NEW YORK CITY COMPTROLLER
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Bureau of Budget

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Fiscal Year 2022 Annual Report on Capital Debt and Obligations

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I. Executive Summary

The City of New York's (the "City") debt finances the capital maintenance and upkeep of an infrastructure that must accommodate not only 8.8 million City residents but also, in a typical year, hundreds of thousands of daily commuters and millions of tourists annually. While infrastructure spending is necessary, it is costly because of the City's extensive and complex infrastructure.

Debt for the City, excluding that of the New York City Municipal Water Finance Authority, has grown from $39.55 billion in FY 2000 to $94.22 billion in FY 2021, an increase of 138 percent. Over the same period, New York City personal income grew by 139 percent and New York City local tax revenues by 192 percent.[1]

Debt is issued directly by the City or on behalf of the City through a number of public benefit corporations or authorities. This report assesses the debt condition of the City of New York in accordance with Section 232 of the City Charter. The Charter requires the Comptroller to report the amount of debt the City may incur for capital projects during the current fiscal year and each of the three succeeding fiscal years.

The City may issue long-term debt only for capital purposes (assets with useful lives of at least three years for certain technology purposes or five years or greater for other purposes, and a value equal to or greater than $50,000, as established in Comptroller's Office Directive #10), to finance certain pollution remediation costs per a 2010 amendment to the Financial Emergency Act, and to provide capital grants to other entities such as the Metropolitan Transportation Authority (MTA).[2]

Despite its magnitude, the amount of outstanding City debt counted against the City's debt limit is well under the City's statutory debt-incurring power for the current year. New York City's general debt limit, as set forth in the New York State Constitution, is 10 percent of the five-year rolling average of the full value of taxable City real property. The City's FY 2022 general debt-incurring power of $127.35 billion is projected to increase to $130.89 billion in FY 2023, $133.94 billion in FY 2024 and $136.72 billion by FY 2025.

Outstanding City debt that is counted against the debt limit totaled $79.65 billion as of July 1, 2021, leaving the City with a net debt-incurring power of $47.70 billion. The outstanding debt total included $36.31 billion of net General Obligation (GO) debt, $27.62 billion of NYC Transitional Finance Authority (TFA) debt above its $13.5 billion authorized base, and $15.73 billion in contract and other liabilities, as shown in Table 1 on page 7. By the beginning of FY 2025, the City's total indebtedness is expected to grow by 40 percent to $111.76 billion. The City's remaining projected debt-incurring capacity of $42.75 billion as of July 1, 2022, will decline to $33.94 billion on July 1, 2023 and $24.96 billion on July 1, 2024, based on projected growth of the full market value of taxable real property. Just over forty-seven percent of outstanding GO and TFA debt is scheduled to come due over the next ten years.

Calculation of indebtedness is based in part on the City's projection of capital commitments and the attendant financing to support capital spending under these commitments. Actual commitments in FY 2021 reached $10.05 billion, an increase of just less than $2.0 billion from FY 2020. The extent to which the COVID-19 pandemic is managed will undoubtedly impact future capital contracting activity.

Certain entities aside from the City issue debt to finance capital programs for the City. While the City may pay a certain portion of these debts, they are not counted towards the City's statutory debt

[1] FY 2021 New York City personal income is estimated from the NYC OMB Message of the Mayor, April 2021.

[2] A minimum useful life of three years for certain information technology projects became effective July 1, 2019. On July 1, 2020, the minimum cost of a capital-eligible project rose to $50,000 from $35,000.

limit. Additional funding for the City's Capital Plan is provided by debt issued by the New York City Municipal Water Finance Authority (NYW), which is backed by water and sewer system revenues.

Over the past two decades, all three measures of debt burden have improved. After reaching a high of 17.2 percent in FY 2002, New York City's debt service as a percent of local tax revenues has dropped to 10.7 percent in FY 2020 and to 9.7 percent in FY 2021. In addition, debt outstanding as a percent of total NYC personal income has improved to 14.0 percent in FY 2020 along with a forecast of 12.9 percent for FY 2021, having averaged 15.2 percent from FY 2002 to FY 2019. Debt outstanding as a percent of taxable assessed value was 32.3 percent in FY 2021 compared with an average of 42.2 percent over FY 2002 to FY 2020.

New York City's FY 2020 per capita debt burden was about twice the average of comparable large U.S. cities. New York City has responsibilities that in other cities are distributed more broadly among states, counties, unified school districts, public improvement districts, and public authorities, among the cities compared in this report. Partly because of this, New York City ranks the highest in two measures of debt burden that factor in a locality's taxable base, and is well above the averages of the comparable cities and counties. New York City's outstanding debt as a percentage of full value of real property in FY 2020 was 7.2 percent. This is over twice the average of 3.3 percent of the other comparable cities. Of the comparable cities, San Antonio was the next highest, at 7.0 percent, followed by Phoenix, at 5.1 percent. New York City's debt per capita as a percentage of personal income per capita in FY 2020 was 13.9 percent, twice the average of the other comparable cities.[3] San Antonio and Houston were the next highest, at 12.7 and 10.8 percent, respectively, while Boston had the lowest debt to personal income ratio, at 2.3 percent.

While New York City has a large amount of outstanding debt, its credit rating remains strong. In FY 2021, two rating agencies downgraded the City's GO credit rating. Moody's lowered its rating from Aa1 to Aa2 in October 2020 and Fitch lowered its rating from AA to AA- in December 2020. In December 2020, the three largest rating agencies all held negative outlooks for the long-term ratings on the City's GO debt. By the end of August 2021, all three rating agencies had revised their outlooks to stable.

[3] The latest available BEA data for personal income is 2020.

Table 1. NYC Debt-Incurring Power

($ in millions)

	July 1, 2021	July 1, 2022	July 1, 2023	July 1, 2024
Gross Statutory Debt-Incurring Power [a]	**$127,352**	**$130,892**	**$133,939**	**$136,723**
Actual Bonds Outstanding as of July 1, 2021 (net) [b]	38,478	36,320	33,860	31,367
Plus: New Capital Commitments [c]				
FY 2022		11,984	11,984	11,984
FY 2023			15,888	15,888
FY 2024				15,841
Less: Appropriations for General Obligation Principal	(2,168)	(2,460)	(2,496)	(2,416)
Incremental TFA Bonds Outstanding Above $13.5 billion	27,619	26,572	25,033	23,374
Subtotal: Net Funded Debt Against the Limit	**$63,929**	**$72,416**	**84,270**	**$96,038**
Plus: Contract and Other Liability	15,725	15,725	15,725	15,725
Total Indebtedness Against the Limit	**$79,654**	**$88,141**	**$99,995**	**$111,763**
Remaining Debt-Incurring Power within General Limit	**$47,698**	**$42,751**	**$33,944**	**$24,960**

SOURCE: NYC Comptroller's Office and the NYC Office of Management and Budget.

NOTE: The Debt Affordability Statement released by OMB in April 2021 presents data for the last day of each fiscal year, June 30th, instead of the first day of each fiscal year, July 1, as reflected in this table. The City's Debt Affordability Statement forecasts that indebtedness would be below the general debt limit by $32.48 billion at the end of FY 2022.

[a] FYs 2023 through 2025 debt limits are based on the NYC Comptroller's Office's forecasts of the full market value of real property.

[b] Net adjusted for Original Issue Discount, GO bonds issued for the water and sewer system and Business Improvement District debt. The $38.48 billion is derived from the $38.57 billion GO total minus $96 million of the aforementioned adjustments.

[c] Reflect City-funds capital commitments as of the FY 2022 Adopted Capital Commitment Plan (released in October of 2021) and includes cost of issuance and certain Inter-Fund Agreements. In July 2009, the State Legislature authorized the issuance of TFA Future Tax Secured bonds above the initial authorization of $13.5 billion, with the condition that this debt would be counted against the general debt limit. Thus, City capital commitments are funded with TFA debt as well as City GO bonds.

II. Profile of New York City Debt

Debt to support New York City's capital program is issued directly by the City, or on its behalf, through a number of different debt issuing entities. This debt (gross NYC debt) is used to finance the City's capital projects, and includes the City's General Obligation (GO) bonds, all categories of NYC Transitional Finance Authority bonds (TFA), TSASC, Inc. bonds, and other conduit issuers included in the Capital Lease Obligations and other category (see Table 1).[4] While New York City Municipal Water Finance Authority (NYW) bonds also fund City capital projects, they are not included in gross NYC debt as they are paid for through charges for water and sewer service set and billed by the NYC Water Board.

In the 1980s, gross NYC debt grew at an average annual rate of 4.5 percent. During the 1990s, it increased by 6.4 percent annually. The substantial increase during the 1990s resulted mainly from the rehabilitation of facilities that were neglected during the 1970s fiscal crisis. Gross debt outstanding grew at a rate of 4.2 percent per year from FY 2000 to FY 2021. The June 2021 Financial Plan shows growth of approximately 5.7 percent annually through 2025.[5] Projections for growth rates may change as more detailed information about funding needs becomes available over time.

Composition of Debt

Excluding NYW bonds, the City issues four types of debt to finance or refinance its capital program, with GO and TFA bonds accounting for 40.9 percent and 53.0 percent of the outstanding total, respectively (Table 2). Debt service on these bonds is paid with General Fund revenues. NYW debt service is paid for by water and sewer user fees. Table 2 contains information on General Fund supported debt. Sales Tax Asset Receivable Corporation (STAR) debt was defeased by the Dormitory Authority of the State of New York in FY 2021.

Each of the categories of debt is comprised of both tax-exempt and taxable bonds, with the exception of TSASC debt, which has been issued solely as tax-exempt bonds. Tax-exempt debt accounted for 79.4 percent of the total par amount of the City's outstanding debt at the end of FY 2021. Taxable debt is issued for projects that have a public purpose but are ineligible for Federal tax exemption, such as housing loan programs.[6]

To diversify interest rate risk, gross NYC debt consists of both fixed and variable rate debt, with the bulk of the debt in fixed rate borrowing. At the end of FY 2021, fixed rate debt accounted for 91.4 percent of gross NYC debt outstanding.

[4] All bonds cited are paid from General Fund revenues.

[5] GO and TFA debt outstanding are used to estimate growth rate due to the unavailability of data regarding future lease-purchase debt issuance. As a result, Capital lease-purchase debt is held flat over FY 2022 – FY 2025.

