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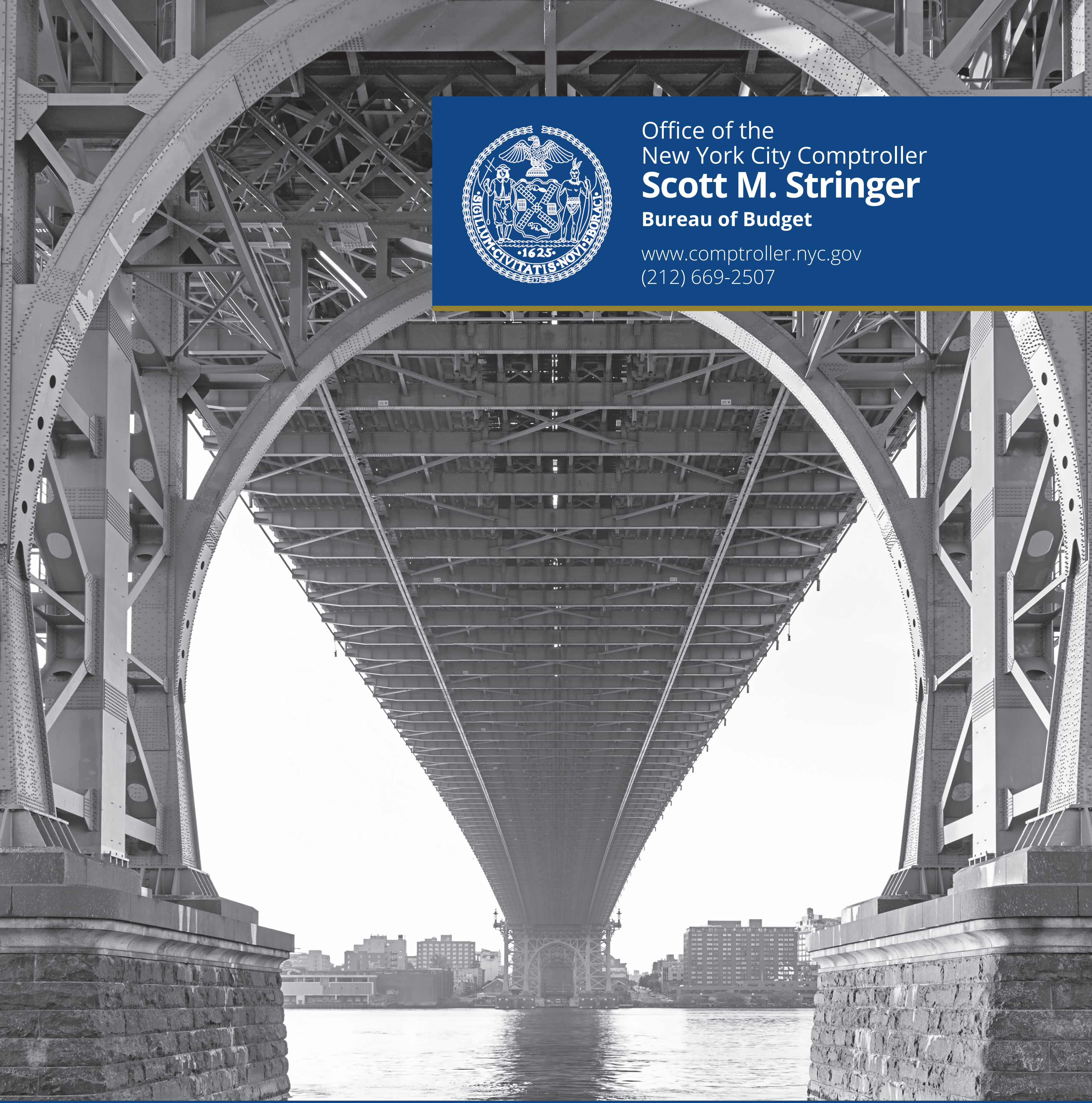

Fiscal Year 2017 Annual Report on Capital Debt and Obligations

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Executive Summary

Debt for the City of New York (the "City") has grown from $4,923 per capita in FY 2000 to $9,782 in FY 2016, an increase of 99 percent. Over the same 16 year period, the NYC area Consumer Price Index (CPI) grew by 46 percent and City-funded expenditures by 58 percent.[1] The City's debt finances the maintenance and upkeep of an infrastructure that must accommodate not only 8.55 million City residents but also about 900,000 daily commuters and over 58 million tourists annually. While such spending is necessary, it is costly because of the City's varied and aging infrastructure.

The City may issue long-term debt only for capital purposes (assets with useful lives of five years or greater and value of more than $35,000 as defined in the Comptroller's Office Directive #10), to finance certain pollution remediation costs per an amendment by the 2010 Financial Emergency Act, and to provide capital grants to other entities such as the Metropolitan Transportation Authority (MTA). Forty-eight percent of the outstanding debt of the two primary forms of debt backed by City General Fund revenues — General Obligation (GO) and New York City Transitional Finance Authority (TFA) — is scheduled to come due over the next ten years.

Debt is issued 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 projections for each of the three succeeding fiscal years.

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 2017 general debt-incurring power of $90.24 billion is projected to increase to $97.26 billion in FY 2018, $103.47 billion in FY 2019 and $110.30 billion by FY 2020.

Outstanding City debt that is counted towards the debt limit totaled $60.07 billion as of July 1, 2016, leaving the City with a net debt-incurring power of $30.17 billion. The outstanding debt total included $35.44 billion of net GO debt, $14.9 billion of TFA debt above its $13.5 billion authorization base and $9.74 billion in contract and other liabilities, as shown in the Debt-Incurring Power Table on page vii.

By the beginning of FY 2020, the City's total indebtedness is expected to grow to $80.87 billion. The City is projected to have remaining debt-incurring capacity of $30.93 billion on July 1, 2017, $28.82 billion on July 1, 2018 and $29.44 billion on July 1, 2019, based on growth of the full value of taxable real property.

Certain entities aside from the City issue debt to finance capital programs within the City. While the City may be obligated to pay a certain portion of these debts, they are not counted

[1] City-funded expenditures are adjusted to net prepayments and prior year adjustments.

towards the City's statutory debt limit. Specifically to that end, the City is responsible, subject to appropriation, for the interest on Hudson Yards Infrastructure Corporation (HYIC) debt (but not its related principal of $3 billion) to the extent that revenues from the Hudson Yards district are insufficient to pay interest. In addition, significant 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. TFA Building Aid Revenue Bonds (BARBs) are issued to finance construction and other capital needs in City schools and are repaid from revenues the City receives from New York State.

Based on a comparison with other jurisdictions, New York City's FY 2015 debt burden per capita was double the average of comparable large U.S. cities. However, it should be noted that New York City has responsibilities that in other cities are distributed more broadly among states, counties, unified school districts, and public authorities. Among the cities compared in this report, New York City ranks the highest and second 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 2015 was 9.1 percent. This is more than twice the comparable other-city average of 4.4 percent. Of the comparable cities, only San Antonio, at 9.7 percent, was higher than New York City. The next two largest cities by population, Los Angeles and Chicago, have ratios that are lower than New York City's, 3.7 and 7.6 percent, respectively. New York City's debt per capita as a percentage of personal income per capita in FY 2014 was 16.0 percent, almost twice the average of the other comparable cities.[2] San Antonio and Philadelphia were the next highest, at 13.4 and 11.1 percent, respectively, while Boston had the lowest debt to personal income ratio at 3.3 percent.

While New York City has a large amount of outstanding debt, its credit rating remains strong, as shown in the table below. Ratings agencies cite the City's large and diverse economy, strong financial management, and liquidity among positive credit attribute that support GO ratings. High TFA and NYW ratings reflect their strong legal frameworks and debt service coverage by pledged revenues.[3]

Table I. *Ratings of Major New York City Debt Issuers*

Rating Agency	GO	TFA Senior Bonds	TFA Subordinate	TFA BARBs	NYW First Resolution	NYW Second Resolution
S & P	AA	AAA	AAA	AA	AAA	AA +
Moody's	Aa2	Aaa	Aa1	Aa2	Aa1	Aa1
Fitch	AA	AAA	AAA	AA	AA +	AA +

[2] The latest available BEA data for personal income is 2014.

[3] Both S&P and Fitch ratings for TFA BARBs were upgraded from AA- last year.

Table II. *NYC Debt-Incurring Power*

($ in millions)

	July 1, 2016	July 1, 2017 [a]	July 1, 2018 [a]	July 1, 2019 [a]
Gross Statutory Debt-Incurring Power	**$90,236**	**$97,256**	**$103,474**	**$110,302**
Actual Bonds Outstanding as of July 1, 2016 (net) [b]	37,612	35,467	33,284	31,158
Plus New Capital Commitments [c]				
FY 2017		9,156	9,156	9,156
FY 2018			11,313	11,313
FY 2019				9,685
Less: Appropriations for General Obligation Principal	(2,172)	(2,211)	(2,136)	(2,269)
Incremental TFA Bonds Outstanding Above $13.5 billion	14,896	14,184	13,300	12,087
Subtotal: Net Funded Debt Against the Limit	**$50,336**	**$56,596**	**$64,917**	**$71,130**
Plus: Contract and Other Liability	9,735	9,735	9,735	9,735
Subtotal: Total Indebtedness Against the Limit	**$60,071**	**$66,331**	**$74,652**	**$80,865**
Remaining Debt-Incurring Power within General Limit	**$30,165**	**$30,925**	**$28,822**	**$29,437**

[a] FYs 2018 through 2020 debt limits are based on the NYC Comptroller's Office's forecast of assessed value and related full market value of real property estimates.

