ For projects approved in fiscal year 2023, the assumed interest rate was 3.625%.¹⁵

Building aid payments begin after a project’s main contract is signed. The School Construction Authority (SCA) generates state building aid applications quarterly for all new projects with an awarded contract.

Figure 3
Annual Building Aid Revenue Includes Payments for Projects Done Over the Past 30 Years

Tier	Date Projects Approved	2023-2024 Building Aid Revenue	Percent of Total
1	June 1998 and earlier	\$125,254,811	8%
2	July 1998-June 2000	177,374,809	12%
3	July 2000-June 2005	323,474,539	21%
4	July 2005 and later	910,152,785	59%
BCS	Building Condition Survey	5,463,850	<1%
Total		\$1,541,720,794	100%

SOURCE: 2023-24 Building Aid Output Report (BLD-SBA) for NYC Chancellor’s Office
NOTE: Tier 3 and Tier 4 include building aid for leases, which is paid based on current year expenditures. Tier 4 also includes building aid for water testing and remediation. Total building aid does not match 2024 building aid in New York City’s budget because some of this total will be deferred to 2025. In addition, in 2024 New York City will receive some building aid from 2023 that was deferred.
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NYSED typically reviews and approves projects within two months. Once a project is complete, SCA generates a final cost report. NYSED reconciles the final cost with the original estimate and adjusts building aid revenue accordingly.

Building Aid Revenue Over Time

Both TFA and New York City pay debt service on bonds issued to finance education infrastructure (see Figure 4). TFA pays debt service on BARBs and the City pays debt service on GO bonds.

Building aid revenue is first received by TFA to pay debt service on BARBs. The remaining building aid revenue is sent to New York City, and the City allocates it to the Department of Education’s operating budget (see Figure 5, “DOE – Construction”).¹⁶ While this revenue is allocated to DOE, the assumption is that this revenue can be

Figure 4

**Both New York City and TFA Pay
Education Debt Service**

Nominal Dollars in Millions

Fiscal Year	Education Debt Service		
	TFA	GO	Total
2015	\$1,027	\$903	\$1,930
2016	1,082	1,029	\$2,111
2017	1,148	1,055	\$2,203
2018	1,276	1,065	\$2,341
2019	1,532	1,117	\$2,649
2020	1,620	1,112	\$2,732
2021	1,666	1,043	\$2,709
2022	1,620	993	\$2,613
2023	1,939	1,217	\$3,156

SOURCE: IBO analysis of Office of Management and Budget publications

NOTE: GO refers to General Obligation bonds, which are city financed. TFA refers to bonds issued by the Transitional Finance Authority, including Building Aid Revenue Bonds (BARBs), which are considered state financed.

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Figure 5

Both TFA and DOE Receive Building Aid Revenue

Nominal Dollars in Millions

Fiscal Year	TFA	DOE		Total
		Construction	Leases	
2015	\$561	\$444	\$34	\$1,039
2016	606	454	35	\$1,094
2017	576	528	36	\$1,140
2018	687	487	37	\$1,211
2019	744	486	37	\$1,267
2020	797	485	37	\$1,319
2021	801	483	37	\$1,321
2022	838	479	36	\$1,353
2023	973	478	36	\$1,487

SOURCE: IBO analysis of Financial Management System data

NOTE: The Revenue Budget separates building aid in DOE's budget into separate categories for leases and for construction projects, as reflected in this table. The column "DOE - Construction" includes revenue codes 27920 (building aid for projects that predate SCA's submission process) and 29605 (SCA-based building aid).

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used to pay education debt service and therefore frees up resources elsewhere in the city budget. DOE also receives building aid revenue related to lease costs (see Figure 5, "DOE – Leases").

Even though building aid revenue flows to both TFA and DOE, in total, building aid revenue amounts to approximately half of total spending on education debt service (see Figure 3 of the IBO report "State Support for New York City's Education Infrastructure," obtained by dividing data from Appendix Figure 5 by data from Appendix Figure 4, by year).