[6] Certain bonds that the City issues are hybrids of taxable and tax-exempt. The City was authorized to issue Build America Bonds (BABs) in calendar years 2009 and 2010. In addition, the City issued taxable Qualified School Construction Bonds (QSCBs) until October 2013 when the Federal allocation was exhausted. Even though BABs and QSCBs are taxable, because the City receives Federal interest subsidy payments for these bonds, they must meet the same federal tax law standards as tax-exempt bonds. While interest on BABs and QSCBs are classified as taxable, due to the federal interest subsidies, the net cost of borrowing to the City on these bonds is less than or similar to that of tax-exempt bonds.

Table 2. Gross NYC Debt Outstanding, June 30, 2021

($ in millions)

	GO Bonds	TFA	TSASC	Capital Lease Obligations & Other [a]	Gross Debt Outstanding
Tax-Exempt					
Fixed Rate	$25,134	$36,918[c]	$993	$3,644	$66,689
Variable Rate[b]	4,889	3,091[c]	0	156	8,136
Subtotal	$30,023	$40,009	$993	$3,800	$74,825
Taxable					
Fixed Rate	$8,551	$9,948	$0	$892	$19,391
Variable Rate	0	0	0	0	0
Subtotal	$8,551 [d]	$9,948 [d]	$0	$892	$19,391
Total	**$38,574**	**$ 49,957**	**$993**	**$4,692**	**$94,216** [e]
Percent of Total	**40.9%**	**53.0%**	**1.1%**	**5.0%**	**100.0%**

SOURCE: Annual Comprehensive Financial Report of the Comptroller for the Fiscal Year Ended June 30, 2021 and 2020.

[a] Capital Lease Obligations & Other includes $32 million of City University Construction Fund (CUCF) debt which is not included in the Annual Comprehensive Financial Report (ACFR). In addition, $2.68 billion of Hudson Yards Infrastructure Corporation (HYIC) bonds and $25 million of tax lien securities are included in this column.

[b] Variable rate debt varies in term from two to 30 years, with interest rates that are reset on a daily, weekly, or other periodic basis.

[c] TFA fixed rate debt includes $8.40 billion of TFA BARBs and $261 million of the $278 million outstanding Recovery Bonds. The TFA variable rate debt includes $17 million of Recovery Bonds.

[d] NYC GO taxable bond debt includes $2.76 billion of Build America Bonds and $22.14 million of Recovery Zone Economic Development Bonds. The TFA taxable fixed rate debt includes $2.15 billion of Build America Bonds and $1.14 billion of Qualified School Construction Bonds.

[e] Total does not include impact of premiums/discounts on debt outstanding estimated at $6.86 billion in FY 2021.

General Obligation bonds and Transitional Finance Authority Future Tax Secured bonds above $13.5 billion are the only two forms of debt included when calculating indebtedness under the general debt limit. Building Aid Revenue Bonds (BARBs), TSASC debt, and lease-purchase/conduit debt are not subject to the general debt limit.

General Obligation Debt

Use of GO debt, which is backed by the faith and credit of the City of New York, decreased in FY 2021 from FY 2020. As of June 30, 2021, GO debt totaled $38.57 billion and accounted for 40.9 percent of gross NYC debt outstanding, a 0.1 percentage point increase in share from FY 2020. GO debt outstanding includes Build America Bonds (“BABs”) and Qualified School Construction Bonds (“QSCBs”). The FY 2021 GO debt total is $210 million lower than GO debt outstanding at the end of FY 2020. The GO debt outstanding decrease of 0.5 percent reflects lower bond issuance relative to GO bonds redeemed during FY 2021. During FY 2021, the City issued $4.89 billion of GO bonds, of which $2.0 billion were new money bonds for capital projects and $2.89 billion were GO refunding bonds. At the same time, the City redeemed $5.10 billion of its debt, including refunded bonds, during the fiscal year. The GO refundings produce $445 million of budgetary savings over the life of the refunding bonds.

Debt service for GO bonds is paid from real property taxes which are deposited with and retained by the State Comptroller under a statutory formula for the payment of debt service. This “lock-box” mechanism assures that debt service obligations are satisfied before property tax revenues are released to the City’s General Fund. NYC property tax revenues were $31.46 billion in FY 2021, almost five times FY 2021 GO debt service.

Transitional Finance Authority Debt

The TFA issues two different types of debt — Future Tax Secured (FTS) bonds, backed primarily by the City's personal income tax (PIT) revenues, and BARBs, supported by revenues the City receives from New York State. At the close of FY 2021, TFA debt totaled $49.96 billion, comprised of $41.55 billion of FTS debt and $8.40 billion of BARBs. This total is 2.0 percent greater than at the close of FY 2020. As a result, the TFA's share of gross NYC debt outstanding increased from 51.5 percent in FY 2020 to 53.0 percent in FY 2021. The increase reflects the issuance of $3.17 billion of new money TFA FTS bonds during the course of FY 2021, along with $2.85 billion in refunding bonds which will produce $630 million of savings over the life of the issued bonds.

The TFA was created as a public benefit corporation in 1997 with the power and authorization to issue bonds up to an initial limit of $7.5 billion, but after several legislative changes the limit was increased to $13.5 billion. This borrowing does not count against the City's general debt limit.[7] The City exhausted the $13.5 billion bonding limit in FY 2007. In July 2009, the State Legislature authorized TFA to issue debt beyond the $13.5 billion limit, with the additional borrowing subject to the City's general debt limit. Thus, the incremental TFA debt issued in FY 2010 and beyond, to the extent the amount outstanding exceeds $13.5 billion, has been combined with City GO debt when calculating the City's indebtedness within the debt limit.

Debt Not Subject to the General Debt Limit

In April 2006, the State Legislature authorized the TFA to issue up to $9.4 billion of outstanding BARBs. This debt is used to finance a portion of the City's five-year educational facilities capital plan. Because they are repaid with State funds, BARBs are excluded from the calculation of the City's debt counted against the debt limit. Between FY 2007 and FY 2009, $4.25 billion of BARBs were issued. Additional BARBs in the amount of $2.15 billion were issued over the FY 2011 – FY 2013 period followed by $1.5 billion in FY 2015, $750 million in FY 2016, $500 million in each of FYs 2018 and 2019, $250 million in FY 2020, and $200 million in FY 2021.[8] As a result of those debt issuances, excluding amortization through June 30, 2021, there are currently $8.40 billion of BARBs outstanding. At this time, there is no planned BARBs borrowing over FY 2022 – FY 2025. The Mayor, in concert with the New York City Comptroller's Office, retains discretion with regard to the specific amount of annual BARBs borrowing.

In September of 2001, the State Legislature amended Chapter 16 of the Laws of 1997, to permit the TFA to have outstanding an additional $2.5 billion of its bonds and notes to pay for any and all expenses related to the terrorist attack on New York City on September 11, 2001. These "Recovery Bonds" are excluded from the debt limit. There were $278.3 million of Recovery Bonds outstanding as of June 30, 2021 of the $2.0 billion issued in FY 2003.

TSASC Inc. Debt

TSASC debt, which does not count toward the City's general debt limit, totaled $992.6 million as of June 30, 2021. This represents about a $30 million decrease from FY 2020. There currently are no plans for future new money TSASC issuances. TSASC is a local development corporation created under and subject to the provisions of the Not-for-Profit Corporation Law of the State of New York. TSASC bonds are secured by tobacco settlement revenues (TSR) as described in the Master Settlement Agreement among 46 states, six jurisdictions, and the major tobacco companies. In January 2017, TSASC refinanced all bonds issued under the Amended and Restated 2006 Indenture. The refunding bond structure continues to allow the TSRs to flow to both TSASC and

[7] The debt limit is discussed in further detail in Section III.

[8] The TFA did not issue any BARBs in FY 2014 and FY 2017.

the City, with 37.4 percent of the TSRs pledged to TSASC bondholders, and the remainder going into the City's General Fund.[9]

Sales Tax Asset Receivable Corporation (STAR) Debt

In Fiscal Year 2021 STAR debt was defeased by refunding bonds issued by the Dormitory Authority of the State of New York (DASNY). As of June 30, 2021, STAR no longer has bonds outstanding.

Capital Lease (Conduit Debt) and Other Obligations

Capital Lease and Other Obligations totaled $4.69 billion as of June 30, 2021, an increase of $52 million from FY 2020. The City makes annual appropriations from its General Fund for agreements with other entities that issue debt to build or maintain facilities on behalf of the City. These agreements are known as "leaseback" transactions and result in a capital lease obligation. These capital lease obligations are included in the gross NYC debt outstanding, but are excluded in the calculation of the City's indebtedness under the general debt limit. Capital lease obligations include debt issued by the DASNY for New York City Health + Hospitals (H+H) facilities ($393 million), the DASNY New York City Courts Capital Program ($297 million), the Educational Construction Fund ($302 million), the City University Construction Fund (CUCF) ($32 million), the Industrial Development Agency ($57 million), the Primary Care Development Corporation ($17 million), as well as general lease obligations ($892 million).[10] In addition, due to Governmental Accounting Standards Board (GASB) reporting requirements, $25 million of NYC Tax Lien Trust debt was included in this category.

The Hudson Yards Infrastructure Corporation (HYIC) is a not-for-profit local development corporation formed in July 2004 to finance development in the Hudson Yards district of Manhattan — primarily the extension of the Number 7 subway line westward to 11th Avenue and 34th Street, which began operations in September 2015. In May 2017, HYIC issued $2.14 billion of bonds to refund a portion of its outstanding debt, consisting of all of the 2007A bonds and a portion of the 2012A bonds. The refunding bonds were structured as serial bonds that begin amortizing in FY 2022 and, due to coverage tests outlined in the original indenture, the unrefunded 2012A bonds were converted to establish a sinking fund structure that resulted in a substantially level debt service basis through maturity in 2047. As of June 30, 2021 HYIC had $2.68 billion in debt outstanding. On June 21, 2021 the Corporation exercised a redemption option to refund $38.6 million outstanding 2012A bonds with available cash. No Interest Support Payments were made by the City to HYIC in FY 2021 nor are any planned for in the future. In August 2018, however, the City Council passed a resolution authorizing the issuance of up to $500 million in additional HYIC debt to fund Phase 2 of the Hudson Boulevard expansion and related park and infrastructure improvements from West 36th Street to West 39th Street in the Hudson Yards Financing district. HYIC has entered into a loan facility agreement with Bank of America, N.A. in the amount of $200 million and as of June 30, 2021 the Corporation has drawn approximately $2.3 million of the loan facility. In October 2021, HYIC issued $454.1 million Series 2022A tax-exempt Green Bonds with maturities from 2026 through 2047. Proceeds from the transaction were used to refund all outstanding 2012A bonds for savings $269 million over a 25-year period.