[b] Net adjusted for Original Issue Discount, Capital Appreciation Bonds, GO bonds issued for the water and sewer system and Business Improvement District debt. The $37.61 billion is derived from the $37.91 billion GO total minus $300 million of the aforementioned adjustments.

[c] Reflects City-funds capital commitments as of the FY 2017 Adopted Capital Commitment Plan (released in October 2016) and includes cost of issuance and certain Inter-Fund Agreements. In July 2009, the State Legislature included future debt of the TFA Future Tax Secured bonds under the general debt limit; thus City-funds capital commitments will be funded by the TFA as well.

NOTE: The Debt Affordability Statement released by the City in June 2016 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 $18.53 billion at the end of FY 2017.

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

I. Profile of New York City Debt

Debt is issued by New York City, or on behalf of New York City 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 bonds, all categories of NYC Transitional Finance Authority bonds (TFA), TSASC, Inc. bonds, Sales Tax Asset Receivable Corporation (STARC) bonds and other conduit issuers included in the Capital Lease Obligations and Other Category (see Table 1).[4] While New York City Water Municipal Finance Authority (NYW) bonds also fund City capital projects, they are not included in gross NYC debt as they are paid for through fees and other revenues set and billed by the NYC Water Board. These revenues are then used to pay NYW debt-service.

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 4.8 percent per year from FY 2000 to FY 2016. The FY 2017 Adopted Budget and Financial Plan shows that growth will remain relatively unchanged, increasing by approximately 4.9 percent annually.[5] Projections for growth rates may change as more detailed information about funding needs becomes available over time.

A. COMPOSITION OF DEBT

Excluding NYW bonds, the City has issued five types of debt to finance or refinance its capital program with General Obligation (GO) bonds accounting for 45.5 percent of the total, as shown in Table 1. Debt service on these bonds, with the exception of STARC debt service, is paid with General Fund revenues. STARC debt service is paid by an annual transfer of $170 million of New York State (NYS) sales tax revenues from the Local Government Assistance Corporation (LGAC). NYW debt service is paid for by water and sewer user fees. Table 1 contains information on General Fund supported and STARC debt.

Each of the categories of debt is comprised of both tax-exempt and taxable bonds, with the exception of TSASC and STARC debt, which have been issued solely as tax-exempt bonds.

All City debt is issued to finance projects that have a public purpose, with taxable debt issued for projects that have a public purpose but are ineligible for Federal tax exemption, such as housing loan programs that benefit from Federal tax credits. 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 and continued to issue 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 public purpose standards as tax-exempt

[4] Except for STAR Corporation debt, all bonds cited are paid from General Fund revenues.

[5] GO, TSASC and TFA debt outstanding are used as primary drivers for the estimated growth rate due to the unavailability of data regarding future lease-purchase debt issuance.

bonds. Tax-exempt debt accounted for 82.6 percent of the total value of the City's outstanding debt at the end of FY 2016.[6] While BABs and QSCBs are classified as taxable debt, due to the federal interest subsidies, the cost of borrowing on these bonds is similar to that of tax-exempt bonds. Including these bonds among the tax-exempt bonds would increase the share of outstanding tax-exempt debt to 92.9 percent.

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. In FY 2016, fixed rate debt accounted for 86.4 percent of gross NYC debt outstanding.

Table 1. Gross NYC Debt Outstanding as of June 30, 2016

($ in millions)

	GO Bonds	TFA	TSASC	STAR Corporation	Capital Lease Obligations & Other [a]	Gross Debt Outstanding
Tax-Exempt						
Fixed Rate	$24,341	$25,839[c]	$1,145	$1,961	$4,331	$57,617
Variable Rate[b]	6,863	4,248[c]	0	0	156	11,267
Subtotal	$31,204	$30,087	$1,145	$1,961	$4,487	$68,884
Taxable						
Fixed Rate	$6,634	$7,271	$0	$0	$514	$14,419
Variable Rate[b]	76	0	0	0	0	76
Subtotal	$6,710 [d]	$7,271 [d]	$0	$0	$514	$14,495
Total	**$37,914** [e]	**$37,358**	**$1,145**	**$1,961**	**$5,001**	**$83,379** [f]
Percent of Total	**45.5%**	**44.8%**	**1.4%**	**2.3%**	**6.0%**	**100.0%**

[a] Capital Lease Obligations & Other does not include outstanding FY 2005 Securitization Corporation debt which is included in the New York City Comprehensive Annual Financial Report (CAFR) but includes $74 million of City University Construction Fund (CUCF) debt which is not included in the CAFR.

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

[c] The New York City Transitional Finance Authority (TFA) fixed rate debt includes $8.05 billion for TFA Building Aid Revenue Bonds (BARBs). The variable rate debt includes $906 million of Recovery Bonds.

[d] NYC GO taxable bond debt includes $4.41 billion of Build America Bonds (BABs) and $56.7 million of Qualified School Construction Bonds (QSCBs). The TFA taxable fixed rate debt includes $2.99 billion of BABs and $1.14 billion of QSCBs.

[e] Excludes a $159 million GASB 49 adjustment to GO debt.

[f] Total does not include impact of premiums/discounts on debt outstanding estimated at $4.17 billion in FY 2016 and a $159 million GASB 49 adjustment to GO debt.

SOURCE: Comprehensive Annual Financial Report of the Comptroller for the Fiscal Year Ended June 30, 2016.

General Obligation Debt

General Obligation (GO) debt is backed by the full faith and credit of the City of New York. As of June 30, 2016, GO debt totaled $37.91 billion and accounted for 45.5 percent of gross NYC debt outstanding.[7] Debt service for GO bonds is paid from the proceeds of 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

[6] The remaining 17 percent of debt, categorized as taxable, includes Build America Bonds (BABs) and Qualified School Construction Bonds (QSCBs). Although BABs and QSCBs are taxable, they must meet the same public purpose standards as tax-exempt bonds.

[7] Excludes a $159 million GASB 49 adjustment to GO debt.

obligations are satisfied before property tax revenues are released to the City's General Fund. NYC property tax revenues were $23.18 billion in FY 2016, almost six times coverage on FY 2016 GO debt service.

The FY 2016 GO debt total is $2.395 billion less than at the same time last year. During FY 2016, the City did not issue any new-money bonds for capital projects (FY 2016 new money needs were met fully by TFA issuance), a change from past patterns of issuance. The reduction in outstanding GO debt reflects the combination of annual principal retirement as well as refundings that resulted in a lower principal amount than the refunded bonds.

Transitional Finance Authority Debt

The Transitional Finance Authority (TFA) issues two different types of debt — Future Tax Secured (FTS) bonds backed primarily by the City's personal income tax (PIT) revenues and School Building Aid Revenue Bonds (BARBs), supported by revenues the City receives from New York State. At the close of FY 2016, both forms of TFA debt totaled $37.36 billion, comprised of $29.31 billion of FTS debt and $8.05 billion of BARBs. This total is 10.4 percent greater than at the close of FY 2015. As a result, the TFA's share of gross NYC debt outstanding increased from 40.9 percent in FY 2015 to 44.8 percent in FY 2016. The increase reflects the issuance of $3.65 billion of TFA bonds in support of the City's capital program during the course of FY 2016.

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 did not count against the City's general debt limit.[8] 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. However, this additional borrowing was made subject to the City's general debt limit. Thus, the incremental TFA bond 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.

In April 2006, the State Legislature authorized the TFA to issue $9.4 billion of BARBS supported by building aid payments the City receives from the State. This debt is to be used to finance a portion of the City's five-year educational facilities capital plan. Between FYs 2007 and 2009, $4.25 billion of BARBs were issued. Additional BARBs in the amount of $2.15 billion were issued over the FYs 2011–2013 period along with $1.5 billion in FY 2015 and $750 million in FY 2016. As a result of those debt issues, minus amortization through June 30, 2016, there are currently $8.05 billion of BARBs outstanding. BARBs are excluded from the calculation of the City's debt counted against the debt limit. Going forward, the projected BARBs borrowing averages about $250 million per year from FYs 2017-2020 to keep within its $9.4 billion limit. The TFA, working with the Comptroller's Office, retains the discretion as to the specific amount of annual BARBs borrowing.

[8] The debt limit is discussed in further detail in Section II.

Tobacco Settlement Asset Securitization Corporation Debt

TSASC debt totaled $1.15 billion as of June 30, 2016. This represents a $77 million decrease from FY 2015. There currently are no plans for future new money TSASC offerings. However, TSASC has announced that it will consider a debt restructuring. 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 as described in the Master Settlement Agreement among 46 states, six jurisdictions, and the major tobacco companies. In February 2006, TSASC refinanced all bonds issued under its original indenture. The revised refunding bond structure allows the tobacco settlement revenues (TSRs) to flow to both TSASC and the City.[9] Exactly 37.40 percent of the TSRs are pledged to TSASC bondholders with the remainder going into the City's General Fund.

Sales Tax Asset Receivable Corporation (STARC) Debt

STARC debt totaled $1.96 billion at the end of FY 2016. This represents a decrease of $74 million from FY 2015. Initially, the proceeds of STARC bonds were used to pay off the remaining debt of the Municipal Assistance Corporation (MAC) in FY 2005. STARC is a local development corporation organized under the Not-for-Profit Corporation Law of the State of New York. While the Corporation is separate and apart from the City of New York, for City accounting purposes, it is a blended component unit of the City. Debt service for STARC bonds is paid by the LGAC, a State agency and is not included when calculating the City's debt limit.[10] During the course of FY 2015, STARC refinanced and restructured its remaining debt of just below $2.0 billion and produced savings of $649 million to lower TFA debt service costs. However, New York State will realize those savings through an adjustment of sales tax receipts that would otherwise be payable to the City over the next three State fiscal years. No further issuance is planned at this time.[11]

Capital Lease (Conduit Debt) and Other Obligations

Capital Lease and Other Obligations totaled $5.0 billion as of June 30, 2016, a decrease of $120 million from FY 2015.