Endnotes

- ¹Office of State Aid. (n.d.) *2023-24 State Aid Handbook: Formula Aids and Entitlements for Schools in New York State*. New York State Education Department. Retrieved July 15, 2024 from: https://stateaid.nysed.gov/publications/handbooks/Handbook_2324.pdf
Fiscal Analysis and Research Unit. (2024, March). *State Aid to Schools: A Primer Pursuant to Laws of 2023*. New York State Education Department. https://www.oms.nysed.gov/faru/PDFDocuments/Primer_2023.pdf
- ²Zemetis, T.J. (2024). S&P Global Ratings: New York City; General Obligation. <https://www.nyc.gov/assets/investorrelations/downloads/pdf/sp-report-go-08-16-2024.pdf>
- ³N.Y. Public Authorities Law § 2799-gg. <https://www.nysenate.gov/legislation/laws/PBA/2799-GG>
- ⁴Zemetis, T.J. (2024). S&P Global Ratings: New York City Transitional Finance Authority, Appropriations; General Obligation; Joint Criteria; Miscellaneous Tax; Sales Tax. <https://www.nyc.gov/assets/investorrelations/downloads/pdf/tfa/sp-report-tfa-fts-sub-2025c.pdf>
- ⁵N.Y. Public Authorities Law § 2799-tt. <https://www.nysenate.gov/legislation/laws/PBA/2799-TT>
- ⁶Winnikens, F. (2022). S&P Global Ratings: New York City Transitional Finance Authority; Non-School State Programs. <https://www.nyc.gov/assets/investorrelations/downloads/pdf/sp-report-tfa-barbs-2023s-1.pdf>
- ⁷*2023-24 Building Aid Output Report (BLD-SBA) for NYC Chancellor's Office*. (n.d.). New York State Department of Education. Retrieved July 15, 2024 from: <https://www2.nysed.gov/stateaid/dist/a300000.html>.
- ⁸State Aid. (n.d.) *New High Need Supplemental Building Aid Ratio (HNSBAR)*. New York State Education Department. Retrieved July 15, 2024 from https://stateaid.nysed.gov/build/hnsbar_060805.htm
- ⁹The MCA for projects in New York City also includes “legitimate extraordinary costs” related to multi-story construction necessitated by substandard site sizes, site security costs, difficulties with delivery of construction supplies, increased fire resistance and fire suppression costs, site acquisition, environmental remediation, and building demolition. However, it is unclear how these additional cost allowances are determined.
Education Unit, New York State Division of the Budget. (2023, February 1). *Description of 2023-24 New York State Executive Budget Recommendations for Elementary and Secondary Education*. <https://www.budget.ny.gov/pubs/archive/fy24/ex/local/school/2324schoolaid.pdf>
- ¹⁰Thurnau, C.T. (2004, July). *State Building Aid for Public School Districts and BOCES*. New York State Education Department. https://p12.nysed.gov/facplan/documents/building_aid_guidelines_072804.pdf
- ¹¹Office of Facilities Planning. (n.d.). *Construction Project Cost Index*. New York State Education Department. Retrieved July 15, 2024 from <https://www.p12.nysed.gov/facplan/Projects/COSTIND.HTM>
- ¹²Office of Facilities Planning. (n.d.). *Regional Cost Factors*. New York State Education Department. Retrieved July 15, 2024 from <https://www.p12.nysed.gov/facplan/Reports/RegCost.html>
- ¹³This budgeted cost per seat is based on 10 sited capacity projects listed on p. C-7 of the July 2024 amendment to the NYC School Construction Authority FY 2025-2029 Five-Year Capital Plan, <http://nycsca.org/Community/Capital-Plan-Reports-Data#Capital-Plan-67>.
- ¹⁴N.Y. Education Law § 3602. <https://www.nysenate.gov/legislation/laws/EDN/3602>
- ¹⁵State Aid. (n.d.). *Interest Rates for Assumed Amortizations*. New York State Education Department. Retrieved July 15, 2024 from https://stateaid.nysed.gov/build/html_docs/intrates.htm
- ¹⁶New York City Transitional Finance Authority. (2022, July 21). *Building Aid Revenue Bonds Fiscal 2023 Series S-1*. <https://www.nyc.gov/assets/transitionalfinance/pdf/bond-statements/2023/tfa-barbs-2023s-1.pdf>