Other Issuing Authorities

In addition to the financing mechanisms cited above, a number of independent authorities issue bonds to finance infrastructure projects in the City and throughout the metropolitan area. The two largest issuers are NYW and the New York State Metropolitan Transportation Authority (MTA). Both

[9] The previous TSASC indenture called for all tobacco revenues to flow first to TSASC and then to the City's General Fund.

[10] Although for reporting purposes $393 million of Health + Hospitals (H+H) debt is included in the category of Capital Lease Obligations, the debt of H+H is not fully guaranteed by New York City.

of these entities have no statutory claim on revenues of the City of New York. Thus, the debt of NYW and MTA is not an obligation of the City. Nevertheless, bond proceeds from these entities are used to support capital projects that serve City residents. The outstanding indebtedness of these two authorities is summarized in Tables 3 and 4.

NYW had $31.05 billion in debt outstanding as of June 30, 2021, an increase of $158 million, or 0.5 percent, from FY 2020 as shown in Table 3. Debt issued by NYW is supported by fees and charges for the use of services provided by the system. Created by State law in 1984, NYW is responsible for funding the City's water and sewer-related capital projects administered by the City's Department of Environmental Protection (DEP), such as the construction, maintenance and repair of sewers, water mains, and water pollution control plants. Avoiding the need to build water filtration plants for upstate watersheds continues to be a high priority for DEP. Land acquisition strategies along with conservation-focused local development help the goal of preserving water quality. DEP's FY 2022 – FY 2025 Four-Year Capital Program assumes an average annual cash funding need of $2.16 billion.[11]

The FY 2022 City-funds Adopted Capital Commitment Plan will continue to be a driver of water and sewer rate increases over the Financial Plan period. DEP's current planned average annual City-funds commitment level of $2.92 billion is 76 percent higher than the agency's annual average actual capital commitments of $1.66 billion between FY 2018 and FY 2021. On average, the current DEP Capital Plan is about $900 million higher per fiscal year than at this time last year.

Table 3. NYW Debt Outstanding as of June 30, 2021

Tax Exempt and Taxable	
Fixed Rate	$26,350[a]
Variable Rate	4,697
Total	**$31,047**

SOURCE: New York Water Finance Authority.
[a] Includes $2.4 billion of Build America Bonds (Taxable) and $155 million of Bond Anticipation Notes.

The MTA, a State controlled authority, is composed of six major agencies providing transportation throughout the metropolitan area. The MTA is responsible for the maintenance and operation of the New York City Transit bus and subway system as well as the Long Island and Metro-North Railroads and various bridges and tunnels.

Debt issued to fund the MTA's capital program is secured by several revenue sources: revenues from system operations, surplus MTA Bridges and Tunnels revenue, State and local government funding, and certain taxes imposed in the metropolitan commuter transportation mobility tax district, which includes the counties of New York, Bronx, Kings, Queens, Richmond, Rockland, Nassau, Suffolk, Orange, Putnam, Dutchess, and Westchester. In April 2019, the State enacted the Central Business District Tolling (CBDT) program along with the 2019 Real Estate Transfer Tax and Internet Sales Taxes to provide a stable and recurring source of support to finance the MTA's capital program needs. These initiatives are expected to fund approximately $25 billion of capital projects over the FY 2020 – FY 2024 Plan period. The CBDT program, which is projected to generate $1 billion per year, and support $15 billion of debt issuance, has received Federal approval, but remains in the process of implementation. The start date of tolling operations will be determined by the federally-required Environmental Assessment process the MTA is currently engaged in, which is anticipated to take approximately 16 months from the summer of 2021. If the Central Business District Program receives federal approval from the United States Department of

[11] Source: OMB Capital Cash Flow document October 2021. This figure represents the estimated borrowing need for DEP, issued via NYW.

Transportation's Federal Highway Administration, the MTA contractor would have up to 310 days to get the program up and running to begin tolling operations.

As of June 30, 2021, as shown in Table 4, the MTA had $49.41 billion of debt outstanding, an increase of $3.16 billion, or 6.8 percent, from June 30, 2020. MTA debt has grown by 248 percent, or $35.22 billion, since FY 2000. This growth rate is about 110 percentage points higher than the growth rate in gross NYC indebtedness over the same period.

Table 4. MTA Debt Outstanding as of June 30, 2021

($ in millions)

Tax Exempt & Taxable	
Fixed Rate	$45,809
Variable Rate [a]	3,597
Total	**$49,406**

SOURCE: Metropolitan Transportation Authority.
[a] Variable rate included $2.14 billion of synthetic-fixed bonds.
NOTE: $362 million of the above figure is classified as taxable debt.

Analysis of Principal and Interest among the Major NYC Issuers

The two major types of debt that finance City capital projects outside the water and sewer system are NYC General Obligation and TFA bonds. TSASC bonds are a small component of debt outstanding and there is no additional planned new money debt issuance of TSASC debt. As a result, any new debt issuances will involve a mix of GO debt, TFA FTS bonds, and TFA BARBs.

Table 5. Projected Combined NYC Debt Outstanding for GO, TFA, and TSASC, FY 2021 – FY 2031

($ in millions)

End of Fiscal Year	Debt Outstanding for GO, TFA, & TSASC	Percent Change in Debt Outstanding
2021	$89,524	(1.0%)
2022	$94,091	5.1%
2023	$99,405	5.6%
2024	$105,351	6.0%
2025	$112,104	6.4%
2026	$119,119	6.3%
2027	$126,324	6.0%
2028	$131,990	4.5%
2029	$136,516	3.4%
2030	$140,174	2.7%
2031	$142,463	1.6%

Based on NYC Office of Management and Budget (OMB) forecasts, the debt outstanding is expected to grow at an annual average rate of 4.8 percent between FY 2021 to FY 2031, as shown in Table 5. However, the projected average annual growth rate in the first half of this period of 5.8 percent (FY 2021 – FY 2025) is higher than the rate for the period as a whole.[12] Average annual growth beyond the Financial Plan period (FY 2026 – FY 2031) is projected to drop to 4.6 percent,

[12] The growth rate of 4.2 percent from FY 2000 to FY 2021 is based on gross debt outstanding as reflected in the NYC Comptroller's Annual Comprehensive Financial Reports minus bond premiums. Projections of growth rates beyond FY 2021 are based on OMB's FY 2022 Adopted Budget and June 2021 Financial Plan.

primarily because of the greater uncertainty of capital project specifics in the later years. Since City agencies are typically not yet focused on the later years of the Ten-Year Capital Strategy period, their future projections are often less well defined. Projections for this slower rate of growth are likely to change as more detailed plans are formulated.

The growth in debt outstanding is driven by the excess of borrowing over principal redemption. Borrowing is projected to average $10.34 billion annually according to OMB's FY 2022 – FY 2031 capital cash flow estimates. This is an increase of $1.41 billion per year from the FY 2021 – FY 2030 capital cash flow estimates projected this time last year.

The combined principal and interest composition for GO, TFA and TSASC debt service is shown in Table 6.[13] The Financial Plan assumes principal payments totaling $3.345 billion in FY 2022, $4.171 billion in FY 2023, $4.443 billion in FY 2024, and $4.580 billion in FY 2025. Principal is estimated to be 48.4 percent of debt service in FY 2022, 50.6 percent in FY 2023, 51.2 percent in FY 2024 and 49.6 percent in FY 2025.[14]

Table 6. Estimated Principal and Interest Payments GO, TFA FTS, and TSASC

($ in millions)

Fiscal Year	Estimated Principal Amount	Estimated Interest	Estimated Total Debt Service	Principal as Percent of Total
2022	$3,345	$3,560	$6,905	48.4%
2023	$4,171	$4,072	$8,243	50.6%
2024	$4,443	$4,228	$8,671	51.2%
2025	$4,580	$4,656	$9,236	49.6%

SOURCE: NYC Office of Management and Budget, June 2021 Financial Plan and Office of the NYC Comptroller.
NOTE: Adjusted for prepayments and excludes interest on short-term notes and debt service for capital lease / conduit debt. TFA BARBs debt is *not* included in this table.

During FY 2021, the City issued $4.89 billion of GO debt, $2.89 billion of which was for refunding purposes. These refundings produced gross budgetary savings of $445 million over the life of the bonds. The City also converted $670 million of variable rate debt to fixed rate and $259 million between variable rate modes. At the end of FY 2021, outstanding GO debt totaled $38.57 billion. Approximately $21.43 billion of the total GO debt currently outstanding (55.6 percent) will mature in the next ten years, as shown in Table 7.

Table 7. Amortization of Principal of the Three General Fund Issuers

($ in millions)

Fiscal Years	GO	TFA[a]	GO and TFA	Percent of Total	TSASC	Grand Total
2022-2031	$21,431	$20,377	$41,808	47.2%	$277	$42,085
2032-2041	$12,791	$22,377	$35,168	39.7%	$266	$35,434
2042 and After	$4,352	$7,203	$11,555	13.1%	$450	$12,005
Total	**$38,574**	**$49,957**	**$88,531**	**100.0%**	**$993**	**$89,524**

[(a)] Includes $278.3 million of TFA Recovery bonds.

A total of $6.02 billion of TFA FTS debt was issued in FY 2021, of which $3.17 billion was new debt. The remaining $2.85 billion was used for refunding purposes, achieving $630 million of

[13] Since TFA BARBs debt service are not paid with City General Fund revenues, they are not included in Table 6.

[14] Debt service excludes lease-purchase debt, interest on short-term notes, debt service on TFA BARBs, and is as of OMB's FY 2022 Adopted Budget and June 2021 Financial Plan.

budgetary savings over the life of the debt. In addition, the TFA also converted $639 million of its debt between interest rate modes. The TFA issued BARBs in the amount of $200 million to finance capital projects in FY 2021. Including BARBs, TFA's debt outstanding was $49.96 billion at the end of FY 2021. Of the total TFA debt outstanding, $20.38 billion, or 40.8 percent, will come due over the next ten years, as shown in Table 7.

III. Debt Limit

The City's Debt-Incurring Power

NYC's general debt limit, as provided in the New York State Constitution, is equal to ten percent of the five-year rolling average of the full value of taxable real property. The City's annual debt limit is established through the following steps:

- No later than February 15th, the New York City Department of Finance (DOF) issues a preliminary estimate of the assessed value of taxable real property for the ensuing fiscal year. Assessed value is statutorily less than the market value of properties.
- The general debt limit is based on the full market value of taxable real property, not on assessed value. To derive a market value of taxable properties, the New York State Office of Real Property Tax Services (ORPTS) develops special equalization ratios that express the relationship between assessed value and market value. ORPTS uses its most recent market survey and a projection of market values to obtain the full market value for the ensuing fiscal year. The special equalization ratio is then expressed as the ratio of the DOF assessed value of taxable real property to the full market value of taxable real property. ORPTS calculates equalization ratios for the ensuing fiscal year and the four fiscal years preceding it. These equalization ratios are used to compute the market values that are used to establish the City's debt-incurring power (debt limit) for the current fiscal year.
- The City's debt limit for the ensuing fiscal year is then calculated by averaging the estimated full values of real property over the prior five-year period, and multiplying by 10 percent.
- By June 30th, the New York City Council adopts the City's yearly budget and fixes the property tax rates for the ensuing fiscal year. The resolution fixing the property tax contains the five-year average of the full value of real property that is used to derive the debt limit.
- The debt limit is effective as of July 1st, the start of each fiscal year.