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 Health + Hospitals (H+H) ($573 million), DASNY for the New York City Courts Capital Program ($454 million), the Educational Construction Fund ($240 million), the City

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

[10] LGAC receives its revenues primarily from amounts derived from the New York State 1.0 percent Sales Tax. The estimated revenues in FY 2016 were $3.1 billion.

[11] At the time of refunding, the City recognized approximately $210 million in Debt Service savings in each of FYs 2016 through 2018. However, a provision in the State FY 2017 Adopted Budget contains a provision that allows the State to intercept $600 million of City sales tax revenues over three State fiscal years to recover the savings to the State.

University Construction Fund (CUCF) ($74 million), the Industrial Development Agency ($84 million), the Primary Care Development Corporation ($30 million), as well as general lease obligations ($514 million).[12] In addition, due to Governmental Accounting Standards Board (GASB) reporting requirements, $32 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 was completed in September 2015. HYIC has issued $3 billion in bonds. To the extent that project revenues are insufficient to meet interest payments, the City pays HYIC the amount sufficient to cover such interest on the debt, in the form of interest support payments (ISP). The corporation will be considered to be self-sufficient when HYIC has two fiscal years with adequate net recurring revenues to pay its debt service directly. When HYIC is self-sufficient or when the bonds become currently callable, the first of which occurs on February 15, 2017, it will also start paying down principal.[13] Through FY 2015, the City had paid approximately $360 million in ISP's. No ISP was made in FY 2016 as other revenue sources covered the HYIC's debt service need for FY 2016.

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 the New York City Municipal Water Finance Authority (NYW) and the New York State Metropolitan Transportation Authority (MTA). Both 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 services provided to City residents. The outstanding debts of these two authorities are summarized in Tables 2 and 3.

NYW had $29.72 billion in debt outstanding as of June 30, 2016, a decrease of $256 million, or 0.9 percent, from FY 2015. This decrease is due largely to debt retirement initiatives pursued by NYW. 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 water and sewer-related City 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 measured local development help the goals of continued water quality. DEP's FYs 2017 — 2020 Four-Year Capital Program assumes an average annual cash funding need of

[12] Although for reporting purposes $573 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.

[13] HYIC will be able to pay its debt service directly when its outstanding bonds convert to a self-amortizing fixed rate structure, which will occur when it has: 1) at least 125 percent revenue coverage on Maximum Annual Debt Service (MADS) on then outstanding senior bonds, 2) 105 percent of MADS on all then outstanding bonds from net recurring revenues. HYIC will also be able to pay down principal when bonds become currently callable and there are sufficient excess revenues.

$1.95 billion.[14] The Capital Plan will continue to be a driver of water and sewer rate increases over the Financial Plan period. The current City-funds commitment plan annual average of $2.6 billion per year is 64 percent higher than the agency's annual average capital commitments of $1.59 billion between FYs 2013 and 2016. Although the current Plan is higher than the prior four-year period, it is less than FYs 2007-2010, when Federal mandates drove much of the program and DEP's City-funds commitments averaged $2.8 billion per year. NYW also has retired debt in recent years, as monies become available. This practice is likely to continue in the future.

Table 2. NYW Debt Outstanding as of June 30, 2016

($ in millions)

Tax Exempt	
Fixed Rate	$24,574[a]
Variable Rate	5,142[b]
Total	**$29,716**

[a] Includes $318.8 million of Bond Anticipation Notes.
[b] Includes $200 million of Commercial Paper.
Source: NYW

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.

Table 3. MTA Debt Outstanding as of June 30, 2016

($ in millions)

Tax Exempt	
Fixed Rate	$32,488
Variable Rate	5,132
Total	**$37,620**

SOURCE: Metropolitan Transportation Authority.

Debt issued to fund the MTA's capital program is secured by several 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.

As of June 30, 2016, the MTA had $37.62 billion of debt outstanding, an increase of $1.57 billion, or 4.4 percent, from June 30, 2015. Outstanding MTA debt has increased in all but one of the last fifteen years. MTA debt has grown by 165 percent or $23.4 billion since FY 2000. This growth rate is more than 53 percent higher than the growth in gross NYC indebtedness over the same period.

[14] This figure represents the estimated borrowing need for DEP, issued via NYW. Source: OMB Cash Flow document October 2016.

B. ANALYSIS OF PRINCIPAL AND INTEREST AMONG THE MAJOR NYC ISSUERS

The three major debts that either have financed and/or continue to finance City capital projects outside the water and sewer system are: NYC General Obligation, TFA, and TSASC bonds. 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 bonds, and TFA BARBs.

Table 4. NYC Projected Combined Debt Outstanding for GO, TFA, STARC and TSASC, FYs 2016 – 2026

($ in millions)

End of Fiscal Year	Debt Outstanding for GO, TFA, & TSASC	Estimated Annual Borrowing	Percent Change in Debt Outstanding
2016	$78,378		1.0%
2017	$81,502	$6,217	4.0%
2018	$85,463	$7,293	4.9%
2019	$90,473	$8,464	5.9%
2020	$94,889	$8,481	4.9%
2021	$97,933	$7,308	3.2%
2022	$100,759	$7,303	2.9%
2023	$103,148	$7,146	2.4%
2024	$104,441	$6,303	1.3%
2025	$105,277	$5,871	0.8%
2026	$104,473	$4,343	(0.8%)

NOTE: Above figures include TFA BARBs.
SOURCE: Comprehensive Annual Financial Report of the Comptroller for the Fiscal Year Ended June 30, 2016 and the NYC Office of Management and Budget, June 2016 Financial Plan.

Based on the Office of Management and Budget (OMB) forecasts, the annual growth rate in debt outstanding, which averaged 4.8 percent per year from FY 2000 to FY 2016, is expected to slow to 2.9 percent between FY 2016 to FY 2026. However, the average annual growth rate of debt outstanding in the first half of this period through FY 2020 (4.9 percent) is higher than the rate for the period as a whole.

As shown in Table 4, between FYs 2017 and 2020, the growth rate averages 5.2 percent per year. Growth estimates beyond the Financial Plan period tend to be lower because of the greater uncertainty of project specifics in the outyears. Projections for this slower rate of growth are likely to change as more detailed information becomes available. Because City agencies are typically not yet focused on the latter years of the Ten-Year Capital Strategy, their future projections are less defined.

The combined principal and interest composition for GO, TFA and TSASC is shown in Table 5.[15] The Financial Plan assumes principal repayments totaling $3.042 billion in FY 2017, $3.247 billion in FY 2018, $3.441 billion in FY 2019, and $3.595 billion in FY 2020. Principal is

[15] Since TFA BARB and STARC debt service are not paid with City General Fund revenues, they are not included in Table 5.

estimated to be 47.8 percent of debt service in FY 2017, 48.1 percent in FY 2018, 47.6 percent in FY 2019 and 45.9 percent in FY 2020.[16]

Table 5. Principal and Interest Estimated Payments, GO, TFA, and TSASC

($ in millions)

Fiscal Year	Estimated Principal Amount	Estimated Interest	Estimated Total Debt Service	Principal as Percent of Total
2017	$3,042	$3,317	$6,359	47.8%
2018	$3,247	$3,498	$6,745	48.1%
2019	$3,441	$3,790	$7,231	47.6%
2020	$3,595	$4,230	$7,825	45.9%

NOTE: Adjusted for prepayments and excludes interest on short-term notes and debt service for capital lease / conduit debt.
SOURCE: NYC Office of Management and Budget, June 2016 Financial Plan and Office of the NYC Comptroller.

During FY 2016, the City issued $2.51 billion of GO debt, all of which was used for refunding transactions with present-value savings of $397.2 million. The refundings produced dissavings of $18 million in FY 2016, with savings of $171 million in FY 2017, and $83 million in FY 2018. At the end of FY 2016, outstanding GO debt totaled $37.91 billion. Approximately $21.82 billion of the total GO debt currently outstanding (57.5 percent) will mature in the next ten years, as shown in Table 6.

Table 6. 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
2017-2026	$21,803	$14,333	$36,136	48.0%	$336	$36,472
2027-2036	$13,096	$15,034	$28,130	37.4%	$571	$28,701
2037 and After	$3,016	$7,991	$11,007	14.6%	$238	$11,245
Total	**$37,915**	**$37,358**	**$75,273**	**100.0%**	**$1,145**	**$76,418**

[(a)] Includes $906.4 million of TFA Recovery bonds.

TFA issued $4.05 billion of debt in FY 2016, of which $3.65 billion was new debt. The remaining $400 million of debt issuance was for a refunding transaction that produced budgetary savings of $68 million over the life of the bonds. TFA's debt outstanding was $37.36 billion at the end of FY 2016. Of the total TFA debt outstanding, $14.3 billion, or 38.4 percent, will come due over the next ten years, as shown in Table 6.

[16] Debt service excludes lease-purchase debt, interest on short-term notes, debt service on STARC and TFA BARBs, and is as of the FY 2017 Adopted Budget and June 2016 Financial Plan.

II. Debt Limit

A. THE CITY'S DEBT-INCURRING POWER

NYC's general debt limit, as provided in the New York State Constitution, is 10 percent of the five-year rolling average of the full value of taxable real property. The process by which the City's annual debt limit is established involves a number of different elements:

- No later than February 15th, the New York City Department of Finance issues a preliminary estimate of the assessed valuation 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 and 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 the most recent market survey and a projection of market values based on recent surveys to obtain the full market value for the ensuing fiscal year. The special equalization ratio is then expressed as the ratio of the assessed value of taxable real property over 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. Market values of the ensuing fiscal years are forecasted by the Comptroller's Office.