Table 8 illustrates the calculation of the FY 2022 debt limit. The full market value for each of FY 2018 through FY 2022 was calculated by dividing the assessed value of taxable real property for each year by the special equalization ratios provided by ORPTS. The average of the computed full market values of this five-year period is then calculated. Finally, the FY 2022 debt limit ($127.352 billion) is derived by multiplying the five-year average value ($1.274 trillion) by 10 percent.

Table 8. Calculation of Full Value of Real Property in New York City and the General Debt Limit, FY 2022

Fiscal Year	Assessed Valuations of Taxable Real Property	Special Equalization Ratio	Full Value
2018	$225,863,036,909	0.1937	$1,166,045,621,626
2019	$240,777,862,121	0.1956	$1,230,970,665,240
2020	$257,509,634,870	0.2003	$1,285,619,744,733
2021	$271,688,749,747	0.2017	$1,346,994,297,209
2022	$257,560,316,555	0.1925	$1,337,975,670,416
5-Year Average Value			$1,273,521,199,845
10 Percent of the 5-Year Average			$127,352,119,985

SOURCE: New York City Council Tax Fixing Resolution for FY 2022.

Table 9 summarizes the estimated growth in the City's debt-incurring power. The City's FY 2022 general debt-incurring power of $127.35 billion is projected to increase to $130.89 billion in FY 2023, $133.94 billion in FY 2024 and $136.72 billion by FY 2025.[15] The City's indebtedness counted against the statutory debt limit is projected to grow from $79.65 billion at the beginning of FY 2022 to $111.76 billion by the beginning of FY 2025, leaving an estimated remaining margin of $24.96 billion. The current FY 2022 Adopted Capital Plan projections will potentially exert pressure against the debt limit in the fiscal years beyond the current Financial Plan period.

[15] The full value of taxable real property in the out years is based on the NYC Comptroller's Office forecast of future real estate trends.

Table 9. NYC Debt-Incurring Power

($ in millions)

	July 1, 2021	July 1, 2022	July 1, 2023	July 1, 2024
Gross Statutory Debt-Incurring Power [a]	**$127,352**	**$130,892**	**$133,939**	**$136,723**
Actual Bonds Outstanding as of July 1, 2021 (net) [b]	38,478	36,320	33,860	31,367
Plus: New Capital Commitments [c]				
FY 2022		11,984	11,984	11,984
FY 2023			15,888	15,888
FY 2024				15,841
Less: Appropriations for General Obligation Principal	(2,168)	(2,460)	(2,496)	(2,416)
Incremental TFA Bonds Outstanding Above $13.5 billion	27,619	26,572	25,033	23,374
Subtotal: Net Funded Debt Against the Limit	**$63,929**	**$72,416**	**84,270**	**$96,038**
Plus: Contract and Other Liability	15,725	15,725	15,725	15,725
Total Indebtedness Against the Limit	**$79,654**	**$88,141**	**$99,995**	**$111,763**
Remaining Debt-Incurring Power within General Limit	**$47,698**	**$42,751**	**$33,944**	**$24,960**

SOURCE: NYC Comptroller's Office and the NYC Office of Management and Budget.

NOTE: The Debt Affordability Statement released by OMB in April 2021 presents data for the last day of each fiscal year, June 30th, instead of the first day of each fiscal year, July 1, as reflected in this table. The City's Debt Affordability Statement forecasts that indebtedness would be below the general debt limit by $32.48 billion at the end of FY 2022.

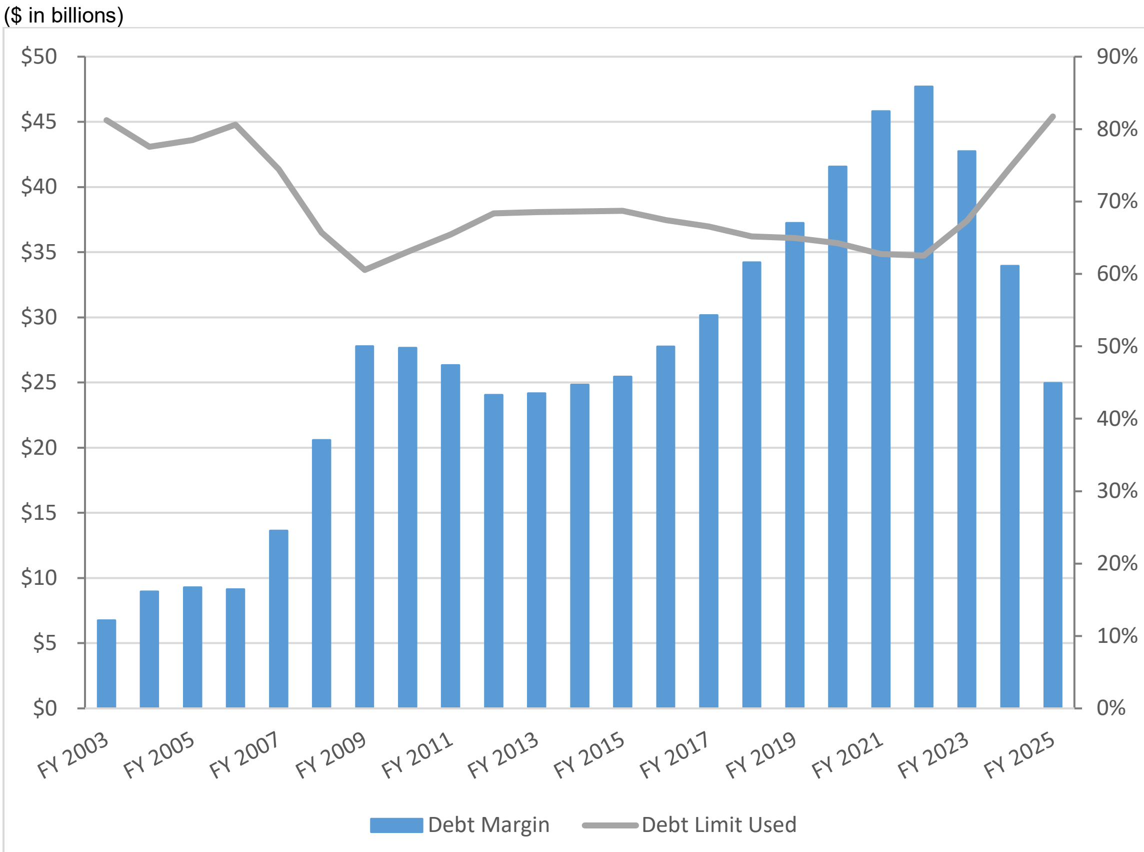
[a] FYs 2023 through 2025 debt limits are based on the NYC Comptroller's Office's forecasts of the full market value of real property.

[b] Net adjusted for Original Issue Discount, GO bonds issued for the water and sewer system and Business Improvement District debt. The $38.48 billion is derived from the $38.57 billion GO total minus $96 million of the aforementioned adjustments.

[c] Reflect City-funds capital commitments as of the FY 2022 Adopted Capital Commitment Plan (released in October of 2021) and includes cost of issuance and certain Inter-Fund Agreements. In July 2009, the State Legislature authorized the issuance of TFA Future Tax Secured bonds above the initial authorization of $13.5 billion, with the condition that this debt would be counted against the general debt limit. Thus, City capital commitments are funded with TFA debt as well as City GO bonds.

As shown in Chart 1, the City's debt margin, defined as the difference between debt outstanding and the debt limit, is forecast to decrease from $47.7 billion at the beginning of FY 2022 to $25 billion in FY 2025. The debt margin is determined by both total indebtedness and the debt limit. The debt limit is projected to grow from $127 billion in FY 2022 to $137 billion in FY 2025, reflecting an average annual growth rate of 2.4 percent. Over the same period, total indebtedness against the debt limit is projected to grow at annual rate of 12.0 percent to $112 billion by FY 2025. As a result, total indebtedness against the debt limit is projected to increase from 63 percent in FY 2022 to 82 percent by FY 2025. The projected indebtedness against the debt limit is based on the City's October 2021 Commitment Plan's projections.

Chart 1. NYC's Debt Margin for FY 2003 – FY 2025 and Debt Outstanding as a Percent of Debt Limit



SOURCE: NYC Comptroller's Office and the NYC Office of Management and Budget. (First day of Fiscal Year Method)

As discussed above, the debt margin is determined by both the debt limit and total indebtedness, which in turn are affected by the market value of real property and City-funded capital commitments.[16] City-funded capital commitments grew significantly between FY 2014 and FY 2019, growing at an average annual rate of 16.1 percent from $4.6 billion to $9.6 billion, as shown in Chart 2. In comparison, commitments grew at an average annual rate of 6.2 percent between FY 2005 and FY 2010, and after a brief decline from FY 2010 to FY 2012, grew at an average annual rate of 9.8 percent from FY 2012 to FY 2014. Despite the significant growth in capital commitments between FY 2014 and FY 2019, the debt margin improved from $24.8 billion

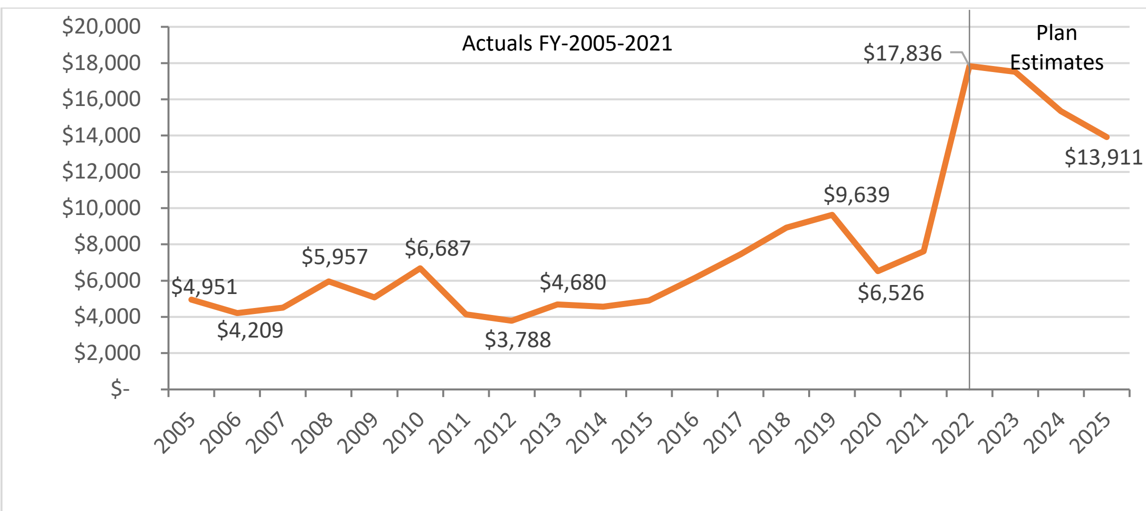
[16] City-funds commitments in this discussion exclude DEP commitments which are funded by NYW and not subject to the debt limit.

to $37.2 billion. This improvement was driven by a robust real estate market which raised the debt limit by $27 billion to $106 billion, a 34 percent increase. After a slow-down in capital commitments in FY 2020 and FY 2021 in the wake of the COVID-19 pandemic, capital commitments, excluding DEP, are projected to increase to $17.8 billion in FY 2022. While City-funded capital commitments are projected to decline in each of FY 2023 to FY 2025, reaching a low of $13.9 billion, they are significantly above the $9.6 billion of commitments in FY 2019. This is a cause of concern in the face of a less robust real estate market going forward.

The market value of real property is not expected to experience the same robust growth it enjoyed between FY 2014 and FY 2019, as evidenced by the real property tax revenue forecast in the June 2021 Financial Plan. Property tax revenues are forecasted to grow by 1.7 percent annually between FY 2022 and FY 2025. In comparison, between FY 2014 and FY 2019, property tax revenues grew at an average annual rate 6.7 percent. Unless there is an improvement in the real estate values over the Plan projection to drive an increase in the debt limit, the $117 billion City-funds ten-year capital strategy (excluding DEP) as updated in October 2021 may not be sustainable and may need to be revised. This would require a more transparent and prioritized allocation of the City's capital needs, along with estimates that are more consistent with achievement rates against projections. As shown in the Comptroller's Office's reports on actual commitments against plan, actual commitments have consistently fallen short of authorized plans.

Chart 2. City-Funds Actual Commitments FY 2005-2021 & FY 2022-2025 Plan Estimates (Excluding DEP)

($ in millions)



IV. Debt Burden and Affordability of NYC Debt

This section presents measures to assess the size of the City's debt burden and its affordability. No single measure completely captures debt affordability; hence we employ several measures that can be used to assess a locality's debt burden. This section provides measures of debt per capita, debt as a percent of the value of real property, debt as a percent of personal income, and debt as a percent of local tax revenues and total expenditures. For three of these measures, comparisons with other jurisdictions are presented.

Background

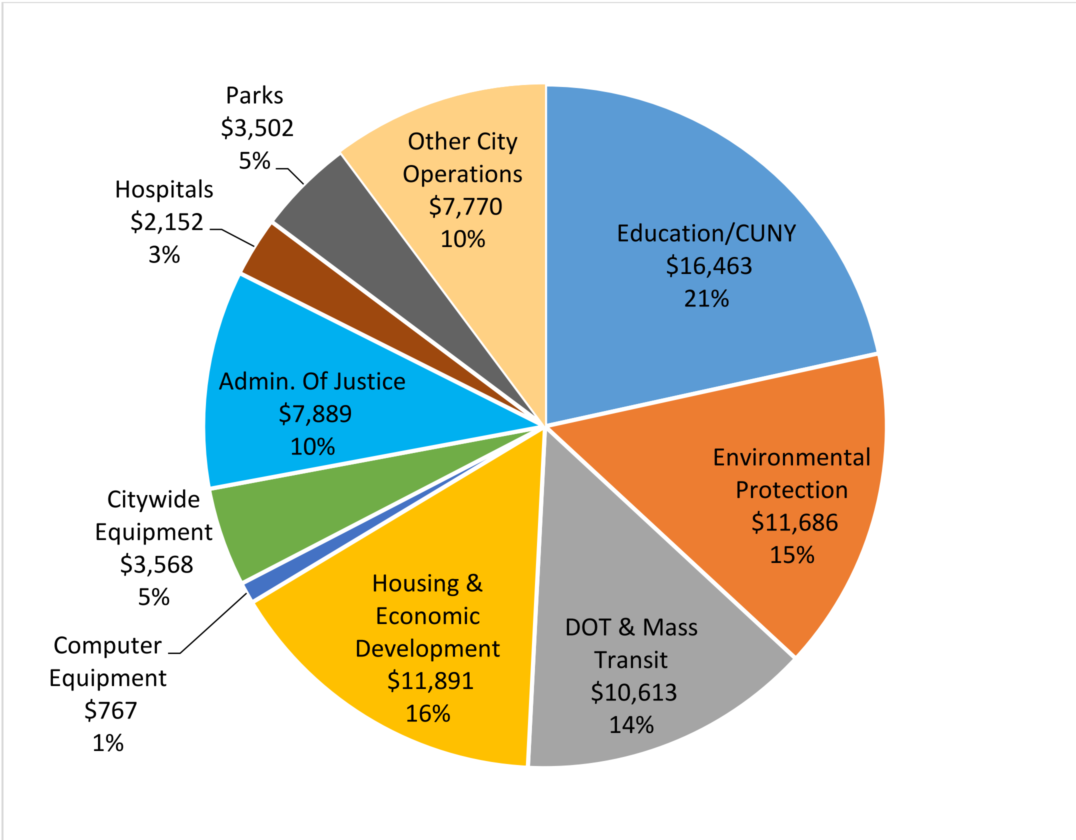
The Capital Commitment Plan published by NYC OMB is a compilation of estimated future contract registrations for all the City's new construction, physical improvements and equipment purchases that meet capital eligibility requirements. About 25 agencies engage in some form of capital work, with 14 agencies accounting for approximately 94 percent of planned capital commitments. This planning document serves as the foundation for the registration of contracts from which future capital expenditures occur. A capital commitment refers to a contract registration, and does not represent a capital expenditure. Capital expenditures occur after a contract is registered and the related spending against that contract can last several years. Capital expenditures are initially paid out of the General Fund. The financing of capital projects takes place after spending occurs to reimburse the City's General Fund. GO and TFA bonds finance all City agencies' capital projects, with the exception of DEP projects, which are financed by the NYW. In addition, the City does not finance individual projects in isolation, but rather finances portions of multiple projects simultaneously with each bond issuance.

The City-funded share of the FY 2022 Adopted Commitment Plan's authorized commitments over FY 2022 – FY 2025 totals $76.30 billion, about $12.1 billion higher than projected at this time last year. City-funded commitments, after adjusting for the reserve for unattained commitments of $9.17 billion, total $67.13 billion.[17] Four programmatic areas comprise 66.4 percent of the City-funded plan, as shown in Chart 3. Department of Education (DOE)/City University of New York (CUNY) related capital projects comprise 21.6 percent of the four-year plan, followed by Housing and Economic Development related projects at 15.6 percent, the Department of Environmental Protection (DEP) at 15.3 percent, and the Department of Transportation (DOT) and Mass Transit at 13.9 percent. Combined, these four areas account for $50.65 billion of the $76.3 billion authorized City-funds plan.

[17] The reserve for unattained commitments represents projected shortfall in authorized commitments.

Chart 3. Allocation of $76.3 Billion City-Funds Capital Commitments FY 2022 Adopted Four-Year Commitment Plan

($ in millions)



SOURCE: NYC Office of Management and Budget, FY 2022 Adopted Capital Commitment Plan, published October 2021.

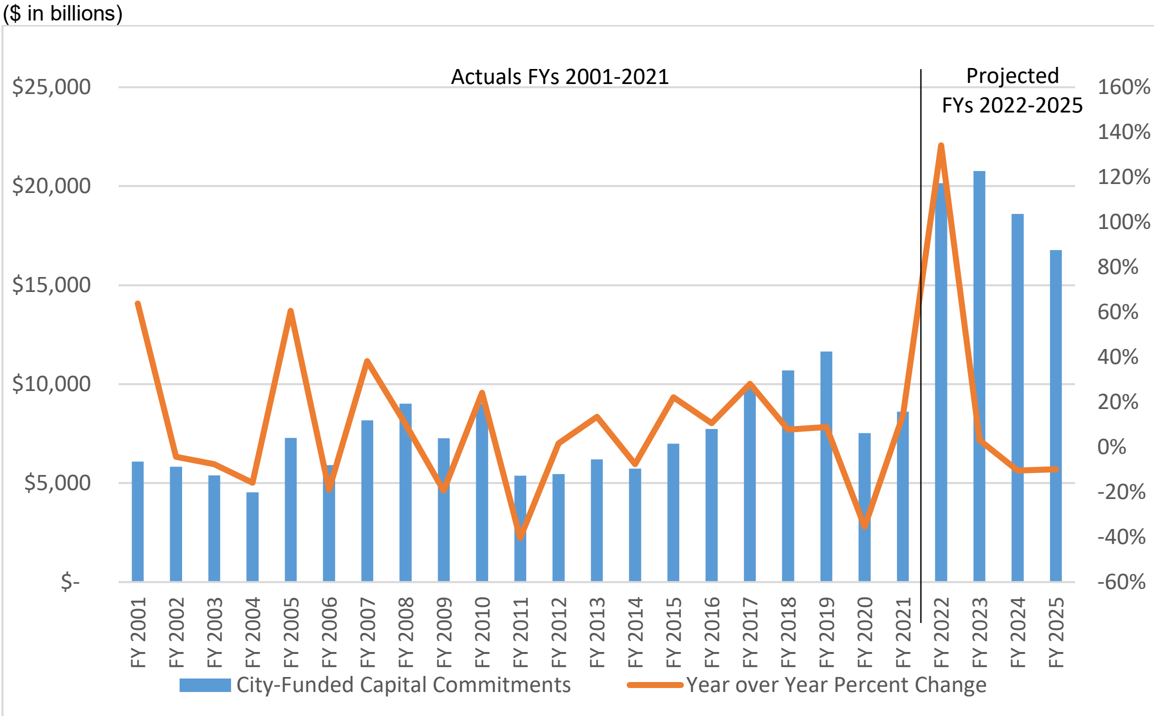
Historically, capital commitments have fluctuated widely year to year, as shown in Chart 4. In FY 2001, the City embarked on what was then a historically high capital commitment program, with City-funded capital commitments totaling $6.1 billion, a 63.8 percent increase over FY 2000. City-funded commitments increased each year from FY 2014 to FY 2019, reaching a high of $11.65 billion in FY 2019. However, City-funds commitments fell to $7.53 billion in FY 2020 due to the impact of the Covid-19 pandemic before rising to $9.35 billion in FY 2021 as the City began the recovery process with the roll-out of vaccination and the easing of restrictions on businesses and public interactions.