- The State Constitution provides that, with certain exceptions, the City's debt cannot be greater than the general debt limit of 10 percent of the average full value of taxable real property in the City over the most recent five years. Full values of real property are established using the equalization ratios and the assessed values of taxable real property for the relevant five-year period. The City's debt limit for the ensuing fiscal year is then calculated by averaging the estimated full values of real property over the five-year period.

- 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 7 illustrates the calculation of the FY 2017 debt limit. The full market value for each of FYs 2013 through 2017 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 2017 debt limit ($90.236 billion) is derived by multiplying the five-year average value ($902.362 billion) by 10 percent.

Table 7. Calculation of Full Value of Real Property in New York City and the General Debt Limit, FY 2017

Fiscal Year	Assessed Valuations of Taxable Real Property	Special Equalization Ratio	Full Value
2013	$164,036,985,806	0.2081	$788,260,383,498
2014	$173,429,032,559	0.2076	$835,399,964,157
2015	$184,059,201,523	0.2065	$891,327,852,412
2016	$196,710,908,548	0.2086	$943,005,314,228
2017	$210,130,499,481	0.1994	$1,053,813,939,223
5-Year Average Value			$902,361,490,704
10 Percent of the 5-Year Average			$90,236,149,070

SOURCE: New York City Council Tax Fixing Resolution for FY 2017.

Table 8 summarizes the estimated growth in the City's debt-incurring power. The City's FY 2017 general debt-incurring power of $90.24 billion is projected to increase to $97.26 billion in FY 2018, $103.47 billion in FY 2019 and $110.30 billion by FY 2020.[17] The City's indebtedness counted against the statutory debt limit is projected to grow from $60.07 billion at the beginning of FY 2017 to $80.87 billion by the beginning of FY 2020. The TFA is authorized to borrow beyond its original $13.5 billion limit provided the combined additional TFA debt and GO debt does not exceed the City's general debt limit. The impact of these capital costs is discussed in Section III.

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

Table 8. NYC Debt-Incurring Power

($ in millions)

	July 1, 2016	July 1, 2017 [a]	July 1, 2018 [a]	July 1, 2019 [a]
Gross Statutory Debt-Incurring Power	**$90,236**	**$97,256**	**$103,474**	**$110,302**
Actual Bonds Outstanding as of July 1, 2016 (net) [b]	37,612	35,467	33,284	31,158
Plus New Capital Commitments [c]				
FY 2017		9,156	9,156	9,156
FY 2018			11,313	11,313
FY 2019				9,685
Less: Appropriations for General Obligation Principal	(2,172)	(2,211)	(2,136)	(2,269)
Incremental TFA Bonds Outstanding Above $13.5 billion	14,896	14,184	13,300	12,087
Subtotal: Net Funded Debt Against the Limit	**$50,336**	**$56,596**	**$64,917**	**$71,130**
Plus: Contract and Other Liability	9,735	9,735	9,735	9,735
Subtotal: Total Indebtedness Against the Limit	**$60,071**	**$66,331**	**$74,652**	**$80,865**
Remaining Debt-Incurring Power within General Limit	**$30,165**	**$30,925**	**$28,822**	**$29,437**

[a] FYs 2018 through 2020 debt limits are based on the NYC Comptroller's Office's forecast of assessed value and related full market value of real property estimates.

[b] Net adjusted for Original Issue Discount, Capital Appreciation Bonds, GO bonds issued for the water and sewer system and Business Improvement District debt. The $37.61 billion is derived from the $37.91 billion GO total minus $300 million of the aforementioned adjustments.

[c] Reflects City-funds capital commitments as of the FY 2017 Adopted Capital Commitment Plan (released in October 2016) and includes cost of issuance and certain Inter-Fund Agreements. In July 2009, the State Legislature included future debt of the TFA Future Tax Secured bonds under the general debt limit; thus City-funds capital commitments will be funded by the TFA as well.

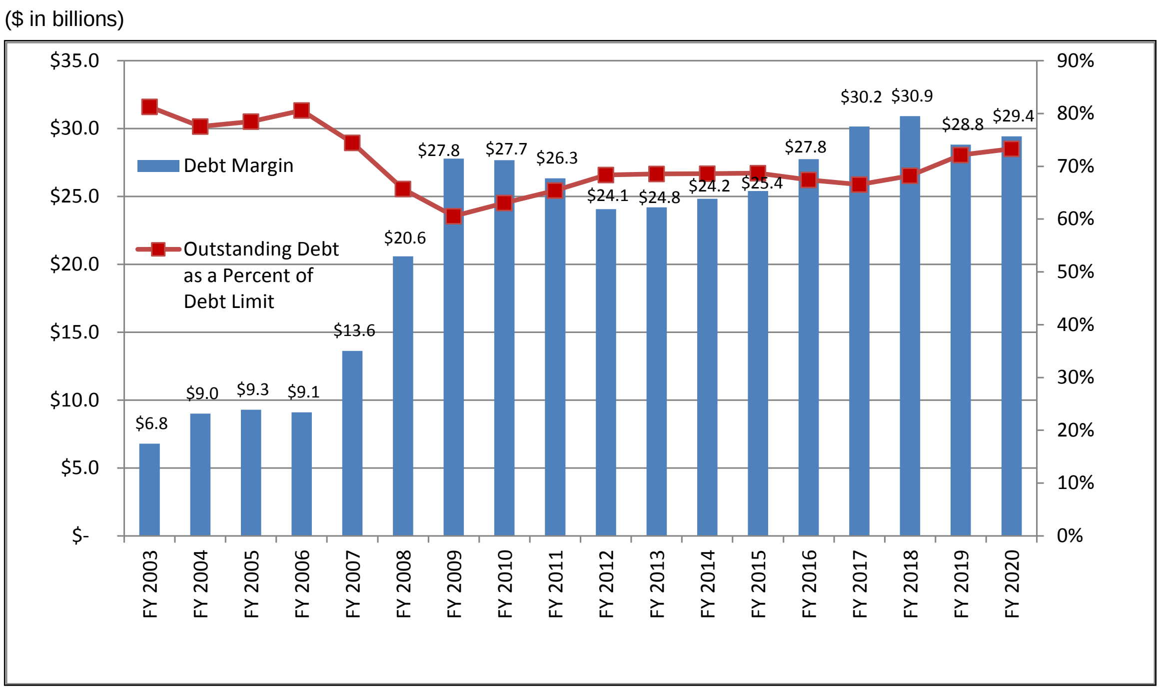
NOTE: The Debt Affordability Statement released by the City in June 2016 presents data for the last day of each fiscal year, June 30th, instead of the first day of each fiscal year, July 1, as reflected in this table. The City's Debt Affordability Statement forecasts that indebtedness would be below the general debt limit by $18.53 billion at the end of FY 2017.

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

As shown in Chart 1, the City's debt margin, defined as the difference between debt outstanding and the debt limit, is forecast to increase slightly from $30.2 billion at the beginning of FY 2017 to $30.9 billion in FY 2018, and then decrease to $29.4 billion by FY 2020. The debt limit, which is driven by the full market value of taxable properties, is projected to increase by 6.9 percent per year from FY 2017 to FY 2020, outpaced by the projected 10.4 percent annual increase of total indebtedness during the same period. The City will continue to monitor this differential in growth rates to ensure the general debt limit is not exhausted. At this time, there are no risks to the general debt limit over the Financial Plan period.

While the remaining debt margin is forecast to decline from current levels in FYs 2017 through 2020, the FYs 2017 and 2018 levels are the highest for the past decade. The City's remaining debt margin reached $27.8 billion in FY 2009 up from the low of $6.8 billion at the beginning of FY 2003. The significant increase in the City's debt margin over this period was a manifestation of the City's rising real estate values. Between FY 2003 and FY 2011, the City's debt limit grew at an average of 9.8 percent per year. From FY 2011 to FY 2016, annual growth slowed to 2.2 percent per year. The Comptroller's Office projects that annual debt limit growth will be 6.9 percent per year over the next three years.

***Chart 1.* NYC's Debt Margin for FYs 2003 – 2020 and Debt Outstanding as a Percent of Debt Limit**



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

III. Debt Burden and Affordability of NYC Debt

This section presents statistics assessing the size of the City's debt burden and its affordability. The proper measure of affordability is subject to debate since there are alternative measures that can be used to assess a locality's available resources. 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.[18] For three of these measures, comparisons with other jurisdictions are presented.

Recently, ratings agencies have moved towards assessing debt together with pension and other post-employment benefits (OPEB) liabilities. While these analyses are beyond the scope of this report at this time, the combined metric is a growing interest to the rating community.[19]

A. BACKGROUND

The Capital Commitment Plan published by NYC OMB is a compilation of estimated future contract registrations for a wide variety of physical improvements or equipment purchases on assets valued at $35,000 or more with a useful life of at least five years. About 25 agencies engage in some form of capital work, with about 13 agencies accounting for approximately 95 percent of 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. It 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. 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, which is financed by the New York Water Finance Authority (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 2017 Adopted Commitment Plan sums to an authorized level of $53.1 billion. City-funded commitments, after adjusting for the reserve for unattained commitments of $5.81 billion total $47.29 billion.[20] Four major programmatic areas comprise 67 percent of the City-funded plan, as shown in Chart 2. Department of Education (DOE)/City University of New York (CUNY) related capital projects comprise 21 percent of the four-year plan, followed by DEP at 19 percent, DOT and Mass Transit at 15 percent, and Housing and Economic Development related projects at 12 percent. Combined, these four areas account for $35.4 billion of the $53.1 billion authorized plan.