Going forward, the FY 2022 Adopted City-funds Capital Commitment Plan, after the reserve for unattained commitments, projects an average of $16.78 billion per year in City-funded commitments over FY 2022 – FY 2025. This represents a $2.94 billion, or 21.2 percent increase from the annual average in last year's Adopted Commitment City-funds Plan of $13.84 billion. The Commitment Plan forecast is not overly front-loaded, with approximately 26 percent of the commitments of the current four-year Plan slated for FY 2022.[18]

[18] Authorized plan numbers were used to derive this percentage.

Chart 4. City-Funded Capital Commitments

($ in billions)



SOURCE: NYC Office of Management and Budget, FY 2022 Adopted Capital Commitment Plan, October 2021

The City's capital program is financed almost exclusively by the issuance of bonds, which are repaid out of the City's expense budget in the form of debt service payments. The City's annual borrowing, excluding NYW debt, grew from $3.53 billion in FY 2000 to $5.37 billion in FY 2021, with the highest annual borrowing of $7.75 billion occurring in FY 2009. OMB expects the City's borrowing to average $10.0 billion annually between FY 2022 through FY 2025, with a peak estimated borrowing of $12.73 billion in FY 2027.[19] The $10 billion average over the four-year period is $1.1 billion higher than at this time last year. This level of borrowing, if fully executed, will put pressure on the operating budget in the event tax revenues are lower and do not meet the Financial Plan's expectations. In addition, there would be cautionary pressure on the City's general debt limit after the FY 2022 – FY 2025 Financial Plan period.

The annual average growth rate of City debt service payments between FY 2000 and FY 2021 was 3.5 percent per year, growing from $3.0 billion in FY 2000 to $6.23 billion FY 2021.[20] According to OMB projections, the City's debt service is expected to grow at an average annual rate of 6.6 percent from FY 2022 to FY 2031, to $12.31 billion by FY 2031, as illustrated in Chart 5. Projected growth during the four years of the Financial Plan period is 10.2 percent per annum, more than twice the projected average annual growth rate of 4.3 percent in FY 2026 – FY 2031.[21] However, the rate of growth over the Financial Plan period (FY 2022– FY 2025) will likely be lower as the projection incorporates conservative variable rate demand bonds (VRDB) rate assumptions, as well as fairly conservative long-term bond interest rate assumptions and does not take into account the likelihood of refunding actions and lower than projected capital commitment (contract

[19] This includes estimated bond proceeds for TFA BARBs, GO, and TFA FTS bonds. While City-funded commitments include DEP commitments because it is a mayoral operating agency, borrowing for DEP capital projects is not included in the NYC Comptroller Office's analysis of the City's debt. Financing for DEP's capital program is done by the NYW and is not counted against the General Debt Limit.

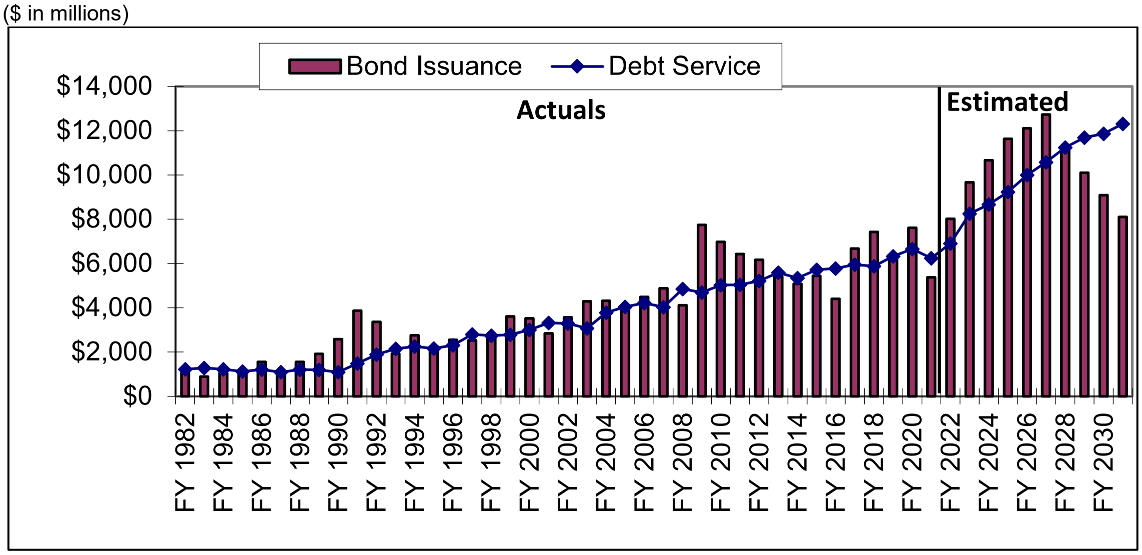
[20] This includes GO and TFA FTS debt service only.

[21] These figures are as of the FY 2022 Adopted Budget and June 2021 Financial Plan.

registration) rates. Conversely, the growth estimate beyond FY 2025 is low and will likely be higher than the projected pace largely because of rollovers from prior years to later years; and as the timeframe approaches for those latter years, more accurate estimates are produced.[22]

Chart 5. Bond Issuance and Debt Service, FY 2000 – FY 2031

($ in millions)



SOURCE: Annual Comprehensive Financial Report Office of the NYC Comptroller, 2000 – 2021. Debt-service payments exclude interest on short-term notes, Municipal Assistance Corporation (MAC) debt, BARBs debt and lease-purchase debt and are adjusted for budget surpluses prepaid to the debt-service fund. However, BARBs are included in proceeds. OMB's FY 2022 Adopted Budget and Financial Plan, June 2021, was used for outyear forecasts.

Debt Burden

NYC debt outstanding has increased from $39.55 billion to $94.22 billion, or 138 percent, over FY 2000 – FY 2021. Over this same period, the growth in NYC personal income was 139 percent with growth in NYC local tax revenues at 192 percent.[23] (The debt per capita and debt outstanding figures do not include the debt of the NYW and the MTA.)

Debt Outstanding as a Percent of Personal Income, FY 1970 – FY 2025

In the early 1970s, the City issued short-term notes which it did not entirely redeem at the end of each fiscal year. From 1970 to 1975, the City's year-end short-term note balance averaged $2.77 billion, with $4.44 billion outstanding at the end of FY 1975. This signal of financial stress contributed to the City's inability to access credit markets and the eventual involvement of the State and Federal governments beginning in March 1975. Confronted with external controls in the aftermath of the fiscal crisis, the City rapidly reduced its indebtedness in the late 1970s. This, combined with the resurgence of Wall Street in the 1980s, resulted in the decline of the ratio of debt to personal income from 1976 to 1990.

Chart 6 illustrates the historical trend of gross debt outstanding as a percentage of personal income from FY 1970 to FY 2020.[24] After reaching a peak of 24.5 percent in FY 1976, gross debt as a percent of NYC personal income trended downward, reaching a low of 11.5 percent in FY 1990.

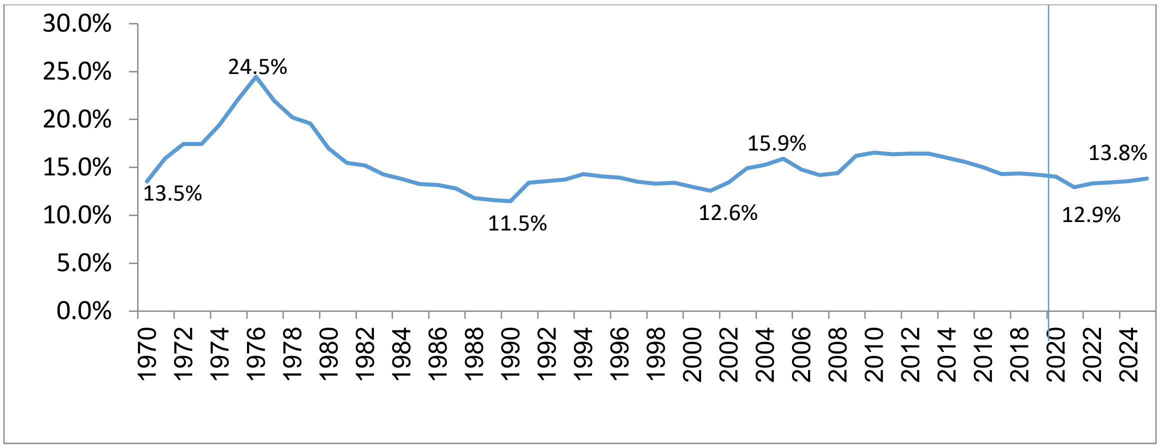
[22] Debt service excludes TSASC, interest on short-term notes, and lease-purchase debt service as well as the State-supported BARBs debt service.

[23] FY 2021 figure for personal income was taken from the NYC OMB Message of the Mayor, April 2021.

[24] Personal income data from the Bureau of Economic Analysis as of 2020 was used.

Through the 1990s, the ratio averaged 13.5 percent before rising to 15.9 percent in FY 2005 in the aftermath of the September 11th terrorist attacks. Between FY 2007 and FY 2020, the ratio averaged 15.3 percent. In FY 2020, the ratio is 14.0 percent, and is estimated to be 12.9 percent in FY 2021 before increasing to 13.3 percent in FY 2022 and reaching 13.8 percent in FY 2025.

Chart 6. NYC Gross Debt as a Percent of Personal Income, FY 1970 – FY 2025

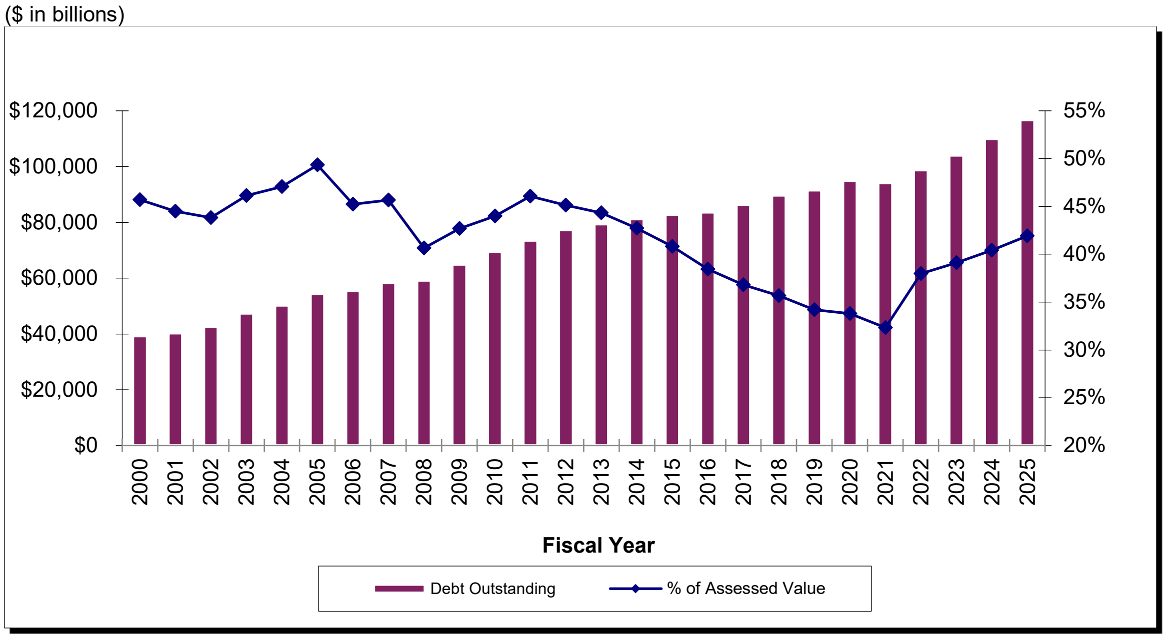


SOURCES: Office of the NYC Comptroller, Annual Comprehensive Financial Reports for the Fiscal Years ended June 30, 1990, 1999, 2010 and 2021. The U.S. Bureau of Economic Analysis, FY 2020 personal income for counties and NYC OMB, Mayor's Message, April 2021.
NOTE: Actual figures are in FY 1970 – FY 2020. Projected figures are in FY 2021 – FY 2025.

NYC Debt Outstanding as a Percent of Assessed Value of Taxable Real Property

Over the period from FY 2000 – FY 2011, the ratio of debt outstanding to taxable assessed value of real property averaged 45.1 percent. The average ratio dropped to 39.1 percent over FY 2011 – FY 2021. This ratio declined in each fiscal year over this period from 46 percent in FY 2011 to 32.3 percent in FY 2021, as shown in Chart 7. This ratio is projected to increase to 38.0 percent by FY 2022, and continue to rise over the period, reaching an estimated 41.9 percent in FY 2025, driven by a disparity in growth between taxable assessed value and debt outstanding. Taxable assessed value is projected to grow by 2.3 percent annually from FY 2022 – FY 2025 compared to a projected 5.7 percent annual growth in debt outstanding.

Chart 7. NYC Outstanding Debt as a Percentage of the Assessed Value of Taxable Real Property



SOURCE: Annual Comprehensive Financial Reports of the Comptroller and NYC Department of Finance, FY 2021 Annual Report of the NYC Real Property Tax, NYC Dept. of Finance. Growth estimates for FY 2022 to FY 2025 by NYC Comptroller's Office.

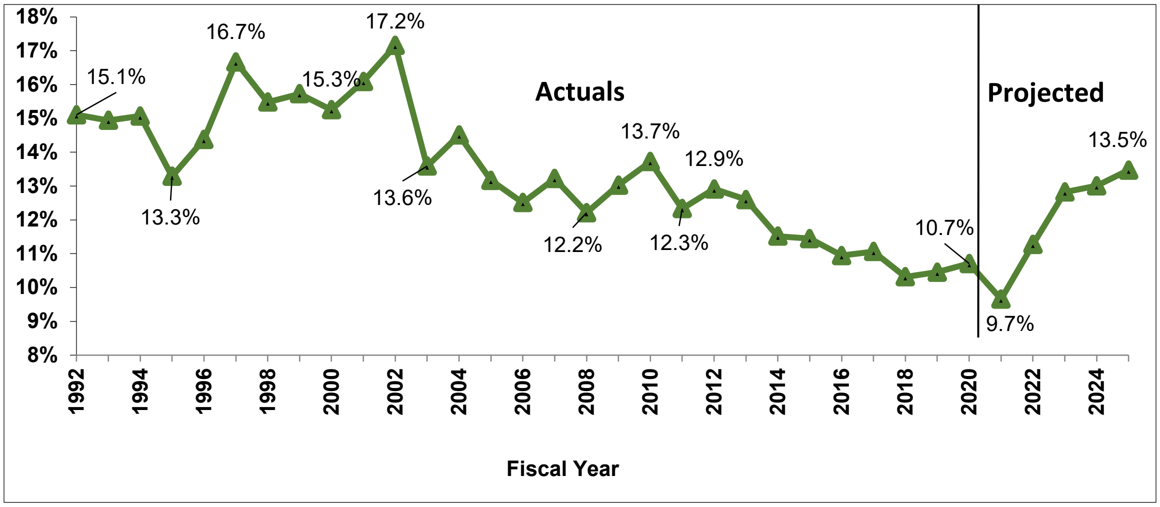
NYC Debt Service as a Percent of Tax Revenues

Another measure of debt affordability is annual debt service expressed as a percent of annual local tax revenues. This measure shows the pressure that debt service exerts on a municipality's locally-generated revenues. Debt service exceeded 15 percent of tax revenues in 8 of the 11 years from FY 1992 to FY 2002, with a peak of 17.2 percent in FY 2002.[25] Since then, this ratio has trended downward, reaching 9.7 percent in FY 2021, as shown in Chart 8. Debt service as a percentage of tax revenues is projected to reach a high of 13.5 percent in FY 2025. This is driven by estimated debt service growth of 10.0 percent per year over the FY 2022 – FY 2025 Financial Plan period compared to 3.6 percent annual growth for local tax revenues.[26]

[25] Aside from the recent one-year aberration in FY 2002 related to the World Trade Center (WTC) disaster, the ratio of 15 percent is more characteristic of the early 1980's and early and mid-1990's when the City was emerging from recessionary periods.

[26] As of OMB's FY 2022 Adopted Budget and June 2021 Financial Plan.

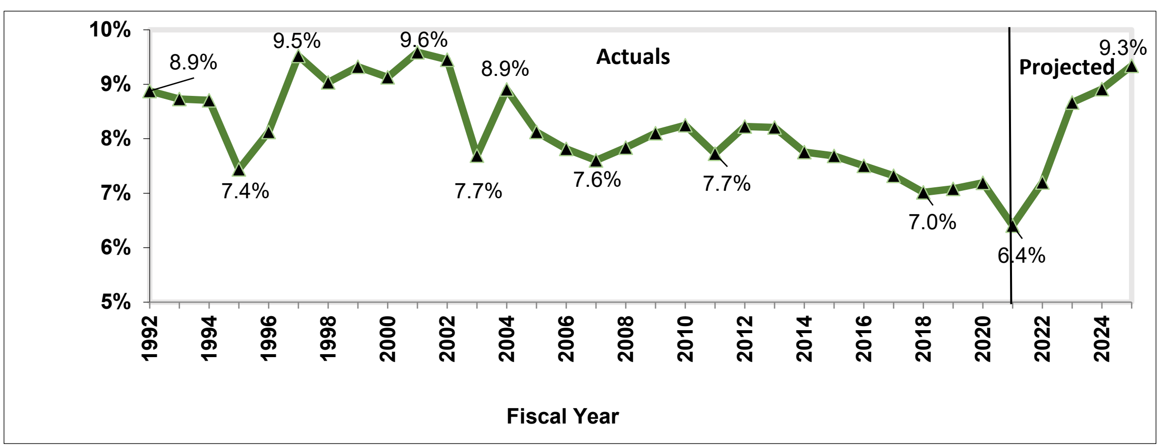
Chart 8. NYC Debt Service as a Percent of Tax Revenues



SOURCE: Annual Comprehensive Financial Reports of the Comptroller, FY 1992 – FY 2020, and NYC Office of Management and Budget, FY 2022 Adopted Budget, June 2021 Financial Plan.

Debt service as a percent of total revenues ranged from 7.0 percent to 9.6 percent over FY 1992 – FY 2020, as shown in Chart 9. Over this period, this ratio averaged 8.2 percent, with a median of 8.1 percent. The ratio is forecast to reach 9.3 percent in FY 2025 due to a projected average annual growth rate of debt service exceeding the estimated average annual growth rate of total revenues by a margin of about nine percentage points, 9.9 percent versus 0.7 percent, respectively, from FY 2022 to FY 2025.

Chart 9. NYC Debt Service as a Percent of Total Revenues



SOURCE: Annual Comprehensive Financial Reports of the Comptroller, FY 1992 – FY 2021, and NYC Office of Management and Budget June 2021 Financial Plan.

While New York City has a large amount of outstanding debt, its credit rating remains strong, as shown in Table 10 on page 30. In Fiscal Year 2021, Moody's Investor Services lowered the City's GO rating from Aa1 to Aa2 and later revised its outlook to stable from negative. Standard and Poor's Global Ratings (S&P) maintained its rating of the City's GO bonds at AA, revising its outlook to stable later in the year after an outlook revision to negative earlier in the year. Fitch ratings (Fitch) downgraded its rating of GO bonds to AA- from AA and changed its outlook to stable in early FY 2022. In Fiscal Year 2021, the City engaged Kroll Bond Rating Agency (Kroll) to rate its GO bonds. Kroll rated the City's GO bonds AA+ with a stable outlook in early FY 2022. Rating agencies cite the City's large and diverse economy, strong financial management, and liquidity among positive credit attributes that support GO ratings. High TFA and NYW ratings reflect their strong legal frameworks and debt service coverage by pledged revenues.

Table 10. Ratings of Major New York City Debt

Rating Agency	GO	TFA Future Tax Secured (FTS) Senior	TFA FTS Subordinate	TFA BARBs	NYW First Resolution	NYW Second Resolution
S&P	AA	AAA	AAA	AA	AAA	AA+
Moody's	Aa2	Aaa	Aa1	Aa3	Aa1	Aa1
Fitch	AA-	AAA	AAA	AA	AA+	AA+
Kroll	AA+	Not Rated	Not Rated	Not Rated	Not Rated	Not Rated

Comparison with Selected Municipalities

New York City is the largest city in the U.S. and has a complex, varied, and aging infrastructure. The City has more school buildings, firehouses, health facilities, community colleges, roads and bridges, libraries, and police precincts than any other city in the country. Moreover, New York City has responsibilities that in other cities are distributed more broadly throughout their state, counties, unified school districts, public improvement districts, and public authorities. When comparing levels of debt with other jurisdictions, it is important to adjust the data to establish a comparable measure among and between jurisdictions. The use of the Direct and Overlapping Debt tables from each sample city's Annual Comprehensive Financial Report attempts to achieve greater comparability of the debt burden among municipalities. In addition, the use of debt per capita metrics serves as an aid to better compare a given city's outstanding debt with other cities.