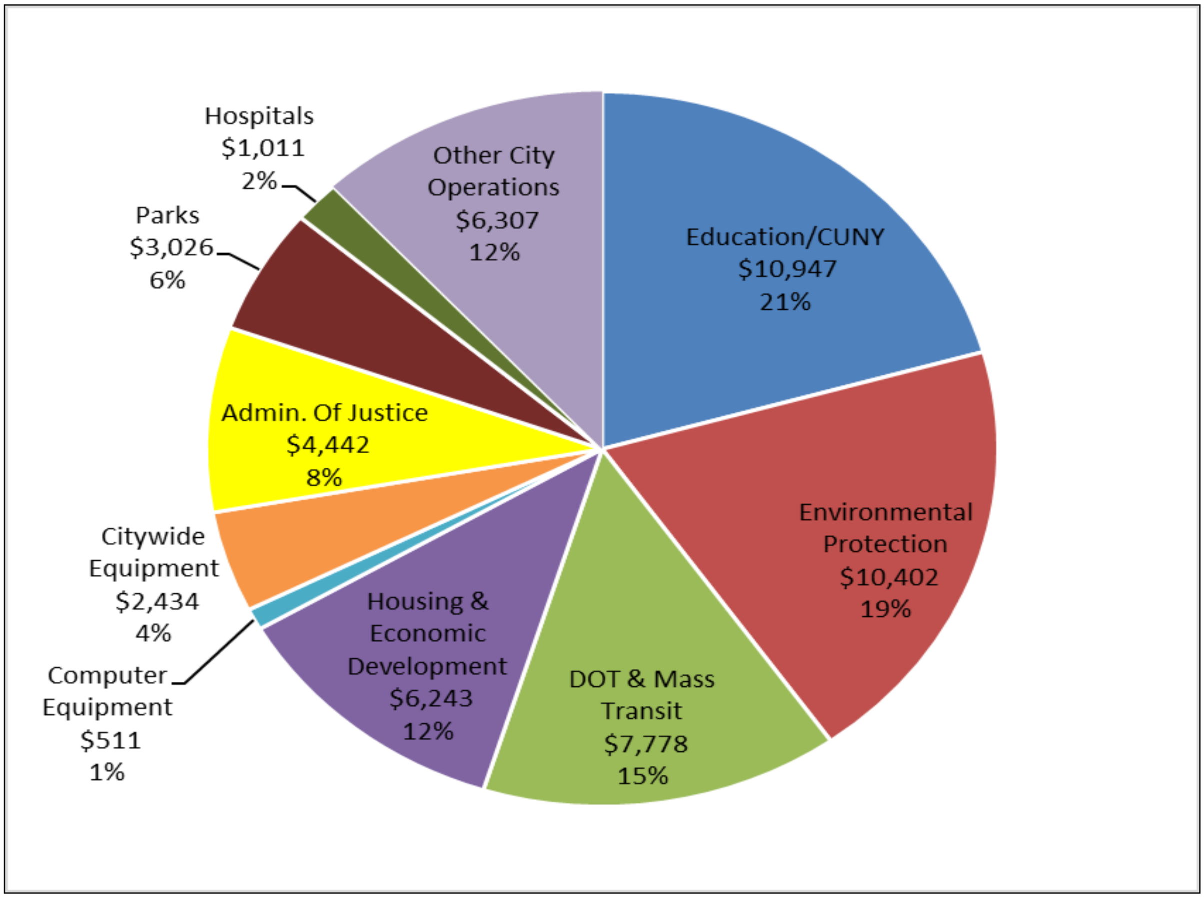
[18] New York City's FY 2015 debt per capita is used for comparison because the available data for the other sample cities are from either fiscal year or calendar year 2015.

[19] *The Comprehensive Annual Financial Report of the Comptroller for the Fiscal Year Ended June 30, 2016* discusses OPEB and Pensions in the "Notes to the Financial Statements" on page 110.

[20] Reserve for unattained commitments represents projected shortfall in commitments.

***Chart 2*. FY 2017 Adopted Commitment Four-Year Plan, Shares of $53.1 Billion, FYs 2017-2020, City-Funds**

($ in millions)



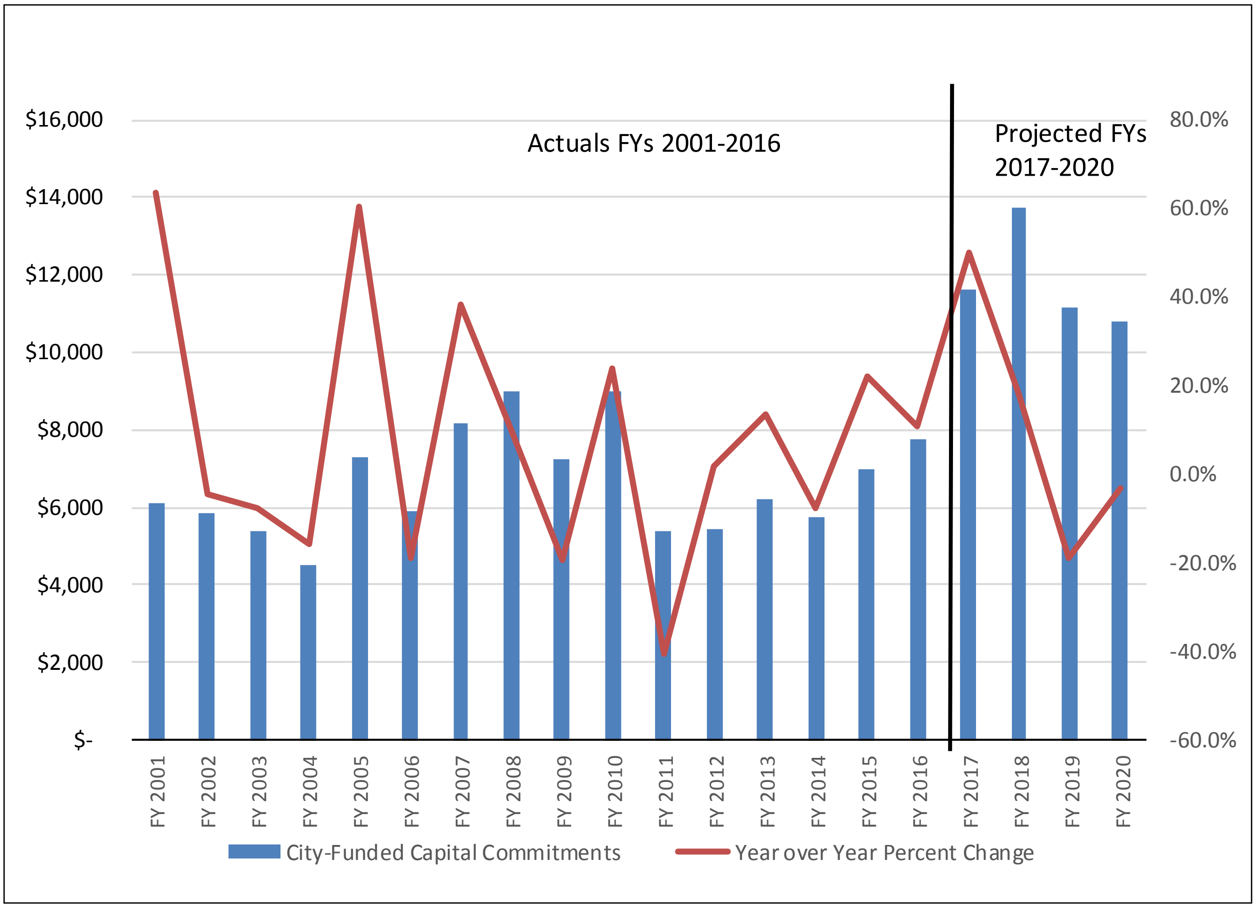
SOURCE: NYC Office of Management and Budget, FY 2017 Adopted Capital Plan, October 2016.

Historically, capital commitments have fluctuated widely year to year, as shown in Chart 3. 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. Going forward, the FY 2017 Adopted Capital Commitment Plan projects an average of $11.82 billion per year in City-funded commitments over FYs 2017-2020, the highest annual average over the past 40 published plans. [21]

[21] Commitment Plan numbers used are net of the reserve for unattained commitments.

***Chart 3*. City-Funded Capital Commitments Year over Year Percent Changes**

($ in millions)



Note: FYs 2001 – 2016 are actuals. FYs 2017 – 2020 are projections from the FY 2017 Adopted Commitment Plan, October 2016.