As shown in Table 11, in FY 2020, NYC's debt per capita was more than twice the average of a sample of eleven other large U.S. cities and 1.7 times the per capita debt of Chicago, which had the next highest debt burden.[27]

Table 11. Debt Per Capita for Selected Cities, 2020

City	Population	Direct and Overlapping Debt Outstanding ($ 000)	Debt Per Capita
Seattle	761,100	$1,403,469	$1,844
Boston	694,295	1,428,057	2,057
Phoenix	1,635,874	7,108,917	4,346
San Jose	1,049,000	4,895,567	4,667
Los Angeles	4,010,684	16,399,964	4,089
Philadelphia	1,584,064	7,567,300	4,777
Dallas	1,330,612	6,198,068	4,658
Houston	2,320,268	12,120,572	5,224
San Francisco	883,083	5,359,510	6,069
San Antonio	1,547,250	9,759,584	6,308
Chicago	2,695,598	17,628,923	6,540
New York City	**8,336,817**	**$95,025,000**	**$11,398**

SOURCE: Annual Comprehensive Financial Reports of the NYC Comptroller, FY 2000, FY 2019, and FY 2021 for NYC population figure, along with Annual Comprehensive Reports of various cities, FY 2000 and FY 2020.
NOTE: Based on data extracted from each city's "Direct and Overlapping Debt Outstanding" exhibit included in that city's Annual Comprehensive Financial Report. While the individual exhibits are similar in format, there is no assurance that the components of the data published in those exhibits are comparable.

[27] The sample cities consist mostly of the highest population cities in the U.S. Among the cities, San Francisco and Boston were selected due to their density.

While gross NYC debt per capita is higher than all other cities in the sample, NYC's growth in debt per capita between FY 2000 and FY 2020 is lower than six of the eleven sample cities. Gross NYC debt per capita grew by 132 percent from FY 2000 to FY 2020. This growth is below the average growth of 181 percent for the 11 sample cities as shown in Table 12.[28]

Table 12. Debt per Capita Comparisons for Selected Cities – 2000 and 2020

City	Debt per Capita in 2000	Debt per Capita in 2020	Percentage Change 2000 – 2020
Seattle	$1,694	$1,844	8.9%
Philadelphia	$3,241	$4,777	47.4%
Boston	$1,376	$2,057	49.5%
Phoenix	$2,041	$4,346	112.9%
Chicago	$2,863	$6,540	128.4%
Houston	$2,187	$5,224	138.9%
Los Angeles	$1,464	$4,089	179.3%
San Antonio	$1,929	$6,308	227.0%
Dallas	$1,273	$4,658	265.9%
San Jose	$943	$4,667	394.9%
San Francisco	$1,139	$6,069	432.8%
National CPI (FY)	**169.3**	**257.2**	**51.9%**
New York City	**$4,923**	**$11,398**	**131.5%**

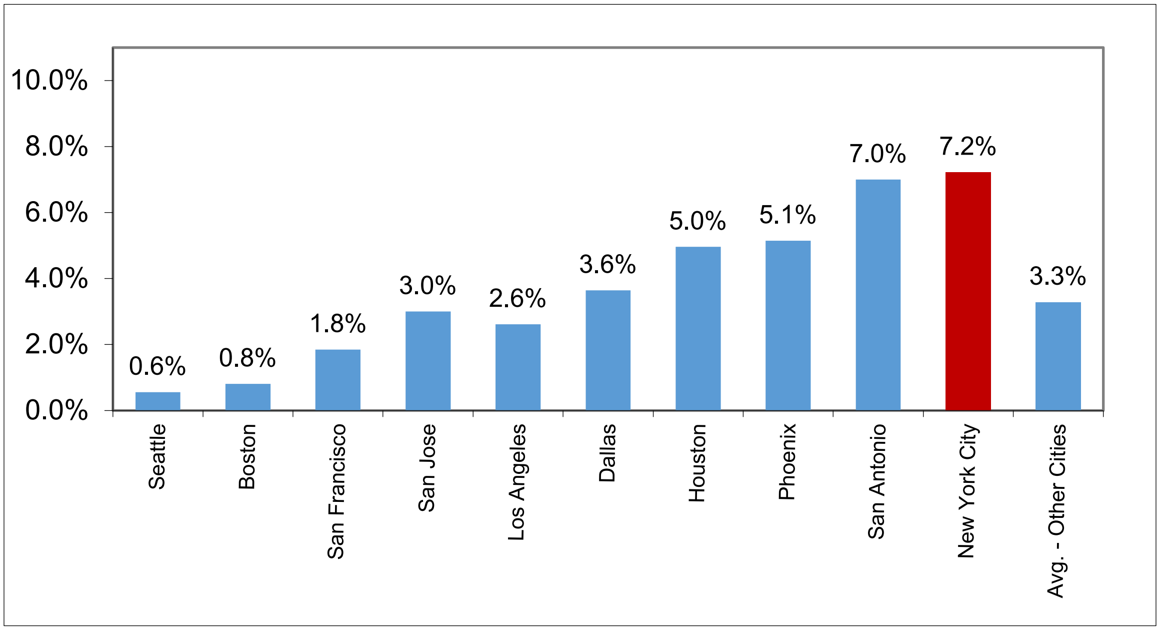
SOURCE: Annual Comprehensive Financial Reports of the Comptroller, FY 2000 and FY 2020 and Annual Comprehensive Reports of various cities, FY 2000 and FY 2020.
NOTE: Based on data extracted from each city's "Direct and Overlapping Debt Outstanding" exhibit included in that city's Annual Comprehensive Financial Report. While the individual exhibits are similar in format, there is no assurance that the components of the data published in those exhibits are comparable.

Another way to examine the debt burden of a municipality or city is to measure its debt relative to its taxable base. Two commonly-used measures of this relationship are debt divided by the full value of real property and debt divided by personal income. The rationale behind the use of the full value of real property is that the property tax base provides a substantial revenue source for debt payment and that there is generally some reasonable limit on the amount of debt that can be borrowed against the property tax base. Similarly, personal income is a measure of a municipality's personal income tax base.

Among the cities surveyed in this report, New York City ranks the highest in both the debt to personal income measure and the debt to property value measure. In addition, NYC is well above the averages of the sample cities and counties. As shown in Chart 10, gross NYC debt as a percentage of the full value of real property in FY 2020 was 7.2 percent, over twice the sample city average of 3.3 percent. San Antonio was the highest among the sample cities with a debt to full value of real property ratio of 7.0 percent with Phoenix following at 5.1 percent.

[28] Collective sample city growth derived by average debt per capita among the eleven sample cities.

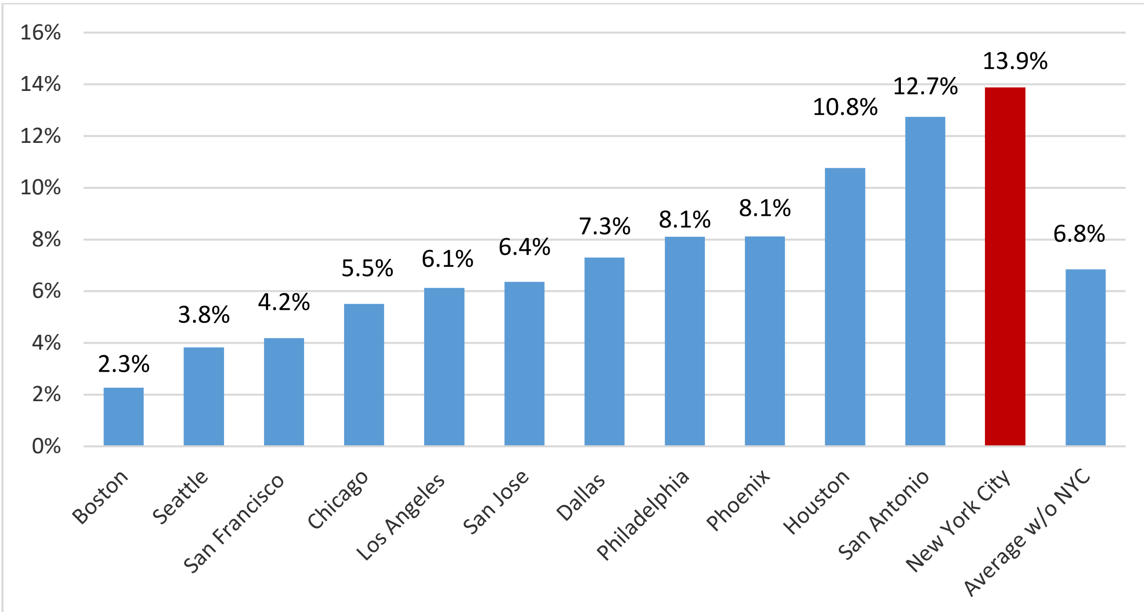
Chart 10. Debt Outstanding as a Percent of the Full Value of Real Property, FY 2020



SOURCE: Each city's Annual Financial Report for FY 2020.
NOTE: Debt per capita is based on data extracted from each city's "Direct and Overlapping Debt Outstanding" exhibit included in that city's Annual Comprehensive Financial Report. While the individual exhibits are similar in format, there is no assurance that the components of the data published in those exhibits are comparable. *Chicago and Philadelphia are not included this year as their FY 2020 annual financial reports did not contain full value of real property estimates for FY 2020.*

Gross NYC debt per capita as a percentage of personal income per capita in FY 2020 was 13.9 percent, the highest among the sample cities as shown in Chart 11. Gross NYC debt as a percentage of personal income is twice the 6.9 percent average of the 11 sample cities. The next highest cities in the survey are San Antonio at 12.7 percent, Houston at 10.8 percent, and Philadelphia and Phoenix at 8.1 percent.

Chart 11. Debt Outstanding Per Capita as a Percent of Per Capita Personal Income, FY 2020



SOURCE: FY 2020 Annual Comprehensive Financial Reports of Sample Counties and the U.S. Department of Commerce, – BEA, along with City annual report information on outstanding debt when needed.

[1.] Debt per capita is based on data extracted from each city's and select counties' Direct and Overlapping Debt Outstanding exhibits included in that city's or county's Annual Financial Report. While the individual exhibits are similar in form, there is no assurance that the components of the data published in those exhibits are comparable.
[2.] 2020 Personal Income is the most recent personal income data available from the BEA.

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