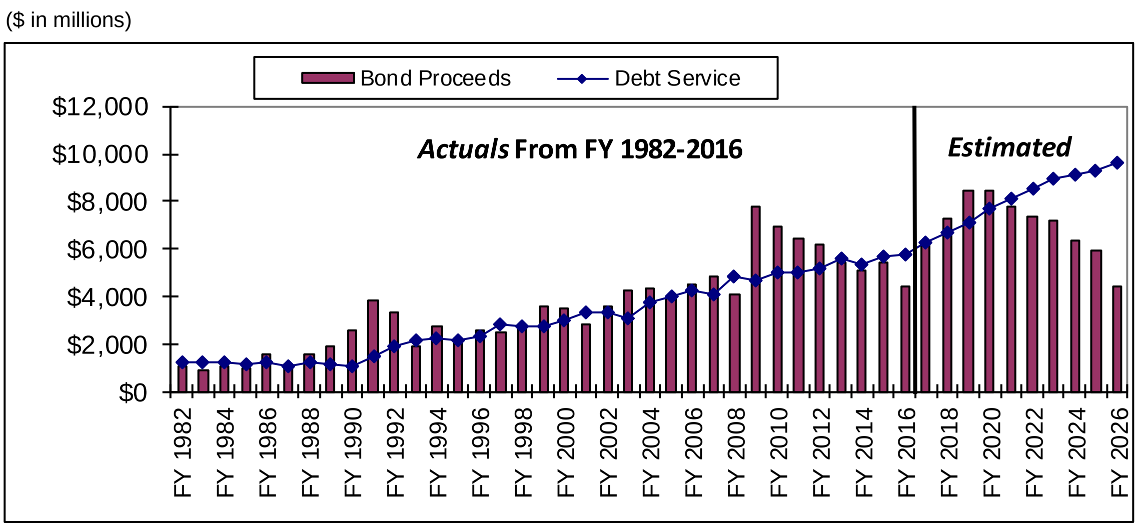
The City-funded capital program relies almost exclusively on the issuance of bonds. The City's annual borrowing excluding NYW debt, grew from $1.08 billion in FY 1982 to $4.40 billion in FY 2016, with the highest annual borrowing of $7.75 billion occurring in FY 2009. The FY 2016 borrowing was below the prior ten-year average of $5.7 billion. OMB expects the City's borrowing to average $7.62 billion annually between FYs 2017 through 2020, with a peak estimated borrowing of $8.48 billion in FY 2020.[22]

The annual average growth rate of City debt service payments between FY 1982 and FY 2016 was 4.7 percent per year, growing from $1.22 billion in FY 1982 to $5.78 billion in FY 2016. According to OMB, over the next ten years, the City's debt service is expected to grow

[22] This includes estimated bond proceeds for GO, TFA, and TFA BARB bonds. Without BARBs, estimated borrowing would be $7.37 billion per year. While City-funded commitments include DEP commitments because it is a mayoral operating agency, borrowing for DEP capital projects are 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.

at an average rate of 5.2 percent to $9.62 billion by FY 2026, as illustrated in Chart 4. Projected growth during the first four-years of the Financial Plan period is 7.2 percent, which is above the projected average growth over the entire FYs 2016 – 2026 period.[23] However, this rate of growth over the Financial Plan period will likely be lower as it does not take into account the likelihood of refunding actions, and is projected using conservative variable rate demand bonds (VRDB) rates, and conservative long-term bond interest rates. Currently, these projections show an average annual growth of 3.4 percent per year in FYs 2021 – 2026, below the 34-year average growth rate of 4.7 percent. In contrast to the first four-years, this outyear growth is seemingly low and it is likely that debt service growth will be higher than the projected pace over this latter period.[24]

***Chart 4*. Bond Proceeds and Debt Service, FYs 1982 – 2026**



SOURCE: Comprehensive Annual Financial Reports Office of the NYC Comptroller, 1982-2016. 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 FY 2017 Adopted Budget and Financial used for outyear forecasts.

B. DEBT BURDEN

New York City's debt has expanded significantly since FY 2000. Debt per capita, which was $4,923 in FY 2000, has grown to $9,782 in FY 2016, an increase of 99 percent.[25] The cumulative growth in debt per capita over this period was 2.2 times the City's rate of local inflation, but less than City-funded expenditure growth of 58 percent over the same period.[26] The debt per capita

[23] Figures as of the FY 2017 Adopted Budget and Financial Plan, June 2016.

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

[25] Debt per capita is calculated by dividing gross NYC debt by total population as reported in the Comprehensive Annual Financial Report of the Comptroller for the Fiscal Year Ended June 30, 2016. Excludes bond premium and discount adjustments.

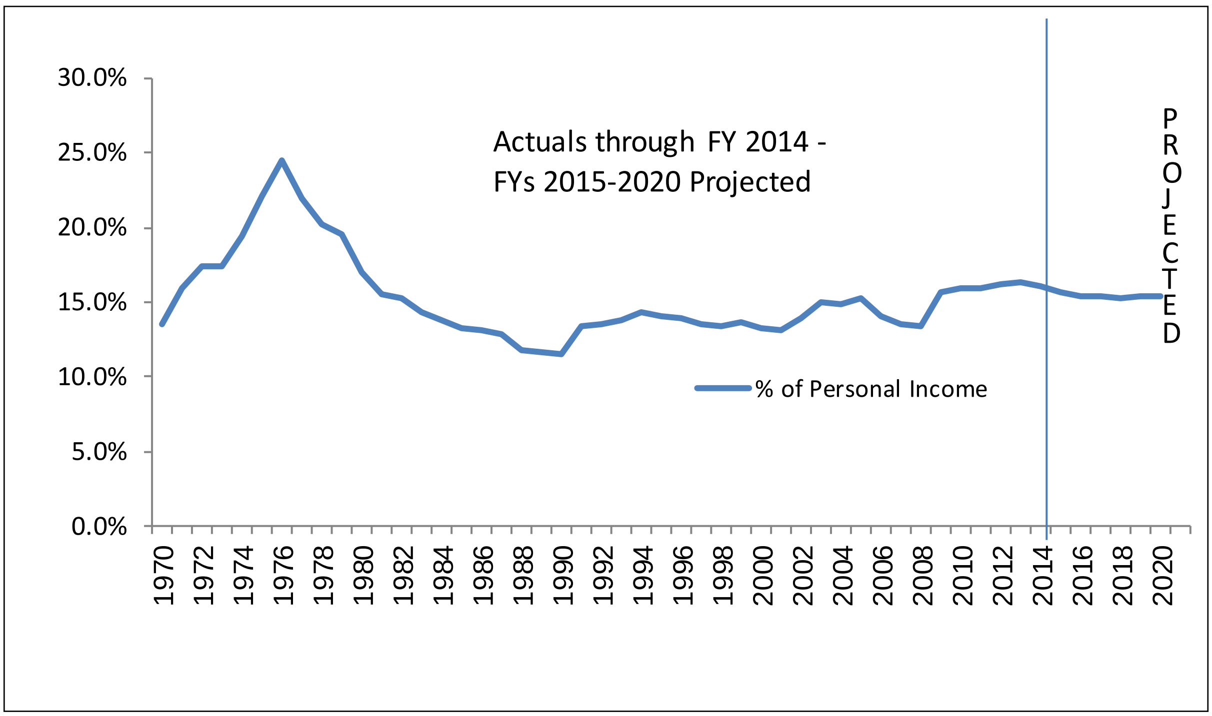
[26] FY 2016 debt per capita of $9,782 is used for section B's analysis; however, FY 2015's debt per capita figure of $9,750 is used when comparing other municipalities, due to data limitations. City-funded expenditures are adjusted to net prepayments and prior year adjustments.

figure does not include the debt of the NYW and the MTA, both of which rely upon user fees paid by residents in the City and the metropolitan area.

Historical Debt Outstanding as a Percent of Personal Income, FYs 1970 – 2020

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 $2.95 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 the credit markets and the eventual involvement of State and Federal governments beginning in March 1975. Confronted with external controls in the aftermath of the fiscal crisis, the City rapidly brought down 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 5. **NYC Gross Debt as a Percent of Personal Income, FYs 1970 – 2020**



SOURCES: Office of the NYC Comptroller, Comprehensive Annual Financial Reports for the Fiscal Years ended June 30, 1990, 1999, and 2016. The U.S. Bureau of Economic Analysis, personal income for counties and NYC OMB, Message of the Mayor, April 2016.

Chart 5 illustrates the historical trend of gross debt outstanding as a percentage of personal income from FYs 1970 to 2014.[27] After reaching a peak of 24.4 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. Through the 1990s, the ratio averaged 13.5 percent before rising to 15.1 percent in FY 2003 in the aftermath of the September 11th attacks. Between FYs 2007 and

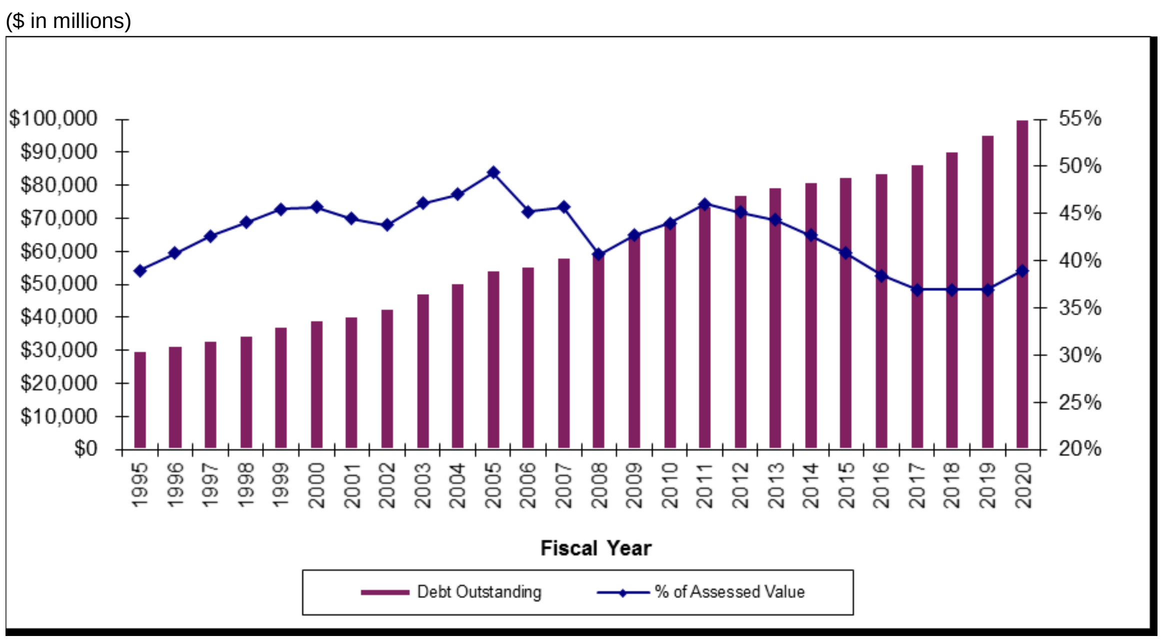
[27] Personal income data from the Bureau of Economic Analysis is available only through FY 2014.

2014, the ratio averaged 15.5 percent. This ratio is forecast to increase slightly to 15.7 percent in FY 2015 but decline back to 15.5 percent in FY 2016. Gross NYC debt outstanding increased 1.0 percent from FY 2015 to FY 2016 while the projected increase in personal income is 2.8 percent during the same time period.[28] Over FYs 2017-2020, the ratio remains relatively flat at 15.3 percent. The flattening and slight decline in the ratio is the result of a similar projected annual growth rate of 4.64 percent for personal income and 4.56 percent for debt outstanding.

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

Over the period of FYs 1995 – 2016, the ratio of debt outstanding to taxable assessed value of real property averaged 43.8 percent. Since FY 2011, the ratio of debt outstanding to taxable assessed value of real property has declined in each fiscal year from 46 percent in FY 2011 to 38.4 percent in FY 2016, the lowest level over the FYs 1995 – 2016 period, as shown in Chart 6. This ratio is projected to decline to 36.9 percent in FYs 2017 and 2018, to 37.0 percent in FY 2019 and to 39.0 percent by FY 2020. The estimated annual growth rate for taxable assessed value is 4.2 percent from FYs 2016-2020 compared with a 4.6 percent annual growth rate in debt outstanding.

Chart 6. NYC Outstanding Debt as a Percentage of the Assessed Value of Taxable Real Property



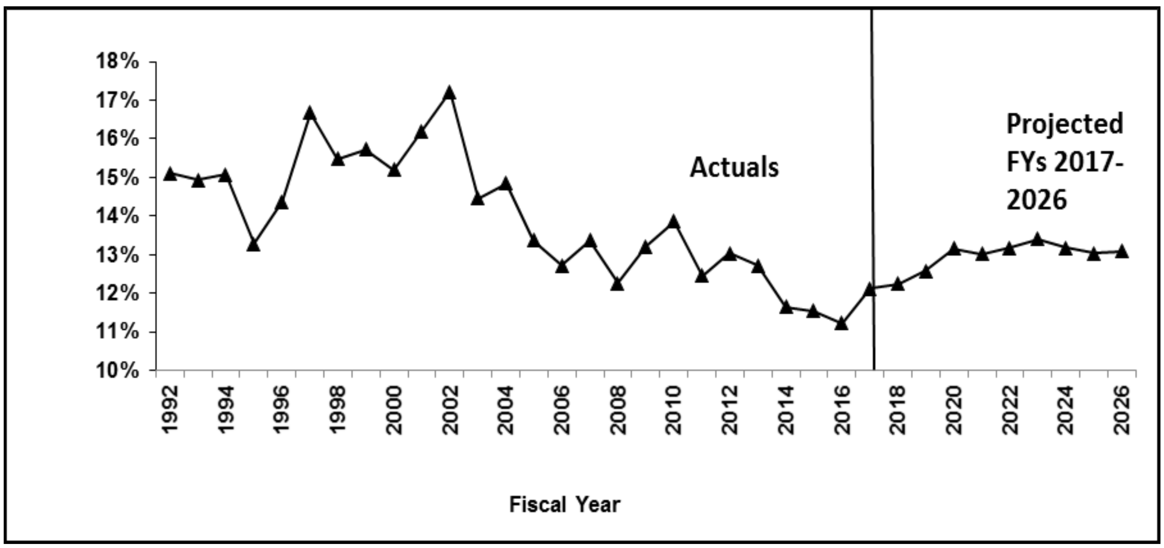
SOURCE: Office of the NYC Comptroller, Comprehensive Annual Financial Reports and the NYC Department of Finance, FY 2016 Annual Property Tax Report.

[28] Projected personal income data for FYs 2015 through FY 2020 is from New York City's Message of the Mayor, April 2016.

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.[29] Since then, this ratio has trended downward reaching a low of 11.2 percent of tax revenues in FY 2016, as shown in Chart 7. Debt service as a percentage of tax revenues is projected by the Comptroller's Office to reach a high of 13.4 percent in FY 2023 before declining to 13.1 percent by FY 2026. This outyear ratio is reflective of the projected capital borrowing and debt service in FYs 2021 – 2026, both of which are likely understated.

***Chart 7*. NYC Debt Service as a Percent of Tax Revenues**

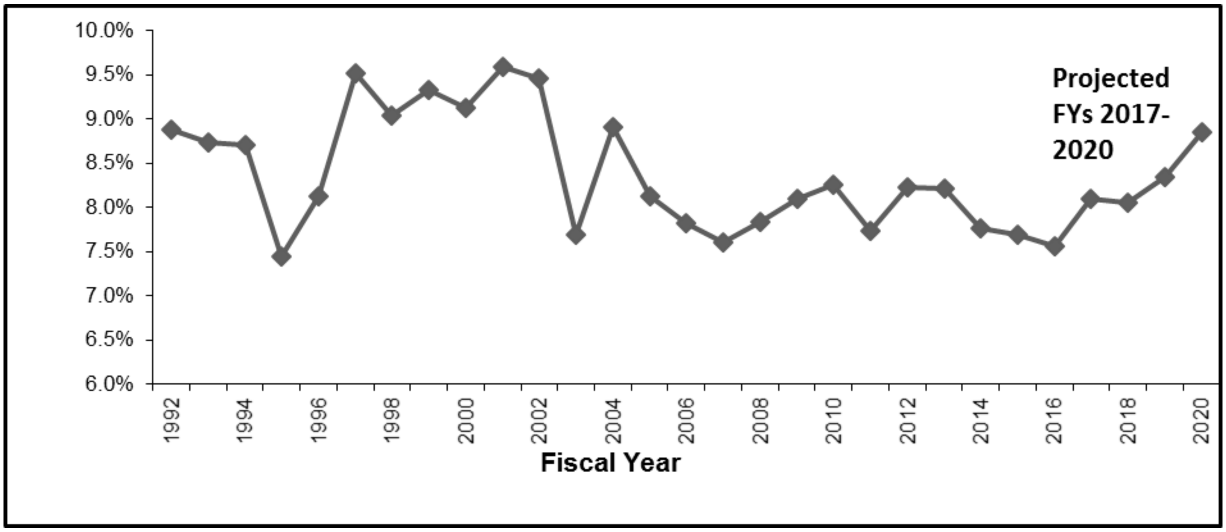


SOURCE: Office of the NYC Comptroller, Comprehensive Annual Financial Reports, FYs 1982 – 2016, and NYC Office of Management and Budget, FY 2017 Adopted Financial Plan, June 2016.

Debt service as a percent of total expenditures ranged from 7.4 percent to 9.6 percent over FYs 1992-2016 as shown in Chart 8. This ratio averaged 8.4 period over the same period with a median of 8.2 percent. The ratio was 8.9 percent in FY 1992, before rising to a high of 9.6 percent in FY 2001, and decreased to 7.5 percent in FY 2016. The ratio is forecast to reach 8.8 percent in FY 2020 due to projected debt service growth exceeding the estimated growth in total expenditures.

[29] 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 comparable to the early 1980's and early and mid-1990's when the City was emerging from recessionary periods.

***Chart 8*.** **NYC Debt Service as a Percent of Total Expenditures**



SOURCE: Office of the NYC Comptroller, Comprehensive Annual Financial Reports, FYs 1982 – 2016, and NYC Office of Management and Budget, FY 2017 Adopted Financial Plan, June 2016.

C. COMPARISON WITH SELECTED MUNICIPALITIES

New York City is the largest City in the U.S. with 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 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. Using debt per capita data to compare debt burden among municipalities provides such an adjustment.

As shown in Table 9, in FY 2015, NYC's debt per capita was more than twice the average of a sample of eleven other large U.S. cities and 1.45 times the per capita debt of Chicago which had the next highest debt burden.[30]

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[30] 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.

Table 9. Debt Per Capita for Selected Cities, 2015

City	Population	Direct and Overlapping Debt Outstanding ($ 000)	Debt Per Capita[a]
Boston	655,884	$1,349,328	$2,057
Seattle	662,400	1,535,847	2,319
San Jose	1,016,000	3,816,287	3,756
Phoenix	1,528,115	6,102,169	3,993
Los Angeles	3,957,022	16,333,630	4,128
Dallas	1,244,270	5,598,624	4,500
Philadelphia	1,560,297	7,191,600	4,609
Houston	2,239,558	10,497,796	4,687
San Francisco	864,421	4,343,776	5,025
San Antonio	1,436,697	8,969,042	6,243
Chicago	2,695,598	18,068,373	6,703
Average of Sample Cities	*1,623,660*	*$7,618,770*	*$4,692*
New York City	**8,491,079**	**$82,789,000**	**$9,750**

[a] Table 9 above is based on data extracted from each city's "Direct and Overlapping Debt Outstanding" exhibit included in that city's Comprehensive Annual 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.

While gross NYC debt per capita is higher than all other cities in the sample, NYC's growth in debt per capita between 2000 and 2015 is lower than all but four sample cities. Gross NYC debt per capita grew by 98 percent from 2000 to 2015. This growth is below the average growth of 137.7 percent for the 11 sample cities as shown in Table 10.

Table 10. Debt per Capita Comparisons for Selected Cities – 2000 and 2015

City	Debt per Capita in 2000	Debt per Capita in 2015	Percentage Change 2000 – 2015
Seattle	$1,694	$2,319	36.9%
Philadelphia	$3,241	$4,609	42.2%
Boston	$1,376	$2,057	49.5%
Phoenix	$2,041	$3,993	95.7%
Houston	$2,187	$4,687	114.3%
Chicago	$2,863	$6,703	134.1%
Los Angeles	$1,464	$4,128	182.0%
San Antonio	$1,929	$6,243	223.6%
Dallas	$1,273	$4,500	253.5%
San Jose	$943	$3,756	298.3%
San Francisco	$1,139	$5,025	341.2%
Average of All Other Cities[a]	*$1,974*	*$4,692*	*137.7%*
National CPI (FY)	**169.3**	**236.7**	**39.8%**
New York City	**$4,923**	**$9,750**	**98.0%**

[a] From Table 9, a weighted average derived by the sum of total debt outstanding divided by the sum of total population.

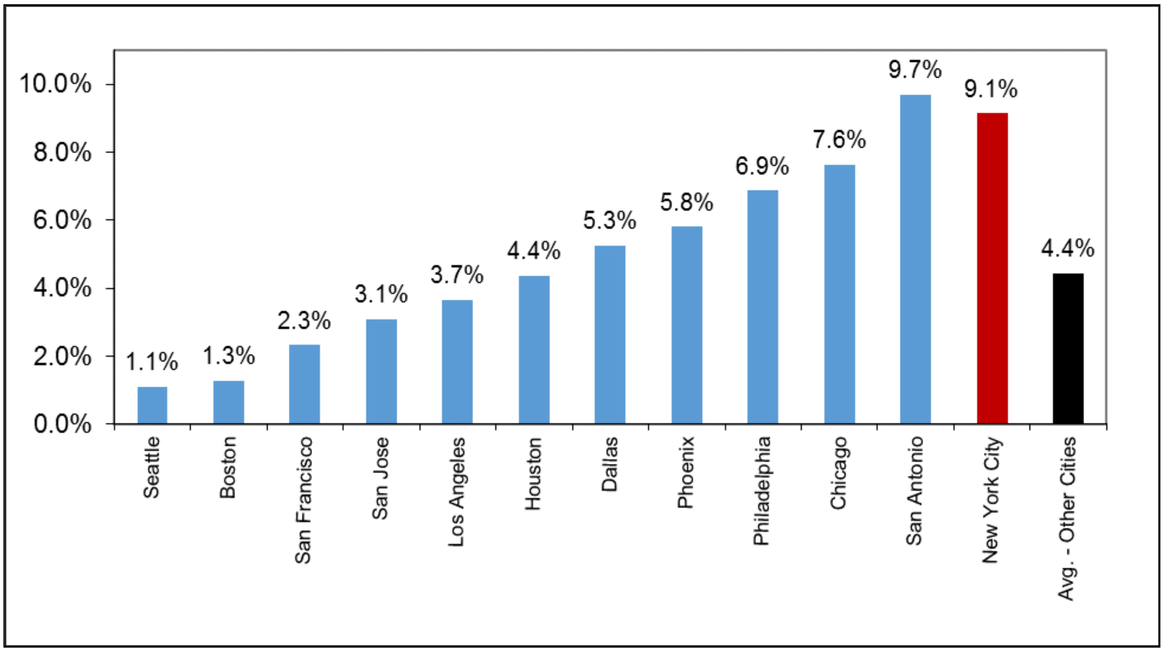
NOTE: Table 10 above is based on data extracted from each city's "Direct and Overlapping Debt Outstanding" exhibit included in that city's Comprehensive Annual Financial Report. While the individual exhibits are similar in format, there is no assurance that the components of the data published in those exhibits are comparable.

SOURCE: Office of the NYC Comptroller, Comprehensive Annual Financial Reports FYs 2000 and 2015 and/or official statements of various cities, FYs 2000 and FY 2015.

Another way to examine the debt burden of a municipality or city is to measure its debt relative to its taxable base. Two traditional 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 the debt to personal income measure and ranks second in the debt to property value measure. In addition, NYC is well above the averages of the sample cities and counties. As shown in Chart 9, gross NYC debt as a percentage of full value of real property in FY 2015 was 9.1 percent, more than twice the sample city average of 4.4 percent. Only San Antonio exceeded New York City at 9.7 percent.

***Chart 9.* Debt Outstanding as a Percent of the Full Value of Real Property, FY 2015**

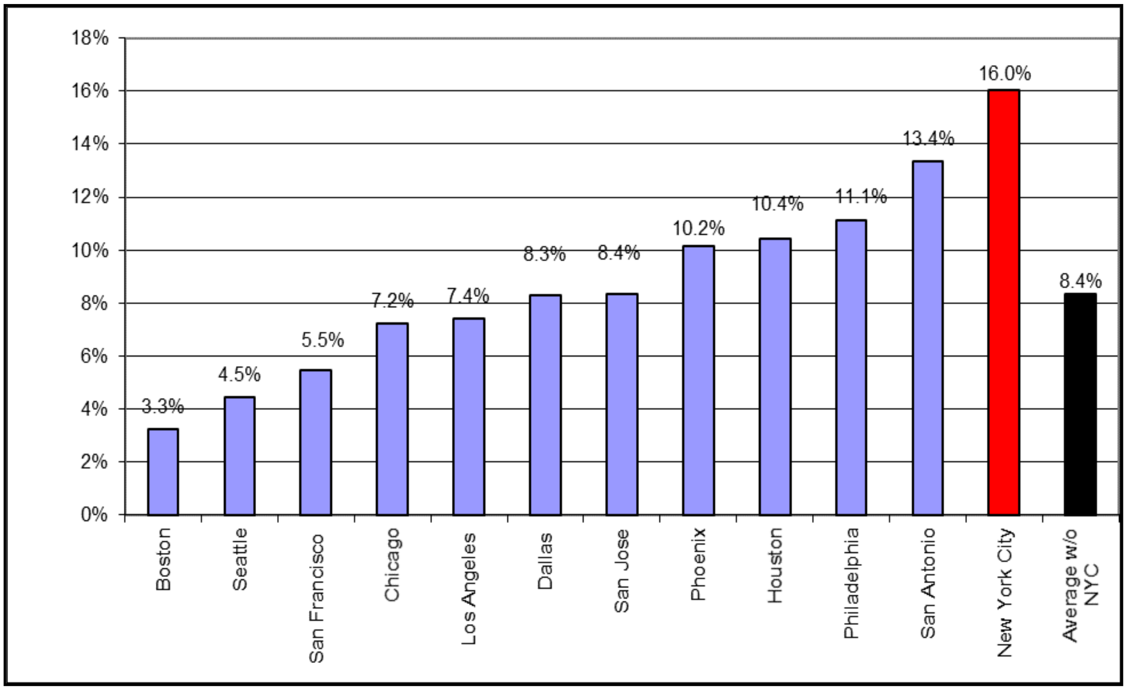


Note: Debt per capita is based on data extracted from each city's "Direct and Overlapping Debt Outstanding" exhibit included in that city's Comprehensive Annual Financial Report. While the individual exhibits are similar in format, there is no assurance that the components of the data published in those exhibits are comparable.

SOURCE: Each city's Comprehensive Annual Financial Report for FY 2015.

Gross NYC debt per capita as a percentage of personal income per capita in FY 2014 was 16.0 percent, the highest among the sample cities as shown in Chart 10. Gross NYC debt as a percentage of personal income is almost twice the 8.4 percent population-weighted average of the 11 sample cities. The next highest cities in the survey are San Antonio at 13.4 percent, Philadelphia at 11.1 percent, and Houston with 10.4 percent.

*Chart 10***. Debt Outstanding as a Percent of Personal Income, FY 2014 (per capita)**



[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 Comprehensive 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]. 2014 Personal Income is the most recent personal income data available from the BEA.

SOURCE: FY 2014 Comprehensive Annual Financial Reports of Sample Counties and the U.S. Department of Commerce – Bureau of Economic Analysis (BEA).

Glossary of Acronyms

BAB	Build America Bonds
BARB	Building Aid Revenue Bond
BEA	Bureau of Economic Analysis
CAFR	Comprehensive Annual Financial Report
CPI	Consumer Price Index
CUCF	City University Construction Fund
CUNY	City University of New York
DASNY	Dormitory Authority of the State of New York
DEP	Department of Environmental Protection
DOE	Department of Education
EXCEL	Expanding our Children's Education and Learning
FTS	Future Tax Secured
FY	Fiscal Year
GASB	Governmental Accounting Standards Board
GO	General Obligation
H+H	Health + Hospitals

HYIC	Hudson Yards Infrastructure Corporation
LGAC	Local Government Assistance Corporation
MAC	Municipal Assistance Corporation
MADS	Maximum Annual Debt Service
MTA	Metropolitan Transportation Authority
NY	New York State
NYC	New York City
NYW	New York City Municipal Water Finance Authority
OMB	Office of Management and Budget
OPEB	Other Post-Employment Benefits Liabilities
ORPTS	Office of Real Property Tax Services
PIT	Personal Income Tax
QSCB	Qualified School Construction Bonds
S&P	Standard & Poor's
STARC	Sales Tax Asset Receivable Corporation
TFA	New York City Transitional Finance Authority

TSASC	Tobacco Settlement Asset Securitization Corporation
TSR	Tobacco Settlement Revenues
TYCS	Ten-Year Capital Strategy
U.S.	United States
VRDB	Variable Rate Demand Bond
WTC	World Trade Center

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